



**DJR Operating, LLC
Marcus Compressor Station
Construction Permit Application**

June 2020

Prepared for:

DJR Operating, LLC
1 Road 3263
Aztec, NM 87410



Prepared by:

Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109



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

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

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

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

Acknowledgements:

I acknowledge that a pre-application meeting is available to me upon request. Title V Operating, Title IV Acid Rain, and NPR applications have no fees.
 \$500 NSR application Filing Fee enclosed **OR** The full permit fee associated with 10 fee points (required w/ streamline applications).
 Check No.: [REDACTED] in the amount of **\$500.00**
 I acknowledge the required submittal format for the hard copy application is printed double sided 'head-to-toe', 2-hole punched (except the Sect. 2 landscape tables is printed 'head-to-head'), numbered tab separators. Incl. a copy of the check on a separate page.
 This facility qualifies to receive assistance from the Small Business Environmental Assistance program (SBEAP) and qualifies for 50% of the normal application and permit fees. Enclosed is a check for 50% of the normal application fee which will be verified with the Small Business Certification Form for your company.
 This facility qualifies to receive assistance from the Small Business Environmental Assistance Program (SBEAP) but does not qualify for 50% of the normal application and permit fees. To see if you qualify for SBEAP assistance and for the small business certification form go to https://www.env.nm.gov/aqb/sbap/small_business_criteria.html).

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

Section 1 – Facility Information

Section 1-A: Company Information		AI# if known (see 1 st 3 to 5 #s of permit IDEA ID No.):	Updating Permit/NOI #: GCP-1 3280M1
1	Facility Name: Marcus Compressor Station	Plant primary SIC Code (4 digits): 4922 Plant NAIC code (6 digits): 486210	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): From Lybrook, NM, take 550 east until 378. On 378 head north for 1.2 miles and arrive at the Marcus Compressor Station.		
2	Plant Operator Company Name: DJR Operating, LLC	Phone/Fax: (505) 330-2736	
a	Plant Operator Address: 1 Road 3263, Aztec, NM 87410		
b	Plant Operator's New Mexico Corporate ID or Tax ID: 82-1060212		

3	Plant Owner(s) name(s): DJR Operating, LLC	Phone/Fax: (505) 330-2736
a	Plant Owner(s) Mailing Address(s): 1 Road 3263, Aztec, NM 87410	
4	Bill To (Company): DJR Operating, LLC	Phone/Fax: (505) 330-2736
a	Mailing Address: 1 Road 3263, Aztec, NM 87410	E-mail: DBrown@djrlc.com
5	<input checked="" type="checkbox"/> Preparer: Alliant Environmental, LLC <input checked="" type="checkbox"/> Consultant: Martin R. Schluep	Phone/Fax: (505) 205-4819
a	Mailing Address: 7804 Pan American Fwy. NE, Suite 5, Albuquerque, NM 87109	E-mail: mschluep@alliantenv.com
6	Plant Operator Contact: Dave Brown	Phone/Fax: (505) 330-2736
a	Address: 1 Road 3263, Aztec, NM 87410	E-mail: DBrown@djrlc.com
7	Air Permit Contact: Dave Brown	Title: Manager of Government and Regulatory Affairs
a	E-mail: DBrown@djrlc.com	Phone/Fax: (505) 330-2736
b	Mailing Address: 1 Road 3263, Aztec, NM 87410	
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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.b If yes to question 1.a, is it currently operating in New Mexico? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Is the facility currently shut down? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the permit No. is: P-
7	Has this facility been issued a No Permit Required (NPR)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the NPR No. is:
8	Has this facility been issued a Notice of Intent (NOI)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the NOI No. is:
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the permit No. is: GCP-1 #3280-M1
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the register No. is: GCP-1 #3280-M1

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: 0.25 MMScf/hr	Daily: 6 MMScf/d	Annually: 2,190 MMScf/yr
b	Proposed	Hourly: 0.25 MMScf/hr	Daily: 6 MMScf/d	Annually: 2,190 MMScf/yr
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: 0.25 MMScf/hr	Daily: 6 MMScf/d	Annually: 2,190 MMScf/yr
b	Proposed	Hourly: 0.25 MMScf/hr	Daily: 6 MMScf/d	Annually: 2,190 MMScf/yr

Section 1-D: Facility Location Information

1	Section: 11	Range: 7W	Township: 23N	County: Rio Arriba	Elevation (ft): 7,084
2	UTM Zone: <input type="checkbox"/> 12 or <input checked="" type="checkbox"/> 13			Datum: <input type="checkbox"/> NAD 27 <input checked="" type="checkbox"/> NAD 83 <input type="checkbox"/> WGS 84	
a	UTM E (in meters, to nearest 10 meters): 271,982.94 m			UTM N (in meters, to nearest 10 meters): 4,014,153.97 m	
b	AND Latitude (deg., min., sec.): 36°14'43.44"N			Longitude (deg., min., sec.): -107°32'15.25"W	
3	Name and zip code of nearest New Mexico town: Lybrook, NM (no Zip Code)				
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): From Lybrook, NM, take 550 east until 378. On 378 head north for 1.2 miles and arrive at the Marcus Compressor Station.				
5	The facility is 1.2 miles north of Lybrook, NM.				
6	Status of land at facility (check one): <input checked="" type="checkbox"/> Private <input type="checkbox"/> Indian/Pueblo <input type="checkbox"/> Federal BLM <input type="checkbox"/> Federal Forest Service <input type="checkbox"/> Other (specify)				
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: State of New Mexico, Rio Arriba County, San Juan County, Sandoval County, Bureau of Land Management, Navajo Nation, Jicarilla Apache Nation. Detailed Information Is provided In Section 9.				
8	20.2.72 NMAC applications only: Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.env.nm.gov/aqb/modeling/classIareas.html)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers:				
9	Name nearest Class I area: San Pedro Parks Wilderness (over 67 km from the site)				
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 67.71 km				
11	Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence, school or occupied structure: 1.71 km				
12	Method(s) used to delineate the Restricted Area: Fencing and Entrance Gate "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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, what is the name and permit number (if known) of the other facility?				

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

1	Facility maximum operating ($\frac{\text{hours}}{\text{day}}$): 24	($\frac{\text{days}}{\text{week}}$): 7	($\frac{\text{weeks}}{\text{year}}$): 52	($\frac{\text{hours}}{\text{year}}$): 8,760
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start: N/A		<input type="checkbox"/> AM <input type="checkbox"/> PM	End: N/A <input type="checkbox"/> AM <input type="checkbox"/> PM
3	Month and year of anticipated start of construction: Site is already constructed under GCP-1			
4	Month and year of anticipated construction completion: Site is already constructed under GCP-1			
5	Month and year of anticipated startup of new or modified facility: Site is already operational under GCP-1			
6	Will this facility operate at this site for more than one year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, specify:		
a	If yes, NOV date or description of issue: N/A	NOV Tracking No: N/A	
b	Is this application in response to any issue listed in 1-F, 1 or 1a above? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
a	If Yes, what type of source? <input type="checkbox"/> Major (≥ 10 tpy of any single HAP OR ≥ 25 tpy of any combination of HAPS) OR <input checked="" type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> I have filled out Section 18, "Addendum for Streamline Applications." <input type="checkbox"/> N/A (This is not a Streamline application.)
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Section 1-H: Current Title V Information - Required for all applications from TV Sources

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

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

7	<p>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:</p>
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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-toe 2-hole punched copy required in 1) above. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.
- 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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Table 2-A: Regulated Emission Sources

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

Unit Number ¹	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture ²	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
							Date of Construction/Reconstruction ²	Emissions vented to Stack #				
CMP-1	Caterpillar G3516LE	Caterpillar	G3516LE	4EK02158	1340 hp	1340 hp	6/18/1998	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SLB	N/A
							8/19/2009	CMP-1				
CMP-2	Waukesha 5790GL	Waukesha	5790GL	400399	1190 hp	1190 hp	9/6/2005	N/A	20200254	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SLB	N/A
							8/19/2009	CMP-2				
DEHY-1	TEG Glycol Unit	N/A	N/A	N/A	1.8 MMScf/d	1.8 MMScf/d	8/19/2009	BTEX-1	31000301	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
							8/19/2009	DEHY-1				
D-1	Glycol Reboiler	N/A	N/A	N/A	0.25 MMBtu/hr	0.25 MMBtu/hr	8/29/2009	N/A	31000227	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
							8/19/2009	D-1				
TK-1	400-BBL Condensate Storage Tank	N/A	N/A	N/A	400 BBL	400 BBL	8/19/2009	N/A	40400312	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
							8/19/2009	TK-1				
TK-2	400-BBL Condensate Storage Tank	N/A	N/A	N/A	400 BBL	400 BBL	8/19/2009	N/A	40400312	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
							8/19/2009	TK-2				
TK-3	210-BBL Produced Water Storage Tank	N/A	N/A	N/A	210 BBL	210 BBL	8/19/2009	N/A	40400312	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
							8/19/2009	TK-3				
LOAD-COND	Condensate Truck Loading	N/A	N/A	N/A	459,900 gal/yr	459,900 gal/yr	8/19/2009	N/A	30205052	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
							8/19/2009	N/A				
LOAD-WATER	Produced Water Truck Loading	N/A	N/A	N/A	18,396 gal/yr	18,396 gal/yr	8/19/2009	N/A	30205052	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
							8/19/2009	N/A				
FUG	Fugitives	N/A	N/A	N/A	N/A	N/A	8/19/2009	N/A	2310011500	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
							8/19/2009	N/A				
SSM	Startup, Shutdown, Maintenance	N/A	N/A	N/A	N/A	N/A	8/19/2009	N/A	31088811	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
							8/19/2009	N/A				
M	Malfunction	N/A	N/A	N/A	N/A	N/A	8/19/2009	N/A	31088811	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
							8/19/2009	N/A				
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		

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

² Specify dates required to determine regulatory applicability.

