Mail Application To:		**For Department use only:**
New Mexico Environment Department Air Quality Bureau Permits Section 525 Camino de los Marquez, Suite 1 Santa Fe, New Mexico, 87505 Phone: (505) 476-4300 Fax: (505) 476-4375 www.env.nm.gov/aqb		

Universal Air Quality Permit Application

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

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

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

Acknowledgements:

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

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

☒ Check No.: **1130** in the amount of **$500**

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

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

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

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

Section 1 – Facility Information

Section 1-A: Company Information

		AI # if known: **NA**	Updating Permit/NOI #: **NA**
1	Facility Name: **High Life CTB**	Plant primary SIC Code (4 digits): **1311**	
		Plant NAIC code (6 digits): **211120**	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark):): **From Whites City: Drive 1.6 miles south on Hwy 180. Turn left onto Whites City Road. Follow Whites City Road east and then southeast for approximately 1.2 miles. Turn right (south) on new access road and follow 0.2 miles to facility.**		

2	Plant Operator Company Name: **Tap Rock Operating, LLC**	Phone/Fax: **(720) 772-5090**
a	Plant Operator Address: **523 Park Point Dr, Suite 200, Golden, CO 80401**	
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): **523 Park Point Dr, Suite 200, Golden, CO 80401**	
4	Bill To (Company): **Tap Rock Operating, LLC**	Phone/Fax: **(720) 772-5090**
a	Mailing Address: **523 Park Point Dr, Suite 200, Golden, CO 80401**	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: **523 Park Point Dr, Suite 200, Golden, CO 80401**	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: **523 Park Point Dr, Suite 200, Golden, CO 80401**	
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: 160 bbl** **Produced Water: 890 bbl** **Natural Gas: 583 Mscf**	Daily: **Oil: 3,850 bbl** **Produced Water: 21,350 bbl** **Natural Gas: 14.0 MMscf**	Annually: **Oil: 1,405,250 bbl** **Produced Water: 7,792,750 bbl** **Natural Gas: 5,110 MMscf**

Section 1-D: Facility Location Information

1	Latitude (decimal degrees): **32.142922**	Longitude (decimal degrees): **-104.376364**	County: **Eddy**	Elevation (ft): **3,510**
2	UTM Zone: ☐ 12 or ☒ 13	Datum: ☒ NAD 83 ☐ WGS 84		
a	UTM E (in meters, to nearest 10 meters): **558,814**	UTM N (in meters, to nearest 10 meters): **3,556,559**		
3	Name and zip code of nearest New Mexico town: **Whites City**			
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): **From Whites City: Drive 1.6 miles south on Hwy 180. Turn left onto Whites City Road. Follow Whites City Road east and then southeast for approximately 1.2 miles. Turn right (south) on new access road and follow 0.2 miles to facility.**			
5	The facility is **2.3** (distance) miles **South** (direction) of **Whites City** (nearest town).			
6	Land Status of facility (check one): ☒ Private ☐ Indian/Pueblo ☐ Government ☐ BLM ☐ Forest Service ☐ Military			
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: **Located within 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: • **2.4 km from Carlsbad Caverns NP** • **15.9 km from Texas 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): **2.4 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: **~2,011 meters**			
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	End:	☐AM ☐PM		
3	Month and year of anticipated start of construction: **Upon permit approval ~April 2025**					
4	Month and year of anticipated construction completion: **1 month 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: **NA**		NOV Tracking No: **NA**
b	Is this application in response to any issue listed in 1-F, 1 or 1a above? ☐ Yes ☒ No If Yes, provide the 1c & 1d info below:		
c	Document Title:	Date:	Requirement # (or page # and paragraph #):
d	Provide the required text to be inserted in this permit:		
2	Is air quality dispersion modeling or modeling waiver being submitted with this application? ☐ Yes ☒ No		
3	Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? ☐ Yes ☒ No		
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? ☒ Yes ☐ No		
a	If Yes, what type of source? ☐ **Major** (☐ ≥10 tpy of any single HAP **OR** ☐ ≥25 tpy of any combination of HAPS) **OR** ☒ **Minor** (☒ <10 tpy of any single HAP **AND** ☒ <25 tpy of any combination of HAPS)		
5	Is any unit exempt under 20.2.72.202.B.3 NMAC? ☐ Yes ☒ No		
a	If yes, include the name of company providing commercial electric power to the facility: _____ Commercial power is purchased from a commercial utility company, which specifically does not include power generated on site for the sole purpose of the user.		

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

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

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

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

1	Responsible Official (R.O.) (20.2.70.300.D.2 NMAC):		Phone:
a	R.O. Title:	R.O. e-mail:	
b	R. O. Address:		
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC):		Phone:
a	A. R.O. Title:	A. R.O. e-mail:	
b	A. R. O. Address:		
3	Company's Corporate or Partnership Relationship to any other Air Quality Permittee (List the names of any companies that have operating (20.2.70 NMAC) permits and with whom the applicant for this permit has a corporate or partnership relationship):		
4	Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.):		
a	Address of Parent Company:		
5	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.):		

6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations:
7	Affected Programs to include Other States, local air pollution control programs (i.e. Bernalillo) and Indian tribes: Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B)? If yes, state which ones and provide the distances in kilometers:

Section 1-I – Submittal Requirements

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

Hard Copy Submittal Requirements:

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

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

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

Electronic files sent by (check one):

☐ CD/DVD attached to paper application

☒ Secure electronic transfer. Air Permit Contact Name **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,
   a. one additional CD copy for US EPA,
   b. one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
   c. one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

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

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

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

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

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

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

Table of Contents

Table 2-A: Regulated Emission Sources

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

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)		RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
ENG-1	Compressor Engine	Caterpillar	3516J	TBD	1380 HP	1380 HP	TBD TBD	CATALYST ENG-1	2-02-002-54	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	
ENG-2	Compressor Engine	Caterpillar	3516J	TBD	1380 HP	1380 HP	TBD TBD	CATALYST ENG-2	2-02-002-54	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	
GEN-1	Generator Engine	PSI	21.9L	TBD	581 HP	581 HP	TBD TBD	CATALYST GEN-1	2-02-002-53	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SRB	
GEN-2	Generator Engine	PSI	21.9L	TBD	581 HP	581 HP	TBD TBD	CATALYST GEN-2	2-02-002-53	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SRB	
GEN-3	Generator Engine	PSI	21.9L	TBD	581 HP	581 HP	TBD TBD	CATALYST GEN-3	2-02-002-53	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SRB	
GEN-4	Generator Engine	PSI	21.9L	TBD	581 HP	581 HP	TBD TBD	CATALYST GEN-4	2-02-002-53	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SRB	
FUG-1	Equipment Fugitives	N/A	N/A	N/A	N/A	N/A	TBD TBD	 FUG-1	3-10-888-11	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
HT-1	Heater Treater	TBD	TBD	TBD	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD TBD	 HT-1	3-10-004-04	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
HT-2	Heater Treater	TBD	TBD	TBD	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD TBD	 HT-2	3-10-004-04	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
HT-3	Heater Treater	TBD	TBD	TBD	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD TBD	 HT-3	3-10-004-04	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
HT-4	Heater Treater	TBD	TBD	TBD	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD TBD	 HT-4	3-10-004-04	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
HT-5	Heater Treater	TBD	TBD	TBD	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD TBD	 HT-5	3-10-004-04	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
HT-6	Heater Treater	TBD	TBD	TBD	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD TBD	 HT-6	3-10-004-04	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
HT-7	Heater Treater	TBD	TBD	TBD	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD TBD	 HT-7	3-10-004-04	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
HT-8	Heater Treater	TBD	TBD	TBD	1.5 MMBtu/hr	1.5 MMBtu/hr	TBD TBD	 HT-8	3-10-004-04	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
TK-1	Crude Oil Tank	TBD	TBD	TBD	1000 bbl	9581.25 Mgal/yr	TBD TBD	VRU/FL-LP FL-LP	4-04-003-12	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
TK-2	Crude Oil Tank	TBD	TBD	TBD	1000 bbl	9581.25 Mgal/yr	TBD TBD	VRU/FL-LP FL-LP	4-04-003-12	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
TK-3	Crude Oil Tank	TBD	TBD	TBD	1000 bbl	9581.25 Mgal/yr	TBD TBD	VRU/FL-LP FL-LP	4-04-003-12	☐ 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] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)		RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
TK-4	Crude Oil Tank	TBD	TBD	TBD	1000 bbl	9581.25 Mgal/yr	TBD TBD	VRU/FL-LP FL-LP	4-04-003-12	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
TK-5	Crude Oil Tank	TBD	TBD	TBD	1000 bbl	9581.25 Mgal/yr	TBD TBD	VRU/FL-LP FL-LP	4-04-003-12	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
TK-6	Crude Oil Tank	TBD	TBD	TBD	1000 bbl	9581.25 Mgal/yr	TBD TBD	VRU/FL-LP FL-LP	4-04-003-12	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
PWTK-1	Produced Water Tank	TBD	TBD	TBD	1000 bbl	59,403.75 Mgal/yr	TBD TBD	VRU/FL-LP FL-LP	4-04-003-15	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
PWTK-2	Produced Water Tank	TBD	TBD	TBD	1000 bbl	59,403.75 Mgal/yr	TBD TBD	VRU/FL-LP FL-LP	4-04-003-15	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
PWTK-3	Produced Water Tank	TBD	TBD	TBD	1000 bbl	59,403.75 Mgal/yr	TBD TBD	VRU/FL-LP FL-LP	4-04-003-15	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
PWTK-4	Produced Water Tank	TBD	TBD	TBD	1000 bbl	59,403.75 Mgal/yr	TBD TBD	VRU/FL-LP FL-LP	4-04-003-15	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
FL-1 LP	Low Pressure Flare	HERO	T60VT8 Dual Tip	TBD	2.70 MMScf/d	2.70 MMScf/d	TBD TBD	 FL-LP	3-10-001-60	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
FL-1 LP SSM	Low Pressure Flare - SSM	HERO	T60VT8 Dual Tip	TBD	2.70 MMScf/d	2.70 MMScf/d	TBD TBD	 FL-LP	3-10-001-60	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
FL-2 HP	High Pressure Flare	HERO	T60VT8 Dual Tip	TBD	23.00 MMscf/d	23.00 MMscf/d	TBD TBD	 FL-HP	3-10-001-60	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
FL-2 HP SSM	High Pressure Flare - SSM	HERO	T60VT8 Dual Tip	TBD	23.00 MMscf/d	23.00 MMscf/d	TBD TBD	 FL-HP	3-10-001-60	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
VRT	Vapor Recovery Towers	TBD	TBD	TBD	-	-	TBD TBD	VRU/FL-LP FL-LP	3-10-888-11	☐ 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 Activities[1] (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 202.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.env.nm.gov/aqb/permit/aqb_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at https://www.env.nm.gov/wp-content/uploads/sites/2/2017/10/InsignificantListTitleV.pdf. TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No.	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 Onc
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction[2]	
OILLOAD-1	Oil truck loading	N/A	N/A	264,600	20.2.72.202.B.5 (< 0.5 tpy VOC)		☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	gal/yr			
PWLOAD-1	Produced water truck loading	N/A	N/A	191,100	20.2.72.202.B.5 (< 0.5 tpy VOC)		☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	gal/yr			
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced

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

Table 2-C: Emissions Control Equipment

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

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s)[1]	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
CATALYST	Catalytic Reduction	TBD	CO	ENG-1	77	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	CO	ENG-2	77	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	VOCs	ENG-1	35	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	VOCs	ENG-2	35	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	NOx	GEN-1	91	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	CO	GEN-1	88	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	NOx	GEN-2	91	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	CO	GEN-2	88	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	NOx	GEN-3	91	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	CO	GEN-3	88	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	NOx	GEN-4	91	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	CO	GEN-4	88	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	TK-1	90	Design Calculation
FL-LP	Flare	TBD	VOCs	TK-1	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	TK-2	90	Design Calculation
FL-LP	Flare	TBD	VOCs	TK-2	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	TK-3	90	Design Calculation
FL-LP	Flare	TBD	VOCs	TK-3	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	TK-4	90	Design Calculation
FL-LP	Flare	TBD	VOCs	TK-4	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	TK-5	90	Design Calculation
FL-LP	Flare	TBD	VOCs	TK-5	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	TK-6	90	Design Calculation
FL-LP	Flare	TBD	VOCs	TK-6	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	PWTK-1	90	Design Calculation
FL-LP	Flare	TBD	VOCs	PWTK-1	98	Manufacturer Specification

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s)[1]	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
VRU	Vapor Recovery Unit	TBD	VOCs	PWTK-2	90	Design Calculation
FL-LP	Flare	TBD	VOCs	PWTK-2	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	PWTK-3	90	Design Calculation
FL-LP	Flare	TBD	VOCs	PWTK-3	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	PWTK-4	90	Design Calculation
FL-LP	Flare	TBD	VOCs	PWTK-4	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	VRT	90	Design Calculation
FL-LP	Flare	TBD	VOCs	VRT	98	Manufacturer Specification

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

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

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

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

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
ENG-1	3.04	13.33	7.91	34.65	3.26	14.26	0.005	0.022	-	-	0.100	0.440	0.100	0.440	-	-	-	-
ENG-2	3.04	13.33	7.91	34.65	3.26	14.26	0.005	0.022	-	-	0.100	0.440	0.100	0.440	-	-	-	-
GEN-1	6.79	29.73	6.46	28.28	1.01	4.44	0.002	0.011	-	-	0.097	0.426	0.097	0.426	-	-	-	-
GEN-2	6.79	29.73	6.46	28.28	1.01	4.44	0.002	0.011	-	-	0.097	0.426	0.097	0.426	-	-	-	-
GEN-3	6.79	29.73	6.46	28.28	1.01	4.44	0.002	0.011	-	-	0.097	0.426	0.097	0.426	-	-	-	-
GEN-4	6.79	29.73	6.46	28.28	1.01	4.44	0.002	0.011	-	-	0.097	0.426	0.097	0.426	-	-	-	-
FUG-1	-	-	-	-	6.03	26.41	-	-	-	-	-	-	-	-	-	-	-	-
HT-1	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05				
HT-2	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05				
HT-3	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05				
HT-4	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05				
HT-5	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05				
HT-6	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05				
HT-7	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05				
HT-8	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05				
TK-1	-	-	-	-	33.17	145.29	-	-	-	-	-	-	-	-	-	-	-	-
TK-2	-	-	-	-	33.17	145.29	-	-	-	-	-	-	-	-	-	-	-	-
TK-3	-	-	-	-	33.17	145.29	-	-	-	-	-	-	-	-	-	-	-	-
TK-4	-	-	-	-	33.17	145.29	-	-	-	-	-	-	-	-	-	-	-	-
TK-5	-	-	-	-	33.17	145.29	-	-	-	-	-	-	-	-	-	-	-	-
TK-6	-	-	-	-	33.17	145.29	-	-	-	-	-	-	-	-	-	-	-	-
PWTK-1					3.50	15.33												
PWTK-2					3.50	15.33												
PWTK-3					3.50	15.33												
PWTK-4					3.50	15.33												
FL-LP	0.004	0.019	0.020	0.086	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FL-LP SSM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FL-HP	0.004	0.019	0.020	0.086	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FL-HP SSM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VRT	-	-	-	-	-	1666.00	-	-	-	-	-	-	-	-	-	-	-	-
Totals	34.45	150.74	42.66	186.91	229.69	2672.07	0.02	0.09	0.00	0.00	0.67	2.98	0.67	2.98	0.00	0.00	0.00	0.00

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

Table 2-E: Requested Allowable Emissions

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

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
ENG-1	1.52	6.66	1.83	8.00	2.75	12.03	0.005	0.022	-	-	0.100	0.440	0.100	0.440	-	-	-	-
ENG-2	1.52	6.66	1.83	8.00	2.75	12.03	0.005	0.022	-	-	0.100	0.440	0.100	0.440	-	-	-	-
GEN-1	0.64	2.81	0.77	3.37	1.01	4.44	0.002	0.011	-	-	0.097	0.426	0.097	0.426	-	-	-	-
GEN-2	0.64	2.81	0.77	3.37	1.01	4.44	0.002	0.011	-	-	0.097	0.426	0.097	0.426	-	-	-	-
GEN-3	0.64	2.81	0.77	3.37	1.01	4.44	0.002	0.011	-	-	0.097	0.426	0.097	0.426	-	-	-	-
GEN-4	0.64	2.81	0.77	3.37	1.01	4.44	0.002	0.011	-	-	0.097	0.426	0.097	0.426	-	-	-	-
FUG-1	-	-	-	-	6.01	26.32	-	-	-	-	-	-	-	-	-	-	-	-
HT-1	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05	-	-	-	-
HT-2	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05	-	-	-	-
HT-3	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05	-	-	-	-
HT-4	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05	-	-	-	-
HT-5	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05	-	-	-	-
HT-6	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05	-	-	-	-
HT-7	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05	-	-	-	-
HT-8	0.15	0.64	0.12	0.54	0.01	0.04	-	-	-	-	0.01	0.05	0.01	0.05	-	-	-	-
TK-1	-	-	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
TK-2	-	-	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
TK-3	-	-	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
TK-4	-	-	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
TK-5	-	-	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
TK-6	-	-	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
PWTK-1					0.00	0.00												
PWTK-2					0.00	0.00												
PWTK-3					0.00	0.00												
PWTK-4					0.00	0.00												
FL-1 LP	0.004	0.019	0.020	0.086	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
FL-1 LP SSM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FL-2 HP	0.004	0.019	0.020	0.086	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
FL-2 HP SSM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VRT	-	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-
Totals	6.81	29.72	7.74	33.97	15.63	68.46	0.02	0.09	0.00	0.00	0.67	2.98	0.67	2.98	0.00	0.00	0.00	0.00
Totals (including SSM)	53.78	36.26	221.88	63.78	187.94	94.75	0.02	0.09	0.00	0.00	0.67	2.98	0.67	2.98	0.00	0.00	0.00	0.00

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

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

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

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

Unit No.	NOx		CO		VOC		SOx		PM^2		$PM10^2$		$PM2.5^2$		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
ENG-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENG-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GEN-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GEN-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GEN-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GEN-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUG-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HT-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HT-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TK-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TK-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TK-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TK-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TK-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TK-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PWTK-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PWTK-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PWTK-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PWTK-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FL-1 LP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FL-1 LP SSM	1.0744	0.4881	4.8983	2.2251	11.91	5.21												
FL-2 HP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FL-2 HP SSM	45.8984	6.0495	209.243	27.5785	160.4	21.08												
VRT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals	46.9728	6.5376	214.141	29.8036	172.31	26.29	-	-	-	-	-	-	-	-	-	-	-	-

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

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

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

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

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

Stack No.	Serving Unit Number(s) from Table 2-A	NOx		CO		VOC		SOx		PM		PM10		PM2.5		☐ H_2S or ☐ Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
FL-1 LP	FL-1 LP, FL-1 LP SSM	1.08	0.51	4.92	2.31	11.91	5.21	-	-	-	-	-	-	-	-	-	-
FL-2 HP	FL-2 HP, FL-2 HP SSM	45.90	6.07	209.26	27.66	160.40	21.08										
Totals:																	

Table 2-P: Greenhouse Gas Emissions

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

☑ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]									Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	**GWPs [1]**	1	298	25	22,800	footnote 3										
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
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	mass GHG															
	CO_2e															
	mass GHG															
	CO2e															
Total	mass GHG															
	CO_2e															

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

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

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

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

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

Table 2-H: Stack Exit Conditions

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

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H=Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter (ft)
						(acfs)	(dscfs)			
ENG-1	ENG-1	V	No	25	902	43.90	-	-	125.90	0.67
ENG-1	ENG-1	V	No	25	902	43.90	-	-	125.90	0.67
GEN-1	GEN-1	V	No	15	1382	49.90	-	-	572.00	0.33
GEN-2	GEN-2	V	No	15	1382	49.90	-	-	572.00	0.33
GEN-3	GEN-3	V	No	15	1382	49.90	-	-	572.00	0.33
GEN-4	GEN-4	V	No	15	1382	49.90	-	-	572.00	0.33
HT-1	HT-1	V	No	15	460	7.80	-	-	10.00	1.00
HT-2	HT-2	V	No	15	460	10.40	-	-	13.30	1.00
HT-3	HT-3	V	No	15	460	7.80	-	-	10.00	1.00
HT-4	HT-4	V	No	15	460	7.80	-	-	10.00	1.00
HT-5	HT-5	V	No	15	460	7.80	-	-	10.00	1.00
HT-6	HT-6	V	No	15	460	7.80	-	-	10.00	1.00
HT-7	HT-7	V	No	15	460	7.80	-	-	10.00	1.00
HT-8	HT-8	V	No	15	460	7.80	-	-	10.00	1.00
FL-LP	FL-LP	V	No	60	1500	31.25	-	-	159.00	0.50
FL-LP SSM	FL-LP SSM	V	No	60	1500	31.25	-	-	159.00	0.50
FL-HP	FL-HP	V	No	60	1500	266.00	-	-	755.00	0.67
FL-HP SSM	FL-HP SSM	V	No	60	1500	266.00	-	-	755.00	0.67

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

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

Stack No.	Unit No.(s)	Total HAPs		Formaldehyde ☑ HAP or ☐ TAP		Acetaldehyde ☑ HAP or ☐ TAP		Acrolein ☑ HAP or ☐ TAP		Benzene ☑ HAP or ☐ TAP		Ethylbenzene ☑ HAP or ☐ TAP		n-Hexane ☑ HAP or ☐ TAP		Toluene ☑ HAP or ☐ TAP		Xylene ☑ HAP or ☐ TAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
ENG-1	ENG-1	0.78	3.43	0.6	2.64	0.1	0.42	0.06	0.26	0.005	0.02	-	-	0.01	0.06	0.05	0.02	0.002	0.01
ENG-2	ENG-2	0.78	3.43	0.6	2.64	0.1	0.42	0.06	0.26	0.005	0.02	-	-	0.01	0.06	0.05	0.02	0.002	0.01
GEN-1	GEN-1	0.16	0.7	0.12	0.51	0.02	0.07	0.01	0.07	0.01	0.04	-	-	-	-	0.003	0.01	-	-
GEN-2	GEN-2	0.16	0.7	0.12	0.51	0.02	0.07	0.01	0.07	0.01	0.04	-	-	-	-	0.003	0.01	-	-
GEN-3	GEN-3	0.16	0.7	0.12	0.51	0.02	0.07	0.01	0.07	0.01	0.04	-	-	-	-	0.003	0.01	-	-
GEN-4	GEN-4	0.16	0.7	0.12	0.51	0.02	0.07	0.01	0.07	0.01	0.04	-	-	-	-	0.003	0.01	-	-
Totals:		2.2	9.66	1.68	7.32	0.28	1.12	0.16	0.8	0.05	0.2	0	0	0.02	0.12	0.112	0.08	0.004	0.02

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 (MSCF/hr)	Annual Usage (MMSCF/y)	% Sulfur	% Ash
ENG-1	Natural Gas	Field Natural Gas	1157	8.710	76.300	0	0
ENG-2	Natural Gas	Field Natural Gas	1157	8.710	76.300	0	0
GEN-1	Natural Gas	Field Natural Gas	1157	4.320	37.843	0	0
GEN-2	Natural Gas	Field Natural Gas	1157	4.320	37.843	0	0
GEN-3	Natural Gas	Field Natural Gas	1157	4.320	37.843	0	0
GEN-4	Natural Gas	Field Natural Gas	1157	4.320	37.843	0	0
HT-1	Natural Gas	Field Natural Gas	1157	1.300	11.388	0	0
HT-2	Natural Gas	Field Natural Gas	1157	1.300	11.388	0	0
HT-3	Natural Gas	Field Natural Gas	1157	1.300	11.388	0	0
HT-4	Natural Gas	Field Natural Gas	1157	1.300	11.388	0	0
HT-5	Natural Gas	Field Natural Gas	1157	1.300	11.388	0	0
HT-6	Natural Gas	Field Natural Gas	1157	1.300	11.388	0	0
HT-7	Natural Gas	Field Natural Gas	1157	1.300	11.388	0	0
HT-8	Natural Gas	Field Natural Gas	1157	1.300	11.388	0	0
FL-LP	Natural Gas	Field Natural Gas	1157	0.055	0.482	0	0
FL-HP	Natural Gas	Field Natural Gas	1157	0.055	0.482	0	0

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

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

Tank No.	SCC Code		Composition	Liquid Density (lb/gal)	Vapor Molecular Weight (lb/lb*mol)	Average Storage Conditions		Max Storage Conditions	
						Temperature (°F)	True Vapor Pressure (psia)	Temperature (°F)	True Vapor Pressure (psia)
TK-1	4-04-003-12	Crude Oil	Mixed Hydrocarbons	6.5	45.03	77	10.65	77	10.65
TK-2	4-04-003-12	Crude Oil	Mixed Hydrocarbons	6.5	45.03	77	10.65	77	10.65
TK-3	4-04-003-12	Crude Oil	Mixed Hydrocarbons	6.5	45.03	77	10.65	77	10.65
TK-4	4-04-003-12	Crude Oil	Mixed Hydrocarbons	6.5	45.03	77	10.65	77	10.65
TK-5	4-04-003-12	Crude Oil	Mixed Hydrocarbons	6.5	45.03	77	10.65	77	10.65
TK-6	4-04-003-12	Crude Oil	Mixed Hydrocarbons	6.5	45.03	77	10.65	77	10.65
PWTK-1	4-04-003-15	Produced Water	99% Produced Water, 1% Oil	8.3	27.95	77	0.99	77	0.99
PWTK-2	4-04-003-15	Produced Water	99% Produced Water, 1% Oil	8.3	27.95	77	0.99	77	0.99
PWTK-3	4-04-003-15	Produced Water	99% Produced Water, 1% Oil	8.3	27.95	77	0.99	77	0.99
PWTK-4	4-04-003-15	Produced Water	99% Produced Water, 1% Oil	8.3	27.95	77	0.99	77	0.99

Table 2-L: Tank Data

Include appropriate tank-flashing modeling input data. Use an addendum to this table for unlisted data categories. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.
See reference Table 2-L2. Note: 1.00 bbl = 0.159 M3 = 42.0 gal

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M^3)			Roof	Shell			
TK-1	TBD	Crude Oil	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	9,836,750	234.00
TK-2	TBD	Crude Oil	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	9,836,750	234.00
TK-3	TBD	Crude Oil	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	9,836,750	234.00
TK-4	TBD	Crude Oil	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	9,836,750	234.00
TK-5	TBD	Crude Oil	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	9,836,750	234.00
TK-6	TBD	Crude Oil	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	9,836,750	234.00
PWTK-1	TBD	Produced Water	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	81,823,875	1948.00
PWTK-2	TBD	Produced Water	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	81,823,875	1948.00
PWTK-3	TBD	Produced Water	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	81,823,875	1948.00
PWTK-4	TBD	Produced Water	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	81,823,875	1948.00

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

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

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

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

Material Processed				Material Produced			
Description	**Chemical Composition**	**Phase (Gas, Liquid, or Solid)**	**Quantity (specify units)**	**Description**	**Chemical Composition**	**Phase**	**Quantity (specify units)**
				Crude Oil	Mixed Hydrocarbons	Liquid	3,850 bbl/d
				Produced Water	Produced Water	Liquid	21,350 bbl/d
				Natural Gas	Natural Gas	Gas	14 MMscf/d

Table 2-N: CEM Equipment

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

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

Table 2-O: Parametric Emissions Measurement Equipment

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

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

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 permit application is being submitted to authorize the construction and operation of the facility under 20.2.72.200.A.1 NMAC.

