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October 15, 2025

New Mexico Environment Department
Air Quality Bureau
Minor Source Permitting Section
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505-1816

RE: Beer 30 CTB
NSR Permit Application
Tap Rock Operating, LLC
1.2 mi S of Whites City, Eddy County, New Mexico

Dear NSR Permitting Team:

On behalf of Tap Rock Operating, LLC (Tap Rock), CDH Consulting, LLC (CDH) is submitting the attached application for a New Source Review (NSR) Construction Permit for the proposed facility in Eddy County, New Mexico.

All required forms, notices, and supplemental information are included in this submittal. Digital files will be submitted upon request. The application fee of \$500 is included with this submittal.

If you have any questions or comments, please feel free to contact me at (303) 594-7951 or cmartinez@CDHConsult.com.

Sincerely,

A handwritten signature in blue ink that reads 'Chris Martinez'.

Chris Martinez
Air Quality Engineer

Mail Application To: 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		For Department use only:
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Universal Air Quality Permit Application

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

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

This application is submitted as (check all that apply): ☐ Request for a No Permit Required Determination (no fee)

☐ **Updating** an application currently under NMED review. Include this page and all pages that are being updated (no fee required).

Construction Status: ☒ Not Constructed ☐ Existing Permitted (or NOI) Facility ☐ Existing Non-permitted (or NOI) Facility

Minor Source: ☐ a NOI 20.2.73 NMAC ☒ 20.2.72 NMAC application or revision ☐ 20.2.72.300 NMAC Streamline application

Title V Source: ☐ Title V (new) ☐ Title V renewal ☐ TV minor mod. ☐ TV significant mod. TV Acid Rain: ☐ New ☐ Renewal

PSD Major Source: ☐ PSD major source (new) ☐ minor modification to a PSD source ☐ a PSD major modification

Acknowledgements:

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

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

☒ Check No.: **1360** 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: Application for a new minor source **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 (see 1 st 3 to 5 #s of permit IDEA ID No.):	Updating Permit/NOI #: NA
1	Facility Name:	Plant primary SIC Code (4 digits): 1311	
	Beer 30 CTB	Plant NAIC code (6 digits): 211120	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): From Whites City drive 0.7 miles south on Hwy 180. Turn left onto lease road. Follow road east 0.46 miles. Turn right (south) on lease road and go 0.3 miles to well pad. Pass through well pad and into facility.		
2	Plant Operator Company Name: Tap Rock Operating, LLC	Phone/Fax: (720) 772-5090	
a	Plant Operator Address: 1700 Lincoln St, Suite 4700, Denver, CO 80203		
b	Plant Operator's New Mexico Corporate ID or Tax ID:		
3	Plant Owner(s) name(s): Tap Rock Operating, LLC	Phone/Fax: (720) 772-5090	
a	Plant Owner(s) Mailing Address(s): 1700 Lincoln St, Suite 4700, Denver, CO 80203		
4	Bill To (Company): Tap Rock Operating, LLC	Phone/Fax: (720) 772-5090	
a	Mailing Address: 1700 Lincoln St, Suite 4700, Denver, CO 80203	E-mail: --	

5	☒ Preparer: Chris Martinez ☒ Consultant: CDH Consulting, LLC	Phone/Fax: (303) 594-7951
a	Mailing Address: 9446 Clermont St., Thornton, CO 80229	E-mail: cmartinez@cdhconsult.com
6	Plant Operator Contact: Bill Ramsey	Phone/Fax: (720) 772-5090
a	Address: 1700 Lincoln St, Suite 4700, Denver, CO 80203	E-mail: bramsey@taprk.com
7	Air Permit Contact: Bill Ramsey	Title: Sr. Environmental and Regulatory Specialist
a	E-mail: bramsey@taprk.com	Phone/Fax: (720) 772-5090
b	Mailing Address: 1700 Lincoln St, Suite 4700, Denver, CO 80203	
c	The designated Air permit Contact will receive all official correspondence (i.e. letters, permits) from the Air Quality Bureau.	

Section 1-B: Current Facility Status

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

Section 1-C: Facility Input Capacity & Production Rate

1	What is the facility's maximum input capacity, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly:	Daily:	Annually:
b	Proposed	Hourly:	Daily:	Annually:
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:	Daily:	Annually:
b	Proposed	Hourly: Oil: 167 bbl Produced Water: 875 bbl Natural Gas: 604 Mscf	Daily: Oil: 4,000 bbl Produced Water: 21,000 bbl Natural Gas: 14.5 MMscf	Annually: Oil: 1,460,000 bbl Produced Water: 7,655,000 bbl Natural Gas: 5,293 MMscf

Section 1-D: Facility Location Information

1	Section: SENE 3	Range: `	Township: 25E	County: Eddy	Elevation (ft): 3,584
2	UTM Zone: ☐ 12 or ☒ 13			Datum: ☐ NAD 27 ☒ NAD 83 ☐ WGS 84	
a	UTM E (in meters, to nearest 10 meters): 558,740			UTM N (in meters, to nearest 10 meters): 3,558,280	

b	AND Latitude (deg., min., sec.): 32° 9' 34.03"	Longitude (deg., min., sec.): 104° 22' 37.47"
3	Name and zip code of nearest New Mexico town: Whites City, 88268	
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): From Whites City drive 0.7 miles south on Hwy 180. Turn left onto lease road. Follow road east 0.46 miles. Turn right (south) on lease road and go 0.3 miles to well pad. Pass through well pad and into facility.	
5	The facility is 1.2 (distance) miles South (direction) of Whites City (nearest town).	
6	Status of land at facility (check one): ☐ Private ☐ Indian/Pueblo ☒ Federal BLM ☐ Federal Forest Service ☐ Other (specify)	
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: Eddy County	
8	20.2.72 NMAC applications only: Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.env.nm.gov/air-quality/modeling-publications/)? ☒ Yes ☐ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: • 0.8 km SE of Carlsbad Caverns NP • 17.7 km from TX border	
9	Name nearest Class I area: Carlsbad Caverns NP	
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 0.8 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: 1,000 m	
12	Method(s) used to delineate the Restricted Area: Facility is constructed on a raised, leveled pad with steep grade and perimeter ditch and berm. "Restricted Area" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.	
13	Does the owner/operator intend to operate this source as a portable stationary source as defined in 20.2.72.7.X NMAC? ☐ Yes ☒ No A portable stationary source is not a mobile source, such as an automobile, but a source that can be installed permanently at one location or that can be re-installed at various locations, such as a hot mix asphalt plant that is moved to different job sites.	
14	Will this facility operate in conjunction with other air regulated parties on the same property? ☒ No ☐ Yes If yes, what is the name and permit number (if known) of the other facility?	

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

1	Facility maximum operating ($\frac{\text{hours}}{\text{day}}$): 24	($\frac{\text{days}}{\text{week}}$): 7	($\frac{\text{weeks}}{\text{year}}$): 52	($\frac{\text{hours}}{\text{year}}$): 8,760
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start:			☐ AM ☐ PM
3	Month and year of anticipated start of construction: Upon permit approval ~February 2026			
4	Month and year of anticipated construction completion: 4 weeks after start			
5	Month and year of anticipated startup of new or modified facility: Upon construction completion			
6	Will this facility operate at this site for more than one year? ☒ Yes ☐ No			

Section 1-F: Other Facility Information

1	Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? ☐ Yes ☒ No If yes, specify:		
a	If yes, NOV date or description of issue:	NOV Tracking No:	
b	Is this application in response to any issue listed in 1-F, 1 or 1a above? ☐ Yes ☐ No If Yes, provide the 1c & 1d info below:		
c	Document Title:	Date:	Requirement # (or page # and paragraph #):
d	Provide the required text to be inserted in this permit:		
2	Is air quality dispersion modeling or modeling waiver being submitted with this application? ☒ Yes ☐ No		
3	Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? ☐ Yes ☒ No		

4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? ☒ Yes ☐ No
a	If Yes, what type of source? ☐ Major (☐ ≥10 tpy of any single HAP OR ☐ ≥25 tpy of any combination of HAPS) OR ☒ Minor (☒ <10 tpy of any single HAP AND ☒ <25 tpy of any combination of HAPS)
5	Is any unit exempt under 20.2.72.202.B.3 NMAC? ☐ Yes ☒ No
a	If yes, include the name of company providing commercial electric power to the facility: _____ Commercial power is purchased from a commercial utility company, which specifically does not include power generated on site for the sole purpose of the user.

Section 1-G: Streamline Application (This section applies to 20.2.72.300 NMAC Streamline applications only)

1	☐ I have filled out Section 18, "Addendum for Streamline Applications." ☒ N/A (This is not a Streamline application.)
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Section 1-H: Current Title V Information - Required for all applications from TV Sources

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

1	Responsible Official (R.O.) (20.2.70.300.D.2 NMAC):	Phone:
a	R.O. Title:	R.O. e-mail:
b	R. O. Address:	
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC):	Phone:
a	A. R.O. Title:	A. R.O. e-mail:
b	A. R. O. Address:	
3	Company's Corporate or Partnership Relationship to any other Air Quality Permittee (List the names of any companies that have operating (20.2.70 NMAC) permits and with whom the applicant for this permit has a corporate or partnership relationship):	
4	Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.):	
a	Address of Parent Company:	
5	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.):	
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations:	
7	Affected Programs to include Other States, local air pollution control programs (i.e. Bernalillo) and Indian tribes: Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B)? If yes, state which ones and provide the distances in kilometers:	

Section 1-I – Submittal Requirements

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

Hard Copy Submittal Requirements:

- 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.**
- If the application is for a minor NSR, PSD, NNSR, or Title V application, include one working hard **copy** for Department use. This **copy** should be printed in book form, 3-hole punched, and **must be double sided**. Note that this is in addition to the head-to-toe 2-hole punched copy required in 1) above. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.
- 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 Chris Martinez, Email cmartinez@cdhconsult.com Phone number (303) 594-7951.

- 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,
- one additional CD copy for US EPA,
 - one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
 - 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)]:

- 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.
- 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.
- 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.
- 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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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	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
							Date of Construction/Reconstruction ²	Emissions vented to Stack #				
ENG-1	Compressor Engine	Caterpillar	G3516	TBD	1,380 hp	1,380 hp	TBD	CAT	2-02-002-54	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	
								ENG-1				
GEN-1	Generator Engine	PSI	21.9L	TBD	582 hp	582 hp	TBD	CAT	2-02-002-53	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SRB	
								GEN-1				
GEN-2	Generator Engine	PSI	21.9L	TBD	582 hp	582 hp	TBD	CAT	2-02-002-53	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SRB	
								GEN-2				
GEN-3	Generator Engine	PSI	14.6L	TBD	582 hp	582 hp	TBD	CAT	2-02-002-53	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SRB	
								GEN-3				
HT-1	Heater Treater	TBD	TBD	TBD	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD		3-10-004-04	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
								HT-1				
HT-2	Heater Treater	TBD	TBD	TBD	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD		3-10-004-04	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
								HT-2				
HT-3	Heater Treater	TBD	TBD	TBD	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD		3-10-004-04	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
								HT-3				
HT-4	Heater Treater	TBD	TBD	TBD	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD		3-10-004-04	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
								HT-4				
TK-1	Oil Tank	TBD	TBD	TBD	1,000 bbl	1,000 bbl	TBD	VRU/COMB-1	4-04-003-12	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
								COMB-1				
TK-2	Oil Tank	TBD	TBD	TBD	1,000 bbl	1,000 bbl	TBD	VRU/COMB-1	4-04-003-12	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
								COMB-1				
TK-3	Oil Tank	TBD	TBD	TBD	1,000 bbl	1,000 bbl	TBD	VRU/COMB-1	4-04-003-12	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
								COMB-1				
PWTk-1	Produced Water Tank	TBD	TBD	TBD	1,000 bbl	1,000 bbl	TBD	VRU/COMB-1	4-04-003-15	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
								COMB-1				
PWTk-2	Produced Water Tank	TBD	TBD	TBD	1,000 bbl	1,000 bbl	TBD	VRU/COMB-1	4-04-003-15	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
								COMB-1				
FL-HP	HP Flare	DBI	VOPT HP	TBD	14 MMscfd	14 MMscfd			3-10-001-60	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
								FL-HP				
FL-LP	LP Flare	DBI	AF-66	TBD	0.30 MMscfd	0.30 MMscfd			3-10-001-60	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
								FL-LP				
FUG-1	Component Fugitives								3-10-888-11	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		

Unit Number ¹	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture ²	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
							Date of Construction/Reconstruction ²	Emissions vented to Stack #				
VRT	Vapor Recovery Tower								3-10-888-11	☐ Existing (unchanged) ☐ To be Removed ☒ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
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										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		

¹ 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 Activities¹ (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 20.2.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.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)	Date of Manufacture /Reconstruction ²	For Each Piece of Equipment, Check One
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction ²	
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
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							☐ 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.

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 (c) 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.

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

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

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

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

[illegible]

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.

[illegible]

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:

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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		Benzene ☑ HAP or ☐ TAP		Toluene ☑ HAP or ☐ TAP		Ethylbenzene ☑ HAP or ☐ TAP		Xylene ☑ HAP or ☐ TAP		Formaldehyde ☑ HAP or ☐ TAP		Acetaldehyde ☑ HAP or ☐ TAP		Acrolein ☑ HAP or ☐ TAP		n-Hexane ☑ 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
1	FL-HP	-	0.45	-	0.003	-	0.063	-	0.003	-	0.036	-	-	-	-	-	-	-	0.35
2	FL-LP	-	0.14	-	0.003	-	0.032	-	0.001	-	0.018	-	-	-	-	-	-	-	0.09
3	ENG-1	0.76	3.32	0.005	0.02	0.005	0.02	0.0004	0.002	0.002	0.009	0.58	2.56	0.093	0.41	0.057	0.25	0.012	0.05
4	GEN-1	0.16	0.69	0.009	0.04	0.003	0.01	0.0001	0.0001	0.001	0.005	0.114	0.50	0.015	0.07	0.015	0.06	-	-
5	GEN-2	0.16	0.69	0.009	0.04	0.003	0.01	0.0001	0.0001	0.001	0.005	0.114	0.50	0.015	0.07	0.015	0.06	-	-
6	GEN-3	0.11	0.46	0.006	0.03	0.002	0.01	0.0001	0.004	0.001	0.003	0.076	0.33	0.01	0.05	0.01	0.04	-	-
	FUG-1	-	0.005	-	2.6E-05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals:		1.19	5.7548	0.029	0.136026	0.013	0.145	0.0007	0.0102	0.005	0.076	0.884	3.89	0.133	0.6	0.097	0.41	0.012	0.49

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-1	Natural Gas	process gas	1,121 Btu/scf	9.0 Mscf/hr	78.73 MMscf/yr	--	
GEN-1	Natural Gas	process gas	1,121 Btu/scf	4.5 Mscf/hr	39.44 MMscf/yr	--	
GEN-2	Natural Gas	process gas	1,121 Btu/scf	4.5 Mscf/hr	39.44 MMscf/yr	--	
GEN-3	Natural Gas	process gas	1,121 Btu/scf	3.0 Mscf/hr	26.43 MMscf/yr	--	
HT-1	Natural Gas	process gas	1,121 Btu/scf	1.34 Mscf/hr	11.72 MMscf/yr	--	
HT-2	Natural Gas	process gas	1,121 Btu/scf	1.34 Mscf/hr	11.72 MMscf/yr	--	
HT-3	Natural Gas	process gas	1,121 Btu/scf	1.34 Mscf/hr	11.72 MMscf/yr	--	
HT-4	Natural Gas	process gas	1,121 Btu/scf	1.34 Mscf/hr	11.72 MMscf/yr	--	
FL-HP	Natural Gas	process gas	1,121 Btu/scf	0.075 Mscf/hr	0.66 MMscf/yr	--	
FL-LP	Natural Gas	process gas	1,121 Btu/scf	0.075 Mscf/hr	0.66 MMscf/yr	--	

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.

[illegible]

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

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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	
Note: 1.00 bbl = 0.159 M ³ = 42.0 gal					MG: Medium Gray	
					BL: Black	
					OT: Other (specify)	

Note: $1.00 \text{ bbl} = 0.159 \text{ M}^3 = 42.0 \text{ gal}$

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

[illegible]

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.

[illegible]

Table 2-O: Parametric Emissions Measurement Equipment

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

[illegible]

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 ₂ O ton/yr	CH ₄ ton/yr	SF ₆ ton/yr	PFC/HFC ton/yr ²									Total GHG Mass Basis ton/yr ⁴	Total CO ₂ e ton/yr ⁵
Unit No.	GWPs ¹	1	298	25	22,800	footnote 3										
	mass GHG															
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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.

Application Summary:

This application is submitted to authorize the initial construction and operation of the facility.

Process Summary:

Well fluids are routed to individual initial heated 3-phase separators (HT 1-4) where water, gas, and oil are separated. Oil from the separators enters the vapor recovery towers (VRTs). Gas from the separators is sent to the sales pipeline. Gas is sent to flare during short pipeline downtime periods (FL-HP). Prior to the sales point, a side stream of gas is removed and sent to gas lift compressor (ENG-1). The compressor direct the gas down hole to assist in bringing fluids to the surface. The compressor engine is gas fired and controlled with a catalytic converter. Water from the separators flows to atmospheric storage tanks (PWTK 1-2). Vapors from the water storage tanks are captured by the tank blower and routed to the VRU and then to the sales pipeline. When the blower is down for maintenance, the vapors are controlled by the low-pressure flare (FL-LP). When enough water has accumulated in the tanks it is piped off-site for disposal. A small amount of truck loading is included for operational flexibility (PWLOAD-1, HR-1). Gas from the VRT is routed to the Vapor Recovery Unit (VRU) and to the sales line. The oil from the VRT is routed to the atmospheric oil storage tanks (TK 1-3). Vapors from the oil storage tanks are captured by the tank blower and routed to the VRU and then to the sales pipeline. When the blower is down for maintenance, the vapors are controlled by the flare (FL-LP). When enough oil has accumulated in the tanks it is piped off-site for sale via LACT. A small amount of truck loading is included for operational flexibility (OILLOAD-1, HR-1). During periods of VRU downtime, the vapor stream is controlled by the flare (FL-LP). The facility utilizes three electrical generators (GEN 1-3) to provide power to the site.

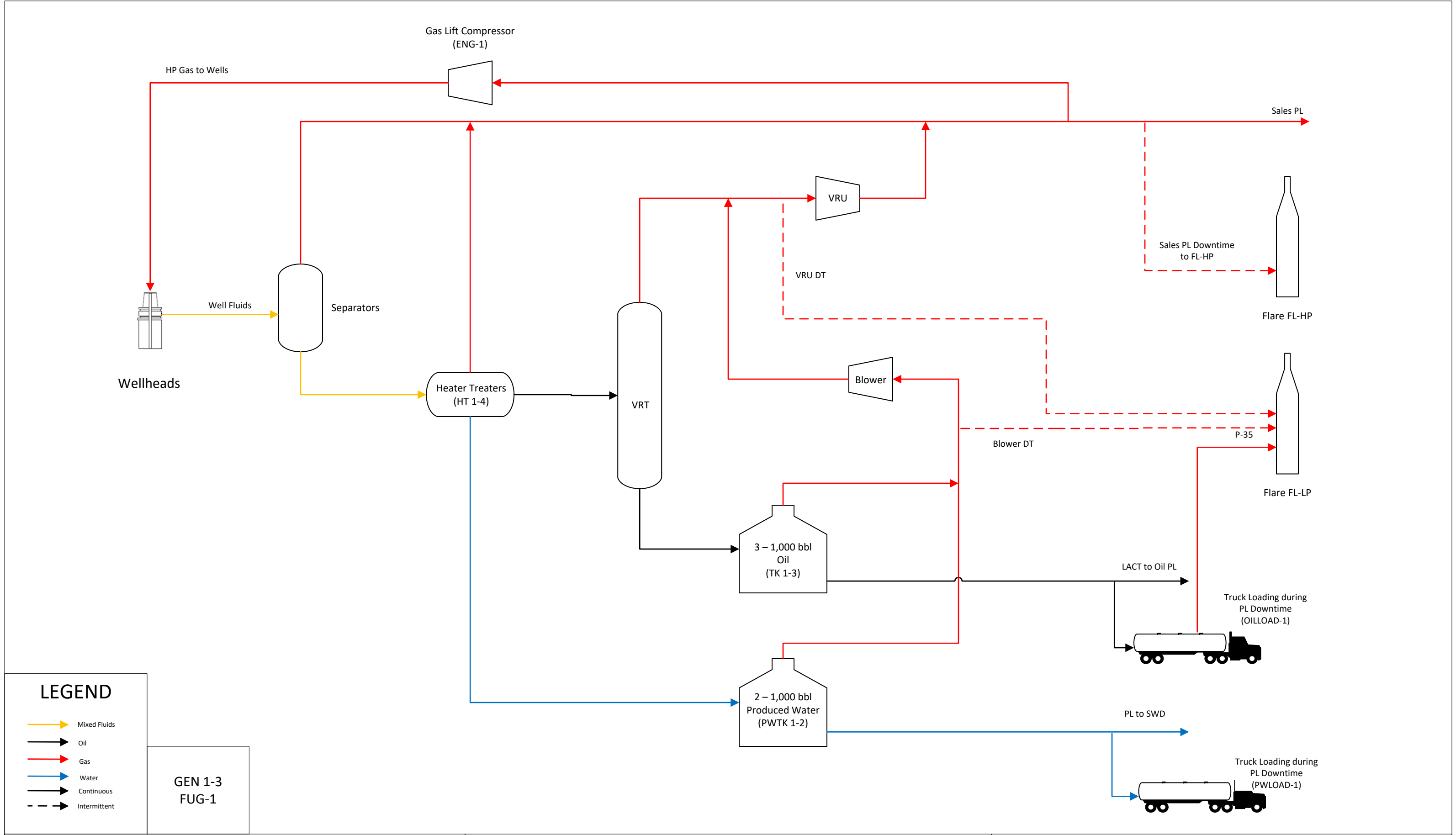
Startup, Shutdown, and Maintenance (SSM) routine or predictable emissions: VOCs during blower and VRU downtime are controlled by FL-LP. Sales gas pipeline downtime is routed to FL-HP.

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.

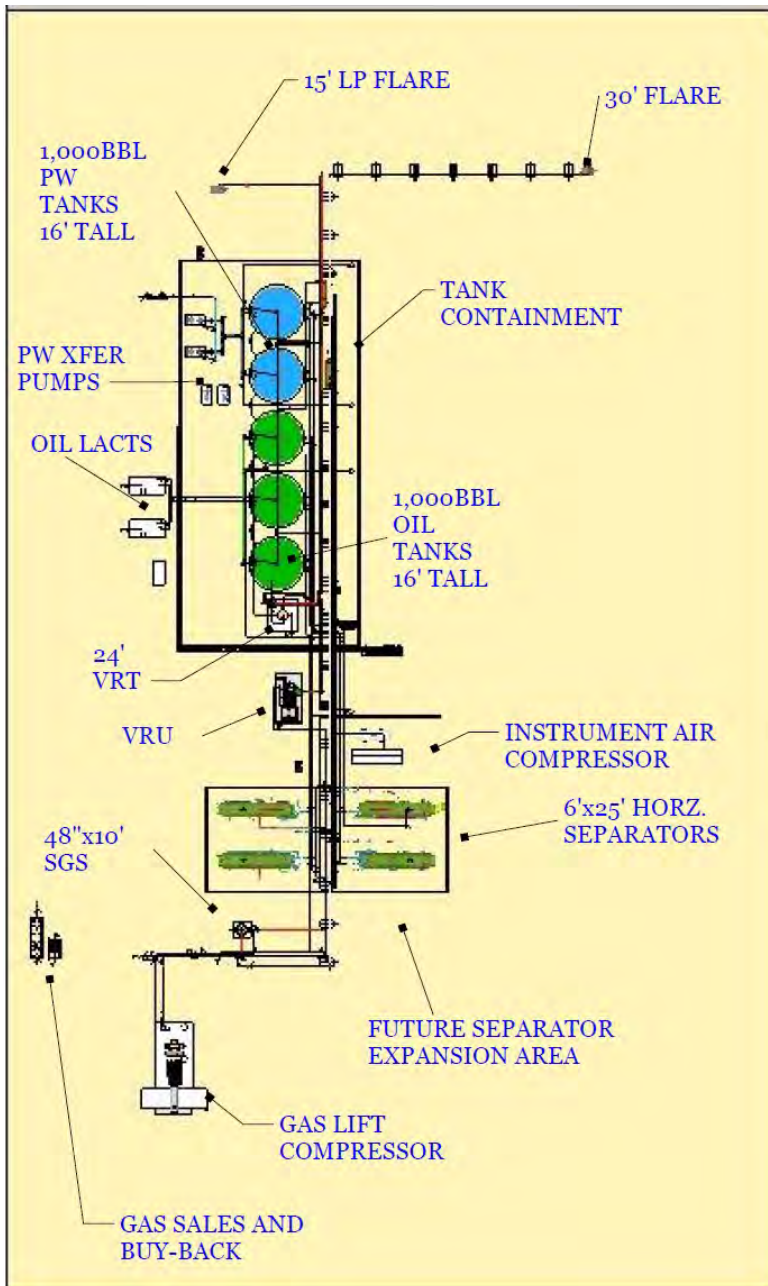
To save paper and to standardize the application format, delete this sentence, and begin your submittal for this attachment on this page.



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.



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.

Control Devices:

- **Catalytic Converters** - Engine emissions are controlled using catalytic converters to reduce NO_x, CO, and VOCs.
- **Low-Pressure Blower** - Tank flash, working, and breathing vapors are controlled by a low-pressure blower which routes to the VRU inlet and then to the sales line.
- **Vapor Recovery Unit (VRU)** - VRT vapors are collected by the VRU and routed to the sales line.
- **Flare (FL-LP)** – During periods of Blower downtime, stream is routed to the flare for destruction (FL-LP)
- **Flare (FL-LP)** – During periods of VRU downtime, stream is routed to the flare for destruction (FL-LP)
- **Flare (FL-HP)** – During periods of sales line downtime, stream is routed to the flare for destruction (FL-HP)

Supplemental Calculations

Beer 30 CTB

October 2025

Production

	bbl/yr	bbl/d	bbl/hr	gal/yr/tank	turn/tank/yr
Oil	1,460,000	4,000	166.7	20,440,000	487
Produced Water	7,665,000	21,000	875.0	160,965,000	3,833
	MMscf/yr	MMscf/d	Mscf/hr		
Gas	5,293	14.5	604.2		

LP Flare Calculations

LP Flare Calculations												DRE = 98%			
Blower DT --> 10%		Uncontrolled Flash Downtime		Uncontrolled W&S Downtime		Total Uncontrolled Downtime		Capture Efficiency	Total Uncontrolled to Flare		Total Uncontrolled to Flare by fluid		Total Controlled after Flare		
Unit No.		pph	tpy	pph	tpy	pph	tpy	%	pph	tpy					
TK-1		4.93	21.58	9.84	43.11	14.77	64.69	100%	14.77	64.69	44.31	194.08	0.89	0.39	
TK-2		4.93	21.58	9.84	43.11	14.77	64.69	100%	14.77	64.69					
TK-3		4.93	21.58	9.84	43.11	14.77	64.69	100%	14.77	64.69					
PWTK-1		1.18	5.15	1.06	4.63	2.23	9.78	100%	2.23	9.78	4.47	19.56	0.09	0.00	
PWTK-2		1.18	5.15	1.06	4.63	2.23	9.78	100%	2.23	9.78					
												48.78	213.64	0.98	0.39

	MMSCFD (from ProMax)	(scf/hr)	Mscf/hr	MMscf/yr	Btu/scf	MW (lb/lbmol)	VOC wt%	VOC lb/hr	VOC tpy	wt% Benzene	wt% Toluene	wt% Ethylbenzene	wt% Xylene	wt% n-Hexane
Tank Blower DT (10%) (FL-LPa)	0.034650	1443.76	1.44	1.26	1359	28.18	45.50	48.85	21.39	0.0526	1.2872	0.0541	0.7140	2.3565
VRU DT (10%) (FL-LPb)	0.093608	3900.34	3.90	3.42	1396	27.74	46.55	132.89	58.21	0.0324	0.7919	0.0350	0.4394	2.6053
Total Uncontrolled FL-LP			5.34	4.68				181.74	79.60					
Total Controlled FL-LP								3.63	1.59					
								Blower DT	0.98	0.43				
								VRU DT	2.66	1.16				

HP Flare Calculations

Sales Gas DT [1%] (FL-HP)	14.5	604166.67	604.17	52.93	1079	20.5	21.99	7186.02	314.75	0.0090	0.2212	0.0106	0.1244	1.2211
Total Uncontrolled FL-HP								7186.02	314.75					
Total Controlled FL-HP								143.72	6.29					
Total Controlled from Flares (FL-LP + FL-HP)								147.36	7.89					

Flare HAP Calculations (uncontrolled tpy)

Stream	Benzene	Toluene	Ethylbenzene	Xylene	n-Hexane	Formaldehyde	Acetaldehyde	Acrolein	Total HAP
Tank Blower DT to FL-LPa	0.025	0.605	0.025	0.336	1.108	-	-	-	2.099
Total VRU DT to FL-LPb	0.041	0.990	0.044	0.549	3.258	-	-	-	4.881
Total to FL-LP	0.065	1.595	0.069	0.885	4.366	-	-	-	6.980
Total to FL-HP	0.129	3.166	0.152	1.781	17.478	-	-	-	22.705

Flare HAP Calculations (controlled tpy)

Stream	Benzene	Toluene	Ethylbenzene	Xylene	n-Hexane	Formaldehyde	Acetaldehyde	Acrolein	Total HAP
Tanks (FL-LPa)	0.000	0.012	0.001	0.007	0.022	-	-	-	0.042
Total VRU DT to FL-LPb	0.001	0.020	0.001	0.011	0.065	-	-	-	0.098
Total from FL-LP	0.001	0.032	0.001	0.018	0.087	-	-	-	0.140
Total from FL-HP	0.003	0.063	0.003	0.036	0.350	-	-	-	0.4541

Other HAP Calculations (controlled tpy)

Source	Benzene	Toluene	Ethylbenzene	Xylene	n-Hexane	Formaldehyde	Acetaldehyde	Acrolein	Total HAP
ENG-1 (G3516J)	0.02133	0.0198	0.00193	0.00894	0.05335	2.561	0.40546	0.24931	3.32
GEN-1 (21.9L)	0.03837	0.01353	0.00061	0.00473	0	0.498	0.06776	0.0639	0.69
GEN-2 (21.9L)	0.03837	0.01353	0.00061	0.00473	0	0.498	0.06776	0.0639	0.69
GEN-3 (14.6L)	0.02571	0.00907	0.00039	0.00315	0	0.3338	0.04542	0.04279	0.46
FUG-1	0.00003								0.0048
Controlled HAPs Grand Total	0.129	0.183	0.009	0.093	0.578	3.891	0.586	0.420	5.898

Truck Loading

LACT to pipeline is Normal Operations

	Capacity	#/yr	Volume (gal)
Oil Trucks	180	35	264,600
Water Trucks	130	35	191,100
Total		70	

5 trucks/day for 7 days
5 trucks/day for 7 days

Stack Parameters (General)

	MMBtu/hr	F-Factor (wscf/MMBtu)*	Temp (F)	Diam (ft)	Flow (acfh)	Flow (acfm)	Flow (acfs)	Velocity (fps)
HT-1	1.50	10610	460	0.67	28157	469	7.8	22.4
HT-2	1.50	10610	460	0.67	28157	469	7.8	22.4
HT-3	1.50	10610	460	0.67	28157	469	7.8	22.4
HT-4	1.50	10610	460	0.67	28157	469	7.8	22.4
ENG-1 (G3516J)			992	1.33		9126	152.1	109.5
GEN-1 (21.9L)			1382	0.33		1895	31.6	361.9
GEN-2 (21.9L)			1382	0.33		1895	31.6	361.9
GEN-3 (14.6L)			1382	0.33		1895	31.6	361.9
FL-LP			1500	0.50		1875	31.3	159.2
FL-HP			1500	0.67		15960	266.0	754.5

* 40 CFR 60, App A-7, Table 19-2

TABLE 19-2—F FACTORS FOR VARIOUS FUELS¹

Fuel Type	F _d		F _w		F _c	
	dscm/J	dscf/10 ⁶ Btu	wscm/J	wscf/10 ⁶ Btu	scm/J	scf/10 ⁶ Btu
Coal:						
Anthracite ²	2.71 × 10 ⁻⁷	10,100	2.83 × 10 ⁻⁷	10,540	0.530 × 10 ⁻⁷	1,970
Bituminous ²	2.63 × 10 ⁻⁷	9,780	2.86 × 10 ⁻⁷	10,640	0.484 × 10 ⁻⁷	1,800
Lignite	2.65 × 10 ⁻⁷	9,860	3.21 × 10 ⁻⁷	11,950	0.513 × 10 ⁻⁷	1,910
Oil ³	2.47 × 10 ⁻⁷	9,190	2.77 × 10 ⁻⁷	10,320	0.383 × 10 ⁻⁷	1,420
Gas:						
Natural	2.34 × 10 ⁻⁷	8,710	2.85 × 10 ⁻⁷	10,610	0.287 × 10 ⁻⁷	1,040
Propane	2.34 × 10 ⁻⁷	8,710	2.74 × 10 ⁻⁷	10,200	0.321 × 10 ⁻⁷	1,190
Butane	2.34 × 10 ⁻⁷	8,710	2.79 × 10 ⁻⁷	10,390	0.337 × 10 ⁻⁷	1,250
Wood	2.48 × 10 ⁻⁷	9,240			0.492 × 10 ⁻⁷	1,830
Wood Bark	2.58 × 10 ⁻⁷	9,600			0.516 × 10 ⁻⁷	1,920
Municipal	2.57 × 10 ⁻⁷	9,570			0.488 × 10 ⁻⁷	1,820
Solid Waste						

¹Determined at standard conditions: 20 °C (68 °F) and 760 mm Hg (29.92 in Hg)

Fugitive Emissions

EQUIPMENT & COMPONENT COUNTS¹

Equipment Type	Count	Valves	Connectors	OELs	PRVs ³	Flanges ²	Pump Seals
Wellhead(s)	4	44	144	4	0	8	0
Separator(s)	4	136	424	24	8	16	0
Meter(s)/Piping	2	28	102	2	2	4	0
Compressor(s)	1	73	179	3	4	6	0
In-Line Heater(s)	4	56	260	8	4	8	0
Dehydrator(s)	0	0	0	0	0	0	0
Combustor(s) ⁴	2	28	102	2	2	4	0
Oil Tank(s) ⁵	3	102	318	3	6	12	0
Produced Water Tank(s) ⁵	2	68	212	2	4	8	0
TOTAL COMPONENTS:		535	1741	48	30	66	0

COMPONENT COUNT BY PROCESS STREAM⁶

Process Stream Gas %:	30%
Process Stream Oil %:	60%
Process Stream Water %:	10%

Component	Gas	Heavy Oil	Light Oil	Water/Oil
Connectors	522	0	1045	174
Flanges	20	0	40	7
OELs	14	0	29	5
Pump Seals	0	0	0	0
Valves	161	0	321	54
Other ³	9	0	18	3

EMISSION CALCULATIONS

Process Stream	Stream Weight %:			Emissions ⁷ :			
	VOC	Benzene	Total HAP	TOC (TPY)	VOC (TPY)	Benzene (TPY)	Total HAP (TPY)
Gas	21.99%	0.01%	1.59%	0.10	0.02	0.000	0.002
Heavy Oil	0.00%	0.00%	0.00%	0.00	0.00	0.000	0.000
Light Oil	99.94%	0.01%	1.75%	0.18	0.18	0.000	0.003
Water/Oil	0.99%	0.00%	0.02%	0.02	0.00	0.000	0.000
TOTAL EMISSIONS:				0.31	0.20	0.000	0.005
				lb/hr	0.07	0.05	0.000

EQUATIONS

TOC Emissions (TPY) = Component Qty. * Emission Factor (lbs/hr/comp) * Annual Operating Hrs * 1ton/2000 lbs

Emissions x (TPY) = TOC Emissions (TPY) * Weight Fraction of x from Gas Analysis (wt%)

NOTES

- Component counts estimated using Table W-1B of 40 CFR 98 Subpart W and conservative assumptions/estimates.
- Flanges estimated as 3% of connector values.
- PRVs are estimated under the "Other" category.
- Combustor component counts are estimated using Table W-1B values under "Meters/Piping"
- Storage tank component counts are estimated using Table W-1B values under "Separators"
- Component count values allocated into process stream service using estimated average.
- Emission factors derived from Table 2-8, EPA-453/R-95-017, "Protocol for Equipment Leak Emission Estimates," Nov. 1995.