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

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

Table 2-B: Insignificant Activities¹ (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 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/air-quality/air-quality-title-v-operating-permits-guidance-page/>. TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)	Date of Manufacture /Reconstruction ²	For Each Piece of Equipment, Check One
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction ²	
Haul Road	Haul Road	N/A	N/A	N/A	20.2.72.202.B(5) NMAC	N/A	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
			N/A	N/A	N/A	N/A	
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> 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
BTEX-1	Condenser	8/19/2009	VOC, HAP	DEHY-1	98%	GlyCalc

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 ₂ S		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

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 ₂ S		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
CMP-1	5.54	24.26	7.02	30.73	1.40	6.15	0.01	0.06	0.10	0.43	0.10	0.43	0.10	0.43	--	--	--	--
CMP-2	4.92	21.54	8.69	38.06	3.28	14.36	0.01	0.06	0.09	0.41	0.09	0.41	0.09	0.41	--	--	--	--
DEHY-1	--	--	--	--	0.07	0.30	--	--	--	--	--	--	--	--	--	--	--	--
D-1	0.02	0.11	0.02	0.09	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	--	--	--	--
TK-1	--	--	--	--	1.12	4.90	--	--	--	--	--	--	--	--	--	--	--	--
TK-2	--	--	--	--	1.12	4.90	--	--	--	--	--	--	--	--	--	--	--	--
TK-3	--	--	--	--	0.00	0.01	--	--	--	--	--	--	--	--	--	--	--	--
LOAD-COND	--	--	--	--	67.08	1.75	--	--	--	--	--	--	--	--	--	--	--	--
LOAD-WATER	--	--	--	--	1.34	0.00	--	--	--	--	--	--	--	--	--	--	--	--
FUG	--	--	--	--	0.76	3.32	--	--	--	--	--	--	--	--	--	--	--	--
Totals	10.48	45.91	15.73	68.88	76.17	35.69	0.03	0.12	0.19	0.84	0.19	0.84	0.19	0.84	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 scheduled maintenance are no higher than those listed in Table 2-E and a malfunction emission limit is not already permitted or requested. If you are required to report GHG emissions as described in Section 6a, include any GHG emissions during Startup, Shutdown, and/or Scheduled Maintenance (SSM) in Table 2-P. Provide an explanation of SSM emissions in Section 6 and 6a.

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

Unit No.	NOx		CO		VOC		SOx		PM ²		PM10 ²		PM2.5 ²		H ₂ S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
SSM	--	--	--	--	--	10.00	--	--	--	--	--	--	--	--	--	--	--	--
M	--	--	--	--	--	10.00	--	--	--	--	--	--	--	--	--	--	--	--
Totals					0.00	20.00												

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 ₂ S or ☐ Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals:																	

Table 2-H: Stack Exit Conditions

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

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H=Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter (ft)
						(acfs)	(dscfs)			
CMP-1	CMP-1	V	No	25	842	5460			181	0.80
CMP-2	CMP-2	V	No	21	633	5671			188	0.80
D-1	D-1	V	No	10	140	846			40	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 <input checked="" type="checkbox"/> HAP or <input type="checkbox"/> TAP		Acetaldehyde <input checked="" type="checkbox"/> HAP or <input type="checkbox"/> TAP		Acrolein <input checked="" type="checkbox"/> HAP or <input type="checkbox"/> TAP		Methanol <input checked="" type="checkbox"/> HAP or <input type="checkbox"/> TAP		N-Hexane <input checked="" type="checkbox"/> HAP or <input type="checkbox"/> TAP		Benzene <input checked="" type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> 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
CMP-1	CMP-1	0.71	3.09	0.52	2.26	0.08	0.36	0.05	0.22	0.02	0.11	--	--	0.00	0.02				
CMP-2	CMP-2	0.30	1.32	0.19	0.84	0.03	0.11	0.02	0.11	0.03	0.12	--	--	0.01	0.06				
DEHY-1	DEHY-1	0.01	0.03	--	--	--	--	--	--	--	--	--	--	0.01	0.03				
D-1	D-1	5.28E-08	2.31E-07	2.10E-09	9.19E-09	--	--	--	--	--	--	5.04E-08	2.21E-07	5.88E-11	2.57E-10				
TK-1	TK-1	0.07	0.32											0.07	0.32				
TK-2	TK-2	0.07	0.32											0.07	0.32				
TK-3	TK-3	0.0004	0.002											0.0004	0.002				
Fugitives	Fugitives	0.62	2.71									0.62	2.71						
Totals:		1.78	7.78	0.71	3.10	0.11	0.47	0.07	0.33	0.05	0.23	0.62	2.71	0.17	0.75				

Table 2-J: Fuel

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

Unit No.	Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, ...)	Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other	Specify Units				
			Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
CMP-1	Pipeline Quality Natural Gas	Residue Gas	1020	7.77 MScf/hr	68.03 MMScf/yr	NA	NA
CMP-2	Pipeline Quality Natural Gas	Residue Gas	1020	9.13 MScf/hr	79.96 MMScf/yr	NA	NA
D-1	Pipeline Quality Natural Gas	Residue Gas	1020	0.0002 MMScf/hr	2.15 MMScf/yr	NA	NA

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

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

Tank No.	SCC Code	Material Name	Composition	Liquid Density (lb/gal)	Vapor Molecular Weight (lb/lb*mol)	Average Storage Conditions		Max Storage Conditions	
						Temperature (°F)	True Vapor Pressure (psia)	Temperature (°F)	True Vapor Pressure (psia)
TK-1	40400312	Condensate	mixed hydrocarbon / condensate	7.1	64	80	4		5.3
TK-2	40400312	Condensate	mixed hydrocarbon / condensate	7.1	64	80	4		5.3
TK-3	40400312	Produced Water	Produced Water / low hydrocarbon content	8.3	74	80	0		0

Table 2-L: Tank Data

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

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M ³)			Roof	Shell			
TK-1	8/19/2009	Condensate	NA	FX	400	64	3.66	2	Green	Green	Good	229,950	14
TK-2	8/19/2009	Condensate	NA	FX	400	64	3.66	2	Green	Green	Good	229,950	14
TK-3	8/19/2009	Produced Water	NA	FX	210	33	3	2	White	White	Good	18,396	2

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
	Mechanical Shoe Seal	Liquid-mounted resilient seal	Vapor-mounted resilient seal	Seal Type		
FX: Fixed Roof					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 M³ = 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)
Natural Gas	Natural Gas	Gas	6 MMScf/d	Natural Gas	Natural Gas	Gas	6 MMScf/d
				Condensate	Condensate	Liquid	459,900 gal/yr
				Produced Water	Produced Water	Liquid	18,396 gal/yr

Table 2-N: CEM Equipment

Enter Continuous Emissions Measurement (CEM) Data in this table. If CEM data will be used as part of a federally enforceable permit condition, or used to satisfy the requirements of a state or federal regulation, include a copy of the CEM's manufacturer specification sheet in the Information Used to Determine Emissions attachment. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary. **Not Applicable**

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

Table 2-O: Parametric Emissions Measurement Equipment

Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary. **Not Applicable**

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

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.

Unit No.	GWPs ¹	CO ₂ ton/yr	N ₂ O ton/yr	CH ₄ ton/yr	SF ₆ ton/yr	PFC/HFC ton/yr ²										Total GHG Mass Basis ton/yr ⁴	Total CO ₂ e ton/yr ⁵
		1	298	25	22,800	footnote 3											
CMP-1	mass GHG	5,013	0.01	0.09												5,013	
	CO ₂ e	5,013	2.82	2.36													5,018
CMP-2	mass GHG	4,770	0.01	0.09												4,770	
	CO ₂ e	4,770	2.68	2.25													4,775
DEHY-1	mass GHG	0	0	0.37												0.37	
	CO ₂ e	0	0	9.15													9
D-1	mass GHG	128	0.0002	0.002												128	
	CO ₂ e	128	0.07	0.06													128
	mass GHG																
	CO ₂ e																
	mass GHG																
	CO ₂ e																
	mass GHG																
	CO ₂ e																
	mass GHG																
	CO ₂ e																
	mass GHG																
	CO ₂ e																
Total	mass GHG	9,911	0.02	0.55												9,912	
	CO ₂ e	9,911	5.57	13.82													9,930

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 CO₂e means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the green house gas by its GWP.

Section 3

Application Summary

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

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

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

DJR Operating, LLC (DJR) owns and operates the Marcus Compressor Station located in Rio Arriba County, NM. The Marcus Compressor Station currently operates under permit GCP-1-3280-M1. NMED is requiring sites permitted under a GCP-1 or GCP-4 to convert their permit to a GCP-Oil & Gas (if able to qualify under the new permit) as the GCP-1 and GCP-4 are set to expire in the next few years. As such, DJR is submitting this application pursuant to 20.2.72.219.D NMAC.

The Rincon Compressor Station, owned and operated by Harvest Midstream, was granted a construction permit by NMED and authorized to operate its facility near the Marcus Compressor Station. Unfortunately, the distance limitation in the Oil & Gas GCP of 150 meters between the Marcus Compressor Station engine stack and the closest stack at the Rincon Compressor Station emitting greater than 25 tpy can't be met, even though the Marcus Compressor Station was constructed years before the Rincon Compressor Station. This is the reason why DJR is not allowed to transform the existing GCP-1 to the new Oil & Gas GCP.

The Marcus Compressor Station compresses natural gas to facilitate the transport of the natural gas via pipeline. The facility includes the following regulated emission sources:

- Two (2) compressor engines (Unit: CMP-1 & CMP-2);
- Three (3) storage tanks (Units: TK1, TK2 & TK-3);
- One (1) Dehydration Unit (Unit: DEHY-1);
- One (1) Reboiler (Unit: D-1);
- Condensate Truck loading (Unit: LOAD-COND)
- Produced Water Truck Loading (Unit: LOAD-WATER)
- Facility-wide fugitive emissions (Unit: FUG);
- Startup, shutdown, maintenance, and malfunction emissions (Units SSM and M)

The Marcus Compressor Station is a natural gas compressor station with natural gas entering the station through an inlet separator. The gas from the inlet separator is sent to the compressor engines where the gas is compressed then sent to the dehydration unit. Once the gas passes through the dehydration unit, it is sent off site via pipeline. The liquids from inlet separator are sent to the condensate tanks and water storage tank. Please see attached process flow diagram.

SSM Summary:

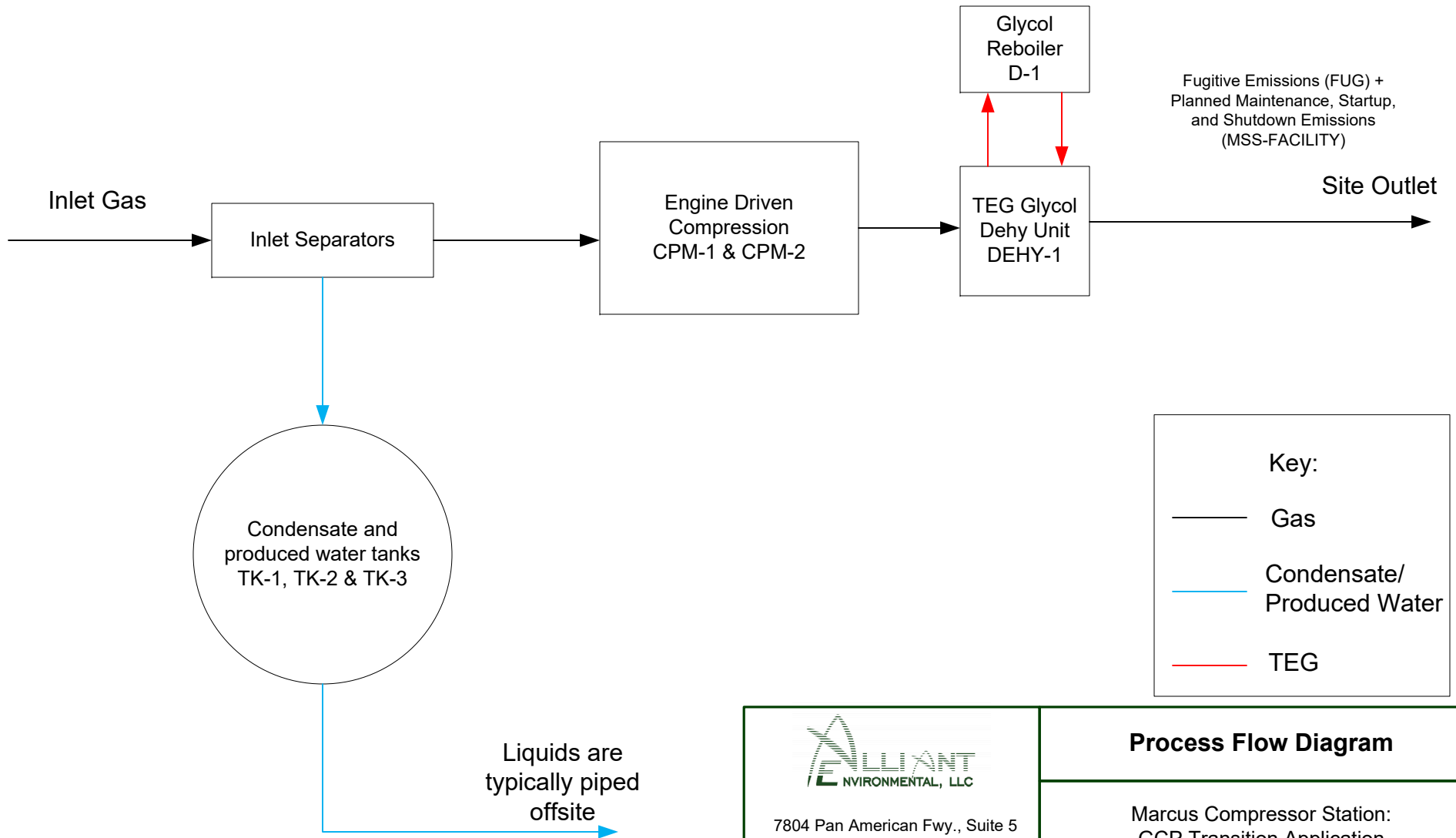
DJR is requesting facility-wide emissions from SSM and malfunctions. This will be represented under two unit IDs: SSM and M. A 10 tpy limit for SSM and a 10 tpy limit for M. Per "Implementation Guidance for Permitting SSM/M Emissions and Excess Emissions" document issued 10 January 2011, instead of permitting SSM and upset/malfunction emissions separately, the applicant may request that emissions from both SSM and upset/malfunction be consolidated in the permit with a total limit of 10 tons per year per facility for the combined category to reduce concerns about the appropriateness of activities listed as SSM and M.


Section 4

Process Flow Sheet

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

A process flow diagram is shown on the following page.



 7804 Pan American Fwy., Suite 5 Albuquerque, NM 87109			Process Flow Diagram		
			Marcus Compressor Station: GCP Transition Application		
			DJR Operating, LLC		
Scale: Drawing Not to Scale	Drawn by: MLS	Date: 4/30/2020	Project No.:	File Name:	Figure:
	Chk'd by:	Date:	077-012	Marcus Figures	

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.

An up-to-date plot plan is shown on the following page.

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 rationale for why the others are reported as zero (or left blank in the SSM/GHG Tables). Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on calculating SSM emissions. If SSM emissions are greater than those reported in the Section 2, Requested Allowables Table, modeling may be required to ensure compliance with the standards whether the application is NSR or Title V. Refer to the Modeling Section of this application for more guidance on modeling requirements.

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

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

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

Significant Figures:

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

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

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

- (1) If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;
- (2) If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**
- (3) If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.
- (4) The final result of the calculation shall be expressed in the units of the standard.

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

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

Compressor Engines (CMP-1 and CMP-2):

Emission estimations for NO_x, CO, and VOC are based on engine manufacturer emission factors and a 25% safety factor. AP-42 emission factors were used for SO₂, PM, Hazardous Air Pollutants (HAPs) including formaldehyde, and Greenhouse House Gas (GHG) emissions.

Glycol Reboiler (D-1)

The facility operated one 0.25 MMBtu/hr Glycol Reboiler. In accordance with standard NMED permitting procedures, external combustion equipment in boilers and heaters generate emissions of nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC). Emissions are calculated based on AP-42 emission factors for natural gas combustion in small commercial burners. The burner is not be equipped with a catalytic converter or other emission control equipment. Therefore, uncontrolled and controlled emissions from this unit are equivalent.

Condensate Storage Tanks (no changes to these emission units)

There are two (2) 400 barrel stable condensate tanks and one (1) 210 barrel produced water tank permitted at this facility. Volatile Organic Compounds (VOC) from working, breathing and flash emissions from the three tanks were calculated using the E&P TANKS model. These tanks pre-date 40 CFR 40 Subpart OOOO and OOOOa, therefore, these subparts are not applicable.

Glycol Dehydration Units

Emissions from the glycol recovery still consist of water vapor and various volatile organic compounds (VOC), including several hazardous air pollutants (HAPs). The vent stream from the glycol recovery still vents to atmosphere. Maximum emissions from the glycol recovery still are calculated in accordance with department policy using the GRI GlyCalc program.

The composition of the wet gas introduced to the glycol dehydration units was determined using appropriate analytical techniques and this information was entered into GlyCalc to calculate emissions from the glycol recovery still. A copy of the results of the gas analysis is provided in this section, along with a copy of the output report from the GlyCalc simulation. The glycol dehydration unit is equipped with a flash tank. The flash tank off gases are routed to the fuel system or the plant inlet. These emissions are not vented to the atmosphere. The dehy unit is equipped with a BTEX condenser at a 98% control efficiency. The dehy unit is subject to 40 CFR 63 Subpart HH.

Fugitive Emissions (FUG):

Fugitive emissions have been calculated based on an approximate source counts (based on counts from similar facilities), a representative gas analysis, and EPA's Protocol for Equipment Leak Emission Estimates, EPA-453/R-95-017.

Truck Loadout (LOAD-COND and LOAD-WATER):

Loading emissions were estimated using AP-42 Section 5.2, the maximum estimated throughput volume, the bulk liquid temperature, and the vapor pressure for Gasoline (RVP 10) from EPA's TANKS model.

Startup, Shutdown, and Maintenance (SSM):

Per NMED's "Implementation Guidance for Permitting SSM Emissions and Excess Emissions" document issued 10 January 2011, instead of permitting SSM and upset/malfunction emissions separately, the applicant may request that emissions from both SSM and upset/malfunction be consolidated in the permit with a total limit of 10 tons per year per facility for the combined category to reduce concerns about the appropriateness of activities listed as SSM. DJR has elected to request 10 tpy for VOC emissions for SSM/Malfunction.

Emission Summary

Unit No.	Description	NO _x		CO		VOC		SO ₂		PM _{2.5}		Formaldehyde		Total HAP		Total CO _{2e}	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
CMP-1	Caterpillar G3516LE	5.54	24.26	7.02	30.73	1.40	6.15	0.01	0.06	0.10	0.43	0.52	2.26	0.71	3.09	1,145.60	5,017.72
CMP-2	Waukesha L-7042GSI	4.92	21.54	8.69	38.06	3.28	14.36	0.01	0.06	0.09	0.41	0.19	0.84	0.30	1.32	1,090.24	4,775.24
DEHY-1	TEG Glycol Unit	--	--	--	--	0.07	0.30	--	--	--	--	--	--	0.01	0.03	2.09	9.15
D-1	Glycol Reboiler	0.02	0.11	0.02	0.09	0.001	0.01	0.0001	0.001	0.002	0.008	2.10E-09	9.19E-09	5.28E-08	2.31E-07	29.27	128.22
TK-1	400-BBL Condensate Storage Tank	--	--	--	--	1.12	4.90	--	--	--	--	--	--	0.07	0.32	--	--
TK-2	400-BBL Condensate Storage Tank	--	--	--	--	1.12	4.90	--	--	--	--	--	--	0.07	0.32	--	--
TK-3	210-BBL Produced Water Storage Tank	--	--	--	--	0.00	0.01	--	--	--	--	--	--	0.0004	0.002	--	--
LOAD-COND	Condensate Truck Loading	--	--	--	--	67.08	1.75	--	--	--	--	--	--	--	--	--	--
LOAD-WATER	Produced Water Truck Loading	--	--	--	--	1.34	0.001	--	--	--	--	--	--	--	--	--	--
FUG	Fugitives	--	--	--	--	0.76	3.32	--	--	--	--	--	--	0.62	2.71	--	--
SSM	Startup, Shutdown, Maintenance	--	--	--	--	--	10.00	--	--	--	--	--	--	--	--	--	--
M	Malfunction	--	--	--	--	--	10.00	--	--	--	--	--	--	--	--	--	--
Total Project Emissions		10.48	45.91	15.73	68.88	76.17	55.69	0.03	0.12	0.19	0.84	0.71	3.10	1.78	7.78	2,267.20	9,930.34

Notes:

All PM assumed to be PM_{2.5}

SSM/M Emissions: Per "Implementation Guidance for Permitting SSM Emissions and Excess Emissions" document issued 10 January 2011, instead of permitting SSM and upset/malfunction emissions separately, the applicant may request that emissions from both SSM and upset/malfunction be consolidated in the permit with a total limit of 10 tons per year per facility for the combined category to reduce concerns about the appropriateness of activities listed as SSM.