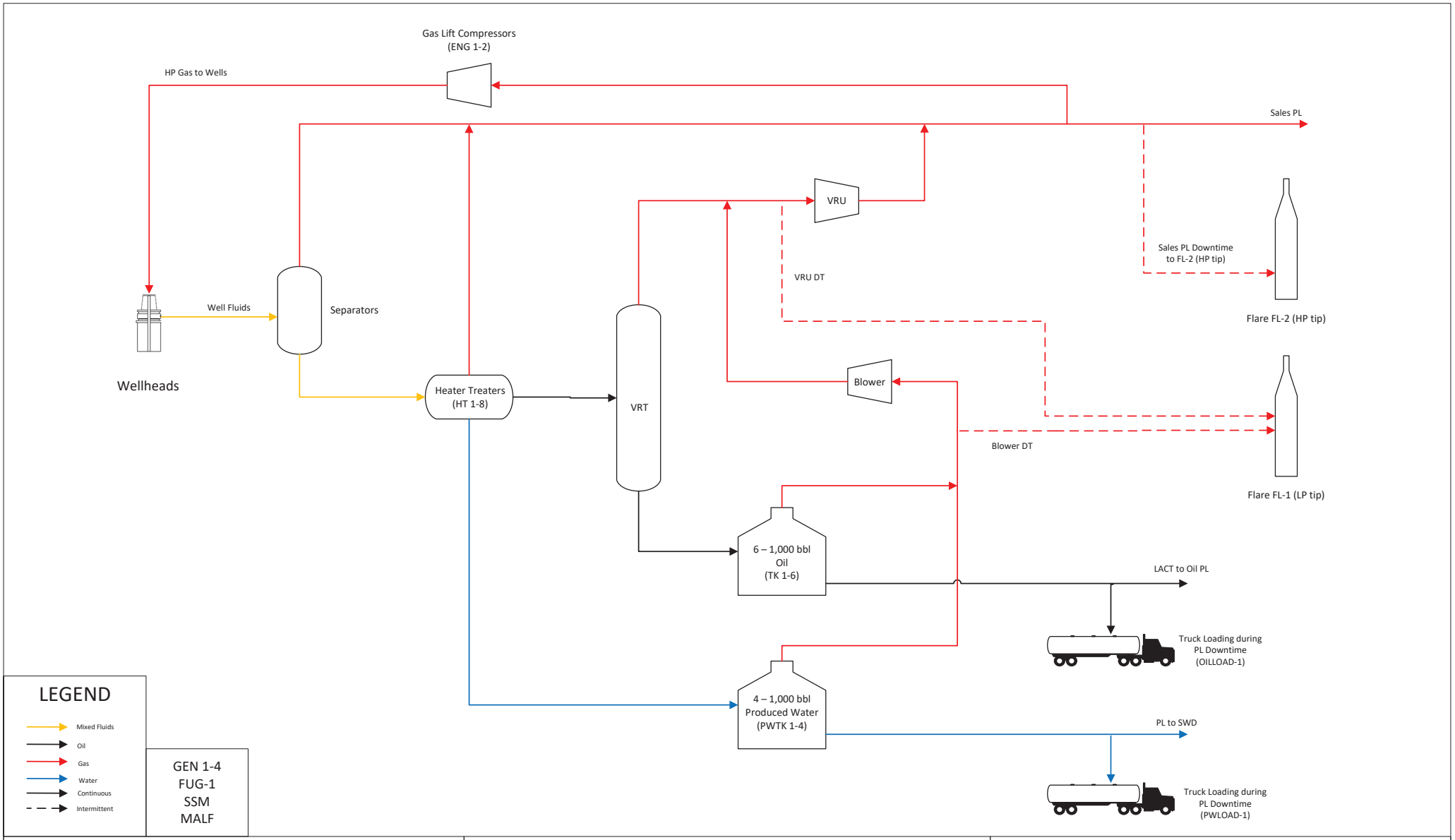
Process Summary: Well fluids are routed to individual initial separators where gas and liquids are separated. Liquids from the initial separators flow to heater treaters (HT 1-8). Oil from the heater treaters enters the vapor recovery towers (VRTs). Gas from the heater treaters joins the gas from the initial separators and is sent to the sales pipeline. Gas is sent to flare during short pipeline downtime periods (FL-2 (HP)). Prior to the sales point, a side stream of gas is removed and sent to gas lift compressors (ENG 1-2). The compressors direct the gas down hole to assist in bringing fluids to the surface. The compressor engines are gas fired and controlled with catalytic converters. Water from the heater treaters flows to atmospheric storage tanks (PWTK 1-4). 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-1 (BDT)). 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 VRTs is routed to a Vapor Recovery Unit (VRU) and to the sales line. The oil from the VRTs is routed to the atmospheric oil storage tanks (TK 1-6). 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-1 (BDT)). 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-1(VDT)).

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.



CDH Consulting, LLC Thornton, CO	Process Flow Diagram November 2024	Tap Rock Operating, LLC High Life CTB

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.

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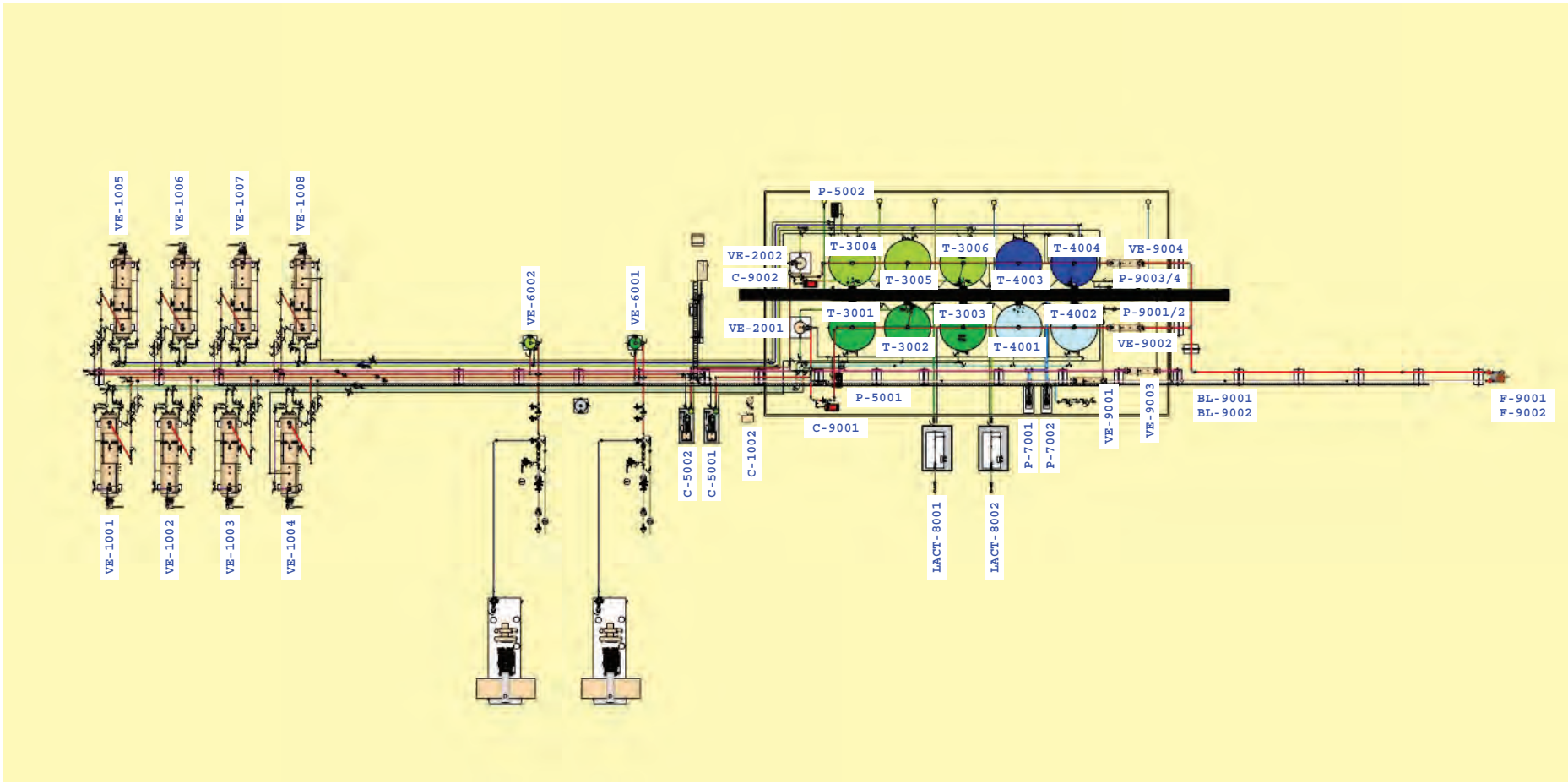
SC ! " #$% $ ' , *



BEAR +P&, P"%*-.%/01/,0'" .+*,%$R*0-	P, $%P,*- "2+0P3"-$%,*4 +$	TAP ROCK $*P%R #) R"& +R#"& 0 1!2#e$\) 3( ) ')*

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 NOx, 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**-1) – During periods of Blower downtime, stream is routed to the flare for destruction (FL-1(BDT))
- **Flare (FL**-1) – During periods of VRU downtime, stream is routed to the flare for destruction (FL-1(VDT))
- **Flare (FL**-2) – During periods of sales line downtime, stream is routed to the flare for destruction (FL-2(HP))

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 b**elow, 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	Nov 20, 2024			Permit/NOI/NPR Number	NA
Company Name:	Tap Rock Operating, LLC			Select Application Type	NSR
Facility Name:	High Life CTB			AI# if Known	NA
Max. Facility Gas Production	14,000	(Mscf/d)	583 (Mscf/h)	Elevation (ft.)	3,510
Max. Facility Oil Production	3,850	(BOPD)	160 (BOPH)	Sour Gas Streams at This Site?	NO
Max. Facility Produced Water	21,350	(BWPD)	890 (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)	2
Dehydrator(s)		Enclosed Combustion Device(s) (ECD)	
Equipment Fugitives	✓	Flare(s)	1
Flash Tower/Ultra-Low Pressure Separator(s)^	2	Generator Engine (s)	4
Gunbarrel Separator(s)/Tank(s)		Heater(s), Heater Treaters	8
Number of Paved Haul Roads Segments		Number of Unpaved Haul Road Segments	
Low Pressure Compressor(s)* & Compressor(s)*		Oil/Condensate Storage Tank(s)	6
Oil/Condensate Truck Loading		Produced Water Storage Tank(s)	4
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)^	2

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:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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
Engine Manufacturer:	Caterpillar
Engine Model:	G3516J
Engine Serial #:	TBD
Engine Manuf. Date:	>7/1/2010
Engine Type:	4SLB
Factory HP Rating	1,380
Allowable HP Rating	1,380
Engine BSFC (Btu/(Hp*Hr))	7,301
Fuel LHV, (BTU/SCF)	1,157
Fuel Sulfur (grains/dscf)	0.002

Quantity of Like-kind Engines:	1
Engine Description	Compressor Engine
Hours/year	8,760
Fuel Type:	Field Gas

Engine Deration

- (•) No Deration
- ( ) Stationary - Naturally Aspirated
- ( ) Stationary - Turbo Aspirated
- ( ) Portable - Naturally Aspirated
- ( ) Portable - Turbo Aspirated

No Deration.

Notes:

Hourly Fuel Flow Rate (MMSCF/hr)	0.008708
Annual Fuel Flow Rate (MMSCF/yr)	76.28208
Maximum Engine RPM	1,400
Exhaust Temperature (°F)	902
Exhaust Velocity (ft/sec)	125.9
Exhaust Flow (ACFM)	2,636
Stack Diameter (ft)	0.67
Stack Height (ft)	25

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	Contrld 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	2.6	76.92	0	0.6	2	7.9101	34.6462	6.0847	26.651	1.8254	7.9953
VOC*	1.07	34.58	0	0.7	0.7	3.2553	14.2582	2.1296	9.3276	2.8286	12.3893
Formaldehyde			0			0	0			0.6034	2.6429
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		0.004976	0.021795			0.004976	0.021795
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0528	NA	NA	NA	NA	0.60343	2.64302	NA	NA	NA	NA
Acetaldehyde	0.00836	NA	NA	NA	NA	0.09554	0.41847	NA	NA	NA	NA
Acrolein	0.00514	NA	NA	NA	NA	0.05874	0.25728	NA	NA	NA	NA
Benzene	0.00044	NA	NA	NA	NA	0.00503	0.02203	NA	NA	NA	NA
Ethylbenzene	0.0000397	NA	NA	NA	NA	0.00045	0.00197	NA	NA	NA	NA
n-Hexane	0.0011	NA	NA	NA	NA	0.01257	0.05506	NA	NA	NA	NA
Toluene	0.000408	NA	NA	NA	NA	0.00466	0.02041	NA	NA	NA	NA
Xylene	0.000184	NA	NA	NA	NA	0.0021	0.0092	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.78252	3.42744	NA	NA	0.78	3.43

* Uncontrolled & Controlled VOC emissions include aldehyde emissions. VOC Emissions for JJJJ do not include aldehyde emissions. [1] For NOI'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

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.iiii
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.

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 SO_2 emissions based on 100% conversion of fuel sulfur to SO_2 and assumes sulfur content in natural gas of 2,000 grains/10^6 scf. The SO2 emission factor is converted to other natural gas sulfur contents by multiplying the SO_2 emission factor by the ratio of the site-specific sulfur content (grains/10^6 scf) to 2,000 grains/10^6 scf. For all other engines not using AP-42, The SO_2 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:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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 2
Engine Manufacturer:	Caterpillar
Engine Model:	G3516J
Engine Serial #:	TBD
Engine Manuf. Date:	> 7/1/2010
Engine Type:	4SLB
Factory HP Rating	1,380
Allowable HP Rating	1,380
Engine BSFC (Btu/(Hp*Hr))	7,301
Fuel LHV, (BTU/SCF)	1,157
Fuel Sulfur (grains/dscf)	0.002

Quantity of Like-kind Engines:	1
Engine Description	Compressor Engine
Hours/year	8,760
Fuel Type:	Field Gas

Engine Deration

- (•) No Deration
- ( ) Stationary - Naturally Aspirated
- ( ) Stationary - Turbo Aspirated
- ( ) Portable - Naturally Aspirated
- ( ) Portable - Turbo Aspirated

No Deration.

Notes:

Hourly Fuel Flow Rate (MMSCF/hr)	0.008708
Annual Fuel Flow Rate (MMSCF/yr)	76.28208
Maximum Engine RPM	1,400
Exhaust Temperature (°F)	902
Exhaust Velocity (ft/sec)	125.9
Exhaust Flow (ACFM)	2,636
Stack Diameter (ft)	0.67
Stack Height (ft)	25

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	Contrld 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	2.6	76.92	0	0.6	2	7.9101	34.6462	6.0847	26.651	1.8254	7.9953
VOC*	1.07	34.58	0	0.7	0.7	3.2553	14.2582	2.1296	9.3276	2.8286	12.3893
Formaldehyde			0			0	0			0.6034	2.6429
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		0.004976	0.021795			0.004976	0.021795
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0528	NA	NA	NA	NA	0.60343	2.64302	NA	NA	NA	NA
Acetaldehyde	0.00836	NA	NA	NA	NA	0.09554	0.41847	NA	NA	NA	NA
Acrolein	0.00514	NA	NA	NA	NA	0.05874	0.25728	NA	NA	NA	NA
Benzene	0.00044	NA	NA	NA	NA	0.00503	0.02203	NA	NA	NA	NA
Ethylbenzene	0.0000397	NA	NA	NA	NA	0.00045	0.00197	NA	NA	NA	NA
n-Hexane	0.0011	NA	NA	NA	NA	0.01257	0.05506	NA	NA	NA	NA
Toluene	0.000408	NA	NA	NA	NA	0.00466	0.02041	NA	NA	NA	NA
Xylene	0.000184	NA	NA	NA	NA	0.0021	0.0092	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.78252	3.42744	NA	NA	0.78	3.43

* Uncontrolled & Controlled VOC emissions include aldehyde emissions. VOC Emissions for JJJJ do not include aldehyde emissions. [1] For NOI'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 Equipment Emissions Calculation Form

Date:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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
Engine Manufacturer:	Power Solutions International
Engine Model:	21.9L
Engine Serial #:	TBD
Engine Manuf. Date:	>7/1/2010
Engine Type:	4SRB
Factory HP Rating	581
Allowable HP Rating	581
Engine BSFC (Btu/(Hp*Hr))	8,616
Fuel LHV, (BTU/SCF)	1,157
Fuel Sulfur (grains/dscf)	0.002

Quantity of Like-kind Engines:	1
Engine Description	Generator Engine
Hours/year	8,760
Fuel Type:	Field Gas

Engine Deration

- (•) No Deration
- ( ) Stationary - Naturally Aspirated
- ( ) Stationary - Turbo Aspirated
- ( ) Portable - Naturally Aspirated
- ( ) Portable - Turbo Aspirated

No Deration.

Notes:

Hourly Fuel Flow Rate (MMSCF/hr)	0.004327
Annual Fuel Flow Rate (MMSCF/yr)	37.90452
Maximum Engine RPM	1,800
Exhaust Temperature (°F)	1,382
Exhaust Velocity (ft/sec)	572
Exhaust Flow (ACFM)	2,995
Stack Diameter (ft)	0.33
Stack Height (ft)	15

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	Contrld EF g/(hp-hr)	JJJJ EF g/hp-hr	lb/hr	Tons/yr	lb/hr	Tons/yr	lb/hr	Tons/yr
NOx^	5.3	90.57	0	0.5	1	6.7886	29.7341	1.2809	5.6103	0.6404	2.805
CO	5.04	88.1	0	0.6	2	6.4556	28.2755	2.5617	11.2202	0.7685	3.366
VOC*	0.7	0	0	0.7	0.7	0.8966	3.9271	0.8966	3.9271	1.0288	4.5061
Formaldehyde			0			0	0			0.1164	0.5098
TSP/PM10/PM2.5	0.0759	0	0	0.0759		0.0972	0.4257		0	0.0972	0.4257
[2]SO_2	0.002	0	0	0.002		0.002473	0.010832			0.002473	0.010832
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0205	NA	NA	NA	NA	0.1164	0.50983	NA	NA	NA	NA
Acetaldehyde	0.00279	NA	NA	NA	NA	0.01584	0.06938	NA	NA	NA	NA
Acrolein	0.00263	NA	NA	NA	NA	0.01493	0.06539	NA	NA	NA	NA
Benzene	0.00158	NA	NA	NA	NA	0.00897	0.03929	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	0.00317	0.01388	NA	NA	NA	NA
Xylene	0.000195	NA	NA	NA	NA	0.00111	0.00486	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.16056	0.70324	NA	NA	0.16	0.7

* Uncontrolled & Controlled VOC emissions include aldehyde emissions. VOC Emissions for JJJJ do not include aldehyde emissions. [1] For NOI'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

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.iiii
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.

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 SO_2 emissions based on 100% conversion of fuel sulfur to SO_2 and assumes sulfur content in natural gas of 2,000 grains/10^6 scf. The SO2 emission factor is converted to other natural gas sulfur contents by multiplying the SO_2 emission factor by the ratio of the site-specific sulfur content (grains/10^6 scf) to 2,000 grains/10^6 scf. For all other engines not using AP-42, The SO_2 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:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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
Engine Manufacturer:	Power Solutions International
Engine Model:	21.9L
Engine Serial #:	TBD
Engine Manuf. Date:	>7/1/2010
Engine Type:	4SRB
Factory HP Rating	581
Allowable HP Rating	581
Engine BSFC (Btu/(Hp*Hr))	8,616
Fuel LHV, (BTU/SCF)	1,157
Fuel Sulfur (grains/dscf)	0.002

Quantity of Like-kind Engines:	1
Engine Description	Generator Engine
Hours/year	8,760
Fuel Type:	Field Gas

Engine Deration

- (•) No Deration
- ( ) Stationary - Naturally Aspirated
- ( ) Stationary - Turbo Aspirated
- ( ) Portable - Naturally Aspirated
- ( ) Portable - Turbo Aspirated

No Deration.

Notes:

Hourly Fuel Flow Rate (MMSCF/hr)	0.004327
Annual Fuel Flow Rate (MMSCF/yr)	37.90452
Maximum Engine RPM	1,800
Exhaust Temperature (°F)	1,382
Exhaust Velocity (ft/sec)	572
Exhaust Flow (ACFM)	2,995
Stack Diameter (ft)	0.33
Stack Height (ft)	15

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	Contrld EF g/(hp-hr)	JJJJ EF g/hp-hr	lb/hr	Tons/yr	lb/hr	Tons/yr	lb/hr	Tons/yr
NOx^	5.3	90.57	0	0.5	1	6.7886	29.7341	1.2809	5.6103	0.6404	2.805
CO	5.04	88.1	0	0.6	2	6.4556	28.2755	2.5617	11.2202	0.7685	3.366
VOC*	0.7	0	0	0.7	0.7	0.8966	3.9271	0.8966	3.9271	1.0288	4.5061
Formaldehyde			0			0	0			0.1164	0.5098
TSP/PM10/PM2.5	0.0759	0	0	0.0759		0.0972	0.4257		0	0.0972	0.4257
[2]SO_2	0.002	0	0	0.002		0.002473	0.010832			0.002473	0.010832
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0205	NA	NA	NA	NA	0.1164	0.50983	NA	NA	NA	NA
Acetaldehyde	0.00279	NA	NA	NA	NA	0.01584	0.06938	NA	NA	NA	NA
Acrolein	0.00263	NA	NA	NA	NA	0.01493	0.06539	NA	NA	NA	NA
Benzene	0.00158	NA	NA	NA	NA	0.00897	0.03929	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	0.00317	0.01388	NA	NA	NA	NA
Xylene	0.000195	NA	NA	NA	NA	0.00111	0.00486	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.16056	0.70324	NA	NA	0.16	0.7

* Uncontrolled & Controlled VOC emissions include aldehyde emissions. VOC Emissions for JJJJ do not include aldehyde emissions. [1] For NOI'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 Equipment Emissions Calculation Form

Date:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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
Engine Manufacturer:	Power Solutions International
Engine Model:	21.9L
Engine Serial #:	TBD
Engine Manuf. Date:	>7/1/2010
Engine Type:	4SRB
Factory HP Rating	581
Allowable HP Rating	581
Engine BSFC (Btu/(Hp*Hr))	8,616
Fuel LHV, (BTU/SCF)	1,157
Fuel Sulfur (grains/dscf)	0.002

Quantity of Like-kind Engines:	1
Engine Description	Generator Engine
Hours/year	8,760
Fuel Type:	Field Gas

Engine Deration

- (•) No Deration
- ( ) Stationary - Naturally Aspirated
- ( ) Stationary - Turbo Aspirated
- ( ) Portable - Naturally Aspirated
- ( ) Portable - Turbo Aspirated

No Deration.