Component Type	Equipment Service Category ⁵			
	Gas (lbs/hr/component)	Heavy Oil (<20 API Gravity) (lbs/hr/component)	Light Oil (>20 API Gravity) (lbs/hr/component)	Water/Light Oil ² (lbs/hr/component)
Connectors	2.20E-05	1.65E-05	2.14E-05	2.20E-05
Flanges	1.26E-05	8.60E-07	5.29E-06	6.39E-06
Open-ended Lines	3.31E-05	1.59E-05	3.09E-05	7.72E-06
Pumps ¹	7.72E-04	0.00E+00	1.12E-03	5.29E-05
Valves ³	5.51E-05	1.85E-05	4.19E-05	2.14E-05
Other ⁴	2.65E-04	7.05E-05	2.43E-04	1.30E-04



AIR EMISSIONS CALCULATION TOOL

Instructions for Completing the Equipment Calculation Forms

1. Click the **Start Button** below to reset the form to begin data entry.
2. The **Air Emissions Calculation Tool** initially loads with the **Core Data Information Form**. Once all information is entered on this form, the necessary equipment calculation pages will be created based on the information entered on the Core Data Information Form. The customized **Air Emissions Calculation Tool** should now be saved to your computer before entering any other information on the equipment calculation pages. **Warning, every time you click on the Start Button below, the Air Emissions Calculation Tool will reset and all data entered will be lost.**
3.  Green/Blue colored information boxes require users to enter the required information for the subject facility. Default values may be changed if not appropriate for the facility.
4.  Yellow colored boxes represent calculated values based on user information entered and may not be changed.
5.  Yellow boxes with green/blue cross-hatching represent calculated values based on user information entered, however users may input data in these boxes, if necessary.

Start



Core Data Information

Mandatory - All appropriate Data Must Be Entered For All Boxes Below. This Data Will Automatically Create All Required Equipment Forms And Populate This Data In All Emissions Calculation Forms.

Date Field	Sep 25, 2025	Permit/NOI/NPR Number	NA	
Company Name:	Tap Rock Operating, LLC	Select Application Type	NSR	
Facility Name:	Beer 30 CTB	Alt# if Known	NA	
Max. Facility Gas Production	14,500 (Mscf/d)	604 (Mscf/h)	Elevation (ft.)	3,585
Max. Facility Oil Production	4,000 (BOPD)	167 (BOPH)	Sour Gas Streams at This Site?	NO
Max. Facility Produced Water	21,000 (BWPD)	875 (BWPH)		

Enter The Quantity Of All Air Emissions Sources Located At The Facility
(Leave Blank For Each Equipment Type That Is Not Present)

Equipment	Quantity	Equipment	Quantity
Amine Unit(s)		Compressor Engine (s)	1
Dehydrator(s)		Enclosed Combustion Device(s) (ECD)	
Equipment Fugitives		Flare(s)	2
Flash Tower/Ultra-Low Pressure Separator(s)^	1	Generator Engine (s)	3
Gunbarrel Separator(s)/Tank(s)		Heater(s), Heater Treaters	4
Number of Paved Haul Roads Segments		Number of Unpaved Haul Road Segments	
Low Pressure Compressor(s)* & Compressor(s)*		Oil/Condensate Storage Tank(s)	3
Oil/Condensate Truck Loading		Produced Water Storage Tank(s)	2
Produced Water Truck Loading		Pumpjack Engine(s)	
Reboilers(s) (Amine Units)		Placeholder for Future Use	
Reboilers(s) (Glycol, others)		Startup, Shutdown & Maintenance and Malfunction	
Skim Oil or Slop Oil Tank(s)		Thermal Oxidizer(s) (TO)	
Vapor Combustion Device(s) (VCU)		Vapor Recovery Unit(s) (VRU)^	1

Click Here to Generate Required Forms & Save to Your Computer

Complete all required forms that follow, for the equipment at the subject facility, based on the selections made above. Items with an * indicate an air emissions calculation form currently not required at this time and those with ^ indicate forms under construction at this time.



New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date: Sep 25, 2025
Company Name: Tap Rock Operating, LLC
Facility Name: Beer 30 CTB

Permit Number: NSR-NA
Alt# if Known: NA
Elevation (ft.): 3,585

Non-Emergency SI Rich Burn, Lean Burn & Clean Burn Natural Gas Fired Compressor Engines (100% Load) & Stationary & Non-Road Diesel (≤600hp & >600hp) & Gasoline Compressor Engines (≤600hp)

Enter data in green-shaded areas only! One engine per form unless like-kind engines

Emission Unit ID:	ENG 1	Quantity of Like-kind Engines:	1
Engine Manufacturer:	Caterpillar	Engine Description:	Compressor Engine
Engine Model:	G3516J	Hours/year:	8,760
Engine Serial #:	TBD	Fuel Type:	Field Gas
Engine Manuf. Date:	>7/1/2010	No Deration.	
Engine Type:	4SLB		
Factory HP Rating	1,380	Notes:	
Allowable HP Rating	1,380		
Engine BSFC (Btu/(Hp*Hr))	7,301		
Fuel LHV, (BTU/SCF)	1,121		
Fuel Sulfur (grains/dscf)	0.002		
Hourly Fuel Flow Rate (MMSCF/hr)	0.008988		
Annual Fuel Flow Rate (MMSCF/yr)	78.73488		
Maximum Engine RPM	1,400		
Exhaust Temperature (°F)	992		
Exhaust Velocity (ft/sec)	109.5		
Exhaust Flow (ACFM)	9,126		
Stack Diameter (ft)	1.33		
Stack Height (ft)	25		

Engine Deration
☒ No Deration
☐ Stationary - Naturally Aspirated
☐ Stationary - Turbo Aspirated
☐ Portable - Naturally Aspirated
☐ Portable - Turbo Aspirated

Select Source of Emission Factors
☐ AP-42 Emission Factors
☐ Manufacturer Specs (Enter Appropriate Emission Factors Below) or Diesel Tier 1, 2, 3 or 4
☐ NSPS JJJJ; Engine Manuf. Between July 1, 2007-June 30, 2010 & Engine HP≥500HP
☒ NSPS JJJJ; Engine Manuf. On or after July 1, 2010 & Engine HP≥500HP
☐ NSPS JJJJ; Engine Manuf. Between July 1, 2008-Dec. 31, 2010 & Engine HP 100≤HP<500
☐ NSPS JJJJ; Engine Manuf. on or after Jan.1, 2011 & Engine HP 100≤HP<500
☐ NSPS JJJJ; Eng. Manuf. Betw. Jan. 1, 2008-June 30, 2010 & LB Engine HP 500≤HP<1350
☐ NSPS JJJJ; Engine Manuf. on or after July 1, 2010 & LB Engine HP 500≤HP<1350
☐ NSPS JJJJ; Engines < 100HP (Enter Appropriate Emission Factors Below)
☐ NSPS IIII; Stationary Diesel Engines

Emission Factors, Catalyst Control Efficiency & Safety Factor						Uncontrolled Emissions		JJJJ Emissions		Controlled Emissions (includes SF) ¹	
Pollutant	Uncontrld. EF g/hp-hr	% Control Efficiency	% Safety Factor	Contrlrd EF g/(hp-hr)	JJJJ EF g/hp-hr	lb/hr	Tons/yr	lb/hr	Tons/yr	lb/hr	Tons/yr
NOx [^]	0.5	0	0	0.5	1	1.5212	6.6629	3.0423	13.3253	1.5212	6.6629
CO	2.53	76.28	0	0.6	2	7.6971	33.7133	6.0847	26.651	1.8254	7.9953
VOC*	1.03	32.04	0	0.7	0.7	3.1336	13.7252	2.1296	9.3276	2.8069	12.2942
Formaldehyde			0			0	0			0.5847	2.561
TSP/PM10/PM2.5	0.0331	0	0	0.0331		0.1007	0.4411		0	0.1007	0.4411
² SO ₂	0.002	0	0	0.002		0.005136	0.022496			0.005136	0.022496
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0528	NA	NA	NA	NA	0.58466	2.56081	NA	NA	NA	NA
Acetaldehyde	0.00836	NA	NA	NA	NA	0.09257	0.40546	NA	NA	NA	NA
Acrolein	0.00514	NA	NA	NA	NA	0.05692	0.24931	NA	NA	NA	NA
Benzene	0.00044	NA	NA	NA	NA	0.00487	0.02133	NA	NA	NA	NA
Ethylbenzene	0.0000397	NA	NA	NA	NA	0.00044	0.00193	NA	NA	NA	NA
n-Hexane	0.0011	NA	NA	NA	NA	0.01218	0.05335	NA	NA	NA	NA
Toluene	0.000408	NA	NA	NA	NA	0.00452	0.0198	NA	NA	NA	NA
Xylene	0.000184	NA	NA	NA	NA	0.00204	0.00894	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.7582	3.32093	NA	NA	0.76	3.32

* Uncontrolled & Controlled VOC emissions include aldehyde emissions. VOC Emissions for JJJJ do not include aldehyde emissions. ¹ For NOx's & NPR, controlled emissions cannot be less than JJJJ emissions. ² SO₂ EF (grains/scf or ppm) except for AP-42 EF in g/hp-hr for SO₂ & EF Values for NOx, CO, VOC, TSP/PM10/PM2.5 in lb/hp-hr for large gasoline & diesel engines. [^]NOx+NMHC Emission Factors for diesel engines assume 75% NOx and 25% VOC



New Mexico Environment Department Air Quality Bureau Emissions Calculation Forms

Calculation Tool for Non-Emergency SI Rich Burn, Lean Burn & Clean Burn Natural Gas Fired Compressor Engines (100% Load) & Large Stationary Diesel (≤600hp & >600hp) & Gasoline Compressor Engines (≤600hp) Emissions

AP-42 Gas-Fired Engine Emission factors based on AP-42, Tables 3.2-1, 3.2-2 & 3.2-3 (July 2000)

<https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s02.pdf>

40 CFR Part 60 Subpart JJJJ Emission Factors based on §60.4233 & Table 1

<http://www.ecfr.gov/cgi-bin/text-idx?node=sp40.7.60.jjjj>

AP-42 Diesel & Gasoline Fired Engine Emission factors based on AP-42, Tables 3.3-1, 3.2-2, 3.4-1, 3.4-2, 3.4-3 & 3.4-4

<https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s03.pdf>

40 CFR Part 60 Subpart IIII Emission Factors based on §60.4233 & Table 1

<http://www.ecfr.gov/cgi-bin/text-idx?node=sp40.7.60.iiiii>

EPA Tier 1-4 Nonroad Compression Ignition Emission Standards (EPA-42--B-16-022)

<https://nepis.epa.gov/Exe/ZyNET.exe/P100OA05.txt?ZyActionD=ZyDocument&Client=EPA&Index=2011%20Thru%202015&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5CZYFILES%5CINDEX%20DATA%5C11THRU15%5CTXT%5C00000019%5CP100OA05.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1>

Emission factors for natural gas and field gas internal combustion engines may be based on AP-42, Tables 3.2-1, 3.2-2 or 3.2-3 or NSPS JJJJ emission standards or manufacturer specifications based on engine applicability.

Emission factors for natural gas and field gas internal combustion engines may be based on AP-42, Tables 3.2-1, 3.2-2 or 3.2-3 or NSPS JJJJ emission standards or manufacturer specifications based on engine applicability.

NOx Sample Calculation Using AP-42 Emission Factors for a 500-HP 4-Stroke Rich Burn Engine

pph = NOx Emission Factor (EF) lb/MMBtu * Heat Value Btu/scf/1020 Btu/scf * Maximum Heat Input (MMBtu/hr) * Allowable
HP * 1/1000000 MMBtu/Btu
= 2.21 lb/MMBtu * 1020 Btu/scf/1020 Btu/scf * 7500 MMBtu/hr * 500 hp * 1/1000000 MMBtu/Btu
= 8.29 lb/hr

tpy = NOx Emission Factor (EF) lb/MMBtu * Heat Value Btu/scf/1020 Btu/scf * Maximum Heat Input (MMBtu/hr) * Allowable
HP * 1/1000000 MMBtu/Btu * 8760 hrs/yr * 1/2000 tons/lbs
= 2.21 lb/MMBtu * 1020 Btu/scf/1020 Btu/scf * 0.5 MMBtu/hr * 1/1020 Btu/scf * 1000000/1 Btu/MMBtu * 8760 hrs/yr *
1ton/2000lbs
= 36.31 tpy

AP-42 SO₂ emissions based on 100% conversion of fuel sulfur to SO₂ and assumes sulfur content in natural gas of 2,000 grains/10⁶ scf. The SO₂ emission factor is converted to other natural gas sulfur contents by multiplying the SO₂ emission factor by the ratio of the site-specific sulfur content (grains/10⁶ scf) to 2,000 grains/10⁶ scf. For all other engines not using AP-42, The SO₂ emissions are based on grains S/scf. Fuel Heat values for Diesel = 0.137 MMBtu/gal; LPG = 0.0905 MMBtu/gal and Gasoline = 0.13 MMBtu/gal per AP-42 Appendix A, pg 5 & 6. SO₂ emissions for all diesel engines not using AP-42, equals Gal Diesel/hr * diesel wt (lb)/gal * 15 ppm S * 64 lb SO₂/32 lb S, where diesel weighs 7.1089 lb/gal.

NOx Sample Calculation Using NSPS JJJJ Emission Factors for a July 1, 2010 500-HP 4-Stroke Rich Burn Engine

pph = NOx Emission Factor (EF) g/hp-hr * 1/453.6 lbs/grams * Allowable HP
= 1 g/hp-hr * 1/453.6 lbs/grams * 500 hp
= 1.1 lb/hr

tpy = NOx Emission Factor (EF) g/hp-hr * 1/453.6 lbs/grams * Allowable HP * 8760 hrs/yr * 1/2000 tons/lbs
= 1 g/hp-hr * 1/453.6 lbs/grams * 500 hp * 8760 hrs/yr * 1ton/2000lbs
= 4.82 tpy

Technical Disclaimer

This document is intended to help you accurately determine stationary compressor engine emissions. It does not supersede or replace any state or federal law, rule, or regulation. This guidance reflects the current understanding of how these units work and how they generate emissions, how they are monitored or tested, and what data are available for emissions determination, may change over time as the AQB continue scientific studies and as new information becomes available. The AQB welcome any data, information, or feedback that may improve our understanding of stationary compressor engine emissions and thereby further improve determinations within the emissions inventory. The calculation methods represented are intended as an emissions calculation aid; alternate calculation methods may be equally acceptable if they are based upon, and adequately demonstrate, sound engineering assumptions or data. If you have a question regarding the acceptability of a given emissions determination method, contact the Permitting Section at 505-476-4300.



New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date: Sep 25, 2025
Company Name: Tap Rock Operating, LLC
Facility Name: Beer 30 CTB

Permit Number: NSR-NA
Alt if Known: NA
Elevation (ft.): 3,585

Non-Emergency SI Rich Burn, Lean Burn & Clean Burn Natural Gas Fired Generator Engines (100% Load) & Stationary & Non-Road Diesel (≤600hp & >600hp) & Gasoline Generator Engines (≤600hp)

Enter data in green-shaded areas only! One engine per form unless like-kind engines

Emission Unit ID:	GEN 1	Quantity of Like-kind Engines:	1
Engine Manufacturer:	Power Solutions International	Engine Description:	Generator Engine
Engine Model:	21.9L	Hours/year	8,760
Engine Serial #:	TBD	Fuel Type:	Field Gas
Engine Manuf. Date:	>7/1/2010	No Deration.	
Engine Type:	4SRB		
Factory HP Rating	582	Notes:	
Allowable HP Rating	582		
Engine BSFC (Btu/(Hp*Hr))	8,671		
Fuel LHV, (BTU/SCF)	1,121		
Fuel Sulfur (grains/dscf)	0.002		
Hourly Fuel Flow Rate (MMSCF/hr)	0.004502		
Annual Fuel Flow Rate (MMSCF/yr)	39.43752		
Maximum Engine RPM	1,800		
Exhaust Temperature (°F)	1,382		
Exhaust Velocity (ft/sec)	361.9		
Exhaust Flow (ACFM)	1,895		
Stack Diameter (ft)	0.33		
Stack Height (ft)	15		

Engine Deration
☒ No Deration
☐ Stationary - Naturally Aspirated
☐ Stationary - Turbo Aspirated
☐ Portable - Naturally Aspirated
☐ Portable - Turbo Aspirated

Select Source of Emission Factors
☐ AP-42 Emission Factors
☐ Manufacturer Specs (Enter Appropriate Emission Factors Below) or Diesel Tier 1, 2, 3 or 4
☐ NSPS JJJJ; Engine Manuf. Between July 1, 2007-June 30, 2010 & Engine HP≥500HP
☒ NSPS JJJJ; Engine Manuf. On or after July 1, 2010 & Engine HP≥500HP
☐ NSPS JJJJ; Engine Manuf. Between July 1, 2008-Dec. 31, 2010 & Engine HP 100≤HP<500
☐ NSPS JJJJ; Engine Manuf. on or after Jan.1, 2011 & Engine HP 100≤HP<500
☐ NSPS JJJJ; Eng. Manuf. Betw. Jan. 1, 2008-June 30, 2010 & LB Engine HP 500≤HP<1350
☐ NSPS JJJJ; Engine Manuf. on or after July 1, 2010 & LB Engine HP 500≤HP<1350
☐ NSPS JJJJ; Engines < 100HP (Enter Appropriate Emission Factors Below)
☐ NSPS IIII; Stationary Diesel Engines

Emission Factors, Catalyst Control Efficiency & Safety Factor						Uncontrolled Emissions		JJJJ Emissions		Controlled Emissions (includes SF) ¹	
Pollutant	Uncontrld. EF g/hp-hr	% Control Efficiency	% Safety Factor	Contrlrd EF g/(hp-hr)	JJJJ EF g/hp-hr	lb/hr	Tons/yr	lb/hr	Tons/yr	lb/hr	Tons/yr
NOx [^]	1	50	0	0.5	1	1.2831	5.62	1.2831	5.62	0.6415	2.8098
CO	2	70	0	0.6	2	2.5661	11.2395	2.5661	11.2395	0.7698	3.3717
VOC*	0.7	0	0	0.7	0.7	0.8981	3.9337	0.8981	3.9337	1.0273	4.4996
Formaldehyde			0			0	0			0.1137	0.498
TSP/PM10/PM2.5	0.0763	0	0	0.0763		0.0979	0.4288		0	0.0979	0.4288
² SO ₂	0.002	0	0	0.002		0.002573	0.01127			0.002573	0.01127
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0205	NA	NA	NA	NA	0.1137	0.49801	NA	NA	NA	NA
Acetaldehyde	0.00279	NA	NA	NA	NA	0.01547	0.06776	NA	NA	NA	NA
Acrolein	0.00263	NA	NA	NA	NA	0.01459	0.0639	NA	NA	NA	NA
Benzene	0.00158	NA	NA	NA	NA	0.00876	0.03837	NA	NA	NA	NA
Ethylbenzene	0.0000248	NA	NA	NA	NA	0.00014	0.00061	NA	NA	NA	NA
n-Hexane		NA	NA	NA	NA	0	0	NA	NA	NA	NA
Toluene	0.000558	NA	NA	NA	NA	0.00309	0.01353	NA	NA	NA	NA
Xylene	0.000195	NA	NA	NA	NA	0.00108	0.00473	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.15683	0.68691	NA	NA	0.16	0.69

* Uncontrolled & Controlled VOC emissions include aldehyde emissions. VOC Emissions for JJJJ do not include aldehyde emissions. ¹ For NO_x's & NPR, controlled emissions cannot be less than JJJJ emissions. ² SO₂ EF (grains/scf or ppm) except for AP-42 EF in g/hp-hr for SO₂ & EF Values for NO_x, CO, VOC, TSP/PM10/PM2.5 in lb/hp-hr for large gasoline & diesel engines. [^]NO_x+NMHC Emission Factors for diesel engines assume 75% NO_x and 25% VOC



New Mexico Environment Department Air Quality Bureau Emissions Calculation Forms

Calculation Tool for Non-Emergency SI Rich Burn, Lean Burn & Clean Burn Natural Gas Fired Generator Engines (100% Load) & Large Stationary Diesel (≤600hp & >600hp) & Gasoline Generator Engines (≤600hp) Emissions

AP-42 Gas-Fired Engine Emission factors based on AP-42, Tables 3.2-1, 3.2-2 & 3.2-3 (July 2000)

<https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s02.pdf>

40 CFR Part 60 Subpart JJJJ Emission Factors based on §60.4233 & Table 1

<http://www.ecfr.gov/cgi-bin/text-idx?node=sp40.7.60.jjjj>

AP-42 Diesel & Gasoline Fired Engine Emission factors based on AP-42, Tables 3.3-1, 3.2-2, 3.4-1, 3.4-2, 3.4-3 & 3.4-4

<https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s03.pdf>

40 CFR Part 60 Subpart IIII Emission Factors based on §60.4233 & Table 1

<http://www.ecfr.gov/cgi-bin/text-idx?node=sp40.7.60.iiiii>

EPA Tier 1-4 Nonroad Compression Ignition Emission Standards (EPA-42--B-16-022)

<https://nepis.epa.gov/Exe/ZyNET.exe/P100OA05.txt?ZyActionD=ZyDocument&Client=EPA&Index=2011%20Thru%202015&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&XmQuery=&File=D%3A%5CZYFILES%5CINDEX%20DATA%5C11THRU15%5CTXT%5C00000019%5CP100OA05.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1>

Emission factors for natural gas and field gas internal combustion engines may be based on AP-42, Tables 3.2-1, 3.2-2 or 3.2-3 or NSPS JJJJ emission standards or manufacturer specifications based on engine applicability.

Emission factors for natural gas and field gas internal combustion engines may be based on AP-42, Tables 3.2-1, 3.2-2 or 3.2-3 or NSPS JJJJ emission standards or manufacturer specifications based on engine applicability.

NOx Sample Calculation Using AP-42 Emission Factors for a 500-HP 4-Stroke Rich Burn Engine

pph = NOx Emission Factor (EF) lb/MMBtu * Heat Value Btu/scf/1020 Btu/scf * Maximum Heat Input (MMBtu/hr) * Allowable HP * 1/1000000 MMBtu/Btu
 = 2.21 lb/MMBtu * 1020 Btu/scf/1020Btu/scf * 7500 MMBtu/hr * 500 hp * 1/1000000 MMBtu/Btu
 = 8.29 lb/hr

tpy = NOx Emission Factor (EF) lb/MMBtu * Heat Value Btu/scf/1020 Btu/scf * Maximum Heat Input (MMBtu/hr) * Allowable HP * 1/1000000 MMBtu/Btu * 8760 hrs/yr * 1/2000 tons/lbs
 = 2.21 lb/MMBtu * 1020 Btu/scf/1020 Btu/scf * 0.5 MMBtu/hr * 1/1020 Btu/scf * 1000000/1 Btu/MMBtu * 8760 hrs/yr * 1ton/2000lbs
 = 36.31 tpy

AP-42 SO₂ emissions based on 100% conversion of fuel sulfur to SO₂ and assumes sulfur content in natural gas of 2,000 grains/10⁶ scf. The SO₂ emission factor is converted to other natural gas sulfur contents by multiplying the SO₂ emission factor by the ratio of the site-specific sulfur content (grains/10⁶ scf) to 2,000 grains/10⁶ scf. For all other engines not using AP-42, The SO₂ emissions are based on grains S/scf. Fuel Heat values for Diesel = 0.137 MMBtu/gal; LPG = 0.0905 MMBtu/gal and Gasoline = 0.13 MMBtu/gal per AP-42 Appendix A, pg 5 & 6. SO₂ emissions for all diesel engines not using AP-42, equals Gal Diesel/hr * diesel wt (lb)/gal * 15 ppm S * 64 lb SO₂/32 lb S, where diesel weighs 7.1089 lb/gal.

NOx Sample Calculation Using NSPS JJJJ Emission Factors for a July 1, 2010 500-HP 4-Stroke Rich Burn Engine

pph = NOx Emission Factor (EF) g/hp-hr * 1/453.6 lbs/grams * Allowable HP
 = 1 g/hp-hr * 1/453.6 lbs/grams * 500 hp
 = 1.1 lb/hr

tpy = NOx Emission Factor (EF) g/hp-hr * 1/453.6 lbs/grams * Allowable HP * 8760 hrs/yr * 1/2000 tons/lbs
 = 1 g/hp-hr * 1/453.6 lbs/grams * 500 hp * 8760 hrs/yr * 1ton/2000lbs
 = 4.82 tpy

Technical Disclaimer

This document is intended to help you accurately determine stationary generator engine emissions. It does not supersede or replace any state or federal law, rule, or regulation. This guidance reflects the current understanding of how these units work and how they generate emissions, how they are monitored or tested, and what data are available for emissions determination, may change over time as the AQB continue scientific studies and as new information becomes available. The AQB welcome any data, information, or feedback that may improve our understanding of stationary generator engine emissions and thereby further improve determinations within the emissions inventory. The calculation methods represented are intended as an emissions calculation aid; alternate calculation methods may be equally acceptable if they are based upon, and adequately demonstrate, sound engineering assumptions or data. If you have a question regarding the acceptability of a given emissions determination method, contact the Permitting Section at 505-476-4300.



New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date: Sep 25, 2025
Company Name: Tap Rock Operating, LLC
Facility Name: Beer 30 CTB

Permit Number: NSR-NA
Alt if Known: NA
Elevation (ft.): 3,585

Non-Emergency SI Rich Burn, Lean Burn & Clean Burn Natural Gas Fired Generator Engines (100% Load) & Stationary & Non-Road Diesel (≤600hp & >600hp) & Gasoline Generator Engines (≤600hp)

Enter data in green-shaded areas only! One engine per form unless like-kind engines

Emission Unit ID:	GEN 2	Quantity of Like-kind Engines:	1
Engine Manufacturer:	Power Solutions International	Engine Description:	Generator Engine
Engine Model:	21.9L	Hours/year	8,760
Engine Serial #:	TBD	Fuel Type:	Field Gas
Engine Manuf. Date:	>7/1/2010	No Deration.	
Engine Type:	4SRB		
Factory HP Rating	582	Notes:	
Allowable HP Rating	582		
Engine BSFC (Btu/(Hp*Hr))	8,671		
Fuel LHV, (BTU/SCF)	1,121		
Fuel Sulfur (grains/dscf)	0.002		
Hourly Fuel Flow Rate (MMSCF/hr)	0.004502		
Annual Fuel Flow Rate (MMSCF/yr)	39.43752		
Maximum Engine RPM	1,800		
Exhaust Temperature (°F)	1,382		
Exhaust Velocity (ft/sec)	361.9		
Exhaust Flow (ACFM)	1,895		
Stack Diameter (ft)	0.33		
Stack Height (ft)	15		

Engine Deration
☒ No Deration
☐ Stationary - Naturally Aspirated
☐ Stationary - Turbo Aspirated
☐ Portable - Naturally Aspirated
☐ Portable - Turbo Aspirated

Select Source of Emission Factors
☐ AP-42 Emission Factors
☐ Manufacturer Specs (Enter Appropriate Emission Factors Below) or Diesel Tier 1, 2, 3 or 4
☐ NSPS JJJJ; Engine Manuf. Between July 1, 2007-June 30, 2010 & Engine HP≥500HP
☒ NSPS JJJJ; Engine Manuf. On or after July 1, 2010 & Engine HP≥500HP
☐ NSPS JJJJ; Engine Manuf. Between July 1, 2008-Dec. 31, 2010 & Engine HP 100≤HP<500
☐ NSPS JJJJ; Engine Manuf. on or after Jan.1, 2011 & Engine HP 100≤HP<500
☐ NSPS JJJJ; Eng. Manuf. Betw. Jan. 1, 2008-June 30, 2010 & LB Engine HP 500≤HP<1350
☐ NSPS JJJJ; Engine Manuf. on or after July 1, 2010 & LB Engine HP 500≤HP<1350
☐ NSPS JJJJ; Engines < 100HP (Enter Appropriate Emission Factors Below)
☐ NSPS IIII; Stationary Diesel Engines

Emission Factors, Catalyst Control Efficiency & Safety Factor						Uncontrolled Emissions		JJJJ Emissions		Controlled Emissions (includes SF) ¹	
Pollutant	Uncontrld. EF g/hp-hr	% Control Efficiency	% Safety Factor	Contrlrd EF g/(hp-hr)	JJJJ EF g/hp-hr	lb/hr	Tons/yr	lb/hr	Tons/yr	lb/hr	Tons/yr
NOx [^]	1	50	0	0.5	1	1.2831	5.62	1.2831	5.62	0.6415	2.8098
CO	2	70	0	0.6	2	2.5661	11.2395	2.5661	11.2395	0.7698	3.3717
VOC*	0.7	0	0	0.7	0.7	0.8981	3.9337	0.8981	3.9337	1.0273	4.4996
Formaldehyde			0			0	0			0.1137	0.498
TSP/PM10/PM2.5	0.0763	0	0	0.0763		0.0979	0.4288		0	0.0979	0.4288
² SO ₂	0.002	0	0	0.002		0.002573	0.01127			0.002573	0.01127
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0205	NA	NA	NA	NA	0.1137	0.49801	NA	NA	NA	NA
Acetaldehyde	0.00279	NA	NA	NA	NA	0.01547	0.06776	NA	NA	NA	NA
Acrolein	0.00263	NA	NA	NA	NA	0.01459	0.0639	NA	NA	NA	NA
Benzene	0.00158	NA	NA	NA	NA	0.00876	0.03837	NA	NA	NA	NA
Ethylbenzene	0.0000248	NA	NA	NA	NA	0.00014	0.00061	NA	NA	NA	NA
n-Hexane		NA	NA	NA	NA	0	0	NA	NA	NA	NA
Toluene	0.000558	NA	NA	NA	NA	0.00309	0.01353	NA	NA	NA	NA
Xylene	0.000195	NA	NA	NA	NA	0.00108	0.00473	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.15683	0.68691	NA	NA	0.16	0.69

* Uncontrolled & Controlled VOC emissions include aldehyde emissions. VOC Emissions for JJJJ do not include aldehyde emissions. ¹ For NO_x's & NPR, controlled emissions cannot be less than JJJJ emissions. ² SO₂ EF (grains/scf or ppm) except for AP-42 EF in g/hp-hr for SO₂ & EF Values for NO_x, CO, VOC, TSP/PM10/PM2.5 in lb/hp-hr for large gasoline & diesel engines. [^]NO_x+NMHC Emission Factors for diesel engines assume 75% NO_x and 25% VOC



New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date: Sep 25, 2025
Company Name: Tap Rock Operating, LLC
Facility Name: Beer 30 CTB

Permit Number: NSR-NA
Alt# if Known: NA
Elevation (ft.): 3,585

Non-Emergency SI Rich Burn, Lean Burn & Clean Burn Natural Gas Fired Generator Engines (100% Load) & Stationary & Non-Road Diesel (≤600hp & >600hp) & Gasoline Generator Engines (≤600hp)

Enter data in green-shaded areas only! One engine per form unless like-kind engines

Emission Unit ID:	GEN 3	Quantity of Like-kind Engines:	1
Engine Manufacturer:	Power Solutions International	Engine Description:	Generator Engine
Engine Model:	14.6L	Hours/year	8,760
Engine Serial #:	TBD	Fuel Type:	Field Gas
Engine Manuf. Date:	>1/1/2011	No Deration.	
Engine Type:	4SRB		
Factory HP Rating	390		
Allowable HP Rating	390		
Engine BSFC (Btu/(Hp*Hr))	8,671		
Fuel LHV, (BTU/SCF)	1,121	Select Source of Emission Factors ☐ AP-42 Emission Factors ☐ Manufacturer Specs (Enter Appropriate Emission Factors Below) or Diesel Tier 1, 2, 3 or 4 ☐ NSPS JJJJ; Engine Manuf. Between July 1, 2007-June 30, 2010 & Engine HP≥500HP ☐ NSPS JJJJ; Engine Manuf. On or after July 1, 2010 & Engine HP≥500HP ☐ NSPS JJJJ; Engine Manuf. Between July 1, 2008-Dec. 31, 2010 & Engine HP 100≤HP<500 ☒ NSPS JJJJ; Engine Manuf. on or after Jan.1, 2011 & Engine HP 100≤HP<500 ☐ NSPS JJJJ; Eng. Manuf. Betw. Jan. 1, 2008-June 30, 2010 & LB Engine HP 500≤HP<1350 ☐ NSPS JJJJ; Engine Manuf. on or after July 1, 2010 & LB Engine HP 500≤HP<1350 ☐ NSPS JJJJ; Engines < 100HP (Enter Appropriate Emission Factors Below) ☐ NSPS IIII; Stationary Diesel Engines	
Fuel Sulfur (grains/dscf)	0.002		
Hourly Fuel Flow Rate (MMSCF/hr)	0.003017		
Annual Fuel Flow Rate (MMSCF/yr)	26.42892		
Maximum Engine RPM	1,800		
Exhaust Temperature (°F)	1,382	Notes:	
Exhaust Velocity (ft/sec)	361.9		
Exhaust Flow (ACFM)	1,895		
Stack Diameter (ft)	0.33		
Stack Height (ft)	15		

Emission Factors, Catalyst Control Efficiency & Safety Factor						Uncontrolled Emissions		JJJJ Emissions		Controlled Emissions (includes SF) ¹	
Pollutant	Uncontrld. EF g/hp-hr	% Control Efficiency	% Safety Factor	Contrlrd EF g/(hp-hr)	JJJJ EF g/hp-hr	lb/hr	Tons/yr	lb/hr	Tons/yr	lb/hr	Tons/yr
NOx [^]	1	0	0	1	1	0.8598	3.7659	0.8598	3.7659	0.8598	3.7659
CO	2	0	0	2	2	1.7196	7.5318	1.7196	7.5318	1.7196	7.5318
VOC*	0.7	0	0	0.7	0.7	0.6019	2.6363	0.6019	2.6363	0.6884	3.0152
Formaldehyde			0			0	0			0.0762	0.3338
TSP/PM10/PM2.5	0.0763	0	0	0.0763		0.0656	0.2873		0	0.0656	0.2873
² SO ₂	0.002	0	0	0.002		0.001724	0.007551			0.001724	0.007551
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0205	NA	NA	NA	NA	0.07619	0.33371	NA	NA	NA	NA
Acetaldehyde	0.00279	NA	NA	NA	NA	0.01037	0.04542	NA	NA	NA	NA
Acrolein	0.00263	NA	NA	NA	NA	0.00977	0.04279	NA	NA	NA	NA
Benzene	0.00158	NA	NA	NA	NA	0.00587	0.02571	NA	NA	NA	NA
Ethylbenzene	0.0000248	NA	NA	NA	NA	0.00009	0.00039	NA	NA	NA	NA
n-Hexane		NA	NA	NA	NA	0	0	NA	NA	NA	NA
Toluene	0.000558	NA	NA	NA	NA	0.00207	0.00907	NA	NA	NA	NA
Xylene	0.000195	NA	NA	NA	NA	0.00072	0.00315	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.10508	0.46024	NA	NA	0.11	0.46

* Uncontrolled & Controlled VOC emissions include aldehyde emissions. VOC Emissions for JJJJ do not include aldehyde emissions. ¹ For NO_x's & NPR, controlled emissions cannot be less than JJJJ emissions. ² SO₂ EF (grains/scf or ppm) except for AP-42 EF in g/hp-hr for SO₂ & EF Values for NO_x, CO, VOC, TSP/PM10/PM2.5 in lb/hp-hr for large gasoline & diesel engines. [^]NO_x+NMHC Emission Factors for diesel engines assume 75% NO_x and 25% VOC



New Mexico Environment Department Air Quality Bureau Emissions Calculation Forms

Date: Sep 25, 2025
Company Name: Tap Rock Operating, LLC
Facility Name: Beer 30 CTB

Permit Number: NA
AI# if Known: NA
Elevation (ft.): 3,585

Total Requested Emissions For All Regulated Engines (NSR Request)

UnitID	NO _x		CO		VOC		SO _x		TSP		PM ₁₀		PM _{2.5}		H ₂ S		Total HAP	
	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
ENG 1	1.52	6.66	1.83	8	2.81	12.29	0.01	0.02	0.1	0.44	0.1	0.44	0.1	0.44			0.76	3.32
ENG 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
ENG 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
ENG 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
ENG 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
ENG 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
ENG 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
ENG 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
GEN 1	0.64	2.81	0.77	3.37	1.03	4.5	0	0.01	0.1	0.43	0.1	0.43	0.1	0.43			0.16	0.69
GEN 2	0.64	2.81	0.77	3.37	1.03	4.5	0	0.01	0.1	0.43	0.1	0.43	0.1	0.43			0.16	0.69
GEN 3	0.86	3.77	1.72	7.53	0.69	3.02	0	0.01	0.07	0.29	0.07	0.29	0.07	0.29			0.11	0.46
GEN 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
GEN 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
GEN 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
GEN 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
GEN 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
Page Totals	3.66	16.05	5.09	22.27	5.56	24.31	0.01	0.05	0.37	1.59	0.37	1.59	0.37	1.59			1.19	5.16



New Mexico Environment Department Air Quality Bureau Emissions Calculation Forms

Date: Sep 25, 2025
Company Name: Tap Rock Operating, LLC
Facility Name: Beer 30 CTB

Permit Number: NA
AI# if Known: NA
Elevation (ft.): 3,585

Heaters, Heated Separators & Heater Treaters (Only for units rated <100 MMBTU/Hr)

Enter appropriate information in green boxes below changing default values as appropriate and adding additional rows for each heater unit.