Compressor Engine Emission Calculations

Unit No. CMP-1
Source Description: Natural gas engine
Manufacturer: Caterpillar
Model: G3516TALE DM5155-01
Type burn 4-Stroke Lean-burn
Serial No. 4EK02152
Manufacture Date 6/18/1998

Controls:
Method: None

Specifications
 Site horsepower (hp) 1340 hp

Fuel Consumption
 Fuel Consumption 7301 Btu/hp-hr
 Fuel Heat Value 1020 Btu/scf
 Heat input 9.78 MMBtu/hr
 Fuel consumption 9.59 Mscf/hr
 Fuel consumption 84.02 MMscf/yr

Emission Calculations *Uncontrolled*

NO _x	CO	VOC	SO ₂	PM ₁₀ ¹	PM _{2.5} ²	Formaldehyde	Units	Comments
1.5	1.90	0.38					g/bhp-hr	Manufacturer's Data
			5				gr total sulfur	Mscf pipeline specification
				0.00999	0.00999	0.0528	lb/MMBtu	From AP-42 Table 3.2-2 (7/00)
5.54	7.02	1.40	0.01	0.10	0.10	0.52	lb/hr	Calculated hourly emission rate plus 25% safety factor
24.26	30.73	6.15	0.06	0.43	0.43	2.26	tpy	Annual emission rate (hrs/yr) = 8760

Notes:

1. PM₁₀ = AP-42 PM₁₀ (filterable) + PM (condensable).
2. PM_{2.5} = AP-42 PM_{2.5} (filterable) + PM (condensable).

Compressor Engine HAP Emission Calculations

Unit No.CMP-1

AP-42 Factors for Emission Rates from Table 3.2-2 (7/00)

HAP	lb/MMBtu	Emission rate	
		(lb/hr)	(tpy)
1,1,2,2-Tetrachloroethane	4.00E-05	3.91E-04	1.71E-03
1,1,2-Trichloroethane	3.18E-05	3.11E-04	1.36E-03
1,3-Butadiene	2.67E-04	2.61E-03	1.14E-02
1,3-Dichloropropene	2.64E-05	2.58E-04	1.13E-03
2-Methylnaphthalene	3.32E-05	3.25E-04	1.42E-03
2,2,4-Trimethylpentane	2.50E-04	2.45E-03	1.07E-02
Acenaphthene	1.25E-06	1.22E-05	5.36E-05
Acenaphthylene	5.53E-06	5.41E-05	2.37E-04
Acetaldehyde	8.36E-03	8.18E-02	3.58E-01
Acrolein	5.14E-03	5.03E-02	2.20E-01
Benzene	4.40E-04	4.30E-03	1.89E-02
Benzo(b)fluoranthene	1.66E-07	1.62E-06	7.11E-06
Benzo(e)pyrene	4.15E-07	4.06E-06	1.78E-05
Benzo(g,h,i)perylene	4.14E-07	4.05E-06	1.77E-05
Biphenyl	2.12E-04	2.07E-03	9.08E-03
Carbon tetrachloride	3.67E-05	3.59E-04	1.57E-03
Chlorobenzene	3.04E-05	2.97E-04	1.30E-03
Chloroform	2.85E-05	2.79E-04	1.22E-03
Chrysene	6.93E-07	6.78E-06	2.97E-05
Ethylbenzene	3.97E-05	3.88E-04	1.70E-03
Ethylene dibromide	4.43E-05	4.33E-04	1.90E-03
Flouranthene	1.11E-06	1.09E-05	4.76E-05
Formaldehyde	5.28E-02	5.17E-01	2.26E+00
Methanol	2.50E-03	2.45E-02	1.07E-01
Methylene chloride	2.00E-05	1.96E-04	8.57E-04
n-Hexane	1.11E-03	1.09E-02	4.76E-02
Naphthalene	7.44E-05	7.28E-04	3.19E-03
PAH	2.69E-05	2.63E-04	1.15E-03
Phenanthrene	1.04E-05	1.02E-04	4.46E-04
Phenol	2.40E-05	2.35E-04	1.03E-03
Pyrene	1.36E-06	1.33E-05	5.83E-05
Styrene	2.36E-05	2.31E-04	1.01E-03
Tetrachloroethane	2.48E-06	2.43E-05	1.06E-04
Toluene	4.08E-04	3.99E-03	1.75E-02
Vinyl chloride	1.49E-05	1.46E-04	6.38E-04
Xylene	1.84E-04	1.80E-03	7.88E-03
TOTAL		0.71	3.09

Compressor Engine Emission Calculations

Unit No. CMP-2
 Source Description: Natural gas engine
 Manufacturer: Waukesha
 Model: 5790GL
 Aspiration: TA
 Type burn: 4-Stroke Lean-burn
 Serial No. 400399
 Initial Manufacture Date: 9/8/1988
 Rebuilt Date: 9/6/2005 Modified from GSI to GL, added pre-heat combustion chambers

Controls:

Method: None

Specifications

Site horsepower (hp) 1190 hp

Fuel Consumption

Fuel Consumption 7824 Btu/hp-hr
 Fuel Heat Value 1020 Btu/scf
 Heat input 9.31 MMBtu/hr
 Fuel consumption 9.13 Mscf/hr
 Fuel consumption 79.96 MMscf/yr

Emission Calculations Uncontrolled

NO _x	CO	VOC	SO ₂	PM ₁₀ ¹	PM _{2.5} ²	Formaldehyde	Units	Comments
1.5	2.65	1.00					g/bhp-hr	Per previously authorized GCP-1
			5				gr total sulfur	Mscf pipeline specification
				0.00999	0.00999	0.0205	lb/MMBtu	From AP-42 Table 3.2-3 (7/00)
4.92	8.69	3.28	0.01	0.09	0.09	0.19	lb/hr	Calculated hourly emission rate plus 25% safety factor
21.54	38.06	14.36	0.06	0.41	0.41	0.84	tpy	Annual emission rate 8760

Notes:

1. PM₁₀ = AP-42 PM₁₀ (filterable) + PM (condensable).
2. PM_{2.5} = AP-42 PM_{2.5} (filterable) + PM (condensable).

Compressor Engine HAP Emission Calculations

Unit No.CMP-2

AP-42 Factors for Emission Rates from Table 3.2-2 (7/00)

HAP	lb/MMBtu	Emission rate	
		(lb/hr)	(tpy)
1,1,2,2-Tetrachloroethane	2.53E-05	2.36E-04	1.03E-03
1,1,2-Trichloroethane	1.53E-05	1.42E-04	6.24E-04
1,3-Butadiene	6.63E-04	6.17E-03	2.70E-02
1,3-Dichloropropene	1.27E-05	1.18E-04	5.18E-04
Acetaldehyde	2.79E-03	2.60E-02	1.14E-01
Acrolein	2.63E-03	2.45E-02	1.07E-01
Benzene	1.58E-03	1.47E-02	6.44E-02
Carbon tetrachloride	1.77E-05	1.65E-04	7.22E-04
Chlorobenzene	1.29E-05	1.20E-04	5.26E-04
Chloroform	1.37E-05	1.28E-04	5.59E-04
Ethylbenzene	2.48E-05	2.31E-04	1.01E-03
Ethylene dibromide	2.13E-05	1.98E-04	8.69E-04
Formaldehyde	2.05E-02	1.91E-01	8.36E-01
Methanol	3.06E-03	2.85E-02	1.25E-01
Methylene chloride	4.12E-05	3.84E-04	1.68E-03
Naphthalene	9.71E-05	9.04E-04	3.96E-03
PAH	1.41E-04	1.31E-03	5.75E-03
Styrene	1.19E-05	1.11E-04	4.85E-04
Toluene	5.58E-04	5.20E-03	2.28E-02
Vinyl chloride	7.18E-06	6.68E-05	2.93E-04
Xylene	1.95E-04	1.82E-03	7.95E-03
TOTAL		0.30	1.32

Dehydrator Detail Sheet

Unit No.: DEHY-1
 Source Description: Glycol Dehydrator

Equipment Usage	Glycol Dehydrator		
Equipment Make		Wet Gas Temp	60 Deg.F
Equipment Model		Wet Gas Press	24 psig
Serial Number		Wet gas saturated (Y/N)?	Yes
Installation Date		Water content in Dry Gas	1.1 lb H ₂ O/MMscf
Equipment Configuration	TEG Dehy	% water in Lean Glycol	0 %
Potential Operation	8,760 hr/yr	Lean Glycol Recirculation Rate	3.00 gal/lb H ₂ O
Potential Throughput	1.8 MMScf/day	Pump Make	
Flash Tank Available (Y/N)?	Y	Pump Model	
Flash Tank Controls	N	Regen Controls	No Controls

Dehy Regenerator and Flash Tank Emissions Vented

Pollutant	Estimated Emissions		Source of Emission Factor
	(lb/hr)	(tpy)	
VOC	0.07	0.30	Regen GRI-GLYCalc 4.0 ¹
HAPs (BTEX)	0.01	0.03	Regen GRI-GLYCalc 4.0 ¹
Methane	0.08	0.37	Regen GRI-GLYCalc 4.02

¹ GRI-GLYCalc version 4.0, run 11/09/18

Component	Wet Gas (% Vol.)
Water	0.1370%
Carbon Dioxide	4.2200%
Hydrogen Sulfide	0.0000%
Nitrogen (+ inerts)	0.8990%
Methane	88.3400%
Ethane	5.8800%
Propane	0.4200%
Isobutane	0.0500%
n-Butane	0.1100%
Isopentane	0.0200%
n-Pentane	0.0200%
Other Pentanes	0.0000%
n-Hexane	0.0100%
Methylcyclohexane	0.0000%
Heptanes	0.0100%
2,2,4-Trimethylpentane	0.0000%
Benzene	0.0000%
Toluene	0.0000%
Ethylbenzene	0.0000%
Xylenes	0.0000%
C8+ Heavies	0.0200%
Total	100.1%
VOC	0.66%
HAPs	0.01%

Reboiler Emission Calculations

Unit No.
 Emission Point No. D-1
 Source Description: Glycol Reboiler
 Type Natural Gas Fired Heater
 Manufacture Date
 Rated Capacity 0.25 MMBtu/hr
 Fuel Heat Capacity 1020 Btu/scf
 Fuel Use Capacity 0.0002 MMscf/hr
 Fuel Use Capacity 2.15 MMscf/yr

Emission Calculations

Uncontrolled Emission Rates

NO _x	CO	VOC	SO ₂	PM ₁₀ /PM _{2.5}	Units	Comments
100	84	5.5	0.6	7.6	lb/MMscf	AP-42 Chapter 1.4, Table 1.4-1 and 1.4-2
0.02	0.02	0.001	0.0001	0.002	lb/hr	Maximum of Test Results or Calculated
0.11	0.09	0.006	0.001	0.01	tpy	Annual emission rate (8,760 hrs/yr)

Notes:

All PM emissions estimated to be identical to PM-10 and PM-2.5 emissions.

HAP Emissions:

Pollutant	Emission Factor	Potential Emission Rates	
	(lb/MMscf)	(lb/hr)	(tons/yr)
HAPs:			
2-Methylnaphthalene	2.40E-05	6.72E-13	2.94E-12
3-Methylchloranthrene	1.80E-06	5.04E-14	2.21E-13
7,12-Dimethylbenz(a)anthracene	1.60E-05	4.48E-13	1.96E-12
Acenaphthene	1.80E-06	5.04E-14	2.21E-13
Acenaphthylene	1.80E-06	5.04E-14	2.21E-13
Anthracene	2.40E-06	6.72E-14	2.94E-13
Benz(a)anthracene	1.80E-06	5.04E-14	2.21E-13
Benzene	2.10E-03	5.88E-11	2.57E-10
Benzo(a)pyrene	1.20E-06	3.36E-14	1.47E-13
Benzo(b)fluoranthene	1.80E-06	5.04E-14	2.21E-13
Benzo(g,h,i)perylene	1.20E-06	3.36E-14	1.47E-13
Benzo(k)fluoranthene	1.80E-06	5.04E-14	2.21E-13
Chrysene	1.80E-06	5.04E-14	2.21E-13
Dibenzo(a,h)anthracene	1.20E-06	3.36E-14	1.47E-13
Dichlorobenzene	1.20E-03	3.36E-11	1.47E-10
Fluoranthene	3.00E-06	8.39E-14	3.68E-13
Fluorene	2.80E-06	7.83E-14	3.43E-13
Formaldehyde	7.50E-02	2.10E-09	9.19E-09
Indeno(1,2,3-c,d)pyrene	1.80E-06	5.04E-14	2.21E-13
n-Hexane	1.80E+00	5.04E-08	2.21E-07
Naphthalene	6.10E-04	1.71E-11	7.48E-11
Phenanthrene	1.70E-05	4.76E-13	2.08E-12
Pyrene	5.00E-06	1.40E-13	6.13E-13
Toluene	3.40E-03	9.51E-11	4.17E-10
Arsenic	2.00E-04	5.60E-12	2.45E-11
Beryllium	1.20E-05	3.36E-13	1.47E-12
Cadmium	1.10E-03	3.08E-11	1.35E-10
Chromium	1.40E-03	3.92E-11	1.72E-10
Cobalt	8.40E-05	2.35E-12	1.03E-11
Manganese	3.80E-04	1.06E-11	4.66E-11
Mercury	2.60E-04	7.27E-12	3.19E-11
Nickel	2.10E-03	5.88E-11	2.57E-10
Selenium	2.40E-05	6.72E-13	2.94E-12
Total HAP		5.28E-08	2.31E-07

Emission Factors from AP-42 Table 1.4-3 and Table 1.4-4 (7/98) .

