CDH Consulting, LLC
Thornton, Colorado
720.431.7468
www.CDHConsult.com

November 17, 2023

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

RE: Minor Source Construction Permit
Cold Snack CTB
Civitas Permian Operating, LLC
Permit # 9923, AI # 40991
3.2 mi S of Whites City, Eddy County, New Mexico

Dear Rhonda Romero:

On behalf of Civitas Permian Operating, LLC, CDH Consulting is submitting the enclosed NSR permit application to replace the current registration under the GCP-O&G permit and to swap out the compressor engines with lower-emitting engines.

This facility and its associated emissions meet the requirements for a minor source construction permit (NMAC 20.2.72.200) and this submittal fulfills that requirement.

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

Sincerely,

Chris Martinez
Air Quality Engineer

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.: **1199** 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**

Section 1 – Facility Information

Section 1-A: Company Information

		AI # if known: **40991**	Updating Permit/NOI #: **9923M1**
1	Facility Name: **Cold Snack CTB**	Plant primary SIC Code (4 digits): **1311**	
		Plant NAIC code (6 digits): **21112**	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): **From 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 2 miles. Turn right (south) on new access road and follow 0.4 miles to facility.**		
2	Plant Operator Company Name: **Civitas Permian Operating, LLC**	Phone/Fax: **(303) 293-9100**	
a	Plant Operator Address: **555 17th Street, Suite 3700, Denver, CO 88202**		

b	Plant Operator's New Mexico Corporate ID or Tax ID: **61-1630631**	
3	Plant Owner(s) name(s): **Civitas Permian Operating, LLC**	Phone/Fax: **(303) 293-9100**
a	Plant Owner(s) Mailing Address(s): **555 17th Street, Suite 3700, Denver, CO 88202**	
4	Bill To (Company): **Civitas Permian Operating, LLC**	Phone/Fax: **(303) 293-9100**
a	Mailing Address: **555 17th Street, Suite 3700, Denver, CO 88202**	E-mail: **spryor@civiresources.com**
5	☒ Preparer: **Chris Martinez** ☒ Consultant: **CDH Consulting, LLC**	Phone/Fax: **(303) 594-7951**
a	Mailing Address: **9446 Clermont Street, Thornton, CO 80229**	E-mail: **cmartinez@cdhconsult.com**
6	Plant Operator Contact: **Sabrina Pryor**	Phone/Fax: **(303) 312-8109**
a	Address: **555 17th Street, Suite 3700, Denver, CO 88202**	E-mail: **spryor@civiresources.com**
7	Air Permit Contact: **Sabrina Pryor**	Title: **Manager**
a	E-mail: **spryor@civiresources.com**	Phone/Fax: **(303) 312-8109**
b	Mailing Address: **555 17th Street, Suite 3700, Denver, CO 88202**	
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: **9923R1**
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? ☒ Yes ☐ No	If yes, the register No. is: **9923R1**

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: **Oil: 156 bbl** **Produced water: 646 bbl** **Natural gas: 875 MSCF**	Daily: **Oil: 3750 bbl** **Produced water: 15,500 bbl** **Natural gas: 21,000 MSCF**	Annually: **Oil: 1,368,750 bbl** **Produced water: 5,657,500 bbl** **Natural gas: 7,665 MMSCF**
b	Proposed	Hourly: **Oil: 156 bbl**	Daily: **Oil: 3750 bbl**	Annually: **Oil: 1,368,750 bbl**

		Produced Water: 646 bbl **Natural gas: 875 MSCF**	**Produced water: 15,500 bbl** **Natural gas: 21,000 MSCF**	**Produced water: 5,657,500 bbl** **Natural gas: 7,665 MMSCF**

Section 1-D: Facility Location Information

1	Latitude (decimal degrees): **32.130761**	Longitude (decimal degrees): **-104.372269**	County: **Eddy**	Elevation (ft): **3460**
2	UTM Zone: ☐ 12 or ☒ 13	Datum: ☒ NAD 83 ☐ WGS 84		
a	UTM E (in meters, to nearest 10 meters): **559,209**	UTM N (in meters, to nearest 10 meters): **3,555,102**		
3	Name and zip code of nearest New Mexico town: **Whites City, 88268**			
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): **From Whites City: Drive 1.6 miles south on Hwy 180. Turn left onto Whites City Road. Follow Whites City Road east and then southeast for approximately 2 miles. Turn right (south) on new access road and follow 0.4 miles to facility.**			
5	The facility is **3.2** (distance) miles **S** (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:			
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: • **3.9 km from Carlsbad Caverns NP** • **37.7 km from Guadalupe Mountains National Park** • **14.5 km from the 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): **3.8 km**			
11	Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence, school or occupied structure: **~ 2900 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**	($\frac{\text{hours}}{\text{year}}$): **8760**		
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: **September 2023**					
4	Month and year of anticipated construction completion: **Upon permit approval**					
5	Month and year of anticipated startup of new or modified facility: **Upon permit approval**					

6	Will this facility operate at this site for more than one year? ☒ Yes ☐ No

Section 1-F: Other Facility Information

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

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

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

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_____, Email_____ Phone number _____.

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

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

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

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

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

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

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

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

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

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

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Section 22: Certification Page

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) ☐ New/Additional ☐ To Be Modified ☑ To be Removed ☐ Replacement Unit ☐ 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) ☐ New/Additional ☐ To Be Modified ☑ To be Removed ☐ Replacement Unit ☐ To be Replaced	4SLB	
ENG-1	Compressor Engine	Caterpillar	G3408C	TBD	425 HP	425 HP	TBD TBD	CATALYST ENG-1	2-02-002-54	☐ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☑ Replacement Unit ☐ To be Replaced	4SLB	ENG-1
ENG-2	Compressor Engine	Caterpillar	G3408C	TBD	425 HP	425 HP	TBD TBD	CATALYST ENG-2	2-02-002-54	☐ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☑ Replacement Unit ☐ To be Replaced	4SLB	ENG-2
GEN-1	Generator Engine	Mesa	14.6L	TBD	390 HP	390 HP	TBD TBD	CATALYST GEN-1	2-02-002-53	☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced	4SRB	
GEN-2	Generator Engine	Mesa	14.6L	TBD	390 HP	390 HP	TBD TBD	CATALYST GEN-2	2-02-002-53	☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced	4SRB	
GEN-3	Generator Engine	Mesa	14.6L	TBD	390 HP	390 HP	TBD TBD	CATALYST GEN-3	2-02-002-53	☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced	4SRB	
GEN-4	Generator Engine	Mesa	14.6L	TBD	390 HP	390 HP	TBD TBD	CATALYST GEN-4	2-02-002-53	☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ 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) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced		
HT-1	Heater Treater	TBD	TBD	TBD	2.0 MMBtu/hr	2.0 MMBtu/hr	TBD TBD	 HT-1	3-10-004-04	☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced		
HT-2	Heater Treater	TBD	TBD	TBD	2.0 MMBtu/hr	2.0 MMBtu/hr	TBD TBD	 HT-2	3-10-004-04	☐ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ 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) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ 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) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ 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) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced		
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) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ 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) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ 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) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ 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.
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) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ 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) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ 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) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ 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) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced		
FL-LP	Low Pressure Flare	HERO	T60VT8	TBD	2.70 MMScf/d	2.70 MMScf/d	TBD TBD	 FL-LP	3-10-001-60	☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced		
FL-LP SSM	Low Pressure Flare - SSM	HERO	T60VT8	TBD	2.70 MMScf/d	2.70 MMScf/d	TBD TBD	 FL-LP	3-10-001-60	☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced		
FL-HP	High Pressure Flare	HERO	T60VT8	TBD	23.00 MMscf/d	23.00 MMscf/d	TBD TBD	 FL-HP	3-10-001-60	☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced		
FL-HP SSM	High Pressure Flare - SSM	HERO	T60VT8	TBD	23.00 MMscf/d	23.00 MMscf/d	TBD TBD	 FL-HP	3-10-001-60	☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced		
VRT	Vapor Recovery Towers	TBD	TBD	TBD	-	-	TBD TBD	VRU/FL-LP FL-LP	3-10-888-11	☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ 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			
HR-1	Haul Road	N/A	N/A	70	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	trips/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

[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	93	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	CO	ENG-2	93	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	NOx	GEN-1	99	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	CO	GEN-1	85	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	VOCs	GEN-1	100	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	NOx	GEN-2	99	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	CO	GEN-2	85	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	VOCs	GEN-2	100	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	NOx	GEN-3	99	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	CO	GEN-3	85	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	VOCs	GEN-3	100	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	NOx	GEN-4	99	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	CO	GEN-4	85	Manufacturer Specification
CATALYST	Catalytic Reduction	TBD	VOCs	GEN-4	100	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	TK-1	95	Design Calculation
FL-LP	Flare	TBD	VOCs	TK-1	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	TK-2	95	Design Calculation
FL-LP	Flare	TBD	VOCs	TK-2	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	TK-3	95	Design Calculation
FL-LP	Flare	TBD	VOCs	TK-3	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	TK-4	95	Design Calculation
FL-LP	Flare	TBD	VOCs	TK-4	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	TK-5	95	Design Calculation
FL-LP	Flare	TBD	VOCs	TK-5	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	TK-6	95	Design Calculation
FL-LP	Flare	TBD	VOCs	TK-6	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	PWTK-1	95	Design Calculation
FL-LP	Flare	TBD	VOCs	PWTK-1	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	PWTK-2	95	Design Calculation
FL-LP	Flare	TBD	VOCs	PWTK-2	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	PWTK-3	95	Design Calculation
FL-LP	Flare	TBD	VOCs	PWTK-3	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	PWTK-4	95	Design Calculation
FL-LP	Flare	TBD	VOCs	PWTK-4	98	Manufacturer Specification
VRU	Vapor Recovery Unit	TBD	VOCs	VRT	95	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	0.94	4.10	2.06	9.03	0.58	2.54	0.0017	0.0076	-	-	0.0309	0.1353	0.0309	0.1353	-	-	-	-
ENG-2	0.94	4.10	2.06	9.03	0.58	2.54	0.0017	0.0076	-	-	0.0309	0.1353	0.0309	0.1353	-	-	-	-
GEN-1	0.86	3.77	1.72	7.53	0.60	2.64	0.0016	0.0068	-	-	0.0608	0.2663	0.0608	0.2663	-	-	-	-
GEN-2	0.86	3.77	1.72	7.53	0.60	2.64	0.0016	0.0068	-	-	0.0608	0.2663	0.0608	0.2663	-	-	-	-
GEN-3	0.86	3.77	1.72	7.53	0.60	2.64	0.0016	0.0068	-	-	0.0608	0.2663	0.0608	0.2663	-	-	-	-
GEN-4	0.86	3.77	1.72	7.53	0.60	2.64	0.0016	0.0068	-	-	0.0608	0.2663	0.0608	0.2663	-	-	-	-
FUG-1	-	-	-	-	5.46	23.93	-	-	-	-	-	-	-	-	-	-	-	-
HT-1	0.20	0.86	0.17	0.72	0.01	0.05	-	-	-	-	0.02	0.07	0.02	0.07				
HT-2	0.20	0.86	0.17	0.72	0.01	0.05	-	-	-	-	0.02	0.07	0.02	0.07				
TK-1	-	-	-	-	33.43	7.32	-	-	-	-	-	-	-	-	-	-	-	-
TK-2	-	-	-	-	33.43	7.32	-	-	-	-	-	-	-	-	-	-	-	-
TK-3	-	-	-	-	33.43	7.32	-	-	-	-	-	-	-	-	-	-	-	-
TK-4	-	-	-	-	33.43	7.32	-	-	-	-	-	-	-	-	-	-	-	-
TK-5	-	-	-	-	33.43	7.32	-	-	-	-	-	-	-	-	-	-	-	-
TK-6	-	-	-	-	33.43	7.32	-	-	-	-	-	-	-	-	-	-	-	-
PWTK-1					2.61	0.57												
PWTK-2					2.61	0.57												
PWTK-3					2.61	0.57												
PWTK-4					2.61	0.57												
FL-LP	0.004	0.019	0.020	0.086	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
FL-LP SSM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FL-HP	0.004	0.019	0.020	0.086	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
FL-HP SSM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VRT	-	-	-	-	-	765.60	-	-	-	-	-	-	-	-	-	-	-	-
Totals	5.71	25.02	11.37	49.80	220.07	851.46	0.01	0.04	0.00	0.00	0.34	1.47	0.34	1.47	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	0.94	4.10	0.14	0.63	0.87	3.80	0.00173	0.00756	-	-	0.0309	0.1353	0.0309	0.1353	-	-	-	-
ENG-2	0.94	4.10	0.14	0.63	0.87	3.80	0.00173	0.00756	-	-	0.0309	0.1353	0.0309	0.1353	-	-	-	-
GEN-1	0.01	0.04	0.27	1.17	0.08	0.36	0.00156	0.00684	-	-	0.0608	0.2663	0.0608	0.2663	-	-	-	-
GEN-2	0.01	0.04	0.27	1.17	0.08	0.36	0.00156	0.00684	-	-	0.0608	0.2663	0.0608	0.2663	-	-	-	-
GEN-3	0.01	0.04	0.27	1.17	0.08	0.36	0.00156	0.00684	-	-	0.0608	0.2663	0.0608	0.2663	-	-	-	-
GEN-4	0.01	0.04	0.27	1.17	0.08	0.36	0.00156	0.00684	-	-	0.0608	0.2663	0.0608	0.2663	-	-	-	-
FUG-1	-	-	-	-	5.46	23.93	-	-	-	-	-	-	-	-	-	-	-	-
HT-1	0.20	0.86	0.17	0.72	0.01	0.05	-	-	-	-	0.02	0.07	0.02	0.07				
HT-2	0.20	0.86	0.17	0.72	0.01	0.05	-	-	-	-	0.02	0.07	0.02	0.07				
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-LP	0.37	0.10	1.69	0.45	4.23	0.93	-	-	-	-	-	-	-	-	-	-	-	-
FL-LP SSM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FL-HP	0.004	0.019	0.020	0.086	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
FL-HP SSM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VRT	-	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-
Totals	2.67	10.19	3.39	7.92	11.78	34.00	0.01	0.04	0.00	0.00	0.34	1.47	0.34	1.47	0.00	0.00	0.00	0.00
Totals (including SSM)	71.97	13.35	319.28	22.30	253.74	45.95	0.01	0.04	0.00	0.00	0.34	1.47	0.34	1.47	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-LP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FL-LP SSM	0.6886	0.151	3.1391	0.6883	7.73	1.69												
FL-HP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FL-HP SSM	68.6035	3.0048	312.751	13.6985	234.23	10.26												
VRT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals	69.2921	3.1558	315.89	14.3868	241.96	11.95	-	-	-	-	-	-	-	-	-	-	-	-

[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-LP	FL-LP, FL-LP SSM	1.06	0.25	4.83	1.14	11.96	2.62	-	-	-	-	-	-	-	-	-	-
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															
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	CO_2e															
	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	20	902	43.90	-	-	124.60	0.67
ENG-1	ENG-1	V	No	20	902	43.90	-	-	124.60	0.67
GEN-1	GEN-1	V	No	15	1350	32.00	-	-	89.60	0.67
GEN-2	GEN-2	V	No	15	1350	32.00	-	-	89.60	0.67
GEN-3	GEN-3	V	No	15	1350	32.00	-	-	89.60	0.67
GEN-4	GEN-4	V	No	15	1350	32.00	-	-	89.60	0.67
HT-1	HT-1	V	No	15	460	10.40	-	-	13.30	1.00
HT-2	HT-2	V	No	15	460	10.40	-	-	13.30	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	0.31	1.38	0.253	1.1081	0.03291	0.14415	0.0204	0.08865	0.00173	0.00758	0.00016	0.0007	0.00433	0.01897	0.00161	0.00705	0.00072	0.00315
ENG-2	ENG-2	0.31	1.38	0.253	1.1081	0.03291	0.14415	0.0204	0.08865	0.00173	0.00758	0.00016	0.0007	0.00433	0.01897	0.00161	0.00705	0.00072	0.00315
GEN-1	GEN-1	0.1	0.44	0.073	0.3197	0.00993	0.04349	0.00936	0.041	0.00563	0.02466	0.00009	0.00039	-	-	0.00199	0.00872	0.00069	0.00302
GEN-2	GEN-2	0.1	0.44	0.073	0.3197	0.00993	0.04349	0.00936	0.041	0.00563	0.02466	0.00009	0.00039	-	-	0.00199	0.00872	0.00069	0.00302
GEN-3	GEN-3	0.1	0.44	0.073	0.3197	0.00993	0.04349	0.00936	0.041	0.00563	0.02466	0.00009	0.00039	-	-	0.00199	0.00872	0.00069	0.00302
GEN-4	GEN-4	0.1	0.44	0.073	0.3197	0.00993	0.04349	0.00936	0.041	0.00563	0.02466	0.00009	0.00039	-	-	0.00199	0.00872	0.00069	0.00302
Totals:		1.02	4.52	0.798	3.495	0.10554	0.46226	0.07824	0.3413	0.02598	0.1138	0.00068	0.00296	0.00866	0.03794	0.01118	0.04898	0.0042	0.01838

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	1153	3.120	27.330	0	0
ENG-2	Natural Gas	Field Natural Gas	1153	3.120	27.330	0	0
GEN-1	Natural Gas	Field Natural Gas	1153	3.090	27.068	0	0
GEN-2	Natural Gas	Field Natural Gas	1153	3.090	27.068	0	0
GEN-3	Natural Gas	Field Natural Gas	1153	3.090	27.068	0	0
GEN-4	Natural Gas	Field Natural Gas	1153	3.090	27.068	0	0
HT-1	Natural Gas	Field Natural Gas	1020	1.960	17.170	0	0
HT-2	Natural Gas	Field Natural Gas	1020	1.960	17.170	0	0
FL-LP	Natural Gas	Field Natural Gas	1153	0.055	0.482	0	0
FL-HP	Natural Gas	Field Natural Gas	1153	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	9,581,250	228.13
TK-2	TBD	Crude Oil	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	9,581,250	228.13
TK-3	TBD	Crude Oil	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	9,581,250	228.13
TK-4	TBD	Crude Oil	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	9,581,250	228.13
TK-5	TBD	Crude Oil	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	9,581,250	228.13
TK-6	TBD	Crude Oil	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	9,581,250	228.13
PWTK-1	TBD	Produced Water	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	59,403,750	1414.38
PWTK-2	TBD	Produced Water	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	59,403,750	1414.38
PWTK-3	TBD	Produced Water	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	59,403,750	1414.38
PWTK-4	TBD	Produced Water	N/A	FX	1,000	159	6.6	4.65	Dark Green	Dark Green	Good	59,403,750	1414.38

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	3750 bbl/d
				Produced Water	Produced Water	Liquid	15500 bbl/d
				Natural Gas	Natural Gas	Gas	21 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 replace the current registration under the GCP-O&G permit. The compressor engines will also be changed from CAT 3516J to CAT 3408C.

