September 8, 2026

New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico, 87505

RE: New Source Review (NSR) Construction Permit Application - Update
Red Raider Compressor Station, Eddy County, New Mexico
ONEOK, Inc.

Dear Air Quality Bureau,

ONEOK, Inc. (ONEOK) submits the enclosed update to the application for issuance of a New Source Review (NSR) Construction Permit to allow for the addition of a generator, an enclosed combustion device, and fugitive emissions at the existing Red Raider Compressor Station.

The Red Raider Compressor Station currently operates under NSR Permit No. 9897M1 and Title V P-304.

A permit filing fee of $500 and an original Section 22 wet ink signature page was mailed to the department for the application under separate cover. A copy of both are provided in this submission. Electronic files will be transferred via secure electronic transfer initiated by the assigned permit writer. Two links will need to be provided, as the modeling files will be uploaded from a different server location.

Any clarification questions or requests for additional information can be directed to myself via email to jj@resolutecompliance.com or by phone at 903-241-2055 or Mr. Lance Green via email to Lance.Green@oneok.com or by phone at 225-692-6947.

Kind Regards,

Jeff A. Jackson

Vice President EHSR

Encl: NSR Permit Application and Modeling

Cc: Mr. Lance Green – ONEOK
Ms. Daria Underwood – ONEOK

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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		

Universal Air Quality Permit Application

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

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

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

Acknowledgements:

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

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

☒ Check No.: 2100377290 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.

☒ I acknowledge there is an annual fee for permits in addition to the permit review fee: www.env.nm.gov/air-quality/permit-fees-2/.

☐ This facility qualifies for the small business fee reduction per 20.2.75.11.C. NMAC. The full $500.00 filing fee is included with this application and I understand the fee reduction will be calculated in the balance due invoice. The Small Business Certification Form has been previously submitted or is included with this application. (Small Business Environmental Assistance Program Information: www.env.nm.gov/air-quality/small-biz-eap-2/.)

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

Section 1 – Facility Information

Section 1-A: Company Information

		AI # if known: 40971	Updating Permit/NOI #: 9897-M1
1	Facility Name: Red Raider Compressor Station	Plant primary SIC Code (4 digits): 1311	
		Plant NAIC code (6 digits): 21112	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): From Loving head south on N 4th St for 1.3 mi toward W Cedar St, turn left onto US Hwy 285 S and continue for 16 mi, turn left onto Whitehorn Rd and continue for 2.4 mi, slight left onto Longhorn Rd, after 1.8 mi turn left onto Pipeline Rd Number 1, after 1.8 mi turn left and continue for 2.2 mi, continue straight at the fork for 1.2 mi and then turn right, continue for 0.7 mi and the facility on the left on the unmarked road after 0.18 mi.		

2	Plant Operator Company Name: ONEOK, Inc.	Phone/Fax: (225) 692-6947
a	Plant Operator Address: 100 W 5th Street Tulsa, OK 74103	
b	Plant Operator's New Mexico Corporate ID or Tax ID:	
3	Plant Owner(s) name(s): ONEOK, Inc.	Phone/Fax: (225) 692-6947
a	Plant Owner(s) Mailing Address(s): 100 W 5th Street Tulsa, OK 74103	
4	Bill To (Company): ONEOK, Inc.	Phone/Fax: (225) 692-6947
a	Mailing Address: 100 W 5th Street Tulsa, OK 74103	E-mail: lance.green@oneok.com
5	☐ Preparer: ☒ Consultant: Jeff Jackson, VP EHS; Resolute Compliance, LLC	Phone/Fax: (903)241-2055
a	Mailing Address: PO Box 970 Royse City, TX 75189	E-mail: jj@resolutecompliance.com
6	Plant Operator Contact: Lance Green	Phone/Fax: (225) 692-6947
a	Mailing Address: 100 W 5th Street Tulsa, OK 74103	E-mail: lance.green@oneok.com
7	Air Permit Contact: Lance Green	Title: Environmental Supervisor
a	E-mail: lance.green@oneok.com	Phone/Fax: (225) 692-6947
b	Mailing Address: 100 W 5th Street Tulsa, OK 74103	
c	The designated Air permit Contact will receive all official correspondence (i.e. letters, permits) from the Air Quality Bureau.	

Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? ☒ Yes ☐ No	1.b If yes to question 1.a, is it currently operating in New Mexico? ☒ Yes ☐ No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? ☐ Yes ☒ No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? ☐ Yes ☒ No
3	Is the facility currently shut down? ☐ Yes ☒ No	If yes, give month and year of shut down (MM/YY):
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? ☐ Yes ☒ No	
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? ☐ Yes ☐ No ☒ N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? ☒ Yes ☐ No	If yes, the permit No. is: P-304
7	Has this facility been issued a No Permit Required (NPR)? ☐ Yes ☒ No	If yes, the NPR No. is:
8	Has this facility been issued a Notice of Intent (NOI)? ☐ Yes ☒ No	If yes, the NOI No. is:
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? ☐ Yes ☒ No	If yes, the permit No. is:
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? ☒ Yes ☐ No	If yes, the register No. is: 9897M1

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: Oil 16.46 bbl Natural Gas: 6.25 MMscf/hr Produced Water 10.917 bbl	Daily: Oil 395 bbl Natural Gas: 150 MMscf Produced Water: 262 bbl	Annually: Oil: 144,175 bbl Natural Gas: 54,750 MMscf Produced Water: 95,630 bbl
b	Proposed	Hourly: Oil 16.46 bbl Natural Gas: 7.083 MMscf/hr Produced Water 10.917 bbl	Daily: Oil 395 bbl Natural Gas: 170 MMscf Produced Water: 262 bbl	Annually: Oil: 144,175 bbl Natural Gas: 62,050 MMscf Produced Water: 95,630 bbl

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: Oil 16.46 bbl Natural Gas: 6.25 MMscf/hr Produced Water 10.917 bbl	Daily: Oil 395 bbl Natural Gas: 150 MMscf Produced Water: 262 bbl	Annually: Oil: 144,175 bbl Natural Gas: 54,750 MMscf Produced Water: 95,630 bbl
b	Proposed	Hourly: Oil 16.46 bbl Natural Gas: 7.083 MMscf/hr Produced Water 10.917 bbl	Daily: Oil 395 bbl Natural Gas: 170 MMscf Produced Water: 262 bbl	Annually: Oil: 144,175 bbl Natural Gas: 62,050 MMscf Produced Water: 95,630 bbl

Section 1-D: Facility Location Information

1	Latitude (decimal degrees): 32.130794	Longitude (decimal degrees): -103.968664	County: Eddy	Elevation (ft): 3,037
2	UTM Zone: ☐ 12 or ☒ 13	Datum: ☐ NAD 83 ☒ WGS 84		
a	UTM E (in meters, to nearest 10 meters): 597,279 m	UTM N (in meters, to nearest 10 meters): 3,555,399 m		
3	Name and zip code of nearest New Mexico town: Loving, NM 88256			
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): From Loving head south on N 4th St for 1.3 mi toward W Cedar St, turn left onto US Hwy 285 S and continue for 16 mi, turn left onto Whitehorn Rd and continue for 2.4 mi, slight left onto Longhorn Rd, after 1.8 mi turn left onto Pipeline Rd Number 1, after 1.8 mi turn left and continue for 2.2 mi, continue straight at the fork for 1.2 mi and then turn right, continue for 0.7 mi and the facility on the left on the unmarked road after 0.18 mi.			
5	The facility is 13.05 miles southeast of Loving, NM 88256.			
6	Land Status of facility (check one): ☐ Private ☐ Indian/Pueblo ☐ Government ☒ BLM ☐ Forest Service ☐ Military			
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: Malaga and Eddy County			
8	**20.2.72** NMAC applications **only**: Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.env.nm.gov/air-quality/modeling-publications/)? ☒ Yes ☐ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: Carlsbad Caverns - 43.47 km; Texas - 13.98 km			
9	Name nearest Class I area: Carlsbad Caverns National Park			
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 44.1 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: 12,103 m			
12	Method(s) used to delineate the Restricted Area: N/A "**Restricted Area**" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.			
13	Does the owner/operator intend to operate this source as a portable stationary source as defined in 20.2.72.7.X NMAC? ☐ Yes ☒ No A portable stationary source is not a mobile source, such as an automobile, but a source that can be installed permanently at one location or that can be re-installed at various locations, such as a hot mix asphalt plant that is moved to different job sites.			
14	Will this facility operate in conjunction with other air regulated parties on the same property? ☒ No ☐ Yes If yes, what is the name and permit number (if known) of the other facility?			

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

1	Facility **maximum** operating ($\frac{hours}{day}$): 24	($\frac{days}{week}$): 7	($\frac{weeks}{year}$): 52	($\frac{hours}{year}$): 8760		
2	Facility's maximum daily operating schedule (if less than 24 $\frac{hours}{day}$)? Start: N/A		☐AM ☐PM	End: N/A	☐AM ☐PM	

3	Month and year of anticipated start of construction: Upon issuance of permit.
4	Month and year of anticipated construction completion: Upon issuance of permit.
5	Month and year of anticipated startup of new or modified facility: Upon issuance of permit.
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: The facility is subject to the New Mexico New Owner Audit Program entered between the New Mexico Environmental Department and ONEOK, Inc. effective July 16, 2025. Additionally, Notice of Violation EPCEB Air Case No. DGP-Multi-2501 was received on April 22, 2025.		
a	If yes, NOV date or description of issue: Failure to update the Facilitys' New Source Review permits 9897-M1 and 9896-M1, Specific Condition B110.C(2)		NOV Tracking No: DGP-Multi-2501
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: New Owner Monthly Reports	Effective Date: 9/15/25	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	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): Sypy Thomas	Phone: 720-468-3635
a	R.O. Title: Senior Vice President	R.O. e-mail: sypy.thomas@oneok.com
b	R. O. Address: 100 W 5th Street Tulsa, OK 74103	
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.): ONEOK, Inc.
a	Address of Parent Company: 100 W 5th Street Tulsa, OK 74103
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.): ONEOK Delaware Gathering, LLC.
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: Lance Green 225-692-6947; Daria Underwood 940-683-1337
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: Texas – 13.98 km

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: Jeff Jackson, Email: jj@resolutecompliance.com, Phone number: (903) 241-2055.

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

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

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

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

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

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

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

2) The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text and formulas in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc,), submit these items in hard copy format. We must be able to review the formulas and inputs that calculated the emissions.

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

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

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THE ORIGINAL DOCUMENT HAS A WHITE REFLECTIVE WATERMARK ON THE BACK. HOLD AT AN ANGLE TO VIEW. DO NOT CASH IF NOT PRESENT.

ENLINK MIDSTREAM OPERATING, LP

1722 Routh Street
Suite 1300
Dallas, TX 75201-2502

Wells Fargo - Minnesota
6th Street and Marquette Ave.
Minneapolis, MN 55423

2100377290

56-382/412

Date 3/19/2026
Account 9600137553

Pay Amount **$500.00*****

Pay ****Five hundred and xx/100 Dollar ****

Void After 180 Days

PAY TO THE ORDER OF
NEW MEXICO ENVIRONMENT DEPARTMENT,AQB
AIR QUALITY BUREAU
525 CAMINO DE LOS MARQUEZ
SUITE 1
SANTA FE, NM 87505-1816

RE

⑈2100377290⑈ ⑆041203824⑆ 9600137553⑈

FORM NO. 9836B

Check Date: Mar/19/2026 **Supplier Number: 1000019537** **Check No: 2100377290**

Invoice Number	Invoice Date	Voucher ID	Gross Amount	Discount Taken	Late Charge	Paid Amount
031826KN2	Mar/18/2026	00000666	500.00	0.00	0.00	500.00

Red Raider– AI 40971

Check Number	Date	Total Gross Amount	Total Discounts	Total Late Charge	Total Paid Amount
2100377290	Mar/19/2026	$500.00	$0.00	$0.00	$500.00

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.
ENG-4	Compressor Engine	Waukesha	16V275GL	WAU-1680102	5000 hp	5000 hp	6/1/2023 2/8/2024	CAT-4 ENG-4	20200254	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	4SLB	N/A
ENG-5	Compressor Engine	Waukesha	16V275GL	WAU-1680097	5000 hp	5000 hp	6/1/2023 2/21/2024	CAT-5 ENG-5	20200254	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	4SLB	N/A
ENG-3	Compressor Engine	Caterpillar	3612A4	BB200935	3750 hp	3750 hp	12/1/2023 4/5/2024	CAT-3 ENG-3	20200254	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	4SLB	N/A
ENG-1	Compressor Engine	Caterpillar	3612A4	BB200932	3750 hp	3750 hp	6/1/2023 5/16/2024	CAT-1 ENG-1	20200254	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	4SLB	N/A
ENG-2	Compressor Engine	Caterpillar	3612A4	BB200934	3750 hp	3750 hp	12/1/2023 5/1/2024	CAT-2 ENG-2	20200254	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	4SLB	N/A
ENG-6	Compressor Engine	Caterpillar	3612A4	BB200936	3750 hp	3750 hp	12/1/2023 6/11/2024	CAT-6 ENG-6	20200254	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	4SLB	N/A
ENG-7	Compressor Engine	Caterpillar	3612A4	TBD	3750 hp	3750 hp	TBD TBD	CAT-7 ENG-7	20200254	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
ENG-8	Compressor Engine	Caterpillar	3612A4	TBD	3750 hp	3750 hp	TBD TBD	CAT-8 ENG-8	20200254	☐ Existing (unchanged) ☑ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
ENG-7	Compressor Engine	Caterpillar	3616 A4 Gen 2	TBD	5500 hp	5500 hp	TBD TBD	CAT-7 ENG-7	20200254	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
ENG-8	Compressor Engine	Caterpillar	3616 A4 Gen 2	TBD	5500 hp	5500 hp	TBD TBD	CAT-8 ENG-8	20200254	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
GEN-1	Generator	Aggreko	21.9L Hyundai GV222CB	4007787	697.3 hp	697.3 hp	1/1/2024 TBD	N/A GEN-1	20200253	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SRB	N/A
DEHY-1	TEG Glycol Dehydrator	TBD	TBD	TBD	170 MMSCFD	170 MMSCFD	TBD 1/31/2024	BTEX/ECD-2 ECD-2	31000301	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
RBL-1	Glycol Reboiler	TBD	TBD	TBD	2 MMBtu/hr	2 MMBtu/hr	TBD 1/31/2024	N/A RBL-1	31000228	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
TK-405	Oil Tank	TBD	Vertical Tank	TBD	210 bbl	210 bbl	TBD TBD	N/A TK-405	40400313	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
TK-406	Oil Tank	TBD	Vertical Tank	TBD	210 bbl	210 bbl	TBD TBD	N/A TK-406	40400313	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
TK-406A	Condensate Tank	Pitts	Vertical Tank	2040	1000 bbl	1000 bbl	9/1/2023 12/1/2023	ECD-1 ECD-1	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
TK-406B	Condensate Tank	Pitts	Vertical Tank	2041	1000 bbl	1000 bbl	9/1/2023 12/1/2023	ECD-1 ECD-1	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
TK-406C	Produced Water Tank	Pitts	Vertical Tank	2042	1000 bbl	1000 bbl	9/1/2023 12/1/2023	ECD-1 ECD-1	40400315	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
TK-407	Gunbarrel Separator	Pitts	Vertical Tank	2039	750 bbl	750 bbl	9/1/2023 12/1/2023	ECD-1 ECD-1	31000503	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
ECD-1	Enclosed Combustion Unit	Cimarron	ECD48	ECDEMS0004	109 MSCF/d	109 MSCF/d	TBD 12/1/2024	N/A ECD-1	30600903	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
ECD-2	Enclosed Combustion Unit	Cimarron	ECD48	24400E-002	109 MSCF/d	109 MSCF/d	2024 TBD	N/A ECD-2	30600903	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
LOAD-1	Condensate and Produced Water Loading	N/A	N/A	N/A	N/A	N/A	N/A N/A	ECD-1 ECD-1	40600137	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
FUG	Fugitive Emissions	N/A	N/A	N/A	N/A	N/A	N/A 5/16/2024	N/A FUG	31088811	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ To Be Modified ☐ To be Replaced	N/A	N/A
COMP-1 FUG	Compressor 1 Fugitives	Ariel	2701	F-69394	N/A	N/A	10/1/2023 5/16/2024	N/A COMP-1 FUG	31088811	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
COMP-2 FUG	Compressor 2 Fugitives	Ariel	2702	F-69357	N/A	N/A	10/1/2023 5/1/2024	N/A COMP-2 FUG	31088811	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
COMP-3 FUG	Compressor 3 Fugitives	Ariel	2703	F-69195	N/A	N/A	10/1/2023 4/5/2024	N/A COMP-3 FUG	31088811	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
COMP-4 FUG	Compressor 4 Fugitives	Ariel	2704	F-68497	N/A	N/A	8/1/2023 2/8/2024	N/A COMP-4 FUG	31088811	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
COMP-5 FUG	Compressor 5 Fugitives	Ariel	2705	F-68844	N/A	N/A	9/1/2023 2/21/2024	N/A COMP-5 FUG	31088811	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
COMP-6 FUG	Compressor 6 Fugitives	Ariel	2706	F-69714	N/A	N/A	10/1/2023 6/11/2024	N/A COMP-6 FUG	31088811	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
COMP-7 FUG	Compressor 7 Fugitives	Ariel	TBD	TBD	N/A	N/A	TBD TBD	N/A COMP-7 FUG	31088811	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
COMP-8 FUG	Compressor 8 Fugitives	Ariel	TBD	TBD	N/A	N/A	TBD TBD	N/A COMP-8 FUG	31088811	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
SSM	Start-up, Shutdown & Maintenance	N/A	N/A	N/A	N/A	N/A	N/A 5/16/2024	N/A Start-up, Shutdown & Maintenance	31088811	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
MALF	Malfunction	N/A	N/A	N/A	N/A	N/A	N/A 5/16/2024	N/A MALF	30188811	☑ 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 https://www.env.nm.gov/wp-content/uploads/sites/2/2017/10/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
HAUL	Haul Road	N/A	N/A N/A	N/A N/A	20.2.72.202.B.5 NMAC	N/A N/A	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-408	Methanol Tank	TBD	TBD TBD	210 bbl	20.2.72.202.B.5 NMAC	TBD TBD	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-409	Coolant Tank	TBD	TBD TBD	210 bbl	20.2.72.202.B.2 NMAC	TBD TBD	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-TEG	TEG Tank	TBD	TBD TBD	1,000 gal	20.2.72.202.B.2 NMAC	TBD TBD	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-OIL1	Oil Tank	TBD	TBD TBD	1,000 gal	20.2.72.202.B.2 NMAC	TBD TBD	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-OIL2	Oil Tank	TBD	TBD TBD	1,000 gal	20.2.72.202.B.2 NMAC	TBD TBD	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-OIL3	Oil Tank	TBD	TBD TBD	1,000 gal	20.2.72.202.B.2 NMAC	TBD TBD	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-OIL4	Oil Tank	TBD	TBD TBD	1,000 gal	20.2.72.202.B.2 NMAC	TBD TBD	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-AF1	Antifreeze Tank	TBD	TBD TBD	1,000 gal	20.2.72.202.B.2 NMAC	TBD TBD	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-AF2	Antifreeze Tank	TBD	TBD TBD	1,000 gal	20.2.72.202.B.2 NMAC	TBD TBD	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-AF3	Antifreeze Tank	TBD	TBD TBD	1,000 gal	20.2.72.202.B.2 NMAC	TBD TBD	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-AF4	Antifreeze Tank	TBD	TBD TBD	1,000 gal	20.2.72.202.B.2 NMAC	TBD TBD	☐ 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
CAT-4	Oxidation Catalyst	TBD	CO, HCHO, VOC	ENG-4	CO = 83.2% VOC = 51.0% HCHO = 91.8%	Catalyst Spec Sheet
CAT-5	Oxidation Catalyst	TBD	CO, HCHO, VOC	ENG-5		Catalyst Spec Sheet
CAT-3	Oxidation Catalyst	TBD	CO, HCHO, VOC	ENG-3	CO = 86.9% VOC = 55.8% HCHO = 87.9%	Catalyst Spec Sheet
CAT-1	Oxidation Catalyst	TBD	CO, HCHO, VOC	ENG-1		Catalyst Spec Sheet
CAT-2	Oxidation Catalyst	TBD	CO, HCHO, VOC	ENG-2		Catalyst Spec Sheet
CAT-6	Oxidation Catalyst	TBD	CO, HCHO, VOC	ENG-6		Catalyst Spec Sheet
CAT-7	Oxidation Catalyst	TBD	CO, HCHO	ENG-7	CO = 81.4% HCHO = 70.0%	Catalyst Spec Sheet
CAT-8	Oxidation Catalyst	TBD	CO, HCHO	ENG-8		Catalyst Spec Sheet
ECD-1	Vapor Combustor	TBD	VOC, HAP	TK-406A through TK-407, Condensate and Produced Water Loading	98%	Manufacturer Specs
ECD-2	Vapor Combustor	TBD	VOC, HAP	DEHY-1 Still Vent, Flash Tank	98%	Manufacturer Specs
VRU-1	Vapor Recovery Unit	TBD	VOC, HAP	TK-406A through TK-407, Condensate and Produced Water Loading	95%	Engineering Estimate
BTEX	BTEX Condenser	TBD	VOC, HAP, BTEX	DEHY-1 Still Vent	VOC: 47.51% HAP: 71.64% BTEX: 74.41%	Emission Model (ProMax)

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

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

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

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

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
ENG-4	3.31	14.48	26.24	114.91	11.24	49.25	0.19	0.85	0.01	0.05	0.01	0.05	0.01	0.05	-	-	-	-
ENG-5	3.31	14.48	26.24	114.91	11.24	49.25	0.19	0.85	0.01	0.05	0.01	0.05	0.01	0.05	-	-	-	-
ENG-3	2.48	10.86	25.22	110.44	9.34	40.92	0.14	0.63	0.01	0.03	0.01	0.03	0.01	0.03	-	-	-	-
ENG-1	2.48	10.86	25.22	110.44	9.34	40.92	0.14	0.63	0.01	0.03	0.01	0.03	0.01	0.03	-	-	-	-
ENG-2	2.48	10.86	25.22	110.44	9.34	40.92	0.14	0.63	0.01	0.03	0.01	0.03	0.01	0.03	-	-	-	-
ENG-6	2.48	10.86	25.22	110.44	9.34	40.92	0.14	0.63	0.01	0.03	0.01	0.03	0.01	0.03	-	-	-	-
ENG-7	3.64	15.93	26.07	114.19	1.94	8.50	0.21	0.90	0.01	0.05	0.01	0.05	0.01	0.05	-	-	-	-
ENG-8	3.64	15.93	26.07	114.19	1.94	8.50	0.21	0.90	0.01	0.05	0.01	0.05	0.01	0.05	-	-	-	-
GEN-1	3.40	14.88	5.72	25.05	0.05	0.20	0.03	0.12	0.05	0.21	0.05	0.21	0.05	0.21	-	-	-	-
RBL-1	0.20	0.86	0.16	0.72	0.01	0.05	0.01	0.05	0.01	0.07	0.01	0.07	0.01	0.07	-	-	-	-
TK-405	-	-	-	-	*	0.75	-	-	-	-	-	-	-	-	-	-	-	-
TK-406	-	-	-	-	*	0.75	-	-	-	-	-	-	-	-	-	-	-	-
TK-406A	-	-	-	-	*	62.01	-	-	-	-	-	-	-	-	-	-	-	-
TK-406B	-	-	-	-	*	62.01	-	-	-	-	-	-	-	-	-	-	-	-
TK-406C	-	-	-	-	*	0.77	-	-	-	-	-	-	-	-	-	-	-	-
TK-407	-	-	-	-	*	796.22	-	-	-	-	-	-	-	-	-	-	-	-
DEHY-1	-	-	-	-	235.95	1,033.44	-	-	-	-	-	-	-	-	-	-	-	-
ECD-1	0.00	0.02	0.01	0.04	-	-	1.71E-04	7.51E-04	-	-	-	-	-	-	-	-	-	-
ECD-2	0.00	0.02	0.01	0.04	-	-	1.71E-04	7.51E-04	-	-	-	-	-	-	-	-	-	-
LOAD-1	-	-	-	-	3.62	15.86	-	-	-	-	-	-	-	-	-	-	-	-
FUG	-	-	-	-	2.63	11.51	-	-	-	-	-	-	-	-	-	-	-	-
COMP-1 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
COMP-2 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
COMP-3 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
COMP-4 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
COMP-5 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
COMP-6 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
COMP-7 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
COMP-8 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
MALF	-	-	-	-	*	10.00	-	-	-	-	-	-	-	-	-	-	-	-
Totals	27.41	120.07	211.37	925.81	306.37	2,274.41	1.41	6.16	0.14	0.60	0.14	0.60	0.14	0.60	0.00	0.00	0.00	0.00

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

Table 2-E: Requested Allowable Emissions

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

8/1/2026
4/3/2026

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
ENG-4	3.31	14.48	4.41	19.31	5.51	24.14	0.19	0.85	0.01	0.05	0.01	0.05	0.01	0.05	-	-	-	-
ENG-5	3.31	14.48	4.41	19.31	5.51	24.14	0.19	0.85	0.01	0.05	0.01	0.05	0.01	0.05	-	-	-	-
ENG-3	2.48	10.86	3.31	14.48	4.13	18.11	0.14	0.63	0.01	0.03	0.01	0.03	0.01	0.03	-	-	-	-
ENG-1	2.48	10.86	3.31	14.48	4.13	18.11	0.14	0.63	0.01	0.03	0.01	0.03	0.01	0.03	-	-	-	-
ENG-2	2.48	10.86	3.31	14.48	4.13	18.11	0.14	0.63	0.01	0.03	0.01	0.03	0.01	0.03	-	-	-	-
ENG-6	2.48	10.86	3.31	14.48	4.13	18.11	0.14	0.63	0.01	0.03	0.01	0.03	0.01	0.03	-	-	-	-
ENG-7	3.64	15.93	4.85	21.24	4.85	21.24	0.21	0.90	0.01	0.05	0.01	0.05	0.01	0.05	-	-	-	-
ENG-8	3.64	15.93	4.85	21.24	4.85	21.24	0.21	0.90	0.01	0.05	0.01	0.05	0.01	0.05	-	-	-	-
GEN-1	0.46	2.02	1.08	4.71	0.46	2.02	0.03	0.12	0.05	0.21	0.05	0.21	0.05	0.21	-	-	-	-
RBL-1	0.20	0.86	0.16	0.72	0.01	0.05	0.01	0.05	0.01	0.07	0.01	0.07	0.01	0.07	-	-	-	-
TK-405	-	-	-	-	*	0.75	-	-	-	-	-	-	-	-	-	-	-	-
TK-406	-	-	-	-	*	0.75	-	-	-	-	-	-	-	-	-	-	-	-
TK-406A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TK-406B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TK-406C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TK-407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DEHY-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ECD-1	0.73	3.20	1.46	6.38	0.21	0.92	1.71E-04	7.51E-04	-	-	-	-	-	-	-	-	-	-
ECD-2	0.25	1.12	0.51	2.23	1.77	7.77	1.71E-04	7.51E-04	-	-	-	-	-	-	-	-	-	-
LOAD-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUG	-	-	-	-	2.63	11.51	-	-	-	-	-	-	-	-	-	-	-	-
COMP-1 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
COMP-2 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
COMP-3 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
COMP-4 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
COMP-5 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
COMP-6 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
COMP-7 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
COMP-8 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	-	-	-	-
MALF	-	-	-	-	*	10.00	-	-	-	-	-	-	-	-	-	-	-	-
Totals	25.45	111.48	34.95	153.10	42.73	198.64	1.41	6.16	0.14	0.60	0.14	0.60	0.14	0.60	-	-	-	-

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

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

☐ This table is intentionally left blank since all emissions at this facility due to routine or predictable startup, shutdown, or 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	-	-	-	-	*	10	-	-	-	-	-	-	-	-	-	-	-	-
Totals	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-

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

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

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

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

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

Stack No.	Serving Unit Number(s) from Table 2-A	NOx		CO		VOC		SOx		PM		PM10		PM2.5		☐ H_2S or ☐ Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
N/A																	
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)			
ENG-4	ENG-4	Vertical	No	35	864	432.26	-	-	88.06	2.50
ENG-5	ENG-5	Vertical	No	35	864	432.26	-	-	88.06	2.50
ENG-3	ENG-3	Vertical	No	28	820	399.14	-	-	127.05	2.00
ENG-1	ENG-1	Vertical	No	28	820	399.14	-	-	127.05	2.00
ENG-2	ENG-2	Vertical	No	28	820	399.14	-	-	127.05	2.00
ENG-6	ENG-6	Vertical	No	28	820	399.14	-	-	127.05	2.00
ENG-7	ENG-7	Vertical	No	28	790	521.62	-	-	166.04	2.00
ENG-8	ENG-8	Vertical	No	28	790	521.62	-	-	166.04	2.00
GEN-1	GEN-1	Vertical	No	10	1,382	39.20	-	-	49.92	1.00
ECD-1	ECD-1	Vertical	No	25	1,400	32.46	-	-	2.58	4.00
ECD-2	ECD-2	Vertical	No	25	1,400	32.46	-	-	2.58	4.00
RBL-1	RBL-1	Vertical	No	9	1,400	13.37	-	-	26.60	0.80

Table 2-J: Fuel

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

Unit No.	Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, …)	Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other	Specify Units				
			Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
ENG-4	Field Gas	Process Gas	1,020 Btu/scf	33,872.55 scf/hr	296.72 MMscf/yr	2 gr S/100 scf	N/A
ENG-5	Field Gas	Process Gas	1,020 Btu/scf	33,872.55 scf/hr	296.72 MMscf/yr	2 gr S/100 scf	N/A
ENG-3	Field Gas	Process Gas	1,020 Btu/scf	25,000.00 scf/hr	219.00 MMscf/yr	2 gr S/100 scf	N/A
ENG-1	Field Gas	Process Gas	1,020 Btu/scf	25,000.00 scf/hr	219.00 MMscf/yr	2 gr S/100 scf	N/A
ENG-2	Field Gas	Process Gas	1,020 Btu/scf	25,000.00 scf/hr	219.00 MMscf/yr	2 gr S/100 scf	N/A
ENG-6	Field Gas	Process Gas	1,020 Btu/scf	25,000.00 scf/hr	219.00 MMscf/yr	2 gr S/100 scf	N/A
ENG-7	Field Gas	Process Gas	1,020 Btu/scf	35,917.16 scf/hr	314.63 MMscf/yr	2 gr S/100 scf	N/A
ENG-8	Field Gas	Process Gas	1,020 Btu/scf	35,917.16 scf/hr	314.63 MMscf/yr	2 gr S/100 scf	N/A
GEN-1	Field Gas	Process Gas	1,020 Btu/scf	4,648.67 scf/hr	40.72 MMscf/yr	2 gr S/100 scf	N/A
RBL-1	Field Gas	Process Gas	1,020 Btu/scf	1,960.78 scf/hr	17.22 MMscf/yr	2 gr S/100 scf	N/A
ECD-1	Field Gas	Process Gas	1,020 Btu/scf	30.00 scf/hr	0.26 MMscf/yr	2 gr S/100 scf	N/A
ECD-2	Field Gas	Process Gas	1,020 Btu/scf	30.00 scf/hr	0.26 MMscf/yr	2 gr S/100 scf	N/A

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

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

Stack No.	Unit No.(s)	Total HAPs		Formaldehyde ☑ HAP or ☐ TAP		Acetaldehyde ☑ HAP or ☐ TAP		Acrolein ☑ HAP or ☐ TAP		Benzene ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
ENG-4	ENG-4	0.3	1.3	0.3	1.1	0.0	0.1	0.0	0.1										
ENG-5	ENG-5	0.3	1.3	0.3	1.1	0.0	0.1	0.0	0.1										
ENG-3	ENG-3	0.2	1.0	0.2	0.8	0.0	0.1	0.0	0.1										
ENG-1	ENG-1	0.2	1.0	0.2	0.8	0.0	0.1	0.0	0.1										
ENG-2	ENG-2	0.2	1.0	0.2	0.8	0.0	0.1	0.0	0.1										
ENG-6	ENG-6	0.2	1.0	0.2	0.8	0.0	0.1	0.0	0.1										
ENG-7	ENG-7	0.5	2.3	0.4	1.6	0.1	0.4	0.1	0.2										
ENG-8	ENG-8	0.5	2.3	0.4	1.6	0.1	0.4	0.1	0.2										
GEN-1	GEN-1	0.1	0.2	0.0	0.1	0.0	0.1	0.0	0.1										
RBL-1	RBL-1	0.0	0.0	0.0	0.0	-	-	-	-										
TK-405	TK-405	-	-	-	-	-	-	-	-										
TK-406	TK-406	-	-	-	-	-	-	-	-										
TK-406A	TK-406A	-	-	-	-	-	-	-	-										
TK-406B	TK-406B	-	-	-	-	-	-	-	-										
TK-406C	TK-406C	-	-	-	-	-	-	-	-										
TK-407	TK-407	-	-	-	-	-	-	-	-										
DEHY-1	DEHY-1	-	-	-	-	-	-	-	-										
ECD-1	ECD-1	0.0	0.1	-	-	-	-	-	-										
ECD-2	ECD-2	0.4	1.9	-	-	-	-	-	-	0.2	1.0								
LOAD-1	LOAD-1	-	-	-	-	-	-	-	-										
FUG	FUG	0.2	0.8	-	-	-	-	-	-										
COMP-1 FUG	COMP-1 FUG	0.0	0.0	-	-	-	-	-	-										
COMP-2 FUG	COMP-2 FUG	0.0	0.0	-	-	-	-	-	-										
COMP-3 FUG	COMP-3 FUG	0.0	0.0	-	-	-	-	-	-										
COMP-4 FUG	COMP-4 FUG	0.0	0.0	-	-	-	-	-	-										
COMP-5 FUG	COMP-5 FUG	0.0	0.0	-	-	-	-	-	-										
COMP-6 FUG	COMP-6 FUG	0.0	0.0	-	-	-	-	-	-										
COMP-7 FUG	COMP-7 FUG	0.0	0.0	-	-	-	-	-	-										
COMP-8 FUG	COMP-8 FUG	0.0	0.0	-	-	-	-	-	-										
SSM	SSM	*	1.0	-	-	-	-	-	-										
MALF	MALF	*	1.0	-	-	-	-	-	-										
Totals:		3.3	16.4	2.0	8.8	0.3	1.5	0.2	0.9	0.2	1.0								

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

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

Tank No.	SCC Code	Material Name	Composition	Liquid Density (lb/gal)	Vapor Molecular Weight (lb/lb*mol)	Average Storage Conditions		Max Storage Conditions	
						Temperature (°F)	True Vapor Pressure (psia)	Temperature (°F)	True Vapor Pressure (psia)
TK-405	40400313	Oil	Lube Oil	7.21	50.00	66.35	4.83	75.80	4.83
TK-406	40400313	Oil	Lube Oil	7.21	50.00	66.35	4.83	75.80	4.83
TK-406A	40400311	Condensate	Mixed Hydrocarbons	5.76	47.52	66.35	34.82	75.80	34.82
TK-406B	40400311	Condensate	Mixed Hydrocarbons	5.76	47.52	66.35	34.82	75.80	34.82
TK-406C	40400315	Produced Water	Water and Mixed Hydrocarbons	8.31	30.61	66.35	36.39	75.80	36.39

Table 2-L: Tank Data

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

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M^3)			Roof	Shell			
TK-405	TBD	Oil	N/A	VFR	210	33	3.66	3.05	Dark Green	Dark Green	Average	70,560	8.00
TK-406	TBD	Oil	N/A	VFR	210	33	3.66	3.05	Dark Green	Dark Green	Average	70,560	8.00
TK-406A	12/1/2023	Condensate	N/A	VFR	1,000	159	4.57	4.57	Dark Green	Dark Green	Good	6,055,350	72.09
TK-406B	12/1/2023	Condensate	N/A	VFR	1,000	159	4.57	4.57	Dark Green	Dark Green	Good	6,055,350	72.09
TK-406C	12/1/2023	Produced Water	N/A	VFR	1,000	159	3.66	3.05	Dark Green	Dark Green	Good	4,016,460	95.63

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)**
Field Gas	Mixed Hydrocanbons	Gas	170 MMscf/day	Condensate	Mixed Hydrocanbons	Liquid	395 bbl/day
				Prodcued Water	Water and Mixed Hydrocanbons	Liquid	262 bbl/day
				Sales Gas	Mixed Hydrocanbons	Gas	170 MMscf/day

Table 2-O: Parametric Emissions Measurement Equipment

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

Unit No.	Parameter/Pollutant Measured	Location of Measurement	Unit of Measure	Acceptable Range	Frequency of Maintenance	Nature of Maintenance	Method of Recording	Averaging Time
N/A - No Parametric Emissions Measurement Equipment at this facility								

Table 2-N: CEM Equipment

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

Stack No.	Pollutant(s)	Manufacturer	Model No.	Serial No.	Sample Frequency	Averaging Time	Range	Sensitivity	Accuracy
N/A- No CEM Equipment at this facility									

Table 2-P: Greenhouse Gas Emissions

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

		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]							**Total GHG** Mass Basis ton/yr[4]	**Total CO_2e** ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**								
ENG-4	**mass GHG**	17,702.03	0.03	0.33	-	-							17,702.40	
	CO_2e	17,702.03	9.94	8.34	-	-								17,720.32
ENG-5	**mass GHG**	17,702.03	0.03	0.33	-	-							17,702.40	
	CO_2e	17,702.03	9.94	8.34	-	-								17,720.32
ENG-3	**mass GHG**	13,065.18	0.02	0.25	-	-							13,065.45	
	CO_2e	13,065.18	7.34	6.16	-	-								13,078.67
ENG-1	**mass GHG**	13,065.18	0.02	0.25	-	-							13,065.45	
	CO_2e	13,065.18	7.34	6.16	-	-								13,078.67
ENG-2	**mass GHG**	13,065.18	0.02	0.25	-	-							13,065.45	
	CO_2e	13,065.18	7.34	6.16	-	-								13,078.67
ENG-6	**mass GHG**	13,065.18	0.02	0.25	-	-							13,065.45	
	CO_2e	13,065.18	7.34	6.16	-	-								13,078.67
ENG-7	**mass GHG**	18,770.56	0.04	0.35	-	-							18,770.95	
	CO_2e	18,770.56	10.54	8.84	-	-								18,789.95
ENG-8	**mass GHG**	18,770.56	0.04	0.35	-	-							18,770.95	
	CO_2e	18,770.56	10.54	8.84	-	-								18,789.95
GEN-1	**mass GHG**	2,429.43	0.005	0.05	-	-							2,429.48	
	CO_2e	2,429.43	1.36	1.14	-	-								2,431.94
RBL-1	**mass GHG**	1,027.53	0.002	0.02	-	-							1,027.55	
	CO_2e	1,027.53	0.58	0.48	-	-								1,028.59
TK-405	**mass GHG**	-	-	-	-	-							-	
	CO_2e	-	-	-	-	-								-
TK-406	**mass GHG**	-	-	-	-	-							-	
	CO_2e	-	-	-	-	-								-
TK-406A	**mass GHG**	-	-	-	-	-							-	
	CO_2e	-	-	-	-	-								-
TK-406B	**mass GHG**	-	-	-	-	-							-	
	CO_2e	-	-	-	-	-								-
TK-406C	**mass GHG**	-	-	-	-	-							-	
	CO_2e	-	-	-	-	-								-
TK-407	**mass GHG**	-	-	-	-	-							-	
	CO_2e	-	-	-	-	-								-
DEHY-1	**mass GHG**	-	-	-	-	-							-	
	CO_2e	-	-	-	-	-								-
ECD-1	**mass GHG**	2,694.02	0.005	0.05	-	-							2694.08	
	CO2e	2,694.02	1.51	1.27	-	-								2696.80
ECD-2	**mass GHG**	930.20	0.002	0.02	-	-							930.22	
	CO2e	930.20	0.52	0.44	-	-								931.16
LOAD-1	**mass GHG**	-	-	-	-	-								
	CO_2e	-	-	-	-	-								
FUG	**mass GHG**	-	-	-	-	-								
	CO2e	-	-	-	-	-								
#REF!	**mass GHG**	-	-	-	-	-								
	CO_2e	-	-	-	-	-								
COMP-1 FUG	**mass GHG**	-	-	-	-	-								
	CO2e	-	-	-	-	-								
COMP-2 FUG	**mass GHG**	-	-	-	-	-								
	CO_2e	-	-	-	-	-								
COMP-3 FUG	**mass GHG**	-	-	-	-	-								
	CO2e	-	-	-	-	-								
COMP-4 FUG	**mass GHG**	-	-	-	-	-								
	CO_2e	-	-	-	-	-								
COMP-5 FUG	**mass GHG**	-	-	-	-	-								
	CO2e	-	-	-	-	-								

COMP-6 FUG	**mass GHG**	-	-	-	-	-								
	CO_2e	-	-	-	-	-								
COMP-7 FUG	**mass GHG**	-	-	-	-	-								
	CO2e	-	-	-	-	-								
COMP-8 FUG	**mass GHG**	-	-	-	-	-								
	CO2e	-	-	-	-	-								
SSM	**mass GHG**	-	-	-	-	-								
	CO_2e	-	-	-	-	-								
MALF	**mass GHG**	-	-	-	-	-								
	CO2e	-	-	-	-	-								
Total	**mass GHG**	132,287.07	0.25	2.49	-	-							132,289.81	
	CO_2e	132,287.07	74.30	62.33	-	-								132,423.70

[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.

ONEOK, Inc. is submitting this application for an NSR permit modification pursuant to 20.2.72. The Red Raider Compressor Station (Facility) is located in Eddy County and currently is permitted under NSR 9897-M1 and Title V P-304. This facility is a compressor station. With this application, ONEOK, Inc. seeks to add a generator engine (Source ID GEN-1), a second enclosed combustion device (Source ID ECD-2) to control the TEG glycol dehydrator streams, compressor fugitive components (Source IDs COMP-1 FUG, COMP-2 FUG, COMP-3 FUG, COMP-4 FUG, COMP-5 FUG, COMP-6 FUG, COMP-7 FUG, COMP-8 FUG), and update Facility emissions associated with recent extended gas and liquid analyses.

The Facility will consist of the following equipment and operations:

- Eight (8) Compressor Engines (Source IDs ENG-1 through ENG-8)
- One (1) Generator Engine (Source ID GEN-1)
- One (1) Dehydrator Unit (Source ID DEHY-1)
- One (1) Glycol Reboiler (Source ID RBL-1)
- One (1) 750-barrel (bbl) Gun Barrel Separator (Source ID TK-407)
- Two (2) 1,000-bbl Condensate Storage Tanks (Source IDs TK-406A, TK-406B)
- One (1) 1,000 bbl Produced Water Storage Tank (Source ID TK-406C)
- Truck Loading (Source ID LOAD-1)
- One (1) electric vapor recovery unit
- Two (2) enclosed combustion devices (Source IDs ECD-1, ECD-2)
- Two (2) 210-bbl Oil Tanks (Source IDs TK-405, TK-406)
- One (1) 210-bbl Methanol Tank (Source ID TK-408)
- One (1) 210-bbl Coolant Tank (Source ID TK-409)
- One (1) 1,000-gallon (gal) TEG Tank (Source ID TK-TEG)
- Four (4) 1,000-gallon (gal) Oil Tanks (Source IDs TK-OIL1, TK-OIL2, TK-OIL3, TK-OIL4)
- Four (4) 1,000-gallon (gal) Antifreeze Tanks (Source IDs TK-AF1, TK-AF2, TK-AF3, TK-AF4)
- Fugitive equipment components (Source IDs FUG, COMP-1 FUG, COMP-2 FUG, COMP-3 FUG, COMP-4 FUG, COMP-5 FUG, COMP-6 FUG, COMP-7 FUG, COMP-8 FUG)
- Unpaved Road Dust (Source ID HAUL)
- Startup, Shutdown & Maintenance (SSM) activities (Source ID SSM)
- Malfunction emissions (Source ID MALF)

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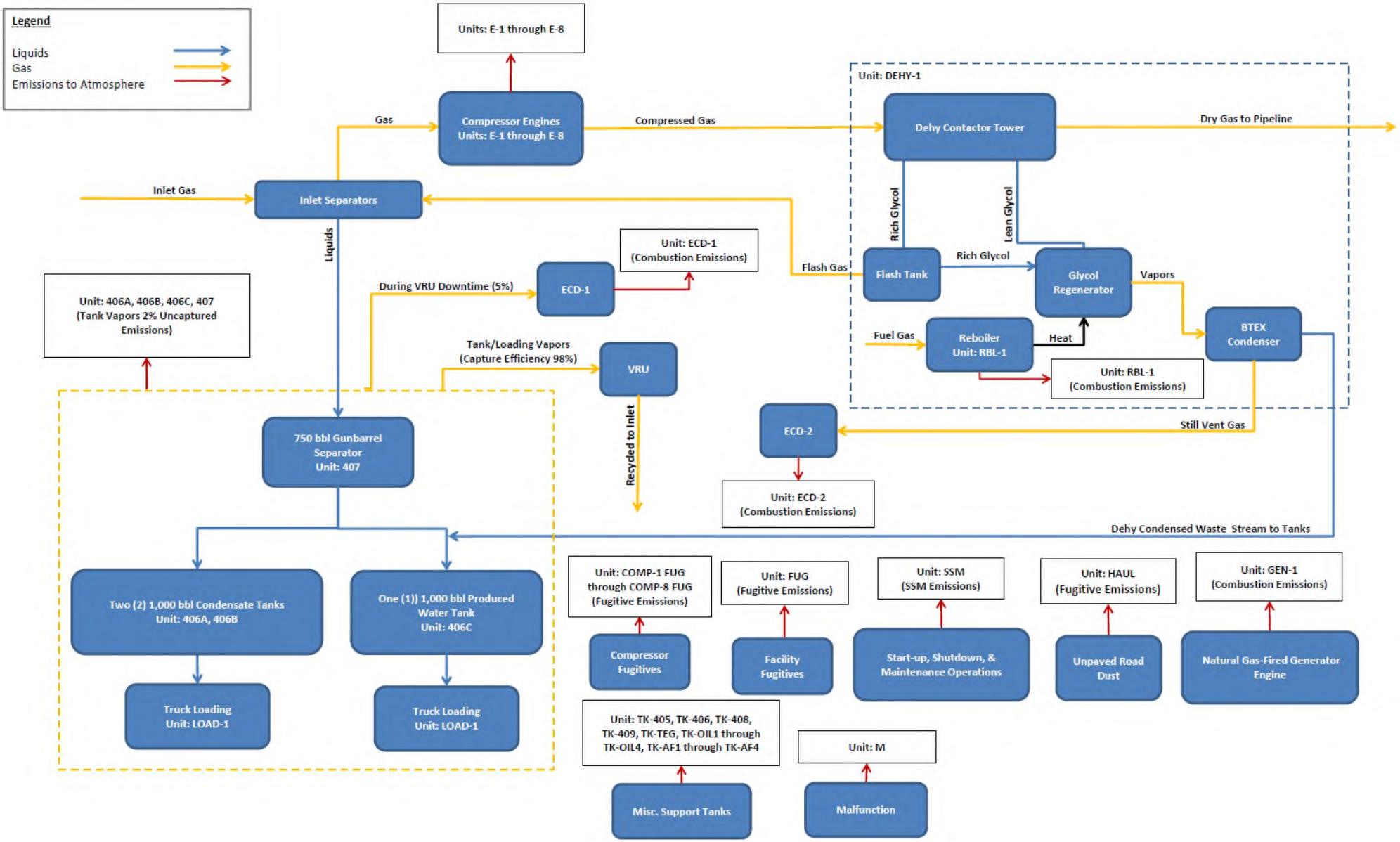
Section 4

Process Flow Sheet

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

A process flow diagram has been included in this section.

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RESOLUTE COMPLIANCE, LLC
Purposeful Solutions. Unwavering Service.

Red Raider Compressor Station
ONEOK, Inc.
Eddy County, NM

Project No. Env-EnLink-0349
Report No. Red Raider-NSR Mod
Date: August 2026

Process Flow Diagram

Section 4

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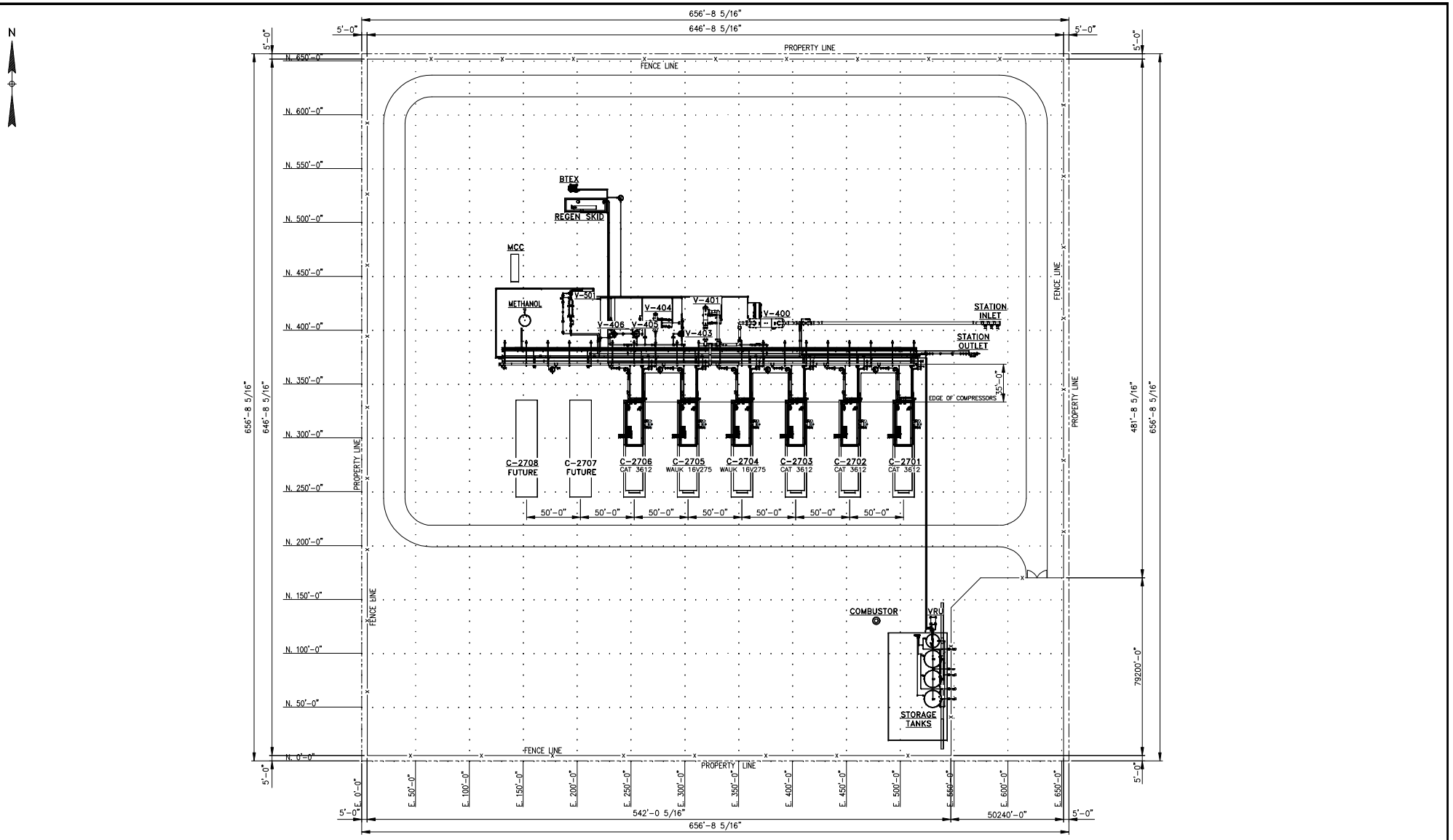
Section 5

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 has been included in this section.

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NOTES:
1. ALL DIMENSIONS TO BE VERIFIED PRIOR TO INSTALLATION
2. ALL UNDERGROUND PIPING TO BE FIELD VERIFIED PRIOR TO TRENCHING
3. NEOPRENE PADS TO BE INSTALLED BETWEEN ALL PIPING AND SUPPORTS
4. ALL UNDERGROUND PIPING TO HAVE 3'-0" OF COVER UNLESS NOTED OTHERWISE

REFERENCE DRAWINGS	
DWG. NO.	TITLE

REVISIONS				
NO.	DATE	DESCRIPTION	DRN	APD
A	6/30/23	FOR REVIEW	RAD	EB

CONFIDENTIAL

This drawing is the property and responsibility of Enlink Midstream. Any reproduction, copying or unauthorized use of this drawing or any part thereof without the expressed written consent of Enlink Midstream is prohibited.

DRAWING RECORD	
DRAWN: RAD	DATE: 3/15/2023
CHECKED:	DATE:
APPROVED: EB	DATE: 3/15/2023
AFE: 30013838	
SCALE: 1"=40'-0"	

ENLINK MIDSTREAM

TITLE: RED RAIDER COMPRESSOR STATION
OVERALL PIPING PLAN

NEW MEXICO

DWG. NO. D-13838-PP-100 REV. A

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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.

Waukesha 16V275GL Engines (Unit IDs: ENG-4, ENG-5)
NOX, CO, and VOC emission rates were calculated using manufacturer specifications. SO2 emissions are based on a conservative fuel sulfur content estimated of 2 gr S/100 scf and 100% conversion of elemental sulfur to SO2. Particulate (PM2.5, PM10, and PM) was calculated using EPA updated factors for NG (Roy Huntley EPA). HAP emissions were calculated using AP-42 Table 3.2-2. Greenhouse gas emissions are estimated using emission factors from 40 CFR 98 Subpart C Tables C-1 and C-2.

Caterpillar 3612A4 Engines (Unit IDs: ENG-1,2,3,6 through ENG-8)
NOX, CO, and VOC emission rates were calculated using manufacturer specifications. SO2 emissions are based on a conservative fuel sulfur context estimated of 2 gr S/100 scf and 100% conversion of elemental sulfur to SO2. Particulate (PM2.5, PM10, and PM) was calculated using EPA updated factors for NG (Roy Huntley EPA). HAP emissions were calculated using AP-42 Table 3.2-2. Greenhouse gas emissions are estimated using emission factors from 40 CFR 98 Subpart C Tables C-1 and C-2.

PSI 21.9L Generator (Unit ID: GEN-1)
NOX, CO, and VOC emission rates were calculated using manufacturer specifications. SO2 emissions are based on a conservative fuel sulfur context estimated of 2 gr S/100 scf and 100% conversion of elemental sulfur to SO2. Particulate (PM2.5, PM10, and PM) and HAP emissions were calculated using AP-42 Table 3.2-2. Greenhouse gas emissions are estimated using emission factors from 40 CFR 98 Subpart C Tables C-1 and C-2.

Glycol Dehydrator (Unit ID: DEHY-1)
Glycol dehydrator emissions were calculated using BR&E Promax and an extended gas analysis. Flash tank emissions are sent to an enclosed combustion device (ECD-2) with 98% DRE. The still column is sent to BTEX condenser , BTEX non-condensable is sent to ECD-2 with 98% DRE.

Gunbarrel Tank (Unit ID: TK-407)
Gunbarrel emissions were estimated using BR&E ProMax. Flash, working and standing emissions are controlled by a VRU with an assumed 5% downtime.

Storage Tanks (Unit IDs: TK-406A through TK-406C)
Condensate storage tanks (Unit IDs: TK-406A and TK-406B) and produced water tanks (Unit IDs: TK-406C) emissions were estimated using BR&E ProMax. Flash, working and standing emissions from these tanks are controlled by a VRU with an assumed 5% downtime. Downtime is sent to the ECD with 98% DRE.

Enclosed Combustor Devices (Unit IDs: ECD-1, ECD-2)
NOX and CO emissions were calculated using TNRCC RG-109. VOCs and HAPs emissions were estimated based on the gas analysis and with manufacturer specification of 98% combustion efficiency. Pilot SO2 emissions are based on a conservative fuel sulfur content estimated of 2 gr S/100 scf and 100% conversion of elemental sulfur to SO2. Process emissions were calculated assuming 98% combustion efficiency. Greenhouse gas emissions are estimated using emission factors from 40 CFR Part 98 Subpart C Table C-01 and C-02.

Fugitive Emissions (Unit IDs: FUG, COMP-1 FUG, COMP-2 FUG, COMP-3 FUG, COMP-4 FUG, COMP-5 FUG, COMP-6 FUG, COMP-7 FUG, COMP-8 FUG)
Fugitive emission calculations were completed using emission factors from Table 2-4 of EPA Protocol for Equipment Leak Emission Estimates, 1995, and weight percent of gas and liquid components from gas and liquid streams generated in a BR&E ProMax simulation. Subcomponent counts for each subcomponent are based on estimated average component counts for each piece of equipment.

Condensate Loading Emissions (Unit ID: LOAD-1)
ProMax was used to perform the loading emission for condensate.

Reboiler (Unit ID: RBL-1)
NOX, CO, VOCs and PM were estimated using AP-42 Table 1.4-1 & 1.4-2 with adjusted emission factor. HAPs were calculated using adjusted emission rates from AP-42 Table 1.4-3. SO2 emissions were calculated with a conservative assumption of 2 gr S/100 scf and 100% conversion of elemental sulfur to SO2. Greenhouse gas emissions are estimated using emission factors from 40 CFR Part 98 Subpart C Table C-01 and C-02.

Unpaved Haul Road (Unit ID: HAUL)
PM10 and PM2.5 emissions were estimated based on the condensate loadout design basis and using equations 1a & 2 from AP-42 Section 13.2.2. Emissions factors were used from AP-42 Table 13.2.2-2.

Exempt Storage Tanks:

Methanol Storage Tank (Unit ID: TK-408)
The 210 bbl Methanol Storage Tank (TK-408) is exempt pursuant to 20.2.72.202.B.(5) NMAC. Emissions were calculated using BR&E ProMax.

Coolant Tank (Unit ID TK-409)
The single 210-bbl Coolant Tank (TK-409) is exempt pursuant to 20.2.72.202.B.(2) NMAC.

TEG Storage Tank (Unit ID TK-TEG)
The single 1,000-gallon TEG Storage Tank (TK-TEG) is exempt pursuant to 20.2.72.202.B.(2) NMAC.

Lube Oil Storage Tanks (Unit IDs TK-OIL1, TK-OIL2, TK-OIL3, TK-OIL4)
The four (4) 1,000-gallon Lube Oil Storage Tanks (TK-OIL1, TK-OIL2, TK-OIL3, TK-OIL4) are exempt pursuant to 20.2.72.202.B.(2) NMAC.

Antifreeze Tanks (Unit IDs TK-AF1, TK-AF2, TK-AF3, TK-AF4)
The four (4) 1,000-gallon Antifreeze Tanks are exempt pursuant to 20.2.72.202.B.(2) NMAC.

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)

ONEOK, Inc. - Red Raider Compressor Station

Emissions Summary

Emission Unit: All

Source Description: ONEOK, Inc. - Red Raider Compressor Station - Maximum Uncontrolled and Controlled Emissions

Maximum Uncontrolled Emissions

Unit	NO_x		CO		VOC		SO_2		PM_{10}		$PM_{2.5}$		H_2S		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
ENG-4	3.31	14.48	26.24	114.91	11.24	49.25	0.19	0.85	0.01	0.05	0.01	0.05	-	-	3.59	15.72
ENG-5	3.31	14.48	26.24	114.91	11.24	49.25	0.19	0.85	0.01	0.05	0.01	0.05	-	-	3.59	15.72
ENG-3	2.48	10.86	25.22	110.44	9.34	40.92	0.14	0.63	0.01	0.03	0.01	0.03	-	-	1.94	8.51
ENG-1	2.48	10.86	25.22	110.44	9.34	40.92	0.14	0.63	0.01	0.03	0.01	0.03	-	-	1.94	8.51
ENG-2	2.48	10.86	25.22	110.44	9.34	40.92	0.14	0.63	0.01	0.03	0.01	0.03	-	-	1.94	8.51
ENG-6	2.48	10.86	25.22	110.44	9.34	40.92	0.14	0.63	0.01	0.03	0.01	0.03	-	-	1.94	8.51
ENG-7	3.64	15.93	26.07	114.19	1.94	8.50	0.21	0.90	0.01	0.05	0.01	0.05	-	-	1.75	7.65
ENG-8	3.64	15.93	26.07	114.19	1.94	8.50	0.21	0.90	0.01	0.05	0.01	0.05	-	-	1.75	7.65
GEN-1	3.40	14.88	5.72	25.05	0.05	0.20	0.03	0.12	0.05	0.21	0.05	0.21	-	-	0.13	0.59
RBL-1	0.20	0.86	0.16	0.72	0.01	0.05	0.01	0.05	0.01	0.07	0.01	0.07	-	-	0.004	0.02
TK-405	-	-	-	-	*	0.75	-	-	-	-	-	-	-	-	-	-
TK-406	-	-	-	-	*	0.75	-	-	-	-	-	-	-	-	-	-
TK-406A[1]	-	-	-	-	*	62.01	-	-	-	-	-	-	-	-	*	3.09
TK-406B[1]	-	-	-	-	*	62.01	-	-	-	-	-	-	-	-	*	3.09
TK-406C[1]	-	-	-	-	*	0.770	-	-	-	-	-	-	-	-	*	0.197
TK-407[1]	-	-	-	-	*	796.22	-	-	-	-	-	-	-	-	*	44.60
DEHY-1[2]	-	-	-	-	235.95	1033.44	-	-	-	-	-	-	-	-	79.13	346.58
ECD-1	0.0042	0.018	0.0084	0.037	-	-	1.71E-04	7.51E-04	-	-	-	-	-	-	-	-
ECD-2	0.0042	0.018	0.0084	0.037	-	-	1.71E-04	7.51E-04	-	-	-	-	-	-	-	-
LOAD-1[3]	-	-	-	-	3.62	15.86	-	-	-	-	-	-	-	-	0.18	0.79
FUG	-	-	-	-	2.63	11.51	-	-	-	-	-	-	-	-	0.19	0.84
COMP-1 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004
COMP-2 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004
COMP-3 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004
COMP-4 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004
COMP-5 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004
COMP-6 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004
COMP-7 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004
COMP-8 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004
SSM	-	-	-	-	*	10.00	-	-	-	-	-	-	-	-	*	1.00
MALF	-	-	-	-	*	10.00	-	-	-	-	-	-	-	-	*	1.00
Totals	***27.41***	***120.07***	***211.37***	***925.81***	***306.37***	***2284.41***	***1.41***	***6.16***	***0.14***	***0.60***	***0.14***	***0.60***	***0.000***	***0.00***	*******	***482.59***

Maximum Controlled Emissions																		
Unit	**NO_x**		**CO**		**VOC**		**SO_2**		**PM_{10}**		**$PM_{2.5}$**		**H_2S**		**Total HAP**		**Formaldehyde**	
	lb/hr	**tpy**	**lb/hr**	**tpy**	**lb/hr**	**tpy**	**lb/hr**	**tpy**	**lb/hr**	**tpy**	**lb/hr**	**tpy**	**lb/hr**	**tpy**	**lb/hr**	**tpy**	**lb/hr**	**tpy**
ENG-4	3.31	14.48	4.41	19.31	5.51	24.14	0.19	0.85	0.01	0.05	0.01	0.05	-	-	0.29	1.29	0.25	1.11
ENG-5	3.31	14.48	4.41	19.31	5.51	24.14	0.19	0.85	0.01	0.05	0.01	0.05	-	-	0.29	1.29	0.25	1.11
ENG-3	2.48	10.86	3.31	14.48	4.13	18.11	0.14	0.63	0.01	0.03	0.01	0.03	-	-	0.23	1.03	0.19	0.83
ENG-1	2.48	10.86	3.31	14.48	4.13	18.11	0.14	0.63	0.01	0.03	0.01	0.03	-	-	0.23	1.03	0.19	0.83
ENG-2	2.48	10.86	3.31	14.48	4.13	18.11	0.14	0.63	0.01	0.03	0.01	0.03	-	-	0.23	1.03	0.19	0.83
ENG-6	2.48	10.86	3.31	14.48	4.13	18.11	0.14	0.63	0.01	0.03	0.01	0.03	-	-	0.23	1.03	0.19	0.83
ENG-7	3.64	15.93	4.85	21.24	4.85	21.24	0.21	0.90	0.01	0.05	0.01	0.05	-	-	0.52	2.29	0.36	1.59
ENG-8	3.64	15.93	4.85	21.24	4.85	21.24	0.21	0.90	0.01	0.05	0.01	0.05	-	-	0.52	2.29	0.36	1.59
GEN-1	0.46	2.02	1.08	4.71	0.46	2.02	0.03	0.12	0.05	0.21	0.05	0.21	-	-	0.05	0.23	0.02	0.07
RBL-1	0.20	0.86	0.16	0.72	0.01	0.05	0.01	0.05	0.01	0.07	0.01	0.07	-	-	0.00	0.02	1.47E-04	6.46E-04
TK-405	-	-	-	-	*	0.75	-	-	-	-	-	-	-	-	-	-	-	-
TK-406	-	-	-	-	*	0.75	-	-	-	-	-	-	-	-	-	-	-	-
TK-406A[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TK-406B[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TK-406C[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TK-407[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DEHY-1[2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ECD-1	0.73	3.20	1.46	6.38	0.210	0.92	1.71E-04	7.51E-04	-	-	-	-	-	-	0.01	0.05	-	-
ECD-2	0.25	1.12	0.51	2.23	1.774	7.77	1.71E-04	7.51E-04	-	-	-	-	-	-	0.44	1.94	-	-
LOAD-1[3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUG	-	-	-	-	2.63	11.51	-	-	-	-	-	-	-	-	0.19	0.84	-	-
COMP-1 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004	-	-
COMP-2 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004	-	-
COMP-3 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004	-	-
COMP-4 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004	-	-
COMP-5 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004	-	-
COMP-6 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004	-	-
COMP-7 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004	-	-
COMP-8 FUG	-	-	-	-	0.05	0.21	-	-	-	-	-	-	-	-	0.001	0.004	-	-
SSM	-	-	-	-	*	10.00	-	-	-	-	-	-	-	-	*	1.00	-	-
MALF	-	-	-	-	*	10.00	-	-	-	-	-	-	-	-	*	1.00	-	-
Totals	***25.45***	***111.48***	***34.95***	***153.10***	***42.73***	***208.64***	***1.41***	***6.16***	***0.14***	***0.60***	***0.14***	***0.60***	***0.00***	***0.00***	***3.28***	***16.39***	*******	***8.81***
Total Without Fugitives	***25.45***	***111.48***	***34.95***	***153.10***	***39.71***	***195.44***	***1.41***	***6.16***	***0.14***	***0.60***	***0.14***	***0.60***	***0.00***	***0.00***	***3.09***	***15.51***	***2.01***	***8.81***

"*" Indicates that an hourly limit is not appropriate for this operating situation and is not being requested.