Fugitive Emissions Estimate

Unit No.: FUG

Component Source Counts for Compressor Station Units

Equipment Type	Compressor	Separator	Tank	TEG Unit	DEA Unit	C3 Refrig Skid	Expan Demeth	Mole Sieve System	Flare
For this facility, Number of Units	2	1	3	1	0	0	0	0	0
Valves - Inlet Gas	40	6	4	75	15	40	40	25	8
Valves - Liquid	5	4	6	20	60	35	35	0	2
Relief Valves	2	2	2	4	4	6	6	4	2
Pump Seals - Liquid	0	0	2	4	4	0	0	0	0
Flanges/Connectors - Inlet Gas	150	150	20	250	250	250	250	100	75
Flanges/Connectors - Liquid	10	10	40	20	20	20	20	20	10
Compressor Seals	4	0	0	0	0	6	0	0	0

Emissions from Fugitive Sources

Equipment Type	Emission Factor (lb/hr/ source)	Source Count *	% VOC C3+	VOC Emission Rate (lb/hr)	VOC Emission Rate (tpy)
Valves - Inlet Gas	0.00992	173	5.13%	0.09	0.39
Valves - Liquid	0.00550	52	100.00%	0.29	1.25
Relief Valves	0.01940	16	5.13%	0.02	0.07
Pump Seals - Liquid	0.02866	10	100.00%	0.29	1.26
Flanges/Connectors - Inlet Gas	0.00086	760	5.13%	0.03	0.15
Flanges/Connectors - Liquid	0.00024	170	100.00%	0.04	0.18
Compressor Seals	0.01940	8	5.13%	0.01	0.03
Total				0.76	3.32

H ₂ S Emission Rate (lb/hr)	H ₂ S Emission Rate (tpy)
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00

HAP Emission Rate (lb/hr)	HAP Emission Rate (tpy)
0.003	0.01
0.286	1.25
0.000	0.00
0.287	1.26
0.001	0.00
0.041	0.18
0.000	0.00
0.62	2.71

* Source counts estimated from similar facilities. These counts are not actuals.

Source: EPA Protocol for Equipment Leak Emission Estimates, November, 1995, EPA-453/R-95-017

Gas Composition for Fugitive Emissions Estimate (Sample Date: 12/8/2017)

	Molecular Wt (lb/lb-mole)	% Volume (%)	Wt. (lb/lb-mole)	Fraction (%)
Methane	16.0	77.05%	12.328	58.89%
Ethane	30.0	9.62%	2.886	13.79%
Total HC (non-VOC)				72.68%
Propane	44.0	1.01%	0.444	2.12%
i-Butane	58.0	0.16%	0.093	0.44%
n-Butane	58.0	0.35%	0.203	0.97%
i-Pentane	72.0	0.10%	0.072	0.34%
n-Pentane	72.0	0.08%	0.058	0.28%
n-Hexane	86.0	0.03%	0.026	0.12%
Total VOC				4.28%
Carbon Dioxide	44.0	10.09%	4.440	21.21%
Hydrogen Sulfide	34.1	0.00%	0.000	0.000000%
Nitrogen	28.0	1.37%	0.384	1.83%
Totals		100%	20.93	100.00%
			Total VOC Wt % plus 20% **	5.13%
			Total HAP Wt % plus 20% **	0.15%

** 20% added to Gas/Vapor Weight % VOC to account for variability in the gas.

GHG Emissions

	CO ₂ Emission Rate (lb/hr)	CO ₂ Emission Rate (tpy)	CH ₄ Emission Rate (lb/hr)	CH ₄ Emission Rate (tpy)
Valves - Inlet Gas	0.364	1.594	1.011	4.43
Valves - Liquid	0.061	0.266	0.168	0.74
Relief Valves	0.066	0.288	0.183	0.80
Pump Seals - Liquid	0.061	0.266	0.169	0.74
Flanges/Connectors - Inlet Gas	0.139	0.607	0.385	1.69
Flanges/Connectors - Liquid	0.009	0.038	0.024	0.11
Compressor Seals	0.033	0.144	0.091	0.40
Totals	0.73	3.20	2.03	8.90

Tank Emission Calculations

Unit No.	Tank ID	Capacity (gal)	Annual Throughput (gal/yr)	Uncontrolled Hourly VOC Emissions (lb/hr)	Uncontrolled Annual VOC Emissions (tpy)	Uncontrolled Hourly HAP Emissions (lb/hr)	Uncontrolled Annual HAP Emissions (tpy)
TK-1	Condensate Tank 1	16,800	229,950	1.12	4.90	0.07	0.32
TK-2	Condensate Tank 2	16,800	229,950	1.12	4.90	0.07	0.32
TK-3	Produced Water Tank 1	8,820	18,396	0.003	0.01	0.0004	0.002
Total			478,296	2.24	9.80	0.14	0.63

Notes:

Emissions include standing losses, working losses, and flash emissions. Calculated with E & P TANKS 3.0
 Produced Water Tanks estimated 2% VOC (conservative).

Tank emissions over 6 tpy require controls (VRU) under NSPS Subpart OOOOa if manufactured after September 18, 2015.

Truck Loading Emissions

Unit Nos.: LOAD-COND and LOAD-WATER

Truck Loading Emissions

Unit No.	Product	Mol wt. (lb/lb-mol)	Max Temp. (°F)	Max Vapor Pressure (psia)	Sat. Factor	Annual Throughput (gal/yr)	Maximum loading rate (gal/hr)	Loading VOC Emissions (lb/hr)	Loading VOC Emissions (tpy)
LOAD-COND	Condensate	66.00	86.25	8.42	0.60	459,900	8,820	67.08	1.75
LOAD-WATER	Produced Water	66.00	86.25	8.42	0.60	18,396	8,820	1.34	0.001
TOTAL						478,296	Total	68.42	1.75

Notes:

Emission calculations based on AP-42 Section 5.2, 6/08

$$L = 12.46 \times \frac{(SPM)}{T}$$

Where:

L = loading loss (lb/1,000 gal)

S = Saturation Factor for submerged loading (Table 5.2-1)

P = Vapor Pressure (psia), from EPA's TANKS 4.09d program using Gasoline (RVP 10)

M = Molecular weight (vapor MW from Tank Flash Part #1 Mixture MW)

T = Temperature (°R = °F + 460)

Loading VOC Emissions (tpy) = L (lb/1,000 gal) x Annual Throughput (1,000gal/yr) / 2,000 (lb/ton)

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

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

Calculating GHG Emissions:

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

Sources for Calculating GHG Emissions:

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

Global Warming Potentials (GWP):

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

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

Metric to Short Ton Conversion:

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

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

GHG emissions were calculated for the engines, dehy unit and reboiler and are included in this Section.

GHG Emissions from Natural Gas Combustion

Emission Unit	Source Description	Heat Rate	CO ₂ EF	CO ₂ Emissions		CH ₄ EF	CH ₄ Emissions		N ₂ O EF	N ₂ O Emissions		CO ₂ e
		MMBtu/hr	kg/MMBtu	metric TPY	short TPY	kg/MMBtu	metric TPY	short TPY	kg/MMBtu	metric TPY	short TPY	TPY
CMP-1	Caterpillar G3516LE	9.78	53.06	4547.35	5012.55	0.001	0.086	0.094	0.0001	0.009	0.009	5,017.72
CMP-2	Waukesha L-7042GSI	9.31	53.06	4327.60	4770.31	0.001	0.082	0.090	0.0001	0.008	0.009	4,775.24
D-1	Glycol Reboiler	0.25	53.06	116.20	128.09	0.001	0.002	0.002	0.0001	0.000	0.000	128.22

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.
-

This section contains the following references and documentation to support the emissions calculations in Section 6:

- Engine manufacturer data;
- E&P TANKS Output Reports for the storage tank working, breathing, and flash losses;
- Current versions of AP-42 for engines, loading emissions, etc.;
- EPA document EPA-453/R-95-017, EPA Protocol for Equipment Leak Emission Estimates, November, 1995 for fugitive emissions;
- Representative gas and liquid analysis.

ENGINE TEST [4EK02152]

MAY 13, 2020

For Help Desk Phone Numbers Click here
 (/tmi/tmihome/TMIContactInfo.htm)

Sales Model: 3516

TMI Load Date: 18Jun1998

Built Date: 18Jun1998

Shipped Date: 23Jun1998

Plant: Lafayette

Show entries

Tested Date: 18Jun1998

Tested: B

Cell Number: 510

Search:

Test Element	Eng Updates	Test Value	Test Spec Value	Measure
Spec Number	OK0815	OK0815	OK0815	
Arrangement Number		1054176	1054176	
CORR FL PWR		1,342	1,356	HP
Speed		1,402	1,400	RPM
CORR FL FUEL RATE		163,132.5	163,763.8	BTU/MIN
CSFC		7,296	7,334	BTU/HP-H
Jacket Water Temp		190	192	F
IN SCAC H2O		129	129	F
Compressor Out Pressure		37.42	37.28	PSIA
Inlet Manifold Pressure		33.94	33.94	PSIA
Excess Oxygen		7.7	8.8	%
NOx Level			310	PPM
FL Oil Press		56	56	PSI
High Speed		1,402	1,400	RPM
Diff Fuel Pressure High		0.23	0.22	PSI
Low Idle Speed		1,000	1,000	RPM
Low Idle Oil Pressure		56	55	PSI
Fuel Pressure		52		PSIA

Test Element	Eng Updates	Test Value	Test Spec Value	Measure
Timing BTDC			35.00	DEG

Showing 1 to 19 of 19 entries

Previous

1

Next

	Value	Unit
Advertised Power	1,340	HP
Advertised Speed	1,400	RPM

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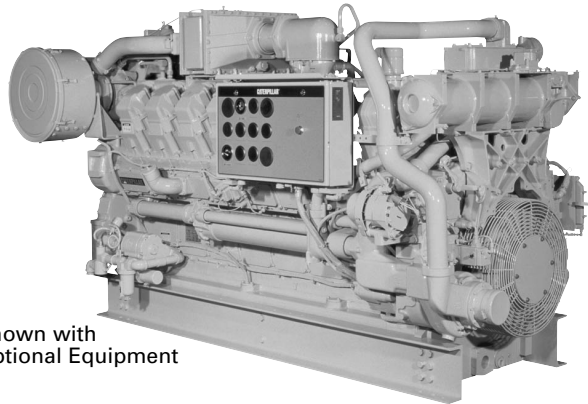
Data Privacy Statement.