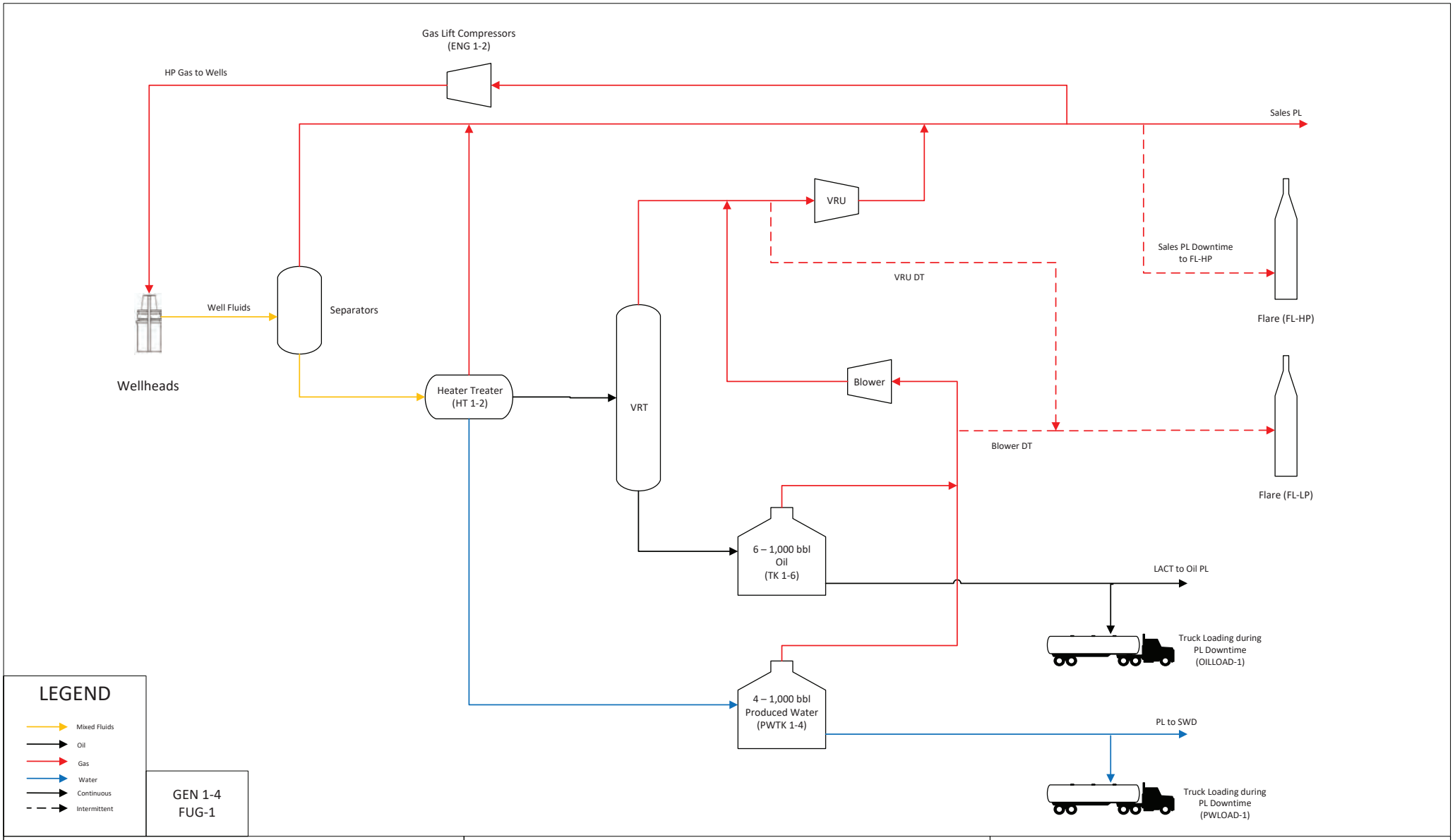
Process Summary: Fluids from each wellbore are routed to an initial separator where gas and liquids are separated. Liquids from the initial separators flow to heater treaters (HT 1-2). Oil from the heater treaters enters the vapor recovery towers (VRTs). Gas from the heater treaters joins the gas from the initial separators and is sent to the sales pipeline. Gas is sent to flare during short pipeline downtime periods (FL-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 and air/fuel ratio controllers. 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-LP). When enough water has accumulated in the tanks it is piped off-site for disposal. A small amount of truck loading is included for operational flexibility (PWLOAD-1, HR-1). Gas from the 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-LP). When enough oil has accumulated in the tanks it is piped off-site for sale via LACT. A small amount of truck loading is included for operational flexibility (OILLOAD-1, HR-1).

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.

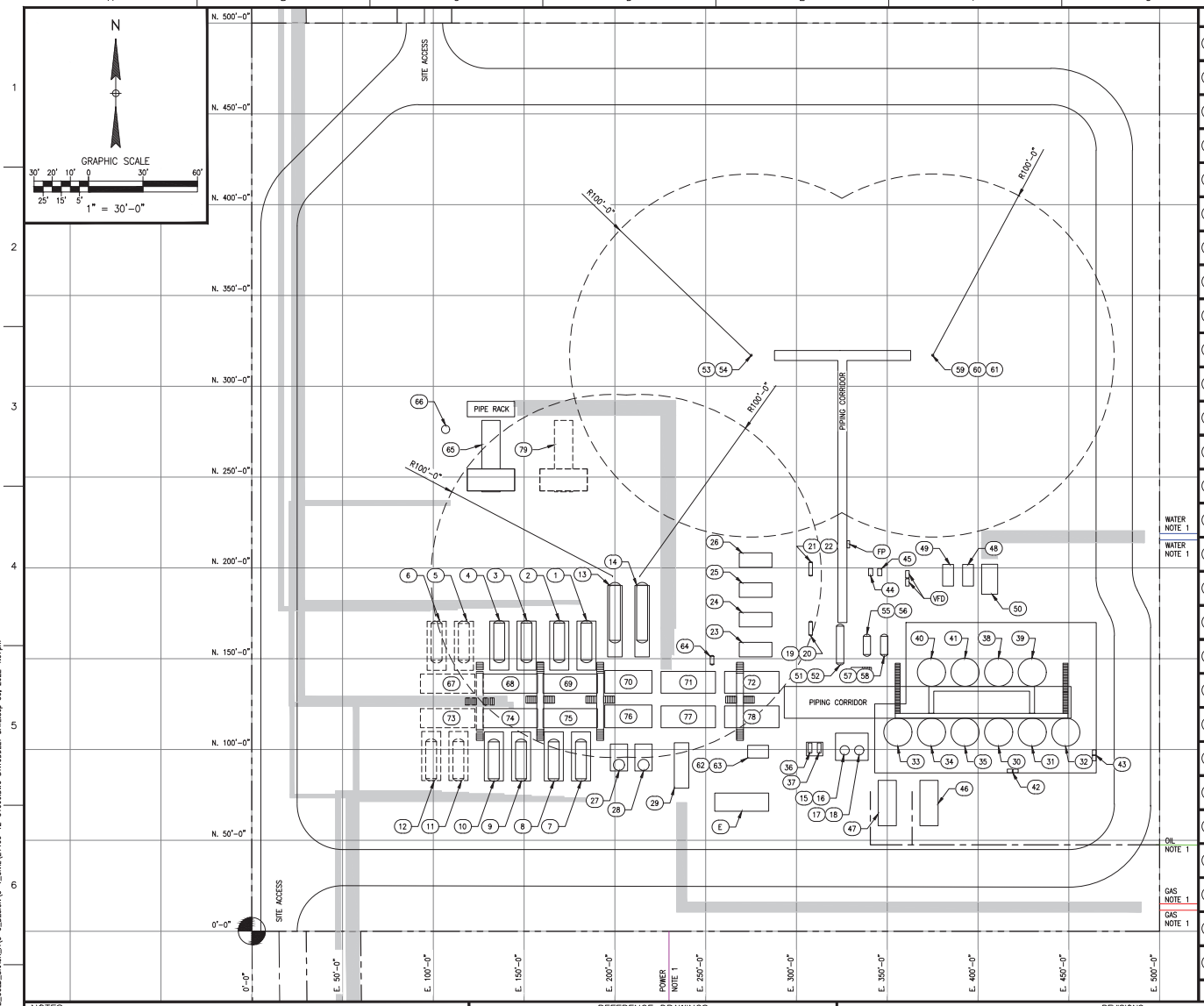


CDH Consulting, LLC Thornton, CO	Process Flow Diagram November 2023	Tap Rock Operating, LLC Cold Snack CTB A

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.



EQUIPMENT

(1) INLET SEPARATOR (72" OD x 20'-0" S/S) V-1110A	(29) SALES GAS CHECK METER AREA A&B	(57) LP FLARE KO (48" OD x 10'-0" S/S) V-9111B
(2) INLET SEPARATOR (72" OD x 20'-0" S/S) V-1120A	(30) OIL PRODUCTION TANK (15'-6" OD x 30'-0" TALL) TK-5110A	(58) LP FLARE KO PUMP P-9111B
(3) INLET SEPARATOR (72" OD x 20'-0" S/S) V-1130A	(31) OIL PRODUCTION TANK (15'-6" OD x 30'-0" TALL) TK-5111A	(59) LP FLARE BLOWER BL-9120
(4) INLET SEPARATOR (72" OD x 20'-0" S/S) V-1140A	(32) OIL PRODUCTION TANK (15'-6" OD x 30'-0" TALL) TK-5112A	(60) LP FLARE FL-9120
(5) INLET SEPARATOR (72" OD x 20'-0" S/S) V-1150A (FUTURE)	(33) OIL PRODUCTION TANK (15'-6" OD x 30'-0" TALL) TK-5110B	(61) LP FLARE FUEL GAS SCRUBBER (8" O.D. x 2'-0" S/S) V-9122
(6) INLET SEPARATOR (72" OD x 20'-0" S/S) V-1160A (FUTURE)	(34) OIL PRODUCTION TANK (15'-6" OD x 30'-0" TALL) TK-5111B	(62) AIR COMPRESSOR SKID SK-9210
(7) INLET SEPARATOR (72" OD x 20'-0" S/S) V-1110B	(35) OIL PRODUCTION TANK (15'-6" OD x 30'-0" TALL) TK-5112B	(63) INSTRUMENT AIR RECEIVER (400 GAL) V-9210
(8) INLET SEPARATOR (72" OD x 20'-0" S/S) V-1120B	(36) RECIRCULATION PUMP P-5110A	(64) FUEL GAS SCRUBBER (24" OD x 4'-0" S/S) V-9910
(9) INLET SEPARATOR (72" OD x 20'-0" S/S) V-1130B	(37) RECIRCULATION PUMP P-5110B	(65) GAS LIFT COMPRESSOR SK-9220
(10) INLET SEPARATOR (72" OD x 20'-0" S/S) V-1140B	(38) WATER PRODUCTION TANK (15'-6" OD x 30'-0" TALL) TK-6110A	(66) IA START AIR RECEIVER (1550 GAL) V-9510
(11) INLET SEPARATOR (72" OD x 20'-0" S/S) V-1150B (FUTURE)	(39) WATER PRODUCTION TANK (15'-6" OD x 30'-0" TALL) TK-6111A	(67) PIPE SKID SKR-1000A (FUTURE)
(12) INLET SEPARATOR (72" OD x 20'-0" S/S) V-1160B (FUTURE)	(40) WATER PRODUCTION TANK (15'-6" OD x 30'-0" TALL) TK-6110B	(68) PIPE SKID SKR-1100A
(13) 3-PHASE HEATER TREATER (72" OD x 30'-0" S/S) V-2110A	(41) WATER PRODUCTION TANK (15'-6" OD x 30'-0" TALL) TK-6111B	(69) PIPE SKID SKR-1200A
(14) 3-PHASE HEATER TREATER (72" OD x 30'-0" S/S) V-2110B	(42) WATER, OIL & VAPOR TRUCK CONNECTION A	(70) PIPE SKID SKR-1300A
(15) VRT (60" OD x 40'-0" S/S) V-2210A	(43) WATER, OIL & VAPOR TRUCK CONNECTION B	(71) PIPE SKID SKR-1400A
(16) VRT WATER DRAIN PUMP P-2211A	(44) TANK VAPOR BLOWER BL-7210A	(72) PIPE SKID SKR-1500A
(17) VRT (60" OD x 40'-0" S/S) V-2210B	(45) TANK VAPOR BLOWER BL-7210B	(73) PIPE SKID SKR-1000B (FUTURE)
(18) VRT WATER DRAIN PUMP P-2211B	(46) LACT UNIT A	(74) PIPE SKID SKR-1100B
(19) VRU KO DRUM (24" OD x 6'-0" S/S) V-3010A	(47) LACT UNIT B	(75) PIPE SKID SKR-1200B
(20) VRU DRAIN PUMP P-3010A	(48) SWD PUMP SKID SK-8210A	(76) PIPE SKID SKR-1300B
(21) VRU KO DRUM (24" OD x 6'-0" S/S) V-3010B	(49) SWD PUMP SKID SK-8210B	(77) PIPE SKID SKR-1400B
(22) VRU DRAIN PUMP P-3010B	(50) SWD METER AREA	(78) PIPE SKID SKR-1500B
(23) VRU PACKAGE SK-3110A	(51) HP FLARE KO (48" OD x 20'-0" S/S) V-9110	(79) GAS LIFT COMPRESSOR (FUTURE)
(24) VRU PACKAGE SK-3120A	(52) HP FLARE KO PUMP P-9110	
(25) VRU PACKAGE SK-3110B	(53) HP FLARE FL-9110	
(26) VRU PACKAGE SK-3120B	(54) HP FLARE FUEL GAS SCRUBBER (8" O.D. x 2'-0" S/S) V-9112	
(27) 2-PHASE SALES GAS SCRUBBER (72" OD x 12'-0" S/S) V-3510A	(55) LP FLARE KO (48" OD x 10'-0" S/S) V-9111A	
(28) 2-PHASE SALES GAS SCRUBBER (72" OD x 12'-0" S/S) V-3510B	(56) LP FLARE KO PUMP P-9111A	

ELECTRICAL

VFD	FLARE BLOWER VFD PAD (2'-0" x 4'-0")
FP	FLARE PANEL
E	E-SKID (10'-0" x 22'-8") SK-XXXX

LEGEND

- NEW EQUIPMENT
- FUTURE EQUIPMENT
- WATER PIPELINE
- OIL PIPELINE
- GAS PIPELINE
- OVERHEAD POWER LINE
- WELL PAD TRENCH

NOTES:
1. EXACT LOCATION TBD.

REFERENCE DRAWINGS

DWG NO.	TITLE

REVISIONS

REV	DESCRIPTION	DATE	BY	CHK	ENG	APR
0	ISSUED FOR CONSTRUCTION	09/29/22	JNB	DTS	TDP	SKH

HALKER ENGINEERED SOLUTIONS

TAP ROCK

TAP ROCK
COLD SNACK A+B
SITE LAYOUT

SCALE: (FORMATTED 22X34) 1" = 30'-0"

DRAWING NO. 21106-12-31000 0

FILE PATH: P:\TAP ROCK\21106-12_COLD_SNACK_A\3-0_DESIGN\3-1_CIVIL\21106-12-31000.DWG BY:TODDELY DATE:Sep 30, 2022 4:07pm

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.

Supplemental Calculations
Cold Snack CTB
November 2023

Production

	bbl/yr	bbl/d	bbl/hr
Oil	1368750.0	3750.0	156.3
Produced Water	5657500.0	15500.0	645.8

gal/yr/tank	turn/tank/yr
9,581,250.0	228.13
59,403,750.0	1414.38

	MMscf/yr	MMscf/d	Mscf/hr
Gas	7665.0	21.0	875.0

LP Flare Calculations

DRE = 98%

Blower DT -->	5%	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		23.62	5.17	9.81	2.15	33.43	7.32	100%	33.43	7.32				
TK-2		23.62	5.17	9.81	2.15	33.43	7.32	100%	33.43	7.32				
TK-3		23.62	5.17	9.81	2.15	33.43	7.32	100%	33.43	7.32				
TK-4		23.62	5.17	9.81	2.15	33.43	7.32	100%	33.43	7.32				
TK-5		23.62	5.17	9.81	2.15	33.43	7.32	100%	33.43	7.32				
TK-6		23.62	5.17	9.81	2.15	33.43	7.32	100%	33.43	7.32	200.55	43.92	4.01	0.88
PWTK-1		1.20	0.26	1.413	0.31	2.61	0.57	100%	2.61	0.57				
PWTK-2		1.20	0.26	1.413	0.31	2.61	0.57	100%	2.61	0.57				
PWTK-3		1.20	0.26	1.413	0.31	2.61	0.57	100%	2.61	0.57				
PWTK-4		1.20	0.26	1.413	0.31	2.61	0.57	100%	2.61	0.57	10.44	2.29	0.21	0.05
											210.99	**46.21**	**4.22**	**0.92**

	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 (5%) (FL-2b)	0.0603811	2515.88	2.52	1.10	2134	42.61	74.69	211.28	46.27	0.0000	0.0000	0.0000	0.0000	0.0000
VRU DT (5%) (FL-2a)	0.11706	4877.50	4.88	2.14	2075	41.18	72.89	386.29	84.60	0.0000	0.0000	0.0000	0.0000	0.0000
Total Uncontrolled FL-2 (LP)			7.39	3.24				597.56	130.87	0.0000	0.0000	0.0000	0.0000	0.0000
Total Controlled FL-2 (LP)								**11.95**	**2.62**					

HP Flare Calculations

Sales Gas DT [1%] (FL-1 [HP])	21	875000.00	875.00	76.65	1153	21.28	23.84	11711.68	512.97	0.0000	0.0000	0.0000	0.0000	0.0000
Total Uncontrolled FL-1 (HP)	21	875000.00	875.00	76.65	1153	21.28	23.84	11711.68	512.97	0.0000	0.0000	0.0000	0.0000	0.0000
Total Controlled FL-1 (HP)								**234.23**	**10.26**					

Total Controlled to Flares (FL-LP + FL-HP)	**246.18**	**12.88**

Flare HAP Calculations (uncontrolled tpy)

Stream	Benzene	Toluene	Ethylbenzene	Xylene	n-Hexane	Formaldehyde	Acetaldehyde	Acrolein	Total HAP
Tank Blower DT to FL-2b (LP)	0.000	0.000	0.000	0.000	0.000	-	-	-	0.000
Total VRU DT to FL-2a (LP)	0.000	0.000	0.000	0.000	0.000	-	-	-	0.000
Total to FL-2 (LP)	0.000	0.000	0.000	0.000	0.000	-	-	-	0.000
Total to FL-1 (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-2b)	0.000	0.000	0.000	0.000	0.000	-	-	-	0.000
Total VRU DT to FL-2a (LP)	0.000	0.000	0.000	0.000	0.000	-	-	-	0.000
Total from FL-2 (LP)	0.000	0.000	0.000	0.000	0.000	-	-	-	0.000
Total from FL-1 (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 (3408)	0.00758	0.00705	0.0007	0.00315	0.01897	1.1081	0.14415	0.08865	1.38
ENG-2 (3408)	0.00758	0.00705	0.0007	0.00315	0.01897	1.1081	0.14415	0.08865	1.38
GEN-1 (14.6L)	0.02466	0.00872	0.00039	0.00302	0.00	0.3197	0.04349	0.041	0.44
GEN-1 (14.6L)	0.02466	0.00872	0.00039	0.00302	0.00	0.3197	0.04349	0.041	0.44
GEN-1 (14.6L)	0.02466	0.00872	0.00039	0.00302	0.00	0.3197	0.04349	0.041	0.44
GEN-1 (14.6L)	0.02466	0.00872	0.00039	0.00302	0.00	0.3197	0.04349	0.041	0.44
FUG-1	0.00	0.00	0.00	0.00	0.00	-	-	-	0
Controlled HAPs Grand Total	0.114	0.049	0.003	0.018	0.038	3.495	0.462	0.341	4.520

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	2.00	10610	460	1.0	37543	626	10.4	13.3
HT-2	2.00	10610	460	1.0	37543	626	10.4	13.3
ENG-1 (3408)			902	0.67		2636	43.9	124.6
ENG-2 (3408)			902	0.67		2636	43.9	124.6
GEN-1 (14.6L)			1350	0.67		1895	31.6	89.6
GEN-1 (14.6L)			1350	0.67		1895	31.6	89.6
GEN-1 (14.6L)			1350	0.67		1895	31.6	89.6
GEN-1 (14.6L)			1350	0.67		1895	31.6	89.6
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 dscm/J	F_d dscf/10^6 Btu	F_w wscm/J	F_w wscf/10^6 Btu	F_c scm/J	F_c 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)

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	Mar 7, 2023		Permit/NOI/NPR Number	NA	
Company Name:	Tap Rock Operating, LLC		Select Application Type	GCP-O&G	
Facility Name:	Cold Snack A & B CTB		AI# if Known	NA	
Max. Facility Gas Production	21,000	(Mscf/d) 875 (Mscf/h)	Elevation (ft.)	3,460	
Max. Facility Oil Production	3,750	(BOPD) 156 (BOPH)	Sour Gas Streams at This Site?	NO	
Max. Facility Produced Water	15,500	(BWPD) 646 (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)	2
Flash Tower/Ultra-Low Pressure Separator(s)^	2	Generator Engine (s)	4
Gunbarrel Separator(s)/Tank(s)		Heater(s), Heater Treaters	2
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:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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:	G3408C
Engine Serial #:	TBD
Engine Manuf. Date:	> 7/1/2010
Engine Type:	4SLB
Factory HP Rating	425
Allowable HP Rating	425
Engine BSFC (Btu/(Hp*Hr))	8,195
Fuel LHV, (BTU/SCF)	1,153
Fuel Sulfur (grains/dscf)	0.002

Engine Deration

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

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

No Deration.