Notes:

Hourly Fuel Flow Rate (MMSCF/hr)	0.004327
Annual Fuel Flow Rate (MMSCF/yr)	37.90452
Maximum Engine RPM	1,800
Exhaust Temperature (°F)	1,382
Exhaust Velocity (ft/sec)	572
Exhaust Flow (ACFM)	2,995
Stack Diameter (ft)	0.33
Stack Height (ft)	15

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	Contrld EF g/(hp-hr)	JJJJ EF g/hp-hr	lb/hr	Tons/yr	lb/hr	Tons/yr	lb/hr	Tons/yr
NOx^	5.3	90.57	0	0.5	1	6.7886	29.7341	1.2809	5.6103	0.6404	2.805
CO	5.04	88.1	0	0.6	2	6.4556	28.2755	2.5617	11.2202	0.7685	3.366
VOC*	0.7	0	0	0.7	0.7	0.8966	3.9271	0.8966	3.9271	1.0288	4.5061
Formaldehyde			0			0	0			0.1164	0.5098
TSP/PM10/PM2.5	0.0759	0	0	0.0759		0.0972	0.4257		0	0.0972	0.4257
[2]SO_2	0.002	0	0	0.002		0.002473	0.010832			0.002473	0.010832
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0205	NA	NA	NA	NA	0.1164	0.50983	NA	NA	NA	NA
Acetaldehyde	0.00279	NA	NA	NA	NA	0.01584	0.06938	NA	NA	NA	NA
Acrolein	0.00263	NA	NA	NA	NA	0.01493	0.06539	NA	NA	NA	NA
Benzene	0.00158	NA	NA	NA	NA	0.00897	0.03929	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	0.00317	0.01388	NA	NA	NA	NA
Xylene	0.000195	NA	NA	NA	NA	0.00111	0.00486	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.16056	0.70324	NA	NA	0.16	0.7

* Uncontrolled & Controlled VOC emissions include aldehyde emissions. VOC Emissions for JJJJ do not include aldehyde emissions. [1] For NOI'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 Equipment Emissions Calculation Form

Date:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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 4
Engine Manufacturer:	Power Solutions International
Engine Model:	21.9L
Engine Serial #:	TBD
Engine Manuf. Date:	>7/1/2010
Engine Type:	4SRB
Factory HP Rating	581
Allowable HP Rating	581
Engine BSFC (Btu/(Hp*Hr))	8,616
Fuel LHV, (BTU/SCF)	1,157
Fuel Sulfur (grains/dscf)	0.002

Quantity of Like-kind Engines:	1
Engine Description	Generator Engine
Hours/year	8,760
Fuel Type:	Field Gas

Engine Deration

- (•) No Deration
- ( ) Stationary - Naturally Aspirated
- ( ) Stationary - Turbo Aspirated
- ( ) Portable - Naturally Aspirated
- ( ) Portable - Turbo Aspirated

No Deration.

Notes:

Hourly Fuel Flow Rate (MMSCF/hr)	0.004327
Annual Fuel Flow Rate (MMSCF/yr)	37.90452
Maximum Engine RPM	1,800
Exhaust Temperature (°F)	1,382
Exhaust Velocity (ft/sec)	572
Exhaust Flow (ACFM)	2,995
Stack Diameter (ft)	0.33
Stack Height (ft)	15

Select Source of Emission Factors

- ( ) AP-42 Emission Factors
- ( ) Manufacturer Specs (Enter Appropriate Emission Factors Below) or Diesel Tier 1, 2, 3 or 4
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- (•) 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	Contrld EF g/(hp-hr)	JJJJ EF g/hp-hr	lb/hr	Tons/yr	lb/hr	Tons/yr	lb/hr	Tons/yr
NOx^	5.3	90.57	0	0.5	1	6.7886	29.7341	1.2809	5.6103	0.6404	2.805
CO	5.04	88.1	0	0.6	2	6.4556	28.2755	2.5617	11.2202	0.7685	3.366
VOC*	0.7	0	0	0.7	0.7	0.8966	3.9271	0.8966	3.9271	1.0288	4.5061
Formaldehyde			0			0	0			0.1164	0.5098
TSP/PM10/PM2.5	0.0759	0	0	0.0759		0.0972	0.4257		0	0.0972	0.4257
[2]SO_2	0.002	0	0	0.002		0.002473	0.010832			0.002473	0.010832
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0205	NA	NA	NA	NA	0.1164	0.50983	NA	NA	NA	NA
Acetaldehyde	0.00279	NA	NA	NA	NA	0.01584	0.06938	NA	NA	NA	NA
Acrolein	0.00263	NA	NA	NA	NA	0.01493	0.06539	NA	NA	NA	NA
Benzene	0.00158	NA	NA	NA	NA	0.00897	0.03929	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	0.00317	0.01388	NA	NA	NA	NA
Xylene	0.000195	NA	NA	NA	NA	0.00111	0.00486	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.16056	0.70324	NA	NA	0.16	0.7

* Uncontrolled & Controlled VOC emissions include aldehyde emissions. VOC Emissions for JJJJ do not include aldehyde emissions. [1] For NOI'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

Date: Nov 20, 2024
Company Name: Tap Rock Operating, LLC
Facility Name: High Life CTB

Permit Number: NA
AI# if Known: NA
Elevation (ft.): 3,510

Total Requested Emissions For All Regulated Engines (NSR Request)

UnitID	NO_X		CO		VOC		SO_X		TSP		PM_{10}		$PM_{2.5}$		H_2S		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	2.83	12.39	0	0.02	0.1	0.44	0.1	0.44	0.1	0.44			0.78	3.43
ENG 2	1.52	6.66	1.83	8	2.83	12.39	0	0.02	0.1	0.44	0.1	0.44	0.1	0.44			0.78	3.43
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	4.51	0	0.01	0.1	0.43	0.1	0.43	0.1	0.43			0.16	0.7
GEN 2	0.64	2.81	0.77	3.37	1.03	4.51	0	0.01	0.1	0.43	0.1	0.43	0.1	0.43			0.16	0.7
GEN 3	0.64	2.81	0.77	3.37	1.03	4.51	0	0.01	0.1	0.43	0.1	0.43	0.1	0.43			0.16	0.7
GEN 4	0.64	2.81	0.77	3.37	1.03	4.51	0	0.01	0.1	0.43	0.1	0.43	0.1	0.43			0.16	0.7
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	**5.6**	**24.56**	**6.74**	**29.48**	**9.78**	**42.82**	**0**	**0.08**	**0.6**	**2.6**	**0.6**	**2.6**	**0.6**	**2.6**			**2.2**	**9.66**

New Mexico Environment Department Air Quality Bureau Emissions Calculation Forms

Date:	Nov 20, 2024	**Permit Number:**	NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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/10^6 scf). **2,000**

SO_2 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		$PM/PM_{10}/PM_{2.5}$	
		MMBtu/hr	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
+ -	HT-5	1.5	0.147	0.644	0.124	0.543	0.008	0.035	0	0	0.011	0.048
+ -	HT-6	1.5	0.147	0.644	0.124	0.543	0.008	0.035	0	0	0.011	0.048
+ -	HT-7	1.5	0.147	0.644	0.124	0.543	0.008	0.035	0	0	0.011	0.048
+ -	HT-8	1.5	0.147	0.644	0.124	0.543	0.008	0.035	0	0	0.011	0.048
	Totals		1.176	5.152	0.992	4.344	0.064	0.28	0	0	0.088	0.384

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/10^6 scf). To convert to an energy basis (lb/MMBtu), divide by a heating value of 1,020 MMBtu/10^6 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

SO_2 emissions based on 100% conversion of fuel sulfur to SO_2 and assumes sulfur content in natural gas of 2,000 grains/10^6 scf. The SO_2 emission factor is converted to other natural gas sulfur contents by multiplying the SO_2 emission factor by the ratio of the site-specific sulfur content (grains/10^6 scf) to 2,000 grains/10^6 scf.

Date:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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 ($)	$5,000.00	Oil Production (BOPD)	3,850
VRT/ULPS/LPC/VRU Rental Costs ($/mo)	$0.00	VRT/ULPS Vapor Production (Mcf/d)	60
Capital Cost of LPC/VRU ($)	$5,000.00	Heating Value of Vapors (Btu/scf)	2,029
Annual Maintenance & Service Costs ($/yr)	$5,000.00	Natural Gas Price ($/MMBtu)	$2.73
Annual Electricity or Fuel Costs ($/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)	$571,539.10
Annual VRT/ULPS/LPC/VRU Revenue ($/yr)	$121,307.82	Payback Period (Yrs)	0.289
VRT/ULPS/LPC/VRU Lifetime Revenue ($)	$606,539.10	Lifetime Benefit-Cost Ratio	17.33

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:

Footnote: All estimates based on current dollars unless specified otherwise; Tank vapor estimates based on flash calculation method noted in Tanks form based on oil throughput noted in p2 of AECT (this can be changed by user); Gas price based on EIA Natural Gas Weekly Update. * The time value of money is not taken into account.

Date:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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-2	VRT/ULPS/LPC/VRU-2 Benefit-Cost Analysis*		
Capital Cost of VRT/ULPS ($)	$5,000.00	Oil Production (BOPD)	3,850
VRT/ULPS/LPC/VRU Rental Costs ($/mo)	$0.00	VRT/ULPS Vapor Production (Mcf/d)	60
Capital Cost of LPC/VRU ($)	$5,000.00	Heating Value of Vapors (Btu/scf)	2,029
Annual Maintenance & Service Costs ($/yr)	$5,000.00	Natural Gas Price ($/MMBtu)	$2.73
Annual Electricity or Fuel Costs ($/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)	$571,539.10
Annual VRT/ULPS/LPC/VRU Revenue ($/yr)	$121,307.82	Payback Period (Yrs)	0.289
VRT/ULPS/LPC/VRU Lifetime Revenue ($)	$606,539.10	Lifetime Benefit-Cost Ratio	17.33

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:

Footnote: All estimates based on current dollars unless specified otherwise; Tank vapor estimates based on flash calculation method noted in Tanks form based on oil throughput noted in p2 of AECT (this can be changed by user); Gas price based on EIA Natural Gas Weekly Update. * The time value of money is not taken into account.

Date:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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	
Up To 10 Units		pph	tpy	pph*	tpy*	pph	tpy
+ -	TK-1	23.53	103.06	0.02	0.1	0	0
+ -	TK-2	23.53	103.06	0.02	0.1	0	0
+ -	TK-3	23.53	103.06	0.02	0.1	0	0
+ -	TK-4	23.53	103.06	0.02	0.1	0	0
+ -	TK-5	23.53	103.06	0.02	0.1	0	0
+ -	TK-6	23.53	103.06	0.02	0.1	0	0
	Totals	141.18	618.36	0.12	0.6	0	0

Notes 1 & 2 See next page; * Emissions only represented at tanks if "Yes" is selected to represent emissions at tanks.

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

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

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

Vasquez-Beggs Methodology

INPUTS			Constraints			
API Gravity		API	16	<API>	58	^{0}API
Separator Pressure (psig)		P	50	<P+Patm>	5250	psia
Separator Temp. (^{0}F)		Ti	70	<Ti>	295	^{0}F
Separator Gas Gravity at Initial Condition		SGi	0.56	<SGi>	1.18	MW/28.97
Barrels of Oil/Day (BOPD)	641.67	Q	None	<Q>	None	BOPD
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

Constants			
	^{0}API Gravity		
^{0}APTI	<30	≥30	Given^{0}API
C1	0.0362	0.0178	
C2	1.0937	1.187	
C3	25.724	23.931	

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

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

THC = Rs * Q * MW * 1/385 scf/lb-mole * 365 D/Yr * 1 ton/2000 lbs

VOC = THC * 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.

Date:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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	9.64	42.22	0.2	0.89	0	0
+ -	TK-2	9.64	42.22	0.2	0.89	0	0
+ -	TK-3	9.64	42.22	0.2	0.89	0	0
+ -	TK-4	9.64	42.22	0.2	0.89	0	0
+ -	TK-5	9.64	42.22	0.2	0.89	0	0
+ -	TK-6	9.64	42.22	0.2	0.89	0	0
	Totals	57.84	253.32	1.2	5.34	0	0

Notes 1 & 2 See next page; * Emissions only represented at tanks if "Yes" is selected to represent emissions at tanks.

New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

Startup, Shutdown & Maintenance and Malfunction

- ○ No SSM emissions are expected from routine operations.
- ◉ Request up to 10 tpy of VOC SSM emissions.
- ○ Request site specific VOC & H2S SSM and enter information below.
- ○ Request site specific VOC & H2S SSM plus 10 tpy VOC and enter information below.
- ○ Request site specific combustion SSM and those emissions are included in Section 4 (attach calculations.)
- ◉ Request 10 tpy VOC Malfunction emissions for GCP-O&G, GCP-6 or NSR permitting actions only.

	Blowdowns			Engine Startups		
Unit Numbers						
Quantity of Like-kind Blowdown Units or Engines	1					
Total Volume of Each Blowdown or Engine Startup Vent (acf)						
Duration of Event (Minutes)						
Maximum Blowdowns or Startups/hr	1					
Frequency of Blowdowns or Engine Startups (Events/yr)						
Total Actual Volume of Gas Vented (acf/yr)	0					
Pressure of Gas Inside Unit Before Venting (psig)						
Final Pressure (psia)	14.7					
Gas Temperature Prior to Venting (°F)						
Vented Gas Molecular Weight (lb/lb-mol						
Vented Gas VOC wt %						
Vented Total HAP wt %						
Vented Gas Benzene wt %						
Vented Gas H_2S wt %						

Startup, Shutdown and Maintenance Emissions (SSM) and Malfunction Emissions

SSM	VOC		Total HAP		Benzene		H_2S	
	PPH	TPY	PPH	TPY	PPH	TPY	PPH	TPY
SSM Blowdowns								
SSM Startups								
SSM Other (Attach Calculations)								
SSM Totals		**10**						
Malfunction Total		**10**						

Notes

Planned SSM Emissions

The venting emissions calculations herein should only be used when only gas (no liquids) is present in the unit. The calculation of the vented gas is based on the volume of the unit and assumes the unit is saturated with vapor at the pressure and temperature of the unit before venting occurs. If liquids are also present in the gas, please enter the calculated amounts in the SSM Other row only and submit separate calculations, since the calculations on this form do not account for the evaporation of liquids that may be present in the unit.

Calculations are based on the Ideal gas law: P(V) = n(R)(T)

VOC result = (((Pressure of Gas Inside the Unit Before Venting) * (Actual Volume of the Vented Unit)) / (Frequency of events) * (Molecular Weight) * VOC wt%)/(Ideal Gas Constant) * (Temperature of Gas Inside the Unit Before Venting)

Where the Ideal Gas Constant = 10.73159 (ft^3*psia)/R*lb-mol

For SSM combustion emissions, attach separate calculations.

Date:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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	1.56	6.85	0	0.01	0	0
+ -	PWTK- 2	1.56	6.85	0	0.01	0	0
+ -	PWTK- 3	1.56	6.85	0	0.01	0	0
+ -	PWTK- 4	1.56	6.85	0	0.01	0	0
	Totals	6.24	27.4	0	0.04	0	0

Notes 1 & 2 See next page; * Emissions only represented at tanks if "Yes" is selected to represent emissions at tanks.

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 efficieny, 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

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

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

Vasquez-Beggs Methodology

INPUTS			Constraints			
API Gravity		API	16	<API>	58	^{0}API
Separator Pressure (psig)		P	50	<P+Patm>	5250	psia
Separator Temp. (^{0}F)		Ti	70	<Ti>	295	^{0}F
Separator Gas Gravity at Initial Condition		SGi	0.56	<SGi>	1.18	MW/28.97
Barrels of Water/Day (BOPD)	5,337.5	Q	None	<Q>	None	BOPD
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

Constants			
	^{0}API Gravity		
^{0}APTI	<30	≥30	Given^{0}API
C1	0.0362	0.0178	
C2	1.0937	1.187	
C3	25.724	23.931	

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

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

THC = Rs * Q * MW * 1/385 scf/lb-mole * 365 D/Yr * 1 ton/2000 lbs

VOC = THC * 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:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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	1.94	8.48	0.04	0.18	0	0
+ -	PWTK-2	1.94	8.48	0.04	0.18	0	0
+ -	PWTK-3	1.94	8.48	0.04	0.18	0	0
+ -	PWTK-4	1.94	8.48	0.04	0.18	0	0
	Totals	7.76	33.92	0.16	0.72	0	0

Notes 1 & 2 See next page; * Emissions only represented at tanks if "Yes" is selected to represent emissions at tanks.

New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

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-1 (BDT)	FL-1 (VDT)	FL-2 (HP)	Hourly Gas Routed to Flare (MMBtu/hr)	5.53152	10.20587	674.91281
Hourly Gas Stream to Flare (Mscf/hr)	2.68	5.03	583.33	Annual Gas Routed to Flare (MMBtu/yr)	4,850.4	8,947.89	177,368.1
Annual Gas Stream to Flare (MMscf/yr)	2.35	4.41	153.3	Pilot Gas Routed to Flare (MMBtu/hr)	0.063635	0	0.063635
Max. Heat Value of Gas (Btu/scf)	2,064	2,029	1,157	Gas MW (lb/lbmol)	41.46	40.23	21.39
Field Gas Mol Fraction (lbmol H2S/lb-mol)				Gas Pressure (psia)	14.7	14.7	14.7
Field Gas Sulfur Content (S grains/100 scf)				Gas Temperature (°F)	70	70	70
Pilot Gas to Flare (Mscf/hr)	0.055		0.055	Field Gas H2S Wt.% to Flare (%)			
Max. Heat Value Pilot Gas (Btu/scf)	1,157		1,157	Flare Control Efficiency	98	98	98
Pilot Gas Sulfur Content (S grains/100 scf)				Total VOC wt.% to Flare (%)[1]	72.72	71.53	24.36
Source of Flare Emission Factors	AP-42 Table	AP-42 Table	AP-42 Table	Safety Factor Applied to Total Emissions (%)			
Use Highest NOx & CO Emission Factors From AP-42 or TCEQ	NO	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	213.29	381.83	8,020	0	0	0	0	0	0
Uncontrolled (tpy)	0	0	0	0	0	0	93.42	167.24	1,053.83	0	0	0	0	0	0
Field Gas (pph)	0.3761	0.694	45.8941	1.7148	3.1638	209.223	4.27	7.64	160.4	0	0	0	0	0	0
Field Gas (tpy)	0.1649	0.3042	6.0305	0.7518	1.3869	27.4921	1.87	3.34	21.08	0	0	0	0	0	0
Pilot Gas (pph)	0.0043		0.0043	0.0197		0.0197	0	0	0	0	0	0	0	0	0
Pilot Gas (tpy)	0.019		0.019	0.0864		0.0864	0	0	0	0	0	0	0	0	0
Subtotal Flare (pph)	0.3804	0.694	45.8984	1.7345	3.1638	209.2427	4.27	7.64	160.4	0	0	0	0	0	0
Subtotal Flare (tpy)	0.1839	0.3042	6.0495	0.8382	1.3869	27.5785	1.87	3.34	21.08	0	0	0	0	0	0
Total Flare (pph)	46.97			214.14			172.31			0			0		
Total Flare (tpy)	6.54			29.8			26.29			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 NOx, CO & VOC based on AP-42, Table 13.5-1, (Dec. 2015) or TCEQ RG-360A/11 (February 2012); #) Assumes H_2S is converted to SO_2 at selected control efficiency; SO2 emissions based on mass balance; +) Assumes H_2S 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 NOx, 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) SO_2 calculations assumes H_2S is converted to SO_2 at selected control efficiency; SO_2 emissions based on mass balance;
4) H_2S calculations assume H_2S Destruction Efficiency equals flare destruction efficiency;

Sample Calculations

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

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

SO_2 pph= Hourly Gas Stream to flare (MMScf/hr) * 1000000/1 (scf/MMScf) * Field Gas mol Fraction of H_2S (mol H_2S/lb-mol)/100 * 1/Universal Gas Constant 385 scf/lb-mole @ 60^{O}F, 1 atm * Conversion Rate of H_2S to SO_2 lb-mol SO_2/lb-mol H_2S * Molecular Weight of Sulfur Dioxide (64 lb SO_2/lb-mol SO_2)
= 1 MMScf/hr * 1000000/1 (Scf/MMScf) * 0.1 mol H_2S* 1/385 scf/lb-mole * 0.95 lb-mol SO_2/lb-mol H_2S * 64 lb/lb-mol

Residual

H_2S pph= Hourly Gas Stream to flare (MMScf/hr) * 1000000/1 (scf/MMScf) * Field Gas mol Fraction of H_2S (mol H_2S/lb-mol)/100 * 1/Universal Gas Constant 385 scf/lb-mole @ 60^{O}F, 1 atm * (100-(Flare Control Efficiency))/100) * Molecular Weight of Hydrogen Sulfide (34 lb H_2S/lb-mol H_2S)
= 1 MMScf/hr * 1000000/1 (Scf/MMScf) * 0.1 mol H_2S* 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)
NOx	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:	Nov 20, 2024	**Permit Number:**	NSR-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	High Life CTB	**Elevation (ft.):**	3,510

Emission Unit ID: FUG-1 **Fill all green/blue boxes changing default values as appropriate.**

Fugitive Volatile Organic Compounds (VOC), Total HAPs (HAP), Benzene (CH6) & Hydrogen Sulfide (H_2S) Emissions

					Uncontrolled Total								Controlled Total							
					VOC		Total HAP		CH_6		H_2S		VOC		Total HAP		CH_6		H_2S	
Service	%VOC	%HAP	%CH_6	%H_2S	PPH	TPY	PPH	TPY	PPH	TPY	PPH	TPY	PPH	TPY	PPH	TPY	PPH	TPY	PPH	TPY
Gas	24.36%				0.96	4.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Oil	100%				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Light Oil	100%				5.07	22.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water/Oil	1%				0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals					6.03	26.41	0	0	0	0	0	0	0	0	0	0	0	0	0	0

				Uncontrolled VOC, HAP & CH_6 Emissions							Controlled VOC, HAP & CH_6 Emissions					
Equipment Type	Service[a]	EF[b] PPH/Source	No. of Sources	VOC PPH	VOC TPY	HAP PPH	HAP TPY	CH_6 PPH	CH_6 TPY	Control Efficiency	VOC PPH	VOC TPY	HAP PPH	HAP TPY	CH_6 PPH	CH_6 TPY
Valves	Gas	0.0099207	304	0.7347	3.218	0	0	0	0	0%	0	0	0	0	0	0
	Heavy Oil	0.00001852	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
	Light Oil	0.0055115	608	3.351	14.6774	0	0	0	0	0%	0	0	0	0	0	0
	Water/Oil	0.00021605	101	0.0002	0.0009	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				4.0859	17.896	0	0	0	0		0	0	0	0	0	0
Pump Seals	Gas	0.00529104	0	0	0	0	0	0	0	0%	0	0	0	0		0
	Heavy Oil	0.0286598	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
	Light Oil	0.0286598	2	0.0573	0.251	0	0	0	0	0%	0	0	0	0	0	0
	Water/Oil	0.00005291	2	0	0	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				0.0573	0.251	0	0	0	0		0	0	0	0	0	0
Connectors	Gas	0.00044092	983	0.1056	0.4625	0	0	0	0	0%	0	0	0	0	0	0
	Heavy Oil	0.00001653	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
	Light Oil	0.00046297	1,967	0.9107	3.9889	0	0	0	0	0%	0	0	0	0	0	0
	Water/Oil	0.00024251	328	0.0008	0.0035	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				1.0171	4.4549	0	0	0	0		0	0	0	0	0	0
Flanges	Gas	0.00085979	37	0.0077	0.0337	0	0	0	0	0%	0	0	0	0	0	0
	Heavy Oil	0.00000086	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
	Light Oil	0.00024251	74	0.0179	0.0784	0	0	0	0	0%	0	0	0	0	0	0
	Water/Oil	0.00000639	12	0	0	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				0.0256	0.1121	0	0	0	0		0	0	0	0	0	0
Open Ends	Gas	0.0044092	28	0.0301	0.1318	0	0	0	0	0%	0	0	0	0	0	0
	Heavy Oil	0.00030864	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
	Light Oil	0.00308644	55	0.1698	0.7437	0	0	0	0	0%	0	0	0	0	0	0
	Water/Oil	0.00055115	9	0	0	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				0.1999	0.8755	0	0	0	0		0	0	0	0	0	0
Other[c]	Gas	0.01940048	17	0.0803	0.3517	0	0	0	0	0%	0	0	0	0	0	0
	Heavy Oil	0.00007055	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
	Light Oil	0.0165345	34	0.5622	2.4624	0	0	0	0	0%	0	0	0	0	0	0
	Water/Oil	0.0308644	6	0.0019	0.0083	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				0.6444	2.8224	0	0	0	0		0	0	0	0	0	0

Based on: *1995 Protocol for Equipment Leak Emission Estimates*, Table 2.4 Version Date: 6/23/16; See next page for calculation notes.