Gas Petroleum Engine

G3516

1085-1340 bhp
809-1000 bkW
1200-1400 rpm



Shown with
Optional Equipment

CATERPILLAR® ENGINE SPECIFICATIONS

V-16, 4-Stroke-Cycle

Bore — in (mm) 6.7 (170)

Stroke — in (mm)..... 7.5 (190)

Displacement — cu in (L)..... 4,210 (69)

Aspiration Turbocharged-Aftercooled

Capacity for Liquids — U.S. gal (L)

 Cooling System¹..... 54 (205)

 Lube Oil System (refill) 112 (423)

Package Shipping Weight

 (Dry) — lb (kg) 17,670 (8015)

¹Engine only.

FEATURES

■ FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested

■ UNMATCHED PRODUCT SUPPORT OFFERED THROUGH WORLDWIDE CATERPILLAR DEALER NETWORK

- More than 1,500 dealer outlets
- Caterpillar factory-trained dealer technicians service every aspect of your petroleum engine
- 99.7% of parts orders filled within 24 hours — worldwide
- Caterpillar parts and labor warranty
- Preventive maintenance agreements available for “repair before failure” options
- Scheduled Oil Sampling (S•O•SSM) program matches your oil sample against Caterpillar set standards to determine:
 - internal engine component condition
 - presence of unwanted fluids
 - presence of combustion by-products

■ SINGLE-SOURCE SUPPLIER

- Caterpillar:
 - casts engine blocks, heads, cylinder liners, and flywheel housings
 - machines critical components
 - assembles complete engine
 Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable product.
- Factory-designed systems built at Caterpillar ISO certified facilities

■ G3516

- Standard and low emission ratings available
- Broad operating speed range and ability to burn a wide spectrum of gaseous fuels
- Cat® Electronic Ignition System (EIS)
- Robust diesel strength design provides prolonged life and lower owning and operating costs.

■ TESTING

- Prototype testing on every model:
 - proves computer design
 - verifies system torsional stability
 - functionality tests every model
- Every Caterpillar engine is dynamometer tested under full load to ensure proper engine performance.

■ WEB SITE

- For additional information on all your petroleum power requirements, visit www.cat-oilandgas.com.



FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

SYSTEM	STANDARD	OPTIONAL
Air Inlet	Air cleaner — intermediate-duty with service indicator	Remote air inlet adapters Precleaner
Charging System		Battery chargers Charging alternators
Control System	Governor — 3161 mechanical, RH with positive lock (PA5319 & PA4871 only) Air-fuel ratio control (LA2031 & LA2030 only)	2301A speed control governor CSA 700 speed control governor 3161 mechanical governor Vernier and positive locking control (PA5319 & PA4871 only)
Cooling System	Thermostats and housing Jacket water pump Aftercooler water pump Aftercooler core for sea-air atmosphere Aftercooler thermostats and housing	Aftercooler core Thermostatic valve Temperature switch Connections Expansion and overflow tank Water level switch gauge
Exhaust System	Watercooled exhaust manifolds	Flexible fittings Elbows Flange Flange and exhaust expanders Rain cap Mufflers
Flywheel/ Flywheel Housing	SAE No. 00 flywheel SAE No. 00 flywheel housing SAE standard rotation	
Fuel System	Gas pressure regulator Natural gas carburetor	Low pressure gas conversions (PA5319 & PA4871 only) Propane gas valve and jet kits (PA5319 & PA4871 only) Air/fuel ratio interconnect wiring harness (LA2031 & LA2030) Fuel filter
Ignition System	Caterpillar Electronic Ignition System (E.I.S.)	CSA ignition (PA5319 & PA4871) CSA ignition with AFRC (LA2030, LA2031)
Instrumentation	Instrument panel, RH, 12 hole service meter	Alarm module Customer communications modules Instrument panel gauges (PA5319 & PA4871) Instrument panel gauges f/u/w CSA electronic ignition system (LA2031 & LA2030)
Lube System	Crankcase breathers (top mounted) Oil cooler Oil filter, RH Oil bypass filter Shallow oil pan Oil sampling valve	Oil bypass filter removal and oil pan accessories Sump pump Air prelube pump Manual prelube pump Turbo oil accumulator Lubricating oil
Mounting System	Rails, engine mounting — 10 in. (254 mm)	Rails Vibration isolators
Power Take-Offs	Front housing, two-sided	Front accessory drives Auxiliary drive shafts and pulleys Front stub shaft Pulleys
Protection	Electronic shutoff system	PA5319 & PA4871: gas valve, explosion relief valves, status control box interconnect wiring harness
Starting System		Air starting motor Air pressure regulator Air silencer Electric air start controls Electric starting motors — dual 24-volt Starting aids Battery sets (24-volt dry), cables, and rack
General	Paint, Caterpillar yellow Vibration damper and guard (dual 23-inch)	Flywheel inertia weight Guard removal Engine barring group Premium 8:1 pistons Premium cylinder heads

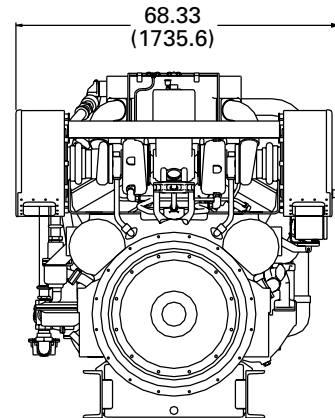
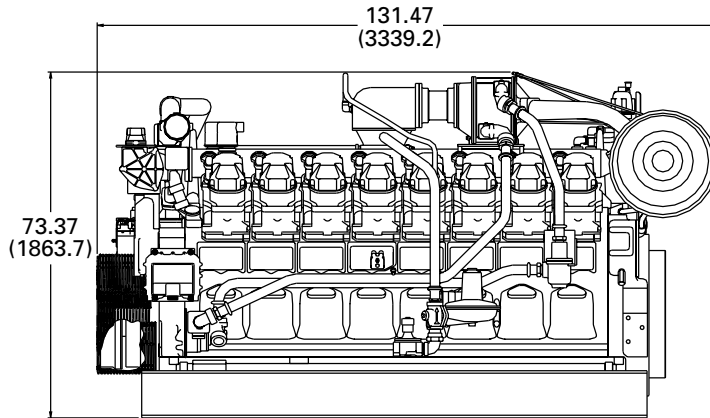
TECHNICAL DATA

G3516 Gas Petroleum Engine — 1200-1400 rpm

		DM0107-04	DM5154-01	DM5168-01	DM5155-01
Arrangement Number		PA4871 w/o AFRC	LA2030 with AFRC	PA5319 w/o AFRC	PA2031 with AFRC
Engine Power					
@ 100% Load	bhp (bkW)	1085 (809)	1151 (859)	1265 (944)	1340 (1000)
@ 75% Load	bhp (bkW)	814 (607)	863 (644)	949 (708)	1005 (750)
Engine Speed	rpm	1200	1200	1400	1400
SCAC Temperature	°F (°C)	129 (54)	129 (54)	129 (54)	129 (54)
Compression Ratio		8.0:1	8.0:1	8.0:1	8.0:1
Emissions*					
NO _x	g/bhp-hr	2.0	1.5	2.0	1.5
CO	g/bhp-hr	1.8	1.8	1.9	1.9
Total Hydrocarbons	g/bhp-hr	3.2	3.3	2.9	3.1
Fuel Consumption					
@ 100% Load	Btu/bhp-hr (MJ/bkW-hr)	7,450 (10.66)	7,414 (10.49)	7,548 (10.68)	7,541 (10.67)
@ 75% Load	Btu/bhp-hr (MJ/bkW-hr)	7,534 (10.93)	7,591 (10.74)	7,711 (10.91)	7,803 (11.04)
Heat Balance					
Heat Rejection to Jacket Water					
@ 100% Load	Btu/mn (bkW)	40,605 (687)	41,174 (724)	46,747 (822)	47,828 (841)
@ 75% Load	Btu/mn (bkW)	32,928 (546)	33,838 (595)	39,752 (699)	39,980 (703)
Heat Rejection to Aftercooler					
@ 100% Load	Btu/mn (bkW)	6,142 (109)	7,564 (133)	8,246 (145)	10,350 (182)
@ 75% Load	Btu/mn (bkW)	3,981 (62)	5,118 (90)	5,118 (90)	6,995 (123)
Heat Rejection to Exhaust					
@ 100% Load	Btu/mn (bkW)	37,307 (942)	39,980 (703)	45,155 (794)	48,055 (845)
@ 75% Load	Btu/mn (bkW)	26,956 (700)	29,857 (525)	32,359 (569)	36,624 (644)
Exhaust System					
Exhaust Gas Flow Rate					
@ 100% Load	cfm (m ³ /min)	5,975 (180.0)	6,413 (181.6)	7,179 (203.3)	7,684 (217.6)
@ 75% Load	cfm (m ³ /min)	4,368 (129.1)	4,828 (136.7)	5,177 (146.6)	5,880 (166.5)
Exhaust Stack Temperature					
@ 100% Load	°F (°C)	842 (462)	840 (449)	869 (465)	855 (457)
@ 75% Load	°F (°C)	820 (462)	817 (436)	862 (461)	840 (449)
Intake System					
Air Inlet Flow Rate					
@ 100% Load	cfm (m ³ /min)	2,264 (72.8)	2,433 (68.9)	2,666 (75.5)	2,885 (81.7)
@ 75% Load	cfm (m ³ /min)	1,681 (52.1)	1,865 (52.8)	1,928 (54.6)	2,232 (63.2)
Gas Pressure		High	High	High	High

*at 100% load and speed

GAS PETROLEUM ENGINE



DIMENSIONS		
Length	in (mm)	131.47 (3339.2)
Width	in (mm)	68.33 (1735.6)
Height	in (mm)	73.37 (1863.7)
Shipping Weight	lb (kg)	17,670 (8015)

Note: General configuration not to be used for installation. See general dimension drawings for detail.

