NMED AIR QUALITY APPLICATION FOR NSR SIGNIFICANT REVISION

Durango Midstream, LLC
Empire Abo Compressor Station

Prepared By:

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March 2020

Project 193201.0217

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March 2, 2020
Mr. Ted Schooley
Permit Programs Manager
NMED Air Quality Bureau
525 Camino de los Marquez Suite 1
Santa Fe, NM 87505-1816

NSR Significant Revision Application – Durango Midstream, LLC – Empire Abo Gas Plant

Dear Mr. Schooley:

Durango Midstream, LLC is submitting a NSR Significant Revision application for its existing Empire Abo Gas Plant. The facility is currently permitted under NSR No. 4865. This facility is located approximately 10 miles east of Artesia, New Mexico in Eddy County. Modifications proposed under this significant revision application consist of removal and addition of heaters, addition of an amine unit and AGI well, modification of engines, addition of storage tanks, addition of a TEG dehydrator, and addition of a thermal oxidizer. Several residue gas compressors will be converted to inlet gas compressors; additional TEG dehydration units will be installed at the facility; and a thermal oxidizer will be installed to combust tank overhead emissions. Emissions from all existing equipment will be updated to reflect the equipment modifications; new calculation methodologies; new gas and liquid analyses and throughputs; and new manufacturer data.

The format and content of this application are consistent with the Bureau's current policy regarding NSR applications; it is a complete application package using the most current application forms. Enclosed is one hard copy and one working copy of the application, including an original certification page, one disk containing the electronic files, and an application check. Please feel free to contact me at (505) 266-6611 or by email at aerenstein@trinityconsultants.com if you have any questions regarding this application. Alternatively, you may contact Mary Taylor with Durango Midstream, LLC at (346) 224-2459 or by email at MTaylor@durangomidstream.com.

Sincerely,

Adam Erenstein
Manager of Consulting Services

CC: Mary Taylor (Durango Midstream, LLC)
Trinity Project File: 193201.0217

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

Universal Air Quality Permit Application

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

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

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

Acknowledgements:

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

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

☑ Check No.: 644352 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. 20.2.72.219.D.1.a NMAC**
(e.g. application for a new minor source would be 20.2.72.200.A NMAC, one example for a Technical Permit Revision is 20.2.72.219.B.1.b NMAC, a Title V acid rain application would be: 20.2.70.200.C NMAC)

Section 1 – Facility Information

Section 1-A: Company Information

		AI No.: 191	Updating Permit No.: 0126-M9R4
1	Facility Name: Empire Abo Gas Plant	Plant primary SIC Code (4 digits): 1311	
		Plant NAIC code (6 digits): 211130	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): From Artesia, travel 10 miles E on Hwy 82. Turn right on CR 225 and travel approximately 3.6 miles to plant.		
2	Plant Operator Company Name: Durango Midstream, LLC	Phone/Fax: (346) 224-2459	
a	Plant Operator Address: 2002 Timberloch Place, Suite 110, The Woodlands, Texas 77380		
b	Plant Operator's New Mexico Corporate ID or Tax ID: 2343077		

3	Plant Owner(s) name(s): Durango Midstream, LLC	Phone/Fax: (346) 224-2459
a	Plant Owner(s) Mailing Address(s): 2002 Timberloch Place, Suite 110, The Woodlands, Texas 77380	
4	Bill To (Company): Durango Midstream, LLC	Phone/Fax: (346) 224-2459
a	Mailing Address: 2002 Timberloch Place, Suite 110, The Woodlands, Texas 77380	E-mail: MTaylor@durangomidstream.com
5	☑ Preparer: Adam Erenstein ☑ Consultant: Trinity Consultants	Phone/Fax: (505) 266-6611
a	Mailing Address: 9400 Holly Ave., Building 3, Suite 300, Albuquerque, NM 87122	E-mail: aerenstein@trinityconsultants.com
6	Plant Operator Contact: John Prentiss	Phone/Fax: 575-677-5108
a	Address: 1001 Conoco Road, Maljamar, NM 88264	E-mail: JPrentiss@durangomidstream.com
7	Air Permit Contact: Mary Taylor	Title: Environmental Manager
a	E-mail: MTaylor@durangomidstream.com	Phone/Fax: (346) 224-2459
b	Mailing Address: 2002 Timberloch Place, Suite 110, The Woodlands, Texas 77380	
c	The designated Air permit Contact will receive all official correspondence (i.e. letters, permits) from the Air Quality Bureau.	

Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? ☑ Yes ☐ No	1.b If yes to question 1.a, is it currently operating in New Mexico? ☑ Yes ☐ No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? ☐ Yes ☑ No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? ☑ Yes ☐ No
3	Is the facility currently shut down? ☐ Yes ☑ No	If yes, give month and year of shut down (MM/YY): N/A
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? ☑ Yes ☐ No	
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? ☐Yes ☐No ☑N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? ☑Yes ☐ No	If yes, the permit No. is: P- P146-R3
7	Has this facility been issued a No Permit Required (NPR)? ☐ Yes ☑ No	If yes, the NPR No. is: N/A
8	Has this facility been issued a Notice of Intent (NOI)? ☐ Yes ☑ No	If yes, the NOI No. is: N/A
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? ☐ Yes ☐ No	If yes, the permit No. is: 0126-M9R4
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? ☐ Yes ☑ No	If yes, the register No. is: N/A

Section 1-C: Facility Input Capacity & Production Rate

1	What is the facility's maximum input capacity, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: 2.33 MMscf	Daily: 56 MMscf	Annually: 20,440 MMscf
b	Proposed	Hourly: 8.33 MMscf	Daily: 200 MMscf	Annually: 73,000 MMscf
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: 2.33 MMscf	Daily: 56 MMscf	Annually: 20,440 MMscf
b	Proposed	Hourly: 8.33 MMscf	Daily: 200 MMscf	Annually: 73,000 MMscf

Section 1-D: Facility Location Information

1	Section: 003	Range: 27E	Township: 18S	County: Eddy	Elevation (ft): 3,560
2	UTM Zone: ☐ 12 or ☑ 13			Datum: ☐ NAD 27 ☐ NAD 83 ☑ WGS 84	
a	UTM E (in meters, to nearest 10 meters): 569,350 m			UTM N (in meters, to nearest 10 meters): 3,626,690	
b	**AND** Latitude (deg., min., sec.): 32° 46' 34"N			Longitude (deg., min., sec.): 104° 15' 34"W	
3	Name and zip code of nearest New Mexico town: Artesia, NM 88210				
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): From Artesia, travel 10 miles E on Hwy 82. Turn right on CR 225 and travel approximately 3.6 miles to plant.				
5	The facility is 10 miles east of Artesia, NM.				
6	Status of land at facility (check one): ☑ Private ☐ Indian/Pueblo ☐ Federal BLM ☐ Federal Forest Service ☐ Other (specify)				
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: Loco Hills Community; Artesia, NM; Eddy County, NM				
8	**20.2.72** NMAC applications **only**: Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.env.nm.gov/aqb/modeling/class1areas.html)? ☐ Yes ☑No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers:				
9	Name nearest Class I area: Carlsbad Caverns				
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 68.9 km				
11	Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence, school or occupied structure: 640 meters				
12	Method(s) used to delineate the Restricted Area: Fence "**Restricted Area**" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.				
13	Does the owner/operator intend to operate this source as a portable stationary source as defined in 20.2.72.7.X NMAC? ☐ Yes ☑ No A portable stationary source is not a mobile source, such as an automobile, but a source that can be installed permanently at one location or that can be re-installed at various locations, such as a hot mix asphalt plant that is moved to different job sites.				
14	Will this facility operate in conjunction with other air regulated parties on the same property? ☒ No ☐ Yes If yes, what is the name and permit number (if known) of the other facility? N/A				

Section 1-E: Proposed Operating Schedule (The 1-E.1 & 1-E.2 operating schedules may become conditions in the permit.)

1	Facility **maximum** operating ($\frac{\text{hours}}{\text{day}}$): 24	($\frac{\text{days}}{\text{week}}$): 7	($\frac{\text{weeks}}{\text{year}}$): 52	($\frac{\text{hours}}{\text{year}}$): 8760		
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start: N/A	☐AM ☐PM	End: N/A	☐AM ☐PM		
3	Month and year of anticipated start of construction: N/A, In operation.					
4	Month and year of anticipated construction completion: N/A, In operation.					
5	Month and year of anticipated startup of new or modified facility: N/A, In operation.					
6	Will this facility operate at this site for more than one year? ☑ Yes ☐ No					

Section 1-F: Other Facility Information

1	Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? ☐ Yes ☑ No If yes, specify: N/A	
a	If yes, NOV date or description of issue: N/A	NOV Tracking No: N/A

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

Section 1-G: Streamline Application

(This section applies to 20.2.72.300 NMAC Streamline applications only)

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

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

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

1	Responsible Official (R.O.) (20.2.70.300.D.2 NMAC): Darin B. Kennard	Phone:346-351-2790
a	R.O. Title: Vice President & GM	R.O. e-mail: DKennard@durangomidstream.com
b	R. O. Address: 2002 Timberloch, Suite 110	
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC): N/A	Phone: N/A
a	A. R.O. Title: N/A	A. R.O. e-mail: N/A
b	A. R. O. Address: N/A	
3	Company's Corporate or Partnership Relationship to any other Air Quality Permittee (List the names of any companies that have operating (20.2.70 NMAC) permits and with whom the applicant for this permit has a corporate or partnership relationship): N/A	
4	Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.): N/A	
a	Address of Parent Company: N/A	
5	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.): N/A	
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: Mary Taylor – (346) 224-2459 Darin Kennard – (346) 351-2790	
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: N/A	

Section 1-I – Submittal Requirements

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

Hard Copy Submittal Requirements:

1) One hard copy **original signed and notarized application package** **printed double sided** **'head-to-toe'** **2-hole punched** as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be head-to-head. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process. For NOI submittals only, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required. Please include a copy of the check on a separate page.

2) If the application is for a minor NSR, PSD, NNSR, or Title V application, include one working hard **copy** for Department use. This copy should be printed in book form, 3-hole punched, and **must be double sided**. Note that this is in addition to the head-to-to 2-hole punched copy required in 1) above. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.

3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically. Electronic files for applications for NOIs, any type of General Construction Permit (GCP), or technical revisions to NSRs must be submitted with compact disk (CD) or digital versatile disc (DVD). For these permit application submittals, **two** CD copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a single CD submittal. Electronic files for other New Source Review (construction) permits/permit modifications or Title V permits/permit modifications can be submitted on CD/DVD or sent through AQB's secure file transfer service.

Electronic files sent by (check one):

☑ CD/DVD attached to paper application

☐ secure electronic transfer. Air Permit Contact Name_____

Email_____

Phone number _____

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

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

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

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

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

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

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

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

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

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

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

Table of Contents

Table 2-A: Regulated Emission Sources

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

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
E4-1	4SLB RICE	Caterpillar	3516TA	WPW01012	1340 hp	1340 hp	3/12/2009 9/13/2011	E4-1 E4-1	20200254	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☑ To be Replaced	4SLB	N/A
E4-2	4SLB RICE	Caterpillar	3516TA	WPW01965	1340 hp	1340 hp	3/12/2009 9/13/2011	E4-2 E4-2	20200254	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☑ To be Replaced	4SLB	N/A
E4-3	4SLB RICE	Caterpillar	3516TA	WPW02829	1340 hp	1340 hp	3/16/2009 9/29/2011	E4-3 E4-3	20200254	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☑ To be Replaced	4SLB	N/A
E4-4	4SLB RICE	Caterpillar	3516TA	WPW02830	1340 hp	1340 hp	3/16/2009 9/29/2011	E4-4 E4-4	20200254	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☑ To be Replaced	4SLB	N/A
E4-310	4SLB RICE	Caterpillar	3516TA	WPW01012	1340 hp	1340 hp	3/12/2009 9/13/2011	Catalyst-1 Catalyst-1	20200254	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	E4-1
E4-311	4SLB RICE	Caterpillar	3516TA	WPW01965	1340 hp	1340 hp	3/12/2009 9/13/2011	Catalyst-2 Catalyst-2	20200254	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	E4-2
E4-312	4SLB RICE	Caterpillar	3516TA	WPW02829	1340 hp	1340 hp	3/16/2009 9/29/2011	Catalyst-3 Catalyst-3	20200254	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	E4-3
E4-313	4SLB RICE	Caterpillar	3516TA	WPW02830	1340 hp	1340 hp	3/16/2009 9/29/2011	Catalyst-4 Catalyst-4	20200254	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	E4-4
E4-314	4SLB RICE	Caterpillar	3516TA	WPW02867	1340 hp	1340 hp	4/3/2009 9/1/2011	Catalyst-5 Catalyst-5	20200254	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
E4-315	4SLB RICE	Caterpillar	3516TA	WPW02870	1340 hp	1340 hp	4/3/2009 9/13/2011	Catalyst-6 Catalyst-6	20200254	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
E4-316	4SLB RICE	Caterpillar	3516	TBD	1380 hp	1380 hp	TBD TBD	Catalyst-7 Catalyst-7	20200254	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
E4-317	4SLB RICE	Caterpillar	3516	TBD	1380 hp	1380 hp	TBD TBD	Catalyst-8 Catalyst-8	20200254	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
FUG40	Fugitive Emissions	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	31088811	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
D-2301	Flare Pilot	Callidus Tech Flare Tip	N/A	N/A	0.32 MMBtu/hr (Pilot/Purge)	0.32 MMBtu/hr (Pilot/Purge)	4/1/2004 Unknown	N/A N/A	31000215	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
D-2302	Flare Pilot	Callidus Tech Flare Tip	N/A	N/A	0.32 MMBtu/hr (Pilot/Purge)	0.32 MMBtu/hr (Pilot/Purge)	1/20/2004 Unknown	N/A N/A	31000215	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
V2-1104-C	Storage Tank	N/A	N/A	33931	400 bbl	400 bbl	8/1/2005 Unknown	TO2 TO2	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
V2-1104-D	Storage Tank	N/A	N/A	31074	400 bbl	400 bbl	8/1/2005 Unknown	TO2 TO2	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
V2-1104-E	Storage Tank	N/A	N/A	TBD	400 bbl	400 bbl	TBD TBD	TO2 TO2	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
V2-1104-F	Storage Tank	N/A	N/A	TBD	400 bbl	400 bbl	8/1/2005 Unknown	TO2 TO2	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
V2-1104-G	Storage Tank	N/A	N/A	TBD	400 bbl	400 bbl	8/1/2005 Unknown	TO2 TO2	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
L1	Truck Loadout	N/A	N/A	N/A	165,123 bbl/yr	165,123 bbl/yr	N/A N/A	TO2 TO2	40400250	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
DEHY1	TEG Dehydrator	Exterran	N/A	N/A	25 MMscfd	25 MMscfd	2015 2015	TO1 TO1	31000227	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
DEHY2	TEG Dehydrator	Exterran	N/A	N/A	25 MMscfd	25 MMscfd	TBD TBD	TO1 TO1	31000227	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
DEHY3	TEG Dehydrator	Exterran	N/A	N/A	200 MMscfd	200 MMscfd	TBD TBD	TO1 TO1	31000227	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
AMINE1	Amine Unit	TBD	N/A	N/A	200 MMscfd	200 MMscfd	TBD TBD	AGI or D-2302 AGI or D-2302	31000227	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
REB1	Dehydrator Reboiler	Exterran	N/A	N/A	1.5 MMBtu/hr	1.5 MMBtu/hr	2015 2015	N/A N/A	31000228	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
REB2	Dehydrator Reboiler	Exterran	N/A	N/A	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD TBD	N/A N/A	31000228	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
H1	Heater	TBD	N/A	N/A	75 MMBtu/hr	75 MMBtu/hr	TBD TBD	N/A N/A	31000228	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
H2	Heater	TBD	N/A	N/A	75 MMBtu/hr	75 MMBtu/hr	TBD TBD	N/A N/A	31000228	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
H3	Heater	TBD	N/A	N/A	10 MMscfd	10 MMscfd	TBD TBD	N/A N/A	31000228	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
H4	Heater	TBD	N/A	N/A	18 MMscfd	18 MMscfd	TBD TBD	N/A N/A	31000228	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
TO1	Thermal Oxidizer	Edge	N/A	N/A	2.10 MMBtu/hr	2.10 MMBtu/hr	2015 2015	N/A N/A	31088811	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
TO2	Thermal Oxidizer	Edge	N/A	N/A	0.28 MMBtu/hr	0.28 MMBtu/hr	TBD TBD	N/A N/A	31088811	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A

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

[2] Specify dates required to determine regulatory applicability.

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

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

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

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

Unit Number	Source Description	Manufacturer	Model No. / Serial No.	Max Capacity / Capacity Units	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) / Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Manufacture /Reconstruction[2] / Date of Installation /Construction[2]	For Each Piece of Equipment, Check Onc
V6-1103-2	#1 Gasoline Bullet Tank (out of service)			42171 / Gallons	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V6-1103-1	#2 Gasoline Bullet Tank (out of service)			42126 / Gallons	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V6-1102-2	#3 Gasoline Bullet Tank (out of service)			53728 / Gallons	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V6-1102-1	#4 Gasoline Bullet Tank (out of service)			53608 / Gallons	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V6-1101-5	#5 Gasoline Bullet Tank (out of service)			61229 / Gallons	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V6-1101-4	#6 Purchased Propane Bullet Tank			59120 / Gallons	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V6-1101-3	#7 Gasoline Bullet Tank			43624 / Gallons	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V6-1101-2	#8 Gasoline Bullet Tank			43488 / Gallons	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V6-1101-1	#9 Gasoline Bullet Tank			63052 / Gallons	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-400	Methanol Storage Tank			1000 / Gallons	20.2.72.202.B NMAC		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-1800-1	North Process Drain Tank (out of service)			210 / bbls	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-1800-2	South Process Drain Tank			500 / bbls	20.2.72.202.B.2.a NMAC		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-1304	Wastewater Tank			210 / bbls	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-1400-1	South Raw Water Storage Tank			5000 / bbls	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced

Unit Number	Source Description	Manufacturer	Model No. / Serial No.	Max Capacity / Capacity Units	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) / Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Manufacture /Reconstruction[2] / Date of Installation /Construction[2]	For Each Piece of Equipment, Check Onc
V2-1400-2	North Raw Water Storage Tank			5000 bbls	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-1500-1	RO Water			210 bbls	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-1500-2	RO Water			210 bbls	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-310-1	East Lube Oil Tank			322 bbls	20.2.72.202.B.2.a NMAC		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-310-2	West Lube Oil Tank			322 bbls	20.2.72.202.B.2.a NMAC		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-309	#9 Engine J. W. Tank			210 bbls	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-2701	Amine Day Tank			1500 Gallons	20.2.72.202.B.2.a NMAC		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-2700-1	North Amine Storage Tank			280 bbls	20.2.72.202.B.2.a NMAC		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-2800-2	South Amine Storage Tank (out of service)			185 bbls	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-300	Main Engine J.W. Tank			210 bbls	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-2700-2	South Amine Storage Tank (out of service)			195 bbls	Not a source of regulated pollutants		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-1104-1	South (Dirty) Slop Oil Tank			387 bbls	20.2.72.202.B.2.a NMAC		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
L-2	Produced Water Loading			5131 bbls/yr	20.2.72.202.B.5 NMAC		☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☒ To Be Modified ☐ To be Replaced
HAUL	Unpaved Haul Road Emissions			N/A N/A	20.2.72.202.B.5 NMAC		☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-1104-H	Produced Water Tank			400 bbls	20.2.72.202.B.5 NMAC		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
V2-1104-I	Produced Water Tank			400 bbls	20.2.72.202.B.5 NMAC		☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced

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

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

Table 2-C: Emissions Control Equipment

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

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s)[1]	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
Catalyst-1	Oxidation Catalyst	40799	CO, HCHO, VOC	E4-310	80%, 75%, 75%	Vendor Data
Catalyst-2	Oxidation Catalyst	40799	CO, HCHO, VOC	E4-311	80%, 75%, 75%	Vendor Data
Catalyst-3	Oxidation Catalyst	9/29/2011	CO, HCHO, VOC	E4-312	80%, 75%, 75%	Vendor Data
Catalyst-4	Oxidation Catalyst	9/29/2011	CO, HCHO, VOC	E4-313	80%, 75%, 75%	Vendor Data
Catalyst-5	Oxidation Catalyst	9/1/2011	CO, HCHO, VOC	E4-314	80%, 75%, 75%	Vendor Data
Catalyst-6	Oxidation Catalyst	9/13/2011	CO, HCHO, VOC	E4-315	80%, 75%, 75%	Vendor Data
Catalyst-7	Oxidation Catalyst	TBD	CO, HCHO, VOC	E4-316	80%, 75%, 75%	Vendor Data
Catalyst-8	Oxidation Catalyst	TBD	CO, HCHO, VOC	E4-317	80%, 75%, 75%	Vendor Data
TO-1	Thermal Oxidizer	2016	VOC, HAP, H_2S	DEHY1 & DEHY2	98%	Mfg. Data
TO-2	Thermal Oxidizer	TBD	VOC, HAP, H_2S	V2-1104-C through G, L-1	98%	Mfg. Data
D-2301	Emergency Flare	Unknown	VOC, HAP, H_2S	Inlet Gas Combustion	98%	Mfg. Data
D-2302	Emergency Flare	Unknown	VOC, HAP, H_2S	AMINE1	98%	Mfg. Data

[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 **GAS PLANT** operating conditions)

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

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

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
E4-310	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-311	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-312	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-313	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-314	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-315	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
FUG40	-	-	-	-	16.80	73.59	-	-	-	-	-	-	-	-	2.79E-04	1.22E-03	-	-
D-2301	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
D-3202	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
V2-1104-C	-	-	-	-	2.90	12.72	-	-	-	-	-	-	-	-	1.98E-05	8.66E-05	-	-
V2-1104-D	-	-	-	-	2.90	12.72	-	-	-	-	-	-	-	-	1.98E-05	8.66E-05	-	-
V2-1104-E	-	-	-	-	2.90	12.72	-	-	-	-	-	-	-	-	1.98E-05	8.66E-05	-	-
V2-1104-F	-	-	-	-	2.90	12.72	-	-	-	-	-	-	-	-	1.98E-05	8.66E-05	-	-
V2-1104-G	-	-	-	-	2.90	12.72	-	-	-	-	-	-	-	-	1.98E-05	8.66E-05	-	-
L1	-	-	-	-	11.06	48.45	-	-	-	-	-	-	-	-	7.53E-05	3.30E-04	-	-
DEHY1	-	-	-	-	18.89	82.72	-	-	-	-	-	-	-	-	0.0043	0.019	-	-
AMINE1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H1	7.65	33.51	6.43	28.15	0.42	1.84	1.09	4.79	0.58	2.55	0.58	2.55	0.58	2.55	-	-	-	-
H2	7.65	33.51	6.43	28.15	0.42	1.843	1.093	4.79	0.58	2.55	0.58	2.55	0.58	2.55	-	-	-	-
H3	1.02	4.47	0.86	3.75	0.056	0.246	0.146	0.64	0.078	0.340	0.078	0.340	0.078	0.340	-	-	-	-
TO1	0.023	0.099	0.019	0.083	-	-	0.0032	0.014	0.0017	0.0075	0.0017	0.0075	0.0017	0.0075	-	-	-	-
TO2	0.023	0.099	0.019	0.083	-	-	0.0032	0.014	0.0017	0.0075	0.0017	0.0075	0.0017	0.0075	-	-	-	-
Totals	43.13	188.92	47.43	207.73	72.59	317.96	3.21	14.04	1.85	8.10	1.85	8.10	1.85	8.10	0.0048	0.021	-	-

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

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

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

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

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
E4-310	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-311	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-312	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-313	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-314	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-315	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-316	3.04	13.32	8.52	37.31	2.46	10.76	0.14	0.61	0.099	0.43	0.099	0.43	0.099	0.43	-	-	-	-
E4-317	3.04	13.32	8.52	37.31	2.46	10.76	0.14	0.61	0.099	0.43	0.099	0.43	0.099	0.43	-	-	-	-
FUG40	-	-	-	-	3.85	16.86	-	-	-	-	-	-	-	-	1.22E-01	5.34E-01	-	-
D-2301	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
D-3202	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
V2-1104-C	-	-	-	-	4.84	21.20	-	-	-	-	-	-	-	-	7.52E-06	3.29E-05	-	-
V2-1104-D	-	-	-	-	4.84	21.20	-	-	-	-	-	-	-	-	7.52E-06	3.29E-05	-	-
V2-1104-E	-	-	-	-	4.84	21.20	-	-	-	-	-	-	-	-	7.52E-06	3.29E-05	-	-
L1	-	-	-	-	11.06	48.45	-	-	-	-	-	-	-	-	7.53E-05	3.30E-04	-	-
DEHY2	-	-	-	-	24.13	105.68	-	-	-	-	-	-	-	-	12.6722	55.504	-	-
DEHY3	-	-	-	-	24.13	105.68	-	-	-	-	-	-	-	-	12.67	55.50	-	-
H4	1.84	8.04	1.54	6.76	0.10	0.44	0.26	1.15	0.58	2.55	0.14	0.61	0.14	0.61	-	-	-	-
TO1	0.023	0.099	0.019	0.083	-	-	0.0032	0.014	0.0017	0.0075	0.0017	0.0075	0.0017	0.0075	-	-	-	-
TO2	0.023	0.099	0.019	0.083	-	-	0.0032	0.014	0.0017	0.0075	0.0017	0.0075	0.0017	0.0075	-	-	-	-
Totals	34.73	152.13	52.30	229.06	93.13	407.91	1.41	6.19	1.39	6.08	0.95	4.15	0.95	4.15	25.4665	111.543	-	-

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

Table 2-E: Requested Allowable Emissions (GAS PLANT)

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

Unit No.	NOx		CO		VOC		SOx		PM		PM10		PM2.5		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
E4-310	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-311	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-312	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-313	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-314	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-315	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
FUG40	-	-	-	-	16.80	73.59	-	-	-	-	-	-	-	-	2.79E-04	0.0012	-	-
D-2301	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
D-3202	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
V2-1104-C[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V2-1104-D[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V2-1104-E[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V2-1104-F[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V2-1104-G[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DEHY1[2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AMINE1[3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H1	7.65	33.51	6.43	28.15	0.42	1.84	1.09	4.79	0.58	2.55	0.58	2.55	0.58	2.55	-	-	-	-
H2	7.65	33.51	6.43	28.15	0.42	1.84	1.09	4.79	0.581	2.547	0.581	2.547	0.581	2.547	-	-	-	-
H3	1.02	4.47	0.86	3.75	0.056	0.25	0.15	0.64	0.0775	0.340	0.0775	0.340	0.0775	0.340	-	-	-	-
TO1	0.11	0.47	0.091	0.40	0.38	1.65	0.011	0.050	0.0082	0.036	0.0082	0.036	0.0082	0.036	8.67E-05	3.80E-04		
TO2	0.050	0.22	0.042	0.18	0.29	1.27	0.012	0.053	0.0038	0.017	0.0038	0.017	0.0038	0.017	9.50E-05	4.16E-04		
Totals	43.24	189.41	20.87	91.39	21.35	93.53	3.22	14.12	1.86	8.14	1.86	8.14	1.86	8.14	4.70E-04	0.0021	-	-

[1] Condesate tanks (Units V2-1104-C to F) and loading (Unit L-1) emissions are controlled by a combustor. Controlled emissions are considered under Unit TO2.

[2] Emissions from the dehydator condensers (Units DEHY1 and DEHY2) are controlled by a combustor and emissions from the dehydrator flash tanks are recycled to the inlet. Controlled condenser emissions are considered under Unit TO1.

[3] Acid gas from the amine unit is compressed and sent to an AGI well or combusted during SSM events. The flared emissions are condsidered under Unit D-2302.

Table 2-E: Requested Allowable Emissions (COMPRESSOR STATION)

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

Unit No.	NOx		CO		VOC		SOx		PM		PM10		PM2.5		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
E4-310	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-311	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-312	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-313	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-314	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-315	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-316	3.04	13.32	1.70	7.46	0.68	2.96	0.14	0.61	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-317	3.042	13.32	1.70	7.46	0.68	2.96	0.14	0.609	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
FUG40	-	-	-	-	3.85	16.86	-	-	-	-	-	-	-	-	0.12	0.53	-	-
D-2301	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
D-3202	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
V2-1104-C[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V2-1104-D[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V2-1104-E[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DEHY2[2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DEHY3[2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
H4	1.84	8.04	1.54	6.76	0.10	0.44	0.26	1.15	0.58	2.55	0.14	0.61	0.14	0.61	-	-		
TO1	0.23	1.00	0.19	0.84	0.97	4.23	47.71	208.97	0.017	0.076	0.017	0.076	0.017	0.076	0.51	2.22	-	-
TO2	0.050	0.22	0.042	0.18	0.29	1.27	0.012	0.053	0.0038	0.017	0.0038	0.017	0.0038	0.017	9.50E-05	4.16E-04	-	-
Totals	34.96	153.15	12.21	53.47	9.55	41.81	49.13	215.20	1.41	6.18	0.97	4.24	0.97	4.24	0.63	2.75	-	-

[1] Gunbarrel (Unit V2-1104-BA), tank (Units V2-1104-C to F), and loading (Unit L-1) emissions are controlled by a combustor. Controlled emissions are considered under Unit TO2.

[2] Emissions from the dehydator condensers (Units DEHY1 and DEHY2) are controlled by a combustor and emissions from the dehydrator flash tanks are recycled to the inlet. Controlled condenser emissions are considered under Unit TO1.

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

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

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

Unit No.	NOx		CO		VOC		SOx		PM[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
SSM (D-2301)	242.88	7.29	484.87	14.55	478.97	14.37	3490.64	104.72	-	-	-	-	-	-	37.09	1.11	-	-
MALF (D-2301)		5.00		5.00		5.00		5.00	-	-	-	-	-	-		5.00	-	-
SSM (D-2302)	17.38	1.36	2.32	8.39	0.14	0.0070	759.17	37.96							8.07	0.40		
MALF (D-2302)		5.00		5.00		5.00		5.00								5.00		
Totals	242.88	12.29	484.87	19.55	478.97	19.37	3490.64	109.72	-	-	-	-	-	-	37.09	6.11	-	-

[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-F: Additional Emissions during Startup, Shutdown, and Routine Maintenance (SSM) (COMPRESSOR STATION)

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

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

Unit No.	NOx		CO		VOC		SOx		PM[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
SSM (D-2301 & D-2302)	242.88	1.00	484.87	2.00	478.97	1.98	3490.64	14.40	-	-	-	-	-	-	37.09	0.15	-	-
MALF (D-2301 & D-2302)		10.00		10.00		10.00		10.00	-	-	-	-	-	-		10.00	-	-
Totals	242.88	11.00	484.87	12.00	478.97	11.98	3490.64	24.40	-	-	-	-	-	-	37.09	10.15	-	-

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

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

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

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

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

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

Table 2-H: Stack Exit Conditions

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

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H-Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter (ft)
						(acfs)	(dscfs)			
E4-310	E4-310	V	No	35.0	854	7644	-	-	162.2	1.00
E4-311	E4-311	V	No	35.0	854	7644	-	-	162.2	1.00
E4-312	E4-312	V	No	35.0	854	7644	-	-	162.2	1.00
E4-313	E4-313	V	No	35.0	854	7644	-	-	162.2	1.00
E4-314	E4-314	V	No	35.0	854	7644	-	-	162.2	1.00
E4-315	E4-315	V	No	35.0	854	7644	-	-	162.2	1.00
E4-316	E4-316	V	No	35.0	990	8712	-	-	184.9	1.00
E4-317	E4-317	V	No	35.0	990	8712	-	-	184.9	1.00
D-2301	D-2301	V	No	114.0	1832	10	-	-	65.6	0.45
D-2302	D-2302	V	No	114.0	1832	10	-	-	65.6	0.45
H1	H1	V	No	120.0	600	513	-	-	17.2	6.17
H2	H2	V	No	120.0	600	513	-	-	17.2	6.17
H3	H3	V	No	120.0	600	68	-	-	13.9	2.50
H4	H4	V	No	30.0	600	123.2	-	-	25.1	2.50
TO1	DEHY1 & DEHY2 or DEHY3	V	No	54.5	1150	257	-	-	27.7	3.50
TO2	V2-1104-C through G	V	No	54.5	1150	257	-	-	27.7	3.50
D-2301	D-2301	V	No	115.0	1832	41737	-	-	65.6	28.46
D-2301	D-2302	V	No	115.0	1832	41737	-	-	65.6	28.46

Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs (GAS PLANT)

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		Acetaldehyde ☑ HAP or ☐ TAP		Acrolein ☑ HAP or ☐ TAP											
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr										
Catalyst-1	E4-310	0.34	1.50	0.18	0.81	0.085	0.37	0.052	0.23										
Catalyst-2	E4-311	0.34	1.50	0.18	0.81	0.085	0.37	0.052	0.23										
Catalyst-3	E4-312	0.34	1.50	0.18	0.81	0.085	0.37	0.052	0.23										
Catalyst-4	E4-313	0.34	1.50	0.18	0.81	0.085	0.37	0.052	0.23										
Catalyst-5	E4-314	0.34	1.50	0.18	0.81	0.085	0.37	0.052	0.23										
Catalyst-6	E4-315	0.34	1.50	0.18	0.81	0.085	0.37	0.052	0.23										
N/A	FUG40	0.97	4.25	-	-	-	-	-	-										
D-2301	D-2301	-	-	-	-	-	-	-	-										
D-3202	D-3202	-	-	-	-	-	-	-	-										
TO2	V2-1104-C [1]	-	-	-	-	-	-	-	-										
TO2	V2-1104-D [1]	-	-	-	-	-	-	-	-										
TO2	V2-1104-E [1]	-	-	-	-	-	-	-	-										
TO2	V2-1104-F [1]	-	-	-	-	-	-	-	-										
TO2	V2-1104-G [1]	-	-	-	-	-	-	-	-										
TO2	L1 [1]	-	-	-	-	-	-	-	-										
TO1	DEHY1 [2]	-	-	-	-	-	-	-	-										
TO1	DEHY2 [2]	-	-	-	-	-	-	-	-										
H1	H1	0.10	0.46	-	-	-	-	-	-										
H2	H2	0.10	0.46	-	-	-	-	-	-										
H3	H3	0.01	0.06	-	-	-	-	-	-										
TO1	TO1	0.24	1.07	-	-	-	-	-	-										
TO2	TO2	0.01	0.06	-	-	-	-	-	-										
D-2301	SSM	17.16	0.51	-	-	-	-	-	-										
D-2301	MALF		2.00	-	-	-	-	-	-										
D-2302	SSM	0.12	0.01	-	-	-	-	-	-										
D-2302	MALF		2.00	-	-	-	-	-	-										
Totals:		20.79	19.89	1.11	4.85	0.51	2.22	0.31	1.37										

Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs (COMPRESSOR STATION)

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		Acetaldehyde ☑ HAP or ☐ TAP		Acrolein ☑ HAP or ☐ TAP											
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr										
Catalyst-1	E4-310	0.34	1.50	0.18	0.81	0.085	0.37	0.052	0.23										
Catalyst-2	E4-311	0.34	1.50	0.18	0.81	0.085	0.37	0.052	0.23										
Catalyst-3	E4-312	0.34	1.50	0.18	0.81	0.085	0.37	0.052	0.23										
Catalyst-4	E4-313	0.34	1.50	0.18	0.81	0.085	0.37	0.052	0.23										
Catalyst-5	E4-314	0.34	1.50	0.18	0.81	0.085	0.37	0.052	0.23										
Catalyst-6	E4-315	0.34	1.50	0.18	0.81	0.085	0.37	0.052	0.23										
Catalyst-7	E4-316	0.46	1.33	0.30	1.33	0.085	0.37	0.052	0.23										
Catalyst-8	E4-317	0.46	1.33	0.30	1.33	0.085	0.37	0.052	0.23										
FUG40	FUG40	0.32	1.42	-	-	-	-	-	-										
D-2301	D-2301	-	-	-	-	-	-	-	-										
D-3202	D-3202	-	-	-	-	-	-	-	-										
TO2	V2-1104-C[1]	-	-	-	-	-	-	-	-										
TO2	V2-1104-D[1]	-	-	-	-	-	-	-	-										
TO2	V2-1104-E[1]	-	-	-	-	-	-	-	-										
TO2	L1[1]	-	-	-	-	-	-	-	-										
TO1	DEHY2[2]	-	-	-	-	-	-	-	-										
TO1	DEHY3[2]	-	-	-	-	-	-	-	-										
H4	H4	0.025	0.11	-	-	-	-	-	-										
TO1	TO1	0.31	1.37	-	-	-	-	-	-										
TO1	TO2	0.014	0.062	-	-	-	-	-	-										
D-2301 or D-2302	SSM	13.25	0.055	-	-	-	-	-	-										
D-2301 or D-2302	MALF		8.00	-	-	-	-	-	-										
Totals:		16.91	22.69	1.72	7.52	0.68	2.96	0.42	1.82										

[1] Tank (Units V2-1104-C to E), and loading (Unit L-1) emissions are controlled by a combustor. Controlled emissions are considered under Unit TO2.

[2] Emissions from the dehydator condensers (Units DEHY1 and DEHY2) are controlled by a combustor and emissions from the dehydrator flash tanks are recycled to the inlet. Controlled condenser emissions are considered under Unit TO1.

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/hr)	Annual Usage (MMscf/yr)	% Sulfur (gr/100scf)	% Ash
E4-310	Natural Gas	Pipeline Quality Natural Gas	1020	9910.75	86.82	5	-
E4-311	Natural Gas	Pipeline Quality Natural Gas	1020	9910.75	86.82	5	-
E4-312	Natural Gas	Pipeline Quality Natural Gas	1020	9910.75	86.82	5	-
E4-313	Natural Gas	Pipeline Quality Natural Gas	1020	9910.75	86.82	5	-
E4-314	Natural Gas	Pipeline Quality Natural Gas	1020	9910.75	86.82	5	-
E4-315	Natural Gas	Pipeline Quality Natural Gas	1020	9910.75	86.82	5	-
E4-316	Natural Gas	Pipeline Quality Natural Gas	1020	9723.59	85.18	5	-
E4-317	Natural Gas	Pipeline Quality Natural Gas	1020	9723.59	85.18	5	-
D-2301	Natural Gas	Pipeline Quality Natural Gas	1020	320.00	2.80	5	-
D-2302	Natural Gas	Pipeline Quality Natural Gas	1020	320.00	2.80	5	-
H1	Natural Gas	Pipeline Quality Natural Gas	1020	76500.00	670.14	5	-
H2	Natural Gas	Pipeline Quality Natural Gas	1020	76500.00	670.14	5	-
H3	Natural Gas	Pipeline Quality Natural Gas	1020	10200.00	89.35	5	-
H4	Natural Gas	Pipeline Quality Natural Gas	1020	18360.00	160.83	5	-
TO1	Natural Gas	Pipeline Quality Natural Gas	1020	225.00	1.97	5	-
TO2	Natural Gas	Pipeline Quality Natural Gas	1020	225.00	1.97	5	-

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

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

Tank No.	SCC Code	Material Name	Composition	Liquid Density (lb/gal)	Vapor Molecular Weight (lb/lb*mol)	Average Storage Conditions		Max Storage Conditions	
						Temperature (°F)	True Vapor Pressure (psia)	Temperature (°F)	True Vapor Pressure (psia)
V2-1140-C	40400311	Condensate	Condensate	5.84	96.90	74.02	21.44	74.02	21.44
V2-1140-D	40400311	Condensate	Condensate	5.84	96.90	74.02	21.44	74.02	21.44
V2-1140-E	40400311	Condensate	Condensate	5.84	96.90	74.02	21.44	74.02	21.44
V2-1140-F	40400311	Condensate	Condensate	5.84	96.90	74.02	21.44	74.02	21.44
V2-1140-G	40400311	Condensate	Condensate	5.84	96.90	74.02	21.44	74.02	21.44

Table 2-L: Tank Data (GAS PLANT)

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

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M^3)			Roof	Shell			
V2-1140-C	Uknown	Condensate	N/A	VFR	400	64	3.7	6.1	WT	WT	Good	6,775,970	242.00
V2-1140-D	Uknown	Condensate	N/A	VFR	400	64	3.7	6.1	WT	WT	Good	6,775,970	242.00
V2-1140-E	TBD	Condensate	N/A	VFR	400	64	3.7	6.1	WT	WT	Good	6,775,970	242.00
V2-1140-F	TBD	Condensate	N/A	VFR	400	64	3.7	6.1	WT	WT	Good	6,775,970	242.00
V2-1140-G	TBD	Condensate	N/A	VFR	400	64	3.7	6.1	WT	WT	Good	6,775,970	242.00

Table 2-L: Tank Data (COMPRESSOR STATION)

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

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M^3)			Roof	Shell			
V2-1140-C	Uknown	Condensate	N/A	VFR	400	64	3.7	6.1	WT	WT	Good	257,178	45.92
V2-1140-D	Uknown	Condensate	N/A	VFR	400	64	3.7	6.1	WT	WT	Good	257,178	45.92
V2-1140-E	TBD	Condensate	N/A	VFR	400	64	3.7	6.1	WT	WT	Good	257,178	45.92

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

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

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

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

Material Processed				Material Produced			
Description	**Chemical Composition**	**Phase (Gas, Liquid, or Solid)**	**Quantity (specify units)**	**Description**	**Chemical Composition**	**Phase**	**Quantity (specify units)**
Wet Gas	Wet Natural Gas	Gas	200 MMSCFD	Dehydrated Natural Gas	Natural Gas	Gas	200 MMSCFD
				Condensate	Condensate	Liquid	483998 bbl/yr
				Produced Water	Produced Water	Liquid	15538 bbl/yr

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
There is no CEM equipment present at the faciltiy.									

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
There is no PEM equipment present at the faciltiy.								

Table 2-P: Greenhouse Gas Emissions (COMPRESSOR STATION)

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

		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]									Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**										
E4-310	**mass GHG**	5179.14	0.0098	0.098											5179.25	
	CO_2e	5179.14	2.91	2.44												5184.49
E4-311	**mass GHG**	5179.14	0.0098	0.098											5179.25	
	CO_2e	5179.1434	2.91	2.44												5184.49
E4-312	**mass GHG**	5179.14	0.0098	0.098											5179.25	
	CO_2e	5179.14	2.91	2.44												5184.49
E4-313	**mass GHG**	5179.14	0.0098	0.098											5179.25	
	CO_2e	5179.14	2.91	2.44												5184.49
E4-314	**mass GHG**	5179.14	0.0098	0.098											5179.25	
	CO_2e	5179.14	2.91	2.44												5184.49
E4-315	**mass GHG**	5179.14	0.0098	0.098											5179.25	
	CO_2e	5179.14	2.91	2.44												5184.49
E4-316	**mass GHG**	5081.34	0.0096	0.096											5081.44	
	CO_2e	5081.34	2.85	2.39												5086.59
E4-317	**mass GHG**	5081.34	0.0096	0.096											5081.44	
	CO_2e	5081.34	2.85	2.39												5086.59
D-2301	**mass GHG**	0.16	2.97E-07	2.97E-06											0.16	
	CO_2e	0.16	8.85E-05	7.42E-05												0.16
D-2301	**mass GHG**	0.16	2.97E-07	2.97E-06											0.16	
	CO_2e	0.16	8.85E-05	7.42E-05												0.16
H4	**mass GHG**	9222.48	0.0174	0.174											9222.67	
	CO_2e	9222.48	5.18	4.3453												9232.00
TO1	**mass GHG**	1073.61	2.02E-03	0.0202											1073.63	
	CO_2e	1073.61	0.60	0.51												1074.72
TO2	**mass GHG**	144.66	0.0003	0.020											144.68	
	CO_2e	144.66	0.08	0.51												145.25
SSM/ MALF	**mass GHG**	9883.86	0.0186	0.186											9884.07	
	CO2e	9883.86	5.55	4.66												9894.07
Total	**mass GHG**	61562.46	0.12	1.18											61563.76	
	CO_2e	61562.46	34.58	29.44												61626.48

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

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

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

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

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

Table 2-P: Greenhouse Gas Emissions (GAS PLANT)

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

		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]									**Total GHG** Mass Basis ton/yr[4]	**Total CO_2e** ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**										
E4-310	**mass GHG**	5179.14	0.0098	0.098											5179.25	
	CO_2e	5179.14	2.91	2.44												5184.49
E4-311	**mass GHG**	5179.14	0.0098	0.098											5179.25	
	CO_2e	5179.1434	2.91	2.44												5184.49
E4-312	**mass GHG**	5179.14	0.0098	0.098											5179.25	
	CO_2e	5179.14	2.91	2.44												5184.49
E4-313	**mass GHG**	5179.14	0.0098	0.098											5179.25	
	CO_2e	5179.14	2.91	2.44												5184.49
E4-314	**mass GHG**	5179.14	0.0098	0.098											5179.25	
	CO_2e	5179.14	2.91	2.44												5184.49
E4-315	**mass GHG**	5179.14	0.0098	0.098											5179.25	
	CO_2e	5179.14	2.91	2.44												5184.49
D-2301	**mass GHG**	1.15	2.16E-06	2.16E-05											1.15	
	CO_2e	1.15	6.43E-04	5.40E-04												1.15
D-2301	**mass GHG**	1.15	2.16E-06	2.16E-05											1.15	
	CO_2e	1.15	6.43E-04	5.40E-04												1.15
H1	**mass GHG**	38426.99	0.0724	1.65E-02											38427.08	
	CO_2e	38426.99	21.58	0.4134												38448.98
H2	**mass GHG**	38426.99	0.0724	1.65E-02											38427.08	
	CO_2e	38426.99	21.58	0.4134												38448.98
H3	**mass GHG**	5123.60	0.0097	0.0022											5123.61	
	CO_2e	5123.60	2.88	0.055												5126.53
TO1	**mass GHG**	448.30	1.93E-04	0.0019											448.31	
	CO_2e	448.30	0.06	0.05												448.41
TO2	**mass GHG**	144.66	0.0001	0.001											144.66	
	CO_2e	144.66	0.02	0.02												144.69
SSM/ MALF	**mass GHG**	9883.86	0.0186	0.186											9884.07	
	CO2e	9883.86	5.55	4.66												9894.07
Total	**mass GHG**	123531.55	0.23	0.81											123532.60	
	CO_2e	123531.55	69.12	20.25												123620.92

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

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

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

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

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

Section 3

Application Summary

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

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

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

The Empire Abo facility is currently permitted under NSR permit No. 126-M4 and Title V Permit No. P-146-R3.