Notes:

Hourly Fuel Flow Rate (MMSCF/hr)	0.003021
Annual Fuel Flow Rate (MMSCF/yr)	26.46396
Maximum Engine RPM	1,800
Exhaust Temperature (°F)	902
Exhaust Velocity (ft/sec)	124.6
Exhaust Flow (ACFM)	2,636
Stack Diameter (ft)	0.67
Stack Height (ft)	20

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^	1	0	0	1	1	0.9369	4.1036	0.9369	4.1036	0.9369	4.1036
CO	2.2	93	0	0.154	2	2.0613	9.0285	1.8739	8.2077	0.1443	0.632
VOC*	0.62	0	0	0.62	0.7	0.5809	2.5443	0.6559	2.8728	0.8668	3.7966
Formaldehyde	0.27	0	0	0.27		0.253	1.1081			0.253	1.1081
TSP/PM10/PM2.5	0.0371	11.05	0	0.033		0.0348	0.1524		0	0.0309	0.1353
[2]SO_2	0.002	0	0	0.002		0.001726	0.00756			0.001726	0.00756
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0528	NA	NA	NA	NA	0.20787	0.91047	NA	NA	NA	NA
Acetaldehyde	0.00836	NA	NA	NA	NA	0.03291	0.14415	NA	NA	NA	NA
Acrolein	0.00514	NA	NA	NA	NA	0.02024	0.08865	NA	NA	NA	NA
Benzene	0.00044	NA	NA	NA	NA	0.00173	0.00758	NA	NA	NA	NA
Ethylbenzene	0.0000397	NA	NA	NA	NA	0.00016	0.0007	NA	NA	NA	NA
n-Hexane	0.0011	NA	NA	NA	NA	0.00433	0.01897	NA	NA	NA	NA
Toluene	0.000408	NA	NA	NA	NA	0.00161	0.00705	NA	NA	NA	NA
Xylene	0.000184	NA	NA	NA	NA	0.00072	0.00315	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.3147	1.37835	NA	NA	0.31	1.38

* 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:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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:	G3408C
Engine Serial #:	TBD
Engine Manuf. Date:	> 7/1/2010
Engine Type:	4SLB
Factory HP Rating	425
Allowable HP Rating	425
Engine BSFC (Btu/(Hp*Hr))	8,195
Fuel LHV, (BTU/SCF)	1,153
Fuel Sulfur (grains/dscf)	0.002

Engine Deration

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

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

No Deration.

Notes:

Hourly Fuel Flow Rate (MMSCF/hr)	0.003021
Annual Fuel Flow Rate (MMSCF/yr)	26.46396
Maximum Engine RPM	1,800
Exhaust Temperature (°F)	902
Exhaust Velocity (ft/sec)	124.6
Exhaust Flow (ACFM)	2,636
Stack Diameter (ft)	0.67
Stack Height (ft)	20

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^	1	0	0	1	1	0.9369	4.1036	0.9369	4.1036	0.9369	4.1036
CO	2.2	93	0	0.154	2	2.0613	9.0285	1.8739	8.2077	0.1443	0.632
VOC*	0.62	0	0	0.62	0.7	0.5809	2.5443	0.6559	2.8728	0.8668	3.7966
Formaldehyde	0.27	0	0	0.27		0.253	1.1081			0.253	1.1081
TSP/PM10/PM2.5	0.0371	11.05	0	0.033		0.0348	0.1524		0	0.0309	0.1353
[2]SO_2	0.002	0	0	0.002		0.001726	0.00756			0.001726	0.00756
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0528	NA	NA	NA	NA	0.20787	0.91047	NA	NA	NA	NA
Acetaldehyde	0.00836	NA	NA	NA	NA	0.03291	0.14415	NA	NA	NA	NA
Acrolein	0.00514	NA	NA	NA	NA	0.02024	0.08865	NA	NA	NA	NA
Benzene	0.00044	NA	NA	NA	NA	0.00173	0.00758	NA	NA	NA	NA
Ethylbenzene	0.0000397	NA	NA	NA	NA	0.00016	0.0007	NA	NA	NA	NA
n-Hexane	0.0011	NA	NA	NA	NA	0.00433	0.01897	NA	NA	NA	NA
Toluene	0.000408	NA	NA	NA	NA	0.00161	0.00705	NA	NA	NA	NA
Xylene	0.000184	NA	NA	NA	NA	0.00072	0.00315	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.3147	1.37835	NA	NA	0.31	1.38

* 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:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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:	Mesa Solutions
Engine Model:	14.6L
Engine Serial #:	TBD
Engine Manuf. Date:	> 7/1/2010
Engine Type:	4SRB
Factory HP Rating	390
Allowable HP Rating	390
Engine BSFC (Btu/(Hp*Hr))	8,076
Fuel LHV, (BTU/SCF)	1,153
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)	0.002732
Annual Fuel Flow Rate (MMSCF/yr)	23.93232
Maximum Engine RPM	1,800
Exhaust Temperature (°F)	1,350
Exhaust Velocity (ft/sec)	89.6
Exhaust Flow (ACFM)	1,895
Stack Diameter (ft)	0.67
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^	1	99	0	0.01	1	0.8598	3.7659	0.8598	3.7659	0.0086	0.0377
CO	2	84.5	0	0.31	2	1.7196	7.5318	1.7196	7.5318	0.2665	1.1673
VOC*	0.7	100	0	0	0.7	0.6019	2.6363	0.6019	2.6363	0.0829	0.3631
Formaldehyde			0			0	0			0.073	0.3197
TSP/PM10/PM2.5	0.0711	0.56	0	0.0707		0.0611	0.2676		0	0.0608	0.2663
[2]SO_2	0.002	0	0	0.002		0.001561	0.006837			0.001561	0.006837
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0205	NA	NA	NA	NA	0.07299	0.3197	NA	NA	NA	NA
Acetaldehyde	0.00279	NA	NA	NA	NA	0.00993	0.04349	NA	NA	NA	NA
Acrolein	0.00263	NA	NA	NA	NA	0.00936	0.041	NA	NA	NA	NA
Benzene	0.00158	NA	NA	NA	NA	0.00563	0.02466	NA	NA	NA	NA
Ethylbenzene	0.0000248	NA	NA	NA	NA	0.00009	0.00039	NA	NA	NA	NA
n-Hexane		NA	NA	NA	NA	0	0	NA	NA	NA	NA
Toluene	0.000558	NA	NA	NA	NA	0.00199	0.00872	NA	NA	NA	NA
Xylene	0.000195	NA	NA	NA	NA	0.00069	0.00302	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.10068	0.44098	NA	NA	0.1	0.44

* 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
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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:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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:	Mesa Solutions
Engine Model:	14.6L
Engine Serial #:	TBD
Engine Manuf. Date:	> 7/1/2010
Engine Type:	4SRB
Factory HP Rating	390
Allowable HP Rating	390
Engine BSFC (Btu/(Hp*Hr))	8,076
Fuel LHV, (BTU/SCF)	1,153
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)	0.002732
Annual Fuel Flow Rate (MMSCF/yr)	23.93232
Maximum Engine RPM	1,800
Exhaust Temperature (°F)	1,350
Exhaust Velocity (ft/sec)	89.6
Exhaust Flow (ACFM)	1,895
Stack Diameter (ft)	0.67
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^	1	99	0	0.01	1	0.8598	3.7659	0.8598	3.7659	0.0086	0.0377
CO	2	84.5	0	0.31	2	1.7196	7.5318	1.7196	7.5318	0.2665	1.1673
VOC*	0.7	100	0	0	0.7	0.6019	2.6363	0.6019	2.6363	0.0829	0.3631
Formaldehyde			0			0	0			0.073	0.3197
TSP/PM10/PM2.5	0.0711	0.56	0	0.0707		0.0611	0.2676		0	0.0608	0.2663
[2]SO_2	0.002	0	0	0.002		0.001561	0.006837			0.001561	0.006837
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0205	NA	NA	NA	NA	0.07299	0.3197	NA	NA	NA	NA
Acetaldehyde	0.00279	NA	NA	NA	NA	0.00993	0.04349	NA	NA	NA	NA
Acrolein	0.00263	NA	NA	NA	NA	0.00936	0.041	NA	NA	NA	NA
Benzene	0.00158	NA	NA	NA	NA	0.00563	0.02466	NA	NA	NA	NA
Ethylbenzene	0.0000248	NA	NA	NA	NA	0.00009	0.00039	NA	NA	NA	NA
n-Hexane		NA	NA	NA	NA	0	0	NA	NA	NA	NA
Toluene	0.000558	NA	NA	NA	NA	0.00199	0.00872	NA	NA	NA	NA
Xylene	0.000195	NA	NA	NA	NA	0.00069	0.00302	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.10068	0.44098	NA	NA	0.1	0.44

* 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:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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:	Mesa Solutions
Engine Model:	14.6L
Engine Serial #:	TBD
Engine Manuf. Date:	> 7/1/2010
Engine Type:	4SRB
Factory HP Rating	390
Allowable HP Rating	390
Engine BSFC (Btu/(Hp*Hr))	8,076
Fuel LHV, (BTU/SCF)	1,153
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)	0.002732
Annual Fuel Flow Rate (MMSCF/yr)	23.93232
Maximum Engine RPM	1,800
Exhaust Temperature (°F)	1,350
Exhaust Velocity (ft/sec)	89.6
Exhaust Flow (ACFM)	1,895
Stack Diameter (ft)	0.67
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^	1	99	0	0.01	1	0.8598	3.7659	0.8598	3.7659	0.0086	0.0377
CO	2	84.5	0	0.31	2	1.7196	7.5318	1.7196	7.5318	0.2665	1.1673
VOC*	0.7	100	0	0	0.7	0.6019	2.6363	0.6019	2.6363	0.0829	0.3631
Formaldehyde			0			0	0			0.073	0.3197
TSP/PM10/PM2.5	0.0711	0.56	0	0.0707		0.0611	0.2676		0	0.0608	0.2663
[2]SO_2	0.002	0	0	0.002		0.001561	0.006837			0.001561	0.006837
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0205	NA	NA	NA	NA	0.07299	0.3197	NA	NA	NA	NA
Acetaldehyde	0.00279	NA	NA	NA	NA	0.00993	0.04349	NA	NA	NA	NA
Acrolein	0.00263	NA	NA	NA	NA	0.00936	0.041	NA	NA	NA	NA
Benzene	0.00158	NA	NA	NA	NA	0.00563	0.02466	NA	NA	NA	NA
Ethylbenzene	0.0000248	NA	NA	NA	NA	0.00009	0.00039	NA	NA	NA	NA
n-Hexane		NA	NA	NA	NA	0	0	NA	NA	NA	NA
Toluene	0.000558	NA	NA	NA	NA	0.00199	0.00872	NA	NA	NA	NA
Xylene	0.000195	NA	NA	NA	NA	0.00069	0.00302	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.10068	0.44098	NA	NA	0.1	0.44

* 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:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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:	Mesa Solutions
Engine Model:	14.6L
Engine Serial #:	TBD
Engine Manuf. Date:	> 7/1/2010
Engine Type:	4SRB
Factory HP Rating	390
Allowable HP Rating	390
Engine BSFC (Btu/(Hp*Hr))	8,076
Fuel LHV, (BTU/SCF)	1,153
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)	0.002732
Annual Fuel Flow Rate (MMSCF/yr)	23.93232
Maximum Engine RPM	1,800
Exhaust Temperature (°F)	1,350
Exhaust Velocity (ft/sec)	89.6
Exhaust Flow (ACFM)	1,895
Stack Diameter (ft)	0.67
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^	1	99	0	0.01	1	0.8598	3.7659	0.8598	3.7659	0.0086	0.0377
CO	2	84.5	0	0.31	2	1.7196	7.5318	1.7196	7.5318	0.2665	1.1673
VOC*	0.7	100	0	0	0.7	0.6019	2.6363	0.6019	2.6363	0.0829	0.3631
Formaldehyde			0			0	0			0.073	0.3197
TSP/PM10/PM2.5	0.0711	0.56	0	0.0707		0.0611	0.2676		0	0.0608	0.2663
[2]SO_2	0.002	0	0	0.002		0.001561	0.006837			0.001561	0.006837
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0205	NA	NA	NA	NA	0.07299	0.3197	NA	NA	NA	NA
Acetaldehyde	0.00279	NA	NA	NA	NA	0.00993	0.04349	NA	NA	NA	NA
Acrolein	0.00263	NA	NA	NA	NA	0.00936	0.041	NA	NA	NA	NA
Benzene	0.00158	NA	NA	NA	NA	0.00563	0.02466	NA	NA	NA	NA
Ethylbenzene	0.0000248	NA	NA	NA	NA	0.00009	0.00039	NA	NA	NA	NA
n-Hexane		NA	NA	NA	NA	0	0	NA	NA	NA	NA
Toluene	0.000558	NA	NA	NA	NA	0.00199	0.00872	NA	NA	NA	NA
Xylene	0.000195	NA	NA	NA	NA	0.00069	0.00302	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.10068	0.44098	NA	NA	0.1	0.44

* 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: Mar 7, 2023
Company Name: Tap Rock Operating, LLC
Facility Name: Cold Snack A & B CTB

Permit Number: NA
AI# if Known: NA
Elevation (ft.): 3,460

Total Requested Emissions For All Regulated Engines (GCP-O&G 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	0.94	4.1	0.14	0.63	0.87	3.8	0	0.01	0.03	0.14	0.03	0.14	0.03	0.14			0.31	1.38
ENG 2	0.94	4.1	0.14	0.63	0.87	3.8	0	0.01	0.03	0.14	0.03	0.14	0.03	0.14			0.31	1.38
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	0.01	0.04	0.27	1.17	0.08	0.36	0	0.01	0.06	0.27	0.06	0.27	0.06	0.27			0.1	0.44
GEN 2	0.01	0.04	0.27	1.17	0.08	0.36	0	0.01	0.06	0.27	0.06	0.27	0.06	0.27			0.1	0.44
GEN 3	0.01	0.04	0.27	1.17	0.08	0.36	0	0.01	0.06	0.27	0.06	0.27	0.06	0.27			0.1	0.44
GEN 4	0.01	0.04	0.27	1.17	0.08	0.36	0	0.01	0.06	0.27	0.06	0.27	0.06	0.27			0.1	0.44
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	**1.92**	**8.36**	**1.36**	**5.94**	**2.06**	**9.04**	**0**	**0.06**	**0.3**	**1.36**	**0.3**	**1.36**	**0.3**	**1.36**			**1.02**	**4.52**

Date:	Mar 7, 2023	**Permit Number:**	NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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	2	0.196	0.858	0.165	0.723	0.011	0.048	0	0	0.015	0.066
+ -	HT-2	2	0.196	0.858	0.165	0.723	0.011	0.048	0	0	0.015	0.066
	Totals		0.392	1.716	0.33	1.446	0.022	0.096	0	0	0.03	0.132

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:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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 ($)	$5,000.00	Oil Production (BOPD)	3,750
VRT/ULPS/LPC/VRU Rental Costs ($/mo)	$0.00	VRT/ULPS Vapor Production (Mcf/d)	117.06
Capital Cost of LPC/VRU ($)	$5,000.00	Heating Value of Vapors (Btu/scf)	1,075
Annual Maintenance & Service Costs ($/yr)	$5,000.00	Natural Gas Price ($/MMBtu)	$2.57
Annual Electricity or Fuel Costs ($/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)	$555,218.70
Annual VRT/ULPS/LPC/VRU Revenue ($/yr)	$118,043.74	Payback Period (Yrs)	0.297
VRT/ULPS/LPC/VRU Lifetime Revenue ($)	$590,218.70	Lifetime Benefit-Cost Ratio	16.86

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:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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 ($)	$5,000.00	Oil Production (BOPD)	3,750
VRT/ULPS/LPC/VRU Rental Costs ($/mo)	$0.00	VRT/ULPS Vapor Production (Mcf/d)	117.06
Capital Cost of LPC/VRU ($)	$5,000.00	Heating Value of Vapors (Btu/scf)	2,075
Annual Maintenance & Service Costs ($/yr)	$5,000.00	Natural Gas Price ($/MMBtu)	$2.57
Annual Electricity or Fuel Costs ($/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)	$1,104,259.40
Annual VRT/ULPS/LPC/VRU Revenue ($/yr)	$227,851.88	Payback Period (Yrs)	0.154
VRT/ULPS/LPC/VRU Lifetime Revenue ($)	$1,139,259.40	Lifetime Benefit-Cost Ratio	32.55

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:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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	23.62	5.17	0.02	0.01	0	0
+ -	TK-2	23.62	5.17	0.02	0.01	0	0
+ -	TK-3	23.62	5.17	0.02	0.01	0	0
+ -	TK-4	23.62	5.17	0.02	0.01	0	0
+ -	TK-5	23.62	5.17	0.02	0.01	0	0
+ -	TK-6	23.62	5.17	0.02	0.01	0	0
	Totals	141.72	31.02	0.12	0.06	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)	625	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:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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	9.81	2.15	0.21	0.05	0	0
+ -	TK-2	9.81	2.15	0.21	0.05	0	0
+ -	TK-3	9.81	2.15	0.21	0.05	0	0
+ -	TK-4	9.81	2.15	0.21	0.05	0	0
+ -	TK-5	9.81	2.15	0.21	0.05	0	0
+ -	TK-6	9.81	2.15	0.21	0.05	0	0
	Totals	58.86	12.9	1.26	0.3	0	0

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

Date:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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	1.2	0.26	0	0	0	0
+ -	PWTK- 2	1.2	0.26	0	0	0	0
+ -	PWTK- 3	1.2	0.26	0	0	0	0
+ -	PWTK- 4	1.2	0.26	0	0	0	0
	Totals	4.8	1.04	0	0	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)	3,875	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:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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	1.41	0.31	0.03	0.01	0	0
+ -	PWTK-2	1.41	0.31	0.03	0.01	0	0
+ -	PWTK-3	1.41	0.31	0.03	0.01	0	0
+ -	PWTK-4	1.41	0.31	0.03	0.01	0	0
	Totals	5.64	1.24	0.12	0.04	0	0