Calculation Tool for Fugitive Emissions Oil & Gas Production

Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017), Table 2-4;
available at the EPA Web site at https://www3.epa.gov/ttn/chief/efdocs/equiplks.pdf

a) Service categories are defined as follows:

1) Gas/vapor - material in a gaseous state at operating conditions;

2) Light liquid - material in a liquid state in which the sum of the concentration of individual constituents with a vapor pressure over 0.3 kilopascals (kPa) at 200C is greater than or equal to 20 weight percent;

3) Heavy liquid - not in gas/vapor service or light liquid service.

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

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

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

d) Note that the average factors generally determine total hydrocarbon emissions. Therefore, you may need to multiply the calculated emission rates by the stream's weight percentage of VOC compounds to determine total VOC emissions. Please attach a copy of the appropriate gas and oil analysis with the stream's weight percentage of VOC compounds identified.

VOC Sample Calculation
For 10 Valves in Gas Service with a gas stream weight percentage of 25% VOC

Emission Factor (EF) lb/hr=0.0045 kg/hr * 2.2046 lbs/kg
Gas Valves Uncontrolled Emissions

pph EF (Valves in Gas Service) * Number of Valves in Gas Service & VOC wt%
0.0099207 lb/hr * 10 valves = 0.099207 lb/hr * 25%/100

tpy EF (Valves in Gas Service) * Number of Valves in Gas Service * 8760 hrs/yr * 1ton/2000 lbs
0.0099207 lb/hr * 10 valves * 8760 hrs/yr * 1/2000 ton/lbs = 0.4345 tons/yr * 25%/100

Total Uncontrolled Fugitive Emissions for all Service types in Gas Service

pph (Uncontrolled pph Emissions for Valves + Pump Seals + Connectors + Flanges + Open Ends + Other) * VOC wt%/100

tpy (Uncontrolled tpy Emissions for Valves + Pump Seals + Connectors + Flanges + Open Ends + Other) * VOC wt%/100

New Mexico Environment Department Air Quality Bureau Emissions Calculation Forms

Date: Nov 20, 2024
Company Name: Tap Rock Operating, LLC
Facility Name: High Life CTB

Permit Number: NA
AI# if Known: NA
Elevation (ft.): 3,510

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_2S		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	5.6	24.56	6.74	29.48	9.78	42.82	0	0.08	0.6	2.6	0.6	2.6	0.6	2.6	-	-	2.2	9.66
Heaters	1.18	5.15	0.99	4.34	0.06	0.28	0	0	0.09	0.38	0.09	0.38	0.09	0.38	-	-		
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	46.97	6.54	214.14	29.8	172.31	26.29	0	0										
Fugitives	-	-	-	-	6.03	26.41									0	0	0	0
SSM						10												
Malf.	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-
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	**53.75**	**36.25**	**221.87**	**63.62**	**188.18**	**115.8**	**0**	**0.08**	**0.69**	**2.98**	**0.69**	**2.98**	**0.69**	**2.98**	**0**	**0**	**2.2**	**9.66**

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.

Supplemental Calculations
High Life CTB
November 2024

Production

	bbl/yr	bbl/d	bbl/hr
Oil	1,405,250	3,850	160.4
Produced Water	7,792,750	21,350	889.6

gal/yr/tank	turn/tank/yr
9,836,750	234
81,823,875	1,948

	MMscf/yr	MMscf/d	Mscf/hr
Gas	5,110	14.0	583.3

LP Flare Calculations

DRE = 98%

Blower DT -->	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	23.53	103.06	9.64	42.22	33.17	145.29	100%	33.17	145.29				
TK-2	23.53	103.06	9.64	42.22	33.17	145.29	100%	33.17	145.29				
TK-3	23.53	103.06	9.64	42.22	33.17	145.29	100%	33.17	145.29				
TK-4	23.53	103.06	9.64	42.22	33.17	145.29	100%	33.17	145.29				
TK-5	23.53	103.06	9.64	42.22	33.17	145.29	100%	33.17	145.29				
TK-6	23.53	103.06	9.64	42.22	33.17	145.29	100%	33.17	145.29	199.02	871.72	3.98	17.43
PWTK-1	1.56	6.85	1.94	8.48	3.50	15.33	100%	3.50	15.33				
PWTK-2	1.56	6.85	1.94	8.48	3.50	15.33	100%	3.50	15.33				
PWTK-3	1.56	6.85	1.94	8.48	3.50	15.33	100%	3.50	15.33				
PWTK-4	1.56	6.85	1.94	8.48	3.50	15.33	100%	3.50	15.33	14.00	61.30	0.28	1.23
										213.02	**933.02**	**4.26**	**18.66**

	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)	0.064352	2681.32	2.68	2.35	2064	41.46	72.72	213.29	93.42	0.0000	0.0000	0.0000	0.0000	0.0000
VRU DT (10%) (FL-LPb)	0.120698	5029.07	5.03	4.41	2029	40.23	71.53	381.83	167.24	0.0000	0.0000	0.0000	0.0000	0.0000
Total Uncontrolled FL-LP			7.71	6.75				595.12	260.66					
Total Controlled FL-LP								**11.90**	**5.21**					

HP Flare Calculations

Sales Gas DT [3%] (FL-HP)	14.0	583333.33	583.33	153.30	1157	21.39	24.36	8020.00	1053.83	0.0000	0.0000	0.0000	0.0000	0.0000
Total Uncontrolled FL-HP								8020.00	1053.83					
Total Controlled FL-HP								**160.40**	**21.08**					

Total Controlled from Flares (FL-LP + FL-HP)	**172.30**	**26.29**

Flare HAP Calculations (uncontrolled tpy)

Stream	Benzene	Toluene	Ethylbenzene	Xylene	n-Hexane	Formaldehyde	Acetaldehyde	Acrolein	Total HAP
Tank Blower DT to FL-LPa	0.000	0.000	0.000	0.000	0.000	-	-	-	0.000
Total VRU DT to FL-LPb	0.000	0.000	0.000	0.000	0.000	-	-	-	0.000
Total to FL-LP	0.000	0.000	0.000	0.000	0.000	-	-	-	0.000
Total to FL-HP	0.000	0.000	0.000	0.000	0.000	-	-	-	0.000

Flare HAP Calculations (controlled tpy)

Stream	Benzene	Toluene	Ethylbenzene	Xylene	n-Hexane	Formaldehyde	Acetaldehyde	Acrolein	Total HAP
Tanks (FL-LPa)	0.000	0.000	0.000	0.000	0.000	-	-	-	0.000
Total VRU DT to FL-LPb	0.000	0.000	0.000	0.000	0.000	-	-	-	0.000
Total from FL-LP	0.000	0.000	0.000	0.000	0.000	-	-	-	0.000
Total from FL-HP	0.000	0.000	0.000	0.000	0.000	-	-	-	0.0000

Other HAP Calculations (controlled tpy)

Source	Benzene	Toluene	Ethylbenzene	Xylene	n-Hexane	Formaldehyde	Acetaldehyde	Acrolein	Total HAP
ENG-1 (G3516J)									
ENG-2 (G3516J)									
GEN-1 (21.9L)									
GEN-2 (21.9L)									
GEN-3 (21.9L)									
GEN-4 (21.9L)									
FUG-1									
Controlled HAPs Grand Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Truck Loading

LACT to pipeline is Normal Operations

	Capacity	#/yr		Volume (gal)
Oil Trucks	180	35	5 trucks/day for 7 days	264,600
Water Trucks	130	35	5 trucks/day for 7 days	191,100
Total		70		

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	1.0	28157	469	7.8	10.0
HT-2	1.50	10610	460	1.0	28157	469	7.8	10.0
HT-3	1.50	10610	460	1.0	28157	469	7.8	10.0
HT-4	1.50	10610	460	1.0	28157	469	7.8	10.0
HT-5	1.50	10610	460	1.0	28157	469	7.8	10.0
HT-6	1.50	10610	460	1.0	28157	469	7.8	10.0
HT-7	1.50	10610	460	1.0	28157	469	7.8	10.0
HT-8	1.50	10610	460	1.0	28157	469	7.8	10.0
ENG-1 (G3516J)			902	0.67		2636	43.9	125.9
ENG-2 (G3516J)			902	0.67		2636	43.9	125.9
GEN-1 (21.9L)			1382	0.33		2995	49.9	572.0
GEN-2 (21.9L)			1382	0.33		2995	49.9	572.0
GEN-3 (21.9L)			1382	0.33		2995	49.9	572.0
GEN-4 (21.9L)			1382	0.33		2995	49.9	572.0
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 FUELS[1]

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
Bituminus[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						

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

Fugitive Emissions

EQUIPMENT & COMPONENT COUNTS[1]

Equipment Type	*Count*	*Valves*	*Connectors*	*OELs*	*PRVs*[3]	*Flanges*[2]	*Pump Seals*
Wellhead(s)	8	88	288	8	0	16	0
Separator(s)	8	272	848	48	16	32	0
Meter(s)/Piping	2	28	102	2	2	4	0
Compressor(s)	2	146	358	6	8	12	0
In-Line Heater(s)	8	112	520	16	8	16	0
Dehydrator(s)	0	0	0	0	0	0	0
Combustor(s)[4]	2	28	102	2	2	4	0
Oil Tank(s)[5]	6	204	636	6	12	24	0
Produced Water Tank(s)[5]	4	136	424	4	8	16	0
TOTAL COMPONENTS:		**1014**	**3278**	**92**	**56**	**124**	**0**

COMPONENT COUNT BY PROCESS STREAM[7]

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

Component	*Gas*	*Heavy Oil*	*Light Oil*	*Water/Oil*
Connectors	983	0	1967	328
Flanges	37	0	74	12
OELs	28	0	55	9
Pump Seals	0	0	0	0
Valves	304	0	608	101
Other[3]	17	0	34	6

NOTES

1. Component counts estimated using Table W-1B of 40 CFR 98 Subpart W and conservative assumptions/estimates.
2. Flanges estimated as 3% of connector values.
3. PRVs are estimated under the "Other" category.
4. Combustor component counts are estimated using Table W-1B values under "Meters/Piping"
5. Storage tank component counts are estimated using Table W-1B values under "Separators"
6. Component count values allocated into process stream service using estimated average.

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

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

Calculating GHG Emissions:

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

☒ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

Sources for Calculating GHG Emissions:

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

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

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

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

Section 7

Information Used to Determine Emissions

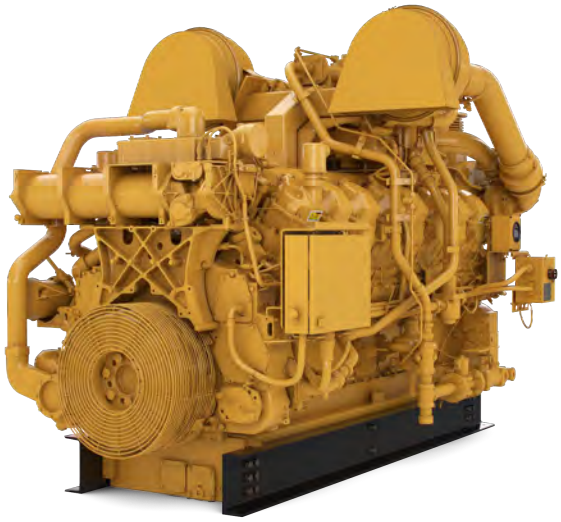
Information Used to Determine Emissions shall include the following:

- ☒ 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.

G3516J Gas Engine

1029 bkW (1380 bhp) 1400 rpm

0.5 g/bhp-hr NOx (NTE)



Shown with optional equipment

Cat® Engine Specifications

V-16, 4-Stroke-Cycle

Bore
170 mm (6.7 in)

Stroke
190 mm (7.5 in)

Displacement
69 L (4211 cu. in)

Aspiration
Turbocharged-2 Stage aftercooled

Digital Engine Management Govenor and Protection
Electronic (ADEM™ A3)

Combustion
Lean Burn

Cooling System Capacity
Total ..... 197.8 L (52.8 gal)
JW ..... 178 L (47.6 gal)
SCAC ..... 19.8 L (5.2 gal)

Lube Oil System (refill)
423 L (112 gal)

Oil Change Interval
1000 hrs

Rotation (from flywheel end)
Counterclockwise

Flywheel
SAE No.21

Flywheel Housing
SAE No.00

Flywheel Teeth
183

FEATURES AND BENEFITS

Engine Design

- 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 densitie (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 and some non-attainment areas
- 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•S℠ 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

Web Site

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

BUILT FOR IT.™

CAT®

STANDARD EQUIPMENT

G3516J Gas Engine

Air Inlet System
Axial flow air cleaners
Single element canister type with service indicator

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
Water-cooled exhaust manifolds
Dry turbocharger housings
Water-cooled exhaust elbow

Flywheels and Housings
SAE No. 21 flywheel
SAE No. 00 flywheel housing
SAE standard rotation

Fuel System
7-40 psig gas supply
Electronic fuel metering valve
Gas pressure regulator
Gas shutoff valve
Fuel System

Mounting
Rails

Instrumentation
Remote-mounted Advisor control panel
Interconnect harness

Lubrication System
Crankcase breather - top mounted
Oil cooler
Oil filter - RH
Shallow oil pan
Oil sampling valve
Turbo oil accumulator

Power Take-Offs
Front housing, two sided
Front lower LH accessory drive

General
Paint — Cat yellow
Crankshaft vibration damper and guard

OPTIONAL EQUIPMENT

Air Inlet System
Rain shield
Round air inlet adapters

Charging system
CSA alternator
(24V,65A)

Connections
Mechanical joint assembly connections

Exhaust System
Flexible fittings
Elbows
Flanges
Mufflers

Fuel System
Fuel filter

Lubrication System
Lubricating oil
Oil bypass filter
Oil pan drain
Deep sump oil pan
Air prelube pump

Power Take-Offs
Front stub shaft

Starting System
90 psi starter
150 psi starter

General
Special paint

EU Certification
EEC DOI certification

Torsional Vibration Analysis

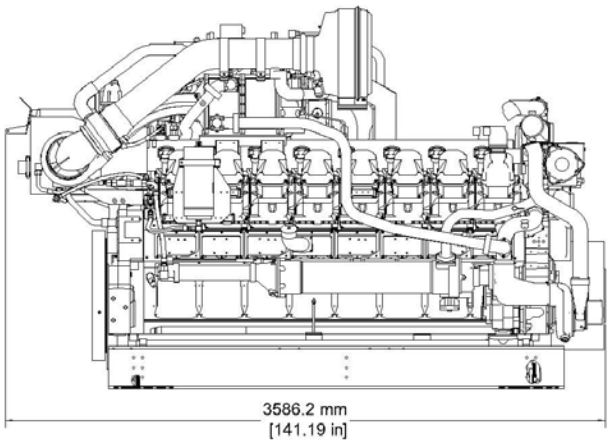
G3516J Gas Engine

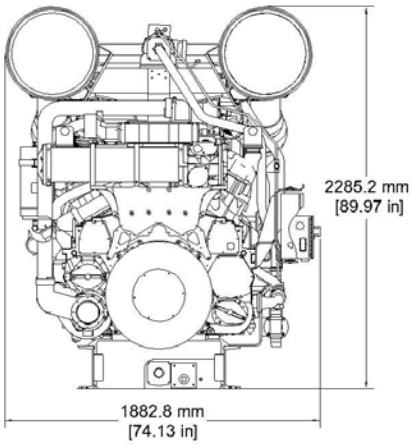
Performance Number		EM1495-01
Rating		0.5 g NOx NTE
Engine Power	bkW (bhp)	1029 (1380)
Engine Speed	rpm	1400
(100°F)	m (ft)	1405 (4610)
Speed Turndown @ Max Altitude, Rated Torque, and 38°C (100°F)	%	25
Aftercooler Temperature		
Stage 1 (JW)	°C (°F)	99 (210)
Stage 2 (SCAC)	°C (°F)	54 (130)
Emissions (NTE)*		
NOx	g/bkW-hr (g/bhp-hr)	0.67 (0.50)
CO	g/bkW-hr (g/bhp-hr)	3.26 (2.43)
CO_2	g/bkW-hr (g/bhp-hr)	631 (471)
VOC**	g/bkW-hr (g/bhp-hr)	0.64 (0.48)
Fuel Consumption @ 100 % Load* **	MJ/bkW-hr (Btu/bhp-hr)	10.33 (7301)
Heat Balance @ 100 % Load		
Heat Rejection to Jacket Water	bkW (Btu/min)	660 (37,553)
Heat Rejection to Oil Cooler	bkW (Btu/min)	79 (4472)
Heat Rejection to Aftercooler		
Stage 1 (JW)	bkW (Btu/min)	141 (8046)
Stage 2 (SCAC)	bkW (Btu/min)	89 (5067
Heat Rejection to Exhaust LHV To 25°C (77°F)	bkW (Btu/min)	903 (51,380)
Heat Rejection to Atmosphere	bkW (Btu/min)	93 (5313)
Exhaust System		
Exhaust Gas Flow Rate	m^3/min (scfm)	228.52 (8070)
Exhaust Stack Temperature	°C (°F)	444 (830)
Intake System		
Air Inlet Flow Rate	m^3/min (scfm)	88.07 (3110)
Gas Pressure	kPag (psig)	48-276 (7-40)

All technical data is based on 100% load and speed

** Volatile organic compounds as defined in U.S. EPA 40 CFR 60, subpart JJJJ *** ISO 3046/1

G3516J Gas Engine





Note: General configuration not to be used for installation

Dimensions		
Length	3586.2 mm	141.19 in
Width	1882.8 mm	74.13 in
Height	2285.2 mm	89.97 in
Weight	9008.9 Kg	19,861lbs

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.

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CAT®

ICE CATALYST SIZING PROGRAM

rev 2.1.3

Report Date: 9/14/2023

Customer	Nova Compression	Housing	ELH
Sales Person	MG	Element	ERZ-1524-3-400
Project	Unit 19707	Contact	Kevin Carter
Engine Name	Caterpillar G3516J Caterpillar G3516J 1280bhp 1400rpm		

Engine Power	1280.0	BHP	ACFM	7564.0	CU. FT/MIN	Exhaust O2	8.8	%
Exhaust Mass Flow	13290.0	LBS/HR	ACFH	453840	CU. FT/HR	Exhaust CO2	6.4	%
Process Temperature	852.0	F	SCFM	3002.7	CU. FT/MIN	Exhaust H2O	11.6	%
Exhaust Pressure	14.5	PSI	SCFH	180159	CU. FT/HR	Exhaust N2	73.2	%
Exhaust Density	0.0293	LBS/FT^3	Std Temp	68.0	F	Max Pressure Drop	12.0	in wc
Molecular Weight	28.43	AMU	Std Pressure	14.6959	PSI	Propane in Fuel	5.17	%

ACS Part Name	R14.875X23.875X3.500-400					
OEM Part Name	ERZ-1524-3-400					
Type	Propane Oxidation	Layers	1			
Geometry	Rectangular	Modules/Layer	2	Cell Count	400cpsi	
X	14.875in	Guard Bed	No	Depth	3.500in	
Y	23.875in					

Open Area	4.408	ft^2	Part Volume	0.643	ft^3	Part Weight	47	lbs
Linear Velocity	1716	ft/min	Total Volume	1.286	ft^3	Total Weight	95	lbs
Pressure Drop	3.1	in wc	Space Velocity	140123	GHSV			

Inlet Emissions

	g/bhp-hr	lb/hr	tons/year	ppmv	ppmvd	ppmvd%O2
NOx	0.50	1.41	6.18	65.60	74.20	40.00
CO	2.60	7.34	32.16	560.25	633.76	341.63
VOC	1.07	3.02	13.23	146.44	165.66	89.30

Target Emissions

	min %DRE	g/bhp-hr	lb/hr	tons/year	ppmv	ppmvd	ppmvd%O2
NOx	0.00	0.50	1.41	6.18	65.60	74.20	40.00
CO	76.92	0.60	1.69	7.42	129.29	146.25	78.84
VOC	34.58	0.70	1.98	8.66	95.80	108.37	58.42

Emissions with Catalyst

	%DRE	g/bhp-hr	lb/hr	tons/year	ppmv	ppmvd	ppmvd%O2
NOx	0.00	<0.50	<1.41	<6.18	<65.60	<74.20	<40.00
CO	76.92	<0.60	<1.69	<7.42	<129.29	<146.25	<78.84
VOC	34.58	<0.70	<1.98	<8.66	<95.80	<108.37	<58.42

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

PSI HEAVY-DUTY

21.9L

	Rev:	E				
	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

PSI HEAVY-DUTY

21.9L

	Rev:	E				
	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

PSI HEAVY-DUTY

21.9L

	Rev:	E				
	Units		21.9L			
	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			

[1] Standby 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.

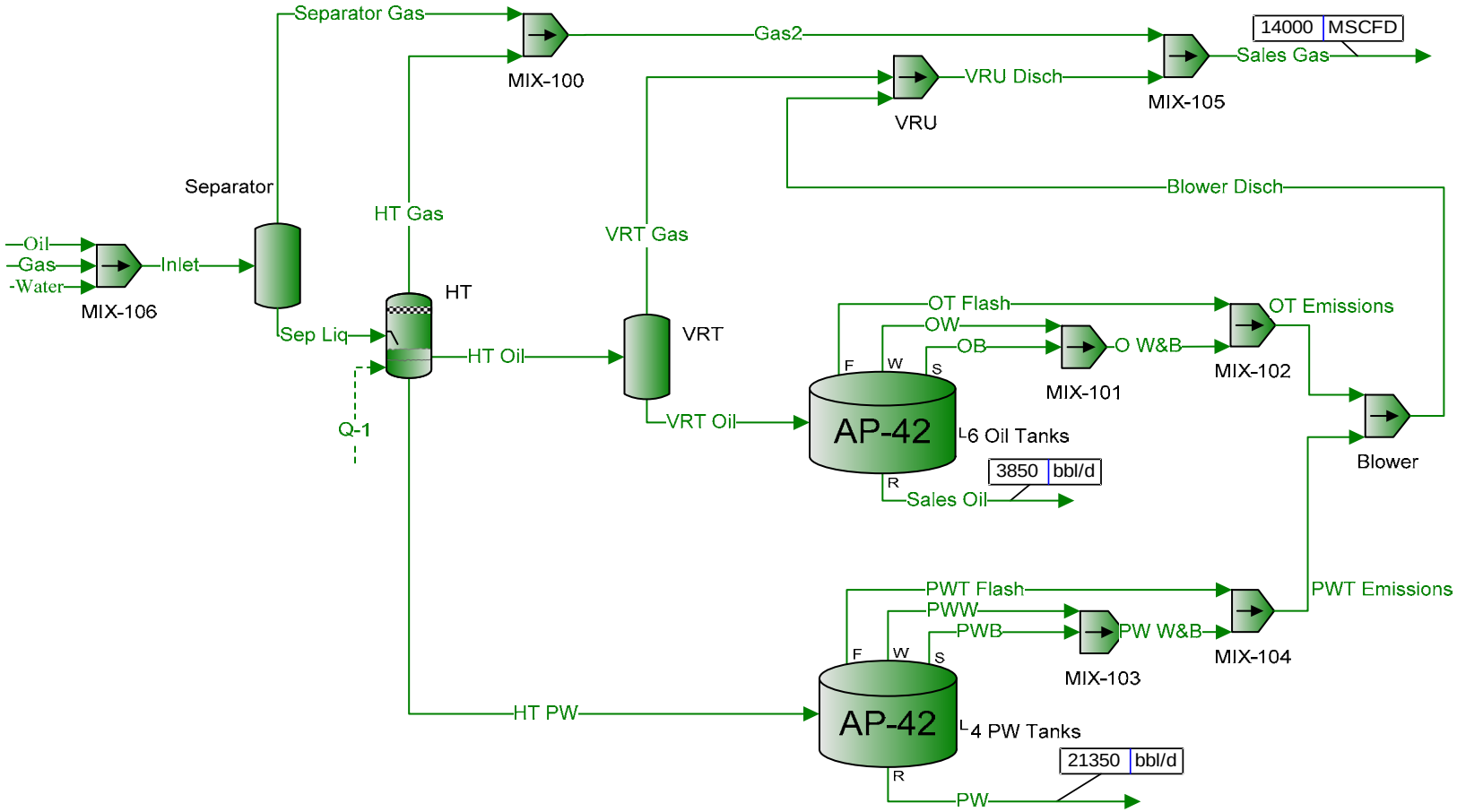
[5] >1400RPM

[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	


Separator Gas
MIX-100
Gas2
14000
MSCFD
Sales Gas
VRU Disch
VRU
MIX-105
Blower Disch
Separator
HT Gas
VRT Gas
Oil
Gas
-Water
MIX-106
Inlet
HT
Sep Liq
HT Oil
VRT
Q-1
VRT Oil
OT Flash
OW
OB
O W&B
MIX-101
OT Emissions
MIX-102
F
W
S
AP-42
6 Oil Tanks
R
3850
bbl/d
Sales Oil
Blower
PWT Flash
PWW
PWB
PW W&B
MIX-103
MIX-104
PWT Emissions
HT PW
AP-42
4 PW Tanks
21350
bbl/d
PW