Durango Midstream, LLC (Durango) is preparing a significant permit revision application pursuant to 20.2.72.219.D.1.a NMAC for its Empire Abo Gas Plant. Modifications proposed under this significant revision application consist of removal and addition of heaters, addition of an amine unit and AGI well, modification of engines, addition of storage tanks, addition of a TEG dehydrator, and addition of a thermal oxidizer. Several residue gas compressors will be converted to inlet gas compressors; a second TEG dehydration unit and an associated reboiler will be installed at the facility; and a thermal oxidizer will be installed to combust tank overhead emissions. Emissions from all existing equipment will be updated to reflect the equipment modifications; new calculation methodologies; new gas and liquid analyses and throughputs; and new manufacturer data. Detailed descriptions of emission calculations will be included in the application submittal.

It should be noted that Durango recently removed equipment under an administrative revision (submitted in May 2019). The facility currently operates as a source that is Major for Title V and minor for PSD.

The permit also seeks to authorize the Empire Abo facility to operate as a compressor station or gas plant. These scenarios are detailed in Section 10.

Under gas plant operation the following SSM emissions will occur:

- Inlet gas SSM flaring (Unit D-2301)
- Acid gas SSM flaring (Unit D-2302)

Under compressor station operation the following SSM events will occur:

- Inlet gas SSM flaring (Units D-2301 and D-2302)

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.

Process flow diagrams are attached for each operating scenario.

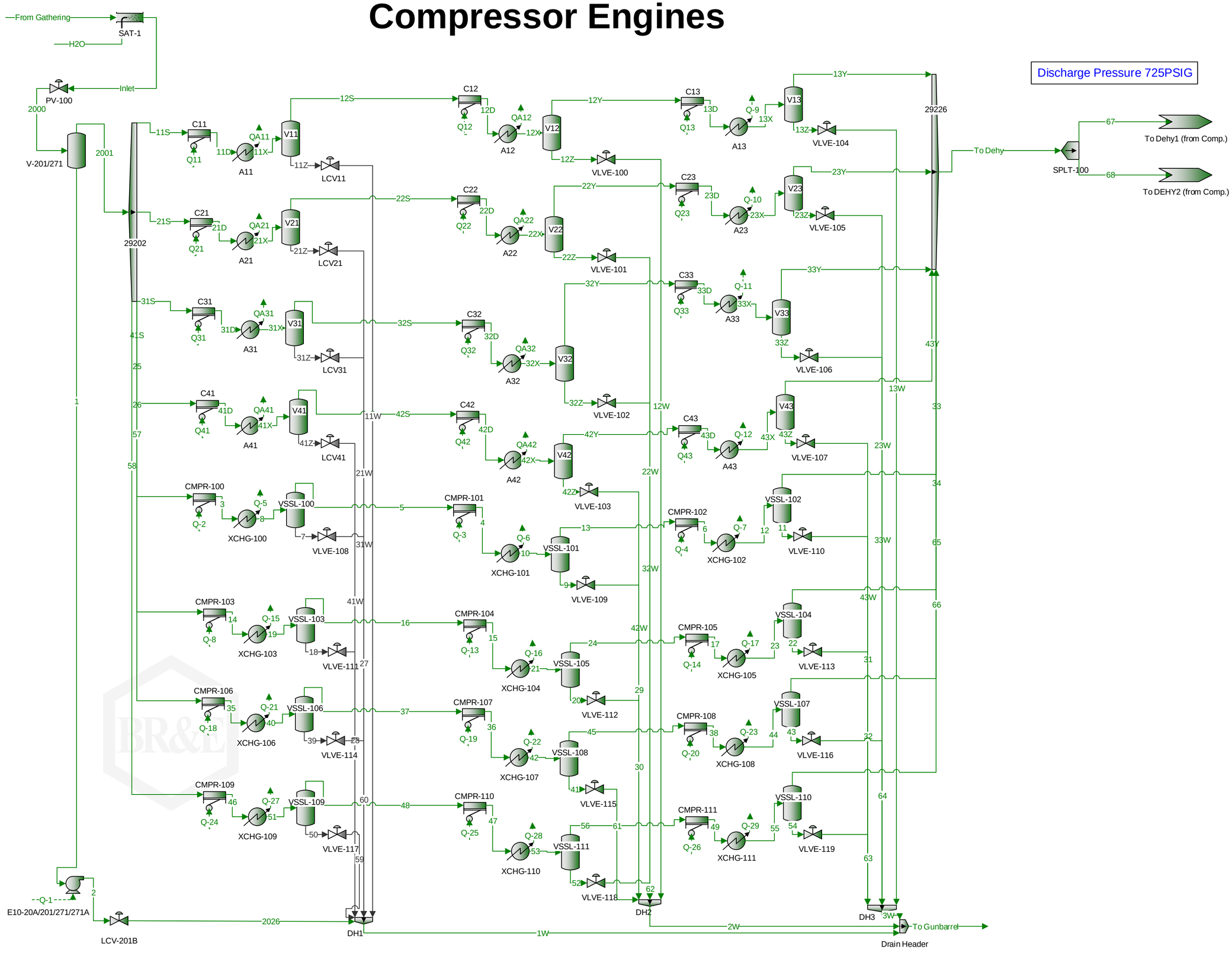
Inlet Volume 50MMSCFD

Inlet Pressure 15PSIG

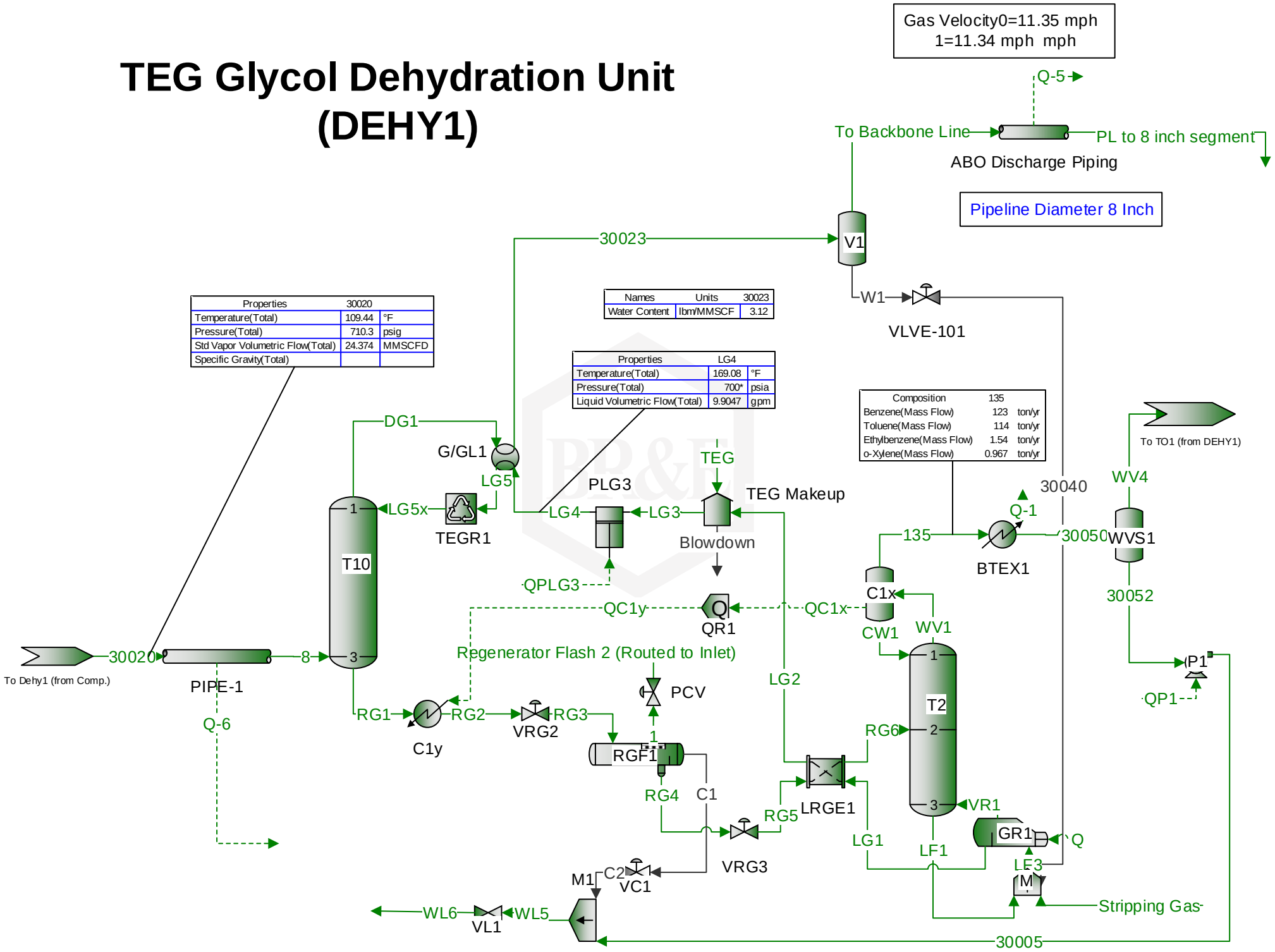
Empire Abo Compressor Station

Compressor Engines

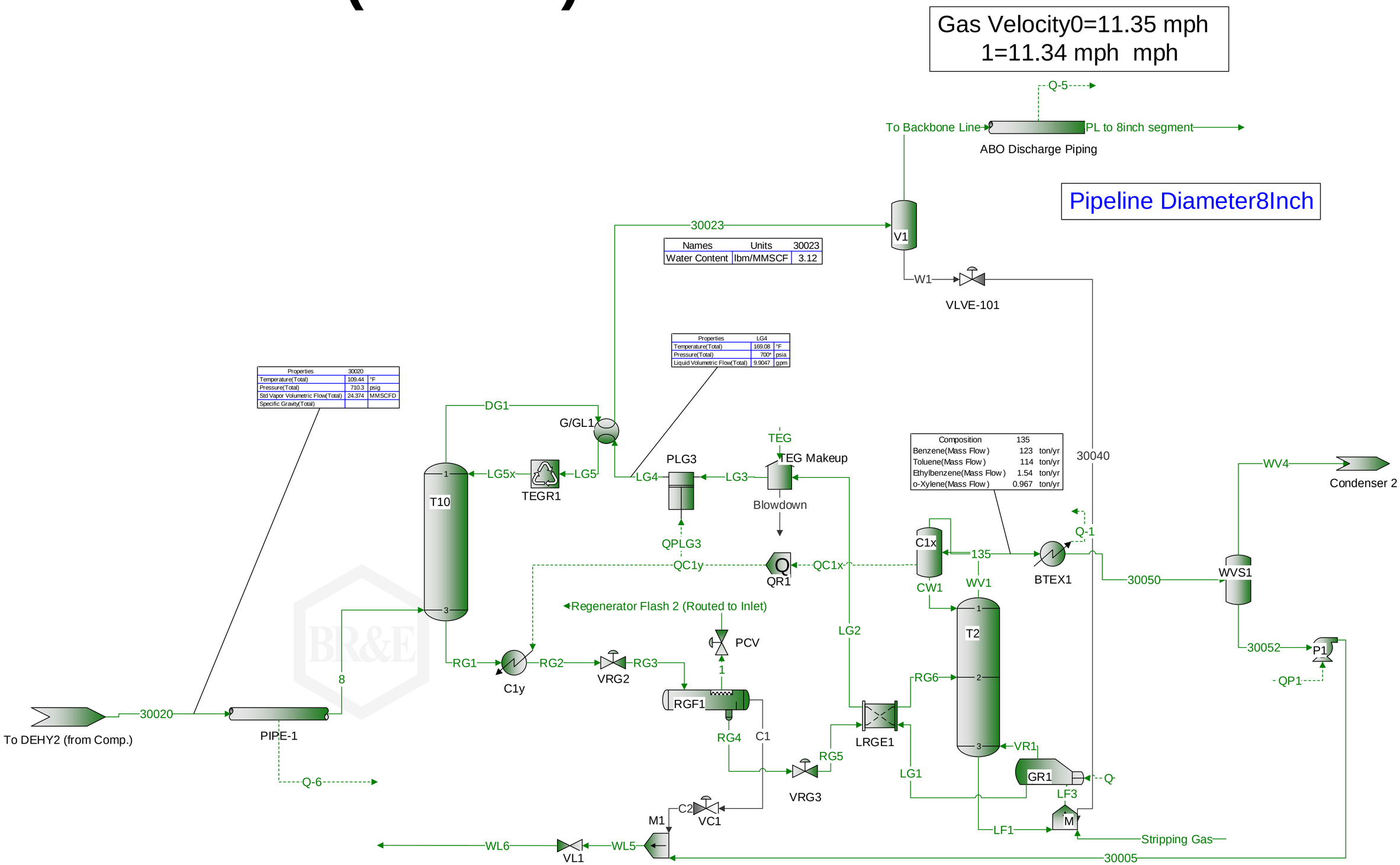
Discharge Pressure 725PSIG



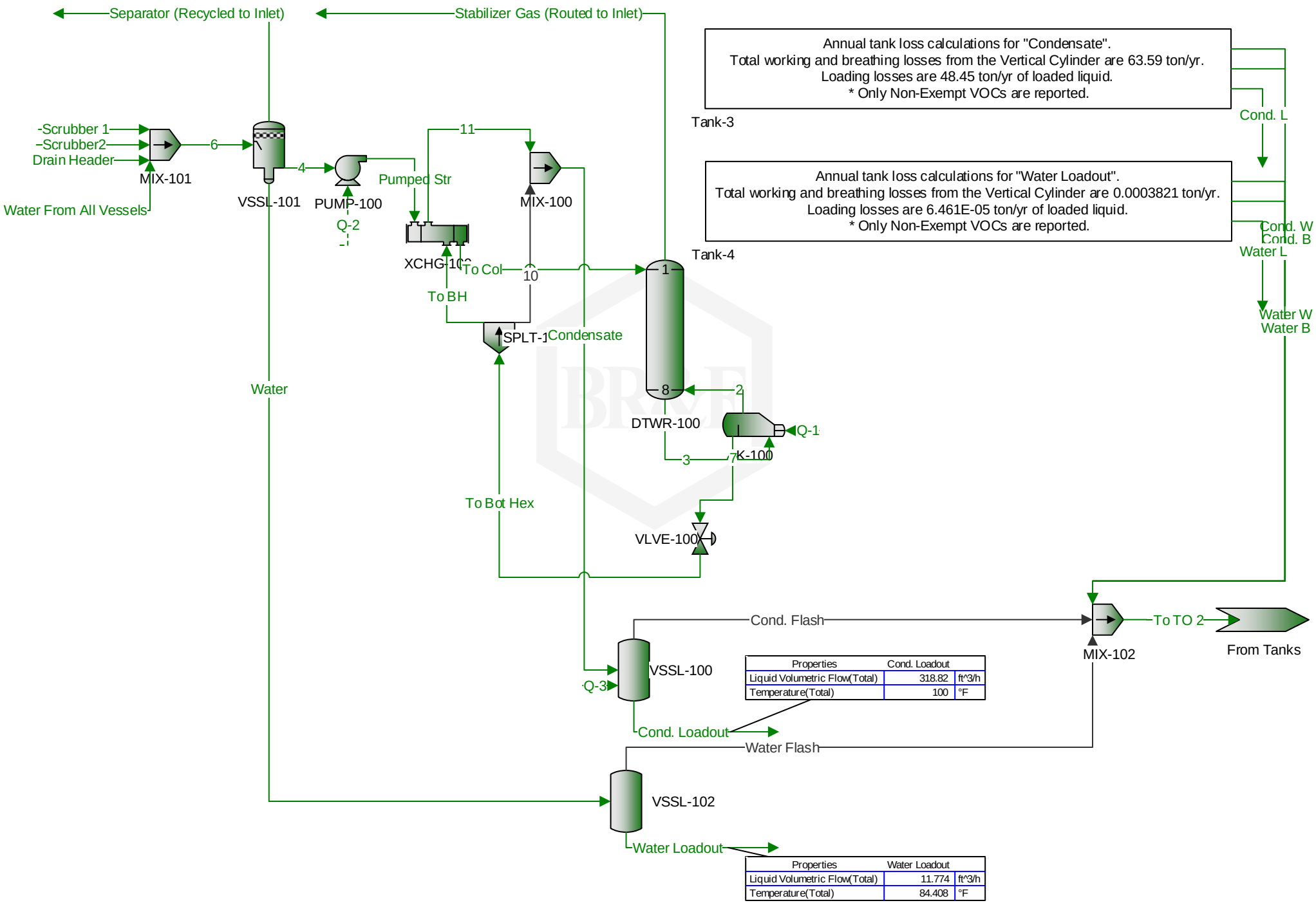
TEG Glycol Dehydration Unit (DEHY1)



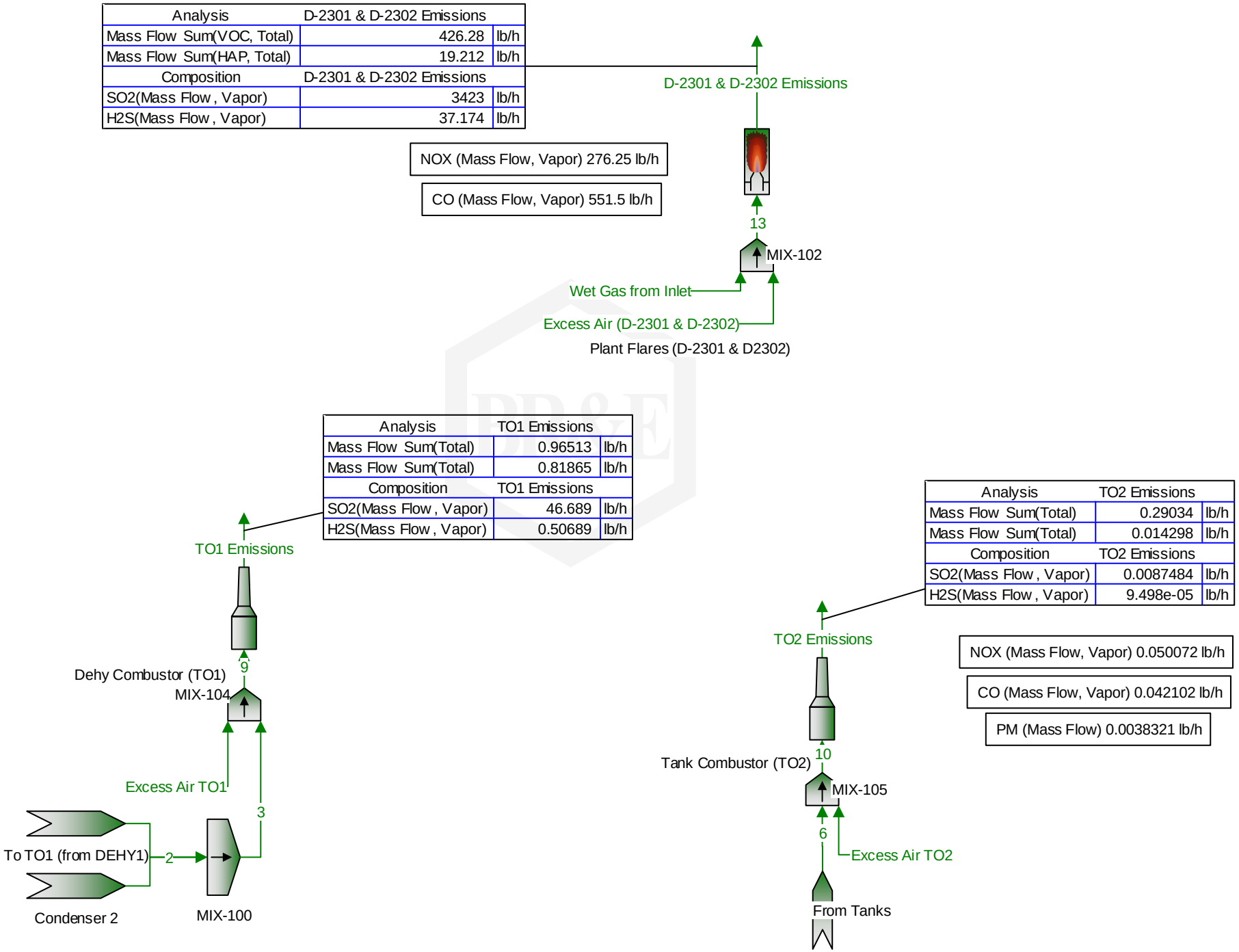
TEG Glycol Dehydration Unit (DEHY2)



Stabilizer, Tanks, & Loading



Flares and Thermal Oxidizers

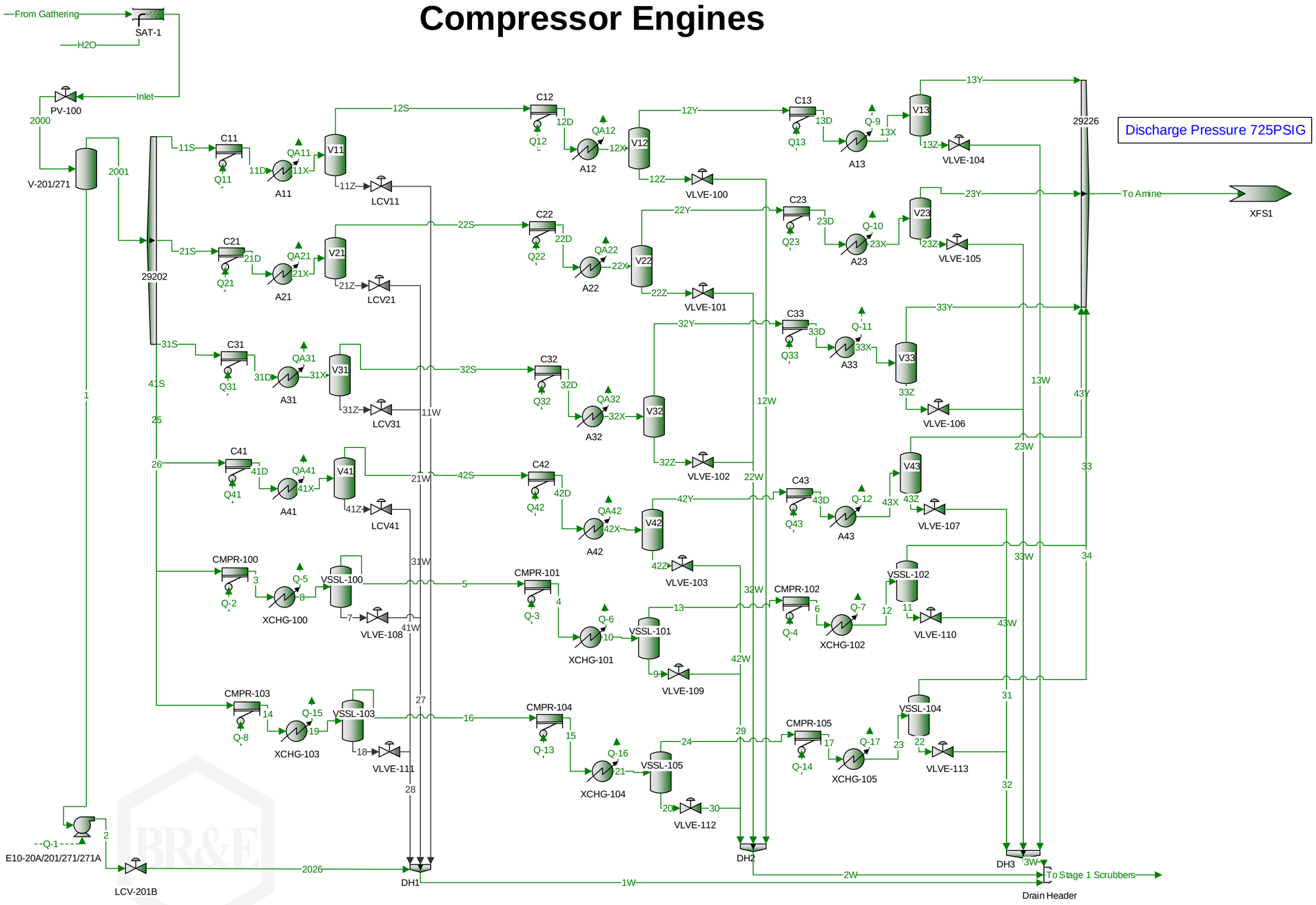


Inlet Volume 200MMSCFD

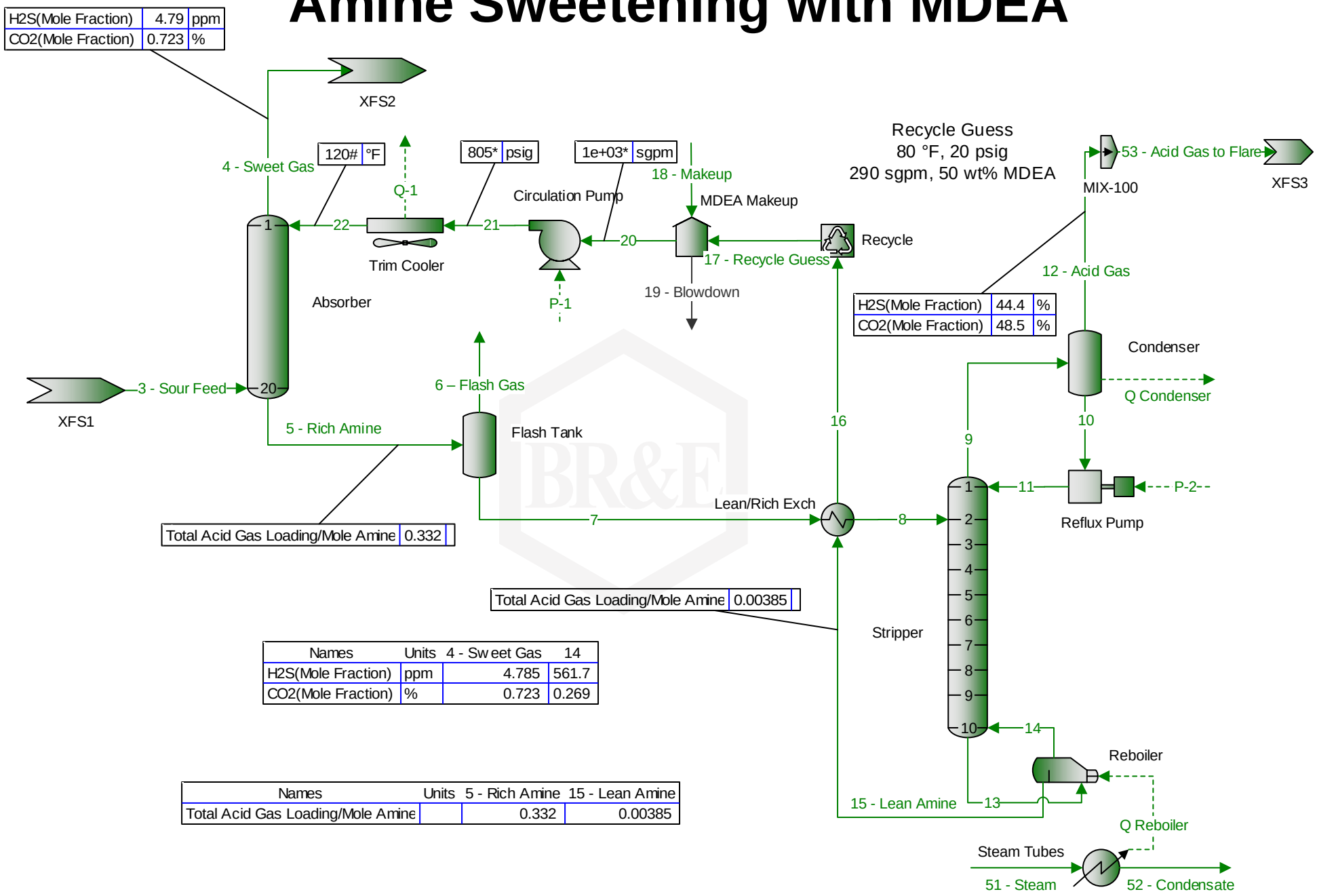
Inlet Pressure 15PSIG

Empire Abo Gas Plant

Compressor Engines



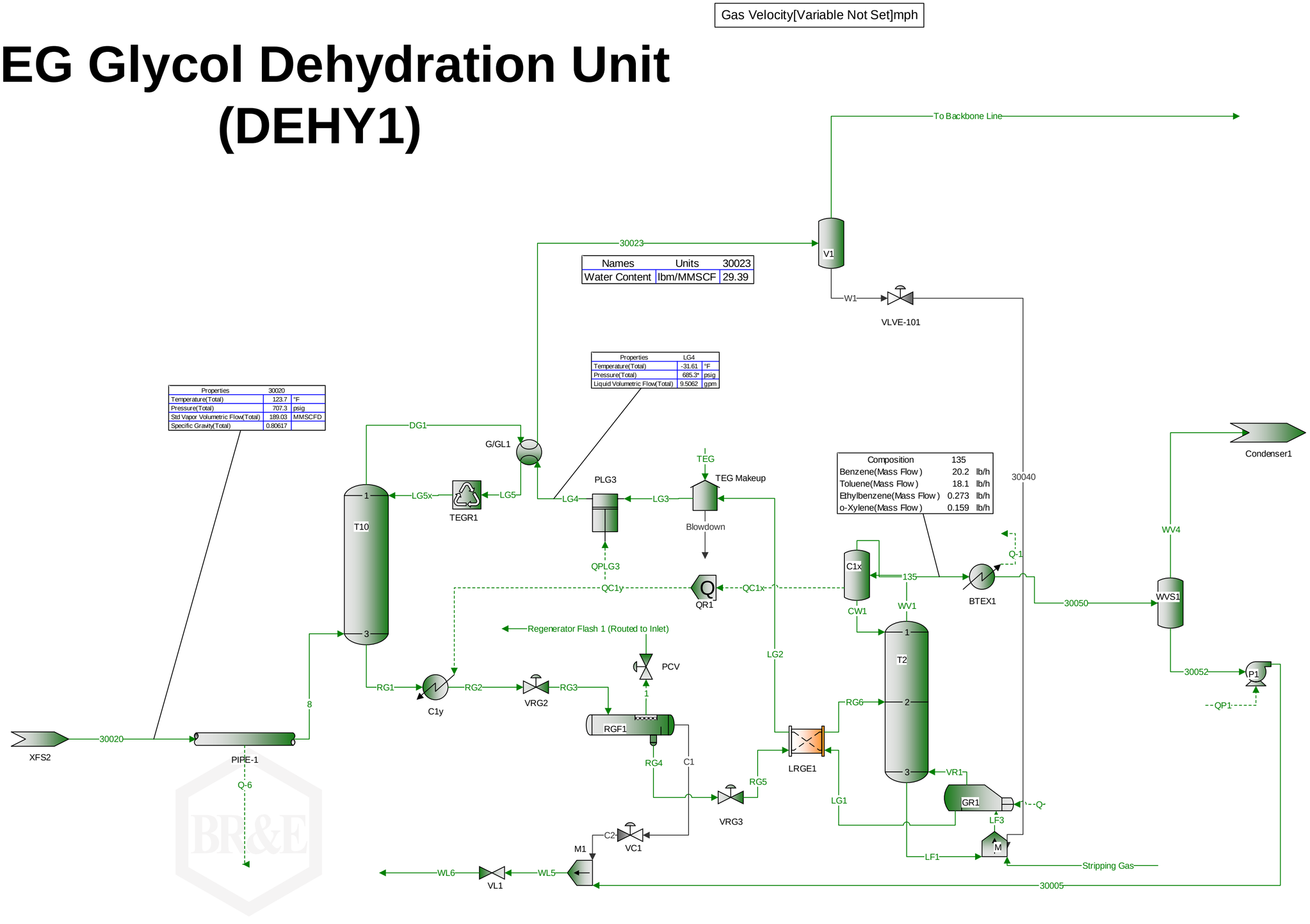
Amine Sweetening with MDEA



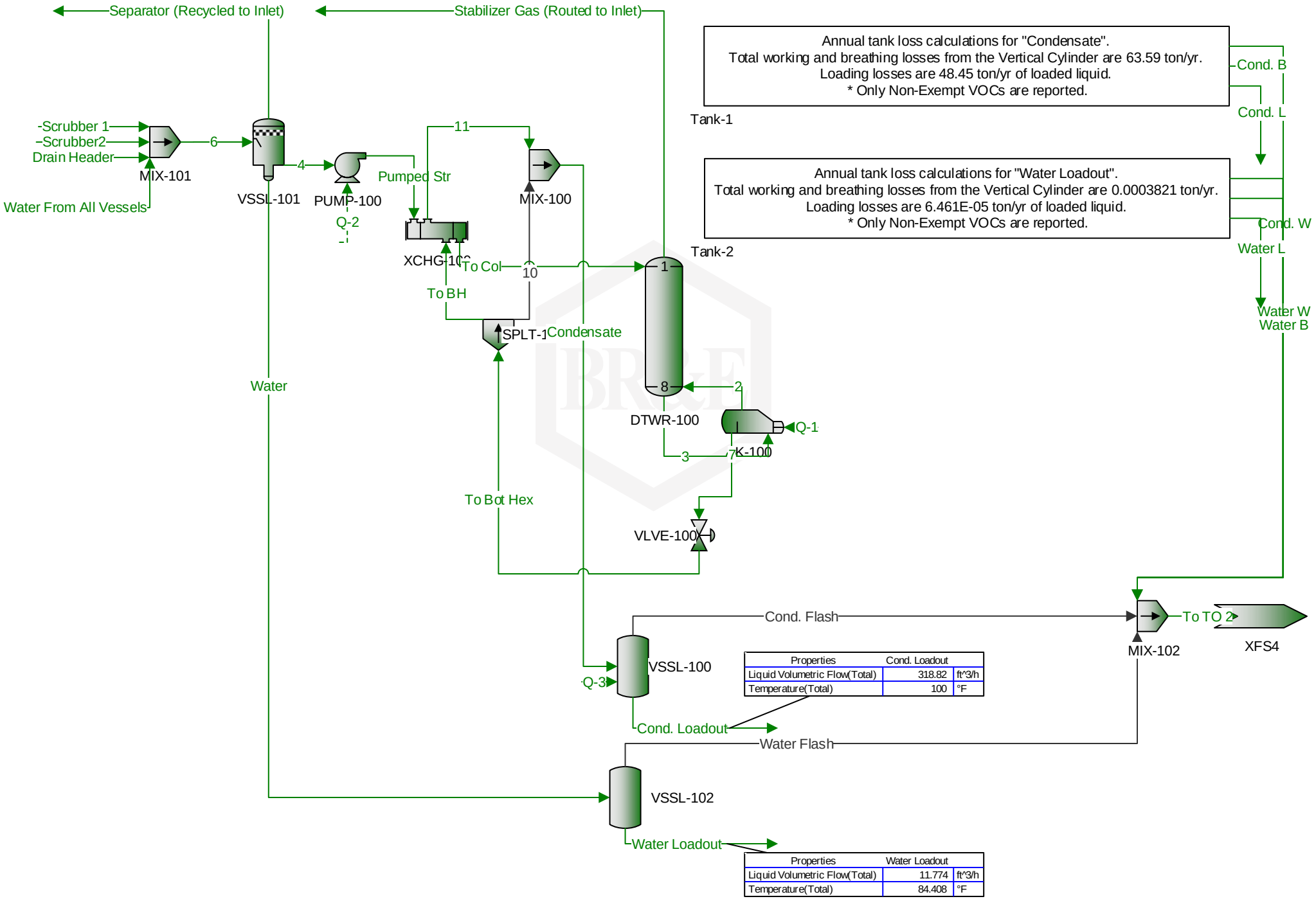
Names	Units	4 - Sweet Gas	14
H2S(Mole Fraction)	ppm	4.785	561.7
CO2(Mole Fraction)	%	0.723	0.269

Names	Units	5 - Rich Amine	15 - Lean Amine
Total Acid Gas Loading/Mole Amine		0.332	0.00385

TEG Glycol Dehydration Unit (DEHY1)



Stabilizer, Tanks, and Loading

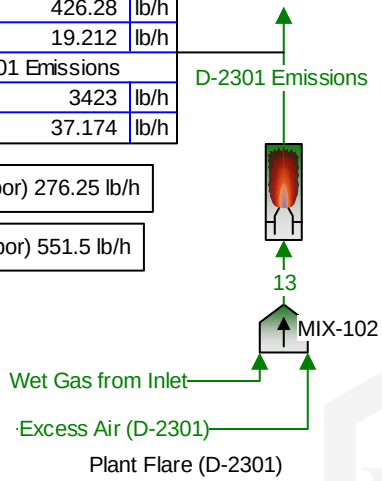


Flares and Thermal Oxidizers

Analysis	D-2301 Emissions	
Mass Flow Sum(VOC, Total)	426.28	lb/h
Mass Flow Sum(HAP, Total)	19.212	lb/h
Composition	D-2301 Emissions	
SO2(Mass Flow , Vapor)	3423	lb/h
H2S(Mass Flow , Vapor)	37.174	lb/h

NOX (Mass Flow, Vapor) 276.25 lb/h

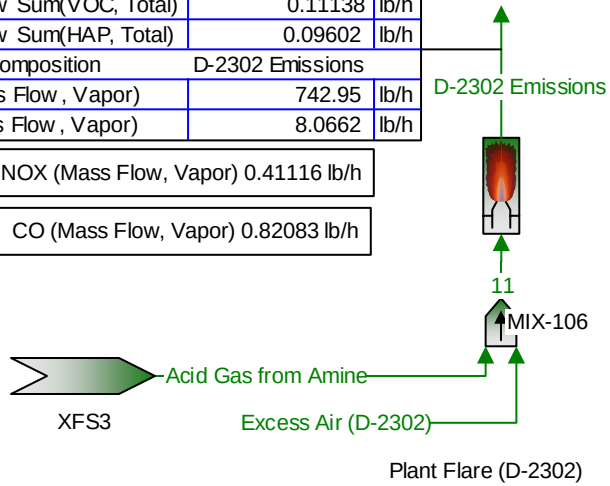
CO (Mass Flow, Vapor) 551.5 lb/h



Analysis	D-2302 Emissions	
Mass Flow Sum(VOC, Total)	0.11138	lb/h
Mass Flow Sum(HAP, Total)	0.09602	lb/h
Composition	D-2302 Emissions	
SO2(Mass Flow , Vapor)	742.95	lb/h
H2S(Mass Flow , Vapor)	8.0662	lb/h

NOX (Mass Flow, Vapor) 0.41116 lb/h

CO (Mass Flow, Vapor) 0.82083 lb/h

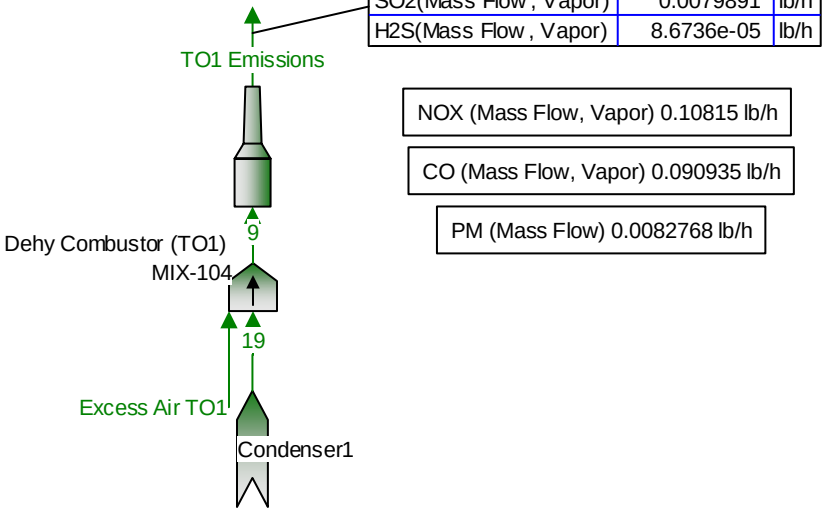


Analysis	TO1 Emissions	
Mass Flow Sum(Total)	0.37771	lb/h
Mass Flow Sum(Total)	0.12222	lb/h
Composition	TO1 Emissions	
SO2(Mass Flow , Vapor)	0.0079891	lb/h
H2S(Mass Flow , Vapor)	8.6736e-05	lb/h

NOX (Mass Flow, Vapor) 0.10815 lb/h

CO (Mass Flow, Vapor) 0.090935 lb/h

PM (Mass Flow) 0.0082768 lb/h

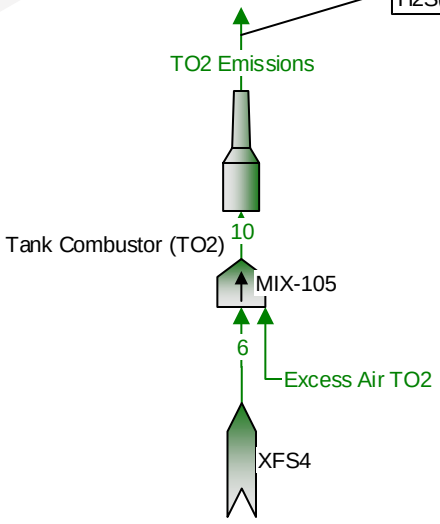


Analysis	TO2 Emissions	
Mass Flow Sum(Total)	0.29034	lb/h
Mass Flow Sum(Total)	0.014298	lb/h
Composition	TO2 Emissions	
SO2(Mass Flow , Vapor)	0.0087484	lb/h
H2S(Mass Flow , Vapor)	9.498e-05	lb/h

NOX (Mass Flow, Vapor) 0.050072 lb/h

CO (Mass Flow, Vapor) 0.042102 lb/h

PM (Mass Flow) 0.0038321 lb/h



Section 5

Plot Plan Drawn to Scale

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

A plot plan is attached.


225
E4-310
E4-311
E4-312
E4-313
E4-314
E4-315
E4-316
E4-317
H1 to H4
DEHY1
DEHY2
DEHY3
D-2302
TO1
D-2301
L-1 & L-2
V2-1104-C to I
TO2

Section 6

All Calculations

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

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

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

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

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

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

Significant Figures:

A. All emissions standards are deemed to have at least two significant figures, but not more than three significant figures.

B. At least 5 significant figures shall be retained in all intermediate calculations.

C. In calculating emissions to determine compliance with an emission standard, the following rounding off procedures shall be used:

(1) If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;

(2) If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**

(3) If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.

(4) The final result of the calculation shall be expressed in the units of the standard.