New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

Flare

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

	Gas Stream 1	Gas Stream 2	Gas Stream 3		Gas Stream 1	Gas Stream 2	Gas Stream 3
Emission Unit ID	FL-HP	FL-LP Tanks	FL-LP VRU	Hourly Gas Routed to Flare (MMBtu/hr)	1,008.875	5.37768	10.126
Hourly Gas Stream to Flare (Mscf/hr)	875	2.52	4.88	Annual Gas Routed to Flare (MMBtu/yr)	88,377.45	2,347.4	4,440.5
Annual Gas Stream to Flare (MMscf/yr)	76.65	1.1	2.14	Pilot Gas Routed to Flare (MMBtu/hr)	0.063415	0.063415	0
Max. Heat Value of Gas (Btu/scf)	1,153	2,134	2,075	Gas MW (lb/lbmol)	21.28	42.61	41.18
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	90
Pilot Gas to Flare (Mscf/hr)	0.055	0.055		Field Gas H2S Wt.% to Flare (%)			
Max. Heat Value Pilot Gas (Btu/scf)	1,153	1,153		Flare Control Efficiency	98	98	98
Pilot Gas Sulfur Content (S grains/100 scf)				Total VOC wt.% to Flare (%)[1]	23.84	74.69	72.89
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	11,711.68	211.28	386.29	0	0	0	0	0	0
Uncontrolled (tpy)	0	0	0	0	0	0	512.97	46.27	84.6	0	0	0	0	0	0
Field Gas (pph)	68.6035	0.3657	0.6886	312.7513	1.6671	3.1391	234.23	4.23	7.73	0	0	0	0	0	0
Field Gas (tpy)	3.0048	0.0798	0.151	13.6985	0.3638	0.6883	10.26	0.93	1.69	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)	0.0189	0.0189		0.0861	0.0861		0	0	0	0	0	0	0	0	0
Subtotal Flare (pph)	68.6078	0.37	0.6886	312.771	1.6868	3.1391	234.23	4.23	7.73	0	0	0	0	0	0
Subtotal Flare (tpy)	3.0237	0.0987	0.151	13.7846	0.4499	0.6883	10.26	0.93	1.69	0	0	0	0	0	0
Total Flare (pph)	69.67			317.6			246.19			0			0		
Total Flare (tpy)	3.27			14.92			12.88			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:	Mar 7, 2023	**Permit Number:**	GCP-O&G-NA
Company Name:	Tap Rock Operating, LLC	**AI# if Known:**	NA
Facility Name:	Cold Snack A & B CTB	**Elevation (ft.):**	3,460

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	23.84%				0.84	3.69	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%				4.52	19.79	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					5.36	23.49	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	275	0.6504	2.8488	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	550	3.0313	13.277	0	0	0	0	0%	0	0	0	0	0	0
	Water/Oil	0.00021605	92	0.0002	0.0009	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				3.6819	16.126	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	851	0.0895	0.392	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	1,702	0.788	3.4514	0	0	0	0	0%	0	0	0	0	0	0
	Water/Oil	0.00024251	284	0.0007	0.0031	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				0.8782	3.8465	0	0	0	0		0	0	0	0	0	0
Flanges	Gas	0.00085979	33	0.0068	0.0298	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	66	0.016	0.0701	0	0	0	0	0%	0	0	0	0	0	0
	Water/Oil	0.00000639	11	0	0	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				0.0228	0.0999	0	0	0	0		0	0	0	0	0	0
Open Ends	Gas	0.0044092	24	0.0252	0.1104	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	47	0.1451	0.6355	0	0	0	0	0%	0	0	0	0	0	0
	Water/Oil	0.00055115	8	0	0	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				0.1703	0.7459	0	0	0	0		0	0	0	0	0	0
Other[c]	Gas	0.01940048	15	0.0694	0.304	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	29	0.4795	2.1002	0	0	0	0	0%	0	0	0	0	0	0
	Water/Oil	0.0308644	5	0.0015	0.0066	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				0.5504	2.4108	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: Mar 7, 2023
Company Name: Tap Rock Operating, LLC
Facility Name: Cold Snack A & B CTB

Permit Number: NA
AI# if Known: NA
Elevation (ft.): 3,460

Total Requested Emissions For All Regulated Facility Equipment (GCP-O&G 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	1.92	8.36	1.36	5.94	2.06	9.04	0	0.06	0.3	1.36	0.3	1.36	0.3	1.36	-	-	1.02	4.52
Heaters	0.39	1.72	0.33	1.45	0.02	0.1	0	0	0.03	0.13	0.03	0.13	0.03	0.13	-	-		
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	69.67	3.27	317.6	14.92	246.19	12.88	0	0										
Fugitives	-	-	-	-	5.36	23.49									0	0	0	0
SSM						0												
Malf.	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
Unpaved Haul Rds.	-	-	-	-	-	-	-	-	0	0	0	0	0	0	-	-	-	-
Paved Haul Rds.	-	-	-	-	-	-	-	-	0	0	0	0	0	0	-	-	0	0
Oil Load	-	-	-	-			-	-	-	-	-	-	-	-				
Water Loading	-	-	-	-			-	-	-	-	-	-	-	-				
Amine Unt	-	-	-	-	0	0	-	-	-	-	-	-	-	-	0	0	0	0
Amine Reb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
Dehy Unit	-	-	-	-			-	-	-	-	-	-	-	-				
Dehy Reb.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
Totals	**71.98**	**13.35**	**319.29**	**22.31**	**253.63**	**45.51**	**0**	**0.06**	**0.33**	**1.49**	**0.33**	**1.49**	**0.33**	**1.49**	**0**	**0**	**1.02**	**4.52**

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.

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.

G3408C
NON-CURRENT

GAS ENGINE SITE SPECIFIC TECHNICAL DATA
Dingo

CATERPILLAR®

GAS COMPRESSION APPLICATION			
ENGINE SPEED (rpm):	1800	RATING STRATEGY:	STANDARD
COMPRESSION RATIO:	8.5	RATING LEVEL:	CONTINUOUS
AFTERCOOLER TYPE:	SCAC	FUEL SYSTEM:	LPG IMPCO WITH AIR FUEL RATIO CONTROL
AFTERCOOLER WATER INLET (°F):	130	**SITE CONDITIONS:**	
JACKET WATER OUTLET (°F):	210	FUEL:	Gas Analysis
ASPIRATION:	TA	FUEL PRESSURE RANGE(psig): (See note 1)	1.5-5.0
COOLING SYSTEM:	JW+OC, AC	FUEL METHANE NUMBER:	50.4
CONTROL SYSTEM:	EIS	FUEL LHV (Btu/scf):	1115
EXHAUST MANIFOLD:	WC	ALTITUDE(ft):	3400
COMBUSTION:	LOW EMISSION	INLET AIR TEMPERATURE(°F):	100
NOx EMISSION LEVEL (g/bhp-hr NOx):	1.0	STANDARD RATED POWER:	425 bhp@1800rpm
SET POINT TIMING:	31		

				MAXIMUM RATING	SITE RATING AT MAXIMUM INLET AIR TEMPERATURE		
RATING		**NOTES**	**LOAD**	**100%**	**100%**	**75%**	**50%**
ENGINE POWER	(WITHOUT FAN)	(2)	bhp	425	425	319	213
INLET AIR TEMPERATURE			°F	100	100	100	100
ENGINE DATA							
FUEL CONSUMPTION (LHV)		(3)	Btu/bhp-hr	8195	8195	8510	9170
FUEL CONSUMPTION (HHV)		(3)	Btu/bhp-hr	9032	9032	9380	10107
AIR FLOW (@inlet air temp, 14.7 psia)	(WET)	(4)(5)	ft3/min	1003	1003	762	542
AIR FLOW	(WET)	(4)(5)	lb/hr	4264	4264	3238	2304
FUEL FLOW (60°F, 14.7 psia)			scfm	52	52	41	29
INLET MANIFOLD PRESSURE		(6)	in Hg(abs)	66.1	66.1	51.1	36.7
EXHAUST TEMPERATURE - ENGINE OUTLET		(7)	°F	902	902	849	815
EXHAUST GAS FLOW (@engine outlet temp, 14.5 psia)	(WET)	(5)(8)	ft3/min	2636	2636	1927	1337
EXHAUST GAS MASS FLOW	(WET)	(5)(8)	lb/hr	4445	4445	3379	2406
EMISSIONS DATA - ENGINE OUT							
NOx (as NO2)		(9)(10)	g/bhp-hr	1.00	1.00	1.00	1.00
CO		(9)(10)	g/bhp-hr	2.02	2.02	2.14	2.40
THC (mol. wt. of 15.84)		(9)(10)	g/bhp-hr	3.08	3.08	3.51	4.03
NMHC (mol. wt. of 15.84)		(9)(10)	g/bhp-hr	1.30	1.30	1.48	1.70
NMNEHC (VOCs) (mol. wt. of 15.84)		(9)(10)(11)	g/bhp-hr	0.81	0.81	0.92	1.06
HCHO (Formaldehyde)		(9)(10)	g/bhp-hr	0.31	0.31	0.32	0.36
CO2		(9)(10)	g/bhp-hr	587	587	609	657
EXHAUST OXYGEN		(9)(12)	% DRY	7.8	7.8	7.6	7.3
HEAT REJECTION							
HEAT REJ. TO JACKET WATER (JW)		(13)	Btu/min	15378	15378	13649	11083
HEAT REJ. TO ATMOSPHERE		(13)	Btu/min	2322	2322	1808	1299
HEAT REJ. TO LUBE OIL (OC)		(13)	Btu/min	2432	2432	2158	1752
HEAT REJ. TO AFTERCOOLER (AC)		(13)(14)	Btu/min	4054	4054	2648	1374
COOLING SYSTEM SIZING CRITERIA							
TOTAL JACKET WATER CIRCUIT (JW+OC)		(14)	Btu/min	19834			
TOTAL AFTERCOOLER CIRCUIT (AC)		(14)(15)	Btu/min	4257			

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

CONDITIONS AND DEFINITIONS

Engine rating obtained and presented in accordance with ISO 3046/1, adjusted for fuel, site altitude and site inlet air temperature. 100% rating at maximum inlet air temperature is the maximum engine capability for the specified fuel at site altitude and maximum site inlet air temperature. Maximum rating is the maximum capability at the specified aftercooler inlet temperature for the specified fuel at site altitude and reduced inlet air temperature. Refer to product O&M manual for details on additional lower load capability. No overload permitted at rating shown.

For notes information consult page three.

EmeraChem

Sizing Tool - Quote

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1. Product Family 2. Customer and Engine 3. Performance Requirements 4. Sizing 5. Standard Module Sizes 6. Housing & Silencer 7. Quote

EmeraChem IC Engine Catalyst Quote

Export XLS File

Quote Reference Number: 2234

Customer & Project Information

Date:	07/08/2015
Customer Name:	NGCSI
Project Name:	G3408TALE
EmeraChem Representative:	STEPHEN BJTKA

Engine Operating Data

Engine Make	CATERPILLAR	
Engine Model	G3408TALE	
Fuel Type	NG	
Engine Horsepower	425	bhp
Engine Speed	1800	rpm
Operating Hours	8760	hr / year
Combustion Cycle - 2 vs 4 cycle	4	
Lean Burn / Rich Burn	lean	

Engine Exhaust Flow Rate

Engine Exhaust Temperature	693	F
Catalyst Operating Temperature	843	F
Exhaust Gas Flow Rate	55283	scfh
Exhaust Gas Flow Rate	2843	acfm
Exhaust Gas Flow Rate	4201	lb/hr
Exhaust Gas Oxygen Concentration	9.1	
Exhaust Gas Water Concentration	13	

Engine Uncontrolled Emissions / Emissions Requirement

NMNEHC Measured as:	NOx	CO	NMNEHC (Methane)	CH2O	NOx	CO	NMNEHC (Methane)	CH2O
g/bhp-hr	1	2.2	.62	.27		154		
g/MW-hr	1345	2950	831	362		207		
g/hr	425	935	264	115		65		
lb/hr	0.94	2.06	0.58	0.25		0.14		
tons/year	4.10	9.03	2.54			0.63		
MW	46.00	28.00	15.84	30.00		28.00		
scfh	8	28	14	3		2		
mg/Nm3	444	978	275	120		68		
ppmv (wet; actual O2)	149	505	251	58		35		
ppmv (dry; actual O2)	161	580	289	66		41		
ppmv (dry; 15% O2)	80	290	144	33		20		

Catalyst DRE Percentage Requirement

NOx	CO	NMNEHC	CH2O
	93		

Catalyst DRE Percentage for Chosen Module(s)

NOx	CO	NMNEHC	CH2O
	98.8	86.2	92.4

Catalyst Information

Catalyst Part Number	EC-OX-PX-RO-1959-0600-3500	
Catalyst Type	CO Oxidation	
Warranty (years)	3	
Catalyst Formulation	Performax	
New Install or Replacement	New Install	
Catalyst Shape	Round	
Modifications	Without Bonnet	
Number of Catalyst Elements	1	
Depth	3.5	inches
Diameter	19.5	inches
Catalyst Volume	0.60	ft3 (total)
Space Velocity	91398	1/hr
Maximum Pressure Drop	3	in. H2O
Design Catalyst Pressure Drop	1.9	in. H2O

Housing and Silencer Information

Housing Supplier	EmeraChem
Housing & Silencer Requirement	Housing Only
Housing Part Number:	
Sound Attenuation Grade	
Sound Attenuation	35-42 db
Inlet Flange Size	8
Outlet Flange Size	8
Material	Carbon Steel
Trunion	
Housing/Silencer Pressure Drop	
Total Pressure Drop	

Comments:

225kW NG/LP Dual Fuel Mobile Generator Set

Specifications

Frequency	Voltage	Continuous kW (kVA)	Speed rpm
60 Hz	480/277	225 (281)	1800

PSI Heavy Duty 14.6L Natural Gas/LP Engine	Metric	Imperial (English)
Number of Cylinders	V8	
Type	4 Stroke Cycle	
Bore	128 mm	5.04 in
Stroke	142 mm	5.59 in
Displacement	14.6 L	892 in_3
Compression Ratio	10.5	
Engine Speed rpm	1800	
Aspiration	Turbo Charged Air Cooled	
Fuel	NG, LP, LNG, CNG	
Generator Set Data		
Continuous Rated Power	225 kW	
kVA rating	281 kVA	
Rated power factor	0.8 pf	
Frequency	60 Hz	

225kW NG/LP Dual Fuel Mobile Generator Set

Specifications (continued)

Stamford Alternator	
Frame size	S4L1D-D
Pitch	2/3
No. of Poles	4
Excitation	PMG excited
Constructions	Single bearing
Insulation	UL 1446 Class H
Enclosure	Drip-proof IP23
Temperature rise	105 C°
Alignment	Close coupled
Wave form deviation	Less than 5%
Telephone Influence Factor (TIF)	Less than 50
Harmonic Distortion (THD)	Less than 5%

Performance Specification		
		Units
Engine power	291 (390)	kW (bhp)
BSFC @ 100% load	11.42 (8,076)	MJ/kWh (Btu/bhp-hr)
Induction air flow rate	19 (687)	m^3/min (ft^3/min)
Cooling air flow rate	849 (30,000)	m^3/min (ft^3/min)
Max exhaust stack temperature	732 (1350)	C° (F°)
Exhaust flow rate	53.6 (1895)	m^3/min (ft^3/min)
Engine oil system capacity	31 (8.1)	L (gal)
Engine coolant capacity	43.2 (9.5)	L (gal)
Radiator coolant capacity	83.8 (18.5)	L (gal)
Oil change interval	1100	Hours

Weight and Dimensions

Model	Length (ft)	Width (ft)	Height (ft)	Weight with Lube oil and Coolant (lbs.)
225kW Mobile Generator	23' 7"	8'	9' 11"	15,060

225kW NG/LP Dual Fuel Mobile Generator Set

MESA SOLUTIONS

Standard Features

Stamford Alternator

- UL listed S4L1D-G
- Cont. F - 105/40°C Rating
- 355kVA, 284kW, 93.5% Efficiency
- 4-pole main rotor
- Permanent Magnet Generator (PMG)

Voltage Regulation

- Field-Proven MX341 base regulation
- 3-phase digital sensing (RMS) and adjustments through bias adjustment from DSE8610 MKII

Load Sharing

- DSE 8610MKII provides fully automated voltage bias and governor control
- Parallel capable
- High-speed CANBUS load share communications between generators
- Standard kW and kVAR sharing balanced between generators
- Other options included: Fixed Export, Fixed PF control, Power vs Frequency (IEEE 1547 curves), and Reactive Power vs Voltage (IEEE 1547 curves)

Control Panel

- Onboard Deep Sea 8610 MKII parallel controller
- Idle/rated switch
- 3 Fuel Control Modes: NG, LP, Auto
- Generator protection features: 27, 32 L/R, 37 P, 40, 46, 50 P, 51 P/G, 59, 81 O/R/U
- Metering display: voltage, current frequency, power factor, kW, WHM, and kVAR
- Panel illumination light and emergency stop switch
- Start/stop switch with cool down timer
- RS485, Modbus over ethernet capable

Sound Attenuated Container

- Temperature controlled enclosure for harsh climates
- Sound attenuated air intake system
- Three lockable doors with panic release
- External hookups for oil and coolant, drain and fill
- Meets 75 dB(A) at 7 meters sound performance
- Full spill containment of onboard engine fluids with easy drain access
- Low-draw LED work-lighting
- Custom paint scheme available

Distribution Panel

- 480/277V, 3-phase
- Door safety switch for breaker trip
- 400A Camlock per phase and ground
- 4 conductor terminals, double set-screw 2AWG - 600MCM per phase and ground

Side Customer Access

- Separate control panel, distribution panel, and circuit access doors
- External emergency stop push button
- Remote start/stop contacts
- Lock out tag out switch

Telemetry

- Dual-carrier satellite and cellular access

225kW NG/LP Dual Fuel Mobile Generator Set

Standard Features (continued)

Circuit Breaker

- 400A fixed type, 3 poles, generator set mounted, electrically operated
- 25 kAIC
- Shunt trip

Current Transformers

- CTs rated 800:5

Starting System

- Single electric starting motor, 24VDC
- Dual 12V maintenance free batteries with lock out tag out disconnect switch, battery rack, and cables

Trailer Features

- 2 - 5/16 ball hook up
- 2 - 8,000 lb. axle
- 4 - way leveling jacks

Cooling System

- Provides 49 C° (120 F°) ambient capability at 100% continuous rating before de-rating

Auxiliary Distribution System

- 120V 20A GFCI power outlet
- Remote start/stop terminals
- 120V battery charger input

Fuel System

- Natural Gas (CNG, LNG), Liquid Propane
- Onboard LP vaporization and automatic, seamless switch between LP and natural gas under an electrical load
- Stoichiometric air fuel mixture with NSCR catalyst

Emissions

	PSI Heavy Duty 14.6L Engine (NG)	PSI Heavy Duty 14.6L Engine (LP)
	g/HP-hr	g/HP-hr
CO	0.31	0.11
VOC	0.000	0.04
NOx	0.01	0.03

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.