Process Streams		Blower Disch	Gas	Gas2	HT Gas	HT Oil
Composition	**Status:**	Solved	Solved	Solved	Solved	Solved
Phase: **Total**	**From Block:**	Blower	--	MIX-100	HT	HT
	To Block:	VRU	MIX-106	MIX-105	MIX-100	VRT
Mole Fraction		%	%	%	%	%
Carbon Dioxide		0.532210	0.111202*	0.109404	0.197055	0.00509501
Nitrogen		0.00886744	0.499414*	0.496988	0.102075	0.000326215
Methane		12.9222	78.5947*	78.3983	46.0668	0.524105
Ethane		23.9522	10.8302*	10.9509	18.7407	1.05475
Propane		23.7751	4.70621*	4.87848	13.3761	2.24813
Isobutane		4.79613	0.819119*	0.818623	2.70098	0.913351
n-Butane		11.7311	1.69285*	1.78362	6.31831	3.04278
Isopentane		3.35131	0.540122*	0.480480	1.88973	2.00957
n-Pentane		3.75587	0.591751*	0.535077	2.18340	2.95665
i-Hexane		3.84934	1.61441*	0.552300	2.39280	6.67156
C7+		1.11197	0*	0.0986859	0.557622	80.0765
Water		10.2137	0*	0.897122	5.47447	0.497223
Molar Flow		lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
Carbon Dioxide		0.0371731	1.68360*	1.66732	0.0476927	0.0189496
Nitrogen		0.000619361	7.56115*	7.57411	0.0247049	0.00121328
Methane		0.902569	1189.93*	1194.79	11.1494	1.94928
Ethane		1.67298	163.970*	166.892	4.53576	3.92288
Propane		1.66061	71.2522*	74.3482	3.23738	8.36136
Isobutane		0.334994	12.4015*	12.4758	0.653712	3.39698
n-Butane		0.819379	25.6297*	27.1824	1.52920	11.3168
Isopentane		0.234078	8.17746*	7.32253	0.457366	7.47409
n-Pentane		0.262335	8.95913*	8.15460	0.528443	10.9965
i-Hexane		0.268863	24.4422*	8.41707	0.579123	24.8132
C7+		0.0776674	0*	1.50398	0.134960	297.825
Water		0.713395	0*	13.6722	1.32497	1.84930
Mass Fraction		%	%	%	%	%
Carbon Dioxide		0.566129	0.224523*	0.226867	0.279631	0.00186651
Nitrogen		0.00600413	0.641844*	0.656000	0.0922008	7.60691E-05
Methane		5.01062	57.8452*	59.2611	23.8292	0.0699886
Ethane		17.4081	14.9403*	15.5153	18.1700	0.264003
Propane		25.3398	9.52072*	10.1361	19.0185	0.825192
Isobutane		6.73781	2.18420*	2.24191	5.06192	0.441894
n-Butane		16.4804	4.51401*	4.88467	11.8412	1.47214
Isopentane		5.84426	1.78782*	1.63341	4.39622	1.20690
n-Pentane		6.54976	1.95872*	1.81902	5.07941	1.77569
i-Hexane		8.01779	6.38263*	2.24259	6.64876	4.78574
C7+		3.59191	0*	0.621432	2.40291	89.0819
Water		4.44745	0*	0.761526	3.18005	0.0745643
Mass Flow		lb/h	lb/h	lb/h	lb/h	lb/h
Carbon Dioxide		1.63597	74.0942*	73.3779	2.09893	0.833964
Nitrogen		0.0173504	211.813*	212.177	0.692068	0.0339880
Methane		14.4794	19089.3*	19167.4	178.864	31.2712
Ethane		50.3050	4930.42*	5018.29	136.386	117.957
Propane		73.2257	3141.91*	3278.43	142.754	368.699
Isobutane		19.4706	720.801*	725.124	37.9952	197.440
n-Butane		47.6241	1489.66*	1579.90	88.8807	657.760
Isopentane		16.8884	589.994*	528.312	32.9984	539.246
n-Pentane		18.9272	646.390*	588.345	38.1265	793.387
i-Hexane		23.1694	2106.31*	725.344	49.9061	2138.29
C7+		10.3797	0*	200.996	18.0364	39802.2
Water		12.8520	0*	246.308	23.8697	33.3156

Process Streams		Blower Disch	Gas	Gas2	HT Gas	HT Oil
Composition	**Status:**	Solved	Solved	Solved	Solved	Solved
Phase: **Total**	**From Block:**	Blower	--	MIX-100	HT	HT
	To Block:	VRU	MIX-106	MIX-105	MIX-100	VRT
Property	**Units**					
Temperature	°F	97.1416	85.8*	98.2449	135*	135
Pressure	psig	-1.43595	121.9*	32	32*	32
Mole Fraction Vapor	%	95.3697	100	100	100	0
Mole Fraction Light Liquid	%	0.682411	0	0	0	100
Mole Fraction Heavy Liquid	%	3.94789	0	0	0	0
Phase Mole Fraction	%	100	100	100	100	100
Molecular Weight	lb/lbmol	41.3727	21.7970	21.2231	31.0134	120.133
Mass Density	lb/ft^3	0.0974076	0.526947	0.167283	0.231303	46.9665
Molar Flow	lbmol/h	6.98467	1514.00	1524.00	24.2027	371.925
Mass Flow	lb/h	288.975	33000.7	32344.0	750.609	44680.4
Vapor Volumetric Flow	ft^3/h	2966.66	62626.3	193349	3245.14	951.324
Liquid Volumetric Flow	gpm	369.869	7807.96	24105.8	404.588	118.607
Std Vapor Volumetric Flow	MMSCFD	0.0636137	13.7890*	13.8800	0.220429	3.38735
Std Liquid Volumetric Flow	sgpm	1.13927	186.010	184.295	3.43651	114.273
Compressibility		0.942526	0.965237	0.989470	0.981088	0.0187160
Specific Gravity			0.752594	0.732777	1.07081	0.753046
API Gravity						47.9805
Enthalpy	Btu/h	-369775	-5.26710E+07	-5.30518E+07	-1.03208E+06	-3.09326E+07
Mass Enthalpy	Btu/lb	-1279.61	-1596.05	-1640.24	-1374.99	-692.308
Mass Cp	Btu/(lb*°F)	0.432106	0.497214	0.492703	0.468799	0.484911
Ideal Gas CpCv Ratio		1.12949	1.23418	1.23750	1.16051	1.04525
Dynamic Viscosity	cP		0.0108031	0.0109704	0.0105871	0.467303
Kinematic Viscosity	cSt		1.27985	4.09400	2.85743	0.621140
Thermal Conductivity	Btu/(h*ft*°F)		0.0179753	0.0182704	0.0164302	0.0629046
Surface Tension	lbf/ft					0.00148122?
Net Ideal Gas Heating Value	Btu/ft^3	2058.61	1187.44	1149.85	1596.10	5958.51
Net Liquid Heating Value	Btu/lb	18692.5	20608.8	20490.7	19381.9	18659.7
Gross Ideal Gas Heating Value	Btu/ft^3	2242.14	1307.72	1267.47	1746.21	6367.43
Gross Liquid Heating Value	Btu/lb	20376.4	22703.0	22594.3	21219.0	19951.4

Process Streams		HT PW	Inlet	O W&B	OB	Oil
Composition	**Status:**	Solved	Solved	Solved	Solved	Solved
Phase: **Total**	**From Block:**	HT	MIX-106	MIX-101	6 Oil Tanks	--
	To Block:	4 PW Tanks	Separator	MIX-102	MIX-101	MIX-106
Mole Fraction		%	%	%	%	%
Carbon Dioxide		0.000175739	0.00894659	0.116533	0.116533	0.009*
Nitrogen		2.96076E-06	0.0394825	0.000117418	0.000117418	0.004*
Methane		0.00266193	6.23938	2.40080	2.40080	1.981*
Ethane		0.00126802	0.891368	33.1296	33.1296	1.923*
Propane		0.000618120	0.431609	31.7807	31.7807	3.148*
Isobutane		6.46057E-05	0.0827816	5.66780	5.66780	0.948*
n-Butane		0.000269869	0.200887	13.6725	13.6725	3.516*
Isopentane		4.57602E-05	0.0771558	3.87755	3.87755	1.804*
n-Pentane		3.32401E-05	0.0998387	4.37140	4.37140	2.776*
i-Hexane		1.57242E-05	0.173198	4.33480	4.33480	2.393*
C7+		0.000334930	1.56029	0.623065	0.623065	81.498*
Water		99.9945	90.1951	0.0251232	0.0251232	0*
Molar Flow		lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
Carbon Dioxide		0.0303887	1.71666	0.00183153	6.93089E-05	0.0330619*
Nitrogen		0.000511971	7.57584	1.84545E-06	6.98355E-08	0.0146942*
Methane		0.460299	1197.20	0.0377331	0.00142789	7.27729*
Ethane		0.219265	171.034	0.520694	0.0197041	7.06422*
Propane		0.106885	82.8165	0.499493	0.0189018	11.5643*
Isobutane		0.0111716	15.8840	0.0890800	0.00337097	3.48252*
n-Butane		0.0466654	38.5459	0.214888	0.00813181	12.9162*
Isopentane		0.00791281	14.8045	0.0609429	0.00230620	6.62707*
n-Pentane		0.00574785	19.1569	0.0687048	0.00259992	10.1978*
i-Hexane		0.00271902	33.2330	0.0681295	0.00257815	8.79079*
C7+		0.0579158	299.386	0.00979263	0.000370572	299.386*
Water		17291.0	17306.5	0.000394859	1.49422E-05	0*
Mass Fraction		%	%	%	%	%
Carbon Dioxide		0.000429292	0.0194435	0.111062	0.111062	0.00332379*
Nitrogen		4.60369E-06	0.0546186	7.12316E-05	7.12316E-05	0.000940309*
Methane		0.00237031	4.94291	0.834061	0.834061	0.266686*
Ethane		0.00211633	1.32357	21.5728	21.5728	0.485226*
Propane		0.00151289	0.939844	30.3480	30.3480	1.16486*
Isobutane		0.000208425	0.237600	7.13390	7.13390	0.462376*
n-Butane		0.000870627	0.576586	17.2092	17.2092	1.71489*
Isopentane		0.000183254	0.274895	6.05838	6.05838	1.09222*
n-Pentane		0.000133116	0.355711	6.83000	6.83000	1.68071*
i-Hexane		7.52126E-05	0.737049	8.08952	8.08952	1.73050*
C7+		0.00248449	10.2973	1.80323	1.80323	91.3983*
Water		99.9896	80.2405	0.00980139	0.00980139	0*
Mass Flow		lb/h	lb/h	lb/h	lb/h	lb/h
Carbon Dioxide		1.33739	75.5492	0.0806049	0.00305025	1.45504*
Nitrogen		0.0143421	212.225	5.16973E-05	1.95633E-06	0.411634*
Methane		7.38433	19206.1	0.605331	0.0229069	116.746*
Ethane		6.59309	5142.84	15.6568	0.592483	212.414*
Propane		4.71315	3651.84	22.0255	0.833487	509.936*
Isobutane		0.649316	923.213	5.17753	0.195928	202.412*
n-Butane		2.71230	2240.37	12.4898	0.472638	750.717*
Isopentane		0.570900	1068.13	4.39695	0.166389	478.135*
n-Pentane		0.414700	1382.15	4.95696	0.187581	735.756*
i-Hexane		0.234313	2863.86	5.87108	0.222173	757.549*
C7+		7.74004	40010.9	1.30872	0.0495244	40010.9*
Water		311502	311781	0.00711349	0.000269189	0*

Process Streams		HT PW	Inlet	O W&B	OB	Oil
Composition	**Status:**	Solved	Solved	Solved	Solved	Solved
Phase: **Total**	**From Block:**	HT	MIX-106	MIX-101	6 Oil Tanks	--
	To Block:	4 PW Tanks	Separator	MIX-102	MIX-101	MIX-106
Property	**Units**					
Temperature	°F	135	104.394	106.738	106.738	105.4*
Pressure	psig	32	121.3	-1.43595	-1.43595	121.3*
Mole Fraction Vapor	%	0	7.81555	100	100	0
Mole Fraction Light Liquid	%	100	2.04212	0	0	100
Mole Fraction Heavy Liquid	%	0	90.1423	0	0	0
Phase Mole Fraction	%	100	100	100	100	100
Molecular Weight	lb/lbmol	18.0162	20.2502	46.1774	46.1774	119.167
Mass Density	lb/ft^3	61.4361	5.48748	0.102150	0.102150	47.9029
Molar Flow	lbmol/h	17291.9	19187.8	1.57169	0.0594757	367.354
Mass Flow	lb/h	311534	388558	72.5764	2.74643	43776.4
Vapor Volumetric Flow	ft^3/h	5070.86	70808.2	710.489	26.8863	913.858
Liquid Volumetric Flow	gpm	632.211	8828.03	88.5804	3.35206	113.936
Std Vapor Volumetric Flow	MMSCFD	157.488	174.756	0.0143143	0.000541682	3.34572
Std Liquid Volumetric Flow	sgpm	622.857	921.425	0.290878	0.0110074	112.142*
Compressibility		0.00214575	0.0829070	0.986147	0.986147	0.0557896
Specific Gravity		0.985047		1.59438	1.59438	0.768059
API Gravity		10.0023				47.7429
Enthalpy	Btu/h	-2.10718E+09	-2.20120E+09	-72969.1	-2761.29	-3.05566E+07
Mass Enthalpy	Btu/lb	-6763.90	-5665.05	-1005.41	-1005.41	-698.014
Mass Cp	Btu/(lb*°F)	0.978347	0.879284	0.422706	0.422706	0.464770
Ideal Gas CpCv Ratio		1.32671	1.28650	1.11401	1.11401	1.04820
Dynamic Viscosity	cP	0.495910		0.00868589	0.00868589	0.549836
Kinematic Viscosity	cSt	0.503916		5.30830	5.30830	0.716557
Thermal Conductivity	Btu/(h*ft*°F)	0.372528		0.0114512	0.0114512	0.0642567
Surface Tension	lbf/ft	0.00455302				0.00154427?
Net Ideal Gas Heating Value	Btu/ft^3	0.0948458	206.909	2412.78	2412.78	5913.48
Net Liquid Heating Value	Btu/lb	-1057.66	3003.35	19671.5	19671.5	18669.5
Gross Ideal Gas Heating Value	Btu/ft^3	50.4105	269.521	2620.60	2620.60	6318.04
Gross Liquid Heating Value	Btu/lb	2.16336	4176.72	21380.0	21380.0	19957.9

Process Streams		OT Emissions	OT Flash	OW	PW	PW W&B
Composition	**Status:**	Solved	Solved	Solved	Solved	Solved
Phase: **Total**	**From Block:**	MIX-102	6 Oil Tanks	6 Oil Tanks	4 PW Tanks	MIX-103
	To Block:	Blower	MIX-102	MIX-101	--	MIX-104
Mole Fraction		%	%	%	%	%
Carbon Dioxide		0.119264	0.120307	0.116533	2.82703E-20	3.66050
Nitrogen		0.00188782	0.00256369	0.000117418	1.73489E-22	0.0165809
Methane		7.77469	9.82625	2.40080	1.55109E-19	24.2337
Ethane		25.5550	22.6633	33.1296	1.65507E-19	14.0987
Propane		27.3131	25.6075	31.7807	2.82151E-20	5.65954
Isobutane		5.69249	5.70191	5.66780	2.67574E-21	0.455848
n-Butane		13.5836	13.5496	13.6725	2.14060E-20	2.34800
Isopentane		3.97577	4.01327	3.87755	2.15555E-21	0.310349
n-Pentane		4.51056	4.56369	4.37140	1.07777E-21	0.116570
i-Hexane		4.67857	4.80981	4.33480	2.25587E-22	0.0243283
C7+		0.746926	0.794211	0.623065	0.000131504	4.16938
Water		6.04821	8.34761	0.0251232	99.9999	44.9065
Molar Flow		lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
Carbon Dioxide		0.00678445	0.00495291	0.00176222	4.88811E-18	0.0282640
Nitrogen		0.000107390	0.000105545	1.77561E-06	2.99972E-20	0.000128027
Methane		0.442270	0.404537	0.0363052	2.68192E-17	0.187117
Ethane		1.45372	0.933025	0.500990	2.86172E-17	0.108861
Propane		1.55373	1.05423	0.480591	4.87856E-18	0.0436993
Isobutane		0.323822	0.234742	0.0857091	4.62653E-19	0.00351976
n-Butane		0.772714	0.557825	0.206757	3.70122E-18	0.0181297
Isopentane		0.226165	0.165222	0.0586367	3.72707E-19	0.00239632
n-Pentane		0.256587	0.187883	0.0661048	1.86354E-19	0.000900079
i-Hexane		0.266144	0.198015	0.0655513	3.90053E-20	0.000187847
C7+		0.0424895	0.0326969	0.00942205	0.0227378	0.0321932
Water		0.344057	0.343663	0.000379916	17290.6	0.346739
Mass Fraction		%	%	%	%	%
Carbon Dioxide		0.118018	0.120816	0.111062	6.90608E-20	5.78257
Nitrogen		0.00118909	0.00163877	7.12316E-05	2.69769E-22	0.0166728
Methane		2.80443	3.59704	0.834061	1.38122E-19	13.9549
Ethane		17.2777	15.5499	21.5728	2.76243E-19	15.2171
Propane		27.0805	25.7661	30.3480	6.90608E-20	8.95799
Isobutane		7.43935	7.56222	7.13390	8.63261E-21	0.951035
n-Butane		17.7520	17.9703	17.2092	6.90608E-20	4.89863
Isopentane		6.44972	6.60714	6.05838	8.63261E-21	0.803738
n-Pentane		7.31729	7.51331	6.83000	4.31630E-21	0.301891
i-Hexane		9.06539	9.45795	8.08952	1.07908E-21	0.0752539
C7+		2.24447	2.42197	1.80323	0.000975529	20.0010
Water		2.44996	3.43154	0.00980139	99.9990	29.0392
Mass Flow		lb/h	lb/h	lb/h	lb/h	lb/h
Carbon Dioxide		0.298580	0.217975	0.0775546	2.15123E-16	1.24388
Nitrogen		0.00300836	0.00295666	4.97410E-05	8.40325E-19	0.00358647
Methane		7.09510	6.48977	0.582424	4.30246E-16	3.00182
Ethane		43.7119	28.0552	15.0643	8.60492E-16	3.27334
Propane		68.5126	46.4871	21.1920	2.15123E-16	1.92695
Isobutane		18.8213	13.6437	4.98160	2.68904E-17	0.204576
n-Butane		44.9118	32.4220	12.0172	2.15123E-16	1.05374
Isopentane		16.3175	11.9206	4.23056	2.68904E-17	0.172891
n-Pentane		18.5125	13.5555	4.76938	1.34452E-17	0.0649396
i-Hexane		22.9351	17.0640	5.64891	3.36130E-18	0.0161878
C7+		5.67843	4.36971	1.25919	3.03875	4.30240
Water		6.19829	6.19118	0.00684430	311495	6.24660

Process Streams		OT Emissions	OT Flash	OW	PW	PW W&B
Composition	**Status:**	Solved	Solved	Solved	Solved	Solved
Phase: **Total**	**From Block:**	MIX-102	6 Oil Tanks	6 Oil Tanks	4 PW Tanks	MIX-103
	To Block:	Blower	MIX-102	MIX-101	--	MIX-104
Property	**Units**					
Temperature	°F	106.734	106.738	106.738	83.5989	83.5989
Pressure	psig	-1.43595	-1.43595	-1.43595	-1.43595	-1.43595
Mole Fraction Vapor	%	100	100	100	0	53.2923
Mole Fraction Light Liquid	%	0	0	0	100	4.10791
Mole Fraction Heavy Liquid	%	0	0	0	0	42.5998
Phase Mole Fraction	%	100	100	100	100	100
Molecular Weight	lb/lbmol	44.4743	43.8242	46.1774	18.0154	27.8590
Mass Density	lb/ft^3	0.0982736	0.0967985	0.102150	62.1441	0.119403
Molar Flow	lbmol/h	5.68859	4.11690	1.51221	17290.6	0.772135
Mass Flow	lb/h	252.996	180.420	69.8299	311498	21.5109
Vapor Volumetric Flow	ft^3/h	2574.41	1863.87	683.603	5012.51	180.154
Liquid Volumetric Flow	gpm	320.965	232.378	85.2284	624.937	22.4607
Std Vapor Volumetric Flow	MMSCFD	0.0518095	0.0374952	0.0137726	157.476	0.00703231
Std Liquid Volumetric Flow	sgpm	0.990826	0.699948	0.279871	622.708	0.0772672
Compressibility		0.987247	0.987632	0.986147	0.000659341	0.530659
Specific Gravity		1.53558	1.51313	1.59438	0.996398	
API Gravity					9.99836	
Enthalpy	Btu/h	-285275	-212305	-70207.8	-2.12278E+09	-63159.3
Mass Enthalpy	Btu/lb	-1127.59	-1176.73	-1005.41	-6814.73	-2936.15
Mass Cp	Btu/(lb*°F)	0.424753	0.425586	0.422706	0.977649	0.579155
Ideal Gas CpCv Ratio		1.11821	1.11990	1.11401	1.32877	1.20874
Dynamic Viscosity	cP	0.00888349	0.00895981	0.00868589	0.843160	
Kinematic Viscosity	cSt	5.64320	5.77842	5.30830	0.847012	
Thermal Conductivity	Btu/(h*ft*°F)	0.0116835	0.0117784	0.0114512	0.353234	
Surface Tension	lbf/ft				0.00493086	
Net Ideal Gas Heating Value	Btu/ft^3	2265.73	2209.60	2412.78	0.00868486	956.258
Net Liquid Heating Value	Btu/lb	19157.2	18950.3	19671.5	-1059.57	12632.3
Gross Ideal Gas Heating Value	Btu/ft^3	2463.91	2404.09	2620.60	50.3192	1062.69
Gross Liquid Heating Value	Btu/lb	20848.5	20634.8	21380.0	0.193586	14082.4

Process Streams		PWB	PWT Emissions	PWT Flash	PWW	Sales Gas
Composition	**Status:**	Solved	Solved	Solved	Solved	Solved
Phase: **Total**	**From Block:**	4 PW Tanks	MIX-104	4 PW Tanks	4 PW Tanks	MIX-105
	To Block:	MIX-103	Blower	MIX-104	MIX-103	--
Mole Fraction		%	%	%	%	%
Carbon Dioxide		3.66050	2.34466	0.405512	3.66050	0.111550
Nitrogen		0.0165809	0.0395015	0.0732794	0.0165809	0.492841
Methane		24.2337	35.5147	52.1394	24.2337	77.8777
Ethane		14.0987	16.9175	21.0716	14.0987	11.0548
Propane		5.65954	8.24677	12.0596	5.65954	5.02660
Isobutane		0.455848	0.861949	1.46042	0.455848	0.851177
n-Butane		2.34800	3.60050	5.44631	2.34800	1.86411
Isopentane		0.310349	0.610518	1.05287	0.310349	0.504594
n-Pentane		0.116570	0.443479	0.925242	0.116570	0.562641
i-Hexane		0.0243283	0.209788	0.483099	0.0243283	0.581656
C7+		4.16938	2.71418	0.569655	4.16938	0.106656
Water		44.9065	28.4964	4.31305	44.9065	0.965631
Molar Flow		lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
Carbon Dioxide		0.000254761	0.0303887	0.00212466	0.0280092	1.71472
Nitrogen		1.15398E-06	0.000511971	0.000383944	0.000126873	7.57583
Methane		0.00168660	0.460299	0.273182	0.185431	1197.12
Ethane		0.000981229	0.219265	0.110404	0.107880	169.932
Propane		0.000393888	0.106885	0.0631855	0.0433054	77.2675
Isobutane		3.17258E-05	0.0111716	0.00765180	0.00348804	13.0841
n-Butane		0.000163414	0.0466654	0.0285357	0.0179663	28.6546
Isopentane		2.15995E-05	0.00791281	0.00551649	0.00237472	7.75649
n-Pentane		8.11296E-06	0.00574785	0.00484777	0.000891966	8.64878
i-Hexane		1.69318E-06	0.00271902	0.00253117	0.000186154	8.94106
C7+		0.000290177	0.0351779	0.00298468	0.0319031	1.63949
Water		0.00312537	0.369337	0.0225980	0.343614	14.8434
Mass Fraction		%	%	%	%	%
Carbon Dioxide		5.78257	3.71716	0.646295	5.78257	0.229542
Nitrogen		0.0166728	0.0398625	0.0743410	0.0166728	0.645535
Methane		13.9549	20.5241	30.2913	13.9549	58.4159
Ethane		15.2171	18.3249	22.9456	15.2171	15.5424
Propane		8.95799	13.0998	19.2578	8.95799	10.3637
Isobutane		0.951035	1.80472	3.07397	0.951035	2.31317
n-Butane		4.89863	7.53860	11.4637	4.89863	5.06594
Isopentane		0.803738	1.58677	2.75097	0.803738	1.70223
n-Pentane		0.301891	1.15262	2.41749	0.301891	1.89805
i-Hexane		0.0752539	0.651252	1.50765	0.0752539	2.34367
C7+		20.0010	13.0668	2.75701	20.0010	0.666466
Water		29.0392	18.4934	2.81388	29.0392	0.813390
Mass Flow		lb/h	lb/h	lb/h	lb/h	lb/h
Carbon Dioxide		0.0112119	1.33739	0.0935053	1.23267	75.4639
Nitrogen		3.23270E-05	0.0143421	0.0107556	0.00355414	212.225
Methane		0.0270572	7.38433	4.38251	2.97476	19204.7
Ethane		0.0295046	6.59309	3.31974	3.24384	5109.70
Propane		0.0173687	4.71315	2.78621	1.90958	3407.16
Isobutane		0.00184397	0.649316	0.444740	0.202732	760.475
n-Butane		0.00949800	2.71230	1.65856	1.04424	1665.47
Isopentane		0.00155837	0.570900	0.398008	0.171333	559.622
n-Pentane		0.000585340	0.414700	0.349761	0.0643543	623.999
i-Hexane		0.000145910	0.234313	0.218125	0.0160419	770.499
C7+		0.0387801	4.70128	0.398882	4.26362	219.106
Water		0.0563044	6.65371	0.407110	6.19030	267.409