"-" Indicates emissions of this pollutant are not expected.

[1] The enclosed combustion unit controls TK-406A through TK-407 during VRU downtime with an assumed 95% DRE for VOC and HAPs.

[2] Flash tank emissions are sent to station suction, still column to BTEX, BTEX non-condensables are sent to enclosed combustion unit ECD-2.

[3] Emissions from truck loadout of condensate and PW are vapor-balanced back to their respective storage tanks and vented to enclosed combustion unit ECD-1.

ONEOK, Inc. - Red Raider Compressor Station

Emission Calculation Inputs

Site-Wide		
Description	**Value**	**Unit**
Gas Throughput	170	MMscf/day
Annual Operating Hours	8,760	hr
Daily Operating Hours	24	hr
Site Elevation	3,037	ft MSL
Fuel Heat Value	1,020.0	Btu/scf

Condensate Storage Tanks			
	Value	**Unit**	**Notes**
Unit:	1000 bbl Condensate Tanks		
Number of Tanks	2		Facility Design
Volume	1,000	bbl	Facility Design
Height (Shell)	30	ft	Typical Design
Diameter	15	ft	Typical Design
Facility Throughput	395	bbl/day	Facility Design

Gunbarrel Separators			
Description	**Value**	**Unit**	**Notes**
Number of Tanks	1		Facility Design
Volume	750	bbl	Facility Design
Height (Shell)	35	ft	Typical Design
Diameter	12	ft	Typical Design
Facility Throughput	657	bbl/day	Facility Design

Produced Water Storage Tanks			
Description	**Value**	**Unit**	**Notes**
Number of Tanks	1		Facility Design
Volume	1,000	bbl	Facility Design
Height (Shell)	20	ft	Typical Design
Diameter	12	ft	Typical Design
Facility Throughput	262	bbl/day	Facility Design

Methanol Storage Tanks			
Description	**Value**	**Unit**	**Notes**
Number of Tanks	1		Facility Design
Volume	210	bbl	Facility Design
Height (Shell)	20	ft	Typical Design
Diameter	12	ft	Typical Design
Facility Throughput	2.38	bbl/day	Facility Design

Oil Storage Tanks			
Description	**Value**	**Unit**	**Notes**
Number of Tanks	2		Facility Design
Volume	210	bbl	Facility Design
Height (Shell)	20	ft	Typical Design
Diameter	12	ft	Typical Design
Facility Throughput	4.60	bbl/day	Facility Design

Coolant Storage Tank			
Description	**Value**	**Unit**	**Notes**
Number of Tanks	1		Facility Design
Volume	210	bbl	Facility Design
Height (Shell)	20	ft	Typical Design
Diameter	12	ft	Typical Design
Facility Throughput	4.60	bbl/day	Facility Design

Oil Storage Tanks			
Description	**Value**	**Unit**	**Notes**
Number of Tanks	4		Facility Design
Volume	1,000	gal	Facility Design
Height (Shell)	12	ft	Typical Design
Diameter	3.791	ft	Typical Design
Facility Throughput	2.09	bbl/day	Facility Design

Antifreeze Storage Tanks			
Description	**Value**	**Unit**	**Notes**
Number of Tanks	4		Facility Design
Volume	1,000	gal	Facility Design
Height (Shell)	12	ft	Typical Design
Diameter	3.791	ft	Typical Design
Facility Throughput	2.09	bbl/day	Facility Design

TEG Storage Tank			
Description	**Value**	**Unit**	**Notes**
Number of Tanks	1		Facility Design
Volume	1,000	gal	Facility Design
Height (Shell)	12	ft	Typical Design
Diameter	3.791	ft	Typical Design
Facility Throughput	0.52	bbl/day	Facility Design

Heated Separators Input Information			
Unit:	RBL-1		
Description:	DEHY Reboiler		
Heat input:	2.00	MMBtu/hr	Estimated heat input for two identical units (1.0 each)
Fuel heat value:	1,020	Btu/scf	Estimated heating value
Fuel sulfur content:	2	gr/100scf	Estimated for sweet field gas
Operating hours:	8784	hours/year	
Fuel Usage:	1960.8	scf/hr	

Engine Input Information			
Unit:	ENG-4 through ENG-5		
Description:	Waukesha 16V275GL Compressor Engine		
Rating:	5000.0	hp	Manufacturer Specifications
Fuel heat value:	1,020	Btu/scf	Estimated heating value
Operating hours:	8760	hours/year	
Fuel Usage:	33872.5	scf/hr	
Unit:	ENG-1 thru ENG-3, ENG-6		
Description:	Caterpillar 3612A4 Compressor Engine		
Rating:	3750.0	hp	Manufacturer Specifications
Fuel heat value:	1,020	Btu/scf	Estimated heating value
Operating hours:	8760	hours/year	
Fuel Usage:	25000.0	scf/hr	
Unit:	ENG-7, ENG-8		
Description:	Caterpillar 3616 A4 Gen 2 Compressor Engine		
Rating:	5500.0	hp	Manufacturer Specifications
Fuel heat value:	1,020	Btu/scf	Estimated heating value
Operating hours:	8760	hours/year	
Fuel Usage:	35917.2	scf/hr	
Unit:	GEN-1		
Description:	Aggreko 21.9L - Hyundai GV222CB		
Rating:	697.3	hp	Manufacturer Specifications
Fuel heat value:	1,020	Btu/scf	Estimated heating value
Operating hours:	8760	hours/year	
Fuel Usage:	4648.7	scf/hr	

ONEOK, Inc. - Red Raider Compressor Station

Compressor Engine Emissions

Unit:	ENG-4 through ENG-5		
Model:	Waukesha 16V275GL Compressor Engine		4SLB
	5000	hp	Mfg. specs
Fuel Consumption:	6910	Btu/hp-hr	Mfg. specs
Fuel Heating Value:	1020.00	Btu/scf	Facility Specific
Daily Fuel Usage:	812941	scf/day	Calculated
Hourly Fuel Usage:	33873	scf/hr	Hourly Fuel Consumption
Annual Fuel Usage:	296.72	MMscf/yr	Calculated

Uncontrolled Emissions

	NO_x[1]	CO[1]	VOC[1]	SO_2[2]	PM[3]	Formaldehyde[4]	Acetaldehyde[4]	Acrolein[4]	Benzene[4]	E-Benzene[4]	Toluene[4]	Xylene[4]	Total HAP	Units
Emission Factors	0.30	2.38	1.02			0.28								g/hp-hr
					3.10E-04		0.00836	0.00514	0.00044	0.0000397	0.000408	0.000184		lb/MMBtu
				0.020										gr/scf
Hourly Totals	3.31	26.24	11.24	0.19	1.07E-02	3.09	2.89E-01	1.78E-01	1.52E-02	1.37E-03	1.41E-02	6.36E-03	3.59	lb/hr
Annual Totals	14.48	114.91	49.25	0.85	4.69E-02	13.52	1.27E+00	7.78E-01	6.66E-02	6.01E-03	6.17E-02	2.78E-02	15.72	ton/yr

Controlled Emissions

	NO_x	CO	VOC	SO_2[2]	PM[3]	Formaldehyde[4]	Acetaldehyde[4]	Acrolein[4]	Benzene[4]	E-Benzene[4]	Toluene[4]	Xylene[4]	Total HAP	Units
Emission Factors	0.30	0.40	0.50			0.023								g/hp-hr
Percent Reduction	0%	83%	51%			92%	92%	92%	92%	92%	92%	92%		
					3.10E-04		0.00067	0.00041	0.00004	3.18E-06	0.00003	0.00001		lb/MMBtu
				0.020										gr/scf
Hourly Totals	3.31	4.41	5.51	0.194	1.07E-02	0.25	2.31E-02	1.42E-02	1.22E-03	1.10E-04	1.13E-03	5.09E-04	0.29	lb/hr
Annual Totals	14.48	19.31	24.14	0.85	4.69E-02	1.11	1.01E-01	6.22E-02	5.33E-03	4.81E-04	4.94E-03	2.23E-03	1.29	ton/yr

GHG Calculations

	CO_2[5]	N_2O[5]	CH_4[5]	CO_2e[5]		
	53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Subpart Tables
	1	298	25		GWP	40 CFR 98 Table A-1
	17702.03	0.03	0.33	17702.40	tpy	
	17702.03	9.94	8.34	17720.32	tpy CO2e	

Notes

[1] Emissions factors are referenced from the catalyst spec sheet.

[2] SO_2 is calculated based on the default fuel sulfur content from AECT of 0.02 grains total sulfur per scf.

[3] Assumes PM_{10} = $PM_{2.5}$ (condensable and filterable particulate), referenced from PM emission factor from EPA spreadsheet "Final table with Natural Gas Adjustment factors Nov 21 2006.xls"

[4] HAPs emissions factors are referenced from AP-42 Table 3.2-2.
HAPs include: Formaldehyde, Acetaldehyde, Acrolein, Benzene, Ethylbenzene, N-Hexane, Toluene, and Xylene
HAP emission factors were adjusted using the heat value of gas from site and standard 1020 Btu/scf

[5] N_2O, CH_4, and CO_2 tpy Emission Rate = EF * Fuel Usage * Fuel Heat Value *2.20462 lb/kg * 1 ton/2000 lb
CO_2e tpy Emission Rate = CO_2 Emission Rate + N_2O Emission Rate * GWP Factor + CH_4 Emission Rate * GWP Factor

ONEOK, Inc. - Red Raider Compressor Station

Compressor Engine Emissions

Unit:	ENG-1 thru ENG-3, ENG-6		
Model:	Caterpillar 3612A4		4SLB
	3750	hp	Mfg. specs
Fuel Consumption:	6800	Btu/hp-hr	Mfg. specs
Fuel Heating Value:	1020.00	Btu/scf	Facility Specific
Daily Fuel Usage:	600000	scf/day	Calculated
Hourly Fuel Usage:	25000	scf/hr	Hourly Fuel Consumption
Annual Fuel Usage:	219.00	MMscf/yr	Calculated

Uncontrolled Emissions

	NO_x[1]	CO[1]	VOC[1]	SO_2[2]	PM[3]	Formaldehyde[4]	Acetaldehyde[4]	Acrolein[4]	Benzene[4]	E-Benzene[4]	Toluene[4]	Xylene[4]	Total HAP	Units
Emission Factors	0.30	3.05	1.13			0.19								g/hp-hr
					3.10E-04		0.00836	0.00514	0.00044	0.0000397	0.000408	0.000184		lb/MMBtu
				0.020										gr/scf
Hourly Totals	2.48	25.22	9.34	0.14	0.01	1.57	0.21	0.13	0.011	0.0010	0.010	0.0047	1.94	lb/hr
Annual Totals	10.86	110.44	40.92	0.63	0.03	6.88	0.93	0.57	0.049	0.0044	0.046	0.021	8.51	ton/yr

Controlled Emissions

	NO_x	CO	VOC	SO_2[2]	PM[3]	Formaldehyde[4]	Acetaldehyde[4]	Acrolein[4]	Benzene[4]	E-Benzene[4]	Toluene[4]	Xylene[4]	Total HAP	Units
Emission Factors	0.30	0.40	0.50			0.023								g/hp-hr
Percent Reduction	0%	87%	56%			88%	88%	88%	88%	88%	88%	88%		
					3.10E-04		0.00100	0.00062	0.00005	4.76E-06	0.00005	0.00002		lb/MMBtu
				0.020										gr/scf
Hourly Totals	2.48	3.31	4.13	0.14	0.01	0.19	0.03	0.02	0.001	0.0001	0.001	0.0006	0.23	lb/hr
Annual Totals	10.86	14.48	18.11	0.63	0.03	0.83	0.11	0.07	0.006	0.0005	0.005	0.002	1.03	ton/yr

GHG Calculations

	CO_2[5]	N_2O[5]	CH_4[5]	CO_2e[5]		
	53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Subpart Tables
	1	298	25		GWP	40 CFR 98 Table A-1
	13065.18	0.02	0.25	13065.45	tpy	
	13065.18	7.34	6.16	13078.67	tpy CO2e	

Notes

[1] Emissions factors are referenced from the catalyst spec sheet.

[2] SO_2 is calculated based on the default fuel sulfur content from AECT of 0.02 grains total sulfur per scf.

[3] Assumes $PM_{10} = PM_{2.5}$ (condensable and filterable particulate), referenced from PM emission factor from EPA spreadsheet "Final table with Natural Gas Adjustment factors Nov 21 2006.xls"

[4] HAPs emissions factors are referenced from AP-42 Table 3.2-2.
HAPs include: Formaldehyde, Acetaldehyde, Acrolein, Benzene, Ethylbenzene, N-Hexane, Toluene, and Xylene
HAP emission factors were adjusted using the heat value of gas from site and standard 1020 Btu/scf

[5] N_2O, CH_4, and CO_2 tpy Emission Rate = EF * Fuel Usage * Fuel Heat Value *2.20462 lb/kg * 1 ton/2000 lb
CO_2e tpy Emission Rate = CO_2 Emission Rate + N_2O Emission Rate * GWP Factor + CH_4 Emission Rate * GWP Factor

ONEOK, Inc. - Red Raider Compressor Station

Compressor Engine Emissions

Unit:	ENG-7, ENG-8		
Model:	Caterpillar 3616A4 Gen 2		4SLB
	5500	hp	Mfg. specs
Fuel Consumption:	6661	Btu/hp-hr	Mfg. specs
Fuel Heating Value:	1020.00	Btu/scf	Facility Specific
Daily Fuel Usage:	862012	scf/day	Calculated
Hourly Fuel Usage:	35917	scf/hr	Hourly Fuel Consumption
Annual Fuel Usage:	314.63	MMscf/yr	Calculated

Uncontrolled Emissions

	NO_x[1]	CO[1]	VOC[1]	SO_2[2]	PM[3]	Formaldehyde[4]	Acetaldehyde[4]	Acrolein[4]	Benzene[4]	E-Benzene[4]	Toluene[4]	Xylene[4]	Total HAP	Units
Emission Factors	0.30	2.15	0.16			0.10								g/hp-hr
					3.10E-04		0.00836	0.00514	0.00044	0.0000397	0.000408	0.000184		lb/MMBtu
				0.020										gr/scf
Hourly Totals	3.64	26.07	1.94	0.21	0.01	1.21	0.31	0.19	0.016	0.0015	0.015	0.0067	1.75	lb/hr
Annual Totals	15.93	114.19	8.50	0.90	0.05	5.31	1.34	0.82	0.071	0.0064	0.065	0.030	7.65	ton/yr

Controlled Emissions

	NO_x	CO	VOC	SO_2[2]	PM[3]	Formaldehyde[4]	Acetaldehyde[4]	Acrolein[4]	Benzene[4]	E-Benzene[4]	Toluene[4]	Xylene[4]	Total HAP	Units
Emission Factors	0.30	0.40	0.40			0.030								g/hp-hr
Percent Reduction	0%	81%	-150%			70%	70%	70%	70%	70%	70%	70%		
					3.10E-04		0.00251	0.00154	0.00013	0.00001	0.00012	0.00006		lb/MMBtu
				0.020										gr/scf
Hourly Totals	3.64	4.85	4.85	0.21	0.01	0.36	0.09	0.06	0.005	0.0004	0.004	0.0020	0.52	lb/hr
Annual Totals	15.93	21.24	21.24	0.90	0.05	1.59	0.40	0.25	0.021	0.0019	0.020	0.009	2.29	ton/yr

GHG Calculations

	CO_2[5]	N_2O[5]	CH_4[5]	CO_2e[5]		
	53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Subpart Tables
	1	298	25		GWP	40 CFR 98 Table A-1
	18770.56	0.04	0.35	18770.95	tpy	
	18770.56	10.54	8.84	18789.95	tpy CO2e	

Notes

[1] Emissions factors are referenced from the catalyst spec sheet.

[2] SO_2 is calculated based on the default fuel sulfur content from AECT of 0.02 grains total sulfur per scf.

[3] Assumes PM_{10} = $PM_{2.5}$ (condensable and filterable particulate), referenced from PM emission factor from EPA spreadsheet "Final table with Natural Gas Adjustment factors Nov 21 2006.xls"

[4] HAPs emissions factors are referenced from AP-42 Table 3.2-2.
HAPs include: Formaldehyde, Acetaldehyde, Acrolein, Benzene, Ethylbenzene, N-Hexane, Toluene, and Xylene
HAP emission factors were adjusted using the heat value of gas from site and standard 1020 Btu/scf

[5] N_2O, CH_4, and CO_2 tpy Emission Rate = EF * Fuel Usage * Fuel Heat Value *2.20462 lb/kg * 1 ton/2000 lb
CO_2e tpy Emission Rate = CO_2 Emission Rate + N_2O Emission Rate * GWP Factor + CH_4 Emission Rate * GWP Factor

ONEOK, Inc. - Red Raider Compressor Station

Generator Engine Emissions

Unit:	GEN-1		
Model:	Aggreko 21.9L - Hyundai GV222CB		4SRB
	697.3	hp	Mfg. specs
Fuel Consumption:	6800	Btu/hp-hr	Mfg. specs
Fuel Heating Value:	1020.00	Btu/scf	Facility Specific
Daily Fuel Usage:	111568	scf/day	Calculated
Hourly Fuel Usage:	4649	scf/hr	Hourly Fuel Consumption
Annual Fuel Usage:	40.72	MMscf/yr	Calculated

Uncontrolled Emissions

	NO_x[1]	CO[1]	VOC[1]	SO_2[2]	PM[3]	Formaldehyde[4]	Acetaldehyde[4]	Acrolein[4]	Benzene[4]	E-Benzene[4]	Toluene[4]	Xylene[4]	Total HAP	Units
Emission Factors														g/hp-hr
AP-42	2.21	3.72	0.03		9.95E-03	0.0205	0.00279	0.00263	0.00158	0.0000248	0.000558	0.000195		lb/MMBtu
				0.020										gr/scf
Hourly Totals	3.40	5.72	0.05	0.03	4.72E-02	0.10	1.32E-02	1.25E-02	7.49E-03	1.18E-04	2.65E-03	9.25E-04	0.13	lb/hr
Annual Totals	14.88	25.05	0.20	0.12	2.07E-01	0.43	5.79E-02	5.46E-02	3.28E-02	5.15E-04	1.16E-02	4.05E-03	0.59	ton/yr

Controlled Emissions

	NO_x	CO	VOC	SO_2[2]	PM[3]	Formaldehyde[4]	Acetaldehyde[4]	Acrolein[4]	Benzene[4]	E-Benzene[4]	Toluene[4]	Xylene[4]	Total HAP	Units
Emission Factors	0.30	0.70	0.30			0.010								g/hp-hr
Percent Reduction	0%	0%	0%			0%								
					9.95E-03		0.00279	0.00263	0.00158	0.0000248	0.000558	0.000195		lb/MMBtu
				0.020										gr/scf
Hourly Totals	0.46	1.08	0.46	0.027	4.72E-02	0.015	1.32E-02	1.25E-02	7.49E-03	1.18E-04	2.65E-03	9.25E-04	0.05	lb/hr
Annual Totals	2.02	4.71	2.02	0.12	2.07E-01	0.07	5.79E-02	5.46E-02	3.28E-02	5.15E-04	1.16E-02	4.05E-03	0.23	ton/yr

GHG Calculations

	CO_2[5]	N_2O[5]	CH_4[5]	CO_2e[5]		
	53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Subpart Tables
	1	298	25		GWP	40 CFR 98 Table A-1
	2429.43	0.00	0.05	2429.48	tpy	
	2429.43	1.36	1.14	2431.94	tpy CO2e	

Notes

[1] Emissions factors are referenced from the EPA certification.

[2] SO_2 is calculated based on the default fuel sulfur content from AECT of 0.02 grains total sulfur per scf.

[3] Assumes PM_{10} = $PM_{2.5}$ (condensable and filterable particulate), referenced from AP-42 Table 3.2-3.

[4] HAPs emissions factors are referenced from AP-42 Table 3.2-3.
HAPs include: Formaldehyde, Acetaldehyde, Acrolein, Benzene, Ethylbenzene, N-Hexane, Toluene, and Xylene
HAP emission factors were adjusted using the heat value of gas from site and standard 1020 Btu/scf

[5] N_2O, CH_4, and CO_2 tpy Emission Rate = EF * Fuel Usage * Fuel Heat Value *2.20462 lb/kg * 1 ton/2000 lb
CO_2e tpy Emission Rate = CO_2 Emission Rate + N_2O Emission Rate * GWP Factor + CH_4 Emission Rate * GWP Factor

ONEOK, Inc. - Red Raider Compressor Station
Reboiler

Heater Input Information			
Unit(s):	RBL-1		
Description:	2 MMBtu/hr Heaters		
Heat input:	2.00	MMBtu/hr	Estimated heat input
Fuel heat value:	1,020	Btu/scf	
Fuel sulfur content:	2.0	gr S/100scf	Estimated for field gas
Operating hours:	8,784	hours/year	
Fuel Usage:	1,961	scf/hr	
	17.2	MMscf/yr	

Criteria Pollutant Emission Rates per Unit							
	NO_x	CO	VOC	SO_2[1]	PM^2	Units	Notes
Emission Factors	100	84	5.5	-	7.6	lb/MMscf	AP-42 Table 1.4-1 & 2
	100.0	84.0	5.5	-	7.6	lb/MMscf	Adjusted EF, per footnote a in Tables 1.4-1 and 1.4-2
Emissions	0.20	0.16	0.011	0.011	0.015	lb/hr[3]	
	0.86	0.72	0.047	0.049	0.065	tons/year[4]	

HAP Emission Rates per Unit							
	Hexane	Benzene	Toluene	HCHO	Total HAPs[5]	Units	Notes
Emission Factors	1.8	2.10E-03	3.40E-03	0.075	-	lb/MMscf	AP-42 Table 1.4-3
	1.8	2.10E-03	3.40E-03	7.50E-02	-	lb/MMscf	Adjusted EF, per footnote a in Table 1.4-3
Emissions	0.0035	4.12E-06	6.67E-06	1.47E-04	0.0037	lb/hr[3]	
	0.016	1.81E-05	2.93E-05	6.46E-04	0.016	tons/year[4]	

GHG Calculations						
	CO_2[6]	N_2O[6]	CH_4[6]	CO_2e[6]		
	53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Subpart Tables
	1	298	25		GWP	40 CFR 98 Table A-1
	1027.53	0.0019	0.019	1027.55	tpy	
	1027.53	0.58	0.48	1028.59	tpy CO2e	

[1] SO_2 emissions based on fuel sulfur content of 2 gr S/100 scf or 0.00286 lb S/Mscf
0.00286 lb S/Mscf*fuel consumption (Mscf/hr)*64 lb SO_2/32 lb S = lb SO_2/hr

[2] Assumes PM_{10} = $PM_{2.5}$

[3] lb/hr emissions calculated using the following methods:
Criteria and HAPs lb/hr = EF (lb/MMscf) * Rating (MMBtu/hr) / Heat value (Btu/scf)

[4] For all non-HAP calculations, tons/year = lb/hr * Operating hours * 1ton/2000lb

[5] Total HAP emissions are the sum of all individual HAPs calculated.

[6] N2O, CH4, and CO2 tpy Emission Rate = EF * Fuel Usage * Fuel Heat Value *2.20462 lb/kg * 1 ton/2000 lb
CO2e tpy Emission Rate = CO2 Emission Rate + N2O Emission Rate * GWP Factor + CH4 Emission Rate * GWP Factor

Parameters	Value	Unit	Note
Input heat rate	2.00	MMBtu/hr	Estimated
Fuel heat value	1,020	Btu/scf	Estimated, nominal
Fuel rate	1.96	Mscf/hr	Input heat rate / fuel heat value
Annual fuel usage	17.22	MMscf/yr	8760 actual hrs/yr operation

Parameters	Value	Unit	Note
Input heat rate	2.00	MMBtu/hr	
Exhaust temp	1,400	°F	Engineering Estimate
Stack height	9	ft	Engineering Estimate
Stack diameter	0.80	ft	Engineering Estimate
Exhaust flow (Actual)	802	acfm	Flow (acfm) = Flow (scfm) * (Stack Temp + 460) / 528 * 29.92 / Site Bar. Pres. / (100% - Moisture%)
Exhaust flow (Actual)	13.37	acfs	Flow (acfs) - Flow (acfm) / 60s/min
Exhaust velocity	26.60	ft/sec	Exhaust flow / stack area
O_2 F factor	8,710	dscf/MMBtu	Method 9
Moisture	10	%	Nominal
Exhaust flow (Dry)	556.7	dscfm	Flow (dscfm) = heat input * O2 F * [20.9 / (20.9 - O2%)]
O_2 %	10	%	
Site Elevation	3,037	ft MSL	
Pressure at Elevation	26.78	in Hg	

ONEOK, Inc. - Red Raider Compressor Station

Unpaved Haul Road Emissions

Exempt per 20.2.72.202.B.5

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

Input Data		
Truck Size	7560	Nominal (gal)
Total Loadout Volume[1]	10,071,810	gal/yr
Trips per Year[2]	1333	trips/year
Trips per hour	1	trips/hr
Empty vehicle weight[3]	16	tons
Load Out Density[4]	5.75	lb/gal
Load weight[5]	21.7	tons
Loaded vehicle[6]	37.7	tons
Mean vehicle weight[7]	26.86	tons
Round-trip distance	0.07	mile/trip
Loadout Spots	2	Assumed
Facility Operating Hours	8,760	Cumulative total
Surface silt content[8]	4.8	%
Annual wet days[9]	70	days/yr
Control Efficiency	0.44	--

Emission Factors and Constants		
Parameter	**PM_{10}**	**$PM_{2.5}$**
k, lb/VMT[10]	1.5	0.15
a, lb/VMT[10]	0.90	0.90
b, lb/VMT[10]	0.45	0.45
Hourly EF, lb/VMT[11]	1.76	0.18
Annual EF, lb/VMT[12]	1.43	0.14

Emission Rate Calculation					
VMT/hr[13]	**VMT/yr[13]**	**Hourly Emission Rate by Month (lb/hr)[14]**		**Annual Emission Rate (tons/yr)[14]**	
		PM_{10}	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**
0.07	90.9	0.07	0.007	0.04	0.004

[1] The facility will remove condensate and produced water via loadout. Loadout volume is based on facility design.

[2] Trips per Year = Total Loadout Volume (gal) / Truck Size (gal)

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

[4] Cargo, transported materials, etc. (Promax Loadout Density = Condensate density 43 (lb/scf)*1 scf / 7.480519 gal)

[5] Load weight (lb) = Truck Size (gal) * Oil Load Out Density (lb/gal)

[6] Loaded vehicle weight = Empty + Load Size

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

[8] AP-42 Table 13.2.2-1

[9] Per NMED Guidance

[10] Table 13.2.2-2, Industrial Roads

[11] AP-42 13.2.2, Equation 1a

[12] AP-42 13.2.2, Equation 2

[13] VMT/hr = 1 trip/hr * Round-trip distance (mi/trip)
VMT/yr = Trips per Year * Round-trip distance (mi/trip)

[14] Hourly Emission Rate (lb/hr) = Hourly EF (lb/VMT) * VMT/hr (mile/hr)
Annual Emission Rate (tpy) = Annual EF (lb/VMT) * VMT/yr (mile/yr) / 2000 lb/ton

ONEOK, Inc. - Red Raider Compressor Station
Gunbarrel Separator

Gunbarrel Separator Input Information			
Unit(s):	TK-407		
Description:	750 bbl Gunbarrel Tank		
Number of Tanks:	1		
Facility Produced Water Throughput:	657	bbl/day	Facility Design
Produced Water Throughput:	657	bbl/day/tank	

Flash, Working and Breathing Emissions[1] (Uncontrolled)					Controlled Emissions	
Component	Flash Emissions (tpy)	Working and Breathing Losses (tpy)	Total Emissions (tpy)	Total Emissions Per Tank (tpy)	Total Emissions (tpy)	Total Emissions Per Tank (tpy)
Water	16.7375	0.1067	16.8443	16.8443	0.00E+00	0.00E+00
Hydrogen Sulfide	0.0000	0.0000	0.0000	0.0000	0.00E+00	0.00E+00
Nitrogen	0.7486	0.0072	0.7557	0.7557	0.00E+00	0.00E+00
Carbon Dioxide	0.6228	0.0054	0.6282	0.6282	0.00E+00	0.00E+00
Methane	78.8161	0.7160	79.5322	79.5322	0.00E+00	0.00E+00
Ethane	116.2061	0.9901	117.1962	117.1962	0.00E+00	0.00E+00
Propane	197.0331	1.6059	198.6391	198.6391	0.00E+00	0.00E+00
Isobutane	55.0142	0.4324	55.4466	55.4466	0.00E+00	0.00E+00
n-Butane	148.4593	1.1509	149.6102	149.6102	0.00E+00	0.00E+00
Isopentane	56.9779	0.4276	57.4056	57.4056	0.00E+00	0.00E+00
n-Pentane	71.1282	0.5268	71.6550	71.6550	0.00E+00	0.00E+00
n-Hexane	33.2363	0.2342	33.4706	33.4706	0.00E+00	0.00E+00
Benzene	2.2887	0.0163	2.3050	2.3050	0.00E+00	0.00E+00
Hexanes	89.4431	0.6436	90.0867	90.0867	0.00E+00	0.00E+00
Toluene	3.7660	0.0256	3.7916	3.7916	0.00E+00	0.00E+00
Heptanes	15.0198	0.1015	15.1213	15.1213	0.00E+00	0.00E+00
m-Xylene	0.8793	0.0057	0.8850	0.8850	0.00E+00	0.00E+00
p-Xylene	0.4131	0.0027	0.4158	0.4158	0.00E+00	0.00E+00
o-Xylene	0.1500	0.0010	0.1510	0.1510	0.00E+00	0.00E+00
Ethylbenzene	0.0942	0.0006	0.0948	0.0948	0.00E+00	0.00E+00
Octanes	5.9547	0.0386	5.9933	5.9933	0.00E+00	0.00E+00
Nonanes	1.0411	0.0064	1.0476	1.0476	0.00E+00	0.00E+00
Decanes	0.1800	0.0011	0.1810	0.1810	0.00E+00	0.00E+00
3-Methylpentane	33.5549	0.2402	33.7951	33.7951	0.00E+00	0.00E+00
Methylcyclopentane	15.9248	0.1137	16.0385	16.0385	0.00E+00	0.00E+00
Cyclohexane	18.6730	0.1318	18.8048	18.8048	0.00E+00	0.00E+00
2-Methylhexane	7.1635	0.0494	7.2129	7.2129	0.00E+00	0.00E+00
3-Methylhexane	7.2508	0.0496	7.3004	7.3004	0.00E+00	0.00E+00
2,2,4-Trimethylpentane	3.4577	0.0237	3.4814	3.4814	0.00E+00	0.00E+00
Methylcyclohexane	19.0959	0.1299	19.2258	19.2258	0.00E+00	0.00E+00
2-Methylheptane	2.7489	0.0181	2.7670	2.7670	0.00E+00	0.00E+00
3-Methylheptane	1.2874	0.0084	1.2958	1.2958	0.00E+00	0.00E+00
Total VOC	**790.24**	**5.99**	**796.22**	**796.22**	0.00E+00	0.00E+00
Total HAP	**44.29**	**0.31**	**44.60**	**44.60**	0.00E+00	0.00E+00

[1] Flash, working, and breathing emissions are controlled by a VRU with an assumed 5% downtime. VRU Downtime is controlled by an enclosed combustion unit (ECD-1). Controlled emissions from the condensate tanks are represented at the ECD.

ONEOK, Inc. - Red Raider Compressor Station
Condensate Storage Tanks

Oil Tank Input Information			
Unit(s):	TK-406A & TK-406B		
Description:	1000 bbl Condensate Storage Tank		
Number of Tanks:	2		
Facility condensate Throughput:	395.00	bbl/day	Facility Design
Condensate Throughput:	197.50	bbl/day/tank	

Flash, Working and Breathing Emissions[1] (Uncontrolled)					Controlled Emissions	
Component	Flash Emissions (tpy)	Working and Breathing Losses (tpy)	Total Emissions (tpy)	Total Emissions Per Tank (tpy)	Total Emissions (tpy)	Total Emissions Per Tank (tpy)
Water	1.0039	0.4688	1.4727	0.7363	0.00E+00	0.00E+00
Hydrogen Sulfide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nitrogen	0.0151	0.0015	0.0166	0.0083	0.00E+00	0.00E+00
Carbon Dioxide	0.0612	0.0285	0.0897	0.0449	0.00E+00	0.00E+00
Methane	4.4951	1.6255	6.1206	3.0603	0.00E+00	0.00E+00
Ethane	14.4968	6.6293	21.1261	10.5631	0.00E+00	0.00E+00
Propane	25.1103	10.9800	36.0903	18.0451	0.00E+00	0.00E+00
Isobutane	6.3758	2.6878	9.0636	4.5318	0.00E+00	0.00E+00
n-Butane	16.6084	6.9054	23.5138	11.7569	0.00E+00	0.00E+00
Isopentane	6.0060	2.4172	8.4231	4.2116	0.00E+00	0.00E+00
n-Pentane	7.4122	2.9435	10.3556	5.1778	0.00E+00	0.00E+00
n-Hexane	3.3723	1.2739	4.6463	2.3231	0.00E+00	0.00E+00
Benzene	0.2329	0.0888	0.3217	0.1609	0.00E+00	0.00E+00
Hexanes	9.1148	3.5162	12.6310	6.3155	0.00E+00	0.00E+00
Toluene	0.3807	0.1386	0.5193	0.2597	0.00E+00	0.00E+00
Heptanes	1.5152	0.5489	2.0642	1.0321	0.00E+00	0.00E+00
m-Xylene	0.0889	0.0309	0.1198	0.0599	0.00E+00	0.00E+00
p-Xylene	0.0418	0.0145	0.0563	0.0282	0.00E+00	0.00E+00
o-Xylene	0.0152	0.0052	0.0204	0.0102	0.00E+00	0.00E+00
Ethylbenzene	0.0095	0.0033	0.0128	0.0064	0.00E+00	0.00E+00
Octanes	0.6001	0.2083	0.8083	0.4042	0.00E+00	0.00E+00
Nonanes	0.1049	0.0348	0.1397	0.0698	0.00E+00	0.00E+00
Decanes	0.0182	0.0058	0.0240	0.0120	0.00E+00	0.00E+00
3-Methylpentane	3.4150	1.3107	4.7257	2.3628	0.00E+00	0.00E+00
Methylcyclopentane	1.6172	0.6190	2.2362	1.1181	0.00E+00	0.00E+00
Cyclohexane	1.8910	0.7153	2.6063	1.3031	0.00E+00	0.00E+00
2-Methylhexane	0.7233	0.2671	0.9903	0.4952	0.00E+00	0.00E+00
3-Methylhexane	0.7320	0.2683	1.0003	0.5002	0.00E+00	0.00E+00
2,2,4-Trimethylpentane	0.3485	0.1279	0.4764	0.2382	0.00E+00	0.00E+00
Methylcyclohexane	1.9271	0.7023	2.6294	1.3147	0.00E+00	0.00E+00
2-Methylheptane	0.2769	0.0976	0.3745	0.1873	0.00E+00	0.00E+00
3-Methylheptane	0.1297	0.0456	0.1753	0.0876	0.00E+00	0.00E+00
Total VOC	**88.07**	**35.96**	**124.02**	**62.01**	**0.00**	**0.00**
Total HAP	**4.49**	**1.68**	**6.17**	**3.09**	**0.00**	**0.00**

[1] Flash, working, and breathing emissions from condensate tanks are controlled by a VRU with an assumed 5% downtime. VRU Downtime is controlled by an enclosed combustion unit (ECD-1). Controlled emissions from the condensate tanks are represented at the ECD.

ONEOK, Inc. - Red Raider Compressor Station
Produced Water Storage Tanks

Produced Water Tank Input Information			
Unit(s):	TK-406C		
Description:	1000 bbl Produced Water Storage Tank		
Number of Tanks:	1		
Facility Produced Water Throughput:	262	bbl/day	Facility Design
Produced Water Throughput:	262	bbl/day/tank	

Flash, Working and Breathing Emissions[1] (Uncontrolled)					Controlled Emissions	
Component	Flash Emissions (tpy)	Working and Breathing Losses (tpy)	Total Emissions (tpy)	Total Emissions Per Tank (tpy)	Total Emissions (tpy)	Total Emissions Per Tank (tpy)
Water	0.0063	0.3678	0.3740	0.3740	0.00E+00	0.00E+00
Hydrogen Sulfide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nitrogen	3.15E-04	3.51E-04	6.66E-04	6.66E-04	0.00E+00	0.00E+00
Carbon Dioxide	4.30E-04	0.0193	0.0197	0.0197	0.00E+00	0.00E+00
Methane	0.0423	0.0969	0.1392	0.1392	0.00E+00	0.00E+00
Ethane	0.0579	0.1917	0.2496	0.2496	0.00E+00	0.00E+00
Propane	0.0718	0.1668	0.2385	0.2385	0.00E+00	0.00E+00
Isobutane	0.0146	0.0228	0.0373	0.0373	0.00E+00	0.00E+00
n-Butane	0.0426	0.0907	0.1333	0.1333	0.00E+00	0.00E+00
Isopentane	0.0131	0.0192	0.0323	0.0323	0.00E+00	0.00E+00
n-Pentane	0.0106	0.0065	0.0171	0.0171	0.00E+00	0.00E+00
n-Hexane	0.0037	0.0015	0.0052	0.0052	0.00E+00	0.00E+00
Benzene	0.0008	0.0567	0.0575	0.0575	0.00E+00	0.00E+00
Hexanes	0.0067	0.0017	0.0084	0.0084	0.00E+00	0.00E+00
Toluene	0.0014	0.0937	0.0950	0.0950	0.00E+00	0.00E+00
Heptanes	0.0013	0.0004	0.0017	0.0017	0.00E+00	0.00E+00
m-Xylene	3.24E-04	0.0221	0.0225	0.0225	0.00E+00	0.00E+00
p-Xylene	1.52E-04	0.0102	0.0104	0.0104	0.00E+00	0.00E+00
o-Xylene	5.51E-05	0.0036	0.0037	0.0037	0.00E+00	0.00E+00
Ethylbenzene	3.44E-05	0.0022	0.0023	0.0023	0.00E+00	0.00E+00
Octanes	2.58E-04	3.33E-05	2.91E-04	2.91E-04	0.00E+00	0.00E+00
Nonanes	4.14E-05	5.03E-06	4.64E-05	4.64E-05	0.00E+00	0.00E+00
Decanes	2.36E-06	8.57E-08	2.44E-06	2.44E-06	0.00E+00	0.00E+00
3-Methylpentane	0.0047	0.0027	0.0074	0.0074	0.00E+00	0.00E+00
Methylcyclopentane	0.0046	0.0151	0.0197	0.0197	0.00E+00	0.00E+00
Cyclohexane	0.0061	0.0465	0.0526	0.0526	0.00E+00	0.00E+00
2-Methylhexane	3.35E-04	4.76E-05	3.83E-04	3.83E-04	0.00E+00	0.00E+00
3-Methylhexane	8.04E-04	3.41E-04	0.0011	0.0011	0.00E+00	0.00E+00
2,2,4-Trimethylpentane	3.73E-04	1.62E-04	5.35E-04	5.35E-04	0.00E+00	0.00E+00
Methylcyclohexane	0.0054	0.0175	0.0229	0.0229	0.00E+00	0.00E+00
2-Methylheptane	7.40E-05	5.66E-06	7.97E-05	7.97E-05	0.00E+00	0.00E+00
3-Methylheptane	6.97E-05	1.17E-05	8.14E-05	8.14E-05	0.00E+00	0.00E+00
Total VOC	**0.19**	**0.58**	**0.77**	**0.77**	**0.00**	**0.00**
Total HAP	**0.01**	**0.19**	**0.20**	**0.20**	**0.00**	**0.00**

[1] Flash, working, and breathing emissions from the produced water tank are controlled by a VRU with an assumed 5% downtime. VRU Downtime is controlled by an enclosed combustion unit (ECD-1). Controlled emissions from the produced water tank are represented at the ECD.

ONEOK, Inc. - Red Raider Compressor Station
Oil Storage Tanks

Oil Tank Input Information			
Unit(s):	TK-405, TK-406		
Description:	210 bbl Oil Storage Tanks		
Number of Tanks:	2		
Facility Throughput:	4.60	bbl/day	Facility Design
Throughput:	2.30	bbl/day/tank	

Flash, Working and Breathing Emissions[1] (Uncontrolled)				
Component	Flash Emissions (tpy)	Working and Breathing Losses (tpy)	Total Emissions (tpy)	Total Emissions Per Tank (tpy)
VOC	0.00E+00	1.49	1.49	0.75
Total VOC	**0.00**	**1.49**	**1.49**	**0.75**
Total HAP	**0.00**	**0.00**	**0.00**	**0.00**

ONEOK, Inc. - Red Raider Compressor Station

Methanol Storage Tank - Exempt Equipment

Exempt per 20.2.72.202.B.5

Methanol Tank Input Information			
Unit(s):	TK-408		
Description:	210 bbl Methanol Storage Tank		
Number of Tanks:	1		
Facility Methanol Throughput:	2.38	bbl/day	Facility Design
Throughput:	2.38	bbl/day/tank	

Flash, Working and Breathing Emissions[1] (Uncontrolled)				
Component	Flash Emissions (tpy)	Working and Breathing Losses (tpy)	Total Emissions (tpy)	Total Emissions Per Tank (tpy)
Methanol	0.00E+00	0.18	0.18	0.18
Total VOC	**0.00**	**0.18**	**0.18**	**0.18**
Total HAP	**0.00**	**0.18**	**0.18**	**0.18**

[1] Flash, working, and breathing emissions from the methanol storage tank are below 0.5 tpy of VOC therefore this unit is exempt per 20.2.72.202.B.5 NMAC

ONEOK, Inc. - Red Raider Compressor Station

Storage Tank - Exempt Equipment

Exempt per 20.2.72.202.B.5

Coolant Tank Input Information			
Unit(s):	TK-409		
Description:	210 bbl Coolant Storage Tank		
Number of Tanks:	1		
Facility Throughput:	4.60	bbl/day	Facility Design
Throughput:	4.60	bbl/day/tank	

Flash, Working and Breathing Emissions[1] (Uncontrolled)				
Component	Flash Emissions (tpy)	Working and Breathing Losses (tpy)	Total Emissions (tpy)	Total Emissions Per Tank (tpy)
VOC	0.00E+00	4.58E-04	4.58E-04	4.58E-04
Total VOC	**0.00E+00**	**4.58E-04**	**4.58E-04**	**4.58E-04**
Total HAP	**0.00**	**0.00**	**0.00**	**0.00**

[1] Flash, working, and breathing emissions from the storage tank are below 0.5 tpy of VOC therefore this unit is exempt per 20.2.72.202.B.5 NMAC

ONEOK, Inc. - Red Raider Compressor Station

Storage Tank - Exempt Equipment

Exempt per 20.2.72.202.B.5

TEG Tank Input Information			
Unit(s):	TK-TEG		
Description:	1,000 gallon TEG Storage Tank		
Number of Tanks:	1		
Facility Throughput:	0.52	bbl/day	Facility Design
Throughput:	0.52	bbl/day/tank	

Flash, Working and Breathing Emissions[1] (Uncontrolled)				
Component	Flash Emissions (tpy)	Working and Breathing Losses (tpy)	Total Emissions (tpy)	Total Emissions Per Tank (tpy)
VOC	0.00E+00	5.38E-07	5.38E-07	5.38E-07
Total VOC	**0.00**	**5.38E-07**	**5.38E-07**	**5.38E-07**
Total HAP	**0.00**	**0.00**	**0.00**	**0.00**

[1] Flash, working, and breathing emissions from the storage tank are below 0.5 tpy of VOC therefore this unit is exempt per 20.2.72.202.B.5 NMAC

ONEOK, Inc. - Red Raider Compressor Station

Storage Tank - Exempt Equipment

Exempt per 20.2.72.202.B.5

Oil Tank Input Information			
Unit(s):	TK-OIL1, TK-OIL2, TK-OIL3, TK-OIL4		
Description:	1,000 gal Oil Storage Tanks		
Number of Tanks:	4		
Facility Throughput:	2.09	bbl/day	Facility Design
Throughput:	0.52	bbl/day/tank	

Flash, Working and Breathing Emissions[1] (Uncontrolled)				
Component	Flash Emissions (tpy)	Working and Breathing Losses (tpy)	Total Emissions (tpy)	Total Emissions Per Tank (tpy)
VOC	0.00E+00	0.31	0.31	0.08
Total VOC	**0.00**	**0.31**	**0.31**	**0.08**
Total HAP	**0.00**	**0.31**	**0.31**	**0.08**

[1] Flash, working, and breathing emissions from the storage tank are below 0.5 tpy of VOC therefore this unit is exempt per 20.2.72.202.B.5 NMAC

ONEOK, Inc. - Red Raider Compressor Station

Storage Tank - Exempt Equipment

Exempt per 20.2.72.202.B.5

Antifreeze Tank Input Information			
Unit(s):	TK-AF1, TK-AF2, TK-AF3, TK-AF4		
Description:	1,000 gal Antifreeze Storage Tanks		
Number of Tanks:	4		
Facility Throughput:	2.09	bbl/day	Facility Design
Throughput:	0.52	bbl/day/tank	

Flash, Working and Breathing Emissions[1] (Uncontrolled)				
Component	Flash Emissions (tpy)	Working and Breathing Losses (tpy)	Total Emissions (tpy)	Total Emissions Per Tank (tpy)
VOC	0.00E+00	2.36E-05	2.36E-05	5.90E-06
Total VOC	**0.00**	**2.36E-05**	**2.36E-05**	**5.90E-06**
Total HAP	**0.00**	**0.00**	**0.00**	**0.00**

[1] Flash, working, and breathing emissions from the storage tank are below 0.5 tpy of VOC therefore this unit is exempt per 20.2.72.202.B.5 NMAC

ONEOK, Inc. - Red Raider Compressor Station

Condensate Loading Emissions

Annual Operating Hours: 8760

Uncontrolled Loading Emissions						
	Condensate Loading (Unit LOAD-1)		Produced Water Loading (Unit LOAD-1)		Total	
Pollutant	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
VOC	3.61	15.80	0.01	0.06	3.62	15.86
Hydrogen Sulfide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
n-Hexane	1.27E-01	5.57E-01	0.00E+00	0.00E+00	0.13	0.56
Benzene	8.90E-03	3.90E-02	4.50E-03	1.97E-02	0.01	0.06
Toluene	1.37E-02	5.99E-02	6.62E-03	2.90E-02	0.02	0.09
Ethylbenzene	3.21E-04	1.41E-03	1.47E-04	6.46E-04	0.00	0.00
m-Xylene	2.99E-03	1.31E-02	1.02E-03	4.46E-03	0.00	0.02
p-Xylene	1.41E-03	6.19E-03	5.28E-04	2.31E-03	0.00	0.01
o-Xylene	5.08E-04	2.22E-03	2.80E-04	1.23E-03	0.00	0.00
Ethylbenzene	3.21E-04	1.41E-03	1.47E-04	6.46E-04	0.00	0.00
2,2,4-Trimethylpentane	1.26E-02	5.54E-02	0.00E+00	0.00E+00	0.01	0.06
Total HAP	0.168	0.74	0.013	0.06	0.18	0.79

[1] Loading emissions are calculated using a BR&E ProMax simulation.

[2] Emissions from truck loadout of produced water and condensate are vapor-balanced back to the condensate storage tanks and 5% routed to ECD-1 during VRU downtime.

ONEOK, Inc. - Red Raider Compressor Station

Enclosed Combustor

Emission Unit: ECD-1

Source Description: Condensate Tanks, Produced Water Tank, Gunbarrel Tank, Condensate and PW Loading during VRU Downtime

VOC Heat Input and Flow Rate Calculation Per Unit

Parameters	Value	Unit	Notes
Number of ECDs	1	-	
VRU Downtime	5%		
VOC Emissions	46.05	tpy	Condensate Tanks, Produced Water Tank, Gunbarrel Tank, Condensate and PW Loading during VRU Downtime
HAP Emissions	2.55	tpy	Condensate Tanks, Produced Water Tank, Gunbarrel Tank, Condensate and PW Loading during VRU Downtime
Total Flared Gas Heating Value	2,313.84	Btu/scf	Weighted average heating value from all streams
Total Flared Gas Flow	2,272.44	scf/hr	Total flow from all streams to flare
Total Flared Gas Heating Rate	5.258	MMBtu/hr	Calculated based on heating value and steady-state flow
Flared Gas Flow Rate with Safety Factor	0%	%	Safety factor
	2,272.44	scf/hr	Flow with safety factor
	19.91	MMscf/yr	
Short-Term Safety Factor	0%	-	Applied to emissions to account for variations in heat content.
Heating Rate	5.26	MMBtu/hr	
Flare pilot	30	scf/hr	Mfg. Spec Sheet
	0%		Safety factor
	30	scf/hr	Pilot flow with safety factor
	3.00E-05	MMscf/hr	
Pipeline Gas HHV	1020	Btu/scf	Facility specification
Flare Heat Input	0.031	MMBtu/hr	
	0.26	MMscf/yr	
Heating Rate + Pilot	5.29	MMBtu/hr	

Emission Rates Per Unit

	NO_X	CO	VOC[1]	SO_2[2]	H_2S	HAPs[1]	Units	Notes
Emission Factors	0.1380	0.2755					lb/MMBtu	TNRCC RG-109 (high Btu; other)
							lb H_2S/Mscf	
				8.57E-05			lb S/hr	
			46.05		-	2.548	tpy	Condensate Tanks, Produced Water
Pilot Emissions	0.0042	0.008	-	1.71E-04	-	-	lb/hr	
	0.018	0.037	-	7.51E-04	-	-	tpy	
Process Emissions	0.73	1.45	-	-	-	-	lb/hr	
			0.210	-	-	1.16E-02	lb/hr	
	3.18	6.34	0.921	-	-	5.10E-02	tpy	
Total Emissions	***0.73***	***1.46***	***0.21***	***0.00***	***-***	***0.01***	lb/hr	
	3.20	***6.38***	***0.92***	***0.00***	***-***	***0.05***	tpy	

GHG Calculations

	CO_2[3]	N_2O[3]	CH_4[3]	CO_2e[3]		
	53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Subpart Tables
	1	298	25		GWP	40 CFR 98 Table A-1
	2694.02	0.00508	0.0508	2694.08	tpy	
	2694.02	1.51	1.27	2696.80	tpy CO2e	

[1] The ECD controls Condensate tanks, produced water tank, gunbarrel, condensate loading, and produced water loading emissions during downtime. 98.00% DRE

[2] Fuel sulfur content is assumed to be 2 gr/100 Scf

[3] N2O, CH4, and CO2 tpy Emission Rate = EF * Fuel Usage * Fuel Heat Value *2.20462 lb/kg * 1 ton/2000 lb

CO2e tpy Emission Rate = CO2 Emission Rate + N2O Emission Rate * GWP Factor + CH4 Emission Rate * GWP Factor

"-" Indicates emissions of this pollutant are not expected.

Parameters	Value	Unit	Note
Input heat rate	1.60	MMBtu/hr	
Exhaust temp	1,400	°F	Manufacturer spec
Stack height	25.00	ft	Manufacturer spec
Stack diameter	4.00	ft	Manufacturer spec
Exhaust flow (Actual)	1948	acfm	Flow (acfm) = Flow (scfm) * (Stack Temp + 460) / 528 * 29.92 / Site Bar. Pres. / (100% - Moisture%)
Exhaust flow (Actual)	32.46	acfs	Flow (acfs) - Flow (acfm) / 60s/min
Exhaust velocity	2.58	ft/sec	Exhaust flow / stack area
O_2 F factor	8,710	dscf/MMBtu	Method 9
Moisture	10	%	Nominal
Exhaust flow (Dry)	445.4	dscfm	Flow (dscfm) = heat input * O2 F * [20.9 / (20.9 - O2%)]
O_2 %	10	%	
Site Elevation	3,037	ft MSL	
Pressure at Elevation	26.78	in Hg	

ONEOK, Inc. - Red Raider Compressor Station

Enclosed Combustor

Emission Unit: ECD-2

Source Description: Dehydrator BTEX Condenser Vent Gas Stream

VOC Heat Input and Flow Rate Calculation Per Unit

Parameters	Value	Unit	Notes
Number of ECDs	1	-	
VRU Downtime	0%		
VOC Emissions	388.41	tpy	Dehydrator BTEX Condenser Vent Gas Stream
HAP Emissions	97.10	tpy	Dehydrator BTEX Condenser Vent Gas Stream
Total Flared Gas Heating Value	2230.00	Btu/scf	Weighted average heating value from all streams
Total Flared Gas Flow	814.14	scf/hr	Total flow from all streams to flare
Total Flared Gas Heating Rate	1.816	MMBtu/hr	Calculated based on heating value and steady-state flow
Flared Gas Flow Rate with Safety Factor	0%	%	Safety factor
	814.14	scf/hr	Flow with safety factor
	7.13	MMscf/yr	
Short-Term Safety Factor	0%	-	Applied to emissions to account for variations in heat content.
Heating Rate	1.8155292	MMBtu/hr	
Flare pilot	30	scf/hr	Mfg. Spec Sheet
	0%		Safety factor
	30	scf/hr	Pilot flow with safety factor
	3.00E-05	MMscf/hr	
Pipeline Gas HHV	1020	Btu/scf	Facility specification
Flare Heat Input	0.031	MMBtu/hr	
	0.26	MMscf/yr	
Heating Rate + Pilot	1.85	MMBtu/hr	

Emission Rates Per Unit

	NO_X	CO	VOC[1]	SO_2[2]	H_2S	HAPs[1]	Units	Notes
Emission Factors	0.1380	0.2755					lb/MMBtu	TNRCC RG-109 (high Btu; other)
							lb H_2S/Mscf	
				8.57E-05			lb S/hr	
							tpy	
			388.41		-	97.098		Dehydrator BTEX Condenser Vent Gas Stream
Pilot Emissions	0.0042	0.008	-	1.71E-04	-	-	lb/hr	
	0.018	0.037	-	7.51E-04	-	-	tpy	
Process Emissions	0.25	0.50	-	-	-	-	lb/hr	
			1.774	-	-	4.43E-01	lb/hr	
	1.10	2.19	7.768	-	-	1.94E+00	tpy	
Total Emissions	***0.25***	***0.51***	***1.77***	***0.00***	***-***	***0.44***	lb/hr	
	1.12	***2.23***	***7.77***	***0.00***	***-***	***1.94***	tpy	

GHG Calculations

	CO_2[3]	N_2O[3]	CH_4[3]	CO_2e[3]		
	53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Subpart Tables
	1	298	25		GWP	40 CFR 98 Table A-1
	930.20	0.00175	0.0175	930.22	tpy	
	930.20	0.52	0.44	931.16	tpy CO2e	

[1] The ECD controls the dehydrator still vent emissions. 98.00% DRE

[2] Fuel sulfur content is assumed to be 2 gr/100 Scf

[3] N2O, CH4, and CO2 tpy Emission Rate = EF * Fuel Usage * Fuel Heat Value *2.20462 lb/kg * 1 ton/2000 lb

CO2e tpy Emission Rate = CO2 Emission Rate + N2O Emission Rate * GWP Factor + CH4 Emission Rate * GWP Factor

"-" Indicates emissions of this pollutant are not expected.

Parameters	Value	Unit	Note
Input heat rate	1.60	MMBtu/hr	
Exhaust temp	1,400	°F	Manufacturer spec
Stack height	25.00	ft	Manufacturer spec
Stack diameter	4.00	ft	Manufacturer spec
Exhaust flow (Actual)	1948	acfm	Flow (acfm) = Flow (scfm) * (Stack Temp + 460) / 528 * 29.92 / Site Bar. Pres. / (100% - Moisture%)
Exhaust flow (Actual)	32.46	acfs	Flow (acfs) - Flow (acfm) / 60s/min
Exhaust velocity	2.58	ft/sec	Exhaust flow / stack area
O_2 F factor	8,710	dscf/MMBtu	Method 9
Moisture	10	%	Nominal
Exhaust flow (Dry)	445.4	dscfm	Flow (dscfm) = heat input * O2 F * [20.9 / (20.9 - O2%)]
O_2 %	10	%	
Site Elevation	3,037	ft MSL	
Pressure at Elevation	26.78	in Hg	

ONEOK, Inc. - Red Raider Compressor Station

Glycol Dehydrator Emissions

Unit: DEHY-1
Description: Glycol Dehydrator
Control Equipment: BTEX Condenser
Dry Gas Flow Rate: 170 MMscfd
Pump Circulation: 30.00 gpm

Uncontrolled Emissions[1]

Unit	VOC		H_2S		Methane		CO_2		Total HAP		n-Hexane		Benzene		Toluene		Ethylbenzene		Xylenes	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Dehy-1 (Flash Vent)	66.94	293.21	-	-	54.79	239.97	1.68	7.34	1.83	8.02	1.32	5.78	0.20	0.87	0.20	0.89	0.0059	0.0257	0.102	0.447
Dehy-1 (Regenerator)	169.00	740.23	-	-	3.43	15.00	1.20	5.25	77.30	338.57	5.71	25.03	16.59	72.67	33.05	144.76	1.6004	7.010	20.341	89.09
DEHY-1 Total	235.95	1033.44	-	-	58.21	254.97	2.87	12.59	79.13	346.58	7.03	30.81	16.79	73.54	33.25	145.66	1.6062	7.035	20.443	89.54

Controlled Emissions[2]

Unit	VOC		H_2S		Methane		CO_2		Total HAP		n-Hexane		Benzene		Toluene		Ethylbenzene		Xylenes	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Dehy-1 (Flash Vent)[2]	0.00	0.00	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dehy-1 (Regenerator)[2]	1.77	7.77	-	-	0.068	0.30	306.8780	1344.125	0.44	1.94	0.070	0.31	0.161	0.71	0.162	0.712	3.26E-03	1.43E-02	3.96E-02	1.73E-01
DEHY-1 Total	1.77	7.77	-	-	0.068	0.30	306.8780	1344.125	0.44	1.94	0.070	0.31	0.161	0.71	0.162	0.712	3.26E-03	1.43E-02	3.96E-02	1.73E-01

Notes

[1] Emissions are calculated using BR&E ProMax.

[2] Still column BTEX non-condensables are sent to ECD-2 with a 98% DRE. Flash tank emissions are routed to inlet suction for recycle / recompression.

ONEOK, Inc. - Red Raider Compressor Station

Fugitives

Unit: FUG

Annual Operating Hours: 8,760

Facility-wide Fugitive Emissions Per Piece of Equipment					
Subcomponent		**Emission Factor[1] (lb/hr/comp)**	**VOC Content[2] (wt%)**	**HAP Content[2] (wt%)**	**Subcomponent Counts[3]**
Valves	Gas	9.92E-03	27.59%	0.48%	393
	Light Oil	5.51E-03	99.84%	15.56%	136
	Water/Oil	2.16E-04	0.0035%	0.0035%	136
Flanges	Gas	8.60E-04	27.59%	0.48%	393
	Light Oil	2.43E-04	99.84%	15.56%	136
	Water/Oil	6.39E-06	0.0035%	0.0035%	136
Connectors	Gas	4.41E-04	27.59%	0.48%	2423
	Light Oil	4.63E-04	99.84%	15.56%	332
	Water/Oil	2.43E-04	0.0035%	0.0035%	332
Other	Gas	1.94E-02	27.59%	0.48%	0
	Light Oil	1.65E-02	99.84%	15.56%	0
	Water/Oil	3.09E-02	0.0035%	0.0035%	0
Pump Seals	Gas	5.29E-03	27.59%	0.48%	0
	Light Oil	2.87E-02	99.84%	15.56%	3
	Water/Oil	5.29E-05	0.0035%	0.0035%	3
Open Ended Lines	Gas	4.41E-03	27.59%	0.48%	87
	Light Oil	3.09E-03	99.84%	15.56%	12
	Water/Oil	5.51E-04	0.0035%	0.0035%	12
				Hourly VOC Emission Rate (lb/hr)[4]	2.63
				Annual VOC Emission Rate (tpy)[5]	11.51
				Hourly HAP Emission Rate (lb/hr)[4]	0.192
				Annual HAP Emission Rate (tpy)[5]	0.84

[1] Emission factors from Table 2-4 of EPA Protocol for Equipment Leak Emission Estimates, 1995.

[2] Weight percent of gas and liquid components from gas and liquid streams generated in a ProMax simulation of this facility.

[3] Component counts are based on estimated design.

[4] Hourly Emissions [lb/hr] = Emissions Factor [lb/hr/component] * Weight Content of Chemical Component [%] * Subcomponent Count.

[5] Annual Emissions [ton/yr] = Hourly Emissions [lb/hr] * Operating Hours [hr/yr] * 1/2000 [ton/lb].

ONEOK, Inc. - Red Raider Compressor Station

Fugitives

Component	Number of Components[d]	Emission Factors [a] (lb/hr-component)	Annual Operating Hours (hr/yr)	Maximum VOC (wt%)	Maximum HAPs (wt%)	Potential To Emit VOC Hourly [b] (lb/hr)	Potential To Emit VOC Annual [c] (T/yr)	Potential To Emit HAPs Annual [c] (T/yr)
Relief Valves								
Gas Stream (Inlet Gas)	48	0.0194	8,760	27.5891%	0.48%	0.2569	1.1253	0.0197
Compressor Seals								
Gas Stream (Inlet Gas)	24	0.0194	8,760	27.5891%	0.48%	0.1285	0.5626	0.0099
					Gas Streams Total:	0.3854	1.6879	0.0296
					COMP-1 FUG Total:	0.0482	0.2110	0.0037
					COMP-2 FUG Total:	0.0482	0.2110	0.0037
					COMP-3 FUG Total:	0.0482	0.2110	0.0037
					COMP-4 FUG Total:	0.0482	0.2110	0.0037
					COMP-5 FUG Total:	0.0482	0.2110	0.0037
					COMP-6 FUG Total:	0.0482	0.2110	0.0037
					COMP-7 FUG Total:	0.0482	0.2110	0.0037
					COMP-8 FUG Total:	0.0482	0.2110	0.0037

[a] Fugitive Emission Factors and Reduction Credits are per TCEQ Technical Guidance Document for Equipment Leak Fugitives, dated June 2018. The emission factors are for total hydrocarbon.