Bryan Research & Engineering, LLC

ProMax® 6.0

Simulation Report

Project: Cold Snack A & B CTB.pmx

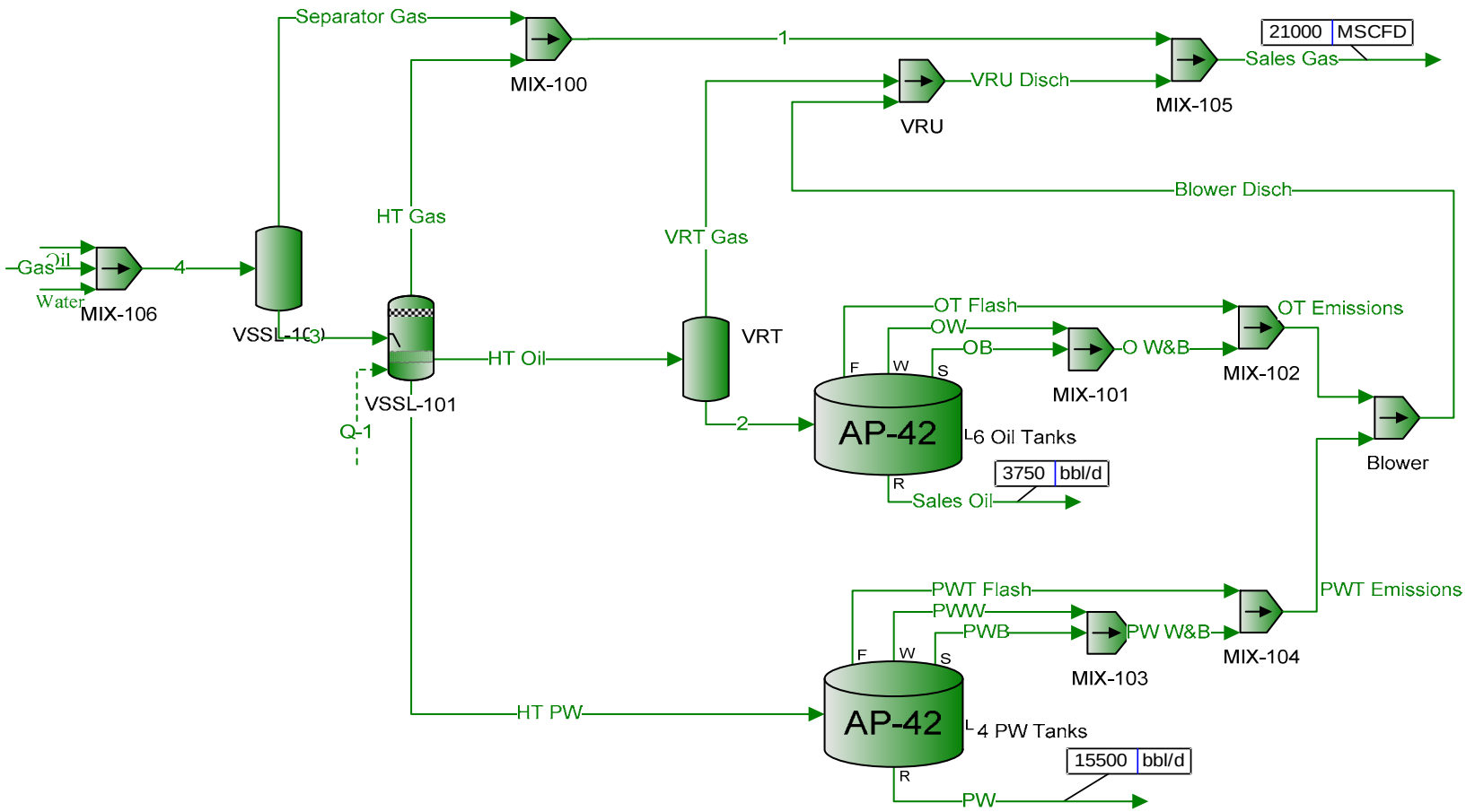
Licensed to Lone Wolf Environmental, LLC and Affiliates

Client Name: Tap Rock Operating, LLC
Location: Cold Snack A & B CTB
Job:

ProMax Filename: C:\Users\chris\OneDrive - CDH Consulting, LLC\Client Folders\Tap Rock Operating\Air Quality\Facilities\Cold Snack A & B CTB\2023-03 GCP\ProMax\Cold Snack A & B CTB.pmx
ProMax Version: 6.0.23032.0
Simulation Initiated: 3/7/2023 9:21:08 AM

Bryan Research & Engineering, LLC
Chemical Engineering Consultants
P.O. Box 4747 Bryan, Texas 77805
Office: (979) 776-5220
FAX: (979) 776-4818
mailto:sales@bre.com
http://www.bre.com/

Report Navigator can be activated via the ProMax Navigator Toolbar.
An asterisk (*), throughout the report, denotes a user specified value.
A question mark (?) after a value, throughout the report, denotes an extrapolated or approximate value.


Separator Gas
MIX-100
1
21000
MSCFD
Sales Gas
VRU Disch
VRU
MIX-105
Blower Disch
HT Gas
VRT Gas
Gas
Oil
Water
MIX-106
4
VSSL-103
VSSL-101
HT Oil
VRT
Q-1
2
OT Flash
OW
OB
F
W
S
MIX-101
O W&B
MIX-102
OT Emissions
AP-42
6 Oil Tanks
R
3750
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
15500
bbl/d
PW

Process Streams		Blower Disch	Gas	HT Gas	HT Oil	HT PW
Composition	**Status:**	Solved	Solved	Solved	Solved	Solved
Phase: **Total**	**From Block:**	Blower	--	VSSL-101	VSSL-101	VSSL-101
	To Block:	VRU	MIX-106	MIX-100	VRT	4 PW Tanks
Mole Fraction		%	%	%	%	%
Carbon Dioxide		0.404817	0.111202*	0.184280	0.00479281	0.000164360
Nitrogen		0.00857225	0.499414*	0.111239	0.000435261	3.22833E-06
Methane		11.5359	78.5947*	45.6055	0.528199	0.00263581
Ethane		23.6469	10.8302*	18.7027	1.04708	0.00126537
Propane		24.6418	4.70621*	13.4869	2.29522	0.000623137
Isobutane		5.16453	0.819119*	2.75373	0.990452	6.58608E-05
n-Butane		12.2115	1.69285*	6.30203	3.19117	0.000269070
Isopentane		3.57519	0.540122*	1.92293	2.15389	4.65499E-05
n-Pentane		3.95940	0.591751*	2.18856	3.12623	3.33075E-05
i-Hexane		4.75302	1.61441*	2.72874	8.64883	4.44577E-05
C7+		0.993780	0*	0.539868	77.5341	0.000323697
Water		9.10453	0*	5.47348	0.479658	99.9945
Molar Flow		lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
Carbon Dioxide		0.0268383	2.54373*	0.0438646	0.0174852	0.0206335
Nitrogen		0.000568318	11.4241*	0.0264785	0.00158793	0.000405280
Methane		0.764803	1797.85*	10.8556	1.92699	0.330895
Ethane		1.56773	247.741*	4.45184	3.81999	0.158853
Propane		1.63369	107.654*	3.21032	8.37346	0.0782277
Isobutane		0.342395	18.7373*	0.655475	3.61339	0.00826807
n-Butane		0.809592	38.7237*	1.50008	11.6421	0.0337787
Isopentane		0.237026	12.3552*	0.457719	7.85788	0.00584381
n-Pentane		0.262498	13.5363*	0.520947	11.4052	0.00418137
i-Hexane		0.315113	36.9295*	0.649527	31.5529	0.00558115
C7+		0.0658850	0*	0.128506	282.862	0.0406364
Water		0.603607	0*	1.30286	1.74990	12553.2
Mass Fraction		%	%	%	%	%
Carbon Dioxide		0.418140	0.224523*	0.259205	0.00177531	0.000401496
Nitrogen		0.00563608	0.641844*	0.0995962	0.000102625	5.01975E-06
Methane		4.34350	57.8452*	23.3834	0.0713193	0.00234705
Ethane		16.6882	14.9403*	17.9739	0.264996	0.00211191
Propane		25.5026	9.52072*	19.0076	0.851839	0.00152516
Isobutane		7.04513	2.18420*	5.11543	0.484523	0.000212474
n-Butane		16.6582	4.51401*	11.7069	1.56110	0.000868050
Isopentane		6.05402	1.78782*	4.43416	1.30795	0.000186417
n-Pentane		6.70463	1.95872*	5.04668	1.89840	0.000133385
i-Hexane		9.61321	6.38263*	7.51561	6.27305	0.000212651
C7+		3.11711	0*	2.30597	87.2122	0.00240117
Water		3.84959	0*	3.15155	0.0727297	99.9896
Mass Flow		lb/h	lb/h	lb/h	lb/h	lb/h
Carbon Dioxide		1.18114	111.948*	1.93046	0.769516	0.908072
Nitrogen		0.0159205	320.027*	0.741752	0.0444833	0.0113533
Methane		12.2693	28841.9*	174.150	30.9136	5.30837
Ethane		47.1400	7449.33*	133.862	114.863	4.77655
Propane		72.0386	4747.08*	141.561	369.233	3.44950
Isobutane		19.9007	1089.05*	38.0977	210.018	0.480558
n-Butane		47.0553	2250.71*	87.1882	676.664	1.96329
Isopentane		17.1011	891.416*	33.0239	566.936	0.421624
n-Pentane		18.9389	976.625*	37.5857	822.870	0.301681
i-Hexane		27.1549	3182.41*	55.9732	2719.08	0.480958
C7+		8.80507	0*	17.1739	37802.5	5.43078
Water		10.8741	0*	23.4715	31.5250	226149

O W&B	OB	Oil	OT Emissions	OT Flash	OW	PW	PW W&B	PWB
Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
MIX-101	6 Oil Tanks	--	MIX-102	6 Oil Tanks	6 Oil Tanks	4 PW Tanks	MIX-103	4 PW Tanks
MIX-102	MIX-101	MIX-106	Blower	MIX-102	MIX-101	--	MIX-104	MIX-103
%	%	%	%	%	%	%	%	%
0.104774	0.104774	0.009*	0.109067	0.110720	0.104774	0	3.43341	3.43341
0.000218380	0.000218380	0.004*	0.00286585	0.00388572	0.000218380	0	0.0180829	0.0180829
2.37468	2.37468	1.981*	7.62716	9.65055	2.37468	0	24.0140	24.0140
31.3790	31.3790	1.923*	24.7649	22.2170	31.3790	0	14.0842	14.0842
31.4866	31.4866	3.148*	27.3416	25.7449	31.4866	0	5.70921	5.70921
6.01934	6.01934	0.948*	5.87322	5.81694	6.01934	0	0.464806	0.464806
13.9969	13.9969	3.516*	13.6371	13.4985	13.9969	0	2.34220	2.34220
4.04945	4.04945	1.804*	4.06367	4.06916	4.04945	0	0.315739	0.315739
4.50221	4.50221	2.776*	4.54064	4.55545	4.50221	0	0.116742	0.116742
5.47715	5.47715	2.393*	5.44089	5.42692	5.47715	0	0.196543	0.196543
0.586835	0.586835	81.498*	0.718033	0.768575	0.586835	0.000124276	4.10385	4.10385
0.0228847	0.0228847	0*	5.88077	8.13738	0.0228847	99.9999	45.2012	45.2012
lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
0.00165762	7.01570E-05	0.0314712*	0.00620478	0.00454716	0.00158746	0	0.0191854	0.000237695
3.45496E-06	1.46228E-07	0.0139872*	0.000163038	0.000159583	3.30873E-06	0	0.000101045	1.25188E-06
0.0375696	0.00159009	6.92717*	0.433908	0.396338	0.0359795	0	0.134187	0.00166249
0.496444	0.0210115	6.72435*	1.40887	0.912429	0.475433	0	0.0787003	0.000975047
0.498145	0.0210835	11.0079*	1.55546	1.05732	0.477062	0	0.0319022	0.000395248
0.0952313	0.00403056	3.31497*	0.334127	0.238896	0.0912007	0	0.00259726	3.21784E-05
0.221443	0.00937234	12.2948*	0.775813	0.554370	0.212070	0	0.0130879	0.000162150
0.0640658	0.00271152	6.30823*	0.231182	0.167116	0.0613543	0	0.00176430	2.18586E-05
0.0712290	0.00301469	9.70713*	0.258316	0.187088	0.0682143	0	0.000652334	8.08201E-06
0.0866533	0.00366751	8.36785*	0.309531	0.222878	0.0829858	0	0.00109825	1.36066E-05
0.00928425	0.000392946	284.983*	0.0408488	0.0315646	0.00889131	0.0156002	0.0229317	0.000284109
0.000362056	1.53236E-05	0*	0.334556	0.334194	0.000346732	12552.9	0.252577	0.00312927
%	%	%	%	%	%	%	%	%
0.0979849	0.0979849	0.00332379*	0.106593	0.110119	0.0979849	0	5.42334	5.42334
0.000129998	0.000129998	0.000940309*	0.00178282	0.00245995	0.000129998	0	0.0181815	0.0181815
0.809535	0.809535	0.266686*	2.71721	3.49875	0.809535	0	13.8271	13.8271
20.0502	20.0502	0.485226*	16.5366	15.0971	20.0502	0	15.2001	15.2001
29.5039	29.5039	1.16486*	26.7738	25.6552	29.5039	0	9.03579	9.03579
7.43447	7.43447	0.462376*	7.58067	7.64057	7.43447	0	0.969635	0.969635
17.2875	17.2875	1.71489*	17.6017	17.7304	17.2875	0	4.88609	4.88609
6.20846	6.20846	1.09222*	6.51084	6.63472	6.20846	0	0.817621	0.817621
6.90262	6.90262	1.68071*	7.27504	7.42762	6.90262	0	0.302308	0.302308
10.0299	10.0299	1.73050*	10.4122	10.5688	10.0299	0	0.607903	0.607903
1.66656	1.66656	91.3983*	2.13098	2.32125	1.66656	0.000921909	19.6849	19.6849
0.00876081	0.00876081	0*	2.35269	3.31295	0.00876081	99.9991	29.2271	29.2271
lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
0.0729510	0.00308757	1.38503*	0.273069	0.200118	0.0698634	0	0.844339	0.0104608
9.67852E-05	4.09633E-06	0.391829*	0.00456724	0.00447045	9.26889E-05	0	0.00283060	3.50694E-05
0.602709	0.0255090	111.129*	6.96095	6.35824	0.577200	0	2.15268	0.0266704
14.9276	0.631795	202.195*	42.3634	27.4359	14.2958	0	2.36644	0.0293187
21.9660	0.929689	485.402*	68.5891	46.6230	21.0363	0	1.40675	0.0174287
5.53505	0.234265	192.673*	19.4202	13.8851	5.30079	0	0.150959	0.00187028
12.8707	0.544741	714.599*	45.0920	32.2212	12.3260	0	0.760696	0.00942454
4.62227	0.195633	455.131*	16.6795	12.0572	4.42664	0	0.127292	0.00157707
5.13908	0.217506	700.357*	18.6372	13.4981	4.92158	0	0.0470651	0.000583107
7.46738	0.316049	721.103*	26.6740	19.2066	7.15133	0	0.0946421	0.00117256
1.24078	0.0525145	38085.9*	5.45916	4.21838	1.18826	2.08486	3.06466	0.0379692
0.00652253	0.000276059	0*	6.02712	6.02059	0.00624647	226144	4.55025	0.0563748

PWT Emissions	PWT Flash	PWW	Sales Gas	Sales Oil	Separator Gas	VRT Gas	VRU Disch
Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
MIX-104	4 PW Tanks	4 PW Tanks	MIX-105	6 Oil Tanks	VSSL-100	VRT	VRU
Blower	MIX-104	MIX-103	--	--	MIX-100	VRU	MIX-105
%	%	%	%	%	%	%	%
2.19330	0.379133	3.43341	0.111609	0.000498739	0.109877	0.152979	0.282880
0.0430803	0.0796491	0.0180829	0.496063	3.40076E-06	0.502822	0.0227033	0.0154143
35.1734	51.4984	24.0140	78.2686	0.0245637	78.9589	22.5988	16.8925
16.8857	20.9840	14.0842	10.9904	0.298514	10.8428	21.8153	22.7601
8.31542	12.1281	5.70921	4.90586	1.57110	4.71552	20.4626	22.6183
0.878876	1.48462	0.464806	0.826345	0.849707	0.783353	4.50824	4.84676
3.59059	5.41686	2.34220	1.76979	2.89345	1.66773	10.5248	11.3948
0.621183	1.06802	0.315739	0.487523	2.10319	0.455776	3.28352	3.43397
0.444470	0.923904	0.116742	0.534744	3.09242	0.498570	3.75048	3.85824
0.593263	1.17363	0.196543	0.622186	8.77027	0.576851	4.69436	4.72462
2.66129	0.550963	4.10385	0.0955188	80.1237	0.0860195	0.902627	0.949645
28.5995	4.31275	45.2012	0.891395	0.272609	0.801801	7.28359	8.22285
lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
0.0206335	0.00144818	0.0189477	2.57344	0.00176010	2.49321	0.00952035	0.0363587
0.000405280	0.000304236	9.97927E-05	11.4380	1.20016E-05	11.4096	0.00141289	0.00198121
0.330895	0.196709	0.132524	1804.69	0.0866878	1791.66	1.40639	2.17119
0.158853	0.0801525	0.0777253	253.412	1.05349	246.034	1.35763	2.92536
0.0782277	0.0463256	0.0315069	113.118	5.54455	107.000	1.27345	2.90714
0.00826807	0.00567080	0.00256508	19.0535	2.99870	17.7751	0.280561	0.622956
0.0337787	0.0206908	0.0129257	40.8072	10.2113	37.8425	0.654986	1.46458
0.00584381	0.00407950	0.00174244	11.2411	7.42235	10.3420	0.204343	0.441369
0.00418137	0.00352904	0.000644252	12.3299	10.9135	11.3131	0.233403	0.495901
0.00558115	0.00448290	0.00108464	14.3461	30.9512	13.0894	0.292144	0.607256
0.0250362	0.00210451	0.0226476	2.20244	282.765	1.95187	0.0561731	0.122058
0.269051	0.0164734	0.249448	20.5535	0.962066	18.1937	0.453279	1.05689
%	%	%	%	%	%	%	%
3.45342	0.594180	5.42334	0.230786	0.000180805	0.229551	0.169765	0.302322
0.0431767	0.0794559	0.0181815	0.652930	7.84751E-07	0.668665	0.0160370	0.0104860
20.1878	29.4201	13.8271	58.9960	0.00324605	60.1312	9.14165	6.58089
18.1653	22.4692	15.2001	15.5273	0.0739392	15.4771	16.5405	16.6193
13.1185	19.0444	9.03579	10.1642	0.570674	9.87081	22.7522	24.2201
1.82757	3.07282	0.969635	2.25667	0.406819	2.16136	6.60719	6.84092
7.46643	11.2116	4.88609	4.83313	1.38532	4.60146	15.4249	16.0831
1.60344	2.74402	0.817621	1.65268	1.24996	1.56102	5.97361	6.01653
1.14730	2.37375	0.302308	1.81275	1.83788	1.70759	6.82312	6.75988
1.82909	3.60158	0.607903	2.51923	6.22568	2.35980	10.2006	9.88713
12.7246	2.62209	19.6849	0.599790	88.2058	0.545722	3.04174	3.08197
18.4333	2.76678	29.2271	0.754528	0.0404550	0.685702	3.30867	3.59736
lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
0.908072	0.0637335	0.833878	113.256	0.0774612	109.725	0.418986	1.60013
0.0113533	0.00852268	0.00279553	320.418	0.000336206	319.621	0.0395799	0.0555004
5.30837	3.15569	2.12601	28951.6	1.39069	28742.6	22.5620	34.8313
4.77655	2.41011	2.33712	7619.85	31.6773	7398.02	40.8226	87.9626
3.44950	2.04275	1.38932	4987.99	244.490	4718.24	56.1534	128.192
0.480558	0.329600	0.149088	1107.43	174.291	1033.13	16.3068	36.2076
1.96329	1.20259	0.751271	2371.80	593.502	2199.49	38.0692	85.1245
0.421624	0.294331	0.125715	811.033	535.514	746.165	14.7431	31.8442
0.301681	0.254616	0.0464820	889.589	787.393	816.225	16.8397	35.7786
0.480958	0.386316	0.0934695	1236.28	2667.23	1127.98	25.1756	52.3305
3.34591	0.281254	3.02669	294.340	37789.5	260.854	7.50714	16.3122
4.84703	0.296773	4.49388	370.276	17.3319	327.765	8.16594	19.0401