Process Streams		PWB	PWT Emissions	PWT Flash	PWW	Sales Gas
Composition	**Status:**	Solved	Solved	Solved	Solved	Solved
Phase: **Total**	**From Block:**	4 PW Tanks	MIX-104	4 PW Tanks	4 PW Tanks	MIX-105
	To Block:	MIX-103	Blower	MIX-104	MIX-103	--
Property	**Units**					
Temperature	°F	83.5989	83.7058	83.5989	83.5989	95.4338
Pressure	psig	-1.43595	-1.43595	-1.43595	-1.43595	-1.43595
Mole Fraction Vapor	%	53.2923	72.0814	99.8234	53.2923	100
Mole Fraction Light Liquid	%	4.10791	2.54720	0.169357	4.10791	0
Mole Fraction Heavy Liquid	%	42.5998	25.3714	0.00726632	42.5998	0
Phase Mole Fraction	%	100	100	100	100	100
Molecular Weight	lb/lbmol	27.8590	27.7597	27.6134	27.8590	21.3872
Mass Density	lb/ft^3	0.119403	0.0880097	0.0632655	0.119403	0.0477534
Molar Flow	lbmol/h	0.00695972	1.29608	0.523946	0.765176	1537.17
Mass Flow	lb/h	0.193891	35.9788	14.4679	21.3170	32875.8
Vapor Volumetric Flow	ft^3/h	1.62384	408.805	228.685	178.530	688449
Liquid Volumetric Flow	gpm	0.202452	50.9679	28.5114	22.2583	85832.7
Std Vapor Volumetric Flow	MMSCFD	6.33865E-05	0.0118042	0.00477190	0.00696893	14.0000
Std Liquid Volumetric Flow	sgpm	0.000696456	0.148445	0.0711778	0.0765707	186.425
Compressibility		0.530659	0.717239	0.992698	0.530659	0.996907
Specific Gravity						0.738444
API Gravity						
Enthalpy	Btu/h	-569.293	-84500.3	-21341.0	-62590.0	-5.37191E+07
Mass Enthalpy	Btu/lb	-2936.15	-2348.61	-1475.06	-2936.15	-1634.00
Mass Cp	Btu/(lb*°F)	0.579155	0.526331	0.447500	0.579155	0.486736
Ideal Gas CpCv Ratio		1.20874	1.20197	1.19282	1.20874	1.23662
Dynamic Viscosity	cP					0.0108645
Kinematic Viscosity	cSt					14.2031
Thermal Conductivity	Btu/(h*ft*°F)					0.0179845
Surface Tension	lbf/ft					
Net Ideal Gas Heating Value	Btu/ft^3	956.258	1149.54	1434.38	956.258	1157.36
Net Liquid Heating Value	Btu/lb	12632.3	15425.2	19577.8	12632.3	20464.3
Gross Ideal Gas Heating Value	Btu/ft^3	1062.69	1268.81	1572.56	1062.69	1275.53
Gross Liquid Heating Value	Btu/lb	14082.4	17056.1	21477.4	14082.4	22561.4

Process Streams		Sales Oil	Sep Liq	Separator Gas	VRT Gas	VRT Oil
Composition	**Status:**	Solved	Solved	Solved	Solved	Solved
Phase: **Total**	**From Block:**	6 Oil Tanks	Separator	Separator	VRT	VRT
	To Block:	--	HT	MIX-100	VRU	6 Oil Tanks
Mole Fraction		%	%	%	%	%
Carbon Dioxide		0.000538297	0.000548568	0.107989	0.165328	0.00238492
Nitrogen		1.77645E-06	0.000149424	0.503361	0.0177741	3.11113E-05
Methane		0.0241205	0.0766563	78.9201	22.9580	0.144670
Ethane		0.306094	0.0490609	10.8252	22.0998	0.698807
Propane		1.54115	0.0661782	4.74135	20.3481	1.94200
Isobutane		0.777648	0.0229639	0.788247	4.41702	0.854092
n-Butane		2.74719	0.0728895	1.71044	10.5539	2.91574
Isopentane		1.95751	0.0448855	0.457738	3.23127	1.98890
n-Pentane		2.91851	0.0651894	0.508478	3.74785	2.94327
i-Hexane		6.74681	0.143572	0.522599	4.12437	6.71464
C7+		82.6895	1.68485	0.0912799	0.935107	81.4150
Water		0.290901	97.7731	0.823256	7.40153	0.380448
Molar Flow		lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
Carbon Dioxide		0.00193814	0.0970310	1.61963	0.0102271	0.00872259
Nitrogen		6.39611E-06	0.0264301	7.54941	0.00109949	0.000113786
Methane		0.0868460	13.5590	1183.64	1.42016	0.529116
Ethane		1.10209	8.67791	162.356	1.36707	2.55581
Propane		5.54892	11.7056	71.1108	1.25871	7.10264
Isobutane		2.79993	4.06187	11.8221	0.273233	3.12375
n-Butane		9.89128	12.8927	25.6532	0.652856	10.6640
Isopentane		7.04804	7.93937	6.86517	0.199884	7.27421
n-Pentane		10.5081	11.5307	7.62616	0.231839	10.7647
i-Hexane		24.2919	25.3950	7.83795	0.255130	24.5581
C7+		297.724	298.017	1.36902	0.0578449	297.767
Water		1.04739	17294.1	12.3472	0.457852	1.39145
Mass Fraction		%	%	%	%	%
Carbon Dioxide		0.000193046	0.00119628	0.225613	0.185363	0.000863856
Nitrogen		4.05519E-07	0.000207415	0.669395	0.0126848	7.17307E-06
Methane		0.00315319	0.0609359	60.1029	9.38287	0.0191017
Ethane		0.0750010	0.0730986	15.4523	16.9293	0.172941
Propane		0.553774	0.144599	9.92509	22.8586	0.704799
Isobutane		0.368314	0.0661367	2.17491	6.54037	0.408571
n-Butane		1.30114	0.209923	4.71940	15.6274	1.39480
Isopentane		1.15087	0.160468	1.56777	5.93928	1.18104
n-Pentane		1.71586	0.233056	1.74156	6.88878	1.74775
i-Hexane		4.73777	0.613065	2.13791	9.05466	4.76241
C7+		90.0512	11.1574	0.579107	3.18375	89.5513
Water		0.0427050	87.2799	0.704066	3.39699	0.0564101
Mass Flow		lb/h	lb/h	lb/h	lb/h	lb/h
Carbon Dioxide		0.0852966	4.27029	71.2789	0.450087	0.383877
Nitrogen		0.000179177	0.740398	211.485	0.0308004	0.00318754
Methane		1.39322	217.520	18988.6	22.7829	8.48832
Ethane		33.1389	260.936	4881.90	41.1066	76.8508
Propane		244.683	516.167	3135.68	55.5037	313.196
Isobutane		162.738	236.085	687.128	15.8809	181.559
n-Butane		574.903	749.353	1491.02	37.9454	619.815
Isopentane		508.508	572.816	495.313	14.4214	524.825
n-Pentane		758.147	831.928	550.218	16.7269	776.660
i-Hexane		2093.37	2188.43	675.438	21.9859	2116.30
C7+		39788.8	39827.9	182.960	7.73057	39794.4
Water		18.8690	311559	222.438	8.24834	25.0673

Process Streams		Sales Oil	Sep Liq	Separator Gas	VRT Gas	VRT Oil
Composition	**Status:**	Solved	Solved	Solved	Solved	Solved
Phase: **Total**	**From Block:**	6 Oil Tanks	Separator	Separator	VRT	VRT
	To Block:	--	HT	MIX-100	VRU	6 Oil Tanks
Property	**Units**					
Temperature	°F	106.738	104.390	104.390	133.431	133.431
Pressure	psig	-1.43595	121	121*	11*	11
Mole Fraction Vapor	%	0	0	100	100	0
Mole Fraction Light Liquid	%	100	2.21452	0	0	100
Mole Fraction Heavy Liquid	%	0	97.7855	0	0	0
Phase Mole Fraction	%	100	100	100	100	100
Molecular Weight	lb/lbmol	122.718	20.1811	21.0651	39.2527	121.501
Mass Density	lb/ft^3	47.9755	59.5951	0.486263	0.161192	47.1007
Molar Flow	lbmol/h	360.051	17688.0	1499.80	6.18591	365.739
Mass Flow	lb/h	44184.6	356965	31593.4	242.813	44437.6
Vapor Volumetric Flow	ft^3/h	920.982	5989.83	64971.9	1506.37	943.459
Liquid Volumetric Flow	gpm	114.824	746.785	8100.39	187.807	117.626
Std Vapor Volumetric Flow	MMSCFD	3.27920	161.096	13.6596	0.0563389	3.33101
Std Liquid Volumetric Flow	sgpm	112.292	740.566	180.859	0.990230	113.282
Compressibility		0.00558005	0.00759125	0.971114	0.983103	0.0104141
Specific Gravity		0.769224	0.955529	0.727322	1.35529	0.755197
API Gravity		47.4211	14.9984			47.7030
Enthalpy	Btu/h	-3.08744E+07	-2.14918E+09	-5.20197E+07	-297529	-3.06351E+07
Mass Enthalpy	Btu/lb	-698.760	-6020.71	-1646.54	-1225.34	-689.395
Mass Cp	Btu/(lb*°F)	0.465063	0.912279	0.506401	0.448650	0.483003
Ideal Gas CpCv Ratio		1.04658	1.29160	1.23747	1.12832	1.04488
Dynamic Viscosity	cP	0.573545	0.644684	0.0112068	0.00977499	0.480882
Kinematic Viscosity	cSt	0.746323	0.675329	1.43877	3.78576	0.637368
Thermal Conductivity	Btu/(h*ft*°F)	0.0644506	0.314085	0.0188857	0.0139950	0.0630680
Surface Tension	lbf/ft	0.00162260	0.00425785?			0.00150463?
Net Ideal Gas Heating Value	Btu/ft^3	6085.05	127.566	1142.65	1989.40	6025.64
Net Liquid Heating Value	Btu/lb	18654.7	1453.29	20517.1	19059.5	18657.5
Gross Ideal Gas Heating Value	Btu/ft^3	6501.25	185.558	1259.75	2167.82	6438.46
Gross Liquid Heating Value	Btu/lb	19941.7	2543.77	22627.0	20784.8	19946.9

Process Streams		VRU Disch	Water
Composition	**Status:**	Solved	Solved
Phase: **Total**	**From Block:**	VRU	--
	To Block:	MIX-105	MIX-106
Mole Fraction		%	%
Carbon Dioxide		0.359894	0*
Nitrogen		0.0130507	0*
Methane		17.6357	0*
Ethane		23.0822	0*
Propane		22.1655	0*
Isobutane		4.61807	0*
n-Butane		11.1782	0*
Isopentane		3.29493	0*
n-Pentane		3.75210	0*
i-Hexane		3.97851	0*
C7+		1.02890	0*
Water		8.89290	100*
Molar Flow		lbmol/h	lbmol/h
Carbon Dioxide		0.0474002	0*
Nitrogen		0.00171885	0*
Methane		2.32273	0*
Ethane		3.04006	0*
Propane		2.91932	0*
Isobutane		0.608227	0*
n-Butane		1.47223	0*
Isopentane		0.433962	0*
n-Pentane		0.494174	0*
i-Hexane		0.523993	0*
C7+		0.135512	0*
Water		1.17125	17306.5*
Mass Fraction		%	%
Carbon Dioxide		0.392272	0*
Nitrogen		0.00905452	0*
Methane		7.00698	0*
Ethane		17.1895	0*
Propane		24.2069	0*
Isobutane		6.64766	0*
n-Butane		16.0909	0*
Isopentane		5.88764	0*
n-Pentane		6.70456	0*
i-Hexane		8.49122	0*
C7+		3.40554	0*
Water		3.96781	100*
Mass Flow		lb/h	lb/h
Carbon Dioxide		2.08606	0*
Nitrogen		0.0481509	0*
Methane		37.2623	0*
Ethane		91.4116	0*
Propane		128.729	0*
Isobutane		35.3515	0*
n-Butane		85.5695	0*
Isopentane		31.3098	0*
n-Pentane		35.6540	0*
i-Hexane		45.1553	0*
C7+		18.1103	0*
Water		21.1003	311781*

Process Streams		VRU Disch	Water
Composition	**Status:**	Solved	Solved
Phase: **Total**	**From Block:**	VRU	--
	To Block:	MIX-105	MIX-106
Property	**Units**		
Temperature	°F	103.144	105.4*
Pressure	psig	-1.43595	121.3*
Mole Fraction Vapor	%	98.4833	0
Mole Fraction Light Liquid	%	0.377837	100
Mole Fraction Heavy Liquid	%	1.13884	0
Phase Mole Fraction	%	100	100
Molecular Weight	lb/lbmol	40.3770	18.0153
Mass Density	lb/ft^3	0.0909767	61.8874
Molar Flow	lbmol/h	13.1706	17306.5
Mass Flow	lb/h	531.788	311781
Vapor Volumetric Flow	ft^3/h	5845.32	5037.88
Liquid Volumetric Flow	gpm	728.768	628.099
Std Vapor Volumetric Flow	MMSCFD	0.119953	157.621
Std Liquid Volumetric Flow	sgpm	2.12950	623.273*
Compressibility		0.974358	0.00652828
Specific Gravity			0.992282
API Gravity			9.98354
Enthalpy	Btu/h	-667304	-2.11798E+09
Mass Enthalpy	Btu/lb	-1254.83	-6793.15
Mass Cp	Btu/(lb*°F)	0.430783	0.976808
Ideal Gas CpCv Ratio		1.13096	1.32795
Dynamic Viscosity	cP		0.662536
Kinematic Viscosity	cSt		0.668323
Thermal Conductivity	Btu/(h*ft*°F)		0.362203
Surface Tension	lbf/ft		0.00476986
Net Ideal Gas Heating Value	Btu/ft^3	2026.11	0
Net Liquid Heating Value	Btu/lb	18860.1	-1059.76
Gross Ideal Gas Heating Value	Btu/ft^3	2207.24	50.3100
Gross Liquid Heating Value	Btu/lb	20562.9	0

14842 N Maple Drive
Kellyville, OK 74039
918 941 2166
www.heroflare.com

Harker
Megan Henke

Rev 0: 12/20/21
Flare Technology: Air Assist

Project Reference: Dual Tip Flare (FL-9110)
Tap Rock Resources

Flare Model: T60VT8

Hero Flare is pleased to have the opportunity to provide a firm proposal for the supply of our A+ Series smokeless flare technology to handle VRT+Tank Vapors+Heater Treater as well as high pressure sales gas.

The A+ series technology is fully Quad O compliant. Our systems come complete with our Hotspot Ignition ™ System which is a high stability pilot that can operate in the most extreme conditions. In addition, all flare systems are provided with a blower VFD to maximize efficency smokeless capacity across the full operating range.

The Hero Flare system offers the following:

- 40 CFR 60.18 EPA Compliant
- 98% Destruction Efficency
- Continously Monitored Pilot Ignition System with automatic re-light
- Blower VFD allows for optimium energy and combustion efficency

We look forward to working with you as this project progresses.

Best regards,

Craig Rosencutter
Office: (918) 941-2166 Ext. 101
Cell: (918) 344-4335
Email: craig.rosencutter@heroflare.com

Design Data Sheet

Design Flow Rate

Flow Rate Case	Flow Rate (MMSCFD)	MW	LHV (Btu/SCF)	Flare Inlet Pres. (psig)	Temp. (°F)
Inlet 1: H.P. Max Flow Rate	23	20	1200	30	Amb.
Inlet 1: H.P. Ringelmann 1 Smokeless	18	20	1200	20	
Inlet 2: L.P. Ringelmann 0 Smokeless	2.71	40	1,840	0.7	

Site Conditions

Wind	90 MPH	Temperature	0 to 120 °F	Elevation	14.5 Psi

Site Utilities Required

Pilot Gas (per pilot)	Natural Gas: 55 scfh @ 18 psig OR Propane: 25 scfh @ 9 psig (Clean, dry gas)	
Plant Air	No Plant Air Required	
Pilot Panel Electricity	Powered by Converter Located Inside Hero VFD Panel (480VAC to 120VAC)	
Blower / VFD Electricity	480VAC / 3PH	Blower Size: 15 HP

Emission / Flare Performance

Destruction	A 98% or greater hydrocarbon destruction efficiency will be achieved
Smokeless Rate	See Above Smokeless Rates
Max Radiation	Less than 500 Btu/hr/SF at normal & 1500 Btu/hr at max flow rates
Tip Velocity	Meets EPA regulations over full operating range

Pilot Construction

Electrical / Classification	120VAC / Non-Classified Area
Control Panel Type	Nema 4 (Painted)
Pilot(s)	Two (2) Stainless Steel Gas Pilot with Easy Glide Retraction System
Pilot Construction	Stainless Steel
Pilot Monitoring	Type K Thermcouple
Pilot Gas Connection	½" FNPT Located at Base of Flare

Flare Construction

Component	Dimension	Material
Stack Height	60'	A53B
Flare tip	2' Long	Stainless
HP Inlet	8" Flanged	Carbon
Tank Vapor Inlet	12" Flanged	Carbon

Certificate of Analysis

Number: 6030-23010267-004A

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

Jan. 26, 2023

Station Name: Schlitz Fed Com 211H
Station Number: 7060643
Station Location: Taprock
Sample Point: Meter Run
Analyzed: 01/23/2023 11:35:03 by EBH

Sampled By: Jason Bealer
Sample Of: Liquid Spot
Sample Date: 01/20/2023 08:13
Sample Conditions: 121.3 psig, @ 105.4 °F
Method: GPA 2103M
Cylinder No: 1111-002300

Analytical Data

Components	Mol. %	MW	Wt. %	Sp. Gravity	L.V. %
Nitrogen	0.004	28.013	0.001	0.8069	0.001
Methane	1.981	16.043	0.267	0.3000	0.694
Carbon Dioxide	0.009	44.010	0.003	0.8172	0.003
Ethane	1.923	30.069	0.485	0.3563	1.063
Propane	3.148	44.096	1.165	0.5072	1.793
Iso-butane	0.948	58.122	0.462	0.5628	0.641
n-Butane	3.516	58.122	1.715	0.5842	2.291
Iso-pentane	1.804	72.149	1.092	0.6251	1.364
n-Pentane	2.776	72.149	1.681	0.6307	2.080
Hexanes	2.393	86.175	1.731	0.6658	2.028
Heptanes Plus	81.498	133.643	91.398	0.8103	88.042
	100.000		100.000		100.000

Calculated Physical Properties	Total	C7+
Specific Gravity at 60°F	0.7806	0.8103
API Gravity at 60°F	49.781	43.124
Molecular Weight	119.167	133.643
Pounds per Gallon (in Vacuum)	6.507	6.756
Pounds per Gallon (in Air)	6.500	6.748
Cu. Ft. Vapor per Gallon @ 14.696 psia	20.723	19.183

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

Certificate of Analysis

Number: 6030-23010274-002A

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

Jan. 25, 2023

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

Station Name:	Schlitz Fed Com B Sales	Sampled By:	Jason Bealer
Station Number:	7060652	Sample Of:	Gas Spot
Sample Point:	Meter Run	Sample Date:	01/21/2023 10:38
Formation:	Spot	Sample Conditions:	121.9 psig, @ 85.8 °F Ambient: 50 °F
County:	Eddy, NM	Effective Date:	01/21/2023 10:38
Type of Sample:	Spot-Cylinder	Method:	GPA-2261M
Heat Trace Used:	N/A	Cylinder No:	5030-03796
Sampling Method:	Fill and Purge	Instrument:	6030_GC6 (Inficon GC-3000 Micro)
Sampling Company:	SPL	Last Inst. Cal.:	01/24/2023 0:00 AM
		Analyzed:	01/25/2023 08:14:43 by EBH

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.73 psia		
Nitrogen	0.503	0.499	0.638		GPM TOTAL C2+	6.133
Methane	79.159	78.596	57.549		GPM TOTAL C3+	3.226
Carbon Dioxide	0.112	0.111	0.223		GPM TOTAL iC5+	1.120
Ethane	10.908	10.830	14.863	2.907		
Propane	4.740	4.706	9.471	1.301		
Iso-butane	0.825	0.819	2.173	0.269		
n-Butane	1.705	1.693	4.491	0.536		
Iso-pentane	0.544	0.540	1.778	0.198		
n-Pentane	0.596	0.592	1.949	0.215		
Hexanes Plus	1.626	1.614	6.865	0.707		
	100.718	100.000	100.000	6.133		

Calculated Physical Properties	Total	C6+
Relative Density Real Gas	0.7593	3.2176
Calculated Molecular Weight	21.91	93.19
Compressibility Factor	0.9959	
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.73 psia & 60°F		
Real Gas Dry BTU	1322	5141
Water Sat. Gas Base BTU	1300	5052
Ideal, Gross HV - Dry at 14.73 psia	1316.9	5141.1
Ideal, Gross HV - Wet	1294.0	5051.6
Net BTU Wet Gas - real gas	1180	

Hydrocarbon Laboratory Manager

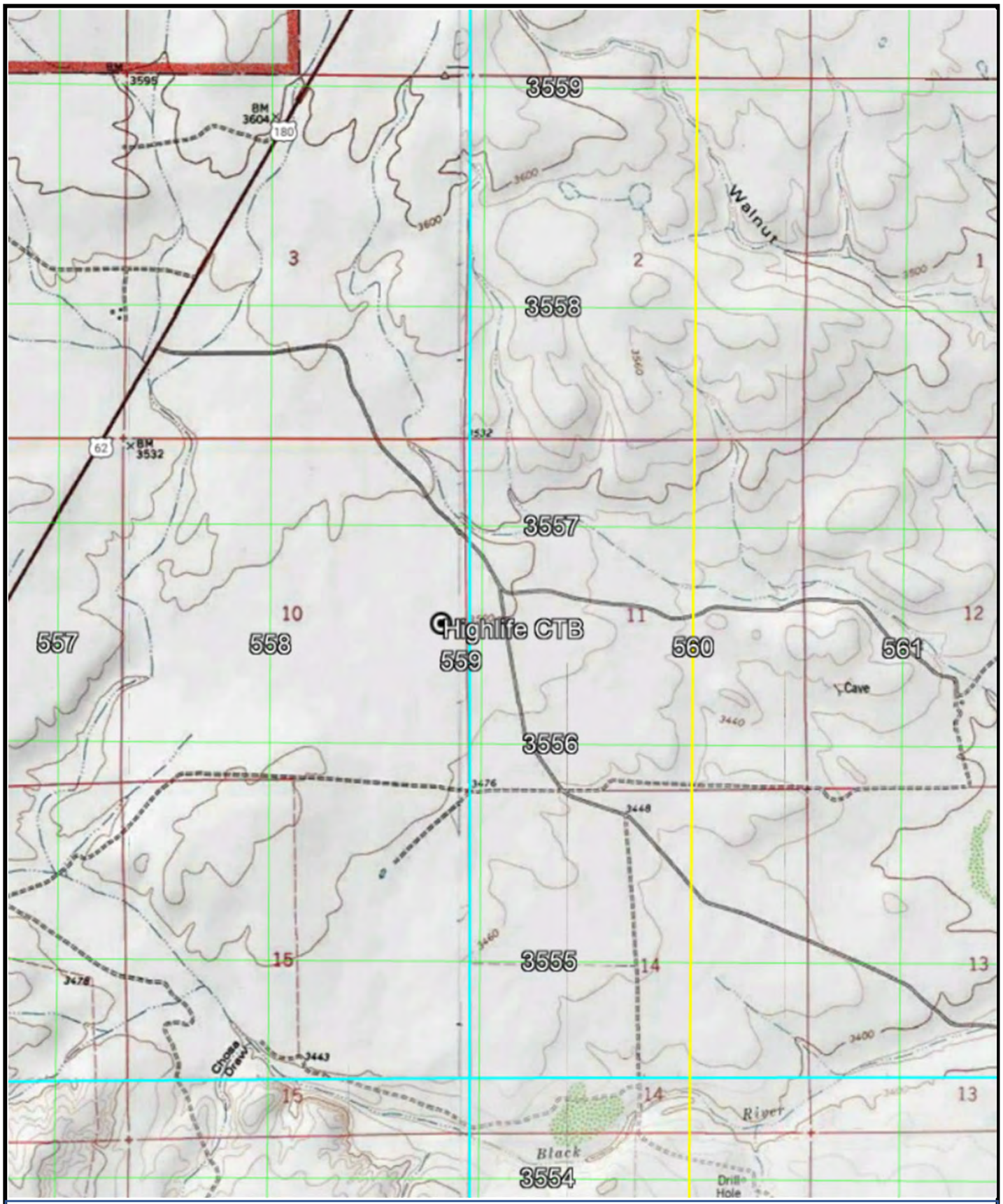
Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

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	



CDH Consulting, LLC	Topographic Map November 2024	Tap Rock Operating, LLC High Life 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.