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

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

Compressor Engines (Units E4-310 to E4-317)
The engines operating at the facility will include Caterpillar 3516TA and 3516 engines. These engines will compress inlet gas and send the gas to the TEG dehydration units. All engines have been updated to incorporate new emission factors and catalyst control guarantees from equipment manufacturers and vendors. AP-42 emission factors are also used to quantify HAP and PM emissions. A fuel sulfur content of 5 gr/100 scf is assumed to calculated engine SO_2 emissions.

Facility-Wide Fugitive Emissions (Unit FUG40)
Facility-wide fugitive emissions have been updated to incorporate the most recent count of fugitive components based on the new and remaining equipment at the facility. The fugitive emissions have also been updated with new gas and liquid compositions derived from a ProMax simulation used to quantify emissions at the facility. Fugitive emissions are represented for both the gas plant and compressor station configurations to reflect component counts for each facility.

Emergency Flares (Units D-2301, D-2303, SSM, and MALF)
The existing emergency flares will operate differently depending on the operating scenario. For the compressor station scenario, both flares will combust inlet gas and the operation of other facility equipment will not occur during SSM flaring events. For the gas plant scenario, Unit D-2301 will combust inlet gas during facility SSM events and Unit D-2302 will combust acid gas during AGI well compressor downtime. Under both scenarios, the flares will never operate simultaneously.

Storage Tanks (Units V2-1104-C through G)
Three liquids analyses for the drain header and scrubbers and associated throughputs were used to quantify tank emissions using BR&E ProMax. These liquids will be processed by stabilizer prior to entering the tanks. Because all liquids are stabilized, there are no flash emission associated with the tanks, only working and breathing emissions. All overhead emissions from these units are sent to a thermal oxidizer and are represented under Unit TO2.

Condensate and Produced Water Loading (Units L1 and L2)
Condensate and produced water loading emissions are calculated using BR&E ProMax. Produced water loading emissions are considered and exempt source pursuant to 20.2.72.202.B(5) NMAC. Loading emissions are sent to a thermal oxidizer and are represented under Unit TO2.

Amine Unit (Unit AMINE1)
The amine unit will sweet inlet gas at this facility under the gas plant scenario. Acid gas that is removed from the process stream will be sent to an AGI well during normal operation and to an acid gas flare (Unit D-2302) during SSM or malfunction events.

TEG Dehydrators (Units DEHY1 through DEHY3)
TEG dehydrator emissions are calculated using a BR&E ProMax simulation designed to incorporate the operating parameters will be used at the facility. Flash tank overhead emissions are routed to the inlet. Regenerator emissions are controlled by a condenser. Condenser overhead emissions are sent to a thermal oxidizer and are represented under Unit TO1. Unit DEHY1 is associated with the gas plant and processes up to 200 MMSCFD of gas. Units DEHY2 and DEHY3 are associated with the compressor station scenario and will each process up to 50 MMSCFD of gas.

Heaters (Units H1 through H4)
Emissions from heaters installed at the facility are calculated using emission factors from AP-42 Section 1.4. HAP emissions are calculated using GRI HAPCalc. Units H1 to H3 are associated with the gas plant scenario and Unit H4 is associated with the compressor station scenario.

TEG Dehydrator Thermal Oxidizer (Unit TO1)
Unit TO1 will combust gas from TEG dehydrator condensers. The TO is conservatively represented as having a VOC, HAP and H_2S destruction efficiency of 98%.

Tanks, and Loading Thermal Oxidizer (Unit TO2)
Unit TO2 will combust gas from tank and loading emissions. The TO is conservatively represented as having a VOC, HAP and H_2S destruction efficiency of 98%.

Haul Road Emissions (Exempt per 20.2.72.202.B(5) NMAC)

Haul trucks will be utilized at this facility to transport condensate and produced water off-site. The emission calculations provided in this section demonstrate that these activities will generate less than 0.5 tpy of PM emissions. This activity is therefore considered exempt and is not a regulated source of emissions.

Section 6.a
Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

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

Calculating GHG Emissions:

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

Sources for Calculating GHG Emissions:

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

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

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

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

Durango Midstream, LLC - Empire Abo Gas Plant

Gas Plant Emission Summary

Maximum Emissions

Unit No.	Description	NOx		CO		VOC		SOx		TSP		PM10		PM2.5		H_2S		Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
E4-310	Compressor Engine	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-311	Compressor Engine	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-312	Compressor Engine	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-313	Compressor Engine	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-314	Compressor Engine	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-315	Compressor Engine	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
FUG40	Facility-Wide Fugitives	-	-	-	-	16.80	73.59	-	-	-	-	-	-	-	-	2.79E-04	0.0012	-	-
D-2301	Emergency Flare Pilot	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
D-3202	Emergency Flare Pilot	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
V2-1104-C[1]	Condensate Tank	-	-	-	-	2.90	12.72	-	-	-	-	-	-	-	-	1.98E-05	8.66E-05	-	-
V2-1104-D[1]	Condensate Tank	-	-	-	-	2.90	12.72	-	-	-	-	-	-	-	-	1.98E-05	8.66E-05	-	-
V2-1104-E[1]	Condensate Tank	-	-	-	-	2.90	12.72	-	-	-	-	-	-	-	-	1.98E-05	8.66E-05	-	-
V2-1104-F[1]	Condensate Tank	-	-	-	-	2.90	12.72	-	-	-	-	-	-	-	-	1.98E-05	8.66E-05	-	-
V2-1104-G[1]	Condensate Tank	-	-	-	-	2.90	12.72	-	-	-	-	-	-	-	-	1.98E-05	8.66E-05	-	-
L1	Condensate Loading	-	-	-	-	11.06	48.45	-	-	-	-	-	-	-	-	7.53E-05	3.30E-04	-	-
DEHY1[2]	TEG Dehydrator	-	-	-	-	18.89	82.72	-	-	-	-	-	-	-	-	0.004	0.02	-	-
AMINE1[3]	Amine Unit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H1	Heater	7.65	33.51	6.43	28.15	0.42	1.84	1.09	4.79	0.58	2.55	0.58	2.55	0.58	2.55	-	-	-	-
H2	Heater	7.65	33.51	6.43	28.15	0.42	1.84	1.09	4.79	0.58	2.55	0.58	2.55	0.58	2.55	-	-	-	-
H3	Heter	1.02	4.47	0.86	3.75	0.056	0.25	0.15	0.64	0.078	0.34	0.078	0.34	0.078	0.34	-	-	-	-
TO1	Thermal Oxidizer	0.023	0.099	0.019	0.083	-	-	0.0032	0.014	0.0017	0.0075	0.0017	0.0075	0.0017	0.0075	-	-	-	-
TO2	Thermal Oxidizer	0.023	0.099	0.019	0.083	-	-	0.0032	0.014	0.0017	0.0075	0.0017	0.0075	0.0017	0.0075	-	-	-	-
SSM (D-2301)	Inlet Gas SSM Flaring	242.88	7.29	484.87	14.55	478.97	14.37	3490.64	104.72	-	-	-	-	-	-	37.09	1.11	-	-
MALF (D-2301)	Inlet Gas MALF Flaring		5.00		5.00		5.00		5.00	-	-	-	-	-	-		5.00	-	-
SSM (D-2302)	Acid Gas SSM Flaring	17.38	1.357	2.32	8.39	0.14	0.0070	759.17	37.96	-	-	-	-	-	-	8.07		-	-
MALF (D-2302)	Acid Gas MALF Flaring		5.00		5.00		5.00		5.00	-	-	-	-	-	-			-	-
Totals		**303.39**	**207.56**	**534.62**	**240.67**	**551.71**	**342.34**	**4253.01**	**166.72**	**1.85**	**8.10**	**1.85**	**8.10**	**1.85**	**8.10**	**45.16**	**6.13**	**-**	**-**

Requested Allowable Emissions

Unit No.	Description	NOx		CO		VOC		SOx		TSP		PM10		PM2.5		H_2S		Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
E4-310	Compressor Engine	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-311	Compressor Engine	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-312	Compressor Engine	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-313	Compressor Engine	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-314	Compressor Engine	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-315	Compressor Engine	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
FUG40	Facility-Wide Fugitives	-	-	-	-	16.80	73.59	-	-	-	-	-	-	-	-	2.79E-04	0.0012	-	-
D-2301	Emergency Flare Pilot	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
D-3202	Emergency Flare Pilot	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
V2-1104-C[1]	Condensate Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V2-1104-D[1]	Condensate Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V2-1104-E[1]	Condensate Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V2-1104-F[1]	Condensate Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V2-1104-G[1]	Condensate Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L1	Condensate Loading	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DEHY1[2]	TEG Dehydrator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AMINE1[3]	Amine Unit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H1	Heater	7.65	33.51	6.43	28.15	0.42	1.84	1.09	4.79	0.58	2.55	0.58	2.55	0.58	2.55	-	-	-	-
H2	Heater	7.65	33.51	6.43	28.15	0.42	1.84	1.09	4.79	0.58	2.55	0.58	2.55	0.58	2.55	-	-	-	-
H3	Heater	1.02	4.47	0.86	3.75	0.056	0.25	0.15	0.64	0.078	0.34	0.078	0.34	0.078	0.34	-	-	-	-
TO1	Thermal Oxidizer	0.11	0.47	0.091	0.40	0.38	1.65	0.011	0.050	0.0082	0.036	0.0082	0.036	0.0082	0.036	8.67E-05	0.0004	-	-
TO2	Thermal Oxidizer	0.050	0.22	0.042	0.18	0.29	1.27	0.012	0.053	0.0038	0.017	0.0038	0.017	0.0038	0.017	9.50E-05	4.16E-04	-	-
SSM (D-2301)	Inlet Gas SSM Flaring	242.88	7.29	484.87	14.55	478.97	14.37	3490.64	104.72	-	-	-	-	-	-	37.09	1.11	-	-
MALF (D-2301)	Inlet Gas MALF Flaring		5.00		5.00		5.00		5.00	-	-	-	-	-	-		5.00	-	-
SSM (D-2302)	Acid Gas SSM Flaring	17.38	1.357	2.32	8.39	0.14	0.0070	759.17	37.96	-	-	-	-	-	-	8.07	0.40	-	-
MALF (D-2302)	Acid Gas MALF Flaring		5.00		5.00		5.00		5.00	-	-	-	-	-	-		5.00	-	-
Totals		**303.51**	**208.06**	**508.06**	**124.33**	**500.47**	**117.91**	**4253.03**	**166.80**	**1.86**	**8.14**	**1.86**	**8.14**	**1.86**	**8.14**	**45.15**	**11.52**	**-**	**-**

[1] Condesate tanks (Units V2-1104-C to F) and loading (Unit L-1) emissions are controlled by a combustor. Controlled emissions are considered under Unit TO2.

[2] Emissions from the dehydator condensers (Units DEHY1 and DEHY2) are controlled by a combustor and emissions from the dehydrator flash tanks are recycled to the inlet. Controlled condenser emissions are considered under Unit TO1.

[3] Acid gas from the amine unit is compressed and sent to an AGI well or combusted during SSM events. The flared emissions are condsidered under Unit D-2302.

Durango Midstream, LLC - Empire Abo Compressor Station

Gas Plant Emission Summary

Maximum Emissions

Unit No.	Description	NOx		CO		VOC		SOx		TSP		PM10		PM2.5		H_2S		Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
E4-310	Compressor Engine	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-311	Compressor Engine	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-312	Compressor Engine	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-313	Compressor Engine	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-314	Compressor Engine	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-315	Compressor Engine	4.43	19.41	5.55	24.32	1.74	7.62	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-316	Compressor Engine	3.04	13.32	8.52	37.31	2.46	10.76	0.14	0.61	0.10	0.43	0.10	0.43	0.10	0.43	-	-	-	-
E4-317	Compressor Engine	3.04	13.32	8.52	37.31	2.46	10.76	0.14	0.61	0.10	0.43	0.10	0.43	0.10	0.43	-	-	-	-
FUG40	Facility-Wide Fugitives	-	-	-	-	3.85	16.86	-	-	-	-	-	-	-	-	0.12	0.53	-	-
D-2301	Emergency Flare Pilot	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
D-3202	Emergency Flare Pilot	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
V2-1104-C[1]	Condensate Tank	-	-	-	-	4.84	21.20	-	-	-	-	-	-	-	-	7.52E-06	3.29E-05	-	-
V2-1104-D[1]	Condensate Tank	-	-	-	-	4.84	21.20	-	-	-	-	-	-	-	-	7.52E-06	3.29E-05	-	-
V2-1104-E[1]	Condensate Tank	-	-	-	-	4.84	21.20	-	-	-	-	-	-	-	-	7.52E-06	3.29E-05	-	-
L1	Condensate Loading	-	-	-	-	11.06	48.45	-	-	-	-	-	-	-	-	7.53E-05	3.30E-04	-	-
DEHY2[2]	TEG Dehydrator	-	-	-	-	24.13	105.68	-	-	-	-	-	-	-	-	12.672	55.50	-	-
DEHY3[2]	TEG Dehydrator	-	-	-	-	24.13	105.68	-	-	-	-	-	-	-	-	12.672	55.50	-	-
H4	Heater	1.84	8.04	1.54	6.76	0.10	0.44	0.26	1.15	0.58	2.55	0.14	0.61	0.14	0.61	-	-	-	-
TO1	Thermal Oxidizer	0.023	0.099	0.019	0.083	-	-	0.0032	0.014	0.0017	0.0075	0.0017	0.0075	0.0017	0.0075	-	-	-	-
TO2	Thermal Oxidizer	0.023	0.099	0.019	0.083	-	-	0.0032	0.014	0.0017	0.0075	0.0017	0.0075	0.0017	0.0075	-	-	-	-
SSM (D-2301 & D-2302)	SSM Flaring	242.88	1.002	484.87	2.00	478.97	1.976	3490.64	14.40	-	-	-	-	-	-	37.09		-	-
MALF (D-2301 & D-2302)	MALF Flaring		10.00		10.00		10.00		10.00	-	-	-	-	-	-			-	-
Totals		**277.61**	**163.13**	**537.17**	**241.06**	**572.10**	**419.88**	**3492.05**	**30.59**	**1.39**	**6.08**	**0.95**	**4.15**	**0.95**	**4.15**	**62.55**	**111.54**	**-**	**-**

Requested Allowable Emissions

Unit No.	Description	NOx		CO		VOC		SOx		TSP		PM10		PM2.5		H_2S		Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
E4-310	Compressor Engine	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-311	Compressor Engine	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-312	Compressor Engine	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-313	Compressor Engine	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-314	Compressor Engine	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-315	Compressor Engine	4.43	19.41	1.11	4.86	0.50	2.18	0.14	0.62	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-316	Compressor Engine	3.04	13.32	1.70	7.46	0.68	2.96	0.14	0.61	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
E4-317	Compressor Engine	3.04	13.32	1.70	7.46	0.68	2.96	0.14	0.61	0.10	0.44	0.10	0.44	0.10	0.44	-	-	-	-
FUG40	Facility-Wide Fugitives	-	-	-	-	3.85	16.86	-	-	-	-	-	-	-	-	0.12	0.53	-	-
D-2301	Emergency Flare Pilot	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
D-3202	Emergency Flare Pilot	0.090	0.39	0.18	0.79	-	-	0.0092	0.040	-	-	-	-	-	-	4.57E-06	2.00E-05	-	-
V2-1104-C[1]	Condensate Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V2-1104-D[1]	Condensate Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V2-1104-E[1]	Condensate Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L1	Condensate Loading	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DEHY2[2]	TEG Dehydrator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DEHY3[2]	TEG Dehydrator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H4	Heater	1.84	8.04	1.54	6.76	0.10	0.44	0.26	1.15	0.58	2.55	0.14	0.61	0.14	0.61	-	-	-	-
TO1	Thermal Oxidizer	0.23	1.00	0.19	0.84	0.97	4.23	47.71	208.97	0.017	0.076	0.017	0.076	0.017	0.076	0.51	2.22	-	-
TO2	Thermal Oxidizer	0.050	0.22	0.042	0.18	0.29	1.27	0.0122	0.053	0.0038	0.017	0.0038	0.017	0.0038	0.017	9.50E-05	4.16E-04	-	-
SSM (D-2301 & D-2302)	SSM Flaring	242.88	1.00	484.87	2.00	478.97	1.9758	3490.64	14.40	-	-	-	-	-	-	37.09	0.15	-	-
MALF (D-2301 & D-2302)	MALF Flaring		10.00		10.00		10.00		10.00	-	-	-	-	-	-		10.00	-	-
Totals		**277.84**	**164.15**	**497.08**	**65.47**	**488.52**	**53.79**	**3539.77**	**239.60**	**1.41**	**6.18**	**0.97**	**4.24**	**0.97**	**4.24**	**37.72**	**12.91**	**-**	**-**

[1] Condesate tanks (Units V2-1104-C to E) and loading (Unit L-1) emissions are controlled by a combustor. Controlled emissions are considered under Unit TO2.

[2] Emissions from the dehydator condensers (Units DEHY2 and DEHY3) are controlled by a combustor and emissions from the dehydrator flash tanks are recycled to the inlet. Controlled condenser emissions are considered under Unit TO1.

Durango Midstream, LLC - Empire Abo Gas Plant

Compressor Engines

Units: E4-310 and E4-315
Source Description: Natural Gas Engines
Manufacturer: Caterpillar
Model: 3516
Engine Type: 4-Stroke Lean-Burn

Control
Method: Oxidation Catalyst

Specifications

RPM	1400	rpm	Catalyst Data
Max Capacity (hp)	1340	hp	
Site Capacity (hp)	1340	hp	Catalyst Data

Fuel Consumption

BSFC (LHV):	7544	Btu/hp-hr	Mfg. Spec.
Fuel Heat Value	1020	Btu/scf	Pipeline Gas
Heat input	10.11	MMBtu/hr	Calculated
Fuel consumption	9.91	Mscf/hr	Calculated
Fuel consumption	0.0099	MMscf/hr	Calculated
Fuel consumption	86.82	MMscf/yr	Calculated

Emission Calculations Uncontrolled

NO_X	CO	VOC [1]	SO_2	PM_{10} [2]	$PM_{2.5}$ [3]	Total HAPs	Formaldehyde	Acetaldehyde	Acrolein	Benzene	Ethylbenzene	n-Hexane	Toluene	Xylene	Units	Comments
1.50	1.88	0.31		0.034			0.25								g/bhp-hr	Manufacturer's Data
			50												gr S/Mscf	Pipeline Specification
				0.010	0.010			0.0084	0.0051	4.40E-04	3.97E-05	1.10E-03	4.08E-04	1.84E-04	lb/MMBtu	From AP-42 Table 3.2-3
								0.0084	0.0051	0.0004	0.0000	0.0011	0.0004	0.0002	lb/MMBtu	Scaled Emissions (EF *1020/Fuel Heat Value)
4.43	**5.55**	**1.74**	**0.14**	**0.10**	**0.10**	**0.90**	**0.74**	**0.085**	**0.052**	**0.0044**	**4.01E-04**	**0.0111**	**0.0041**	**0.0019**	lb/hr	Calculated hourly emission rate
19.41	**24.32**	**7.62**	**0.62**	**0.44**	**0.44**	**3.93**	**3.23**	**0.37**	**0.23**	**0.019**	**0.0018**	**0.0487**	**0.018**	**0.0081**	tpy	Annual emission rate (hrs/yr) = 8760

Emission Calculations Controlled

NO_X	CO	VOC [1]	SO_2	PM_{10} [2]	$PM_{2.5}$ [3]	Total HAPs	Formaldehyde	Acetaldehyde	Acrolein	Benzene	Ethylbenzene	n-Hexane	Toluene	Xylene	Units	Comments
1.50	0.38	0.078					0.063								g/bhp-hr	Catalyst Data
	80%	75%					75%								DRE %	Catalyst Data
			50												gr S/Mscf	Pipeline Specification
				0.010	0.010			0.0084	0.0051	4.40E-04	3.97E-05	1.10E-03	4.08E-04	1.84E-04	lb/MMBtu	From AP-42 Table 3.2-3
								0.0084	0.0051	4.40E-04	3.97E-05	1.10E-03	4.08E-04	1.84E-04	lb/MMBtu	Scaled Emissions (EF *1020/Fuel Heat Value)
4.43	**1.11**	**0.50**	**0.14**	**0.10**	**0.10**	**0.34**	**0.18**	**0.085**	**0.052**	**0.0044**	**4.01E-04**	**1.11E-02**	**0.0041**	**0.0019**	lb/hr	Calculated hourly emission rate
19.41	**4.86**	**2.18**	**0.62**	**0.44**	**0.44**	**1.50**	**0.81**	**0.37**	**0.23**	**0.019**	**0.0018**	**0.0487**	**0.018**	**0.0081**	tpy	Annual emission rate (hrs/yr) = 8760

Notes:
1. VOC emissions include aldehydes per NMED guidance / AECTool.
2. PM_{10} = AP-42 PM_{10} (filterable) + PM (condensable).
3. $PM_{2.5}$ = AP-42 $PM_{2.5}$ (filterable) + PM (condensable).

GHG Emission Calculations (*Uncontrolled)*

CO_2	N_2O	CH_4	Units	Comments
53.06	0.0001	0.001	kg/MMBtu	From 40 CFR Part 98, Subpart C
1,182.45	**0.0022**	**0.022**	lb/hr	Calculated hourly emission rate
5,179.14	**0.0098**	**0.098**	tpy	Annual emission rate (hrs/yr) = 8760

Durango Midstream, LLC - Empire Abo Compressor Station

Compressor Engines

Units: E4-316 and E4-317
Source Description: Natural Gas Engines
Manufacturer: Caterpillar
Model: 3516
Engine Type: 4-Stroke Lean-Burn

Control
Method: Oxidation Catalyst

Specifications

RPM	1400	rpm	Catalyst Data
Max Capacity (hp)	1380	hp	
Site Capacity (hp)	1380	hp	Catalyst Data

Fuel Consumption

BSFC (LHV):	7187	Btu/hp-hr	Mfg. Spec.
Fuel Heat Value	1020	Btu/scf	Pipeline Gas
Heat input	9.92	MMBtu/hr	Calculated
Fuel consumption	9.72	Mscf/hr	Calculated
Fuel consumption	0.0097	MMscf/hr	Calculated
Fuel consumption	85.18	MMscf/yr	Calculated

Emission Calculations Uncontrolled

NO_X	CO	VOC [1]	SO_2	PM_{10} [2]	$PM_{2.5}$ [3]	Total HAPs	Formaldehyde	Acetaldehyde	Acrolein	Benzene	Ethylbenzene	n-Hexane	Toluene	Xylene	Units	Comments
1.00	2.8	0.38		0.033			0.40								g/bhp-hr	Manufacturer's Data
			50												gr S/Mscf	Pipeline Specification
				0.010	0.010			0.0084	0.0051	4.40E-04	3.97E-05	1.10E-03	4.08E-04	1.84E-04	lb/MMBtu	From AP-42 Table 3.2-3
								0.0084	0.0051	0.0004	0.0000	0.0011	0.0004	0.0002	lb/MMBtu	Scaled Emissions (EF *1020/Fuel Heat Value)
3.04	**8.52**	**2.46**	**0.14**	**0.099**	**0.099**	**1.37**	**1.22**	**0.083**	**0.051**	**0.0044**	**3.94E-04**	**0.0109**	**0.0040**	**0.0018**	lb/hr	Calculated hourly emission rate
13.32	**37.31**	**10.76**	**0.61**	**0.43**	**0.43**	**6.01**	**5.33**	**0.36**	**0.22**	**0.019**	**0.0017**	**0.0478**	**0.018**	**0.0080**	tpy	Annual emission rate (hrs/yr) = 8760

Emission Calculations Controlled

NO_X	CO	VOC [1]	SO_2	PM_{10} [2]	$PM_{2.5}$ [3]	Total HAPs	Formaldehyde	Acetaldehyde	Acrolein	Benzene	Ethylbenzene	n-Hexane	Toluene	Xylene	Units	Comments
1.00	0.56	0.10					0.100								g/bhp-hr	Catalyst Data
	80%	75%					75%									Catalyst Data
			50												gr S/Mscf	Pipeline Specification
				0.010	0.010			0.0084	0.0051	4.40E-04	3.97E-05	1.10E-03	4.08E-04	1.84E-04	lb/MMBtu	From AP-42 Table 3.2-3
								0.0084	0.0051	4.40E-04	3.97E-05	1.10E-03	4.08E-04	1.84E-04	lb/MMBtu	Scaled Emissions (EF *1020/Fuel Heat Value)
3.04	**1.70**	**0.68**	**0.14**	**0.10**	**0.10**	**0.46**	**0.30**	**0.083**	**0.051**	**0.0044**	**3.94E-04**	**1.09E-02**	**0.0040**	**0.0018**	lb/hr	Calculated hourly emission rate
13.32	**7.46**	**2.96**	**0.61**	**0.43**	**0.43**	**2.01**	**1.33**	**0.36**	**0.22**	**0.019**	**0.0017**	**0.0478**	**0.018**	**0.0080**	tpy	Annual emission rate (hrs/yr) = 8760

Notes:
1. VOC emissions include aldehydes per NMED guidance / AECTool.
2. PM_{10} = AP-42 PM_{10} (filterable) + PM (condensable).
3. $PM_{2.5}$ = AP-42 $PM_{2.5}$ (filterable) + PM (condensable).

GHG Emission Calculations (*Uncontrolled)*

CO_2	N_2O	CH_4	Units	Comments
53.06	0.0001	0.001	kg/MMBtu	From 40 CFR Part 98, Subpart C
1,160.12	**0.0022**	**0.022**	lb/hr	Calculated hourly emission rate
5,081.34	**0.0096**	**0.096**	tpy	Annual emission rate (hrs/yr) = 8760

Durango Midstream, LLC - Empire Abo Gas Plant

Fugitive Emissions

Source: **Fugitives**
Source ID: **FUG40**

Gas Service	Number of Components	Factor	Total Emissions	
Fugitive Component Type		**(lb/hr/source)**	**(lbs/hr)**	**(tons/yr)**
Valves	3999	0.0099	11.457	50.18
Pump Seals	0	0.0053	0.000	0.00
Connectors	0	0.0004	0.000	0.00
Flanges	0	0.0009	0.000	0.00
Open-Ended Lines	0	0.0044	0.000	0.00
Other	2	0.0194	0.011	0.05
		Total	11.47	50.23

Light Oil Service	Number of Components	Factor	Total Emissions	
		(lb/hr/source)	**(lbs/hr)**	**(tons/yr)**
Valves	0	0.0055	0.000	0.00
Pump Seals	32	0.0287	0.917	4.02
Connectors	9536	0.0005	4.415	19.34
Flanges	0	0.0002	0.000	0.00
Open-Ended Lines	0	0.0031	0.000	0.00
Other	0	0.0165	0.000	0.00
		Total	5.33	23.35

Gas Service Speciation	Stream Weight % (3)	Emissions (lb/hr)	Emissions (tons/yr)
H2S	0.00%	0.000	0.001
Benzene	0.23%	0.090	0.395
Toluene	0.13%	0.051	0.224
E-Benzene	0.0014%	0.001	0.003
Xylene	0.01%	0.004	0.017
n-Hexane	0.37%	0.148	0.648
Total VOC	28.88%	11.468	50.232

Light Liq. Service Speciation	Stream Weight % (4)	Emissions (lb/hr)	Emissions (tons/yr)
H2S	0.000028%	0.0000015	0.000007
Benzene	5.39%	0.28730	1.258
Toluene	0.00%	0.00000	0.000
E-Benzene	0.98%	0.05248	0.230
Xylene	1.62%	0.08636	0.378
n-Hexane	4.69%	0.25024	1.096
Total VOC	100.00%	5.33199	23.354

Total Fugitive Emissions	Emissions (lb/hr)	(tons/yr)
H2S	0.00028	0.0012
Benzene	0.38	1.65
Toluene	0.051	0.224
E-Benzene	0.053	0.232
Xylene	0.090	0.40
n-Hexane	0.40	1.74
Total VOC	16.80	73.59

Notes:
(1) Emission factors are EPA/API average emission factors, for oil and gas production operations, issued August 1995, for fugitive components
(2) Component counts are estimates based on similar facilities.
(3) Natural gas speciation based on facility natural gas analysis.
(4) Light Liquid BTEX speciation based facility separator oil analysis.

Durango Midstream, LLC - Empire Abo Compressor Station

Fugitive Emissions

Source: **Fugitives**
Source ID: **FUG**

Gas Service	Number of	Factor	Total Emissions	
Fugitive Component Type	**Components**	**(lb/hr/source)**	**(lbs/hr)**	**(tons/yr)**
Valves	523	0.0099	1.510	6.61
Pump Seals	6	0.0053	0.009	0.04
Connectors	1192	0.0004	0.153	0.67
Flanges	149	0.0009	0.037	0.16
Open-Ended Lines	0	0.0044	0.000	0.00
Other	16	0.0194	0.090	0.40
		Total	1.799	7.88

Light Oil Service	Number of	Factor	Total Emissions	
	Components	**(lb/hr/source)**	**(lbs/hr)**	**(tons/yr)**
Valves	259	0.0055	1.427	6.25
Pump Seals	11	0.0287	0.315	1.38
Connectors	611	0.0005	0.283	1.24
Flanges	32	0.0002	0.008	0.03
Open-Ended Lines	0	0.0031	0.000	0.00
Other	1	0.0165	0.017	0.07
		Total	2.050	8.98

Gas Service Speciation	Stream Weight % (3)	Emissions (lb/hr)	Emissions (tons/yr)
H2S	1.97%	0.122	0.534
Benzene	0.31%	0.019	0.084
Toluene	0.24%	0.015	0.064
E-Benzene	0.0039%	0.000	0.001
Xylene	0.03%	0.002	0.009
n-Hexane	0.46%	0.029	0.125
Total VOC	29.10%	1.799	7.881

Light Liq. Service Speciation	Stream Weight % (4)	Emissions (lb/hr)	Emissions (tons/yr)
H2S	0.000%	0.00000	0.00000
Benzene	5.39%	0.11046	0.484
Toluene	0.00%	0.00000	0.000
E-Benzene	0.98%	0.02018	0.088
Xylene	1.62%	0.03320	0.145
n-Hexane	4.69%	0.09621	0.421
Total VOC	100.00%	2.04992	8.979

Total Fugitive Emissions	Emissions (lb/hr)	(tons/yr)
H2S	0.12	0.53
Benzene	0.13	0.57
Toluene	0.015	0.064
E-Benzene	0.020	0.089
Xylene	0.035	0.15
n-Hexane	0.12	0.55
Total VOC	3.85	16.86

Notes:
(1) Emission factors are EPA/API average emission factors, for oil and gas production operations, issued August 1995, for fugitive components
(2) Component counts are estimates based on similar facilities.
(3) Natural gas speciation based on facility natural gas analysis.
(4) Light Liquid BTEX speciation based facility separator oil analysis.

Durango Midstream, LLC - Empire Abo Gas Plant

Process Flare

Emission Units: D-2301, SSM, and MALF

Fuel Data

Flare Pilot	200	scf/hr	Design	
	0.0002	MMscf/hr		
	1020	Btu/scf	Pipeline Gas, HHV	
	0.20	MMBtu/hr		
Purge Gas	120	scf/hr		
	0.00012	MMscf/hr		
	1020	Btu/scf	Pipeline Gas, HHV	
	0.12	MMBtu/hr		
Flared Gas - Short Term	24.8	MMscf/day	ProMax Inlet Gas Flow	
	1.03	MMscf/hr	Effective hourly flowrate = MMscf/day ÷ 24 hr/day	
	1,363	Btu/scf	Inlet Gas from ProMax	
	1,408	MMBtu/hr	Hourly heat rate = Heating value * Effective hourly flow rate.	
Flared Gas - Annual	60	hrs	Annual hours of flaring	
	62.0	MMscf/yr	Engineering estimate	
Total	1408.3	MMBtu/hr	Pilot, Purge, and Flared gas	

Stack Parameters

98%		Control Efficiency of VOC, HAP, H_2S	
1000	˚C	Exhaust temperature	Per NMAQB guidelines
20	m/sec	Exhaust velocity	Per NMAQB guidelines
115	ft	Flare height	

Pilot and Purge Gas only

16.04	g/mol	Pilot gas molecular weight	Mol. wt. of methane, the dominant species
22,848	cal/sec	Heat release (q)	MMBtu/hr * 10^6 * 252 cal/Btu ÷ 3600 sec/hr
18,456		q_n	$q_n = q(1\text{-}0.048(MW)^{1/2})$
0.1359	m	Effective stack diameter (D)	$D = (10^{-6}q_n)^{1/2}$

Pilot,Purge, and Flared Gas

24.29	g/mol	Flared gas molecular weight	Volume weighted mol. wt. of all components
9.86E+07	cal/sec	Heat release (q)	MMBtu/hr * 10^6 * 252 cal/Btu ÷ 3600 sec/hr
7.53E+07		q_n	$q_n = q(1\text{-}0.048(MW)^{1/2})$
8.6752	m	Effective stack diameter (D)	$D = (10^{-6}q_n)^{1/2}$

Emission Rates

Pilot and Purge Gas

	NOx	CO	VOC	H_2S	SO_2	HAP	Units	
	0.1380	0.2755					lb/MMBtu	TNRCC RG-109 (high Btu; other)
				3.6E-04			lb H_2S/Mscf	Purchased sweet natural gas fuel, 0.25 gr H_2S/100scf
				1.1E-04			lb H_2S/hr	H_2S rate * fuel usage
					0.0071		lb S/Mscf	Purchased sweet natural gas fuel, 5 gr S/100scf
					0.0046		lb SO_2/hr	SO_2 rate * fuel usage
	100%	100%		100%	100%		%	Safety Factor
	0.2760	0.5510					lb/MMBtu	Unit emission rate with Safety Factor
Pilot and Purge Only Table UA2-D and E	**0.090**	**0.18**					lb/hr	lb/MMBtu * MMBtu/hr
			-	**4.6E-06**	**0.0092**		lb/hr	98% combustion H_2S; 100% conversion to SO_2
	0.39	**0.79**	**-**	**2.0E-05**	**0.040**		tpy	8760 hrs/yr

Flared Gas

	NOx	CO	VOC	H_2S	SO_2	HAP	Units	
	0.1380	0.2755					lb/MMBtu	TNRCC RG-109 (high Btu; other)
			19,158.93	1,854.40		686.47	lb/hr	ProMax
	194.30	387.90					lb/hr	lb/MMBtu * MMBtu/hr
Total - Flared, Pilot, and Purge Gas	**194.39**	**388.08**	**383.18**	**37.09**	**3,490.64**	**13.73**	lb/hr	Uncontrolled emissions at maximum rate would include only VOC and H2S
	5.83	**11.64**	**11.50**	**1.11**	**104.72**	**0.41**	tpy	

	NOx	CO	VOC	H_2S	SO_2	HAP	Units		
SSM without Safety Factor	**194.30**	**387.90**	**383.18**	**37.09**	**3,490.64**	**13.7**	lb/hr	Emissions not including Safety factor	
	5.83	**11.64**	**11.50**	**1.11**	**104.72**	**0.41**	tpy		
Requested SSM Table UA2-F	**242.88**	**484.87**	**478.97**	**37.09**	**3,490.64**	**17.16**	lb/hr	NOx, VOC SSM safety factor	25%
	7.29	**14.55**	**14.37**	**1.11**	**104.72**	**0.51**	tpy	CO SSM Safety factor	25%

GHG Emissions

Pilot and Purge Gas

CO_2	N_2O	CH_4	CO_2e	Units	Comments	
53.06	0.0001	0.001		kg/MMBtu	From 40 CFR Part 98, Subpart C	
38.18	**7.20E-05**	**7.20E-04**	**38.22**	lb/hr	Calculated hourly emission rate	
1.15	**2.16E-06**	**2.16E-05**	**1.15**	tpy	Annual emission rate (hrs/yr) =	60

Flared Gas

CO_2	N_2O	CH_4	CO_2e	Units	Comments	
53.06	0.0001	0.001		kg/MMBtu	From 40 CFR Part 98, Subpart C	
164,731	**0.310**	**3.10**	**1.65E+05**	lb/hr	Calculated hourly emission rate	
4,941.93	**0.009**	**0.09**	**4947.03**	tpy	Annual emission rate (hrs/yr) =	60

Durango Midstream, LLC - Empire Abo Gas Plant

Acid Gas Flare

Emission Units: D-2302, SSM, and MALF

Fuel Data

Flare Pilot	200	scf/hr	Design
	0.0002	MMscf/hr	
	1020	Btu/scf	Pipeline Gas, HHV
	0.20	MMBtu/hr	
Purge Gas	120	scf/hr	
	0.00012	MMscf/hr	
	1020	Btu/scf	Pipeline Gas, HHV
	0.12	MMBtu/hr	
Assist Gas - Short Term	208,333.33	scf/hr	
	5.00	MMscf/day	
	0.21	MMscf/hr	
	1020	Btu/scf	Pipeline Gas, HHV
	212.50	MMBtu/hr	
Assist Gas - Annual	100.00	hrs	Annual hours of flaring
	20.8	MMscf/yr	Engineering estimate
Flared Gas - Short Term	0.24	MMscf/day	Maximim Flaring Rate
	0.010	MMscf/hr	Hourly Flow Rate
	301	Btu/scf	Acid Gas Stream from ProMax
	3.04	MMBtu/hr	Hourly heat rate = Heating value * Effective hourly flow rate.
Flared Gas - Annual	100	hrs	Annual hours of flaring
	1.0	MMscf/yr	Engineering estimate
Total	215.9	MMBtu/hr	Pilot, Purge, Assist, and Flared Gas

Stack Parameters

	98%		Control Efficiency of VOC, HAP, H_2S
	1000	˚C	Exhaust temperature
	20	m/sec	Exhaust velocity
	115	ft	Flare height

Pilot and Purge Gas Only				
	16.04	g/mol	Pilot gas molecular weight	Mol. wt. of methane, the dominant species
	22,848	cal/sec	Heat release (q)	MMBtu/hr * 10^6 * 252 cal/Btu ÷ 3600 sec/hr
	18,456		q_n	$q_n = q(1\text{-}0.048(MW)^{1/2})$
	0.1359	m	Effective stack diameter (D)	$D = (10^{-6}q_n)^{1/2}$
Assist Gas				
	16.0400	g/mol	Flared gas molecular weight	Volume weighted mol. wt. of all components
	14875000	cal/sec	Heat release (q)	MMBtu/hr * 10^6 * 252 cal/Btu ÷ 3600 sec/hr
	12015432		q_n	$q_n = q(1\text{-}0.048(MW)^{1/2})$
Flared Gas				
	37.92	g/mol	Flared gas molecular weight	Volume weighted mol. wt. of all components
	2.13E+05	cal/sec	Heat release (q)	MMBtu/hr * 10^6 * 252 cal/Btu ÷ 3600 sec/hr
	1.50E+05		q_n	$q_n = q(1\text{-}0.048(MW)^{1/2})$
Flaring Diameter	3.4906	m	Effective stack diameter (D)	$D = (10^{-6}q_n)^{1/2}$

Emission Rates

Pilot and Purge Gas

	NOx	CO	VOC	H_2S	SO_2	HAP	Units	
	0.1380	0.2755					lb/MMBtu	TNRCC RG-109 (high Btu; other)
				3.6E-04			lb H_2S/Mscf	Purchased sweet natural gas fuel, 0.25 gr H_2S/100scf
				1.1E-04			lb H_2S/hr	H_2S rate * fuel usage
					0.0071		lb S/Mscf	Purchased sweet natural gas fuel, 5 gr S/100scf
					0.0046		lb SO_2/hr	SO_2 rate * fuel usage
	100%	100%		100%	100%		%	Safety Factor
	0.2760	0.5510					lb/MMBtu	Unit emission rate with Safety Factor
Pilot and Purge Only	**0.090**	**0.18**					lb/hr	lb/MMBtu * MMBtu/hr
Table UA2-D and E			**-**	**4.6E-06**	**0.0092**		lb/hr	98% combustion H_2S; 100% conversion to SO_2
	0.39	**0.79**	**-**	**2.0E-05**	**0.040**		tpy	8760 hrs/yr

Flared and Assist Gas

	NOx	CO	VOC	H_2S	SO_2	HAP	Units	
	0.0641	0.5496					lb/MMBtu	TNRCC RG-109 (low Btu; other)
			5.57	403.30		4.80	lb/hr	ProMax
	13.82	1.67					lb/hr	Mass Flow
Total - Pilot, Purge, Flared,	**13.91**	**1.85**	**0.11**	**8.07**	**759.17**	**0.10**	lb/hr	lb/MMBtu * MMBtu/hr
and Assist Gas	**1.09**	**6.71**	**0.0056**	**0.403**	**37.96**	**0.005**	tpy	

	NOx	CO	VOC	H_2S	SO_2	HAP	Units	
SSM without Safety Factor	**13.91**	**1.85**	**0.11**	**8.07**	**759.17**	**0.1**	lb/hr	Emissions not including Safe
	1.09	**6.71**	**0.01**	**0.40**	**37.96**	**0.00**	tpy	
Requested SSM	**17.38**	**2.32**	**0.14**	**8.07**	**759.17**	**0.12**	lb/hr	NOx, VOC SSM safety factor 25%
Table UA2-F	**1.357**	**8.39**	**0.0070**	**0.40**	**37.96**	**0.006**	tpy	CO SSM Safety factor 25%

GHG Emissions

Pilot and Purge Gas	CO_2	N_2O	CH_4	CO_2e	Units	Comments	
	53.06	0.0001	0.001		kg/MMBtu	From 40 CFR Part 98, Subpart C	
	38.18	**7.20E-05**	**7.20E-04**	**38.22**	lb/hr	Calculated hourly emission rate	
	1.91	**3.60E-06**	**3.60E-05**	**1.91**	tpy	Annual emission rate (hrs/yr) =	100

Flared Gas	CO_2	N_2O	CH_4	CO_2e	Units	Comments	
	53.06	0.0001	0.001		kg/MMBtu	From 40 CFR Part 98, Subpart C	
	2.53E+04	**0.048**	**0.48**	**2.53E+04**	lb/hr	Calculated hourly emission rate	
	1,262.53	**0.002**	**0.02**	**1263.83**	tpy	Annual emission rate (hrs/yr) =	100

Durango Midstream, LLC - Empire Abo Compressor Station

Emergency Flares

Emission Units: D-2301, D-2302, SSM, and MALF

Fuel Data

Flare Pilot	200	scf/hr	Design	
	0.0002	MMscf/hr		
	1020	Btu/scf	Pipeline Gas, HHV	
	0.20	MMBtu/hr		
Purge Gas	120	scf/hr		
	0.00012	MMscf/hr		
	1020	Btu/scf	Pipeline Gas, HHV	
	0.12	MMBtu/hr		
Flared Gas - Short Term	24.8	MMscf/day	ProMax Inlet Gas Flow	
	1.03	MMscf/hr	Effective hourly flowrate = MMscf/day ÷ 24 hr/day	
	1,363	Btu/scf	Inlet Gas from ProMax	
	1,408	MMBtu/hr	Hourly heat rate = Heating value * Effective hourly flow rate.	
Flared Gas - Annual	8.3	hrs	Annual hours of flaring	
	8.5	MMscf/yr	Engineering estimate	
Total	1408.3	MMBtu/hr	Pilot + Flared gas	

Stack Parameters

	98%	Control Efficiency of VOC, HAP, H_2S	
	1000	˚C	Exhaust temperature	Per NMAQB guidelines
	20	m/sec	Exhaust velocity	Per NMAQB guidelines
	115	ft	Flare height	
Pilot and Purge Gas only				
	16.04	g/mol	Pilot gas molecular weight	Mol. wt. of methane, the dominant species
	22,848	cal/sec	Heat release (q)	MMBtu/hr * 10^6 * 252 cal/Btu ÷ 3600 sec/hr
	18,456		q_n	$q_n = q(1\text{-}0.048(MW)^{1/2})$
	0.1359	m	Effective stack diameter (D)	$D = (10^{-6}q_n)^{1/2}$
Pilot and Flared Gas				
	24.29	g/mol	Flared gas molecular weight	Volume weighted mol. wt. of all components
	9.86E+07	cal/sec	Heat release (q)	MMBtu/hr * 10^6 * 252 cal/Btu ÷ 3600 sec/hr
	7.53E+07		q_n	$q_n = q(1\text{-}0.048(MW)^{1/2})$
	8.6752	m	Effective stack diameter (D)	$D = (10^{-6}q_n)^{1/2}$

Emission Rates

Pilot and Purge Gas

	NOx	CO	VOC	H_2S	SO_2	HAP	Units	
	0.1380	0.2755					lb/MMBtu	TNRCC RG-109 (high Btu; other)
				3.6E-04			lb H_2S/Mscf	Purchased sweet natural gas fuel, 0.25 gr H_2S/100scf
				1.1E-04			lb H_2S/hr	H_2S rate * fuel usage
					0.0071		lb S/Mscf	Purchased sweet natural gas fuel, 5 gr S/100scf
					0.0046		lb SO_2/hr	SO_2 rate * fuel usage
	100%	100%		100%	100%		%	Safety Factor
	0.2760	0.5510					lb/MMBtu	Unit emission rate with Safety Factor
Pilot & Purge Only Table UA2-D and E	**0.090**	**0.18**					lb/hr	lb/MMBtu * MMBtu/hr
			-	**4.6E-06**	**0.0092**		lb/hr	98% combustion H_2S; 100% conversion to SO_2
	0.39	**0.79**	**-**	**2.0E-05**	**0.040**		tpy	8760 hrs/yr

Flared Gas

	NOx	CO	VOC	H_2S	SO_2	HAP	Units	
	0.1380	0.2755					lb/MMBtu	TNRCC RG-109 (high Btu; other)
			19,158.93	1,854.40		530.15	lb/hr	ProMax
	194.30	387.90					lb/hr	lb/MMBtu * MMBtu/hr
Total - Flared, Pilot, & Purge Gas	**194.39**	**388.08**	**383.18**	**37.09**	**3,490.64**	**10.60**	lb/hr	Uncontrolled emissions at maximum rate would include only VOC and H2S
	0.80	**1.60**	**1.58**	**0.15**	**14.40**	**0.04**	tpy	

	NOx	CO	VOC	H_2S	SO_2	HAP	Units		
SSM without Safety Factor	**194.30**	**387.90**	**383.18**	**37.09**	**3490.64**	**10.6**	lb/hr	Emissions not including Safety factor	
	0.80	**1.60**	**1.58**	**0.15**	**14.40**	**0.04**	tpy		
Requested SSM Table UA2-F	**242.88**	**484.87**	**478.97**	**37.09**	**3490.64**	**13.25**	lb/hr	NOx, VOC SSM safety factor	25%
	1.00	**2.00**	**1.98**	**0.15**	**14.40**	**0.05**	tpy	CO SSM Safety factor	25%

GHG Emissions

Pilot and Purge Gas

CO_2	N_2O	CH_4	CO_2e	Units	Comments	
53.06	0.0001	0.001		kg/MMBtu	From 40 CFR Part 98, Subpart C	
38.18	**7.20E-05**	**7.20E-04**	**38.22**	lb/hr	Calculated hourly emission rate	
0.16	**2.97E-07**	**2.97E-06**	**0.16**	tpy	Annual emission rate (hrs/yr) =	8

Flared Gas

CO_2	N_2O	CH_4	CO_2e	Units	Comments	
53.06	0.0001	0.001		kg/MMBtu	From 40 CFR Part 98, Subpart C	
1.65E+05	**0.310**	**3.10**	**1.65E+05**	lb/hr	Calculated hourly emission rate	
679.52	**0.001**	**0.01**	**680.22**	tpy	Annual emission rate (hrs/yr) =	8

Durango Midstream, LLC - Empire Abo Gas Plant

Condensate Tanks

Unit: V2-1140-C, D, E, F, & G
Material: Condensate

General Tank Information

Number of Tanks	5		Facility Design
Volume	400	bbl	Facility Design
Volume	16,800	gal	Facility Design
Diameter	12	ft	Facility Design
Height	20	ft	Facility Design
Facility Condensate Throughput	1,326.02	average bbl/day	Engineer Estimate
Facility Throughput	483,998	bbl/yr	Engineer Estimate
Facility Throughput	20,327,910	gal/yr	Engineer Estimate
Turnovers	242.0	turnovers/yr/tank	Turnovers = Tank Throughput/Volume

Uncontrolled Emissions [1]

VOCs	Unit	Note
63.59	tpy	Working and Breathing Emissions
-	tpy	Flash Emissions
63.59	**tpy**	**Total uncontrolled emissions**
12.72	**tpy**	**Total uncontrolled emissions per tank**

H_2S	Unit	Note
4.33E-04	tpy	Working and Breathing Emissions
-	tpy	Flash Emissions
4.33E-04	**tpy**	**Total uncontrolled emissions**
8.66E-05	**tpy**	**Total uncontrolled emissions per tank**

HAPs	Working & Breathing Losses tpy	Flash Losses tpy
n-Hexane	1.82	-
Benzene	1.184	-
2,2,4-TMP	0.024	-
Toluene	0.00	-
Ethylbenzene	0.030	-
Xylenes	0.055	-
Total HAPs	**3.11** **tpy**	
Total HAPs per Tank	**0.62** **tpy**	

Notes:
[1] Emissions are routed to a thermal oxidizer. Controlled emissions are represented under Unit TO2.