Enter the Sulfur Content of Gas or use default value (grains/10⁶ scf).

2,000

SO₂ emissions based on AP-42 EF and assumes 100% conversion of fuel sulfur to SO₂ and assumes sulfur content in natural gas of 2,000 grains/1000000 scf. Change default value of 2000 as needed based on gas analysis submitted with application.

Enter the Site Fuel Heat Value of Gas or use default value (Btu/scf).

1,020

Emissions From All Heaters, Heated Separators & Heater Treaters

Add/Remove Rows	Unit ID	Heat Input	NO _x		CO		VOC		SO ₂		PM/PM ₁₀ /PM _{2.5}	
			pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy
+ -	HT-1	1.5	0.147	0.644	0.124	0.543	0.008	0.035	0	0	0.011	0.048
+ -	HT-2	1.5	0.147	0.644	0.124	0.543	0.008	0.035	0	0	0.011	0.048
+ -	HT-3	1.5	0.147	0.644	0.124	0.543	0.008	0.035	0	0	0.011	0.048
+ -	HT-4	1.5	0.147	0.644	0.124	0.543	0.008	0.035	0	0	0.011	0.048
	Totals		0.588	2.576	0.496	2.172	0.032	0.14	0	0	0.044	0.192



Calculation Tool for Heaters, Heated Separators & Heater Treater Emissions (Uncontrolled) for Oil & Gas Production Sites (Only for units rated <100 MMBTU/Hr)

All emission factors based on AP-42, Table 1.4-1, Table 1.4-2 and Table 1.4-3 (July 1998)

<https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf>

Emission factors for natural gas combustion in boilers and furnaces are presented in AP42, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4. The Tables present emission factors on a volume basis (lb/10⁶ scf). To convert to an energy basis (lb/MMBtu), divide by a heating value of 1,020 MMBtu/10⁶ scf. The emission factors may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value.

NOx Sample Calculation

pph = AP 42 NOx Emission Factor (EF) * site fuel heat value Btu/scf/1020 Btu/scf * Maximum Heat Input (MMBtu/hr) * 1/site fuel heat Value Btu/scf * 1000000/1Btu/MMBtu
= 100 lb/1000000 scf * 2000 Btu/scf/1020 Btu/scf * 0.5 MMBtu/hr * 1/2000 Btu/scf * 1000000/1Btu/MMBtu
= 0.096 lb/hr

tpy = AP 42 NOx Emission Factor (EF) * site fuel heat value Btu/scf/1020 Btu/scf * Maximum Heat Input (MMBtu/hr) * 1/site fuel heat value Btu/scf * 1000000/1 Btu/MMBtu * 8760 hrs/yr * 1ton/2000 lbs
= 100 lb/1000000 scf * 2000 Btu/scf/1020 Btu/scf * 0.5 MMBtu/hr * 1/2000 Btu/scf * 1000000/1 Btu/MMBtu * 8760 hrs/yr * 1ton/2000lbs
= 0.42 tpy

SO₂ emissions based on 100% conversion of fuel sulfur to SO₂ and assumes sulfur content in natural gas of 2,000 grains/10⁶ scf. The SO₂ emission factor is converted to other natural gas sulfur contents by multiplying the SO₂ emission factor by the ratio of the site-specific sulfur content (grains/10⁶ scf) to 2,000 grains/10⁶ scf.

Technical Disclaimer

This document is intended to help you accurately determine heaters, heated separators & heater treaters emissions. It does not supersede or replace any state or federal law, rule, or regulation. This guidance reflects the current understanding of how these combustion units work and how they generate emissions, how they are monitored or tested, and what data are available for emissions determination, may change over time as the AQB continue scientific studies and as new information becomes available. The AQB welcome any data, information, or feedback that may improve our understanding of heaters, heated separators & heater treaters emissions and thereby further improve determinations within the emissions inventory. The calculation methods represented are intended as an emissions calculation aid; alternate calculation methods may be equally acceptable if they are based upon, and adequately demonstrate, sound engineering assumptions or data. If you have a question regarding the acceptability of a given emissions determination method, contact the Permitting Section at 505-476-4300.



Date: Sep 25, 2025
Company Name: Tap Rock Operating, LLC
Facility Name: Beer 30 CTB

Permit Number: NSR-NA
AI# if Known: NA
Elevation (ft.): 3,585

Flash Tower/Ultra-low Pressure Separators Air Emissions Calculations Form **Under Development**

Please submit all required calculations and supporting documentation for all Flash Tower/Ultra-low Pressure Separators emissions in the application.



Date: Sep 25, 2025
Company Name: Tap Rock Operating, LLC
Facility Name: Beer 30 CTB

Permit Number: NSR-NA
AI# if Known: NA
Elevation (ft.): 3,585

VRT/ULPS (Including the Low Pressure Compressor (LPC) or VRU) Process vs Control Determination

Please complete the Process vs. Control determination below for the VRT/ULPS, which addresses the three criteria referenced in the EPA Nov. 27, 1995 Process Guidance memo and enter appropriate information in all green boxes.

1. Is the primary purpose of the equipment to control air pollution? (Check appropriate box)

☒ No, the primary purpose of the VRT/ULPS equipment (including the low pressure compressor (LPC) or VRU) is to recover flash gas vapors and route them into an available gas sales line.

☐ Yes, the primary purpose of the VRT/ULPS equipment (including the low pressure compressor (LPC) or VRU) is to control air pollution.

2. Where the equipment is recovering product, how do the cost savings from the product recovery compare to the cost of the equipment? (Check appropriate box)

☒ Yes, the benefit-cost analysis below demonstrates a positive return on investment. The benefit-cost analysis of the VRT/ULPS equipment (including the low pressure compressor (LPC) or VRU) compared to the product recovered is shown below:

☐ No, the benefit- cost analysis below demonstrates a negative return on investment.

VRT/ULPS/LPC/VRU-1	VRT/ULPS/LPC/VRU-1 Benefit-Cost Analysis*		
Capital Cost of VRT/ULPS (\$)	\$5,000.00	Oil Production (BOPD)	4,000
VRT/ULPS/LPC/VRU Rental Costs (\$/mo)	\$0.00	VRT/ULPS Vapor Production (Mcf/d)	93.6
Capital Cost of LPC/VRU (\$)	\$5,000.00	Heating Value of Vapors (Btu/scf)	1,396
Annual Maintenance & Service Costs (\$/yr)	\$5,000.00	Natural Gas Price (\$/MMBtu)	\$3.25
Annual Electricity or Fuel Costs (\$/yr)		VRT/ULPS/LPC/VRU Life Expectancy (Yrs)	5
VRT/ULPS/LPC/VRU Lifetime Costs (\$)	\$35,000.00	Lifetime VRT/ULPS/LPC/VRU Profit (Revenues-Costs) (\$/yr)	\$740,010.35
Annual VRT/ULPS/LPC/VRU Revenue (\$/yr)	\$155,002.07	Payback Period (Yrs)	0.226
VRT/ULPS/LPC/VRU Lifetime Revenue (\$)	\$775,010.35	Lifetime Benefit-Cost Ratio	22.14

3. Would the equipment be installed if no air quality regulations are in place? (Check appropriate box)

☒ Yes, the VRT/ULPS equipment (including the low pressure compressor (LPC) or VRU) would still be installed regardless of air quality regulations, due to the significant cost benefits of product recovery.

☐ No, the VRT/ULPS equipment (including the low pressure compressor (LPC) or VRU) would not be installed if there were no air quality regulations in place.

Notes:



Date: Sep 25, 2025
Company Name: Tap Rock Operating, LLC
Facility Name: Beer 30 CTB

Permit Number: NSR-NA
Alt if Known: NA
Elevation (ft.): 3,585

Vertical Fixed Roof (VFR) Oil/Condensate VOC Flash Emissions Calculations Form**Select Tanks Flash Emission Calculation Method**

GOR	E & P Tanks	ProMax
Vasquez-Beggs	HYSYS	VMGSim

ProMax Oil Tanks Emission Calculations

Please attach the ProMAX printout with all input data provided along with the calculated emissions. Enter the uncontrolled VOC emissions below. If the tank vapors are routed to a flare, enclosed combustion device, vapor combustion unit, vapor recovery unit or thermal oxidizer select the appropriate VOC destruction method below along with selected VOC destruction efficiency supported by manufacturer specifications submitted with the application.

Tanks VOC Control Method

Capture Efficiency	100	Represent Uncaptured/Uncollected VOC's at Tanks	YES
VOC Control Method ¹	VRU & Flare	Represent VRU/ULPC Downtime Emissions at Tanks	NO
VOC Destruction Efficiency ²	98	Represent VOC Controlled Emissions at Tanks*	NO

Notes

Total VOC Flash Emissions From Oil/Condensate Storage Tanks Calculated with ProMax

Add/Remove Rows	Tank ID	VOC Uncontrolled Emissions		VOC Emissions after Control		VOC Emissions at the Tanks	
		pph	tpy	pph*	tpy*	pph	tpy
Up To 10 Units							
+ -	TK-1	4.93	21.58	0	0.02	0	0
+ -	TK-2	4.93	21.58	0	0.02	0	0
+ -	TK-3	4.93	21.58	0	0.02	0	0
	Totals	14.79	64.74	0	0.06	0	0



New Mexico Environment Department Air Quality Bureau Emissions Calculation Forms

Calculation Tool for Tanks Flashing & Working & Standing Emissions for Oil & Gas Production Sites

All flash emissions based on flash calculation methodology selected;

- 1) The appropriate ECD, flare, TO, VCU or VRU form must also be completed.
- 2) Manufacturer documentation required to support % control selected. If using a VRU/LPC, calculations assume VRU/ULPC with a 100% control efficiency, but with 5% downtime;
- 3) Information included in calculation tool must be based on representative oil and gas analysis which must be submitted with application;
- 4) GOR and Vasquez-Beggs sample calculations outlined below; E & P Tanks, ProMax, HYSYS & VMG Sim flash emissions require submittal of computer simulation model emissions calculations print-outs;
- 5) Working & Standing emissions based on AP-42 Chpt. 7, tanks 4.09d computer simulation or ProMax, or VMG computer simulation models.

Sample Calculations

GOR Methodology

$$\begin{aligned} \text{VOC pph} &= \text{GOR (scf/bbl)} * \text{Facility Oil Throughput (BOPD)} * 1/24 (\text{Hours/Day} * 1/\text{Universal Gas Constant } 385 \text{ scf/lb-mole @ } 70^{\circ}\text{F, } 1 \text{ atm}) * \text{Molecular Weight of Tank Vapors (lb/lb-mol)} \\ &= 40 (\text{scf/bbl}) * 1000 (\text{BOPD}) * 1/24 (\text{hrs/day}) * 1/385 \text{ scf/lb-mol} * 50 \text{ lb/lb-mol} \\ &= 216.45 \text{ lbs/hr} \end{aligned}$$

$$\begin{aligned} \text{VOC tpy} &= \text{GOR (scf/bbl)} * \text{Facility Oil Throughput (BOPD)} * 1/24 (\text{Hours/Day} * 1/\text{Universal Gas Constant } 385 \text{ scf/lb-mole @ } 70^{\circ}\text{F, } 1 \text{ atm}) * \text{Molecular Weight of Tank Vapors (lb/lb-mol)} * 8760 \text{ hr/yr} * 1/2000 \text{ lbs/ton} \\ &= 40 (\text{scf/bbl}) * 1000 (\text{BOPD}) * 1/24 (\text{hrs/day}) * 1/385 \text{ scf/lb-mol} * 50 \text{ lb/lb-mol} * 8760 \text{ hr/yr} * 1/2000 \text{ lbs/ton} \\ &= 948.05 \text{ tpy} \end{aligned}$$

Vasquez-Beggs Methodology

INPUTS			Constraints				Constants			
API Gravity		API	16	<API>	58	⁰ API		⁰ API Gravity		
Separator Pressure (psig)		P	50	<P+Patm>	5250	psia	⁰ API	<30	≥30	Given ⁰ API
Separator Temp. (°F)		Ti	70	<Ti>	295	⁰ F	C1	0.0362	0.0178	
Separator Gas Gravity at Initial Condition		SGi	0.56	<SGi>	1.18	MW/28.97	C2	1.0937	1.187	
Barrels of Oil/Day (BOPD)	1,333.33	Q	None	<Q>	None	BOPD	C3	25.724	23.931	
Tank Gas MW		MW	18	<MW>	125	lb/lb-mole				
VOC Fraction of Tank Gas		VOC	0.5	<VOC>	1.00	Fraction				
Atmospheric Pressure (psia)		Patm	20	<Rs>	2070	scf/bbl				

$$\text{SGx} = \text{Dissolved gas gravity at Separator pressure} = \text{SGi} [1.0 + 0.00005912 * \text{API} * \text{Ti} * \text{Log}(\text{Pi}/114.7)]$$

$$\text{Rs} = (\text{C1} * \text{SGx} * \text{Pi}^{\text{C2}}) \exp((\text{C3} * \text{API}) / (\text{Ti} + 460)) \text{ for } P + \text{Patm}$$

$$\text{THC} = \text{Rs} * \text{Q} * \text{MW} * 1/385 \text{ scf/lb-mole} * 365 \text{ D/Yr} * 1 \text{ ton}/2000 \text{ lbs}$$

$$\text{VOC} = \text{THC} * \text{Frac. of C3+ in the Stock Tank Vapor}$$

Technical Disclaimer

This document is intended to help you accurately determine oil/condensate storage tank flash, working and standing emissions. It does not supersede or replace any state or federal law, rule, or regulation. This guidance reflects the current understanding of how these units work and how they generate emissions, how they are monitored or tested, and what data are available for emissions determination, may change over time as the AQB continue scientific studies and as new information becomes available. The AQB welcome any data, information, or feedback that may improve our understanding of oil/condensate storage tank flash, working and standing emissions and thereby further improve determinations within the emissions inventory. The calculation methods represented are intended as an emissions calculation aid; alternate calculation methods may be equally acceptable if they are based upon, and adequately demonstrate, sound engineering assumptions or data. If you have a question regarding the acceptability of a given emissions determination method, contact the Permitting Section at 505-476-4300.



New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date: Sep 25, 2025	Permit Number: NSR-NA
Company Name: Tap Rock Operating, LLC	Alt# if Known: NA
Facility Name: Beer 30 CTB	Elevation (ft.): 3,585

Vertical Fixed Roof (VFR) Oil/Condensate VOC Working & Standing Emissions Calculations Form

Select Tanks W & S Emission Calculation Method

AP-42 Chpt. 7

EPA Tanks 4.09d

ProMax

E & P Tanks

ProMax Oil Tanks W & S Emission Calculations

Please attach the ProMAX printout with all input data provided along with the calculated emissions. Enter the uncontrolled VOC emissions below. If the tank vapors are routed to a flare, enclosed combustion device, vapor combustion unit, vapor recovery unit or thermal oxidizer select the appropriate VOC destruction method below along with selected VOC destruction efficiency supported by manufacturer specifications submitted with the application.

Tanks VOC Control Method

Capture Efficiency	100	Represent Uncaptured and/or Controlled VOC's at Tanks	YES
VOC Control Method	VRU & Flare	Represent VRU/ULPC Downtime Emissions at Tanks	NO
VOC Destruction Efficiency	98	Represent VOC Controlled Emissions at Tanks*	NO

Notes

Total VOC W & S Emissions From Oil/Condensate Storage Tanks Calculated with ProMax

Add/Remove Rows Up To 10 Units	Tank ID	VOC Uncontrolled Emissions		VOC Emissions after Control		VOC Emissions at the Tanks	
		pph	tpy	pph*	tpy*	pph	tpy
+ -	TK-1	9.84	43.11	0.21	0.91	0	0
+ -	TK-2	9.84	43.11	0.21	0.91	0	0
+ -	TK-3	9.84	43.11	0.21	0.91	0	0
	Totals	29.52	129.33	0.63	2.73	0	0



Date: Sep 25, 2025
Company Name: Tap Rock Operating, LLC
Facility Name: Beer 30 CTB

Permit Number: NSR-NA
Alt if Known: NA
Elevation (ft.): 3,585

Vertical Fixed Roof (VFR) Produced Water VOC Flash Emissions Calculations Form**Select Tanks Flash Emission Calculation Method**

GWR	E & P Tanks	ProMax
Vasquez-Beggs	HYSIS	VMGSim

ProMax Produced Water Tanks Emission Calculations

Please attach the ProMAX printout with all input data provided along with the calculated emissions. Enter the uncontrolled VOC emissions below. If the tank vapors are routed to a flare, enclosed combustion device, vapor combustion unit, vapor recovery unit or thermal oxidizer select the appropriate VOC destruction method below along with selected VOC destruction efficiency supported by manufacturer specifications submitted with the application.

Tanks VOC Control Method

Select % Oil in Water	1	VOC Uncontrolled emissions entered includes this percentage.	
Capture Efficiency	100	Represent Uncaptured and/or Controlled VOC's at Tanks	YES
VOC Control Method	VRU & Flare	Represent VRU/ULPC Downtime Emissions at Tanks	NO
VOC Destruction Efficiency	98	Represent VOC Controlled Emissions at Tanks*	NO

Notes

Total VOC Emissions From Produced Water Storage Tanks Calculated with ProMax

Add/Remove Rows Up To 10 Units	Tank ID	VOC Uncontrolled Emissions		VOC Emissions after Control		VOC Emissions at the Tanks	
		pph	tpy	pph*	tpy*	pph	tpy
☐	PWTK- 1	1.18	5.15	0	0.01	0	0
☐	PWTK- 2	1.18	5.15	0	0.01	0	0
	Totals	2.36	10.3	0	0.02	0	0



New Mexico Environment Department Air Quality Bureau Emissions Calculation Forms

Calculation Tool for Tanks Flashing & Working & Standing Emissions for Oil & Gas Production Sites

All flash emissions based on flash calculation methodology selected ;

- 1) The appropriate ECD, flare, TO, VCU or VRU form must also be completed.
- 2) Manufacturer documentation required to support % control selected. Assumes VRU/ULPC with a 100% control efficiency, but with 5% downtime;
- 3) Information included in calculation tool must be based on representative oil and gas analysis which must be submitted with application;
- 4) GOR and Vasquez-Beggs sample calculations outlined below; E & P Tanks, ProMax, HYSYS & VMG Sim flash emissions require submittal of computer simulation model emissions calculations print-outs;
- 5) Working & Standing emissions based on AP-42 Chpt. 7, tanks 4.09d computer simulation or ProMax, or VMG computer simulation models.

Sample Calculations

GWR Methodology

$$\begin{aligned} \text{VOC pph} &= \text{GWR (scf/bbl)} * \text{Facility Water Throughput (BOPD)} * 1/24 (\text{Hours/Day}) * 1/\text{Universal Gas Constant } 385 \text{ scf/lb-mole @ } 70^{\circ}\text{F, 1 atm} * \text{Molecular Weight of Tank Vapors (lb/lb-mol)} * \text{Percent Oil in Water} \\ &= 40 (\text{scf/bbl}) * 1000 (\text{BOPD}) * 1/24 (\text{hrs/day}) * 1/385 \text{ scf/lb-mol} * 50 \text{ lb/lb-mol} * 1/100 \\ &= 2.16 \text{ lbs/hr} \end{aligned}$$

$$\begin{aligned} \text{VOC tpy} &= \text{GWR (scf/bbl)} * \text{Facility Water Throughput (BOPD)} * 1/24 (\text{Hours/Day}) * 1/\text{Universal Gas Constant } 385 \text{ scf/lb-mole @ } 70^{\circ}\text{F, 1 atm} * \text{Molecular Weight of Tank Vapors (lb/lb-mol)} * 8760 \text{ hr/yr} * 1/2000 \text{ lbs/ton} * \text{Percent Oil in Water} \\ &= 40 (\text{scf/bbl}) * 1000 (\text{BOPD}) * 1/24 (\text{hrs/day}) * 1/385 \text{ scf/lb-mol} * 50 \text{ lb/lb-mol} * 8760 \text{ hr/yr} * 1/2000 \text{ lbs/ton} * 1/100 \\ &= 9.48 \text{ tpy} \end{aligned}$$

Vasquez-Beggs Methodology

INPUTS			Constraints				Constants			
API Gravity		API	16	<API>	58	⁰ API	⁰ API Gravity			
Separator Pressure (psig)		P	50	<P+Patm>	5250	psia	⁰ API	<30	≥30	Given ⁰ API
Separator Temp. (°F)		Ti	70	<Ti>	295	⁰ F	C1	0.0362	0.0178	
Separator Gas Gravity at Initial Condition		SGi	0.56	<SGi>	1.18	MW/28.97	C2	1.0937	1.187	
Barrels of Water/Day (BOPD)	10,500	Q	None	<Q>	None	BOPD	C3	25.724	23.931	
Tank Gas MW		MW	18	<MW>	125	lb/lb-mole				
VOC Fraction of Tank Gas		VOC	0.5	<VOC>	1.00	Fraction				
Atmospheric Pressure (psia)		Patm	20	<Rs>	2070	scf/bbl				

$$\text{SGx} = \text{Dissolved gas gravity at Separator pressure} = \text{SGi} [1.0 + 0.00005912 * \text{API} * \text{Ti} * \text{Log}(\text{Pi}/114.7)]$$

$$\text{Rs} = (\text{C1} * \text{SGx} * \text{Pi}^{\text{C2}}) \exp ((\text{C3} * \text{API}) / (\text{Ti} + 460)) \text{ for } P + \text{Patm}$$

$$\text{THC} = \text{Rs} * \text{Q} * \text{MW} * 1/385 \text{ scf/lb-mole} * 365 \text{ D/Yr} * 1 \text{ ton}/2000 \text{ lbs}$$

$$\text{VOC} = \text{THC} * \text{Frac. of C3+ in the Stock Tank Vapor}$$

Technical Disclaimer

This document is intended to help you accurately determine produced water storage tank flash, working and standing emissions. It does not supersede or replace any state or federal law, rule, or regulation. This guidance reflects the current understanding of how these units work and how they generate emissions, how they are monitored or tested, and what data are available for emissions determination, may change over time as the AQB continue scientific studies and as new information becomes available. The AQB welcome any data, information, or feedback that may improve our understanding of produced water storage tank flash, working and standing emissions and thereby further improve determinations within the emissions inventory. The calculation methods represented are intended as an emissions calculation aid; alternate calculation methods may be equally acceptable if they are based upon, and adequately demonstrate, sound engineering assumptions or data. If you have a question regarding the acceptability of a given emissions determination method, contact the Permitting Section at 505-476-4300.



Date: Sep 25, 2025
Company Name: Tap Rock Operating, LLC
Facility Name: Beer 30 CTB

Permit Number: NSR-NA
Alt# if Known: NA
Elevation (ft.): 3,585

Vertical Fixed Roof (VFR) Water Tanks VOC Working & Standing Emissions Calculations Form**Select Tanks W & S Emission Calculation Method**

AP-42 Chpt. 7

EPA Tanks 4.09d

ProMax

E & P Tanks

ProMax Produced Water Tanks W & S Emission Calculations

(Assumes W & S emissions are 1% of the emissions calculated based on oil properties and entered as uncontrolled emissions)

Please attach the ProMAX printout with all input data provided along with the calculated emissions. Enter the uncontrolled VOC emissions below. If the tank vapors are routed to a flare, enclosed combustion device, vapor combustion unit, vapor recovery unit or thermal oxidizer select the appropriate VOC destruction method below along with selected VOC destruction efficiency supported by manufacturer specifications submitted with the application.

Tanks VOC Control Method

Capture Efficiency	100	Represent Uncaptured and/or Controlled VOC's at Tanks	YES
VOC Control Method	VRU & Flare	Represent VRU/ULPC Downtime Emissions at Tanks	NO
VOC Destruction Efficiency	98	Represent VOC Controlled Emissions at Tanks*	NO

Notes

Total VOC W & S Emissions From Produced Water Storage Tanks Calculated with ProMax

Add/Remove Rows Up To 10 Units	Tank ID	VOC Uncontrolled Emissions		VOC Emissions after Control		VOC Emissions at the Tanks	
		pph	tpy	pph*	tpy*	pph	tpy
☐	PWTK-1	1.06	4.63	0.02	0.1	0	0
☐	PWTK-2	1.06	4.63	0.02	0.1	0	0
	Totals	2.12	9.26	0.04	0.2	0	0



New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Sep 25, 2025	Permit Number:	NSR-NA
Company Name:	Tap Rock Operating, LLC	Alt# if Known:	NA
Facility Name:	Beer 30 CTB	Elevation (ft.):	3,585

Flare

Enter information in green boxes below changing default values as appropriate.

	Gas Stream 1	Gas Stream 2	Gas Stream 3		Gas Stream 1	Gas Stream 2	Gas Stream 3
Emission Unit ID	FL-HP			Hourly Gas Routed to Flare (MMBtu/hr)	651.89943	0	0
Hourly Gas Stream to Flare (Mscf/hr)	604.17			Annual Gas Routed to Flare (MMBtu/yr)	46,321.47		
Annual Gas Stream to Flare (MMscf/yr)	42.93			Pilot Gas Routed to Flare (MMBtu/hr)	0.084075	0	0
Max. Heat Value of Gas (Btu/scf)	1,079			Gas MW (lb/lbmol)	20.5		
Field Gas Mol Fraction (lbmol H ₂ S/lb-mol)				Gas Pressure (psia)	14.7		
Field Gas Sulfur Content (S grains/100 scf)				Gas Temperature (°F)	70		
Pilot Gas to Flare (Mscf/hr)	0.075			Field Gas H ₂ S Wt.% to Flare (%)			
Max. Heat Value Pilot Gas (Btu/scf)	1,121			Flare Control Efficiency	98	98	95
Pilot Gas Sulfur Content (S grains/100 scf)				Total VOC wt.% to Flare (%) ¹	21.99		
Source of Flare Emission Factors	TCEQ Air or	TCEQ Air or		Safety Factor Applied to Total Emissions (%)			
Use Highest NO _x & CO Emission Factors From AP-42 or TCEQ	NO	NO					

Total Emissions to Flare

Pollutant	NO _x			CO			VOC			SO ₂			H ₂ S		
Gas Streams to Flare	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Uncontrolled (pph)	0	0	0	0	0	0	7,185.8			0	0	0	0	0	0
Uncontrolled (tpy)	0	0	0	0	0	0	314.74			0	0	0	0	0	0
Field Gas (pph)	89.9621	0		179.5983			143.72			0			0		
Field Gas (tpy)	3.1962	0	0	6.3808	0	0	6.29			0	0	0	0	0	0
Pilot Gas (pph)	0.0116			0.0232			0	0	0	0	0	0	0	0	0
Pilot Gas (tpy)	0.0508			0.1015			0	0	0	0	0	0	0	0	0
Subtotal Flare (pph)	89.9737	0	0	179.6215	0	0	143.72	0	0	0	0	0	0	0	0
Subtotal Flare (tpy)	3.247	0	0	6.4823	0	0	6.29	0	0	0	0	0	0	0	0
Total Flare (pph)	89.97			179.62			143.72			0			0		
Total Flare (tpy)	3.25			6.48			6.29			0			0		

See reverse side for calculation notes.

1) Based on representative gas analysis which must be submitted with application; 2) Assumes pilot gas has a negligible amount of VOC & 0.25 grains H₂S/100scf; *) Emission factors for NO_x, CO & VOC based on AP-42, Table 13.5-1, (Dec. 2015) or TCEQ RG-360A/11 (February 2012); #) Assumes H₂S is converted to SO₂ at selected control efficiency; SO₂ emissions based on mass balance;

+) Assumes H₂S Destruction Efficiency equals flare destruction efficiency;



Calculation Tool for Flare Emissions for Oil & Gas Production Sites

All emission factors based on AP-42, Emission factors for NO_x, CO & VOC, Table 13.5-1, (December 2016);
https://www3.epa.gov/ttn/chief/ap42/ch13/final/C13S05_12-13-16.pdf or https://www.tceq.texas.gov/assets/public/comm_exec/pubs/rg/rg360/rg36011/rg-360a.pdf

- 1) Information included in calculation tool must be based on representative gas analysis which must be submitted with application;
- 2) Assumes pilot gas used has a negligible amount of VOC's and 0.25 grains H₂S/100 scf;
- 3) SO₂ calculations assumes H₂S is converted to SO₂ at selected control efficiency; SO₂ emissions based on mass balance;
- 4) H₂S calculations assume H₂S Destruction Efficiency equals flare destruction efficiency;

Sample Calculations

NO_x pph = hourly gas routed to flare (MMBtu/hr) * NO_x Emission factor (lbs/MMBtu)
 = 1 (MMBtu/hr) * 0.068 (lbs/MMBtu)
 = 0.068 lbs/hr

NO_x tpy = annual gas routed to flare (MMBtu/yr) * NO_x Emission factor (lbs/MMBtu) * 1/lbs/ton
 = 1000 (MMBtu/yr) * 0.068 (lb/MMBtu) * 1/2000 (lbs/ton)
 = 0.034 tpy

SO₂ pph = Hourly Gas Stream to flare (MMScf/hr) * 1000000/1 (scf/MMScf) * Field Gas mol Fraction of H₂S (mol H₂S/lb-mol)/100 * 1/Universal Gas Constant 385 scf/lb-mole @ 60°F, 1 atm * Conversion Rate of H₂S to SO₂ lb-mol SO₂/lb-mol H₂S * Molecular Weight of Sulfur Dioxide (64 lb SO₂/lb-mol SO₂)
 = 1 MMScf/hr * 1000000/1 (Scf/MMScf) * 0.1 mol H₂S * 1/385 scf/lb-mole * 0.95 lb-mol SO₂/lb-mol H₂S * 64 lb/lb-mol

Residual
 H₂S pph = Hourly Gas Stream to flare (MMScf/hr) * 1000000/1 (scf/MMScf) * Field Gas mol Fraction of H₂S (mol H₂S/lb-mol)/100 * 1/Universal Gas Constant 385 scf/lb-mole @ 60°F, 1 atm * (100-(Flare Control Efficiency))/100 * Molecular Weight of Hydrogen Sulfide (34 lb H₂S/lb-mol H₂S)
 = 1 MMScf/hr * 1000000/1 (Scf/MMScf) * 0.1 mol H₂S * 1/385 scf/lb-mole * (100-95%/100) * 34 lb/lb-mol

Flare, Vapor Combustion Devices & Enclosed Combustion Devices Emission Factors				
Contaminant	Assist Type	Waste Gas Stream Heat Value (Btu/scf)	AP-42 Emission Factor (lb/MMBtu)	TCEQ Emission Factor (lb/MMBtu)
NO _x	Steam	≥1000	0.068	0.0485
	Steam	<1000	0.068	0.068
	Air or Unassisted	≥1000	0.068	0.138
	Air or Unassisted	<1000	0.068	0.0641
CO	Steam	≥1000	0.31	0.3503
	Steam	<1000	0.31	0.3465
	Air or Unassisted	≥1000	0.31	0.2755
	Air or Unassisted	<1000	0.31	0.5496
VOC	Air & Steam Assist	≥300	0.66	

Technical Disclaimer

This document is intended to help you accurately determine flares, enclosed combustion devices and vapor combustion units emissions. It does not supersede or replace any state or federal law, rule, or regulation. This guidance reflects the current understanding of how these combustion units work and how they generate emissions, how they are monitored or tested, and what data are available for emissions determination, may change over time as the AQB continue scientific studies and as new information becomes available. The AQB welcome any data, information, or feedback that may improve our understanding of flares, enclosed combustion devices and vapor combustion units emissions and thereby further improve determinations within the emissions inventory. The calculation methods represented are intended as an emissions calculation aid; alternate calculation methods may be equally acceptable if they are based upon, and adequately demonstrate, sound engineering assumptions or data. If you have a question regarding the acceptability of a given emissions determination method, contact the Permitting Section at 505-476-4300.



New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Sep 25, 2025	Permit Number:	NSR-NA
Company Name:	Tap Rock Operating, LLC	Alt# if Known:	NA
Facility Name:	Beer 30 CTB	Elevation (ft.):	3,585

Flare

Enter information in green boxes below changing default values as appropriate.

	Gas Stream 1	Gas Stream 2	Gas Stream 3		Gas Stream 1	Gas Stream 2	Gas Stream 3
Emission Unit ID	FL-LP (tank ⁺)	FL-LP (VRU) ⁺		Hourly Gas Routed to Flare (MMBtu/hr)	1.95696	5.4444	0
Hourly Gas Stream to Flare (Mscf/hr)	1.44	3.9		Annual Gas Routed to Flare (MMBtu/yr)	1,712.34	4,774.32	
Annual Gas Stream to Flare (MMscf/yr)	1.26	3.42		Pilot Gas Routed to Flare (MMBtu/hr)	0.084075	0	0
Max. Heat Value of Gas (Btu/scf)	1,359	1,396		Gas MW (lb/lbmol)	28.18	27.74	
Field Gas Mol Fraction (lbmol H2S/lb-mol)				Gas Pressure (psia)	14.7	14.7	
Field Gas Sulfur Content (S grains/100 scf)				Gas Temperature (°F)	70	70	
Pilot Gas to Flare (Mscf/hr)	0.075			Field Gas H2S Wt.% to Flare (%)			
Max. Heat Value Pilot Gas (Btu/scf)	1,121			Flare Control Efficiency	98	98	95
Pilot Gas Sulfur Content (S grains/100 scf)				Total VOC wt.% to Flare (%) ¹	45.5	46.55	
Source of Flare Emission Factors	TCEQ Air or	TCEQ Air or		Safety Factor Applied to Total Emissions (%)			
Use Highest NOx & CO Emission Factors From AP-42 or TCEQ	NO	NO					

Total Emissions to Flare

Pollutant	NOx			CO			VOC			SO2			H2S		
Gas Streams to Flare	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Uncontrolled (pph)	0	0	0	0	0	0	48.85	132.89		0	0	0	0	0	0
Uncontrolled (tpy)	0	0	0	0	0	0	21.39	58.21		0	0	0	0	0	0
Field Gas (pph)	0.2701	0.7513		0.5391	1.4999		0.98	2.66		0	0		0	0	
Field Gas (tpy)	0.1182	0.3294	0	0.2359	0.6577	0	0.43	1.14		0	0	0	0	0	0
Pilot Gas (pph)	0.0116			0.0232			0	0	0	0	0	0	0	0	0
Pilot Gas (tpy)	0.0508			0.1015			0	0	0	0	0	0	0	0	0
Subtotal Flare (pph)	0.2817	0.7513	0	0.5623	1.4999	0	0.98	2.66	0	0	0	0	0	0	0
Subtotal Flare (tpy)	0.169	0.3294	0	0.3374	0.6577	0	0.43	1.14	0	0	0	0	0	0	0
Total Flare (pph)	1.03			2.06			3.64			0			0		
Total Flare (tpy)	0.5			1			1.57			0			0		

See reverse side for calculation notes.