November 14, 2024

John Arthur Ballard
80 Ballard Ranch Road
Carlsbad, NM 88220

CERTIFIED MAIL – 7022 2410 0000 2510 9342

Subject: Air Permit Application Notice

Dear Mr. Ballard,

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.

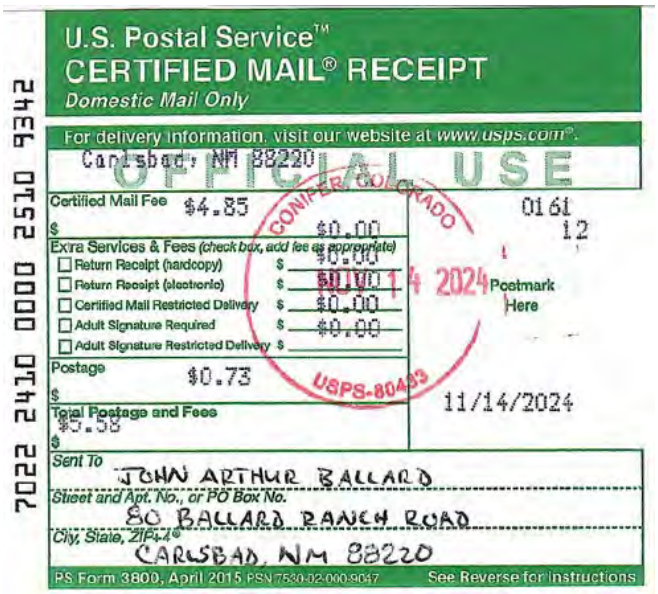
Please do not hesitate to contact me at (303) 594-7951 or cmartnez@cdhconsult.com if you have any questions or require additional information.

Sincerely,

CDH CONSULTING, LLC

Chris Martinez
Senior Air Quality Engineer

Attachment – Air Permit Notice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For delivery information, visit our website at www.usps.com®.
Carlsbad, NM 88220
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Certified Mail Fee $4.85
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy) $0.00
Return Receipt (electronic) $0.00
Certified Mail Restricted Delivery $0.00
Adult Signature Required $0.00
Adult Signature Restricted Delivery $
Postage $0.73
Total Postage and Fees $5.58
0161 12
CONIFER, COLORADO
NOV 14 2024
Postmark Here
USPS-80433
11/14/2024
Sent To JOHN ARTHUR BALLARD
Street and Apt. No., or PO Box No. 80 BALLARD RANCH ROAD
City, State, ZIP+4® CARLSBAD, NM 88220
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
7022 2410 0000 2510 9342

NOTICE OF AIR QUALITY PERMIT APPLICATION

Tap Rock Operating, LLC announces its application submittal to the New Mexico Environment Department for an air quality permit for the construction of its Oil and Gas facility. The expected date of application submittal to the Air Quality Bureau is November 29, 2024.

The exact location of the proposed facility, known as the High Life CTB, will be 32.142922, -104.376364. The approximate location of this facility is 2.3 miles south of Whites City in Eddy County.

The proposed facility consists of an oil and gas central tank battery where oil, gas, and water will be separated for sale.

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Volatile Organic Compounds (VOC)	183.9	115.1
Sum of all Hazardous Air Pollutant (HAPs)	2.2	9.6
Toxic Air Pollutant (TAP)	-	-
Green House Gas Emissions as Total CO_2e	-	25,000 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
523 Park Point Dr, Suite 200
Golden, CO 80401

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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November 14, 2024

Berry and Janice Lucas
P.O. Box 96,
Whites City, NM 88268

CERTIFIED MAIL – 7022 2410 0000 2510 9359

Subject: Air Permit Application Notice

Dear Berry & Janice,

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.

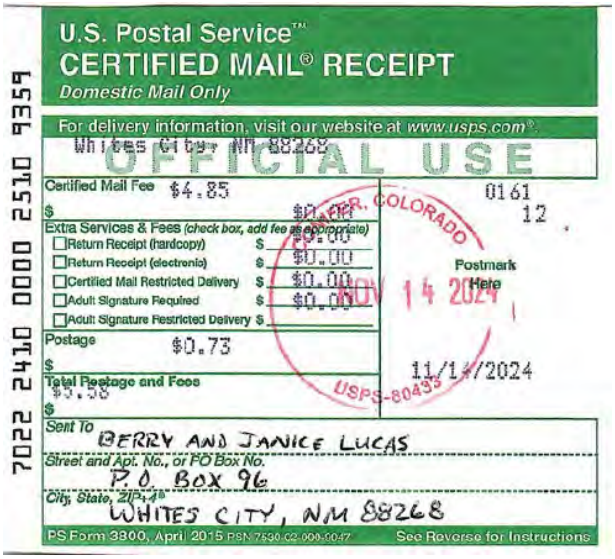
Please do not hesitate to contact me at (303) 594-7951 or cmartnez@cdhconsult.com if you have any questions or require additional information.

Sincerely,

CDH CONSULTING, LLC

Chris Martinez
Senior Air Quality Engineer

Attachment – Air Permit Notice



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November 14, 2024

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

CERTIFIED MAIL – 7022 2410 0000 2510 9366

Subject: Air Permit Application Notice

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Chris Martinez
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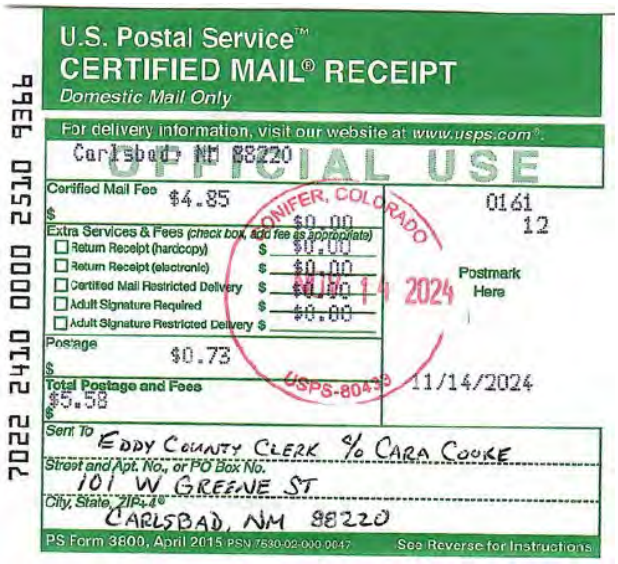

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70224100000025109342

Copy Add to Informed Delivery

Latest Update

Your item has been delivered to an agent and left with an individual at the address at 12:02 pm on November 18, 2024 in CARLSBAD, NM 88220.

Get More Out of USPS Tracking:

USPS Tracking Plus®

Delivered to Agent
Delivered to Agent, Left with Individual
CARLSBAD, NM 88220
November 18, 2024, 12:02 pm

See All Tracking History

What Do USPS Tracking Statuses Mean?

Text & Email Updates

USPS Tracking Plus®

Product Information

See Less

Tracking Number:

70224100000025109359

Copy Add to Informed Delivery

Latest Update

Your item has been delivered and is available at a PO Box at 11:15 am on November 18, 2024 in WHITES CITY, NM 88268.

Get More Out of USPS Tracking:

USPS Tracking Plus®

Delivered
Delivered, PO Box
WHITES CITY, NM 88268
November 18, 2024, 11:15 am

See All Tracking History

What Do USPS Tracking Statuses Mean?

See More

Tracking Number:

70224100000025109366

Copy Add to Informed Delivery

Latest Update

Your item was delivered to the front desk, reception area, or mail room at 11:47 am on November 18, 2024 in CARLSBAD, NM 88220.

Get More Out of USPS Tracking:

USPS Tracking Plus®

Delivered
Delivered, Front Desk/Reception/Mail Room
CARLSBAD, NM 88220
November 18, 2024, 11:47 am

See All Tracking History

What Do USPS Tracking Statuses Mean?

COUNTY NOTICE

November 14, 2024

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

LANDOWNER NOTICE (within ½ mile)

November 14, 2024

Berry and Janice Lucas
P.O. Box 96,
Whites City, NM 88268

John Arthur Ballard
80 Ballard Ranch Road
Carlsbad, NM 88220

NEWSPAPER PUBLICATION

Carlsbad News-Argus (November 16, 2024)

- Legal Notice
- Display Ad

POSTINGS

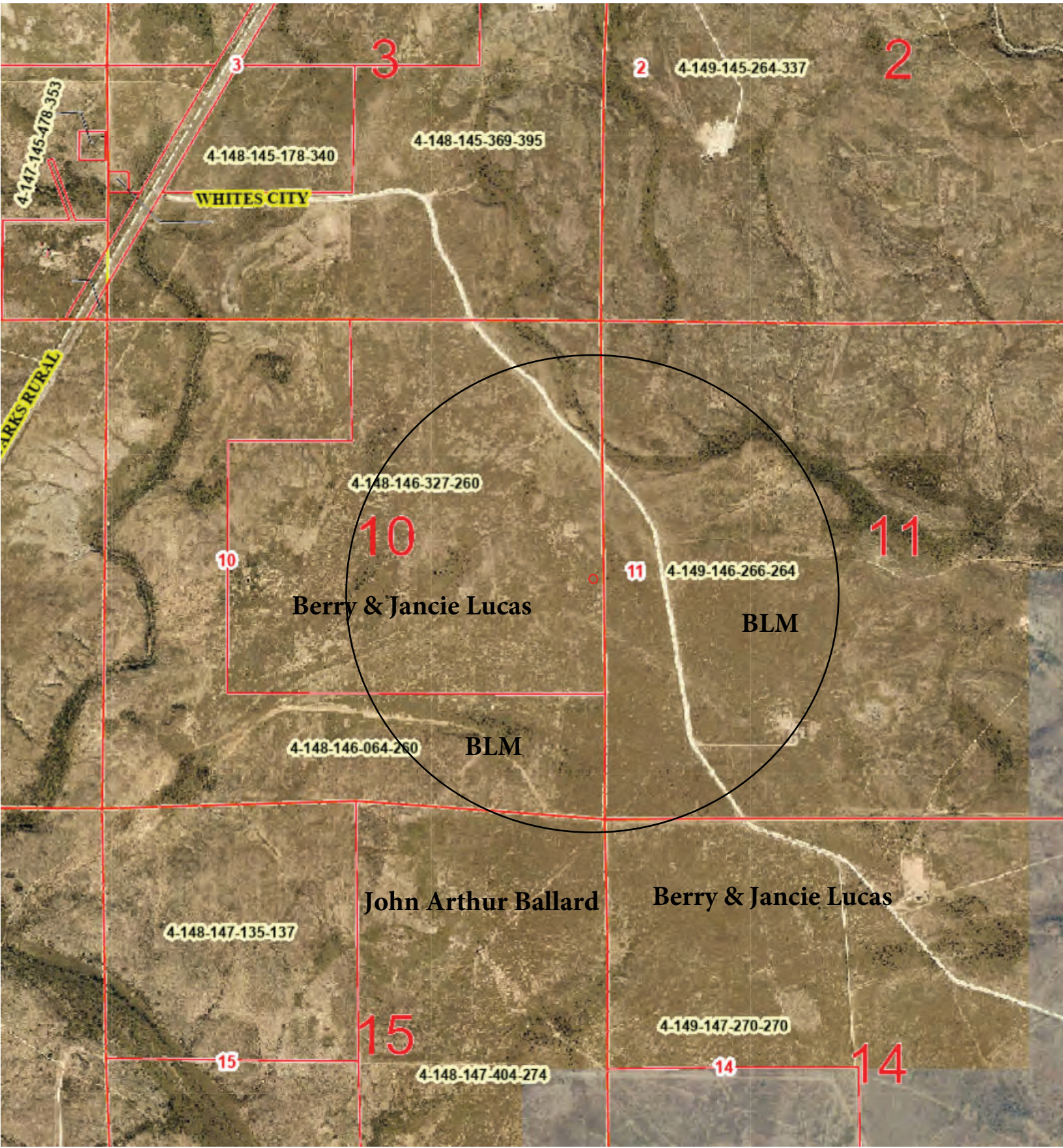
November 19, 2024

Site location – High Life CTB

US Post Office
23 Carlsbad Cavern Hwy
Whites City, NM 88268

Carlsbad Municipal Building
101 N Halagueno St
Carlsbad, NM 88220

Carlsbad Public Library
101 S Halagueno St
Carlsbad, NM 88220


3
3
2
4-149-145-264-337
2
4-147-145-478-353
4-148-145-178-340
4-148-145-369-395
WHITES CITY
ARKS RURAL
4-148-146-327-260
10
10
11
4-149-146-266-264
11
Berry & Jancie Lucas
BLM
4-148-146-064-260
BLM
John Arthur Ballard
Berry & Jancie Lucas
4-148-147-135-137
15
4-149-147-270-270
15
4-148-147-404-274
14
14

General Posting of Notices – Certification

I, **Bill Ramsey**, the undersigned, certify that on November 19, 2024, posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in **Carlsbad & Whites City** of **Eddy** County, State of New Mexico on the following dates:

1. Facility entrance November 19, 2024
2. US Post Office November 19, 2024
   23 Carlsbad Cavern Hwy
   Whites City, NM 88268
3. Carlsbad Municipal Building November 19, 2024
   101 N Halagueno St.
   Carlsbad, NM 88220
4. Carlsbad Public Library November 19, 2024
   101 S Halagueno St.
   Carlsbad, NM 88220

Signed this 19 day of November, 2024.

Signature

11/19/2024
Date

Bill Ramsey
Printed Name

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

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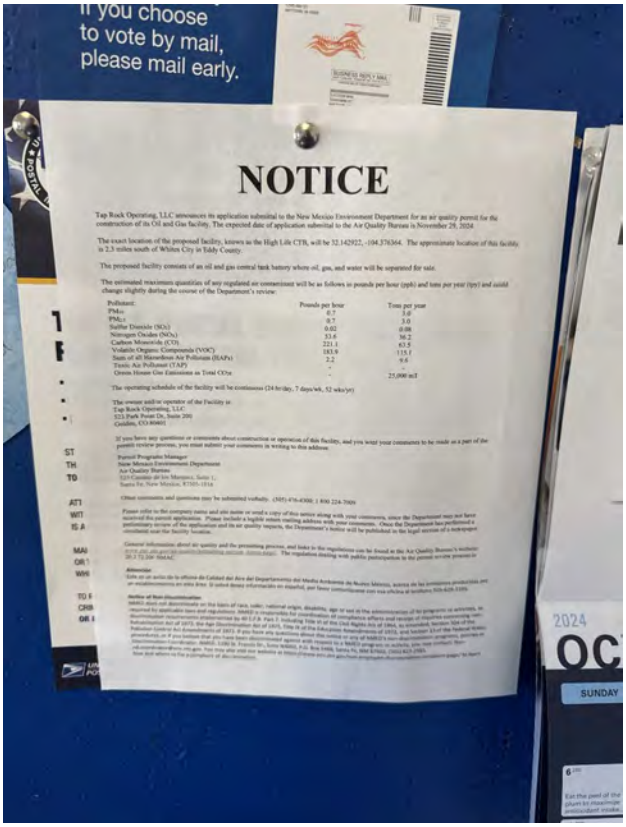
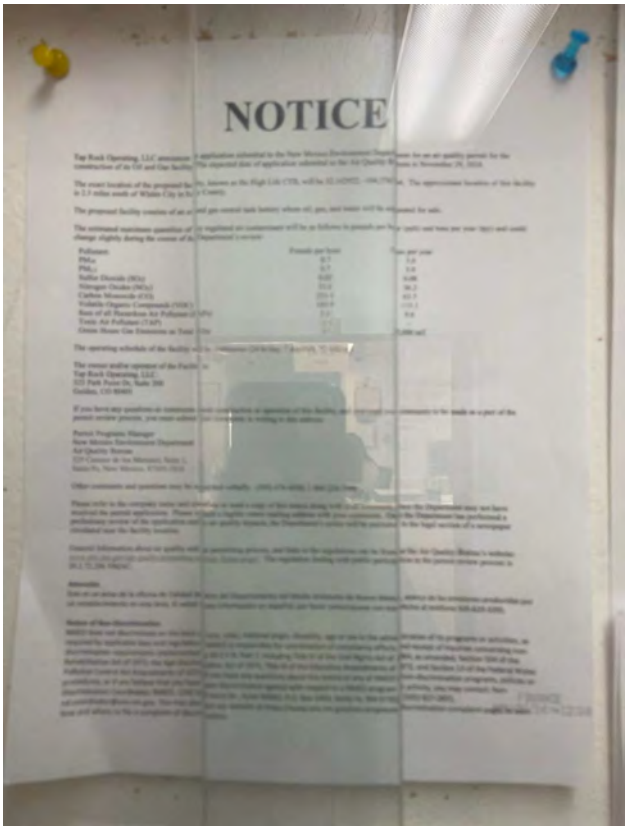
Facility Entrance

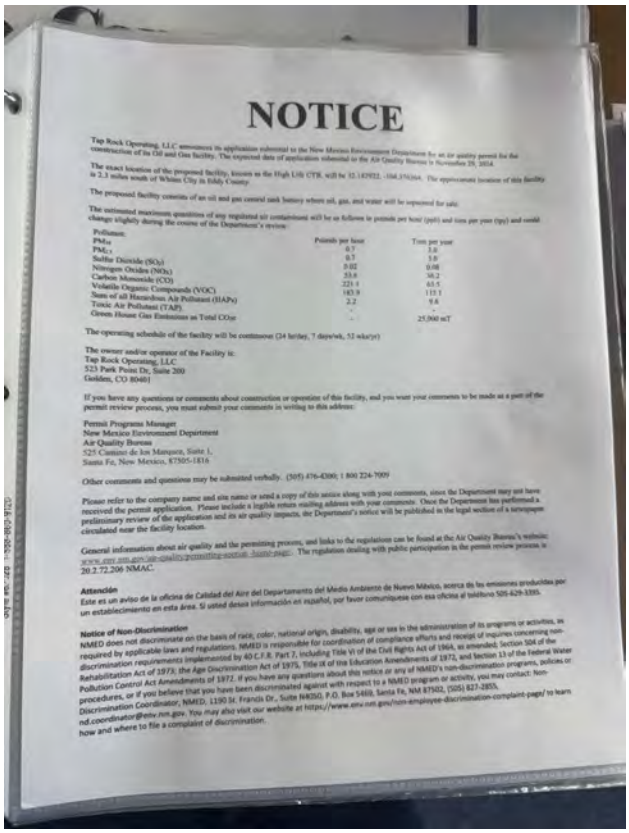
Whites City Post Office



Carlsbad Municipal Building



Carlsbad Public Library



Public Service Announcement (November 2024)

Tap Rock Operating, LLC is applying for an air permit with the New Mexico Environmental Department's Air Quality Bureau. The permit is for construction and operation of the High Life central tank battery located approximately 2.3 miles south of Whites City, in Eddy County. Notices required by the Bureau have been posted at the following locations.

The Carlsbad Municipal Building,

The Carlsbad Public Library, and

The U.S. Post Office in Whites City.

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

Submittal of Public Service Announcement – Certification

I, **Bill Ramsey**, the undersigned, certify that on November 14, 2024, 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 19 day of November, 2024.

Signature

11/19/2024
Date

Bill Ramsey
Printed Name

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

AFFIDAVIT OF PUBLICATION

CARLSBAD CURRENT-ARGUS
PO BOX 507
HUTCHINSON, KS 67504-0507

STATE OF NEW MEXICO } SS
COUNTY OF EDDY }

Account Number: 1015
Ad Number: 22430
Description: Air Quality Permit Application
Ad Cost: $295.34

Sherry Groves, being first duly sworn, says:

That she is the Agent of the the Carlsbad Current-Argus, a Weekly newspaper of general circulation, printed and published in Carlsbad, Eddy County, New Mexico; that the publication, a copy of which is attached hereto, was published in said newspaper on the following dates:

November 16, 2024

That said newspaper was regularly issued and circulated on those dates.
SIGNED:

Sherry Groves

Agent

Subscribed to and sworn to me this 18th day of November 2024.

Leanne Kaufenberg

Leanne Kaufenberg, Notary Public, Redwood County Minnesota

CHRIS MARTINEZ
CDH CONSULTING LLC
9446 CLERMONT ST
DENVER, CO 80229
cmartinez@cdhconsult.com

LEANNE JOY KAUFENBERG
Notary Public
State of Minnesota
My Commission Expires
January 31, 2025

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General information about air quality and the permitting process, and links to the regulations can be found at the Air Quality Bureau's website: www.env.nm.gov/air-quality/permitting-section -home-page/. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC.

Attención
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-629-3395.

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.

ER-ERM22430

PASTOR'S SERMON

Welcoming the alien

Rev. David Rogers

In the first Chapter of Luke's Gospel, the virgin Mary journeys to her cousin Elizabeth and the reality of her pregnancy with Jesus Christ is confirmed as the unborn Christ in her womb leaps for joy in the presence of his unborn cousin, John the Baptizer. In response, Mary then sings a beautiful song of praise to God in joy for the blessing God has bestowed upon her. Consistent with her faithful Jewish faith, the song is a faithful echo of the ancient Jewish song of Hanna, the mother of Samuel, the great judge of Israel from more than a millennium earlier.

In Mary's song, a scriptural song commonly called the "Magnificat," prophetically proclaims the power of God for those who are the "least of these" in God's realm, as would be ultimately proclaimed by the fruit of her womb, Jesus Christ. According to faithfully biblical pronouncements, such are the orphans, widows, immigrants, poor, oppressed, and those put down by the power establishment of culture. Ultimately, the fruit of Mary's womb would proclaim that those who were excluded from human equality and justice would be blessed by God, and those who sought power over the victims of human cruelty, discrimination, and hatred would be eventually cursed and destroyed by God for their idolatrous disrespect of God's word.

At the hear to of the prayer, Mary sings, "God has shown strength with the Divine arm; God has scattered the proud in the thoughts of their hearts. God has brought down the powerful from their thrones, and lifted up the lowly; God has filled the hungry with good things, and sent the rich away empty." All of this prophetic vision is proclaimed in the ultimate birth and reign of Jesus Christ!

Jesus reiterates the significance of this prayer through his life, ministry, and teaching while on the earth. Perhaps the most significant illustration of this reality is told in the 25th chapter of Matthew. The great Apostle James echoes the sentiment in the first Chapter of his epistle when he reminds the faithful that "Religion that is pure and undefiled before God, the Father, is this: to care for orphans and widows in their distress, and to keep oneself unstained by the world."

In Genesis 18, Abraham received and blessed aliens journeying through the land. Thousands of years later, the author of Hebrews would herald the compassionate and faithful gesture in Chapter 13 as a true sign of faithful righteousness. "Do not neglect to show hospitality to strangers, for by doing that some have entertained angels without knowing it." Other passage of Old Testament scripture reminds the faithful of God that denying justice to the stranger in a strange land seeking a new or better life is a denial of God's providential love, grace, and peace. Deuteronomy 10, 24, and 27, as well as Isaiah 1 and Jeremiah 22 explicitly call for the faithful to honor the sojourner in a foreign land. At the heart of God's teaching is the reality that the people of God were once the sojourners in a foreign land who ultimately benefited from God's grace and were obligated in faith to extend the same grace to those who were to follow.

When Christian teaching, doctrine, practice, or proclamation demonizes the stranger, curses the alien, or castigates the foreigner to less-than human dignity because they are somehow deemed a threat to the prevailing cultural or religious norm, such a proclamation is contrary to the Bible and an affront to Biblical Christianity.

The Rev. David Wilson Rogers, Minister of the First Christian Church (Disciples of Christ), has been serving in Carlsbad for almost 23 years and has been contributing to the Current-Argus for the past 22 years.

Celebrate National Hiking Day with a trip to Guadalupe Mountains

Sarah Jones
Carlsbad Public Library

As we celebrate National Hiking Day, there's no better time to lace up your boots, grab your backpack, and hit the trails. This special day reminds us of the beauty of nature, the importance of outdoor activities, and the thrill of exploration. One of the most breathtaking destinations to embrace this spirit is the Guadalupe Mountains in West Texas, a hidden gem that offers both adventure and tranquility.

The Guadalupe Mountains National Park is a stunning expanse of rugged terrain, featuring the highest peaks in Texas. This diverse landscape, rich in geological history and vibrant ecosystems, beckons hikers of all skill levels. From the moment you step into the park, you're greeted by towering limestone cliffs, expansive desert vistas, and the rich tapestry of flora and fauna that thrives in this unique environment.