Durango Midstream, LLC - Empire Abo Gas Plant

Produced Water Tank (Exempt Per 20.2.72.202.b(5) NMAC)

Unit: V2-1140-H & I
Material: Condensate

General Tank Information

Number of Tanks	2		Facility Design
Volume	400	bbl	Facility Design
Volume	16,800	gal	Facility Design
Diameter	12	ft	Facility Design
Height	20	ft	Facility Design
Facility Condensate Throughput	42.57	average bbl/day	Engineer Estimate
Facility Throughput	15,538	bbl/yr	Engineer Estimate
Facility Throughput	652,579	gal/yr	Engineer Estimate
Turnovers	19.4	turnovers/yr/tank	Turnovers = Tank throughput/Volume

Uncontrolled Emissions [1]

VOCs	Unit	Note
3.82E-04	tpy	Working and Breathing Emissions
-	tpy	Flash Emissions
3.82E-04	**tpy**	**Total uncontrolled emissions**
1.91E-04	**tpy**	**Total uncontrolled emissions per tank**

H_2S	Unit	Note
0.0204	tpy	Working and Breathing Emissions
-	tpy	Flash Emissions
0.0204	**tpy**	**Total uncontrolled emissions**
0.0102	**tpy**	**Total uncontrolled emissions per tank**

HAPs	Working & Breathing Losses tpy	Flash Losses tpy
n-Hexane	1.49E-08	-
Benzene	1.13E-04	-
2,2,4-TMP	5.94E-11	-
Toluene	-	-
Ethylbenzene	1.62E-07	-
Xylenes	1.97E-07	-
Total HAPs	**1.14E-04** **tpy**	
Total HAPs per Tank	**5.68E-05** **tpy**	

Notes
[1] Emissions are routed to a thermal oxidizer. Controlled emissions are represented under Unit TO2.

Durango Midstream, LLC - Empire Abo Compressor Station

Condensate Tanks

Unit: V2-1140-C, D, & E
Material: Condensate

General Tank Information

Number of Tanks	3		Facility Design
Volume	400	bbl	Facility Design
Volume	16,800	gal	Facility Design
Diameter	12	ft	Facility Design
Height	20	ft	Facility Design
Facility Condensate Throughput	6,269.03	average bbl/day	Engineer Estimate
Facility Throughput	2,288,197	bbl/yr	Engineer Estimate
Facility Throughput	96,104,258	gal/yr	Engineer Estimate
Turnovers	1,906.8	turnovers/yr/tank	Turnovers = Tank throughput/Volume

Uncontrolled Emissions [1]

VOCs	Unit	Note
63.59	tpy	Working and Breathing Emissions
-	tpy	Flash Emissions
63.59	**tpy**	**Total uncontrolled emissions**
21.20	**tpy**	**Total uncontrolled emissions per tank**

H_2S	Unit	Note
9.88E-05	tpy	Working and Breathing Emissions
-	tpy	Flash Emissions
9.88E-05	**tpy**	**Total uncontrolled emissions**
3.29E-05	**tpy**	**Total uncontrolled emissions per tank**

HAPs	Working & Breathing Losses tpy	Flash Losses tpy
n-Hexane	1.82	-
Benzene	1.18	-
2,2,4-TMP	0.024	-
Toluene	0.00E+00	-
Ethylbenzene	0.030	-
Xylenes	0.055	-
Total HAPs	**3.11** **tpy**	
Total HAPs per Tank	**1.04** **tpy**	

Notes:
[1] Emissions are routed to a thermal oxidizer. Controlled emissions are represented under Unit TO2.

Durango Midstream, LLC - Empire Abo Compressor Station

Produced Water Tank (Exempt Per 20.2.72.202.b(5) NMAC)

Unit: V2-1140-F
Material: Condensate

General Tank Information

Number of Tanks	1		Facility Design
Volume	400	bbl	Facility Design
Volume	16,800	gal	Facility Design
Diameter	12	ft	Facility Design
Height	20	ft	Facility Design
Facility Condensate Throughput	50.33	average bbl/day	Engineer Estimate
Facility Throughput	18,370	bbl/yr	Engineer Estimate
Facility Throughput	771,534	gal/yr	Engineer Estimate
Turnovers	45.9	turnovers/yr/tank	Turnovers = Tank throughput/Volume

Uncontrolled Emissions [1]

VOCs	Unit	Note
3.82E-04	tpy	Working and Breathing Emissions
-	tpy	Flash Emissions
3.82E-04	**tpy**	**Total uncontrolled emissions**
3.82E-04	**tpy**	**Total uncontrolled emissions per tank**

H_2S	Unit	Note
0.0047	tpy	Working and Breathing Emissions
-	tpy	Flash Emissions
0.0047	**tpy**	**Total uncontrolled emissions**
0.0047	**tpy**	**Total uncontrolled emissions per tank**

HAPs	Working & Breathing Losses tpy	Flash Losses tpy
n-Hexane	1.49E-08	-
Benzene	1.13E-04	-
2,2,4-TMP	5.94E-11	-
Toluene	0.00E+00	-
Ethylbenzene	1.62E-07	-
Xylenes	1.97E-07	-
Total HAPs	**1.14E-04** **tpy**	
Total HAPs per Tank	**1.14E-04** **tpy**	

Notes
[1] Emissions are routed to a thermal oxidizer. Controlled emissions are represented under Unit TO2.

Durango Midstream, LLC - Empire Abo Gas Plant

Truck Loading

Unit: L1 & L2

Description: Condensate and Water Loading

Condensate Loading (Unit L1)

Pollutant	Loading Emissions	
	lb/hr	tpy
VOC	11.06	48.45
H_2S	7.53E-05	3.30E-04

Pollutant	Loading Emissions	
	lb/hr	tpy
n-Hexane	0.32	1.38
Benzene	0.206	0.90
2,2,4-TMP	0.00	0.0183
Toluene	-	-
Ethylbenzene	0.0053	0.0232
Xylenes	0.0095	0.042
Total HAPs	0.54	2.37

Produced Water Loading (Unit L2)
(Exempt Per 20.2.72.202.b(5) NMAC)

Pollutant	Loading Emissions	
	lb/hr	tpy
VOC	1.48E-05	6.46E-05
H_2S	7.86E-04	3.44E-03

Pollutant	Loading Emissions	
	lb/hr	tpy
n-Hexane	5.77E-10	2.53E-09
Benzene	4.37E-06	1.91E-05
2,2,4-TMP	2.29E-12	1.00E-11
Toluene	-	-
Ethylbenzene	6.26E-09	2.74E-08
Xylenes	7.59E-09	3.32E-08
Total HAPs	4.38E-06	1.92E-05

Durango Midstream, LLC - Empire Abo Compressor Station

Truck Loading

Unit: L1 & L2

Description: Condensate and Water Loading

Condensate Loading (Unit L1)

Pollutant	Loading Emissions	
	lb/hr	tpy
VOC	11.06	48.45
H_2S	7.53E-05	3.30E-04

Pollutant	Loading Emissions	
	lb/hr	tpy
n-Hexane	0.32	1.38
Benzene	0.206	0.90
2,2,4-TMP	0.0042	0.0183
Toluene	0.00	0.00
Ethylbenzene	0.0053	0.0232
Xylenes	0.0095	0.042
Total HAPs	0.54	2.37

Produced Water Loading (Unit L2)
(Exempt Per 20.2.72.202.b(5) NMAC)

Pollutant	Loading Emissions	
	lb/hr	tpy
VOC	1.48E-05	6.46E-05
H_2S	7.86E-04	3.44E-03

Pollutant	Loading Emissions	
	lb/hr	tpy
n-Hexane	5.77E-10	2.53E-09
Benzene	4.37E-06	1.91E-05
2,2,4-TMP	2.29E-12	1.00E-11
Toluene	0.00E+00	0.00E+00
Ethylbenzene	6.26E-09	2.74E-08
Xylenes	7.59E-09	3.32E-08
Total HAPs	4.38E-06	1.92E-05

Durango Midstream, LLC - Empire Abo Gas Plant

TEG Dehydrator Emissions

Emission Units: DEHY1
Source Description: Triethylene Glycol Dehydrator
Manufacturer: Kimray 45015
Glycol Pump Type Gas
Maximum Flowrate: 200 MMSCFD
Outlet Gas Dewpoint: 7 lb H20/MMscf
Glycol Recirculation Rate: 7.5 gpm (maximum pump rate)

Control Device: Condenser & Thermal Oxidizer

Pollutant		Uncontrolled Emission Rates per Unit [1]			
		Condenser		Flash Tank	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)
VOC		18.89	82.72	-	-
H_2S		0.00	0.02	-	-
CO_2		0.94	4.10	-	-
CH_4		2.94	12.89	-	-
CO_2e		74.49	326.26	-	-
HAP	n-Hexane	0.35	1.55	-	-
	Benzene	4.38	19.21	-	-
	2,2,4-TMP	-	-	-	-
	Toluene	1.32	5.79	-	-
	Ethylbenzene	0.005	0.022	-	-
	Xylenes	0.041	0.18	-	-
Total HAP		6.11	26.75	-	-

Notes:

[1] Emissions from the dehydrator flash tanks are recycled to the inlet. Condenser overheads are controlled by a thermal oxidizer and are represented under Unit TO1.

Durango Midstream, LLC - Empire Abo Compressor Station

TEG Dehydrator Emissions

Emission Units: DEHY2 & DEHY3
Source Description: Triethylene Glycol Dehydrator Condenser
Manufacturer: Kimray 45015
Glycol Pump Type Gas
Maximum Flowrate: 25 MMSCFD Each
Outlet Gas Dewpoint: 7 lb H20/MMscf
Glycol Recirculation Rate: 7.5 gpm (maximum pump rate)

Control Device: Condenser & Thermal Oxidizer

Pollutant		Uncontrolled Emission Rates per Unit [1]			
		Condenser		Flash Tank	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)
VOC		24.13	105.68	-	-
H_2S		12.67	55.50	-	-
CO_2		2.33	10.20	-	-
CH_4		21.04	92.14	-	-
CO_2e		528.23	2313.64	-	-
HAP	n-Hexane	0.51	2.23	-	-
	Benzene	5.56	24.34	-	-
	2,2,4-TMP	0.00	0.00	-	-
	Toluene	1.67	7.31	-	-
	Ethylbenzene	0.006	0.024	-	-
	Xylenes	0.053	0.23	-	-
Total HAP		7.79	34.14	-	-

Notes:

[1] Emissions from the dehydrator flash tanks are sent to condensers. Condenser overheads are controlled by a thermal oxidizer. Controlled emissions are represented under Unit TO1. Emissions from the Regenerator are routed to the inlet.

Durango Midstream, LLC - Empire Abo Gas Plant

Hot Oil Heater

Emission unit number(s): H1 & H2
Source description: Hot Oil Heater

Fuel consumption			
Input heat rate:	75.00	MMBtu/hr	Design specification
Fuel heat value:	1,020	Btu/scf	Heat value of fuel
Fuel rate:	76.50	Mscf/hr	Input heat rate / Fuel heat value
Annual fuel usage:	670.1	MMscf/yr	

Reboiler Stack Exhaust Parameters			
Exhaust temp:	600	°F	Eng. estimate
Stack height:	120.0	ft	Measured Stack Height
Stack diameter:	6.2	ft	Measured Stack Diameter
F Factor:	10610	wscf/MMBtu	F factor-40 CFR 60 Appx A Method 19
Exhaust flow:	13263	scfm	Heat input * F factor/60
Site Elevation:	3,560	ft MSL	USGS 7.5 minute quadrangle
Standard Pressure:	29.92	in Hg	
Pressure at Elevation:	26.26	in Hg	Hess, Introduction to Theoretical Meteorology, eqn. 6.8
Standard Temperature:	520	R	
Exhaust flow:	30799	acfm	Va = Vs*(Ps/Pa)*(Ta/Ts)
Exhaust velocity:	17.19	ft/sec	Exhaust flow / stack area

Emission Rates Per Unit

NOx	CO	VOC	SO_2[1]	PM[2]	Total HAPs[3]	Units	
100	84	5.5		7.6		lb/MMscf	Unit emission rates from AP-42 Table 1.4-1 & 2
100	84	5.5		7.6		lb/MMscf	Emission Factor Adjusted for heat value
			50			gr Total Sulfu	Pipeline specification
7.65	**6.43**	**0.42**	**1.09**	**0.58**	**0.10**	lb/hr	Unit emissions * Input heat rate
33.51	**28.15**	**1.84**	**4.79**	**2.55**	**0.46**	tpy	

[1]SO_2 emissions are calculated based on fuel consumption and fuel H_2S concentration of 200 gr/Mscf.
200 gr S/1000 scf x fuel scf/hr x 1 lb/7000 gr x 64 lb SO_2 / 32 lb S = lb/hr SO_2
SO_2 calculation assumes 100% conversion of fuel elemental sulfur to SO_2.
[2]Assumes PM (Total) = TSP = PM-10 = PM-2.5
[3]HAPs are from GRI HAPCalc 3.01

Greenhouse Gas Emissions

CO_2	N_2O	CH_4	CO_2e		
53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Tables C-1 and C-2
1	298	25		GWP	40 CFR 98 Table A-1
38427.0	0.07242	0.7242		tons/yr[5]	
38427.0	21.582	18.105	**38466.7**	tons/yr CO_2e[6]	

[5]GHG ton/yr = EF (kg/MMBtu) * Reboiler Fuel consumption (MMBtu/hr) * 1tonne/1000kg * Hours of operation (hr/yr) * 1.1023ton/tonne +Flash Gas GHG ton/yr
CH_4 ton/yr = EF (kg/MMBtu) * Reboiler Fuel consumption (MMBtu/hr) * 1tonne/1000kg * Hours of operation (hr/yr) * 1.1023ton/tonne + 2% x Flash Gas CH_4 ton/yr
[6]tons/yr CO2e = ton/yr * GWP

Durango Midstream, LLC - Empire Abo Gas Plant

Mole Seive Regenerator Heater

Emission unit number(s): H3
Source description: Mole Seive Regenerator Heater

Fuel consumption			
Input heat rate:	10.00	MMBtu/hr	Engineer Estimate
Fuel heat value:	1,020	Btu/scf	Heat value of fuel
Fuel rate:	10.20	Mscf/hr	Input heat rate / Fuel heat value
Annual fuel usage:	89.4	MMscf/yr	

Reboiler Stack Exhaust Parameters			
Exhaust temp:	600	°F	Eng. estimate
Stack height:	30	ft	Measured Stack Height
Stack diameter:	2.5	ft	Measured Stack Diameter
F Factor:	10610	wscf/MMBtu	F factor-40 CFR 60 Appx A Method 19
Exhaust flow:	1768	scfm	Heat input * F factor/60
Site Elevation:	3,560	ft MSL	USGS 7.5 minute quadrangle
Standard Pressure:	29.92	in Hg	
Pressure at Elevation:	26.26	in Hg	Hess, Introduction to Theoretical Meteorology, eqn. 6.8
Standard Temperature:	520	R	
Exhaust flow:	4107	acfm	Va = Vs*(Ps/Pa)*(Ta/Ts)
Exhaust velocity:	13.94	ft/sec	Exhaust flow / stack area

Emission Rates Per Unit

NOx	CO	VOC	SO_2[1]	PM[2]	Total HAPs[3]	Units	
100	84	5.5		7.6		lb/MMscf	Unit emission rates from AP-42 Table 1.4-1 & 2
100	84	5.5		7.6		lb/MMscf	Emission Factor Adjusted for heat value
			50			gr Total Sulfur/Mscf	Pipeline specification
1.02	**0.86**	**0.0561**	**0.146**	**0.078**	**0.0139**	lb/hr	Unit emissions * Input heat rate
4.47	**3.75**	**0.246**	**0.64**	**0.340**	**0.0607**	tpy	

[1]SO_2 emissions are calculated based on fuel consumption and fuel H_2S concentration of 200 gr/Mscf.
200 gr S/1000 scf x fuel scf/hr x 1 lb/7000 gr x 64 lb SO_2 / 32 lb S = lb/hr SO_2
SO_2 calculation assumes 100% conversion of fuel elemental sulfur to SO_2.
[2]Assumes PM (Total) = TSP = PM-10 = PM-2.5
[3]HAPs are from GRI HAPCalc 3.01

Greenhouse Gas Emissions

CO_2	N_2O	CH_4	CO_2e		
53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Tables C-1 and C-2
1	298	25		GWP	40 CFR 98 Table A-1
5123.6	0.00966	0.0966		tons/yr[5]	
5123.6	2.878	2.414	**5128.9**	tons/yr CO_2e[6]	

[5]GHG ton/yr = EF (kg/MMBtu) * Reboiler Fuel consumption (MMBtu/hr) * 1tonne/1000kg * Hours of operation (hr/yr) * 1.1023ton/tonne +Flash Gas GHG ton/yr
CH_4 ton/yr = EF (kg/MMBtu) * Reboiler Fuel consumption (MMBtu/hr) * 1tonne/1000kg * Hours of operation (hr/yr) * 1.1023ton/tonne + 2% x Flash Gas CH_4 ton/yr
[6]tons/yr CO2e = ton/yr * GWP

Durango Midstream, LLC - Empire Abo Compressor Station

Heater

Emission unit number(s): H3
Source description: Mole Seive Regenerator Heater

Fuel consumption			
Input heat rate:	18.00	MMBtu/hr	Engineer Estimate
Fuel heat value:	1,020	Btu/scf	Heat value of fuel
Fuel rate:	18.36	Mscf/hr	Input heat rate / Fuel heat value
Annual fuel usage:	160.8	MMscf/yr	

Reboiler Stack Exhaust Parameters			
Exhaust temp:	600	°F	Eng. estimate
Stack height:	30	ft	Measured Stack Height
Stack diameter:	2.5	ft	Measured Stack Diameter
F Factor:	10610	wscf/MMBtu	F factor-40 CFR 60 Appx A Method 19
Exhaust flow:	3183	scfm	Heat input * F factor/60
Site Elevation:	3,560	ft MSL	USGS 7.5 minute quadrangle
Standard Pressure:	29.92	in Hg	
Pressure at Elevation:	26.26	in Hg	Hess, Introduction to Theoretical Meteorology, eqn. 6.8
Standard Temperature:	520	R	
Exhaust flow:	7392	acfm	Va = Vs*(Ps/Pa)*(Ta/Ts)
Exhaust velocity:	25.10	ft/sec	Exhaust flow / stack area

Emission Rates Per Unit

NOx	CO	VOC	SO_2[1]	PM[2]	Total HAPs[3]	Units	
100	84	5.5		7.6		lb/MMscf	Unit emission rates from AP-42 Table 1.4-1 & 2
100	84	5.5		7.6		lb/MMscf	Emission Factor Adjusted for heat value
			50			gr Total Sulfur/Mscf	Pipeline specification
1.84	**1.54**	**0.10**	**0.26**	**0.14**	**0.025**	lb/hr	Unit emissions * Input heat rate
8.04	**6.76**	**0.44**	**1.15**	**0.61**	**0.11**	tpy	

[1]SO_2 emissions are calculated based on fuel consumption and fuel H_2S concentration of 200 gr/Mscf.
200 gr S/1000 scf x fuel scf/hr x 1 lb/7000 gr x 64 lb SO_2 / 32 lb S = lb/hr SO_2
SO_2 calculation assumes 100% conversion of fuel elemental sulfur to SO_2.
[2]Assumes PM (Total) = TSP = PM-10 = PM-2.5
[3]HAPs are from GRI HAPCalc 3.01

Greenhouse Gas Emissions

CO_2	N_2O	CH_4	CO_2e		
53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Tables C-1 and C-2
1	298	25		GWP	40 CFR 98 Table A-1
9222.5	0.01738	0.1738		tons/yr[5]	
9222.5	5.180	4.345	**9232.0**	tons/yr CO_2e[6]	

[5]GHG ton/yr = EF (kg/MMBtu) * Reboiler Fuel consumption (MMBtu/hr) * 1tonne/1000kg * Hours of operation (hr/yr) * 1.1023ton/tonne +Flash Gas GHG ton/yr
CH_4 ton/yr = EF (kg/MMBtu) * Reboiler Fuel consumption (MMBtu/hr) * 1tonne/1000kg * Hours of operation (hr/yr) * 1.1023ton/tonne + 2% x Flash Gas CH_4 ton/yr
[6]tons/yr CO2e = ton/yr * GWP

Durango Midstream, LLC - Empire Abo Gas Plant

Thermal Oxidizer

Emission unit number(s): TO1
Source description: Thermal Oxidizer
Streams Controlled: Glycol Dehydrator Condenser Overheads

Maximum Input Parameters

Heat Value of Combusted Gas	1278.78	Btu/scf	ProMax
Gas Flow Rate	16.42	Mscfd	ProMax
Input Heat Rate:	0.87	MMBtu/hr	Calculated (Heat Value * Gas Produced / 24 hrs per day)
Total VOC Mass Flow Rate from Condenser	18.89	lb/hr	ProMax
Total H_2S Mass Flow Rate from Condenser	0.004	lb/hr	ProMax
Total HAP Mass Flow Rate from Condenser	12.21	lb/hr	ProMax

Exhaust Parameters (F-factor method)

Heat Rate:	1.10	MMBtu/hr	Condenser Input + Pilot Input
Exhaust temp (Tstk):	1150	°F	Manufacturer Specifications
Exhaust flow	257.4	cfs	Manufacturer Specifications
Stack diameter:	3.5	ft	Manufacturer Specifications
Stack height:	54.5	ft	Manufacturer Specifications
Exhaust velocity:	27.7	ft/sec	Manufacturer Specifications

Fuel Data

Themal Oxidizer Pilot	225	scf/hr	Engineer Estimate
	2.25E-04	MMscf/hr	
	1020	Btu/scf	Pipeline Gas, HHV
	0.23	MMBtu/hr	

Emission Rates (Pilot Only)

NOx	CO	VOC [1]	SO_2 [2]	H_2S [2]	PM [3]	HAP		
100	84	-	-	-	7.6	-	lb/MMscf	AP-42 Table 1.4-1 & 2
0.0980	0.0824	-	-	-	0.0075	-	lb/MMBtu	AP-42 Table 1.4-1, Footnote a
-	-	-	50	-	-	-	gr S/Mscf	Nominal
-	-	-	-	-	-	-	lb/hr	Mass Flow Rate
0.023	**0.019**	**-**	**0.0032**	**-**	**0.0017**	**-**	**lb/hr**	
0.099	**0.083**	**-**	**0.014**	**-**	**0.0075**	**-**	**tpy**	8760 hrs

Emission Rates (Process Gas & Pilot)

NOx	CO	VOC [1]	SO_2 [2]	H_2S [2]	PM [3]	HAP [1]		
100	84	-	-	-	7.6	-	lb/MMscf	AP-42 Table 1.4-1 & 2
0.0980	0.0824	-	-	-	0.0075	-	lb/MMBtu	AP-42 Table 1.4-1, Footnote a
-	-	18.89	-	4.34E-03	-	12.21	lb/hr	Mass Flow Rate
0.11	**0.09**	**0.38**	**0.01**	**8.67E-05**	**0.008**	**0.24**	**lb/hr**	
0.47	**0.40**	**1.65**	**0.05**	**3.80E-04**	**0.036**	**1.07**	**tpy**	8760 hrs

[1] The thermal oxidizer is 98% efficient for combustion of VOC and HAP.
[2] H_2S is combusted with a 98% efficiency. 100% of combusted H_2S is converted to SO_2.
[3] PM (Total) = TSP = PM-10 = PM-2.5

Greenhouse Gas Emissions

CO_2	N_2O	CH_4	CO_2e		
53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Tables C-1 and C-2
1	298	25		GWP	40 CFR 98 Table A-1
448.30	0.0008	0.008		tons/yr[4]	
448.30	0.25	0.21	**448.77**	tons/yr CO_2e[5]	

[4]GHG ton/yr = EF (kg/MMBtu) * Reboiler Fuel consumption (MMBtu/hr) * 1tonne/1000kg * Hours of operation (hr/yr) * 1.1023ton/tonne +Flash Gas GHG ton/yr
CH_4 ton/yr = EF (kg/MMBtu) * Reboiler Fuel consumption (MMBtu/hr) * 1tonne/1000kg * Hours of operation (hr/yr) * 1.1023ton/tonne + 2% x Flash Gas CH_4 ton/yr
[5]tons/yr CO2e = ton/yr * GWP

Durango Midstream, LLC - Empire Abo Gas Plant

Thermal Oxidizer

Emission unit number(s): TO2
Source description: Thermal Oxidizer
Streams Controlled: Condensate Tanks, Water Tanks, Loading

Maximum Input Parameters

Heat Value of Combusted VOC	3353	Btu/scf	ProMax (Stream 6)
Gas Produced	2.02	Mscfd	ProMax (Stream 6)
Input Heat Rate:	0.282	MMBtu/hr	Calculated (Heat Value * Gas Produced / 24 hrs per day)
Total VOC Mass Flow Rate	14.52	lb/hr	ProMax (Stream 6)
Total H2S Mass Flow Rate	0.0047	lb/hr	ProMax (Stream 6)
Total HAP Mass Flow Rate	0.71	lb/hr	ProMax (Stream 6)

Exhaust Parameters (F-factor method)

Heat Rate:	0.51	MMBtu/hr	Gunbarrel, Tanks, Loading Heat Input and Pilot Input
Exhaust temp (Tstk):	1150	°F	Manufacturer Specifications
Exhaust flow	257.4	cfs	Manufacturer Specifications
Stack diameter:	3.5	ft	Manufacturer Specifications
Stack height:	54.5	ft	Manufacturer Specifications
Exhaust velocity:	27.7	ft/sec	Manufacturer Specifications

Fuel Data

Themal Oxidizer Pilot	225	scf/hr	Engineer Estimate
	0.000225	MMscf/hr	
	1020	Btu/scf	Pipeline Gas, HHV
	0.23	MMBtu/hr	

Emission Rates (Pilot Only)

NOx	CO	VOC [1]	SO_2 [2]	H_2S [2]	PM [3]	HAP		
100	84	-	-	-	7.6	-	lb/MMscf	AP-42 Table 1.4-1 & 2
0.0980	0.0824	-	-	-	0.0075	-	lb/MMBtu	AP-42 Table 1.4-1, Footnote a
-	-	-	50	-	-	-	gr S/Mscf	Nominal
-	-	-	-	-	-	-	lb/hr	Mass Flow Rate
0.023	**0.019**	**-**	**0.0032**	**-**	**0.0017**	**-**	**lb/hr**	
0.099	**0.083**	**-**	**0.014**	**-**	**0.0075**	**-**	**tpy**	8760 hrs

Emission Rates (Process Gas & Pilot)

NOx	CO	VOC [1]	SO_2 [2]	H_2S [2]	PM [3]	HAP [1]		
100	84	-	-	-	7.6	-	lb/MMscf	AP-42 Table 1.4-1 & 2
0.0980	0.0824	-	-	-	0.0075	-	lb/MMBtu	AP-42 Table 1.4-1, Footnote a
-	-	14.52	-	4.75E-03	-	0.71	lb/hr	Mass Flow Rate
0.05	**0.04**	**0.29**	**0.01**	**9.50E-05**	**0.004**	**0.01**	**lb/hr**	
0.22	**0.18**	**1.27**	**0.05**	**4.16E-04**	**0.02**	**0.06**	**tpy**	8760 hrs

[1] The thermal oxidizer is 98% efficient for combustion of VOC and HAP.
[2] H_2S is combusted with a 98% efficiency. 100% of combusted H_2S is converted to SO_2.
[3] PM (Total) = TSP = PM-10 = PM-2.5

Greenhouse Gas Emissions

CO_2	N_2O	CH_4	CO_2e		
53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Tables C-1 and C-2
1	298	25		GWP	40 CFR 98 Table A-1
144.66	0.0003	0.003		tons/yr[4]	
144.66	0.08	0.07	**144.81**	tons/yr CO_2e[5]	

[4]GHG ton/yr = EF (kg/MMBtu) * Reboiler Fuel consumption (MMBtu/hr) * 1tonne/1000kg * Hours of operation (hr/yr) * 1.1023ton/tonne +Flash Gas GHG ton/yr
CH_4 ton/yr = EF (kg/MMBtu) * Reboiler Fuel consumption (MMBtu/hr) * 1tonne/1000kg * Hours of operation (hr/yr) * 1.1023ton/tonne + 2% x Flash Gas CH_4 ton/yr
[5]tons/yr CO2e = ton/yr * GWP

Durango Midstream, LLC - Empire Abo Compressor Station

Thermal Oxidizer

Emission unit number(s): TO1
Source description: Thermal Oxidizer
Streams Controlled: Glycol Dehydrator Condenser Overheads

Maximum Input Parameters

Heat Value of Combusted Gas	1218	Btu/scf	ProMax (Stream 3)
Gas Flow Rate	41.3	Mscfd	ProMax (Stream 3)
Input Heat Rate:	2.10	MMBtu/hr	Calculated (Heat Value * Gas Produced / 24 hrs per day)
Total VOC Mass Flow Rate from Condenser	48.26	lb/hr	ProMax (Stream 3)
Total H_2S Mass Flow Rate from Condenser	25.34	lb/hr	ProMax (Stream 3)
Total HAP Mass Flow Rate from Condenser	15.59	lb/hr	ProMax (Stream 3)

Exhaust Parameters (F-factor method)

Heat Rate:	2.32	MMBtu/hr	Condenser Input + Pilot Input
Exhaust temp (Tstk):	1150	°F	Manufacturer Specifications
Exhaust flow	257.4	cfs	Manufacturer Specifications
Stack diameter:	3.5	ft	Manufacturer Specifications
Stack height:	54.5	ft	Manufacturer Specifications
Exhaust velocity:	27.7	ft/sec	Manufacturer Specifications

Fuel Data

Themal Oxidizer Pilot	225	scf/hr	Engineer Estimate
	2.25E-04	MMscf/hr	
	1020	Btu/scf	Pipeline Gas, HHV
	0.23	MMBtu/hr	

Emission Rates (Pilot Only)

NOx	CO	VOC [1]	SO_2 [2]	H_2S [2]	PM [3]	HAP		
100	84	-	-	-	7.6	-	lb/MMscf	AP-42 Table 1.4-1 & 2
0.0980	0.0824	-	-	-	0.0075	-	lb/MMBtu	AP-42 Table 1.4-1, Footnote a
-	-	-	50	-	-	-	gr S/Mscf	Nominal
-	-	-	-	-	-	-	lb/hr	Mass Flow Rate
0.023	**0.019**	**-**	**0.0032**	**-**	**0.0017**	**-**	**lb/hr**	
0.099	**0.083**	**-**	**0.014**	**-**	**0.0075**	**-**	**tpy**	8760 hrs

Emission Rates (Process Gas & Pilot)

NOx	CO	VOC [1]	SO_2 [2]	H_2S [2]	PM [3]	HAP [1]		
100	84	-	-	-	7.6	-	lb/MMscf	AP-42 Table 1.4-1 & 2
0.0980	0.0824	-	-	-	0.0075	-	lb/MMBtu	AP-42 Table 1.4-1, Footnote a
-	-	48.26	-	25.34	-	15.59	lb/hr	Mass Flow Rate
0.23	**0.19**	**0.97**	**47.71**	**0.51**	**0.017**	**0.31**	**lb/hr**	
1.00	**0.84**	**4.23**	**208.97**	**2.22**	**0.076**	**1.37**	**tpy**	8760 hrs

[1] The thermal oxidizer is 98% efficient for combustion of VOC and HAP.
[2] H_2S is combusted with a 98% efficiency. 100% of combusted H_2S is converted to SO_2.
[3] PM (Total) = TSP = PM-10 = PM-2.5

Greenhouse Gas Emissions

CO_2	N_2O	CH_4	CO_2e		
53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Tables C-1 and C-2
1	298	25		GWP	40 CFR 98 Table A-1
1073.61	0.0020	0.020		tons/yr[4]	
1073.61	0.60	0.51	**1074.72**	tons/yr CO_2e[5]	

[4]GHG ton/yr = EF (kg/MMBtu) * Reboiler Fuel consumption (MMBtu/hr) * 1tonne/1000kg * Hours of operation (hr/yr) * 1.1023ton/tonne +Flash Gas GHG ton/yr
CH_4 ton/yr = EF (kg/MMBtu) * Reboiler Fuel consumption (MMBtu/hr) * 1tonne/1000kg * Hours of operation (hr/yr) * 1.1023ton/tonne + 2% x Flash Gas CH_4 ton/yr
[5]tons/yr CO2e = ton/yr * GWP

Durango Midstream, LLC - Empire Abo Compressor Station

Thermal Oxidizer

Emission unit number(s): TO2
Source description: Thermal Oxidizer
Streams Controlled: Condensate Tanks, Water Tanks, Loading

Maximum Input Parameters

Heat Value of Combusted VOC	3353	Btu/scf	ProMax (Stream 6)
Gas Produced	2.02	Mscfd	ProMax (Stream 6)
Input Heat Rate:	0.28	MMBtu/hr	Calculated (Heat Value * Gas Produced / 24 hrs per day)
Total VOC Mass Flow Rate	14.52	lb/hr	ProMax (Stream 6)
Total H2S Mass Flow Rate	0.00	lb/hr	ProMax (Stream 6)
Total HAP Mass Flow Rate	0.83	lb/hr	ProMax (Stream 6)

Exhaust Parameters (F-factor method)

Heat Rate:	0.51	MMBtu/hr	Gunbarrel, Tanks, Loading Heat Input and Pilot Input
Exhaust temp (Tstk):	1150	°F	Manufacturer Specifications
Exhaust flow	257.4	cfs	Manufacturer Specifications
Stack diameter:	3.5	ft	Manufacturer Specifications
Stack height:	54.5	ft	Manufacturer Specifications
Exhaust velocity:	27.7	ft/sec	Manufacturer Specifications

Fuel Data

Themal Oxidizer Pilot	225	scf/hr	Engineer Estimate
	0.000225	MMscf/hr	
	1020	Btu/scf	Pipeline Gas, HHV
	0.23	MMBtu/hr	

Emission Rates (Pilot Only)

NOx	CO	VOC [1]	SO_2 [2]	H_2S [2]	PM [3]	HAP		
100	84	-	-	-	7.6	-	lb/MMscf	AP-42 Table 1.4-1 & 2
0.0980	0.0824	-	-	-	0.0075	-	lb/MMBtu	AP-42 Table 1.4-1, Footnote a
-	-	-	50	-	-	-	gr S/Mscf	Nominal
-	-	-	-	-	-	-	lb/hr	Mass Flow Rate
0.023	**0.019**	**-**	**0.0032**	**-**	**0.0017**	**-**	**lb/hr**	
0.099	**0.083**	**-**	**0.014**	**-**	**0.0075**	**-**	**tpy**	8760 hrs

Emission Rates (Process Gas & Pilot)

NOx	CO	VOC [1]	SO_2 [2]	H_2S [2]	PM [3]	HAP [1]		
100	84	-	-	-	7.6	-	lb/MMscf	AP-42 Table 1.4-1 & 2
0.0980	0.0824	-	-	-	0.0075	-	lb/MMBtu	AP-42 Table 1.4-1, Footnote a
-	-	14.52	-	4.75E-03	-	0.83	lb/hr	Mass Flow Rate
0.050	**0.042**	**0.29**	**0.012**	**9.50E-05**	**0.0038**	**0.017**	**lb/hr**	
0.22	**0.18**	**1.27**	**0.053**	**4.16E-04**	**0.017**	**0.072**	**tpy**	8760 hrs

[1] The thermal oxidizer is 98% efficient for combustion of VOC and HAP.
[2] H_2S is combusted with a 98% efficiency. 100% of combusted H_2S is converted to SO_2.
[3] PM (Total) = TSP = PM-10 = PM-2.5

Greenhouse Gas Emissions

CO_2	N_2O	CH_4	CO_2e		
53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Tables C-1 and C-2
1	298	25		GWP	40 CFR 98 Table A-1
144.66	0.0003	0.003		tons/yr[4]	
144.66	0.08	0.07	**144.81**	tons/yr CO_2e[5]	

[4]GHG ton/yr = EF (kg/MMBtu) * Reboiler Fuel consumption (MMBtu/hr) * 1tonne/1000kg * Hours of operation (hr/yr) * 1.1023ton/tonne +Flash Gas GHG ton/yr
CH_4 ton/yr = EF (kg/MMBtu) * Reboiler Fuel consumption (MMBtu/hr) * 1tonne/1000kg * Hours of operation (hr/yr) * 1.1023ton/tonne + 2% x Flash Gas CH_4 ton/yr
[5]tons/yr CO2e = ton/yr * GWP

Durango Midstream, LLC - Empire Abo Gas Plant

Unpaved Haul Road (Exempt Per 20.2.72.202.b(5) NMAC)

Haul Input Information	
Unit(s):	HAUL
Description:	Unpaved haul road emissions

Input Data		
Empty vehicle weight[1]	16	tons
Load weight[2]	26.6	tons
Loaded vehicle[3]	42.6	tons
Mean vehicle weight[4]	29.31	tons
Oil & Water Throughput	1369	bbl/day
Loadout volume	499535	bbl/yr
Vehicle size	180	bbl
Vehicle frequency[5]	8	vehicles/day
Round-trip distance	0.2	mile/trip
Truck Size:	7560	gal
Filling Time:	0.75	Nominal
Oil Loadout Spots	1	Assumed
Trip frequency[6]	1.3	trips/hour
Trip frequency[7]	2776	trips/yr
Surface silt content[8]	4.8	%
Annual wet days[9]	70	days/yr
Vehicle miles traveled[10]	0.27	mile/hr
Vehicle miles traveled	555.2	miles/yr

Emission Factors and Constants			
Parameter	**PM_{30}**	**PM_{10}**	**$PM_{2.5}$**
k, lb/VMT[11]	4.9	1.5	0.15
a, lb/VMT[11]	0.70	0.90	0.90
b, lb/VMT[11]	0.45	0.45	0.45
Hourly EF, lb/VMT[12]	7.20	1.83	0.18
Annual EF, lb/VMT[13]	5.82	1.48	0.15

Emission Calculations for Particulate Matter			
PM_{30}	**PM_{10}**	**$PM_{2.5}$**	
1.92	0.49	0.049	lb/hr[14]
1.61	0.41	0.041	ton/yr[15]

[1] Empty vehicle weight includes driver and occupants and full fuel load.

[2] Cargo, transported materials, etc. (Density (lb/gal) *7560 gal truck/ 2000lb/ton)

[3] Loaded vehicle weight = Empty + Load Size

[4] Mean Vehicle weight = (Loaded Weight + Empty Weight) / 2

[5] Vehicles per day = Loadout volume / Truck size

[6] Trips per hour = Total loadout spots / Loading time

[7] Trips per year = Total throughput (bbl/yr) / Truck size (bbl)

[8] AP-42 Table 13.2.2-1

[9] Per NMED Guidance

[10] VMT/hr = Vehicle Miles Traveled per hour= Trips per hour * Segment Length

[11] Table 13.2.2-2, Industrial Roads

[12] AP-42 13.2.2, Equation 1a

[13] AP-42 13.2.2, Equation 2

[14] lb/hr = Hourly EF (lb/VMT) * VMT (mile/hr)

[15] ton/yr = Annual EF (lb/VMT) * VMT (mile/hr) * Hours of operation (hr/yr)

Durango Midstream, LLC - Empire Abo Compressor Station

Unpaved Haul Road (Exempt Per 20.2.72.202.b(5) NMAC)

Haul Input Information	
Unit(s):	HAUL
Description:	Unpaved haul road emissions

Input Data		
Empty vehicle weight[1]	16	tons
Load weight[2]	26.6	tons
Loaded vehicle[3]	42.6	tons
Mean vehicle weight[4]	29.32	tons
Oil & Water Throughput	1369	bbl/day
Loadout volume	499535	bbl/yr
Vehicle size	180	bbl
Vehicle frequency[5]	8	vehicles/day
Round-trip distance	0.2	mile/trip
Truck Size:	7560	gal
Filling Time:	0.75	Nominal
Oil Loadout Spots	1	Assumed
Trip frequency[6]	1.3	trips/hour
Trip frequency[7]	2776	trips/yr
Surface silt content[8]	4.8	%
Annual wet days[9]	70	days/yr
Vehicle miles traveled[10]	0.27	mile/hr
Vehicle miles traveled	555.2	miles/yr

Emission Factors and Constants			
Parameter	**PM_{30}**	**PM_{10}**	**$PM_{2.5}$**
k, lb/VMT[11]	4.9	1.5	0.15
a, lb/VMT[11]	0.70	0.90	0.90
b, lb/VMT[11]	0.45	0.45	0.45
Hourly EF, lb/VMT[12]	7.20	1.83	0.18
Annual EF, lb/VMT[13]	5.82	1.48	0.15

Emission Calculations for Particulate Matter			
PM_{30}	**PM_{10}**	**$PM_{2.5}$**	
1.92	0.49	0.049	lb/hr[14]
1.61	0.41	0.041	ton/yr[15]

[1] Empty vehicle weight includes driver and occupants and full fuel load.