[b] Hourly VOC emission rates are calculated as follows:
(48 components) * (0.01940 lb/hr-component) * (27.59 % VOC) * (100% - 0.0 % reduction credit) = 0.2569 lb/hr

[c] Annual VOC emission rates are calculated as follows:
(48 components) * (0.01940 lb/hr-component) * (8,760 hr/yr) * (27.59 % VOC) * (100% - 0.0 % reduction credit) / (2,000 lb/T) = 1.1253 T/yr

[d] Emissions based on three (3) seals and six (6) relief vents per compressor.

ONEOK, Inc. - Red Raider Compressor Station
Emission Calculation Inputs

Compressor Blowdowns

Compressor Name	Quantity of Compressors (#)	Quantity of Compressors Simultaneously (#)	Total Volume (scf/event)[1]	Hours / Blowdown (hr/event)	Number of Events/yr
Waukesha 16V275GL Compressor Engine	2	2	1352.8	1	208
Caterpillar 3612A4 Compressor Engine	6	6	1352.8	1	624

[1] Blowdown volumes provided by Delaware G&P

Dehydrator/ Amine Blowdowns

Dehydrator/Amine	Volume of Gas per Blowdown (scf/event)	# Blowdowns / year (# /year)	Hours / Blowdown (hr/event)	Number of Units (#)
42" Contactor	19,080	2	1	1
30" Contactor	6,814	2	1	1

Filter Coalescer Blowdowns

Input Data	Value	Units
Volume of gas per blowdown	1671	scf/event
Number of Filter Coalescers	1	Units
Number of Blowdowns per unit per year	1	events/yr
Duration of Event	1	hr/event

Scrubbers

Input Data	Value	Units
Volume of Gas Per Blowdown	10384	scf/event
Number of Scrubbers	5	Units
Number of Blowdowns per unit per year	5	events/yr
Duration of Event	1	hr/event
Simultaneous unit blowdowns	5	

Pump Blowdowns

Input Data	Value	Units
Volume of gas per blowdown	0.06	scf/event
Number of pumps	2	Units
Number of blowdowns per unit per year	4	events/yr
Hours per event	1	hr/event
Simultaneous unit blowdowns	2	Units

Reboiler Maintenance

Input Data	Value	Units
Volume of Gas Released during Reboiler Maintenance	40	scf/event
Number of Reboilers	1	-
Duration of Event	1	hr/event
Maintenance Events per year	1	event/ year
Actual Pressure	14.7	psia
Maximum Temperature	100	°F
Annual Temperature	80	°F
Simultaneous Events	1	events

Pipeline Maintenance

Input Data	Value	Units
Pipeline Diameter	4	inches
Pipeline Length	11058	ft
Duration of Event	0.25	hr/event
Maintenance events per year	1	events/yr
Actual Pressure	100	psia
Maximum Temperature	100	°F
Annual Temperature	80	°F
Pipeline volume vented	7111	scf/event

Tank Maintenance

Input Data	Value	Units
Number of tanks	3	Units
Molecular Weight of Vapors	70	lb/lb-mol
Duration of tank purging/degassing	24	hr/event
Volume of gas released during degassing event	4322.83	scf/event
Tank Height	21.5	ft
Tank Diameter	16	ft
Number of tank purging/degassing events per tank per year	4	event/yr

ONEOK, Inc. - Red Raider Compressor Station

SSM Summary

Description	VOC		H_2S		Total HAPs	
	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Compressor Blowdowns	174.82	9.09	-	-	3.06	0.16
Coalescer Blowdowns	26.95	0.013	-	-	0.47	0.0002
Scrubber Blowdowns	837.50	0.42	-	-	14.68	0.007
Dehydrator Blowdowns	417.70	0.84	-	-	7.32	0.015
Pump Blowdowns	<0.01	1.84E-06	-	-	0.000	3.22E-08
Pipeline Maintenance	114.70	0.06	-	-	2.01	0.001
Tank Degassing	127.48	0.87	-	-	31.87	0.22
Reboiler Maintenance	0.65	0.0003	-	-	0.011	5.69E-06
TOTAL	**1,699.81**	**11.28**	**--**	**--**	**59.43**	**0.40**

ONEOK, Inc. - Red Raider Compressor Station

Waukesha 16V275GL Compressor Engine

Basis of Calculation:
Emissions from blowdowns are calculated based on a mass balance as follows:

Maximum Uncontrolled Hourly Emissions (lb/hr) = [Volume of blowdown (scf/event/unit)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] x [# compressors blowndown simultaneously (units)] / [event duration (hr/event)] / [379.5 (scf/lb-mol)]

Maximum Uncontrolled Annual Emissions (tpy) = [Volume of blowdown (scf/event)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] x [# compressors blowndown at site (units)] x [frequency of events

Compressor BlowDown Emissions

Estimated Gas Vented per BlowDown Event [1] =	1,353	scf/event
Compressors at Site =	2	units
Compressors Blowndown Simultaneously =	2	units
Assumed BlowDown Duration =	1	hrs/event
Compressor BlowDowns in One Year =	208	events/yr
Molecular Weight of Stream =	22	lb/lb-mol
Control Type =	None	

Compound	Composition (wt %)	Maximum Uncontrolled Hourly Emissions (lb/hr)	Maximum Uncontrolled Annual Emissions (tpy)	Control Efficiency (%)	Maximum Controlled Hourly Emissions (lb/hr)	Maximum Controlled Annual Emissions (tpy)
Carbon Dioxide	0.20386	3.23E-01	1.68E-02	--	**--**	**--**
Hydrogen Sulfide	0.00000	0.00E+00	0.00E+00	--	--	--
Nitrogen	1.14100	1.81E+00	9.40E-02	--	--	--
Methane	53.13269	8.42E+01	4.38E+00	--	--	--
Ethane	17.93331	2.84E+01	1.48E+00	--	--	--
Propane	14.24186	2.26E+01	1.17E+00	--	--	--
i-butane	2.71952	4.31E+00	2.24E-01	--	--	--
n-butane	6.21848	9.85E+00	5.12E-01	--	--	--
i-pentane	1.73306	2.75E+00	1.43E-01	--	--	--
n-pentane	1.90649	3.02E+00	1.57E-01	--	--	--
n-hexane	0.41702	6.61E-01	3.44E-02	--	--	--
Cyclohexane	0.13374	2.12E-01	1.10E-02	--	--	--
n-heptane	0.06631	1.05E-01	5.46E-03	--	--	--
methylcyclohexane	0.08663	1.37E-01	7.14E-03	--	--	--
2,2,4-trimethylpentane	0.02571	4.07E-02	2.12E-03	--	--	--
benzene	0.02110	3.34E-02	1.74E-03	--	--	--
toluene	0.01493	2.37E-02	1.23E-03	--	--	--
ethylbenzene	0.00048	7.60E-04	3.95E-05	--	--	--
o-xylene	0.00048	7.60E-04	3.95E-05	--	--	--
m-xylene	0.00239	3.79E-03	1.97E-04	--	--	--
p-xylene	0.00096	1.52E-03	7.91E-05	--	--	--
Total VOC	**27.59**	**43.71**	**2.27**	**--**	**--**	**--**
H_2S	**0.0000**	**0.00E+00**	**0.00E+00**	**--**	**--**	**--**
Total HAP	**0.48**	**0.77**	**0.040**	**--**	**--**	**--**

ONEOK, Inc. - Red Raider Compressor Station

Caterpillar 3612A4 Compressor Engine

Basis of Calculation:
Emissions from blowdowns are calculated based on a mass balance as follows:

Maximum Uncontrolled Hourly Emissions (lb/hr) = [Volume of blowdown (scf/event/unit)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] x [# compressors blowndown simultaneously (units)] / [event duration (hr/event)] / [379.5 (scf/lb-mol)]

Maximum Uncontrolled Annual Emissions (tpy) = [Volume of blowdown (scf/event)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] x [# compressors blowndown at site (units)] x [frequency of events (events/yr/unit)] / [379.5 (scf/lb-mol)] /

Compressor BlowDown Emissions

Estimated Gas Vented per BlowDown Event [1] =	1,353	scf/event
Compressors at Site =	6	units
Compressors Blowndown Simultaneously =	6	units
Assumed BlowDown Duration =	1	hrs/event
Compressor BlowDowns in One Year =	624	events/yr
Molecular Weight of Stream =	22	lb/lb-mol
Control Type =	None	

Compound	Composition (wt %)	Maximum Uncontrolled Hourly Emissions (lb/hr)	Maximum Uncontrolled Annual Emissions (tpy)	Control Efficiency (%)	Maximum Controlled Hourly Emissions (lb/hr)	Maximum Controlled Annual Emissions (tpy)
Carbon Dioxide	0.20386	9.69E-01	5.04E-02	--	**--**	**--**
Hydrogen Sulfide	0.00000	0.00E+00	0.00E+00	--	--	--
Nitrogen	1.14100	5.42E+00	2.82E-01	--	--	--
Methane	53.13269	2.53E+02	1.31E+01	--	--	--
Ethane	17.93331	8.52E+01	4.43E+00	--	--	--
Propane	14.24186	6.77E+01	3.52E+00	--	--	--
i-butane	2.71952	1.29E+01	6.72E-01	--	--	--
n-butane	6.21848	2.96E+01	1.54E+00	--	--	--
i-pentane	1.73306	8.24E+00	4.28E-01	--	--	--
n-pentane	1.90649	9.06E+00	4.71E-01	--	--	--
n-hexane	0.41702	1.98E+00	1.03E-01	--	--	--
Cyclohexane	0.13374	6.36E-01	3.31E-02	--	--	--
n-heptane	0.06631	3.15E-01	1.64E-02	--	--	--
methylcyclohexane	0.08663	4.12E-01	2.14E-02	--	--	--
2,2,4-trimethylpentan	0.02571	1.22E-01	6.35E-03	--	--	--
benzene	0.02110	1.00E-01	5.21E-03	--	--	--
toluene	0.01493	7.10E-02	3.69E-03	--	--	--
ethylbenzene	0.00048	2.28E-03	1.19E-04	--	--	--
o-xylene	0.00048	2.28E-03	1.19E-04	--	--	--
m-xylene	0.00239	1.14E-02	5.91E-04	--	--	--
p-xylene	0.00096	4.56E-03	2.37E-04	--	--	--
Total VOC	**27.59**	**131.12**	**6.82**	--	--	--
H_2S	**0.0000**	**0.0000**	**0.0000**	--	--	--
Total HAP	**0.48**	**2.30**	**0.119**	--	--	--

[1] This is a representative estimate of the amount of gas vented per blow down event.

ONEOK, Inc. - Red Raider Compressor Station

Compressor Blowdowns

Hours per event: 1

Compressor	Number of Compressors	Volume per Compressor Event (scf/event)	Annual events per Compressor	Annual Release (scf/yr)	Hourly Volume (scf/hr)	Molecular Weight (lb/lb-mol)
Waukesha 16V275GL Compressor Engine	2	1352.819462	104	281386.448	2705.639	22
Caterpillar 3612A4 Compressor Engine	6	1352.819462	104	844159.344	8116.917	22

	VOC		H_2S		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Waukesha 16V275GL Compressor Engine	43.71	2.27	0.00E+00	0.00E+00	0.77	0.040
Caterpillar 3612A4 Compressor Engine	131.12	6.82	0.00E+00	0.00E+00	2.30	0.119
TOTAL	174.82	9.09	0.000	0.00E+00	3.06	0.159

Gas Compressor									
Compressor Blowdown Volume Calculations									
	Length (ft)	Diameter (in)	Diameter (ft)	Volume (SCF)	Units				
8" Piping Volume #1	90	8	0.67	31.42	CF				
6" Piping Volume #2	85	6	0.50	16.69	CF				
4" Piping Volume #3	85	6	0.50	16.69	CF				
#1 Suction Scrubber	8	34	2.83	50.44	CF				
#1 Suction Bottle	14.33	32	2.67	80.03	CF				
#1 Discharge Bottle	13.168	20	1.67	28.73	CF				
#1 Throw				4.20	CF				
#3 Throw				4.20	CF				
#2 Suction Scrubber	8	26	2.17	29.50	CF				
#2 Suction Bottle	10.25	26	2.17	37.79	CF				
#2 Discharge Bottle	10.41	20	1.67	22.71	CF				
#4 Throw				3.20	CF				
#3 Suction Scrubber	7.33	20	1.67	15.99	CF				
#3 Suction Bottle	4	20	1.67	8.73	CF				
#3 Discharge Bottle	6.63	16	1.33	9.26	CF				
#2 Throw				2.00	CF				
#1 Total Volume (CF)				170.29	CF @			55	psig
#1 Total Volume (SCF)				807.43	SCF				
#2 Total Volume (CF)				115.91	CF @			55	psig
#2 Total Volume (SCF)				549.57	SCF				
#3 Total Volume (CF)				66.12	CF @			55	psig
#3 Total Volume (SCF)				313.50	SCF				
Discharge Volume (CF)				9.26	CF @			55	psig
Discharge Volume (SCF)				43.89	SCF				
Total Volume (CF)				361.57	CF @				
Total Volume (SCF)				1,714.39	SCF				
Total Volume (MCF)				**1.714**	**MSCF**				
Blowdown Volume (MCF)				**1,352.82**	**MSCF (volume of gas released)**				

ONEOK, Inc. - Red Raider Compressor Station

Pipeline Maintenance

Basis of Calculation:
Emissions from pipeline maintenance operations are calculated based on a mass balance as follows:

Maximum Uncontrolled Hourly Emissions for each Unit (lb/hr) = [Volume of gas in pipe (scf/event)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] * [events per hour (event/hr) / [379.5 (scf/lb-mol)]

Maximum Uncontrolled Annual Emissions for each Unit (tpy) = [Volume of gas in pipe (scf/event)] x [MW of stream

Pipeline Maintenance Emissions

Pipeline Volume Vented =	7,110.59	scf/yr
Molecular Weight of Stream =	22	lb/lb-mol
Control Type =	None	

Compound	Composition (wt %)	Maximum Uncontrolled Hourly Emissions (lb/hr)	Maximum Uncontrolled Annual Emissions (tpy)	Control Efficiency (%)	Maximum Controlled Hourly Emissions (lb/hr)	Maximum Controlled Annual Emissions (tpy)
Carbon Dioxide	2.04E-01	8.49E-01	4.25E-04	--	--	--
Hydrogen Sulfide	0.00E+00	0.00E+00	0.00E+00	--	--	--
Nitrogen	1.14E+00	4.75E+00	2.37E-03	--	--	--
Methane	5.31E+01	2.21E+02	1.11E-01	--	--	--
Ethane	1.79E+01	7.45E+01	3.73E-02	--	--	--
Propane	1.42E+01	5.91E+01	2.96E-02	--	--	--
i-butane	2.72E+00	1.13E+01	5.66E-03	--	--	--
n-butane	6.22E+00	2.59E+01	1.29E-02	--	--	--
i-pentane	1.73E+00	7.20E+00	3.60E-03	--	--	--
n-pentane	1.91E+00	7.95E+00	3.98E-03	--	--	--
n-hexane	4.17E-01	1.74E+00	8.68E-04	--	--	--
Cyclohexane	1.34E-01	5.58E-01	2.79E-04	--	--	--
n-heptane	6.63E-02	2.76E-01	1.38E-04	--	--	--
methylcyclohexane	8.66E-02	3.61E-01	1.80E-04	--	--	--
2,2,4-trimethylpentane	2.57E-02	1.07E-01	5.35E-05	--	--	--
benzene	2.11E-02	8.78E-02	4.39E-05	--	--	--
toluene	1.49E-02	6.20E-02	3.10E-05	--	--	--
ethylbenzene	4.78E-04	1.99E-03	9.95E-07	--	--	--
o-xylene	4.78E-04	1.99E-03	9.95E-07	--	--	--
m-xylene	2.39E-03	9.95E-03	4.98E-06	--	--	--
p-xylene	9.56E-04	3.98E-03	1.99E-06	--	--	--
Total VOC	**27.55**	**114.70**	**0.06**	--	--	--
H_2S	**0.00**	**0.000**	**0.00**	--	--	--
Total HAP	**0.48**	**2.01**	**<0.001**	--	--	--

[1] This is a representative estimate of the amount of gas vented per blowdown event.

ONEOK, Inc. - Red Raider Compressor Station

Reboiler Maintenance

Basis of Calculation:
Emissions from reboiler maintenance activities are calculated based on a mass balance as follows:

Maximum Uncontrolled Hourly Emissions (lb/hr) = [Volume of Gas Vented (scf/event/unit)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] x [# Reboilers worked on simultaneously (units)] / [event duration (hr/event)] / [379.5 (scf/lb-mol)]

Maximum Uncontrolled Annual Emissions (tpy) = [Volume of Gas Vented (scf/event)] x [MW of stream

Reboiler Maintenance Emissions

Estimated Gas Vented per Event [1] =	40	scf/event
Reboilers at Site =	1	units
Reboilers Maintenance Events Occurring Simultaneously =	1	events
Assumed Reboiler Maintenance Duration =	1	hrs/event
Reboiler Maintenance Activities in One Year =	1	events/yr
Molecular Weight of Stream =	22	lb/lb-mol
Control Type =	None	

Compound	Composition (wt %)	Maximum Uncontrolled Hourly Emissions (lb/hr)	Maximum Uncontrolled Annual Emissions (tpy)	Control Efficiency (%)	Maximum Controlled Hourly Emissions (lb/hr)	Maximum Controlled Annual Emissions (tpy)
Carbon Dioxide	2.04E-01	4.81E-03	2.41E-06	--	--	--
Hydrogen Sulfide	0.00E+00	0.00E+00	0.00E+00	--	--	--
Nitrogen	1.14E+00	2.69E-02	1.34E-05	--	--	--
Methane	5.31E+01	1.25E+00	6.26E-04	--	--	--
Ethane	1.79E+01	4.22E-01	2.11E-04	--	--	--
Propane	1.42E+01	3.35E-01	1.67E-04	--	--	--
i-butane	2.72E+00	6.41E-02	3.21E-05	--	--	--
n-butane	6.22E+00	1.47E-01	7.33E-05	--	--	--
i-pentane	1.73E+00	4.08E-02	2.04E-05	--	--	--
n-pentane	1.91E+00	4.50E-02	2.25E-05	--	--	--
n-hexane	4.17E-01	9.83E-03	4.92E-06	--	--	--
Cyclohexane	1.34E-01	3.16E-03	1.58E-06	--	--	--
n-heptane	6.63E-02	1.56E-03	7.82E-07	--	--	--
methylcyclohexane	8.66E-02	2.04E-03	1.02E-06	--	--	--
2,2,4-trimethylpentane	2.57E-02	6.06E-04	3.03E-07	--	--	--
benzene	2.11E-02	4.98E-04	2.49E-07	--	--	--
toluene	1.49E-02	3.51E-04	1.76E-07	--	--	--
ethylbenzene	4.78E-04	1.13E-05	5.64E-09	--	--	--
o-xylene	4.78E-04	1.13E-05	5.64E-09	--	--	--
m-xylene	2.39E-03	5.64E-05	2.82E-08	--	--	--
p-xylene	9.56E-04	2.25E-05	1.13E-08	--	--	--
Total VOC	**27.55**	**0.65**	**3.25E-04**	**--**	**--**	**--**
H_2S	**0.00**	**0.00**	**0.00**	**--**	**--**	**--**
Total HAP	**0.48**	**0.011**	**5.69E-06**	**--**	**--**	**--**

[1] This is a representative estimate of the amount of gas vented per reboiler maintenance event.

ONEOK, Inc. - Red Raider Compressor Station

Filter Coalescer Blowdowns

Basis of Calculation:
Emissions from blowdowns are calculated based on a mass balance as follows:

Maximum Uncontrolled Hourly Emissions (lb/hr) = [Volume of blowdown (scf/event/unit)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] x [# units blowndown simultaneously (units)] / [event duration (hr/event)] / [379.5 (scf/lb-mol)]

Maximum Uncontrolled Annual Emissions (tpy) = [Volume of blowdown (scf/event)] x [MW of

Filter Coalescer BlowDown Emissions

Estimated Gas Vented per BlowDown Event [1] =	1,671	scf/event
Units at Site =	1	units
Units Blowndown Simultaneously =	1	units
Assumed BlowDown Duration =	1	hrs/event
Unit BlowDowns in One Year =	1	events/yr
Molecular Weight of Stream =	22	lb/lb-mol
Control Type =	None	

Compound	Composition (wt %)	Maximum Uncontrolled Hourly Emissions (lb/hr)	Maximum Uncontrolled Annual Emissions (tpy)	Control Efficiency (%)	Maximum Controlled Hourly Emissions (lb/hr)	Maximum Controlled Annual Emissions (tpy)
Carbon Dioxide	2.04E-01	2.00E-01	9.98E-05	--	--	--
Hydrogen Sulfide	0.00E+00	0.00E+00	0.00E+00	--	--	--
Nitrogen	1.14E+00	1.12E+00	5.58E-04	--	--	--
Methane	5.31E+01	5.20E+01	2.60E-02	--	--	--
Ethane	1.79E+01	1.75E+01	8.76E-03	--	--	--
Propane	1.42E+01	1.39E+01	6.95E-03	--	--	--
i-butane	2.72E+00	2.66E+00	1.33E-03	--	--	--
n-butane	6.22E+00	6.09E+00	3.04E-03	--	--	--
i-pentane	1.73E+00	1.69E+00	8.46E-04	--	--	--
n-pentane	1.91E+00	1.87E+00	9.34E-04	--	--	--
n-hexane	4.17E-01	4.08E-01	2.04E-04	--	--	--
Cyclohexane	1.34E-01	1.31E-01	6.56E-05	--	--	--
n-heptane	6.63E-02	6.49E-02	3.24E-05	--	--	--
methylcyclohexane	8.66E-02	8.47E-02	4.24E-05	--	--	--
2,2,4-trimethylpentane	2.57E-02	2.51E-02	1.26E-05	--	--	--
benzene	2.11E-02	2.06E-02	1.03E-05	--	--	--
toluene	1.49E-02	1.46E-02	7.29E-06	--	--	--
ethylbenzene	4.78E-04	4.68E-04	2.34E-07	--	--	--
o-xylene	4.78E-04	4.68E-04	2.34E-07	--	--	--
m-xylene	2.39E-03	2.34E-03	1.17E-06	--	--	--
p-xylene	9.56E-04	9.35E-04	4.68E-07	--	--	--
Total VOC	**27.55**	**26.95**	**0.013**	**--**	**--**	**--**
H_2S	**0.00**	**0.00**	**0.00**	**--**	**--**	**--**
Total HAP	**0.48**	**0.47**	**0.0002**	**--**	**--**	**--**

[1] This is a representative estimate of the amount of gas vented per blowdown event.

ONEOK, Inc. - Red Raider Compressor Station

Scrubber Blowdown

Basis of Calculation:
Emissions from blowdowns are calculated based on a mass balance as follows:

Maximum Uncontrolled Hourly Emissions (lb/hr) = [Volume of blowdown (scf/event/unit)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] x [# units blowndown simultaneously (units)] / [event duration (hr/event)] / [379.5 (scf/lb-mol)]

Maximum Uncontrolled Annual Emissions (tpy) = [Volume of blowdown (scf/event)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] x [# units blowndown at site

Scrubber BlowDown Emissions

Estimated Gas Vented per BlowDown Event [1] =	10,384	scf/event
Units at Site =	5	units
Units Blowndown Simultaneously =	5	units
Assumed BlowDown Duration =	1	hrs/event
Unit BlowDowns in One Year =	5	events/yr
Molecular Weight of Stream =	22	lb/lb-mol
Control Type =	None	

Compound	Composition (wt %)	Maximum Uncontrolled Hourly Emissions (lb/hr)	Maximum Uncontrolled Annual Emissions (tpy)	Control Efficiency (%)	Maximum Controlled Hourly Emissions (lb/hr)	Maximum Controlled Annual Emissions (tpy)
Carbon Dioxide	2.04E-01	6.20E+00	3.10E-03	--	--	--
Hydrogen Sulfide	0.00E+00	0.00E+00	0.00E+00	--	--	--
Nitrogen	1.14E+00	3.47E+01	1.73E-02	--	--	--
Methane	5.31E+01	1.61E+03	8.07E-01	--	--	--
Ethane	1.79E+01	5.44E+02	2.72E-01	--	--	--
Propane	1.42E+01	4.32E+02	2.16E-01	--	--	--
i-butane	2.72E+00	8.27E+01	4.13E-02	--	--	--
n-butane	6.22E+00	1.89E+02	9.45E-02	--	--	--
i-pentane	1.73E+00	5.26E+01	2.63E-02	--	--	--
n-pentane	1.91E+00	5.81E+01	2.90E-02	--	--	--
n-hexane	4.17E-01	1.27E+01	6.34E-03	--	--	--
Cyclohexane	1.34E-01	4.07E+00	2.04E-03	--	--	--
n-heptane	6.63E-02	2.02E+00	1.01E-03	--	--	--
methylcyclohexane	8.66E-02	2.63E+00	1.32E-03	--	--	--
2,2,4-trimethylpentane	2.57E-02	7.81E-01	3.91E-04	--	--	--
benzene	2.11E-02	6.41E-01	3.21E-04	--	--	--
toluene	1.49E-02	4.53E-01	2.26E-04	--	--	--
ethylbenzene	4.78E-04	1.45E-02	7.27E-06	--	--	--
o-xylene	4.78E-04	1.45E-02	7.27E-06	--	--	--
m-xylene	2.39E-03	7.27E-02	3.63E-05	--	--	--
p-xylene	9.56E-04	2.91E-02	1.45E-05	--	--	--
Total VOC	**27.55**	**837.50**	**0.42**	--	--	--
H_2S	**0.00**	**0.00**	**0.00**	--	--	--
Total HAP	**0.48**	**14.68**	**0.007**	--	--	--

[1] This is a representative estimate of the amount of gas vented per blowdown event.

ONEOK, Inc. - Red Raider Compressor Station

Pump Blowdowns

Basis of Calculation:
Emissions from blowdowns are calculated based on a mass balance as follows:

Maximum Uncontrolled Hourly Emissions (lb/hr) = [Volume of blowdown (scf/event/unit)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] x [# units blowndown simultaneously (units)] / [event duration (hr/event)] / [379.5 (scf/lb-mol)]

Maximum Uncontrolled Annual Emissions (tpy) = [Volume of blowdown (scf/event)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] x [# units blowndown at site (units)] x [frequency of events (events/yr/unit)] / [379.5 (scf/lb-mol)] / [2,000 (lb/ton)]

Pump BlowDown Emissions

Estimated Gas Vented per BlowDown Event [1] =	0	scf/event
Units at Site =	2	units
Units Blowndown Simultaneously =	2	units
Assumed BlowDown Duration =	1	hrs/event
Unit BlowDowns in One Year =	4	events/yr
Molecular Weight of Stream =	22	lb/lb-mol
Control Type =	None	

Compound	Composition (wt %)	Maximum Uncontrolled Hourly Emissions (lb/hr)	Maximum Uncontrolled Annual Emissions (tpy)	Control Efficiency (%)	Maximum Controlled Hourly Emissions (lb/hr)	Maximum Controlled Annual Emissions (tpy)
Carbon Dioxide	2.04E-01	1.36E-05	1.36E-08	--	--	--
Hydrogen Sulfide	0.00E+00	0.00E+00	0.00E+00	--	--	--
Nitrogen	1.14E+00	7.60E-05	7.60E-08	--	--	--
Methane	5.31E+01	3.54E-03	3.54E-06	--	--	--
Ethane	1.79E+01	1.19E-03	1.19E-06	--	--	--
Propane	1.42E+01	9.47E-04	9.47E-07	--	--	--
i-butane	2.72E+00	1.81E-04	1.81E-07	--	--	--
n-butane	6.22E+00	4.15E-04	4.15E-07	--	--	--
i-pentane	1.73E+00	1.15E-04	1.15E-07	--	--	--
n-pentane	1.91E+00	1.27E-04	1.27E-07	--	--	--
n-hexane	4.17E-01	2.78E-05	2.78E-08	--	--	--
Cyclohexane	1.34E-01	8.94E-06	8.94E-09	--	--	--
n-heptane	6.63E-02	4.42E-06	4.42E-09	--	--	--
methylcyclohexane	8.66E-02	5.78E-06	5.78E-09	--	--	--
2,2,4-trimethylpentane	2.57E-02	1.71E-06	1.71E-09	--	--	--
benzene	2.11E-02	1.41E-06	1.41E-09	--	--	--
toluene	1.49E-02	9.94E-07	9.94E-10	--	--	--
ethylbenzene	4.78E-04	3.19E-08	3.19E-11	--	--	--
o-xylene	4.78E-04	3.19E-08	3.19E-11	--	--	--
m-xylene	2.39E-03	1.59E-07	1.59E-10	--	--	--
p-xylene	9.56E-04	6.38E-08	6.38E-11	--	--	--
Total VOC	**27.55**	**<0.01**	**1.84E-06**	**--**	**--**	**--**
H_2S	**0.00**	**0.00**	**0.00**	**--**	**--**	**--**
Total HAP	**0.48**	**<0.001**	**3.22E-08**	**--**	**--**	**--**

[1] This is a representative estimate of the amount of gas vented per blowdown event.

ONEOK, Inc. - Red Raider Compressor Station

Tank Degassing

Basis of Calculation:
Emissions from tank degassing are calculated based on a mass balance as follows:

Maximum Uncontrolled Hourly Emissions (lb/hr) = [Volume of gas vented (scf/event/unit)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] x [# tank degassing activities occurring simultaneously (units)] / [event duration (hr/event)] / [379.5 (scf/lb-mol)] + Clingage volume (scf/event) x Liquid density (lb/scf) / event duration (hr/event) x [# tank degassing activities occurring simultaneously (units)]

Maximum Uncontrolled Annual Emissions (tpy) = [Volume of gas vented (scf/event)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] x [# tanks at site (units)] x [frequency of events (events/yr/unit)] / [379.5 (scf/lb-mol)] / [2,000 (lb/ton)] + Clingage volume (scf/event) x Liquid density (lb/scf) / Frequency of event (events/yr/unit) / 2,000 (lb/ton) x [# tanks at site (units)]

Tank Degassing Emissions - Non-Forced Ventilation

Estimated Gas Vented per Degassing Event =	4,323	scf/event
Number of Tanks =	3	units
Tank Degassing Events Occurring Simultaneously =	3	units
Assumed Degassing Event Duration =	24	hrs/event
Tank Degassing Events in One Year =	4	events/yr
Molecular Weight of Stream =	43	lb/lb-mol
Is Forced Ventilation used?	No	
Control Type =	No	

Clingage-to-vessel Volume		
Clingage volume [1] =	0.51	scf
Clingage thickness [2] =	0.0004	ft
Diameter =	16	ft
Height =	21.5	ft
Liquid Density [1] =	43.00	lb/scf

[1] The roof of the tank is not included in the clingage volume since no liquid will reach the roof. Liquid density is from ProMax for condensate.

[2] Clingage thickness per TCEQ Maintenance, Startup and Shutdown (MSS) Guidance Document for terminals and chemical plants. http://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/mss/mss-guidance.pdf

Compound	Composition (wt %)	Maximum Uncontrolled Hourly Emissions (lb/hr)	Maximum Uncontrolled Annual Emissions (tpy)	Control Efficiency (%)	Maximum Controlled Hourly Emissions (lb/hr)	Maximum Controlled Annual Emissions (tpy)
Total VOC	**100**	**127.48**	**0.87**			
Total HAP	**25**	**31.87**	**0.22**			

[1] HAP content is conservatively assumed to be 25% of the vented liquid vapor analysis.

ONEOK, Inc. - Red Raider Compressor Station

Dehydrator Blowdowns

Basis of Calculation:
Emissions from blowdowns are calculated based on a mass balance as follows:

Maximum Uncontrolled Hourly Emissions (lb/hr) = [Estimated blowdown volume (scf/event)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] / [hour/event] / [379.5 (scf/lb-mol)]

Maximum Uncontrolled Annual Emissions (tpy) = [Estimated blowdown volume (scf/event)] x [MW of stream (lb/lb-mol)] x [wt % VOC or speciated constituent] * [event/yr] / [379.5 (scf/lb-mol)] / [2,000 (lb/ton)]

The hourly volume is calculated from the sum of the blowdown volumes from each component of the dehydrator (i.e. the contactor, scrubber, flash tank, and filters).

Dehydrator BlowDown Emissions

Estimated Hourly BlowDown Volume [1] =	25,895	scf/event
Number of Units =	1	units
Assumed BlowDown Duration =	1	hr/event
Blowdowns Per Year =	4	event/yr
Molecular Weight of Stream =	22	lb/lb-mol
Control Type =	None	

Compound	Composition (wt %)	Maximum Uncontrolled Hourly Emissions (lb/hr)	Maximum Uncontrolled Annual Emissions (tpy)	Control Efficiency (%)	Maximum Controlled Hourly Emissions (lb/hr)	Maximum Controlled Annual Emissions (tpy)
Carbon Dioxide	2.04E-01	3.09E+00	6.19E-03	--	--	--
Hydrogen Sulfide	0.00E+00	0.00E+00	0.00E+00	--	--	--
Nitrogen	1.14E+00	1.73E+01	3.46E-02	--	--	--
Methane	5.31E+01	8.05E+02	1.61E+00	--	--	--
Ethane	1.79E+01	2.71E+02	5.43E-01	--	--	--
Propane	1.42E+01	2.15E+02	4.31E-01	--	--	--
i-butane	2.72E+00	4.12E+01	8.25E-02	--	--	--
n-butane	6.22E+00	9.43E+01	1.89E-01	--	--	--
i-pentane	1.73E+00	2.62E+01	5.25E-02	--	--	--
n-pentane	1.91E+00	2.90E+01	5.79E-02	--	--	--
n-hexane	4.17E-01	6.32E+00	1.26E-02	--	--	--
Cyclohexane	1.34E-01	2.03E+00	4.06E-03	--	--	--
n-heptane	6.63E-02	1.01E+00	2.01E-03	--	--	--
methylcyclohexane	8.66E-02	1.31E+00	2.63E-03	--	--	--
2,2,4-trimethylpentane	2.57E-02	3.90E-01	7.79E-04	--	--	--
benzene	2.11E-02	3.20E-01	6.40E-04	--	--	--
toluene	1.49E-02	2.26E-01	4.52E-04	--	--	--
ethylbenzene	4.78E-04	7.25E-03	1.45E-05	--	--	--
o-xylene	4.78E-04	7.25E-03	1.45E-05	--	--	--
m-xylene	2.39E-03	3.62E-02	7.25E-05	--	--	--
p-xylene	9.56E-04	1.45E-02	2.90E-05	--	--	--
Total VOC	**27.55**	**417.70**	**0.84**	**--**	**--**	**--**
H_2S	**0.00**	**0.00**	**0.00**	**--**	**--**	**--**
Total HAP	**0.48**	**7.32**	**0.015**	**--**	**--**	**--**

Stream Information: Dehydrator Blowdowns

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.

Documentation used to support calculation in this permit application

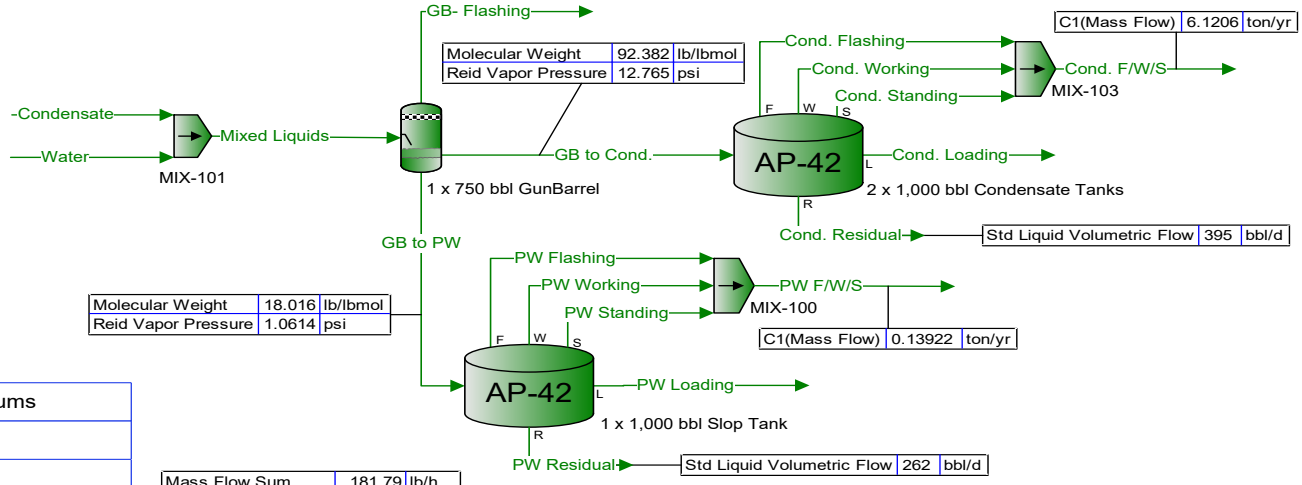
- Current version of AP-42 located at: http://www.epa.gov/ttn/chief/ap42/index.html. Specific sections used in this application:
  - Subsection 1.4 – Natural Gas External Combustion Sources-Natural Gas (Table 1.4-1, 1.4-2 & 1.4-3) **[Units ECD-1, ECD-2 and RBL-1]**
  - Subsection 3.2 – Natural Gas-Fired Reciprocating Engines (Table 3.2-2) **[Units ENG-1 through ENG-8]**
  - Subsection 13.2.2 – Unpaved Roads (Table 13.2.2-2) **[Unit HAUL]**
- Compressor Manufacturer Specifications **[Units ENG-1 through ENG-8]**
- Generator Manufacturer Specifications **[Unit GEN-1]**
- TCEQ TNRCC RG-109 Flare Guidance documentation **[Unit ECD-1, ECD-2]**
- Manley Gas Testing, Inc.'s Extended Gas analysis. [Unit **DEHY-1** and inlet gas analysis for ProMax input]
- 40 CFR Subpart C (Table C-1 and C-2) [**Units ENG-1 through ENG-8, RBL-1, ECD-1, and ECD-2**].

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Red Raider Compressor Station
Tank Emissions Based On –
Red Raider Condensate Analysis (10/20/2025)

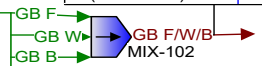
Cond. TP: 395.00 bbl/d
PW TP: 262.00 bbl/d
2024 Volume with 20% SF

"Cond. F/W/S" Component Sums		
GHGs	6.21	ton/yr
HAPs	6.173	ton/yr
VOCs	124	ton/yr



"GB F/W/B" Component Sums		
GHGs	80.16	ton/yr
HAPs	44.6	ton/yr
VOCs	796.2	ton/yr

Mass Flow Sum	181.79	lb/h
Benzene(Mass Flow)	0.52625	lb/h
Benzene(Mass Flow)	2.305	ton/yr
C1(Mass Flow)	79.532	ton/yr



Annual tank loss calculations for "Mixed Liquids".
Total working and breathing losses are 5.986 ton/yr.
Flashing losses are 790.2 ton/yr.
* Only Non-Exempt VOCs are reported.

Annual – 1 X 750 bbl Gunbarrel Tank

"PW F/W/S" Component Sums		
GHGs	0.1589	ton/yr
HAPs	0.197	ton/yr
VOCs	0.7704	ton/yr

Process Streams		Cond. F/W/S	Cond. Flashing	Cond. Loading	Cond. Residual	Cond. Standing	Cond. Working	Condensate	GB B	GB F
Composition	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block:	MIX-103	2 x 1,000 bbl Condensate Tanks	2 x 1,000 bbl Condensate Tanks	2 x 1,000 bbl Condensate Tanks	2 x 1,000 bbl Condensate Tanks	2 x 1,000 bbl Condensate Tanks	--	--	--
	To Block:	--	MIX-103	--	--	MIX-103	MIX-103	MIX-101	MIX-102	MIX-102
Mole Fraction		%	%	%	%	%	%	%	%	%
Water		2.54117	2.45730	2.11961	0.0216208	2.74154	2.74154	0*	3.26684*	4.14463*
H2S		0	0	0	0	0	0	0*	0*	0*
N2		0.0184627	0.0238298	0	0	0.00563945	0.00563945	0.013*	0.141028*	0.119207*
CO2		0.0633627	0.0612795	0.0458175	0.000385973	0.0683400	0.0683400	0.0076*	0.0673529*	0.0631319*
C1		11.8601	12.3560	0	0	10.6754	10.6754	2.4526*	24.6073*	21.9169*
C2		21.8406	21.2600	23.2237	0.453825	23.2280	23.2280	2.277*	18.1529*	17.2403*
C3		25.4425	25.1111	30.5648	2.13307	26.2341	26.2341	3.7649*	20.0787*	19.9333*
iC4		4.84755	4.83727	5.82206	1.11274	4.87209	4.87209	1.3471*	4.10138*	4.22249*
nC4		12.5761	12.6007	14.9924	4.27151	12.5173	12.5173	4.7534*	10.9171*	11.3946*
iC5		3.62919	3.67083	4.21683	3.09131	3.52969	3.52969	3.0671*	3.26785*	3.52300*
nC5		4.46183	4.53030	5.11895	5.07388	4.29826	4.29826	4.9333*	4.02550*	4.39793*
nC6		1.67604	1.72567	1.82866	6.75780	1.55748	1.55748	6.2819*	1.49853*	1.72054*
Benzene		0.128043	0.131478	0.141165	0.503723	0.119837	0.119837	0.4699*	0.114977*	0.130708*
iC6		4.55637	4.66415	5.08130	12.6403	4.29885	4.29885	11.846*	4.11786*	4.63020*
Toluene		0.175218	0.182199	0.183923	2.30169	0.158538	0.158538	2.114*	0.153163*	0.182339*
C7		0.640376	0.666834	0.668305	8.18029	0.577163	0.577163	7.5091*	0.558670*	0.668689*
m-Xylene		0.0350759	0.0369366	0.0349504	1.70441	0.0306302	0.0306302	1.5579*	0.0295840*	0.0369464*
p-Xylene		0.0164900	0.0173486	0.0164955	0.766531	0.0144385	0.0144385	0.7007*	0.0139497*	0.0173588*
o-Xylene		0.00597987	0.00630465	0.00592832	0.330099	0.00520391	0.00520391	0.3017*	0.00502509*	0.00630478*
Ethylbenzene		0.00375864	0.00395616	0.00375277	0.164393	0.00328674	0.00328674	0.1503*	0.00317388*	0.00395659*
C8		0.219975	0.231647	0.219193	8.84190	0.192088	0.192088	8.0836*	0.186195*	0.232554*
C9		0.0338489	0.0360629	0.0320938	4.32745	0.0285592	0.0285592	3.9511*	0.0277002*	0.0362127*
C10		0.00524029	0.00563897	0.00474874	2.03450	0.00428778	0.00428778	1.8568*	0.00414480*	0.00564243*
3-Methylpentane		1.70470	1.74751	1.89092	5.34046	1.60242	1.60242	4.99*	1.53696*	1.73703*
Methylcyclopentane		0.825999	0.847377	0.913924	3.14202	0.774923	0.774923	2.9238*	0.744919*	0.844126*
Cyclohexane		0.962684	0.990812	1.05225	4.83071	0.895480	0.895480	4.4745*	0.863316*	0.989799*
2-Methylhexane		0.307237	0.318307	0.327203	2.65262	0.280788	0.280788	2.4418*	0.271534*	0.318923*
3-Methylhexane		0.310335	0.322135	0.328000	2.98779	0.282143	0.282143	2.7479*	0.272893*	0.322807*
2,2,4-Trimethylpentane		0.129652	0.134527	0.137250	1.49470	0.118006	0.118006	1.3729*	0.114335*	0.135035*
Methylcyclohexane		0.832471	0.865508	0.874399	10.6047	0.753540	0.753540	9.7347*	0.729140*	0.867615*
2-Methylheptane		0.101921	0.106905	0.103253	2.81532	0.0900137	0.0900137	2.5761*	0.0872694*	0.107355*
3-Methylheptane		0.0476947	0.0500717	0.0481395	1.42024	0.0420157	0.0420157	1.2993*	0.0407301*	0.0502757*
Mass Flow		lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
Water		0.336229	0.229200	0.0308064	0.168487	0.0221586	0.0848702	0*	0.00834131*	3.82136*
H2S		0	0	0	0	0	0	0*	0*	0*
N2		0.00379858	0.00345623	0	0	7.08775E-05	0.000271470	0.172642*	0.000559934*	0.170907*
CO2		0.0204805	0.0139629	0.00162675	0.00734779	0.00134936	0.00516822	0.158561*	0.000420114*	0.142196*
C1		1.39740	1.02627	0	0	0.0768353	0.294289	18.6524*	0.0559499*	17.9945*
C2		4.82332	3.30977	0.563371	5.90284	0.313355	1.20019	32.4578*	0.0773624*	26.5311*
C3		8.23979	5.73294	1.08733	40.6868	0.519001	1.98784	78.7020*	0.125486*	44.9847*
iC4		2.06931	1.45566	0.273000	27.9763	0.127047	0.486605	37.1175*	0.0337860*	12.5603*
nC4		5.36845	3.79187	0.703003	107.393	0.326406	1.25017	130.974*	0.0899322*	33.8948*
iC5		1.92309	1.37123	0.245448	96.4772	0.114254	0.437607	104.904*	0.0334161*	13.0087*
nC5		2.36430	1.69228	0.297957	158.352	0.139132	0.532893	168.734*	0.0411636*	16.2393*
nC6		1.06079	0.769939	0.127133	251.908	0.0602159	0.230635	256.632*	0.0183026*	7.58820*
Benzene		0.0734571	0.0531722	0.00889582	17.0201	0.00419967	0.0160853	17.4004*	0.00127289*	0.522529*
iC6		2.88378	2.08100	0.353266	471.189	0.166204	0.636582	483.940*	0.0502944*	20.4208*
Toluene		0.118571	0.0869166	0.0136716	91.7361	0.00655362	0.0251012	92.3385*	0.00200013*	0.859825*
C7		0.471272	0.345947	0.0540250	354.567	0.0259466	0.0993789	356.698*	0.00793408*	3.42918*
m-Xylene		0.0273496	0.0203027	0.00299348	78.2727	0.00145894	0.00558793	78.4076*	0.00445146*	0.200745*
p-Xylene		0.0128577	0.00953591	0.00141283	35.2018	0.000687718	0.00263404	35.2655*	0.00020899*	0.0943172*
o-Xylene		0.00466266	0.00346544	0.000507758	15.1593	0.000247866	0.000949358	15.1843*	7.56119E-05*	0.0342564*
Ethylbenzene		0.00293071	0.00217456	0.000321423	7.54952	0.000156550	0.000599605	7.56445*	4.77570E-05*	0.0214977*
C8		0.184548	0.136999	0.0201997	436.892	0.00984420	0.0377045	437.740*	0.00301445*	1.35953*
C9		0.0318845	0.0239470	0.00332078	240.082	0.00164334	0.00629419	240.231*	0.000503527*	0.237698*
C10		0.00547602	0.00415398	0.000545094	125.216	0.000273708	0.00104834	125.242*	8.35828E-05*	0.0410871*
3-Methylpentane		1.07893	0.779683	0.131462	199.075	0.0619534	0.237289	203.855*	0.0187720*	7.66094*
Methylcyclopentane		0.510556	0.369229	0.0620521	114.384	0.0292596	0.112068	116.651*	0.00888540*	3.63581*
Cyclohexane		0.595042	0.431728	0.0714443	175.860	0.0338116	0.129503	178.519*	0.0102976*	4.26324*
2-Methylhexane		0.226105	0.165135	0.0264507	114.975	0.0126230	0.0483475	115.991*	0.00385625*	1.63551*
3-Methylhexane		0.228385	0.167121	0.0265151	129.503	0.0126839	0.0485808	130.531*	0.00387555*	1.65542*
2,2,4-Trimethylpentane		0.108772	0.0795609	0.0126483	73.8552	0.00604760	0.0231631	74.3448*	0.00185106*	0.789423*
Methylcyclohexane		0.600316	0.439984	0.0692633	450.403	0.0331942	0.127138	453.116*	0.0101467*	4.35980*
2-Methylheptane		0.0855069	0.0632252	0.00951527	139.109	0.00461306	0.0176686	139.500*	0.00141287*	0.627607*
3-Methylheptane		0.0400134	0.0296130	0.00443629	70.1761	0.00215324	0.00824718	70.3592*	0.000659409*	0.293916*

Process Streams		Cond. F/W/S	Cond. Flashing	Cond. Loading	Cond. Residual	Cond. Standing	Cond. Working	Condensate	GB B	GB F
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block:	MIX-103	2 x 1,000 bbl Condensate Tanks	2 x 1,000 bbl Condensate Tanks	2 x 1,000 bbl Condensate Tanks	2 x 1,000 bbl Condensate Tanks	2 x 1,000 bbl Condensate Tanks	--	--	--
	To Block:	--	MIX-103	--	--	MIX-103	MIX-103	MIX-101	MIX-102	MIX-102
Property	**Units**									
Temperature	°F	82.0782	82.0782	82.0782	82.0782	82.0782	82.0782	88*	81.5992	81.5992
Pressure	psig	-1.81595	-1.81595	-1.81595	-1.81595	-1.81595	-1.81595	90*	0.395656	-1.81595
Mole Fraction Vapor	%	100	100	99.7581	0	100	100	0	100	100
Mole Fraction Light Liquid	%	0	0	0.241886	100	0	0	100	0	0
Mole Fraction Heavy Liquid	%	0	0	0	0	0	0	0	0	0
Phase Mole Fraction	%	100	100	100	100	100	100	100	100	100
Molecular Weight	lb/lbmol	47.5151	47.6866	52.0926	93.1439	47.1055	47.1055	88.6248	43.0646	44.7606
Mass Density	lb/ft^3	0.106955	0.107351	0.117917	43.2151	0.106008	0.106008	42.5184	0.113616	0.100657
Molar Flow	lbmol/h	0.734448	0.517745	0.0806758	43.2567	0.0448648	0.171838	47.4064	0.0141731	5.11788
Mass Flow	lb/h	34.8974	24.6895	4.20262	4029.10	2.11338	8.09451	4201.39	0.610359	229.079
Vapor Volumetric Flow	ft^3/h	326.282	229.989	35.6404	93.2336	19.9360	76.3573	98.8133	5.37213	2275.85
Liquid Volumetric Flow	gpm	40.6793	28.6739	4.44347	11.6239	2.48552	9.51987	12.3196	0.669772	283.742
Std Vapor Volumetric Flow	MMSCFD	0.00668907	0.00471542	0.000734765	0.393966	0.000408612	0.00156503	0.431759	0.000129083	0.0466117
Std Liquid Volumetric Flow	sgpm	0.133086	0.0939212	0.0155097	11.5209	0.00810844	0.0310563	12.2255*	0.00240202	0.880763
Compressibility		0.984208	0.984114	0.978709	0.00477500	0.984433	0.984433	0.0371301	0.984783	0.986035
Specific Gravity		1.64057	1.64649		0.692897	1.62643	1.62643	0.681727	1.48691	1.54547
API Gravity					69.5022			71.7380		
Enthalpy	Btu/h	-36305.3	-25616.1	-4153.57	-3.59340E+06	-2213.02	-8476.14	-3.78974E+06	-677.175	-252331
Mass Enthalpy	Btu/lb	-1040.34	-1037.53	-988.329	-891.862	-1047.15	-1047.15	-902.021	-1109.47	-1101.50
Mass Cp	Btu/(lb*°F)	0.407010	0.406951	0.402558	0.504536	0.407152	0.407152	0.513362	0.413606	0.410814
Ideal Gas CpCv Ratio		1.11530	1.11486	1.10562	1.06008	1.11637	1.11637	1.06243	1.12650	1.12193
Dynamic Viscosity	cP	0.00831293	0.00830417		0.376391	0.00833387	0.00833387	0.331439	0.00864781	0.00853558
Kinematic Viscosity	cSt	4.85214	4.82914		0.543729	4.90779	4.90779	0.486637	4.75168	5.29383
Thermal Conductivity	Btu/(h*ft*°F)	0.0107746	0.0107834		0.0675349	0.0107535	0.0107535	0.0663758	0.0117701	0.0114498
Surface Tension	lbf/ft				0.001333317			0.001209077		
Net Ideal Gas Heating Value	Btu/ft^3	2448.92	2458.00	2682.09	4691.65	2427.25	2427.25	4471.46	2217.74	2292.88
Net Liquid Heating Value	Btu/lb	19409.2	19412.0	19384.6	18998.4	19402.6	19402.6	19029.7	19397.9	19290.8
Gross Ideal Gas Heating Value	Btu/ft^3	2658.96	2668.64	2908.71	5050.88	2635.85	2635.85	4815.90	2411.43	2491.93
Gross Liquid Heating Value	Btu/lb	21087.1	21088.6	21035.8	20462.0	21083.5	21083.5	20504.6	21105.0	20978.7

GB F/W/B	GB to Cond.	GB to PW	GB W	GB- Flashing	Mixed Liquids	PW F/W/S	PW Flashing	PW Loading	PW Residual	PW Standing	PW Working	Water
Unsolved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
MIX-102	1 x 750 bbl GunBarrel	1 x 750 bbl GunBarrel	--	1 x 750 bbl GunBarrel	MIX-101	MIX-100	1 x 1,000 bbl Slop Tank	1 x 1,000 bbl Slop Tank	1 x 1,000 bbl Slop Tank	1 x 1,000 bbl Slop Tank	1 x 1,000 bbl Slop Tank	--
--	2 x 1,000 bbl Condensate Tanks	1 x 1,000 bbl Slop Tank	MIX-102	--	1 x 750 bbl GunBarrel	--	MIX-100	--	--	MIX-100	MIX-100	MIX-101
%	%	%	%	%	%	%	%	%	%	%	%	%
4.13759	0.0636855	99.9962	3.26684*	2.97098	81.7475	40.9092	4.19407	93.3928	99.9995	48.0775	48.0775	100*
0	0	0	0*	0	0	0	0	0	0	0	0	0*
0.119383	0.000308241	2.55935E-06	0.141028*	0.170085	0.00237283	0.0468688	0.135701	0	0	0.0295250	0.0295250	0*
0.0631658	0.00143739	4.81511E-05	0.0673529*	0.0810173	0.00138719	0.881781	0.117927	0	0	1.03092	1.03092	0*
21.9385	0.198008	0.000933732	24.6073*	30.3237	0.447661	17.0992	31.8373	0	0	14.2217	14.2217	0*
17.2476	0.810885	0.000893054	18.1529*	20.3598	0.415610	16.3543	23.2098	0	0	15.0158	15.0158	0*
19.9345	2.52223	0.000582013	20.0787*	19.0374	0.687189	10.6583	19.6284	0	0	8.90694	8.90694	0*
4.22152	1.17510	6.91180E-05	4.10138*	3.43250	0.245880	1.26574	3.02724	0	0	0.921826	0.921826	0*
11.3908	4.41015	0.000246701	10.9171*	8.83539	0.867616	4.51778	8.83291	0	0	3.67528	3.67528	0*
3.52096	3.10029	4.81645E-05	3.26785*	2.54338	0.559823	0.882027	2.18910	0	0	0.626830	0.626830	0*
4.39494	5.06366	2.55423E-05	4.02550*	3.13752	0.900452	0.467751	1.77043	0	0	0.213412	0.213412	0*
1.71876	6.67296	6.48522E-06	1.49853*	1.20031	1.14661	0.118762	0.514064	0	0	0.0415827	0.0415827	0*
0.130582	0.497451	0.000328025	0.114977*	0.0912864	0.0857686	1.45074	0.129810	2.56983	0.000248818	1.70864	1.70864	0*
4.62608	12.5054	1.04852E-05	4.11786*	3.23348	2.16219	0.192014	0.943587	0	0	0.0452745	0.0452745	0*
0.182105	2.26618	0.000344696	0.153163*	0.127650	0.385858	2.03235	0.180728	3.20818	0.000233729	2.39387	2.39387	0*
0.667806	8.05441	1.79192E-06	0.558670*	0.467778	1.37060	0.0328150	0.154773	0	0	0.00900362	0.00900362	0*
0.0368873	1.67654	4.07400E-05	0.0295840*	0.0261726	0.284356	0.416830	0.0368053	0.427689	1.79793E-05	0.491027	0.491027	0*
0.0173314	0.754009	2.09408E-05	0.0139497*	0.0122831	0.127895	0.192977	0.0172431	0.221854	1.04036E-05	0.227288	0.227288	0*
0.00629451	0.324687	1.55384E-05	0.00502509*	0.00447223	0.0550679	0.0677550	0.00625911	0.117691	1.18392E-05	0.0797616	0.0797616	0*
0.00395031	0.161712	6.51378E-06	0.00317388*	0.00280147	0.0274335	0.0419620	0.00390956	0.0619932	4.22260E-06	0.0493915	0.0493915	0*
0.232182	8.69796	2.74056E-07	0.186195*	0.164081	1.47546	0.00501874	0.0272053	0	0	0.000686968	0.000686968	0*
0.0361444	4.25577	3.89508E-08	0.0277002*	0.0257913	0.721176	0.000713297	0.00389347	0	0	9.23919E-05	9.23919E-05	0*
0.00563041	2.00062	1.84861E-09	0.00414480*	0.00407686	0.338913	3.38533E-05	0.000199975	0	0	1.41914E-06	1.41914E-06	0*
1.73543	5.27976	9.29702E-06	1.53696*	1.21253	0.910801	0.170254	0.657539	0	0	0.0751157	0.0751157	0*
0.843330	3.10335	2.51900E-05	0.744919*	0.587879	0.533667	0.461300	0.653086	0	0	0.423855	0.423855	0*
0.988784	4.76613	6.72587E-05	0.863316*	0.688597	0.816709	1.23170	0.873642	0	0	1.30160	1.30160	0*
0.318543	2.61346	4.11031E-07	0.271534*	0.222436	0.445690	0.00752712	0.0403476	0	0	0.00111916	0.00111916	0*
0.322406	2.94308	1.22989E-06	0.272893*	0.225409	0.501561	0.0225228	0.0968435	0	0	0.00801225	0.00801225	0*
0.134868	1.47191	5.03526E-07	0.114335*	0.0941349	0.250589	0.00922097	0.0393460	0	0	0.00333928	0.00333928	0*
0.866503	10.4415	2.51071E-05	0.729140*	0.606214	1.77683	0.459781	0.662662	0	0	0.420169	0.420169	0*
0.107194	2.77002	7.50514E-08	0.0872694*	0.0754628	0.470203	0.00137440	0.00781640	0	0	0.000116647	0.000116647	0*
0.0501990	1.39732	7.66887E-08	0.0407301*	0.0353699	0.237155	0.00140438	0.00736305	0	0	0.000240998	0.000240998	0*
lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
3.84573	0.504716	3822.58	0.0160306*	1.89497	3824.98	0.0853963	0.00143012	0.0376945	3822.50	0.0137327	0.0702335	3824.98*
0	0	0	0*	0	0	0	0	0	0	0	0	0*
0.172543	0.00379858	0.000152134	0.00107610*	0.168691	0.172642	0.000152134	7.19521E-05	0	0	1.31138E-05	6.70684E-05	0*
0.143423	0.0278283	0.00449661	0.000807388*	0.126236	0.158561	0.00449661	9.82324E-05	0	0	0.000719353	0.00367902	0*
18.1580	1.39740	0.0317852	0.107526*	17.2232	18.6524	0.0317852	0.00966726	0	0	0.00361739	0.0185006	0*
26.7571	10.7262	0.0569809	0.148677*	21.6747	32.4578	0.0569809	0.0132095	0	0	0.00715881	0.0366126	0*
45.3514	48.9266	0.0544578	0.241163*	29.7210	78.7020	0.0544578	0.0163824	0	0	0.00622724	0.0318482	0*
12.6590	30.0456	0.00852443	0.0649309*	7.06339	37.1175	0.00852443	0.00333031	0	0	0.000849498	0.00434463	0*
34.1576	112.762	0.0304260	0.172834*	18.1814	130.974	0.0304260	0.00971722	0	0	0.00338691	0.0173218	0*
13.1063	98.4003	0.00737375	0.0642201*	6.49683	104.904	0.00737375	0.00298945	0	0	0.000717052	0.00366725	0*
16.3596	160.716	0.00391040	0.0791095*	8.01450	168.734	0.00391040	0.00241771	0	0	0.000244129	0.00124856	0*
7.64168	252.969	0.00118588	0.0351744*	3.66216	256.632	0.00118588	0.000838487	0	0	5.68155E-05	0.000290574	0*
0.526248	17.0936	0.0543695	0.00244628*	0.252455	17.4004	0.0131305	0.000191921	0.00449723	0.0412390	0.00211611	0.0108225	0*
20.5678	474.073	0.00191731	0.0966572*	9.86538	483.940	0.00191731	0.00153908	0	0	6.18597E-05	0.000316372	0*
0.865669	91.8547	0.0673922	0.00384391*	0.416410	92.3385	0.0216979	0.000315183	0.00662252	0.0456943	0.00349714	0.0178856	0*
3.45236	355.038	0.000381001	0.0152479*	1.65950	356.698	0.000381001	0.000293540	0	0	1.43042E-05	7.31568E-05	0*
0.202045	78.3000	0.00917771	0.000855495*	0.0983760	78.4076	0.00512765	7.39586E-05	0.00101726	0.00405006	0.000826530	0.00422716	0*
0.0949305	35.2147	0.00471745	0.000403391*	0.0461688	35.2655	0.00237391	3.46492E-05	0.000527682	0.00234354	0.000382586	0.00195668	0*
0.0344773	15.1640	0.00350042	0.000145313*	0.0168099	15.1843	0.000833489	1.25774E-05	0.000279929	0.00266694	0.000134260	0.000686652	0*
0.0216373	7.55245	0.00146739	9.17808E-05*	0.0105300	7.56445	0.000516197	7.85606E-06	0.000147452	0.000951196	8.31390E-05	0.000425202	0*
1.36834	437.077	6.64273E-05	0.00579325*	0.663579	437.740	6.64273E-05	5.88199E-05	0	0	1.24418E-06	6.36316E-06	0*
0.239169	240.114	1.06004E-05	0.000967692*	0.117114	240.231	1.06004E-05	9.45165E-06	0	0	1.87880E-07	9.60882E-07	0*
0.0413313	125.222	5.58119E-07	0.000160632*	0.0205369	125.242	5.58119E-07	5.38545E-07	0	0	3.20145E-09	1.63733E-08	0*
7.71578	200.154	0.00170004	0.0360765*	3.69945	203.855	0.00170004	0.00107251	0	0	0.000102633	0.000524898	0*
3.66177	114.895	0.00449846	0.0170762*	1.75167	116.651	0.00449846	0.00104033	0	0	0.000565578	0.00289256	0*
4.29333	176.455	0.0120111	0.0197903*	2.05177	178.519	0.0120111	0.00139166	0	0	0.00173681	0.00888266	0*
1.64677	115.202	8.73942E-05	0.00741106*	0.789116	115.991	8.73942E-05	7.65227E-05	0	0	1.77804E-06	9.09349E-06	0*
1.66675	129.731	0.000261503	0.00744815*	0.799665	130.531	0.000261503	0.000183672	0	0	1.27292E-05	6.51017E-05	0*
0.794832	73.9640	0.000122047	0.00355741*	0.380702	74.3448	0.000122047	8.50690E-05	0	0	6.04782E-06	3.09306E-05	0*
4.38945	451.003	0.00523092	0.0195003*	2.10735	453.116	0.00523092	0.00123151	0	0	0.000654103	0.00334531	0*
0.631735	139.195	1.81914E-05	0.00271529*	0.305188	139.500	1.81914E-05	1.68996E-05	0	0	2.11262E-07	1.08047E-06	0*
0.295842	70.2162	1.85882E-05	0.00126727*	0.143044	70.3592	1.85882E-05	1.59195E-05	0	0	4.36475E-07	2.23228E-06	0*