1) Based on representative gas analysis which must be submitted with application; 2) Assumes pilot gas has a negligible amount of VOC & 0.25 grains H2S/100scf; *) Emission factors for NOx, CO & VOC based on AP-42, Table 13.5-1, (Dec. 2015) or TCEQ RG-360A/11 (February 2012); #) Assumes H2S is converted to SO2 at selected control efficiency; SO2 emissions based on mass balance;

+) Assumes H2S Destruction Efficiency equals flare destruction efficiency;

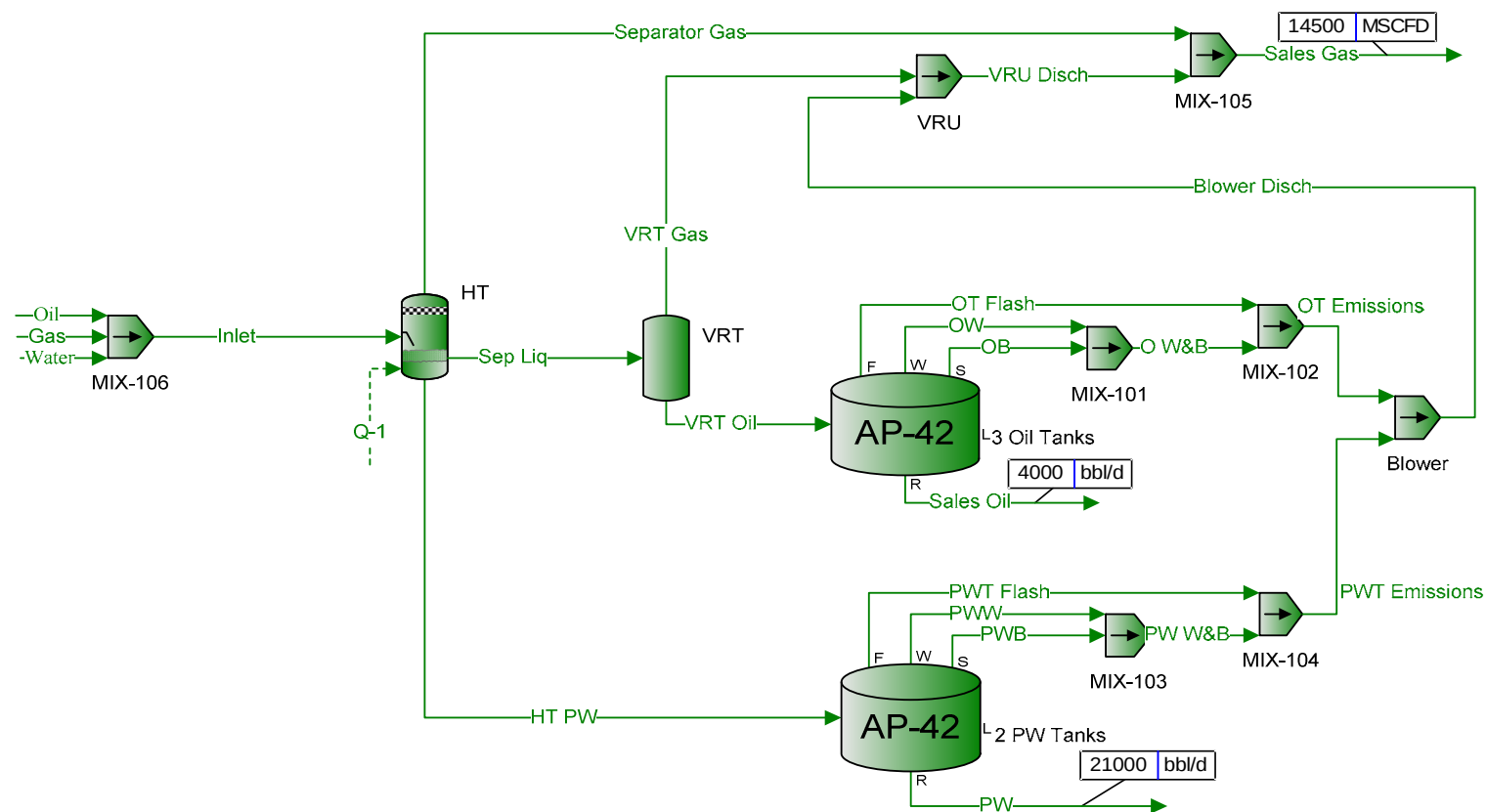


New Mexico Environment Department Air Quality Bureau Emissions Calculation Forms

Date:	Sep 25, 2025	Permit Number:	NA
Company Name:	Tap Rock Operating, LLC	AI# if Known:	NA
Facility Name:	Beer 30 CTB	Elevation (ft.):	3,585

Total Requested Emissions For All Regulated Facility Equipment (NSR Request)																		
Emission Unit	NO _x		CO		VOC		SO _x		TSP		PM ₁₀		PM _{2.5}		H ₂ S		Total HAP	
	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
Engines	3.66	16.05	5.09	22.27	5.56	24.31	0.01	0.05	0.37	1.59	0.37	1.59	0.37	1.59	-	-	1.19	5.16
Heaters	0.59	2.58	0.5	2.17	0.03	0.14	0	0	0.04	0.19	0.04	0.19	0.04	0.19	-	-		
Oil Tanks Flash	-	-	-	-	0	0	-	-	-	-	-	-	-	-				
Oil Tanks W & S	-	-	-	-	0	0	-	-	-	-	-	-	-	-				
Water Tks Flash	-	-	-	-	0	0	-	-	-	-	-	-	-	-				
Water Tks W & S	-	-	-	-	0	0	-	-	-	-	-	-	-	-				
Skim or Slop Tank	-	-	-	-			-	-	-	-	-	-	-	-				
GBS	-	-	-	-			-	-	-	-	-	-	-	-				
ECD	0	0	0	0	0	0	0	0										
VCU	0	0	0	0	0	0	0	0										
TO	0	0	0	0	0	0	0	0										
Flares	91	3.75	181.68	7.48	147.36	7.86	0	0										
Fugitives	-	-	-	-	0	0									0	0	0	0
SSM						0												
Malf.	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
Unpaved Haul Rds.	-	-	-	-	-	-	-	-	0	0	0	0	0	0	-	-	-	-
Paved Haul Rds.	-	-	-	-	-	-	-	-	0	0	0	0	0	0	-	-	0	0
Oil Load	-	-	-	-			-	-	-	-	-	-	-	-				
Water Loading	-	-	-	-			-	-	-	-	-	-	-	-				
Amine Unt	-	-	-	-	0	0	-	-	-	-	-	-	-	-	0	0	0	0
Amine Reb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
Dehy Unit	-	-	-	-			-	-	-	-	-	-	-	-				
Dehy Reb.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
Totals	95.25	22.38	187.27	31.92	152.95	32.31	0.01	0.05	0.41	1.78	0.41	1.78	0.41	1.78	0	0	1.19	5.16

A red-outlined cell indicates that the facility exceeds the allowable emission limits for that pollutant for the requested permitting action and the application cannot be approved as proposed.



Process Streams	Blower Disch	Gas	HT PW	Inlet	O W&B	OB
Composition	Status:	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block:	Blower	--	HT	MIX-106	MIX-101
	To Block:	VRU	MIX-106	2 PW Tanks	HT	MIX-102
Mole Fraction	%	%	%	%	%	%
Carbon Dioxide	1.21775	0.192*	0.000243689	0.0151694	0.282270	0.282270
Nitrogen	0.292550	1.533*	5.95492E-05	0.119925	0.00794400	0.00794400
Methane	53.4007	89.644*	0.00699874	7.03777	29.7913	29.7913
Ethane	13.2775	5.381*	0.000564825	0.467163	27.6670	27.6670
Propane	6.48282	1.406*	0.000152030	0.190352	14.3404	14.3404
Isobutane	1.13676	0.163*	1.51734E-05	0.0366228	2.52310	2.52310
n-Butane	3.76467	0.461*	8.05181E-05	0.120693	7.95813	7.95813
Isopentane	1.41377	0.135*	1.82174E-05	0.0548388	3.11821	3.11821
n-Pentane	1.90756	0.18*	1.44794E-05	0.0824967	4.29104	4.29104
i-Hexane	2.00969	0.905*	6.87341E-06	0.126488	4.52340	4.52340
n-Hexane	0.770451	0*	3.82855E-06	0.0570851	1.72902	1.72902
C7+	0	0*	0	0	0	0
Heptane	0.980833	0*	3.38682E-06	0.158737	2.13930	2.13930
Octane	0.482716	0*	9.15047E-07	0.209390	1.01948	1.01948
Nonane	0.0877074	0*	1.19589E-07	0.120004	0.166563	0.166563
Decanes+	0.000313436	0*	2.93651E-08	0.753592	0.000320313	0.000320313
Benzene	0.0189603	0*	1.38077E-05	0.000452912	0.00838835	0.00838835
Toluene	0.393627	0*	0.000219552	0.0198194	0.170328	0.170328
Ethylbenzene	0.0143564	0*	6.99996E-06	0.00195658	0.00697738	0.00697738
m-Xylene	0.189494	0*	6.29701E-05	0.0252000	0.0799151	0.0799151
2,2,4-Trimethylpentane	0.0697982	0*	2.22508E-07	0.0108337	0.152891	0.152891
Water	12.0880	0*	99.9915	90.3914	0.0240154	0.0240154
Molar Flow	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
Carbon Dioxide	0.0463296	2.82379*	0.0414490	2.86138	0.00307524	7.83596E-05
Nitrogen	0.0111302	22.5462*	0.0101287	22.6214	8.65470E-05	2.20529E-06
Methane	2.03165	1318.42*	1.19042	1327.53	0.324566	0.00827021
Ethane	0.505149	79.1398*	0.0960711	88.1204	0.301422	0.00768049
Propane	0.246642	20.6784*	0.0258587	35.9059	0.156233	0.00398095
Isobutane	0.0432484	2.39728*	0.00258085	6.90811	0.0274883	0.000700425
n-Butane	0.143228	6.78005*	0.0136953	22.7662	0.0867010	0.00220921
Isopentane	0.0537874	1.98548*	0.00309859	10.3442	0.0339718	0.000865629
n-Pentane	0.0725738	2.64731*	0.00246280	15.5613	0.0467493	0.00119121
i-Hexane	0.0764593	13.3101*	0.00116910	23.8593	0.0492808	0.00125572
n-Hexane	0.0293121	0*	0.000651198	10.7679	0.0188370	0.000479983
C7+	0	0*	0	0	0	0
Heptane	0.0373162	0*	0.000576064	29.9423	0.0233069	0.000593879
Octane	0.0183651	0*	0.000155640	39.4971	0.0111069	0.000283013
Nonane	0.00333686	0*	2.03409E-05	22.6362	0.00181465	4.62388E-05
Decanes+	1.19248E-05	0*	4.99470E-06	142.149	3.48970E-06	8.89204E-08
Benzene	0.000721352	0*	0.00234856	0.0854324	9.13881E-05	2.32864E-06
Toluene	0.0149757	0*	0.0373436	3.73852	0.00185566	4.72838E-05
Ethylbenzene	0.000546196	0*	0.00119062	0.369068	7.60161E-05	1.93695E-06
m-Xylene	0.00720938	0*	0.0107106	4.75346	0.000870646	2.21848E-05
2,2,4-Trimethylpentane	0.00265550	0*	3.78464E-05	2.04354	0.00166570	4.24433E-05
Water	0.459891	0*	17007.5	17050.4	0.000261639	6.66679E-06
Mass Fraction	%	%	%	%	%	%
Carbon Dioxide	1.90210	0.456676*	0.000595296	0.0326665	0.308013	0.308013
Nitrogen	0.290868	2.32096*	9.25961E-05	0.164386	0.00551776	0.00551776
Methane	30.4052	77.7236*	0.00623221	5.52452	11.8500	11.8500
Ethane	14.1699	8.74466*	0.000942724	0.687347	20.6272	20.6272
Propane	10.1459	3.35074*	0.000372113	0.410715	15.6788	15.6788
Isobutane	2.34498	0.512024*	4.89527E-05	0.104155	3.63609	3.63609
n-Butane	7.76603	1.44812*	0.000259768	0.343251	11.4686	11.4686
Isopentane	3.62024	0.526409*	7.29568E-05	0.193600	5.57817	5.57817
n-Pentane	4.88468	0.701879*	5.79869E-05	0.291242	7.67625	7.67625
i-Hexane	6.14669	4.21495*	3.28780E-05	0.533360	9.66508	9.66508
n-Hexane	2.35645	0*	1.83134E-05	0.240710	3.69437	3.69437
C7+	0	0*	0	0	0	0
Heptane	3.48820	0*	1.88373E-05	0.778291	5.31503	5.31503
Octane	1.95702	0*	5.80188E-06	1.17036	2.88743	2.88743

Process Streams		Blower Disch	Gas	HT PW	Inlet	O W&B	OB
Composition		Status:	Solved	Solved	Solved	Solved	Solved
Phase: Total		From Block:	Blower	--	HT	MIX-106	MIX-101
		To Block:	VRU	MIX-106	2 PW Tanks	HT	MIX-102
Nonane		0.399246	0*	8.51367E-07	0.753108	0.529678	0.529678
Decanes+		0.00265430	0*	3.88913E-07	8.79822	0.00189497	0.00189497
Benzene		0.0525644	0*	5.98674E-05	0.00173109	0.0162462	0.0162462
Toluene		1.28723	0*	0.00112287	0.0893554	0.389121	0.389121
Ethylbenzene		0.0540951	0*	4.12503E-05	0.0101641	0.0183667	0.0183667
m-Xylene		0.714014	0*	0.000371079	0.130909	0.210362	0.210362
2,2,4-Trimethylpentane		0.282975	0*	1.41082E-06	0.0605534	0.433027	0.433027
Water		7.72900	0*	99.9897	79.6813	0.0107273	0.0107273
Mass Flow		lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
Carbon Dioxide		2.03894	124.274*	1.82415	125.928	0.135340	0.00344857
Nitrogen		0.311794	631.597*	0.283740	633.703	0.00242448	6.17777E-05
Methane		32.5927	21150.7*	19.0972	21296.8	5.20684	0.132675
Ethane		15.1894	2379.66*	2.88877	2649.70	9.06347	0.230945
Propane		10.8758	911.827*	1.14026	1583.29	6.88920	0.175543
Isobutane		2.51369	139.335*	0.150004	401.515	1.59768	0.0407103
n-Butane		8.32475	394.071*	0.796001	1323.22	5.03925	0.128404
Isopentane		3.88070	143.250*	0.223560	746.320	2.45102	0.0624541
n-Pentane		5.23611	191.000*	0.177688	1122.73	3.37291	0.0859445
i-Hexane		6.58891	1147.00*	0.100747	2056.08	4.24679	0.108212
n-Hexane		2.52598	0*	0.0561172	927.927	1.62329	0.0413627
C7+		0	0*	0	0	0	0
Heptane		3.73915	0*	0.0577227	3000.28	2.33540	0.0595078
Octane		2.09782	0*	0.0177786	4511.70	1.26872	0.0323282
Nonane		0.427969	0*	0.00260882	2903.20	0.232738	0.00593036
Decanes+		0.00284526	0*	0.00119174	33916.8	0.000832642	2.12164E-05
Benzene		0.0563461	0*	0.183450	6.67328	0.00713849	0.000181895
Toluene		1.37984	0*	3.44078	344.461	0.170978	0.00435665
Ethylbenzene		0.0579869	0*	0.126402	39.1821	0.00807025	0.000205637
m-Xylene		0.765384	0*	1.13709	504.651	0.0924322	0.00235525
2,2,4-Trimethylpentane		0.303334	0*	0.00432314	233.431	0.190270	0.00484823
Water		8.28506	0*	306396	307168	0.00471351	0.000120104
Property		Units					
Temperature	°F	85.8280	89.9*	120	114.896	110.606	110.606
Pressure	psig	-1.43595	67*	50	67	-1.43595	-1.43595
Mole Fraction Vapor	%	92.1816	100	0	8.24244	100	100
Mole Fraction Light Liquid	%	0.000942527	0	100	1.51142	0	0
Mole Fraction Heavy Liquid	%	7.81746	0	0	90.2461	0	0
Phase Mole Fraction	%	100	100	100	100	100	100
Molecular Weight	lb/lbmol	28.1754	18.5029	18.0156	20.4367	40.3313	40.3313
Mass Density	lb/ft^3	0.0696410	0.259941	61.6707	3.16929	0.0882873	0.0882873
Molar Flow	lbmol/h	3.80454	1470.73	17009.0	18862.9	1.08946	0.0277605
Mass Flow	lb/h	107.194	27212.7	306427	385496	43.9395	1.11962
Vapor Volumetric Flow	ft^3/h	1539.24	104688	4968.77	121635	497.688	12.6815
Liquid Volumetric Flow	gpm	191.906	13052.0	619.483	15164.9	62.0494	1.58107
Std Vapor Volumetric Flow	MMSCFD	0.0346503	13.3948*	154.911	171.796	0.00992243	0.000252832
Std Liquid Volumetric Flow	sgpm	0.485790	166.212	612.677	913.028	0.184510	0.00470147
Compressibility		0.916415	0.986003	0.00303811	0.0854372	0.989780	0.989780
Specific Gravity			0.638857	0.988808		1.39254	1.39254
API Gravity				10.0057			
Enthalpy	Btu/h	-186476	-4.82572E+07	-2.07714E+09	-2.17337E+09	-47976.6	-1222.48
Mass Enthalpy	Btu/lb	-1739.61	-1773.33	-6778.56	-5637.85	-1091.88	-1091.88
Mass Cp	Btu/(lb*°F)	0.470144	0.511831	0.977365	0.879874	0.436925	0.436925
Ideal Gas CpCv Ratio		1.18981	1.27105	1.32736	1.27949	1.12772	1.12772
Dynamic Viscosity	cP		0.0112682	0.570683		0.00924408	0.00924408
Kinematic Viscosity	cSt		2.70618	0.577690		6.53649	6.53649
Thermal Conductivity	Btu/(h*ft*°F)		0.0191846	0.367455		0.0134935	0.0134935
Surface Tension	lb/ft			0.00466244			
Net Ideal Gas Heating Value	Btu/ft^3	1358.63	1005.10	0.0944351	212.736	2115.16	2115.16
Net Liquid Heating Value	Btu/lb	18121.4	20583.6	-1057.67	3083.07	19763.4	19763.4
Gross Ideal Gas Heating Value	Btu/ft^3	1491.85	1111.93	50.4094	275.941	2301.76	2301.76
Gross Liquid Heating Value	Btu/lb	19916.0	22774.7	2.17757	4256.73	21519.6	21519.6

Process Streams	Oil	OT Emissions	OT Flash	OW	PW	PW W&B
Composition	Status:	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block:	--	MIX-102	3 Oil Tanks	3 Oil Tanks	2 PW Tanks
	To Block:	MIX-106	Blower	MIX-102	MIX-101	--
Mole Fraction	%	%	%	%	%	%
Carbon Dioxide	0.0109999*	0.244477	0.199075	0.282270	0	4.82128
Nitrogen	0.0219998*	0.0501647	0.100886	0.00794400	0	0.187696
Methane	2.66597*	42.1389	56.9727	29.7913	0	39.5963
Ethane	2.62797*	20.4915	11.8711	27.6670	0	4.13665
Propane	4.45596*	11.0594	7.11784	14.3404	0	0.863742
Isobutane	1.31999*	2.03711	1.45326	2.52310	0	0.0621570
n-Butane	4.67795*	6.48855	4.72307	7.95813	0	0.429583
Isopentane	2.44598*	2.53909	1.84338	3.11821	0	0.0714173
n-Pentane	3.77896*	3.51198	2.57607	4.29104	0	0.0272327
i-Hexane	3.08697*	3.77142	2.86804	4.52340	0	0.00545690
n-Hexane	3.15097*	1.43568	1.08327	1.72902	0	0.00494440
C7+	0*	0	0	0	0	0
Heptane	8.76191*	1.84038	1.48127	2.13930	0	0.00316739
Octane	11.5579*	0.912145	0.783196	1.01948	0	0.000385929
Nonane	6.62393*	0.166130	0.165610	0.166563	0	4.56685E-05
Decanes+	41.5966*	0.000347142	0.000379372	0.000320313	0	0.000492564
Benzene	0.0249998*	0.00861347	0.00888391	0.00838835	1.05788E-05	0.0661187
Toluene	1.09399*	0.173860	0.178102	0.170328	0.000151928	1.38557
Ethylbenzene	0.107999*	0.00705036	0.00713803	0.00697738	4.61673E-06	0.0485966
m-Xylene	1.39099*	0.0814500	0.0832941	0.0799151	3.01473E-05	0.672960
2,2,4-Trimethylpentane	0.597994*	0.131123	0.104972	0.152891	0	0.000283201
Water	0*	2.91063	6.37844	0.0240154	99.9998	47.6160
Molar Flow	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
Carbon Dioxide	0.0375903*	0.00488059	0.00180535	0.00299688	0	0.0357923
Nitrogen	0.0751805*	0.00100146	0.000914909	8.43417E-05	0	0.00139342
Methane	9.11051*	0.841235	0.516668	0.316296	0	0.293955
Ethane	8.98065*	0.409078	0.107656	0.293742	0	0.0307097
Propane	15.2275*	0.220783	0.0645496	0.152252	0	0.00641225
Isobutane	4.51083*	0.0406675	0.0131792	0.0267879	0	0.000461442
n-Butane	15.9861*	0.129533	0.0428322	0.0844918	0	0.00318914
Isopentane	8.35870*	0.0506888	0.0167171	0.0331061	0	0.000530188
n-Pentane	12.9140*	0.0701110	0.0233616	0.0455581	0	0.000202170
i-Hexane	10.5492*	0.0752902	0.0260094	0.0480251	0	4.05110E-05
n-Hexane	10.7679*	0.0286609	0.00982385	0.0183571	0	3.67063E-05
C7+	0*	0	0	0	0	0
Heptane	29.9423*	0.0367401	0.0134332	0.0227130	0	2.35141E-05
Octane	39.4971*	0.0182095	0.00710258	0.0108239	0	2.86507E-06
Nonane	22.6362*	0.00331652	0.00150187	0.00176841	0	3.39034E-07
Decanes+	142.149*	6.93011E-06	3.44041E-06	3.40078E-06	0	3.65670E-06
Benzene	0.0854324*	0.000171954	8.05655E-05	8.90595E-05	0.00179916	0.000490852
Toluene	3.73852*	0.00347082	0.00161516	0.00180838	0.0258387	0.0102862
Ethylbenzene	0.369068*	0.000140749	6.47327E-05	7.40792E-05	0.000785175	0.000360772
m-Xylene	4.75346*	0.00162602	0.000755369	0.000848461	0.00512721	0.00499592
2,2,4-Trimethylpentane	2.04354*	0.00261765	0.000951958	0.00162325	0	2.10243E-06
Water	0*	0.0581059	0.0578442	0.000254973	17007.1	0.353492
Mass Fraction	%	%	%	%	%	%
Carbon Dioxide	0.00323649*	0.300848	0.289381	0.308013	0	10.0110
Nitrogen	0.00412025*	0.0392940	0.0933482	0.00551776	0	0.248079
Methane	0.285934*	18.9024	30.1887	11.8500	0	29.9704
Ethane	0.528299*	17.2288	11.7902	20.6272	0	5.86863
Propane	1.31364*	13.6361	10.3669	15.6788	0	1.79700
Isobutane	0.512921*	3.31069	2.78993	3.63609	0	0.170451
n-Butane	1.81776*	10.5451	9.06722	11.4686	0	1.17803
Isopentane	1.17983*	5.12236	4.39290	5.57817	0	0.243109
n-Pentane	1.82281*	7.08506	6.13895	7.67625	0	0.0927017
i-Hexane	1.77850*	9.08763	8.16349	9.66508	0	0.0221869
n-Hexane	1.81537*	3.45941	3.08338	3.69437	0	0.0201032
C7+	0*	0	0	0	0	0
Heptane	5.86968*	5.15639	4.90250	5.31503	0	0.0149743
Octane	8.82657*	2.91340	2.95497	2.88743	0	0.00207994

Process Streams		Oil	OT Emissions	OT Flash	OW	PW	PW W&B
Composition		Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	Status:	--	MIX-102	3 Oil Tanks	3 Oil Tanks	2 PW Tanks	MIX-103
	From Block:						
	To Block:	MIX-106	Blower	MIX-102	MIX-101	--	MIX-104
Nonane		5.67976*	0.595780	0.701567	0.529678	0	0.000276350
Decanes+		66.3540*	0.00231600	0.00298980	0.00189497	0	0.00554499
Benzene		0.0130554*	0.0188130	0.0229207	0.0162462	4.58679E-05	0.243674
Toluene		0.673896*	0.447921	0.542023	0.389121	0.000777024	6.02332
Ethylbenzene		0.0766549*	0.0209293	0.0250304	0.0183667	2.72064E-05	0.243419
m-Xylene		0.987286*	0.241788	0.292081	0.210362	0.000177658	3.37084
2,2,4-Trimethylpentane		0.456678*	0.418808	0.396054	0.433027	0	0.00152629
Water		0*	1.46619	3.79545	0.0107273	99.9990	40.4726
Mass Flow		lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
Carbon Dioxide		1.65433*	0.214792	0.0794526	0.131891	0	1.57520
Nitrogen		2.10606*	0.0280542	0.0256297	0.00236270	0	0.0390344
Methane		146.155*	13.4955	8.28863	5.07417	0	4.71576
Ethane		270.040*	12.3006	3.23711	8.83253	0	0.923412
Propane		671.465*	9.73555	2.84635	6.71366	0	0.282752
Isobutane		262.179*	2.36369	0.766004	1.55697	0	0.0268200
n-Butane		929.148*	7.52875	2.48950	4.91085	0	0.185360
Isopentane		603.070*	3.65714	1.20612	2.38857	0	0.0382524
n-Pentane		931.726*	5.05842	1.68551	3.28696	0	0.0145863
i-Hexane		909.080*	6.48816	2.24137	4.13858	0	0.00349105
n-Hexane		927.927*	2.46986	0.846574	1.58193	0	0.00316318
C7+		0*	0	0	0	0	0
Heptane		3000.28*	3.68143	1.34603	2.27589	0	0.00235616
Octane		4511.70*	2.08004	0.811317	1.23640	0	0.000327272
Nonane		2903.20*	0.425361	0.192623	0.226808	0	4.34829E-05
Decanes+		33916.8*	0.00165352	0.000820882	0.000811426	0	0.000872488
Benzene		6.67328*	0.0134316	0.00629312	0.00695660	0.140536	0.0383414
Toluene		344.461*	0.319796	0.148818	0.166621	2.38074	0.947752
Ethylbenzene		39.1821*	0.0149426	0.00687235	0.00786461	0.0833581	0.0383013
m-Xylene		504.651*	0.172626	0.0801938	0.0900769	0.544330	0.530392
2,2,4-Trimethylpentane		233.431*	0.299011	0.108741	0.185422	0	0.000240157
Water		0*	1.04679	1.04208	0.00459340	306388	6.36825
Property		Units					
Temperature	°F	119*	110.571	110.606	110.606	85.1063	85.1063
Pressure	psig	131*	-1.43595	-1.43595	-1.43595	-1.43595	-1.43595
Mole Fraction Vapor	%	0	100	99.9995	100	0	54.4879
Mole Fraction Light Liquid	%	100	0	0.000530922	0	100	0.362979
Mole Fraction Heavy Liquid	%	0	0	0	0	0	45.1491
Phase Mole Fraction	%	100	100	100	100	100	100
Molecular Weight	lb/lbmol	149.576	35.7633	30.2756	40.3313	18.0154	21.1949
Mass Density	lb/ft^3	47.0088	0.0781172	0.0659751	0.0882873	62.1276	0.0884700
Molar Flow	lbmol/h	341.733	1.99634	0.906871	1.06170	17007.2	0.742381
Mass Flow	lb/h	51114.9	71.3956	27.4561	42.8199	306392	15.7347
Vapor Volumetric Flow	ft^3/h	1087.35	913.954	416.158	485.006	4931.65	177.854
Liquid Volumetric Flow	gpm	135.565	113.948	51.8846	60.4683	614.856	22.1740
Std Vapor Volumetric Flow	MMSCFD	3.11237	0.0181819	0.00825943	0.00966960	154.895	0.00676132
Std Liquid Volumetric Flow	sgpm	132.765*	0.308897	0.124387	0.179809	612.5	0.0589116
Compressibility		0.0746508	0.992002	0.994278	0.989780	0.000657691	0.543373
Specific Gravity		0.753724	1.23481		1.39254	0.996133	
API Gravity		49.7805				9.99831	
Enthalpy	Btu/h	-4.25584E+07	-87497.8	-39521.2	-46754.1	-2.08752E+09	-59920.9
Mass Enthalpy	Btu/lb	-832.601	-1225.54	-1439.44	-1091.88	-6813.25	-3808.20
Mass Cp	Btu/(lb*°F)	0.503754	0.445088	0.458303	0.436925	0.977565	0.634696
Ideal Gas CpCv Ratio		1.03436	1.14326	1.16777	1.12772	1.32871	1.28050
Dynamic Viscosity	cP	0.742296	0.00967715		0.00924408	0.828358	
Kinematic Viscosity	cSt	0.985773	7.73357		6.53649	0.832364	
Thermal Conductivity	Btu/(h*ft*°F)	0.0677592	0.0145668		0.0134935	0.353889	
Surface Tension	lb/ft	0.00155833?				0.00491966	
Net Ideal Gas Heating Value	Btu/ft^3	7416.85	1857.72	1548.45	2115.16	0.00858000	563.229
Net Liquid Heating Value	Btu/lb	18661.9	19571.7	19264.9	19763.4	-1059.57	9615.79
Gross Ideal Gas Heating Value	Btu/ft^3	7935.70	2026.30	1695.39	2301.76	50.3189	641.291
Gross Liquid Heating Value	Btu/lb	19978.3	21360.9	21107.0	21519.6	0.187526	11013.5

Process Streams	PWB	PWT Emissions	PWT Flash	PWW	Sales Gas
Composition	Status:	Solved	Solved	Solved	Solved
Phase: Total	From Block:	2 PW Tanks	MIX-104	2 PW Tanks	2 PW Tanks
	To Block:	MIX-103	Blower	MIX-104	MIX-103
Mole Fraction	%	%	%	%	%
Carbon Dioxide	4.82128	2.29228	0.530743	4.82128	0.179633
Nitrogen	0.187696	0.560154	0.819583	0.187696	1.42087
Methane	39.5963	65.8341	84.1097	39.5963	83.3554
Ethane	4.13665	5.31307	6.13248	4.13665	5.51128
Propane	0.863742	1.43008	1.82455	0.863742	2.18314
Isobutane	0.0621570	0.142730	0.198852	0.0621570	0.397285
n-Butane	0.429583	0.757399	0.985734	0.429583	1.26042
Isopentane	0.0714173	0.171363	0.240979	0.0714173	0.483235
n-Pentane	0.0272327	0.136201	0.212102	0.0272327	0.675136
i-Hexane	0.00545690	0.0646552	0.105889	0.00545690	0.759941
n-Hexane	0.00494440	0.0360135	0.0576542	0.00494440	0.290465
C7+	0	0	0	0	0
Heptane	0.00316739	0.0318583	0.0518425	0.00316739	0.410129
Octane	0.000385929	0.00860745	0.0143340	0.000385929	0.225451
Nonane	4.56685E-05	0.00112492	0.00187666	4.56685E-05	0.0496969
Decanes+	0.000492564	0.000276224	0.000125537	0.000492564	0.000157330
Benzene	0.0661187	0.0303836	0.00549299	0.0661187	0.00236915
Toluene	1.38557	0.636260	0.114344	1.38557	0.0492053
Ethylbenzene	0.0485966	0.0224226	0.00419165	0.0485966	0.00204399
m-Xylene	0.672960	0.308780	0.0551163	0.672960	0.0240239
2,2,4-Trimethylpentane	0.000283201	0.00209304	0.00335365	0.000283201	0.0289527
Water	47.6160	22.2201	4.53106	47.6160	2.69118
Molar Flow	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
Carbon Dioxide	0.000282852	0.0414490	0.00565677	0.0355094	2.85989
Nitrogen	1.10116E-05	0.0101287	0.00873530	0.00138241	22.6212
Methane	0.00232301	1.19042	0.896460	0.291632	1327.08
Ethane	0.000242686	0.0960711	0.0653614	0.0304670	87.7436
Propane	5.06734E-05	0.0258587	0.0194465	0.00636158	34.7572
Isobutane	3.64659E-06	0.00258085	0.00211940	0.000457795	6.32507
n-Butane	2.52025E-05	0.0136953	0.0105062	0.00316394	20.0669
Isopentane	4.18986E-06	0.00309859	0.00256840	0.000525998	7.69346
n-Pentane	1.59767E-06	0.00246280	0.00226063	0.000200573	10.7487
i-Hexane	3.20142E-07	0.00116910	0.00112859	4.01909E-05	12.0988
n-Hexane	2.90075E-07	0.000651198	0.000614491	3.64162E-05	4.62441
C7+	0	0	0	0	0
Heptane	1.85823E-07	0.000576064	0.000552549	2.33283E-05	6.52956
Octane	2.26414E-08	0.000155640	0.000152775	2.84242E-06	3.58935
Nonane	2.67925E-09	2.03409E-05	2.00019E-05	3.36355E-07	0.791211
Decanes+	2.88974E-08	4.99470E-06	1.33800E-06	3.62780E-06	0.00250481
Benzene	3.87901E-06	0.000549398	5.85455E-05	0.000486973	0.0377186
Toluene	8.12874E-05	0.0115049	0.00121870	0.0102049	0.783385
Ethylbenzene	2.85103E-06	0.000405447	4.46755E-05	0.000357920	0.0325418
m-Xylene	3.94807E-05	0.00558336	0.000587442	0.00495644	0.382478
2,2,4-Trimethylpentane	1.66146E-08	3.78464E-05	3.57439E-05	2.08581E-06	0.460949
Water	0.00279350	0.401785	0.0482931	0.350698	42.8456
Mass Fraction	%	%	%	%	%
Carbon Dioxide	10.0110	5.09556	1.24078	10.0110	0.385656
Nitrogen	0.248079	0.792595	1.21962	0.248079	1.94172
Methane	29.9704	53.3458	71.6772	29.9704	65.2337
Ethane	5.86863	8.06943	9.79534	5.86863	8.08424
Propane	1.79700	3.18517	4.27381	1.79700	4.69618
Isobutane	0.170451	0.419020	0.613953	0.170451	1.12645
n-Butane	1.17803	2.22354	3.04345	1.17803	3.57377
Isopentane	0.243109	0.624488	0.923574	0.243109	1.70081
n-Pentane	0.0927017	0.496351	0.812900	0.0927017	2.37622
i-Hexane	0.0221869	0.281426	0.484727	0.0221869	3.19470
n-Hexane	0.0201032	0.156757	0.263923	0.0201032	1.22108
C7+	0	0	0	0	0
Heptane	0.0149743	0.161242	0.275947	0.0149743	2.00477
Octane	0.00207994	0.0496623	0.0869774	0.00207994	1.25630