Water	1	2	3	4
Solved	Solved	Solved	Solved	Solved
--	MIX-100	VRT	VSSL-100	MIX-106
MIX-106	MIX-105	6 Oil Tanks	VSSL-101	VSSL-100
%	%	%	%	%
0*	0.110649	0.00222111	0.000633444	0.0169292
0*	0.498757	4.88119E-05	0.000219986	0.0751930
0*	78.6126	0.145175	0.101321	11.8645
0*	10.9244	0.686661	0.0651396	1.67284
0*	4.80658	1.97993	0.0901064	0.780077
0*	0.803808	0.929403	0.0330472	0.144970
0*	1.71584	3.06390	0.101804	0.335392
0*	0.471007	2.13429	0.0642956	0.122693
0*	0.516114	3.11539	0.0921794	0.152801
0*	0.599190	8.71745	0.248855	0.297782
0*	0.0907310	78.8639	2.18683	1.87346
100*	0.850298	0.361580	97.0156	82.6634
lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
0*	2.53708	0.00796488	0.0819833	2.57520
0*	11.4361	0.000175039	0.0284717	11.4380
0*	1802.52	0.520596	13.1135	1804.77
0*	250.486	2.46236	8.43068	254.465
0*	110.210	7.10001	11.6620	118.662
0*	18.4306	3.33283	4.27713	22.0522
0*	39.3426	10.9871	13.1760	51.0185
0*	10.7998	7.65354	8.32144	18.6635
0*	11.8340	11.1718	11.9303	23.2434
0*	13.7389	31.2607	32.2080	45.2973
0*	2.08038	282.805	283.031	284.983
12574.4*	19.4966	1.29662	12556.2	12574.4
%	%	%	%	%
0*	0.230006	0.000813322	0.00133502	0.0356324
0*	0.659935	1.13773E-05	0.000295116	0.100741
0*	59.5675	0.0193780	0.0778399	9.10294
0*	15.5154	0.171794	0.0937986	2.40567
0*	10.0110	0.726427	0.190276	1.64511
0*	2.20668	0.449461	0.0919833	0.402979
0*	4.71047	1.48171	0.283360	0.932303
0*	1.60510	1.28123	0.222148	0.423360
0*	1.75882	1.87020	0.318489	0.527249
0*	2.43890	6.25056	1.02698	1.22728
0*	0.572727	87.6942	13.9957	11.9744
100*	0.723533	0.0541990	83.6978	71.2224
lb/h	lb/h	lb/h	lb/h	lb/h
0*	111.656	0.350530	3.60805	113.333
0*	320.363	0.00490344	0.797589	320.419
0*	28916.8	8.35163	210.372	28953.0
0*	7531.88	74.0408	253.502	7651.52
0*	4859.80	313.080	514.243	5232.48
0*	1071.23	193.711	248.596	1281.72
0*	2286.68	638.594	765.815	2965.31
0*	779.189	552.193	600.382	1346.55
0*	853.811	806.030	860.757	1676.98
0*	1183.95	2693.90	2775.53	3903.51
0*	278.028	37795.0	37825.1	38085.9
226532*	351.236	23.3590	226204	226532

Process Streams		Blower Disch	Gas	HT Gas	HT Oil	HT PW
Properties	**Status:**	Solved	Solved	Solved	Solved	Solved
Phase: **Total**	**From Block:**	Blower	--	VSSL-101	VSSL-101	VSSL-101
	To Block:	VRU	MIX-106	MIX-100	VRT	4 PW Tanks
Property	**Units**					
Temperature	°F	97.1955	85.8*	135*	135	135
Pressure	psig	-1.43595	121.9*	32*	32	32
Mole Fraction Vapor	%	96.6688	100	100	0	0
Mole Fraction Light Liquid	%	0.585448	0	0	100	100
Mole Fraction Heavy Liquid	%	2.74571	0	0	0	0
Phase Mole Fraction	%	100	100	100	100	100
Molecular Weight	lb/lbmol	42.6073	21.7970	31.2882	118.812	18.0162
Mass Density	lb/ft^3	0.0990181	0.526910	0.233428	46.7432	61.4361
Molar Flow	lbmol/h	6.62974	2287.49	23.8032	364.822	12553.9
Mass Flow	lb/h	282.475	49860.5	744.760	43345.4	226172
Vapor Volumetric Flow	ft^3/h	2852.76	94628.0	3190.54	927.308	3681.42
Liquid Volumetric Flow	gpm	355.669	11797.8	397.781	115.612	458.983
Std Vapor Volumetric Flow	MMSCFD	0.0603811	20.8336*	0.216790	3.32266	114.336
Std Liquid Volumetric Flow	sgpm	1.10555	281.040	3.39439	111.374	452.192
Compressibility		0.954770	0.965303	0.980772	0.0185987	0.00214575
Specific Gravity			0.752594	1.08030	0.749466	0.985047
API Gravity					48.7612	10.0023
Enthalpy	Btu/h	-348065	-7.95796E+07	-1.01855E+06	-3.03050E+07	-1.52981E+09
Mass Enthalpy	Btu/lb	-1232.20	-1596.05	-1367.62	-699.152	-6763.90
Mass Cp	Btu/(lb*°F)	0.428234	0.497194	0.468343	0.486828	0.978348
Ideal Gas CpCv Ratio		1.12548	1.23418	1.15907	1.04564	1.32671
Dynamic Viscosity	cP		0.0108031	0.0105604	0.454961	0.495910
Kinematic Viscosity	cSt		1.27994	2.82427	0.607624	0.503916
Thermal Conductivity	Btu/(h*ft*°F)		0.0179754	0.0163661	0.0627491	0.372528
Surface Tension	lbf/ft				0.00146450?	0.00455302
Net Ideal Gas Heating Value	Btu/ft^3	2134.38	1187.44	1609.96	5896.92	0.0952478
Net Liquid Heating Value	Btu/lb	18824.6	20608.8	19378.0	18672.3	-1057.65
Gross Ideal Gas Heating Value	Btu/ft^3	2323.33	1307.72	1761.08	6303.16	50.4110
Gross Liquid Heating Value	Btu/lb	20507.8	22703.0	21211.3	19969.9	2.17249

O W&B	OB	Oil	OT Emissions	OT Flash	OW	PW	PW W&B	PWB
Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
MIX-101	6 Oil Tanks	--	MIX-102	6 Oil Tanks	6 Oil Tanks	4 PW Tanks	MIX-103	4 PW Tanks
MIX-102	MIX-101	MIX-106	Blower	MIX-102	MIX-101	--	MIX-104	MIX-103
106.738	106.738	105.4*	106.734	106.738	106.738	83.5989	83.5989	83.5989
-1.43595	-1.43595	121.3*	-1.43595	-1.43595	-1.43595	-1.43595	-1.43595	-1.43595
100	100	0	100	100	100	0	53.0110	53.0110
0	0	100	0	0	0	100	4.08213	4.08213
0	0	0	0	0	0	0	42.9069	42.9069
100	100	100	100	100	100	100	100	100
47.0588	47.0588	119.167	45.0309	44.2497	47.0588	18.0154	27.8616	27.8616
0.104152	0.104152	47.9029	0.0995338	0.0977609	0.104152	62.1441	0.120058	0.120058
1.58209	0.0669602	349.680	5.68898	4.10690	1.51513	12552.9	0.558785	0.00692299
74.4512	3.15107	41670.3	256.180	181.729	71.3001	226146	15.5686	0.192885
714.834	30.2546	869.891	2573.80	1858.91	684.579	3639.06	129.676	1.60661
89.1221	3.77200	108.454	320.889	231.761	85.3501	453.701	16.1674	0.200304
0.0144091	0.000609848	3.18476	0.0518131	0.0374040	0.0137992	114.327	0.00508920	6.30519E-05
0.295070	0.0124885	106.747*	0.997384	0.702314	0.282581	452.083	0.0558862	0.000692394
0.985654	0.985654	0.0557896	0.986947	0.987406	0.985654	0.000659341	0.527814	0.527814
1.62482	1.62482	0.768059	1.55480	1.52783	1.62482	0.996398		
		47.7429				9.99836		
-74407.0	-3149.20	-2.90966E+07	-286695	-212288	-71257.8	-1.54113E+09	-45712.1	-566.344
-999.406	-999.406	-698.258	-1119.12	-1168.16	-999.406	-6814.74	-2936.17	-2936.17
0.422497	0.422497	0.465033	0.424550	0.425402	0.422497	0.977649	0.580847	0.580847
1.11171	1.11171	1.04820	1.11665	1.11868	1.11171	1.32877	1.20823	1.20823
0.00862968	0.00862968	0.549836	0.00884338	0.00892738	0.00862968	0.843161		
5.17258	5.17258	0.716557	5.54660	5.70083	5.17258	0.847012		
0.0113676	0.0113676	0.0642567	0.0116260	0.0117329	0.0113676	0.353234		
		0.00154414?				0.00493086		
2456.72	2456.72	5913.48	2295.26	2233.06	2456.72	0.00820749	958.716	958.716
19654.6	19654.6	18669.5	19167.8	18968.4	19654.6	-1059.58	12662.4	12662.4
2667.77	2667.77	6318.04	2495.57	2429.24	2667.77	50.3187	1065.50	1065.50
21356.9	21356.9	19957.9	20856.3	20651.2	21356.9	0.182946	14117.2	14117.2

PWT Emissions	PWT Flash	PWW	Sales Gas	Sales Oil	Separator Gas	VRT Gas	VRU Disch
Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
MIX-104	4 PW Tanks	4 PW Tanks	MIX-105	6 Oil Tanks	VSSL-100	VRT	VRU
Blower	MIX-104	MIX-103	--	--	MIX-100	VRU	MIX-105
83.7729	83.5989	83.5989	94.3906	106.738	103.495	133.325	103.134
-1.43595	-1.43595	-1.43595	-1.43595	-1.43595	121*	11*	-1.43595
71.9879	99.8291	53.0110	100	0	100	100	99.2717
2.54006	0.163833	4.08213	0	100	0	0	0.317232
25.4721	0.00703228	42.9069	0	0	0	0	0.411042
100	100	100	100	100	100	100	100
27.9509	28.0815	27.8616	21.2832	121.397	21.0655	39.6582	41.1793
0.0887317	0.0643460	0.120058	0.0476100	47.7614	0.487112	0.162942	0.0920838
0.940755	0.381970	0.551862	2305.76	352.910	2269.11	6.22329	12.8530
26.2949	10.7263	15.3757	49073.9	42842.4	47799.9	246.804	529.279
296.342	166.697	128.070	1.03075E+06	897.009	98129.0	1514.67	5747.80
36.9465	20.7830	15.9671	128509	111.835	12234.3	188.842	716.608
0.00856803	0.00347884	0.00502614	21.0000	3.21417	20.6661	0.0566793	0.117060
0.108171	0.0522845	0.0551938	279.182	109.375	273.680	1.00197	2.10752
0.716213	0.992576	0.527814	0.996921	0.00554476	0.970980	0.982763	0.981790
			0.734852	0.765791	0.727337	1.36929	
				48.1796			
-61369.3	-15657.1	-45145.8	-8.03721E+07	-3.02247E+07	-7.87052E+07	-300338	-648403
-2333.88	-1459.69	-2936.17	-1637.78	-705.485	-1646.56	-1216.91	-1225.07
0.526154	0.446311	0.580847	0.487015	0.466825	0.506106	0.448341	0.428440
1.20020	1.18959	1.20823	1.23788	1.04698	1.23767	1.12696	1.12823
			0.0108575	0.557912	0.0111916	0.00973875	
			14.2367	0.729235	1.43431	3.73120	
			0.0179812	0.0643388	0.0188509	0.0139282	
				0.00160585			
1161.51	1458.18	958.716	1152.87	6023.50	1142.85	2010.98	2074.63
15480.1	19569.9	12662.4	20486.2	18667.1	20520.6	19069.8	18938.9
1281.75	1598.11	1065.50	1270.71	6437.06	1259.97	2190.96	2259.24
17113.0	21461.4	14117.2	22587.7	19959.8	22630.7	20792.5	20640.6

Water	1	2	3	4
Solved	Solved	Solved	Solved	Solved
--	MIX-100	VRT	VSSL-100	MIX-106
MIX-106	MIX-105	6 Oil Tanks	VSSL-101	VSSL-100
105.4*	97.0693	133.325	103.495	103.503
121.3*	32	11	121	121.3
0	100	0	0	14.9157
100	0	100	2.97368	2.53108
0	0	0	97.0263	82.5532
100	100	100	100	100
18.0153	21.1716	120.186	20.8818	20.9092
61.8874	0.167233	46.8838	58.9364	3.10347
12574.4	2292.91	358.599	12942.5	15211.6
226532	48544.6	43098.6	270262	318062
3660.38	290282	919.264	4585.66	102486
456.359	36191.0	114.610	571.719	12777.5
114.523	20.8829	3.26598	117.875	138.541
452.853*	277.074	110.372	566.960	840.640
0.00652828	0.989458	0.0103510	0.00795522	0.151604
0.992282	0.731001	0.751719	0.944967	
9.98354		48.4716	16.5407	
-1.53886E+09	-7.97237E+07	-3.00047E+07	-1.56883E+09	-1.64754E+09
-6793.15	-1642.28	-696.187	-5804.85	-5179.93
0.976808	0.492592	0.484780	0.894300	0.835972
1.32795	1.23829	1.04527	1.28148	1.27395
0.662536	0.0109557	0.468519	0.640653	
0.668323	4.08975	0.623855	0.678607	
0.362203	0.0182425	0.0629221	0.300836	
0.00476986		0.00148846?	0.00411855?	
0	1147.70	5964.35	169.275	314.503
-1059.76	20503.0	18670.1	2163.01	4921.86
50.3100	1265.17	6374.53	229.810	383.478
0	22608.9	19965.2	3263.09	6173.74

Process Streams		Blower Disch	Gas	HT Gas	HT Oil	HT PW
Composition	**Status:**	Solved	Solved	Solved	Solved	Solved
Phase: **Vapor**	**From Block:**	Blower	--	VSSL-101	VSSL-101	VSSL-101
	To Block:	VRU	MIX-106	MIX-100	VRT	4 PW Tanks
Mole Fraction		%	%	%		
Carbon Dioxide		0.418739	0.111202	0.184280		
Nitrogen		0.00886758	0.499414	0.111239		
Methane		11.9332	78.5947	45.6055		
Ethane		24.4586	10.8302	18.7027		
Propane		25.4796	4.70621	13.4869		
Isobutane		5.33696	0.819119	2.75373		
n-Butane		12.6131	1.69285	6.30203		
Isopentane		3.68475	0.540122	1.92293		
n-Pentane		4.07588	0.591751	2.18856		
i-Hexane		4.85916	1.61441	2.72874		
C7+		0.554644	0	0.539868		
Water		6.57657	0	5.47348		
Molar Flow		lbmol/h	lbmol/h	lbmol/h		
Carbon Dioxide		0.0268366	2.54373	0.0438646		
Nitrogen		0.000568314	11.4241	0.0264785		
Methane		0.764785	1797.85	10.8556		
Ethane		1.56752	247.741	4.45184		
Propane		1.63296	107.654	3.21032		
Isobutane		0.342040	18.7373	0.655475		
n-Butane		0.808361	38.7237	1.50008		
Isopentane		0.236151	12.3552	0.457719		
n-Pentane		0.261219	13.5363	0.520947		
i-Hexane		0.311418	36.9295	0.649527		
C7+		0.0355465	0	0.128506		
Water		0.421485	0	1.30286		
Mass Fraction		%	%	%		
Carbon Dioxide		0.430205	0.224523	0.259205		
Nitrogen		0.00579904	0.641844	0.0995962		
Methane		4.46902	57.8452	23.3834		
Ethane		17.1686	14.9403	17.9739		
Propane		26.2285	9.52072	19.0076		
Isobutane		7.24138	2.18420	5.11543		
n-Butane		17.1139	4.51401	11.7069		
Isopentane		6.20614	1.78782	4.43416		
n-Pentane		6.86492	1.95872	5.04668		
i-Hexane		9.77528	6.38263	7.51561		
C7+		1.73040	0	2.30597		
Water		2.76583	0	3.15155		
Mass Flow		lb/h	lb/h	lb/h		
Carbon Dioxide		1.18106	111.948	1.93046		
Nitrogen		0.0159204	320.027	0.741752		
Methane		12.2690	28841.9	174.150		
Ethane		47.1339	7449.33	133.862		
Propane		72.0063	4747.08	141.561		
Isobutane		19.8801	1089.05	38.0977		
n-Butane		46.9837	2250.71	87.1882		
Isopentane		17.0380	891.416	33.0239		
n-Pentane		18.8466	976.625	37.5857		
i-Hexane		26.8366	3182.41	55.9732		
C7+		4.75055	0	17.1739		
Water		7.59317	0	23.4715		