GB F/W/B	GB to Cond.	GB to PW	GB W	GB- Flashing	Mixed Liquids	PW F/W/S	PW Flashing	PW Loading	PW Residual	PW Standing	PW Working	Water
Unsolved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
MIX-102	1 x 750 bbl GunBarrel	1 x 750 bbl GunBarrel	--	1 x 750 bbl GunBarrel	MIX-101	MIX-100	1 x 1,000 bbl Slop Tank	1 x 1,000 bbl Slop Tank	1 x 1,000 bbl Slop Tank	1 x 1,000 bbl Slop Tank	1 x 1,000 bbl Slop Tank	--
--	2 x 1,000 bbl Condensate Tanks	1 x 1,000 bbl Slop Tank	MIX-102	--	1 x 750 bbl GunBarrel	--	MIX-100	--	--	MIX-100	MIX-100	MIX-101
	84.3950	84.3950	81.5992	84.3950	87.9236	79.9490	81.8875	81.8875	81.8875	81.8875	81.8875	88*
-1.81595	5	5	0.395656	5*	90	-1.81595	-1.81595	-1.81595	-1.81595	-1.81595	-1.81595	90*
	0	0	100	100	0	59.2412	100	0	0	51.0061	51.0061	0
	100	100	0	0	18.2519	2.18225	0	6.60675	100	3.05648	3.05648	100
	0	0	0	0	81.7481	38.5766	0	93.3932	0	45.9374	45.9374	0
100	100	100	100	100	100	100	100	100	100	100	100	100
44.7469	92.3821	18.0163	43.0646	39.3795	30.9033	30.6109	35.8229	22.6686	18.0156	29.5932	29.5932	18.0153
	43.0627	62.1339	0.113616	0.135072	50.0462	0.115958	0.0801239	59.8343	62.1626	0.129671	0.129671	62.1003
5.15929	43.9912	212.194	0.0272383	3.54047	259.725	0.0115872	0.00189276	0.00224039	212.182	0.00158552	0.00810889	212.319
230.863	4064.00	3822.95	1.17300	139.422	8026.37	0.354693	0.0678043	0.0507866	3822.59	0.0469207	0.239968	3824.98
	94.3740	61.5276	10.3243	1032.21	160.379	3.05882	0.846243	0.000848788	61.4935	0.361843	1.85059	61.5937
	11.7661	7.67097	1.28719	128.691	19.9953	0.381359	0.105506	0.000105823	7.66672	0.0451129	0.230723	7.67921
0.0469889	0.400655	1.93258	0.000248076	0.0322452	2.36548	0.000105532	1.72386E-05	2.04046E-05	1.93247	1.44403E-05	7.38527E-05	1.93372
0.887781	11.6540	7.64294	0.00461627	0.574939	19.8719	0.00127184	0.000292204	0.000105233	7.64167	0.000160220	0.000819418	7.64642*
	0.00723685	0.000978139	0.984783	0.983486	0.0110012	0.587139	0.990847	0.000839621	0.000642286	0.505773	0.505773	0.00516767
	0.690453	0.996234	1.48691	1.35967	0.802425		1.23687	0.959363	0.996695			0.995695
	69.8492	10.0017			42.2895			15.0972	9.99820			9.98734
-254309	-3.63030E+06	-2.60473E+07	-1301.42	-161120	-2.98388E+07	-839.582	-83.3433	-255.509	-2.60559E+07	-123.683	-632.556	-2.60490E+07
-1101.56	-893.282	-6813.42	-1109.47	-1155.63	-3717.59	-2367.07	-1229.17	-5031.03	-6816.29	-2636.00	-2636.00	-6810.24
	0.506940	0.977608	0.413606	0.421023	0.734478	0.532260	0.420867	0.826177	0.977746	0.560521	0.560521	0.977252
	1.06033	1.32872	1.12650	1.13740	1.18482	1.19238	1.15260	1.28058	1.32883	1.20208	1.20208	1.32861
	0.365518	0.835189	0.00864781	0.00897125	0.512399		0.00920205	0.776607	0.860428			0.802012
	0.529891	0.839142	4.75168	4.14636	0.639170		7.16971	0.810272	0.864101			0.806244
	0.0672038	0.353499	0.0117701	0.0125628	0.177188		0.0128861	0.273883	0.352477			0.355136
	0.00129688?	0.00492458?			0.00262683?			0.00407943	0.00494356			0.00489821
2292.27	4654.20	0.0857575	2217.74	2037.44	816.154	1183.87	1847.60	270.147	0.0211115	1054.28	1054.28	0
19291.6	19002.0	-1057.86	19397.9	19493.2	9456.03	14318.3	19425.3	3689.05	-1059.29	13111.3	13111.3	-1059.76
2491.29	5010.95	50.4002	2411.43	2218.30	920.150	1303.20	2014.64	329.567	50.3318	1164.30	1164.30	50.3100
20979.7	20467.4	1.92594	21105.0	21236.5	10733.1	15798.0	21195.3	4683.56	0.460236	14522.4	14522.4	0

ProMax Dehydration Emissions Report

Case Name:	Red Raider - 20260816
File Name:	C:\Users\Admin\Resolute Compliance, LLC\Environmental Compliance - General\Env\Projects\Env-EnLink-0349\5.0 NSR Mod - Red Raider CS\5.2 Modeling\5.2.2 BRE ProMax-Other Simulation\Red Raider and Reveille Dehy NSR - 20260816.pmx
Date:	
Description:	

Dry Gas Flow Rate	166.98	MMSCFD
Dry Gas Water Content	1.28	lb/MMSCF
Glycol Circulation Rate	30.00	sgpm
Glycol Circulation Ratio	8.24	gal/lb
Annual Operating Hours	8760	hrs

INPUT SUMMARY:

Feed Stream Specifications	
Fraction of Water Saturaton (%)	100.00
Water Content (lbm/MMSCF)	31.35
Temperature (°F)	83.00
Pressure (psig)	1106.00
Flow Rate (MMSCFD)	170.00

Lean Glycol Specifications	
Glycol Circulation Rate (sgpm)	30.00

Regenerator Specifications	
Reboiler Temperature (°F)	400.000
Overhead Vapors	To Control Device
Is Reflux Coil Present?	Yes

Flash Tank Specifications	
Is Flash Tank Present?	Flash Tank Present
Temperature (°F)	110.00
Pressure (psig)	65.00
Flash Gas	FALSE

Stripping Gas Specifications	
Nitrogen (scfm)	Not In Use
Dry gas (scfm)	Not In Use

Kimray Pump Specifications	
Type	Electric/Pneumatic
Gas Injection Volume Ratio (scfm/gpm)	0.000

Methanol Specifications	
Is Methanol Present?	Not Present in Feed
MeOH Feed Mass Fraction (ppm)	0.00

BTEX Condenser Specifications	
Temperature (°F)	120.00
Pressure (psig)	-0.30
BTEX Emissions	To Flare

General Specifications	
Atmospheric Pressure (psia)	14.400
Flash Gas Flare Destruction Efficiency (%)	98.000
Regenerator Flare Destruction Efficiency (%)	98.000

Feed Composition Data (mol %)	
Carbon Dioxide	0.12
Hydrogen Sulfide	0.00
Nitrogen	0.92
Methane	77.02
Ethane	11.82
Propane	5.62
i-Butane	0.83
n-Butane	1.94
i-Pentane	0.49
n-Pentane	0.57
Cyclopentane	0.04
n-Hexane	0.19
Cyclohexane	0.09
n-Heptane	0.18
Methylcyclohexane	0.09
2,2,4-Trimethylpentane	0.02
Benzene	0.01
Toluene	0.02
Ethylbenzene	0.00
o-Xylene	0.00
m-Xylene	0.01
p-Xylene	0.01
Triethylene Glycol	0.00
Ethylene Glycol	0.00
Water	0.00
Methanol	0.00
O2	0.00
SO2	0.00
Total	100.00

EMISSIONS REPORTS:

CONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Carbon Dioxide	306.88	7365.07	1344.13
Hydrogen Sulfide	0.00	0.00	0.00
Nitrogen	3148.38	75561.16	13789.91
Methane	0.07	1.64	0.30
Ethane	0.18	4.35	0.79
Propane	0.32	7.59	1.39
i-Butane	0.08	1.84	0.34
n-Butane	0.32	7.69	1.40
i-Pentane	0.12	2.92	0.53
n-Pentane	0.18	4.35	0.79
Cyclopentane	0.06	1.44	0.26
n-Hexane	0.07	1.69	0.31
Cyclohexane	0.11	2.67	0.49
n-Heptane	0.07	1.58	0.29
Methylcyclohexane	0.08	1.85	0.34
2,2,4-Trimethylpentane	0.01	0.16	0.03
Benzene	0.16	3.87	0.71
Toluene	0.16	3.90	0.71
Ethylbenzene	0.00	0.08	0.01
o-Xylene	0.01	0.14	0.03
m-Xylene	0.02	0.51	0.09
p-Xylene	0.01	0.29	0.05
Triethylene Glycol	0.00	0.00	0.00
Ethylene Glycol	0.00	0.00	0.00
Water	145.07	3481.74	635.42
Methanol	0.00	0.00	0.00
O2	608.99	14615.81	2667.38
SO2	0.00	0.00	0.00
Total Emissions	4211.35	101072.34	18445.70
Total HC Emissions	2.02	48.56	8.86
Total VOC Emissions	1.77	42.57	7.77
Total HAP Emissions	0.44	10.64	1.94
Total GHG Emissions	306.95	7366.71	1344.43

UNCONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Carbon Dioxide	1.20	28.76	5.25
Hydrogen Sulfide	0.00	0.00	0.00
Nitrogen	0.00	0.11	0.02
Methane	3.43	82.22	15.00
Ethane	9.13	219.10	39.99
Propane	16.13	387.22	70.67
i-Butane	4.01	96.27	17.57
n-Butane	17.10	410.44	74.91
i-Pentane	7.07	169.79	30.99
n-Pentane	10.95	262.73	47.95
Cyclopentane	4.17	100.19	18.28
n-Hexane	5.71	137.13	25.03
Cyclohexane	10.98	263.48	48.09
n-Heptane	9.08	217.94	39.77
Methylcyclohexane	11.29	270.90	49.44
2,2,4-Trimethylpentane	0.87	20.80	3.80
Benzene	16.59	398.19	72.67
Toluene	33.05	793.23	144.76
Ethylbenzene	1.60	38.41	7.01
o-Xylene	3.16	75.87	13.85
m-Xylene	11.04	265.08	48.38
p-Xylene	6.13	147.24	26.87
Triethylene Glycol	0.05	1.15	0.21
Ethylene Glycol	0.00	0.00	0.00
Water	209.33	5024.00	916.88
Methanol	0.00	0.00	0.00
O2	0.00	0.00	0.00
SO2	0.00	0.00	0.00
Total Emissions	392.09	9410.23	1717.37
Total HC Emissions	181.56	4357.36	795.22
Total VOC Emissions	169.00	4056.05	740.23
Total HAP Emissions	78.16	1875.95	342.36
Total GHG Emissions	4.62	110.97	20.25

CONTROLLED FLASH TANK EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Carbon Dioxide	0.00	0.00	0.00
Hydrogen Sulfide	0.00	0.00	0.00
Nitrogen	0.00	0.00	0.00
Methane	0.00	0.00	0.00
Ethane	0.00	0.00	0.00
Propane	0.00	0.00	0.00
i-Butane	0.00	0.00	0.00
n-Butane	0.00	0.00	0.00
i-Pentane	0.00	0.00	0.00
n-Pentane	0.00	0.00	0.00
Cyclopentane	0.00	0.00	0.00
n-Hexane	0.00	0.00	0.00
Cyclohexane	0.00	0.00	0.00
n-Heptane	0.00	0.00	0.00
Methylcyclohexane	0.00	0.00	0.00
2,2,4-Trimethylpentane	0.00	0.00	0.00
Benzene	0.00	0.00	0.00
Toluene	0.00	0.00	0.00
Ethylbenzene	0.00	0.00	0.00
o-Xylene	0.00	0.00	0.00
m-Xylene	0.00	0.00	0.00
p-Xylene	0.00	0.00	0.00
Triethylene Glycol	0.00	0.00	0.00
Ethylene Glycol	0.00	0.00	0.00
Water	0.00	0.00	0.00
Methanol	0.00	0.00	0.00
O2	0.00	0.00	0.00
SO2	0.00	0.00	0.00
Total Emissions	0.00	0.00	0.00
Total HC Emissions	0.00	0.00	0.00
Total VOC Emissions	0.00	0.00	0.00
Total HAP Emissions	0.00	0.00	0.00
Total GHG Emissions	0.00	0.00	0.00

UNCONTROLLED FLASH TANK OFF GAS

Component	lbs/hr	lbs/day	tons/yr
Carbon Dioxide	1.68	40.22	7.34
Hydrogen Sulfide	0.00	0.00	0.00
Nitrogen	0.32	7.74	1.41
Methane	54.79	1314.89	239.97
Ethane	37.04	888.89	162.22
Propane	31.87	764.86	139.59
i-Butane	5.62	134.96	24.63
n-Butane	15.75	377.92	68.97
i-Pentane	3.96	95.05	17.35
n-Pentane	4.98	119.59	21.83
Cyclopentane	0.43	10.35	1.89
n-Hexane	1.32	31.68	5.78
Cyclohexane	0.78	18.60	3.40
n-Heptane	1.03	24.74	4.52
Methylcyclohexane	0.62	14.89	2.72
2,2,4-Trimethylpentane	0.10	2.48	0.45
Benzene	0.20	4.78	0.87
Toluene	0.20	4.88	0.89
Ethylbenzene	0.01	0.14	0.03
o-Xylene	0.01	0.21	0.04
m-Xylene	0.04	0.94	0.17
p-Xylene	0.02	0.57	0.10
Triethylene Glycol	0.00	0.02	0.00
Ethylene Glycol	0.00	0.00	0.00
Water	0.17	4.16	0.76
Methanol	0.00	0.00	0.00
O2	0.00	0.00	0.00
SO2	0.00	0.00	0.00
Total Emissions	160.94	3862.56	704.92
Total HC Emissions	158.77	3810.43	695.40
Total VOC Emissions	66.94	1606.65	293.21
Total HAP Emissions	1.90	45.67	8.33
Total GHG Emissions	56.46	1355.11	247.31

COMBINED REGENERATOR VENT/FLASH GAS EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Carbon Dioxide	306.88	7365.07	1344.13
Hydrogen Sulfide	0.00	0.00	0.00
Nitrogen	3148.38	75561.16	13789.91
Methane	0.07	1.64	0.30
Ethane	0.18	4.35	0.79
Propane	0.32	7.59	1.39
i-Butane	0.08	1.84	0.34
n-Butane	0.32	7.69	1.40
i-Pentane	0.12	2.92	0.53
n-Pentane	0.18	4.35	0.79
Cyclopentane	0.06	1.44	0.26
n-Hexane	0.07	1.69	0.31
Cyclohexane	0.11	2.67	0.49
n-Heptane	0.07	1.58	0.29
Methylcyclohexane	0.08	1.85	0.34
2,2,4-Trimethylpentane	0.01	0.16	0.03
Benzene	0.16	3.87	0.71
Toluene	0.16	3.90	0.71
Ethylbenzene	0.00	0.08	0.01
o-Xylene	0.01	0.14	0.03
m-Xylene	0.02	0.51	0.09
p-Xylene	0.01	0.29	0.05
Triethylene Glycol	0.00	0.00	0.00
Ethylene Glycol	0.00	0.00	0.00
Water	145.07	3481.74	635.42
Methanol	0.00	0.00	0.00
O2	608.99	14615.81	2667.38
SO2	0.00	0.00	0.00
Total Emissions	4211.35	101072.34	18445.70
Total HC Emissions	2.02	48.56	8.86
Total VOC Emissions	1.77	42.57	7.77
Total HAP Emissions	0.44	10.64	1.94
Total GHG Emissions	306.95	7366.71	1344.43

EQUIPMENT REPORTS:

BTEX CONDENSER

Condenser Outlet Temperature:	120.00	deg. F
Condenser Pressure:	14.10	psia
Condenser Duty:	-0.24	MMBTU/hr
Hydrocarbon Recovery:	6.79	bbls/day
Produced Water:	14.04	bbls/day
VOC Control Efficiency:	47.51	%
HAP Control Efficiency:	71.64	%
BTEX Control Efficiency:	74.41	%
Dissolved Hydrocarbons in Water:	592.09	mg/L

Component	Emitted (wt. %)	Condensed (wt. %)
Carbon Dioxide	99.45	0.55
Hydrogen Sulfide	0.00	0.00
Nitrogen	99.96	0.04
Methane	99.86	0.14
Ethane	99.30	0.70
Propane	98.01	1.99
i-Butane	95.64	4.36
n-Butane	93.70	6.30
i-Pentane	85.89	14.11
n-Pentane	82.79	17.21
Cyclopentane	71.82	28.18
n-Hexane	61.45	38.55
Cyclohexane	50.62	49.38
n-Heptane	36.15	63.85
Methylcyclohexane	34.18	65.82
2,2,4-Trimethylpentane	38.85	61.15
Benzene	48.56	51.44
Toluene	24.58	75.42
Ethylbenzene	10.20	89.80
o-Xylene	9.43	90.57
m-Xylene	9.69	90.31
p-Xylene	9.93	90.07
Triethylene Glycol	0.00	100.00
Ethylene Glycol	0.00	0.00
Water	2.21	97.79
Methanol	0.00	0.00
O2	0.00	0.00
SO2	0.00	0.00

ABSORBER

Absorber Stages:	3.00	
Dry Gas Dew Point:	1.28	lb H2O/MMSCF
Temperature:	93.00	deg. F
Pressure:	1125.40	psia
Dry Gas Flow Rate:	166.98	MMSCFD
TEG Losses with Dry Gas:	1.05	lb/hr
Wet Gas Water Content:	31.35	lb H2O/MMSCF
Lean Glycol Recirc. Ratio:	8.24	gal/lb H2O

Component	In Dry Gas (%)	Absorbed in Glycol (%)
Carbon Dioxide	99.71	0.29
Hydrogen Sulfide	-	-
Nitrogen	99.99	0.01
Methane	99.97	0.03
Ethane	99.93	0.07
Propane	99.89	0.11
i-Butane	99.88	0.12
n-Butane	99.83	0.17
i-Pentane	99.80	0.20
n-Pentane	99.75	0.25
Cyclopentane	98.73	1.27
n-Hexane	99.66	0.34
Cyclohexane	98.67	1.33
n-Heptane	99.44	0.56
Methylcyclohexane	98.67	1.33
2,2,4-Trimethylpentane	99.50	0.50
Benzene	88.51	11.49
Toluene	82.91	17.09
Ethylbenzene	77.57	22.43
o-Xylene	72.10	27.90
m-Xylene	79.18	20.82
p-Xylene	80.71	19.29
Triethylene Glycol	0.01	99.99
Ethylene Glycol	-	-
Water	2.45	97.55
Methanol	-	-
O2	-	-
SO2	-	-

FLASH TANK

Flash Temperature:	110	deg. F
Flash Pressure:	65	psig

Component	Flashed (wt. %)	Left in Glycol (wt. %)
Carbon Dioxide	58.31	41.69
Hydrogen Sulfide	0.00	0.00
Nitrogen	98.59	1.41
Methane	94.12	5.88
Ethane	80.23	19.77
Propane	66.39	33.61
i-Butane	58.37	41.63
n-Butane	47.94	52.06
i-Pentane	35.89	64.11
n-Pentane	31.28	68.72
Cyclopentane	9.36	90.64
n-Hexane	18.76	81.24
Cyclohexane	6.59	93.41
n-Heptane	10.20	89.80
Methylcyclohexane	5.21	94.79
2,2,4-Trimethylpentane	10.66	89.34
Benzene	1.18	98.82
Toluene	0.60	99.40
Ethylbenzene	0.34	99.66
o-Xylene	0.23	99.77
m-Xylene	0.33	99.67
p-Xylene	0.36	99.64
Triethylene Glycol	0.00	100.00
Ethylene Glycol	0.00	0.00
Water	0.05	99.95
Methanol	0.00	0.00
O2	0.00	0.00
SO2	0.00	0.00

REGENERATOR

Component	Recovered in Glycol (%)	Distilled Overhead (%)
Carbon Dioxide	0.00	100.00
Hydrogen Sulfide	-	-
Nitrogen	0.00	100.00
Methane	0.00	100.00
Ethane	0.00	100.00
Propane	0.00	100.00
i-Butane	0.00	100.00
n-Butane	0.00	100.00
i-Pentane	0.00	100.00
n-Pentane	0.00	100.00
Cyclopentane	0.01	99.99
n-Hexane	0.00	100.00
Cyclohexane	0.02	99.98
n-Heptane	0.00	100.00
Methylcyclohexane	0.04	99.96
2,2,4-Trimethylpentane	0.00	100.00
Benzene	0.54	99.46
Toluene	2.21	97.79
Ethylbenzene	7.12	92.88
o-Xylene	13.29	86.71
m-Xylene	7.42	92.58
p-Xylene	6.73	93.27
Triethylene Glycol	100.00	0.00
Ethylene Glycol	-	-
Water	41.17	58.83
Methanol	-	-
O2	-	-
SO2	-	-

STREAM REPORTS:

WET GAS STREAM

Temperature:	83.00	deg F
Pressure:	1120.40	psia
Flow Rate:	167.16	MMSCFD

Component	Conc. (mol%)	Mass Flow (lb/h)
Carbon Dioxide	0.12	996.87
Hydrogen Sulfide	0.00	0.00
Nitrogen	0.93	4784.73
Methane	77.76	228958.39
Ethane	11.77	64973.90
Propane	5.47	44284.94
i-Butane	0.78	8317.67
n-Butane	1.79	19077.94
i-Pentane	0.43	5635.79
n-Pentane	0.48	6342.71
Cyclopentane	0.03	364.09
n-Hexane	0.13	2085.99
Cyclohexane	0.06	886.88
n-Heptane	0.10	1802.49
Methylcyclohexane	0.05	895.66
2,2,4-Trimethylpentane	0.01	195.41
Benzene	0.01	146.79
Toluene	0.01	198.20
Ethylbenzene	0.00	7.59
o-Xylene	0.00	12.61
m-Xylene	0.00	56.60
p-Xylene	0.00	33.78
Triethylene Glycol	0.00	0.00
Ethylene Glycol	0.00	0.00
Water	0.07	218.43
Methanol	0.00	0.00
O2	0.00	0.00
SO2	0.00	0.00
Total Components	100.00	390277.46

DRY GAS STREAM

Temperature:	83.83	deg F
Pressure:	1115.40	psia
Flow Rate:	166.98	MMSCFD

Component	Conc. (mol%)	Mass Flow (lb/h)
Carbon Dioxide	0.12	993.99
Hydrogen Sulfide	0.00	0.00
Nitrogen	0.93	4784.40
Methane	77.83	228900.18
Ethane	11.78	64927.73
Propane	5.47	44236.93
i-Butane	0.78	8308.03
n-Butane	1.79	19045.10
i-Pentane	0.43	5624.76
n-Pentane	0.48	6326.78
Cyclopentane	0.03	359.49
n-Hexane	0.13	2078.96
Cyclohexane	0.06	875.13
n-Heptane	0.10	1792.37
Methylcyclohexane	0.05	883.75
2,2,4-Trimethylpentane	0.01	194.44
Benzene	0.01	130.00
Toluene	0.01	164.94
Ethylbenzene	0.00	5.98
o-Xylene	0.00	9.44
m-Xylene	0.00	45.51
p-Xylene	0.00	27.62
Triethylene Glycol	0.00	1.05
Ethylene Glycol	0.00	0.00
Water	0.00	8.93
Methanol	0.00	0.00
O2	0.00	0.00
SO2	0.00	0.00
Total Components	100.00	389725.53

LEAN GLYCOL STREAM

Temperature:	93.00	deg F
Pressure:	1125.40	psia
Flow Rate:	30.00	sgpm

Component	Conc. (wt%)	Mass Flow (lb/h)
Carbon Dioxide	0.00	0.00
Hydrogen Sulfide	0.00	0.00
Nitrogen	0.00	0.00
Methane	0.00	0.00
Ethane	0.00	0.00
Propane	0.00	0.00
i-Butane	0.00	0.00
n-Butane	0.00	0.00
i-Pentane	0.00	0.00
n-Pentane	0.00	0.00
Cyclopentane	0.00	0.00
n-Hexane	0.00	0.00
Cyclohexane	0.00	0.00
n-Heptane	0.00	0.00
Methylcyclohexane	0.00	0.00
2,2,4-Trimethylpentane	0.00	0.00
Benzene	0.00	0.09
Toluene	0.00	0.74
Ethylbenzene	0.00	0.12
o-Xylene	0.00	0.48
m-Xylene	0.01	0.88
p-Xylene	0.00	0.44
Triethylene Glycol	99.12	16782.67
Ethylene Glycol	0.00	0.00
Water	0.87	146.54
Methanol	0.00	0.00
O2	0.00	0.00
SO2	0.00	0.00
Total Components	100.00	16931.97

RICH GLYCOL STREAM

Temperature:	83.78	deg F
Pressure:	1120.40	psia
Flow Rate:	31.78	sgpm

Component	Conc. (wt%)	Mass Flow (lb/h)
Carbon Dioxide	0.02	2.87
Hydrogen Sulfide	0.00	0.00
Nitrogen	0.00	0.33
Methane	0.33	58.21
Ethane	0.26	46.17
Propane	0.27	48.00
i-Butane	0.06	9.63
n-Butane	0.19	32.85
i-Pentane	0.06	11.03
n-Pentane	0.09	15.93
Cyclopentane	0.03	4.61
n-Hexane	0.04	7.03
Cyclohexane	0.07	11.76
n-Heptane	0.06	10.11
Methylcyclohexane	0.07	11.91
2,2,4-Trimethylpentane	0.01	0.97
Benzene	0.10	16.88
Toluene	0.19	34.00
Ethylbenzene	0.01	1.73
o-Xylene	0.02	3.65
m-Xylene	0.07	11.97
p-Xylene	0.04	6.60
Triethylene Glycol	95.98	16781.62
Ethylene Glycol	0.00	0.00
Water	2.04	356.03
Methanol	0.00	0.00
O2	0.00	0.00
SO2	0.00	0.00
Total Components	100.00	17483.91

FLASH TANK OFF GAS STREAM

Temperature:	110.00	deg F
Pressure:	79.40	psia
Flow Rate:	2267.08	scfh

Component	Conc. (mol%)	Mass Flow (lb/h)
Carbon Dioxide	0.64	1.68
Hydrogen Sulfide	0.00	0.00
Nitrogen	0.19	0.32
Methane	57.17	54.79
Ethane	20.62	37.04
Propane	12.10	31.87
i-Butane	1.62	5.62
n-Butane	4.53	15.75
i-Pentane	0.92	3.96
n-Pentane	1.16	4.98
Cyclopentane	0.10	0.43
n-Hexane	0.26	1.32
Cyclohexane	0.15	0.78
n-Heptane	0.17	1.03
Methylcyclohexane	0.11	0.62
2,2,4-Trimethylpentane	0.02	0.10
Benzene	0.04	0.20
Toluene	0.04	0.20
Ethylbenzene	0.00	0.01
o-Xylene	0.00	0.01
m-Xylene	0.01	0.04
p-Xylene	0.00	0.02
Triethylene Glycol	0.00	0.00
Ethylene Glycol	0.00	0.00
Water	0.16	0.17
Methanol	0.00	0.00
O2	0.00	0.00
SO2	0.00	0.00
Total Components	100.00	160.94

FLASH TANK GLYCOL STREAM

Temperature:	110.00	deg F
Pressure:	79.40	psia
Flow Rate:	30.97	sgpm

Component	Conc. (wt%)	Mass Flow (lb/h)
Carbon Dioxide	0.01	1.20
Hydrogen Sulfide	0.00	0.00
Nitrogen	0.00	0.00
Methane	0.02	3.43
Ethane	0.05	9.13
Propane	0.09	16.13
i-Butane	0.02	4.01
n-Butane	0.10	17.10
i-Pentane	0.04	7.07
n-Pentane	0.06	10.95
Cyclopentane	0.02	4.18
n-Hexane	0.03	5.71
Cyclohexane	0.06	10.98
n-Heptane	0.05	9.08
Methylcyclohexane	0.07	11.29
2,2,4-Trimethylpentane	0.01	0.87
Benzene	0.10	16.68
Toluene	0.20	33.80
Ethylbenzene	0.01	1.72
o-Xylene	0.02	3.65
m-Xylene	0.07	11.93
p-Xylene	0.04	6.58
Triethylene Glycol	96.87	16781.62
Ethylene Glycol	0.00	0.00
Water	2.05	355.86
Methanol	0.00	0.00
O2	0.00	0.00
SO2	0.00	0.00
Total Components	100.00	17322.97

REGENERATOR OVERHEADS STREAM

Temperature:	202.00	deg F
Pressure:	14.10	psia
Flow Rate:	5461.07	scfh

Component	Conc. (mol%)	Mass Flow (lb/h)
Carbon Dioxide	0.19	1.20
Hydrogen Sulfide	0.00	0.00
Nitrogen	0.00	0.00
Methane	1.48	3.43
Ethane	2.11	9.13
Propane	2.54	16.13
i-Butane	0.48	4.01
n-Butane	2.04	17.10
i-Pentane	0.68	7.07
n-Pentane	1.05	10.95
Cyclopentane	0.41	4.17
n-Hexane	0.46	5.71
Cyclohexane	0.91	10.98
n-Heptane	0.63	9.08
Methylcyclohexane	0.80	11.29
2,2,4-Trimethylpentane	0.05	0.87
Benzene	1.48	16.59
Toluene	2.49	33.05
Ethylbenzene	0.10	1.60
o-Xylene	0.21	3.16
m-Xylene	0.72	11.04
p-Xylene	0.40	6.13
Triethylene Glycol	0.00	0.05
Ethylene Glycol	0.00	0.00
Water	80.74	209.33
Methanol	0.00	0.00
O2	0.00	0.00
SO2	0.00	0.00
Total Components	100.00	392.09

BTEX CONDENSER VENT GAS STREAM

Temperature:	120.00	deg F
Pressure:	14.10	psia
Flow Rate:	814.14	scfh

Component	Conc. (mol%)	Mass Flow (lb/h)
Carbon Dioxide	1.26	1.19
Hydrogen Sulfide	0.00	0.00
Nitrogen	0.01	0.00
Methane	9.94	3.42
Ethane	14.05	9.07
Propane	16.71	15.81
i-Butane	3.08	3.84
n-Butane	12.85	16.02
i-Pentane	3.93	6.08
n-Pentane	5.86	9.06
Cyclopentane	1.99	3.00
n-Hexane	1.90	3.51
Cyclohexane	3.08	5.56
n-Heptane	1.53	3.28
Methylcyclohexane	1.83	3.86
2,2,4-Trimethylpentane	0.14	0.34
Benzene	4.81	8.06
Toluene	4.11	8.12
Ethylbenzene	0.07	0.16
o-Xylene	0.13	0.30
m-Xylene	0.47	1.07
p-Xylene	0.27	0.61
Triethylene Glycol	0.00	0.00
Ethylene Glycol	0.00	0.00
Water	11.99	4.64
Methanol	0.00	0.00
O2	0.00	0.00
SO2	0.00	0.00
Total Components	100.00	106.99

BTEX CONDENSER RECOVERED OIL STREAM

Temperature:	120.00	deg F
Pressure:	14.10	psia
Flow Rate:	0.20	sgpm

Component	Conc. (mol%)	Mass Flow (lb/h)
Carbon Dioxide	0.01	0.00
Hydrogen Sulfide	0.00	0.00
Nitrogen	0.00	0.00
Methane	0.03	0.00
Ethane	0.24	0.06
Propane	0.82	0.32
i-Butane	0.34	0.17
n-Butane	2.10	1.08
i-Pentane	1.56	1.00
n-Pentane	2.95	1.88
Cyclopentane	1.90	1.18
n-Hexane	2.89	2.20
Cyclohexane	7.28	5.42
n-Heptane	6.55	5.80
Methylcyclohexane	8.56	7.43
2,2,4-Trimethylpentane	0.52	0.53
Benzene	12.27	8.48
Toluene	30.54	24.88
Ethylbenzene	1.53	1.44
o-Xylene	3.05	2.86
m-Xylene	10.62	9.97
p-Xylene	5.89	5.52
Triethylene Glycol	0.00	0.00
Ethylene Glycol	0.00	0.00
Water	0.34	0.05
Methanol	0.00	0.00
O2	0.00	0.00
SO2	0.00	0.00
Total Components	100.00	80.28

BTEX CONDENSER PRODUCED WATER STREAM

Temperature:	120.00	deg F
Pressure:	14.10	psia
Flow Rate:	0.41	sgpm

Component	Conc. (mol%)	Mass Flow (lb/h)
Carbon Dioxide	0.00	0.00
Hydrogen Sulfide	0.00	0.00
Nitrogen	0.00	0.00
Methane	0.00	0.00
Ethane	0.00	0.00
Propane	0.00	0.00
i-Butane	0.00	0.00
n-Butane	0.00	0.00
i-Pentane	0.00	0.00
n-Pentane	0.00	0.00
Cyclopentane	0.00	0.00
n-Hexane	0.00	0.00
Cyclohexane	0.00	0.00
n-Heptane	0.00	0.00
Methylcyclohexane	0.00	0.00
2,2,4-Trimethylpentane	0.00	0.00
Benzene	0.01	0.06
Toluene	0.00	0.05
Ethylbenzene	0.00	0.00
o-Xylene	0.00	0.00
m-Xylene	0.00	0.00
p-Xylene	0.00	0.00
Triethylene Glycol	0.00	0.05
Ethylene Glycol	0.00	0.00
Water	99.98	204.64
Methanol	0.00	0.00
O2	0.00	0.00
SO2	0.00	0.00
Total Components	100.00	204.81

Catalytic Combustion Corporation
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CATALYTIC COMBUSTION
EMISSION TECHNOLOGIES

To OneOK
Attn Kevin Poffenberger
Via E-mail

Our Ref. 00000804.02
Date: 11 May, 2026

Catalyst Performance

For : CAT G3616

Project/Location : Red Raider & Reveille Station - OneOK

Engine Parameters

Engine Manufacturer	Caterpillar	
Engine Model	G3616	
Horsepower	5500	bhp
Speed	1000	rpm
Exhaust Flowrate	33822	acfm
Exhaust Temperature	790	° F
Fuel	Natural Gas	

	Raw Exhaust	
NOx	0.30	g/bhp-hr
CO	2.15	g/bhp-hr
NMHC	0.24	g/bhp-hr
NMNEHC (VOC)	0.16	g/bhp-hr
HCHO	0.10	g/bhp-hr
Oxygen	11.40	%

Catalyst Description and Performance Expectations

Catalyst Model	GACB-3621F-D-15HF-HFX4	Overall Dimensions	41.5 x 21 x 3.7
Cell Pattern, Substrate	15HF	Catalyst Qty Required	8 per Unit
Formulation	HFX4	Pressure Drop	2.6 inches of H2O
Warranty Period [hrs]	24000		

	Performance	
NOx	0.30	g/bhp-hr
CO	0.40	g/bhp-hr
NMNEHC (VOC)	0.40	g/bhp-hr
HCHO	0.023	g/bhp-hr

Application Notes and Exceptions:

- Engine operating conditions and raw emissions to be confirmed/verified by end user.

Please contact us if you have any questions or to let us know how we can be of further help.

Best regards,

Josh Martin

Josh Martin
Sales and Business Development Manager, Catalytic Combustion Corporation
Prepared By: DW

ENGINE SPEED (rpm):	1000	RATING STRATEGY:	GEN 2 KIT - LOW ALTITUDE - NO CCV
COMPRESSION RATIO:	7.6	APPLICATION:	GAS COMPRESSION
AFTERCOOLER TYPE:	SCAC	RATING LEVEL:	CONTINUOUS
AFTERCOOLER - STAGE 2 INLET (°F):	130	FUEL:	NAT GAS
AFTERCOOLER - STAGE 1 INLET (°F):	174	FUEL SYSTEM:	GAV WITH AIR FUEL RATIO CONTROL
JACKET WATER OUTLET (°F):	190		
ASPIRATION:	TA	FUEL PRESSURE RANGE(psia): (See note 1)	84.8-94.6
COOLING SYSTEM:	JW+1AC, OC+2AC	FUEL METHANE NUMBER:	85
CONTROL SYSTEM:	ADEM4	FUEL LHV (Btu/scf):	905
EXHAUST MANIFOLD:	DRY	ALTITUDE CAPABILITY AT 100°F INLET AIR TEMP. (ft):	3658
COMBUSTION:	LOW EMISSION		
NOx EMISSION LEVEL (g/bhp-hr NOx):	0.3		

RATING		NOTES	LOAD	100%	75%	50%
ENGINE POWER	(WITHOUT FAN)	(2)	bhp	5500	4125	2750
ENGINE EFFICIENCY	(ISO 3046/1)	(3)	%	38.8	37.8	35.6
ENGINE EFFICIENCY	(NOMINAL)	(3)	%	37.9	36.9	34.8
ENGINE DATA						
FUEL CONSUMPTION	(ISO 3046/1)	(4)	Btu/bhp-hr	6554	6734	7145
FUEL CONSUMPTION	(NOMINAL)	(4)	Btu/bhp-hr	6714	6898	7320
AIR FLOW (77°F, 14.7 psia)	(WET)	(5)(6)	ft3/min	13608	10266	6965
AIR FLOW	(WET)	(5)(6)	lb/hr	60341	45519	30883
FUEL FLOW (60°F, 14.7 psia)			scfm	680	524	371
COMPRESSOR OUT PRESSURE			psi(abs)	61.4	45.7	31.3
COMPRESSOR OUT TEMPERATURE			°F	436	356	258
AFTERCOOLER AIR OUT TEMPERATURE			°F	135	135	135
INLET MAN. PRESSURE		(7)	psi(abs)	60.0	44.6	30.5
INLET MAN. TEMPERATURE	(MEASURED IN PLENUM)	(8)	°F	135	135	135
TIMING		(9)	°BTDC	18	17	16
EXHAUST TEMPERATURE - ENGINE OUTLET		(10)	°F	790	844	897
EXHAUST GAS FLOW (@engine outlet temp, 14.5 psia)	(WET)	(6)(11)	ft3/min	33822	26635	18844
EXHAUST GAS MASS FLOW	(WET)	(6)(11)	lb/hr	62205	46956	31900
EMISSIONS DATA - EXHAUST OUT						
NOx (as NO2)		(12)(13)	g/bhp-hr	0.30	0.30	0.30
CO		(12)(14)	g/bhp-hr	2.15	2.15	2.15
NMHC (mol. wt. of 15.84)		(12)(14)	g/bhp-hr	0.24	0.27	0.29
NMNEHC (VOCs) (mol. wt. of 15.84)		(12)(14)(15)	g/bhp-hr	0.16	0.18	0.19
HCHO (Formaldehyde)		(12)(14)	g/bhp-hr	0.10	0.11	0.14
CH4 (mol. wt. of 16.04)	(NOMINAL)	(12)(16)	g/bhp-hr	2.02	2.24	2.40
CO2	(NOMINAL)	(12)(16)	g/bhp-hr	383	400	422
EXHAUST OXYGEN	(NOMINAL)	(12)(17)	% DRY	11.4	11.1	10.7
LAMBDA		(12)(17)		2.04	2.00	1.92
ENERGY BALANCE DATA						
LHV INPUT		(18)	Btu/min	615364	474193	335451
HEAT REJECTION TO JACKET WATER (JW)		(19)(27)	Btu/min	56558	48125	42384
HEAT REJECTION TO ATMOSPHERE		(20)	Btu/min	19751	17841	16213
HEAT REJECTION TO LUBE OIL (OC)		(21)(28)	Btu/min	30768	28452	25159
HEAT REJECTION TO EXHAUST (LHV TO 77°F)		(22)(23)	Btu/min	198465	161306	116861
HEAT REJECTION TO EXHAUST (LHV TO 350°F)		(22)	Btu/min	120726	102618	77576
HEAT REJECTION TO A/C - STAGE 1 (1AC)		(24)(27)	Btu/min	58223	30363	9439
HEAT REJECTION TO A/C - STAGE 2 (2AC)		(25)(28)	Btu/min	15421	10235	5828
PUMP POWER		(26)	Btu/min	2957	2957	2957

CONDITIONS AND DEFINITIONS

Engine rating obtained and presented in accordance with ISO 3046/1. (Standard reference conditions of 77°F, 14.50 PSI barometric pressure.) No overload permitted at rating shown. Consult the altitude deration factor chart for applications that exceed the rated altitude or temperature.

Emission levels are at engine exhaust flange prior to any after treatment. Values are based on engine operating at steady state conditions, adjusted to the specified NOx level at 100% load. Tolerances specified are dependent upon fuel quality. Fuel methane number cannot vary more than ± 3.

For notes information consult page three.

FUEL USAGE GUIDE

METHANE NUMBER	<10	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	100
SET POINT TIMING	16	16	16	16	16	16	16	16	16	16	17	17	17	17	18	18	18	18
DERATION FACTOR	0	0.50	0.62	0.75	0.87	1	1	1	1	1	1	1	1	1	1	1	1	1

WOBBE INDEX(BTU/scfm)	700	850	1550	1870
DERATION FACTOR	0.7	1	1	0.82

ALTITUDE DERATION FACTORS AT RATED SPEED

INLET AIR TEMP °F	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
130	1	0.96	0.91	0.87	0.82	0.78	0.73	0.69	0.67	0.66	0.64	0.61	0.59
120	1	1	0.96	0.92	0.87	0.83	0.78	0.74	0.70	0.68	0.65	0.63	0.61
110	1	1	1	0.98	0.93	0.89	0.84	0.80	0.75	0.71	0.68	0.65	0.62
100	1	1	1	1	0.99	0.94	0.89	0.85	0.80	0.76	0.71	0.68	0.65
90	1	1	1	1	1	1	0.95	0.91	0.86	0.81	0.77	0.72	0.68
80	1	1	1	1	1	1	0.98	0.94	0.89	0.84	0.80	0.75	0.70
70	1	1	1	1	1	1	1	0.95	0.90	0.86	0.81	0.76	0.72
60	1	1	1	1	1	1	1	0.96	0.92	0.87	0.83	0.78	0.73
50	1	1	1	1	1	1	1	0.98	0.93	0.89	0.84	0.79	0.75

ALTITUDE (FEET ABOVE SEA LEVEL)

AFTERCOOLER HEAT REJECTION FACTORS (ACHRF)

INLET AIR TEMP °F	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
130	1.27	1.31	1.35	1.40	1.44	1.48	1.52	1.52	1.52	1.52	1.52	1.52	1.52
120	1.22	1.26	1.30	1.34	1.39	1.43	1.46	1.46	1.46	1.46	1.46	1.46	1.46
110	1.16	1.20	1.24	1.28	1.32	1.37	1.40	1.40	1.40	1.40	1.40	1.40	1.40
100	1.11	1.15	1.19	1.23	1.27	1.31	1.34	1.34	1.34	1.34	1.34	1.34	1.34
90	1.05	1.09	1.13	1.17	1.21	1.25	1.28	1.28	1.28	1.28	1.28	1.28	1.28
80	1	1.04	1.07	1.11	1.15	1.19	1.22	1.22	1.22	1.22	1.22	1.22	1.22
70	1	1	1.02	1.05	1.09	1.13	1.16	1.16	1.16	1.16	1.16	1.16	1.16
60	1	1	1	1	1.03	1.07	1.10	1.10	1.10	1.10	1.10	1.10	1.10
50	1	1	1	1	1	1.01	1.04	1.04	1.04	1.04	1.04	1.04	1.04

ALTITUDE (FEET ABOVE SEA LEVEL)

MINIMUM SPEED CAPABILITY AT THE RATED SPEED'S SITE TORQUE (RPM)

INLET AIR TEMP °F	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
130	750	750	750	750	750	750	750	750	750	750	750	750	750
120	750	750	750	750	750	750	750	750	750	750	750	750	750
110	750	750	750	750	750	750	750	750	750	750	750	750	750
100	750	750	750	750	750	750	750	750	750	750	750	750	750
90	750	750	750	750	750	750	750	750	750	750	750	750	750
80	750	750	750	750	750	750	750	750	750	750	750	750	750
70	750	750	750	750	750	750	750	750	750	750	750	750	750
60	750	750	750	750	750	750	750	750	750	750	750	750	750
50	750	750	750	750	750	750	750	750	750	750	750	750	750

ALTITUDE (FEET ABOVE SEA LEVEL)

FUEL USAGE GUIDE:

This table shows the derate factor and full load set point timing required for a given fuel. Note that deration and set point timing adjustment may be required as the methane number decreases. Methane number is a scale to measure detonation characteristics of various fuels. The methane number of a fuel is determined by using the Caterpillar methane number calculation.
The Fuel Lower Heating Value (LHV) table shows the derate factor required for a given fuel. To determine the actual power available, use the lowest factor between the Fuel LHV table and the Methane Number table.

ALTITUDE DERATION FACTORS:

This table shows the deration required for various air inlet temperatures and altitudes. Use this information along with the fuel usage guide chart to help determine actual engine power for your site. The derate factors shown do not account for the external cooling system capacity. The derate factors provided assume the external cooling system can maintain the specified cooling water temperatures at site conditions.

ACTUAL ENGINE RATING:

To determine the actual rating of the engine at site conditions, one must consider separately, limitations due to fuel characteristics and air system limitations. The Fuel Usage Guide deration establishes fuel limitations. The Altitude/ Temperature deration factors and RPC(reference the Caterpillar Methane Program) establish air system limitations. RPC comes into play when the Altitude/Temperature deration is less than 1.0 (100%). Under this condition, add the two factors together. When the site conditions do not require an Altitude/Temperature derate (factor is 1.0), it is assumed the turbocharger has sufficient capability to overcome the low fuel relative power, and RPC is ignored. To determine the actual power available, take the lowest rating between 1) and 2).
1) Fuel Usage Guide Deration
2) 1 - ((1 - Altitude / Temperature Deration) +(1 - RPC))

AFTERCOOLER HEAT REJECTION FACTORS(ACHRF):

To maintain a constant air inlet manifold temperature, as the inlet air temperature goes up, so must the heat rejection. As altitude increases, the turbocharger must work harder to overcome the lower atmospheric pressure. This increases the amount of heat that must be removed from the inlet air by the aftercooler. Use the aftercooler heat rejection factor (ACHRF) to adjust for inlet air temp and altitude conditions. See notes (27) and (28) for application of this factor in calculating the heat exchanger sizing criteria. Failure to properly account for these factors could result in detonation and cause the engine to shutdown or fail.

MINIMUM SPEED CAPABILITY AT THE RATED SPEED'S SITE TORQUE (RPM):

This table shows the minimum allowable engine turndown speed where the engine will maintain the Rated Speed's Torque for the given ambient conditions.

NOTES:

1. Fuel pressure range specified is to the engine gas shutoff valve (GSOV). Additional fuel train components should be considered in pressure and flow calculations.
2. Engine rating is with two engine driven water pumps. Tolerance is ± 3% of full load.
3. ISO 3046/1 engine efficiency tolerance is (+)0, (-)5% of full load % efficiency value. Nominal engine efficiency tolerance is ± 2.5% of full load % efficiency value.
4. ISO 3046/1 fuel consumption tolerance is (+)5, (-)0% of full load data. Nominal fuel consumption tolerance is ± 2.5% of full load data.
5. Air flow value is on a 'wet' basis. Flow is a nominal value with a tolerance of ± 5 %.
6. Inlet and Exhaust Restrictions must not exceed A&I limits based on full load flow rates from the standard technical data sheet.
7. Inlet manifold pressure is a nominal value with a tolerance of ± 5 %.
8. Inlet manifold temperature is a nominal value with a tolerance of ± 9°F.
9. Timing indicated is for use with the minimum fuel methane number specified. Consult the appropriate fuel usage guide for timing at other methane numbers.
10. Exhaust temperature is a nominal value with a tolerance of (+)63°F, (-)54°F.
11. Exhaust flow value is on a 'wet' basis. Flow is a nominal value with a tolerance of ± 6 %.
12. Emissions data is at engine exhaust flange prior to any after treatment.
13. NOx values are the maximum values expected under steady state conditions.
14. CO, NMHC, NMNEHC, and HCHO are the maximum values expected under steady state conditions. NMHC, and NMNEHC do not include aldehydes. An oxidation catalyst may be required to meet Federal, State or local CO or HC requirements.
15. VOCs - Volatile organic compounds as defined in US EPA 40 CFR 60, subpart JJJJ
16. CO2 tolerance is ± 2.5%. CH4 tolerance is ± 26.0%. Fuel methane number cannot vary more than ± 3.
17. Exhaust Oxygen tolerance is ± 0.5; Lambda tolerance is ± 0.05. Lambda and Exhaust Oxygen level are the result of adjusting the engine to operate at the specified NOx level.
18. LHV rate tolerance is ± 2.5%.
19. Heat rejection to jacket water value displayed includes heat to jacket water alone. Value is based on treated water. Tolerance is ± 10% of full load data.
20. Heat rejection to atmosphere based on treated water. Tolerance is ± 50% of full load data.
21. Lube oil heat rate based on treated water. Tolerance is ± 20% of full load data.
22. Exhaust heat rate based on treated water. Tolerance is ± 10% of full load data.
23. Heat rejection to exhaust (LHV to 77°F) value shown includes unburned fuel and is not intended to be used for sizing or recovery calculations.
24. Heat rejection to A/C - Stage 1 based on treated water. Tolerance is ±5% of full load data.
25. Heat rejection to A/C - Stage 2 based on treated water. Tolerance is ±5% of full load data.
26. Pump power includes engine driven jacket water and aftercooler water pumps. Engine brake power includes effects of pump power.
27. Total Jacket Water Circuit heat rejection is calculated as: (JW x 1.1) + (1AC x 1.05) + [0.91 x (1AC + 2AC) x (ACHRF - 1) x 1.05]. Heat exchanger sizing criterion is maximum circuit heat rejection at site conditions, with applied tolerances. A cooling system safety factor may be multiplied by the total circuit heat rejection to provide additional margin.
28. Total Second Stage Aftercooler Circuit heat rejection is calculated as: (OC x 1.2) + (2AC x 1.05) + [(1AC + 2AC) x 0.09 x (ACHRF - 1) x 1.05]. Heat exchanger sizing criterion is maximum circuit heat rejection at site conditions, with applied tolerances. A cooling system safety factor may be multiplied by the total circuit heat rejection to provide additional margin.

FREE FIELD MECHANICAL & EXHAUST NOISE

MECHANICAL: Sound Power (1/3 Octave Frequencies)

Percent Load	Engine Power	Overall	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz
%	bhp	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
100	5500	132.1	96.9	100.6	101.0	104.2	105.8	108.6	109.9	110.6	113.8	117.2
75	4125	128.7	90.2	97.7	98.1	100.8	103.3	107.4	107.7	108.5	111.6	114.3
50	2750	125.7	86.2	94.2	94.0	100.8	102.9	106.6	108.3	108.3	110.5	111.5

MECHANICAL: Sound Power (1/3 Octave Frequencies)

Percent Load	Engine Power	1 kHz	1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz	4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz
%	bhp	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
100	5500	117.7	119.4	120.8	120.1	122.0	121.0	119.7	131.3	116.3	108.4	113.8
75	4125	114.4	117.1	119.2	118.4	120.2	118.8	120.6	118.7	112.2	114.8	107.8
50	2750	111.8	114.3	117.9	115.5	117.8	116.7	115.8	112.3	110.6	109.4	103.2

EXHAUST: Sound Power (1/3 Octave Frequencies)

Percent Load	Engine Power	Overall	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz
%	bhp	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
100	5500	144.8	107.2	113.7	115.7	115.1	115.3	121.9	124.5	122.8	122.7	129.3
75	4125	142.9	106.4	112.7	110.8	109.3	111.4	117.5	119.3	118.5	118.0	126.8
50	2750	139.7	105.7	109.3	104.5	103.9	106.7	111.7	113.7	113.3	114.1	124.2

EXHAUST: Sound Power (1/3 Octave Frequencies)

Percent Load	Engine Power	1 kHz	1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz	4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz
%	bhp	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
100	5500	130.0	131.0	133.5	133.6	134.8	136.0	136.1	135.5	135.2	134.1	131.9
75	4125	127.1	128.7	130.7	131.8	133.0	134.1	134.9	134.1	133.5	131.5	128.8
50	2750	124.0	125.8	127.4	129.6	131.0	132.0	131.3	130.5	129.1	126.3	123.4

SOUND PARAMETER DEFINITION:

Sound Power Level Data

Sound power is defined as the total sound energy emanating from a source irrespective of direction or distance. Sound power level data is presented under two index headings:
Sound power level -- Mechanical
Sound power level -- Exhaust

Mechanical: Sound power level data is calculated in accordance with ISO 3747. The data is recorded with the exhaust sound source isolated.

Exhaust: Sound power level data is calculated in accordance with ISO 6798 Annex A. Exhaust data is post-catalyst on gas engine ratings labeled as "Integrated Catalyst".

Measurements made in accordance with ISO 3747 and ISO 6798 for mechanical and exhaust sound level only. Frequency bands outside the displayed ranges are not measured, due to physical test, and environmental conditions that affect the accuracy of the measurement. No cooling system noise is included unless specifically indicated. Sound level data is indicative of noise levels recorded on one engine sample in a survey grade 3 environment.

How an engine is packaged, installed and the site acoustical environment will affect the site specific sound levels. For site specific sound level guarantees, sound data collection needs to be done on-site or under similar conditions.


HYUNDAI
MADE IN KOREA
CHOI S.G.
Model : GV222CB
SerialNo : 4007787
Option : GV22-00G30

ECD- High Volume - 48" x 25' x 11.7 MMBTU/HR

ECD48HV

OOOOb/c Certified Enclosed Combustor
Integrated Continuous Monitoring | Performance Guarantee

Data	Parameter
Size	48" OD x 25'
Capacity (Third Party Verified)	109 MSCFD @ 10 oz/in using SG 1.52/2500 BTU/SCF
Heat Duty Rating	11.7 MMBTU/HR Max
Burner Size	90 F-90 Orifices, 28"L x 27" W
Stack	Insulated
Stack Internal Operating Temperature	800-2000°F
Inlet Temp	-20-1200°F
Pressure Rating	Atmospheric
Electrical Classification	Non-Hazardous
Wind Load	90 mph 3sec Wind Gust per ASCE 7-05 (see note below)
Estimated Weight (No Concrete Block):	4,380 lbs

Connection Schedule	QTY	Size	Type
Waste Gas Inlet	1	3"	NPT
Flow Test/Automation (plugged as option)	2	2"	NPT
Stack/Burner Sight Glass	1	2"	NPT
Aux Sight Glass Location (plugged as opt.)	1	2"	NPT
Pilot Sight glass	1	3"	NPT
Aux Sight Glass Location (plugged as opt.)	1	3"	NPT
Pilot Gas In	1	1/4"	NPT
Ignitor Cable (plugged as option)	1	1/2"	NPT
Thermocouple or Automation (plugged as opt.)	1	1"	NPT
Automation Spare (plugged as option)	1	1/2"	NPT
Cabinet Drain (plugged as option)	1	1/2"	NPT

Paint	
External	Default Color: Noble Tan unless other color chosen as option

Notes

- Pilot Consumption: Propane: 15 SCFH @ 4 psig, Natural Gas: 30 SCFH @ 8 - 10 psig (per ignitor).
- OOOOa/b/c certified IAW USEPA 40 CFR 60, App. A, Source Emissions Test Methods.
- **Cimarron Energy guarantees the Quad-O certified combustor proposed in this bid will meet a minimum Destruction Removal Efficiency (DRE) of 98% if all the below conditions are met:**

Max water vapor content in the waste stream:	4% vol.
Min temperature in the combustion chamber:	1400 F
Min Lower Heating Value (LHV) of the gas:	800 BTU/scf
Max Thermal Duty:	Per Technical Section of this Proposal

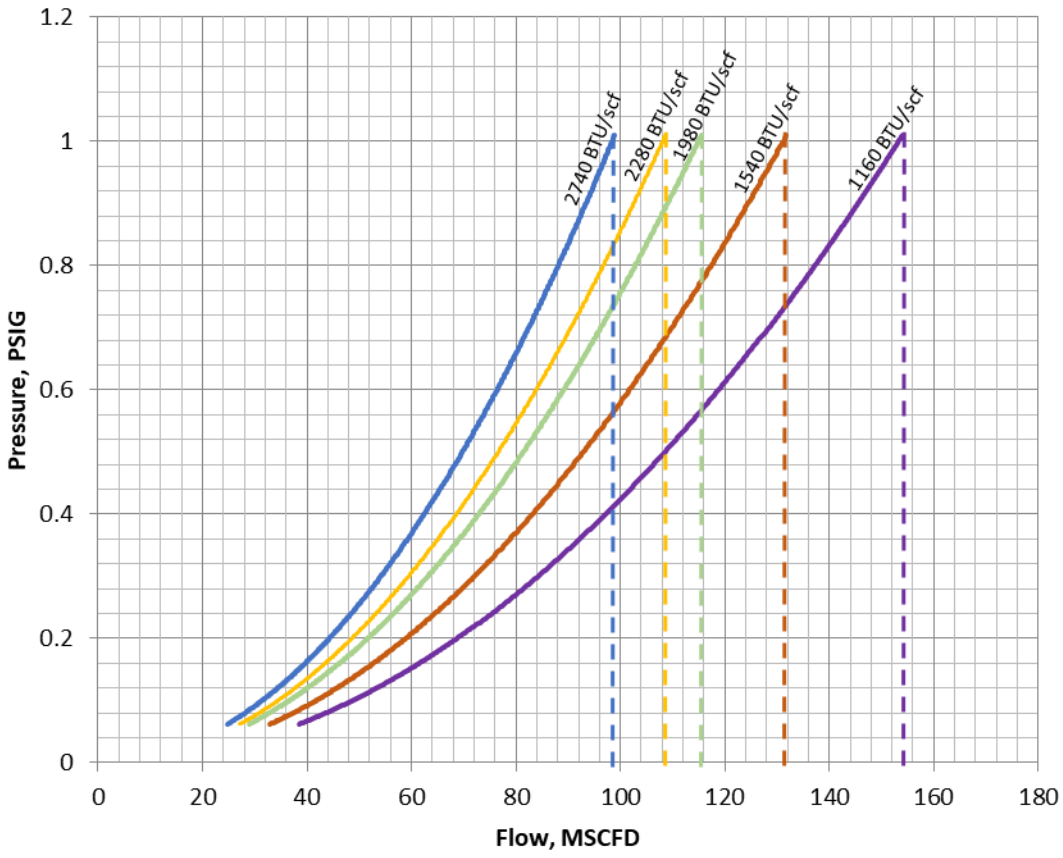
- Please note that Cimarron may still be able to guarantee 98% DRE for applications where some of the above conditions are not met. For these applications, please contact the Application Engineering Team.
- Guarantee applies only to new units purchased after December 1, 2021.
- Structure certified per ASCE 7-05 & IBC 2006 stds (pre-mounted concrete base required for compliance).
- Customer to inform if there are any structural requirements to consider.

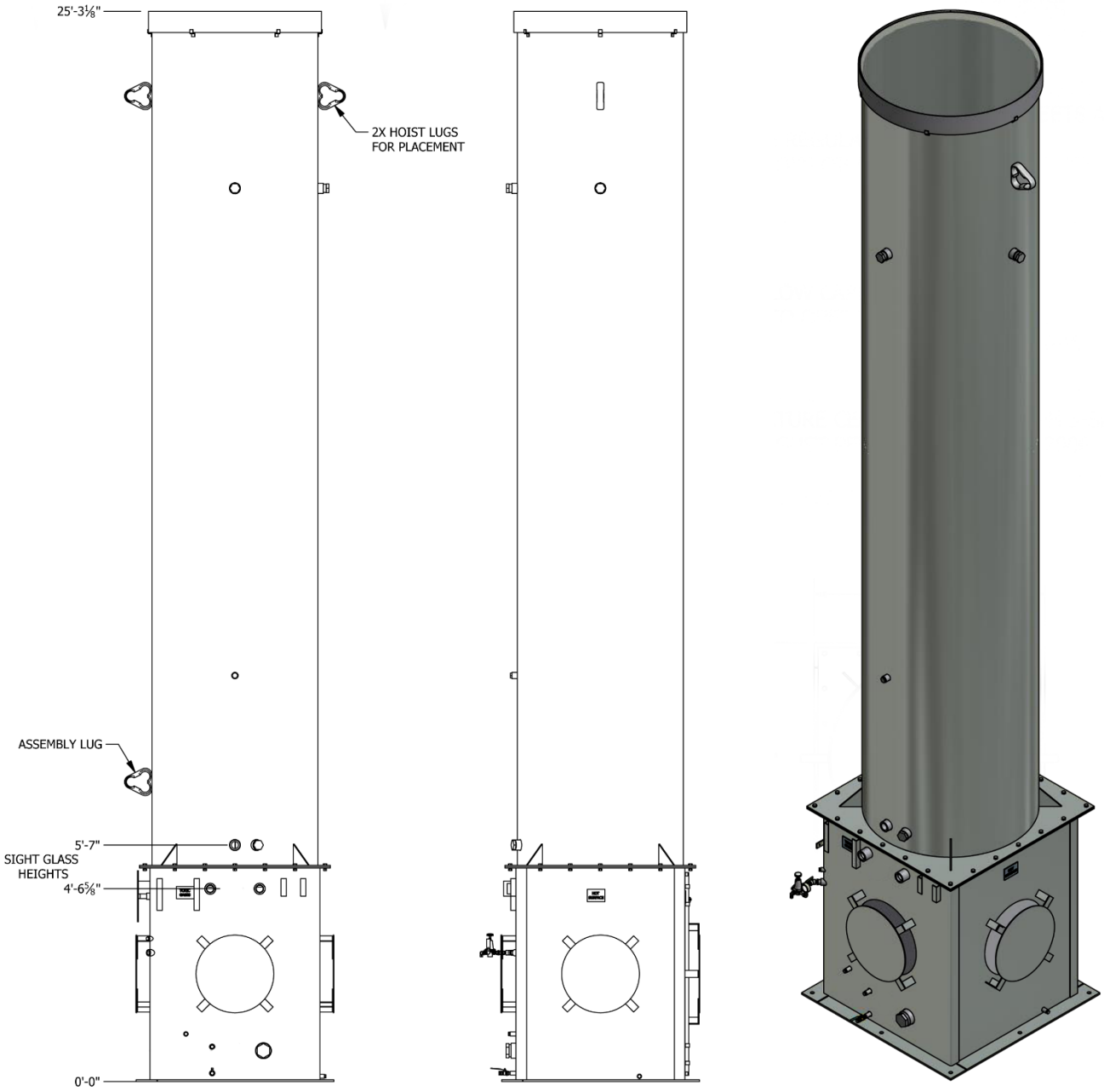
Accessories – Included

Description	OEM	OEM Model #	QTY
Pilot Regulator, 1/4"	Fisher	67CR-206	1
Pilot Isolation Ball Valve 1/4 STL 2000# FP	Chemoil	2027WC-02	1

Accessories – Options

Description	OEM	OEM Model #	QTY
8'x8'x8" Concrete Block No Anchors	Generic	SL 119524	1
48" HV Bird Cone	Generic	123935	1




25'-3⅛"
2X HOIST LUGS
FOR PLACEMENT
ASSEMBLY LUG
5'-7"
SIGHT GLASS
HEIGHTS
4'-6⅝"
0'-0"

Section 8

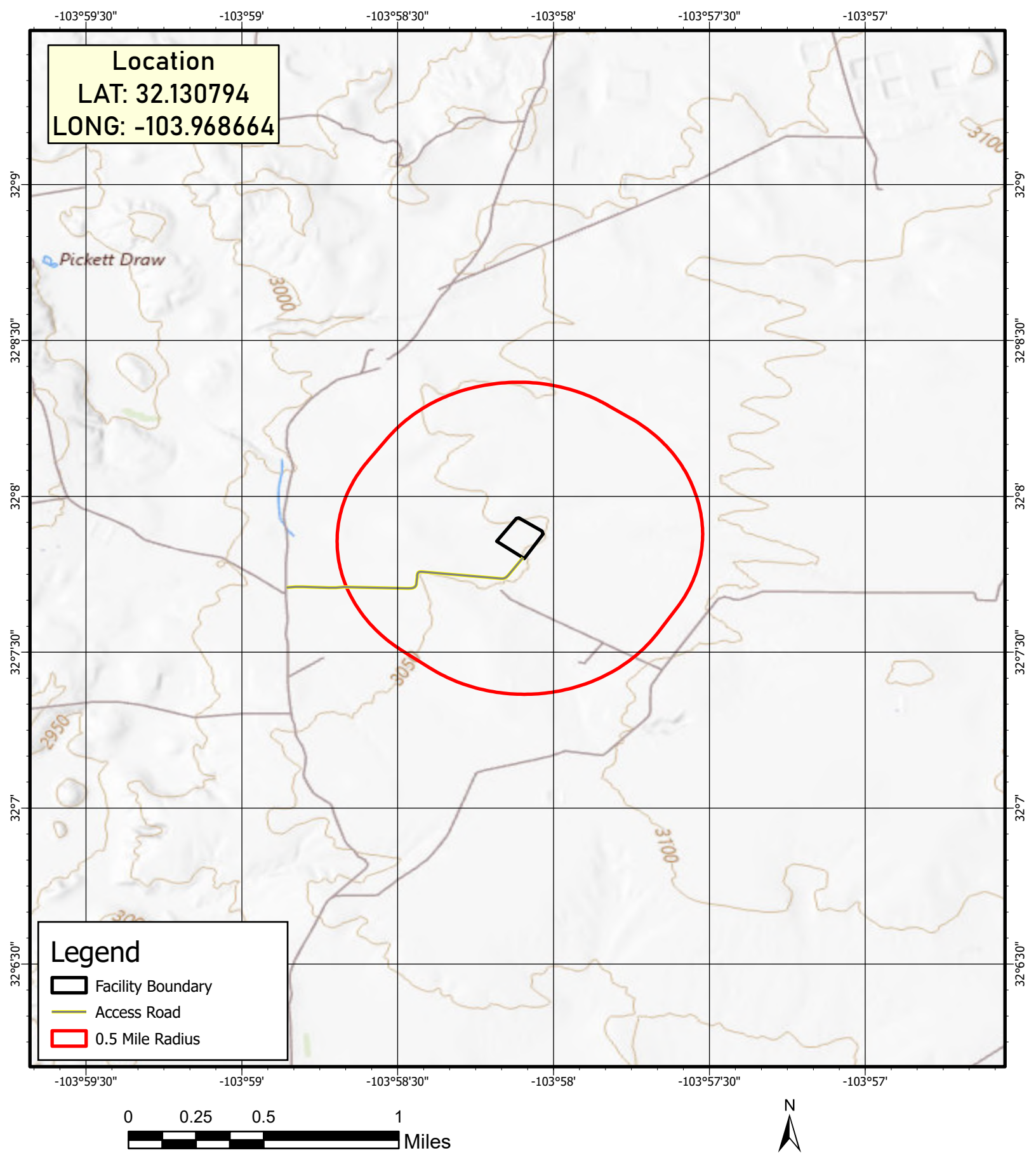
Map(s)

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

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

A map is included in this section.