[2] Cargo, transported materials, etc. (Density (lb/gal) *7560 gal truck/ 2000lb/ton)

[3] Loaded vehicle weight = Empty + Load Size

[4] Mean Vehicle weight = (Loaded Weight + Empty Weight) / 2

[5] Vehicles per day = Loadout volume / Truck size

[6] Trips per hour = Total loadout spots / Loading time

[7] Trips per year = Total throughput (bbl/yr) / Truck size (bbl)

[8] AP-42 Table 13.2.2-1

[9] Per NMED Guidance

[10] VMT/hr = Vehicle Miles Traveled per hour= Trips per hour * Segment Length

[11] Table 13.2.2-2, Industrial Roads

[12] AP-42 13.2.2, Equation 1a

[13] AP-42 13.2.2, Equation 2

[14] lb/hr = Hourly EF (lb/VMT) * VMT (mile/hr)

[15] ton/yr = Annual EF (lb/VMT) * VMT (mile/hr) * Hours of operation (hr/yr)

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.

Compressor Engines (Units E4-310 to E4-317)
- Engine manufacturer data
- AP-42 Section 3.2
- Catalyst vendor data

Facility-Wide Fugitive Emissions (Unit FUG40)
- Gas and liquids analyses derived from BR&E ProMax
- Facility fugitive component counts

Emergency Flares (Units D-2301, D-2303, SSM, and MALF)
- Gas analyses derived from BR&E ProMax
- TNRCC flare emission factors

Storage Tanks (Units V2-1104-C through G)
- Liquids analyses for drain header and scrubbers
- BR&E ProMax simulation

Condensate and Produced Water Loading (Units L1 and L2)
- Liquids analyses for drain header and scrubbers
- BR&E ProMax simulation

TEG Dehydrators (Units DEHY1 through DEHY3)
- Inlet gas analysis
- BR&E ProMax simulation

Heaters (Units H1 to H4)
- AP-42 Section 1.4
- GRI-HAPCalc 3.0

Thermal Oxidizers (Units TO1 and TO2)
- AP-42 Section 1.4
- Manufacturer specifications
- BR&E ProMax simulation

Unpaved Haul Roads
- AP-42 Section 3.2.2

MECHANICAL EQUIPMENT INC.

September 13, 2019

Durango Permian
2002 Timberloch Place
Suite 110
The Woodlands, TX 77380

Re: Catalyst Efficiencies – MEQGT1.0/O NT

Dear Mary,

Per your request, I am sending you the information regarding the reduction efficiency of the catalysts that you have installed at the Empire Abo and Coyote Compressor Stations.

The Make and Model of the catalyst is an MEQGT-1.0/O NT

The catalysts mentioned above are guaranteed to meet or exceed the following efficiencies:

- 80% CO
- 75% VOC
- 75% HCHO

If you need any additional information please do not hesitate to contact Mechanical Equipment, Inc. at your earliest convenience and we will be more than happy to assist you. Thank you for your continued business.

Sincerely yours,
Donna Fikes
Donna Fikes
Office Manager

G3516B

GAS COMPRESSION APPLICATION

GAS ENGINE SITE SPECIFIC TECHNICAL DATA
Maljamar Field Compression Rev 1

CATERPILLAR®

ENGINE SPEED (rpm):	1400	FUEL SYSTEM:	CAT WIDE RANGE WITH AIR FUEL RATIO CONTROL
COMPRESSION RATIO:	8:1		
AFTERCOOLER - STAGE 2 INLET (°F):	130	**SITE CONDITIONS:**	
AFTERCOOLER - STAGE 1 INLET (°F):	201	FUEL:	Nat Gas
JACKET WATER OUTLET (°F):	210	FUEL PRESSURE RANGE(psig):	7.0-50.0
ASPIRATION:	TA	FUEL METHANE NUMBER:	84.8
COOLING SYSTEM:	JW+OC+1AC, 2AC	FUEL LHV (Btu/scf):	905
IGNITION SYSTEM:	ADEM3	ALTITUDE(ft):	4010
EXHAUST MANIFOLD:	DRY	MAXIMUM INLET AIR TEMPERATURE(°F):	110
COMBUSTION:	Ultra Lean Burn	STANDARD RATED POWER:	1380 bhp@1400rpm
NOx EMISSION LEVEL (g/bhp-hr NOx):	1.0		
SET POINT TIMING:	30		

			MAXIMUM RATING	SITE RATING AT MAXIMUM INLET AIR TEMPERATURE		
RATING	**NOTES**	**LOAD**	**100%**	**100%**	**75%**	**50%**
ENGINE POWER (WITHOUT FAN)	(1)	bhp	1380	1380	1035	690
INLET AIR TEMPERATURE		°F	109	110	110	110
ENGINE DATA						
FUEL CONSUMPTION (LHV)	(2)	Btu/bhp-hr	7187	7187	7717	8252
FUEL CONSUMPTION (HHV)	(2)	Btu/bhp-hr	7972	7972	8560	9154
AIR FLOW (77°F, 14.7 psia) (WET)	(3)(4)	scfm	2989	2989	2317	1604
AIR FLOW (WET)	(3)(4)	lb/hr	13254	13254	10273	7112
INLET MANIFOLD PRESSURE	(5)	in Hg(abs)	90.7	90.7	73.2	52.1
EXHAUST TEMPERATURE - ENGINE OUTLET	(6)	°F	990	990	952	1018
EXHAUST GAS FLOW (@engine outlet temp, 14.5 psia) (WET)	(7)(4)	ft3/min	8712	8712	6589	4785
EXHAUST GAS MASS FLOW (WET)	(7)(4)	lb/hr	13754	13754	10677	7399
EMISSIONS DATA - ENGINE OUT						
NOx (as NO2)	(8)(9)	g/bhp-hr	1.00	1.00	1.00	1.00
CO	(8)(9)	g/bhp-hr	2.80	2.80	3.02	3.27
THC (mol. wt. of 15.84)	(8)(9)	g/bhp-hr	3.78	3.78	3.60	3.42
NMHC (mol. wt. of 15.84)	(8)(9)	g/bhp-hr	0.57	0.57	0.54	0.51
NMNEHC (VOCs) (mol. wt. of 15.84)	(8)(9)(10)	g/bhp-hr	0.38	0.38	0.36	0.34
HCHO (Formaldehyde)	(8)(9)	g/bhp-hr	0.40	0.40	0.41	0.40
CO2	(8)(9)	g/bhp-hr	449	449	485	526
EXHAUST OXYGEN	(8)(11)	% DRY	8.7	8.7	8.2	7.6
HEAT REJECTION						
HEAT REJ. TO JACKET WATER (JW)	(12)	Btu/min	23835	23835	24569	20240
HEAT REJ. TO ATMOSPHERE	(12)	Btu/min	6110	6110	5092	4074
HEAT REJ. TO LUBE OIL (OC)	(12)	Btu/min	4475	4475	3978	3363
HEAT REJ. TO A/C - STAGE 1 (1AC)	(12)(13)	Btu/min	13960	13960	11956	4461
HEAT REJ. TO A/C - STAGE 2 (2AC)	(12)(13)	Btu/min	4727	4727	4517	3057

COOLING SYSTEM SIZING CRITERIA			
TOTAL JACKET WATER CIRCUIT (JW+OC+1AC)	(13)(14)	Btu/min	46247
TOTAL AFTERCOOLER CIRCUIT (2AC)	(13)(14)	Btu/min	4963
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. Max. rating is the maximum capability for the specified fuel at site altitude and reduced inlet air temperature. Lowest load point is the lowest continuous duty operating load allowed. No overload permitted at rating shown.

For notes information consult page three.

PREPARED BY: Dean Lydic, AKA Energy Group, LLC
Data generated by Gas Engine Rating Pro Version 4.01.01
Ref. Data Set DM8850-04-001, Printed 27Apr2012

G3516 LE

NON-CURRENT

GAS COMPRESSION APPLICATION

GAS ENGINE SITE SPECIFIC TECHNICAL DATA
Exterran
121045 Frontier Field Services 3516

CATERPILLAR®

ENGINE SPEED (rpm):	1400	FUEL SYSTEM:	HPG IMPCO WITH AIR FUEL RATIO CONTROL
COMPRESSION RATIO:	8:1		
AFTERCOOLER WATER INLET (°F):	130	**SITE CONDITIONS:**	
JACKET WATER OUTLET (°F):	210	FUEL:	Gas Analysis
COOLING SYSTEM:	JW+OC, AC	FUEL PRESSURE RANGE(psig):	35.0-40.0
IGNITION SYSTEM:	EIS	FUEL METHANE NUMBER:	90.7
EXHAUST MANIFOLD:	ASWC	FUEL LHV (Btu/scf):	907
COMBUSTION:	Low Emission	ALTITUDE(ft):	3200
NOx EMISSION LEVEL (g/bhp-hr NOx):	1.5	MAXIMUM INLET AIR TEMPERATURE(°F):	100
SET POINT TIMING:	33.0	NAMEPLATE RATING:	1340 bhp@1400rpm

			MAXIMUM RATING	SITE RATING AT MAXIMUM INLET AIR TEMPERATURE		
RATING	**NOTES**	**LOAD**	**100%**	**100%**	**75%**	**50%**
ENGINE POWER	(1)	bhp	1340	1340	1005	670
INLET AIR TEMPERATURE		°F	100	100	100	100
ENGINE DATA						
FUEL CONSUMPTION (LHV)	(2)	Btu/bhp-hr	7544	7544	7805	8285
FUEL CONSUMPTION (HHV)	(2)	Btu/bhp-hr	8374	8374	8663	9195
AIR FLOW	(3)(4)	lb/hr	12793	12793	9894	6262
AIR FLOW WET (77°F, 14.7 psia)	(3)(4)	scfm	2885	2885	2231	1412
INLET MANIFOLD PRESSURE	(5)	in Hg(abs)	69.9	69.9	55.0	39.1
EXHAUST STACK TEMPERATURE	(6)	°F	854	854	840	842
EXHAUST GAS FLOW (@ stack temp, 14.5 psia)	(7)(4)	ft3/min	7644	7644	5847	3734
EXHAUST GAS MASS FLOW	(7)(4)	lb/hr	13283	13283	10275	6531
EMISSIONS DATA						
NOx (as NO2)	(8)	g/bhp-hr	1.50	1.50	1.50	1.50
CO	(8)	g/bhp-hr	1.88	1.88	1.96	1.89
THC (mol. wt. of 15.84)	(8)	g/bhp-hr	3.06	3.06	3.39	3.59
NMHC (mol. wt. of 15.84)	(8)	g/bhp-hr	0.46	0.46	0.51	0.54
NMNEHC (VOCs) (mol. wt. of 15.84)	(8)(9)	g/bhp-hr	0.31	0.31	0.34	0.36
HCHO (Formaldehyde)	(8)	g/bhp-hr	0.25	0.25	0.28	0.30
CO2	(8)	g/bhp-hr	490	490	507	538
EXHAUST OXYGEN	(10)	% DRY	8.3	8.3	8.0	7.8
HEAT REJECTION						
HEAT REJ. TO JACKET WATER (JW)	(11)	Btu/min	41273	41273	34512	29683
HEAT REJ. TO ATMOSPHERE	(11)	Btu/min	5313	5313	4428	3543
HEAT REJ. TO LUBE OIL (OC)	(11)	Btu/min	6526	6526	5457	4693
HEAT REJ. TO AFTERCOOLER (AC)	(11)(12)	Btu/min	13788	13788	9320	3302

HEAT EXCHANGER SIZING CRITERIA			
TOTAL JACKET WATER CIRCUIT (JW+OC)	(12)	Btu/min	53232
TOTAL AFTERCOOLER CIRCUIT (AC)	(12)(13)	Btu/min	14477
A cooling system safety factor of 0% has been added to the heat exchanger 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.
Max. rating is the maximum capability for the specified fuel at site altitude and reduced inlet air temperature.
Lowest load point is the lowest continuous duty operating load allowed. No overload permitted at rating shown.

For notes information consult page three.

PREPARED BY: Michael Serrett, Exterran
Data generated by Gas Engine Rating Pro Version 3.03.01
Ref. Data Set DM5155-06-000, 4EK, Printed 03May2010

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

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

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

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

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

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

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

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

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

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

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

TABLE 1.4-3. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS FROM NATURAL GAS COMBUSTION[a]

CAS No.	Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
91-57-6	2-Methylnaphthalene[b, c]	2.4E-05	D
56-49-5	3-Methylchloranthrene[b, c]	<1.8E-06	E
	7,12-Dimethylbenz(a)anthracene[b,c]	<1.6E-05	E
83-32-9	Acenaphthene[b,c]	<1.8E-06	E
203-96-8	Acenaphthylene[b,c]	<1.8E-06	E
120-12-7	Anthracene[b,c]	<2.4E-06	E
56-55-3	Benz(a)anthracene[b,c]	<1.8E-06	E
71-43-2	Benzene[b]	2.1E-03	B
50-32-8	Benzo(a)pyrene[b,c]	<1.2E-06	E
205-99-2	Benzo(b)fluoranthene[b,c]	<1.8E-06	E
191-24-2	Benzo(g,h,i)perylene[b,c]	<1.2E-06	E
205-82-3	Benzo(k)fluoranthene[b,c]	<1.8E-06	E
106-97-8	Butane	2.1E+00	E
218-01-9	Chrysene[b,c]	<1.8E-06	E
53-70-3	Dibenzo(a,h)anthracene[b,c]	<1.2E-06	E
25321-22-6	Dichlorobenzene[b]	1.2E-03	E
74-84-0	Ethane	3.1E+00	E
206-44-0	Fluoranthene[b,c]	3.0E-06	E
86-73-7	Fluorene[b,c]	2.8E-06	E
50-00-0	Formaldehyde[b]	7.5E-02	B
110-54-3	Hexane[b]	1.8E+00	E
193-39-5	Indeno(1,2,3-cd)pyrene[b,c]	<1.8E-06	E
91-20-3	Naphthalene[b]	6.1E-04	E
109-66-0	Pentane	2.6E+00	E
85-01-8	Phenanathrene[b,c]	1.7E-05	D

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

Pollutant	Emission Factor (lb/MMBtu)[b] (fuel input)	Emission Factor Rating
Criteria Pollutants and Greenhouse Gases		
NO_x[c] 90 - 105% Load	4.08 E+00	B
NO_x[c] <90% Load	8.47 E-01	B
CO[c] 90 - 105% Load	3.17 E-01	C
CO[c] <90% Load	5.57 E-01	B
CO_2[d]	1.10 E+02	A
SO_2[e]	5.88 E-04	A
TOC[f]	1.47 E+00	A
Methane[g]	1.25 E+00	C
VOC[h]	1.18 E-01	C
PM10 (filterable)[i]	7.71 E-05	D
PM2.5 (filterable)[i]	7.71 E-05	D
PM Condensable[j]	9.91 E-03	D
Trace Organic Compounds		
1,1,2,2-Tetrachloroethane[k]	<4.00 E-05	E
1,1,2-Trichloroethane[k]	<3.18 E-05	E
1,1-Dichloroethane	<2.36 E-05	E
1,2,3-Trimethylbenzene	2.30 E-05	D
1,2,4-Trimethylbenzene	1.43 E-05	C
1,2-Dichloroethane	<2.36 E-05	E
1,2-Dichloropropane	<2.69 E-05	E
1,3,5-Trimethylbenzene	3.38 E-05	D
1,3-Butadiene[k]	2.67E-04	D
1,3-Dichloropropene[k]	<2.64 E-05	E
2-Methylnaphthalene[k]	3.32 E-05	C
2,2,4-Trimethylpentane[k]	2.50 E-04	C
Acenaphthene[k]	1.25 E-06	C

United States Environmental Protection Agency
Office of Air Quality Planning and Standards Research Triangle Park NC 27711
EPA-453/R-95-017 November 1995

Air

EPA

Protocol for Equipment Leak Emission Estimates

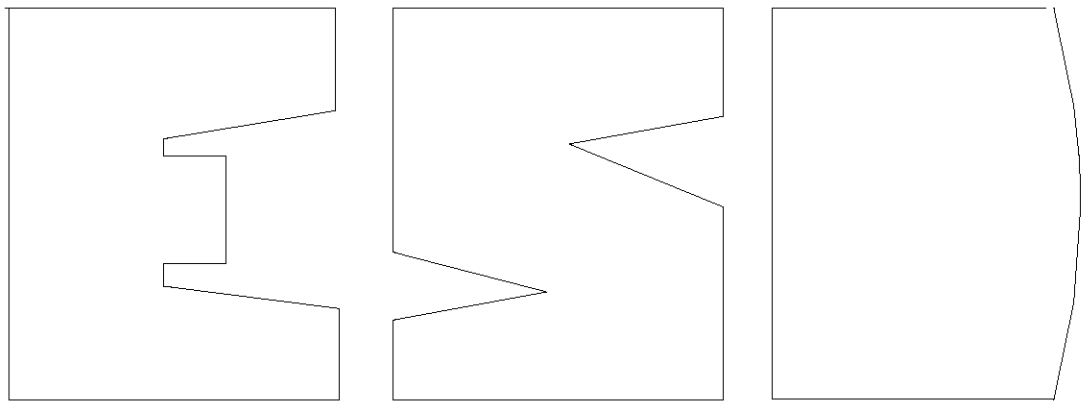


TABLE 2-4. OIL AND GAS PRODUCTION OPERATIONS AVERAGE EMISSION FACTORS (kg/hr/source)

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

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

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

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

October 2000
RG-109 (Draft)

Air Permit Technical Guidance for Chemical Sources:

Flares and Vapor Oxidizers

printed on recycled paper

Air Permits Division

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

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Technical Disclaimer

This document is intended as guidance to explain the specific requirements for new source review permitting of flares and vapor oxidizers; it does not supersede or replace any state or federal law, regulation, or rule. References to abatement equipment technologies are not intended to represent minimum or maximum levels of Best Available Control Technology (BACT). Determinations of BACT are made on a case-by-case basis as part of the New Source Review of permit applications. BACT determinations are always subject to adjustment in consideration of specific process requirements, air quality concerns, and recent developments in abatement technology. Additionally, specific health effects concerns may indicate stricter abatement than required by the BACT determination.

The represented calculation methods are intended as an aid in the completion of acceptable submittals; alternate calculation methods may be equally acceptable if they are based upon, and adequately demonstrate, sound engineering assumptions or data.

These guidelines are applicable as of this document's publication date but are subject to revision during the permit application preparation and review period. It is the responsibility of the applicants to remain abreast of any guideline or regulation developments that may affect their industries.

The electronic version of this document may not contain attachments or forms (such as the PI-1, Standard Exemptions, or tables) that can be obtained electronically elsewhere on the TNRCC Web site.

The special conditions included with these guidelines are for purposes of example only. Special conditions included in an actual permit are written by the reviewing engineer to address specific permit requirements and operating conditions.

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Tables

Chapter 2—Types of Flare and Oxidizer Systems

This document provides guidance for two classes of vapor combustion control devices: flares and vapor oxidizers. While there may be some overlap between the two, flares have generally been treated separately by the EPA and the TNRCC, in large part because flares have an open flame and often cannot be sampled, so emissions are estimated based on the results of flare testing performed in the early 1980s. Each of the two classes will be dealt with separately in each of the chapters of this document.

Combustion Control Devices NOT Discussed. This document will not cover permitting of RCRA or BIF units because the requirements for these units often go beyond the requirements for state air permitting. Incinerators used to treat solid wastes are covered in another technical guidance document, *Incinerators*. Guidance for combustion control devices associated with spray paint booths, coatings operations, and semiconductor facilities should be obtained by calling the TNRCC New Source Review Permits Division at (512) 239-1250.

Flares

Flare systems generally are open-flame control devices used for disposing of waste gas streams during both routine process and emergency or upset conditions. In addition to simple, unassisted flares, typical smokeless flare systems include, but are not limited to, the following:

- ***Enclosed Flares/Vapor Combustors.*** Enclosed flares are used in disposing of waste gas streams in instances where a visible flame is unacceptable. Applications include chemical processing, petroleum refining and production, and municipal waste gas treatment. These may be referred to as vapor combustors and can have more than one burner in the stack.

- ***Steam-Assisted Flares***. Steam-assisted flares are used in disposing of low-pressure waste gas streams when steam is available and practical to minimize smoking from the flare. Applications are similar to those of enclosed flares. Flares might also be assisted with natural gas if readily available on site; these flares would undergo a case-by-case review.

- ***Air-Assisted Flares.*** Air-assisted flares are used in disposing of low-pressure waste gas streams when practical or when steam utilities are not available to minimize smoking from the flare. Applications include chemical processing, petroleum refining and production, and pipeline transportation.

- ***Sonic Flares.*** Sonic flares are used in disposing of high-pressure waste gas streams. Applications include gas production, pipeline transportation, and treatment plants.

- ***Multipoint Flare Systems.*** Multipoint flare systems are used in disposing of both high- and low-pressure waste gas streams. Multiple burner tips in conjunction with a staged control system provide for controlled combustion. Applications are similar to those of air-assisted flares.

Vapor Oxidizers

These devices generally do not have an open flame but have an exhaust stack which allows for sampling and monitoring of exhaust emissions. The most common type, thermal, relies on the combustion heat of the waste gas and assist fuel (if required) to oxidize the waste gas air contaminants. Other types include:

- ***Recuperative.*** In this case, the waste gas is directed to a heat exchanger to be preheated by the exhaust gas, to minimize the need for additional assist fuel. Recuperative oxidizers are considered a subset of thermal oxidizers in this document.

- ***Regenerative***. Combustion takes place in a chamber with a heat sink, such as ceramic saddles, which retains the heat of combustion, allowing for combustion of more dilute vapor streams (which have a low heat of combustion) at a lower cost. These units generally have multiple chambers, which allow for the preheat of one chamber by exhaust gases while combustion takes place in another chamber.

- ***Catalytic.*** Combustion takes place over a catalyst that allows for combustion at a lower temperature (in the range of 600 to 800°F as opposed to greater than 1400°F for many thermal oxidizers). Catalytic oxidizers function best with a waste stream with constant flow and composition.

This chapter provides detailed instructions for the calculations necessary to verify BACT and estimate emissions from flares and vapor oxidizers. Flares must be checked to determine whether they will satisfy the flow and thermal requirements of 40 CFR § 60.18, and their emissions are determined by the use of emission factors. Example calculations are provided for these flare calculations.

Oxidizer emissions are determined by using previous sampling results or emission factors from the manufacturer or AP-42. These calculations are very similar to the flare calculations and are only discussed in general terms.

Flares: Introduction

Although emissions from emergency flares are not included in a permit when it is issued, emissions should be estimated for both routine process flares and emergency flares. Sometimes, emissions of routine pilot gas combustion may be included in an issued permit for emergency flares (although not required).

In this section, the *flare* emission factors and destruction efficiencies are presented first. This information is followed by sample *calculations* that demonstrate how to ensure that the requirements of 40 CFR § 60.18 are satisfied and how to estimate emissions from a flare. Flare data in Attachment B (typical refinery flare) will be used as a basis in most of the following calculations. Flare data in Attachment C (acid gas flare) will be used as a basis in the example calculations for SO_2 emissions.

Flare Emission Factors

The usual flare destruction efficiencies and emission factors are provided in Table 4. The high-Btu waste streams referred to in the table have a heating value greater than 1,000 Btu/scf.

Flare Destruction Efficiencies

Claims for destruction efficiencies greater than those listed in Table 4 will be considered on a case-by-case basis. The applicant may make one of the three following demonstrations to justify the higher destruction efficiency: (1) general method, (2) 99.5 percent justification, or (3) flare stack sampling.

Table 4. Flare Factors

Waste Stream	Destruction/Removal Efficiency (DRE)		
VOC	98 percent (generic) 99 percent for compounds containing no more than 3 carbons that contain no elements other than carbon and hydrogen in addition to the following compounds: methanol, ethanol, propanol, ethylene oxide and propylene oxide		
H_2S	98 percent		
NH_3	case by case		
CO	case by case		
Air Contaminants	**Emission Factors**		
thermal NO_x	steam-assist:	high Btu	0.0485 lb/MMBtu
		low Btu	0.068 lb/MMBtu
	other:	high Btu	0.138 lb/MMBtu
		low Btu	0.0641 lb/MMBtu
fuel NO_x	NO_x is 0.5 wt percent of inlet NH_3, other fuels case by case		
CO	steam-assist:	high Btu	0.3503 lb/MMBtu
		low Btu	0.3465 lb/MMBtu
	other:	high Btu	0.2755 lb/MMBtu
		low Btu	0.5496 lb/MMBtu
PM	none, required to be smokeless		
SO_2	100 percent S in fuel to SO_2		

*The only exeption ot this is if inorganics might be emitted from the flare. In the case of landfills, the AP-42 PM factor may be used. In other cases, the emissions should be based on the composition of the waste stream routed to the flare.

MANLEY GAS TESTING, INC.
P.O. DRAWER 193 ODESSA, TEXAS 79760
OFFICE(432)367-3024 FAX(432)367-1166 E-MAIL: MANLEYGAST@AOL.COM

CHARGE..... 151 - 0
REC. NO. 3
TEST NUMBER.. 12736

DATE SAMPLED..... 03-16-15
DATE RUN..... 03-18-15
EFFEC. DATE..... 03-01-15

STATION NO. ... 633001

PRODUCER ..... FRONTIER FIELD SERVICES

SAMPLE NAME.... #2 INLET TYPE: COMPOSITE

RECEIVED FROM.. FRONTIER FIELD SERVICES LLC - ABO

FLOWING PRESSURE ..... 32.4 PSIA FLOWING TEMPERATURE ..... 62 F

SAMPLED BY: F CYLINDER NO. ...

FRACTIONAL ANALYSIS
CALCULATED @ 14.650 PSIA AND 60F

	MOL%	GPM (REAL)
HYDROGEN SULFIDE...	1.487	
NITROGEN.....	2.167	
CARBON DIOXIDE.....	2.381	
METHANE.....	66.433	
ETHANE.....	14.674	3.920
PROPANE.....	7.552	2.079
ISO-BUTANE.....	0.935	0.305
NOR-BUTANE.....	2.317	0.729
ISO-PENTANE.....	0.586	0.214
NOR-PENTANE.....	0.576	0.209
HEXANES +.....	0.892	0.389
TOTALS	100.000	7.845

H2S PPMV = 14870

'Z' FACTOR (DRY) = 0.9954
'Z' FACTOR (WET) = 0.9950

26 LB. R.V.P. = 1.232

..CALCULATED SPECIFIC GRAVITIES..

REAL, DRY 0.8363

REAL, WET 0.8329

..CALCULATED GROSS HEATING VALUES..

BTU/CF - REAL, DRY 1321

BTU/CF - REAL, WET 1298

DISTRIBUTION AND REMARKS:

N

ANALYZED BY: AW
** R **

APPROVED: MC

MANLEY GAS TESTING INC.

120 DOCK ROAD - ODESSA, TEXAS-432-367-3024

A SAMPLE OF 633001 FFS - INLET #2 (3/16/15)

CAPILLARY EXTENDED
C-6+ ANALYSIS
(NORMALIZED TO 100%)

COMPONENT	MOL%	WT%
NEOHEXANE	0.411	0.377
2,3DMC4+CYC5	4.731	3.781
2MPENTANE	10.911	10.021
3MPENTANE	6.170	5.666
N-HEXANE	12.051	11.070
2,2 DMPENTANE	0.122	0.131
MCYCLOPENTANE	7.524	6.749
2,4 DMPENTANE	0.000	0.000
2,2,3 TMBUTANE	0.025	0.027
BENZENE	8.177	6.807
3,3 DMPENTANE	0.042	0.045
CYCLOHEXANE	9.035	8.104
2MHEXANE	1.498	1.600
2,3 DMPENTANE	1.036	1.106
3MHEXANE	1.793	1.915
DIMCYCPENTANES(GROUPED)	3.588	3.755
N-HEPTANE	3.342	3.569
MCYCLOHEXANE	5.774	6.042
2,2DMHEXANE	0.664	0.808
2,3,3TMPENTANE	0.020	0.025
TOLUENE	6.191	6.079
2,3DMHEXANE	0.140	0.171
2M3EPENTANE	0.052	0.063
2MHEPTANE	1.442	1.755
4MHEPTANE	0.244	0.297
3,4DMHEXANE	0.087	0.106
3MHEPTANE	0.779	0.948
TRIMCYCPENTANES(GROUPED)	0.126	0.151
DIMCYCHEXANES(GROUPED)	1.313	1.572
N-OCTANE	1.115	1.357
2,3,5TRIMHEXANE	0.049	0.067
2,2,4TRIMHEXANE	0.119	0.162
2,2DIMHEPTANE	0.024	0.033
2,2,3TRIMHEXANE	0.037	0.050
2,5DIMHEPTANE	0.044	0.060
I-NONANE	0.000	0.000
2,4DIMHEPTANE	0.042	0.057
E-CYCHEXANE	0.598	0.716
3,3DIMHEPTANE	0.211	0.289
2,6DIMHEPTANE	0.059	0.080
E-BENZENE	0.113	0.128
2,3DIMHEPTANE	0.055	0.075
M-XYLENE	0.967	1.094
P-XYLENE	0.271	0.306
3,4DIMHEPTANE	0.221	0.302
3EHEPTANE	0.051	0.070

MANLEY GAS TESTING INC.

120 DOCK ROAD - ODESSA, TEXAS-432-367-3024

A SAMPLE OF 633001 FFS - INLET #2 (3/16/15)

CAPILLARY EXTENDED
C-6+ ANALYSIS
(NORMALIZED TO 100%)

COMPONENT	MOL%	WT%
4MOCTANE	0.254	0.347
3MOCTANE	0.126	0.172
O-XYLENE	0.170	0.192
IC4CYCPENTANE	0.076	0.103
N-NONANE	0.569	0.778
I-DECANE	0.100	0.152
1E1MCYC6	0.114	0.153
IC3BENZENE	0.274	0.351
2,3DMOCTANE	0.711	1.079
3EOCTANE	1.632	2.474
NC4CYCC6	0.268	0.400
NC3BENZENE	0.338	0.434
M+P E-TOLUENE	0.739	0.946
O-E-TOLUENE	0.522	0.668
2,2DMOCTANE	0.390	0.592
TERTBUTYLBENZENE	0.119	0.170
1,3,5TMBENZENE	0.074	0.095
3,6DMOCTANE	0.175	0.265
IC4BENZENE	0.583	0.835
N-DECANE	0.440	0.667
UNKNOWN C-6'S	0.000	0.000
UNKNOWN C-7'S	0.000	0.000
UNKNOWN C-8'S	0.022	0.027
UNKNOWN C-9'S	0.834	1.140
UNK C10'S THRU C14'S	0.206	0.374
UNK C15'S THRU C16'S	0.000	0.000
UNK C17'S THRU C20'S	0.000	0.000
TOTAL	100.000	100.000

COMPONENT GROUPINGS (PARAFFINS-NAPTHENES-AROMATICS)

	MOL%	WT%
TOTAL C-6'S	59.010	52.575
TOTAL C-7'S	23.411	24.269
TOTAL C-8'S	8.123	9.716
TOTAL C-9'S	4.832	6.432
TOTAL C-10'S	4.418	6.634
TOTAL C-11 THRU C-14	0.206	0.374
TOTAL C-15 THRU C-16	0.000	0.000
TOTAL C-17 THRU C-20	0.000	0.000
TOTAL	100.000	100.000

* C6+ CHARACTERIZATION

MOL.WEIGHT = 93.830
SP.GRAVITY = 3.2397
BTU/FT3(DRY) = 4984.962
BTU/FT3(WET) = 4899.101
CU.FT./GAL = 25.048
GAL/CU.FT. = 0.039923
MOL% C6+ AROMATICS = 18.538

September 3, 2019

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

For: Frontier Field Services, LLC
2002 Timberloch Place, Suite 110
The Woodlands, Texas 77380

Sample: Empire Abo Compressor Station
Gas Liberated from Separator Water
From 22 psig & 91 °F to 0 psig & 70 °F

Date Sampled: 08/21/2019 Job Number: 192952.001

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Hydrogen Sulfide*	2.800	
Nitrogen	6.876	
Carbon Dioxide	34.608	
Methane	29.650	
Ethane	6.959	1.916
Propane	4.064	1.153
Isobutane	1.427	0.481
n-Butane	2.430	0.789
2-2 Dimethylpropane	0.759	0.298
Isopentane	2.370	0.892
n-Pentane	2.628	0.981
Hexanes	0.444	0.188
Heptanes Plus	4.985	1.981
Totals	100.000	8.678

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity	3.378	(Air=1)
Molecular Weight	96.91	
Gross Heating Value	5017	BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity	1.337	(Air=1)
Compressibility (Z)	0.9905	
Molecular Weight	38.36	
Gross Heating Value		
Dry Basis	1202	BTU/CF
Saturated Basis	1182	BTU/CF

*Hydrogen Sulfide tested in laboratory by: Stain Tube Method (GPA 2377)
Results: 1761.0 Gr/100 CF, 28000 PPMV or 2.800 Mol %

Base Conditions: 15.025 PSI & 60 Deg F

Sampled By: (16) NV
Analyst: NG
Processor: KV
Cylinder ID: WF-3S

Certified: FESCO, Ltd. - Alice, Texas

David Dannhaus 361-661-7015

FESCO, Ltd. Job Number: 192952.001

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286
TOTAL REPORT

COMPONENT	MOL %	GPM	WT %
Hydrogen Sulfide*	2.800		2.488
Nitrogen	6.876		5.021
Carbon Dioxide	34.608		39.704
Methane	29.650		12.398
Ethane	6.959	1.916	5.455
Propane	4.064	1.153	4.672
Isobutane	1.427	0.481	2.162
n-Butane	2.430	0.789	3.682
2,2 Dimethylpropane	0.759	0.298	1.428
Isopentane	2.370	0.892	4.457
n-Pentane	2.628	0.981	4.943
2,2 Dimethylbutane	0.000	0.000	0.000
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.068	0.029	0.153
2 Methylpentane	0.094	0.040	0.211
3 Methylpentane	0.074	0.031	0.166
n-Hexane	0.208	0.088	0.467
Methylcyclopentane	0.108	0.038	0.237
Benzene	1.377	0.397	2.804
Cyclohexane	0.220	0.077	0.482
2-Methylhexane	0.074	0.035	0.193
3-Methylhexane	0.104	0.049	0.272
2,2,4 Trimethylpentane	0.000	0.000	0.000
Other C7's	0.179	0.080	0.463
n-Heptane	0.245	0.116	0.640
Methylcyclohexane	0.263	0.109	0.673
Toluene	0.777	0.268	1.866
Other C8's	0.562	0.269	1.615
n-Octane	0.243	0.128	0.724
Ethylbenzene	0.085	0.034	0.235
M & P Xylenes	0.201	0.080	0.556
O-Xylene	0.051	0.020	0.141
Other C9's	0.231	0.121	0.760
n-Nonane	0.157	0.091	0.525
Other C10's	0.000	0.000	0.000
n-Decane	0.058	0.037	0.215
Undecanes (11)	0.050	0.032	0.192
Totals	100.000	8.678	100.000

Computed Real Characteristics Of Total Sample:

Specific Gravity	1.337	(Air=1)
Compressibility (Z)	0.9905	
Molecular Weight	38.36	
Gross Heating Value		
Dry Basis	1202	BTU/CF
Saturated Basis	1182	BTU/CF

PANTECHS LABORATORIES, INC.

Leaders in Petroleum Analytical Services
www.pantechs.com

Analytical Report

10/3/2019

Customer:	Durango Midstream, LLC	Order:	O2019-889
Location:	Abo Station	Received:	9/25/2019
Description:	Durango Midstream Abo Station Liquid Samples	Contact:	Ed McCasland

REPORT DISTRIBUTION:

- Bobby Mallett

All data reported in this Analytical Report is in compliance with the test method(s) performed as of the date noted above. The validity and integrity of this report will remain intact as long as it is accompanied by this page and reproduced in full. Any datafile (e.g. .txt, .csv, etc.) produced which is associated with the results in this report shall be considered for convenience only and does not supercede this report as the official test results. We reserve the right to return to you any unused samples received if we consider so necessary (e.g., samples identified as hazardous waste).

We appreciate you choosing Pantechs Laboratories. If you have any questions concerning this report, please feel free to contact us at any time.

Order Analysis List

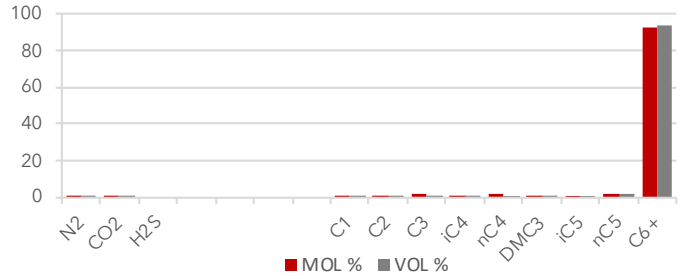
Count	Group	Site	Sample Point/Source	Method	Item	Onsite H2S
2	**O2019-889**					
2	**Liquid**					
2	Hydrocarbon					
1		N/A	Closed Drain Header	GPA 2186	NGLEXT	
1		N/A	#2 Inlet Scrubber	GPA 2186	NGLEXT	

EXTENDED LIQUID/NGL FRACTIONAL ANALYSIS

SAMPLE ID	
Customer	Durango Midstream, LLC
Operator	Durango Midstream, LLC
Location	Abo Station
Site	N/A
Sample Point/Source	Closed Drain Header
Pressure	24 psig
Temperature	N/A
Atm. Temp	82 F
Sample Date	09/25/19
Sample Time	11:00:00 AM
Sampled By	Pantechs/DCB
Analysis Date	10/02/19
ContainerID	PL1871

COMPONENT	SYM	MOL %	VOL %	WT%
Nitrogen	**N2**	0.0243	0.0065	0.0069
Carbon Dioxide	**CO2**	0.0563	0.0233	0.0250
***Hydrogen Sulfide**	**H2S**	0.0000	0.0000	0.0000
Methane	**C1**	0.0741	0.0304	0.0120
Ethane	**C2**	0.5570	0.3606	0.1696
Propane	**C3**	1.5949	1.0634	0.7120
i-Butane	**iC4**	0.5027	0.3981	0.2960
n-Butane	**nC4**	1.9771	1.5085	1.1637
neo-Pentane	**DMC3**	0.0005	0.0004	0.0004
i-Pentane	**iC5**	1.3105	1.1599	0.9572
n-Pentane	**nC5**	1.9317	1.6947	1.4116
****Hexanes+**	**C6+**	91.9709	93.7542	95.2456
	Totals:	**100.0000**	**100.0000**	**100.0000**

RELATIVE CONCENTRATION



SPECIFIC GRAVITY

Relativie Density, 60/60	0.7574

CALCULATED VAPOR PRESSURE

Absolute at 100F, psia	16.0
Equivalent Reid, psi	14.8

SCF/GALLON OF LIQUID

Ideal Gas, 14.65 psia & 60F	24.356
Real Gas, 14.65 psia & 60F	21.209

CALCULATIONS / METHODS

Pressure Base, PSIA	14.65
Temp Base, DEG F	60
Ideal/Real Gas	Real
Method(s)	ASTM D8003, GPA 2103

APPLICABLE CURRENT GPA & ASTM METHODS, PROCEDURES, AND CONSTANTS ARE USED

MOLECULAR WEIGHT

Molar Mass	98.754

REMARKS / COMMENTS / OTHER

Value of "0.000" interpreted as below detectable limit (BDL), unless otherwise stated below.