O W&B	OB	Oil	OT Emissions	OT Flash	OW	PW	PW W&B	PWB
Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
MIX-101	6 Oil Tanks	--	MIX-102	6 Oil Tanks	6 Oil Tanks	4 PW Tanks	MIX-103	4 PW Tanks
MIX-102	MIX-101	MIX-106	Blower	MIX-102	MIX-101	--	MIX-104	MIX-103
%	%		%	%	%		%	%
0.104774	0.104774		0.109067	0.110720	0.104774		6.46980	6.46980
0.000218380	0.000218380		0.00286585	0.00388572	0.000218380		0.0341084	0.0341084
2.37468	2.37468		7.62716	9.65055	2.37468		45.2857	45.2857
31.3790	31.3790		24.7649	22.2170	31.3790		26.5212	26.5212
31.4866	31.4866		27.3416	25.7449	31.4866		10.6999	10.6999
6.01934	6.01934		5.87322	5.81694	6.01934		0.863353	0.863353
13.9969	13.9969		13.6371	13.4985	13.9969		4.31824	4.31824
4.04945	4.04945		4.06367	4.06916	4.04945		0.562151	0.562151
4.50221	4.50221		4.54064	4.55545	4.50221		0.203886	0.203886
5.47715	5.47715		5.44089	5.42692	5.47715		0.308727	0.308727
0.586835	0.586835		0.718033	0.768575	0.586835		0.418215	0.418215
0.0228847	0.0228847		5.88077	8.13738	0.0228847		4.31479	4.31479
lbmol/h	lbmol/h		lbmol/h	lbmol/h	lbmol/h		lbmol/h	lbmol/h
0.00165762	7.01570E-05		0.00620478	0.00454716	0.00158746		0.0191647	0.000237438
3.45496E-06	1.46228E-07		0.000163038	0.000159583	3.30873E-06		0.000101035	1.25176E-06
0.0375696	0.00159009		0.433908	0.396338	0.0359795		0.134144	0.00166196
0.496444	0.0210115		1.40887	0.912429	0.475433		0.0785602	0.000973311
0.498145	0.0210835		1.55546	1.05732	0.477062		0.0316948	0.000392678
0.0952313	0.00403056		0.334127	0.238896	0.0912007		0.00255740	3.16845E-05
0.221443	0.00937234		0.775813	0.554370	0.212070		0.0127914	0.000158477
0.0640658	0.00271152		0.231182	0.167116	0.0613543		0.00166519	2.06306E-05
0.0712290	0.00301469		0.258316	0.187088	0.0682143		0.000603945	7.48250E-06
0.0866533	0.00366751		0.309531	0.222878	0.0829858		0.000914501	1.13301E-05
0.00928425	0.000392946		0.0408488	0.0315646	0.00889131		0.00123882	1.53482E-05
0.000362056	1.53236E-05		0.334556	0.334194	0.000346732		0.0127812	0.000158350
%	%		%	%	%		%	%
0.0979849	0.0979849		0.106593	0.110119	0.0979849		10.1758	10.1758
0.000129998	0.000129998		0.00178282	0.00245995	0.000129998		0.0341476	0.0341476
0.809535	0.809535		2.71721	3.49875	0.809535		25.9636	25.9636
20.0502	20.0502		16.5366	15.0971	20.0502		28.5000	28.5000
29.5039	29.5039		26.7738	25.6552	29.5039		16.8619	16.8619
7.43447	7.43447		7.58067	7.64057	7.43447		1.79334	1.79334
17.2875	17.2875		17.6017	17.7304	17.2875		8.96977	8.96977
6.20846	6.20846		6.51084	6.63472	6.20846		1.44949	1.44949
6.90262	6.90262		7.27504	7.42762	6.90262		0.525713	0.525713
10.0299	10.0299		10.4122	10.5688	10.0299		0.950802	0.950802
1.66656	1.66656		2.13098	2.32125	1.66656		1.99746	1.99746
0.00876081	0.00876081		2.35269	3.31295	0.00876081		2.77801	2.77801
lb/h	lb/h		lb/h	lb/h	lb/h		lb/h	lb/h
0.0729510	0.00308757		0.273069	0.200118	0.0698634		0.843427	0.0104495
9.67852E-05	4.09633E-06		0.00456724	0.00447045	9.26889E-05		0.00283033	3.50661E-05
0.602709	0.0255090		6.96095	6.35824	0.577200		2.15200	0.0266619
14.9276	0.631795		42.3634	27.4359	14.2958		2.36223	0.0292665
21.9660	0.929689		68.5891	46.6230	21.0363		1.39760	0.0173154
5.53505	0.234265		19.4202	13.8851	5.30079		0.148642	0.00184158
12.8707	0.544741		45.0920	32.2212	12.3260		0.743462	0.00921102
4.62227	0.195633		16.6795	12.0572	4.42664		0.120141	0.00148847
5.13908	0.217506		18.6372	13.4981	4.92158		0.0435739	0.000539853
7.46738	0.316049		26.6740	19.2066	7.15133		0.0788075	0.000976375
1.24078	0.0525145		5.45916	4.21838	1.18826		0.165560	0.00205118
0.00652253	0.000276059		6.02712	6.02059	0.00624647		0.230256	0.00285273

PWT Emissions	PWT Flash	PWW	Sales Gas	Sales Oil	Separator Gas	VRT Gas	VRU Disch
Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
MIX-104	4 PW Tanks	4 PW Tanks	MIX-105	6 Oil Tanks	VSSL-100	VRT	VRU
Blower	MIX-104	MIX-103	--	--	MIX-100	VRU	MIX-105
%	%	%	%		%	%	%
3.04527	0.379776	6.46980	0.111609		0.109877	0.152979	0.284947
0.0598413	0.0797853	0.0341084	0.496063		0.502822	0.0227033	0.0155274
48.8531	51.5863	45.2857	78.2686		78.9589	22.5988	17.0162
23.4371	21.0191	26.5212	10.9904		10.8428	21.8153	22.9255
11.5166	12.1471	10.6999	4.90586		4.71552	20.4626	22.7792
1.21220	1.48666	0.863353	0.826345		0.783353	4.50824	4.87987
4.93531	5.42344	4.31824	1.76979		1.66773	10.5248	11.4700
0.840034	1.06849	0.562151	0.487523		0.455776	3.28352	3.45308
0.595610	0.923905	0.203886	0.534744		0.498570	3.75048	3.87757
0.754832	1.17061	0.308727	0.622186		0.576851	4.69436	4.73306
0.412247	0.402123	0.418215	0.0955188		0.0860195	0.902627	0.696733
4.33789	4.31273	4.31479	0.891395		0.801801	7.28359	7.86824
lbmol/h	lbmol/h	lbmol/h	lbmol/h		lbmol/h	lbmol/h	lbmol/h
0.0206235	0.00144815	0.0189272	2.57344		2.49321	0.00952035	0.0363576
0.000405263	0.000304235	9.97833E-05	11.4380		11.4096	0.00141289	0.00198120
0.330847	0.196707	0.132482	1804.69		1791.66	1.40639	2.17117
0.158723	0.0801495	0.0775869	253.412		246.034	1.35763	2.92517
0.0779938	0.0463191	0.0313021	113.118		107.000	1.27345	2.90650
0.00820939	0.00566891	0.00252571	19.0535		17.7751	0.280561	0.622643
0.0334233	0.0206805	0.0126329	40.8072		37.8425	0.654986	1.46351
0.00568896	0.00407433	0.00164456	11.2411		10.3420	0.204343	0.440593
0.00403365	0.00352301	0.000596463	12.3299		11.3131	0.233403	0.494755
0.00511194	0.00446376	0.000903171	14.3461		13.0894	0.292144	0.603911
0.00279186	0.00153337	0.00122348	2.20244		1.95187	0.0561731	0.0888991
0.0293774	0.0164452	0.0126228	20.5535		18.1937	0.453279	1.00394
%	%	%	%		%	%	%
4.80162	0.598658	10.1758	0.230786		0.229551	0.169765	0.305737
0.0600596	0.0800559	0.0341476	0.652930		0.668665	0.0160370	0.0106047
28.0788	29.6421	25.9636	58.9960		60.1312	9.14165	6.65534
25.2487	22.6380	28.5000	15.5273		15.4771	16.5405	16.8065
18.1943	19.1855	16.8619	10.1642		9.87081	22.7522	24.4890
2.52425	3.09499	1.79334	2.25667		2.16136	6.60719	6.91492
10.2771	11.2907	8.96977	4.83313		4.60146	15.4249	16.2533
2.17141	2.76123	1.44949	1.65268		1.56102	5.97361	6.07397
1.53959	2.38760	0.525713	1.81275		1.70759	6.82312	6.82064
2.33050	3.61328	0.950802	2.51923		2.35980	10.2006	9.94402
1.97387	1.92491	1.99746	0.599790		0.545722	3.04174	2.27012
2.79985	2.78290	2.77801	0.754528		0.685702	3.30867	3.45585
lb/h	lb/h	lb/h	lb/h		lb/h	lb/h	lb/h
0.907628	0.0637324	0.832977	113.256		109.725	0.418986	1.60008
0.0113528	0.00852266	0.00279527	320.418		319.621	0.0395799	0.0555002
5.30760	3.15567	2.12534	28951.6		28742.6	22.5620	34.8309
4.77264	2.41002	2.33296	7619.85		7398.02	40.8226	87.9570
3.43919	2.04247	1.38029	4987.99		4718.24	56.1534	128.164
0.477148	0.329489	0.146800	1107.43		1033.13	16.3068	36.1894
1.94264	1.20200	0.734251	2371.80		2199.49	38.0692	85.0623
0.410451	0.293958	0.118653	811.033		746.165	14.7431	31.7883
0.291023	0.254181	0.0430341	889.589		816.225	16.8397	35.6960
0.440523	0.384666	0.0778311	1236.28		1127.98	25.1756	52.0423
0.373112	0.204924	0.163509	294.340		260.854	7.50714	11.8807
0.529243	0.296265	0.227403	370.276		327.765	8.16594	18.0863

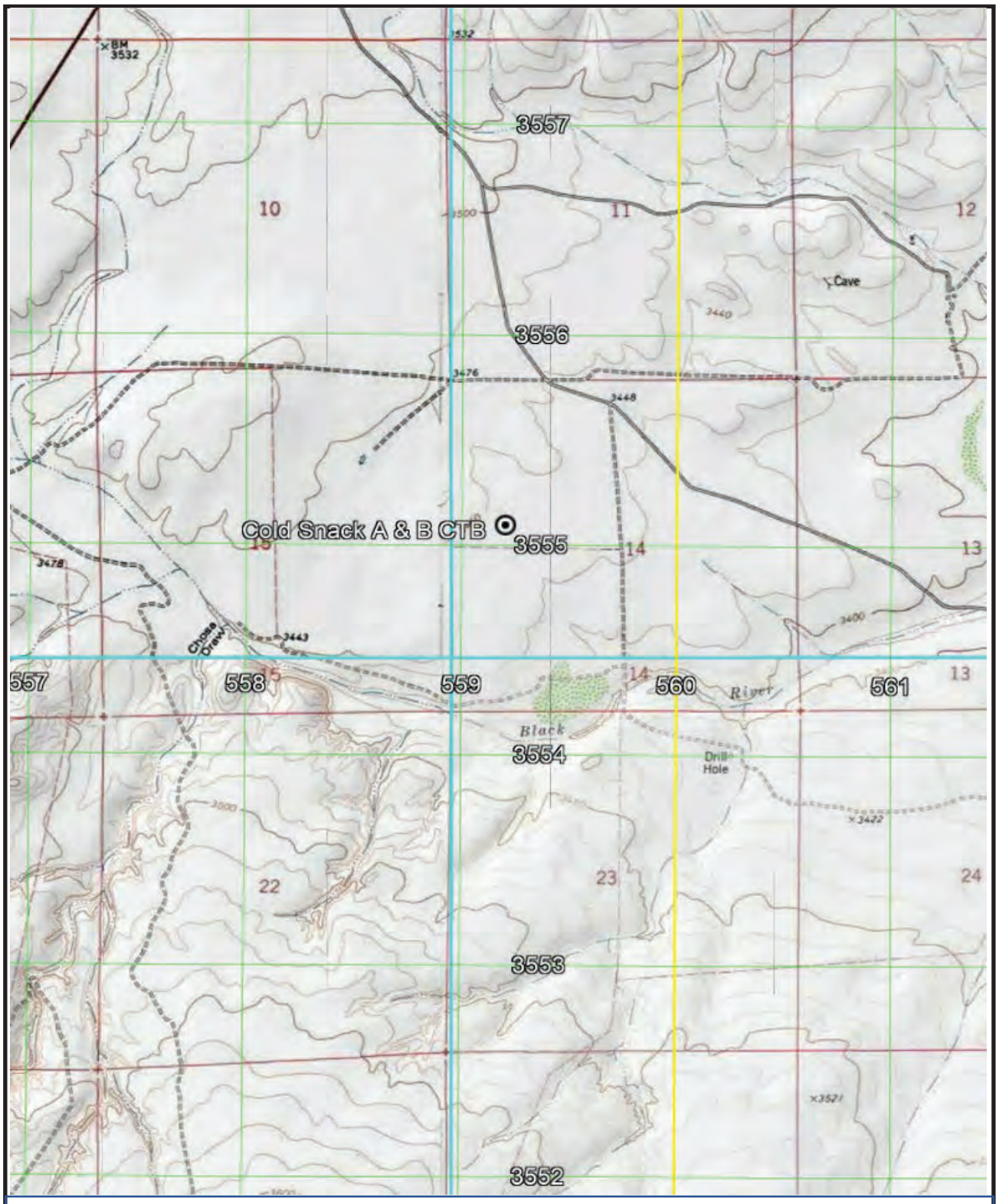
Water	1	2	3	4
Solved	Solved	Solved	Solved	Solved
--	MIX-100	VRT	VSSL-100	MIX-106
MIX-106	MIX-105	6 Oil Tanks	VSSL-101	VSSL-100
	%			%
	0.110649			0.109878
	0.498757			0.502861
	78.6126			78.9640
	10.9244			10.8428
	4.80658			4.71481
	0.803808			0.783071
	1.71584			1.66689
	0.471007			0.455378
	0.516114			0.498068
	0.599190			0.576061
	0.0907310			0.0858898
	0.850298			0.800274
	lbmol/h			lbmol/h
	2.53708			2.49303
	11.4361			11.4095
	1802.52			1791.63
	250.486			246.014
	110.210			106.975
	18.4306			17.7672
	39.3426			37.8204
	10.7998			10.3321
	11.8340			11.3007
	13.7389			13.0704
	2.08038			1.94877
	19.4966			18.1576
	%			%
	0.230006			0.229574
	0.659935			0.668777
	59.5675			60.1406
	15.5154			15.4785
	10.0110			9.87023
	2.20668			2.16078
	4.71047			4.59957
	1.60510			1.55980
	1.75882			1.70602
	2.43890			2.35678
	0.572727			0.544948
	0.723533			0.684459
	lb/h			lb/h
	111.656			109.717
	320.363			319.619
	28916.8			28742.1
	7531.88			7397.41
	4859.80			4717.13
	1071.23			1032.67
	2286.68			2198.20
	779.189			745.452
	853.811			815.335
	1183.95			1126.34
	278.028			260.439
	351.236			327.113

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 2023	Tap Rock Operating, LLC Cold Snack 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.

9589 0710 5270 0051 6319 39

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Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
Carlsbad, NM 88220

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Certified Mail Fee $4.35
$ $0.00
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 $0.66
$
Total Postage and Fees $5.01
$

0161 03
DUFFER, CO 80433
Postmark Here
NOV 08 2023
11/08/2023
USPS

Sent To
EDDY COUNTY CLERK - c/o CARA COOKE
Street and Apt. No., or PO Box No.
101 W GREENE STREET
City, State, ZIP+4®
CARLSBAD, NM 88220

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

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Whites City, NM 88268

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Certified Mail Fee $4.35
$ $0.00
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 $0.66
$
Total Postage and Fees $5.01
$

0161 03
DUFFER, CO 80433
Postmark Here
NOV 08 2023
11/08/2023
USPS

Sent To
PERRY & JANICE LUCAS
Street and Apt. No., or PO Box No.
P.O. BOX 96
City, State, ZIP+4®
WHITES CITY, NM 88268

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

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$ $0.00
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 $0.66
$
Total Postage and Fees $5.01
$

0161 03
DUFFER, CO 80433
Postmark Here
NOV 08 2023
11/08/2023
USPS

Sent To
JOHN BALLARD
Street and Apt. No., or PO Box No.
80 BALLARD RANCH RD
City, State, ZIP+4®
CARLSBAD, NM 88220

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

General Posting of Notices – Certification

I, **Sabrina Pryor**, the undersigned, certify that on November 10, 2023, 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 9, 2023
2. US Post Office November 9, 2023
   23 Carlsbad Cavern Hwy
   Whites City, NM 88268
3. Carlsbad Municipal Building November 9, 2023
   101 N Halagueno St.
   Carlsbad, NM 88220
4. Carlsbad Public Library November 9, 2023
   101 S Halagueno St.
   Carlsbad, NM 88220

Signed this 15 day of NOVEMBER, 2023.

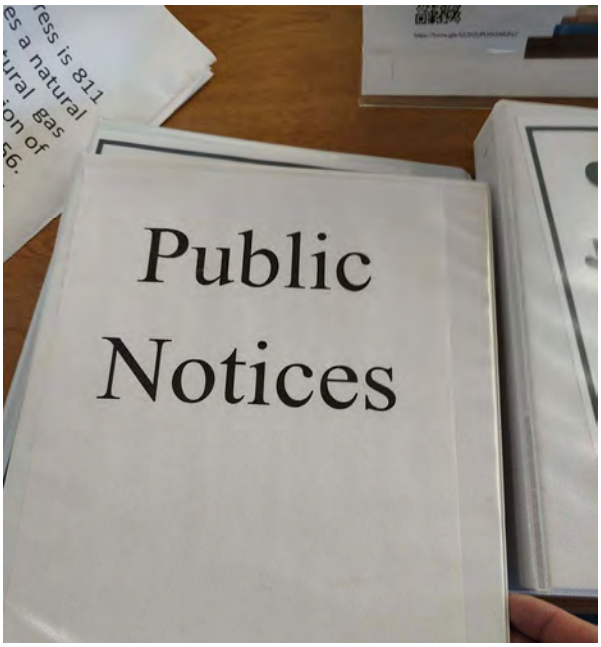
Signature

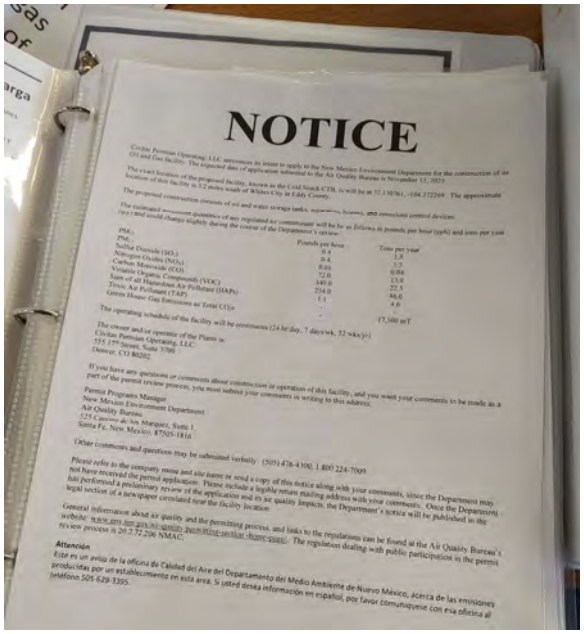
11/15/2023
Date

Sabrina Pryor
Printed Name

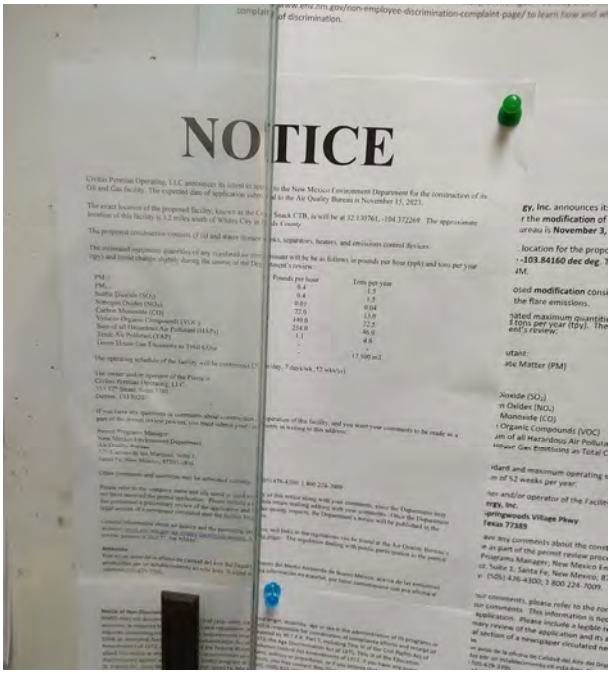
Manager, Air Quality Engineer - Permitting
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