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RESOLUTE COMPLIANCE, LLC
Purposeful Solutions. Unwavering Service.

Red Raider Compressor Station
ONEOK, Inc.
Eddy County, NM

Site Location Map

Project No. Env-EnLink-0349
Report No. Red Raider-NSR Mod
Date: August 2026

Section 8

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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.

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NOTICE

ONEOK Delaware Gathering, LLC announces its application to the New Mexico Environment Department for an air quality permit for the **modification** of its **compressor station** facility. The expected date of application submittal to the Air Quality Bureau is **May 2026.**

The exact location for the proposed facility known as, **Red Raider Compressor Station**, is at latitude **32.130794** dec deg North and longitude **103.968664** dec deg West. The approximate location of this facility is **13.05** miles **southeast** of **Loving, NM** in **Eddy** county.

The proposed **modification** consists of adding one generator, replacing two existing engines with greater horsepower units, updating the dehydrator control routing, adding one enclosed combustion device, and adding facility support storage tanks.

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

Pollutant:	Pounds per hour	Tons per year
PM_{10}	0.14	0.63
$PM_{2.5}$	0.14	0.63
Sulfur Dioxide (SO_2)	1.48	6.47
Nitrogen Oxides (NO_x)	26.68	116.87
Carbon Monoxide (CO)	36.62	160.38
Volatile Organic Compounds (VOC)	45.47	221.74
Total sum of all Hazardous Air Pollutants (HAPs)	3.85	18.98
Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO_2e	n/a	132,273.69

The standard operating schedule of the facility will be **continuous**.

The owner and/or operator of the Facility is: **Lance Green; ONEOK Delaware Gathering, LLC; 1722 Routh Street, Suite 1300, Dallas, TX 75201.**

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. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

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

Atención
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-629-7748.

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: Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@env.nm.gov. 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.

Red Raider

General Posting of Notices – Certification

I, Raygen Murray, the undersigned, certify that on **May 15th, 2026,** posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in the **City of Carlsbad and near the city of Malaga** of **Eddy** County, State of New Mexico on the following dates:

1. Facility entrance {5/15/26}
2. Carlsbad Post Office {5/15/26}
3. Carlsbad Public Library {5/15/26}
4. Carlsbad City Hall {5/15/26}

Signed this 15th day of May, 2026.

Signature

5/15/2026
Date

Raygen Murray
Printed Name

Environmental Professional
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

General Posting Locations

Red Raider Compressor Station

ONEOK Delaware Gathering, LLC

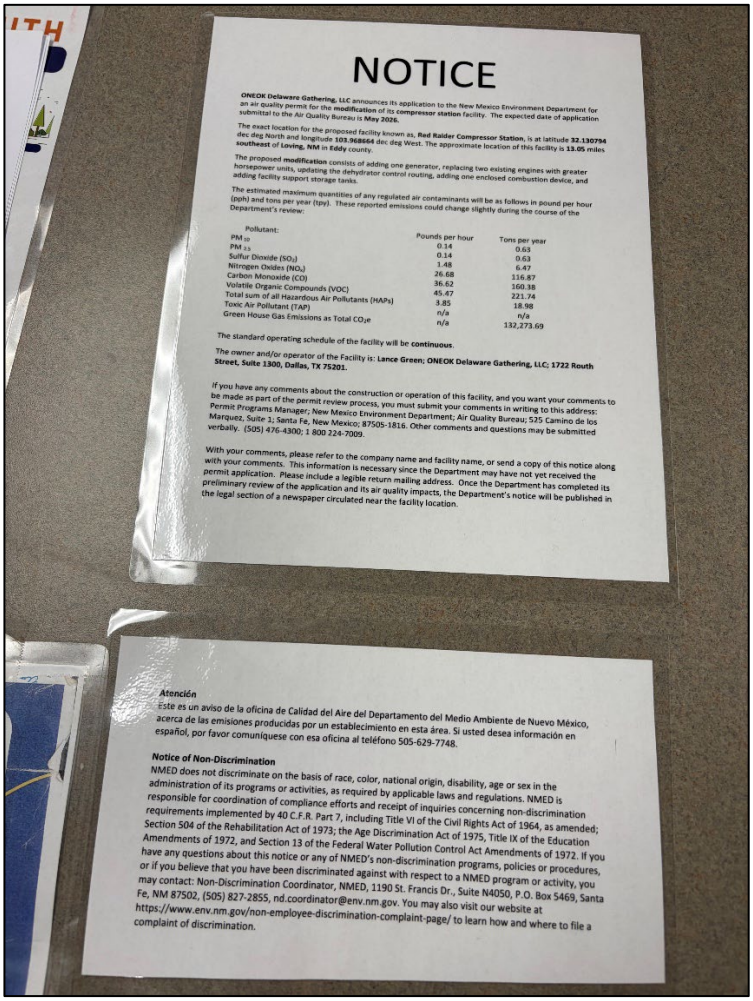
Facility Entrance – 32.130794, -103.968664

Carlsbad Post Office – 204 W Shaw St, Carlsbad, NM 88220

Carlsbad Public Library – 101 S Halagueno St, Carlsbad, NM 88220

Carlsbad City Hall – 101 N Halagueno St, Carlsbad, NM 88220





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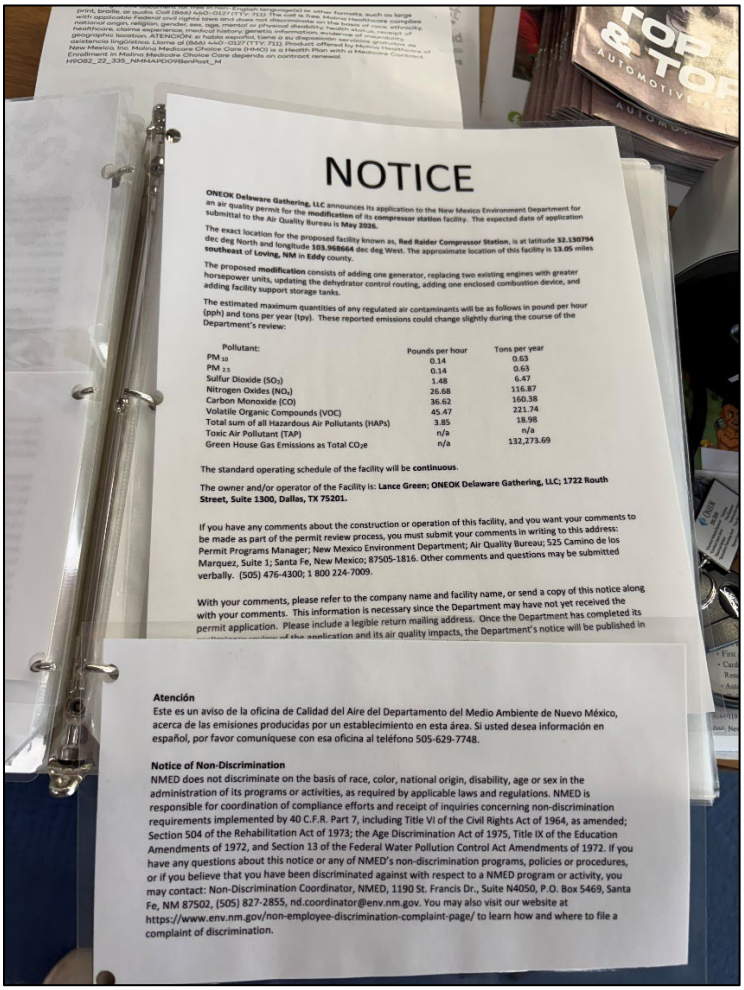
With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has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

Atención

Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-629-7748.

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: Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@env.nm.gov. You may also visit our website at https://www.env.nm.gov/non-employee-discrimination-complaint-page/ to learn how and where to file a complaint of discrimination.



NOTICE

ONEOK Delaware Gathering, LLC announces its application to the New Mexico Environment Department for an air quality permit for the modification of its compressor station facility. The expected date of application submittal to the Air Quality Bureau is May 2026.

The exact location for the proposed facility known as, Red Raider Compressor Station, is at latitude 32.130794 dec deg North and longitude 103.968664 dec deg West. The approximate location of this facility is 13.05 miles southeast of Loving, NM in Eddy county.

The proposed modification consists of adding one generator, replacing two existing engines with greater horsepower units, updating the dehydrator control routing, adding one enclosed combustion device, and adding facility support storage tanks.

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

Pollutant:	Pounds per hour	Tons per year
PM_{10}	0.14	0.63
$PM_{2.5}$	0.14	0.63
Sulfur Dioxide (SO_2)	1.48	6.47
Nitrogen Oxides (NO_x)	26.68	116.87
Carbon Monoxide (CO)	36.62	160.38
Volatile Organic Compounds (VOC)	45.47	221.74
Total sum of all Hazardous Air Pollutants (HAPs)	3.85	18.98
Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO_2e	n/a	132,273.69

The standard operating schedule of the facility will be continuous.

The owner and/or operator of the Facility is: Lance Green; ONEOK Delaware Gathering, LLC; 1722 Routh Street, Suite 1300, Dallas, TX 75201.

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. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

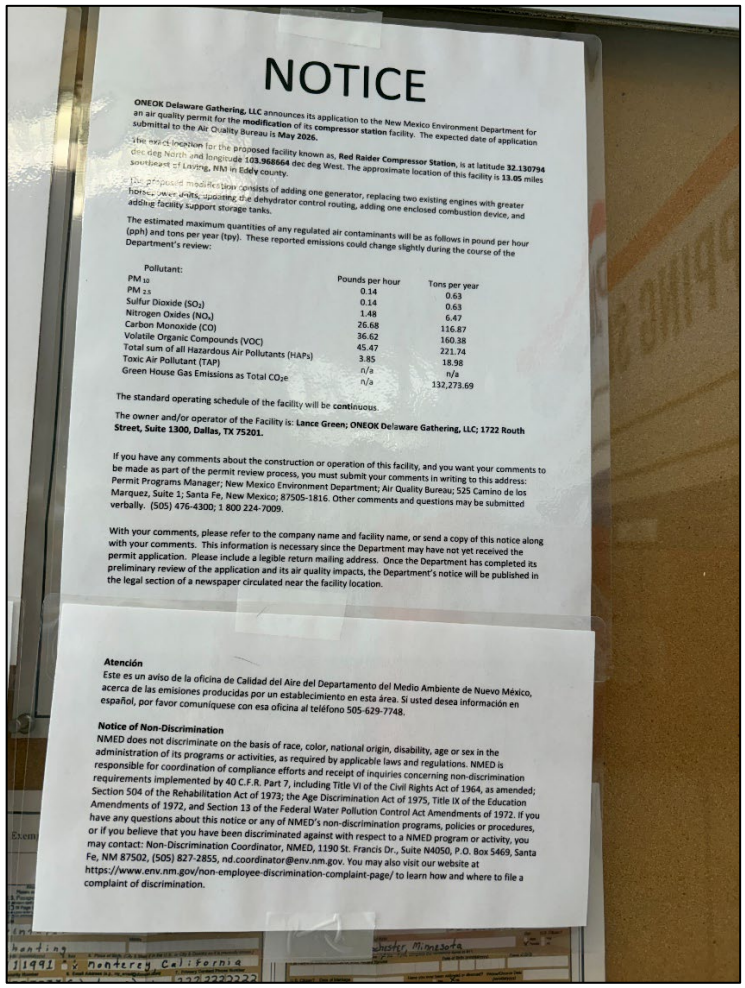
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Total sum of all Hazardous Air Pollutants (HAPs)	3.85	18.98
Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO_2e	n/a	132,273.69

The standard operating schedule of the facility will be continuous.

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Table of Notified Landowners, Counties, Municipalities, Indian Tribes
Red Raider Compressor Station
ONEOK Delaware Gathering, LLC

Owners within ½ mile of the Property Boundary	
BLM	301 Dinosaur Trail Santa Fe, NM 87508
New Mexico State Land Office	P.O. Box 1148 Santa Fe, NM 87504
Municipalities within 10 miles of the Property Boundary	
Eddy County Clerk's Office	101 W Greene Street Carlsbad, NM 88220

Sample of Letter Sent to Owners, Counties, Municipalities, Indian Tribes

May 18th, 2026

To Whom it May Concern:

On behalf of ONEOK Delaware Gathering, LLC (ONEOK), please see the enclosed notification for an air quality permit modification for their oil and gas facility, Red Raider Compressor Station.

The coordinates for the facility are as follows: 32.130794, -103.968664.

Best Regards,

Kayla Curtis

Kayla Curtis

Project Manager

Resolute Compliance, LLC

Encl: Certified Mail – Landowners, Counties, Municipalities, Indian Tribes Notification

May 18th, 2026

CERTIFIED MAIL

Dear **Property Owner,**
ONEOK Delaware Gathering, LLC announces its application submittal to the New Mexico Environment Department for an air quality permit for the **modification** of its **compressor station** facility. The expected date of application submittal to the Air Quality Bureau is **May 2026.**

The exact location for the proposed facility known as, **Red Raider Compressor Station**, is at latitude **32.130794** dec deg North and longitude **103.968664** dec deg West. The approximate location of this facility is **13.05** miles **southeast** of **Loving, NM** in **Eddy** county.

The proposed **modification** consists of adding one generator, replacing two existing engines with greater horsepower units, updating the dehydrator control routing, adding one enclosed combustion device, and adding facility support storage tanks.

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

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Volatile Organic Compounds (VOC)	45.47	221.74
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Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO_2e	n/a	132,273.69

The standard operating schedule of the facility will **continuous**.

Owners and operators of the facility include: **Lance Green; ONEOK Delaware Gathering, LLC; 1722 Routh Street, Suite 1300, Dallas, TX 75201.**

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. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

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Sincerely,
ONEOK Delaware Gathering, LLC

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

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

Santa Fe, NM 87504

OFFICIAL USE

Certified Mail Fee $	$5.30
Extra Services & Fees (check box, add fee as appropriate) $	$0.00
☐ Return Receipt (hardcopy) $	$0.00
☐ Return Receipt (electronic) $	$0.00
☐ Certified Mail Restricted Delivery $	$0.00
☐ Adult Signature Required $	$0.00
☐ Adult Signature Restricted Delivery $	
Postage $	$0.78
Total Postage and Fees $	$6.08

0189 18

Postmark Here

05/18/2026

Sent To: New Mexico State Land Office
Street and Apt. No., or PO Box No.: PO Box 1148
City, State, ZIP+4®: Sante Fe, NM 87504-1148

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

9589 0710 5270 3231 2646 82

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

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

Santa Fe, NM 87508

OFFICIAL USE

Certified Mail Fee $	$5.30
Extra Services & Fees (check box, add fee as appropriate) $	$0.00
☐ Return Receipt (hardcopy) $	$0.00
☐ Return Receipt (electronic) $	$0.00
☐ Certified Mail Restricted Delivery $	$0.00
☐ Adult Signature Required $	$0.00
☐ Adult Signature Restricted Delivery $	
Postage $	$0.78
Total Postage and Fees $	$6.08

0189 18

Postmark Here

05/18/2026

Sent To: BLM
Street and Apt. No., or PO Box No.: 301 Dinosaur Trail
City, State, ZIP+4®: Santa Fe, NM 87508

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructio

9589 0710 5270 3231 2647 05

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

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

Carlsbad, NM 88220

OFFICIAL USE

Certified Mail Fee $	$5.30
Extra Services & Fees (check box, add fee as appropriate) $	$0.00
☐ Return Receipt (hardcopy) $	$0.00
☐ Return Receipt (electronic) $	$0.00
☐ Certified Mail Restricted Delivery $	$0.00
☐ Adult Signature Required $	$0.00
☐ Adult Signature Restricted Delivery $	
Postage $	$0.78
Total Postage and Fees $	$6.08

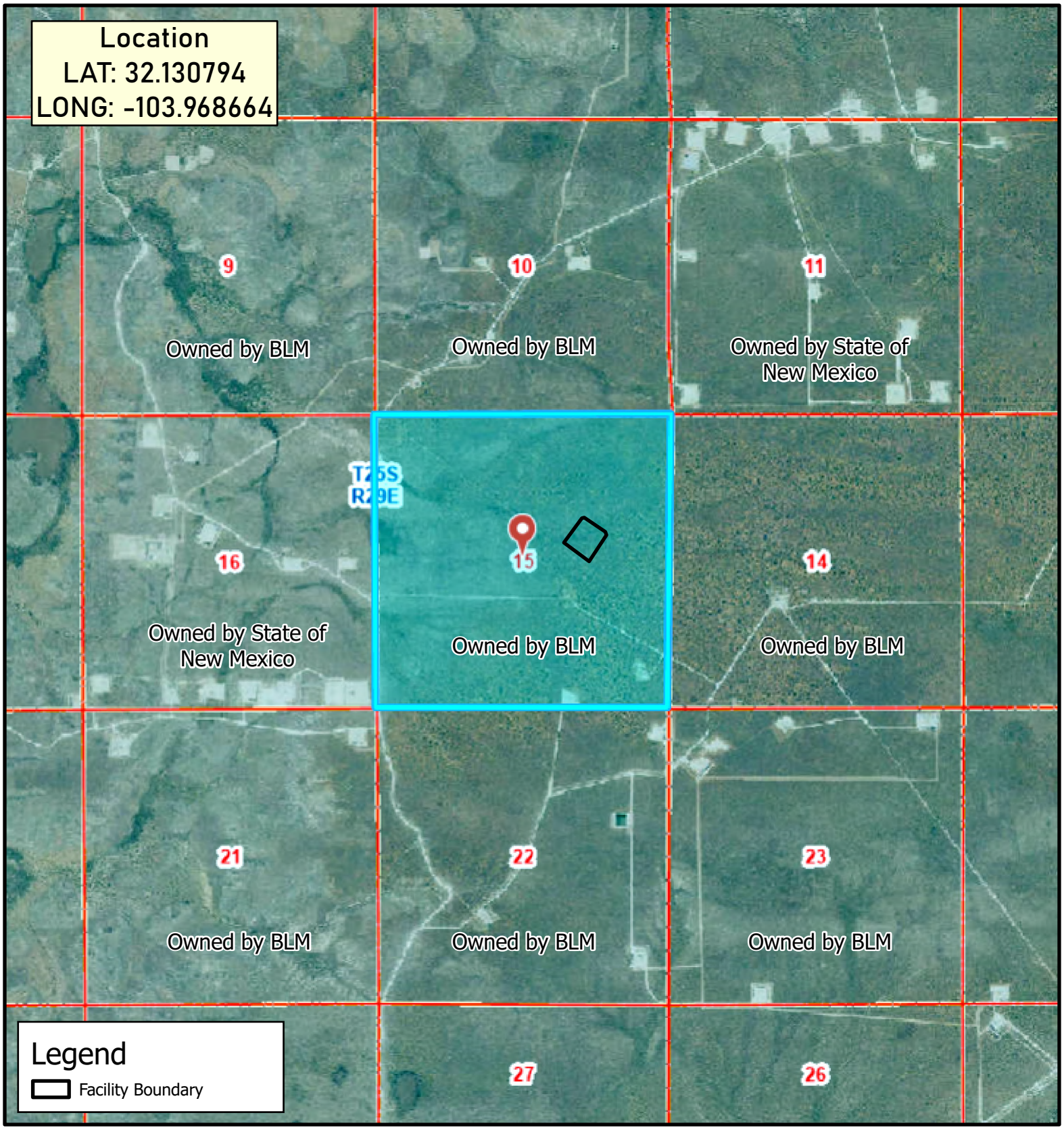
0189 18

Postmark Here

05/18/2026

Sent To: Eddy County Clerk's Office
Street and Apt. No., or PO Box No.: 101 W. Greene St.
City, State, ZIP+4®: Carlsbad, NM 88220

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions



RESOLUTE COMPLIANCE, LLC Purposeful Solutions. Unwavering Service.	**Red Raider Compressor Station** **ONEOK Delaware Gathering, LLC** **Eddy County, New Mexico** **Parcel Map**	**Project No.** Env-EnLink-0349 **Report No.** Red Raider-NSR Public Notice **Date:** May 2026

- Account Search
- View Created Report(s)
- Help?
- Eddy County Website
- County Treasurer
- County Assessor
- County Clerk
- Logout Public

Account: R091587 *Mill Levy does not include Special District Rates such as Penasco, Carlsbad Soil & Water, Central Valley, Eagle Draw, PVC, Cottonwood, and Hackberry

Location

Account Number R091587

Situs Address 390-5 LONGHORN ROAD

Tax Area CO_NR - CARLSBAD-OUT (Nonresidential)

Parcel Number 4-172-147-265-265

Legal Summary Quarter: NE S: 15 T: 25S R: 29E Quarter: NW S: 15 T: 25S R: 29E Quarter: SW S: 15 T: 25S R: 29E Quarter: SE S: 15 T: 25S R: 29E ALL EXEMPT

Map Number 384-15

Parcel Size 640

Owner Information

Owner Name BUREAU OF LAND MANAGEMENT

Owner Address UNITED STATES OF AMERICA

Assessment History

Actual Value (2026)	$1,152
Primary Taxable	$384
Exempt	-$384
Adjusted Taxable Total	$0

Tax Area: CO_NR **Mill Levy**: 22.562000

Type	Actual	Assessed	Acres
Exempt Land	$1,152	$384	640.000

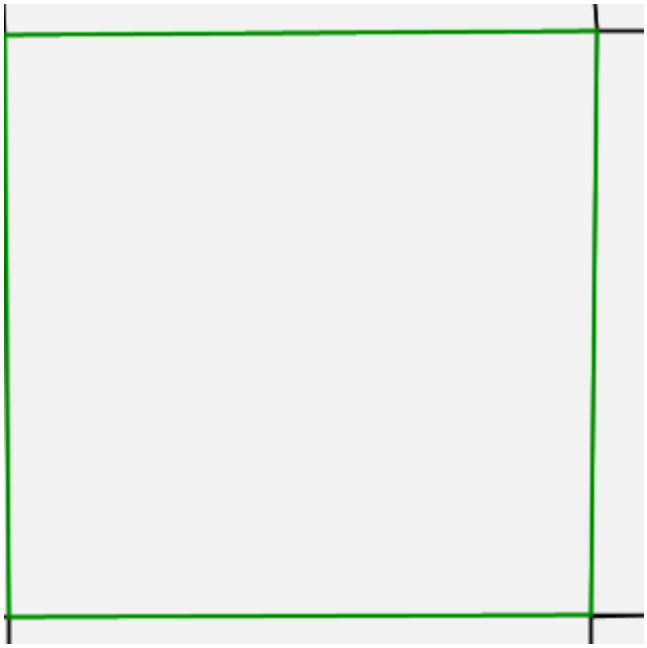
Tax History

Tax Year	Taxes
*2026	$0.00
2025	$0.00

* Estimated

Images

- GIS



- Account Search
- View Created Report(s)
- Help?
- Eddy County Website
- County Treasurer
- County Assessor
- County Clerk
- Logout Public

Account: R091583 *Mill Levy does not include Special District Rates such as Penasco, Carlsbad Soil & Water, Central Valley, Eagle Draw, PVC, Cottonwood, and Hackberry

Location

Account Number R091583

Situs Address 390-3 LONGHORN ROAD

Tax Area CO_NR - CARLSBAD-OUT (Nonresidential)

Parcel Number 4-171-146-265-265

Legal Summary Quarter: NE S: 9 T: 25S R: 29E Quarter: NW S: 9 T: 25S R: 29E Quarter: SW S: 9 T: 25S R: 29E Quarter: SE S: 9 T: 25S R: 29E

Map Number 384-9

Parcel Size 640 AC, AVG

Owner Information

Owner Name BUREAU OF LAND MANAGEMENT

Owner Address UNITED STATES OF AMERICA

Assessment History

Actual Value (2026)	$1,152
Primary Taxable	$384
Exempt	-$384
Adjusted Taxable Total	$0

Tax Area: CO_NR **Mill Levy**: 22.562000

Type	Actual	Assessed	Acres
Exempt Land	$1,152	$384	640.000

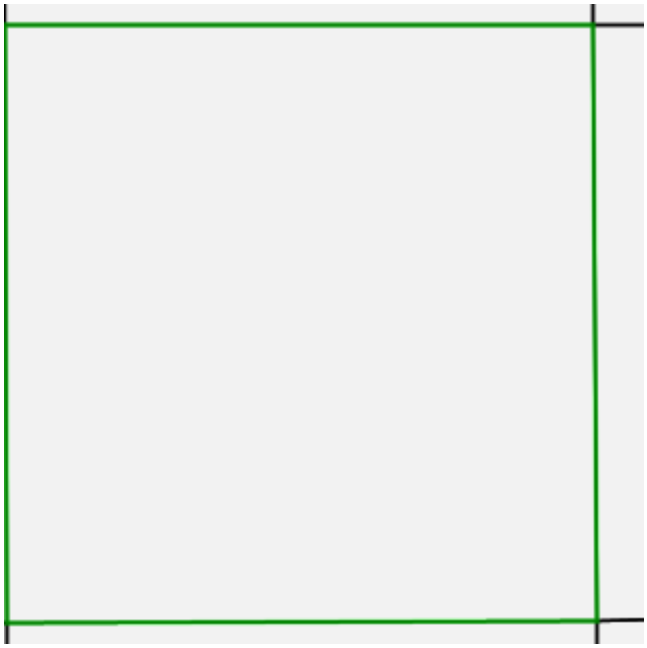
Tax History

Tax Year	Taxes
*2026	$0.00
2025	$0.00

* Estimated

Images

- GIS



- Account Search
- View Created Report(s)
- Help?
- Eddy County Website
- County Treasurer
- County Assessor
- County Clerk
- Logout Public

Account: R091584 *Mill Levy does not include Special District Rates such as Penasco, Carlsbad Soil & Water, Central Valley, Eagle Draw, PVC, Cottonwood, and Hackberry

Location

Account Number R091584

Situs Address E OF 1102 PECOS HIGHWAY

Tax Area CO_NR - CARLSBAD-OUT (Nonresidential)

Parcel Number 4-172-145-265-265

Legal Summary Quarter: NE S: 10 T: 25S R: 29E Quarter: NW S: 10 T: 25S R: 29E Quarter: SW S: 10 T: 25S R: 29E Quarter: SE S: 10 T: 25S R: 29E ALL EXEMPT

Map Number 384-10

Parcel Size 640 ACRES

Owner Information

Owner Name BUREAU OF LAND MANAGEMENT

Owner Address UNITED STATES OF AMERICA

Assessment History

Actual Value (2026)	$1,152
Primary Taxable	$384
Exempt	-$384
Adjusted Taxable Total	$0

Tax Area: CO_NR **Mill Levy**: 22.562000

Type	Actual	Assessed	Acres
Exempt Land	$1,152	$384	640.000

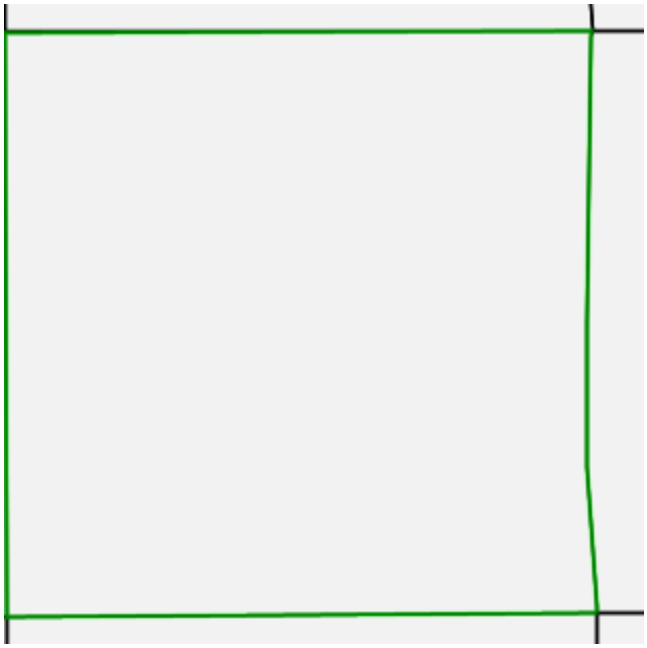
Tax History

Tax Year	Taxes
*2026	$0.00
2025	$0.00

* Estimated

Images

- GIS



- Account Search
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- Help?
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- County Treasurer
- County Assessor
- County Clerk
- Logout Public

Account: R091573 *Mill Levy does not include Special District Rates such as Penasco, Carlsbad Soil & Water, Central Valley, Eagle Draw, PVC, Cottonwood, and Hackberry

Location

Account Number R091573

Situs Address E OF 390-3 LONGHORN ROAD

Tax Area CO_NR - CARLSBAD-OUT (Nonresidential)

Parcel Number 4-173-146-265-265

Legal Summary Quarter: NE S: 11 T: 25S R: 29E Quarter: NW S: 11 T: 25S R: 29E Quarter: SW S: 11 T: 25S R: 29E Quarter: SE S: 11 T: 25S R: 29E ALL EXEMPT

Map Number 384-11

Parcel Size 640 ACRES

Owner Information

Owner Name STATE OF NEW MEXICO

Owner Address 310 OLD SANTA FE TRAIL SANTA FE, NM 87504

Assessment History

Actual Value (2026)	$1,152
Primary Taxable	$384
Exempt	-$384
Adjusted Taxable Total	$0

Tax Area: CO_NR **Mill Levy**: 22.562000

Type	Actual	Assessed	Acres
Exempt Land	$1,152	$384	640.000

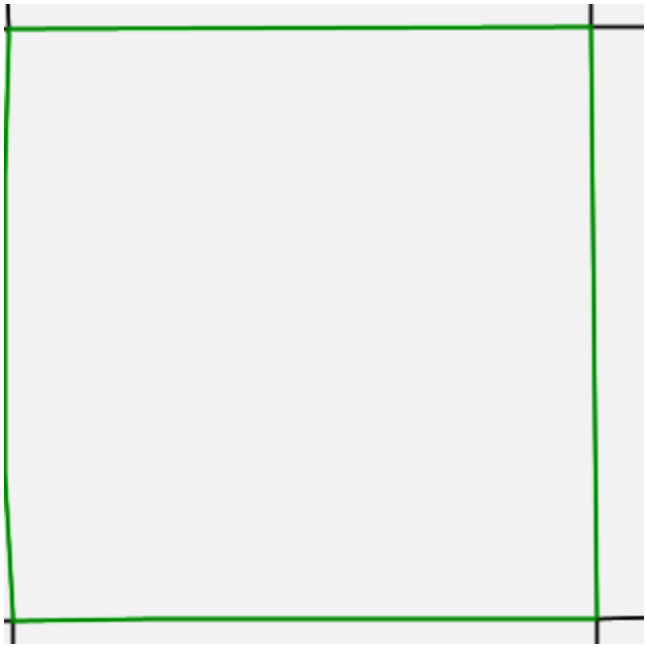
Tax History

Tax Year	Taxes
*2026	$0.00
2025	$0.00

* Estimated

Images

- GIS



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- Help?
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- County Treasurer
- County Assessor
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- Logout Public

Account: R091586 *Mill Levy does not include Special District Rates such as Penasco, Carlsbad Soil & Water, Central Valley, Eagle Draw, PVC, Cottonwood, and Hackberry

Location

Account Number R091586

Situs Address E OF 390-5 LONGHORN ROAD

Tax Area CO_NR - CARLSBAD-OUT (Nonresidential)

Parcel Number 4-173-147-266-265

Legal Summary Quarter: NE S: 14 T: 25S R: 29E Quarter: NW S: 14 T: 25S R: 29E Quarter: SW S: 14 T: 25S R: 29E Quarter: SE S: 14 T: 25S R: 29E ALL EXEMPT

Map Number 384-14

Parcel Size 640

Owner Information

Owner Name BUREAU OF LAND MANAGEMENT

Owner Address UNITED STATES OF AMERICA

Assessment History

Actual Value (2026)	$1,152
Primary Taxable	$384
Exempt	-$384
Adjusted Taxable Total	$0

Tax Area: CO_NR **Mill Levy**: 22.562000

Type	Actual	Assessed	Acres
Exempt Land	$1,152	$384	640.000

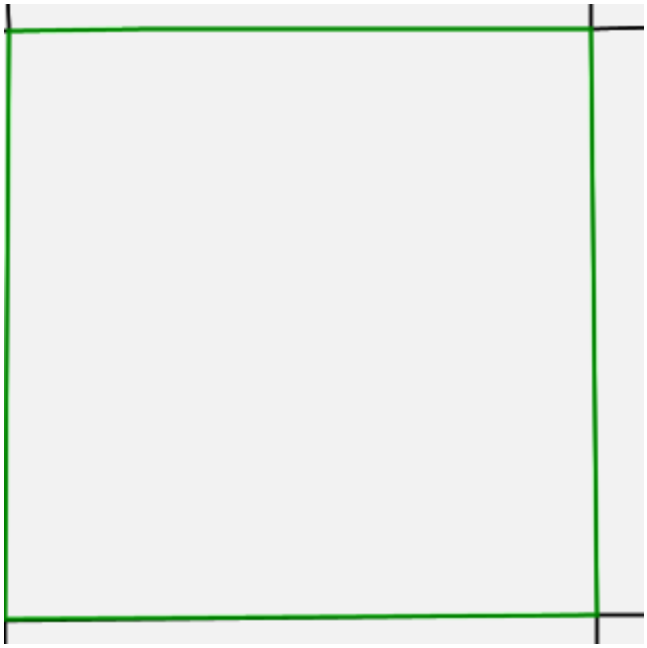
Tax History

Tax Year	Taxes
*2026	$0.00
2025	$0.00

* Estimated

Images

- GIS



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- Help?
- Eddy County Website
- County Treasurer
- County Assessor
- County Clerk
- Logout Public

Account: R091575 *Mill Levy does not include Special District Rates such as Penasco, Carlsbad Soil & Water, Central Valley, Eagle Draw, PVC, Cottonwood, and Hackberry

Location

Account Number R091575

Situs Address 390-4 LONGHORN ROAD

Tax Area CO_NR - CARLSBAD-OUT (Nonresidential)

Parcel Number 4-171-147-265-265

Legal Summary Quarter: NE S: 16 T: 25S R: 29E Quarter: NW S: 16 T: 25S R: 29E Quarter: SW S: 16 T: 25S R: 29E Quarter: SE S: 16 T: 25S R: 29E ALL EXEMPT

Map Number 384-16

Parcel Size 640 ACRES

Owner Information

Owner Name STATE OF NEW MEXICO

Owner Address 310 OLD SANTA FE TRAIL SANTA FE, NM 87504

Assessment History

Actual Value (2026)	$1,152
Primary Taxable	$384
Exempt	-$384
Adjusted Taxable Total	$0

Tax Area: CO_NR **Mill Levy**: 22.562000

Type	Actual	Assessed	Acres
Exempt Land	$1,152	$384	640.000

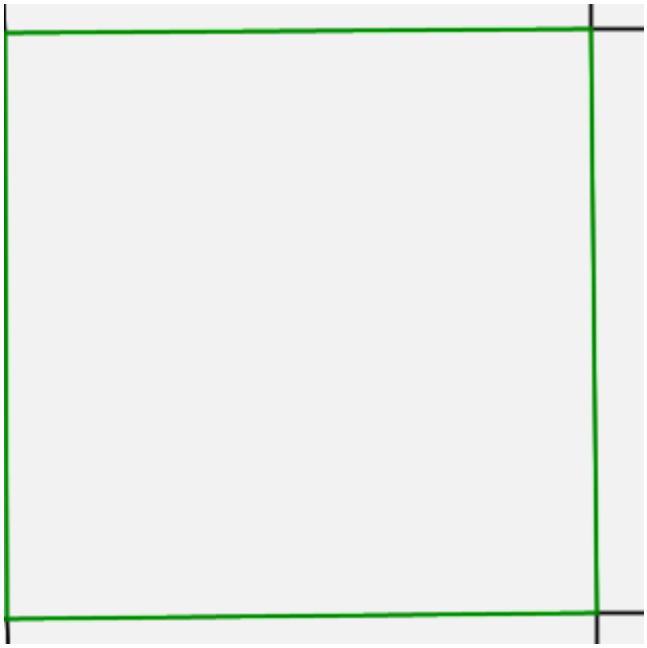
Tax History

Tax Year	Taxes
*2026	$0.00
2025	$0.00

* Estimated

Images

- GIS



- Account Search
- View Created Report(s)
- Help?
- Eddy County Website
- County Treasurer
- County Assessor
- County Clerk
- Logout Public

Account: R091592 *Mill Levy does not include Special District Rates such as Penasco, Carlsbad Soil & Water, Central Valley, Eagle Draw, PVC, Cottonwood, and Hackberry

Location

Account Number R091592

Situs Address S OF 390-4 LONGHORN ROAD

Tax Area CO_NR - CARLSBAD-OUT (Nonresidential)

Parcel Number 4-171-148-265-265

Legal Summary Quarter: NE S: 21 T: 25S R: 29E Quarter: NW S: 21 T: 25S R: 29E Quarter: SW S: 21 T: 25S R: 29E Quarter: SE S: 21 T: 25S R: 29E ALL EXEMPT

Map Number 384-21

Parcel Size 640 ACRES

Owner Information

Owner Name BUREAU OF LAND MANAGEMENT

Owner Address UNITED STATES OF AMERICA

Assessment History

Actual Value (2026)	$1,152
Primary Taxable	$384
Exempt	-$384
Adjusted Taxable Total	$0

Tax Area: CO_NR **Mill Levy**: 22.562000

Type	Actual	Assessed	Acres
Exempt Land	$1,152	$384	640.000

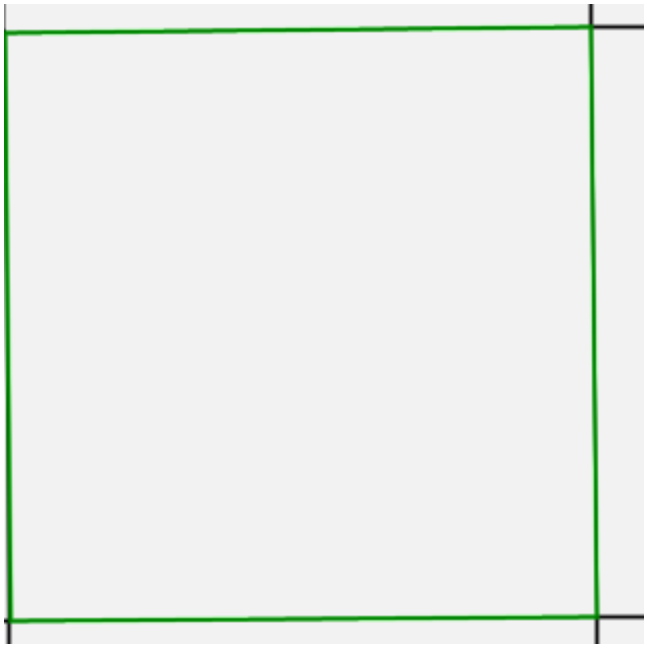
Tax History

Tax Year	Taxes
*2026	$0.00
2025	$0.00

* Estimated

Images

- GIS



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- Help?
- Eddy County Website
- County Treasurer
- County Assessor
- County Clerk
- Logout Public

Account: R091593 *Mill Levy does not include Special District Rates such as Penasco, Carlsbad Soil & Water, Central Valley, Eagle Draw, PVC, Cottonwood, and Hackberry

Location

Account Number R091593

Situs Address S OF 390-5 LONGHORN ROAD

Tax Area CO_NR - CARLSBAD-OUT (Nonresidential)

Parcel Number 4-172-148-269-265

Legal Summary Quarter: NE S: 22 T: 25S R: 29E Quarter: NW S: 22 T: 25S R: 29E Quarter: SW S: 22 T: 25S R: 29E Quarter: SE S: 22 T: 25S R: 29E ALL EXEMPT

Map Number 384-22

Parcel Size 640 ACRES

Owner Information

Owner Name BUREAU OF LAND MANAGEMENT

Owner Address UNITED STATES OF AMERICA

Assessment History

Actual Value (2026)	$1,152
Primary Taxable	$384
Exempt	-$384
Adjusted Taxable Total	$0

Tax Area: CO_NR **Mill Levy**: 22.562000

Type	Actual	Assessed	Acres
Exempt Land	$1,152	$384	640.000

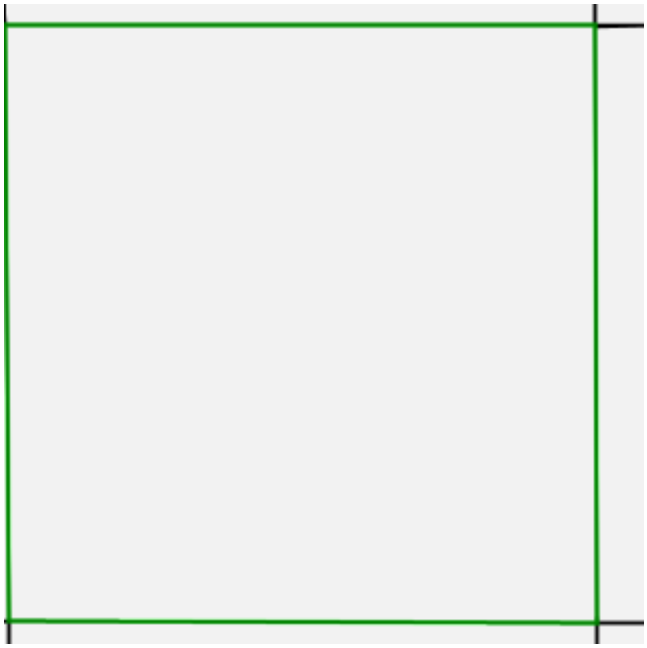
Tax History

Tax Year	Taxes
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2025	$0.00

* Estimated

Images

- GIS



- Account Search
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- Help?
- Eddy County Website
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- County Assessor
- County Clerk
- Logout Public

Account: R091594 *Mill Levy does not include Special District Rates such as Penasco, Carlsbad Soil & Water, Central Valley, Eagle Draw, PVC, Cottonwood, and Hackberry

Location

Account Number R091594

Situs Address SE OF 390-5 LONGHORN ROAD

Tax Area CO_NR - CARLSBAD-OUT (Nonresidential)

Parcel Number 4-173-148-265-265

Legal Summary Quarter: NE S: 23 T: 25S R: 29E Quarter: NW S: 23 T: 25S R: 29E Quarter: SW S: 23 T: 25S R: 29E Quarter: SE S: 23 T: 25S R: 29E ALL EXEMPT

Map Number 384-23

Parcel Size 640 ACRES

Owner Information

Owner Name BUREAU OF LAND MANAGEMENT

Owner Address UNITED STATES OF AMERICA

Assessment History

Actual Value (2026)	$1,152
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Exempt	-$384
Adjusted Taxable Total	$0

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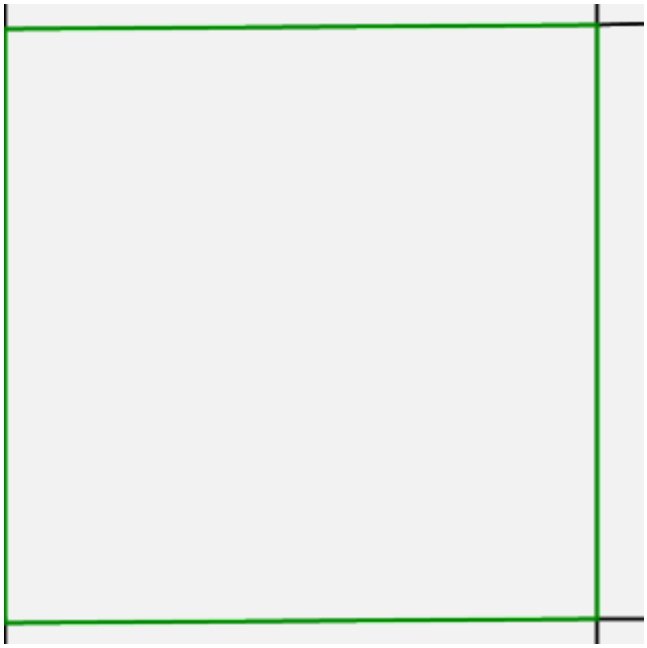
Tax History

Tax Year	Taxes
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* Estimated

Images

- GIS



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The proposed **modification** consists of adding one generator, replacing two existing engines with greater horsepower units, updating the dehydrator control routing, adding one enclosed combustion device, and adding facility support storage tanks.

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
PM_{10}	0.14	0.63
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Sulfur Dioxide (SO_2)	1.48	6.47
Nitrogen Oxides (NO_x)	26.68	116.87
Carbon Monoxide (CO)	36.62	160.38
Volatile Organic Compounds (VOC)	45.47	221.74
Total sum of all Hazardous Air Pollutants (HAPs)	3.85	18.98
Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO_2e	n/a	132,273.69

The standard operating schedule of the facility will be **continuous**.

The owner and/or operator of the Facility is: **Lance Green; ONEOK Delaware Gathering, LLC; 1722 Routh Street, Suite 1300, Dallas, TX 75201.**

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. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

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.

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Atención
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-629-7748.

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: Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@env.nm.gov. 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.

Affidavit of Publication

No. 105130

State of New Mexico

County of Eddy:

Adrian Hedden

being duly sworn, sayes that he is the **Publisher**

of the Artesia Daily Press, a weekly 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 weekly 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	May 20, 2026
Second Publication	
Third Publication	
Fourth Publication	
Fifth Publication	
Sixth Publication	
Seventh Publication	
Eighth Publication	

Subscribed ans sworn before me this

20th day of May 2026

LATISHA ROMINE
Notary Public, State of New Mexico
Commission No. 1076338
My Commission Expires
05-12-2027

Latisha Romine

Latisha Romine

Notary Public, Eddy County, New Mexico

Copy of Publication:

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Toxic Air Pollutant (TAP)	n/a	n/a
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105130-Published in Artesia Daily Press May 20, 2026.

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My Commission Expires
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Latisha Romine

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Notary Public, Eddy County, New Mexico

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Latisha Romine

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Notary Public, Eddy County, New Mexico

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From: Don Hughes
To: Morgan Langlinais
Cc: don@carlsbadradio.com; Kayla Curtis
Subject: Re: Red Raider PSA Request
Date: Thursday, May 14, 2026 7:29:55 PM

Received
Sent from my iPhone

> On May 14, 2026, at 4:50 PM, Morgan Langlinais <ml@resolutecompliance.com> wrote:
>
> Good afternoon!
>
> ONEOK Delaware Gathering, LLC requests a public service announcement on Carlsbad Radio, for its intention to modify a compressor station in Eddy County. The State of New Mexico requires that any company that desires to construct or modify an oil and gas facility must have a public service announcement. ONEOK has written out the following to be aired in Eddy County as soon as practical**, but no sooner than Thursday, May 21st, 2026**:
>
> "ONEOK Delaware Gathering, LLC is an oil and gas gathering company planning to modify and operate the Red Raider Compressor Station in Eddy County. The facility is located at latitude 32.130794 dec deg North and longitude 103.968664 dec deg West. The approximate location of this facility is 13.05 miles southeast of Loving, NM in Eddy County. The proposed modification consists of the addition of one generator, replacing two existing engines with greater horsepower units, updating the dehydrator control routing, adding one enclosed combustion device, and adding facility support storage tanks. More information about this facility can be found at the facility entrance, Carlsbad Public Library, Carlsbad City Hall, and the Post Office in Carlsbad, NM. For any comments about the construction or operation of the facility, the New Mexico Air Quality Bureau can be contacted by phone at (505) 476-4300 or by mail at 525 Camino de los Marquez, Suite 1, Santa Fe, New Mexico 87505-1816."
>
> Please respond to this email as an acknowledgment of the receipt of the request to read the public service announcement and provide an electronic version of the affidavit the announcement has aired. You can also reply to this email with the invoice.

Thank you,

Morgan Langlinais
Environmental Compliance Specialist

<image001.jpg>

1127 Judson Rd. Suite 233 | Longview, TX 75601
O: 903.707.8658
C: 903.431.5137
Email: ml@resolutecompliance.com

Submittal of Public Service Announcement – Certification

I, KAYLA CURTIS, the undersigned, certify that on **May 14th, 2026**, submitted a public service announcement to **Carlsbad Radio/KATK-FM and KCDY-FM Stations** that serves the City\Town\Village of **Carlsbad, Eddy** County, New Mexico, in which the source is or is proposed to be located and that **Carlsbad Radio/KATK-FM and KCDY-FM Stations RESPONDED THAT IT WOULD AIR THE ANNOUNCEMENT.**

Signed this 18 day of MAY, 2026.

Signature

5/18/2026
Date

KAYLA CURTIS
Printed Name

CONSULTANT TO ONEOK DELAWARE GATHERING, LLC
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

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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 Facility is a natural gas compressor station, the purpose of which is to compress natural gas along a pipeline to sales. Low pressure field gas is gathered from various wells in the area. The gas enters the Facility through an inlet separator, where entrained liquids are removed from the stream. Liquids removed from the inlet gas stream are routed to a 750-barrel (bbl) gun barrel separator (Source ID TK-407), where the condensate removed is routed to two (2) 1,000-bbl condensate tanks (Source IDs TK-406A & TK-406B). Produced water that separates from the condensate at the condensate storage tanks is transferred to a 1,000-bbl produced water tank (Source ID TK-406C). The gun barrel, condensate, and produced water tank emissions are captured by an electric vapor recovery unit (VRU), which routes the emissions back to the Facility's inlet. Liquids collected in the tanks are periodically transported off-site via truck (Source ID LOAD-1). Vapors from truck loading are vapor balanced back to the tanks and subsequently routed to the VRU. During VRU downtime, tank and loading vapors are routed to one (1) enclosed combustion device (Source ID ECD-1) for 98% combustion control. From the inlet separator, the gas is compressed by eight (8) natural gas-driven compressor engines (Unit ENG-1 through ENG-8).

The sweet gas is then routed to a glycol dehydration unit (Source ID DEHY-1), which removes water from the gas through contact with glycol. The rich glycol (water saturated) is routed to a flash tank, where flash-off vapors are recycled to the inlet suction for recompression. Subsequently, the rich glycol is routed to the reboiler (Source ID RBL-1), which heats the glycol and vaporizes water from the stream. The lean glycol is then recycled back to the dehydration unit. Still vent emissions are routed to a condenser, where condensable liquids are routed to the storage tanks and non-condensable vapors are routed to the enclosed combustion device (Source ID ECD-2) with 98% destruction efficiency. The dry gas is transported off-site via pipeline.

A generator is located on-site for electricity generation (GEN-1).

Additional sources of emissions include fugitive components (Source ID FUG, COMP-1 FUG, COMP-2 FUG, COMP-3 FUG, COMP-4 FUG, COMP-5 FUG, COMP-6 FUG, COMP-7 FUG, COMP-8 FUG), unpaved road dust (Source ID HAUL), miscellaneous storage tanks (Source IDs TK-405, TK-406, TK-408, TK-409, TK-OIL1, TK-OIL2, TK-OIL3, TK-OIL4, TK-TEG, TK-AF1, TK-AF2, TK-AF3, TK-AF4), maintenance operations (Source ID SSM), and malfunction emissions (Source ID MALF).

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Section 11

Source Determination

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

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

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

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

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

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

☒ **Yes** ☐ **No**

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

☒ **Yes** ☐ **No**

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

☒ **Yes** ☐ **No**

C. Make a determination:

☒ The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "**YES**" boxes should be checked. If in "A" above you evaluated other sources as well, you must check **AT LEAST ONE** of the boxes "**NO**" to conclude that the source, as described in the application, is the entire source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes.

☐ The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

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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.**

N/A – This application is being submitted under 20.2.72 NMAC and is not applying for a significant permit revision under 20.2.74 NMAC.

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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/

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

Table for State Regulations:

State Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.1 NMAC	General Provisions	Yes	Facility	General Provisions apply to Notice of Intent, Construction, and Title V permit applications.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes	Facility	If subject, this would normally apply to the entire facility. 20.2.3 NMAC is a State Implementation Plan (SIP) approved regulation that limits the maximum allowable concentration of, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. Title V applications, see exemption at 20.2.3.9 NMAC The TSP NM ambient air quality standard was repealed by the EIB effective November 30, 2018.
20.2.7 NMAC	Excess Emissions	Yes	Facility	If subject, this would normally apply to the entire facility. If your entire facility or individual pieces of equipment are subject to emissions limits in a permit or numerical emissions standards in a federal or state regulation, this applies. This would not apply to Notices of Intent since these are not permits.
20.2.23 NMAC	Fugitive Dust Control	No	N/A	This regulation does not apply because this application is not for a Notice of Intent.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No	N/A	This facility does not have gas burning equipment having 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 having a heat input of greater than 1,000,000 million British Thermal Units per year per unit; therefore, this unit does not apply.
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	No	N/A	This facility does not meet the definition of 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	Yes	TK-406A & TK-406B	This storage tanks have a combined capacity greater than 65,000 gallons; therefore, this regulation applies.
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No	N/A	This facility does not meet the definition of a sulfur recovery plant; therefore, this regulation does not apply.
20.2.50 NMAC	Oil and Gas Sector – Ozone Precursor Pollutants	Yes	ENG-1 through ENG-8, ECD-1, ECD-2, SSM, DEHY-1, FUG, COMP 1-8 FUG, TK-406A - TK-406C, LOAD-1	This regulation establishes emission standards for volatile organic compounds (VOC) and oxides of nitrogen (NOx) for oil and gas production, processing, compression, and transmission sources. 20.2.50 NMAC Subparts below: Include the construction status of applicable units as “New”, “Existing”, “Relocation of Existing”, or “Reconstructed” as defined by this Part in your justification: Check the box for the Subparts that are applicable: ☒113 – Engines and Turbines: ENG-1 through ENG-8 are existing. GEN-1 is new and less than 1,000 hp. ☒114 – Compressor Seals: Reciprocating compressors for ENG-1 through ENG-8. ☒115 – Control Devices and Closed Vent Systems: ECD-1, ECD-2, VRU ☒116 – Equipment Leaks and Fugitive Emissions: FUG, COMP 1-8 FUG ☐ 117 – Natural Gas Well Liquid Unloading ☒ 118 – Glycol Dehydrators: DEHY-1 is controlled 98% by ECD-2.

State Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
				☐ 119 – Heaters: RBL-1 is <20 MMBtu/hr ☒ 120 – Hydrocarbon Liquid Transfers: LOAD-1 is existing and controlled with the use of vapor balance, the VRU, and the ECD. ☒121 – Pig Launching and Receiving ☐122 – Pneumatic Controllers and Pumps ☒ 123 – Storage Vessels: TK-406A, TK-406B, and TK-406C are existing with a PTE > 3tpy. ☐124 – Well Workovers ☐ 125 – Small Business Facilities ☐126 – Produced Water Management Unit ☐127 – Flowback Vessels and Preproduction Operations
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	ENG-1 through ENG-8, GEN-1 RBL-1, ECD-1, ECD-2	Engines, boilers, heaters, and flares are subject. ENG-1 through ENG-8, GEN-1, RBL- 1, ECD-1, and ECD-2 will be subject to this regulation.
20.2.70 NMAC	Operating Permits	Yes	Facility	The facility has the potential to emit more than 100 tpy of carbon monoxide; therefore, this regulation applies.
20.2.71 NMAC	Operating Permit Fees	Yes	Facility	This facility is subject to 20.2.70 NMAC; therefore, this regulation applies.
20.2.72 NMAC	Construction Permits	Yes	Facility	This facility is subject to 20.2.72 NMAC. TK-408 is exempt under 20.2.72.202(B)(5). TK-409, TK-OIL1, TK-OIL2, TK-OIL3, TK-OIL4, TK-TEG, TK-AF1, TK-AF2, TK-AF3, and TK-AF4 are exempt under 20.2.72.202(B)(2).
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	This regulation establishes emission inventory requirements. The facility meets the applicability requirements of 20.2.73.300 NMAC. The facility will meet all applicable reporting requirements under 20.2.73.300.B.1 NMAC.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	Facility	This facility is not a PSD source; therefore, this regulation does not apply.
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	This facility is subject to 20.2.72 NMAC; therefore, this regulation applies.
20.2.77 NMAC	New Source Performance	Yes	FUG, ENG-1 through ENG-8, GEN-1, COMP 1-8 FUG	This regulation establishes state authority to implement new source performance standards (NSPS) for stationary sources, as amended through January 15, 2017. FUG applies as it is subject to NSPS OOOOb, and Units ENG-1 through ENG-8 and GEN-1 will be subject to JJJJ. The compressors associated with ENG-1 through ENG-8 (Source IDs COMP 1-8 FUG) are subject to OOOOb.
20.2.78 NMAC	Emission Standards for HAPS	No	N/A	This regulation establishes state authority to implement emission standards for hazardous air pollutants subject to 40 CFR Part 61. This facility does not emit hazardous air pollutants which are subject to the requirements of 40 CFR Part 61 and is therefore not subject to this regulation.

State Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.79 NMAC	Permits – Nonattainment Areas	No	Facility	This regulation establishes the requirements for obtaining a nonattainment area permit. The facility is not located in a non-attainment area and therefore is not subject to this regulation.
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	DEHY-1, ENG-1 through ENG-8, GEN-1	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63.

Table for Applicable Federal Regulations (Note: This is not an exhaustive list):

Federal Regulation 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. The facility meets all applicable national ambient air quality standards for NOx, CO, SO2, H2S, PM10, and PM2.5 under this regulation.
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	ENG-1 through ENG-8, GEN-1, FUG, COMP 1-8 FUG	This regulation defines general provisions for relevant standards that have been set under this part. The facility is subject to this regulation because the following Subparts apply: - Unit FUG is subject to NSPS OOOOb when the rule is promulgated. Units ENG-1 through ENG-8 and GEN-1 are subject to JJJJ. The compressors associated with ENG-1 through ENG-8 (Source IDs COMP 1-8 FUG) are subject to OOOOb.
NSPS 40 CFR60.40a, Subpart Da	Subpart Da, Performance Standards for **Electric Utility Steam Generating Units**	No	N/A	This Facility does not operate any sources to which this regulation is applicable.
NSPS 40 CFR60.40b Subpart Db	**Electric Utility Steam Generating Units**	No	N/A	This Facility does not operate any sources to which this regulation is applicable.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	No	N/A	This Facility does not operate any sources to which this regulation is applicable.
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	TK-406A and TK-406B	Tanks TK-406A and TK-406B were constructed after July 23, 1984, therefore this rule 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 storage vessels TK-406A, TK-406B, and TK-406C were constructed after July 23, 1984 but are not subject because they store "petroleum (other than crude oil) or condensate stored, processed, and/or treated prior to custody transfer" and have a combined capacity less than 420,000 gal (10,000 bbl) per §60.110b(d)(4). Storage vessels TK-405, TK-406, TK-408, TK-409, TK-OIL1, TK-OIL2, TK-OIL3, TK-OIL4, TK-TEG, TK-AF1, TK-AF2, TK-AF3, and TK-AF4 each have capacities less than 75 m^3.
NSPS 40 CFR 60, Subpart Kc	Standards of Performance for **Volatile Organic Liquid Storage Vessels** (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced **After** October 4, 2023	No	N/A	Storage vessels TK-406A, TK-406B, TK-406C, TK-405, TK-406, TK-408, TK-409, TK-OIL1, TK-OIL2, TK-OIL3, TK-OIL4, TK-TEG, TK-AF1, TK-AF2, TK-AF3, and TK-AF4 were constructed before October 4, 2023 and have not been modified in a way that meets the definition of "modification" in §60.110c(e)(1); therefore, this regulation does not apply.
NSPS 40 CFR 60.330 Subpart GG	**Stationary Gas Turbines**	No	N/A	This Facility does not operate any sources to which this regulation is applicable.
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from **Onshore Gas Plants**	No	N/A	This is not a natural gas processing plant; therefore, this regulation does not apply.
NSPS	Standards of Performance for **Onshore Natural**	No	N/A	This is not a natural gas processing plant; therefore, this regulation does not apply.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
40 CFR Part 60 Subpart LLL	**Gas Processing**: SO_2 Emissions			
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 was constructed after September 18, 2015; therefore, this regulation does not apply.
NSPS 40 CFR Part 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced **After** September 18, 2015	No	N/A	This facility was constructed after December 6, 2022; therefore, this regulation does not apply.
NSPS 40 CFR Part 60 Subpart OOOOb	Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After December 6, 2022	Yes	FUG, COMP 1-8 FUG	Fugitive equipment components are subject to LDAR requirements as the facility was constructed after December 6, 2022. ONEOK will conduct routine fugitive leak monitoring using optical gas imaging (OGI) or EPA Method 21. The group of tanks at the Facility are considered a storage vessel battery under 60.5365b(e). Per §60.5365b(e)(2), this registration establishes a legally and practically enforceable limit on the storage vessels, which are manifolded together and equipped with a closed vent control system (VRU) and a backup control device (ECD), resulting in controlled VOC emissions by at least 95%. The cumulative potential emissions are less than 6 tpy VOC and 20 tpy methane; therefore, the tanks are not an affected facility or subject to the requirements of this Subpart. Storage vessels TK-405, TK-406, TK-408, TK-409, TK-OIL1, TK-OIL2, TK-OIL3, TK-OIL4, TK-TEG, TK-AF1, TK-AF2, TK-AF3, and TK-AF4 have uncontrolled emissions less than 6 tpy VOC and 20 tpy methane and are not subject to this Subpart. The pneumatics at the Facility are air driven and therefore not subject to the requirements of this Subpart. Reciprocating compressors manufactured after December 6, 2022 are affected facilities under 60.5365b(c).
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression	No	N/A	This Facility does not operate any sources to which this regulation is applicable.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
	Ignition Internal Combustion Engines			
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	Yes	ENG-1 through ENG-8, GEN-1	ENG-1 through ENG-8 and GEN-1 were manufactured after June 12, 2006 and have maximum engine power greater than 500 HP. Therefore, they are subject to this Subpart.
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	No	N/A	This Facility does not operate any sources to which this regulation is applicable.
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	No	N/A	This Facility does not operate any sources to which this regulation is applicable.
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 and is therefore not subject to this regulation.
NESHAP 40 CFR 61 Subpart A	General Provisions	No	N/A	This facility is not subject to any Subparts of 40 CFR 61.
NESHAP 40 CFR 61 Subpart E	National Emission Standards for **Mercury**	No	N/A	This Facility does not operate any sources to which this regulation is applicable. The provisions of this Subpart are applicable to those stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge.
NESHAP 40 CFR 61 Subpart V	National Emission Standards for **Equipment Leaks** (Fugitive Emission Sources)	No	N/A	This Subpart is not applicable as the facility equipment does not operate in VHAP service. VHAP service is a piece of equipment, which contains or encounters a fluid that is at least 10% weight of VHAP. VHAP is a substance regulated under this Subpart for which a standard for equipment leaks of VHAPs has been promulgated.
MACT 40 CFR 63, Subpart A	General Provisions	Yes	ENG-1 through ENG-8, GEN-1, DEHY-1	Applies if any other Subpart in 40 CFR 63 applies.
MACT 40 CFR 63.760 Subpart HH	**Oil and Natural Gas Production Facilities**	Yes	DEHY-1	The dehydrator (Unit DEHY-1) is located at an area source of HAPS and has the potential to emit less than 1 tpy (0.90 megagram per year) of benzene. Therefore, it is subject to the operating and recordkeeping requirements of §63.764(e)(1)(ii).