RATING DEFINITIONS AND CONDITIONS

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

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

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

SALES ORDER SPECIFICATIONS E-G-J-R-U

011

WAUKESHA ENGINE MODEL L5790GSIU PC 47
 ORDERED BY POWER APPLICATION AND MFG CO
 CUSTOMER ORDER NO 776

ORDER G48772
 DATE ISSUED 9-08-88
 DATE PRINTED 8-07-89

GROUP NO	REQ	GROUP NAME	GROUP NO	REQ	GROUP NAME	GROUP NO	REQ	GROUP NAME
2-4575	1	CYLINDER HEAD	33- 476	1	GOV LINKAGE	76- 500	1	TACHOMETER DR
3- 447	1	OIL BAYONET	35- 395	1	INTERCOOLER	77- 825	1	WATER MANIFOLD
4-1310	1	PISTON	37- 32	1	OVERSPEED GOV	78- 23	1	THERMOSTAT HSG
7- 412	1	CONNECTING ROD	38- 13	1	GOV DRIVE	80- 796	1	OIL PUMP
11- 934	1	CRANKSHAFT	39- 674	1	ROCKER A COVER	93- 8	1	TURB WASTEGATE
13-1905	1	FLYWHEEL	40- 2	1	TIMING PLATE	95-1162	1	CR SH PULLEY
14-1142	1	OIL PAN L-BOLT	41-1102	1	INT MANIFOLD	97- 8	1	MISC PLATES
14-1842	1	OIL PAN	42-1132	1	EXH MANIFOLD	102- 12	1	BARRING DEVICE
15- 130	1	IDLER GEAR	45-1046	1	GEAR COVER	202-8280	1	INSTR PANEL
16- 574	1	CHARTS PLATES	47- 1	1	EXH OUTLET	203- 905	1	THROTTLE CNTRL
16- 612	1	NAME PLATE	48- 13	1	EXH CONN	208-2459	1	AIR CLEANER
17-1846	1	OIL COOLER	53- 28	1	LIFTING DEVICE	214-4391	1	CARBURETOR
18- 379	1	TOOLS	55-2273	1	LUBE FILTER	220-1128	1	TACHOMETER
20-4886	1	CRANKCASE	57-1303	1	FLYWHEEL HSG	222- 52	1	VACUUM GA
21-1683	1	WATER OUTLET	60-2333	1	J W PUMP	223- 732	1	SAFETY GUARD
22-5173	1	IGNITION	61- 77	1	OC WATER PUMP	244- 11	1	WATER TEMP GA
23- 454	1	CAMSHAFT	64- 598	1	WATER INLET	245- 12	1	OIL TEMP GA
25- 155	1	GOV SPEED CONT	67- 421	1	MAGNETO DRIVE	246- 7	1	INT MFLD TEMP
26- 24	1	SPARK PLUGS	68- 43	1	PRELUBE PUMP	247- 12	1	OIL PRESS GA
27-1155	1	TURBOCHARGER	69- 26	1	PRELUBE MOTOR	253- 107	1	ENG CONT PANEL
29-1610	1	TURBO CONN	70-1429	1	CASE BREATHER	263- 160	1	GAS REG SYSTEM
30- 503	1	CYL SLEEVE	71- 11	1	OIL FILLER	265- 5	1	SHIPPING SKID
31-3301	1	GOVERNOR	76- 498	1	TACHOMETER DR			

SEQ	UNIT	ENG	MC	PART NO	REQ	PART NAME	REF-GROUP
OMIT 26		1		74113	-1	PLUG,PIPE,SQ HD 2.00	77- 825
ADD 500		1		73413A	2	COCK,DRAIN,3/8	77- 825
ADD 502		1		B 6280	1	BUSH,RED.3/4X3/8	77- 825
ADD 503		1		168681K	1	BUSH,RED 2X3/8	77- 825

SEQ	UNIT	ENG	INSTRUCTIONS
ADD 1	990		CT PRINT NO
ADD 2	990		GOV SPEED 1200 LD
ADD 3	990		NP S-6989
ADD 4	990		TIMING S-6814-W
ADD 5	990		PAINT PRIMER
ADD 6	990		TEST DATA S-7262-35A
ADD 7	990		PRICE LIST CODE P2212CE
ADD 8	990		ACC CODES:
ADD 9	990		4293 HEADER,WP INLET FACES RH SIDE
ADD 10	990		4342 WATER OUTLET CONN,SINGLE 6 INCH
ADD 11	990		4352B AUX WP,EXTRA CAPACITY
ADD 12	990		3317 ALT 3 C S A SHIELDED IGN.
ADD 13	990		5105 OMISSION OF L.O. FILTER CONNS.
ADD 14	990		6005 OMISSION OF STD.SAFETY SHUTDOWN SYSTEM
ADD 15	990		9972 SPEC PACK.

011

Gas Engine Exhaust Emission Levels

GE Waukesha's approach to exhaust emission levels is to offer various stages of emission control technology. This approach allows the customer to select the exhaust emission level required for a particular installation.

The following tables indicate emission levels that are valid for new engines for the duration of the standard warranty period and are attainable by an engine in good operating condition running on commercial quality natural gas of 900 BTU/ft³ (35.38 MJ/m³ [25, V(0; 101.325)]) SLHV, Waukesha Knock Index* of 91 or higher, 93% methane content by volume, and at ISO standard conditions. Emissions are based on standard engine timing at 91 WKI* with an absolute humidity of 42 grains/lb. Refer to engine specific WKI Power & Timing curves for standard timing. Unless otherwise noted, these emission levels can be achieved across the continuous duty speed range and from 75% to 110% of the ISO Standard Power (continuous duty) rating.

Contact the local GE Waukesha representative or GE Waukesha's Application Engineering Department for emission values which can be obtained on a case-by-case basis for specific ratings, fuels, and site conditions.

The tabulated emission levels for GL models are achieved at the standard engine settings. Trade off adjustments can be made to reduce emissions or fuel consumption, but not both. **Contact the local GE Waukesha representative or GE Waukesha's Application Engineering Department for more information.**

As an aid in evaluating emission requirements, tables of approximate unit conversion factors for exhaust emission levels are included in this document.

The Waukesha emPact Emission Control System is now available on with the 5794GSI, 7042GSI_S4, and 7044GSI engines. This system includes a GE-supplied catalyst sized to achieve either 0.5g/bhp-hr NOx (Option Code 1004) or 0.15 g/bhp-hr NOx (Option Code 1005). The emissions for these are included in this document.

Waukesha emission control systems are designed for long life and consistent engine emission levels as listed in the following tables. It must be recognized, however, that engine condition and the quality of engine maintenance have a direct bearing on emission control. **A control system cannot compensate for engine or maintenance deficiencies.**

Reference the latest version of Waukesha gas engines Special Tools catalog (form 398) for product offerings related to emission testing.



Gas Engine Exhaust And Emission Levels	EN: 158779 DATE: 7/16	Ref. <u>S</u> 8483-6
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VHP* emPact Catalyst Out Emissions ¹

MODEL	Catalyst	GRAMS/BHP-HR			
		NOx	CO	THC	NMHC
L5794GSI	Option Code 1004	0.5	1.0	1.3	0.15
	Option Code 1005	0.15	0.3		
L7042GSI S4	Option Code 1004	0.5	1.0	1.6	0.20
	Option Code 1005	0.15	0.3		
L7044GSI	Option Code 1004	0.5	1.0	1.7	0.20
	Option Code 1005	0.15	0.3		
P9394GSI	Option Code 1004	0.5	1.0	0.4	0.10
	Option Code 1005	0.15	0.3		

¹ Emission levels are based on 900 -1200 rpm operation at 75-100% load and require GE-supplied (NSCR) catalyst.

VHP Engine Out Emission Levels (Rated Load & Speed)

MODEL	CARBURETOR SETTING	GRAMS/BHP-HR				% OBSERVED DRY		MASS AFR ²	VOLUME AFR ²	EXCESS AIR RATIO
		NOx ¹	CO	NMHC ⁴	THC	CO	O ₂			
G. GSI	Lowest Manifold (Best Power)	8.5	32.0	0.35	2.3	1.15	0.30	15.5:1	9.3:1	0.97
	Equal NOx & CO	12.0	12.0	0.35	2.3	0.45	0.30	15.9:1	9.6:1	0.99
	Catalytic Conv. Input (3-way ³)	13.0	9.0	0.30	2.0	0.38	0.30	15.95:1	9.6:1	0.99
	Standard (Best Economy)	22.0	1.5	0.25	1.5	0.02	1.35	17.0:1	10.2:1	1.06
F3524G F3514GSI F3524GSI	Catalytic Conv. Input (3-way ³)	16.0	13.0	0.20	1.0	0.38	0.30	15.95:1	9.6:1	0.995
L5794GSI*	Catalytic Conv. Input (3-way ³)	14.0	9.0	0.30	2.0	0.38	0.30	15.95:1	9.6:1	0.995
L7044G L7044GSI* L7042GSI S4#	Catalytic Conv. Input (3-way ³)	14.0	11.0	0.40	2.5	0.38	0.30	15.95:1	9.6:1	0.995
GL	Standard	1.5	2.65	1.00	5.5	0.06	9.8	28.0:1	16.8:1	1.74
L5774LT	Standard	2.6	2.0	0.60	4.0	0.04	8.0	24.7:1	14.8:1	1.54
P9394GSI#	Catalytic Conv. Input (3-way ³)	11.6	10.8	0.2	0.7	0.38	0.30	15.95:1	9.6:1	0.999

Models without GE-supplied catalyst included as part of the emPact Emission Control System.



<p>Gas Engine Exhaust And Emission Levels</p>	<p>EN: 158779 DATE: 7/16</p>	<p>Ref. <u>S</u> 8483-6</p>
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* Project Setup Information *

Project File : C:\Users\Martin Schluep\Alliant Client and Work Files\DJR Energy\077-012
 DJR - GCP Transition Applications for Buena Suerte and Marcus CS\Marcus CS\DRAFT\Marcus CS 400-bbl
 Tanks.ept3
 Flowsheet Selection : Oil Tank with Separator
 Calculation Method : AP42
 Control Efficiency : 0.00%
 Known Separator Stream : Low Pressure Oil
 Entering Air Composition : No
 Component Group : C10+

 Filed Name : Marcus Compressor Station
 Well Name : TK-1 and TK-2
 Date : 6/24/2018

* Data Input *

Separator Pressure (psia) : 23.00
 Separator Temperature (F) : 85.0
 C10+ SG : 0.71
 C10+ MW(lb/lbmol) : 260.00

-- Low Pressure Oil -----

No.	Component	Mol e%	Wt%
1	H2S	0.0000	0.0000
2	O2	0.0000	0.0000
3	CO2	0.0022	0.0011
4	N2	0.0174	0.0055
5	C1	0.0058	0.0011
6	C2	0.0589	0.0201
7	C3	1.9680	0.9860
8	i-C4	2.8027	1.8507
9	n-C4	10.2722	6.7829
10	i-C5	10.2978	8.4412
11	n-C5	11.3191	9.2784
12	C6	12.9257	12.6527
13	C7	20.8116	23.6918
14	C8	8.7581	11.3662
15	C9	3.5818	5.2202
16	C10+	1.2733	3.7612
17	Benzene	1.9130	1.6976
18	Toluene	2.1429	2.2430
19	E-Benzene	0.3673	0.4430
20	Xylenes	1.3867	1.6727
21	n-C6	10.0955	9.8846
22	2,2,4-Trimethyl p	0.0000	0.0000