* H2S determination by GPA 2103, concentration losses possible to collection container.
** Hexanes Plus Detail on Pages 2-3

HEXANES PLUS EXTENDED FRACTIONAL ANALYSIS

SAMPLE ID

Customer	Durango Midstream, LLC
Operator	Durango Midstream, LLC
Location	Abo Station
Site	N/A
Sample Point/Source	Closed Drain Header
Sample Date	09/25/19
ContainerID	PL1871

HEXANES PLUS PHYSICAL PROPERTIES

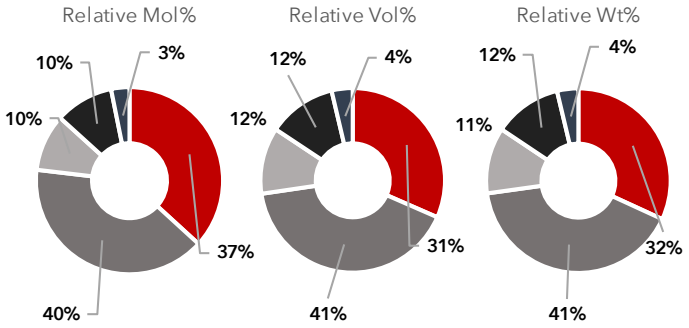
Molecular Weight	102.2700
Relative Density, 60F/60F	0.7266
Vapor Pressure, psia at 100F	1.8742

HEXANES PLUS SUMMARY

GRP	MOL %	VOL %	WT%	RELATIVE VOL%
C6	25.273163	20.851840	21.105401	
C7	28.701163	27.184973	28.017219	
C8	23.879128	26.575451	26.984559	
C9	9.712329	12.277723	12.411852	
C10	2.496643	3.695129	3.596398	
C11	1.391567	2.240866	2.202482	
C12	0.353150	0.612264	0.609085	
C13	0.094608	0.175941	0.176576	
C14	0.050662	0.100490	0.101714	
C15	0.014586	0.030772	0.031379	
C16	0.003654	0.008163	0.008281	
C17	0.000148	0.000345	0.000357	
C18	0.000099	0.000243	0.000297	
C19	0.000000	0.000000	0.000000	
C20	0.000000	0.000000	0.000000	
C21	0.000000	0.000000	0.000000	
C22	0.000000	0.000000	0.000000	
C23	0.000000	0.000000	0.000000	
C24	0.000000	0.000000	0.000000	
C24+	0.000000	0.000000	0.000000	
Totals:	**91.970900**	**93.754200**	**95.245600**	

BTEX GROUP SUMMARY

COMPOUND	MOL %	VOL %	WT %
Benzene	9.745015	6.600417	7.707955
Toluene	10.615735	8.604026	9.906482
Ethylbenzene	2.608434	2.436521	2.804137
m-Xylene+p-Xylene	2.677070	2.508679	2.877883
o-Xylene	0.839127	0.772127	0.902074
Totals:	**26.485381**	**20.921770**	**24.198531**



HEXANES PLUS DETAIL

ID	COMPONENT	MOL %	VOL %	WT %	RELATIVE VOL%
6-1	2,2-Dimethylbutane	0.029725	0.030037	0.025924	
6-2	2,3-Dimethylbutane+Cyclopentane	2.912898	2.890593	2.541863	
6-3	2-Methylpentane	1.379518	1.385890	1.203762	
6-4	3-Methylpentane	0.988742	0.976556	0.862827	
6-5	n-Hexane	2.738989	2.725896	2.390078	
6-6	Methylcyclopentane	2.529825	2.166560	2.155898	
6-7	Benzene	9.745015	6.600417	7.707955	
6-8	Cyclohexane	4.948451	4.075891	4.217094	
	Total C6 Group	25.273163	20.851840	21.105401	
7-1	2,2-Dimethylpentane	0.507308	0.574688	0.514744	
7-2	2,4-Dimethylpentane	0.014517	0.016472	0.014706	
7-3	3,3-Dimethylpentane	0.030022	0.033038	0.030417	
7-4	2-Methylhexane	1.232274	1.385936	1.250359	
7-5	1,1-Dimethylcyclopentane+3-Methylhexane	1.958819	1.942818	1.947557	
7-6	2,3-Dimethylpentane	0.357989	0.393336	0.363273	
7-7	1,t3-Dimethylcyclopentane	1.079795	1.079121	1.073593	
7-8	1,c3-Dimethylcyclopentane+3-Ethylpentane	0.743532	0.747014	0.739259	
7-9	1,t2-Dimethylcyclopentane+1,c2-Dimethylcyclopentan	0.395122	0.393511	0.392885	
7-10	n-Heptane	4.196920	4.686185	4.258391	
7-11	Methylcyclohexane+1,1,3-Trimethylpentane	6.872705	6.686050	6.833097	
7-12	Toluene	10.615735	8.604026	9.906482	
7-13	Cycloheptane	0.696425	0.642778	0.692456	
	Total C7 Group	28.701163	27.184973	28.017219	

ID	COMPONENT	MOL %	VOL %	WT %	RELATIVE VOL%
8-1	2,5-Dimethylhexane	0.269109	0.337596	0.311277	
8-2	2,4-Dimethylhexane+Ethylcyclopentane	0.268714	0.334540	0.310799	
8-3	2,2,3-Trimethylpentane	0.737705	0.897665	0.853274	
8-4	2,2,4-Trimethylpentane	0.691784	0.870316	0.800185	
8-5	3,3-Dimethylhexane	0.621371	0.752689	0.718685	
8-6	2-Methylheptane+4-Methylheptane	0.272269	0.339785	0.314893	
8-7	2,3,4-Trimethylpentane	3.068636	3.718129	3.549468	
8-8	3-Methylheptane	0.426131	0.525887	0.492875	
8-9	1,c2-Dimethylcyclohexane	2.497433	2.683504	2.837793	
8-10	1-Methyl,1-Ethylcyclopentane	0.210251	0.230392	0.238890	
8-11	n-Octane	3.016295	3.739762	3.488870	
8-12	1,t3-Dimethylcyclohexane	0.353150	0.385716	0.401318	
8-13	1,c3-Dimethylcyclohexane	0.895418	0.999345	1.017447	
8-14	Ethylcylclohexane	2.228719	2.419708	2.532381	
8-15	Ethylbenzene	2.608434	2.436521	2.804137	
8-16	m-Xylene+p-Xylene	2.677070	2.508679	2.877883	
8-17	o-Xylene	0.839127	0.772127	0.902074	
8-18	Cyclooctane	0.469386	0.480468	0.533402	
8-19	Unidentified C8's	1.728126	2.142622	1.998908	
	Total C8 Group	**23.879128**	**26.575451**	**26.984559**	

9-1	2,2,4,4-Tetramethylpentane	0.176674	0.240129	0.229495	
9-2	2,4,4-Trimethylhexane	0.090756	0.122639	0.117916	
9-3	2,2,4-Trimethylhexane	0.289650	0.395849	0.376183	
9-4	2,2-Dimethylheptane	0.101422	0.139587	0.131752	
9-5	2,2,3-Trimethylhexane	0.141616	0.189265	0.183858	
9-6	Dimethylheptane	1.119791	1.528280	1.454342	
9-7	2,2,3,3-Tetramethylpentane	0.165712	0.214285	0.215182	
9-8	2,3,4-Trimethylhexane	0.297255	0.393850	0.386096	
9-9	3,4-Dimethylheptane	0.887320	1.186440	1.152363	
9-10	Methyloctane	0.062710	0.085987	0.081417	
9-11	1,t2,c3-Trimethylcyclohexane	0.638851	0.781584	0.816655	
9-12	1,t2,c4-Trimethylcyclohexane	0.182007	0.223032	0.232602	
9-13	1,1,2-Trimethylcyclohexane	0.566759	0.683455	0.724521	
9-14	n-Nonane	1.262888	1.719944	1.640172	
9-15	1,c2,t3-Trimethylcyclohexane	0.084930	0.101907	0.108569	
9-16	1,c2,c3-Trimethylcyclohexane	0.061130	0.073350	0.078194	
9-17	i-Propylbenzene	0.244025	0.259538	0.297045	
9-18	n-Propylcyclohexane	0.468398	0.568196	0.598745	
9-19	n-Propylbenzene	0.448351	0.476940	0.545660	
9-20	Ethyltoluene	0.530911	0.565137	0.646120	
9-21	2-Methylnonane	0.118606	0.125729	0.144309	
9-22	1,2,4-Trimethylbenzene+tert-Butylbenzene	0.602509	0.630872	0.733311	
9-23	tert-Butylcyclohexane	0.105570	0.121988	0.134899	
9-24	Unidentified C9's	1.064488	1.449740	1.382446	
	Total C9 Group	**9.712329**	**12.277723**	**12.411852**	

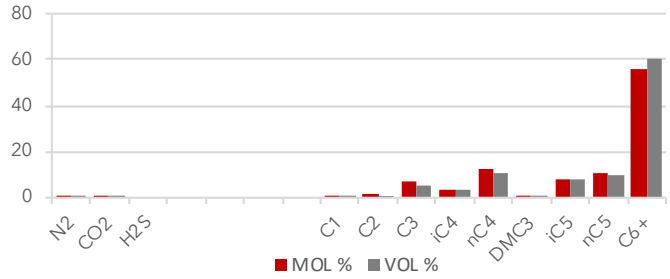
ID	COMPONENT	MOL %	VOL %	WT %	
10-1	4-Methylnonane	0.174600	0.258801	0.251597	
10-2	1,3,5-Trimethylbenzene	0.212621	0.317591	0.306284	
10-3	3-Ethyloctane	0.152084	0.217754	0.219090	
10-4	3-Methylnonane	0.117026	0.173222	0.168631	
10-5	Methylcyclooctane	0.035157	0.046303	0.049993	
10-6	n-Decane	0.456251	0.677735	0.657338	
10-7	Unidentified C10's	1.348904	2.003723	1.943465	
	Total C10 Group	**2.496643**	**3.695129**	**3.596398**	

EXTENDED LIQUID/NGL FRACTIONAL ANALYSIS

SAMPLE ID	
Customer	Durango Midstream, LLC
Operator	Durango Midstream, LLC
Location	Abo Station
Site	N/A
Sample Point/Source	#2 Inlet Scrubber
Pressure	24 psig
Temperature	N/A
Atm. Temp	82 F
Sample Date	09/25/19
Sample Time	11:15:00 AM
Sampled By	Pantechs/DCB
Analysis Date	10/02/19
ContainerID	PL1946

COMPONENT	SYM	MOL %	VOL %	WT%
Nitrogen	**N2**	0.0475	0.0142	0.0171
Carbon Dioxide	**CO2**	0.0343	0.0159	0.0194
***Hydrogen Sulfide**	**H2S**	0.0000	0.0000	0.0000
Methane	**C1**	0.1566	0.0722	0.0322
Ethane	**C2**	1.5247	1.1085	0.5885
Propane	**C3**	7.3894	5.5338	4.1828
i-Butane	**iC4**	3.4333	3.0539	2.5617
n-Butane	**nC4**	12.8124	10.9797	9.5589
neo-Pentane	**DMC3**	0.0512	0.0534	0.0474
i-Pentane	**iC5**	8.1762	8.1281	7.5725
n-Pentane	**nC5**	10.3405	10.1891	9.5767
****Hexanes+**	**C6+**	56.0339	60.8512	65.8428
	Totals:	**100.0000**	**100.0000**	**100.0000**

RELATIVE CONCENTRATION



SPECIFIC GRAVITY

Relativie Density, 60/60	0.6710

CALCULATED VAPOR PRESSURE

Absolute at 100F, psia	49.2
Equivalent Reid, psi	46.6

SCF/GALLON OF LIQUID

Ideal Gas, 14.65 psia & 60F	27.369
Real Gas, 14.65 psia & 60F	25.450

CALCULATIONS / METHODS

Pressure Base, PSIA	14.65
Temp Base, DEG F	60
Ideal/Real Gas	Real
Method(s)	ASTM D8003, GPA 2103

APPLICABLE CURRENT GPA & ASTM METHODS, PROCEDURES, AND CONSTANTS ARE USED

MOLECULAR WEIGHT

Molar Mass	77.904

REMARKS / COMMENTS / OTHER

Value of "0.000" interpreted as below detectable limit (BDL), unless otherwise stated below.

* H2S determination by GPA 2103, concentration losses possible to collection container.
** Hexanes Plus Detail on Pages 2-3

HEXANES PLUS EXTENDED FRACTIONAL ANALYSIS

SAMPLE ID

Customer	Durango Midstream, LLC
Operator	Durango Midstream, LLC
Location	Abo Station
Site	N/A
Sample Point/Source	#2 Inlet Scrubber
Sample Date	09/25/19
ContainerID	PL1946

HEXANES PLUS PHYSICAL PROPERTIES

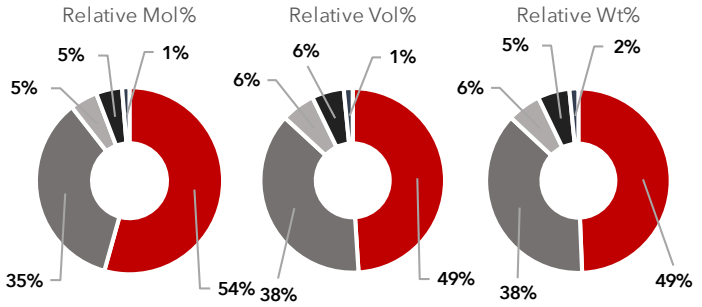
Molecular Weight	91.5420
Relative Density, 60F/60F	0.7266
Vapor Pressure, psia at 100F	3.9572

HEXANES PLUS SUMMARY

GRP	MOL %	VOL %	WT%	RELATIVE VOL%
C6	35.384943	36.443571	38.481905	
C7	14.572375	16.297897	18.283375	
C8	4.765660	6.142334	6.874168	
C9	1.054455	1.525440	1.715513	
C10	0.171549	0.285305	0.313248	
C11	0.067389	0.121882	0.135247	
C12	0.013867	0.027002	0.030387	
C13	0.002805	0.005859	0.006682	
C14	0.000857	0.001910	0.002275	
C15	0.000000	0.000000	0.000000	
C16	0.000000	0.000000	0.000000	
C17	0.000000	0.000000	0.000000	
C18	0.000000	0.000000	0.000000	
C19	0.000000	0.000000	0.000000	
C20	0.000000	0.000000	0.000000	
C21	0.000000	0.000000	0.000000	
C22	0.000000	0.000000	0.000000	
C23	0.000000	0.000000	0.000000	
C24	0.000000	0.000000	0.000000	
C24+	0.000000	0.000000	0.000000	
Totals:	56.033900	60.851200	65.842800	

BTEX GROUP SUMMARY

COMPOUND	MOL %	VOL %	WT %
Benzene	4.024151	3.061278	4.034815
Toluene	2.599175	2.366068	3.073985
Ethylbenzene	0.354238	0.371642	0.482778
m-Xylene+p-Xylene	0.334216	0.351765	0.455423
o-Xylene	0.094578	0.097744	0.128918
Totals:	7.406358	6.248497	8.175919



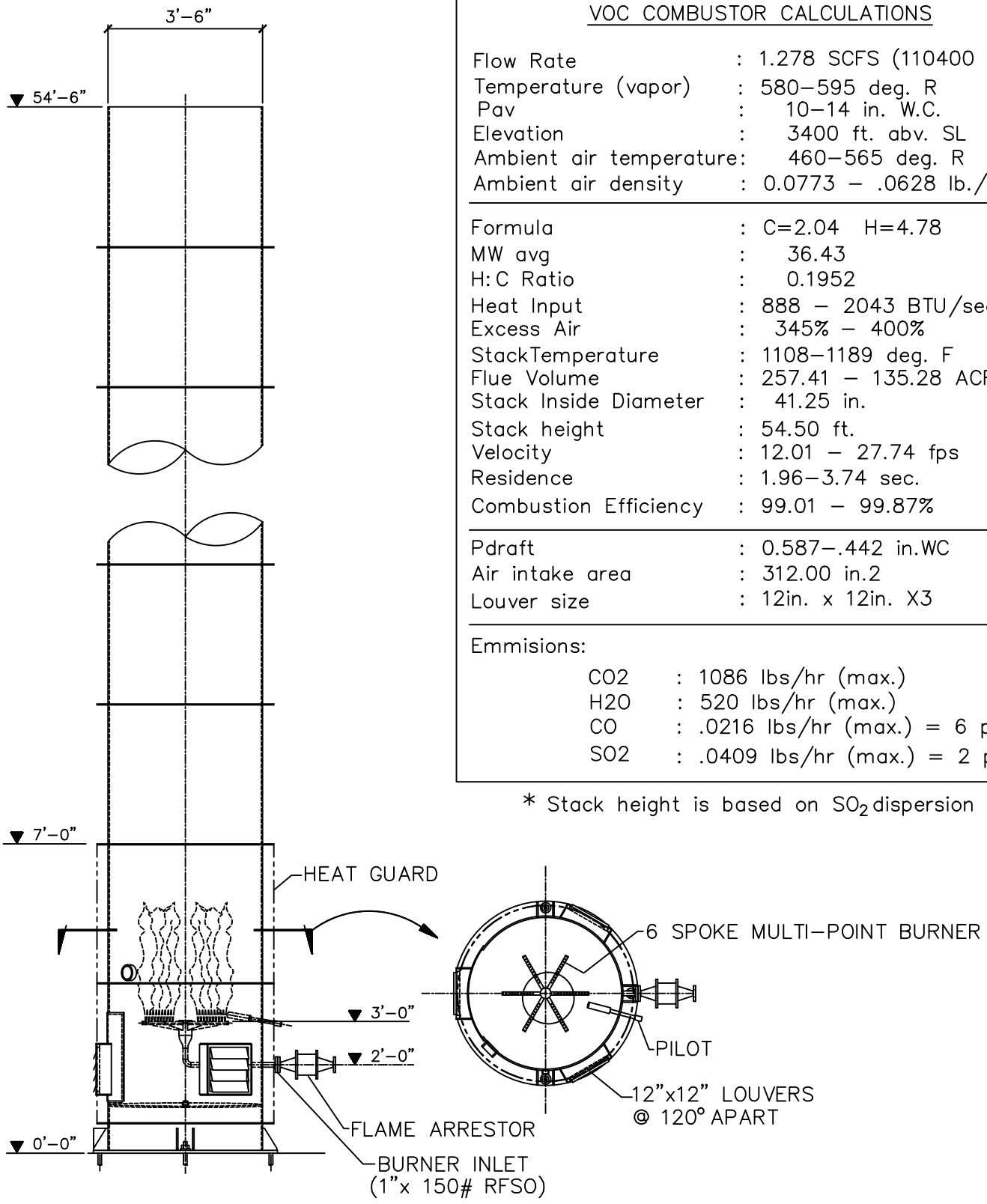
HEXANES PLUS DETAIL

ID	COMPONENT	MOL %	VOL %	WT %	RELATIVE VOL%
6-1	2,2-Dimethylbutane	0.133842	0.151904	0.148063	
6-2	2,3-Dimethylbutane+Cyclopentane	8.997201	10.027872	9.953152	
6-3	2-Methylpentane	4.184404	4.721441	4.628587	
6-4	3-Methylpentane	2.677860	2.970581	2.962126	
6-5	n-Hexane	5.953024	6.654206	6.584926	
6-6	Methylcyclopentane	3.994937	3.842640	4.315657	
6-7	Benzene	4.024151	3.061278	4.034815	
6-8	Cyclohexane	5.419524	5.013649	5.854579	
	Total C6 Group	35.384943	36.443571	38.481905	
7-1	2,2-Dimethylpentane	0.820427	1.043854	1.055270	
7-2	2,4-Dimethylpentane	0.020567	0.026211	0.026422	
7-3	3,3-Dimethylpentane	0.043549	0.053826	0.056023	
7-4	2-Methylhexane	1.076426	1.359751	1.384473	
7-5	1,1-Dimethylcyclopentane+3-Methylhexane	1.873169	2.086672	2.360829	
7-6	2,3-Dimethylpentane	0.262932	0.324472	0.338154	
7-7	1,t3-Dimethylcyclopentane	0.889140	0.998019	1.120632	
7-8	1,c3-Dimethylcyclopentane+3-Ethylpentane	0.576192	0.650183	0.726220	
7-9	1,t2-Dimethylcyclopentane+1,c2-Dimethylcyclopentan	0.295497	0.330536	0.372441	
7-10	n-Heptane	2.388673	2.995609	3.072252	
7-11	Methylcyclohexane+1,1,3-Trimethylpentane	3.562247	3.892293	4.489513	
7-12	Toluene	2.599175	2.366068	3.073985	
7-13	Cycloheptane	0.164381	0.170403	0.207161	
	Total C7 Group	14.572375	16.297897	18.283375	

ID	COMPONENT	MOL %	VOL %	WT %	RELATIVE VOL%
8-1	2,5-Dimethylhexane	0.111405	0.156969	0.163389	
8-2	2,4-Dimethylhexane+Ethylcyclopentane	0.093098	0.130178	0.136520	
8-3	2,2,3-Trimethylpentane	0.273917	0.374360	0.401667	
8-4	2,2,4-Trimethylpentane	0.239171	0.337952	0.350711	
8-5	3,3-Dimethylhexane	0.149891	0.203929	0.219768	
8-6	2-Methylheptane+4-Methylheptane	0.673341	0.943800	0.987318	
8-7	2,3,4-Trimethylpentane	0.029293	0.039864	0.042899	
8-8	3-Methylheptane	0.100732	0.139623	0.147710	
8-9	1,c2-Dimethylcyclohexane	0.631973	0.762688	0.910250	
8-10	1-Methyl,1-Ethylcyclopentane	0.046666	0.057434	0.067270	
8-11	n-Octane	0.538797	0.750300	0.789979	
8-12	1,t3-Dimethylcyclohexane	0.062948	0.077220	0.090626	
8-13	1,c3-Dimethylcyclohexane	0.091384	0.114551	0.131669	
8-14	Ethylcylclohexane	0.386569	0.471383	0.556805	
8-15	Ethylbenzene	0.354238	0.371642	0.482778	
8-16	m-Xylene+p-Xylene	0.334216	0.351765	0.455423	
8-17	o-Xylene	0.094578	0.097744	0.128918	
8-18	Cyclooctane	0.040199	0.046216	0.057889	
8-19	Unidentified C8's	0.513244	0.714716	0.752579	
	Total C8 Group	**4.765660**	**6.142334**	**6.874168**	

9-1	2,2,4,4-Tetramethylpentane	0.044718	0.068264	0.073583	
9-2	2,4,4-Trimethylhexane	0.015893	0.024121	0.026190	
9-3	2,2,4-Trimethylhexane	0.074322	0.114081	0.122356	
9-4	2,2-Dimethylheptane	0.016360	0.025289	0.026898	
9-5	2,2,3-Trimethylhexane	0.019710	0.029586	0.032448	
9-6	Dimethylheptane	0.170224	0.260931	0.280252	
9-7	2,2,3,3-Tetramethylpentane	0.020645	0.029984	0.034032	
9-8	2,3,4-Trimethylhexane	0.036849	0.054836	0.060628	
9-9	3,4-Dimethylheptane	0.093253	0.140045	0.153485	
9-10	Methyloctane	0.005453	0.008398	0.008999	
9-11	1,t2,c3-Trimethylcyclohexane	0.064117	0.088102	0.103886	
9-12	1,t2,c4-Trimethylcyclohexane	0.019944	0.027449	0.032278	
9-13	1,1,2-Trimethylcyclohexane	0.054612	0.073967	0.088461	
9-14	n-Nonane	0.106497	0.162902	0.175376	
9-15	1,c2,t3-Trimethylcyclohexane	0.007713	0.010394	0.012555	
9-16	1,c2,c3-Trimethylcyclohexane	0.005765	0.007770	0.009311	
9-17	i-Propylbenzene	0.021658	0.025872	0.033358	
9-18	n-Propylcyclohexane	0.034668	0.047234	0.056163	
9-19	n-Propylbenzene	0.035058	0.041886	0.054042	
9-20	Ethyltoluene	0.041680	0.049831	0.064254	
9-21	2-Methylnonane	0.007635	0.009090	0.011751	
9-22	1,2,4-Trimethylbenzene+tert-Butylbenzene	0.040355	0.047458	0.062261	
9-23	tert-Butylcyclohexane	0.006544	0.008493	0.010625	
9-24	Unidentified C9's	0.110782	0.169457	0.182321	
	Total C9 Group	**1.054455**	**1.525440**	**1.715513**	

ID	COMPONENT	MOL %	VOL %	WT %	
10-1	4-Methylnonane	0.013010	0.021659	0.023822	
10-2	1,3,5-Trimethylbenzene	0.015503	0.026009	0.028262	
10-3	3-Ethyloctane	0.010050	0.016162	0.018361	
10-4	3-Methylnonane	0.007479	0.012434	0.013594	
10-5	Methylcyclooctane	0.001870	0.002766	0.003313	
10-6	n-Decane	0.027657	0.046143	0.050542	
10-7	Unidentified C10's	0.095980	0.160132	0.175354	
	Total C10 Group	**0.171549**	**0.285305**	**0.313248**	



ELEVATION

VOC COMBUSTOR CALCULATIONS

Flow Rate	:	1.278 SCFS (110400 SCFD)
Temperature (vapor)	:	580–595 deg. R
Pav	:	10–14 in. W.C.
Elevation	:	3400 ft. abv. SL
Ambient air temperature	:	460–565 deg. R
Ambient air density	:	0.0773 – .0628 lb./cf
Formula	:	C=2.04 H=4.78
MW avg	:	36.43
H:C Ratio	:	0.1952
Heat Input	:	888 – 2043 BTU/sec.
Excess Air	:	345% – 400%
StackTemperature	:	1108–1189 deg. F
Flue Volume	:	257.41 – 135.28 ACFS
Stack Inside Diameter	:	41.25 in.
Stack height	:	54.50 ft.
Velocity	:	12.01 – 27.74 fps
Residence	:	1.96–3.74 sec.
Combustion Efficiency	:	99.01 – 99.87%
Pdraft	:	0.587–.442 in.WC
Air intake area	:	312.00 in.2
Louver size	:	12in. x 12in. X3

Emmisions:

CO2	:	1086 lbs/hr (max.)
H2O	:	520 lbs/hr (max.)
CO	:	.0216 lbs/hr (max.) = 6 ppm
SO2	:	.0409 lbs/hr (max.) = 2 ppm

* Stack height is based on SO_2 dispersion

REV.	DESCRIPTION	DATE

42x54.5' COMBUSTOR

DATA SHEET

13.2.2 Unpaved Roads

13.2.2.1 General

When a vehicle travels an unpaved road, the force of the wheels on the road surface causes pulverization of surface material. Particles are lifted and dropped from the rolling wheels, and the road surface is exposed to strong air currents in turbulent shear with the surface. The turbulent wake behind the vehicle continues to act on the road surface after the vehicle has passed.

The particulate emission factors presented in the previous draft version of this section of AP-42, dated October 2001, implicitly included the emissions from vehicles in the form of exhaust, brake wear, and tire wear as well as resuspended road surface material[25]. EPA included these sources in the emission factor equation for unpaved public roads (equation 1b in this section) since the field testing data used to develop the equation included both the direct emissions from vehicles and emissions from resuspension of road dust.

This version of the unpaved public road emission factor equation only estimates particulate emissions from resuspended road surface material [23, 26]. The particulate emissions from vehicle exhaust, brake wear, and tire wear are now estimated separately using EPA's MOBILE6.2 [24]. This approach eliminates the possibility of double counting emissions. Double counting results when employing the previous version of the emission factor equation in this section and MOBILE6.2 to estimate particulate emissions from vehicle traffic on unpaved public roads. It also incorporates the decrease in exhaust emissions that has occurred since the unpaved public road emission factor equation was developed. The previous version of the unpaved public road emission factor equation includes estimates of emissions from exhaust, brake wear, and tire wear based on emission rates for vehicles in the 1980 calendar year fleet. The amount of PM released from vehicle exhaust has decreased since 1980 due to lower new vehicle emission standards and changes in fuel characteristics.

13.2.2.2 Emissions Calculation And Correction Parameters[1-6]

The quantity of dust emissions from a given segment of unpaved road varies linearly with the volume of traffic. Field investigations also have shown that emissions depend on source parameters that characterize the condition of a particular road and the associated vehicle traffic. Characterization of these source parameters allow for "correction" of emission estimates to specific road and traffic conditions present on public and industrial roadways.

Dust emissions from unpaved roads have been found to vary directly with the fraction of silt (particles smaller than 75 micrometers [μm] in diameter) in the road surface materials.[1] The silt fraction is determined by measuring the proportion of loose dry surface dust that passes a 200-mesh screen, using the ASTM-C-136 method. A summary of this method is contained in Appendix C of AP-42. Table 13.2.2-1 summarizes measured silt values for industrial unpaved roads. Table 13.2.2-2 summarizes measured silt values for public unpaved roads. It should be noted that the ranges of silt content vary over two orders of magnitude. Therefore, the use of data from this table can potentially introduce considerable error. Use of this data is strongly discouraged when it is feasible to obtain locally gathered data.

Since the silt content of a rural dirt road will vary with geographic location, it should be measured for use in projecting emissions. As a conservative approximation, the silt content of the parent soil in the area can be used. Tests, however, show that road silt content is normally lower than in the surrounding parent soil, because the fines are continually removed by the vehicle traffic, leaving a higher percentage of coarse particles.

Other variables are important in addition to the silt content of the road surface material. For example, at industrial sites, where haul trucks and other heavy equipment are common, emissions are highly correlated with vehicle weight. On the other hand, there is far less variability in the weights of cars and pickup trucks that commonly travel publicly accessible unpaved roads throughout the United States. For those roads, the moisture content of the road surface material may be more dominant in determining differences in emission levels between, for example a hot, desert environment and a cool, moist location.

The PM-10 and TSP emission factors presented below are the outcomes from stepwise linear regressions of field emission test results of vehicles traveling over unpaved surfaces. Due to a limited amount of information available for PM-2.5, the expression for that particle size range has been scaled against the result for PM-10. Consequently, the quality rating for the PM-2.5 factor is lower than that for the PM-10 expression.

Table 13.2.2-1. TYPICAL SILT CONTENT VALUES OF SURFACE MATERIAL ON INDUSTRIAL UNPAVED ROADS[a]

Industry	Road Use Or Surface Material	Plant Sites	No. Of Samples	Silt Content (%)	
				Range	Mean
Copper smelting	Plant road	1	3	16 - 19	17
Iron and steel production	Plant road	19	135	0.2 - 19	6.0
Sand and gravel processing	Plant road	1	3	4.1 - 6.0	4.8
	Material storage area	1	1	-	7.1
Stone quarrying and processing	Plant road	2	10	2.4 - 16	10
	Haul road to/from pit	4	20	5.0-15	8.3
Taconite mining and processing	Service road	1	8	2.4 - 7.1	4.3
	Haul road to/from pit	1	12	3.9 - 9.7	5.8
Western surface coal mining	Haul road to/from pit	3	21	2.8 - 18	8.4
	Plant road	2	2	4.9 - 5.3	5.1
	Scraper route	3	10	7.2 - 25	17
	Haul road (freshly graded)	2	5	18 - 29	24
Construction sites	Scraper routes	7	20	0.56-23	8.5
Lumber sawmills	Log yards	2	2	4.8-12	8.4
Municipal solid waste landfills	Disposal routes	4	20	2.2 - 21	6.4

[a]References 1,5-15.

The following empirical expressions may be used to estimate the quantity in pounds (lb) of size-specific particulate emissions from an unpaved road, per vehicle mile traveled (VMT):

For vehicles traveling on unpaved surfaces at industrial sites, emissions are estimated from the following equation:

$$E = k\,(s/12)^a (W/3)^b \quad (1a)$$

and, for vehicles traveling on publicly accessible roads, dominated by light duty vehicles, emissions may be estimated from the following:

$$E = \frac{k\,(s/12)^a (S/30)^d}{(M/0.5)^c} - C \quad (1b)$$

where k, a, b, c and d are empirical constants (Reference 6) given below and

E = size-specific emission factor (lb/VMT)
s = surface material silt content (%)
W = mean vehicle weight (tons)
M = surface material moisture content (%)
S = mean vehicle speed (mph)
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

The source characteristics s, W and M are referred to as correction parameters for adjusting the emission estimates to local conditions. The metric conversion from lb/VMT to grams (g) per vehicle kilometer traveled (VKT) is as follows:

1 lb/VMT = 281.9 g/VKT

The constants for Equations 1a and 1b based on the stated aerodynamic particle sizes are shown in Tables 13.2.2-2 and 13.2.2-4. The PM-2.5 particle size multipliers (k-factors) are taken from Reference 27.

Table 13.2.2-2. CONSTANTS FOR EQUATIONS 1a AND 1b

Constant	Industrial Roads (Equation 1a)			Public Roads (Equation 1b)		
	PM-2.5	PM-10	PM-30*	PM-2.5	PM-10	PM-30*
k (lb/VMT)	0.15	1.5	4.9	0.18	1.8	6.0
a	0.9	0.9	0.7	1	1	1
b	0.45	0.45	0.45	-	-	-
c	-	-	-	0.2	0.2	0.3
d	-	-	-	0.5	0.5	0.3
Quality Rating	B	B	B	B	B	B

*Assumed equivalent to total suspended particulate matter (TSP)
"-" = not used in the emission factor equation

Table 13.2.2-2 also contains the quality ratings for the various size-specific versions of Equation 1a and 1b. The equation retains the assigned quality rating, if applied within the ranges of source conditions, shown in Table 13.2.2-3, that were tested in developing the equation:

Table 13.2.2-3. RANGE OF SOURCE CONDITIONS USED IN DEVELOPING EQUATION 1a AND 1b

Emission Factor	Surface Silt Content, %	Mean Vehicle Weight		Mean Vehicle Speed		Mean No. of Wheels	Surface Moisture Content, %
		Mg	ton	km/hr	mph		
Industrial Roads (Equation 1a)	1.8-25.2	1.8-260	2-290	8-69	5-43	4-17[a]	0.03-13
Public Roads (Equation 1b)	1.8-35	1.4-2.7	1.5-3	16-88	10-55	4-4.8	0.03-13

[a] See discussion in text.

As noted earlier, the models presented as Equations 1a and 1b were developed from tests of traffic on unpaved surfaces. Unpaved roads have a hard, generally nonporous surface that usually dries quickly after a rainfall or watering, because of traffic-enhanced natural evaporation. (Factors influencing how fast a road dries are discussed in Section 13.2.2.3, below.) The quality ratings given above pertain to the mid-range of the measured source conditions for the equation. A higher mean vehicle weight and a higher than normal traffic rate may be justified when performing a worst-case analysis of emissions from unpaved roads.

The emission factors for the exhaust, brake wear and tire wear of a 1980's vehicle fleet (*C*) was obtained from EPA's MOBILE6.2 model [23]. The emission factor also varies with aerodynamic size range

as shown in Table 13.2.2-4

Table 13.2.2-4. EMISSION FACTOR FOR 1980'S VEHICLE FLEET EXHAUST, BRAKE WEAR AND TIRE WEAR

Particle Size Range[a]	*C*, Emission Factor for Exhaust, Brake Wear and Tire Wear[b] lb/VMT
$PM_{2.5}$	0.00036
PM_{10}	0.00047
PM_{30}[c]	0.00047

[a] Refers to airborne particulate matter (PM-x) with an aerodynamic diameter equal to or less than x micrometers.
[b] Units shown are pounds per vehicle mile traveled (lb/VMT).
[c] PM-30 is sometimes termed "suspendable particulate" (SP) and is often used as a surrogate for TSP.

It is important to note that the vehicle-related source conditions refer to the average weight, speed, and number of wheels for all vehicles traveling the road. For example, if 98 percent of traffic on the road are 2-ton cars and trucks while the remaining 2 percent consists of 20-ton trucks, then the mean weight is 2.4 tons. More specifically, Equations 1a and 1b are *not* intended to be used to calculate a separate emission factor for each vehicle class within a mix of traffic on a given unpaved road. That is, in the example, one should *not* determine one factor for the 2-ton vehicles and a second factor for the 20-ton trucks. Instead, only one emission factor should be calculated that represents the "fleet" average of 2.4 tons for all vehicles traveling the road.

Moreover, to retain the quality ratings when addressing a group of unpaved roads, it is necessary that reliable correction parameter values be determined for the road in question. The field and laboratory procedures for determining road surface silt and moisture contents are given in AP-42 Appendices C.1 and C.2. Vehicle-related parameters should be developed by recording visual observations of traffic. In some cases, vehicle parameters for industrial unpaved roads can be determined by reviewing maintenance records or other information sources at the facility.

In the event that site-specific values for correction parameters cannot be obtained, then default values may be used.In the absence of site-specific silt content information, an appropriate mean value from Table 13.2.2-1 may be used as a default value, but the quality rating of the equation is reduced by two letters. Because of significant differences found between different types of road surfaces and between different areas of the country, use of the default moisture content value of 0.5 percent in Equation 1b is discouraged. The quality rating should be downgraded two letters when the default moisture content value is used. (It is assumed that readers addressing industrial roads have access to the information needed to develop average vehicle information in Equation 1a for their facility.)

The effect of routine watering to control emissions from unpaved roads is discussed below in Section 13.2.2.3, “Controls”. However, all roads are subject to some natural mitigation because of rainfall and other precipitation. The Equation 1a and 1b emission factors can be extrapolated to annual

average uncontrolled conditions (but including natural mitigation) under the simplifying assumption that annual average emissions are inversely proportional to the number of days with measurable (more than 0.254 mm [0.01 inch]) precipitation:

$$E_{ext} = E\ [(365 - P)/365] \quad (2)$$

where:

E_{ext} = annual size-specific emission factor extrapolated for natural mitigation, lb/VMT

E = emission factor from Equation 1a or 1b

P = number of days in a year with at least 0.254 mm (0.01 in) of precipitation (see below)

Figure 13.2.2-1 gives the geographical distribution for the mean annual number of "wet" days for the United States.

Equation 2 provides an estimate that accounts for precipitation on an annual average basis for the purpose of inventorying emissions. It should be noted that Equation 2 does not account for differences in the temporal distributions of the rain events, the quantity of rain during any event, or the potential for the rain to evaporate from the road surface. In the event that a finer temporal and spatial resolution is desired for inventories of public unpaved roads, estimates can be based on a more complex set of assumptions. These assumptions include:

1. The moisture content of the road surface material is increased in proportion to the quantity of water added;
2. The moisture content of the road surface material is reduced in proportion to the Class A pan evaporation rate;
3. The moisture content of the road surface material is reduced in proportion to the traffic volume; and
4. The moisture content of the road surface material varies between the extremes observed in the area. The CHIEF Web site (http://www.epa.gov/ttn/chief/ap42/ch13/related/c13s02-2.html) has a file which contains a spreadsheet program for calculating emission factors which are temporally and spatially resolved. Information required for use of the spreadsheet program includes monthly Class A pan evaporation values, hourly meteorological data for precipitation, humidity and snow cover, vehicle traffic information, and road surface material information.

It is emphasized that the simple assumption underlying Equation 2 and the more complex set of assumptions underlying the use of the procedure which produces a finer temporal and spatial resolution have not been verified in any rigorous manner. For this reason, the quality ratings for either approach should be downgraded one letter from the rating that would be applied to Equation 1.

13.2.2.3 Controls[18-22]

A wide variety of options exist to control emissions from unpaved roads. Options fall into the following three groupings:

1. Vehicle restrictions that limit the speed, weight or number of vehicles on the road;

2. Surface improvement, by measures such as (a) paving or (b) adding gravel or slag to a dirt road; and
3. Surface treatment, such as watering or treatment with chemical dust suppressants.

Available control options span broad ranges in terms of cost, efficiency, and applicability. For example, traffic controls provide moderate emission reductions (often at little cost) but are difficult to enforce. Although paving is highly effective, its high initial cost is often prohibitive. Furthermore, paving is not feasible for industrial roads subject to very heavy vehicles and/or spillage of material in transport. Watering and chemical suppressants, on the other hand, are potentially applicable to most industrial roads at moderate to low costs. However, these require frequent reapplication to maintain an acceptable level of control. Chemical suppressants are generally more cost-effective than water but not in cases of temporary roads (which are common at mines, landfills, and construction sites). In summary, then, one needs to consider not only the type and volume of traffic on the road but also how long the road will be in service when developing control plans.

Vehicle restrictions. These measures seek to limit the amount and type of traffic present on the road or to lower the mean vehicle speed. For example, many industrial plants have restricted employees from driving on plant property and have instead instituted bussing programs. This eliminates emissions due to employees traveling to/from their worksites. Although the heavier average vehicle weight of the busses increases the base emission factor, the decrease in vehicle-miles-traveled results in a lower overall emission rate.

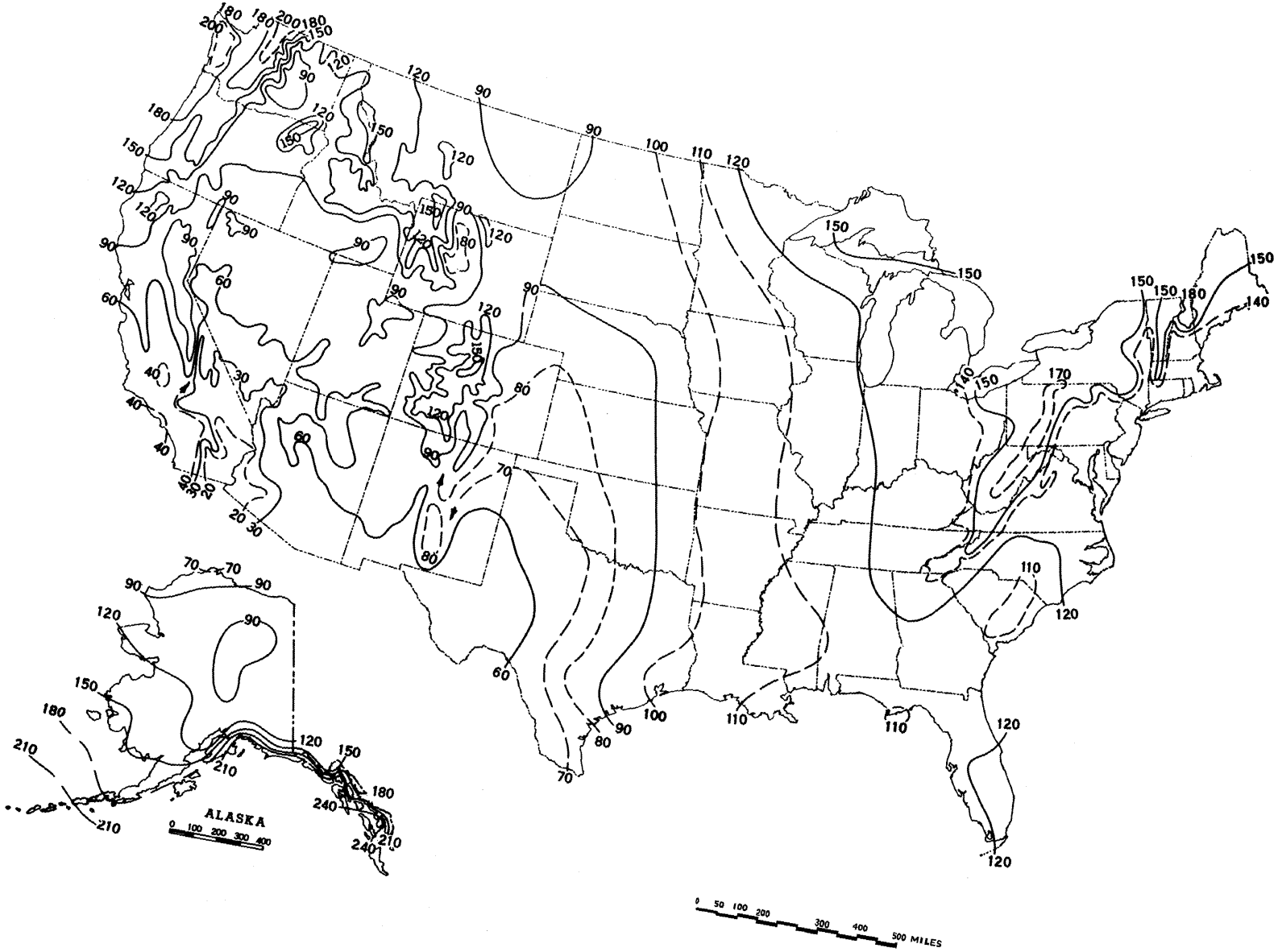


Figure 13.2.2-1. Mean number of days with 0.01 inch or more of precipitation in United States.

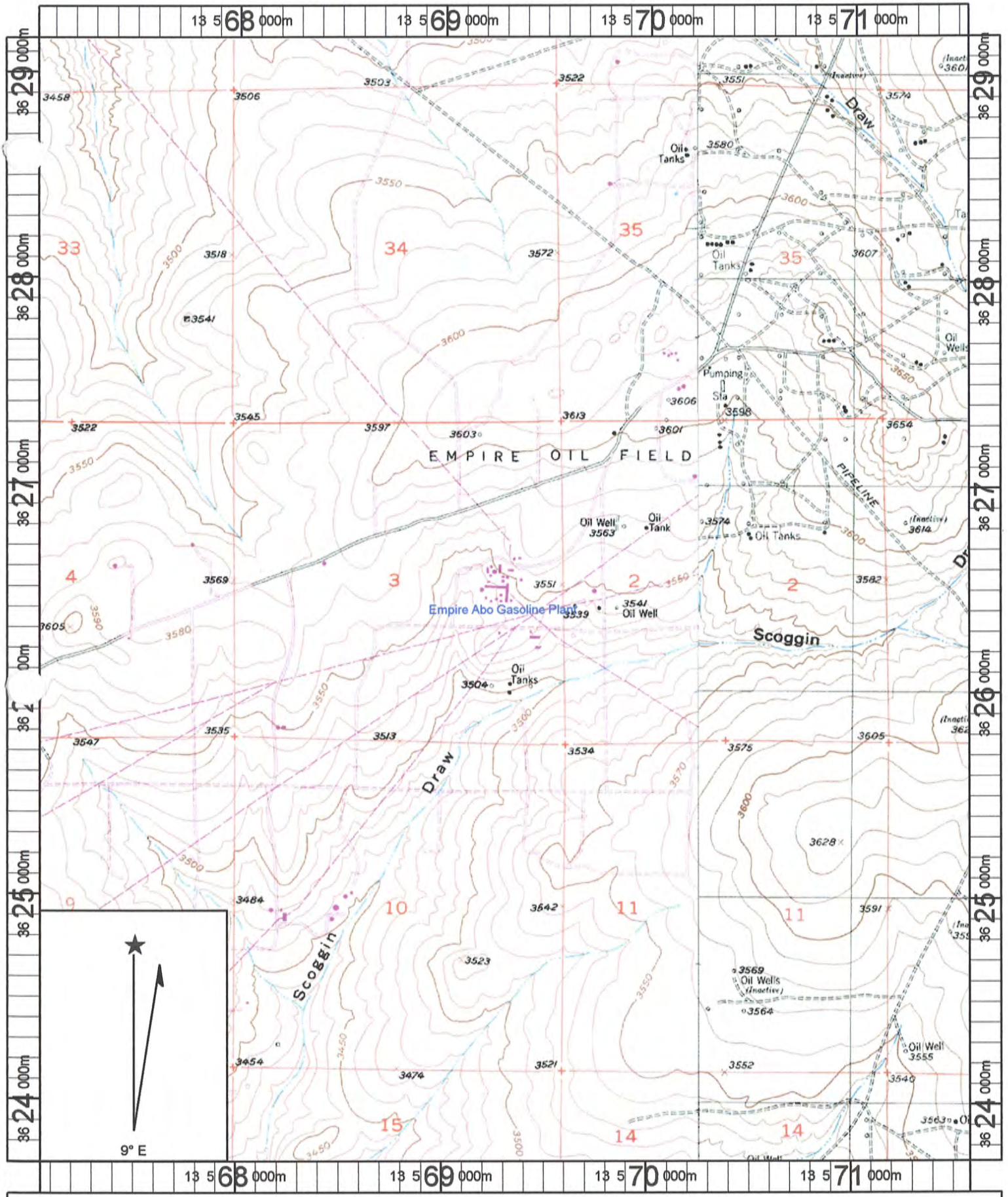
Section 8

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 topographic map is attached.