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
MACT 40 CFR 63 Subpart HHH		No	N/A	This facility is not a natural gas transmission or storage facility; therefore, this Subpart 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	RBL-1 is a process heater that is located at a facility that is a not major source of HAPs; therefore, this Subpart 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 contain coal or 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	ENG-1 through ENG-8, GEN-1	ENG-1 through ENG-8 and GEN-1 are stationary internal combustion engines that are operated at an area source of HAPs; therefore, these engines are subject to this Subpart.
40 CFR 64	**Compliance Assurance Monitoring**	No	N/A	This facility is submitting an application pursuant of 20.2.72.200A.(1) NMAC for an NSR permit. Thus, this regulation does not apply.
40 CFR 68	**Chemical Accident Prevention**	Yes	Facility	The facility has more than a threshold quantity of a regulated substance in a process, as determined under §68.115. The owner will comply by maintaining a Risk Management Plan.
Title IV – Acid Rain 40 CFR 72	**Acid Rain**	No	N/A	This facility is not an acid rain source; therefore, this regulation does not apply.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
Title IV – Acid Rain 40 CFR 73	**Sulfur Dioxide** Allowance Emissions	No	N/A	This facility is not an acid rain source; therefore, this regulation does not apply.
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 and is therefore not subject to this regulation.
Title IV – Acid Rain 40 CFR 76	**Acid Rain** Nitrogen Oxides **Emission Reduction Program**	No	N/A	This facility is not an acid rain source; therefore, this regulation does not apply.
Title VI – 40 CFR 82	Protection of **Stratospheric Ozone**	Yes	Facility	This facility will have appliances containing CFCs. The owner will use only certified technicians for the maintenance, service, repair and disposal of appliances to comply with this regulation.

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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 either based on manufacturer's recommendations or based on ONEOK's experience with specific equipment. These procedures are designed to proactively address the potential for malfunction to the minimize emissions from the facility during events that result in shutdown and subsequent startup.

Equipment located at this facility is equipped with various safety devices and features that aid in the prevention of excess emissions in the event of an operational emergency. If an operational emergency does occur and excess emissions occur, ONEOK will submit the required Excess Emissions Report as per 20.2.7 NMAC. Corrective action to eliminate the excess emissions and prevent recurrence in the future will be undertaken as quickly as safety allows.

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Section 15

Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

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

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

There are no alternative operating scenarios.

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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.

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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:	Red Raider Compressor Station
2	Name of company:	ONEOK Delaware Gathering, LLC (ONEOK)
3	Current Permit number:	9897-M1
4	Name of applicant's modeler:	Ryan Sullivan, MS, CEP, PMP - Sullivan Environmental Consulting, Inc.; Kayla Curtis - Resolute Compliance, LLC
5	Phone number of modeler:	703-231-3723 (Sullivan) 817-821-6526 (Resolute)
6	E-mail of modeler:	ryansullivanenvironmental@gmail.com kc@resolutecompliance.com

16-B: Brief			
1	Was a modeling protocol submitted and approved?	Yes☒	No☐
2	Why is the modeling being done?	Adding New Equipment Minor NSR modification; equipment and emission-factor changes.	
3	Describe the permit changes relevant to the modeling.		
	The modeled inventory comprises ENG-1 through ENG-8, GEN-1, RBL-1, ECD-1, ECD-2, and particulate haul road HR-1. Maximum modeled source rates and release parameters are based on Red Raider Modeling Inputs 20260817.xlsx and the source definitions identified in 16-U. The analyses evaluate CO, NO2, SO2, PM2.5, and PM10 ambient standards, applicable Class II increments, and Class I significance. The entire applicable facility inventory is included, rather than only the modified equipment. This analysis supports the minor-NSR compliance demonstration required by 20.2.72.203(A)(4) NMAC. References to "NMED Guidelines" mean the July 2026 Air Dispersion Modeling Guidelines (cover: Revised June 2026); the Guidelines describe modeling procedures, distinct from the cited NMAC requirements.		
4	What geodetic datum was used in the modeling?	WGS84 UTM Zone 13 North; coordinates in meters.	
5	How long will the facility be at this location?	Permanent Facility	
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	7/28/1978	
	PM10	2/20/1979	
	PM2.5	11/13/2013	
	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits).		

16-B: Brief

9	Carlsbad Caverns National Park, approximately 39 km southwest, as used in the project modeling protocol and report. The Class I evaluation uses facility-centered 35-km and 50-km rings.		
10	Is the facility located in a non-attainment area? If so describe below	Yes☐	No☒
	No nonattainment-area modeling is identified for this Eddy County location in the application.		
11	Describe any special modeling requirements, such as streamline permit requirements.		
	The May 21, 2026 protocol was submitted to NMED; the June 30, 2026 response found the protocol generally acceptable and addressed NMED meteorology, whole-facility SIL modeling, and Class I analysis. The 50-km and 35-km SIL verification encompasses all five modeled criteria pollutants; period-specific results and the completed annual PM2.5 expanded-run comparison are documented in 16-I and 16-W. NO2 ambient-standard background treatment and annual increment background substitution are described in 16-K and 16-R.		

16-C: Modeling History of Facility

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).

1	Pollutant	Latest permit and modification number that modeled the pollutant facility-wide.	Date of Permit	Comments
	CO	9897-M1	8/24/2023	Met standard
	NO_2	9897-M1	8/24/2023	Met standard
	SO_2	9897-M1	8/24/2023	Met standard
	H_2S	N/A	N/A	N/A
	PM2.5	9897-M1	8/24/2023	Met standard
	PM10	9897-M1	8/24/2023	Met standard
	Lead	N/A	N/A	Facility has no permitted lead emissions.
	Ozone (PSD only)	N/A	N/A	Not a PSD source; no facility-specific ozone AERMOD modeling was required.

16-C: Modeling History of Facility

	NM Toxic Air Pollutants (20.2.72.402 NMAC)	N/A	N/A	No NMTAP dispersion modeling was included in the identified prior permit modeling.

16-D: Modeling performed for this application

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

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

ROI denotes the facility significance-screening stage for CO and SO2. NO2 includes facility-plus-background ambient-standard analysis and annual Class II background substitution. PM2.5 and PM10 include surrounding sources in the applicable cumulative analyses. The ozone designation uses the minor-source generic analysis in 16-L. NMTAP scope is stated in 16-E.

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. No NMTAPs from Tables A and B in 20.2.72.502 NMAC are included in this criteria-pollutant dispersion analysis. NMTAP applicability and emission-rate screening are addressed in the application emissions sections under 20.2.72.402 and 20.2.72.403 NMAC.

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
N/A	N/A	N/A	N/A	N/A	N/A

16-F: Modeling options

1	Was the latest version of AERMOD used with regulatory default options? If not explain below.	Yes☐	No☒
	AERMOD version 24142, as specified in the project protocol, was used with regulatory default concentration options, rural dispersion, elevated terrain, and building downwash. The NMED Carlsbad 2020-2024 meteorological files were processed with AERMET 24142 and ADJ_U*. AERMAP 24142 and BPIPPRM 04274 supply terrain and downwash inputs. Version 24142 is the protocol-selected project version; EPA subsequently released version 26135. No nonregulatory dispersion option is used.		

16-G: Surrounding source modeling

1	Date of surrounding source retrieval	July 30, 2026 (AQB-generated surrounding-source inventories).

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

16-G: Surrounding source modeling

	PM2.5 NAAQS - selected surrounding sources	NMED Guidelines Section 4.8.1.1 10-km source-isolation treatment: 860 retained offsite sources plus 17 Red Raider source representations, 877 total, on the 55-receptor particulate significance domain. Representative regional background is added separately. Selection of sources is not a reduction of their modeled emission rates.
	PM10 NAAQS and particulate Class II groups	PM10 24-hour NAAQS: 4,192 total sources and 65 receptor entries. PM2.5 Class II: 4,208 sources and 55 receptors. PM10 Class II: 4,192 sources and 65 receptors. Applicable NMED surrounding-source group designations are used. NO2 uses the monitored-background approaches described in 16-K rather than an explicit offsite source group, consistent with NMED Guidelines Sections 2.6.4.4 through 2.6.4.6.

16-H: Building and structure downwash

1	How many buildings are present at the facility?	Six rectangular compressor/cooler structures, identified as BLD_5 through BLD_10 in the BPIPPRM input; each is 3.66 m high.	
2	How many above ground storage tanks are present at the facility?	The application identifies seven above-ground storage tanks plus a 750-bbl gunbarrel separator. Four tank/vessel geometries are explicitly included in BPIPPRM: TK-407 (gunbarrel; 10.67 m high, approximately 3.66 m diameter) and TK-406A, TK-406B, TK-406C (9.14 m high, approximately 4.72 m diameter each).	
3	Was building downwash modeled for all buildings and tanks? If not explain why below.	Yes☐	No☒
	The BPIPPRM input evaluates ten structures: six compressor/cooler structures and the four tank/vessel geometries identified above. The remaining ancillary storage tanks identified in the application are outside the BPIPPRM geometry set. Direction-specific downwash parameters for the modeled structures are incorporated in the AERMOD inputs consistent with NMED Guidelines Section 4.7. Ancillary-structure inclusion/exclusion is to be confirmed against the final site plan under Section 4.7.		
4	Building comments	BPIPPRM 04274 produced direction-specific building heights, projected widths/lengths, and offsets for the 12 point sources. Those BUILDHGT, BUILDWID, BUILDLEN, XBADJ, and YBADJ arrays are included in the AERMOD inputs. The BPI/PRO/SUP files identify the modeled geometry and downwash results.	

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 perimeter fence identified in the application defines the restricted facility area. Ambient receptors are placed along the modeled fence boundary and outside it; the application identifies no public road crossing the restricted area. Source coordinates and receptor coordinates use WGS84 UTM Zone 13N. The receptor exclusion is based on restricted public access, not ownership alone (NMED Guidelines Section 4.6.2).						
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	
	Ambient boundary	Polygon	25 meters	Restricted-area boundary	Restricted-area boundary	Discrete fenceline receptor coordinates are included in the AERMOD/AERMAP receptor records; the receptor coordinate set defines the modeled ambient perimeter.	
	Nested Cartesian	Square	50 meters	Outside boundary	0.4 km half-width	50-m nested near-field tier; distances for Cartesian tiers are measured along the coordinate axes from the modeling center.	
	Nested Cartesian	Square	100 and 250 meters	0.4 km half-width	1 km / 2 km half-widths	100-m spacing to 1 km; 250-m spacing to 2 km.	

16-I: Receptors and modeled property boundary

	Nested Cartesian	Square	500 and 1,000 meters	2 km half-width	4 km / 10 km half-widths	500-m spacing to 4 km; 1,000-m spacing to 10 km. Original corner receptors are approximately 14.142 km radially from center.
	Expanded SIL verification	Square	2,500 and 5,000 m	Beyond original nested tiers	50 km along each axis	2,645 entries / 2,221 unique locations; original 1,765 entries / 1,493 locations retained. 2,097 unique locations are within a radial 50 km.
	Class I screen	Rings	0.9863 degrees / 1 degree	35-km radius	50 km	365 receptors at 35 km and 360 at 50 km; 725 AERMAP-processed receptors total.

5	Describe receptor spacing along the fence line.
	Approximately 25-m fenceline spacing is retained with the nested near-field receptors. The modeling center is 597,293.87 E / 3,555,448.04 N. The expanded Cartesian bounds are 547,293.87-647,293.87 E and 3,505,448.04-3,605,448.04 N. Corners lie at 70.711 km; the 124 unique locations beyond radial 50 km are supplemental, not a regulatory extension of AERMOD beyond its near-field domain. The 728 added unique locations include 604 within radial 50 km. The eight distinct expanded packages cover CO, NO2, SO2, PM10, and both PM2.5 averaging periods. The completed expanded PM25-ANNUAL output has 2,645 entries and is compared directly with the original 1,765-entry output in 16-W.
6	Describe the PSD Class I area receptors.
	The project-specific Class I significance screen uses the 50-km ring alternative identified in the May 21, 2026 protocol, supplemented by a 35-km ring. The 35-km ring contains 365 receptors at approximately 0.9863-degree spacing, and the 50-km ring contains 360 receptors at 1-degree spacing, for 725 AERMAP-processed receptors. Both rings cover all azimuths and bracket the approximate 39-km distance to Carlsbad Caverns National Park. The reported maxima are ring-screening results. Acceptance of this project-specific receptor basis, or a near-boundary check, is to be documented under NMED Guidelines Section 4.6.4. Section 16-W.5 gives the ring maxima; the Class II Cartesian and Class I ring networks are separate.

16-J: Modeling Scenarios

1	Identify, define, and describe all modeling scenarios. Examples of modeling scenarios include using different production rates, times of day, times of year, simultaneous or alternate operation of old and new equipment during transition periods, etc. Alternative operating scenarios should correspond to all parts of the Universal Application and should be fully described in Section 15 of the Universal Application (UA3).

16-J: Modeling Scenarios

	One maximum-emission operating configuration is represented: the 12 point sources operate concurrently at the modeled maximum hourly rates with continuous year-round operation. An ordinary year has 8,760 hours; the five-year meteorological sequence includes leap-year hours. HR-1 (The Haul road related to particulate emissions) is represented by five adjacent particulate volume sources using the hour-of-day factors below. The same physical source configuration is evaluated for significance, ambient standards, and the applicable increment comparisons.		
2	Which scenario produces the highest concentrations? Why?		
	The maximum-rate concurrent configuration produces the reported concentrations and simultaneously represents all 12 point sources at their modeled maximum hourly emission rates. Maximum locations are in the refined near field, 0.119-0.180 km from the center for the reported NAAQS comparisons. The highest individual annual NO2 facility result occurs in 2020; annual particulate Class II maxima occur in 2021 for PM2.5 and 2022 for PM10. The source groups and averaging statistics distinguish the analyses summarized in 16-W. Selection of this configuration for feasible reduced-load and startup, shutdown or maintenance conditions is to be substantiated under NMED Guidelines Sections 4.1.4-4.1.6.		
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: HR-1 = L0000001, L0000002, L0000003, L0000004, L0000005. The same HROFDY sequence applies to PM2.5 and PM10 on each segment.		

5

Hour of Day	Factor	Hour of Day	Factor								
1	0.69	13	1.62								
2	0.69	14	1.62								
3	0.69	15	1.62								
4	0.69	16	1.62								
5	0.69	17	0.69								
6	0.69	18	0.69								
7	0.69	19	0.69								

16-J: Modeling Scenarios

	8	0.69	20	0.69								
	9	1.62	21	0.69								
	10	1.62	22	0.69								
	11	1.62	23	0.69								
	12	1.62	24	0.69								

	If hourly, variable emission rates were used that were not described above, describe them below.		
	No separate hourly-emission file is used for the facility sources. HROFDY factors are 0.69 for model hours 1-8 and 17-24 and 1.62 for hours 9-16. They redistribute the road emissions over the day without eliminating any operating hour: (16 x 0.69 + 8 x 1.62)/24 = 1.00. The table uses AERMOD model-hour numbering. Point sources have no HROFDY reduction. The road HROFDY schedule is applied consistently in the modeling and is documented in 16-J.		
6	Were different emission rates used for short-term and annual modeling? If so describe below.	Yes☐	No☒
	The same base source emission rates and the same road HROFDY factors are used for short-term and annual calculations. The aggregate road base rates are 0.007 lb/hr PM2.5 and 0.070 lb/hr PM10, divided equally among five segments; hourly modeled road rates are those base rates multiplied by the listed factor. No additional annual operating-hour discount is applied.		

16-K: 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:
	Describe the NO_2 modeling.	

16-K: NO_2 Modeling

2	ARM2 uses the national default NO2/NOx bounds of 0.5 and 0.9 for the facility SIL, NAAQS/NMAAQS, and Class II NO2 analyses. The Class I annual screen assumes 100 percent conversion of NOx to NO2. The ambient-standard analyses include all 12 facility point sources plus constant monitored background: 62.70 micrograms/m3 for 1 hour and 10.53 micrograms/m3 for annual. NMED Guidelines Sections 2.6.4.4 and 2.6.4.5 direct use of the entire facility plus the corresponding background. Modeling all nearby sources instead of background is an optional alternative for a facility more than 20 km from the centers of Albuquerque and El Paso. Red Raider uses the facility-plus-background method; an explicit offsite NO2 group is not required by that selected method. For annual Class II increment, Section 2.6.4.6 allows monitored background in place of modeled surrounding-source increment consumption; 16-W applies that approach to the highest individual modeled annual facility result. The state NO2 standards are established by 20.2.3.111(B) NMAC; federal NO2 standards are in 40 CFR 50.11. ARM2 treatment follows NMED Guidelines Sections 2.6.4.2-2.6.4.3.		
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☐
	ARM2 minimum = 0.5; maximum = 0.9. No site-specific ratio, OLM, PVMRM, or ozone-limiting chemistry is used. The 100-percent-conversion selection above applies only to the Class I annual screening analysis.		
4	Describe the design value used for each averaging period modeled.		
	1-hour NAAQS: five-year average of each year's eighth-highest daily maximum at each receptor; the controlling facility-plus-background value is 138.15527 micrograms/m3. The 1-hour demonstration also addresses the NO2 24-hour NMAAQS under NMED's surrogate provision. Annual NAAQS/NMAAQS and Class II: highest individual annual mean over the five meteorological years, not the five-year mean. The 2020 facility result is 6.05249 micrograms/m3; adding 10.53 gives 16.58249 micrograms/m3 for the ambient-standard comparison and the annual PSD background-substitution comparison. The NO2 SIL tables retain their reported five-year percentile/annual-mean statistics for a like-for-like original/expanded comparison. The added-receptor NAAQS calculation and the distinction between percentile output and initial SIL-screening ranks are described in 16-W.		

16-L: Ozone Analysis

1	NMED has performed a generic analysis that demonstrates sources that are minor with respect to PSD do not cause or contribute to any violations of ozone NAAQS. The analysis follows. The basis of the ozone SIL is documented in *Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program*, EPA, April 17, 2018 and associated documents. NMED accepts this SIL basis and incorporates it into this permit record by reference. Complete documentation of the ozone concentration analysis using MERPS is included in the New Mexico Air Quality Bureau Air Dispersion Modeling Guidelines.

16-L: Ozone Analysis

2	The MERP values presented in Table 10 and Table 11 of the NM AQB Modeling Guidelines that produce the highest concentrations indicate that facilities emitting no more than 250 tons/year of NO_X and no more than 250 tons/year of VOCs will cause less formation of O_3 than the O_3 significance level. $$[O_3]_{8-hour} = \left(\frac{250 \frac{ton}{yr}}{340_{MERP_{NOX}}} + \frac{250 \frac{ton}{yr}}{4679_{MERP_{VOC}}} \right) \times 1.96\ \mu g/m^3$$ =1.546 µg/m³, which is below the significance level of 1.96 µg/m³. Sources that produce ozone concentrations below the ozone SIL do not cause or contribute to air contaminant levels exceeding the ozone NAAQS.		
3	Does the facility emit at least 250 tons per year of NO_X or at least 250 tons per year of VOCs? Sources that emit at least 250 tons per year of NO_X or at least 250 tons per year of VOCs are covered by the analysis above and require an individual analysis.	Yes☐	No☒

5	For new PSD Major Sources or PSD major modifications, if MERPs were used to account for ozone fill out the information below. If another method was used describe below.				
	NO_X (ton/yr)	$MERP_{NOX}$	VOCs (ton/yr)	$MERP_{VOC}$	$[O_3]_{8\text{-hour}}$
	N/A	N/A	N/A	N/A	N/A
	This application identifies the facility as minor with respect to PSD and below the 250-ton/year NOx and VOC thresholds in the form. Modeled NOx annualization is 111.48 tons/year. The NMED generic minor-source ozone demonstration above is used; no source-specific ozone AERMOD calculation or PSD-major additional-impacts analysis is claimed. The facility VOC determination remains the emissions application determination, not an inference from the NOx modeling inventory.				

16-M: Particulate Matter Modeling

1	Select the pollutants for which plume depletion modeling was used.	
	☐	PM2.5
	☐	PM10
	☒	None
	Describe the particle size distributions used. Include the source of information.	

16-M: Particulate Matter Modeling

2	Not applicable. The concentration runs use no dry or wet deposition or plume-depletion option, so no particle-size distribution is required as an AERMOD input.				
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.				
	Pollutant	NO_X	SO_2		$[PM2.5]_{24\text{-hour}}$
	$MERP_{annual}$				0.02198 micrograms/m3
	$MERP_{24\text{-hour}}$				$[PM2.5]_{annual}$
	Emission rate (ton/yr)	111.48	6.16		0.000915 micrograms/m3
	Secondary PM2.5 is calculated outside AERMOD using the AQCR 155 MERPs, then added once to the direct modeled PM2.5 concentration. The adopted workbook precursor rates are 25.451809 lb/hr NOx and 1.407136 lb/hr SO2. Annualization at 8,760 hours/year and 2,000 lb/ton gives 111.47892342 and 6.16325568 tons/year, respectively. 24-hour secondary PM2.5 = 1.2 x [(111.47892342/7,331) + (6.16325568/1,981)] = 0.02198123 micrograms/m3. Annual secondary PM2.5 = 0.2 x [(111.47892342/26,780) + (6.16325568/14,978)] = 0.000914851 micrograms/m3. The annual and 24-hour MERPs are in tons/year. These project-specific additions apply to the ambient-standard and Class II PM2.5 comparisons; no pre-baseline emissions credit is used for the facility precursor term. Results in 16-W are rounded after addition. The AQCR 155 MERPs and the 0.2/1.2 calculation multipliers follow NMED Guidelines Section 2.6.7.2, page 34. The 0.2 multiplier is part of that MERP calculation basis, not the current 0.13 annual PM2.5 SIL.				

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.

16-N: Setback Distances

	Not applicable to a portable or flexible-layout permit. Red Raider is modeled at fixed source coordinates and the fixed restricted-area perimeter described in 16-I. No relocation envelope or alternative minimum setback is requested.
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.
	Not applicable. No portable-source relocation or future-location modeling is included.

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	
	ENG-1 through ENG-8; GEN-1; RBL-1; ECD-1; ECD-2	ENG_1 through ENG_8; GEN_1; RBL_1; ECD_1; ECD_2, respectively. Hyphens in the application correspond to underscores in AERMOD.	
	HR-1	L0000001 through L0000005 collectively represent HR-1. The five emissions sum to the road rate; they are not five separate full-rate haul roads.	
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☒
	The concentration results represent the source-specific emission rates in the executed AERMOD SRCPARAM records. Final application-to-model reconciliation is source- and pollutant-specific; a difference in reporting units alone does not establish equivalence. The final application rates are to be reconciled with these modeled rates under 20.2.72.203(A)(3)-(4) NMAC and NMED Guidelines Section 4.1.1. HR-1 is apportioned among five volume-source segments with the HROFDY factors described in 16-J. The executed input files are identified in 16-U; the companion report Table 1b lists the source rates. The haul road is identified as HAUL in Table 2-B of the available April 24 UA2 and is modeled as HR-1 / L0000001-L0000005.		
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? Positive modeled facility emissions are treated as increment consuming for their respective pollutants; zero-emission pollutant/source combinations are not assigned an increment contribution.		

16-O: PSD Increment and Source IDs

	Unit ID	NO_2	SO_2	PM10	PM2.5
	ENG_1-ENG_8; GEN_1; RBL_1	Yes	Yes	Yes	Yes
	ECD_1; ECD_2	Yes	Yes	0 g/s	0 g/s
	HR-1 / L0000001-L0000005	0 g/s	0 g/s	Yes	Yes

5	PSD increment description for sources. (for unusual cases, i.e., baseline unit expanded emissions after baseline date).	All positive facility emissions are treated as increment consuming; no pre-baseline credit is taken. Particulate Class II runs use the applicable NMED surrounding-source PSD groups, and annual NO2 uses the monitored-background substitution described in 16-K and 16-W.

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☒
	The available April 24 UA2 contains TBD entries for several proposed units. For PSD increment accounting, the model takes no pre-baseline credit and includes the full positive modeled rate for each applicable increment pollutant. This conservative treatment fully represents the facility contribution, and surrounding-source membership follows the applicable NMED source groups.		

16-P: Flare Modeling

1	For each flare or flaring scenario, complete the following. Not applicable: ECD-1 and ECD-2 are enclosed combustion devices represented as vertical POINT sources, not open-flare effective-release sources. Each uses a 7.620-m release height, 1.2192-m diameter, 1,033.15-K exit temperature, and 0.786384-m/s exit velocity. Direct PM2.5 and PM10 rates are zero for both devices. No flare heat-release or effective-diameter calculation is used.

	Flare ID (and scenario)	Average Molecular Weight	Gross Heat Release (cal/s)	Effective Flare Diameter (m)
	N/A	N/A	N/A	N/A

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? If not please explain how increment consumption status is determined for the missing installation dates below.	Yes☒	No☐
	HR-1 uses the adjacent-volume line-source method with five 8.44-m nominal elements, a 3.38-m release height, initial sigma-Y of 3.93 m, and sigma-Z of 2.92 m. The Yes response reflects the project-specific release geometry used in the executed model. The adjacent-volume sigma parameters are described below; no open-pit or deposition formulation is used.		
2	Describe the determination of sigma-Y and sigma-Z for fugitive sources.		
	The adjacent-volume horizontal dimension is 8.44 m; division by 2.15 gives sigma-Y approximately 3.93 m. The vertical plume dimension used for sigma-Z is 6.28 m; division by 2.15 gives sigma-Z approximately 2.92 m. Each segment uses the executed 3.38-m release height. The aggregate PM2.5/PM10 base rates are 0.000881985/0.008819851 g/s, respectively, divided equally among five segments. Source coordinates and terrain elevations are specified in the LOCATION records, and the daily HROFDY cycle is provided in 16-J. The executed adjacent-volume parameterization is documented in the electronic modeling files identified in 16-U. The site-specific relationship between the vertical plume dimension and the separate 3.38-m release-height input requires supporting documentation under NMED Guidelines Section 5.3.3.		
3	Describe how the volume sources are related to unit numbers. Or say they are the same.		
	HR-1 is represented by L0000001-L0000005, with source centers (UTM E/N, m): L0000001 597327.241/3555356.605; L0000002 597322.122/3555349.894; L0000003 597317.004/3555343.183; L0000004 597311.886/3555336.472; L0000005 597306.767/3555329.761. The corresponding expanded-input elevations are 929.72, 929.81, 929.65, 929.55, and 929.56 m.		
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: facility-only significance screening is evaluated without monitored background at the SIL stage.		
	NO2: Carlsbad/Holland Street, AQS 35-015-1005. Protocol background uses 2023-2025 monitoring: 62.70 micrograms/m3 for the 1-hour 98th-percentile design concentration and 10.53 micrograms/m3 for the annual mean.		
	PM2.5: NMED Eastern New Mexico, Hobbs-Jefferson, AQS 35-025-0008; 16.7 micrograms/m3 (24-hour 98th-percentile background) and 6.6 micrograms/m3 (annual).		
	PM10: NMED Eastern New Mexico, Hobbs-Jefferson, AQS 35-025-0008; 37.3 micrograms/m3 (24-hour background). The 24.0 micrograms/m3 annual monitor value is a reference only; no annual PM10 NAAQS comparison is made.		
	SO2: facility-only significance screening is evaluated without monitored background at the SIL stage.		
	Other: none. Regional background is not added to the particulate Class II or facility-only Class I results. Annual NO2 Class II uses the specific monitored-background substitution allowed by NMED Section 2.6.4.6.		
	Comments:	NO2 monitored values follow the project protocol; particulate values follow NMED's regional background basis. NO2 ambient comparisons use the entire facility plus representative Carlsbad/Holland Street background. PM2.5 NAAQS uses NMED's source-isolation approach to avoid double counting regional contributions, with direct modeled emissions, background, and the project secondary term added once each. The protocol-adopted Carlsbad 2023-2025 NO2 values (62.70 micrograms/m3 1-hour; 10.53 micrograms/m3 annual) are conservatively higher than the current generic NMED background-table values and are retained for the project demonstrations.	
2	Were background concentrations refined to monthly or hourly values? If so describe below.	Yes☐	No☒
	No. The executed NO2 ambient-standard inputs use constant background values of 62.70 micrograms/m3 (1-hour) and 10.53 micrograms/m3 (annual), not BACKGRND HOURLY. No 43,848-hour background file or month-by-hour adjustment is used. Constant particulate backgrounds are likewise applied for the respective averaging period. The same NO2 constant is used in the added-receptor arithmetic check in 16-W.		

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.		
	NMED-prepared Carlsbad 2020-2024 sequential hourly meteorology is used: Carlsbad surface station WBAN 93033 and Midland Regional Air Terminal upper-air station WBAN 23023. The AERMOD profile base elevation is 991 m. The state files are AERMET 24142 output with ADJ_U* and temperature substitution identified in the model summaries. AERMOD's regulatory calm/missing-data processing is used; stability and boundary-layer parameters are supplied by the AERMET files, not assigned as user-selected Pasquill classes. No alternate non-NMED meteorological dataset is used.		

16-T: Terrain

1	Was complex terrain used in the modeling? If not, describe why below.	Yes☒	No☐
	AERMOD elevated-terrain treatment uses receptor elevations and terrain hill-height scales. Terrain is not replaced with a flat-terrain assumption. AERMAP processing applies to the facility source locations, the nested and expanded receptor networks, and the Class I screening rings.		
2	What was the source of the terrain data?		
	USGS 1/3-arc-second National Elevation Dataset data are processed with AERMAP 24142 to derive source base elevations, receptor elevations, and hill-height scales. Onsite point-source base elevations are approximately 927.93-929.27 m MSL. UTM coordinates are in meters, WGS84 Zone 13N. The digitized source/receptor records are listed in 16-U.		

16-U: Modeling Files

1	Describe the modeling files:		
	File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
	AERMOD-SIL-MODEL-FILES / ORIGINAL-MODELING-RUNS-PRE-50KM	CO, NO2, SO2, PM2.5, PM10	Facility significance and original-grid reference. Pollutant folders contain ADI, ADO, SUM, and ROU records; original network has 1,765 entries.

16-U: Modeling Files

	AERMOD-SIL-MODEL-FILES / REFINED-50KM-SIL-RUNS	CO, NO2, SO2, PM10; PM2.5 24-hour and annual	Expanded Cartesian verification: 2,645 entries. NO2-1HR, NO2-ANNUAL, CO-1HR-8HR, SO2-1HR-SIL, SO2-3HR-24HR-ANNUAL-SIL, PM10-24HR, PM25-24HR. PM25-ANNUAL is the eighth completed package.
	REFINED-50KM-SIL-RUNS / PM25-ANNUAL / PM25-ANNUAL.ADI, .ADO, .sum, .ROU	PM2.5 annual	Completed annual expanded-grid significance calculation: 2,645 entries / 2,221 unique locations; global five-year mean 0.34731 micrograms/m3. Original-grid 0.34724 is retained for comparison in 16-W.
	AERMOD-NAAQS-MODEL-FILES / NO2-1HR-NAAQS; NO2-ANNUAL-NAAQS	NO2	Facility plus constant background. NO2 annual ANNUAL_G001.PLT supplies individual-year results; 2020 controls. 1-hour output supplies the five-year eighth-high daily-maximum value.
	AERMOD-NAAQS-MODEL-FILES / PM25-24HR-NAAQS; PM25-ANNUAL-NAAQS	PM2.5	Cumulative ambient-standard analysis with 877 sources / 55 receptors. Background is included in the AERMOD base result; the secondary term is added outside AERMOD.
	AERMOD-NAAQS-MODEL-FILES / PM10-24HR-NAAQS	PM10	Cumulative 24-hour ambient-standard analysis: 4,192 sources / 65 receptor entries; sixth-high over the five-year period.
	AERMOD-CLASS-II / NO2-PSD-INCR	NO2 annual	Facility annual increments; ANNUAL_G001.PLT supplies the highest individual year. The 10.53-micrograms/m3 monitored-background substitute is added arithmetically, as documented in 16-W.

16-U: Modeling Files

	AERMOD-CLASS-II / PM25-PSD-INCR; PM10-24HR-PSD-INCR; PM10-ANNUAL-PSD-INCR	PM2.5, PM10	Particulate increment source groups. SUM/24H2 plot output supplies short-term ranks; ANNUAL_G001.PLT supplies the individual annual ALL-group concentrations.
	AERMOD-CLASS-I / pollutant-specific model packages	NO2, SO2, PM2.5, PM10	Facility-only Class I significance with the combined 35-/50-km, 725-receptor network and terrain processing.
	RED-RAIDER-SECONDARY-PM25-CALCULATIONS / Red_Raider_Secondary_PM25_Calculations.xlsx	PM2.5 from NOx and SO2	MERP equations and precursor annualization. Section 16-M provides the numerical inputs and arithmetic; direct-model base results are taken from the corresponding electronic output.
	Carlsbad_2020-2024.SFC/.PFL; project .bpi/.pro/.sup; AERMAP .ROU/.SOU; Red Raider Modeling Inputs 20260817.xlsx	All modeled pollutants	Meteorology, source inventory/rates, terrain, and downwash documentation. Source files are distinguished from calculated background and secondary-addition comparisons.

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.		
	Not applicable: the application is for a facility that is minor with respect to PSD, not a new PSD major source or a PSD major modification.		
4	Describe the additional impacts analysis required at 20.2.74.304 NMAC.		
	Not applicable to this minor-NSR permitting action. Class I significance and applicable Class II increments are evaluated as described in 16-I and 16-W.		

16-V: PSD New or Major Modification Applications			
5	If required, have ozone and secondary PM2.5 ambient impacts analyses been completed? If so describe below.	Yes☒	No☐
	Applicable precursor assessments are documented: minor-source ozone uses the NMED generic analysis in 16-L, and project-specific secondary PM2.5 is calculated using MERPs in 16-M.		

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☒
	Culpability analysis is not required because the modeled NO2 facility-plus-background and cumulative particulate ambient-standard values reported below are below their applicable standards. Facility-only SIL results are reported separately from ambient-standard and PSD-increment totals.		
2	Identify the maximum concentrations from the modeling analysis. Rows may be modified, added and removed from the table below as necessary. The following tables are part of Section 16-W. Concentrations are in micrograms/m3. UTM coordinates are WGS84 Zone 13N; distances are radial from 597,293.87 E / 3,555,448.04 N.		

16-W.1 Facility significance and 50-km verification

Pollutant / period	Reported statistic	Original grid	Expanded grid	Class II SIL	Comparison
CO / 1 hour	High-second-high	152.15206	152.15206	2,000	Below
CO / 8 hours	High-second-high	113.55148	113.55148	500	Below
NO2 / 1 hour	5-year average, 8th-high daily maxima	75.45527	75.45527	7.5	Above
NO2 / annual	5-year annual mean	5.70573	5.70573	1.0	Above
SO2 / 1 hour	5-year average, 4th-high daily maxima	5.06934	5.06934	7.8	Below for reported rank
SO2 / 3 hours	First-high	5.77201	5.77201	25	Below
SO2 / 24 hours	First-high	3.42918	3.42918	5.0	Below
SO2 / annual	5-year annual mean	0.30409	0.30409	1.0	Below for reported rank

Pollutant / period	Reported statistic	Original grid	Expanded grid	Class II SIL	Comparison
PM2.5 / 24 hours	5-year average, annual first-high	1.20577	1.20332	1.2	Above
PM2.5 / annual	5-year annual mean	0.34724	0.34731	0.13	Above
PM10 / 24 hours	First-high over 5 years	15.75697	15.71189	5.0	Above
PM10 / annual	5-year annual mean	3.01048	3.01125	1.0	Above

The expanded verification addresses all five modeled criteria pollutants through eight packages and twelve directly comparable pollutant/averaging-period results. PM10 annual is included in PM10-24HR. No added receptor controls a reported maximum. The completed PM25-ANNUAL output has 2,645 entries and gives 0.34731 micrograms/m3, compared with 0.34724 originally (+0.00007). The annual maximum remains at 597,350.03 E / 3,555,340.71 N, 0.121 km from center. This direct result replaces the previous PM10-derived annual PM2.5 spatial bound. The 7.5-micrograms/m3 NO2 comparison is the project rounded value and is slightly more stringent than the 7.52-micrograms/m3 value in current NMED Table 8.

Table 16-W.1 reports the statistical outputs produced by the executed facility screening packages. NO2, PM2.5, and PM10 values above the applicable SILs were carried forward to the refined ambient-standard and/or Class II increment analyses in 16-W.3 and 16-W.4. The displayed CO and SO2 values are below their listed SIL comparison levels, with the statistical basis identified directly in the table. The expanded 50-km verification preserves the controlling near-field maxima and identifies no new controlling receptor.

Screening basis: the tabulated CO 1-hour and 8-hour values use high-second-high ranks, and the 1-hour SO2 value uses the five-year mean of annual fourth-high daily maxima. NMED Guidelines Section 2.4.3 uses maximum-concentration screening statistics. Closure of these CO and 1-hour SO2 screens therefore requires maximum-rank output or an applicable completed refined demonstration. The completed NO2 design-value and particulate ambient-standard/increment results remain separately reported and unchanged. Annual SO2 basis: the 0.30409 micrograms/m3 annual result is a facility-only significance value. The annual secondary ambient standard is 10 ppb under 40 CFR 50.21. The applicable annual comparison or an NMED-accepted surrogate based on a completed 1-hour demonstration is to be documented; EPA's December 10, 2024 alternative-demonstration memorandum addresses the PSD surrogate approach.

The expanded PM2.5 24-hour value is 1.20332 micrograms/m3, slightly above the 1.2 micrograms/m3 SIL, and therefore appropriately proceeds to the refined PM2.5 ambient-standard and Class II analyses reported below.

16-W.2 Added-receptor and outer-domain checks

Pollutant / period	Largest added-location value within radial 50 km	Largest value beyond 15 km and within radial 50 km
CO / 1 hour	26.75386	13.41899
CO / 8 hours	4.90913	2.32111
NO2 / 1 hour	11.14595	5.14650
NO2 / annual	0.14976	0.07506
SO2 / 1 hour	0.81452	0.37201
SO2 / 3 hours	0.51101	0.28594
SO2 / 24 hours	0.08271	0.05692
SO2 / annual	0.00854	0.00449
PM2.5 / 24 hours	0.01176	0.00428
PM2.5 / annual	0.00182	0.00065
PM10 / 24 hours	0.02520	0.00969
PM10 / annual	0.00278	0.00087

The direct-model rows use the same statistics as 16-W.1. Added locations exclude all original coordinates. The additional NO2 1-hour field has nine locations at or above 7.5: the largest is 11.14595 at 602,293.87 E / 3,557,948.04 N, 5.590 km from center. The farthest added above-threshold location is 602,293.87 E / 3,567,948.04 N, 13.463 km, with 8.09751. The corresponding original extent was 12.207 km. Thus, the percentile field above the project comparison level extends 1.256 km farther while the controlling percentile maximum remains in the near field.

NO2 added-receptor calculation: 11.14595 + 62.70 = 73.84595 micrograms/m3, or 39.3 percent of the 188-micrograms/m3 1-hour comparison level. This is 64.30932 micrograms/m3 below the controlling 138.15527 and 114.15405 micrograms/m3 below the standard. With identical facility emissions, ARM2 settings, meteorology, and a constant additive background, addition of that constant preserves the daily ranking and the five-year design statistic. The calculation therefore evaluates the added receptor set without implying that those coordinates were part of the separate 1,765-entry NAAQS input.

Direct annual PM2.5 expanded-domain check: the largest added location within radial 50 km is 0.00182 micrograms/m3 at 594,793.87 E / 3,560,448.04 N (5.590 km). The largest value beyond 15 km and within radial 50 km is 0.00065 micrograms/m3 at 594,793.87 E / 3,570,448.04 N (15.207 km). Both are below the 0.13 annual SIL. These values are taken directly from PM25-ANNUAL.ADO and confirm that no added outer-domain receptor approaches the annual PM2.5 SIL.

16-W.3 Ambient-standard comparisons and controlling locations

Pollutant / period	Basis	Total concentration	Standard	Percent	UTM E / N (m); distance
NO2 / 1 hour	Facility + 62.70 background; 5-year 98th percentile	138.15527	188	73.5%	597393.87 / 3555298.04; 0.180 km
NO2 / annual	Highest annual year (2020), facility + 10.53 background	16.58249	94.02 NM / 99.66 federal	17.6% of NM	597193.87 / 3555548.04; 0.141 km
PM2.5 / 24 hours	Cumulative 98th percentile + background + secondary	19.11709	35	54.6%	597350.03 / 3555340.71; 0.121 km
PM2.5 / annual	5-year annual mean + background + secondary	7.73175	9.0	85.9%	597350.03 / 3555340.71; 0.121 km
PM10 / 24 hours	Cumulative 6th-high over 5 years + background	53.13458	150	35.4%	597285.62 / 3555329.33; 0.119 km

All values in 16-W.3 are below the listed ambient standards. The 1-hour NO2 comparison also addresses the 24-hour NMAAQS; the lower annual NM NO2 standard controls the annual ambient comparison. The federal annual NO2 conversion is 99.66 micrograms/m3. The rounded 188-micrograms/m3 1-hour comparison is slightly more stringent than the NMED conversion of 188.03 micrograms/m3. PM2.5 totals add the project secondary term once to AERMOD base values of 19.09511 micrograms/m3 (24-hour) and 7.73084 micrograms/m3 (annual), which already include monitored background. No annual PM10 NAAQS exists. CO and SO2 are addressed through the screening results in 16-W.1. Regulatory bases: NO2, 20.2.3.111(B) NMAC and 40 CFR 50.11; PM2.5, 40 CFR 50.20; PM10, 40 CFR 50.6. The NO2 24-hour surrogate is described in NMED Guidelines Section 4.4.5 and Table 19.

Maximum-location and density check: all controlling ambient-standard locations are 0.119-0.180 km from the modeling center, within the refined near-field network rather than the coarse outer tiers. The largest ambient-standard utilization is annual PM2.5 at approximately 85.9 percent. The NMED greater-than-95-percent fine-grid review criterion is therefore not triggered, and the controlling maxima are already captured within the refined near-field receptor network. Receptor spacing and the supplemental-grid scope are documented in 16-I.

16-W.4 Class II PSD increment comparisons

Pollutant / period	Basis	Comparison concentration	Increment	Percent	Year / UTM E / N (m); distance
NO2 / annual	Highest individual annual facility mean + monitored substitute	6.05249 + 10.53 = 16.58249	25	66.3%	2020; 597193.87 / 3555548.04; 0.141 km
PM2.5 / 24 hours	Cumulative high-second-high + secondary	6.71406 + 0.02198123 = 6.73604	9	74.8%	597337.03 / 3555322.18; 0.133 km
PM2.5 / annual	Highest individual annual ALL-group mean + secondary	2.32389 + 0.000914851 = 2.32480	4	58.1%	2021; 597350.03 / 3555340.71; 0.121 km
PM10 / 24 hours	Cumulative high-second-high	18.23235	30	60.8%	597285.62 / 3555329.33; 0.119 km
PM10 / annual	Highest individual annual ALL-group mean	6.42899	17	37.8%	2022; 597350.03 / 3555340.71; 0.121 km

Annual NO2 background substitution: NMED Guidelines Section 2.6.4.6 permits monitored background in place of modeled surrounding-source increment consumption. The highest individual annual facility contribution is 6.05249 micrograms/m3 (2020). Applying 10.53 micrograms/m3 gives 16.58249 micrograms/m3, which is 8.41751 micrograms/m3 below the 25 micrograms/m3 Class II increment. The constant substitution leaves the controlling receptor unchanged. The higher individual-year result is used conservatively for this comparison.

Annual particulate increment values are taken from the individual-year ANNUAL_G001.PLT ALL-group records. For PM2.5, 2021 controls at 2.32389 micrograms/m3 before the 0.000914851 micrograms/m3 secondary addition; for PM10, 2022 controls at 6.42899 micrograms/m3. The particulate increment runs include the applicable NMED surrounding-source PSD groups, and full-precision MERP additions are applied before rounding.

All increment comparisons in 16-W.4 are below the applicable Class II increments. Particulate controlling locations are within 0.134 km, and the largest particulate increment utilization is 74.8 percent. SO2 3-hour, 24-hour, and annual values are addressed by the facility screening results in 16-W.1. No CO or 1-hour NO2 PSD increment applies. The annual values use conservative highest-individual-year results. The listed increments are in 20.2.74.504 NMAC and are evaluated for this minor-NSR application under 20.2.72.203(A)(4) NMAC.

16-W.5 Class I significance

Pollutant / period	35-km ring maximum	50-km ring maximum	Class I SIL	Comparison
NO2 / annual	0.03482	0.02188	0.1	Below
SO2 / 3 hours	0.16663	0.12090	1.0	Below
SO2 / 24 hours	0.04638	0.01926	0.2	Below
SO2 / annual	0.00193	0.00121	0.1	Below
PM2.5 / 24 hours	0.00503	0.00217	0.27	Below
PM2.5 / annual	0.00021	0.00013	0.03	Below
PM10 / 24 hours	0.00695	0.00289	0.3	Below
PM10 / annual	0.00027	0.00016	0.2	Below

These facility-only maxima use the project-specific 725-receptor 35-/50-km Class I screening network. Every controlling ring maximum occurs at 35 km, and the largest fraction of a Class I SIL is annual NO2 at 34.82 percent. NO2 assumes full NOx conversion for this conservative screen. Annual ring values are five-year means and short-term values are first-high maxima over the five-year sequence. Including the adopted project-wide secondary PM2.5 terms gives 24-hour totals of 0.02701 / 0.02415 micrograms/m3 and annual totals of 0.001125 / 0.001045 micrograms/m3 at 35 km / 50 km, respectively, all below the corresponding SILs. The annual PM2.5 Class I SIL of 0.03 follows EPA's April 30, 2024 supplement and is more stringent than the 0.05 value displayed in the current NMED table.

Calculation/source references for 16-W: executed ADI/ADO/SUM and receptor plot files listed in 16-U; the NMED Air Dispersion Modeling Guidelines (current July 2026 edition; cover Revised June 2026), Sections 2.4.3, 2.6, 2.6.4.4-2.6.4.6, 2.6.6, 2.6.7, 4.4, and 7.1-7.2; the May 21, 2026 Red Raider protocol and associated NMED correspondence; and EPA's April 30, 2024 SIL supplement for the PM2.5 Class I comparisons. Additional regulatory authorities cited in these responses include 20.2.3.111, 20.2.72.203, 20.2.72.402-20.2.72.403, and 20.2.74.504 NMAC; 40 CFR 50.6, 50.11, 50.17, 50.20 and 50.21; EPA's December 10, 2024 secondary-SO2 alternative-demonstration memorandum; and EPA's AERMOD/AERMET 26135 transmittal memorandum dated July 9, 2026.

16-X: Summary/conclusions

	A statement that modeling requirements have been satisfied and that the permit can be issued.
1	The Red Raider facility-plus-background NO2 and cumulative particulate analyses are below the applicable ambient standards: 138.15527 micrograms/m3 for 1-hour NO2, 16.58249 micrograms/m3 for annual NO2, 19.11709 micrograms/m3 for 24-hour PM2.5, 7.73175 micrograms/m3 for annual PM2.5 and 53.13458 micrograms/m3 for 24-hour PM10. NO2 treatment follows NMED Guidelines Sections 2.6.4.4-2.6.4.6. The reported Class II comparisons are also below their increments: annual NO2, 16.58249 micrograms/m3; PM2.5, 6.73604 / 2.32480 micrograms/m3 for 24-hour / annual; and PM10, 18.23235 / 6.42899 micrograms/m3 for 24-hour / annual. Annual increment comparisons use conservative highest-individual-year results. The Class I ring-screening results, including the conservative secondary-PM2.5 additions, are below their stated SILs. Across twelve direct comparisons from eight expanded packages, no added receptor controls a reported maximum. The geographic supplement locates the controlling ambient-standard and Class II receptors within 0.119-0.180 km of the modeling center. These documented results support NMED review of the requested permit modification under 20.2.72.203(A)(4) NMAC for the source basis and statistical scope described in this submission. The common source basis is documented in 16-H, 16-J, 16-O and 16-Q; the screening scope is in 16-W.1. The companion report Section 7.0 presents the same result-specific conclusion.

SUPPLEMENT TO UA4 SECTIONS 16-I, 16-U AND 16-W

Red Raider Compressor Station | Receptor coverage, impact distances and maximum-concentration locations

This supplement consolidates receptor coverage, pollutant-specific impact distances and maximum-concentration locations for NMED review under 20.2.72.203(A)(4) NMAC. The numerical comparisons in Section 16-W remain unchanged. The companion technical report Appendix G reproduces these geographic tables. Source release parameters and source-specific modeled rates are tabulated in that report's Tables 1a and 1b, corresponding to the sources described in UA4 Sections 16-B, 16-O, 16-P and 16-Q.

S-1. Coordinate reference and distance convention

The coordinate system is WGS84, UTM Zone 13 North, in meters. The modeling center is 597,293.87 m E / 3,555,448.04 m N, equivalent to 32.131235 degrees N, 103.968501 degrees W. Table S-6 geographic locators are calculated from the model coordinates, not new GPS survey measurements.

Radial distance is d (km) = sqrt[(E - 597293.87)^2 + (N - 3555448.04)^2] / 1000, measured horizontally from the center. Cartesian tier limits are axis half-widths; Class I distances are ring radii. Neither is interchangeable with a pollutant-specific ROI (NMED Sections 4.6 and 7.1).

Table S-1. Receptor-domain and resolution summary

Component	Geometry / spacing	Extent or inventory
Ambient boundary / near field	Approximately 25-m boundary spacing; 50-m Cartesian tier	Boundary receptors retained; 50-m tier to 0.4-km half-width
Nested original network	100 / 250 / 500 / 1,000 m	Half-widths 1 / 2 / 4 / 10 km; farthest original corner 14.142 km
Original receptor inventory	1,765 entries; 1,493 unique locations	Original locations and receptor terrain values retained
Expanded verification	2,500- and 5,000-m outer tiers	2,645 entries; 2,221 unique locations; 728 added unique locations
Within radial 50 km	2,097 unique locations	Includes 604 added unique locations within 50 km
Square-domain corner output	124 unique locations beyond radial 50 km	Supplemental output; square corners are 70.711 km from center
Class I significance network	365 receptors at 35 km; 360 at 50 km	Separate terrain-processed, 725-receptor ring network

Expanded Cartesian bounds: 547,293.87-647,293.87 m E and 3,505,448.04-3,605,448.04 m N. The regulatory-domain comparisons in this supplement use locations within a 50-km radial distance. Sources: UA4 16-I, 16-T and 16-W; expanded ADO coordinate records.

S-2. Pollutant-specific significant-impact distances

The 50-km domain describes receptor coverage, not the radius of impact (ROI). NMED Section 7.1 defines the ROI by the most distant above-SIL receptor measured from the facility center. Table S-2 supplies finite, calculated distances for the specified output statistics. Coordinates were extracted from the expanded AERMOD receptor-concentration tables; repeated coordinates were counted once.

Table S-2. Farthest above-threshold receptor in each identified output field

Pollutant / period	Output statistic	SIL (µg/m³)	Distance (km)	Farthest receptor UTM E / N (m)	Concentration (µg/m³)
NO2, 1 hour	5-year mean of annual 8th-high daily maxima; design field	7.5	13.463	602,293.87 / 3,567,948.04	8.09751
NO2, annual	5-year annual mean	1	0.854	598,093.87 / 3,555,748.04	1.02991
PM2.5, annual	5-year annual mean	0.13	0.158	597,343.87 / 3,555,298.04	0.14536
PM2.5, 24 hours	5-year mean of annual first-high values	1.2	0.119	597,285.62 / 3,555,329.33	1.20332
PM10, 24 hours	First-high over the five-year sequence	5	0.158	597,343.87 / 3,555,298.04	5.21367
PM10, annual	5-year annual mean	1	0.158	597,343.87 / 3,555,298.04	1.18220

NO2 1-hour statistical basis: 13.463 km identifies the above-7.5 µg/m³ extent of the reported 98th-percentile design field. It is used for the design-value coverage check in S-4, not as a substitute for the maximum-concentration SIL statistic specified in NMED Section 2.4.3. The annual NO2 and particulate rows retain their stated screening statistics; the PM10 short-term first-high over all years is conservative relative to an average of annual maxima.

The largest particulate distance is 0.158 km for both PM2.5 and PM10. The annual NO2 distance is 0.854 km. These above-SIL locations are inside the original nested receptor network. NO2, PM2.5 and PM10 are evaluated further through the pollutant-specific refined analyses in Section 16-W.

S-3. Maximum design-value locations and local receptor resolution

Tables S-3 and S-5 consolidate the completed ambient-standard and Class II comparisons from 16-W.3-16-W.4. All concentrations include the same background and secondary-PM2.5 treatment as those tables. Distances are recalculated from the model center. The NO2 maxima are on the 50-m Cartesian tier; the particulate maxima are discrete boundary receptors in the approximately 25-m network.

Table S-3. Ambient-standard maxima

Pollutant / period	Total (µg/m³)	Standard (µg/m³)	Percent	UTM E / N (m)	Distance (km)	Local network
NO2 / 1 hour	138.15527	188	73.5%	597,393.87 / 3,555,298.04	0.180	50-m Cartesian
NO2 / annual (2020)	16.58249	94.02	17.6%	597,193.87 / 3,555,548.04	0.141	50-m Cartesian
PM2.5 / 24 hours	19.11709	35	54.6%	597,350.03 / 3,555,340.71	0.121	Approx. 25-m boundary
PM2.5 / annual	7.73175	9	85.9%	597,350.03 / 3,555,340.71	0.121	Approx. 25-m boundary
PM10 / 24 hours	53.13458	150	35.4%	597,285.62 / 3,555,329.33	0.119	Approx. 25-m boundary

The annual NO2 percent uses the more stringent 94.02 µg/m³ New Mexico standard; the federal annual value is 99.66 µg/m³. NO2 1-hour uses the retained 188 µg/m³ comparison. Regulatory references: 20.2.3.111(B) NMAC; 40 CFR 50.11, 50.20 and 50.6. Statistics and additions are specified in 16-K, 16-M and 16-W.3.

Table S-4. Direct coordinate-set check of retained particulate receptors

Verified refined output	Receptor entries / unique locations	Expanded above-SIL locations included
PM25-ANNUAL-NAAQS.ADO	55 / 48	All 25 unique locations in the union of the annual and 24-hour direct PM2.5 significance fields
PM10-24HR-NAAQS.ADO	65 / 57	All 12 unique locations in the union of the annual and 24-hour direct PM10 significance fields

The coordinate checks above compare actual expanded-output locations with the named refined-output coordinate sets. CO and SO2 screening results and their statistical forms remain in 16-W.1. Sources: expanded NO2-1HR.ADO, NO2-ANNUAL.ADO, PM25-ANNUAL.ADO, PM25-24HR.ADO and PM10-24HR.ADO; the two refined outputs named in Table S-4.

Table S-5. Class II PSD increment maxima

Pollutant / period	Comparison (µg/m³)	Increment (µg/m³)	Percent	UTM E / N (m)	Distance (km)	Local network
NO2 / annual (2020)	16.58249	25	66.3%	597,193.87 / 3,555,548.04	0.141	50-m Cartesian
PM2.5 / 24 hours	6.73604	9	74.8%	597,337.03 / 3,555,322.18	0.133	Approx. 25-m boundary
PM2.5 / annual (2021)	2.32480	4	58.1%	597,350.03 / 3,555,340.71	0.121	Approx. 25-m boundary
PM10 / 24 hours	18.23235	30	60.8%	597,285.62 / 3,555,329.33	0.119	Approx. 25-m boundary
PM10 / annual (2022)	6.42899	17	37.8%	597,350.03 / 3,555,340.71	0.121	Approx. 25-m boundary

Annual NO2 includes the 10.53 µg/m³ monitored substitute under NMED Section 2.6.4.6. PM2.5 includes the project secondary term. Annual increment entries use the highest individual modeled year. Increment limits: 20.2.74.504 NMAC.

The largest ambient-standard fraction is 85.9 percent (annual PM2.5); the largest reported Class II fraction is 74.8 percent (24-hour PM2.5). None of these comparisons exceeds 95 percent. The controlling receptors are already in the refined near field, 0.119-0.180 km from the center; this location/resolution information addresses the fine-grid review described in NMED Sections 4.6.3 and 7.2.2.

S-4. Geographic locator coordinates and expanded-domain confirmation

Table S-6 converts each unique controlling location to WGS84 latitude/longitude for reference. UTM coordinates remain controlling; six-decimal locators do not imply field-survey accuracy.

Table S-6. WGS84 geographic locator equivalents

Location / use	UTM E / N (m)	Latitude (degrees N)	Longitude (degrees W)
Modeling center	597,293.87 / 3,555,448.04	32.131235	103.968501
NO2 1-hour ambient maximum	597,393.87 / 3,555,298.04	32.129873	103.967456
NO2 annual ambient / Class II maximum	597,193.87 / 3,555,548.04	32.132145	103.969551
PM2.5 ambient / annual Class II; PM10 annual Class II	597,350.03 / 3,555,340.71	32.130262	103.967917
PM10 24-hour ambient / Class II maximum	597,285.62 / 3,555,329.33	32.130165	103.968600
PM2.5 24-hour Class II maximum	597,337.03 / 3,555,322.18	32.130096	103.968056

NO2 1-hour added-receptor design-value check

The expanded design field contains nine added unique locations above the retained 7.5 µg/m³ comparison. The farthest is at 602,293.87 m E / 3,567,948.04 m N (13.463 km), with 8.09751 µg/m³. The highest added-location value is 11.14595 µg/m³ at 602,293.87 m E / 3,557,948.04 m N (5.590 km). Adding the same constant 62.70 µg/m³ background used in the facility-plus-background analysis gives 73.84595 µg/m³, or 39.3 percent of 188 µg/m³. This is 64.30932 µg/m³ below the controlling 138.15527 µg/m³ near-field design concentration.

Because a constant background is additive and the facility emissions, meteorology and ARM2 settings are retained, this arithmetic check preserves the daily ranking and the five-year design statistic. It documents the added receptor set without requiring a second, duplicative calculation of that same constant addition. The facility-plus-background method follows NMED Sections 2.6.4.4-2.6.4.5.

Particulate and Class I spatial checks

The largest added annual PM2.5 value is 0.00182 µg/m³ at 594,793.87 m E / 3,560,448.04 m N (5.590 km); the largest value beyond 15 km and within 50 km is 0.00065 µg/m³ at 594,793.87 m E / 3,570,448.04 m N (15.207 km). Both are below the 0.13 µg/m³ annual SIL. The separate Class I ring results in 16-W.5 are below the listed SILs, including the conservative secondary-PM2.5 additions. The 35-/50-km ring radii are screening-network distances and are kept distinct from the approximately 39-km park distance and the Class II impact distances in S-2.

Sources: UA4 16-I, 16-K and 16-W.2-16-W.5; expanded NO2-1HR.ADO and PM25-ANNUAL.ADO; arithmetic and coordinate conversions performed for this supplement.

Table S-7. Geographic documentation cross-reference

Reporting topic	Location in this supplement
Facility center, coordinate datum and distance convention	S-1 and geographic locator Table S-6
Pollutant-specific field extents and 50-km receptor coverage	S-1 / Table S-1 and S-2 / Table S-2
Controlling ambient / increment locations and fine-grid resolution	S-3 / Tables S-3 and S-5
Retention of above-SIL particulate receptor locations	Coordinate-set comparison in Table S-4
Added-receptor checks and supporting electronic records	S-4 design-value / particulate checks; S-5 / Table S-8

S-5. Electronic modeling-record index and reporting cross-reference

Include the file groups below with the UA4 electronic modeling submittal. Keep original and expanded SIL branches separately identified, including the completed expanded PM25-ANNUAL package, to support reproduction of the reported comparisons.

Table S-8. File groups supporting the geographic review

Record group / folder	Files or packages to identify in the electronic submittal	Review purpose
AERMOD-SIL-MODEL-FILES / REFINED-50KM-SIL-RUNS	NO2-1HR; NO2-ANNUAL; CO-1HR-8HR; SO2-1HR-SIL; SO2-3HR-24HR-ANNUAL-SIL; PM25-24HR; PM25-ANNUAL; PM10-24HR	Eight expanded packages; twelve reported period comparisons; output ranks and full receptor fields
AERMOD-SIL-MODEL-FILES / ORIGINAL-MODELING-RUNS-PRE-50KM	Retain corresponding original ADI/ADO/SUM/ROU and plot files	Original-grid comparison; retained locations and controlling maxima
AERMOD-NAAQS-MODEL-FILES	NO2-1HR-NAAQS; NO2-ANNUAL-NAAQS; PM25-24HR-NAAQS; PM25-ANNUAL-NAAQS; PM10-24HR-NAAQS	Ambient-standard source groups, backgrounds, ranks and maximum locations
AERMOD-CLASS-II	NO2-PSD-INCR; PM25-PSD-INCR; PM10-24HR-PSD-INCR; PM10-ANNUAL-PSD-INCR	Increment source groups; short-term maxima and individual-year ANNUAL_G001.PLT records
AERMOD-CLASS-I	Pollutant-specific packages and combined 35-/50-km receptor records	Separate 725-receptor Class I significance network
Shared terrain, meteorology and secondary calculations	AERMAP ROU/SOU; BPIPPRM BPI/PRO/SUP; Carlsbad_2020-2024.SFC/PFL; Red_Raider_Secondary_PM25_Calculations.xlsx	Receptor elevations, hill heights, downwash, model configuration and arithmetic additions

Retain executed inputs, outputs, summaries, referenced data and concentration plot files with their filenames and relative paths. This index identifies the submittal records, not the status of an electronic upload.

S-6. Geographic-review conclusion and source references

The added information locates the reported controlling ambient and Class II maxima in the refined near-field network, documents the finite distances in the identified significance/design fields, verifies retention of the particulate above-SIL locations in the named refined coordinate sets, and shows that the added outer-domain locations do not displace the reported controlling maxima. Together with the below-standard and below-increment comparisons in 16-W, these geographic findings support NMED review of the requested Red Raider permit modification.

References: NMED Air Dispersion Modeling Guidelines, July 2026, Sections 2.4.3, 2.6.4.4-2.6.4.6, 4.6.2-4.6.5 and 7.1-7.2; 20.2.72.203(A)(4) NMAC; authorities in S-3; NMED June 30, 2026 Red Raider protocol correspondence; and executed files in Tables S-2, S-4 and S-8. Calculations comprise output extraction, coordinate-set checks, coordinate/distance conversion and the stated additions. No dispersion input or simulation was changed.

Air Dispersion Modeling Report

For Red Raider Compressor Station (NMED AI # 40971)

Eddy County, New Mexico

Technical attachment supporting UA4 Section 16-W

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September 8, 2026

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1.0 Executive Summary

This report supports the requested minor-NSR permit modification for ONEOK Delaware Gathering, LLC's Red Raider Compressor Station in Eddy County, New Mexico. The analysis uses AERMOD version 24142, the project protocol and NMED Guidelines (July 2026; cover: Revised June 2026). It presents the same results and technical bases as the submitted UA4, with supporting geographic tables in Appendix G.

- Class II SIL Analysis: NO_2, $PM_{2.5}$ and PM_{10} advance to the refined analyses summarized below. Reported CO and SO_2 screening statistics are below their listed comparison levels. Tables 3 and 3a and Section 6.1.3 identify the screening results and statistical scope.
- Ambient Standards: Facility-plus-background NO_2 concentrations are 138.15527 µg/m³ (1-hour) and 16.58249 µg/m³ (annual). Cumulative particulate concentrations are 19.11709 µg/m³ (24-hour $PM_{2.5}$), 7.73175 µg/m³ (annual $PM_{2.5}$), and 53.13458 µg/m³ (24-hour PM_{10}). Both $PM_{2.5}$ totals include secondary formation. All five results are below the applicable ambient standards; annual $PM_{2.5}$ is 85.9 percent of its 9.0 µg/m³ standard.
- Class II PSD Increments: Comparisons are 16.58249 µg/m³ (annual NO_2), 6.73604 and 2.32480 µg/m³ (24-hour and annual $PM_{2.5}$), and 18.23235 and 6.42899 µg/m³ (24-hour and annual PM_{10}). All are below their applicable increments. The NO_2 value includes monitored-background substitution, $PM_{2.5}$ includes secondary formation, and annual comparisons use the highest individual modeled year.
- Class I Significance: All reported ring-screening maxima are below their Class I SILs, including the supplemental secondary-$PM_{2.5}$ comparisons. The 725-receptor network comprises 365 receptors at 35 km and 365 at 50 km, bracketing the approximately 39-km distance to Carlsbad Caverns National Park.