Process Streams		PWB	PWT Emissions	PWT Flash	PWW	Sales Gas
Composition		Status:	Solved	Solved	Solved	Solved
Phase: Total		From Block:	2 PW Tanks	MIX-104	2 PW Tanks	2 PW Tanks
		To Block:	MIX-103	Blower	MIX-104	MIX-103
Nonane			0.000276350	0.00728745	0.0127857	0.000276350
Decanes+			0.00554499	0.00332898	0.00159113	0.00554499
Benzene			0.243674	0.119877	0.0227924	0.243674
Toluene			6.02332	2.96110	0.559651	6.02332
Ethylbenzene			0.243419	0.120239	0.0236391	0.243419
m-Xylene			3.37084	1.65580	0.310832	3.37084
2,2,4-Trimethylpentane			0.00152629	0.0120762	0.0203496	0.00152629
Water			40.4726	20.2193	4.33616	40.4726
Mass Flow			lb/h	lb/h	lb/h	lb/h
Carbon Dioxide			0.0124482	1.82415	0.248952	1.56275
Nitrogen			0.000308473	0.283740	0.244705	0.0387260
Methane			0.0372667	19.0972	14.3814	4.67849
Ethane			0.00729735	2.88877	1.96535	0.916115
Propane			0.00223448	1.14026	0.857504	0.280518
Isobutane			0.000211948	0.150004	0.123184	0.0266081
n-Butane			0.00146482	0.796001	0.610642	0.183895
Isopentane			0.000302293	0.223560	0.185307	0.0379501
n-Pentane			0.000115270	0.177688	0.163102	0.0144711
i-Hexane			2.75883E-05	0.100747	0.0972563	0.00346346
n-Hexane			2.49973E-05	0.0561172	0.0529540	0.00313818
C7+			0	0	0	0
Heptane			1.86198E-05	0.0577227	0.0553665	0.00233754
Octane			2.58630E-06	0.0177786	0.0174513	0.000324686
Nonane			3.43627E-07	0.00260882	0.00256534	4.31393E-05
Decanes+			6.89492E-06	0.00119174	0.000319247	0.000865593
Benzene			0.000302996	0.0429145	0.00457310	0.0380384
Toluene			0.00748970	1.06004	0.112289	0.940262
Ethylbenzene			0.000302680	0.0430443	0.00474298	0.0379986
m-Xylene			0.00419147	0.592758	0.0623657	0.526201
2,2,4-Trimethylpentane			1.89787E-06	0.00432314	0.00408298	0.000238260
Water			0.0503257	7.23827	0.870013	6.31793
Property		Units				
Temperature	°F		85.1063	84.3175	85.1063	85.1063
Pressure	psig		-1.43595	-1.43595	-1.43595	-1.43595
Mole Fraction Vapor	%		54.4879	81.3746	100	54.4879
Mole Fraction Light Liquid	%		0.362979	0.000269951	0	0.362979
Mole Fraction Heavy Liquid	%		45.1491	18.6251	0	45.1491
Phase Mole Fraction	%		100	100	100	100
Molecular Weight	lb/lbmol		21.1949	19.7980	18.8250	21.1949
Mass Density	lb/ft^3		0.0884700	0.0554074	0.0428047	0.0884700
Molar Flow	lbmol/h		0.00586673	1.80820	1.06582	0.736514
Mass Flow	lb/h		0.124345	35.7989	20.0642	15.6104
Vapor Volumetric Flow	ft^3/h		1.40550	646.103	468.738	176.448
Liquid Volumetric Flow	gpm		0.175232	80.5531	58.4400	21.9987
Std Vapor Volumetric Flow	MMSCFD		5.34320E-05	0.0164684	0.00970710	0.00670789
Std Liquid Volumetric Flow	sgpm		0.000465554	0.176893	0.117981	0.0584460
Compressibility			0.543373	0.811606	0.997486	0.543373
Specific Gravity					0.649980	
API Gravity						
Enthalpy	Btu/h		-473.530	-98978.6	-39057.7	-59447.3
Mass Enthalpy	Btu/lb		-3808.20	-2764.85	-1946.64	-3808.20
Mass Cp	Btu/(lb*°F)		0.634696	0.556455	0.496240	0.634696
Ideal Gas CpCv Ratio			1.28050	1.27496	1.27094	1.28050
Dynamic Viscosity	cP				0.0111641	
Kinematic Viscosity	cSt				16.2822	
Thermal Conductivity	Btu/(h*ft*°F)				0.0184344	
Surface Tension	lb/ft					
Net Ideal Gas Heating Value	Btu/ft^3		563.229	807.610	977.830	563.229
Net Liquid Heating Value	Btu/lb		9615.79	15228.9	19630.8	9615.79
Gross Ideal Gas Heating Value	Btu/ft^3		641.291	901.794	1083.24	641.291
Gross Liquid Heating Value	Btu/lb		11013.5	17034.4	21756.1	11013.5

Process Streams	Sales Oil	Sep Liq	Separator Gas	VRT Gas	VRT Oil
Composition	Status:	Solved	Solved	Solved	Solved
Phase: Total	From Block:	3 Oil Tanks	HT	HT	VRT
	To Block:	--	VRT	MIX-105	VRU
Mole Fraction	%	%	%	%	%
Carbon Dioxide	0.000566854	0.00700067	0.177070	0.195798	0.00239986
Nitrogen	7.30155E-05	0.00730806	1.42821	0.288756	0.000449459
Methane	0.170338	2.02250	83.5022	65.0850	0.485736
Ethane	0.142921	0.523639	5.47476	9.87146	0.295842
Propane	0.435688	0.634606	2.15914	5.52112	0.515526
Isobutane	0.221145	0.255882	0.392543	1.12132	0.234792
n-Butane	1.02382	1.12645	1.24461	3.65302	1.06488
Isopentane	1.00540	1.02714	0.477056	1.44615	1.01693
n-Pentane	1.82540	1.84273	0.666610	2.03412	1.83807
i-Hexane	4.46067	4.40422	0.750631	2.30043	4.45549
n-Hexane	2.33019	2.28910	0.286902	0.878926	2.32347
C7+	0	0	0	0	0
Heptane	8.88034	8.64676	0.405390	1.23267	8.82744
Octane	13.6196	13.2183	0.223012	0.670165	13.5241
Nonane	8.28567	8.03247	0.0492116	0.145937	8.22466
Decanes+	53.9155	52.2374	0.000155911	0.000412439	53.5103
Benzene	0.0174152	0.0171061	0.00230972	0.00713898	0.0173490
Toluene	1.11107	1.08126	0.0479757	0.147254	1.10402
Ethylbenzene	0.127345	0.123577	0.00199791	0.00606770	0.126441
m-Xylene	1.65594	1.60669	0.0234339	0.0709463	1.64411
2,2,4-Trimethylpentane	0.600269	0.584613	0.0286176	0.0868342	0.596744
Water	0.170614	0.311229	2.65816	5.23650	0.191205
Molar Flow	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
Carbon Dioxide	0.00149449	0.0190500	2.80089	0.0126749	0.00637508
Nitrogen	0.000192503	0.0198865	22.5914	0.0186925	0.00119396
Methane	0.449093	5.50358	1320.83	4.21325	1.29033
Ethane	0.376809	1.42491	86.5994	0.639025	0.785887
Propane	1.14868	1.72687	34.1532	0.357408	1.36946
Isobutane	0.583043	0.696299	6.20923	0.0725883	0.623711
n-Butane	2.69926	3.06527	19.6872	0.236477	2.82880
Isopentane	2.65072	2.79503	7.54606	0.0936158	2.70141
n-Pentane	4.81260	5.01439	10.5444	0.131678	4.88272
i-Hexane	11.7604	11.9846	11.8735	0.148918	11.8357
n-Hexane	6.14349	6.22904	4.53820	0.0568969	6.17215
C7+	0	0	0	0	0
Heptane	23.4128	23.5293	6.41245	0.0797965	23.4495
Octane	35.9078	35.9693	3.52760	0.0433829	35.9260
Nonane	21.8450	21.8577	0.778427	0.00944716	21.8483
Decanes+	142.147	142.147	0.00246619	2.66991E-05	142.147
Benzene	0.0459146	0.0465487	0.0365351	0.000462139	0.0460866
Toluene	2.92930	2.94230	0.758877	0.00953242	2.93277
Ethylbenzene	0.335741	0.336274	0.0316028	0.000392790	0.335882
m-Xylene	4.36585	4.37207	0.370676	0.00459268	4.36748
2,2,4-Trimethylpentane	1.58259	1.59083	0.452672	0.00562118	1.58521
Water	0.449818	0.846907	42.0467	0.338983	0.507924
Mass Fraction	%	%	%	%	%
Carbon Dioxide	0.000141541	0.00179456	0.381028	0.313445	0.000602846
Nitrogen	1.16050E-05	0.00119245	1.95625	0.294240	7.18671E-05
Methane	0.0155041	0.188987	65.4990	37.9802	0.0444780
Ethane	0.0243827	0.0917116	8.04915	10.7971	0.0507755
Propane	0.109002	0.162994	4.65524	8.85580	0.129754
Isobutane	0.0729262	0.0866273	1.11557	2.37070	0.0778932
n-Butane	0.337620	0.381354	3.53705	7.72324	0.353279
Isopentane	0.411561	0.431650	1.68292	3.79531	0.418788
n-Pentane	0.747223	0.774398	2.35162	5.33839	0.756946
i-Hexane	2.18096	2.21068	3.16283	7.21103	2.19155
n-Hexane	1.13930	1.14900	1.20888	2.75512	1.14286
C7+	0	0	0	0	0
Heptane	5.04859	5.04664	1.98617	4.49292	5.04876
Octane	8.82681	8.79476	1.24557	2.78459	8.81774

Process Streams		Sales Oil	Sep Liq	Separator Gas	VRT Gas	VRT Oil
Composition		Solved	Solved	Solved	Solved	Solved
Phase: Total	Status:	3 Oil Tanks	HT	HT	VRT	VRT
	From Block:	--	VRT	MIX-105	VRU	3 Oil Tanks
	To Block:					
Nonane		6.02930	6.00062	0.308609	0.680839	6.02096
Decanes+		72.9875	72.5979	0.00181891	0.00357961	72.8755
Benzene		0.00771808	0.00778290	0.00882151	0.0202842	0.00773510
Toluene		0.580825	0.580289	0.216136	0.493529	0.580621
Ethylbenzene		0.0767055	0.0764174	0.0103710	0.0234321	0.0766200
m-Xylene		0.997451	0.993540	0.121644	0.273978	0.996292
2,2,4-Trimethylpentane		0.389032	0.388970	0.159836	0.360803	0.389078
Water		0.0174389	0.0326583	2.34147	3.43152	0.0196614
Mass Flow		lb/h	lb/h	lb/h	lb/h	lb/h
Carbon Dioxide		0.0657720	0.838382	123.266	0.557818	0.280564
Nitrogen		0.00539268	0.557088	632.862	0.523641	0.0334469
Methane		7.20455	88.2910	21189.4	67.5909	20.7000
Ethane		11.3303	42.8457	2603.96	19.2149	23.6309
Propane		50.6517	76.1474	1506.00	15.7601	60.3873
Isobutane		33.8878	40.4704	360.894	4.21899	36.2514
n-Butane		156.887	178.161	1144.26	13.7446	164.416
Isopentane		191.246	201.658	544.439	6.75427	194.904
n-Pentane		347.224	361.782	760.766	9.50040	352.282
i-Hexane		1013.46	1032.78	1023.20	12.8330	1019.95
n-Hexane		529.417	536.790	391.081	4.90312	531.887
C7+		0	0	0	0	0
Heptane		2346.01	2357.68	642.540	7.99576	2349.69
Octane		4101.69	4108.72	402.953	4.95556	4103.77
Nonane		2801.73	2803.36	99.8372	1.21165	2802.15
Decanes+		33916.2	33916.2	0.588432	0.00637040	33916.2
Benzene		3.58648	3.63601	2.85382	0.0360985	3.59991
Toluene		269.901	271.099	69.9218	0.878302	270.221
Ethylbenzene		35.6439	35.7006	3.35511	0.0417006	35.6589
m-Xylene		463.501	464.161	39.3528	0.487582	463.673
2,2,4-Trimethylpentane		180.777	181.718	51.7080	0.642099	181.076
Water		8.10360	15.2573	757.484	6.10687	9.15039
Property		Units				
Temperature	°F	110.606	120	120*	119.287	119.287
Pressure	psig	-1.43595	50	50*	5*	5
Mole Fraction Vapor	%	0	0	100	100	0
Mole Fraction Light Liquid	%	100	100	0	0	100
Mole Fraction Heavy Liquid	%	0	0	0	0	0
Phase Mole Fraction	%	100	100	100	100	100
Molecular Weight	lb/lbmol	176.253	171.683	20.4519	27.4913	175.197
Mass Density	lb/ft^3	48.4645	48.1148	0.215161	0.0877310	48.2038
Molar Flow	lbmol/h	263.647	272.117	1581.80	6.47346	265.644
Mass Flow	lb/h	46468.5	46717.9	32350.8	177.964	46539.9
Vapor Volumetric Flow	ft^3/h	958.816	970.968	150356	2028.52	965.481
Liquid Volumetric Flow	gpm	119.541	121.056	18745.7	252.906	120.372
Std Vapor Volumetric Flow	MMSCFD	2.40120	2.47834	14.4064	0.0589578	2.41938
Std Liquid Volumetric Flow	sgpm	116.667	117.824	182.527	0.848663	116.976
Compressibility		0.00787965	0.0371092	0.988562	0.993364	0.0115216
Specific Gravity		0.777064	0.771456	0.706152	0.949202	0.772885
API Gravity		45.6863	45.9707			45.7695
Enthalpy	Btu/h	-3.79459E+07	-3.81096E+07	-5.60004E+07	-266674	-3.78429E+07
Mass Enthalpy	Btu/lb	-816.593	-815.739	-1731.04	-1498.48	-813.128
Mass Cp	Btu/(lb*°F)	0.491663	0.497789	0.507133	0.472216	0.496934
Ideal Gas CpCv Ratio		1.02958	1.02992	1.24053	1.18166	1.02935
Dynamic Viscosity	cP	1.18200	1.02385	0.0116039	0.0107090	1.08098
Kinematic Viscosity	cSt	1.52255	1.32843	3.36682	7.62038	1.39996
Thermal Conductivity	Btu/(h*ft*°F)	0.0697386	0.0690769	0.0197200	0.0172675	0.0692003
Surface Tension	lb/ft	0.00171605	0.00172124?			0.00175393?
Net Ideal Gas Heating Value	Btu/ft^3	8703.38	8479.86	1077.06	1418.40	8651.94
Net Liquid Heating Value	Btu/lb	18583.7	18588.5	19912.8	19451.3	18585.2
Gross Ideal Gas Heating Value	Btu/ft^3	9300.77	9063.15	1189.40	1555.83	9246.10
Gross Liquid Heating Value	Btu/lb	19869.9	19877.8	21997.5	21348.6	19872.1

Process Streams		VRU Disch	Water
Composition		Status: Solved	Solved
Phase: Total		From Block: VRU	--
		To Block: MIX-105	MIX-106
Mole Fraction		%	%
Carbon Dioxide		0.574086	0*
Nitrogen		0.290160	0*
Methane		60.7599	0*
Ethane		11.1323	0*
Propane		5.87711	0*
Isobutane		1.12704	0*
n-Butane		3.69435	0*
Isopentane		1.43416	0*
n-Pentane		1.98727	0*
i-Hexane		2.19281	0*
n-Hexane		0.838772	0*
C7+		0	0*
Heptane		1.13945	0*
Octane		0.600778	0*
Nonane		0.124382	0*
Decanes+		0.000375792	0*
Benzene		0.0115148	0*
Toluene		0.238452	0*
Ethylbenzene		0.00913588	0*
m-Xylene		0.114828	0*
2,2,4-Trimethylpentane		0.0805281	0*
Water		7.77265	100*
Molar Flow		lbmol/h	lbmol/h
Carbon Dioxide		0.0590046	0*
Nitrogen		0.0298227	0*
Methane		6.24490	0*
Ethane		1.14417	0*
Propane		0.604049	0*
Isobutane		0.115837	0*
n-Butane		0.379706	0*
Isopentane		0.147403	0*
n-Pentane		0.204252	0*
i-Hexane		0.225377	0*
n-Hexane		0.0862090	0*
C7+		0	0*
Heptane		0.117113	0*
Octane		0.0617480	0*
Nonane		0.0127840	0*
Decanes+		3.86239E-05	0*
Benzene		0.00118349	0*
Toluene		0.0245081	0*
Ethylbenzene		0.000938986	0*
m-Xylene		0.0118021	0*
2,2,4-Trimethylpentane		0.00827668	0*
Water		0.798873	17050.4*
Mass Fraction		%	%
Carbon Dioxide		0.910639	0*
Nitrogen		0.292972	0*
Methane		35.1326	0*
Ethane		12.0650	0*
Propane		9.34076	0*
Isobutane		2.36103	0*
n-Butane		7.73933	0*
Isopentane		3.72950	0*
n-Pentane		5.16784	0*
i-Hexane		6.81093	0*
n-Hexane		2.60525	0*
C7+		0	0*
Heptane		4.11523	0*
Octane		2.47350	0*

Process Streams		VRU Disch	Water
Composition		Status: Solved	Solved
Phase: Total	From Block:	VRU	--
	To Block:	MIX-105	MIX-106
Nonane		0.574985	0*
Decanes+		0.00323177	0*
Benzene		0.0324187	0*
Toluene		0.791890	0*
Ethylbenzene		0.0349587	0*
m-Xylene		0.439393	0*
2,2,4-Trimethylpentane		0.331547	0*
Water		5.04700	100*
Mass Flow		lb/h	lb/h
Carbon Dioxide		2.59676	0*
Nitrogen		0.835435	0*
Methane		100.184	0*
Ethane		34.4042	0*
Propane		26.6359	0*
Isobutane		6.73268	0*
n-Butane		22.0693	0*
Isopentane		10.6350	0*
n-Pentane		14.7365	0*
i-Hexane		19.4219	0*
n-Hexane		7.42910	0*
C7+		0	0*
Heptane		11.7349	0*
Octane		7.05338	0*
Nonane		1.63962	0*
Decanes+		0.00921566	0*
Benzene		0.0924446	0*
Toluene		2.25814	0*
Ethylbenzene		0.0996875	0*
m-Xylene		1.25297	0*
2,2,4-Trimethylpentane		0.945433	0*
Water		14.3919	307168*
Property		Units	
Temperature	°F	93.4299	119*
Pressure	psig	-1.43595	131*
Mole Fraction Vapor	%	97.9910	0
Mole Fraction Light Liquid	%	0.000650887	100
Mole Fraction Heavy Liquid	%	2.00840	0
Phase Mole Fraction	%	100	100
Molecular Weight	lb/lbmol	27.7445	18.0153
Mass Density	lb/ft^3	0.0635877	61.6969
Molar Flow	lbmol/h	10.2780	17050.4
Mass Flow	lb/h	285.158	307168
Vapor Volumetric Flow	ft^3/h	4484.49	4978.67
Liquid Volumetric Flow	gpm	559.105	620.718
Std Vapor Volumetric Flow	MMSCFD	0.0936081	155.289
Std Liquid Volumetric Flow	sgpm	1.33445	614.052*
Compressibility		0.974722	0.00685064
Specific Gravity			0.989227
API Gravity			9.98236
Enthalpy	Btu/h	-453151	-2.08255E+09
Mass Enthalpy	Btu/lb	-1589.12	-6779.84
Mass Cp	Btu/(lb*°F)	0.461523	0.977067
Ideal Gas CpCv Ratio		1.18772	1.32741
Dynamic Viscosity	cP		0.577275
Kinematic Viscosity	cSt		0.584116
Thermal Conductivity	Btu/(h*ft*°F)		0.367250
Surface Tension	lbf/ft		0.00467017
Net Ideal Gas Heating Value	Btu/ft^3	1396.28	0
Net Liquid Heating Value	Btu/lb	18951.4	-1059.76
Gross Ideal Gas Heating Value	Btu/ft^3	1532.15	50.3100
Gross Liquid Heating Value	Btu/lb	20810.1	0

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

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

Calculating GHG Emissions:

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

Sources for Calculating GHG Emissions:

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

Global Warming Potentials (GWP):

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

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

Metric to Short Ton Conversion:

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

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

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.
-

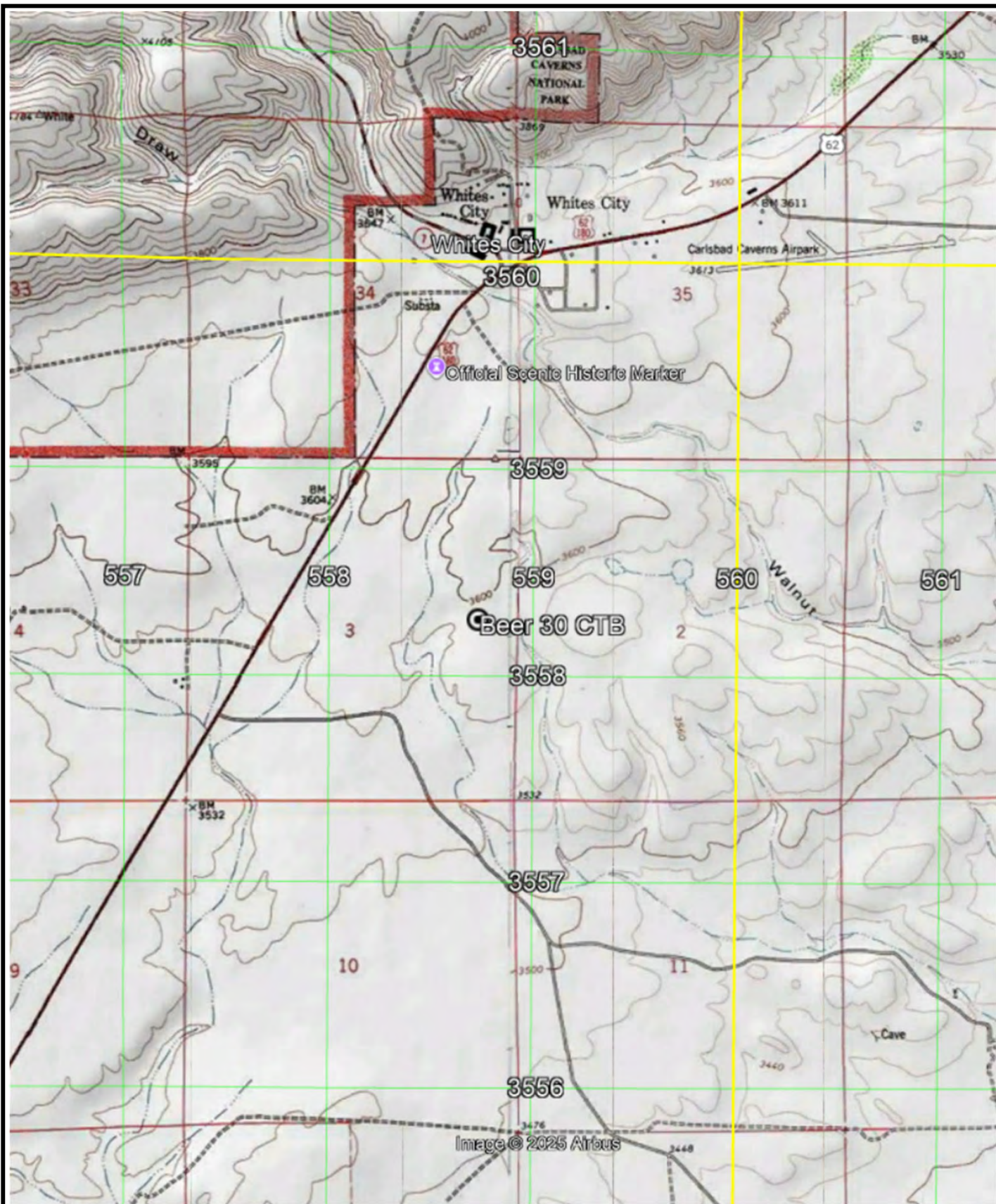
To save paper and to standardize the application format, delete this sentence, and begin your submittal for this attachment on this page.

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	



0 1,000 2,000 4,000 6,000 8,000 Feet



CDH Consulting, LLC

Topographic Map
October 2025

Tap Rock Operating, LLC
Beer 30 CTB

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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Carlsbad, NM 88220

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Certified Mail Fee \$5.30

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

☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To Estate of Geraldine Farrell Humphus
Street 304 Soper Rd
City, State Carlsbad, NM 88220

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

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

For delivery information, visit our website at www.usps.com.
Paradise Valley, AZ 85253

OFFICIAL USE

Certified Mail Fee \$5.30

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

☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To Estate of Frances Jane Owen
Street 5341 N. 68th Place
City, State Scottsdale, AZ 85253

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

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

For delivery information, visit our website at www.usps.com.
Tucson, AZ 85730

OFFICIAL USE

Certified Mail Fee \$5.30

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

☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To Donna McCall Eli
Street 6665 E. Nelson
City, State Tucson, AZ 85730

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

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

For delivery information, visit our website at www.usps.com.
Lubbock, TX 79423

OFFICIAL USE

Certified Mail Fee \$5.30

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

☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To Thomas A Farrell aka Tom
Street Allen Farrell
City, State 8203 Louisville Avenue Lubbock, TX 79423

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

For delivery information, visit our website at www.usps.com.
Russellville, AR 72802

OFFICIAL USE

Certified Mail Fee \$5.30 0161 03

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

☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To
Betty H. Cole
116 Skyline Dr # 16
Russellville, AR 72802

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

For delivery information, visit our website at www.usps.com.
Round Rock, TX 78665

OFFICIAL USE

Certified Mail Fee \$5.30 0161 03

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

☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To
Bradley Hunter Farrell
4223 Clear Meadow Place
Round Rock, TX 78665

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

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

For delivery information, visit our website at www.usps.com.
Cibola, TX 78108

OFFICIAL USE

Certified Mail Fee \$5.30 0161 03

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

☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To
Clait Warren Price, Jr.
3309 Harvest Drive
Schertz, TX 78108

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

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
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For delivery information, visit our website at www.usps.com.
Gilbert, AZ 85296

OFFICIAL USE

Certified Mail Fee \$5.30 0161 03

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

☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To
Carrie Hicks Linker
921 S. Canal Drive
Gilbert, AZ 85296

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

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

For delivery information, visit our website at www.usps.com.
Olive Hill, KY 41164

OFFICIAL USE

Certified Mail Fee \$5.30 0161 03

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

☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To
Christopher Todd Funk
39 Puckett Farm Ln
Olive Hill, KY 41164

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

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

For delivery information, visit our website at www.usps.com.
Belen, NM 87002

OFFICIAL USE

Certified Mail Fee \$5.30 0161 03

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

☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To
Charles Michael Farrell
119 Seabell Road
Belen, NM 87002

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

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

OFFICIAL USE

Certified Mail Fee \$5.30

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

☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To Deborah D'Ann Janway
Street 1806 Curry Rd.
City, State Carlsbad, NM 88220

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

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

OFFICIAL USE

Certified Mail Fee \$5.30

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

☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To Diane M Farrell
Street 19 McLennan Oak
City, State San Antonio, TX 78240

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

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
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OFFICIAL USE

Certified Mail Fee \$5.30

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

☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To Doris Rae Power
Street 2452 Miami Ave
City, State Kingman, AZ 86401

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

U.S. Postal Service™
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OFFICIAL USE

Certified Mail Fee \$5.30

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

☐ Return Receipt (hardcopy)	\$0.00
☐ Return Receipt (electronic)	\$0.00
☐ Certified Mail Restricted Delivery	\$0.00
☐ Adult Signature Required	\$0.00
☐ Adult Signature Restricted Delivery	\$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To DSGOOD
Street and Apt. No., or PO Box No. 8975 CHIMNEY ROCK ROAD
City, State, ZIP+4® PASO ROBLES, CA 93446

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

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

OFFICIAL USE

Arlington, TX 76013

Certified Mail Fee \$5.30

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

☐ Return Receipt (hardcopy) \$0.00

☐ Return Receipt (electronic) \$0.00

☐ Certified Mail Restricted Delivery \$0.00

☐ Adult Signature Required \$0.00

☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To ALICE ANN FARREL

Street and Apt. No., or PO Box No. 1704 NORA DR

City, State, ZIP+4® DANTF60, TX 76013

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

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

OFFICIAL USE

LITTLE ROCK, AR 72205

Certified Mail Fee \$5.30

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

☐ Return Receipt (hardcopy) \$0.00

☐ Return Receipt (electronic) \$0.00

☐ Certified Mail Restricted Delivery \$0.00

☐ Adult Signature Required \$0.00

☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To ALLEN BIRD H USPS

Street and Apt. No., or PO Box No. 415 N MCKINLEY ST, STE 270 C

City, State, ZIP+4® LITTLE ROCK, AR 72205

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

U.S. Postal Service™

CERTIFIED MAIL® RECEIPT

Domestic Mail Only

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

OFFICIAL USE

Arlington, TX 76013

Certified Mail Fee \$5.30

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

☐ Return Receipt (hardcopy) \$0.00

☐ Return Receipt (electronic) \$0.00

☐ Certified Mail Restricted Delivery \$0.00

☐ Adult Signature Required \$0.00

☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.78

Total Postage and Fees \$6.08

Sent To KAREN BLACK

Street and Apt. No., or PO Box No. 910 BLACKSTONE DR

City, State, ZIP+4® ALLEN, TX 75002

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

General Posting of Notices – Certification

I, Bill Ramsey, the undersigned, certify that on October 3, 2025, posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in **Carlsbad** of **Eddy** County, State of New Mexico on the following dates:

1. Facility entrance October 3, 2025
2. US Post Office October 3, 2025
204 W Shaw St
Carlsbad, NM 88220
3. Albertsons Market October 3, 2025
202 West Church St
Carlsbad, NM 88220
4. Carlsbad Public Library October 3, 2025
101 S Halagueno St.
Carlsbad, NM 88220

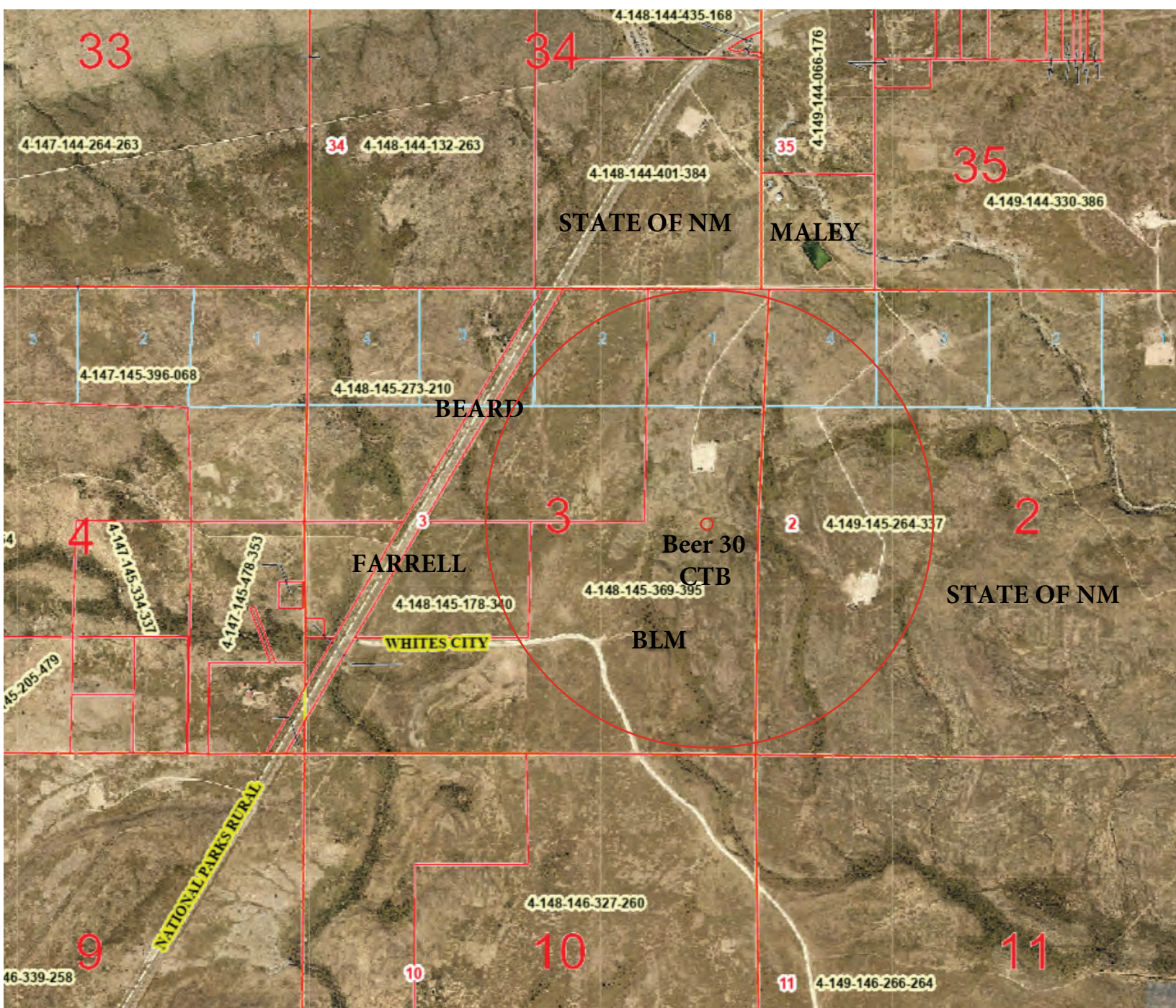
Signed this 13 day of October, 2025.