Name: SPRING LAKE
Date: 6/7/2004
Scale: 1 inch equals 2000 feet

Location: 13 0569296 E 3626448 N
Caption: Attachment E

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.

7014 2870 0001 4719 4027

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

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

CARLSBAD, NM 88220

OFFICIAL USE

Postage	$3.55
Certified Fee	$0.00
Return Receipt Fee (Endorsement Required)	$0.00
Restricted Delivery Fee (Endorsement Required)	$0.00
	$0.00
Total Postage & Fees	$0.55
	$4.10

ALBUQUERQUE, NM 87109 MAR - 4 2020 USPS
Postmark Here
0109 08
03/04/2020

Sent To: Eddy County Manager
Street & Apt. No., or PO Box No.: 101 W. Greene St
City, State, ZIP+4: Carlsbad, NM 88220

PS Form 3800, July 2014 — See Reverse for Instructions

7014 2870 0001 4722 7091

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

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

ARTESIA, NM 88210

OFFICIAL USE

Postage	$3.55
Certified Fee	$0.00
Return Receipt Fee (Endorsement Required)	$0.00
Restricted Delivery Fee (Endorsement Required)	$0.00
	$0.00
Total Postage & Fees	$0.55
	$4.10

ALBUQUERQUE, NM 87109 MAR - 4 2020
Postmark Here
0109 08
03/04/2020

Sent To: Artesia City Manager
Street & Apt. No., or PO Box No.: 511 W. Texas Avenue
City, State, ZIP+4: Artesia, NM 88210

PS Form 3800, July 2014 — See Reverse for Instructions

7014 2870 0001 4722 7107

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

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

SANTA FE, NM 87508

OFFICIAL USE

Postage	$3.55
Certified Fee	$0.00
Return Receipt Fee (Endorsement Required)	$0.00
Restricted Delivery Fee (Endorsement Required)	$0.00
	$0.00
Total Postage & Fees	$0.55
	$4.10

ALBUQUERQUE, NM 87109 MAR - 4 2020
Postmark Here
0109 08
03/04/2020

Sent To: BUREAU OF LAND MANAGEMENT
Street & Apt. No., or PO Box No.: 301 DINOSAUR TRAIL
City, State, ZIP+4: SANTA FE, NM 87501

PS Form 3800, July 2014 — See Reverse for Instructions

7014 2870 0001 4722 7114

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

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

SANTA FE, NM 87501

OFFICIAL USE

Postage	$3.55
Certified Fee	$0.00
Return Receipt Fee (Endorsement Required)	$0.00
Restricted Delivery Fee (Endorsement Required)	$0.00
	$0.00
Total Postage & Fees	$0.55
	$4.10

ALBUQUERQUE, NM 87109 MAR - 4 2020
Postmark Here
0109 08
03/04/2020

Sent To: STATE OF NEW MEXICO
Street & Apt. No., or PO Box No.: 310 OLD SANTA FE TRAIL
City, State, ZIP+4: SANTA FE, NM 87504

PS Form 3800, July 2014 — See Reverse for Instructions

General Posting of Notices – Certification

I, Mary I. Taylor, the undersigned, certify that on February 3, 2020, posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in the city of Artesia of Eddy County, State of New Mexico on the following dates:

1. Facility entrance, 2/03/2020
2. Chamber of Commerce, 2/03/2020
3. Post Office, 2/03/2020
4. Public Library, 2/03/2020

Signed this 03 day of February, 2020,

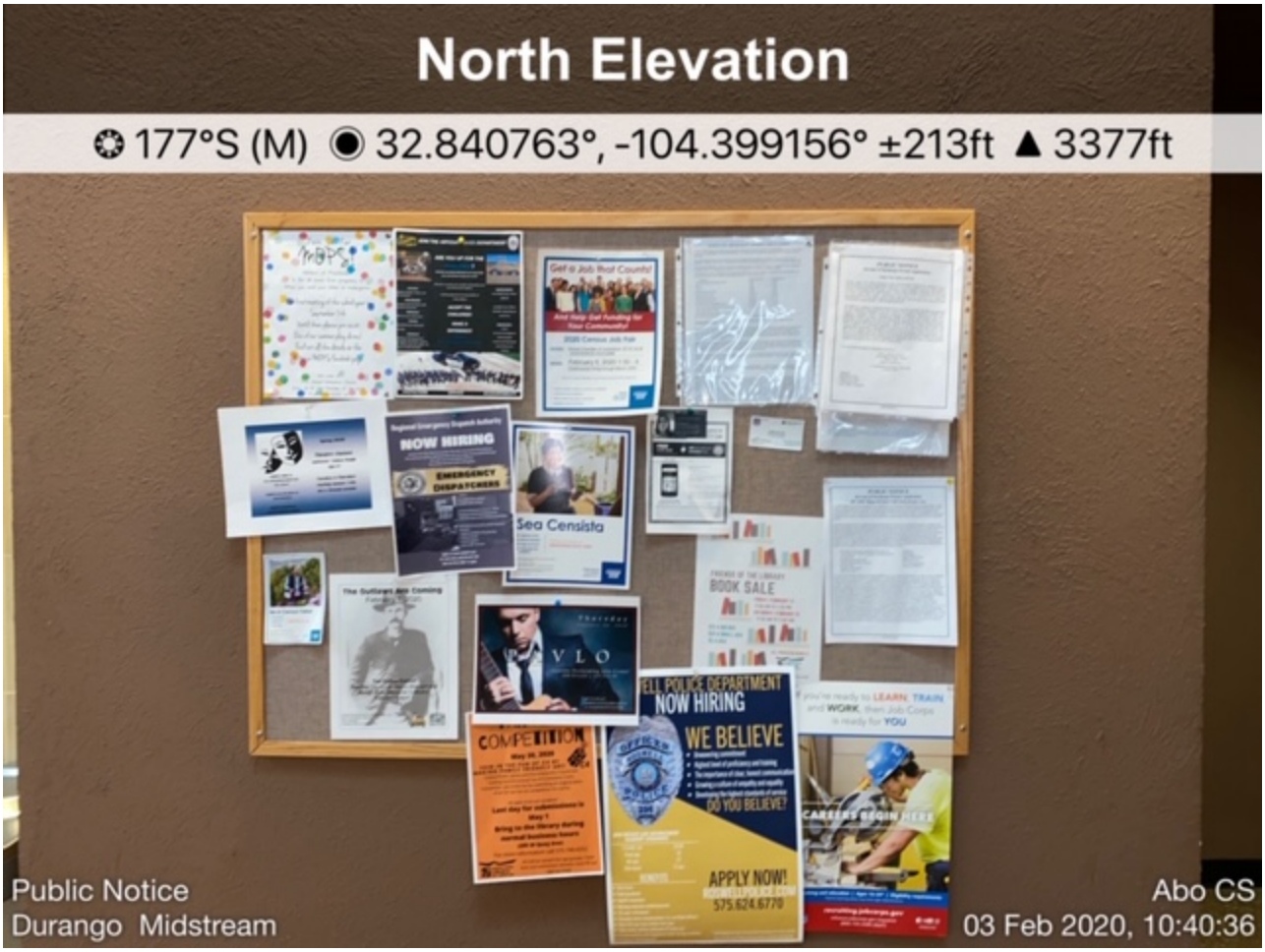
Signature

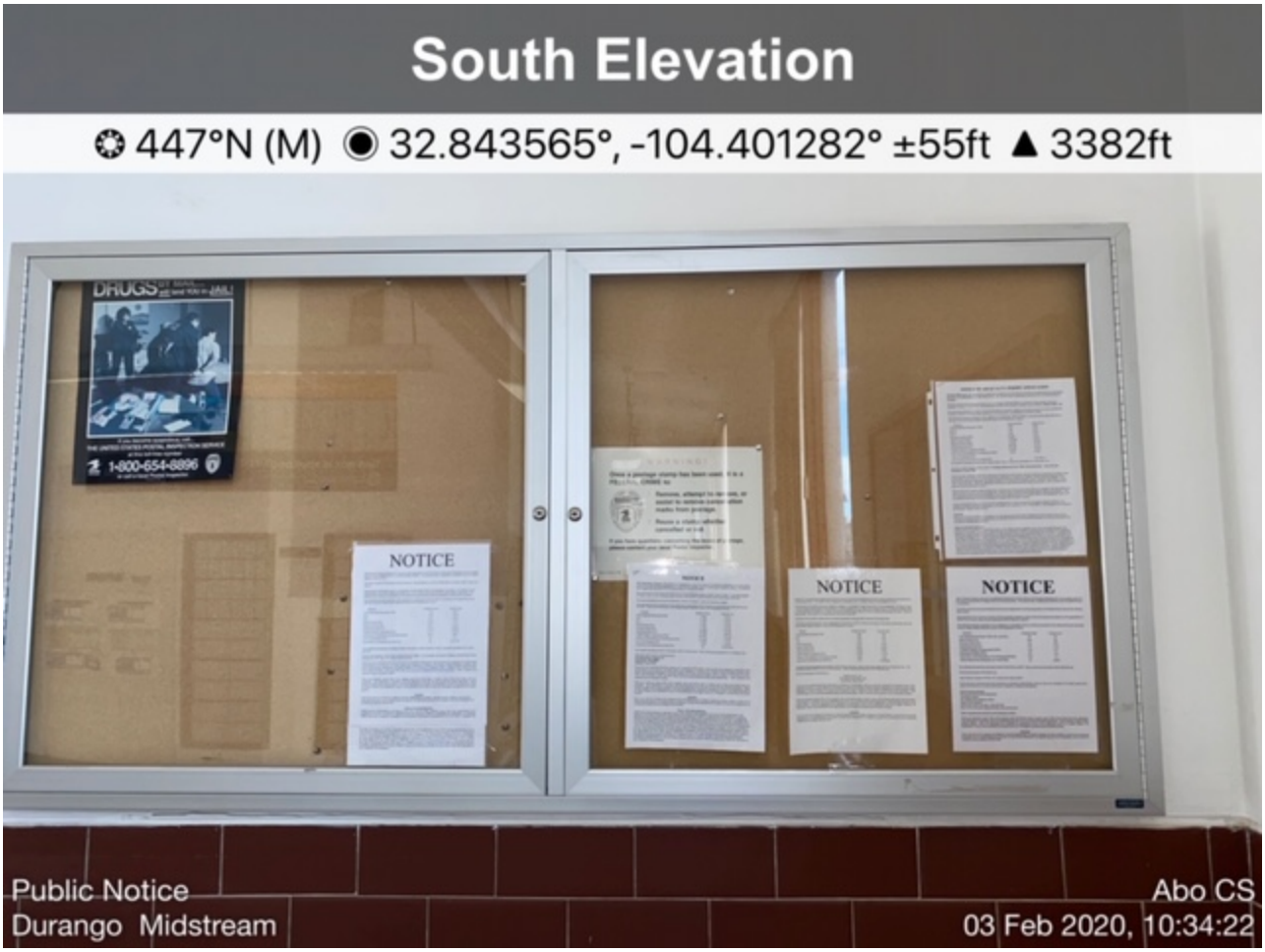
2/03/2020
Date

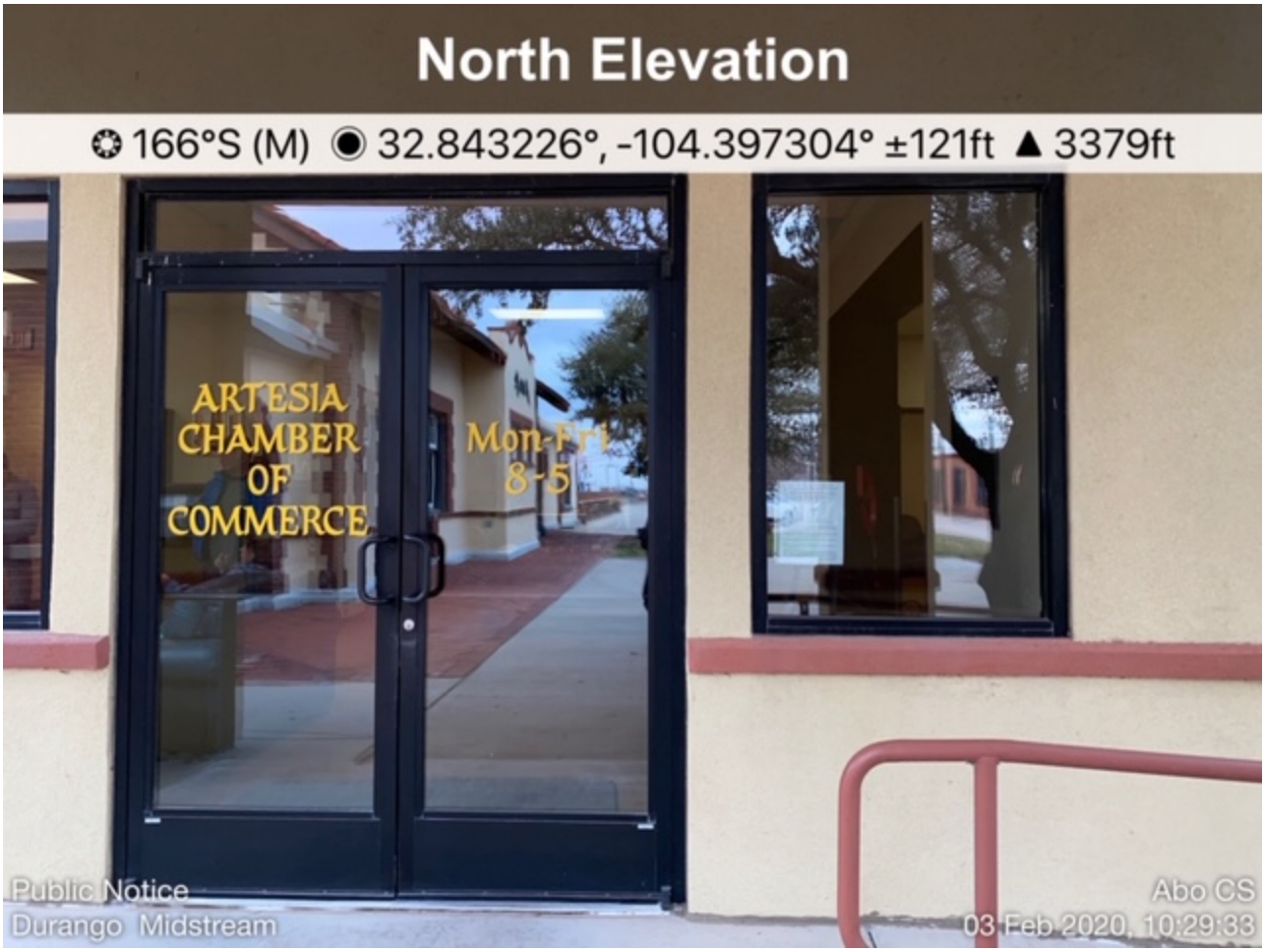
Mary I Taylor
Printed Name

Environmental Manager at Durango Midstream, LLC
Title {APPLICANT OR RELATIONSHIP TO APPLICANT

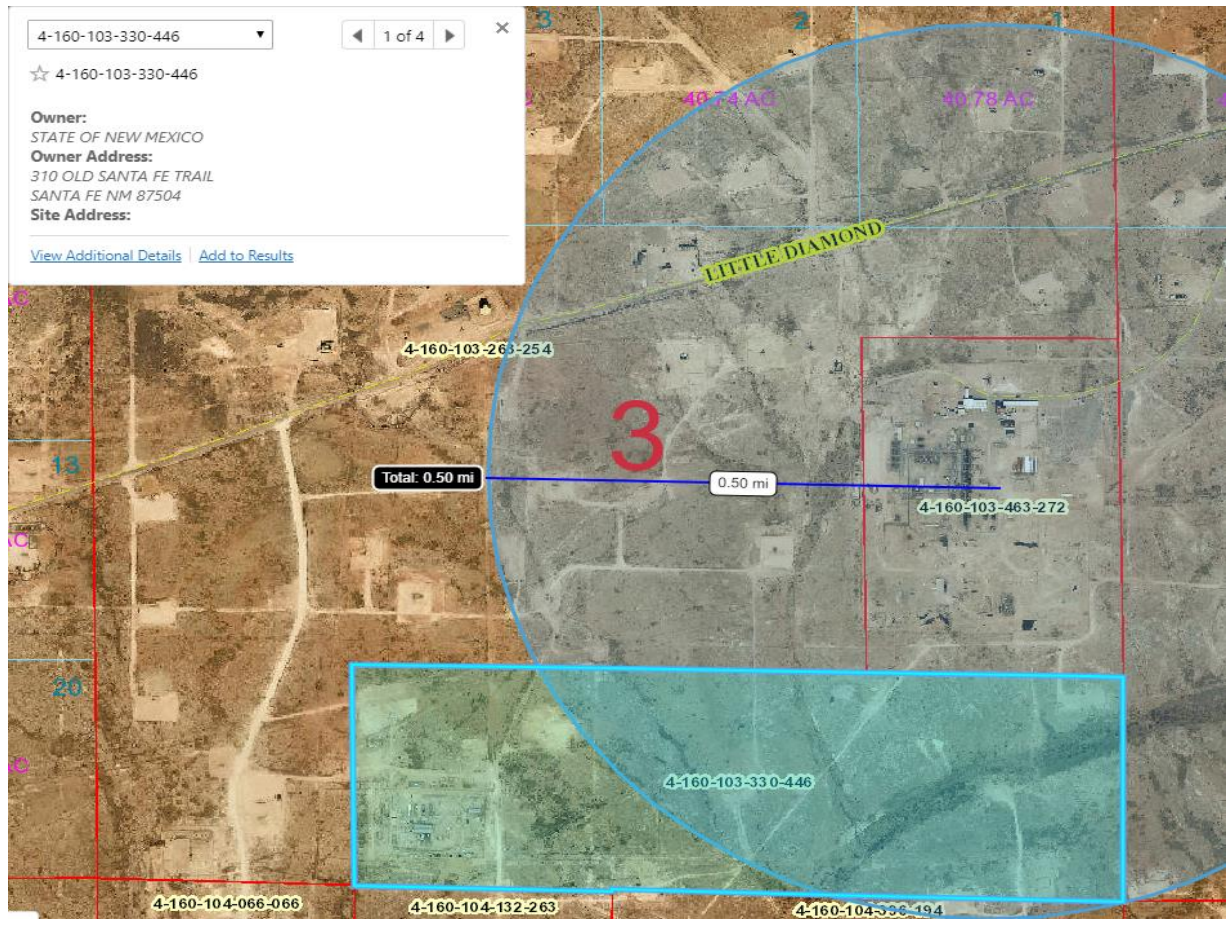

North Elevation
171°S (M) 32.776981°, -104.259828° ±22ft 3562ft
IF YOU NEED
ASSIST EASE
PU ON.
S
ASISTENCIA POR FAVOR
APRENSE EL BOTON.
GATE
AUTOMATICALLY
CLOSES IN
60 SECONDS
Public Notice
Durango Midstream
Abo CS
03 Feb 2020, 11:18:13


North Elevation
177°S (M) 32.840763°, -104.399156° ±213ft 3377ft
NOW HIRING
EMERGENCY DISPATCHERS
Sea Censista
BOOK SALE
NOW HIRING
WE BELIEVE
DO YOU BELIEVE?
APPLY NOW!
575.624.6770
Public Notice
Durango Midstream
Abo CS
03 Feb 2020, 10:40:36

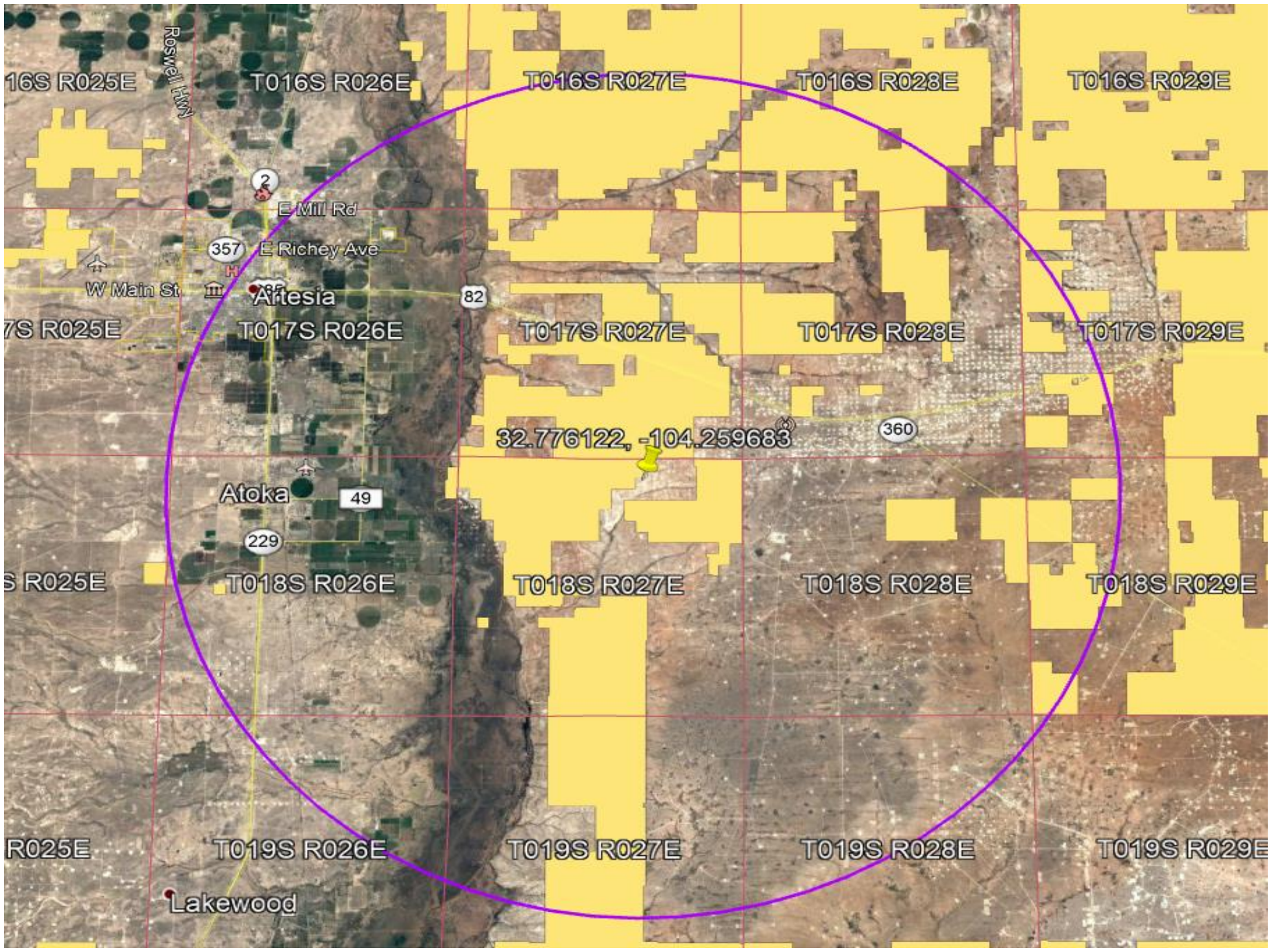

South Elevation
447°N (M) 32.843565°, -104.401282° ±55ft 3382ft
DRUGS
1-800-654-8896
NOTICE
NOTICE
NOTICE
Public Notice
Durango Midstream
Abo CS
03 Feb 2020, 10:34:22



Sent from my iPhone


4-160-103-330-446
1 of 4
4-160-103-330-446
Owner:
STATE OF NEW MEXICO
Owner Address:
310 OLD SANTA FE TRAIL
SANTA FE NM 87504
Site Address:
View Additional Details | Add to Results
LITTLE DIAMOND
4-160-103-263-254
Total: 0.50 mi
0.50 mi
4-160-103-463-272
4-160-103-330-446
4-160-104-066-066
4-160-104-132-263


4-160-103-263-254
1 of 3
4-160-103-263-254
Owner:
BUREAU OF LAND MANAGEMENT
Owner Address:
00000
Site Address:
View Additional Details
Add to Results
40.74 AC
40.78 AC
LITTLE DIAMOND
4-160-103-263-254
3
Total: 0.50 mi
0.50 mi
4-160-103-463-272


16S R025E
T016S R026E
T016S R027E
T016S R028E
T016S R029E
Roswell Hwy
2
E Mill Rd
357
E Richey Ave
W Main St
Artesia
82
7S R025E
T017S R026E
T017S R027E
T017S R028E
T017S R029E
32.776122, -104.259683
360
Atoka
49
229
S R025E
T018S R026E
T018S R027E
T018S R028E
T018S R029E
R025E
T019S R026E
T019S R027E
T019S R028E
T019S R029E
Lakewood

March 4, 2020

SENT VIA CERTIFIED MAIL

Bureau of Land Management,

Durango Midstream, LLC announces its application submittal to the New Mexico Environment Department for an air quality permit for the **modification** of its **Gas Plant** facility. The expected date of application submittal to the Air Quality Bureau is **3/6/2020.**

The exact location for the proposed facility known as, **Empire Abo Gas Plant**, is at latitude 32 deg**,** 46 min, 34 sec and longitude -104 deg**,** 15 min, 34 sec. The approximate location of this facility is **10** miles east of Artesia in **Eddy County**, NM.

The proposed modification consists of removal and addition of heaters, addition of an amine unit and AGI well, modification of engines, addition of storage tanks, addition of a TEG dehydrator, and addition of a thermal oxidizer.
The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	3 pph	10 tpy
PM 10	3 pph	10 tpy
PM 2.5	3 pph	10 tpy
Hydrogen Sulfide (H2S)	81 pph	15 tpy
Sulfur Dioxide (SO2)	7548 pph	249 tpy
Nitrogen Oxides (NOx)	507 pph	244 tpy
Carbon Monoxide (CO)	907 pph	153 tpy
Volatile Organic Compounds (VOC)	907 pph	146 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	36 pph	25 tpy
Toxic Air Pollutant (TAP)	-	-
Green House Gas Emissions as Total CO2e	n/a	101,389 tpy

The standard operating schedule of the facility will be 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: **Durango Midstream, LLC, 2002 Timberloch Place – Suite 110, The Woodlands, Texas 77380**

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.

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

Notice of Non-Discrimination
NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or

if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Kristine Yurdin, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at https://www.env.nm.gov/non-employee-discrimination-complaint-page/ to learn how and where to file a complaint of discrimination.

March 4, 2020

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1. Facility entrance, 2/03/2020
2. Chamber of Commerce, 2/03/2020
3. Post Office, 2/03/2020
4. Public Library, 2/03/2020

Signed this 03 day of February, 2020,

Signature

2/03/2020
Date

Mary I Taylor
Printed Name

Environmental Manager at Durango Midstream, LLC
Title {APPLICANT OR RELATIONSHIP TO APPLICANT

NOTICE OF AIR QUALITY PERMIT APPLICATION

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Carbon Monoxide (CO)	907 pph	153 tpy
Volatile Organic Compounds (VOC)	907 pph	146 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	36 pph	25 tpy
Toxic Air Pollutant (TAP)	-	-
Green House Gas Emissions as Total CO2e	n/a	101,389 tpy

The standard operating schedule of the facility will be 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: **Durango Midstream, LLC, 2002 Timberloch Place – Suite 110, The Woodlands, Texas 77380**

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.

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

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

(505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at https://www.env.nm.gov/non-employee-discrimination-complaint-page/ to learn how and where to file a complaint of discrimination.

Section 9

Durango - Empire Abo

PROPERTY OWNERS

PROPERTY OWNERS			
Account	OWNER NAME	ADDRESS	CITYSTATEZIP
	BUREAU OF LAND MANAGEMENT	301 DINOSAUR TRAIL	SANTA FE, NM 87501
	STATE OF NEW MEXICO	310 OLD SANTA FE TRAIL	SANTA FE, NM 87504

Section 9

Durango

TRIBES, COUNTIES & MUNICIPALITIES WITHIN 10 MILE RADIUS

TRIBES					
COUNTIES					
EDDY COUNTY	COUNTY MANAGER	101 W GREENE STREET	CARLSBAD	NM	88220
MUNICIPALITIES					
ARTESIA	CITY MANAGER	511 W TEXAS AVENUE	ARTESIA	NM	88210

Submittal of Public Service Announcement – Certification

I, Naudiea Davis, the undersigned, certify that on **3/4/2020**, submitted a public service announcement to **KATK 92.1 FM** that serves the City of **Carlsbad**, **Eddy** County, New Mexico, in which the source is or is proposed to be located and that **KATK 92.1 FM did not respond.**

Signed this 4th day of March, 2020.

Naudiea Davis
Signature

3/4/2020
Date

Naudiea Davis
Printed Name

Consultant
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

Mike Celente

From: Naudiea Davis
Sent: Wednesday, March 4, 2020 2:28 PM
To: debbie@carlsbadradio.com
Cc: Jake Zenker
Subject: PSA Request

Dear Radio 92.1 KATK,

Per New Mexico Administrative Code 20.2.72.203.B NMAC and according to the Guidance for Public Notice for Air Quality Permit Applications - **(5) Notifications: Submittal of Public Service Announcement (PSA):** A public service announcement required for permits or significant permit revisions must be submitted to at least one radio or television station, which services the municipality, or county which the facility is or will be located. **Therefore, based on the above, we respectfully ask you to air the information shown below as a Public Service Announcement**.

The public service announcement request must contain the following information about the facility or proposed facility (20.2.72.203.D NMAC).

a) The name: **Durango Midstream LLC, Empire Abo Compressor Station** approximate location of this facility is **10** miles east of Artesia in **Eddy County**, and type of business: **Compressor Station.**
b) The name of the principal owner or operator: **Durango Midstream LLC**. – owner & operator.
c) The type of process or change for which the permit is sought: **NSR Permit Modification.**
d) Locations where the notices have been posted**:**
    a. **Empire Abo Compressor Station – Facility Entrance**
    b. **Artesia Chamber of Commerce – 107 N 1st Street**
    c. **Artesia Post Office - 11721 183rd Street**
    d. **Artesia Public Library – 205 W. Quay Avenue**
e) The Department's address or telephone number to which comments may be directed: **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.**

Best Regards,
Naudiea

Naudiea Davis | Environmental Intern

Trinity Consultants
9400 Holly Ave NE, Building 3, Suite 300 | Albuquerque, NM 87122

Office: **505-266-6611 x112**
Email: ndavis@trinityconsultants.com

Affidavit of Publication

No. 25372

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

Legal 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	February 6, 2020
Second Publication	
Third Publication	
Fourth Publication	
Fifth Publication	
Sixth Publication	
Seventh Publication	

Subscribed and sworn before me this 6th day of February 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

Durango Midstream, LLC announces its application submittal to the New Mexico Environment Department for an air quality permit for the **modification** of its **Gas Plant** facility. The expected date of application submittal to the Air Quality Bureau is 2/7/2020.

The exact location for the proposed facility known as, **Empire Abo Gas Plant**, is at latitude 32 deg, 46 min, 34 sec and longitude -104 deg, 15 min, 34 sec. The approximate location of this facility is 10 miles east of Artesia in **Eddy County**, NM.

The proposed modification consists of removal and addition of heaters, addition of an amine unit and AGI well, modification of engines, addition of storage tanks, addition of a TEG dehydrator, and addition of a thermal oxidizer.
The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	3 pph	10 tpy
PM 10	3 pph	10 tpy
PM 2.5	3 pph	10 tpy
Hydrogen Sulfide (H2S)	81 pph	15 tpy
Sulfur Dioxide (SO2)	7548 pph	249 tpy
Nitrogen Oxides (NOx)	507 pph	244 tpy
Carbon Monoxide (CO)	907 pph	153 tpy
Volatile Organic Compounds (VOC)	907 pph	146 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	36 pph	25 tpy
Toxic Air Pollutant (TAP)	-	-
Green House Gas E missions as Total CO2e	n/a	101,389 tpy

The standard operating schedule of the facility will be 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: **Durango Midstream, LLC, 2002 Timberloch Place – Suite 110, The Woodlands, Texas 77380**

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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Affidavit of Publication

No.

State of New Mexico Publisher

County of Eddy:

Danny Scott

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Display Ad

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1 Consecutive weeks/day on the same day as follows:

First Publication	February 6, 2020
Second Publication	
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Fourth Publication	
Fifth Publication	
Sixth Publication	
Seventh Publication	

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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:

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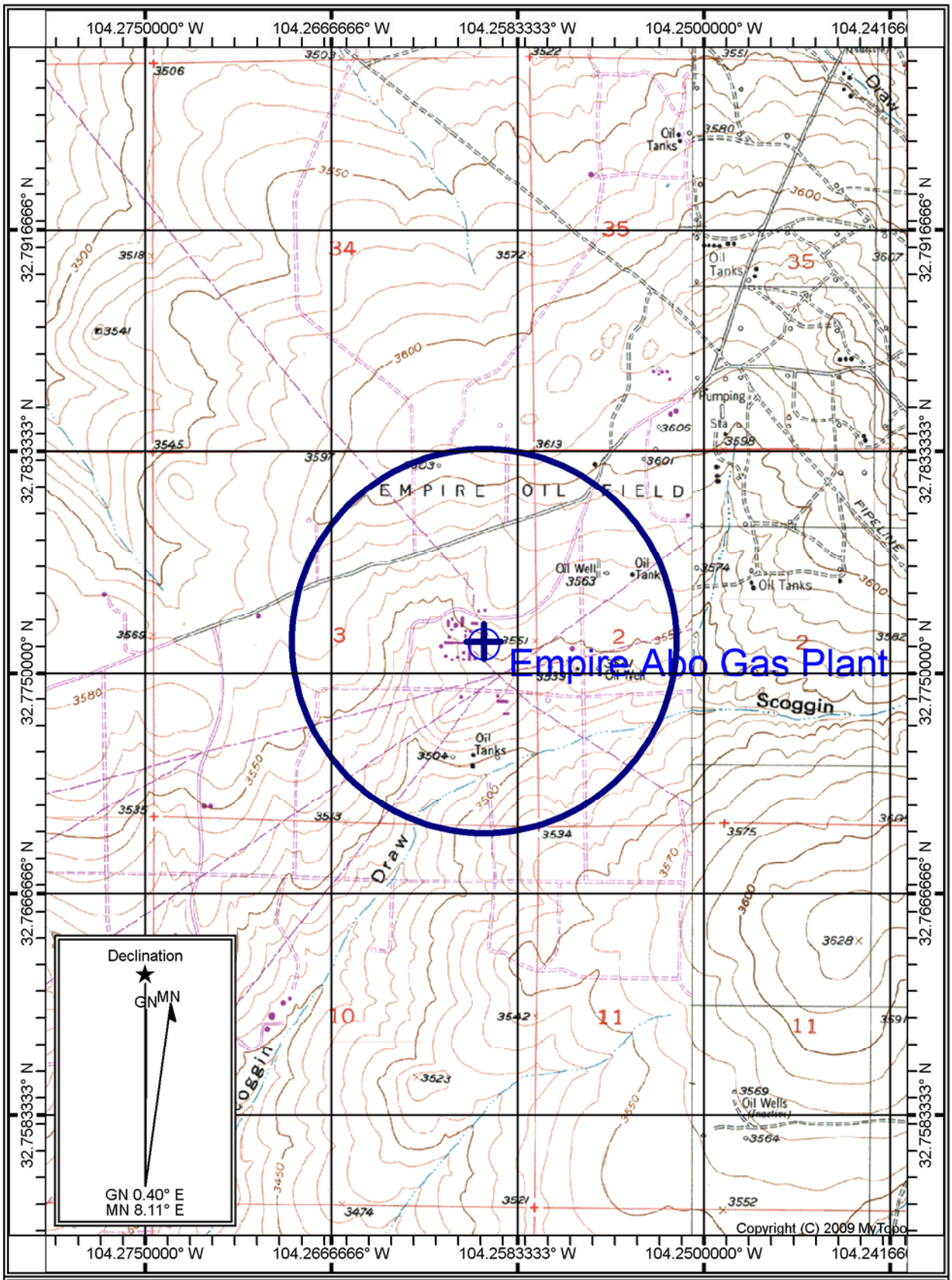

Map Name: SPRING LAKE (NM) Scale: 1 inch = 2,000 ft. Horizontal Datum: WGS84
Print Date: 03/04/20 Map Center: 032.7761910° N 10

Section 10

Written Description of the Routine Operations of the Facility

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A written description of the routine operations of the facility. Include a description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated. For modifications and/or revisions, explain how the changes will affect the existing process. In a separate paragraph describe the major process bottlenecks that limit production. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

The Empire Abo facility will operate as with a gas plant or a compressor station.

Under the compressor station scenario, the Empire Abo facility will accept field gas which will be compressed by engines to facilitate transfer to upstream facilities. Following compression, the inlet gas will be sent to an amine unit, which will sweeten the gas. Acid gas removed from the process stream will be sent to an AGI well by two redundant electric compressors. During compressor downtime, the acid gas stream will be combusted by an emergency flare. Once sweetened, the gas will be sent to TEG dehydration units. Flash tank overheads will be recycled to the facility inlet. Regenerator emissions will be controlled by a condenser. Condenser overheads are combusted by a thermal oxidizer. After being processed by the dehydrators, the gas then exits the facility. Liquids that drop out of the gas during compression and dehydration are stabilized and separated and are sent to condensate and produced water storage tanks. Condensate and produced water are transported off-site via truck. Emissions from the storage tanks and loading are controlled by a second thermal oxidizer.

Under the compressor station scenario, the Empire Abo facility will accept field gas which will be compressed by engines to facilitate transfer to upstream facilities. Following compression, the gas will be sent to TEG dehydration units. Flash tank overheads will be recycled to the facility inlet. Regenerator emissions will be controlled by a condenser. Condenser overheads are combusted by a thermal oxidizer. After being processed by the dehydrators, the gas then exits the facility. Liquids that drop out of the gas during compression and dehydration are stabilized and separated and are sent to condensate and produced water storage tanks. Condensate and produced water are transported off-site via truck. Emissions from the storage tanks and loading are controlled by a second thermal oxidizer.

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 2-A.**

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.**

As this modification will result in the facility being classified as a PSD minor source, no other information is required in Section 12.

Section 13

Determination of State & Federal Air Quality Regulations

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

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

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

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

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

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

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

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

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

STATE REGULATIONS:

STATE REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
20.2.1 NMAC	General Provisions	Yes	Facility	This facility is authorized under a construction permit. Therefore, this regulation applies.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes	Facility	20.2.3 NMAC is a SIP approved regulation that limits the maximum allowable concentration of Total Suspended Particulates, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. The facility meets the maximum allowable concentrations of TSP, SO_2, H_2S, NO_X and CO under this regulation.
20.2.7 NMAC	Excess Emissions	Yes	Facility	This regulation establishes requirements for the facility if operations at the facility result in any excess emissions. The owner or operator will operate the source at the facility having an excess emission, to the extent practicable, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions. The facility will also notify the NMED of any excess emissions per 20.2.7.110 NMAC.
20.2.23 NMAC	Fugitive Dust Control	No	N/A	This facility is not authorized under 20.2.73. Therefore, this regulation does not apply.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No	N/A	This facility does not have gas burning equipment with a heat input of greater than 1,000,000 million British Thermal Units per year per unit. Therefore, this regulation does not apply.
20.2.34 NMAC	Oil Burning Equipment: NO_2	No	N/A	This facility does not have oil burning equipment with a heat input of greater than 1,000,000 million British Thermal Units per year per unit. Therefore, this regulation does not apply.
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	No	N/A	This facility is not a natural gas processing plant. Therefore, this regulation does not apply.
20.2.37 and 20.2.36 NMAC	Petroleum Processing Facilities and Petroleum Refineries	N/A	N/A	**These regulations were repealed by the Environmental Improvement Board. If you had equipment subject to 20.2.37 NMAC before the repeal, your combustion emission sources are now subject to 20.2.61 NMAC.**
20.2.38 NMAC	Hydrocarbon Storage Facility	No	N/A	This regulation seeks to minimize H_2S emissions from hydrocarbon storage facilities. For purposes of this regulation, this facility is a new hydrocarbon storage facility, constructed after Jan. 1 1975. Standards of new tanks batteries are established in 20.2.38.112 NMAC. This facility does not have a crude oil or condensate storage capacity greater than 65,000 gallons (1547.6 bbl) and is therefore not subject to this regulation.
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No	N/A	This facility is not a sulfur recovery plant. Therefore, this regulation does not apply.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	E4-310 to E4-317, H1 to H4, TO1, TO2, D-2301, D-2302	This facility operates combustion equipment that are subject to this regulation.
20.2.70 NMAC	Operating Permits	Yes	Facility	This facility operates under a permit issued under 20.2.70 NMAC and is therefore subject to this regulation.
20.2.71 NMAC	Operating Permit Fees	Yes	Facility	This facility is subject to 20.2.70 NMAC and is therefore subject to this regulation.
20.2.72 NMAC	Construction Permits	Yes	Facility	This facility is permitted under 20.2.72 and is therefor subject to this regulation.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	This facility is required to submit an annual emission inventory report pursuant to 20.2.73.300.A(1) NMAC. This regulation applies.

STATE REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	N/A	The facility is a minor source for PSD purposes therefore this regulation is not applicable. source and will therefore no longer be subject to this regulation.
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	This application is being submitted under 20.2.72 and is therefore subject to this regulation.
20.2.77 NMAC	New Source Performance	Yes	E4-310 to E4-317	This facility is a stationary source with units that are subject to 40 CFR 60. Therefore, this regulation applies.
20.2.78 NMAC	Emission Standards for HAPS	No	N/A	This facility does not include and equipment subject to 40 CFR 61. Therefor this regulation does not apply.
20.2.79 NMAC	Permits – Nonattainment Areas	No	N/A	This facility is not located in a non-attainment area. Therefore, this regulation does not apply.
20.2.80 NMAC	Stack Heights	No	N/A	This regulation establishes requirements for the evaluation of stack heights and other dispersion techniques. This regulation does not apply as all stacks at the facility will follow good engineering practice.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	E4-310 to E4-317, DEHY1 to DEHY3	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63. This facility operates units which are subject to 40 CFR 63. Therefor this regulation applies.

FEDERAL REGULATIONS:

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
40 CFR 50	NAAQS	Yes	Facility	This regulation defines National Ambient Air Quality Standards (NAAQS). The facility meets all applicable NAAQS for NO_x, CO, SO_2, H_2S, PM_{10}, and $PM_{2.5}$ under this regulation.
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	E4-310 to E4-317	This facility operates units which are subject to 40 CFR 60. Therefore, this regulation applies.
NSPS 40 CFR60.40a, Subpart Da	Subpart Da, Performance Standards for **Electric Utility Steam Generating Units**	No	N/A	This facility does not include any electric utility steam generating units. Therefore, this regulation does not apply.
NSPS 40 CFR60.40b Subpart Db	**Electric Utility Steam Generating Units**	No	N/A	This facility does not include any electric utility steam generating units. Therefore, this regulation does not apply.
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Yes	H1, H2, H4	This regulation establishes standards of performance for small industrial-commercial-institutional steam generating units. Units H1, H2 and H4 will be installed or modified after June 9, 1989, with a heat input capacity greater than or equal to 10 MMBtu/hr but less than 100 MMBtu/hr. The units will only burn natural gas and therefore will not be subject to performance tests, reporting requirements, or emission limits under this regulation. The facility will follow all record keeping requirements for this unit. Unit H3 is less than 10 MMBtu/hr and are therefore not subject to this regulation.

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
NSPS 40 CFR 60, Subpart Ka	Standards of Performance for **Storage Vessels for Petroleum Liquids** for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and **Prior** to July 23, 1984	No	N/A	This facility does not have any tanks with a volume of 420,000 gallons or larger. Therefore, this subpart does not apply.
NSPS 40 CFR 60, Subpart Kb	Standards of Performance for **Volatile Organic Liquid Storage Vessels** (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced **After** July 23, 1984	No	N/A	This facility does not have any storage vessels with a volume of 75 cubic meters. Therefor this regulation does not apply.
NSPS 40 CFR 60.330 Subpart GG	**Stationary Gas Turbines**	No	N/A	This facility does not have any stationary turbines. Therefore, this regulation does not apply.
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from **Onshore Gas Plants**	No	N/A	This facility is not an onshore gas plant. Therefore, this regulation does not apply.
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for **Onshore Natural Gas Processing**: SO_2 Emissions	No	N/A	This facility is not an onshore gas plant. Therefore, this regulation does not apply.
NSPS 40 CFR Part 60 Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution for which construction, modification or reconstruction commenced after August 23, 2011 and before September 18, 2015	No	N/A	This facility is a compressor station. Therefore, equipment leaks are not subject to this regulation. No compressors at the facility were installed after 8/23/2011 and before 9/19/2015. Therefore, no compressors are subject to this regulation. The dates of existing storage tanks installation are unknown, however, based on the age of the facility, we assume the tanks were installed prior to 8/23/2011. Additionally, controlled emissions from the tanks are less than 6 tpy. Therefore, the tanks are not subject to this regulation.