Expanded-Domain Verification: No added receptor controls a reported maximum in twelve comparisons from eight expanded packages. The largest added NO_2 facility-plus-background value is 73.84595 µg/m³, below the controlling 138.15527 µg/m³ result. Controlling ambient-standard and Class II receptors remain 0.119-0.180 km from the modeling center. See the Red Raider AERMOD Modeling QC Summary on the next two pages.

Red Raider AERMOD Modeling QC Summary

Updated QC findings and final run status - September 8, 2026

Stage	Red Raider run	Status	QC finding / action
SIL	CO 1-hr / 8-hr	✓ COMPLETE	Reported H2H: 1-hr = 152.15206 µg/m³ < 2,000; 8-hr = 113.55148 µg/m³ < 500. No cumulative CO modeling required.
SIL	SO_2 1-hr	✓ COMPLETE	Reported 1-hr = 5.06934 µg/m³ < 7.8 µg/m³. No cumulative 1-hour SO_2 modeling required.
SIL	SO_2 3-hr / 24-hr / annual	✓ COMPLETE	3-hr = 5.77201 µg/m³ < 25; 24-hr = 3.42918 µg/m³ < 5; annual = 0.30409 µg/m³ < 1. No refined SO_2 increment run required.
SIL	NO_2 1-hr	✓ COMPLETE - TRIGGERS	Facility-only SIL result = 75.45527 µg/m³ > 7.5 µg/m³. Refined 1-hour NO_2 NAAQS/NMAAQS modeling was required and completed.
SIL	NO_2 annual	✓ COMPLETE - TRIGGERS	Facility-only annual result = 5.70573 µg/m³ > 1.0 µg/m³. Annual NO_2 ambient-standard and Class II PSD increment analyses were required and completed.
SIL	$PM_{2.5}$ 24-hr	✓ COMPLETE - TRIGGERS	Expanded $PM_{2.5}$ 24-hr SIL = 1.20332 µg/m³ > 1.2 µg/m³. Refined ambient-standard and Class II analyses were required and completed.
SIL	$PM_{2.5}$ annual	✓ COMPLETE - TRIGGERS	Expanded $PM_{2.5}$ annual SIL = 0.34731 µg/m³ > 0.13 µg/m³. Refined ambient-standard and Class II analyses were required and completed.
SIL	PM_{10} 24-hr / annual	✓ COMPLETE - BOTH TRIGGER	Expanded 24-hr = 15.71189 µg/m³ > 5; annual = 3.01125 µg/m³ > 1. Both significance thresholds are exceeded; refined analyses were completed.
NAAQS	NO_2 1-hr	✓ COMPLETE / PASSES	Final facility-plus-background design concentration = 138.15527 µg/m³ < 188 µg/m³. The 1-hour demonstration also addresses the 24-hour NMAAQS surrogate.
NAAQS	NO_2 annual	✓ COMPLETE / PASSES	Final annual NO_2 = 16.58249 µg/m³ < 94.02 µg/m³ NMAAQS and < 99.66 µg/m³ NAAQS.
NAAQS	SO_2 1-hr	— NOT REQUIRED	Facility significance screening is below the applicable SO_2 SIL; a refined cumulative 1-hour SO_2 NAAQS run was not required.
NAAQS	$PM_{2.5}$ 24-hr	✓ COMPLETE / PASSES	AERMOD = 19.09511 µg/m³ + secondary $PM_{2.5}$ = 0.021981 µg/m³; final = 19.11709 µg/m³ < 35 µg/m³.
NAAQS	$PM_{2.5}$ annual	✓ COMPLETE / PASSES	AERMOD = 7.73084 µg/m³ + secondary $PM_{2.5}$ = 0.000915 µg/m³; final = 7.73175 µg/m³ < 9 µg/m³.
NAAQS	PM_{10} 24-hr	✓ COMPLETE / PASSES	Final cumulative 24-hr PM_{10} concentration = 53.13458 µg/m³ < 150 µg/m³.
NAAQS	PM_{10} annual	— NOT REQUIRED	No annual PM_{10} NAAQS applies.
Class II PSD	NO_2 annual	✓ COMPLETE / PASSES	Annual Class II comparison = 16.58249 µg/m³ < 25 µg/m³ using monitored-background substitution; facility contribution = 6.05249 µg/m³.
Class II PSD	SO_2 3-hr / 24-hr / annual	— NOT REQUIRED	SO_2 3-/24-hr and annual screening values are below their SILs; refined Class II increment runs were not required.
Class II PSD	$PM_{2.5}$ 24-hr	✓ COMPLETE / PASSES	AERMOD H2H = 6.71406 µg/m³ + secondary $PM_{2.5}$ = 0.021981 µg/m³; final = 6.73604 µg/m³ < 9 µg/m³.
Class II PSD	$PM_{2.5}$ annual	✓ COMPLETE / PASSES	AERMOD annual (2021) = 2.32389 µg/m³ + secondary = 0.000915 µg/m³; final = 2.32480 µg/m³ < 4 µg/m³.
Class II PSD	PM_{10} 24-hr / annual	✓ COMPLETE / PASSES	24-hr = 18.23235 µg/m³ < 30; annual (2022) = 6.42899 µg/m³ < 17 µg/m³.

Stage	Red Raider run	Status	QC finding / action
Class I	NO_2	✓ **COMPLETE / PASSES**	Annual: 35-km = 0.03482 µg/m³; 50-km = 0.02188 µg/m³; both < 0.1 µg/m³. Controlling maximum is on the 35-km ring.
Class I	SO_2	✓ **COMPLETE / PASSES**	35/50 km: 3-hr = 0.16663 / 0.12090 < 1.0; 24-hr = 0.04638 / 0.01926 < 0.2; annual = 0.00193 / 0.00121 < 0.1 µg/m³.
Class I	$PM_{2.5}$	✓ **COMPLETE / PASSES**	Direct 35-km maxima: 24-hr = 0.00503; annual = 0.00021. Including conservative secondary $PM_{2.5}$: 24-hr = 0.02701 < 0.27; annual = 0.001125 < 0.03 µg/m³.
Class I	PM_{10}	✓ **COMPLETE / PASSES**	35/50 km: 24-hr = 0.00695 / 0.00289 < 0.3; annual = 0.00027 / 0.00016 < 0.2 µg/m³. All Class I significance comparisons pass.

Completion status: All Red Raider final analysis branches reported in the UA4/report are complete. NO_2 and particulate ambient-standard and Class II PSD comparisons pass; CO and SO_2 screen below their significance levels and require no additional cumulative runs. The 725-receptor Class I 35-/50-km ring screen passes for NO_2, SO_2, $PM_{2.5}$, and PM_{10}. Expanded nominal 50-km verification found no new controlling maximum; refined ambient-standard and Class II maxima remain in the near-field receptor network.

2.0 Modeling Basis and Results Summary

The modeling basis and results are presented consistently with the submitted UA4. Tables 1a and 1b describe the modeled sources; Tables 3 through 7 summarize the screening, ambient-standard, increment and Class I results. Appendix G provides the corresponding receptor inventories, impact distances, maximum-concentration coordinates and electronic-file cross-references.

Tables 1a and 1b identify the executed source coordinates, AERMAP elevations, release geometry and source rates. The modeled ENG-8 easting is 597,250.89 m and the TK-406B easting is 597,306.35 m. The electronic input files identified in Appendix E provide the source definitions used for the reported concentrations.

Table 1b presents the executed AERMOD emission rates used to calculate the reported concentrations. Workbook inventory totals are identified separately where used for modeling applicability and precursor calculations. Application-to-model correspondence is source- and pollutant-specific, as documented in UA4 Section 16-O; the report does not substitute workbook totals for the executed SRCPARAM rates.

All eight expanded packages completed without fatal errors. The original and expanded comparisons retain their identified output statistics. Annual Class II comparisons use the highest individual modeled year, while the five-year annual means remain separately identified in the SIL tables.

Downwash configuration: BPIPPRM represents ten structures: six compressor/cooler structures and four tank/vessel geometries. Direction-specific downwash parameters are applied to all 12 point sources. The modeled geometry set and the ancillary-structure review basis are described in UA4 Section 16-H and Section 4.3 of this report.

Operating configuration: All 12 point sources are modeled concurrently at their maximum hourly rates with continuous year-round operation. HR-1 uses the hour-of-day factors in Section 3.2 and UA4 Section 16-J. The results apply to this modeled configuration; the application operating-scenario basis is identified in UA4 Section 16-J.

Haul-road configuration: Five adjacent volume sources use nominal 8.44-m elements, a 3.38-m release height, sigma-Y of 3.93 m and sigma-Z of 2.92 m. The 6.28-m vertical plume dimension determines sigma-Z; the release height is a separate input. These are the source parameters reported in UA4 Section 16-Q.

Analysis	Comparison concentration (µg/m³)	Interpretation / basis
NO_2 NAAQS, 1 hour / annual	138.15527 / 16.58249	Entire facility plus corresponding background; annual value is the conservative highest year.
$PM_{2.5}$ NAAQS, 24 hour / annual	19.11709 / 7.73175	Cumulative results include background and secondary $PM_{2.5}$ once.
PM_{10} NAAQS, 24 hour	53.13458	Cumulative sixth-highest 24-hour concentration over five years, including background.
NO_2 Class II, annual	16.58249	6.05249 highest individual annual facility result + 10.53 monitored substitution.
$PM_{2.5}$ Class II, 24 hour / annual	6.73604 / 2.32480	Includes secondary $PM_{2.5}$; annual result uses highest individual year.
PM_{10} Class II, 24 hour / annual	18.23235 / 6.42899	Short-term high-second-high / conservative highest individual annual result.
Expanded annual $PM_{2.5}$ SIL	0.34731; original 0.34724	Direct 2,645-entry run; no added receptor controls the maximum.
CO and SO_2 initial screening	See Tables 3 and 3a	Reported ranks and the associated screening scope are identified in Section 6.1.3.
Class I significance	See Table 7	725 receptors on 35-km and 50-km rings; direct and supplemental secondary-$PM_{2.5}$ comparisons remain below the stated SILs.

3.0 Introduction and Facility Overview

The Red Raider Compressor Station (Facility) is a natural gas gathering, compression, and dehydration facility operated by ONEOK Delaware Gathering, LLC. The Facility is located in Eddy County, New Mexico. The modeled facility center is approximately at UTM coordinates 597,293.87 m E and 3,555,448.04 m N (WGS84, Zone 13N), corresponding to approximately 32.131235 degrees N, 103.968501 degrees W. AERMAP-processed onsite point-source elevations range from 927.93 to 929.27 m above mean sea level.

This report supports the current Red Raider air-permitting modeling demonstration. The modeled onsite configuration includes eight compressor engines, one generator, a glycol reboiler, two enclosed combustion devices, and a particulate haul-road/line-volume source. The Facility also includes dehydration, liquid-handling and storage equipment, loading operations, and associated fugitive and intermittent sources addressed in the permitting record as applicable.

3.1 Project Scope and Proposed Modifications

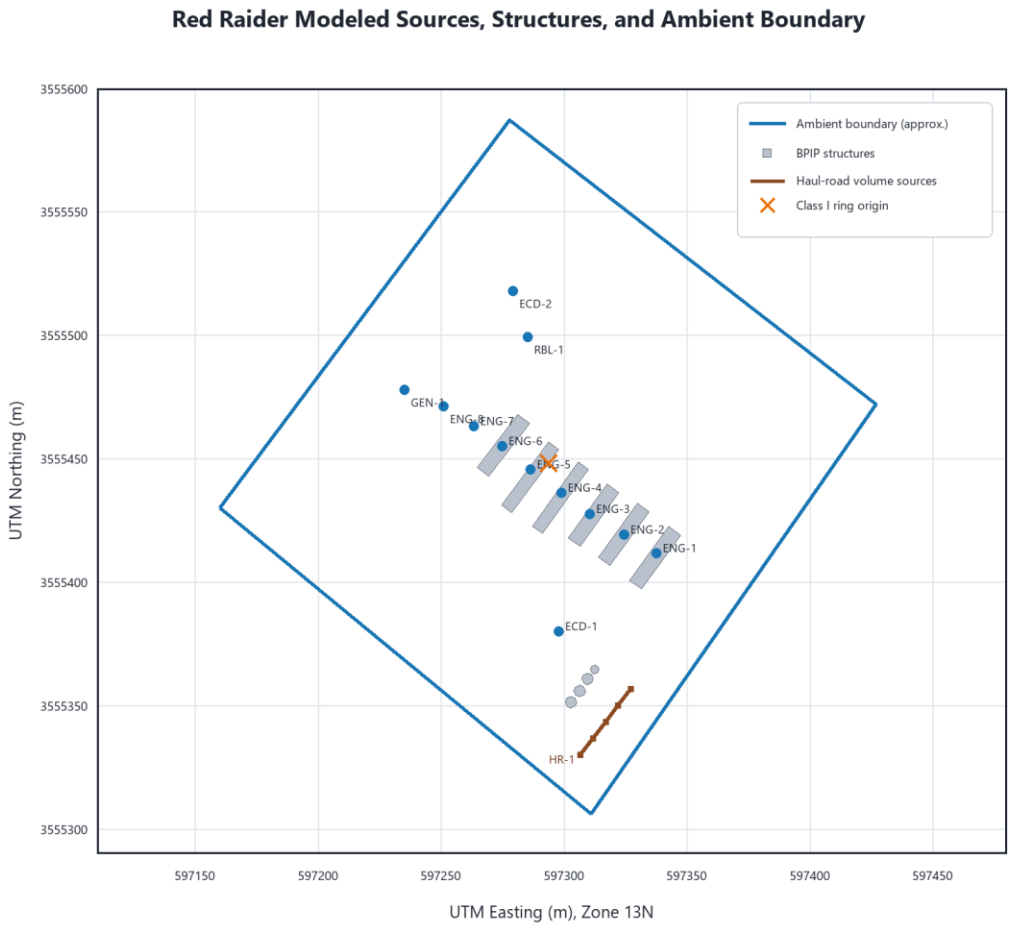
For the current Red Raider modeling configuration, the onsite AERMOD source group includes the following modeled emission units:

- Four (4) Caterpillar G3612 A4 compressor engines (ENG-1, ENG-2, ENG-3, and ENG-6).
- Two (2) Waukesha 16V275GI compressor engines (ENG-4 and ENG-5).
- Two (2) Caterpillar G3616 A4 Gen 2 compressor engines (ENG-7 and ENG-8), one Aggreko 21.9-L generator (GEN-1), and one 2.0 MMBtu/hr glycol reboiler (RBL-1).
- Two (2) enclosed combustion devices (ECD-1 and ECD-2) and one particulate line-volume source represented by five adjacent volume-source segments (L0000001 through L0000005).

3.2 Facility Source Emissions and Parameters

A site layout showing the modeled facility boundary, onsite emission sources, and buildings/structures at the Red Raider Compressor Station is presented in Figure 1. The source coordinates and elevations used in the final model files are the controlling values for the dispersion analysis.

Figure 1: Red Raider Facility, Modeled Emission Sources, BPIP Structures, and Ambient Boundary



Emission units were modeled using standard dispersion characterization principles:

- Point Sources: Compressor engines, the generator, the glycol reboiler, and the enclosed combustion devices were represented as vertical point sources using source-specific stack heights, diameters, exit temperatures, velocities, and AERMAP-processed base

elevations. Tables 1a and 1b summarize release geometry and elevations from the final Red Raider AERMOD inputs and executed emission rates, with the common source-basis description in Section 2.0 and UA4 Section 16-O.

- Enclosed Combustion Devices: ECD-1 and ECD-2 are vertical point sources. Each uses a 7.620-m release height, 1.2192-m diameter, 1,033.15-K exit temperature and 0.786384-m/s exit velocity, consistent with UA4 Section 16-P. Both devices have zero modeled direct $PM_{2.5}$ and PM_{10} emissions.
- Haul Road/Line-Volume Source: Particulate emissions from HR-1 are represented by five adjacent volume-source segments. Aggregate base rates are 0.007 lb/hr $PM_{2.5}$ and 0.070 lb/hr PM_{10}, divided equally among the segments. Hour-of-day factors are 0.69 for model hours 1-8 and 17-24, and 1.62 for hours 9-16. Their daily mean is 1.00, with every hour represented. Peak-hour aggregate rates are 0.01134 lb/hr $PM_{2.5}$ and 0.1134 lb/hr PM_{10}. The same base rates and schedule apply to short-term and annual modeling, without an additional annual operating-hour discount (UA4 Sections 16-J and 16-Q).

A complete summary of the facility sources, source types, release parameters, and executed base emission rates is provided in Tables 1a and 1b. Table 1a summarizes Red Raider facility source locations and release geometry. Table 1b summarizes Red Raider source release conditions and emission rates.

Table 1a: Red Raider Facility Source Locations and Release Geometry

Type	ID	Description	UTM-X (m)	UTM-Y (m)	Base Elev. (m)	Release Ht. (m)	Diam./sigma-y (m)
POINT	ENG-1	Comp. Engine 1 - CAT G3612 A4	597337.62	3555411.71	928.87	8.534	0.6096
POINT	ENG-2	Comp. Engine 2 - CAT G3612 A4	597324.46	3555419.04	928.66	8.534	0.6096
POINT	ENG-3	Comp. Engine 3 - CAT G3612 A4	597310.41	3555427.54	928.49	8.534	0.6096
POINT	ENG-4	Comp. Engine 4 - Wauk. 16V275GI	597298.95	3555436.05	928.25	10.649	0.7620
POINT	ENG-5	Comp. Engine 5 - Wauk. 16V275GI	597286.38	3555445.66	928.08	10.649	0.7620
POINT	ENG-6	Comp. Engine 6 - CAT G3612 A4	597274.92	3555454.90	927.99	8.534	0.6096
POINT	ENG-7	Comp. Engine 7 - CAT G3616 A4 Gen 2	597263.46	3555463.04	927.93	8.534	0.6096
POINT	ENG-8	Comp. Engine 8 - CAT G3616 A4 Gen 2	597250.89	3555471.17	927.95	8.534	0.6096
POINT	GEN-1	Generator - Aggreko 21.9L	597234.99	3555477.83	927.95	3.048	0.3048
POINT	RBL-1	Glycol Reboiler - 2.00 MMBtu/hr	597285.27	3555499.27	928.52	2.743	0.2438
POINT	ECD-1	Enclosed Combustion Device 1	597297.84	3555379.85	929.27	7.620	1.2192
POINT	ECD-2	Enclosed Combustion Device 2	597279.36	3555517.76	929.11	7.620	1.2192
VOL.	HR-1	Haul road; five adjacent volume-source segments	See model input	See model input	See model input	3.38	sigma-y = 3.93

Table 1b: Red Raider Facility Source Release Conditions and Emission Rates

ID	Exit Vel./sigma-z (m/s or m)	Exit Temp. (K)	Release Type	NOx (g/s)	CO (g/s)	$PM_{2.5}$ (g/s)	PM_{10} (g/s)	SO_2 (g/s)
ENG-1	38.7200	710.9	Vertical	0.312475	0.416675	0.001008	0.001008	0.018018
ENG-2	38.7248	710.9	Vertical	0.312475	0.416675	0.001008	0.001008	0.018018
ENG-3	38.7248	710.9	Vertical	0.312475	0.416675	0.001008	0.001008	0.018018
ENG-4	26.8407	735.4	Vertical	0.416675	0.555525	0.001386	0.001386	0.024444
ENG-5	26.8407	735.4	Vertical	0.416675	0.555525	0.001386	0.001386	0.024444
ENG-6	38.7248	710.9	Vertical	0.312475	0.416675	0.001008	0.001008	0.018018
ENG-7	50.6090	694.3	Vertical	0.458380	0.611090	0.001386	0.001386	0.025830
ENG-8	50.6090	694.3	Vertical	0.458380	0.611090	0.001386	0.001386	0.025830
GEN-1	15.2156	1023.2	Vertical	0.058085	0.135574	0.005922	0.005922	0.003402
RBL-1	8.1077	1033.2	Vertical	0.024696	0.020790	0.001890	0.001890	0.001386
ECD-1	0.786384	1033.15	Vertical	0.091978	0.183579	0.000000	0.000000	0.000022
ECD-2	0.786384	1033.15	Vertical	0.032129	0.064133	0.000000	0.000000	0.000022
HR-1	sigma-z = 2.92	--	Volume	0	0	0.000881985	0.008819851	0

Point-source emission rates in Table 1b are shown in g/s to six decimal places. ECD release conditions and aggregate HR-1 rates retain the precision reported in UA4 Sections 16-P and 16-Q. The HR-1 base rates, 0.000881985 g/s $PM_{2.5}$ and 0.008819851 g/s PM_{10}, are divided equally among L0000001-L0000005. Segment coordinates and expanded-input elevations are provided in UA4 Section 16-Q and the electronic inputs identified in Appendix E. Tables 1a and 1b report modeled source parameters; Section 2.0 identifies the application/model source basis.

3.3 Modeling Applicability and Emissions Thresholds

In accordance with NMED AQB modeling guidance and the Red Raider modeling protocol, dispersion modeling is required for pollutants that do not qualify for the applicable very-small-emission-rate criteria. The updated Red Raider inventory exceeds the applicable criteria for CO, NO_2/NOx, SO_2, $PM_{2.5}$, and PM_{10}; therefore, all five criteria pollutants are included in the modeling program. Table 2 summarizes the updated applicability values from the August 17, 2026 Red Raider modeling-input workbook.

Table 2: Modeling Applicability Comparison

Pollutant	Annualized Workbook/Base Rate (tpy)	Workbook/Base Rate (lb/hr)	NMED Criterion Used (lb/hr)	Modeling Required?
CO	153.09	34.953	2.580	Yes
NO_2/NOx	111.48	25.452	0.024	Yes
SO_2	6.16	1.407	0.023	Yes
$PM_{2.5}$ (point sources)	0.60	0.138	0.009	Yes
$PM_{2.5}$ (line-volume source)	0.03	0.007	0.003	Yes
PM_{10} (point sources)	0.60	0.138	0.039	Yes
PM_{10} (volume/road contribution)	0.31	0.070	0.015	Yes

Table 2 uses workbook inventory totals for applicability and annualizes base rates at 8,760 hours/year. Table 1b identifies the separate executed source rates used for the concentration results. The executed point-source totals are approximately 25.452000 lb/hr NOx, 34.953000 lb/hr CO, 1.408342 lb/hr SO_2, and 0.138000 lb/hr for each direct particulate fraction. HR-1 base and hour-of-day rates are described in Section 3.2.

3.4 Modeling Requirements and Compliance Objectives

The primary objective of the Red Raider modeling analysis is to demonstrate compliance with the applicable National Ambient Air Quality Standards (NAAQS), New Mexico Ambient Air Quality Standards (NMAAQS), and PSD increment requirements under 20.2.72.203(A)(4) NMAC. State CO, NO_2, and SO_2 standards are in 20.2.3.111(A)-(B) and 20.2.3.110(A) NMAC; applicable increment values are in 20.2.74.504 NMAC. The modeling program addresses the following pollutants and averaging periods, subject to the project protocol and applicable surrogate demonstrations:

- Carbon Monoxide (CO): 1-hour and 8-hour
- Nitrogen Dioxide (NO_2): 1-hour, 24-hour, and annual
- Sulfur Dioxide (SO_2): 1-hour, 3-hour, 24-hour, and annual

- Fine Particulate Matter ($PM_{2.5}$): 24-hour and annual
- Particulate Matter (PM_{10}): 24-hour and annual

4.0 Model Selection and Setup

4.1 Model Selection

Dispersion modeling was performed using the protocol-selected AERMOD version 24142 with regulatory default concentration options, rural dispersion, elevated terrain and building downwash. AERMAP version 24142 and the NMED-prepared Carlsbad 2020-2024 meteorological files are used throughout the project. UA4 Section 16-F identifies this project-version basis; the analysis does not use nonregulatory dispersion options.

4.2 Chemical Transformation NO_2

The Tier 2 Ambient Ratio Method 2 (ARM2) is applied for the Red Raider NO_2 significance, NAAQS/NMAAQS, and Class II analyses using the default national minimum and maximum NO_2/NOx conversion ratios of 0.5 and 0.9. The annual NO_2 Class I significance run uses Tier 1 full conversion of NOx to NO_2 as a conservative screening assumption, consistent with the executed Class I AERMOD run. The NO_2 conversion procedures are described in NMED Guidelines Sections 2.6.4.2-2.6.4.3.

4.3 Building Downwash and Terrain

- Building Downwash: BPIPPRM version 04274 provides direction-specific downwash parameters for all 12 point sources. The geometry set contains six compressor/cooler structures, BLD_5 through BLD_10, each 3.66 m high, and four tank/vessel geometries. TK-407 is 10.67 m high and approximately 3.66 m in diameter; TK-406A, TK-406B and TK-406C are each 9.14 m high and approximately 4.72 m in diameter. This modeled geometry set is the one identified in UA4 Section 16-H; other ancillary storage tanks are outside that set. The applicable downwash procedure is NMED Guidelines Section 4.7.

- Terrain Data: USGS 1/3-arc-second National Elevation Dataset (NED) data were processed using AERMAP (v24142) to compute source and receptor base elevations and hill height scale factors.

4.4 Receptor Grid

A multi-tier nested grid was deployed to capture maximum offsite ground-level impacts:

- Fenceline: Approximately 25-meter spacing is used along the restricted-area boundary. The perimeter fence defines the restricted facility area, and no public road crossing is identified in the application. Receptors are placed along and outside the modeled boundary (UA4 Section 16-I).
- Near-Field and Mid-Field Grid: The original SIL network uses 50-meter spacing to Cartesian half-widths of 0.4 km, 100-meter spacing to 1 km, 250-meter spacing to 2 km, and 500-meter spacing to 4 km, with ambient-boundary receptors retained. These distances are measured along the coordinate axes, not as circular radii.
- Far-Field Grid: The original SIL network includes a 1,000-meter tier extending 10 km in each coordinate direction from the grid center. Its farthest corner receptors are approximately 14.142 km from that center. The additional nominal 50-km verification network is described in Section 4.4.1.
- Class I Screening Receptors: Two facility-centered, AERMAP-processed rings are used: 365 discrete receptors at 35 km (approximately 0.9863-degree angular spacing) and 365 receptors at 50 km (1-degree spacing), for 725 total receptors. Both rings sample all azimuths and bracket the approximate 39-km distance to Carlsbad Caverns National Park.

4.4.1 Expanded-Domain SIL Verification Network

The additional Class II SIL-package runs retain the original receptor network and add coarse Cartesian tiers with 2.5-km and 5-km spacing to evaluate potential offsite concentration maxima. The grid center is UTM 597,293.87 m E and 3,555,448.04 m N (Zone 13N). Eight expanded run packages contain 2,645 receptor entries, compared with 1,765 entries in the original packages. After overlapping coordinates are counted once, these totals correspond to 2,221 and 1,493 unique locations, respectively: 728 new locations, with every original location and its receptor

elevation/hill-height values retained. This network provides the expanded-domain Class II SIL verification and is separate from the 35-km and 50-km Class I screening rings. The completed PM25-ANNUAL package is included in this eight-package, twelve-comparison verification.

The nominal 50-km domain is a square extending 50 km in each coordinate direction. Its UTM bounds are 547,293.87 to 647,293.87 m E and 3,505,448.04 to 3,605,448.04 m N; corner receptors are approximately 70.711 km from the center. There are 2,097 unique receptors within a radial distance of 50 km, including 604 newly added locations. The 124 corner-area locations beyond 50 km are retained as supplemental output; the regulatory 50-km verification is evaluated using the receptors within a 50-km radial distance. This square network is separate from the 35-km and 50-km Class I rings.

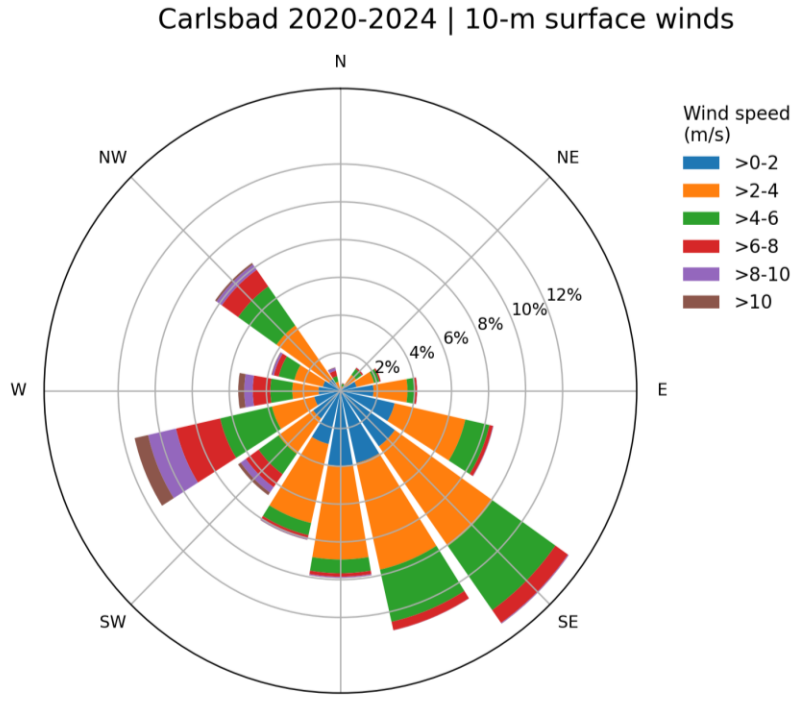
Paired inputs retain AERMOD version 24142, the Carlsbad 2020-2024 meteorological-file references, averaging periods, emission rates, and model options. Gaseous-source definitions are unchanged. In the expanded PM_{10} and both $PM_{2.5}$ packages, the five haul-road source base elevations are updated from 929.62, 929.61, 929.60, 929.58, and 929.57 m to 929.72, 929.81, 929.65, 929.55, and 929.56 m, respectively. The particulate before-and-after comparison therefore reflects both the receptor extension and these small terrain-input refinements. All completed expanded packages ran without fatal errors.

4.5 Meteorological Data

In accordance with NMED AQB air dispersion modeling guidance and the Red Raider modeling protocol, the meteorological dataset was selected based on representativeness for the Eddy County project area, including terrain, regional flow, and surface characteristics.

Five years (2020-2024) of sequential hourly meteorological data from the NMED-prepared Carlsbad dataset were used for the Red Raider analysis. The AERMOD input identifies Carlsbad surface station WBAN 93033 and the Midland, Texas, upper-air station WBAN 23023, with a meteorological profile base elevation of 991 m. Figure 2 presents the corresponding Carlsbad 2020-2024 meteorological summary/wind rose.

Figure 2: Five-Year (2020-2024) Meteorological Summary for Carlsbad, New Mexico



5.0 NAAQS/NMAAQS Air Quality Impact Assessment Methodology

5.1 Class II Modeling Analyses

In accordance with the U.S. EPA *Guideline on Air Quality Models* (40 CFR Part 51, Appendix W) and the New Mexico Environment Department (NMED) Air Quality Bureau Air Dispersion Modeling Guidelines, air dispersion modeling was performed using a multitiered approach to demonstrate compliance with all applicable NAAQS, NMAAQS, and Prevention of Significant Deterioration (PSD) Class II increments.

Phase 1: Preliminary Analysis (Significant Impact Level Demonstration)

The modeling evaluation begins with a facility-only Significant Impact Level (SIL) analysis to determine whether modeled emissions from the Red Raider Compressor Station produce ambient concentrations at or above the applicable significance thresholds.

- Emission Inventory: Modeled source parameters and emission rates describe the executed maximum-rate operating configuration for the complete applicable Red Raider facility source group for each pollutant, rather than only the modified/project-impacted units. For gaseous pollutants, the modeled facility group consists of the 12 point sources in Tables 1a and 1b; particulate packages also include the five AERMOD volume-source segments representing HR-1. This treatment implements the NMED Red Raider protocol comment that, when project impacts exceed a SIL, the entire applicable facility source inventory is to be represented in the SIL analysis. The applicable source-rate basis is described in Section 2.0 and UA4 Section 16-O.
- Receptor Network: A multi-tier nested receptor grid was deployed, anchored by high-density boundary refinement and extending outward to capture maximum ground-level impacts across surrounding terrain elevations (see Section 4.4).
- Evaluation Criteria: The reported modeled facility-only statistics for each criteria pollutant and averaging period were compared directly against U.S. EPA and NMED Class II SIL thresholds.

The NMED procedure uses facility-only significance modeling to determine the need for refined analysis. Pollutant/averaging-period combinations at or above the applicable SIL advance to the corresponding ambient-standard and/or increment evaluation. The reported CO and SO_2 screening ranks and their scope are identified in Section 6.1.3; completed NO_2 and particulate refined results are presented in Section 6.2.

Phase 2: Radius of Impact (ROI) and Cumulative Full Impact Analysis

For any pollutant and averaging time for which the facility-only predicted concentration equaled or exceeded the applicable SIL, a refined ambient-standard and/or increment analysis was required, using the pollutant-specific NMED source/background procedure. Pursuant to Section 7.1 of the *NMED Air Quality Bureau Air Dispersion Modeling Guidelines*, a radius-of-impact analysis was conducted using facility-only modeling results.

- Radius of Impact (ROI): Appendix G, Table S-2, reports the farthest above-threshold receptor and the corresponding field statistic for each significant pollutant/period. Annual NO_2 extends 0.854 km; the maximum particulate extent is 0.158 km. The 1-hour NO_2 13.463-km extent is the reported percentile design field, as identified in Section 6.1.3. Appendix C retains the representative receptor-selection exhibits.
- Receptor Domain: For refined analyses, receptor grids were developed from the facility SIL fields to encompass the applicable significant-impact area and characterize the controlling maximum. Cumulative particulate packages retain the applicable surrounding sources within their pollutant-specific refined domains. The NO_2 ambient-standard packages use the refined Red Raider receptor sets with facility sources and representative monitored background. Section 6.2 reports source counts and maximum locations for each analysis.
- Offsite Permitted Sources and $PM_{2.5}$ Source Isolation: Pollutant-specific refined analyses use the source treatment appropriate to the executed modeling approach. The $PM_{2.5}$ NAAQS runs apply the 10-km source-isolation procedure in NMED Guidelines Section 4.8.1.1 and each contain 877 total modeled sources: 17 Red Raider sources and 860 retained offsite sources; the PM_{10} 24-hour NAAQS package contains 4,192 total sources. The NO_2 ambient-standard analyses use the 12 Red Raider point sources with representative monitored background, while the annual NO_2 Class II

package reports the Red Raider facility contribution. Where monitored particulate background is used, the NMED source-isolation procedure avoids double counting regional contributions represented by the monitor.

- Ambient Background Concentrations and Refined NO_2 Procedure: Pollutant-specific background is applied where representative monitored background is appropriate. The Red Raider 1-hour NO_2 package uses a constant 62.70 µg/m³ background and the annual package uses 10.53 µg/m³ with the 12 facility point sources. The 1-hour run applies ARM2 and AERMOD's five-year 98th-percentile design-value processing; the controlling facility-plus-background design concentration is 138.15527 µg/m³. The annual POSTFILE was evaluated by meteorological year, with 2020 controlling at 16.58249 µg/m³ including background. $PM_{2.5}$ uses 16.7 µg/m³ for 24-hour and 6.6 µg/m³ for annual background; PM_{10} uses 37.3 µg/m³ for 24-hour. SO_2 remained at the screening stage; Section 6.1.3 identifies the statistical forms reported by the archived 1-hour package.

NMED Sections 2.6.4.4 and 2.6.4.5 specify whole-facility modeling plus corresponding background. Red Raider uses that approach. At this location, more than 20 km from central Albuquerque and El Paso, explicit modeling of all nearby NO_2 sources instead of background is optional. Annual increment background substitution is separately authorized by Section 2.6.4.6. The corresponding NO_2 standards are in 20.2.3.111(B) NMAC and 40 CFR 50.11; the state 24-hour surrogate is identified in NMED Guidelines Section 4.4.5 and Table 19.

Phase 3: Refined Ambient-Standard Analysis and Cumulative Source Treatment

For pollutant/averaging-period combinations that exceed a Class II SIL, the refined analysis uses the pollutant-specific receptor domain, source treatment, background approach, and regulatory statistic appropriate to the applicable standard. The Red Raider record includes cumulative particulate analyses and facility-plus-background NO_2 ambient-standard analyses. Tables 5a and 5b report the resulting concentrations and source treatment, with source-group definitions, background treatment, and secondary $PM_{2.5}$ contributions described below.

- Executed NO_2 Ambient-Standard Procedure (facility plus background):

  The executed 1-hour NO_2 ambient-standard package calculates a facility-plus-background design concentration using the 12 Red Raider point sources, the 62.70 µg/m³ constant background, ARM2 chemistry, and the five-year 98th-percentile design-value statistic. The controlling result is 138.15527 µg/m³. The annual package likewise uses the 12 facility point sources with 10.53 µg/m³ background and is checked by meteorological year; 2020 controls at 16.58249 µg/m³. These facility-plus-background values are the NO_2 ambient-standard results reported in Tables 5a and 5b. The highest individual annual result is used conservatively; NMED Section 2.6 generally permits averaging annual results over the meteorological period.

- Cumulative Particulate ($PM_{2.5}$ / PM_{10}) Concentration:

  Total Predicted $PM_{2.5}$ or PM_{10} Design Concentration = Modeled Direct Impact (Facility + Retained Offsite Sources) + Representative Ambient Background + Applicable Secondary $PM_{2.5}$ Contribution ($PM_{2.5}$ only)

Design Concentrations and Regulatory Metrics: The following output statistics are used for the reported modeling comparisons over the five-year meteorological record (NMED Guidelines Section 2.6). The source groups, background treatment and secondary additions are identified with the corresponding results.

- NO_2 1-hour NAAQS: five-year average of the 98th-percentile (8th-highest) daily maximum 1-hour concentration at each receptor; SO_2 1-hour NAAQS: five-year average of the 99th-percentile (4th-highest) daily maximum 1-hour concentration.
- NO_2 annual NAAQS/NMAAQS: conservative highest annual mean among the modeled meteorological years, with 2020 controlling the reported facility-plus-background result. $PM_{2.5}$ annual NAAQS: annual mean averaged across the five meteorological years.
  - $PM_{2.5}$ 24-hour NAAQS: five-year average of the 98th-percentile (8th-highest) 24-hour concentration at each receptor.
  - PSD Class II annual increments: annual mean of increment-consuming impacts. The completed particulate packages include retained surrounding sources. For annual NO_2, Table 6a presents the Red Raider facility contribution together with the conservative NMED-permitted monitored-background substitution used for the

refined increment comparison. For consistency with UA4, the NO_2, $PM_{2.5}$ and PM_{10} annual Class II tables use the highest individual year, which is conservative relative to the multi-year mean described in NMED Section 2.6.

- PM_{10} 24-hour NAAQS: maximum 6th-highest 24-hour concentration over the five-year period. PSD Class II short-term $PM_{2.5}$ and PM_{10} increments: high-second-high concentration for the applicable averaging period.

Demonstration of Compliance: For each refined analysis, the applicable modeled concentration is compared with the ambient standard using the pollutant-specific source and background treatment summarized in Tables 5a and 5b. The completed cumulative particulate analyses and the executed NO_2 facility-plus-background analyses are below the applicable ambient standards at all modeled receptors.

PSD Class II Increment Procedure: The completed particulate Class II packages use increment-consuming Red Raider emissions together with the applicable NMED PSD-group surrounding sources; monitored ambient background is not ordinarily added to those modeled increment results. For annual NO_2, however, NMED Air Dispersion Modeling Guidelines Section 2.6.4.6 permits monitored background to be substituted for modeled surrounding sources as a conservative approach to increment consumption. Accordingly, the annual NO_2 evaluation combines the highest individual annual Red Raider contribution of 6.05249 $\mu g/m^3$ (2020) with the 10.53 $\mu g/m^3$ annual monitored background, yielding 16.58249 $\mu g/m^3$ (approximately 66.3 percent of the 25 $\mu g/m^3$ Class II increment). The completed $PM_{2.5}$ 24-hour and annual and PM_{10} 24-hour and annual results are summarized in Table 6b; secondary $PM_{2.5}$ is added where applicable. No PSD increment applies to CO. The SO_2 3-hour, 24-hour, and annual screening outputs are below their listed comparison levels and did not advance to refined increment runs.

Ozone and secondary $PM_{2.5}$: Red Raider is identified as minor with respect to PSD and below the 250-ton/year NOx and VOC thresholds for the NMED generic minor-source ozone analysis used in UA4 Section 16-L. Secondary $PM_{2.5}$ is calculated using AQCR 155 MERPs and added once to the direct result. Precursor rates of 25.451809 lb/hr NOx and 1.407136 lb/hr SO_2 annualize to 111.47892342 and 6.16325568 tons/year. The 24-hour term is 1.2 x [(111.47892342/7,331) + (6.16325568/1,981)] = 0.02198123 µg/m³; the annual term is 0.2 x [(111.47892342/26,780) + (6.16325568/14,978)] = 0.000914851 µg/m³. The 0.2 factor belongs to the MERP calculation basis, not the current 0.13 annual $PM_{2.5}$ SIL (NMED Guidelines Section 2.6.7.2; UA4 Section 16-M).

5.2 Class I Significance Modeling Analyses

Carlsbad Caverns National Park is the nearest mandatory federal PSD Class I area to Red Raider and is approximately 39 km southwest of the Facility. Because the Facility is within 50 km, an updated Class I screening evaluation was completed using two facility-centered receptor rings at 35 km and 50 km. These radii bracket the park's approximate distance and the nearby sensitive-receptor distances identified for this evaluation.

The project-specific Class I screen uses the 50-km ring alternative identified in the May 21, 2026 protocol, supplemented by a 35-km ring. The 35-km ring contains 365 receptors at approximately 0.9863-degree spacing, and the 50-km ring contains 365 receptors at 1-degree spacing. The 725 AERMAP-processed receptors sample all azimuths and bracket the park's approximate distance. The results apply to this ring-screening network, as described in UA4 Section 16-I; they are distinct from concentrations modeled directly on a Class I area boundary. The receptor basis is submitted for NMED review under Guidelines Section 4.6.4.

Maximum facility-only concentrations across the combined 35-km and 50-km network are compared with the applicable Class I PSD SILs. For $PM_{2.5}$, the 2024 EPA supplement provides the 0.27 µg/m³ 24-hour and 0.03 µg/m³ annual Class I PSD increment SILs used here. The annual NO_2 Class I screen uses full NOx-to-NO_2 conversion. Results are summarized in Table 7 and Appendix D.

The annual $PM_{2.5}$ Class I comparison of 0.03 µg/m³ follows the EPA April 30, 2024 supplement and is more stringent than the 0.05 µg/m³ value displayed in the current NMED table.

6.0 Summary of Results

6.1 Significant Impact Analyses

Table 3 presents the original facility-only significance results. NO_2 and particulate impacts advance to the corresponding refined analyses; reported CO and SO_2 statistics are below their listed comparison levels. Section 6.1.3 defines the screening scope, and Appendix E identifies the electronic packages.

Table 3: Original SIL-Package Results Before the 50-km Extension

Pollutant	Averaging Time	Reported Statistical Basis	Facility-Only Modeled Conc. (µg/m³)	Class II SIL (µg/m³)	Above SIL ?	Extent (App. G)
CO	1-hour	High-second-high	152.15206	2,000	No	-
CO	8-hour	High-second-high	113.55148	500	No	-
NO_2	1-hour	5-year mean of annual 8th-high daily maxima	75.45527	7.5	Yes	S-2
NO_2	Annual	5-year annual mean	5.70573	1.0	Yes	S-2
SO_2	1-hour	5-year mean of annual 4th-high daily maxima	5.06934	7.8	No	-
SO_2	3-hour	First-high screening	5.77201	25	No	-
SO_2	24-hour	First-high screening	3.42918	5.0	No	-
SO_2	Annual	5-year annual mean	0.30409	1.0	No	-
$PM_{2.5}$	24-hour	5-year mean of annual first-high values	1.20577	1.2	Yes	S-2
$PM_{2.5}$	Annual	5-year annual mean	0.34724	0.13	Yes	S-2
PM_{10}	24-hour	First-high over five years	15.75697	5.0	Yes	S-2
PM_{10}	Annual	5-year annual mean	3.01048	1.0	Yes	S-2

Reported values retain their original output ranks. Hourly NO_2 and SO_2 entries are percentile design-field results, as described in Section 6.1.3. Refined receptor inventories and expanded impact distances are documented in Appendix G.

6.1.1 Original and Expanded SIL-Package Results

Table 3a compares the same reported statistic in each original and expanded run package. Values were checked against both the summary files and the receptor-by-receptor output tables. These facility-only values exclude monitored background, offsite-source contributions, and post-model secondary $PM_{2.5}$ additions. The original baseline values remain in Table 3; the separate Class I ring results remain in Table 7.

Table 3a: Original versus Expanded SIL-Package Results

Pollutant / period	Original (µg/m³)	Expanded (µg/m³)	Change (µg/m³)	Class II SIL (µg/m³)	Reported value versus SIL
CO, 1-hour	152.15206	152.15206	0.00000	2,000	Below
CO, 8-hour	113.55148	113.55148	0.00000	500	Below
NO_2, 1-hour	75.45527	75.45527	0.00000	7.5	Above
NO_2, annual	5.70573	5.70573	0.00000	1.0	Above
SO_2, 1-hour	5.06934	5.06934	0.00000	7.8	Below for reported rank
SO_2, 3-hour	5.77201	5.77201	0.00000	25	Below
SO_2, 24-hour	3.42918	3.42918	0.00000	5.0	Below
SO_2, annual	0.30409	0.30409	0.00000	1.0	Below for reported rank
$PM_{2.5}$, 24-hour	1.20577	1.20332	-0.00245	1.2	Above
$PM_{2.5}$, annual	0.34724	0.34731	+0.00007	0.13	Above
PM_{10}, 24-hour	15.75697	15.71189	-0.04508	5.0	Above
PM_{10}, annual	3.01048	3.01125	+0.00077	1.0	Above

The annual $PM_{2.5}$ expanded result is from the completed PM25-ANNUAL package with 2,645 receptor entries. The original 0.34724 µg/m³ value remains the baseline. PM_{10} annual is reported within PM10-24HR. Section 6.1.3 distinguishes the reported ranks from the initial maximum-concentration screening requirement. The project 1-hour NO_2 comparison level of 7.5 µg/m³ is slightly more stringent than the 7.52-µg/m³ conversion in current NMED Table 8; it is retained consistently for the paired comparisons.

All gaseous results are unchanged to five decimal places. The small particulate differences in Table 3a reflect the haul-road elevation refinements documented in Section 4.4.1; all controlling locations remain on the original near-field network. Expanded annual $PM_{2.5}$ is 0.34731 µg/m³ at the original receptor, 0.121 km from the modeling center. Expanded 24-hour $PM_{2.5}$ is 1.20332 µg/m³, and the same refined-analysis pathway is retained.

For comparison, the NAAQS-form facility results are 0.81536 / 0.81435 µg/m³ for original / expanded 24-hour $PM_{2.5}$ and 9.31379 / 9.29606 µg/m³ for 24-hour PM_{10}. These differ from the first-high screening statistics in Table 3a; each paired comparison retains the same statistical form.

6.1.2 Maximum Locations and Impact Coverage

For all twelve completed pollutant/averaging-period comparisons, the controlling maximum remains at an original receptor approximately 0.119 to 0.180 km from the grid center. No added receptor becomes the global controlling location for the reported statistic. Table 3b separates the added receptors within 50 km from the outer, greater-than-15-km portion of the network. All reported maxima between 15 and 50 km are below their listed SIL comparison levels. Section 6.1.3 identifies the statistical forms used in the archived 1-hour packages.

Table 3b: Reported Maxima at Added and Outer-Domain Receptors

Pollutant / period	Added locations within 50 km (µg/m³)	Locations >15 km and <=50 km (µg/m³)	Class II SIL (µg/m³)
CO, 1-hour	26.75386	13.41899	2,000
CO, 8-hour	4.90913	2.32111	500
NO_2, 1-hour	11.14595	5.14650	7.5
NO_2, annual	0.14976	0.07506	1.0
SO_2, 1-hour	0.81452	0.37201	7.8
SO_2, 3-hour	0.51101	0.28594	25
SO_2, 24-hour	0.08271	0.05692	5.0
SO_2, annual	0.00854	0.00449	1.0
$PM_{2.5}$, 24-hour	0.01176	0.00428	1.2
$PM_{2.5}$, annual	0.00182	0.00065	0.13
PM_{10}, 24-hour	0.02520	0.00969	5.0
PM_{10}, annual	0.00278	0.00087	1.0

Distances in Table 3b are radial distances from the stated grid center. Added locations exclude all original coordinates. Values are facility-only and use the same reported statistics as Table 3a. The annual $PM_{2.5}$ row is a direct expanded-run result; Section 6.1.3 describes the statistical forms used for the 1-hour outputs.

The expanded NO_2 1-hour field identifies nine additional receptors at or above 7.5 µg/m³. The largest added-location value is 11.14595 µg/m³ at UTM 602,293.87 m E, 3,557,948.04 m N (5.590 km from the center). The farthest added location above that threshold is UTM 602,293.87 m E, 3,567,948.04 m N (13.463 km), with 8.09751 µg/m³. The farthest original above-threshold receptor was 12.207 km from the center. The expanded network therefore refines the outer extent of the reported percentile field above the project comparison level by approximately 1.256 km while leaving the global controlling maximum unchanged.

The NO2-1HR-NAAQS package uses the original 1,765-receptor refined network together with the 12 facility point sources and a constant 62.70 µg/m³ background. Its controlling NAAQS-form facility-plus-background design value is 138.15527 µg/m³ at UTM 597,393.87 m E, 3,555,298.04 m N, approximately 0.180 km from the modeled facility/grid center. The expanded

SIL verification extends the reported percentile concentration field above the project comparison level to 13.463 km but identifies no new distant hotspot that approaches or displaces the controlling NAAQS location. The added SIL receptors therefore refine the mapped outer extent of the significance field while the controlling NAAQS design concentration remains captured within the near-field refined grid.

Added-receptor design-value check. The largest newly added 1-hour NO_2 SIL-receptor value is 11.14595 µg/m³. Applying the same constant 62.70 µg/m³ monitored background used in the executed 1-hour NO_2 ambient-standard analysis yields a facility-plus-background design concentration of 73.84595 µg/m³ at that added location. This is approximately 39.3 percent of the 188 µg/m³ 1-hour NAAQS, 64.30932 µg/m³ below the controlling modeled design concentration of 138.15527 µg/m³, and 114.15405 µg/m³ below the NAAQS. Accordingly, the added outer-domain SIL receptors refine the mapped extent of the percentile field above the project comparison level but do not change the modeled compliance conclusion or the identified controlling near-field location.

The expanded network confirms the original near-field controlling locations for all twelve reported comparisons. The annual $PM_{2.5}$ maximum is 0.34731 µg/m³; added-receptor and 15-50-km maxima are 0.00182 and 0.00065 µg/m³, respectively, both below the 0.13 µg/m³ annual SIL.

6.1.3 Screening and Statistical Basis

The annual $PM_{2.5}$ 50-km verification is complete. Its 0.34731 µg/m³ maximum is at the original near-field receptor, and the added/outer-domain maxima in Table 3b are directly calculated rather than inferred from PM_{10}. The input retains every original receptor coordinate, elevation and hill-height value; the five road base elevations differ as documented in Section 4.4.1.

Screening-statistic scope: CO 1-hour and 8-hour values are high-second-high concentrations; 1-hour SO_2 is the five-year mean of annual fourth-high daily maxima. These are the statistics reported in UA4 Section 16-W.1 and are retained unchanged in Tables 3 and 3a. They are not the maximum-concentration screening statistics described in NMED Guidelines Section 2.4.3. Accordingly, the CO and 1-hour SO_2 screening determination remains subject to the maximum-rank or refined-demonstration basis identified in the UA4.

The annual NO_2, SO_2 and PM_{10} screening rows retain their five-year annual means. The 13.463-km NO_2 distance describes the reported percentile design field. Completed NO_2 and particulate ambient-standard and increment comparisons are reported separately in Section 6.2, using the same statistics and source treatment as UA4 Sections 16-W.3 and 16-W.4.

Annual SO_2 scope: The 0.30409 $\mu g/m^3$ value is the facility-only significance result, not a facility-plus-background annual ambient concentration. The annual secondary standard is 10 ppb under 40 CFR 50.21. UA4 Section 16-W.1 identifies the annual-comparison or NMED-accepted surrogate basis for this determination; the reported significance value is not presented as that separate ambient-standard comparison.

6.2 Cumulative NAAQS/NMAAQS and PSD Increment Analyses

The refined analyses use the same source treatment as UA4 Section 16-W.3. $PM_{2.5}$ NAAQS runs contain 877 sources: 17 Red Raider representations and 860 retained offsite sources under the NMED 10-km source-isolation procedure. PM_{10} NAAQS modeling contains 4,192 sources. NO_2 ambient-standard analyses use all 12 facility point sources with representative monitored background. Tables 4, 5a and 5b summarize backgrounds, total concentrations and comparison standards.

Table 4 lists the backgrounds in UA4 Section 16-R: the protocol-adopted Carlsbad/Holland Street 2023-2025 NO_2 values and Eastern New Mexico/Hobbs-Jefferson particulate values. Annual PM_{10} is a monitoring reference only. Background is included once in each applicable ambient-standard result. Appendix B identifies the monitoring stations and modeling basis.

Table 4: Summary of Ambient Background Concentrations

Pollutant	Averaging Period	Monitoring / Background Basis	Value (µg/m³)	Rationale
NO_2	1-Hour	Final Red Raider constant background	62.70	Executed model input; representative Carlsbad 2023-2025 background
NO_2	Annual	Final Red Raider constant background	10.53	Executed model input; representative Carlsbad 2023-2025 background
$PM_{2.5}$	24-Hour	NMED Eastern NM / Hobbs-Jefferson	16.7	3-year 98th-percentile 24-hour background
$PM_{2.5}$	Annual	NMED Eastern NM / Hobbs-Jefferson	6.6	3-year annual-average background
PM_{10}	24-Hour	NMED Eastern NM / Hobbs-Jefferson	37.3	3-year second-highest 24-hour background
PM_{10}	Annual	NMED Eastern NM / Hobbs-Jefferson	24.0	Monitoring reference only; no annual PM_{10} NAAQS

Tables 5a and 5b present the completed ambient-standard comparisons. All NO_2 and particulate totals are below their applicable standards and match UA4 Section 16-W.3. The $PM_{2.5}$ totals include the project-specific secondary contribution once. CO and SO_2 screening statistics remain in Tables 3 and 3a and Section 6.1.3.

Table 5a: Reported NAAQS/NMAAQS Concentrations

Pollutant	Averaging Time	Background (µg/m³)	Facility + Background (µg/m³)	Facility + Offsite + Background (µg/m³)	Exceeds?
NO_2	1-hour	62.70	138.15527	—	No
NO_2	Annual	10.53	16.58249	—	No
SO_2	1-hour	N/A	5.06934 (facility only)	—	Screen only
$PM_{2.5}$	24-hour	16.7	17.53633*	19.11709*	No
$PM_{2.5}$	Annual	6.6	6.94822*	7.73175*	No
PM_{10}	24-hour	37.3	46.59606	53.13458	No

Table 5b: Applicable Ambient Standards and Statistical Basis

Pollutant	Averaging Time	Modeled comparison statistic	Federal NAAQS (µg/m³)	NM NMAAQS (µg/m³)
NO_2	1-hour	98th percentile, averaged over 5 years	188	-
NO_2	Annual	Highest individual annual mean (conservative)	99.66	94.02
SO_2	1-hour	99th percentile, averaged over 5 years	196.4	-
$PM_{2.5}$	24-hour	98th percentile, averaged over 5 years	35	-
$PM_{2.5}$	Annual	Annual mean, averaged over 5 years	9.0	-
PM_{10}	24-hour	6th-highest over 5 years	150	-

*$PM_{2.5}$ totals include project-specific secondary formation: 0.02198123 µg/m³ (24-hour) and 0.000914851 µg/m³ (annual). The $PM_{2.5}$ cumulative results shown here are from the NMED 10-km source-isolation runs with 877 total modeled sources (17 Red Raider sources and 860 retained offsite sources).

The NO_2 rows represent all 12 facility point sources plus monitored background; the annual result is the controlling 2020 mean. The particulate Facility + Background column provides arithmetic comparison values using facility contributions of 0.81435 µg/m³ (24-hour $PM_{2.5}$), 0.34731 µg/m³ (annual $PM_{2.5}$), and 9.29606 µg/m³ (24-hour PM_{10}), the Table 4 backgrounds, and the applicable secondary-$PM_{2.5}$ term. The cumulative column uses the corresponding joint modeled source-group result, not separately maximized facility and offsite contributions. CO and SO_2 screening results are reported separately in Tables 3 and 3a. The retained 188 µg/m³ NO_2 hourly comparison is slightly more stringent than the NMED conversion of 188.03 µg/m³; the federal annual conversion is 99.66 µg/m³.

Standards in Table 5b: NO_2, 40 CFR 50.11 and 20.2.3.111(B) NMAC; $PM_{2.5}$, 40 CFR 50.20; PM_{10}, 40 CFR 50.6. The particulate limits are federal NAAQS. SO_2 screening and the annual secondary-standard scope are addressed separately in Section 6.1.3.

Maximum locations and receptor resolution: All controlling ambient-standard locations are within 0.119-0.180 km of the modeling center. NO_2 maxima are on the 50-m Cartesian tier, and particulate maxima are in the approximately 25-m boundary network. Appendix G, Tables S-3 and S-6, provide the exact UTM coordinates, radial distances and geographic locators. The largest ambient-standard fraction is annual $PM_{2.5}$ at 85.9 percent; none of the reported comparisons exceeds the 95-percent fine-grid review criterion. The controlling maxima are therefore already located in the refined near field.

Tables 6a and 6b present the Class II results using the reported short-term statistics and conservative highest-individual-year annual means, consistent with UA4 Section 16-W.4. All completed NO_2 and particulate comparisons are below their applicable increments. The five-year annual facility means remain separately identified in the SIL tables.

Annual NO_2 Class II PSD background-substitution demonstration. Section 2.6.4.6 of the NMED Air Dispersion Modeling Guidelines allows a monitored background value to be substituted for modeled surrounding sources as a conservative approach to annual NO_2 increment consumption. Applying the executed Red Raider annual monitored background of 10.53 µg/m³ to the conservative highest individual annual facility contribution (2020) of 6.05249 µg/m³ gives a conservative increment comparison of 16.58249 µg/m³. This is approximately 66.3 percent of the 25 µg/m³ Class II annual NO_2 increment and leaves 8.41751 µg/m³ of margin below the

increment. Table 6a reports this NMED-permitted background-substitution result as the refined annual NO_2 increment comparison.

Table 6a: Gaseous Class II PSD Screening and Facility-Contribution Results

Pollutant	Averaging Time	Class II Increment Statistical Basis	Facility-Only Modeled Conc. (µg/m³)	Refined Increment Conc. (µg/m³)	Class II PSD Increment (µg/m³)	Exceeds?
NO_2	1-hour	N/A	N/A	N/A	N/A	N/A
NO_2	Annual	Highest individual annual mean (conservative)	6.05249	16.58249*	25	No*
SO_2	3-hour	Facility-only screening statistic	5.77201	Not modeled	512	N/A
SO_2	24-hour	Facility-only screening statistic	3.42918	Not modeled	91	N/A
SO_2	Annual	Facility-only screening statistic	0.30409	Not modeled	20	N/A

PSD increment comparisons ordinarily do not add monitored ambient background. For annual NO_2, however, NMED Air Dispersion Modeling Guidelines Section 2.6.4.6 expressly allows a monitored background value to be substituted for modeled surrounding sources as a conservative approach to increment consumption. The annual NO_2 row therefore combines the conservative highest individual annual Red Raider facility contribution (2020) of 6.05249 µg/m³ with the executed 10.53 µg/m³ annual monitored background, producing 16.58249 µg/m³, which is below the 25 µg/m³ Class II increment. The facility-only maximum occurs at UTM 597,193.87 m E / 3,555,548.04 m N (0.141 km from the modeled center). The SO_2 3-hour, 24-hour, and annual results remained below their listed screening levels. *Annual NO_2 uses the NMED-permitted monitored-background substitution for surrounding-source increment consumption. The increment limits are established by 20.2.74.504 NMAC; evaluation of applicable increments for this minor-NSR action is required by 20.2.72.203(A)(4) NMAC.

Table 6b: Particulate Class II PSD Increment Results

Pollutant	Averaging Time	Class II Increment Statistical Basis	Facility + Offsite Increment Conc. (µg/m³)	Class II PSD Increment (µg/m³)	Exceeds?
$PM_{2.5}$	24-hour	High-second-high + secondary $PM_{2.5}$	6.73604*	9	No
$PM_{2.5}$	Annual	Highest annual mean + secondary $PM_{2.5}$	2.32480*	4	No
PM_{10}	24-hour	High-second-high	18.23235	30	No
PM_{10}	Annual	Highest individual annual mean	6.42899	17	No

*$PM_{2.5}$ increment values include the applicable project-specific secondary $PM_{2.5}$ contribution: 0.02198123 µg/m³ (24-hour) and 0.000914851 µg/m³ (annual). The executed $PM_{2.5}$ Class II package contains 4,208 sources and 55 receptors; the PM_{10} Class II packages contain 4,192 sources and 65 receptors. The AERMOD base concentrations used in Table 6b are taken from the archived short-term .SUM maximum and the highest individual annual ALL-group result in ANNUAL_G001.PLT, respectively; these are the same base results used in UA4 Section 16-W.4.

Class II maximum locations: The annual NO_2 maximum is 0.141 km from the modeling center. The controlling particulate locations are 0.133 km for 24-hour $PM_{2.5}$, 0.121 km for annual $PM_{2.5}$ and annual PM_{10}, and 0.119 km for 24-hour PM_{10}. Annual controlling years are 2020 for NO_2, 2021 for $PM_{2.5}$ and 2022 for PM_{10}. Appendix G, Table S-5, provides the exact coordinates and comparison percentages. The largest increment fraction is 74.8 percent for 24-hour $PM_{2.5}$, below the 95-percent fine-grid review criterion.

Appendix E and Appendix G, Table S-8, identify the electronic model files supporting these source configurations, receptor networks, statistics and controlling maxima.

6.3 Class I Significance Analyses

For Red Raider, the final Class I significance analysis uses the nominal facility-centered 35-km and 50-km rings described in Sections 4.4 and 5.2 and Appendix D. For each pollutant/averaging period, the maximum facility-only concentration across all 725 receptors is compared with the applicable Class I SIL.

All 35-km and 50-km results are below their applicable Class I SILs. The controlling maximum for every listed pollutant/period is on the 35-km ring. Annual NO_2 is the largest fraction of a Class I SIL: 0.03482 µg/m³, or 34.82 percent of 0.1 µg/m³. Table 7 presents the project-specific ring-screening results.

Table 7: Model Results for Class I Significance Analyses

Pollutant	Averaging Time	Max. Facility-Only Conc. at 35-km / 50-km Rings (µg/m³)	Class I SIL (µg/m³)	Exceeds SIL?
NO_2	Annual	0.03482 / 0.02188	0.1	No
SO_2	3-hour	0.16663 / 0.12090	1.0	No
	24-hour	0.04638 / 0.01926	0.2	No
	Annual	0.00193 / 0.00121	0.1	No
$PM_{2.5}$	24-hour	0.00503 / 0.00217	0.27	No
	Annual	0.00021 / 0.00013	0.03	No
PM_{10}	24-hour	0.00695 / 0.00289	0.3	No
	Annual	0.00027 / 0.00016	0.2	No

Note: Values are 35-km / 50-km maxima from 725 AERMAP-processed receptors (365 / 360). Annual values are five-year means; short-term values are first-high maxima over five years. Table 7 reports direct impacts. Adding the project-wide secondary-$PM_{2.5}$ terms gives 24-hour totals of 0.02701 / 0.02415 µg/m³ and annual totals of 0.001125 / 0.001045 µg/m³, below the respective 0.27 and 0.03 µg/m³ SILs. These are arithmetic additions, not new dispersion simulations.