Signature

10/13/2025
Date

Bill Ramsey
Printed Name

Sr. Environmental and Regulatory Specialist
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}



Property Record Card

Eddy Assessor

BUREAU OF LAND MANAGEMENT

UNITED STATES OF AMERICA

Account: R075068

Tax Area: CO_NR - CARLSBAD-
OUT (Nonresidential)

Acres: 320.000

Parcel: 4-148-145-369-395

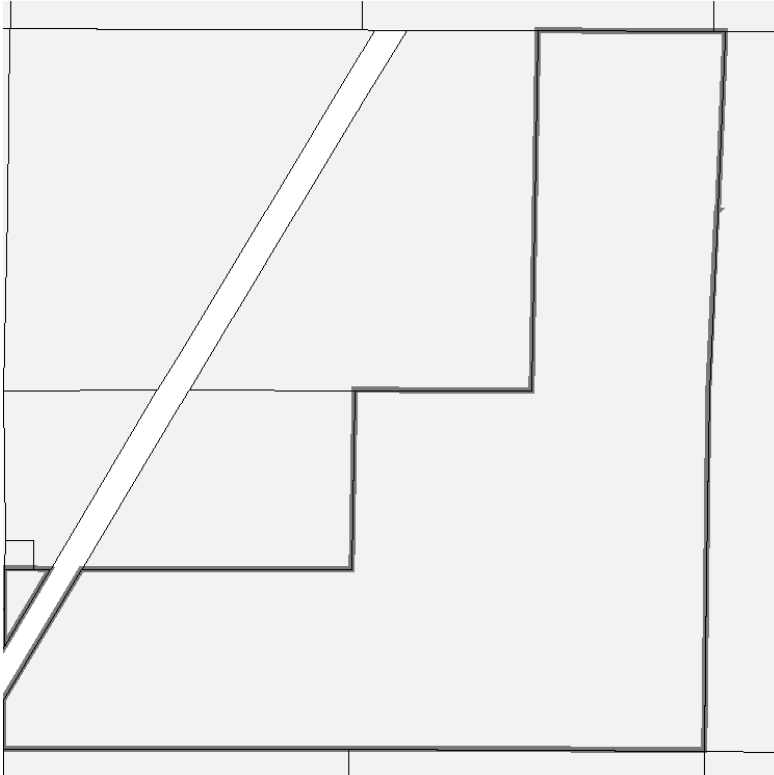
Situs Address:
1391 NATIONAL PARKS
HIGHWAY RURAL
CARLSBAD, 88220

Value Summary

Value By:	Market	Override
Land (1)	\$720	N/A
Total	\$720	\$720

Legal Description

Quarter: NE S: 3 T: 25S R: 25E Quarter: SW S: 3 T: 25S R: 25E Quarter:
SE S: 3 T: 25S R: 25E E2NE, SE, S2SW



Public Remarks

Entry Date	Model	Remark
------------	-------	--------

Land Occurrence 1

Property Code	9400 - EXEMPT AGRICULTURAL LAND	Land Code	138_2_25 - Grazing B Federal - 2.25
Description	EXEMPT AGRICULTURAL LAND	Measure	A - Acres

Abstract Summary

Code	Classification	Actual Value	Value	Taxable Value	Actual Value Override	Taxable Override
9400	EXEMPT AGRICULTURAL LAND		\$720	\$240	NA	NA
Total			\$720	\$240	NA	NA

Property Record Card

Eddy Assessor

FARRELL, DIANE M ET AL
FARRELL, WILLIAM
LESLIE ET AL
C/O: WILLIAM L
FARRELL

Account: R037489

Tax Area: CO_NR - CARLSBAD-
OUT (Nonresidential)

Acres: 79.000

Parcel: 4-148-145-178-340

Situs Address:
NE OF R1391 NATIONAL PARKS
HIGHWAY RURAL
CARLSBAD, 88220

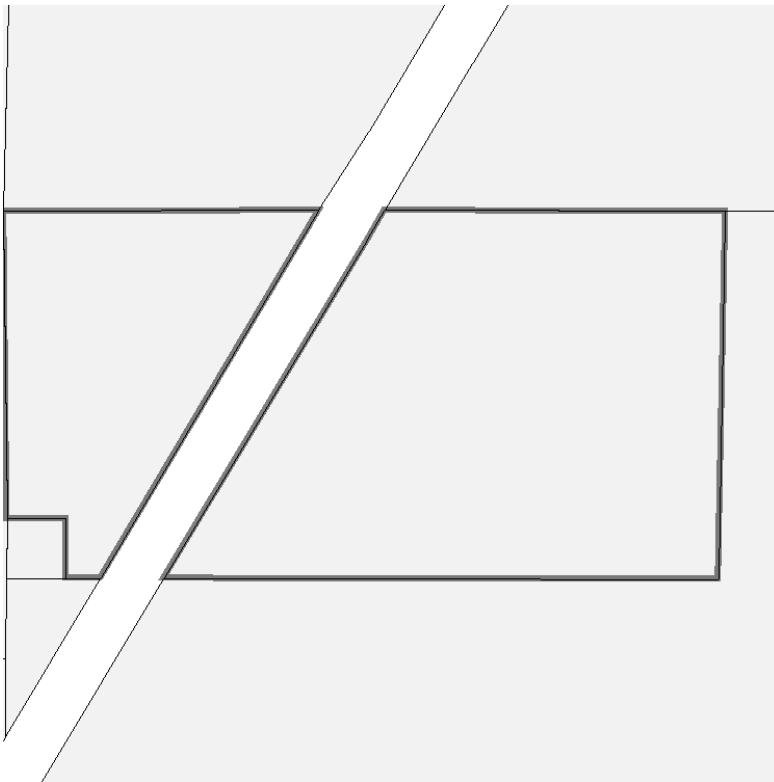
1501 CALLING CIR
ROCKWALL, TX 75087-6414

Value Summary

Value By:	Market	Override
Land (1)	\$178	N/A
Total	\$178	\$178

Legal Description

Quarter: SW S: 3 T: 25S R: 25E N2SW LESS 216'X 216'IN SW COR
NWSW



Public Remarks

Entry Date	Model	Remark
05/28/2010		BK 814 PG 1186
01/19/2023		***MANY ETALS AND ERRORS OF ERRORS REFER TO TITLE COMPANY OR ATTORNEY*** FRED BEARD LIVESTOCK -PART OWNER P065948

Land Occurrence 1

Property Code	0400 - AGRICULTURAL LAND	Land Code	121_2_25 - Grazing Land B - 2.25
Description	AGRICULTURAL LAND	Measure	A - Acres

Property Record Card

Eddy Assessor

Abstract Summary

Code	Classification	Actual Value	Value	Taxable Value	Actual Value Override	Taxable Override
0400	AGRICULTURAL LAND		\$178	\$59	NA	NA
Total			\$178	\$59	NA	NA

Property Record Card

Eddy Assessor

**BEARD, FRED F &
DEBORAH T (N-JT)**

185 MEANS RD
CARLSBAD, NM 88220

Account: R037465

Tax Area: CO_R - CARLSBAD-OUT
(Residential)

Acres: 237.240

Parcel: 4-148-145-273-210

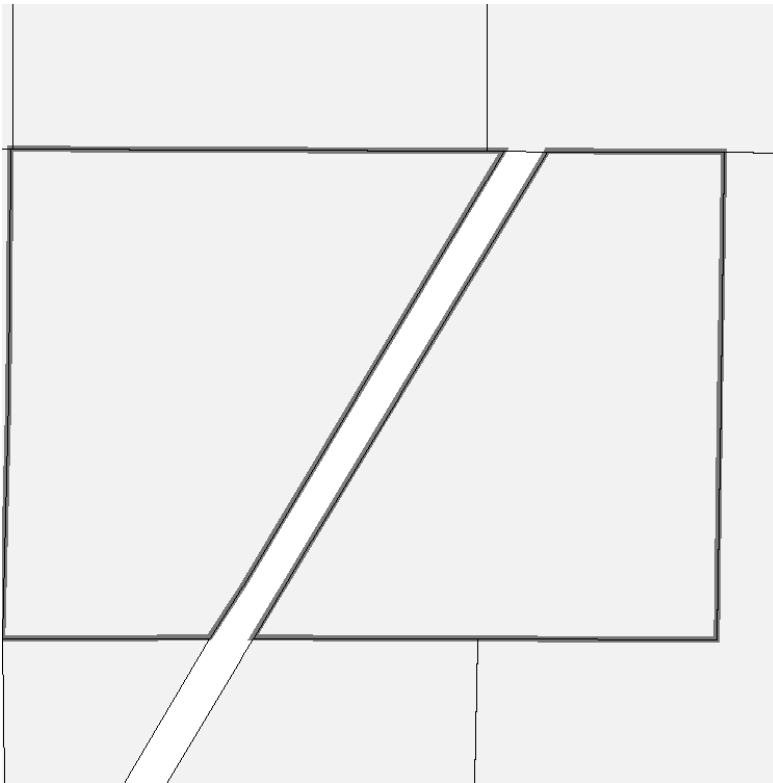
Situs Address:
1481 NATIONAL PARKS
HIGHWAY RURAL
CARLSBAD, 88220

Value Summary

Value By:	Market	Override
Land (1)	\$15,000	N/A
Land (2)	\$532	N/A
Residential (1)	\$25,918	N/A
Commercial (1)	\$12,844	N/A
Total	\$54,294	\$54,294

Legal Description

Quarter: NE S: 3 T: 25S R: 25E S2NW, LOTS 2,3,4 SWNE LOC .5 MI E
OF R1479 NATIONAL PARKS HWY LESS 2.682 STATE HWY
DEPARTMENT LESS .057 ACRES Quarter: NW S: 3 T: 25S R: 25E



Public Remarks

Entry Date	Model	Remark
08/15/2008		BOOK D 749 PG 149
03/04/2019		MH #090583 TASHA WRIGHT
11/24/2020		MH #M093750 LANDRUM
08/16/2023		LIVESTOCK #P65948
08/16/2023		AG APPLICATION ON FILE

Land Occurrence 1

Property Code	0100 - RESIDENTIAL LAND	Land Code	102_15000 - Homesite C/10 - 15000
Description	RESIDENTIAL LAND	Measure	A - Acres
Sewer Type	1 - Septic		

Property Record Card

Eddy Assessor

Land Occurrence 2

Property Code	0400 - AGRICULTURAL LAND	Land Code	121_2_25 - Grazing Land B - 2.25
Description	AGRICULTURAL LAND	Measure	A - Acres
Sewer Type	1 - Septic		

Residential Occurrence 1

Property Code	0120 - RESIDENTIAL IMPROVEMENT	Effective Year Built	1966
Architectural Style	1 - 1	Building Type	201 - Structure Res
Condition	3 - 3	Construction Quality	1.0 - 1.0
Frame	5 - 5	Heating Type	4 - Forced
Roof Cover	2 - Roll	Roof Structure	1 - Flat
Stories	1.0 - 1.0	Floor	3 - Concrete 6 - Carpet
Interior Wall	3 - Sheet Rock		

SubArea	ACTUAL	EFFECTIVE	HEATED	FOOTPRINT
CAN - CANOPY	140.0	140.0	140.0	140.0
GBA1 - First Floor	1248.0	1248.0	1248.0	1248.0
P_P - PORCH	135.0	135.0	135.0	135.0
CP - CARPORT	516.0	516.0	516.0	516.0
SHP - SHOP	480.0	480.0	480.0	480.0
Total	2,519.00	2,519.00	2,519.00	2,519.00

SKETCH/AREA TABLE ADDENDUM

DATE	02-07-2022	FILE NO.	4148145273210-25-CO
PROPERTY ADDRESS	R51483-2 NATIONAL PARK HW-CARLSBAD		
MAP#	379-1	LOT SIZE	240 ACRES
		LOT VALUE	1AHS,298,240
		EA	1050
SUBDIVISION	R5-25-35 SENECA DRIVE, LOTS 2,3,4		
DESCRIPTION	MHA(MH05750) SHOP SHADE		
	DESCRIPTION CP,OLD SER STATION		
APPRAISER NAME	PCO		
	NO VALUE MH AND SHEDS		

15.0'

SHADE

15.0'

18.0'

CARPORT

18.0'

18.0'

SHED

18.0'

18.0'

OLD SERVICE STATION

18.0'

18.0'

SHED

18.0'

18.0'

FRONT

Comments:

Code	Description	Factor	Net Size	Perimeter	Net Totals
GBA1	First Floor	1.00	1248.00	148.0	1248.00
P_P	PORCH	1.00	135.00	48.0	135.00
CAN	CANOPY	1.00	140.00	48.0	140.00
CP	SHADE	1.00	516.00	56.0	516.00
	CARPORT	1.00	324.00	72.0	516.00
SHP	SHOP	1.00	480.00	88.0	480.00

Comment Table 1

Comment Table 2

Comment Table 3

Net BUILDING Area (rounded w/ factors) 1248

Property Record Card

Eddy Assessor

Commercial Occurrence 1

Property Code 0220 - NON-RESIDENTIAL
IMPROVEMENT

Abstract Summary

Code	Classification	Actual Value	Value	Taxable Value	Actual Value Override	Taxable Override
0100	RESIDENTIAL LAND		\$15,000	\$5,000	\$10,580	\$3,527
0120	RESIDENTIAL IMPROVEMENT		\$25,918	\$8,639	\$17,562	\$5,854
0220	NON-RESIDENTIAL IMPROVEMENT		\$12,844	\$4,281	NA	NA
0400	AGRICULTURAL LAND		\$532	\$177	NA	NA
Total			\$54,294	\$18,097	\$41,518	\$13,839

Property Record Card

Eddy Assessor

STATE OF NEW MEXICO

310 OLD SANTA FE TRAIL
SANTA FE, NM 87504

Account: R052308

Tax Area: CO_NR - CARLSBAD-
OUT (Nonresidential)

Acres: 640.000

Parcel: 4-149-145-264-337

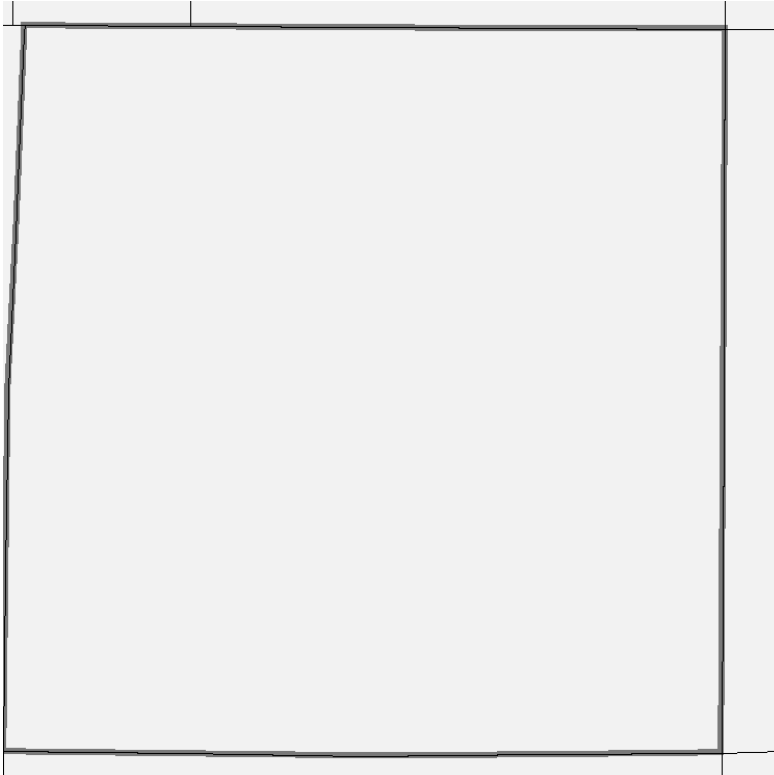
Situs Address:
S OF 18 PETRIFIED FOREST
DRIVE
CARLSBAD, 88220

Value Summary

Value By:	Market	Override
Land (1)	\$1,440	N/A
Total	\$1,440	\$1,440

Legal Description

Quarter: NE S: 2 T: 25S R: 25E Quarter: NW S: 2 T: 25S R: 25E Quarter:
SW S: 2 T: 25S R: 25E Quarter: SE S: 2 T: 25S R: 25E

**Public Remarks**

Entry Date	Model	Remark
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Land Occurrence 1

Property Code	9400 - EXEMPT AGRICULTURAL LAND	Land Code	150_2_25 - Grazing B NM - 2.25
Description	EXEMPT AGRICULTURAL LAND	Measure	A - Acres

Abstract Summary

Code	Classification	Actual Value	Value	Taxable Value	Actual Value Override	Taxable Override
9400	EXEMPT AGRICULTURAL LAND		\$1,440	\$480	NA	NA
Total			\$1,440	\$480	NA	NA

Property Record Card

Eddy Assessor

STATE OF NEW MEXICO

310 OLD SANTA FE TRAIL
SANTA FE, NM 87504

Account: R093423

Tax Area: CO_NR - CARLSBAD-
OUT (Nonresidential)

Acres: 163.200

Parcel: 4-148-144-401-384

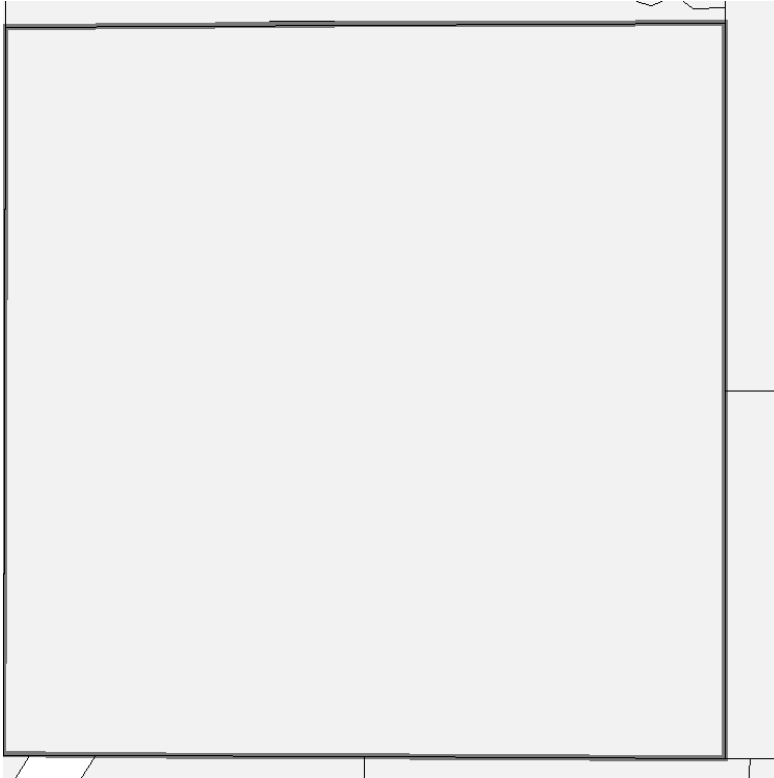
Situs Address:
1554 NATIONAL PARKS
HIGHWAY RURAL
CARLSBAD, 88220

Value Summary

Value By:	Market	Override
Land (1)	\$367	N/A
Total	\$367	\$367

Legal Description

Quarter: SE S: 34 T: 24S R: 25E

**Public Remarks**

Entry Date	Model	Remark
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Land Occurrence 1

Property Code	9400 - EXEMPT AGRICULTURAL LAND	Land Code	150_2_25 - Grazing B NM - 2.25
Description	EXEMPT AGRICULTURAL LAND	Measure	A - Acres

Abstract Summary

Code	Classification	Actual Value	Value	Taxable Value	Actual Value Override	Taxable Override
9400	EXEMPT AGRICULTURAL LAND		\$367	\$122	NA	NA
Total			\$367	\$122	NA	NA

Property Record Card

Eddy Assessor

**MALEY, DAVID R & EVA
LA VERNE (JT)**

PO BOX 519
CARLSBAD, NM 88221-0519

Account: R062948

Tax Area: CO_R - CARLSBAD-OUT
(Residential)

Acres: 40.000

Parcel: 4-149-144-066-460

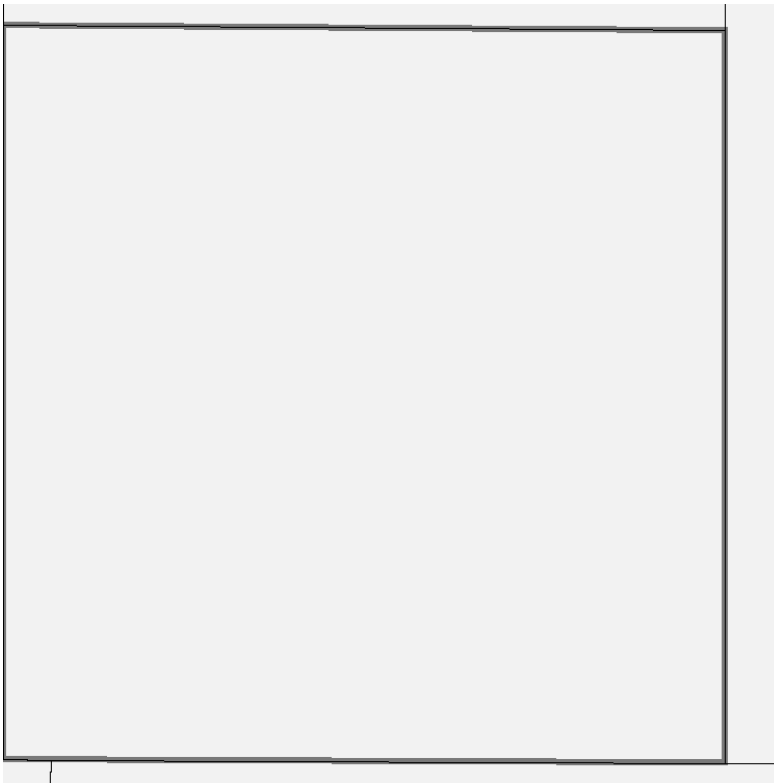
Situs Address:
1554 NATIONAL PARKS
HIGHWAY RURAL
CARLSBAD, 88220

Value Summary

Value By:	Market	Override
Land (1)	\$15,000	N/A
Land (2)	\$83	N/A
Residential (1)	\$186,339	N/A
Land (3)	\$2,483	N/A
Commercial (1)	\$67,616	N/A
Total	\$271,521	\$271,521

Legal Description

Quarter: SW S: 35 T: 24S R: 25E SWSW



Public Remarks

Entry Date	Model	Remark
12/19/2005		BK 623 PG 591
07/16/2024		AG APPLICATION ON FILE - LIVESTOCK ACCT #P072068

Land Occurrence 1

Property Code	0100 - RESIDENTIAL LAND	Land Code	102_15000 - Homesite C/10 - 15000
Description	RESIDENTIAL LAND	Measure	A - Acres
Sewer Type	1 - Septic		

Land Occurrence 2

Property Code	0400 - AGRICULTURAL LAND	Land Code	121_2_25 - Grazing Land B - 2.25
Description	AGRICULTURAL LAND	Measure	A - Acres
Sewer Type	1 - Septic		

Property Record Card

Eddy Assessor

Land Occurrence 2

Sewer Type 1 - Septic

Land Occurrence 3

Property Code	0220 - NON-RESIDENTIAL IMPROVEMENT	Land Code	103_1241_25 - Excess Res Land - 1241.25
Description	EXCS MISC LAND	Measure	A - Acres

Residential Occurrence 1

Property Code	0120 - RESIDENTIAL IMPROVEMENT	Effective Year Built	2006
Air Conditioning	1 - 1	Architectural Style	3 - 3
Building Type	201 - Structure Res	Condition	3 - 3
Construction Quality	3.0 - 3.0	Frame	4 - 4
Heating Type	4 - Forced	Roof Cover	3 - Metal
Roof Structure	2 - Gable	Stories	1.0 - 1.0
Exterior Wall	4_2 - Frame Stucco	Floor	2 - Hardwood 4 - Ceramic Tile
Interior Wall	3 - Sheet Rock		

SubArea	ACTUAL	EFFECTIVE	HEATED	FOOTPRINT
GLA1 - First Floor	1142.8	1142.8	1142.8	1142.8
GBA1 - First Floor	151.2	151.2	151.2	151.2
P_P - PORCH	544.7	544.7	544.7	544.7
CUST - Custom	453.0	453.0	453.0	453.0
P_P_1 - PATIO	769.9	769.9	769.9	769.9
SHADE - SHADE	1486.0	1486.0	1486.0	1486.0
SHED - SHED	644.0	644.0	644.0	644.0
BN - BARN	3216.0	3216.0	3216.0	3216.0
Total	8,407.60	8,407.60	8,407.60	8,407.60

Property Record Card

Eddy Assessor

Residential Occurrence 1

SKETCH/AREA TABLE ADDENDUM

DATE	01/26/2022	FILE NO.	4149144066460-24-CO
PROPERTY ADDRESS	R 1554 NATIONAL PARKS HWY, CARLSBAD		
MAP#	336-16	LOT SIZE	40 ACRES
SUBDIVISION	25-34-35 BNDW	LOT VALUE	1AHS,39 G
EA	10		
DESCRIPTION	GRS,STUCCO,GABMETAL		
DESCRIPTION	2 BATHS,BIA,PORIS,SHADES,SHOP,STG,FP		
APPRaiser NAME	PCO	BARN,SHADES,SHED	

Comments:

Code	Description	Factor	Net Size	Perimeter	Net Totals
GLAS	RESIDENCE	1.00	1142.89	154.6	1142.89
GRAL	REC. ROOM	1.00	151.29	53.6	151.29
P.P	PORCH	1.00	544.86	165.0	544.86
CURT	STORAGE	1.00	33.84	23.6	33.84
P.P.1	STORAGE	1.00	420.80	82.0	420.80
PAID	PAID	1.00	700.80	111.3	700.80
SHADE	SHADE	1.00	536.00	150.0	536.00
SHADE	SHADE	1.00	536.00	150.0	536.00
SHED	SHED	1.00	414.00	82.0	414.00
SHED	SHED	1.00	644.00	164.0	644.00
BARN	BARN	1.00	3216.00	239.0	3216.00

Comment Table 1	
Comment Table 2	Comment Table 3

Net LIVABLE Area	(rounded w/ factors)	1143
Net BUILDING Area	(rounded w/ factors)	151

Commercial Occurrence 1

Property Code 0220 - NON-RESIDENTIAL
IMPROVEMENT

Abstract Summary

Code	Classification	Actual Value	Value	Taxable Value	Actual Value Override	Taxable Override
0100	RESIDENTIAL LAND		\$15,000	\$5,000	NA	NA
0120	RESIDENTIAL IMPROVEMENT		\$186,339	\$62,113	\$143,996	\$47,999
0220	NON-RESIDENTIAL IMPROVEMENT		\$70,099	\$23,366	NA	NA
0400	AGRICULTURAL LAND		\$83	\$28	NA	NA
Total			\$271,521	\$90,507	\$229,178	\$76,393



October 1, 2025

Fred & Deborah Beard
185 Means Rd
Carlsbad, NM 88220

CERTIFIED MAIL – 7022 2410 0000 2510 9458

Subject: Air Permit Application Notice

Dear Mr. & Mrs. Beard,

On behalf of Tap Rock Operating, LLC (Tap Rock), CDH Consulting, LLC (CDH) is providing this notice of air permit application. Comments can be submitted via methods provided in the attached Notice.

Please do not hesitate to contact me at (303) 594-7951 or cmartnez@cdhconsult.com if you have any questions or require additional information.

Sincerely,

CDH CONSULTING, LLC

Chris Martinez
Senior Air Quality Engineer

Attachment – Air Permit Notice

NOTICE

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Pollutant:	Pounds per hour	Tons per year
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PM _{2.5}	0.41	1.79
Sulfur Dioxide (SO ₂)	0.01	0.05
Nitrogen Oxides (NO _x)	95.29	22.46
Carbon Monoxide (CO)	187.3	32.10
Volatile Organic Compounds (VOC)	153.0	32.55
Sum of all Hazardous Air Pollutant (HAPs)	1.19	5.76
Toxic Air Pollutant (TAP)	-	-
Green House Gas Emissions as Total CO _{2e}	-	< 75,000 mT

The operating schedule of the facility will be continuous (24 hr/day, 7 days/wk, 52 wks/yr)

The owner and/or operator of the Facility is:

Tap Rock Operating, LLC
1700 Lincoln Street, Suite 4700
Denver, CO 80203

If you have any questions or comments about construction or operation of this facility, and you want your comments to be made as a 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 not have 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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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.



October 1, 2025

Eddy County Clerk
c/o Cara Cooke
101 W Green Street
Carlsbad, NM 88220

CERTIFIED MAIL – 7022 2410 0000 2510 9434

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Sincerely,

CDH CONSULTING, LLC

A handwritten signature in blue ink that reads "Chris Martinez". The signature is written in a cursive, flowing style.

Chris Martinez
Senior Air Quality Engineer

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Facility Entrance



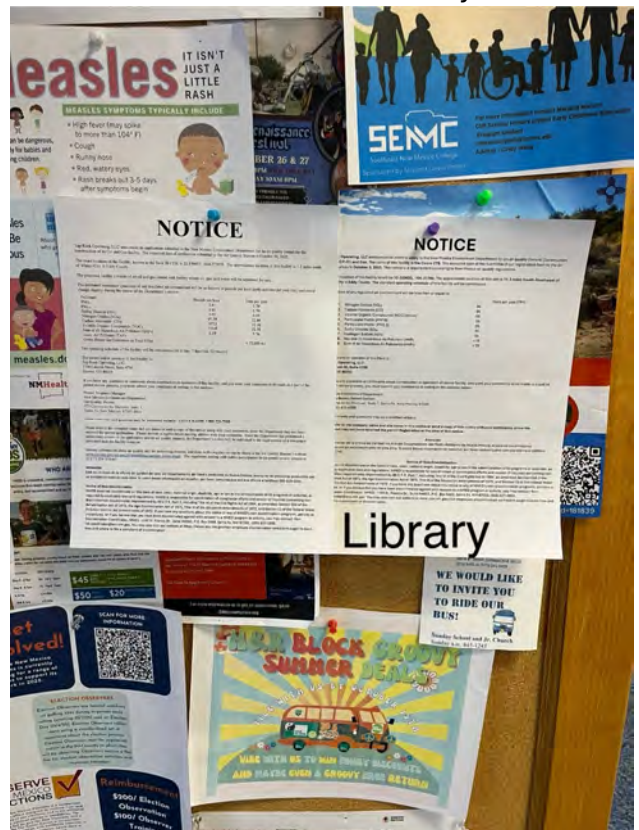
Carlsbad Post Office



Albertsons Market



Carlsbad Public Library



NEWSPAPER PUBLICATION

Carlsbad Current-Argus (October 4, 2025)

- Legal Notice
- Display Ad

POSTINGS

October 3, 2025

Site location – Beer 30 CTB
SENE Section 3, T25S, R25E
32.159453, -104.377075

US Post Office
204 W Shaw St
Carlsbad, NM 88220

Carlsbad Public Library
101 S Halagueno St
Carlsbad, NM 88220

Albertsons Market
202 West Church Street
Carlsbad, NM 88220

COUNTY NOTICE

October 1, 2025

Eddy County Clerk
c/o Cara Cooke
101 W Greene Street
Carlsbad, NM 88220

LANDOWNER NOTICE (within ½ mile)

October 1, 2025

David & LaVerne Maley
PO Box 9
Nogal, NM 88341

Fred & Deborah Beard
185 Means Rd
Carlsbad, NM 88220

Bureau of Land Management
301 Dinosaur Trail
Santa Fe, NM 87508

State of New Mexico
310 Old Santa Fe Trail
Santa Fe, NM 87501

October 3, 2025

Alice Ann Farrell
Personal Representative of the Estate of
Richard Gene Farrell and Alice Irene Farrell, Deceased
1704 Nora Drive
Pantego, TX 76013

Allen W. Bird, II
Administrator of the Estate of
Betty Cole Drake, Deceased
415 N. McKinley St. Ste. 270C
Little Rock, AR 72205

Betty H. Cole
116 Skyline Dr # 16
Russelville, AR 72802

Bradley Hunter Farrell
4223 Clear Meadow Place
Round Rock, TX 78665

Calvin Robert Graef III
10197 Belvedere Lane
Lone Tree, CO 80124

Carrie Hicks Linker
921 S. Canal Drive
Gilbert, AZ 85296

Charles Michael Farrell
119 Seabell Road
Belen, NM 87002

Christopher Todd Funk
39 Puckett Farm Ln
Olive Hill, KY 41164

David Marshall Smith
15870 AR-124
Russellville, AR 72802

Deborah D'Ann Janway
1806 Curry Rd.

Carlsbad, NM 88220

Clait Warren Price, Jr.
3309 Harvest Drive
Schertz, TX 78108

Diane M Farrell
19 McLennan Oak
San Antonio, TX 78240

Donna McCall Eli
fka Donna McCall Winters
6665 E. Nelson
Tucson, AZ 85730

Doris Rae Power
2452 Miami Ave
Kingman, AZ 86401

Estate of Frances Jane Owen deceased or heirs of
5341 N. 68th Place
Scottsdale, AZ 85253

Estate of Geraldine Farrell Humphus
304 Soper Rd
Carlsbad, NM 88220

Fred Farrell Beard and wife, Deborah T. Beard
185 Means Rd
Carlsbad, NM 88220

James B Farrell
3408 La Salle De Este
Albuquerque, NM 87111

James McCall
53 Mahoka Drive
Libby, MT 59923

James Quest Funk
47819 N. Fig Springs Rd.
New River, AZ 85087

Jeff Morris Graef
4904 Haley Drive
Flower Mound, Texas 75028

Jenise Jessen
320 Julian Point

Cibolo, TX 78108

Judy Ann Brewer
1508 Monroe Street
Carlsbad, NM 88220

Kathleen E. Hill
4223 Clear Meadow Place
Round Rock, TX 78665

Kay Hicks Ormand
419 Warm Springs Blvd.
Elephant Butte, NM 87935

Karen Lee Black
Individually and as Trustee of the
Ronald and Karen Black Living Trust dated June 22, 2023
910 Blackstone Drive
Allen, TX 75002

Larry McCall
3199 N Fort Beale Road
Kingman, AZ 86409

Marsha Cole Berdan
3639 Berden Dr.
Fort Worth, TX 76109

Mary K Chiappetti
5341 N. 68th Place
Scottsdale, AZ 85253

Pamela Hicks Archibald
1418 W. Market St.
Silver City, NM 88061

Richard F. Farrell
1403 West Riverside Dr.
Carlsbad, NM 88220

Robin Marie Lawless
aka Robin Graef Lawless
10 Sand Pointe
Laguna Niguel, CA 92677

Estate of Patricia L. Spurlin
9510 Camino Del Sol NE
Albuquerque, NM 87111

Sara Cole Daily
16 Rimrock Dr.
Russellville, AR 72802

Susan H Dade
fka Susan H Harty
1102 West Orchard Lane
Carlsbad, NM 88220

Thomas A Farrell aka Tom Allen Farrell
8203 Louisville Avenue
Lubbock, TX 79423

Tobey Tyler Osgood
Trustee of the James L. Tyler and Mary E. Tyler
Trust dated April 26, 1990
8975 Chimney Rock Rd.
Paso Robles, CA 93446

Trudy Thomson Farrell
508 East Diamond Street
Farmington, NM 87401

Wayne McCall
38560 Road K4
Mancos, CO 81328

William L Farrell
2406 Gail Street
Royce City, TX 75189

Submittal of Public Service Announcement – Certification

I, Bill Ramsey, the undersigned, certify that on October 7, 2025, a public service announcement was submitted to KATK 92.1 FM that serves the Carlsbad and Whites City area of Eddy County, New Mexico, in which the source is or is proposed to be located and that KATK 92.1 FM responded that it would air the announcement.

Signed this 13 day of October, 2025.


Signature

10/13/2025
Date

Bill Ramsey
Printed Name

Sr. Environmental and Regulatory Specialist
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

Public Service Announcement (October 2025)

Tap Rock Operating, LLC is applying for an air permit with the New Mexico Environmental Department's Air Quality Bureau. The permit is for the construction of the Beer 30 central tank battery located approximately 1.2 miles south of Whites City, in Eddy County. Notices required by the Bureau have been posted at the following locations.

Albertsons Market,

The Carlsbad Public Library, and

The Carlsbad Post Office.

Comments may be directed to the New Mexico Environmental Department via telephone at (505) 476-4300 or (800) 224-7009.

Affidavit of Publication

No. 66020

State of New Mexico

Publisher

County of Eddy:

Adrian Hedden

being duly sworn, says that he is the

Publisher

of the Carlsbad Current Argus, a weekly newspaper of
general circulation, published in English at Carlsbad,
said county and state, and that the hereto attached

Legal Ad

was published in a regular and entire issue of the said
Carlsbad Current Argus, 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

October 4, 2025

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Sixth Publication

Seventh Publication

Eighth Publication

Subscribed and sworn before me this

3rd day of October 2025

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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The operating schedule of the facility will be continuous (24 hr/day, 7 days/wk, 52 wks/yr)

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66020-Published in Carlsbad Current Argus Oct. 4, 2025.

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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 505-629-3395.

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.

Section 10

Written Description of the Routine Operations of the Facility

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

Well fluids are routed to individual initial heated 3-phase separators (HT 1-4) where water, gas, and oil are separated. Oil from the separators enters the vapor recovery towers (VRTs). Gas from the separators is sent to the sales pipeline. Gas is sent to flare during short pipeline downtime periods (FL-HP). Prior to the sales point, a side stream of gas is removed and sent to gas lift compressor (ENG-1). The compressor direct the gas down hole to assist in bringing fluids to the surface. The compressor engine is gas fired and controlled with a catalytic converter. Water from the separators flows to atmospheric storage tanks (PWTk 1-2). Vapors from the water storage tanks are captured by the tank blower and routed to the VRU and then to the sales pipeline. When the blower is down for maintenance, the vapors are controlled by the low-pressure flare (FL-LP). When enough water has accumulated in the tanks it is piped off-site for disposal. A small amount of truck loading is included for operational flexibility (PWLOAD-1, HR-1). Gas from the VRT is routed to the Vapor Recovery Unit (VRU) and to the sales line. The oil from the VRT is routed to the atmospheric oil storage tanks (TK 1-3). Vapors from the oil storage tanks are captured by the tank blower and routed to the VRU and then to the sales pipeline. When the blower is down for maintenance, the vapors are controlled by the flare (FL-LP). When enough oil has accumulated in the tanks it is piped off-site for sale via LACT. A small amount of truck loading is included for operational flexibility (OILLOAD-1, HR-1). During periods of VRU downtime, the vapor stream is controlled by the flare (FL-LP). The facility utilizes three electrical generators (GEN 1-3) to provide power to the site.

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): Beer 30 CTB site only. Well pad (Crackajack Federal Com #002) to the North of the facility is owned/operated by COG Operating, LLC and is not connected in any way to the subject facility.

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

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

☒ **Yes** ☐ **No**

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

☐ **Yes** ☒ **No**

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

☐ **Yes** ☒ **No**

C. Make a determination:

- ☒ The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "YES" boxes should be checked. If in "A" above you evaluated other sources as well, you must check **AT LEAST ONE** of the boxes "NO" to conclude that the source, as described in the application, is the entire source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes.
- ☐ The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

Section 12

Section 12.A

PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

A PSD applicability determination for all sources. For sources applying for a significant permit revision, apply the applicable requirements of 20.2.74.AG and 20.2.74.200 NMAC and to determine whether this facility is a major or minor PSD source, and whether this modification is a major or a minor PSD modification. It may be helpful to refer to the procedures for Determining the Net Emissions Change at a Source as specified by Table A-5 (Page A.45) of the EPA New Source Review Workshop Manual to determine if the revision is subject to PSD review.

A. This facility is:

- ☒ a minor PSD source before and after this modification (if so, delete C and D below).
- ☐ a major PSD source before this modification. This modification will make this a PSD minor source.
- ☐ an existing PSD Major Source that has never had a major modification requiring a BACT analysis.
- ☐ an existing PSD Major Source that has had a major modification requiring a BACT analysis
- ☐ a new PSD Major Source after this modification.