One of the park's crown jewels is the Guadalupe Peak Trail, which leads to the summit of Guadalupe Peak, the highest point in Texas at 8,749 feet. This challenging 8.4-mile round trip offers panoramic views that reward your effort at the top. The trail winds through stunning canyons and forests, showcasing the region's stunning biodiversity. Along the way, you might spot various wildlife, including mule deer, mountain lions, and a variety of birds that make this area their home.

We are so blessed to have more than one national park in our backyard. Did you know that we have a backpack for checkout that was created by the rangers from the Guadalupe Mountains? It will help you explore the mountains. Discover the exciting world of geology at Guadalupe Mountains National Park. The backpack includes a thumb drive with lesson plans and field trip activity guides, a compass and instruction booklet, a cleaning cloth for a compass, binoculars, and a flexible ruler.

For those looking for a shorter hike, the McKittrick Canyon Trail provides an equally enchanting experience. This 4.8-mile round trip trail takes you through a picturesque canyon adorned with colorful rock formations and lush vegetation. The canyon is particularly breathtaking in the fall when the leaves change, transforming the landscape into a vibrant tapestry of colors. The unique geology here tells the story of ancient seas and shifting earth, making every step a journey through time.

Hiking in the Guadalupe Mountains is not just about physical activity; it's also an opportunity for connection—with nature and with ourselves. The serenity of the wilderness allows for moments of reflection, peace, and rejuvenation. There's something incredibly grounding about stepping away from the hustle and bustle of daily life and immersing oneself in the quiet majesty of the mountains.

In addition to hiking, the Guadalupe Mountains offer numerous other activities for outdoor enthusiasts. Birdwatching is particularly popular, as the park is home to a wide variety of species. Photography enthusiasts will find endless inspiration in the stunning landscapes, especially during sunrise and sunset when the mountains are bathed in golden light.

As we observe National Hiking Day, let's remember the importance of preserving these natural spaces. Engaging with the outdoors fosters a deep appreciation for our environment, encouraging us to protect it for future generations. Practicing Leave No Trace principles ensures that we can continue to enjoy the beauty of places like the Guadalupe Mountains while minimizing our impact.

The Guadalupe Mountains offer an incredible opportunity to celebrate National Hiking Day. This rugged landscape invites you to step outside, embrace the adventure, and reconnect with nature. So pack your gear, hit the trails, and let the spirit of exploration guide you through one of Texas's most spectacular treasures. Happy hiking!

Sarah Jones is the director of Carlsbad Public Library.

NOTICE OF AIR QUALITY PERMIT APPLICATION

Tap Rock Operating, LLC announces its application submittal to the New Mexico Environment Department for an air quality permit for the construction of its Oil and Gas facility. The expected date of application submittal to the Air Quality Bureau is November 29, 2024.

The exact location of the proposed facility, known as the High Life CTB, will be 32.142922, -104.376364. The approximate location of this facility is 2.3 miles south of Whites City in Eddy County.

The proposed facility consists of an oil and gas central tank battery where oil, gas, and water will be separated for sale.

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

Pollutant:	Pounds per hour	Tons per year
PM10	0.7	3.0
PM2.5	0.7	3.0
Sulfur Dioxide (SO2)	0.02	0.08
Nitrogen Oxides (NOX)	53.6	36.2
Carbon Monoxide (CO)	221.1	63.5
Volatile Organic Compounds (VOC)	183.9	115.1
Sum of all Hazardous Air Pollutant (HAPs)	2.2	9.6
Toxic Air Pollutant (TAP)	-	-
Green House Gas Emissions as Total CO2e	-	25,000 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
523 Park Point Dr, Suite 200
Golden, CO 80401

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

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ER-ERM224130

AFFIDAVIT OF PUBLICATION

CARLSBAD CURRENT-ARGUS
PO BOX 507
HUTCHINSON, KS 67504-0507

STATE OF NEW MEXICO } SS
COUNTY OF EDDY }

Account Number:	1015
Ad Number:	22440
Description:	Air Quality Permit Application
Ad Cost:	$295.34

Sherry Groves, being first duly sworn, says:

That she is the Agent of the the Carlsbad Current-Argus, a Weekly newspaper of general circulation, printed and published in Carlsbad, Eddy County, New Mexico; that the publication, a copy of which is attached hereto, was published in said newspaper on the following dates:

November 16, 2024

That said newspaper was regularly issued and circulated on those dates.
SIGNED:

Sherry Groves

Agent

Subscribed to and sworn to me this 18th day of November 2024.

Leanne Kaufenberg

Leanne Kaufenberg, Notary Public, Redwood County Minnesota

CHRIS MARTINEZ
CDH CONSULTING LLC
9446 CLERMONT ST
DENVER, CO 80229
cmartinez@cdhconsult.com

LEANNE JOY KAUFENBERG
Notary Public
State of Minnesota
My Commission Expires
January 31, 2025

NOTICE OF AIR QUALITY PERMIT APPLICATION

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ER-ERM22440

CURRENT-ARGUS
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To Advertise:
Classifieds: **classifieds@currentargus.com**
Public Notices/Legals: **legals@currentargus.com**
Phone: **575.628.5501**

Auction Displays

Garage Sales

409 SUNNY VIEW, CARLSBAD. This Sat. and Sun. 7-2. Huge yard sale. Clothes, dishes, misc. Too much to list.

BUSINESS & SERVICES

Services

B&B EXCAVATING, excavating, grading, hauling, 607-738-2522. Fully insured.

Tree Services

ROADRUNNERS TREE SERVICES. Fully insured. Quality work. Free estimates. 575-703-1604.

PUBLIC NOTICE

NOTICE OF ADOPTED ORDINANCE

TO WHOM IT MAY CONCERN:

Notice is hereby given that at its regular meeting at the Municipal Annex at 6:30 p.m. on Tuesday, November 12, 2024 the Carlsbad City Council adopted the following Ordinance:

ORDINANCE NO. 2024-27

AN ORDINANCE REZONING PART OF "C-2" COMMERCIAL 2 DISTRICT TO "R-2" RESIDENTIAL 2 DISTRICT FOR AN APPROXIMATELY 0.17 ACRE PROPERTY LOCATED AT 2307 W TEXAS STREET

A copy of the Ordinance is available to all interested persons during normal and regular business hours at the Municipal Building, 101 N. Halagueno Street, Carlsbad, NM. Copies of the Ordinance will be available at a fee of fifty (50) cents per page or on the City of Carlsbad official website:www.cityofcarlsbadnm.com

Published in the Carlsbad Current-Argus November 16, at Noon
22310

PERMIAN DRUM SET 24972 and 24973

This is to notify all interested parties, including; EOG Resources; OXY USA Inc.; Murphy Minerals Corp.; Harvard & Lemay Exploration Ltd.; Harvard & Lemay Exploration Ltd.Series 1977-A; Harvard & Lemay Exploration Ltd. Series 1978-A; Viersen Oil & Gas Co.; Northern Oil & Gas Inc.; Tom Boyd Drilling Co.; and their successors and assigns, that the New Mexico Oil Conservation Division will conduct a hearing on applications submitted by Permian Resources Operating, LLC in Case Nos. 24972 and 24973. The hearing will be conducted on December 5, 2024, in a hybrid fashion, both virtually and in-person at the Energy, Minerals, Natural Resources Department, Wendell Chino Building, Pecos Hall, 1220 South St. Francis Drive, 1st Floor, Santa Fe, NM 87505. To participate virtually, see the instructions posted on the OCD Hearings website: https://www.emnrd.nm.gov/ocd/hearing-info/. In Case No 24974, Applicant applies for an order: (1) establishing a 240-acre, more or less, standard, horizontal spacing unit comprised of the N/2 SE/4 of Section 14 and the N/2 S/2 of Section 13, Township 20 South, Range 27 East, Eddy County, New Mexico; and (2) pooling all uncommitted interests in the Third Bone Spring interval of the Bone Spring formation underlying the Unit. The Unit will be dedicated to the Drum Set Fed Com 14-13 133H well, which will be drilled from a surface hole location in the NE/4 SW/4 (Unit K) of Section 14 to a bottom hole location in the NE/4 SE/4 (Unit I) of Section 13. In Case No. 24975, Applicant applies for an order: (1) establishing a 240-acre, more or less, standard, horizontal spacing unit comprised of the S/2 SE/4 of Section 14 and the S/2 S/2 of Section 13, Township 20 South, Range 27 East, Eddy County, New Mexico; and (2) pooling all uncommitted interests in the Third Bone Spring interval of the Bone Spring formation underlying the Unit. The Unit will be dedicated to the Drum Set Fed Com 14-13 134H well, which will be drilled from a surface hole location in the NE/4 SW/4 (Unit K) of Section 14 to a bottom hole location in the SE/4 SE/4 (Unit P) of Section 13. The completed interval of the Drum Set wells will be orthodox. Further, Case Nos. 24974 and 24975 only seek to pool uncommitted interests from the top of the Third Bone Spring interval at a stratigraphic equivalent of approximately 7,210' TVD as shown on the Oxy Hopsing Federal #2 (API No. 30-015-32032) well log to the base of the Bone Spring formation. Also to be considered will be the cost of drilling and completing the wells and the allocation of the costs, the designation of Applicant as operator of the wells, and a 200% charge for the risk involved in drilling and completing the wells. The wells are located approximately 10 miles North of Carlsbad.

Published inthe Carlsbad Current-Argus on November 16,2024
22470

PERMIAN DRUM SET 24972 AND 24973

This is to notify all interested parties, including; EOG Resources; OXY USA Inc.; Murphy Minerals Corp.; Harvard & Lemay Exploration Ltd.; Harvard & Lemay Exploration Ltd.Series 1977-A; Harvard & Lemay Exploration Ltd. Series 1978-A; Viersen Oil & Gas Co.; Northern Oil & Gas Inc.; Tom Boyd Drilling Co.; and their successors and assigns, that the New Mexico Oil Conservation Division will conduct a hearing on applications submitted by Permian Resources Operating, LLC in Case Nos. 24972 and 24973. The hearing will be conducted on December 5, 2024, in a hybrid fashion, both virtually and in-person at the Energy, Minerals, Natural Resources Department, Wendell Chino Building, Pecos Hall, 1220 South St. Francis Drive, 1st Floor, Santa Fe, NM 87505. To participate virtually, see the instructions posted on the OCD Hearings website: https://www.emnrd.nm.gov/ocd/hearing-info/. In Case No. 24973, Permian Resources Operating, LLC, ("Applicant") applies for an order: (1) establishing a 240-acre, more or less, standard, horizontal spacing unit comprised of the N/2 SE/4 of Section 14 and the N/2 S/2 of Section 13, Township 20 South, Range 27 East, Eddy County, New Mexico; and (2) pooling all uncommitted interests from the top of the Bone Spring formation to the base of the Second Bone Spring interval underlying the Unit. The Unit will be dedicated to the Drum Set Fed Com 14-13 123H well, which will be drilled from a surface hole location in the NE/4 SW/4 (Unit K) of Section 14 to a bottom hole location in the NE/4 SE/4 (Unit I) of Section 13. In Case No. 24973, Applicant applies for an order: (1) establishing a 240-acre, more or less, standard horizontal spacing unit comprised of the S/2 SE/4 of Section 14 and the S/2 S/2 of Section 13, Township 20 South, Range 27 East, Eddy County, New Mexico; and (2) pooling all uncommitted interests from the top of the Bone Spring formation to the base of the Second Bone Spring interval underlying the Unit. The Unit will be dedicated to the Drum Set Fed Com 14-13 124H well, which will be drilled from a surface hole location in the NE/4 SW/4 (Unit K) of Section 14 to a bottom hole location in the SE/4 SE/4 (Unit P) of Section 13. The completed interval of the Drum Set wells will be orthodox. Further, Case Nos. 24972 and 24973 only seek to pool uncommitted interests from the top of the Bone Spring formation to the base of the Second Bone Spring interval at a stratigraphic equivalent of approximately 7,210' TVD as shown on the Oxy Hopsing Federal #2 (API No. 30-015-32032) well log. Also to be considered will be the cost of drilling and completing the wells and the allocation of the costs, the designation of Applicant as operator of the wells, and a 200% charge for the risk involved in drilling and completing the wells. The wells are located approximately 10 miles North of Carlsbad.
published in the Carlsbad Currevt-Argus November 16, 2024
22480

PERMIAN DRUM SET 24976

This is to notify all interested parties, including; EOG Resources; OXY USA Inc.; Murphy Minerals Corp.; Harvard & Lemay Exploration Ltd.; Harvard & Lemay Exploration Ltd.Series 1977-A; Harvard & Lemay Exploration Ltd. Series 1978-A; Viersen Oil & Gas Co.; Northern Oil & Gas Inc.; Tom Boyd Drilling Co.; and their successors and assigns, that the New Mexico Oil Conservation Division will conduct a hearing on the application submitted by Permian Resources Operating, LLC in Case No. 24976. The hearing will be conducted on December 5, 2024, in a hybrid fashion, both virtually and in-person at the Energy, Minerals, Natural Resources Department, Wendell Chino Building, Pecos Hall, 1220 South St. Francis Drive, 1st Floor, Santa Fe, NM 87505. To participate virtually, see the instructions posted on the OCD Hearings website: https://www.emnrd.nm.gov/ocd/hearing-info/. In Case No. 24976, Applicant applies for an order pooling all uncommitted interests in the Wolfcamp formation underlying a 480-acre, more or less, standard horizontal spacing unit comprised of the SE/4 of Section 14 and the S/2 of Section 13, Township 20 South, Range 27 East, Eddy County, New Mexico ("Unit"). The Unit will be dedicated to the Drum Set Fed Com 14-13 204H well ("Well"), which will be drilled from a surface hole location in the NE/4 SW/4 (Unit K) of Section 14 to a bottom hole location in the SE/4 SE/4 (Unit P) of Section 13. The completed interval of the Well will be orthodox. The completed interval of the Well will be located within 330' of the quarter-quarter section line separating the N/2 S/2 and S/2 S/2 of Sections 13 and 14 to create a 480-acre, more or less, standard horizontal spacing unit. Also to be considered will be the cost of drilling and completing the Well and the allocation of the costs, the designation of Applicant as operator of the Well, and a 200% charge for the risk involved in drilling and completing the Well. The Well is located approximately 10 miles North of Carlsbad.

Published in the Carlsbad Current-Argus November 16,2024
22450

TO WHOM IT MAY CONCERN:

Notice is hereby given that at its regular meeting at the Municipal Annex Building at 6:00 p.m. on December 10, 2024 the Carlsbad City Council will consider the adoption of the following ordinance:

NOTICE OF PROPOSED ORDINANCE

ORDINANCE NO. 2024-XX

AN ORDINANCE REZONING PART OF "R-2" RESIDENTIAL 2 DISTRICT TO "C-1" COMMERCIAL 1 DISTRICT FOR AN APPROXIMATELY 0.53 ACRE PROPERTY LOCATED AT 1109 W FOX STREET

A copy of the ordinance is available to all interested persons during normal and regular business hours at the Municipal Building, 101 N. Halagueno Street, Carlsbad, NM.

Copies of the ordinance will be available at a fee of fifty (50) cents per page.

Published in the Carlsbad Current-Argus November 16, 2024
22270

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ORDINANCE NO. 2024-XX AN ORDINANCE REZONING PART OF "R-2" RESIDENTIAL 2 DISTRICT TO "C-1" COMMERCIAL 1 DISTRICT FOR AN APPROXIMATELY 0.22 ACRE PROPERTY LOCATED AT 311 N MESA STREET

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Published i the Carlsbad Current-Argus Noivember 16, 2024
22290

TO WHOM IT MAY CONCERN:

Notice is hereby given that at its regular meeting at the Municipal Annex Building at 6:00 p.m. on December 10, 2024 the Carlsbad City Council will consider the adoption of the following ordinance:

NOTICE OF PROPOSED ORDINANCE

ORDINANCE NO. 2024-XX

AN ORDINANCE CORRECTING ORDINANCE 2024-26 REGARDING SECTION 50-3 (a) OF THE CITY OF CARLSBAD CODE OF ORDINANCES REGARDING PENALTY ASSESSMENTS FOR THE NEW MEXICO UNIFORM TRAFFIC ORDINANCE, 2010 COMPILATION

A copy of the ordinance is available to all interested persons during normal and regular business hours at the Municipal Building, 101 N. Halagueno Street, Carlsbad, NM. Copies of the ordinance will be available at a fee of fifty (50) cents per page.

Published in the Carlsbas Current-Argus November 16,2024
22300

Public Notices

ATTENTION: Shane & Neno Sons of Jolene Coleman. Oil Royalties. Call 580-606-0253

Published in the Carlsbad Current-Argus November 9,12,14,16,19,21,23,26,28,30, December 3&5, 2024
#20780

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Sum of all Hazardous Air Pollutant (HAPs)	2.2	9.6
Toxic Air Pollutant (TAP)	-	-
Green House Gas Emissions as Total CO2e	-	25,000 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
523 Park Point Dr, Suite 200
Golden, CO 80401

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.

General information about air quality and the permitting process, and links to the regulations can be found at the Air Quality Bureau's website: www.env.nm.gov/air-quality/permitting-section -home-page/. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC.

Attención
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-629-3395.

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, PO. 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.
ER-ERM22640

Section 10

Written Description of the Routine Operations of the Facility

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

Facility Routine Operations:

Well fluids are routed to individual initial separators where gas and liquids are separated. Liquids from the initial separators flow to heater treaters (HT 1-8). Oil from the heater treaters enters the vapor recovery towers (VRTs). Gas from the heater treaters joins the gas from the initial separators and is sent to the sales pipeline. Gas is sent to flare during short pipeline downtime periods (FL-2 (HP)). Prior to the sales point, a side stream of gas is removed and sent to gas lift compressors (ENG 1-2). The compressors direct the gas down hole to assist in bringing fluids to the surface. The compressor engines are gas fired and controlled with catalytic converters. Water from the heater treaters flows to atmospheric storage tanks (PWTK 1-4). 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-1 (BDT)). 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 VRTs is routed to a Vapor Recovery Unit (VRU) and to the sales line. The oil from the VRTs is routed to the atmospheric oil storage tanks (TK 1-6). 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-1 (BDT)). 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-1(VDT)).

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)**:**

High Life CTB – no other facilities within 1 mile.

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 apply to this facility. 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: 36.2 TPY**
b. **CO: 63.5 TPY**
c. **VOC: 115.1 TPY**
d. **SOx: 0.08 TPY**
e. **PM: 2.98 TPY**
f. **PM10: 3.0 TPY**
g. **PM2.5: 3.0 TPY**
h. **Fluorides: -- TPY**
i. **Lead: -- TPY**
j. **Sulfur compounds (listed in Table 2): -- TPY**
k. **GHG: <25,000 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 RELEVENT TO YOUR FACILITY'S NOTICE OF INTENT OR PERMIT.

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

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

State Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
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 (NOx) for oil and gas production, processing, compression, and transmission sources. 20.2.50 NMAC subparts below: Include the construction status of applicable units as "New", "Existing", "Relocation of Existing", or "Reconstructed" as defined by this Part in your justification: Check the box for the subparts that are applicable: ☒ 113 – Engines and Turbines ☒ 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

State Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	HT 1-8, ENG 1-2, GEN 1-4, FL-1, FL-2	These units are stationary combustion equipment and are therefore subject to the requirements of 20.2.61.109 NMAC.
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 1-2, GEN 1-4	This is a stationary source which is subject to the requirements of 40 CFR Part 60. FUG-1: Subject to Subpart OOOOb ENG 1-2, GEN 1-4: 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 1-8, ENG 1-2, GEN 1-4, FL-1, FL-2	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 1-2, GEN 1-4	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63. ENG 1-2, GEN 1-4: Subject to Subpart ZZZZ

Federal Regulation Citation	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.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	FUG-1, ENG 1-2, GEN 1-4	Applies if any other Subpart in 40 CFR 60 applies. FUG-1: Subject to Subpart OOOOb ENG 1-2, GEN 1-4: 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.
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.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for **Onshore Natural Gas Processing**: SO_2 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 and before December 6, 2022,	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.
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal	Yes	ENG 1-2, GEN 1-4	Due to the engine size and date of manufacture, these units are subject to this subpart.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
	Combustion Engines			
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 1-2, GEN 1-4	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.
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.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
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 1-2, GEN 1-4	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.
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.

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:	High Life 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?		
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: 2.4 km Guadalupe Mountains NP: 38.0 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

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_2S	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

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_2S	☐	☐	☐	☐	☒
	PM2.5	☒	☒	☐	☐	☐
	PM10	☒	☒	☐	☐	☐
	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	Emission Rate/ 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	October 31, 2024

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
PM10 – 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?	10		
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	250 m	1,000 m	2,500 m	
	RISK	Square	500 m	2,500 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					
6	Describe the PSD Class I area receptors.					
	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 they produce the highest NOx and CO rates		
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: NO_2 Modeling

1	Which types of NO_2 modeling were used? Check all that apply.	
	☒	ARM2
	☐	100% NO_X to NO_2 conversion
	☐	PVMRM
	☐	OLM
	☐	Other:
2	Describe the NO_2 modeling.	
	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)	$[PM2.5]_{annual}$	$[PM2.5]_{24\text{-}hour}$

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☐
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
ENG-2	X	-	X	X
GEN-1	X	-	X	X
GEN-2	X	-	X	X
GEN-3	X	-	X	X
GEN-4	X	-	X	X
HT-1	X	-	X	X
HT-2	X	-	X	X
HT-3	X	-	X	X
HT-4	X	-	X	X

	HT-5	X	-	X	X
	HT-6	X	-	X	X
	HT-7	X	-	X	X
	HT-8	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	21.28	47,109,208	6.05624
	FL-LP	42.61	1,091,026	0.865551

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. Carlsbad	Yes☒	No☐
2	If NMED provided meteorological data was not used describe the data set(s) used below. Discuss how missing data were handled, how stability class was determined, and how the data were processed.		
	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)
	High_Life_NOx_SIL	NO2	SIA
	High_Life_NOx_CL1	NO2	Class I Increment
	High_Life_CO_SIL	CO	SIA
	High_Life_PM10_SIL	PM10	SIA
	High_Life_PM10_NQS_CL2	PM10	Cumulative NAAQS and Class II Increment
	High_Life_PM25_SIL	PM2.5	SIA
	High_Life_PM25_NQS_CL2	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	123.72	-	-	54.5	178.22	188.03	95%	558,866	3,556,623	1,068.3
NO_2 annual Class I Increment	0.38	1.16	-	-	1.16	2.5	46%	558,109	3,559,023	1,097.9
NO_2 annual Class II Increment	11.01	-	-	9.3	20.31	25	81%	558,776	3,556,624	1,069.0
CO 8-hr SIL	271.19	-	-	-	271.19	500	54%	558,912	3,556,531	1,067.4
CO 1-hr SIL	1,598.55	-	-	-	1,598.55	2,000	80%	558,912	3,556,531	1,067.4
PM_{10} annual NAAQS	0.96	-	-	-	-	1.0	96%	558,776	3,556,624	1,069.0
PM_{10} 24-hr NAAQS	5.62	5.62	-	100.7	106.35	150	71	558,776	3,556,624	1,069.0
PM_{10} annual Class I	0.03	-	-	-	0.03	0.2	15%	558,776	3,556,624	1,069.0
PM_{10} 24-hr Class I	0.22	-	-	-	0.22	0.3	73%	558,776	3,556,624	1,069.0
PM_{10} annual Class II	0.96	1.24	-	-	1.24	17	7%	558,776	3,556,624	1,069.0

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)
PM_{10} 24-hr Class II	5.62	5.65	-	-	5.65	30	19%	558,776	3,556,624	1,069.0
$PM_{2.5}$ annual NAAQS	0.96	1.14	-	7.1	8.24	12	69%	558,776	3,556,624	1,069.0
$PM_{2.5}$ 24-hr NAAQS	4.34	4.44	-	16.5	20.94	35	60%	558,912	3,556,623	1,067.9
$PM_{2.5}$ Annual Class I	0.03	-	-	-	0.03	0.05	60%	557,825	3,559,074	1,103.9
$PM_{2.5}$ 24-hr Class I	0.15	-	-	-	0.15	0.27	56%	557,825	3,559,074	1,103.9
$PM_{2.5}$ Annual Class II	0.96	1.14	-	-	1.14	4.0	28%	558,776	3,556,624	1,069.0
$PM_{2.5}$ 24-hr Class II	4.34	4.44	-	-	4.44	9.0	49%	558,912	3,556,623	1,067.9

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.

Compliance Test History Table **(Modify this sample table to suit your facility)**

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.

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		November 2024
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 19 day of November, 2024, upon my oath or affirmation, before a notary of the State of Colorado.

*Signature

11/19/2024
Date

Bill Ramsey
Printed Name

Sr. Environmental and Regulatory Specialist
Title

Scribed and sworn before me on this 19 day of November, 2024.

My authorization as a notary of the State of Colorado expires on the 28th day of October, 2025.

Notary's Signature

11-19-2024
Date

Erica Shewmaker
Notary's Printed Name

ERICA ROCHELLE SHEWMAKER
Notary Public
State of Colorado
Notary ID # 20174044145
My Commission Expires 10-28-2025

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