Carlsbad Public Library

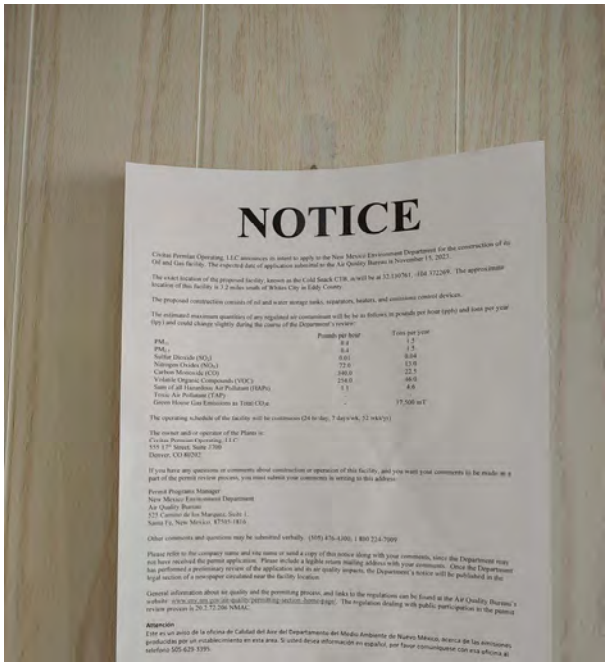




Carlsbad Muncipal Building



Whites City Post Office



Facility Location

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

Account: R091854 *Mill Levy does not include Special District Rates such as Penasco, Carlsbad Soil & Water, Central Valley, Eagle Draw, PVC, Cottonwood, and Hackberry

Tax Summary

Tax Year	Tax Due	Interest Due	Penalty Due	Misc Due	Lien Due	Lien Interest Due	Total Due
2023	$8.38	$0.00	$0.00	$0.00	$0.00	$0.00	$8.38

Tax Details

Tax Year	Type	Effective Date	Amount	Balance
2023	Special Assessment	10/02/2023	$0.26	$0.26
2023	Tax	10/02/2023	$8.12	$8.12
2022	Tax Payment	12/05/2022	$8.12	$0.00
2022	Special Assessment Payment	12/05/2022	$0.26	$0.00
2022	Special Assessment	10/06/2022	$0.26	$0.00
2022	Tax	10/06/2022	$8.12	$0.00
2021	Tax Payment	12/09/2021	$8.12	$0.00
2021	Special Assessment Payment	12/09/2021	$0.26	$0.00
2021	Special Assessment	10/05/2021	$0.26	$0.00
2021	Tax	10/05/2021	$8.12	$0.00
2020	Special Assessment Payment	12/02/2020	$0.26	$0.00
2020	Tax Payment	12/02/2020	$8.12	$0.00
2020	Special Assessment	10/02/2020	$0.26	$0.00
2020	Tax	10/02/2020	$8.12	$0.00
2019	Special Assessment Payment	12/10/2019	$0.26	$0.00
2019	Tax Payment	12/10/2019	$8.12	$0.00
2019	Special Assessment	10/03/2019	$0.26	$0.00
2019	Tax	10/03/2019	$8.12	$0.00
2018	Tax Payment	12/06/2018	$8.16	$0.00
2018	Special Assessment Payment	12/06/2018	$0.26	$0.00
2018	Special Assessment	10/01/2018	$0.26	$0.00
2018	Tax	10/01/2018	$8.16	$0.00
2017	Special Assessment Payment	12/05/2017	$0.26	$0.00
2017	Tax Payment	12/05/2017	$8.16	$0.00
2017	Special Assessment	10/03/2017	$0.26	$0.00
2017	Tax	10/03/2017	$8.16	$0.00
2016	Special Assessment Payment	12/02/2016	$0.26	$0.00
2016	Tax Payment	12/02/2016	$8.28	$0.00
2016	Special Assessment	10/03/2016	$0.26	$0.00
2016	Tax	10/03/2016	$8.28	$0.00

November 7, 2023

John Arthur Ballard
80 Ballard Ranch Road
Carlsbad, NM 88220

CERTIFIED MAIL - 9589 0710 5270 0051 6319 22

Subject: Air Permit Application Notice

Dear Neighbor,

On behalf of Civitas Permian Operating, LLC (Civitas), 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 A – Air Permit Notice

NOTICE

Civitas Permian Operating, LLC announces its intent to apply to the New Mexico Environment Department for the construction of its Oil and Gas facility. The expected date of application submittal to the Air Quality Bureau is November 15, 2023.

The exact location of the proposed facility, known as the Cold Snack CTB, is/will be at 32.131448, -104.373028. The approximate location of this facility is 3.1 miles south of Whites City in Eddy County.

The proposed construction consists of oil and water storage tanks, separators, heaters, and emissions control devices.

The estimated maximum quantities of any regulated air contaminant will be 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:

	Pounds per hour	Tons per year
PM_{10}	0.5	1.5
$PM_{2.5}$	0.5	1.5
Sulfur Dioxide (SO_2)	0.1	0.1
Nitrogen Oxides (NO_X)	150.0	32.0
Carbon Monoxide (CO)	290.0	46.5
Volatile Organic Compounds (VOC)	257.0	56.0
Sum of all Hazardous Air Pollutant (HAPs)	1.0	4.5
Toxic Air Pollutant (TAP)	-	-
Green House Gas Emissions as Total CO_2e	-	17,500 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 Plants is:
Civitas Permian Operating, LLC
555 17th Street, Suite 3700
Denver, CO 80202

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, 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.

November 7, 2023

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

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Public Service Announcement

Civitas Permian Operating, LLC is applying for a construction permit with the New Mexico Environmental Department's Air Quality Bureau. The permit is for the Cold Snack central tank battery located approximately 3.1 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, Sabrina Pryor, the undersigned, certify that on November 10, 2023, submitted a public service announcement 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 15 day of NOVEMBER, 2023.

Signature

11/15/2023
Date

Sabrina Pryor
Printed Name

Manager, Air Quality Engineer - Permitting
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

CARLSBAD
CURRENT-ARGUS

AFFIDAVIT OF PUBLICATION

Ad No.
GCI1124382

CDH CONSULTING LLC
9446 CLERMONT ST
THORNTON, CO 80229
ATTN CHRIS MARTINEZ

I, a legal clerk of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

12/6/2023

Legal Clerk

Subscribed and sworn before me this
6th of December, 2023

State of WI, County of Brown
NOTARY PUBLIC

5.15.27
My Commission Expires

Amount: $516.20
Ad#: GCI1124382-01
P O : NOTICE OF AIR QUALITY PERMIT APPLICATION
# of Affidavits :1

NANCY HEYRMAN
Notary Public
State of Wisconsin

NOTICE OF AIR QUALITY PERMIT APPLICATION

Civitas Permian Operating, LLC announces its intent to apply to the New Mexico Environment Department for the construction of its Oil and Gas facility. The expected date of application submittal to the Air Quality Bureau is November 22, 2023.

The exact location of the proposed facility, known as the Cold Snack CTB, is/will be at 32.130761, -104.372269.

The approximate location of this facility is 3.2 miles south of Whites City in Eddy County.

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Carbon Monoxide (CO)	320.0	22.5
Volatile Organic Compounds (VOC)	254.0	46.0
Sum of all Hazardous Air Pollutant (HAPs)	1.1	4.6
Toxic Air Pollutant (TAP)	-	-
Green House Gas Emissions as Total CO_2e	-	17,500 mT

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

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TX-GCI1124382-01

CARLSBAD
CURRENT-ARGUS

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NOTARY PUBLIC

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NANCY HEYRMAN
Notary Public
State of Wisconsin

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Ad#: GCI1124382-02
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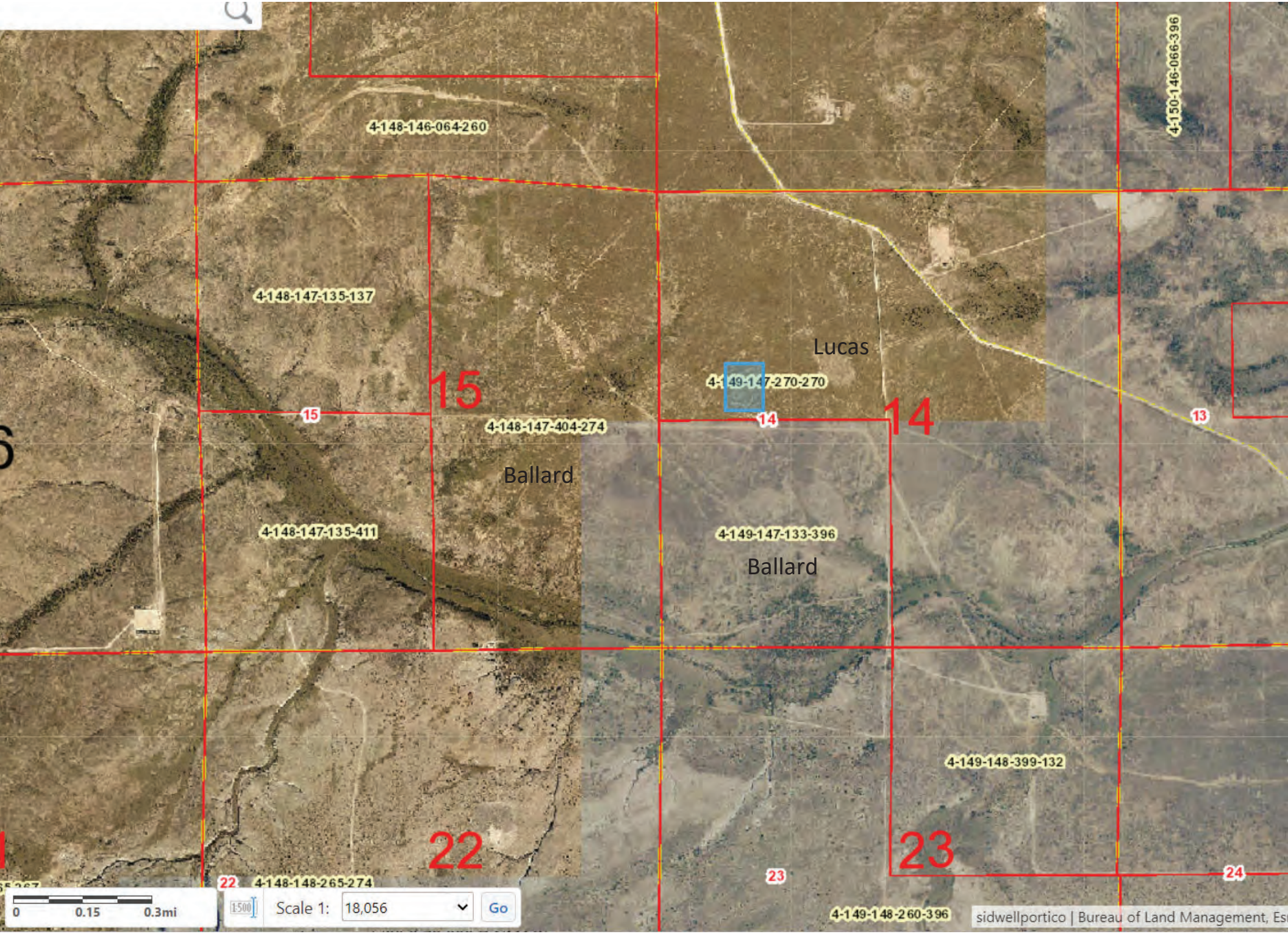
NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordinationof compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40C.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.

TX-GCI1124382-01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Section 10

Written Description of the Routine Operations of the Facility

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

Facility routine operations: Fluids from each wellbore are routed to an initial separator where gas and liquids are separated. Liquids from the initial separators flow to heater treaters (HT 1-2). 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-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 and air/fuel ratio controllers. 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-LP). When enough water has accumulated in the tanks it is piped off-site for disposal. A small amount of truck loading is included for operational flexibility (PWLOAD-1, HR-1). Gas from the 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-LP). When enough oil has accumulated in the tanks it is piped off-site for sale via LACT. A small amount of truck loading is included for operational flexibility (OILLOAD-1, HR-1).

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)**:**

- **There are no surrounding or associated sources within 1.0 miles of the facility.**

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

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

☒ **Yes** ☐ **No**

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

☒ **Yes** ☐ **No**

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

☒ **Yes** ☐ **No**

C. Make a determination:

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

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

Section 12

Section 12.A

PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

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

A. This facility is:

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

B. **This facility is not one of the listed 20.2.74.501 Table I – PSD Source Categories. The "project" emissions for this modification are not significant. The "project" emissions listed below only result from changes described in this permit application, thus no emissions from other modifications past or future 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: 13.35 TPY**
b. **CO: 22.30 TPY**
c. **VOC: 45.95 TPY**
d. **SOx: 0.04 TPY**
e. **PM: 1.47 TPY**
f. **PM10: 1.47 TPY**
g. **PM2.5: 1.47 TPY**
h. **Fluorides: -- TPY**
i. **Lead: -- TPY**
j. **Sulfur compounds (listed in Table 2): -- TPY**
k. **GHG: 19,287.11 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.

Example of a Table for State Regulations:

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	Yes	N/A	Facility is a source of fugitive dust per 20.2.23 NMAC.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No	N/A	This facility does have gas-fired heaters, but they are less than 1,000,000 BTU 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	Compressors 1-2: new FL-LP: existing FUG-1: existing TK 1-6: existing	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 1-2, ENG 1-2, GEN 1-4, FL-LP, FL-HP	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 OOOOa 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 1-2, ENG 1-2, GEN 1-4, FL-LP, FL-HP	Stacks do not exceed GEP height and will be evaluated in the NSR permit.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	ENG 1-2, 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

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

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
40 CFR 50	NAAQS	Yes	Facility	The facility and units within the facility emit criteria pollutants that are subject to

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
				the NAAQS. The facility is subject to 20.2.72 NMAC.
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 OOOOa 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	Yes	FUG-1	This subpart applies to the fugitive emissions at this facility due to the construction of the facility occurring after September 18th, 2015.
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 Combustion Engines	Yes	ENG 1-2, GEN 1-4	Due to the engine size and date of manufacture, these units are subject to this subpart.
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	No	N/A	No applicable units at this facility.
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times	No	N/A	No applicable units at this facility.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
	for Electric Utility Generating Units			
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.
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	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.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
	Internal Combustion Engines (**RICE MACT**)			
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.

Emissions during malfunctions, startup, and/or shutdown will be mitigated by using industry standards and/or manufacturer recommendations.

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:	Cold Snack CTB
2	Name of company:	Civitas Permian Operating, LLC,
3	Current Permit number:	9923
4	Name of applicant's modeler:	CDH Consulting, LLC (Chris Martinez)
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.		
	The facility is currently registered under the GCP-O&G permit. Civitas is requesting a "regular" NSR permit for this facility.		
4	What geodetic datum was used in the modeling?	NAD83	
5	How long will the facility be at this location?	More than one year	
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: 3.8 km Guadalupe Mountains NP: 37.7 km		
10	Is the facility located in a non-attainment area? If so describe below	Yes☐	No☒
11	Describe any special modeling requirements, such as streamline permit requirements.		

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
1	CO			There is no modeling history for this facility as it is not required for the GCP-O&G permit.
	NO_2			
	SO_2			
	H_2S			
	PM2.5			
	PM10			
	Lead			
	Ozone (PSD only)			
	NM Toxic Air Pollutants (20.2.72.402 NMAC)			

16-D: Modeling performed for this application

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

	Pollutant	ROI	Cumulative analysis	Culpability analysis	Waiver approved	Pollutant not emitted or not changed.
	CO	☒	☐	☐	☐	☐
	NO_2	☒	☒	☐	☐	☐
	SO_2	☐	☐	☐	☐	☒
	H_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	November 2, 2023

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
1767E1	UTMs incorrect – moved to lat/lon location
26530E1	UTMs incorrect – moved to lat/lon location

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.					
	Facility is constructed on a raised, leveled pad with steep grade and perimeter ditch and berm.					
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.					
	50m spacing					
	Describe the PSD Class I area receptors.					

6	Receptors on 500m spacing on area boundary (Eastern portion) as well as 1,000m grid inside the 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 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. Refined model for NAAQS used with surrounding sources and significant receptors. Results below NAAQS. Refined model for Class I increment used with surrounding sources and significant receptors. 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	Yes☐ / No☒

	considered to emit significant amounts of precursors and must account for secondary formation of PM2.5.		
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-HP SSM	FL-HP
FL-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

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☐

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	70,620,062	7.415
	FL-LP	42.61	1,085,682	0.863

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 ~10m)		

16-U: Modeling Files

1	Describe the modeling files: AERMOD input/output, plot files, sources, receptors, BPIPPRIME input/output

	File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
	Cold Snack CO SIL	CO	SIA
	Cold Snack NO2 SIL	NO2	SIA
	Cold Snack PM10 SIL	PM 10	SIA
	Cold Snack PM25 SIL	PM 2.5	SIA
	Cold Snack NO2 NAAQS	NO2	Cumulative NAAQS and Class II Increment
	Cold Snack NO2 CL1	NO2	Cumulative Class I Increment
	Cold Snack PM10 NAAQS CL2 REV1	PM 10	Cumulative NAAQS and Class II Increment
	Cold Snack PM25 NAAQS CL2 REV1	PM 2.5	Cumulative NAAQS and Class II Increment

16-V: PSD New or Major Modification Applications - NA

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)
NO2 1-hr	53.30	53.36			53.36	188.03	28.4%	559,246.4	3,555,028.3	1,052.81
CO 8-hr	157.5	Less than SIL (500) – No further modeling conducted								
CO 1-hr	944.4	Less than SIL (2,000) – No further modeling conducted								
PM 10 24-hr	6.829	6.832		100.7	107.53	150	71.7%	559,284.5	3,555,066.4	1,052.92
PM 2.5 24-hr	6.829			16.5	23.33	35	70.7%	559,284.5	3,555,066.4	1,052.92
NO2 Class I Increment (annual)	0.13	0.798		-	0.798	2.5	31.9%	558,109.0	3,559,023.0	1,097.95
PM10 Class II Increment (annual)	0.902	1.154		-	1.154	17.0	6.8%	559,132.1	3,555,142.6	1,054.08
PM10 Class II Increment (24-hr)	6.419	6.428		-	6.428	30.0	21.4%	559,284.5	3,555,066.4	1,052.92
PM2.5 Class II Increment (annual)	0.902	1.032		-	1.032	4.0	25.8%	559,132.1	3,555,142.6	1,054.08
PM2.5 Class II Increment (24-hr)	5.390	5.481		-	5.481	9.0	60.9%	559,284.5	3,555,066.4	1,052.92

16-X: Summary/conclusions

1	A statement that modeling requirements have been satisfied and that the permit can be issued.
	Modeling requirements have been met and all concentrations are below applicable standards.

Section 17

Compliance Test History

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

To show compliance with existing NSR permits conditions, you must submit a compliance test history. The table below provides an example.

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

Compliance Test History Table

Unit No.	Test Description	Test Date
N/A	N/A	N/A

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.

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

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**
Civitas Permian Operating, LLC		November 2023
Permittee/Company Contact	**Phone**	**Email**
Sabrina Pryor	(303) 242-1187	spryor@civiresources.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.	

Section 22: Certification

Company Name: Civitas Permian Operating, LLC

I, Sabrina Pryor, 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 15 day of NOVEMBER, 2023, upon my oath or affirmation, before a notary of the State of COLORADO.

Sabrina Pryor
*Signature

11/15/2023
Date

Sabrina Pryor
Printed Name

Manager, Air Quality Engineer - Permitting
Title

Scribed and sworn before me on this 15th day of November, 2023.

My authorization as a notary of the State of Colorado expires on the 17th day of October, 2026.

Kathleen F Vogel
Notary's Signature

11-15-2023
Date

Kathleen F. Vogel
Notary's Printed Name

KATHLEEN FAY VOGEL
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20144040717
MY COMMISSION EXPIRES OCTOBER 17, 2026

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