B. This facility **is not** one of the listed 20.2.74.501 Table I – PSD Source Categories. The “project” emissions for this modification are **not significant**. The “project” emissions listed below only result from changes described in this permit application, thus no emissions from other revisions to this facility. Also, specifically discuss whether this project results in “de-bottlenecking”, or other associated emissions resulting in higher emissions. The project emissions (before netting) for this project are as follows [see Table 2 in 20.2.74.502 NMAC for a complete list of significance levels]:

- a. NOx: 22.46 TPY
 - b. CO: 32.1 TPY
 - c. VOC: 32.55 TPY
 - d. SOx: 0.05 TPY
 - e. PM: 1.79 TPY
 - f. PM10: 1.79 TPY
 - g. PM2.5: 1.79 TPY
 - h. Fluorides: -- TPY
 - i. Lead: -- TPY
 - j. Sulfur compounds (listed in Table 2): -- TPY
 - k. GHG: < 75,000 TPY
-

Section 13

Determination of State & Federal Air Quality Regulations

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

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

Required Information for Specific Equipment:

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

Required Information for Regulations that Apply to the Entire Facility:

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

Regulatory Citations for Regulations That Do Not, but Could Apply:

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

Regulatory Citations for Emission Standards:

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

Federally Enforceable Conditions:

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

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

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

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

Example of a 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	20.2.3 NMAC states maximum allowable concentrations of various regulated air pollutants in the atmosphere. This application includes a demonstration for meeting the NAAQS requirements.
20.2.7 NMAC	Excess Emissions	Yes	Facility	20.2.7 NMAC states procedures and requirements for notifying the NMED of excess emissions during malfunction, startup, or scheduled maintenance activities.
20.2.23 NMAC	Fugitive Dust Control	No	N/A	Facility is not located in an area requiring a mitigation plan per 40 CFR Part 51.930
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No	N/A	This facility does have gas-fired heaters, but they are < 1,000,000 MMBTU per unit.
20.2.34 NMAC	Oil Burning Equipment: NO ₂	No	N/A	This facility does not have any oil burning equipment.
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	No	N/A	This facility is not a natural gas processing plant.
20.2.37 and 20.2.36 NMAC	Petroleum Processing Facilities and Petroleum Refineries	N/A	N/A	These regulations were repealed by the Environmental Improvement Board. If you had equipment subject to 20.2.37 NMAC before the repeal, your combustion emission sources are now subject to 20.2.61 NMAC.
20.2.38 NMAC	Hydrocarbon Storage Facility	Yes	TK 1-6	This facility's total hydrocarbon storage capacity is greater than 65,000 gallons. The facility also lies within AQCR 155. Subparts 112 and 113 apply.
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No	N/A	This facility is not a sulfur recovery plant.
20.2.50 NMAC	Oil and Gas Sector – Ozone Precursor Pollutants	Yes	All New	This regulation establishes emission standards for volatile organic compounds (VOC) and oxides of nitrogen (NO_x) 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 ☒ 114 – Compressor Seals ☐ 115 – Control Devices and Closed Vent Systems ☒ 116 – Equipment Leaks and Fugitive Emissions ☐ 117 – Natural Gas Well Liquid Unloading ☐ 118 – Glycol Dehydrators ☐ 119 – Heaters ☐ 120 – Hydrocarbon Liquid Transfers ☐ 121 – Pig Launching and Receiving ☐ 122 – Pneumatic Controllers and Pumps ☐ 123 – Storage Vessels ☐ 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	HT 1-4, ENG-1,	These units are stationary combustion equipment and are therefore subject to the requirements of 20.2.61.109 NMAC.

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.)
			GEN 1-3, FL-LP, FL-HP	
20.2.70 NMAC	Operating Permits	No	N/A	This facility is a minor source that does not have the potential to emit (PTE) 100 tpy or more of any regulated air pollutant. This facility is not a major source of HAPs.
20.2.71 NMAC	Operating Permit Fees	No	N/A	This facility is not subject to 20.2.70 NMAC because it is a minor source facility.
20.2.72 NMAC	Construction Permits	Yes	Facility	This facility has a potential emission rate (PER) greater than 10 pph or 25 tpy for some regulated air contaminants.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	The facility is subject to Emissions Inventory Reporting because it is permitted under 20.2.72 NMAC.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	N/A	The facility is not a PSD major source.
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	This regulation applies if you are submitting an application pursuant to 20.2.72 NMAC.
20.2.77 NMAC	New Source Performance	Yes	FUG-1, ENG-1, GEN 1-3	This is a stationary source which is subject to the requirements of 40 CFR Part 60. FUG-1: Subject to Subpart OOOOb ENG-1, GEN 1-3: Subject to Subpart JJJJ
20.2.78 NMAC	Emission Standards for HAPS	No	N/A	This facility does not emit hazardous air pollutants which are subject to the requirements of 40 CFR Part 61.
20.2.79 NMAC	Permits – Nonattainment Areas	No	N/A	The is a minor source facility located in an attainment area.
20.2.80 NMAC	Stack Heights	Yes	HT 1-4, ENG-1, GEN 1-3, FL-LP, FL-HP	Stacks do not exceed GEP height and will be evaluated in the NSR permit.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	ENG-1, GEN 1-3	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63. ENG-1, GEN 1-3: Subject to Subpart ZZZZ

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

<u>Federal Regulation Citation</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
40 CFR 50	NAAQS	Yes	Facility	The facility and units within the facility emit criteria pollutants that are subject to the NAAQS. The facility is subject to 20.2.72 NMAC.
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	FUG-1, ENG-1, GEN 1-3	Applies if any other Subpart in 40 CFR 60 applies. FUG-1: Subject to Subpart OOOOb ENG-1, GEN 1-3: Subject to Subpart JJJJ
NSPS 40 CFR60.40a, Subpart Da	Subpart Da, Performance Standards for Electric Utility Steam Generating Units	No	N/A	This facility does not have any electric utility steam generating units.
NSPS 40 CFR60.40b Subpart Db	Electric Utility Steam Generating Units	No	N/A	This facility does not have any electric utility steam generating units.
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	No	N/A	This facility does not have any electric utility steam generating units.
NSPS 40 CFR 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984	No	N/A	The facility was not constructed during the applicable timeframe.
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	Does not apply to vessels with a design capacity less than or equal to 1,589.874 m ³ used for petroleum or condensate stored, processed, or treated prior to custody transfer.

<u>Federal Regulation Citation</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
NSPS 40 CFR 60.330 Subpart GG	Stationary Gas Turbines	No	N/A	The facility does not have any gas turbines.
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from Onshore Gas Plants	No	N/A	The facility is not a gas plant.
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for Onshore Natural Gas Processing: SO₂ Emissions	No	N/A	The facility is not a gas processing plant.
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	Facility commenced construction after September 18th, 2015, and therefore this subpart 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	Facility commenced construction after December 6th, 2022, and therefore this subpart 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-1	This subpart applies to the fugitive emissions at this facility due to the construction of the facility occurring after December 6, 2022.
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	No	N/A	No applicable units at this facility.

<u>Federal Regulation Citation</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	Yes	ENG-1, GEN 1-3	Due to the engine size and date of manufacture, these units 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	No applicable units at this facility.
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	No	N/A	No applicable units at this facility.
NSPS 40 CFR 60, Subparts WWW, XXX, Cc, and Cf	Standards of performance for Municipal Solid Waste (MSW) Landfills	No	N/A	Facility is not a MSW landfill.
NESHAP 40 CFR 61 Subpart A	General Provisions	No	N/A	No subparts of 40 CFR 61 apply.
NESHAP 40 CFR 61 Subpart E	National Emission Standards for Mercury	No	N/A	The facility does not process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, or 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	No applicable units at this facility.
MACT 40 CFR 63, Subpart A	General Provisions	Yes	ENG-1, GEN 1-3	Applies if any other Subpart in 40 CFR 63 applies.
MACT 40 CFR 63.760 Subpart HH	Oil and Natural Gas Production Facilities	No	N/A	The facility is not subject to this subpart as there are no glycol dehydrators.
MACT 40 CFR 63 Subpart HHH	National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities	No	N/A	This subpart does not apply because the facility is not a major source or HAPs nor a natural gas transmission and storage facilities.

<u>Federal Regulation Citation</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
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	Facility is not a major source of HAPs.
MACT 40 CFR 63 Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants Coal & Oil Fire Electric Utility Steam Generating Unit	No	N/A	No applicable units at this facility.
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT)	Yes	ENG-1, GEN 1-3	These units are applicable to the subpart and will demonstrate compliance by complying with 40 CFR 60 Subpart JJJJ.
40 CFR 64	Compliance Assurance Monitoring	No	N/A	Facility is not a TV major source.
40 CFR 68	Chemical Accident Prevention	No	N/A	The facility does not have more than the threshold quantity of any of the regulated substances as determined under §68.115.
Title IV – Acid Rain 40 CFR 72	Acid Rain	No	N/A	The facility does not generate commercial electric power or electric power for sale.
Title IV – Acid Rain 40 CFR 73	Sulfur Dioxide Allowance Emissions	No	N/A	The facility does not generate commercial electric power or electric power for sale.
Title IV-Acid Rain 40 CFR 75	Continuous Emissions Monitoring	No	N/A	The facility does not generate commercial electric power or electric power for sale.

<u>Federal Regulation Citation</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
Title IV – Acid Rain 40 CFR 76	Acid Rain Nitrogen Oxides Emission Reduction Program	No	N/A	The facility does not generate commercial electric power or electric power for sale.
Title VI – 40 CFR 82	Protection of Stratospheric Ozone	No	N/A	The facility does not use refrigerants.

Section 14

Operational Plan to Mitigate Emissions

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

- ☐ **Title V Sources** (20.2.70 NMAC): By checking this box and certifying this application the permittee certifies that it has developed an Operational Plan to Mitigate Emissions During Startups, Shutdowns, and Emergencies defining the measures to be taken to mitigate source emissions during startups, shutdowns, and emergencies as required by 20.2.70.300.D.5(f) and (g) NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.
- ☒ **NSR** (20.2.72 NMAC), **PSD** (20.2.74 NMAC) & **Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has developed an Operational Plan to Mitigate Source Emissions During Malfunction, Startup, or Shutdown defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown as required by 20.2.72.203.A.5 NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.
- ☐ **Title V** (20.2.70 NMAC), **NSR** (20.2.72 NMAC), **PSD** (20.2.74 NMAC) & **Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has established and implemented a Plan to Minimize Emissions During Routine or Predictable Startup, Shutdown, and Scheduled Maintenance through work practice standards and good air pollution control practices as required by 20.2.7.14.A and B NMAC. This plan shall be kept on site or at the nearest field office to be made available to the Department upon request. This plan should not be submitted with this application.
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To save paper and to standardize the application format, delete this sentence, and begin your submittal for this attachment on this page.

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.

This facility does not have any alternative operating scenarios.

Section 16

Air Dispersion Modeling

- 1) Minor Source Construction (20.2.72 NMAC) and Prevention of Significant Deterioration (PSD) (20.2.74 NMAC) ambient impact analysis (modeling): Provide an ambient impact analysis as required at 20.2.72.203.A(4) and/or 20.2.74.303 NMAC and as outlined in the Air Quality Bureau's Dispersion Modeling Guidelines found on the Planning Section's modeling website. If air dispersion modeling has been waived for one or more pollutants, attach the AQB Modeling Section modeling waiver approval documentation.
- 2) SSM Modeling: Applicants must conduct dispersion modeling for the total short term emissions during routine or predictable startup, shutdown, or maintenance (SSM) using realistic worst case scenarios following guidance from the Air Quality Bureau's dispersion modeling section. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on SSM emissions modeling requirements.
- 3) Title V (20.2.70 NMAC) ambient impact analysis: Title V applications must specify the construction permit and/or Title V Permit number(s) for which air quality dispersion modeling was last approved. Facilities that have only a Title V permit, such as landfills and air curtain incinerators, are subject to the same modeling required for preconstruction permits required by 20.2.72 and 20.2.74 NMAC.

What is the purpose of this application?	Enter an X for each purpose that applies
New PSD major source or PSD major modification (20.2.74 NMAC). See #1 above.	
New Minor Source or significant permit revision under 20.2.72 NMAC (20.2.72.219.D NMAC). See #1 above. Note: Neither modeling nor a modeling waiver is required for VOC emissions.	X
Reporting existing pollutants that were not previously reported.	
Reporting existing pollutants where the ambient impact is being addressed for the first time.	
Title V application (new, renewal, significant, or minor modification. 20.2.70 NMAC). See #3 above.	
Relocation (20.2.72.202.B.4 or 72.202.D.3.c NMAC)	
Minor Source Technical Permit Revision 20.2.72.219.B.1.d.vi NMAC for like-kind unit replacements.	
Other: i.e. SSM modeling. See #2 above.	
This application does not require modeling since this is a No Permit Required (NPR) application.	
This application does not require modeling since this is a Notice of Intent (NOI) application (20.2.73 NMAC).	
This application does not require modeling according to 20.2.70.7.E(11), 20.2.72.203.A(4), 20.2.74.303, 20.2.79.109.D NMAC and in accordance with the Air Quality Bureau's Modeling Guidelines.	

Check each box that applies:

- ☐ See attached, approved modeling **waiver for all** pollutants from the facility.
- ☐ See attached, approved modeling **waiver for some** pollutants from the facility.
- ☒ Attached in Universal Application Form 4 (UA4) is a **modeling report for all** pollutants from the facility.
- ☐ Attached in UA4 is a **modeling report for some** pollutants from the facility.
- ☐ No modeling is required.

Universal Application 4

Air Dispersion Modeling Report

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

16-A: Identification

1	Name of facility:	Beer 30 CTB
2	Name of company:	Tap Rock Operating, LLC
3	Current Permit number:	NA
4	Name of applicant's modeler:	Chris Martinez – CDH Consulting, LLC
5	Phone number of modeler:	(303) 594-7951
6	E-mail of modeler:	cmartinez@cdhconsult.com

16-B: Brief

1	Was a modeling protocol submitted and approved?	Yes ☐	No ☒
2	Why is the modeling being done?	New Facility	
3	Describe the permit changes relevant to the modeling.	New minor source facility within 3 miles of Class I Area.	
4	What geodetic datum was used in the modeling?	NAD83	
5	How long will the facility be at this location?	> 1 yr	
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	03/16/1988
	SO2	03/16/1988
	PM10	02/20/1979
	PM2.5	11/13/2013
9	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits).	
	Carlsbad Caverns NP: 0.8 km Guadalupe Mountains NP: 38.7 km	
10	Is the facility located in a non-attainment area? If so describe below	Yes ☐ No ☒
11	Describe any special modeling requirements, such as streamline permit requirements.	
	None	

16-C: Modeling History of Facility

1	Describe the modeling history of the facility, including the air permit numbers, the pollutants modeled, the National Ambient Air Quality Standards (NAAQS), New Mexico AAQS (NMAAQs), and PSD increments modeled. (Do not include modeling waivers).			
	Pollutant	Latest permit and modification number that modeled the pollutant facility-wide.	Date of Permit	Comments
	CO	None		
	NO ₂	None		
	SO ₂	None		
	H ₂ S	None		
	PM2.5	None		
	PM10	None		
	Lead	None		
	Ozone (PSD only)	None		
	NM Toxic Air Pollutants (20.2.72.402 NMAC)	None		

16-D: Modeling performed for this application

1	For each pollutant, indicate the modeling performed and submitted with this application. Choose the most complicated modeling applicable for that pollutant, i.e., culpability analysis assumes ROI and cumulative analysis were also performed.					
	Pollutant	ROI	Cumulative analysis	Culpability analysis	Waiver approved	Pollutant not emitted or not changed.

	CO	☒	☐	☐	☐	☐
	NO ₂	☒	☒	☐	☐	☐
	SO ₂	☐	☐	☐	☐	☒
	H ₂ S	☐	☐	☐	☐	☒
	PM _{2.5}	☒	☒	☐	☐	☐
	PM ₁₀	☒	☒	☐	☐	☐
	Lead	☐	☐	☐	☐	☒
	Ozone	☐	☐	☐	☐	☒
	State air toxic(s) (20.2.72.402 NMAC)	☐	☐	☐	☐	☒

16-E: New Mexico toxic air pollutants modeling

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

16-F: Modeling options

1	Was the latest version of AERMOD used with regulatory default options? If not explain below.	Yes ☒	No ☐

16-G: Surrounding source modeling

1	Date of surrounding source retrieval	September 26, 2025
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
	PM ₁₀ /2.5 – 1767E1	UTMs incorrect – moved to lat/long provided for Facility (James Hamilton Construction Crusher No. 2)

16-H: Building and structure downwash

1	How many buildings are present at the facility?	None	
2	How many above ground storage tanks are present at the facility?	5	
3	Was building downwash modeled for all buildings and tanks? If not explain why below.	Yes ☒	No ☐
4	Building comments	Tank farm was modeled as a solid building.	

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.					
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
	RISK	Square	50 m	0 m	500 m	
	RISK	Square	100 m	500 m	1,000 m	
	RISK	Square	500 m	1,000 m	5,000 m	
	RISK	Square	1,000 m	5,000 m	10,000 m	
5	Describe receptor spacing along the fence line.					
	50 m spacing					
	Describe the PSD Class I area receptors.					

6	Receptors on 500 m spacing on area boundary (Eastern portion) as well as 1,000 m grid inside Class I area for increment analysis.
---	---

16-J: Sensitive areas

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

16-K: Modeling Scenarios

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).											
	Flare SSM emissions modeled as intermittent sources.											
2	Which scenario produces the highest concentrations? Why?											
	NA											
3	Were emission factor sets used to limit emission rates or hours of operation? (This question pertains to the "SEASON", "MONTH", "HROFDY" and related factor sets, not to the factors used for calculating the maximum emission rate.)										Yes ☐	No ☒
4	If so, describe factors for each group of sources. List the sources in each group before the factor table for that group. (Modify or duplicate table as necessary. It's ok to put the table below section 16-K if it makes formatting easier.) Sources:											
5	Hour of Day	Factor	Hour of Day	Factor								
	1		13									
	2		14									
	3		15									
	4		16									
	5		17									
	6		18									
	7		19									
	8		20									
	9		21									
	10		22									
	11		23									
	12		24									

	If hourly, variable emission rates were used that were not described above, describe them below.		
6	Were different emission rates used for short-term and annual modeling? If so describe below.	Yes ☐	No ☒

16-L: NO₂ Modeling

1	Which types of NO ₂ modeling were used? Check all that apply.		
	☒	ARM2	
	☐	100% NO _x to NO ₂ conversion	
	☐	PVMRM	
	☐	OLM	
	☐	Other:	
2	Describe the NO ₂ modeling.		
	Modeled facility for SIL impacts. Exceeded SIL for NAAQS and Class I area. Initial resulted with added background resulted in levels below the NAAQS. Refined model for Class I increment used with surrounding sources and receptors within the Class I area. Results below Class I increment.		
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 ☐
4	Describe the design value used for each averaging period modeled.		
	1-hour: 98th percentile as calculated by AERMOD Annual: Highest Annual Average of Three Years		

16-M: Particulate Matter Modeling

1	Select the pollutants for which plume depletion modeling was used.		
	☐	PM2.5	
	☐	PM10	
	☒	None	
2	Describe the particle size distributions used. Include the source of information.		
3	Does the facility emit at least 40 tons per year of NO _x or at least 40 tons per year of SO ₂ ? Sources that emit at least 40 tons per year of NO _x or at least 40 tons per year of SO ₂ are considered to emit significant amounts of precursors and must account for secondary formation of PM2.5.		Yes ☐
			No ☒

4	Was secondary PM modeled for PM2.5?			Yes ☐	No ☒
5	If MERPs were used to account for secondary PM2.5 fill out the information below. If another method was used describe below.				
	NO _x (ton/yr)	SO ₂ (ton/yr)	[PM2.5] _{annual}	[PM2.5] _{24-hour}	

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.
	NA
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.
	NA

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		
	FL-2 HP SSM		FL-HP		
	FL-1 LP-SSM		FL-LP		
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 ☒
	Sources FL-LP & FL-HP modeled as intermittent sources (NO ₂ & CO). Rate = annual tons x (2000 lb/ton)/8760 hrs				
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?				
	Unit ID	NO ₂	SO ₂	PM10	PM2.5
	FL-HP	X	-	-	-
	FL-LP	X	-	-	-
	ENG-1	X	-	X	X
	GEN-1	X	-	X	X
	GEN-2	X	-	X	X
	GEN-3	X	-	X	X
	HT-1	X	-	X	X
	HT-2	X	-	X	X

	HT-3	X	-	X	X
	HT-4	X	-	X	X
5	PSD increment description for sources. (for unusual cases, i.e., baseline unit expanded emissions after baseline date).				
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 ☐
	Not yet installed/construction.				

16-P: Flare Modeling

1	For each flare or flaring scenario, complete the following			
	Flare ID (and scenario)	Average Molecular Weight	Gross Heat Release (cal/s)	Effective Flare Diameter (m)
	FL-HP	21.38	45,632,232	5.958556
	FL-LP	42.21	521,491	0.599052

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 ☒
	NA		
2	Describe the determination of sigma-Y and sigma-Z for fugitive sources.		
	NA		
3	Describe how the volume sources are related to unit numbers. Or say they are the same.		
	NA		
4	Describe any open pits.		
	NA		
5	Describe emission units included in each open pit.		
	NA		

16-R: Background Concentrations

1	Were NMED provided background concentrations used? Identify the background station used below. If non-NMED provided background concentrations were used describe the data that was used.		Yes ☒	No ☐
	CO: N/A			
	NO ₂ : Outside Carlsbad (350151005)			
	PM2.5: Hobbs-Jefferson (350450019)			
	PM10: Hobbs-Jefferson (350250008)			
	SO ₂ : Choose an item.			
	Other:			
	Comments:			
2	Were background concentrations refined to monthly or hourly values? If so describe below.		Yes ☐	No ☒

16-S: Meteorological Data

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

16-T: Terrain

1	Was complex terrain used in the modeling? If not, describe why below.	Yes ☒	No ☐
2	What was the source of the terrain data?		
	WebGIS – NED 1/3 (USA ~30m)		

16-U: Modeling Files

1	Describe the modeling files: AERMOD input/output, BPIPPRIME input/output.		
	File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
	BEER30_NO2_SIL	NO2	SIA

	BEER30_NOC_CLASS_1	NO2	Class I Increment
	BEER30_CO_SIL	CO	SIA
	BEER_30_PM10_SIL	PM10	SIA
	BEER_30_PM10_NAAQS	PM10	Cumulative NAAQS and Class II Increment
	BEER_30_PM25_SIL	PM2.5	SIA
	BEER_30_PM25_NAAQS_PSD_Incr	PM2.5	Cumulative NAAQS and Class II Increment

16-V: PSD New or Major Modification Applications - Not Applicable

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

16-W: Modeling Results

1	If ambient standards are exceeded because of surrounding sources, a culpability analysis is required for the source to show that the contribution from this source is less than the significance levels for the specific pollutant. Was culpability analysis performed? If so describe below.	Yes ☐	No ☒
2 Identify the maximum concentrations from the modeling analysis. Rows may be modified, added and removed from the table below as necessary.			

Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m3)	Modeled Concentration with Surrounding Sources (µg/m3)	Secondary PM (µg/m3)	Background Concentration (µg/m3)	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Location		
								UTM E (m)	UTM N (m)	Elevation (ft)
NO ₂ 1-hr NAAQS	79.26	-	-	54.5	133.76	188.03	71%	558,785	3,558,284	1,094.1
NO ₂ annual Class I Increment	0.46	1.25	-	-	1.25	2.5	50%	558,109	3,559,023	1,097.9
NO ₂ annual Class II Increment	7.60	-	-	9.3	16.90	25	68%	558,692	3,558,365	1,069.4
CO 8-hr SIL	118.71	-	-	-	118.71	500	24%	558,785	3,558,285	1,094.1
CO 1-hr SIL	166.95	-	-	-	166.95	2,000	8%	558,785	3,558,335	1,095.2
PM ₁₀ annual NAAQS	0.95	-	-	-	-	1.0	95%	558,692	3,55,365	1,096.4
PM ₁₀ 24-hr NAAQS	6.19	5.35	-	100.7	106.05	150	71%	558,813	3,558,289	1,068.1
PM ₁₀ annual Class I	0.05	-	-	-	0.05	0.2	25%	558,135	3,559,085	1,098.9
PM ₁₀ 24-hr Class I	0.48	5.00	-	-	5.00	8.0	63%	559,306	3,560,653	1,119.8
PM ₁₀ annual Class II	1.28	1.28	-	-	1.28	17	8%	558,692	3,558,344	1,069.6

Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m ³)	Modeled Concentration with Surrounding Sources (µg/m ³)	Secondary PM (µg/m ³)	Background Concentration (µg/m ³)	Cumulative Concentration (µg/m ³)	Value of Standard (µg/m ³)	Percent of Standard	Location		
								UTM E (m)	UTM N (m)	Elevation (ft)
PM ₁₀ 24-hr Class II	6.19	5.35	-	-	5.35	30	18%	558,813	3,558,289	1,068.1
PM _{2.5} annual NAAQS	0.97	1.14	-	7.1	8.24	9	92%	558,692	3,558,365	1,068.1
PM _{2.5} 24-hr NAAQS	5.28	3.62	-	16.5	20.12	35	57%	558,692	3,558,365	1,068.1
PM _{2.5} Annual Class I	0.05	0.20	-	-	0.20	1.0	20%	558,109	3,559,023	1,097.9
PM _{2.5} 24-hr Class I	0.34	1.74	-	-	1.74	2.0	87%	559,306	3,560,653	1,119.8
PM _{2.5} Annual Class II	0.97	1.14	-	-	1.14	4.0	28%	558,692	3,558,327	1,069.6
PM _{2.5} 24-hr Class II	5.28	3.62	-	-	3.62	9.0	40%	558,692	3,558,365	1,068.1

16-X: Summary/conclusions

1

A statement that modeling requirements have been satisfied and that the permit can be issued.

Modeling requirements have been met and all concentrations are below applicable standards.

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.

To save paper and to standardize the application format, delete this sentence and the samples in the Compliance Test History Table, and begin your submittal for this attachment on this page.

Compliance Test History Table

Unit No.	Test Description	Test Date
NA	NA	NA

Section 20

Other Relevant Information

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

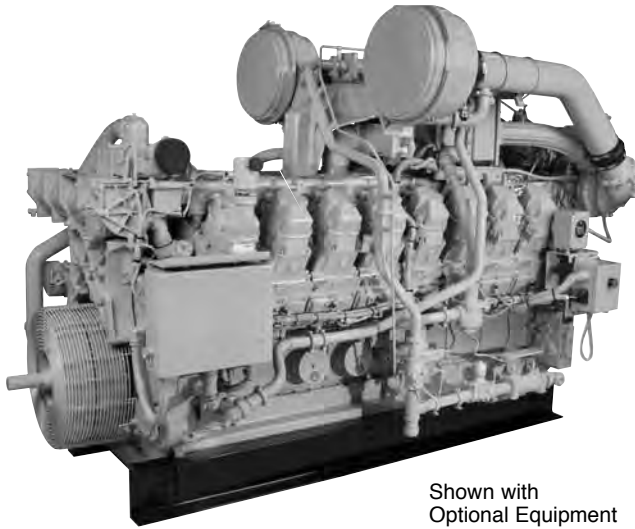
Additionally, the applicant may propose specific permit language for AQB consideration. In the case of a revision to an existing permit, the applicant should provide the old language and the new language in track changes format to highlight the proposed changes. If proposing language for a new facility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

0.5 g/bhp-hr NOx or 1.0 g/bhp-hr NOx (NTE)

CAT® ENGINE SPECIFICATIONS

V-16, 4-Stroke-Cycle

Bore	170 mm (6.7 in.)
Stroke	190 mm (7.5 in.)
Displacement	69.3 L (4230 cu. in.)
Aspiration	Turbocharged-2 Stage Aftercooled
Digital Engine Management	
Governor and Protection	Electronic (ADEM™ A3)
Combustion	Low Emission (Lean Burn)
Engine Weight, net dry (approx)....	8401 kg (18,520 lb)
Power Density	8.2 kg/kW (13.4 lb/hp)
Power per Displacement	19.9 bhp/L
Total Cooling System Capacity	221.5 L (58.5 gal)
Jacket Water	204.4 L (54 gal)
SCAC	17 L (4.5 gal)
Lube Oil System (refill)	424 L (112 gal)
Oil Change Interval	1000 hour
Rotation (from flywheel end)	Counterclockwise
Flywheel and Flywheel Housing	SAE No. 00
Flywheel Teeth	183



Shown with
Optional Equipment

FEATURES

Engine Design

- Built on G3500 LE proven reliability and durability
- Ability to burn a wide spectrum of gaseous fuels
- Robust diesel strength design prolongs life and lowers owning and operating costs
- Broad operating speed range at lower site air densities (high altitude/hot ambient temperatures)
- Higher power density improves fleet management
- Quality engine diagnostics
- Detonation-sensitive timing control for individual cylinders

Ultra Lean Burn Technology (ULB)

ULB technology uses an advanced control system, a better turbo match, improved air and fuel mixing, and a more sophisticated combustion recipe to provide:

- Lowest engine-out emissions
- Highest fuel efficiency
- Improved altitude and speed turndown
- Stable load acceptance and load rejection

Emissions

- Meets U.S. EPA Spark Ignited Stationary NSPS emissions for 2010
- Lean air/fuel mixture provides best available emissions and fuel efficiency for engines of this bore size

Advanced Digital Engine Management

ADEM A3 engine management system integrates speed control, air/fuel ratio control, and ignition/detonation controls into a complete engine management system. ADEM A3 has improved: user interface, display system, shutdown controls, and system diagnostics.

Full Range of Attachments

Large variety of factory-installed engine attachments reduces packaging time.

Testing

Every engine is full-load tested to ensure proper engine performance.

Gas Engine Rating Pro

GERP is a PC-based program designed to provide site performance capabilities for Cat® natural gas engines for the gas compression industry. GERP provides engine data for your site's altitude, ambient temperature, fuel, engine coolant heat rejection, performance data, installation drawings, spec sheets, and pump curves.

Product Support Offered Through Global Cat Dealer Network

More than 2,200 dealer outlets

Cat factory-trained dealer technicians service every aspect of your petroleum engine

Cat parts and labor warranty

Preventive maintenance agreements available for repair-before-failure options

S•O•SSM program matches your oil and coolant samples against Caterpillar set standards to determine:

- Internal engine component condition
- Presence of unwanted fluids
- Presence of combustion by-products
- Site-specific oil change interval

Over 80 Years of Engine Manufacturing Experience

Over 60 years of natural gas engine production

Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable products

- Cast engine blocks, heads, cylinder liners, and flywheel housings
- Machine critical components
- Assemble complete engine

Web Site

For all your petroleum power requirements, visit www.catoilandgas.cat.com.

STANDARD EQUIPMENT

Air Inlet System

Axial flow air cleaners
Service indicator
Cleanable

Cooling System

Two-stage charge air cooling:
First stage — JW + OC + 1st stage AC
Second stage — 2nd stage AC
Engine cooling and charge air cooling thermostats

Exhaust System

Dry exhaust manifolds and turbocharger housings

Flywheels and Housings

SAE 00 flywheel
SAE 00 flywheel housing
SAE standard rotation

Fuel System

Electronic fuel metering valve
Requires 7-50 psig gas supply
Gas pressure regulator
Gas shutoff valve

Instrumentation

Remote-mounted Advisor control panel
Interconnect harness

Lube System

Top-mounted crankcase breathers
Oil cooler
Oil filter and oil sampling valve
Drain valve
Turbo oil accumulator
API B16.3 approved gas/air-driven pre-lube system

Torsional Vibration Analysis

Caterpillar provided
Required through first quarter 2010

Mounting

Rails

Control Panels

4" LCD Advisor display panel
Shipped loose

Starting System

90 psi TDI starter
150 psi TDI starter

Power Take-Offs

Front housing, two sided
Front lower LH accessory drive

Protection System — Display/Alarm/Shutdown

Low oil pressure
Oil filter differential pressure
High fuel or oil temperature
Engine oil to engine coolant
Differential temperature
High coolant temperature
Engine speed
Engine load
Battery voltage
Detonation
Manifold air temperature
Coolant JW inlet/outlet pressure
Left turbo inlet temperature
Right turbo inlet temperature
Cylinder port temperature

Protection System — Display Only

Service hours
Oxygen level

General

Paint — Cat yellow
Dual 23" vibration damper with guard
CSA Certification, Class 1 Division 2 Groups C and D

OPTIONAL EQUIPMENT

Air Inlet System

Rectangular air inlet adapter
Circular air inlet adapter

Charging System

Battery Charger 20 amp

Connections

Mechanical joint assembly
Inlet connection

Exhaust System

Flexible fittings available at first production build
Elbows and mufflers

Instrumentation

Optional interconnect harness

Lube System

Shipped with lube oil

Mounting System

Rails

Power Take-Offs

Front stub shaft

Literature

Options available

Packing

TECHNICAL DATA
G3516B LE Gas Petroleum Engine — 1400 rpm***

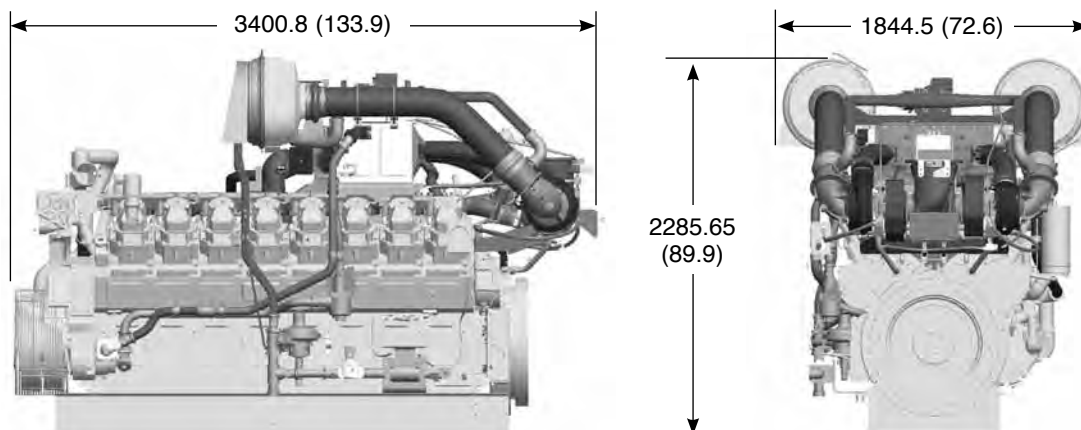
Fuel System		0.5 g NOx NTE Rating DM8800-03	1.0 g NOx NTE Rating DM8850-02
Engine Power @ 100% Load	bkW (bhp)	1029 (1380)	1029 (1380)
Engine Speed Max Altitude @ Rated Torque and 38°C (100°F)	rpm m (ft)	1400 1219.2 (4000)	1400 1828.8 (6000)
Speed Turndown @ Max Altitude, Rated Torque, and 38°C (100°F)	%	25	25
Aftercooler Temperature Stage 1 (JW)	°C (°F)	98.9 (210)	98.9 (210)
Stage 2 (SCAC)	°C (°F)	54 (130)	54 (130)
Emissions* NOx	g/bkW-hr (g/bhp-hr)	0.67 (0.50)	1.34 (1.00)
CO	g/bkW-hr (g/bhp-hr)	3.26 (2.43)	3.75 (2.80)
CO ₂	g/bkW-hr (g/bhp-hr)	635 (474)	603 (449)
VOC**	g/bkW-hr (g/bhp-hr)	0.64 (0.48)	0.51 (0.38)
Fuel Consumption*** @ 100% Load	MJ/bkW-hr (Btu/bhp-hr)	10.33 (7301)	9.97 (7050)
Heat Balance Heat Rejection to Jacket Water @ 100% Load			
JW	bkW (Btu/mn)	412.37 (23,451)	418.9 (23,820)
OC	bkW (Btu/mn)	78.2 (4449)	78.2 (4449)
Heat Rejection to Aftercooler @ 100% Load			
1st Stage AC	bkW (Btu/mn)	94.23 (5359)	78.55 (4467)
2nd Stage AC	bkW (Btu/mn)	176.7 (10,047)	157.9 (8984)
Heat Rejection to Exhaust @ 100% Load LHV to 25° C (77° F)	bkW (Btu/mn)	1098 (62,428)	1021.9 (58,113)
Heat Rejection to Atmosphere @ 100% Load	bkW (Btu/mn)	107.34 (6110)	107.34 (6110)
Exhaust System Exhaust Gas Flow Rate @ 100% Load	m ³ /min (cfm)	258.4 (9126)	246.8 (8716)
Exhaust Stack Temperature @ 100% Load	°C (°F)	533.33 (992)	532.22 (990)
Intake System Air Inlet Flow Rate @ 100% Load	m ³ /min (scfm)	88.52 (3126)	84.70 (2991)
Gas Pressure	kPag (psig)	48-345 (7-50)	48-345 (7-50)

*at 100% load and speed, all values are listed as not to exceed

**Volatile organic compounds as defined in U.S. EPA 40 CFR 60, subpart JJJJ

***ISO 3046/1

DIMENSIONS



DIMENSIONS		
Length	mm (in.)	3400.8 (133.9)
Width	mm (in.)	1844.55 (72.6)
Height	mm (in.)	2285.65 (89.9)
Shipping Weight	kg (lb)	8401 (18,520)

Note: General configuration not to be used for installation.