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
NSPS 40 CFR Part 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015	Yes	FUG40, Potentially E4-310 to E4-317	This revision will constitute a modification pursuant to § 60.5365a(j)(2) since the two new compressors impose an incremental increase in facility compression horsepower. The new compressors (Units E4-310 to E4-317) will potentially be subject to this regulation. The applicability of this regulation will be determined after the engines have been installed at the facility. The new storage tanks being installed at the facility will have a PTE less than 6 tpy and are therefore not subject to this regulation.
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	No	N/A	There are no compression ignition engines installed at this facility. Therefore, this regulation does not apply.
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	Yes	Potentially E4-310 to E4-317	The engines that will be installed at the facility may be subject to this regulation. The applicability of this regulation will be determined after the engines have been installed at the facility.
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	No	N/A	There are no electric generating units at this facility. Therefore, this regulation does not apply.
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	No	N/A	There are no electric generating units at this facility. Therefore, this regulation does not apply.
NSPS 40 CFR 60, Subparts WWW, XXX, Cc, and Cf	Standards of performance for Municipal Solid Waste (MSW) Landfills	No	N/A	This facility is not a Municipal Solid Waste Landfill. Therefore, this regulation does not apply.
NESHAP 40 CFR 61 Subpart A	General Provisions	No	N/A	No units at this facility are subject to any of the subparts of 40 CFR 61. therefore
NESHAP 40 CFR 61 Subpart E	National Emission Standards for **Mercury**	No	N/A	Tis facility does not process mercury. Therefore, this regulation does not apply.
NESHAP 40 CFR 61 Subpart V	National Emission Standards for **Equipment Leaks**	No	N/A	This facility is not a major source of HAPs. Therefore, this regulation does not apply.
MACT 40 CFR 63, Subpart A	General Provisions	Yes	E4-310 to E4-317, DEHY1 to DEHY3	The compressors and TEG dehydrators at this facility are subject to subparts of 40 CFR 63. Therefore, this regulation applies.

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
MACT 40 CFR 63.760 Subpart HH	**Oil and Natural Gas Production Facilities**	Yes	DEHY1 to DEHY3	This facility is Subject to the requirements of 40 CFR 63 Subpart HH TEG Dehydrators (Units DEHY1 to DEHY3) have no additional control requirements since benzene emissions for each unit are less than 0.9 megagrams per year. However, they are subject to HH recordkeeping and reporting.
MACT 40 CFR 63 Subpart HHH		No	N/A	This subpart applies to owners and operators of natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user. This facility is not a natural gas transmission facility. Therefore, this regulation does not apply.
MACT 40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters	No	N/A	This facility does not operate and major industrial, commercial, and institutional boilers & process heaters. Therefore, this regulation does not apply.
MACT 40 CFR 63 Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants Coal & Oil Fire Electric Utility Steam Generating Unit	No	N/A	This facility does not operate any coal & oil fire electric utility steam generating units. Therefore, this regulation does not apply.
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (**RICE MACT**)	Yes	E4-310 to E4-317	The compressor engines at this facility are subject to MACT ZZZZ and will comply with this regulation by complying with the requirements of NSPS JJJJ.
40 CFR 64	**Compliance Assurance Monitoring**	Yes	D-2301, D-2302, DEHY1 to DEHY3, TO1	A compliance assurance monitoring plan has been established in this facilities Title V permit emergency flares, the existing dehydrator and thermal oxidizer. In the Title V revision application that will be submitted after this permit revision is issued, the CAM plan will be updated to include the new dehydration units (Units DEHY2 and DEHY3).
40 CFR 68	**Chemical Accident Prevention**	Yes	Facility	The facility is an affected facility, as it will use flammable process chemicals such as propane at quantities greater than the thresholds. The facility will develop and maintain an RMP for these chemicals.
Title IV – Acid Rain 40 CFR 72	**Acid Rain**	No	N/A	This facility does not generate commercial electric power or electric power for sale. Therefore, this regulation does not apply.
Title IV – Acid Rain 40 CFR 73	**Sulfur Dioxide** Allowance Emissions	No	N/A	This facility does not generate commercial electric power or electric power for sale. Therefore, this regulation does not apply.

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
Title IV-Acid Rain 40 CFR 75	**Continuous Emissions Monitoring**	No	N/A	This facility does not generate commercial electric power or electric power for sale. Therefore, this regulation does not apply.
Title IV – Acid Rain 40 CFR 76	**Acid Rain** Nitrogen Oxides **Emission Reduction Program**	No	N/A	This facility does not generate commercial electric power or electric power for sale. Therefore, this regulation does not apply.
Title VI – 40 CFR 82	Protection of **Stratospheric Ozone**	No	N/A	The facility does not service, maintain, or repair equipment containing refrigerants. Therefore, this regulation does not apply.

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.

Startup and shutdown procedures are performed according to guidelines, which dictate proper procedural sequence to minimize emissions from the facility during such activities.

Equipment located at the plant is equipped with various safety devices that aid in preventing excess emissions to the atmosphere in the event of an operational emergency. In the event of a malfunction, startup, shutdown, or scheduled maintenance in which emission rates from the facility exceed permitted allowable emissions, Durango Midstream, LLC will notify the AQB in accordance with 20.2.7 NMAC and the equipment responsible for the exceedance will be repaired as soon as possible.

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.

As discussed in Section, the Empire Abo facility will have several different operating scenarios:

When the facility is operating as a gas plant, there are two operating scenarios:

1) Facility operation with inlet gas SSM flaring
2) Facility operation with acid gas SSM flaring

When the facility is operating as a compressor station the facility has three operating scenarios:

1) Facility operation with no SSM flaring
2) Inlet gas flaring from Unit D-2301
3) Inlet gas flaring from Unit D-2302

For any operating scenarios, fugitive emissions are always assumed to be present and the pilot emissions of the non-active flare are accounted for.

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:	Empire Abo Gas Plant
2	Name of company:	Durango Midstream, LLC
3	Current Permit number:	0126-M9R4
4	Name of applicant's modeler:	Jake Zenker
5	Phone number of modeler:	(505) 266-6611
6	E-mail of modeler:	jzenker@trinityconsultants.com

16-B: Brief

1	Was a modeling protocol submitted and approved?	Yes☒	No☐
2	Why is the modeling being done?	Adding New Equipment	
3	Describe the permit changes relevant to the modeling.		
	Durango Midstream, LLC (Durango) is preparing a significant permit revision application pursuant to 20.2.72.219.D.1.a NMAC for its Empire Abo Gas Plant. Modifications proposed under this significant revision application consist of removal and addition of heaters, addition of an amine unit and AGI well, modification of engines, addition of storage tanks, addition of a TEG dehydrator, and addition of a thermal oxidizer. Several residue gas compressors will be converted to inlet gas compressors; a second TEG dehydration unit and an associated reboiler will be installed at the facility; and a thermal oxidizer will be installed to combust tank overhead emissions. Emissions from all existing equipment will be updated to reflect the equipment modifications; new calculation methodologies; new gas and liquid analyses and throughputs; and new manufacturer data. Detailed descriptions of emission calculations will be included in the application submittal.		

	It should be noted that Durango recently removed equipment under an administrative revision (submitted in May 2019). The facility currently operates as a source that is Major for Title V and minor for PSD. The permit also seeks to authorize the Empire Abo facility to operate as a compressor station or gas plant. Under gas plant operation the following SSM emissions will occur: • Inlet gas SSM flaring (Unit D-2301) • Acid gas SSM flaring (Unit D-2302) Under compressor station operation the following SSM events will occur: • Inlet gas SSM flaring (Units D-2301 and D-2302)		
4	What geodetic datum was used in the modeling?	WGS84	
5	How long will the facility be at this location?	Permanently	
6	Is the facility a major source with respect to Prevention of Significant Deterioration (PSD)?	Yes☐	No☒
7	Identify the Air Quality Control Region (AQCR) in which the facility is located	155	
8	List the PSD baseline dates for this region (minor or major, as appropriate).		
	NO2	3/16/1988	
	SO2	7/28/1979	
	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 National Park – 68.9 km.		
10	Is the facility located in a non-attainment area? If so describe below	Yes☐	No☒
	N/A		
11	Describe any special modeling requirements, such as streamline permit requirements.		
	N/A		

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). The results from this most recent modeling are shown below:

TABLE 4 – ROI MODELING RESULTS

Pollutant	Averaging Period	Significant Impact Level ($\mu g/m^3$)	Model Scenario	ROI (km)	Modeled Results ($\mu g/m^3$)	UTM X (M)	UTM Y (M)	Event (YYMMDDHH)	Figures
H_2S	½ hour	5	SS	0.560	8.88106	569104.50	3626599.50	94060106	Figure 4
			SSM1	0.560	8.88106	569104.50	3626599.50	94060106	
			SSM2	0.560	8.88106	569104.50	3626599.50	94060106	
NO_2*	Annual	1	N/A	3.475	52.50988	569129.40	3626834.20	PERIOD	Figure 5
	24-hour	5	N/A	0	3.53698	569104.60	3626699.50	93101424	Figure 6
CO	8-hour	500	N/A	0	10.03942	569104.60	3626699.50	93101408	Figure 7
	1-hour	2,000	N/A	0	14.25969	569080.00	3626730.00	93062806	
SO_2	Annual	1	SS	5.243	9.97290	569030.00	3627130.00	PERIOD	Figure 8
	24-hour	5	SS		72.25120	568930.00	3627230.00	93062824	Figure 9
			SSM1	50	89.87485	568930.00	3627230.00	93062824	
			SSM2	50	89.87446	568930.00	3627230.00	93062824	
	3-hour	25	N/A	0	15.84845	569104.50	3626599.50	93091006	Figure 10
$PM_{2.5}$	Annual	0.3	N/A	0.342	0.85039	569104.60	3626699.50	PERIOD	Figure 11
	24-hour	1.2	N/A	0.319	2.94343	569104.60	3626699.50	93101424	Figure 12

*ARM of 0.4 and 0.75 was applied to the NOx 24-hr and annual averaging periods, respectively.

TABLE 6 - MODELED CUMULATIVE INCREMENT IMPACTS

Pollutant	Averaging Period	Class 2 Increment ($\mu g/m^3$)	Model Scenario	Modeled Results ($\mu g/m^3$)	UTM X (M)	UTM Y (M)	Event (YYMMDDHH)	Figure
NO_2*	Annual	25	N/A	14.18292	567980.0	3625930.0	PERIOD	Figure 13
SO_2	Annual	20	N/A	11.04463	569280.0	3621630.0	PERIOD	Figure 14
	24-hour	91	SSM1	87.09436	568930.0	3627230.0	93061324	Figure 15
$PM_{2.5}$	Annual	4	N/A	0.85039	569104.6	3626699.5	PERIOD	Figure 11
	24-hour	9	N/A	2.94343	569104.6	3626699.5	93101424	Figure 12

*NOx values adjusted by ARM of 0.75 within the AERMOD model to determine NO_2.

TABLE 13 - NAAQS MODELING RESULTS

Pollutant	Averaging Period	NAAQS/ NMAAQS $\mu g/m^3$/ (ppm)	Total $\mu g/m^3$ (ppm)	Modeled Results $\mu g/m^3$/(ppm)	Monitored Background $\mu g/m^3$/(ppm)	UTM X (M)	UTM Y (M)	Event (YYMMDDHH)
H_2S	½ hour	(0.1 ppm)	(0.007)	(0.007)	N/A	569104.50	3626599.50	94060106
NO_2*	Annual	99.67 (0.050 ppm)	65.69 (0.038)	52.53186 (0.031)	13.16 (0.007)	569104.60	3626699.50	93101424
SO_2	Annual	46.55 (0.020 ppm)	10.64 (0.0046)	9.97290 (0.00428)	0.675 (0.00029)	569030.00	3627130.00	PERIOD
	24-hour	232.7 (0.10 ppm)	94.20 (0.040)	89.87485 (0.038636)	4.33 (0.00186)	568930.00	3627230.00	93062824

Pollutant	Latest permit and modification number that modeled the pollutant facility-wide.	Date of Permit	Comments
CO	0126-M9	1/11/2016	
NO_2	0126-M9	1/11/2016	
SO_2	0126-M9	1/11/2016	
H_2S	0126-M9	1/11/2016	
PM2.5	0126-M9	1/11/2016	
PM10	0126-M9	1/11/2016	
~~TSP~~[1]	N/A	N/A	
Lead	N/A	N/A	

	Ozone (PSD only)	N/A	N/A	
	NM Toxic Air Pollutants (20.2.72.402 NMAC)	N/A	N/A	

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

16-D: Modeling performed for this application

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.

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

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. N/A

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☐	No☒
	BREEZE AERMOD with US EPA executable v18081, which provides more detailed background concentration tools and added flexibility was used to complete the modeling. All regulator defaults were used.		

16-G: Surrounding source modeling

1	Date of surrounding source retrieval	2/25/2020

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
191E36, E46, E15, E16	These sources are at the Empire Abo facility and are being updated with this permitting action.
26206E5, E6	The exhaust temperature was set to the inlet temperature (100F). The exhaust temperature was update to the default exhaust temperature (500K) for point sources with unknown stack parameters as described in Table 26 of the NMED modeling guidelines.
26509E4, E5	The exhaust temperature was set to the inlet temperature (100F). The exhaust temperature was update to the default exhaust temperature (500K) for point sources with unknown stack parameters as described in Table 26 of the NMED modeling guidelines.
3569E2	The stack exhaust for this combustion unit was estimated to be 1 acfm resulting in a velocity of 0.22 ft/s. The exhaust velocity of combustion units is typically much higher than this and was therefore set to the minimum default stack velocity of 5 m/s as detailed in Table 26 of the NMED modeling guidance.
26510E4, E5. 35609 E1, 26500E5, E6	These heater treaters were represented as volume sources. They were converted to point sources using the report release height and initial lateral dimensions as stack heights and diameters, respectively. The stack temperatures and velocities were set to the default values reported in Table 26 of the NMED modeling guidance (500K and 5 m/s).
119R2, R3	These malfunction and SSM emissions are associated with flaring at the Artesia gas plant. The emission rates could not be verified. Additionally, the units should represented as a point source. These were deleted and represented under the wet gas flare (199E37) with an emission rate of 4918.3 lb/hr and an effective diameter of 22.53 m as described in the facilities permit. This is assumed to be the worst case SSM or malfunction event scenario.

16-H: Building and structure downwash

1	How many buildings are present at the facility?	There are a total of fifteen (12) buildings that have been included in the modeling.	
2	How many above ground storage tanks are present at the facility?	There are a total of four (4) storage tanks that have been included in the modeling.	
3	Was building downwash modeled for all buildings and tanks? If not explain why below.	Yes☒	No☐
	N/A		
4	Building comments	None	

16-I: Receptors and modeled property boundary

1	"Restricted Area" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area. A Restricted Area is required in order to exclude receptors from the facility property. If the facility does not have a Restricted Area, then receptors shall be placed within the property boundaries of the facility.

	Describe the fence or other physical barrier at the facility that defines the restricted area.		
	The restricted area at this facility is defined by a fence.		
2	Receptors must be placed along publicly accessible roads in the restricted area. Are there public roads passing through the restricted area?	Yes☐	No☒
3	Are restricted area boundary coordinates included in the modeling files?	Yes☒	No☐

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
Boundary	Circular	50	0	500	
Very Fine Grid	Circular	100	500	3,000	
Fine Grid	Circular	250	3,000	6,000	
Medium Grid	Circular	500	6,000	10,000	
Coarse Grid	Circular	1000	10,000	50,000	

5 Describe receptor spacing along the fence line.

50 m spacing.

6 Describe the PSD Class I area receptors.

N/A

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☐	No☒
3	The modeling review process may need to be accelerated if there is a public hearing. Are there likely to be public comments opposing the permit application?	Yes☐	No☒

16-K: Modeling Scenarios

	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).		
1	Gas Plant Scenarios: 1) Facility operation with inlet gas SSM flaring 2) Facility operation with acid gas SSM flaring Compressor Station Scenarios: 1) Inlet gas SSM flaring from FL-1 2) Inlet gas SSM flaring from FL-2 3) Facility operations with no SSM flaring.		
2	Which scenario produces the highest concentrations? Why?		
	Each scenario has different units in operation, varying stack parameters, and varying emission rates. For this reason, all scenarios were modeled.		
3	Were emission factor sets used to limit emission rates or hours of operation? (This question pertains to the "SEASON", "MONTH", "HROFDY" and related factor sets, not to the factors used for calculating the maximum emission rate.)	Yes☐	No☒
4	If so, describe factors for each group of sources. List the sources in each group before the factor table for that group. (Modify or duplicate table as necessary. It's ok to put the table below section 16-K if it makes formatting easier.) Sources:		

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

	If hourly, variable emission rates were used that were not described above, describe them below.		
6	Were different emission rates used for short-term and annual modeling? If so describe below.	Yes☐	No☒
	No modifications were made to emission rates for short-term and annual modeling, however, SSM emissions were not included in annual PSD modeling per guidance in the NMED Modeling Guidelines Section 4.1.6.		

16-L: NO_2 Modeling

1	Which types of NO_2 modeling were used? Check all that apply.

	☒	ARM2
	☐	100% NO_X to NO_2 conversion
	☐	PVMRM
	☐	OLM
	☐	Other:
2	Describe the NO_2 modeling.	
	ARM2 with default parameters.	
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☒ No☐
	N/A	
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.	
	☐	PM2.5
	☐	PM10
	☒	None
2	Describe the particle size distributions used. Include the source of information.	
	N/A	
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☒ No☐
4	Was secondary PM modeled for PM2.5?	Yes☐ No☒

5	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)	$[PM2.5]_{annual}$	$[PM2.5]_{24\text{-}hour}$
	N/A	N/A	N/A	N/A
	N/A			

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☒	No☐

Unit Number in UA-2	Unit Number in Modeling Files
N/A	N/A
N/A	N/A

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☒	No☐
3	Have the minor NSR exempt sources or Title V Insignificant Activities" (Table 2-B) sources been modeled?	Yes☐	No☒

4 Which units consume increment for which pollutants? All permitted sources are modeled as PSD increment consumers for all pollutants.

Unit ID	NO_2	SO_2	PM10	PM2.5
All Units	Consume	Consume	Consume	Consume

5	PSD increment description for sources. (for unusual cases, i.e., baseline unit expanded emissions after baseline date).	N/A

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☒	No☐
	N/A		

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)

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☐	No☐

	If not please explain how increment consumption status is determined for the missing installation dates below.		
	N/A		
2	Describe the determination of sigma-Y and sigma-Z for fugitive sources.		
	The sigma-Y's and sigma-Z's were determined by dividing the estimated horizontal and vertical extents of fugitive emissions by 4.3 per guidance in section in 5.3.2 of the NMED modeling guidelines.		
3	Describe how the volume sources are related to unit numbers. Or say they are the same.		
	They are the same.		
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☒	No☐
	CO: N/A		
	NO_2: Outside Carlsbad (350151005)		
	PM2.5: Hobbs-Jefferson (350450019)		
	PM10: N/A		
	SO_2: Amarillo (483751025)		
	Other:		
	Comments: None		
2	Were background concentrations refined to monthly or hourly values? If so describe below.	Yes☐	No☒
	N/A		

16-S: Meteorological Data

1	Was NMED provided meteorological data used? If so select the station used. Carlsbad	Yes☒	No☐
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.		
	N/A		

16-T: Terrain

1	Was complex terrain used in the modeling? If not, describe why below.	Yes☐	No☒
2	What was the source of the terrain data?		
	N/A		

16-U: Modeling Files

Describe the modeling files:

File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
Empire Abo CS_CO_SIL	CO	SIA
Empire Abo CS_H2S_SIL	H_2S	SIA
Empire Abo CS_NOX_SIL	NO_X	SIA
Empire Abo CS_PM25_SIL	$PM_{2.5}$	SIA
Empire Abo CS_PM10_SIL	PM_{10}	SIA
Empire Abo CS_SO2_SIL	SO_2	SIA
Empire Abo GP_CO_SIL	CO	SIA
Empire Abo_GP_H2S_SIL	H_2S	SIA
Empire Abo GP_NOX_SIL	NO_X	SIA
Empire Abo GP_PM25_SIL	$PM_{2.5}$	SIA
Empire Abo GP_PM10_SIL	PM_{10}	SIA
Empire Abo GP_SO2_SIL	SO_2	SIA
Empire Abo CS _H2S CIA_1HR FAC	H_2S	CIA
Empire Abo CS _H2S CIA_1HR FL1	H_2S	CIA
Empire Abo CS _H2S CIA_1HR FL2	H_2S	CIA
Empire Abo CS _NOX CIA_1HR FAC	NO_X	CIA
Empire Abo CS _NOX CIA_1HR FL1	NO_X	CIA
Empire Abo CS _NOX CIA_1HR FL2	NO_X	CIA
Empire Abo CS _NOX CIA_ANNUAL FAC	NO_X	CIA
Empire Abo CS _PM25 CIA_24HR FAC	$PM_{2.5}$	CIA
Empire Abo CS _PM25 CIA_ANNUAL FAC	$PM_{2.5}$	CIA
Empire Abo CS _SO2 CIA_1HR FAC	SO_2	CIA
Empire Abo CS _SO2 CIA_1HR FL1	SO_2	CIA
Empire Abo CS _SO2 CIA_1HR FL2	SO_2	CIA
Empire Abo GP_H2S CIA_1HR FL1	H_2S	CIA
Empire Abo GP_H2S CIA_1HR FL2	H_2S	CIA
Empire Abo GP _NOX CIA_1HR FL1	NO_X	CIA
Empire Abo GP _NOX CIA_1HR FL2	NO_X	CIA
Empire Abo GP _NOX CIA_ANNUAL FL1	NO_X	CIA
Empire Abo GP _NOX CIA_ANNUAL FL2	NO_X	CIA
Empire Abo GP _PM25 CIA_24HR FL1	$PM_{2.5}$	CIA
Empire Abo GP _PM25 CIA_24HR FL2	$PM_{2.5}$	CIA
Empire Abo GP_PM25 CIA_ANNUAL FL1	$PM_{2.5}$	CIA

	Empire Abo GP _PM25 CIA_ANNUAL FL2	$PM_{2.5}$	CIA
	Empire Abo GP _SO2 CIA_1HR FL1	SO_2	CIA
	Empire Abo GP _SO2 CIA_1HR FL2	SO_2	CIA
	Empire Abo CS _NOX PSD_ANNUAL FAC	NO_X	PSD
	Empire Abo CS _PM25 PSD_24HR FAC	$PM_{2.5}$	PSD
	Empire Abo CS _PM25 PSD_ANNUAL FAC	$PM_{2.5}$	PSD
	Empire Abo CS _SO2 PSD_3HR FAC	SO_2	PSD
	Empire Abo CS _SO2 PSD_3HR FL1	SO_2	PSD
	Empire Abo CS _SO2 PSD_3HR FL2	SO_2	PSD
	Empire Abo CS _SO2 PSD_24HR FAC	SO_2	PSD
	Empire Abo CS _SO2 PSD_24HR FL1	SO_2	PSD
	Empire Abo CS _SO2 PSD_24HR FL2	SO_2	PSD
	Empire Abo CS _SO2 CIA_ANNUAL FAC	SO_2	PSD
	Empire Abo GP _NOX PSD_ANNUAL FL1	NO_X	PSD
	Empire Abo GP _NOX PSD_ANNUAL FL2	NO_X	PSD
	Empire Abo GP _PM25 PSD_24HR FL1	$PM_{2.5}$	PSD
	Empire Abo GP _PM25 PSD_24HR FL2	$PM_{2.5}$	PSD
	Empire Abo GP_PM25 PSD_ANNUAL FL1	$PM_{2.5}$	PSD
	Empire Abo GP _PM25 PSD_ANNUAL FL2	$PM_{2.5}$	PSD
	Empire Abo GP _SO2 PSD_3HR FL1	SO_2	PSD
	Empire Abo GP _SO2 PSD_3HR FL2	SO_2	PSD
	Empire Abo GP _SO2 PSD_24HR FL1	SO_2	PSD
	Empire Abo GP _SO2 PSD_24HR FL2	SO_2	PSD
	Empire Abo GP _SO2 PSD_ANNUAL FAC	SO_2	PSD

16-V: PSD New or Major Modification Applications

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

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☐	No☒
	N/A		
2	Tables for each scenario are attached.		

Compressor Staiton SSM Flaring - FL1 (No Facility Operation)

Table 1. Significance Analysis

Pollutant	Averaging Period	Significance Level µg/m³	Modeled µg/m³	Percent of Significance	Location of Maximum Concentration X	Y	Elevation (m)
CO	8-hr	500	11.37	2.3%	569005.80	3624925.10	1070.11
CO	1-hr	2000	22.68	1.1%	569905.80	3626925.10	1085.92
H_2S	1-hr	5	44.24	Significant	569194.40	3626825.70	1082.10
NO_2	Annual	1	0.32	32.3%	568855.8	3627075.1	1090.02
NO_2	24-hr	5	1.95	39.0%	569955.8	3626925.1	1085.88
NO_2	1-hr	7.52	10.22	Significant	569005.8	3624925.1	1070.11
$PM_{2.5}$	Annual	0.2	0.00	0.0%	0	0	0
$PM_{2.5}$	24-hr	1.2	0.00	0.0%	0	0	0
PM_{10}	Annual	1	0.00	0.0%	0	0	0
PM_{10}	24-hr	5	0.00	0.0%	0	0	0
SO_2	Annual	1	5.15	Significant	568855.80	3627075.10	1090.02
SO_2	24-hr	5	31.10	Significant	569955.80	3626925.10	1085.88
SO_2	3-hr	25	117.30	Significant	569255.80	3626375.10	1077.44
SO_2	1-hr	7.8	163.24	Significant	569205.80	3626375.10	1078.11

Notes:

1. NO_X to NO_2 conversion methodology: ARM2

Table 2. Cumulative Impact Analysis

Pollutant	Averaging Period	Standard, µg/m³ NAAQS	Standard, µg/m³ NMAAQS	Modeled Facility µg/m³	Modeled Facility & Neighbors µg/m³	Background µg/m³	Calculated µg/m³	Calculated as a Percent of the Standard NAAQS	Calculated as a Percent of the Standard NMAAQS	Background Monitor (If Applicable)	Location of Maximum Concentration X	Y	Elevation (m)
H_2S	1-hr	-	139.3	44.25	44.25	[redacted]	-	-	-	-	569194.4	3626825.7	1082.1
NO_2	1-hr	188.03	-	7.18	[redacted]	60.30	67.48	36%	-	5ZR	569905.8	3627025.1	1087.99
SO_2	1-hr	196.4	-	126.69	[redacted]	68.30	194.99	99%	-	483751025	569705.8	3627175.1	1091.56

Notes:

1. NO_X to NO_2 conversion methodology: ARM2

Table 3. PSD Increment

Pollutant	Averaging Period	Class I Significance Level µg/m³	PSD Increment Class I µg/m³	PSD Increment Class II µg/m³	Facility µg/m³ Class I	Facility µg/m³ Class II	Facility & Neighbors µg/m³ Class II	Calculated as a Percent of the Standard Class I	Calculated as a Percent of the Standard Class II	Location of Maximum Concentration X	Y	Elevation (m)
SO_2	24-hr	0.2	5	91	-	27.65	70.95	N/A	78.0%	569905.8	3626975.1	1086.82
	3-hr	1	25	512	-	107.57	179.37	N/A	35.0%	570105.8	3628325.1	1101.08

1. NO_X to NO_2 conversion methodology: ARM2

Compressor Staiton SSM Flaring - FL2 (No Facility Operation)

Table 1. Significance Analysis

Pollutant	Averaging Period	Significance Level µg/m³	Modeled µg/m³	Percent of Significance	Location of Maximum Concentration X	Y	Elevation (m)
CO	8-hr	500	11.37	2.3%	569855.80	3626925.10	1085.85
CO	1-hr	2000	22.31	1.1%	569005.80	3624925.10	1070.11
H_2S	1-hr	5	44.24	Significant	569194.40	3626825.70	1082.10
NO_2	Annual	1	0.32	32.3%	568805.8	3627175.1	1093.23
NO_2	24-hr	5	1.95	38.9%	569955.8	3626975.1	1086.91
NO_2	1-hr	7.52	10.06	Significant	569005.8	3624925.1	1070.11
$PM_{2.5}$	Annual	0.2	0.00	0.0%	0	0	0
$PM_{2.5}$	24-hr	1.2	0.00	0.0%	0	0	0
PM_{10}	Annual	1	0.00	0.0%	0	0	0
PM_{10}	24-hr	5	0.00	0.0%	0	0	0
SO_2	Annual	1	5.16	Significant	0.00	0.00	0
SO_2	24-hr	5	31.09	Significant	569955.80	3626975.10	1086.91
SO_2	3-hr	25	117.20	Significant	569905.80	3626825.10	1084.37
SO_2	1-hr	7.8	160.63	Significant	569005.80	3624925.10	1070.11

Notes:

1. NO_X to NO_2 conversion methodology: ARM2

Table 2. Cumulative Impact Analysis

Pollutant	Averaging Period	Standard, µg/m³ NAAQS	Standard, µg/m³ NMAAQS	Modeled Facility µg/m³	Modeled Facility & Neighbors µg/m³	Background µg/m³	Calculated µg/m³	Calculated as a Percent of the Standard NAAQS	Calculated as a Percent of the Standard NMAAQS	Background Monitor (If Applicable)	Location of Maximum Concentration X	Y	Elevation (m)
H_2S	1-hr	-	139.3	44.25	44.25	[redacted]	-	-	-	-	569194.4	3626825.7	1082.1
NO_2	1-hr	188.03	-	7.16	[redacted]	60.30	67.46	36%	-	5ZR	569905.8	3627075.1	1088.86
SO_2	1-hr	196.4	-	125.95	[redacted]	68.30	194.25	99%	-	483751025	569705.8	3627175.1	1091.56

Notes:

1. NO_X to NO_2 conversion methodology: ARM2

Table 3. PSD Increment

Pollutant	Averaging Period	Class I Significance Level µg/m³	PSD Increment Class I µg/m³	PSD Increment Class II µg/m³	Facility µg/m³ Class I	Facility µg/m³ Class II	Facility & Neighbors µg/m³ Class II	Calculated as a Percent of the Standard Class I	Calculated as a Percent of the Standard Class II	Location of Maximum Concentration X	Y	Elevation (m)
SO_2	24-hr	0.2	5	91	-	28.10	70.69	N/A	77.7%	568805.8	3627125.1	1091.48
	3-hr	1	25	512	-	107.56703	179.36854	N/A	35.0%	570105.8	3628325.1	1101.08

1. NO_X to NO_2 conversion methodology:

Compressor Staiton Facility (No SSM Flaring)

Table 1. Significance Analysis

Pollutant	Averaging Period	Significance Level µg/m³	Modeled µg/m³	Percent of Significance	Location of Maximum Concentration X	Y	Elevation (m)
CO	8-hr	500	32.41	6.5%	569055.80	3626925.10	1083.55
CO	1-hr	2000	56.15	2.8%	569105.80	3626875.10	1081.47
H_2S	1-hr	5	44.23	Significant	569194.40	3626825.70	1082.10
NO_2	Annual	1	10.78	Significant	569055.8	3626875.1	1081.58
NO_2	24-hr	5	60.11	Significant	569055.8	3626925.1	1083.55
NO_2	1-hr	7.52	129.98	Significant	569105.8	3626875.1	1081.47
$PM_{2.5}$	Annual	0.2	0.32	Significant	569055.8	3626875.1	1081.58
$PM_{2.5}$	24-hr	1.2	1.76	Significant	569055.8	3626925.1	1083.55
PM_{10}	Annual	1	0.32	32.0%	569055.8	3626875.1	1081.58
PM_{10}	24-hr	5	1.76	35.2%	569055.8	3626925.1	1083.55
SO_2	Annual	1	7.32	Significant	569055.80	3626775.10	1078.75
SO_2	24-hr	5	67.89	Significant	569255.80	3626375.10	1077.44
SO_2	3-hr	25	127.08	Significant	569255.80	3626375.10	1077.44
SO_2	1-hr	7.8	133.44	Significant	569205.80	3626375.10	1078.11

Notes:

1. NO_X to NO_2 conversion methodology: ARM2

Table 2. Cumulative Impact Analysis

Pollutant	Averaging Period	Standard, µg/m³ NAAQS	Standard, µg/m³ NMAAQS	Modeled Facility µg/m³	Modeled Facility & Neighbors µg/m³	Background µg/m³	Calculated µg/m³	Calculated as a Percent of the Standard NAAQS	Calculated as a Percent of the Standard NMAAQS	Background Monitor (If Applicable)	Location of Maximum Concentration X	Y	Elevation (m)
H_2S	1-hr	-	139.3	44.23	44.23	[redacted]	-	-	-	-	569194.4	3626826	1082.1
NO_2	1-hr	188.03	-	7.16	[redacted]	60.30	67.46	36%	-	5ZR	569905.8	3627075	1088.86
$PM_{2.5}$	Annual	12	-	0.32	0.52	5.9	6.42	53%	-	5ZR	569055.9	3626875	1081.58
	24-hr	35	-	1.76	2.32	13.4	15.72	45%	-	5ZR	569158	3626812	1080.33
SO_2	1-hr	196.4	-	113.54	[redacted]	68.30	181.84	93%	-	483751025	569205.8	3626375	1078.11

Notes:

1. NO_X to NO_2 conversion methodology: ARM2

Table 3. PSD Increment

Pollutant	Averaging Period	Class I Significance Level µg/m³	PSD Increment Class I µg/m³	PSD Increment Class II µg/m³	Facility µg/m³ Class I	Facility µg/m³ Class II	Facility & Neighbors µg/m³ Class II	Calculated as a Percent of the Standard Class I	Calculated as a Percent of the Standard Class II	Location of Maximum Concentration X	Y	Elevation (m)
NO_2	Annual	0.1	2.5	25	-	10.86	0.00	N/A	0.0%	0	0	0
$PM_{2.5}$	Annual	0.05	1	4	-	0.32	0.35	N/A	8.9%	569055.8	3626875	1081.58
	24-hr	0.27	2	9	-	1.76	1.77	N/A	19.7%	569055.8	3626925	1083.55
SO_2	Annual	0.1	2	20	-	7.21	19.19	N/A	95.9%	568805.8	3627125	1091.48
	24-hr	0.2	5	91	-	34.84	77.01	N/A	84.6%	569155.8	3626375	1078.13
	3-hr	1	25	512	-	110.97	135.79	N/A	26.5%	569205.8	3626375	1078.11

Gas Plant Inlet Gas Flaring

Table 1. Significance Analysis

Pollutant	Averaging Period	Significance Level µg/m³	Modeled µg/m³	Percent of Significance	Location of Maximum Concentration X	Y	Elevation (m)
CO	8-hr	500	56.35	11.3%	569391.80	3626711.00	1083.25
CO	1-hr	2000	87.00	4.4%	569005.80	3626775.10	1079.27
H_2S	1-hr	5	1.73	34.7%	569005.80	3624925.10	1070.11
NO_2	Annual	1	9.78	Significant	569055.8	3626875.1	1081.58
NO_2	24-hr	5	52.34	Significant	569055.8	3626925.1	1083.55
NO_2	1-hr	7.52	120.84	Significant	569105.8	3626875.1	1081.47
$PM_{2.5}$	Annual	0.2	0.29	Significant	569055.8	3626875.1	1081.58
$PM_{2.5}$	24-hr	1.2	1.46	Significant	569055.8	3626925.1	1083.55
PM_{10}	Annual	1	0.29	29.4%	569055.8	3626875.1	1081.58
PM_{10}	24-hr	5	1.46	29.1%	569055.8	3626925.1	1083.55
SO_2	Annual	1	5.37	Significant	568855.80	3627075.10	1090.02
SO_2	24-hr	5	31.53990c	#VALUE!	568855.80	3627175.10	1093.2
SO_2	3-hr	25	117.91	Significant	569805.80	3626775.10	1083.24
SO_2	1-hr	7.8	163.47	Significant	569605.80	3627025.10	1088.32

Notes:

1. NO_X to NO_2 conversion methodology: ARM2

Table 2. Cumulative Impact Analysis

Pollutant	Averaging Period	Standard, µg/m³ NAAQS	Standard, µg/m³ NMAAQS	Modeled Facility µg/m³	Modeled Facility & Neighbors µg/m³	Background µg/m³	Calculated µg/m³	Calculated as a Percent of the Standard NAAQS	Calculated as a Percent of the Standard NMAAQS	Background Monitor (If Applicable)	Location of Maximum Concentration X	Y	Elevation (m)
H_2S	1-hr	-	139.3	1.73	1.73	[redacted]	-	-	-	-	569005.8	3624925.1	1070.11
NO_2	Annual	99.66	94.0	9.78	[redacted]	5.00	14.78	14.8%	15.7%	5ZR	569055.8	3626875.1	1081.58
	1-hr	188.03	-	112.26		60.30	172.56	91.8%	-	5ZR	569055.8	3626875.1	1081.58
$PM_{2.5}$	Annual	12	-	0.49	0.29	5.9	6.19	51.6%	-	5ZR	569055.9	3626875	1081.58
	24-hr	35	-	1.46	2.275	13.4	15.68	44.8%	-	5ZR	569158	3626811.9	1080.33
SO_2	1-hr	196.4	-	127.61	[redacted]	68.30	195.91	99.7%	-	483751025	569705.8	3627175.1	1091.56

Notes:

1. NO_X to NO_2 conversion methodology: ARM2

Table 3. PSD Increment

Pollutant	Averaging Period	Class I Significance Level µg/m³	PSD Increment Class I µg/m³	PSD Increment Class II µg/m³	Facility µg/m³ Class I	Facility µg/m³ Class II	Facility & Neighbors µg/m³ Class II	Calculated as a Percent of the Standard Class I	Calculated as a Percent of the Standard Class II	Location of Maximum Concentration X	Y	Elevation (m)
NO_2	Annual	0.1	2.5	25	-	9.80	0.00	N/A	0.0%	0	0	0
$PM_{2.5}$	Annual	0.05	1	4	-	0.29	0.33	N/A	8.2%	569055.9	3626875	1081.58
	24-hr	0.27	2	9	-	1.46	1.47	N/A	16.3%	569055.9	3626925	1083.54
SO_2	Annual	0.1	2	20	-	7.21	19.19	N/A	95.9%	568805.8	3627125.1	1091.48
	24-hr	0.2	5	91	-	41.55	85.02	N/A	93.4%	568805.8	3627125.1	1091.48
	3-hr	1	25	512	-	120.70581	179.37861	N/A	35.0%	570105.8	3628325.1	1101.08

1. NO_X to NO_2 conversion methodology: ARM2

Gas Plant Acid Gas Flaring

Table 1. Significance Analysis

Pollutant	Averaging Period	Significance Level µg/m³	Modeled µg/m³	Percent of Significance	Location of Maximum Concentration X	Y	Elevation (m)
CO	8-hr	500	56.23	11.2%	569005.80	3626775.10	1079.27
CO	1-hr	2000	87.00	4.4%	569391.80	3626711.00	1083.25
H_2S	1-hr	5	1.41	28.3%	569055.80	3625875.10	1060.63
NO_2	Annual	1	9.64	Significant	569055.8	3626875.1	1081.58
NO_2	24-hr	5	52.30	Significant	569055.8	3626925.1	1083.55
NO_2	1-hr	7.52	120.83	Significant	569105.8	3626875.1	1081.47
$PM_{2.5}$	Annual	0.2	0.29	Significant	569055.8	3626875.1	1081.58
$PM_{2.5}$	24-hr	1.2	1.46	Significant	569055.8	3626925.1	1083.55
PM_{10}	Annual	1	0.29	29.4%	569055.8	3626875.1	1081.58
PM_{10}	24-hr	5	1.46	29.1%	569055.8	3626925.1	1083.55
SO_2	Annual	1	6.17	Significant	569055.80	3626875.10	1081.58
SO_2	24-hr	5	36.96	Significant	569505.80	3625525.10	1078.22
SO_2	3-hr	25	99.85	Significant	569505.80	3625625.10	1075.47
SO_2	1-hr	7.8	133.46	Significant	569055.80	3625875.10	1060.63

Notes:

1. NO_X to NO_2 conversion methodology: ARM2

Table 2. Cumulative Impact Analysis

Pollutant	Averaging Period	Standard, µg/m³ NAAQS	Standard, µg/m³ NMAAQS	Modeled Facility µg/m³	Modeled Facility & Neighbors µg/m³	Background µg/m³	Calculated µg/m³	Calculated as a Percent of the Standard NAAQS	Calculated as a Percent of the Standard NMAAQS	Background Monitor (If Applicable)	Location of Maximum Concentration X	Y	Elevation (m)
H_2S	1-hr	-	139.3	1.41	1.41	[redacted]	-	1.0%	-	-	569055.8	3625875.1	1060.63
NO_2	Annual	99.66	94.0	9.64	-	5.00	14.64	14.7%	16%	5ZR	569055.8	3626875.1	1081.58
	1-hr	188.03	-	112.26	-	60.30	172.56	91.8%	-	5ZR	569055.8	3626875.1	1081.58
$PM_{2.5}$	Annual	12	-	0.49	0.29	5.9	6.19	51.6%	-	5ZR	569055.9	3626875	1081.58
	24-hr	35	-	1.46	2.28	13.4	15.68	44.8%	-	5ZR	569158	3626811.9	1080.33
SO_2	1-hr	196.4	-	99.86	-	68.30	168.16	85.6%	-	483751025	568855.8	3626975.1	1087.78

Notes:

1. NO_X to NO_2 conversion methodology: ARM2

Table 3. PSD Increment

Pollutant	Averaging Period	Class I Significance Level µg/m³	PSD Increment Class I µg/m³	PSD Increment Class II µg/m³	Facility µg/m³ Class I	Facility µg/m³ Class II	Facility & Neighbors µg/m³ Class II	Calculated as a Percent of the Standard Class I	Calculated as a Percent of the Standard Class II	Location of Maximum Concentration X	Y	Elevation (m)
NO_2	Annual	0.1	2.5	25	-	9.80	0.00	N/A	0.0%	0	0	0
$PM_{2.5}$	Annual	0.05	1	4	-	0.29	0.33	N/A	8.2%	569055.9	3626875	1081.58
	24-hr	0.27	2	9	-	1.46	1.47	N/A	16.3%	569055.9	3626925	1083.54
SO_2	Annual	0.1	2	20	-	7.21	19.19	N/A	95.9%	568805.8	3627125.1	1091.48
	24-hr	0.2	5	91	-	41.69	84.76	N/A	93.1%	568805.8	3627125.1	1091.48
	3-hr	1	25	512	-	119.78	147.02	N/A	28.7%	568805.8	3627125.1	1091.48

16-X: Summary/conclusions

1	A statement that modeling requirements have been satisfied and that the permit can be issued.
	The results of this modeling demonstrate that this facility complies with all NAAQS, NMAAQS, and PSD increment standards. All modeling requirements have been satisfied.

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.

Compliance Test History Table

Unit No.	Test Description	Test Date
E4-310, 311, 312,313	Annual Quad J Test	2/21/2019
E4-310, 311, 312,313	Quarterly PEA Test	8/2019
D-2301, D-2302, TO1	Semiannual Alarm Test	6/12/2019
D-2301, D-2302, TO1	Annual Method 22	8/2019
Dehy 1 and TO1	Semiannual control equipment inspection	7/23/2019

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 being submitted with this application.

Section 22: Certification

Company Name: Durango Midstream LLC

I, Darin B. Kennard, 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 29 day of October, 2019, upon my oath or affirmation, before a notary of the State of Texas.

*Signature

October 29, 2019
Date

Darin B. Kennard
Printed Name

Vice President & GM
Title

Scribed and sworn before me on this 29 day of October, 2019.

My authorization as a notary of the State of Texas expires on the 28th day of June, 2022.

Notary's Signature

October 29, 2019
Date

Melissa Roles
Notary's Printed Name

MELISSA ROLES
Notary Public, State of Texas
Comm. Expires 06-28-2022
Notary ID 125303429

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