7.0 Conclusions

The Red Raider facility-plus-background NO_2 and cumulative particulate analyses are below the applicable ambient standards: 138.15527 µg/m³ for 1-hour NO_2, 16.58249 µg/m³ for annual NO_2, 19.11709 µg/m³ for 24-hour $PM_{2.5}$, 7.73175 µg/m³ for annual $PM_{2.5}$ and 53.13458 µg/m³ for 24-hour PM_{10}. The corresponding Class II comparisons are also below their increments: 16.58249 µg/m³ for annual NO_2; 6.73604 and 2.32480 µg/m³ for 24-hour and annual $PM_{2.5}$; and 18.23235 and 6.42899 µg/m³ for 24-hour and annual PM_{10}. Annual increment comparisons use conservative highest-individual-year results. The Class I ring-screening results, including the supplemental secondary-$PM_{2.5}$ additions, are below their stated SILs. No added receptor controls a reported maximum in the twelve comparisons from eight expanded packages. All controlling ambient-standard and Class II locations are within 0.119-0.180 km of the modeling center. These results support NMED review of the requested permit modification under 20.2.72.203(A)(4) NMAC on the source and statistical basis documented in the UA4 and this report. Sections 2.0 and 6.1.3 identify that basis; Appendix G provides the same geographic tables as the UA4 supplement.

8.0 References

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Red Raider AERMOD model input/output files, including the final significance, NAAQS/NMAAQS, Class II PSD increment, Class I screening, meteorological, terrain, and BPIPPRM run packages identified in Appendix E.

Red_Raider_Secondary_PM25_Calculations.xlsx, 2026. NMED MERP post-model calculations for project-specific secondary $PM_{2.5}$ formation.

U.S. Environmental Protection Agency, 2024. Supplement to the Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program. April 30, 2024.

U.S. Environmental Protection Agency, 2011. Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard. March 1, 2011, pp. 2-3.

U.S. Environmental Protection Agency, 2010. Guidance Concerning the Implementation of the 1-hour SO_2 NAAQS for the Prevention of Significant Deterioration Program. August 23, 2010, p. 5.

New Mexico Administrative Code, Title 20, Chapter 2: 20.2.3.110-.111 (state ambient standards); 20.2.72.203(A)(3)-(4), (10) (application emissions, compliance demonstration, and operating schedules); 20.2.72.402-.403 (toxic air pollutants); and 20.2.74.504 (PSD increments). New Mexico State Records Center and Archives, current text reviewed September 7, 2026.

Code of Federal Regulations, Title 40, Part 50: Sections 50.6 (PM_{10}), 50.11 (NO_2), 50.17 (primary SO_2), 50.20 (primary $PM_{2.5}$), and 50.21 (secondary SO_2), including the applicable interpretation appendices. Current text reviewed September 7, 2026.

U.S. Environmental Protection Agency, 2024. Alternative Demonstration Approach for the 2024 Secondary Sulfur Dioxide National Ambient Air Quality Standard under the Prevention of Significant Deterioration Program. Memorandum, December 10, 2024.

U.S. Environmental Protection Agency, 2026. AERMOD/AERMET version 26135 transmittal memorandum. July 9, 2026.

Appendix A: Red Raider Enclosed Combustion Device and Modeled Source Parameters

The modeled parameters for ECD-1 and ECD-2, together with the other Red Raider sources, are provided in Tables 1a and 1b. The final digitized AERMOD source definitions, AERMAP elevations, and building-downwash inputs are included with the model files identified in Appendix E.

Appendix B: Red Raider Background Concentration Basis

For the 1-hour NO_2 NAAQS analysis, the Red Raider AERMOD input uses a constant 62.70 µg/m³ background; the annual input uses 10.53 µg/m³. The NO_2 ambient-standard analyses use the 12 Red Raider point sources with these representative monitored backgrounds. The 1-hour run applies ARM2 and the five-year 98th-percentile design-value statistic, producing a facility-plus-background ALL concentration of 138.15527 µg/m³ at UTM 597,393.87 m E / 3,555,298.04 m N (0.180 km from the modeled center). The annual POSTFILE was evaluated by meteorological year, with 2020 controlling at 16.58249 µg/m³ at UTM 597,193.87 m E / 3,555,548.04 m N (0.141 km), including background. $PM_{2.5}$ background values are 16.7 µg/m³ (24-hour) and 6.6 µg/m³ (annual), and the PM_{10} 24-hour background is 37.3 µg/m³. The 24.0 µg/m³ annual PM_{10} value is a monitoring reference only. The NO_2 monitored values are adopted from the Red Raider protocol, using Carlsbad/Holland Street AQS 35-015-1005 (2023-2025). Particulate values use NMED Eastern New Mexico/Hobbs-Jefferson AQS 35-025-0008. The current NMED generic NO_2 table uses a different monitoring period; those generic values have not been substituted into the executed project runs.

Appendix C: Refined ROI and Class II Receptor Selection Exhibits

Appendix C contains representative refined receptor-selection and supporting figures used to document the Red Raider Class II modeling approach. Exhibits C-1 and C-2 show the NO_2 annual ROI/receptor selection. Exhibits C-3 through C-5 provide supplemental numerical summaries of the refined analyses and source/receptor inventories. Tables 5a through 6b and Section 6.2 provide the reported results; Appendix G supplies the shared UA4 impact distances, controlling coordinates, receptor-retention checks and electronic-file index.

Exhibit C-1: NO_2 Annual ROI - Aerial/Receptor View

This figure illustrates the annual NO_2 significance contour and representative refined-receptor selection.

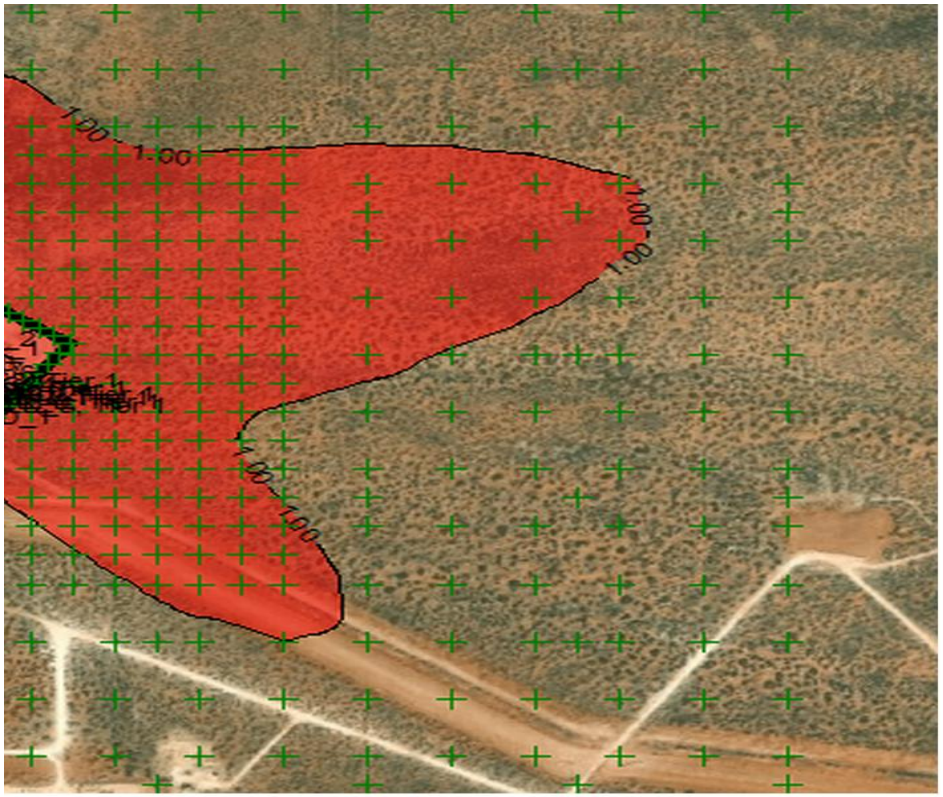


Exhibit C-2: NO_2 Annual ROI - Model-View Representation

This figure provides an independent model-view representation of the annual NO_2 refined receptor domain.

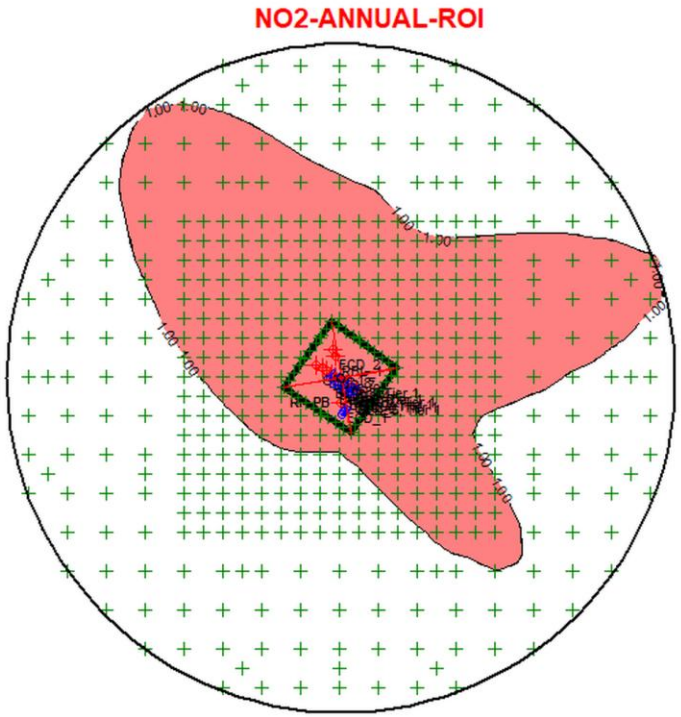


Exhibit C-3: NO_2 1-Hour Facility-Plus-Background Summary (Numerical Summary)

This numerical summary documents the 1-hour NO_2 facility-plus-background result of 138.15527 µg/m³ using the 12 Red Raider point sources, 62.70 µg/m³ background, and 1,765 receptor entries. The controlling location is UTM 597,393.87 m E / 3,555,298.04 m N (0.180 km from the modeled center). Sections 6.1.2 and 6.2 provide the expanded-domain and maximum-location discussion.

Exhibit C-4: Particulate Refined-Modeling Summary (Numerical Summary)

This numerical summary presents the refined particulate modeling. The controlling particulate Class II results are $PM_{2.5}$ 24-hour = 6.73604 µg/m³ and annual = 2.32480 µg/m³ including secondary formation, and PM_{10} 24-hour = 18.23235 µg/m³ and annual = 6.42899 µg/m³. Tables 5a through 6b and Section 6.2 provide the final values, source counts, coordinates, and distances.
Annual Class II values are the highest individual years, not the lower five-year means.

Exhibit C-5: Source and Receptor Inventory Summary (Numerical Summary)

This numerical summary presents the source and receptor inventories used in the refined analyses. The NO_2 ambient-standard packages use 12 facility point sources with monitored background, and the annual NO_2 Class II package reports the 12-source facility contribution. The $PM_{2.5}$ NAAQS packages contain 877 total sources and 55 receptors; the PM_{10} NAAQS package contains 4,192 sources and 65 receptors; the $PM_{2.5}$ Class II package contains 4,208 sources and 55 receptors; and the PM_{10} Class II packages contain 4,192 sources and 65 receptors. The Class I screening network contains 725 receptors. Section 6.2 and the executed model packages provide the final analysis configurations.

Appendix D: Class I Significance Screening Summary

The final Red Raider Class I significance analysis uses two facility-centered receptor rings, as described in Sections 4.4 and 5.2. The 35-km ring contains 365 discrete receptors at approximately 0.9863-degree angular spacing; the 50-km ring contains 360 discrete receptors at 1-degree spacing. The combined 725-receptor network samples all azimuths and brackets the approximate 39-km distance to Carlsbad Caverns National Park and the nearby sensitive-receptor distances identified for this evaluation. The maximum facility-only concentration at each ring is compared with the applicable Class I SIL for each pollutant and averaging period. The final maxima for NO_2, SO_2, $PM_{2.5}$, and PM_{10} are reported in Table 7; all are below their applicable Class I SILs, and each overall maximum occurs on the 35-km ring. The 35-km ring supplements the protocol 50-km alternative. Section 5.2 states the common project-specific receptor basis used in UA4 Section 16-I. Table 7 identifies the output statistics and the additional secondary-$PM_{2.5}$ comparisons.

Appendix E: Digitized AERMOD Model Input/Output Files

Within each SIL branch, the controlling records are the executed ADI input, ADO output, SUM summary, and AERMAP ROU receptor file. PM_{10} annual SIL results are contained in PM10-24HR. The completed PM25-ANNUAL expanded-domain output contains 2,645 receptor entries and reports 0.34731 μg/m³. For NAAQS and Class II reporting, the executed AERMOD files control source counts, receptor counts, maxima, and maximum locations. Tables 6a and 6b use short-term summary maxima and conservative highest individual annual plot-file values, and Section 6.2 states the source configuration used for each NO_2 and particulate analysis.

The electronic modeling record to accompany the UA4 submittal is organized as follows: (1) Significant Impact Analyses - AERMOD-SIL-MODEL-FILES, with ORIGINAL-MODELING-RUNS-PRE-50KM and REFINED-50KM-SIL-RUNS retained as separate records for the Table 3a comparison; (2) Cumulative NAAQS/NMAAQS Analyses - AERMOD-NAAQS-MODEL-FILES; (3) Class II PSD Increment Analyses - AERMOD-CLASS-II; (4) Class I Significance Analyses - AERMOD-CLASS-I, including the combined AERMAP-processed 35-km/50-km receptor network and pollutant-specific run packages; and (5) project-specific secondary $PM_{2.5}$ calculations - RED-RAIDER-SECONDARY-PM25-CALCULATIONS.

Appendix F: Red Raider Modeling Inputs Provided by Resolute Compliance

The following source-inventory excerpt reproduces the supporting August 17, 2026 workbook record provided by Resolute Compliance. Tables 1a and 1b identify the executed source parameters used for the modeled concentrations. Workbook applicability and precursor totals are described separately in Sections 3.3 and 5.1; the source-specific application/model basis is identified in UA4 Section 16-O.

Red Raider Modeling Inputs 20260817 - Source Inventory Excerpt

Client-provided peak modeled emission rates; executed AERMOD coordinates and numerical precision control

ID	Description	NOx lb/hr	CO lb/hr	SO_2 lb/hr	$PM_{2.5}$ lb/hr	PM_{10} lb/hr
ENG-1	CAT G3612 A4 engine	2.4802	3.3069	0.1429	0.0079	0.0079
ENG-2	CAT G3612 A4 engine	2.4802	3.3069	0.1429	0.0079	0.0079
ENG-3	CAT G3612 A4 engine	2.4802	3.3069	0.1429	0.0079	0.0079
ENG-4	Waukesha 16V275GI engine	3.3069	4.4092	0.1936	0.0107	0.0107
ENG-5	Waukesha 16V275GI engine	3.3069	4.4092	0.1936	0.0107	0.0107
ENG-6	CAT G3612 A4 engine	2.4802	3.3069	0.1429	0.0079	0.0079
ENG-7	CAT G3616 A4 Gen 2 engine	3.6376	4.8502	0.2052	0.0114	0.0114
ENG-8	CAT G3616 A4 Gen 2 engine	3.6376	4.8502	0.2052	0.0114	0.0114
GEN-1	Aggreko 21.9-L generator	0.4612	1.0761	0.0266	0.0472	0.0472
RBL-1	2.00 MMBtu/hr glycol reboiler	0.1961	0.1647	0.0112	0.0149	0.0149
ECD-1	Enclosed combustion device 1	0.7298	1.4570	0.0002	—	—
ECD-2	Enclosed combustion device 2	0.2548	0.5086	0.0002	—	—
HR-1	Haul road / line-volume	—	—	—	0.007	0.070

Appendix G: Receptor Coverage, Impact Distances and Maximum Locations

Tables S-1 through S-8 reproduce the UA4 geographic tables, with the same concentrations, coordinates, receptor counts and distances. The tables document receptor coverage, impact distances and controlling locations; modeled source parameters are in Tables 1a and 1b.

S-1. Coordinate reference and distance convention

The coordinate system is WGS84, UTM Zone 13 North, in meters. The modeling center is 597,293.87 m E / 3,555,448.04 m N, equivalent to 32.131235 degrees N, 103.968501 degrees W. Table S-6 geographic locators are calculated from the model coordinates, not new GPS survey measurements.

Horizontal distance from the modeling center is d (km) = sqrt[(E - 597293.87)^2 + (N - 3555448.04)^2] / 1000. Cartesian tier limits are axis half-widths; Class I distances are ring radii. These differ from pollutant-specific impact distances (NMED Sections 4.6 and 7.1).

Table S-1. Receptor-domain and resolution summary

Component	Geometry / spacing	Extent or inventory
Ambient boundary / near field	Approximately 25-m boundary spacing; 50-m Cartesian tier	Boundary receptors retained; 50-m tier to 0.4-km half-width
Nested original network	100 / 250 / 500 / 1,000 m	Half-widths 1 / 2 / 4 / 10 km; farthest original corner 14.142 km
Original receptor inventory	1,765 entries; 1,493 unique locations	Original locations and receptor terrain values retained
Expanded verification	2,500- and 5,000-m outer tiers	2,645 entries; 2,221 unique locations; 728 added unique locations
Within radial 50 km	2,097 unique locations	Includes 604 added unique locations within 50 km
Square-domain corner output	124 unique locations beyond radial 50 km	Supplemental output; square corners are 70.711 km from center
Class I significance network	365 receptors at 35 km; 360 at 50 km	Separate terrain-processed, 725-receptor ring network

Expanded Cartesian bounds: 547,293.87-647,293.87 m E and 3,505,448.04-3,605,448.04 m N. The regulatory-domain comparisons in this supplement use locations within a 50-km radial distance. Sources: UA4 16-I, 16-T and 16-W; expanded ADO coordinate records.

S-2. Pollutant-specific significant-impact distances

The 50-km domain describes receptor coverage, not the radius of impact (ROI). NMED Section 7.1 defines the ROI by the most distant above-SIL receptor measured from the facility center. Table S-2 supplies finite, calculated distances for the specified output statistics. Coordinates were extracted from the expanded AERMOD receptor-concentration tables; repeated coordinates were counted once.

Table S-2. Farthest above-threshold receptor in each identified output field

Pollutant / period	Output statistic	SIL (µg/m³)	Distance (km)	Farthest receptor UTM E / N (m)	Concentration (µg/m³)
NO_2, 1 hour	5-year mean of annual 8th-high daily maxima; design field	7.5	13.463	602,293.87 / 3,567,948.04	8.09751
NO_2, annual	5-year annual mean	1	0.854	598,093.87 / 3,555,748.04	1.02991
$PM_{2.5}$, annual	5-year annual mean	0.13	0.158	597,343.87 / 3,555,298.04	0.14536
$PM_{2.5}$, 24 hours	5-year mean of annual first-high values	1.2	0.119	597,285.62 / 3,555,329.33	1.20332
PM_{10}, 24 hours	First-high over the five-year sequence	5	0.158	597,343.87 / 3,555,298.04	5.21367
PM_{10}, annual	5-year annual mean	1	0.158	597,343.87 / 3,555,298.04	1.18220

NO_2 1-hour statistical basis: 13.463 km identifies the above-7.5 µg/m³ extent of the reported 98th-percentile design field. It is used for the design-value coverage check in S-4, not as a substitute for the maximum-concentration SIL statistic specified in NMED Section 2.4.3. The annual NO_2 and particulate rows retain their stated screening statistics; the PM_{10} short-term first-high over all years is conservative relative to an average of annual maxima.

The largest particulate distance is 0.158 km for both $PM_{2.5}$ and PM_{10}. The annual NO_2 distance is 0.854 km. These above-SIL locations are inside the original nested receptor network. NO_2, $PM_{2.5}$ and PM_{10} are evaluated further through the pollutant-specific refined analyses in Section 16-W.

S-3. Maximum design-value locations and local receptor resolution

Tables S-3 and S-5 consolidate the completed ambient-standard and Class II comparisons from 16-W.3-16-W.4. All concentrations include the same background and secondary-$PM_{2.5}$ treatment as those tables. Distances are recalculated from the model center. The NO_2 maxima are on the 50-m Cartesian tier; the particulate maxima are discrete boundary receptors in the approximately 25-m network.

Table S-3. Ambient-standard maxima

Pollutant / period	Total (µg/m³)	Standard (µg/m³)	Percent	UTM E / N (m)	Distance (km)	Local network
NO_2 / 1 hour	138.15527	188	73.5%	597,393.87 / 3,555,298.04	0.180	50-m Cartesian
NO_2 / annual (2020)	16.58249	94.02	17.6%	597,193.87 / 3,555,548.04	0.141	50-m Cartesian
$PM_{2.5}$ / 24 hours	19.11709	35	54.6%	597,350.03 / 3,555,340.71	0.121	Approx. 25-m boundary
$PM_{2.5}$ / annual	7.73175	9	85.9%	597,350.03 / 3,555,340.71	0.121	Approx. 25-m boundary
PM_{10} / 24 hours	53.13458	150	35.4%	597,285.62 / 3,555,329.33	0.119	Approx. 25-m boundary

The annual NO_2 percent uses the more stringent 94.02 µg/m³ New Mexico standard; the federal annual value is 99.66 µg/m³. NO_2 1-hour uses the retained 188 µg/m³ comparison. Regulatory references: 20.2.3.111(B) NMAC; 40 CFR 50.11, 50.20 and 50.6. Statistics and additions are specified in 16-K, 16-M and 16-W.3.

Table S-4. Direct coordinate-set check of retained particulate receptors

Verified refined output	Receptor entries / unique locations	Expanded above-SIL locations included
PM25-ANNUAL-NAAQS.ADO	55 / 48	All 25 unique locations in the union of the annual and 24-hour direct $PM_{2.5}$ significance fields
PM10-24HR-NAAQS.ADO	65 / 57	All 12 unique locations in the union of the annual and 24-hour direct PM_{10} significance fields

The coordinate checks above compare actual expanded-output locations with the named refined-output coordinate sets. CO and SO_2 screening results and their statistical forms remain in 16-W.1. Sources: expanded NO2-1HR.ADO, NO2-ANNUAL.ADO, PM25-ANNUAL.ADO, PM25-24HR.ADO and PM10-24HR.ADO; the two refined outputs named in Table S-4.

Table S-5. Class II PSD increment maxima

Pollutant / period	Comparison (µg/m³)	Increment (µg/m³)	Percent	UTM E / N (m)	Distance (km)	Local network
NO_2 / annual (2020)	16.58249	25	66.3%	597,193.87 / 3,555,548.04	0.141	50-m Cartesian
$PM_{2.5}$ / 24 hours	6.73604	9	74.8%	597,337.03 / 3,555,322.18	0.133	Approx. 25-m boundary
$PM_{2.5}$ / annual (2021)	2.32480	4	58.1%	597,350.03 / 3,555,340.71	0.121	Approx. 25-m boundary
PM_{10} / 24 hours	18.23235	30	60.8%	597,285.62 / 3,555,329.33	0.119	Approx. 25-m boundary
PM_{10} / annual (2022)	6.42899	17	37.8%	597,350.03 / 3,555,340.71	0.121	Approx. 25-m boundary

Annual NO_2 includes the 10.53 µg/m³ monitored substitute under NMED Section 2.6.4.6. $PM_{2.5}$ includes the project secondary term. Annual increment entries use the highest individual modeled year. Increment limits: 20.2.74.504 NMAC.

The largest ambient-standard fraction is 85.9 percent (annual $PM_{2.5}$); the largest reported Class II fraction is 74.8 percent (24-hour $PM_{2.5}$). None of these comparisons exceeds 95 percent. The controlling receptors are already in the refined near field, 0.119-0.180 km from the center; this location/resolution information addresses the fine-grid review described in NMED Sections 4.6.3 and 7.2.2.

S-4. Geographic locator coordinates and expanded-domain confirmation

Table S-6 converts each unique controlling location to WGS84 latitude/longitude for reference. UTM coordinates remain controlling; six-decimal locators do not imply field-survey accuracy.

Table S-6. WGS84 geographic locator equivalents

Location / use	UTM E / N (m)	Latitude (degrees N)	Longitude (degrees W)
Modeling center	597,293.87 / 3,555,448.04	32.131235	103.968501
NO_2 1-hour ambient maximum	597,393.87 / 3,555,298.04	32.129873	103.967456
NO_2 annual ambient / Class II maximum	597,193.87 / 3,555,548.04	32.132145	103.969551
$PM_{2.5}$ ambient / annual Class II; PM_{10} annual Class II	597,350.03 / 3,555,340.71	32.130262	103.967917
PM_{10} 24-hour ambient / Class II maximum	597,285.62 / 3,555,329.33	32.130165	103.968600
$PM_{2.5}$ 24-hour Class II maximum	597,337.03 / 3,555,322.18	32.130096	103.968056

NO_2 1-hour added-receptor design-value check

The expanded design field contains nine added unique locations above the retained 7.5 µg/m³ comparison. The farthest is at 602,293.87 m E / 3,567,948.04 m N (13.463 km), with 8.09751 µg/m³. The highest added-location value is 11.14595 µg/m³ at 602,293.87 m E / 3,557,948.04 m N (5.590 km). Adding the same constant 62.70 µg/m³ background used in the facility-plus-background analysis gives 73.84595 µg/m³, or 39.3 percent of 188 µg/m³. This is 64.30932 µg/m³ below the controlling 138.15527 µg/m³ near-field design concentration.

Because a constant background is additive and the facility emissions, meteorology and ARM2 settings are retained, this arithmetic check preserves the daily ranking and the five-year design statistic. It documents the added receptor set without requiring a second, duplicative calculation of that same constant addition. The facility-plus-background method follows NMED Sections 2.6.4.4-2.6.4.5.

Particulate and Class I spatial checks

The largest added annual $PM_{2.5}$ value is 0.00182 µg/m³ at 594,793.87 m E / 3,560,448.04 m N (5.590 km); the largest value beyond 15 km and within 50 km is 0.00065 µg/m³ at 594,793.87 m E / 3,570,448.04 m N (15.207 km). Both are below the 0.13 µg/m³ annual SIL. The separate Class

I ring results in 16-W.5 are below the listed SILs, including the conservative secondary-$PM_{2.5}$ additions. The 35-/50-km ring radii are screening-network distances and are kept distinct from the approximately 39-km park distance and the Class II impact distances in S-2.

Sources: UA4 16-I, 16-K and 16-W.2-16-W.5; expanded NO2-1HR.ADO and PM25-ANNUAL.ADO; arithmetic and coordinate conversions performed for this supplement.

Table S-7. Geographic documentation cross-reference

Reporting topic	Location in this supplement
Facility center, coordinate datum and distance convention	S-1 and geographic locator Table S-6
Pollutant-specific field extents and 50-km receptor coverage	S-1 / Table S-1 and S-2 / Table S-2
Controlling ambient / increment locations and fine-grid resolution	S-3 / Tables S-3 and S-5
Retention of above-SIL particulate receptor locations	Coordinate-set comparison in Table S-4
Added-receptor checks and supporting electronic records	S-4 design-value / particulate checks; S-5 / Table S-8

S-5. Electronic modeling-record index and reporting cross-reference

Table S-8 identifies the electronic modeling records supporting the UA4 and this report. Original and expanded SIL branches are distinguished, including the completed expanded PM25-ANNUAL package, to support reproduction of the reported comparisons.

Table S-8. File groups supporting the geographic review

Record group / folder	Files or packages to identify in the electronic submittal	Review purpose
AERMOD-SIL-MODEL-FILES / REFINED-50KM-SIL-RUNS	NO2-1HR; NO2-ANNUAL; CO-1HR-8HR; SO2-1HR-SIL; SO2-3HR-24HR-ANNUAL-SIL; PM25-24HR; PM25-ANNUAL; PM10-24HR	Eight expanded packages; twelve reported period comparisons; output ranks and full receptor fields
AERMOD-SIL-MODEL-FILES / ORIGINAL-MODELING-RUNS-PRE-50KM	Retain corresponding original ADI/ADO/SUM/ROU and plot files	Original-grid comparison; retained locations and controlling maxima
AERMOD-NAAQS-MODEL-FILES	NO2-1HR-NAAQS; NO2-ANNUAL-NAAQS; PM25-24HR-NAAQS; PM25-ANNUAL-NAAQS; PM10-24HR-NAAQS	Ambient-standard source groups, backgrounds, ranks and maximum locations
AERMOD-CLASS-II	NO2-PSD-INCR; PM25-PSD-INCR; PM10-24HR-PSD-INCR; PM10-ANNUAL-PSD-INCR	Increment source groups; short-term maxima and individual-year ANNUAL_G001.PLT records
AERMOD-CLASS-I	Pollutant-specific packages and combined 35-/50-km receptor records	Separate 725-receptor Class I significance network
Shared terrain, meteorology and secondary calculations	AERMAP ROU/SOU; BPIPPRM BPI/PRO/SUP; Carlsbad_2020-2024.SFC/PFL; Red_Raider_Secondary_PM25_Calculations.xlsx	Receptor elevations, hill heights, downwash, model configuration and arithmetic additions

The record index identifies executed inputs, outputs, summaries, referenced data and concentration plot files by their filenames and relative paths. It describes the supporting record groups rather than certifying electronic-upload status.

S-6. Geographic-review conclusion and source references

The added information locates the reported controlling ambient and Class II maxima in the refined near-field network, documents the finite distances in the identified significance/design fields, verifies retention of the particulate above-SIL locations in the named refined coordinate sets, and shows that the added outer-domain locations do not displace the reported controlling maxima. Together with the below-standard and below-increment comparisons in 16-W, these geographic findings support NMED review of the requested Red Raider permit modification.

References: NMED Air Dispersion Modeling Guidelines, July 2026, Sections 2.4.3, 2.6.4.4-2.6.4.6, 4.6.2-4.6.5 and 7.1-7.2; 20.2.72.203(A)(4) NMAC; authorities in S-3; NMED June 30, 2026 Red Raider protocol correspondence; and executed files in Tables S-2, S-4 and S-8. Calculations comprise output extraction, coordinate-set checks, coordinate/distance conversion and the stated additions. No dispersion input or simulation was changed.

Modeling Protocol for NAAQS/NMAAQS Analysis

Red Raider Compressor Station (AI #40971)

Eddy County, New Mexico

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May 15, 2026

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1.0 Introduction and Facility Overview

The Red Raider Compressor Station (Facility) is a natural gas gathering, compression, and dehydration facility operated by ONEOK Delaware Gathering, LLC. The Facility is located in Eddy County, New Mexico, and supports the collection, compression, dehydration, and handling of natural gas and associated liquids. Condensate and produced water generated through station operations are collected and stored onsite and subsequently transported offsite by truck.

The Facility is situated at an elevation of approximately 3,037 feet above mean sea level. The approximate site coordinate used for this protocol is 597,280 meters Easting and 3,555,500 meters Northing in Universal Transverse Mercator (UTM), WGS84, Zone 13.

This protocol supports a New Source Review permitting action pursuant to 20.2.72.200.A NMAC. The modeling approach described below is intended to demonstrate that the permitted Facility configuration will comply with applicable ambient air quality standards and dispersion modeling requirements.

1.1 Project Scope and Proposed Modifications

The permitting action will evaluate the Red Raider source inventory and associated allowable emission rates. The modeled onsite sources include the following equipment and activities:

- Eight (8) compressor engines, including Waukesha 16V275GL, Caterpillar 3612A4, and Caterpillar 3616 A4 Gen 2 units;
- One (1) natural gas-fired generator (GEN-1);
- One (1) TEG glycol dehydrator and associated 2 MMBtu/hr glycol reboiler (RBL-1);
- Two (2) enclosed combustion devices (ECD-1 and ECD-2) used to control waste gas and vapor streams;

Storage tanks and related activities that emit only volatile organic compounds, including methanol, compressor oil, coolant, antifreeze, and TEG storage, are treated as insignificant or exempt for purposes of criteria-pollutant dispersion modeling unless specifically required by the reviewing agency.

1.2 Modeling Requirements and Compliance Objectives

The primary objective of this modeling analysis is to demonstrate that the Facility will comply with all applicable air quality standards. The analysis will evaluate the National Ambient Air Quality Standards (NAAQS), New Mexico Ambient Air Quality Standards (NMAAQS), and PSD increment standards where applicable.

The analysis addresses the following pollutants and averaging times:

- Carbon Monoxide (CO) - 1-hour and 8-hour;
- Nitrogen Dioxide (NO_2) - 1-hour, 24-hour, and annual;
- Sulfur Dioxide (SO_2) - 1-hour, 3-hour, 24-hour, and annual;
- Fine Particulate ($PM_{2.5}$) - 24-hour and annual, when applicable; and
- Particulate Matter (PM_{10}) - 24-hour and annual, when applicable.

2.0 Proposed Modeling

2.1 Model Selection and Application

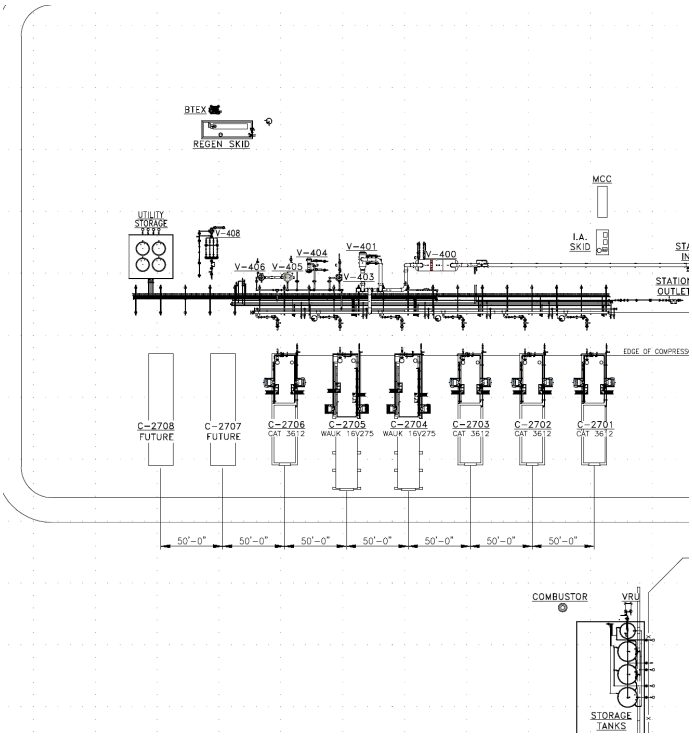
To evaluate potential air quality impacts from the Red Raider Compressor Station, the AERMOD model (version 24142) will be utilized. In accordance with current EPA air quality modeling guidance, AERMOD is the preferred regulatory model for assessing impacts within 50 kilometers of an emission source. The model selection is appropriate for this Facility.

AERMOD will be used to predict ground-level concentrations for CO, NO_2, SO2, PM2.5, and PM10, as applicable, to demonstrate compliance with the NAAQS, NMAAQS, and PSD increment standards. Source grouping may be used to calculate project-only and cumulative impacts from the modeled Facility sources, and to support tiered significant impact and cumulative analyses.

2.2 Facility Source Emissions and Parameters

A geographical layout of the Red Raider Compressor Station, including the facility boundary, onsite emission sources, equipment, enclosed combustion devices, tank battery, and associated structures, is presented in Figure 1.

Figure 1: Red Raider Facility, Emission Sources and Buildings/Structures





Emission sources at the Facility will be characterized based on their physical release dynamics. Compressor engines, the generator, the reboiler, and the enclosed combustion devices will be modeled as point sources using source-specific stack parameters, including stack height, stack diameter, exhaust temperature, and exhaust velocity.

The source parameters and emission rates summarized in Table 1 are based on the Red Raider modeling input workbook and the supporting emission calculation workbook. All sources are conservatively evaluated at their potential-to-emit rates. The enclosed combustion devices and other combustion equipment are represented using the stack parameters supplied in the Red Raider emission calculations. Although ECD-1 is associated with VRU downtime, the modeling evaluation uses conservative allowable rates unless a refined operating schedule is approved for use.

Table 1: Summary of Red Raider Facility Sources and Emission Rates

Type	ID	Description	UTM-X (m)	UTM-Y (m)	Base Elev. (m)	Height (m)	Diam./ Width (m)	Exit Vel. (m/s)	Exit Temp (K)	Release Type	CO (g/s)	NO_X (g/s)	PM_{10} (g/s)	$PM_{2.5}$ (g/s)	SO_2 (g/s)
POINT	ENG-1	Comp. Engine 1 - CAT G3612 A4	597337.62	3555411.71	928.3	8.53	0.61	38.72	710.93	VERTICAL	0.4167	0.3125	0.0010	0.0010	0.0180
POINT	ENG-2	Comp. Engine 2 - CAT G3612 A4	597324.46	3555419.04	928.3	8.53	0.61	38.72	710.93	VERTICAL	0.4167	0.3125	0.0010	0.0010	0.0180
POINT	ENG-3	Comp. Engine 3 - CAT G3612 A4	597310.41	3555427.54	928.3	8.53	0.61	38.72	710.93	VERTICAL	0.4167	0.3125	0.0010	0.0010	0.0180
POINT	ENG-4	Comp. Engine 4 - Waukesha 16V275GL	597298.95	3555436.05	928.3	10.65	0.76	26.84	735.37	VERTICAL	0.5556	0.4167	0.0013	0.0013	0.0244
POINT	ENG-5	Comp. Engine 5 - Waukesha 16V275GL	597286.38	3555445.66	928.3	10.65	0.76	26.84	735.37	VERTICAL	0.5556	0.4167	0.0013	0.0013	0.0244
POINT	ENG-6	Comp. Engine 6 - CAT G3612 A4	597274.92	3555454.90	928.3	8.53	0.61	38.72	710.93	VERTICAL	0.4167	0.3125	0.0010	0.0010	0.0180
POINT	ENG-7	Comp. Engine 7 - CAT G3616 A4 Gen 2	597263.46	3555463.04	928.3	8.53	0.61	38.72	710.93	VERTICAL	0.6111	0.4583	0.0014	0.0014	0.0259
POINT	ENG-8	Comp. Engine 8 - CAT G3616 A4 Gen 2	597250.89	3555471.17	928.3	8.53	0.61	38.72	710.93	VERTICAL	0.6111	0.4583	0.0014	0.0014	0.0259
POINT	GEN-1	Generator - PSI 21.9L	597234.99	3555477.83	928.3	3.05	0.30	15.22	672.04	VERTICAL	0.1356	0.0581	0.0059	0.0059	0.0033
POINT	RBL-1	Glycol Reboiler	597285.27	3555499.27	928.3	2.74	0.24	8.11	1033.15	VERTICAL	0.0208	0.0247	0.0019	0.0019	0.0014
POINT	ECD-1	Enclosed Combustion Device 1	597297.84	3555379.85	928.3	3.96	1.52	0.45	922.04	VERTICAL	0.0685	0.0343	0.0000	0.0000	0.0000
POINT	ECD-2	Enclosed Combustion Device 2	597279.36	3555517.76	928.3	3.96	1.52	0.45	922.04	VERTICAL	0.1690	0.0847	0.0000	0.0000	0.0000

Note: Base elevations will be finalized through AERMAP processing. The preliminary base elevation listed above is the common site elevation used for protocol-level source summaries.

2.3 Modeling Applicability and Emission Thresholds

In accordance with the New Mexico Environment Department (NMED) Air Quality Bureau Modeling Guidelines, dispersion modeling is required for any regulated pollutant whose potential emission rate exceeds the Department's established hourly modeling thresholds. For this compressor station, the applicability determination is based on the maximum potential hourly emission rates for the site-wide source inventory.

As demonstrated in Table 2, the facility's potential emissions for NO_2, CO, SO2, PM2.5, and PM10 exceed the NMED hourly modeling triggers. Consequently, these pollutants will be included in the air dispersion modeling analysis to demonstrate compliance with applicable NAAQS and NMAAQS.

Table 2: Modeling Applicability Comparison

Pollutant	Facility Potential (tpy)	Estimated Peak (lb/hr)	NMED Trigger (lb/hr)	Modeling Required?
CO	152.7	34.87	2	Yes
NO_2	111.3	25.41	0.025	Yes
SO_2	6.16	1.41	0.025	Yes
$PM_{2.5}$	0.66	0.15	0.015	Yes
PM_{10}	1.13	0.26	0.05	Yes

2.4 Treatment of NO_2 Chemical Transformation

In accordance with the Guideline on Air Quality Models, the Facility will utilize a tiered approach for NO_2 modeling. A Tier 1 analysis assumes 100 percent conversion of NOx to NO2; however, this approach is physically conservative and may over-predict ambient NO2 concentrations. To provide a more representative assessment of air quality impacts, the Facility will use the Ambient Ratio Method 2 (ARM2) as the primary Tier 2 regulatory option.

ARM2 provides a refined, non-linear estimate of NOx to NO_2 conversion while retaining conservative regulatory limits. The model will be configured with the following national default ratios:

- Minimum NO_2/NOx Ratio: 0.5; and
- Maximum NO_2/NOx Ratio: 0.9.

2.5 Building Downwash and Aerodynamic Effects

Building downwash effects will be incorporated to account for the potential grounding of plumes caused by aerodynamic turbulence around onsite structures. Significant onsite structures, including compressor buildings or skids, the MCC, utility storage, enclosed combustion equipment, the tank battery, and other structures identified on the plot plan, will be processed using BPIPPRM (version 04274).

BPIPPRM will generate direction-specific building dimensions for AERMOD. This allows the model to simulate plume entrainment into building wakes and provides a conservative estimate of localized concentrations near the facility boundary and nearby receptors.

2.6 Terrain Processing and Receptor Grid

Terrain processing will be performed with AERMAP (version 24142). Base elevations for all sources and receptors, as well as critical hill height scales, will be determined using high-resolution elevation data from the USGS National Elevation Dataset, typically 1/3 arc-second or approximately 10-meter resolution.

A nested, multi-tier receptor grid will be employed to ensure that the maximum predicted impact is captured with adequate spatial resolution. The grid will be centered on the Facility and will include receptor spacing that is finest at the fenceline and near-field area, transitioning to coarser spacing with distance from the source.

- Fenceline and Near-Field (out to 800 meters): receptors will be placed at approximately 25-meter spacing along the modeled facility boundary and near-source area, with approximately 50-meter spacing extending out to approximately 800 meters.
- Mid-Field (800 meters out to 6 kilometers): receptor spacing will transition from approximately 100 meters out to approximately 3 kilometers and approximately 250 meters out to approximately 6 kilometers to capture impacts from elevated combustion source plumes.
- Far-Field (approximately 6 kilometers out to approximately 15 kilometers): receptor spacing will extend to approximately 15 kilometers using approximately 500-meter spacing to verify compliance across the modeling domain.

3.0 Meteorological Data Preparation

The dispersion modeling analysis will utilize five years of sequential meteorological data, such as 2020-2024, to characterize atmospheric transport and diffusion at the Red Raider Compressor Station. For the Eddy County location, representative surface observations are expected to be based on the Cavern City Air Terminal in Carlsbad, New Mexico (KCNM), with concurrent upper-air data from the Midland, Texas NWS station (KMAF).

The latest available meteorological data will be downloaded from the NMED modeling web page: https://www.env.nm.gov/air-quality/modeling-publications/. If it is determined that this NMED meteorological data has not been processed with the latest version of AERMET (version 24142), we request the option to process the data using that most recent AERMET version. The analysis will incorporate the ADJ_U* beta option in Stage 3. This adjustment is intended to improve model performance during stable, low wind speed conditions by adjusting the friction velocity based on surface roughness length. In the absence of site-specific turbulence measurements, ADJ_U* provides a scientifically robust approach to reduce over-prediction bias during light-wind stable conditions while retaining regulatory conservatism.

3.1 Determination of Surface Characteristics via AERSURFACE

Surface parameters - albedo, Bowen ratio, and surface roughness - will be determined using AERSURFACE (version 24142). These parameters are critical inputs for the planetary boundary layer calculations used by AERMOD.

- Surface roughness will be calculated within a 1-kilometer radius centered on the representative surface station anemometer, with review for temporal consistency and changes in land cover over the five-year meteorological period.
- Albedo and Bowen ratio will be calculated over a larger 10-kilometer by 10-kilometer domain. The Bowen ratio will be adjusted seasonally based on precipitation data to characterize average, dry, or wet moisture regimes relative to the climatological norm.
- Sectoring will be based on 12 equal 30-degree sectors to ensure that variations in land use, including airport infrastructure, open scrubland, and rural oil and gas development, are appropriately represented.

4.0 Multi-Tiered Modeling Approach

4.1 Significant Impact Analysis (SIA) Tiering

The modeling will be conducted using a tiered approach to determine the required depth of analysis. Initially, a project-only Significant Impact Analysis will be performed for CO, NO_2, and SO2. The maximum predicted concentrations from the modeled Facility sources will be compared against EPA-recommended Significant Impact Levels (SILs).

- Tier 1 (Screening): If the maximum impact for a specific pollutant and averaging period is below the applicable SIL, the project will be considered to have a de minimis impact for that pollutant and averaging period, and no further cumulative modeling will be required for that pollutant.
- Tier 2 (Refined Cumulative Analysis): If project-only impacts exceed a SIL, a Significant Impact Area will be defined for each affected pollutant and averaging period. A cumulative NAAQS/NMAAQS and PSD increment analysis will then be performed within the relevant area using nearby offsite sources and representative ambient background concentrations.

Table 3: Federal and New Mexico Significant Impact Levels (SILs)

Pollutant	Averaging Time	Federal/NM SIL Value (µg/m3)
CO	1-hour	2,000
CO	8-hour	500
NO_2	1-hour	7.5
NO_2	Annual	1
SO_2	1-hour	7.8
SO_2	3-hour	25
SO_2	24-hour	5
SO_2	Annual	1

Table 4: National and New Mexico Ambient Air Quality Standards (NAAQS & NMAAQS)

Pollutant	Averaging Time	Federal NAAQS	New Mexico NMAAQS	Form / Statistical Basis
CO	1-hour	40,000	15,000	Not to be exceeded > once per year
CO	8-hour	10,000	9,960	Not to be exceeded > once per year
NO_2	1-hour	188	--	98th percentile of 1-hour daily max
NO_2	24-hour	--	188	Not to be exceeded > once per year
NO_2	Annual	100	94	Annual Mean
SO_2	1-hour	1,300	--	99th percentile of 1-hour daily max
SO_2	24-hour	--	262	Not to be exceeded > once per year
SO_2	Annual	196	52	Annual Mean

The highlighted standards and averaging periods are the primary modeled compliance demonstrations under the NMED surrogate approach. A demonstration of compliance with the controlling short-term standard is used, where applicable, to demonstrate compliance with less restrictive surrogate standards.

Standard Not Modeled	Surrogate That Demonstrates Compliance
CO 8-hour NAAQS	CO 8-hour NMAAQS
CO 1-hour NAAQS	CO 1-hour NMAAQS
NO_2annual NAAQS	NO_2annual NMAAQS
$NO_2$24-hour NMAAQS	$NO_2$1-hour NAAQS
SO_2annual NMAAQS	$SO_2$1-hour NAAQS
$SO_2$24-hour NMAAQS	$SO_2$1-hour NAAQS

5.0 Background Air Quality Monitoring Site Selection and Analysis

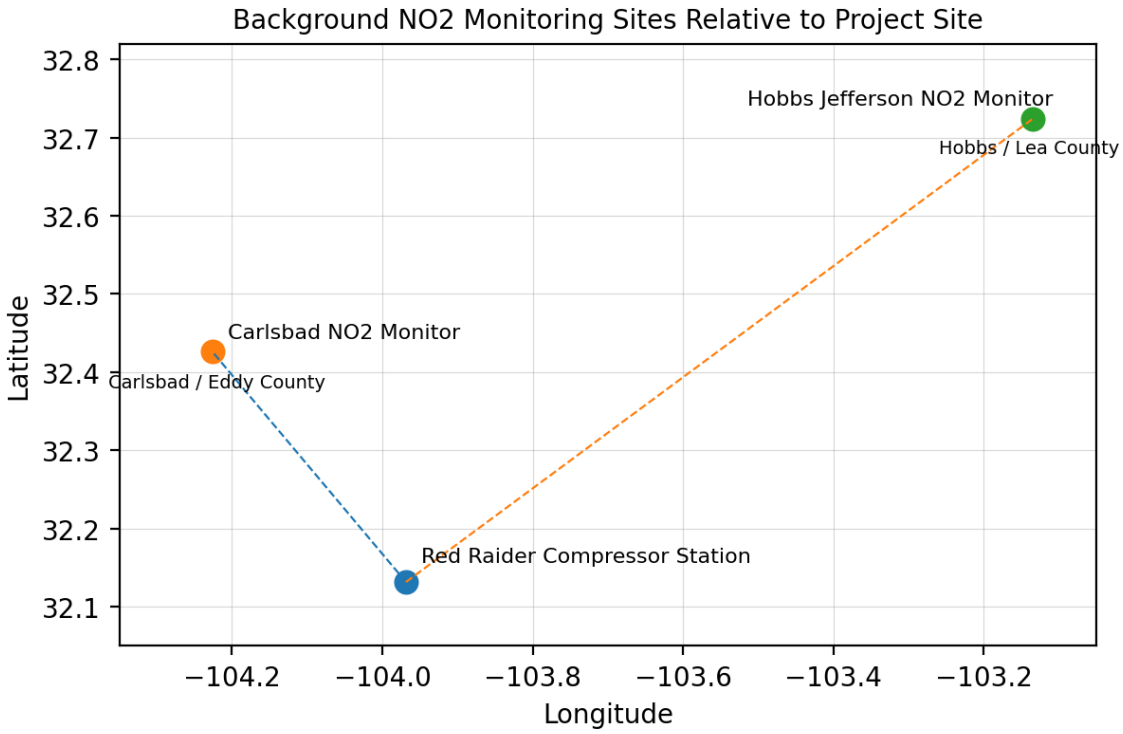
For this analysis, data from the most recent three-year period of quality-assured monitoring, 2023-2025, will be used where available. A review of the current NMED Air Quality Bureau and EPA AQS monitoring networks for CO, NO_2, and SO2 indicates that representative CO and SO2 monitoring data are not available within the Southeastern New Mexico region for this Facility.

NO_2 monitoring data are available from two representative monitoring sites in southeastern New Mexico:

- The Carlsbad monitoring site (AQS Site ID: 35-015-1005) is located in Eddy County and provides the most geographically representative NO_2 background data for the Red Raider Compressor Station.
- The Hobbs Jefferson monitor (AQS Site ID: 35-025-0008) is located in Lea County and provides a useful comparison for regional oil and gas combustion influences in the basin.

Given the Facility location in Eddy County and its rural oil and gas setting, the Carlsbad monitoring site is proposed as the primary representative NO_2 background site. It reflects regional atmospheric chemistry and emission influences relevant to the project area.

Figure 2: Background NO_2 Monitoring Sites Locations Relative to Project Site



For the 1-hour NO_2 NAAQS, the proposed background concentration is the three-year average of the 98th percentile of the daily maximum 1-hour concentrations for 2023-2025. The resulting value for the Carlsbad monitoring site is 62.70 µg/m3. For the annual NO2 standard, the proposed background concentration is the three-year average annual mean concentration of 10.53 µg/m3.

Table 5: Summary of Proposed Background Concentrations forNO_2

Pollutant	Averaging Period	Monitoring Source	Value (µg/m3)	Rationale
NO_2	1-Hour	Carlsbad (Holland St.)	62.70	3-yr average 98th percentile
NO_2	Annual	Carlsbad (Holland St.)	10.53	3-yr annual average

Should the initial cumulative analysis with these proposed background concentrations indicate potential exceedances, a refined background approach may be employed. This refinement could include temporally varying background arrays, such as month-by-hour or season-by-hour values, to more accurately reflect diurnal and seasonal patterns in background NO_2 concentrations.

5.1 Proposed Background Values and Refinement Methodology

As stated above, a review of the monitoring network indicates that active, representative CO and SO_2 monitoring data are not available for the southeastern New Mexico project area. Because localized design values for CO and SO2 cannot be calculated for the Facility, the applicant proposes to use a surrogate methodology consistent with historical NMED preferences for Permian Basin modeling analyses.

The applicant will submit a request for off-site source retrieval from the NMED Modeling Section. The request will include the Facility UTM coordinates and the pollutants of interest, including CO and SO_2. Offsite sources returned by NMED will be reviewed for inclusion in the cumulative analysis using the following screening procedures:

- For each offsite source, calculate the distance in kilometers from the center of the Red Raider Compressor Station.
- Convert emission rates to tons per year where necessary, assuming continuous operation unless more representative operating information is available.
- Eliminate a source from the cumulative analysis if the emission rate in tons per year is less than 20 times the distance in kilometers.
- Review any source located in a potentially up-valley or otherwise influential direction before excluding it under the 20D screening test.
- Review source parameters for reasonableness, including exit velocity and exit temperature, and modify or flag sources for review where parameters are outside established criteria.
- Include buildings for off-site sources selected for cumulative modeling where those buildings are known and are likely to affect downwash.

6.0 Class I Areas Analysis

The nearest Class I area is Carlsbad Caverns National Park, located approximately 39 kilometers (24 miles) southwest of the Facility. Because the Facility is within 50 kilometers of this Class I area, a Class I screening evaluation may be requested by NMED or by the Federal Land Manager. Because the Facility is being evaluated under a minor NSR ambient modeling framework, a formal Class I visibility or Air Quality Related Values analysis is not proposed as part of this protocol unless specifically requested.

If a Class I screening evaluation is required, special runs may be performed using receptors along the relevant Class I boundary or a conservative ring of receptors at 50 kilometers to evaluate potential Class I impacts.

7.0 Summary and Approval of Modeling Protocol

ONEOK Delaware Gathering, LLC provides this preliminary modeling protocol to facilitate collaborative review with NMED. The applicant requests NMED concurrence on the proposed methodology so that the subsequent modeling analysis meets regulatory expectations. To maintain the project schedule, the applicant respectfully requests a written response within 30 days. All modeling input and output files, meteorological and terrain processing data, and the final modeling report will be submitted to NMED as part of the permitting record.

8.0 References

New Mexico Environment Department (NMED), 2025. Air Quality Bureau 2025 Annual Network Review. July 1, 2025. Santa Fe, NM.

New Mexico Environment Department (NMED), 2024. Air Dispersion Modeling Guidelines. Air Quality Bureau. Revised July 11, 2024. Santa Fe, NM.

New Mexico Environment Department (NMED). Air Quality Bureau Modeling Publications. https://www.env.nm.gov/air-quality/modeling-publications/

U.S. Environmental Protection Agency, 2025. Guideline on Air Quality Models. 40 CFR Part 51, Appendix W. Revised January 2025.

U.S. Environmental Protection Agency, 2024. User's Guide for the AMS/EPA Regulatory Model (AERMOD). Publication No. EPA-454/B-24-001. Office of Air Quality Planning and Standards, Research Triangle Park, NC.

U.S. Environmental Protection Agency, 2006. AP-42, Compilation of Air Pollutant Emission Factors, Chapter 13.2.2, Unpaved Roads. Office of Air Quality Planning and Standards, Research Triangle Park, NC.

U.S. Environmental Protection Agency. Outdoor Air Quality Data: Monitor Values Report. https://www.epa.gov/outdoor-air-quality-data/monitor-values-report

Appendix A: Enclosed Combustor Stack Parameters and Heat Input

The enclosed combustion devices are modeled using stack parameters from the Red Raider emission calculations. The following values summarize the heat input and stack characteristics used for protocol-level documentation.

Unit	Controlled Stream	Total Controlled Gas	Pilot Heat Input (MMBtu/hr)	Heating Rate + Pilot (MMBtu/hr)	Stack Height (ft)	Stack Diameter (ft)	Exit Temp (°F)	Exit Velocity (ft/sec)
ECD-1	Condensate tanks, produced water tank, gunbarrel tank, and liquid loading	1.943	0.0306	1.974	13	5	1,200	1.476
ECD-2	Dehydrator flash tank and BTEX vent	4.838	0.0306	4.869	13	5	1,200	1.476

The enclosed combustor stack height, diameter, exit temperature, and velocity are carried forward into the AERMOD point-source input file. These parameters will be checked during model input quality control against the final emission calculation package.

Appendix B: Background Monitor Concentrations for 2023-2025

EPA Monitor Values Report: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report

Table B-1: Carlsbad NO_2 Monitor Summary

Year	Pollutant	Obs	1st Max 1hr	2nd Max 1hr	98th Percentile (ppb)	Annual Mean (ppb)	Monitor	Site ID	City	County	EPA Region
2023	NO_2	8073	41	41	31	5.25	1	35-015-1005	Carlsbad	Eddy	6
2024	NO_2	8414	40	39	34	5.31	1	35-015-1005	Carlsbad	Eddy	6
2025	NO_2	7991	40	39	35	6.22	1	35-015-1005	Carlsbad	Eddy	6

Carlsbad 2023-2025 average 98th percentile = 33.3 ppb = 62.70 µg/m3; 2023-2025 annual mean = 5.59 ppb = 10.53 µg/m3.

Table B-2: Hobbs Jefferson NO_2 Monitor Summary

Year	Pollutant	Obs	1st Max 1hr	2nd Max 1hr	98th Percentile (ppb)	Annual Mean (ppb)	Monitor	Site ID	City	County	EPA Region
2023	NO_2	8253	37	36	33	5.37	1	35-025-0008	Hobbs	Lea	6
2024	NO_2	8220	46	45	38	5.64	1	35-025-0008	Hobbs	Lea	6
2025	NO_2	8528	61	49	41	5.81	1	35-025-0008	Hobbs	Lea	6

Hobbs Jefferson 2023-2025 average 98th percentile = 37.3 ppb = 70.30 µg/m3; 2023-2025 annual mean = 5.61 ppb = 10.55 µg/m3.

Carlsbad is proposed as the representative background monitor for the Red Raider Compressor Station because it is located in Eddy County and is more geographically representative of the project area.

From:	Mustafa, Sufi A., ENV
To:	Kayla Curtis
Cc:	Jeff Jackson; Green, Lance; Dennis Hlinka; David Sullivan; Ryan Sullivan
Subject:	RE: [EXTERNAL] Modeling Protocol: Red Raider Compressor Station
Date:	Tuesday, June 30, 2026 1:41:06 PM
Attachments:	image002.png image003.png

Kayla

I am sorry for late comments.

Your modeling protocol is fine and acceptable in general. Following are my comments:

Our posted met data was processed with up to date AERMET and Adj U*.

If project impact exceeded SIL the entire facility need to be modeled for the SIL analyses. From these analyses figure out significant impact receptors to use in cumulative impact analyses.

Since Class I area is less than 50 km away please do the class I area modeling analyses.

Thank you.

Sufi A. Mustafa, Ph.D.
Manager Air Dispersion Modeling and Emission Inventory Section
New Mexico Environment Department's Air Quality Bureau
Office: (505) 629 6186
sufi.mustafa@env.nm.gov
4359 Jager Drive NE,
Rio Rancho, New Mexico, 87144
https://www.env.nm.gov/air-quality/

"Innovation, Science, Collaboration, Compliance"

From: Kayla Curtis <kc@resolutecompliance.com>
Sent: Friday, May 15, 2026 3:26 PM
To: Mustafa, Sufi A., ENV <sufi.mustafa@env.nm.gov>
Cc: Jeff Jackson <jj@resolutecompliance.com>; Green, Lance <lance.green@oneok.com>; Dennis Hlinka <dhlinka@ix.netcom.com>; David Sullivan <sull_env@ix.netcom.com>; Ryan Sullivan <ryansullivanenvironmental@gmail.com>
Subject: [EXTERNAL] Modeling Protocol: Red Raider Compressor Station

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Good afternoon, Sufi!

The modeling protocol for the Red Raider Compressor Station is attached for your review.
Please let us know if there are any questions.

Thank you and have a great weekend!

Kayla Curtis
Manager, Environmental Compliance

RESOLUTE COMPLIANCE, LLC
Purposeful Solutions. Unwavering Service.

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Section 17

Compliance Test History

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

Compliance Test History Table

Unit No.	Test Description	Test Date
ENG-1	Initial test in accordance with EPA test methods for VOC, NOx, and CO as required by NSPS JJJJ.	8/19/2024
ENG-1	Tested in accordance with EPA test methods for VOC, NOx, and CO as required by NSPS JJJJ.	8/7/2025
ENG-2	Initial test in accordance with EPA test methods for VOC, NOx, and CO as required by NSPS JJJJ.	8/20/2024
ENG-2	Tested in accordance with EPA test methods for VOC, NOx, and CO as required by NSPS JJJJ.	8/7/2025
ENG-3	Initial test in accordance with EPA test methods for VOC, NOx, and CO as required by NSPS JJJJ.	5/15/2024
ENG-3	Tested in accordance with EPA test methods for VOC, NOx, and CO as required by NSPS JJJJ.	4/16/2025
ENG-4	Initial test in accordance with EPA test methods for VOC, NOx, and CO as required by NSPS JJJJ.	4/24/2024
ENG-4	Tested in accordance with EPA test methods for VOC, NOx, and CO as required by NSPS JJJJ.	4/16/2025
ENG-5	Initial test in accordance with EPA test methods for VOC, NOx, and CO as required by NSPS JJJJ.	4/24/2024
ENG-6	Initial test in accordance with EPA test methods for VOC, NOx, and CO as required by NSPS JJJJ.	9/26/2024
ENG-6	Tested in accordance with EPA test methods for VOC, NOx, and CO as required by NSPS JJJJ.	9/4/2025

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Air Permit Application
Compliance History Disclosure Form

Pursuant to Subsection 74-2-7(S) of the New Mexico Air Quality Control Act ("AQCA"), NMSA §§ 74-2-1 to -17, the New Mexico Environment Department ("Department") may deny any permit application or revoke any permit issued pursuant to the AQCA if, within ten years immediately preceding the date of submission of the permit application, the applicant met any one of the criteria outlined below. In order for the Department to deem an air permit application administratively complete, or issue an air permit for those permits without an administrative completeness determination process, the applicant must complete this Compliance History Disclosure Form as specified in Subsection 74-2-7(P). An existing permit holder (permit issued prior to June 18, 2021) shall provide this Compliance History Disclosure Form to the Department upon request.

Permittee/Applicant Company Name		**Expected Application Submittal Date**
ONEOK, Inc.		August 2026
Permittee/Company Contact	**Phone**	**Email**
Lance Green	(225) 692-6947	Lance.green@oneok.com

	Within the 10 years preceding the expected date of submittal of the application, has the permittee or applicant:	
1	Knowingly misrepresented a material fact in an application for a permit?	☐ Yes ☒ No
2	Refused to disclose information required by the provisions of the New Mexico Air Quality Control Act?	☐ Yes ☒ No
3	Been convicted of a felony related to environmental crime in any court of any state or the United States?	☐ Yes ☒ No
4	Been convicted of a crime defined by state or federal statute as involving or being in restraint of trade, price fixing, bribery, or fraud in any court of any state or the United States?	☐ Yes ☒ No
5a	Constructed or operated any facility for which a permit was sought, including the current facility, without the required air quality permit(s) under 20.2.70 NMAC, 20.2.72 NMAC, 20.2.74 NMAC, 20.2.79 NMAC, or 20.2.84 NMAC?	☒ Yes ☐ No
5b	If "No" to question 5a, go to question 6. If "Yes" to question 5a, state whether each facility that was constructed or operated without the required air quality permit met at least one of the following exceptions: a. The unpermitted facility was discovered after acquisition during a timely environmental audit that was authorized by the Department; or b. The operator of the facility estimated that the facility's emissions would not require an air permit, **and** the operator applied for an air permit within 30 calendar days of discovering that an air permit was required for the facility.	☒ Yes ☐ No
6	Had any permit revoked or permanently suspended for cause under the environmental laws of any state or the United States?	☐ Yes ☒ No
7	For each "yes" answer, please provide an explanation and documentation. The facility is subject to the New Mexico New Owner Audit Program entered between the New Mexico Environmental Department and ONEOK, Inc. effective July 16, 2025. As a result, ONEOK disclosed several permitting deviations associated with the facility through New Owner Monthly Reports. Additionally, Notice of Violation EPCEB Air Case No. DGP-Multi-2501 was received on April 22, 2025 and alleges the failure to update the Facility's New Source Review permits 9897-M1 and 9896-M1.	

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Section 22: Certification

Company Name: ONEOK, Inc.

I, Sypy Thomas, 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 8th day of September, 2026, upon my oath or affirmation, before a notary of the State of Texas.

*Signature

September 8, 2026
Date

Sypy Thomas
Printed Name

SVP, Engineering & Operations - Crude Gathering & NGGP
Title

Scribed and sworn before me on this 8th day of September, 2026.

My authorization as a notary of the State of Texas expires on the 1st day of May, 2030.

Notary's Signature

September 8, 2026
Date

Jessica L. Williams
Notary's Printed Name

JESSICA L. WILLIAMS
Notary Public, State of Texas
Comm. Expires 05-01-2030
Notary ID 10293979

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