Dimensions are in mm (inches).

RATING DEFINITIONS AND CONDITIONS

Engine performance is obtained in accordance with SAE J1995, ISO3046/1, BS5514/1, and DIN6271/1 standards.

Transient response data is acquired from an engine/generator combination at normal operating temperature and in accordance with ISO3046/1 standard ambient conditions. Also in accordance with SAE J1995, BS5514/1, and DIN6271/1 standard reference conditions.

Conditions: Power for gas engines is based on fuel having an LHV of 33.74 kJ/L (905 Btu/cu ft) at 101 kPa (29.91 in. Hg) and 15° C (59° F). Fuel rate is based on a cubic meter at 100 kPa (29.61 in. Hg) and 15.6° C (60.1° F). Air flow is based on a cubic foot at 100 kPa (29.61 in. Hg) and 25° C (77° F). Exhaust flow is based on a cubic foot at 100 kPa (29.61 in. Hg) and stack temperature.

ICE CATALYST SIZING PROGRAM

rev 2.1.3

Report Date: 8/8/2024



Customer Nova Compression
Sales Person MG
Project NM G3516ULB
Engine Name Caterpillar G3516B G3516B 1380 BHP @ 1400 RPM

Housing Element
Contact Kevin Carter
APX2-OX-SQ-1550-2475-350

Engine Power	1380.0	BHP	ACFM	8919.0	CU. FT/MIN	Exhaust O2	9.1	%
Exhaust Mass Flow	14113.0	LBS/HR	ACFH	535140	CU. FT/HR	Exhaust CO2	6.4	%
Process Temperature	994.0	F	SCFM	3194.7	CU. FT/MIN	Exhaust H2O	11.6	%
Exhaust Pressure	14.5	PSI	SCFH	191683	CU. FT/HR	Exhaust N2	72.9	%
Exhaust Density	0.0264	LBS/FT^3	Std Temp	68.0	F	Max Pressure Drop	12.0	in wc
Molecular Weight	28.38	AMU	Std Pressure	14.6959	PSI	Propane in Fuel	4.91	%

ACS Part Name RN15.440X24.750X3.500-300
OEM Part Name MCC-7140-2
Type NG/Diesel (Lean)
Geometry Rectangular
X 15.440in
Y 24.750in

Layers 1
Modules/Layer 2
Guard Bed No

Cell Count 300cps
Depth 3.500in

Open Area	4.763	ft^2	Part Volume	0.695	ft^3	Part Weight	46	lbs
Linear Velocity	1872	ft/min	Total Volume	1.389	ft^3	Total Weight	92	lbs
Pressure Drop	2.0	in wc	Space Velocity	137974	GHSV			

Inlet Emissions

	g/bhp-hr	lb/hr	tons/year	ppmv	ppmvd	ppmvd%O2
NOx	0.50	1.52	6.67	66.47	75.19	41.83
CO	2.53	7.70	33.74	552.42	624.91	347.63
VOC	1.03	3.13	13.73	142.84	161.59	89.89

Target Emissions

	min %DRE	g/bhp-hr	lb/hr	tons/year	ppmv	ppmvd	ppmvd%O2
NOx	0.00	0.50	1.52	6.67	66.47	75.19	41.83
CO	76.28	0.60	1.83	8.00	131.01	148.20	82.44
VOC	32.04	0.70	2.13	9.33	97.08	109.82	61.09

Emissions with Catalyst

	%DRE	g/bhp-hr	lb/hr	tons/year	ppmv	ppmvd	ppmvd%O2
NOx	0.00	<0.50	<1.52	<6.67	<66.47	<75.19	<41.83
CO	76.28	<0.60	<1.83	<8.00	<131.01	<148.20	<82.44
VOC	32.04	<0.70	<2.13	<9.33	<97.08	<109.82	<61.09

Safety Value: 2 VOC Molecular Weight: 44.1 O2 Reference Value: 15 Uptime (TPY): 100% (8760 hours)



HEAVY-DUTY

21.9L

		Rev: E		21.9L			
		Units		21.9L			
		Std	Metric	1500		1800	
General Engine Data							
Type		N/A		V-type 4 cycle			
Number of cylinders		N/A		12			
Aspiration		N/A		Turbo Charge Air Cooled			
Bore		in	mm	5.04	128	5.04	128
Stroke		in	mm	5.59	142	5.59	142
Displacement		in^3	L	1338	21.9	1338	21.9
Compression Ratio		N/A		10.5			
Mean Piston Speed		ft/min	m/s	1398	7.1	1677	8.52
Gross Standby Power Rating ^{1,2,3} Per ISO 3046 at the Flywheel							
NG		Hp	kW	507	378	684	510
LP		Hp	kW	370	276	472	352
MEP (@ rated Load on NG)		psi	bar	200	13.8	225	15.5
MEP (@ rated Load on LP)		psi	bar	146	10.1	155	10.7
Gross Prime Power Rating ^{1,2,3} Per ISO 3046 at the Flywheel							
NG		Hp	kW	456	340	581	434
LP		Hp	kW	333	248	401	299
MEP (@ rated Load on NG)		psi	bar	180	12.4	191	13.2
MEP (@ rated Load on LP)		psi	bar	131	9.1	132	9.1
RPM Range (Min-Max)		RPM		1500-1800			
Rotation Viewed from Flywheel		N/A		Counter Clockwise			
Firing Order		N/A		1-12-5-8-3-10-6-7-2-11-4-9			
Dry Weight							
Fan to Flywheel		lb	kg	3638	1650	3638	1650
Rad to Flywheel		lb	kg	5238	2376	5238	2376
Wet Weight							
Fan to Flywheel		lb	kg	3813	1706	3813	1706
Rad to Flywheel		lb	kg	5760	2620	5760	2620
CG							
Distance from FW housing		in	mm	24	602	24	602
Distance above center of crankshaft		in	mm	7	182	7	182
Engine Mounting							
Maximum Allowable Bending Moment at Rear of Block		lb ft	N m	4425	6000	4425	6000
Moment of Inertia About Roll Axis		lb ft^2	kg m^2				
Flywheel housing		N/A		SAE No.1			
Flywheel		N/A		No. 14			
Number of Flywheel Teeth		N/A		160			
Exhaust System							
Type		Water Cooled Manifold					
Maximum allowable Back pressure		in HG	kPa	3	10.2	3	10.2
Standard Catalyst Back pressure		in HG	kPa	1.5	5.1	1.5	5.1
Exhaust Outlet Pipe Size							
Maximum Turbine Inlet Temperature		F	C	1382	750	1382	750
Exhaust Flow at Rated Power		lb/hr	kg/hr	3184	1444	4038	1832
Exhaust Flow at Rated Power @1350F		cfm	m^3/min	2427	68.7	2995	84.8
Air Induction System							
Maximum allowable Intake Air Restriction with Air Cleaner							
Clean		inH2O	kPa	5	1.24	5	1.24
Dirty		inH2O	kPa	15	3.74	15	3.74
Combustion Air required (entire engine)		lb/hr	kg/hr	3004	1362	3810	1728
Combustion Air required (entire engine)		cfm	m^3/min	763	22	968	27



HEAVY-DUTY

21.9L

	Rev: E		21.9L			
	Units		21.9L			
	Std	Metric	1500		1800	
Electrical System						
Minimum Recommended Battery Capacity	AH		200			
Cold Cranking Current						
Engine only	CCA		1000			
Engine with Drive train	CCA		1000			
Maximum Allowable Resistance of Starting Circuit	Ohms		0.002			
Starting Motor Power	HP	kW	9.4	7	9.4	7
Battery Charging Alternator						
Voltage	Volts		24			
Current	Amps		45			
Coil primary Resistance	Ohms		0.59Ω ± 10%			
Spark Plug p/n			IFR7F-4D			
Spark plug gap	inches	mm	.015" (-0/+ .008") .38mm (-0/+ .2mm)			
Cooling System						
Coolant Capacity						
Engine only	gal	L	11.5	52.3	11.5	52.3
Engine with Radiator	gal	L	50.1	228	50.1	228
Engine Coolant Flow	gal/min	L/min	145	550	174	660
Water Pump Speed	RPM		2547		3056	
Heat rejected to Cooling water at rated Load	btu/min	kcal/sec	21451	90.1	25760	108.2
Maximum Intake Air Temperature (IAT)	F	C	155	68	155	68
ECU IAT Warning	F	C	140	60	140	60
ECU IAT Shutdown	F	C	155	69	155	69
Maximum Coolant Friction Head External to the engine	psi	bar	5.8	0.4	5.8	0.4
Maximum Air Restriction Across a Radiator	inH2O	mmH2O	0.5	12.8	0.5	12.8
Standard Thermostat Range						
Cracking Temperature	F	C	160	71	160	71
Full Open Temperature	F	C	185	85	185	85
Maximum Output Pressure of Engine Water Pump						
Maximum Allowable Pressure Cap	psi	bar	14.7	1	14.7	1
Ambient Clearance Open Genset (water) (Air-to-Boil)						
Specified	F	C	142	61	142	61
Acutal	F	C			142	61
Ambient Clearance (Oil)						
Specified	F	C	142	61	142	61
Acutal	F	C			144	62
CAC Rise over Ambient (Charge)						
Specified	F	C	15	9	15	9
Acutal	F	C			11	6
Maximum Allowable Top Tank Temperature	F	C	230	110	230	110
ECU Warning	F	C	220	104	220	104
ECU Shutdown	F	C	230	110	230	110
Fan Power	HP	kW	24	17.9	42	31.3
Fan Diameter, including blades	in	mm	52	1321	52	1321
Fan Speed	RPM		1200		1440	
Cooling Fan Air Flow @ 1" Static H2O Pressure and 125F @ radiator	CFM	m^3/min	34,286	971	40,000	1,133
Charge Air Cooler						
Compressor Outlet Temperature	F	C	246	120	300	150
Compressor Flow Rate per CAC	lb/hr	kg/hr	1592	722	2019	916
Heat Rejection per CAC	btu/min	kW	TBD		3040	53.5



HEAVY-DUTY

21.9L

		Rev: E		21.9L			
		Units					
		Std	Metric	1500		1800	
Lubrication System							
Oil Specification			SAE 15W-40 Low Ash Gas engine oil (.25-.5% by wt), API CD/CF or higher				
Oil Pressure							
Idle							
Min	Psi	Bar	13	0.9	13	0.9	
Max	Psi	Bar	43.5	3	43.5	3	
Rated Speed							
Min	Psi	Bar	43.5	3	43.5	3	
Max	Psi	Bar	94.5	6.5	94.5	6.5	
Maximum Allowable Oil Temperature	F	C	250	121	250	121	
Engine Oil Capacity							
Min	Qts	L	34.75	33	34.75	33	
Max	Qts	L	42.25	40	42.25	40	
Oil Filter Capacity	Qts	L	7.5	7.1	7.5	7.1	
ECU Oil Pressure Warning ⁵	psi		30				
ECU Oil Pressure Shut Down ⁵	psi		25				
Fuel System							
Fuel Consumption ⁶							
NG	Ft ³ /hr	kg/hr	3801	77	5400	110	
LP	Ft ³ /hr	kg/hr	1162	62	1511	81	
Maximum EPR Rated Pressure	psi	kPa	1.0	6.9	1.0	6.9	
Maximum Running pressure to Electronic Pressure Regulator (EPR)	inH2O	kPa	11.0	2.7	11.0	2.7	
Minimum Running pressure to EPR	inH2O	kPa	7.0	1.7	7.0	1.7	
Minimum Gas Supply Pipe Size			2 x 2" NPT				
Maximum EPR Rated Pressure	psi	kPa	1.0	6.9	1.0	6.9	
Maximum Running Pressure to EPR	inH2O	kPa	11.0	2.7	11.0	2.7	
Minimum Running Pressure to EPR	inH2O	kPa	7.0	1.7	7.0	1.7	
Minimum LPG Supply Pipe Size ⁴			2 x 2" NPT				

¹Standby and overload ratings based on ISO3046.

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

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

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

⁵ >1400RPM

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



Emission Guarantee

Date: 07/25/2024

Catalytic Converter (Table 1A)		
Application	Power Generation	
Engine Model	Doosan 22L	
Engine Mechanical Power	581 HP	
Fuel	Natural Gas (PQNG)	
Exhaust Flowrate	2050 lb/hr x 2 exhausts = 4,099 lbs/hr	
Exhaust Temperature	1000 deg. F	
Catalyst Model	DC46	
Housing Part Number (2 per engine)	C3905-LQ-010Y-0103-02	
Catalyst Part Number (4 per engine)	CB000-LQ-010Y-0103-01	
Catalyst Code	Y/300 cpsi	
Space Velocity (h ⁻¹)	118629 h ⁻¹	
Housing Material	304 Stainless steel	
Inlet Connection	3.5 inches	
Outlet Connection	3.5 inches	
Dimensions	Per drawing	
Back-pressure (Catalyst Only)	12 in. WC	
Back-pressure (Catalyst+ Housing)	19 in. WC	
Pre-Catalyst Emissions (g/bhp-h)	NOx	5.3
	CO	5.04
	NMNEHC	0.04
Post-Catalyst (g/bhp-hr)	NOx	0.5
	CO	0.6
	VOC	0.7
Limited Warranty	(doc. X0000-0000-K2) one year or 8,000 hours of operation	
Guarantee By:	Brendan Filby	



Global Leader in Emission Control Solutions

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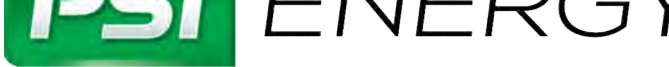


Confidential



ENERGY

14.6L

		Rev:	F	14.6L			
		Units		14.6L			
		Std	Metric	1500		1800	
General Engine Data							
Type		N/A		V-type 4 cycle			
Number of cylinders		N/A		8			
Aspiration		N/A		Turbo Charge Air Cooled			
Bore		in	mm	5.04	128	5.04	128
Stroke		in	mm	5.59	142	5.59	142
Displacement		in^3	L	892	14.6	892	14.6
Compression Ratio		N/A		10.5			
Mean Piston Speed		ft/min	m/s	1398	7.1	1677	8.52
Gross Standby Power Rating ^{1,2,3} Per ISO 3046 at the Flywheel							
NG		Hp	kW	369	275	459	342
LP		Hp	kW	229	171	319	238
MEP (@ rated Load on NG)		psi	bar	218	15.0	226	15.6
MEP (@ rated Load on LP)		psi	bar	136	9.4	157	10.9
Gross Prime Power Rating ^{1,2,3} Per ISO 3046 at the Flywheel							
NG		Hp	kW	332	248	390	291
LP		Hp	kW	206	154	271	202
MEP (@ rated Load on NG)		psi	bar	196	13.5	192	13.3
MEP (@ rated Load on LP)		psi	bar	122	8.4	134	9.2
RPM Range (Min-Max)		RPM		1500-1800			
Rotation Viewed from Flywheel		N/A		Counter Clockwise			
Firing Order		N/A		1-5-7-2-6-3-4-8-1			
Dry Weight							
Fan to Flywheel		lb	kg	3150	1429	3150	1429
Rad to Flywheel		lb	kg	4450	2018	4450	2018
Wet Weight							
Fan to Flywheel		lb	kg	3291	1475	3291	1475
Rad to Flywheel		lb	kg	4757	2155	4757	2155
CG							
Distance from FW housing		in	mm	18	449	18	449
Distance above center of crankshaft		in	mm	6	159	6	159
Engine Mounting							
Maximum Allowable Bending Moment at Rear of Block		lb ft	N m	4425	6000	4425	6000
Moment of Inertia About Roll Axis		lb ft^2	kg m^2				
Flywheel housing		N/A		SAE No.1			
Flywheel		N/A		No. 14			
Number of Flywheel Teeth		N/A		160			
Exhaust System							
Type				Water Cooled Manifold			
Maximum allowable Back pressure		in HG	kPa	3	10.2	3	10.2
Standard Catalyst Back pressure		in HG	kPa	1.5	5.1	1.5	5.1
Exhaust Outlet Pipe Size							
Maximum Turbine Inlet Temperature		F	C	1382	750	1382	750
Exhaust Flow at Rated Power		lb/hr	kg/hr	2302	1044	2782	1301
Exhaust Flow at Rated Power @1350F		cfm	m^3/min	1727.3	48.9	1895	53.6
Air Induction System							
Maximum allowable Intake Air Restriction with Air Cleaner							
Clean		inH2O	kPa	5	1.24	5	1.24
Dirty		inH2O	kPa	15	3.74	15	3.74
Combustion Air required (entire engine)		lb/hr	kg/hr	2172	985	2625	1227
Combustion Air required (entire engine)		cfm	m^3/min	490	14	687	19



ENERGY

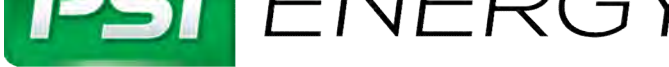
14.6L

	Rev: F		14.6L			
	Units					
	Std	Metric	1500		1800	
Electrical System						
Minimum Recommended Battery Capacity	AH		200			
Cold Cranking Current						
Engine only	CCA		1000			
Engine with Drive train	CCA		1000			
Maximum Allowable Resistance of Starting Circuit	Ohms		0.002			
Starting Motor Power	HP	kW	9.4	7	9.4	7
Battery Charging Alternator						
Voltage	Volts		24			
Current	Amps		45			
Coil primary Resistance	Ohms		0.59Ω ± 10%			
Spark Plug p/n			IFR7F-4D			
Spark plug gap	inches	mm	.015" (-0/+ .008") .38mm (-0/+ .2mm)			
Cooling System						
Coolant Capacity						
Engine only	gal	L	9.5	43.2	9.5	43.2
Engine with Radiator	gal	L	28	127	28	127
Engine Coolant Flow	gal/min	L/min	151	570	180	680
Water Pump Speed	RPM		2547		3056	
Heat rejected to Cooling water at rated Load	btu/min	kcal/sec	14233	59.8	16189	68
Maximum Intake Air Temperature (IAT)	F	C	155	68	155	68
ECU IAT Warning	F	C	140	60	140	60
ECU IAT Shutdown	F	C	155	69	155	69
Maximum Coolant Friction Head External to the engine	psi	bar	5.8	0.4	5.8	0.4
Maximum Air Restriction Across a Radiator	inH2O	mmH2O	0.5	12.8	0.5	12.8
Standard Thermostat Range						
Cracking Temperature	F	C	160	71	160	71
Full Open Temperature	F	C	185	85	185	85
Maximum Output Pressure of Engine Water Pump						
Maximum Allowable Pressure Cap	psi	bar	14.7	1	14.7	1
Ambient Clearance Open Genset (water) (Air-to-Boil)						
Specified	F	C	142	61	142	61
Actual	F	C			147	64
Ambient Clearance (Oil)						
Specified	F	C	142	61	142	61
Actual	F	C			150	66
CAC Rise over Ambient (Charge)						
Specified	F	C	15	9	15	9
Actual	F	C			13	8
Maximum Allowable Top Tank Temperature	F	C	230	110	230	110
ECU Warning	F	C	220	104	220	104
ECU Shutdown	F	C	230	110	230	110
Fan Power	HP	kW	13	9.7	22	16.4
Fan Diameter, including blades	in	mm	45	1143	45	1143
Fan Speed	RPM		1200		1440	
Cooling Fan Air Flow @ 1" Static H2O Pressure and 125F @ radiator	CFM	m^3/min	25,714	728	30,000	849
Charge Air Cooler						
Compressor Outlet Temperature	F	C	272	133	285	163
Compressor Flow Rate per CAC	lb/hr	kg/hr	1151	522	1391	650
Heat Rejection per CAC	btu/min	kW	TBD		2669	46.9



ENERGY

14.6L



Rev:

F

Units

14.6L

Std

Metric

1500

1800

Lubrication System

Oil Specification

Oil Pressure

Idle

Min

Max

Rated Speed

Min

Max

Maximum Allowable Oil Temperature

Engine Oil Capacity

Min

Max

Oil Filter Capacity

ECU Oil Pressure Warning⁵

ECU Oil Pressure Shut Down⁵

SAE 15W-40 Low Ash Gas engine oil
(.25-.5% by wt), API CD/CF or higher

Psi

Bar

Psi

Bar

Psi

Bar

F

C

Qts

L

Qts

L

Qts

L

psi

psi

13

0.9

13

0.9

43.5

3

43.5

3

43.5

3

94.5

6.5

94.5

6.5

250

121

250

121

26.5

25

26.5

25

32.75

31

32.75

31

7.5

7.1

7.5

7.1

30

25

Fuel System

Fuel Consumption⁶

NG

LP

Maximum EPR Rated Pressure

Maximum Running pressure to Electronic Pressure Regulator (EPR)

Minimum Running pressure to EPR

Minimum Gas Supply Pipe Size

Maximum EPR Rated Pressure

Maximum Running Pressure to EPR

Minimum Running Pressure to EPR

Minimum LPG Supply Pipe Size⁴

Ft³/hr

kg/hr

Ft³/hr

kg/hr

psi

kPa

inH2O

kPa

inH2O

kPa

psi

kPa

inH2O

kPa

inH2O

kPa

2918

59

782

42

1.0

6.9

1.0

6.9

11.0

2.7

11.0

2.7

7.0

1.7

7.0

1.7

2 x 1-1/4" NPT

1.0

6.9

1.0

6.9

11.0

2.7

11.0

2.7

7.0

1.7

7.0

1.7

2 x 1-1/4" NPT

¹Standby and overload ratings based on ISO3046.

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

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

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

⁵ >1400RPM

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



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

OFFICE OF TRANSPORTATION
AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

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

Certificate Number: KPSIB14.6NGP-017

Effective Date:

10/03/2018

Expiration Date:

12/31/2019

Byron J. Bunker, Division Director
Compliance Division

Issue Date:

10/03/2018

Revision Date:

N/A

Manufacturer: Power Solutions International, Inc.

Engine Family: KPSIB14.6NGP

Mobile/Stationary Certification Type: Mobile and Stationary

Fuel : LPG/Propane

Natural Gas (CNG/LNG)

Emission Standards :

Part 60 Subpart JJJJ Table 1

CO (g/Hp-hr) : 2.0

NOx (g/Hp-hr) : 1.0

VOC (g/Hp-hr) : 0.7

Stationary Part 1048

HC + NOx (g/kW-hr) : 2.7

NMHC + NOx (g/kW-hr) : 2.7

CO (g/kW-hr) : 4.4

Mobile Part 1048

NMHC + NOx (g/kW-hr) : 2.7

HC + NOx (g/kW-hr) : 2.7

CO (g/kW-hr) : 4.4

Emergency Use Only : N

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

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

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

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



Flare Design Report

Customer - Tap Rock	Job Location - BLM
Date - 08/21/25	
Flare Equipment - AF-66 with 15 HP Blower	
Notes - 0	

Total Flare Gas Flow Rate (MMscfd) - 0.30	Maximum Radiation from base of Flare (Feet) - 10
Heating Value of the Flare Gas (Btu/Ft ³) - 1450	Minimum Flare Height (Feet) - 15
LP Gas Exit Velocity (Ft/Sec) - 110	Actual Flare Height (Feet) - 15
Allowed LP Gas Air Exit Velocity (Ft/Sec) - 155	ΔP LP Gas Across the Flare Tip (Oz/in ²) - 0.06
Maximum Ground Radiation (Btu/Hr/Ft ²) - 1500	Wind Speed (mph) - 10
LP Flare Gas Temperature F° - 80	Average Fraction Radiated (F Factor) - 0.25

This flare system will comply 40 CFR 63.11, 60.18 & 0000b
and therefore carries a destruction efficiency of 98% or greater.



Flare Design Report

Date - 09/30/25
Customer - Taprock
Job Location - Beer 30 HP Flare
Flare Equipment - VOPT HP Release
Notes - 0

HP Flare Gas Flow Rate (MMscfd) - 14.000	Maximum Radiation Excl.Solar (Btu/Hr/Ft ²) - 1500
Minimum required HP Gas Pressure (Lbs/in2) - 54.000	Maximum Radiation from base of Flare (Feet) - 12
Heating Value of the HP Flare Gas (Btu/Ft3) - 1350	Minimum Flare Height (Feet) - 30
Number of 6" VOPT HP Tips - 2	Actual Flare Height (Feet) - 30

This flare system will comply 40 CFR 63.11, 60.18 & 0000b
and therefore carries a destruction efficiency of 98% or greater.

August 13, 2025

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

For: Tap Rock Operating LLC
523 Park Point Drive, Suite 200
Golden, Colorado 80401

Sample: High Life Federal Com No. 204H
First Stage Separator Hydrocarbon Liquid
Sampled @ 131 psig & 119 °F

Date Sampled: 07/25/2025

Job Number: 252754.002

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2186-M

COMPONENT	MOL %	LIQ VOL %	WT %
Nitrogen	0.022	0.004	0.004
Carbon Dioxide	0.011	0.003	0.003
Methane	2.666	0.749	0.289
Ethane	2.628	1.164	0.534
Propane	4.456	2.034	1.327
Isobutane	1.320	0.716	0.518
n-Butane	4.625	2.415	1.815
2,2 Dimethylpropane	0.053	0.034	0.026
Isopentane	2.446	1.482	1.192
n-Pentane	3.779	2.270	1.842
2,2 Dimethylbutane	0.043	0.030	0.025
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.031	0.021	0.018
2 Methylpentane	2.045	1.406	1.190
3 Methylpentane	0.968	0.655	0.564
n-Hexane	3.151	2.146	1.834
Heptanes Plus	<u>71.756</u>	<u>84.872</u>	<u>88.819</u>
Totals:	100.000	100.000	100.000

Characteristics of Heptanes Plus:

Specific Gravity -----	0.8134	(Water=1)
°API Gravity -----	42.46	@ 60°F
Molecular Weight -----	183.3	
Vapor Volume -----	13.73	CF/Gal
Weight -----	6.78	Lbs/Gal

Characteristics of Total Sample:

Specific Gravity -----	0.7773	(Water=1)
°API Gravity -----	50.55	@ 60°F
Molecular Weight -----	148.1	
Vapor Volume -----	16.25	CF/Gal
Weight -----	6.48	Lbs/Gal

Base Conditions: 15.025 PSI & 60 °F

Certified: FESCO, Ltd. - Alice, Texas

Sampled By: (14) TC
Analyst: JL
Processor: JL
Cylinder ID: W-2264

Conan Pierce 361-661-7015

TANKS DATA INPUT REPORT - GPA 2186-M

COMPONENT	Mol %	LiqVol %	Wt %
Carbon Dioxide	0.011	0.003	0.003
Nitrogen	0.022	0.004	0.004
Methane	2.666	0.749	0.289
Ethane	2.628	1.164	0.534
Propane	4.456	2.034	1.327
Isobutane	1.320	0.716	0.518
n-Butane	4.678	2.449	1.842
Isopentane	2.446	1.482	1.192
n-Pentane	3.779	2.270	1.842
Other C-6's	3.087	2.112	1.797
Heptanes	8.762	5.998	5.549
Octanes	11.558	8.748	8.337
Nonanes	6.624	5.917	5.671
Decanes Plus	41.597	62.116	67.033
Benzene	0.025	0.011	0.013
Toluene	1.094	0.607	0.681
E-Benzene	0.108	0.069	0.077
Xylenes	1.391	0.892	0.998
n-Hexane	3.151	2.146	1.834
2,2,4 Trimethylpentane	<u>0.598</u>	<u>0.515</u>	<u>0.461</u>
Totals:	100.000	100.000	100.000

Characteristics of Total Sample:

Specific Gravity -----	0.7773 (Water=1)
°API Gravity -----	50.55 @ 60°F
Molecular Weight-----	148.1
Vapor Volume -----	16.25 CF/Gal
Weight -----	6.48 Lbs/Gal

Characteristics of Decanes (C10) Plus:

Specific Gravity -----	0.8388 (Water=1)
Molecular Weight-----	238.6

Characteristics of Atmospheric Sample:

°API Gravity -----	47.93 @ 60°F
Reid Vapor Pressure Equivalent (D-6377)-----	8.50 psi

QUALITY CONTROL CHECK			
	Sampling Conditions	Test Samples	
Cylinder Number	-----	W-2264*	W-1540
Pressure, PSIG	131	123	123
Skin Temperature, °F	119	119	119

* Sample used for analysis

TOTAL EXTENDED REPORT - GPA 2186-M

COMPONENT	Mol %	LiqVol %	Wt %
Nitrogen	0.022	0.004	0.004
Carbon Dioxide	0.011	0.003	0.003
Methane	2.666	0.749	0.289
Ethane	2.628	1.164	0.534
Propane	4.456	2.034	1.327
Isobutane	1.320	0.716	0.518
n-Butane	4.625	2.415	1.815
2,2 Dimethylpropane	0.053	0.034	0.026
Isopentane	2.446	1.482	1.192
n-Pentane	3.779	2.270	1.842
2,2 Dimethylbutane	0.043	0.030	0.025
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.031	0.021	0.018
2 Methylpentane	2.045	1.406	1.190
3 Methylpentane	0.968	0.655	0.564
n-Hexane	3.151	2.146	1.834
Methylcyclopentane	1.370	0.803	0.779
Benzene	0.025	0.011	0.013
Cyclohexane	2.065	1.164	1.174
2-Methylhexane	0.761	0.586	0.515
3-Methylhexane	0.877	0.667	0.594
2,2,4 Trimethylpentane	0.598	0.515	0.461
Other C-7's	1.283	0.938	0.859
n-Heptane	2.407	1.840	1.629
Methylcyclohexane	3.996	2.661	2.650
Toluene	1.094	0.607	0.681
Other C-8's	5.430	4.277	4.042
n-Octane	2.132	1.810	1.645
E-Benzene	0.108	0.069	0.077
M & P Xylenes	1.178	0.757	0.845
O-Xylene	0.213	0.134	0.153
Other C-9's	4.922	4.330	4.196
n-Nonane	1.702	1.587	1.475
Other C-10's	4.826	4.666	4.605
n-decane	1.182	1.202	1.136
Undecanes(11)	4.873	4.834	4.838
Dodecanes(12)	3.755	4.024	4.084
Tridecanes(13)	3.620	4.159	4.279
Tetradecanes(14)	3.003	3.696	3.853
Pentadecanes(15)	2.633	3.471	3.664
Hexadecanes(16)	2.008	2.829	3.011
Heptadecanes(17)	1.812	2.699	2.900
Octadecanes(18)	1.646	2.582	2.790
Nonadecanes(19)	1.486	2.429	2.640
Eicosanes(20)	1.192	2.024	2.213
Heneicosanes(21)	1.046	1.869	2.055
Docosanes(22)	0.930	1.732	1.915
Tricosanes(23)	0.820	1.583	1.761
Tetracosanes(24)	0.726	1.453	1.624
Pentacosanes(25)	0.658	1.366	1.533
Hexacosanes(26)	0.595	1.278	1.442
Heptacosanes(27)	0.549	1.223	1.386
Octacosanes(28)	0.487	1.123	1.277
Nonacosanes(29)	0.436	1.039	1.185
Triacontanes(30)	0.391	0.961	1.099
Hentriacontanes Plus(31+)	<u>2.922</u>	<u>9.873</u>	<u>11.741</u>
Total	100.000	100.000	100.000

August 13, 2025

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

For: Tap Rock Operating LLC
523 Park Point Drive, Suite 200
Golden, Colorado 80401

Date Sampled: 07/25/25

Date Analyzed: 08/05/25

Sample: High Life Federal Com No. 204H

Job Number: J252754

FLASH LIBERATION OF HYDROCARBON LIQUID		
	Separator HC Liquid	Stock Tank
Pressure, psig	131	0
Skin Temperature, °F	119	70
Gas Oil Ratio (1)	-----	73.7
Gas Specific Gravity (2)	-----	1.358
Separator Volume Factor (3)	1.0630	1.000

STOCK TANK FLUID PROPERTIES	
Shrinkage Recovery Factor (4)	0.9408
Oil API Gravity at 60 °F	47.93
Reid Vapor Pressure Equivalent (D-6377), psi (5)	8.50

Quality Control Check			
	Sampling Conditions	Test Samples	
Cylinder No.	-----	W-2264*	W-1540
Pressure, psig	131	123	123
Temperature, °F	119	119	119

(1) - Scf of flashed vapor per barrel of stock tank oil

(2) - Air = 1.000

(3) - Separator volume / Stock tank volume

(4) - Fraction of first stage separator liquid

(5) - Absolute pressure at 100 deg F

Analyst: C.B.

* Sample used for flash study

Base Conditions: 15.025 PSI & 60 °F

Certified: FESCO, Ltd. - Alice, Texas

Conan Pierce 361-661-7015



Certificate of Analysis

Number: 6030-25050052-001A

Artesia Laboratory
200 E Main St.
Artesia, NM 88210
Phone 575-746-3481

Alex Batista
Taprock
602 Park Point Drive
Ste. 200
Golden, CO 80401

Station Name: High Life Sales Check
Station Number: 6060025
Sample Point: Meter Run
Formation: Spot
County: Lea
Type of Sample: Spot-Cylinder
Heat Trace Used: N/A
Sampling Method: Fill and Purge
Sampling Company: SPL
Cylinder No: 1111-007068
Instrument: 70142339 (Inficon GC-MicroFusion)
Last Inst. Cal.: 05/05/2025 07:02:24
Analyzed: 05/08/2025 07:50:36 by CDW

Report Date: 05/08/2025
Sampled By: Dustin Sharp
Sample Of: Gas
Sample Type: Spot
Sample Conditions: 67 psig, @ 89.9 °F Ambient: 84 °F
Sample Date: 05/01/2025 02:15
Received Date: 05/02/2025
Login Date: 05/02/2025
Effective Date: 05/01/2025
Flow Rate: 222.9509 MSCFD
Sampling Method:
Heating Method:
Method: GPA-2261M

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.73 psia		
Hydrogen Sulfide	0.000	0.000	0.000		GPM TOTAL C2+	2.540
Nitrogen	1.507	1.533	2.313		GPM TOTAL C3+	1.097
Methane	88.096	89.644	77.459		GPM TOTAL iC5+	0.510
Carbon Dioxide	0.189	0.192	0.455			
Ethane	5.288	5.381	8.715	1.443		
Propane	1.382	1.406	3.339	0.388		
Iso-butane	0.160	0.163	0.510	0.053		
n-Butane	0.453	0.461	1.443	0.146		
Iso-pentane	0.133	0.135	0.525	0.049		
n-Pentane	0.177	0.180	0.699	0.065		
Hexanes Plus	0.889	0.905	4.542	0.396		
	98.274	100.000	100.000	2.540		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.6425	3.2176
Calculated Molecular Weight	18.57	93.19
Compressibility Factor	0.9973	

GPA 2172 Calculation:

Calculated Gross BTU per ft³ @ 14.73 psia & 60°F

Real Gas Dry BTU	1121	5141
Water Sat. Gas Base BTU	1102	5052
Ideal, Gross HV - Dry at 14.73 psia	1118.0	5141.1
Ideal, Gross HV - Wet	1098.5	5051.6
Net BTU Wet Gas - real gas	996	

Comments: low pressure not enough to rerun
H2S Field Content: 0 %


Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated. The test results apply to the sample as received.



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
Tap Rock Operating, LLC		October 2025
Permittee/Company Contact	Phone	Email
Bill Ramsey	(720) 360-4032	bramsey@taprk.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. TAP-Multi-2001 was issued to Tap Rock for failure to apply for and obtain a construction permit for 4 facilities before commencing construction under 20.2.72.200.A & E. These violations have been rectified.	

Section 22: Certification

Company Name: Tap Rock Operating, LLC

I, Bill Ramsey, 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 13 day of October, 2025, upon my oath or affirmation, before a notary of the State ofColoradoBill Ramsey
*Signature10/13/2025
DateBill Ramsey
Printed NameSr. Env & Regulatory Specialist
TitleScribed and sworn before me on this 13 day of October, 2025.My authorization as a notary of the State of Colorado expires on the2nd day of January, 2029.Cori Peth
Notary's Signature10-13-25
DateCori Peth
Notary's Printed Name

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