-- Sales Oil -----

Production Rate (bbl/day) : 15.00
 Days of Annual Operation : 365

API Gravity : 85.00
 Reid Vapor Pressure (psia) : 7.70
 Bulk Temperature : 80.0

-- Tank and Shell Data -----

Diameter (ft) : 12.00
 Shell Height (ft) : 20.00
 Cone Roof Slope : 0.06
 Average Liquid Height (ft) : 10.00
 Vent Pressure Range (psia) : 0.06
 Solar Absorbance : 0.68

-- Meteorological Data -----

Page 1----- E&P TANK

City : Roswell, NM
 Min Ambient Temperature (F) : 47.5
 Max Ambient Temperature (F) : 75.3
 Total Solar Insolation (F) : 1810.00
 Ambient Pressure (psia) : 23.00
 Ambient Temperature (F) : 70.0

 * Calculation Results *

-- Emission Summary -----

Uncontrolled
 ton
 Total HAPs 0.3150
 Total HC 4.8990
 VOCs, C2+ 4.8990
 VOCs, C3+ 4.8950
 CO2 0.0000
 CH4 0.0000

Uncontrolled Recovery Information:

Vapor(mscfd): 0.1584
 HC Vapor(mscfd): 0.1584
 CO2(mscfd): 0.0000
 CH4(mscfd): 0.0000
 GOR(SCF/STB): 10.5573

-- Emission Composition -----

NoComponent	Uncontrolled ton
1 H2S	0.0000
2 O2	0.0000
3 CO2	0.0000
4 N2	0.0000
5 C1	0.0000
6 C2	0.0040
7 C3	0.3890
8 i-C4	0.5230
9 n-C4	1.5320

E&P TANKS_TK-1 and TK-2

10	i -C5	0.8740
11	n-C5	0.7440
12	C6	0.3300
13	Benzene	0.0380
14	Tol uene	0.0150
15	E-Benzene	0.0010
16	Xyl enes	0.0030
17	n-C6	0.2570
18	224Tri methyl p	0.0000
19	Pseudo Comp1	0.1520
20	Pseudo Comp2	0.0310
21	Pseudo Comp3	0.0050
22	Pseudo Comp4	0.0000
23	Pseudo Comp5	0.0000
24	Total	4.8980

-- Stream Data -----

NoComponent	MW	LP Oil	Flash Oil	Sales Oil	Flash Gas	W&S Gas	Total
Emi ssi on	lb/lbmol	mole %	mole %	mole %	mole %	mole %	mole %
1	H2S	34.80	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0022	0.0022	0.0000	0.0000	0.0000
4	N2	28.01	0.0174	0.0174	0.0000	0.0000	0.0000
5	C1	16.04	0.0058	0.0058	0.0000	0.0000	0.0000
6	C2	30.07	0.0589	0.0589	0.0067	0.1710	0.1710
7	C3	44.10	1.9680	1.9680	0.9881	11.5661	11.5661

Page 2----- E&P TANK

8	i -C4	58.12	2.8027	2.8027	2.1344	0.0000	11.8047	11.8047
9	n-C4	58.12	10.2722	10.2722	8.6009	0.0000	34.5679	34.5679
10	i -C5	72.15	10.2978	10.2978	10.0170	0.0000	15.8840	15.8840
11	n-C5	72.15	11.3191	11.3191	11.2724	0.0000	13.5177	13.5177
12	C6	84.00	12.9257	12.9257	13.5269	0.0000	5.1533	5.1533
13	Benzene	78.11	1.9130	1.9130	2.0092	0.0000	0.6457	0.6457
14	Tol uene	92.14	2.1429	2.1429	2.2819	0.0000	0.2124	0.2124
15	E-Benzene	106.17	0.3673	0.3673	0.3926	0.0000	0.0123	0.0123
16	Xyl enes	106.17	1.3867	1.3867	1.4827	0.0000	0.0393	0.0393

			E&P TANKS_TK-1	and TK-2			
17 n-C6	86.18	10.0955	10.0955	10.5729	0.0000	3.9117	3.9117
18 224Tri methyl p	114.24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19 Pseudo Comp1	96.00	20.8116	20.8116	22.1618	0.0000	2.0786	2.0786
20 Pseudo Comp2	107.00	8.7581	8.7581	9.3564	0.0000	0.3783	0.3783
21 Pseudo Comp3	121.00	3.5818	3.5818	3.8325	0.0000	0.0560	0.0560
22 Pseudo Comp4	134.00	0.1281	0.1281	0.1372	0.0000	0.0009	0.0009
23 Pseudo Comp5	274.10	1.1452	1.1452	1.2264	0.0000	0.0000	0.0000
		LP Oil	Flash Oil	Sales Oil	Flash Gas	W&S Gas	Total
Emission MW (lb/lbmol):		85.97	85.97	87.39	0.00	64.24	64.24
Stream Mole Ratio:		1.0000	1.0000	0.9893		0.0107	0.0107
Stream Weight Ratio:		85.97	85.97	86.46		0.69	0.69
Total Emission (ton):						4.899	4.899
Heating Value (BTU/scf):						3558.11	3558.11
Gas Gravity (Gas/Air):						2.22	2.22
Bubble Pt. @100F (psia):		18.62	18.62	13.30			
RVP @100F (psia):		109.25	109.25	86.97			
Spec. Gravity @100F:		0.67	0.67	0.68			

* Project Setup Information *

Project File : C:\Users\Martin Schluep\Alliant Client and Work Files\DJR Energy\077-012
 DJR - GCP Transition Applications for Buena Suerte and Marcus CS\Marcus CS\DRAFT\Marcus CS 210-bbl
 tank.ept3
 Flowsheet Selection : Oil Tank with Separator
 Calculation Method : AP42
 Control Efficiency : 0.00%
 Known Separator Stream : Low Pressure Oil
 Entering Air Composition : No
 Component Group : C10+

 Filed Name : Marcus Compressor Station
 Well Name : TK-3 (Produced Water Tank)
 Date : 2018.06.24

* Data Input *

Separator Pressure (psia) : 23.00
 Separator Temperature (F) : 85.0
 C10+ SG : 0.71
 C10+ MW(lb/lbmol) : 260.00

-- Low Pressure Oil -----

No.	Component	Mol e%	Wt%
1	H2S	0.0000	0.0000
2	O2	0.0000	0.0000
3	CO2	0.0022	0.0011
4	N2	0.0174	0.0055
5	C1	0.0058	0.0011
6	C2	0.0589	0.0201
7	C3	1.9680	0.9860
8	i-C4	2.8027	1.8507
9	n-C4	10.2722	6.7829
10	i-C5	10.2978	8.4412
11	n-C5	11.3191	9.2784
12	C6	12.9257	12.6527
13	C7	20.8116	23.6918
14	C8	8.7581	11.3662
15	C9	3.5818	5.2202
16	C10+	1.2733	3.7612
17	Benzene	1.9130	1.6976
18	Toluene	2.1429	2.2430
19	E-Benzene	0.3673	0.4430
20	Xylenes	1.3867	1.6727
21	n-C6	10.0955	9.8846
22	2,2,4-Trimethyl p	0.0000	0.0000

-- Sales Oil -----

Production Rate (bbl/day) : 1.20
 Days of Annual Operation : 365

API Gravity : 85.00
 Reid Vapor Pressure (psia) : 7.70
 Bulk Temperature : 80.0

-- Tank and Shell Data -----

Diameter (ft) : 10.00
 Shell Height (ft) : 15.00
 Cone Roof Slope : 0.06
 Average Liquid Height (ft) : 8.00
 Vent Pressure Range (psia) : 0.06
 Solar Absorbance : 0.68

-- Meteorological Data -----

Page 1----- E&P TANK

City : Roswell, NM
 Min Ambient Temperature (F) : 47.5
 Max Ambient Temperature (F) : 75.3
 Total Solar Insolation (F) : 1810.00
 Ambient Pressure (psia) : 23.00
 Ambient Temperature (F) : 70.0

 * Calculation Results *

-- Emission Summary -----

Uncontrolled
 ton
 Total HAPs 0.0950
 Total HC 0.7060
 VOCs, C2+ 0.7060
 VOCs, C3+ 0.7060
 CO2 0.0000
 CH4 0.0000

Uncontrolled Recovery Information:

Vapor(mscfd): 0.0199
 HC Vapor(mscfd): 0.0199
 CO2(mscfd): 0.0000
 CH4(mscfd): 0.0000
 GOR(SCF/STB): 16.5917

-- Emission Composition -----

NoComponent	Uncontrolled ton
1 H2S	0.0000
2 O2	0.0000
3 CO2	0.0000
4 N2	0.0000
5 C1	0.0000
6 C2	0.0000
7 C3	0.0000
8 i-C4	0.0200
9 n-C4	0.1090

E&P TANKS_TK-3

10	i-C5	0.1620
11	n-C5	0.1600
12	C6	0.0970
13	Benzene	0.0110
14	Toluene	0.0050
15	E-Benzene	0.0000
16	Xylenes	0.0010
17	n-C6	0.0770
18	2,2,4-Trimethyl p	0.0000
19	Pseudo Comp1	0.0500
20	Pseudo Comp2	0.0100
21	Pseudo Comp3	0.0020
22	Pseudo Comp4	0.0000
23	Pseudo Comp5	0.0000
24	Total	0.7040

-- Stream Data -----							
NoComponent	MW	LP Oil	Flash Oil	Sales Oil	Flash Gas	W&S Gas	Total
Emission	lb/lbmol	mole %	mole %	mole %	mole %	mole %	mole %
1	H2S	34.80	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0022	0.0022	0.0000	0.0000	0.0000
4	N2	28.01	0.0174	0.0174	0.0000	0.0000	0.0000
5	C1	16.04	0.0058	0.0058	0.0000	0.0000	0.0000
6	C2	30.07	0.0589	0.0589	0.0000	0.0000	0.0000
7	C3	44.10	1.9680	1.9680	0.0000	0.0000	0.0000

Page 2----- E&P TANK							
8	i-C4	58.12	2.8027	2.8027	0.3391	0.0000	3.6042
9	n-C4	58.12	10.2722	10.2722	2.4874	0.0000	19.6156
10	i-C5	72.15	10.2978	10.2978	7.1450	0.0000	23.3883
11	n-C5	72.15	11.3191	11.3191	9.2847	0.0000	23.1151
12	C6	84.00	12.9257	12.9257	15.1348	0.0000	12.0862
13	Benzene	78.11	1.9130	1.9130	2.3019	0.0000	1.5208
14	Toluene	92.14	2.1429	2.1429	2.8469	0.0000	0.5409
15	E-Benzene	106.17	0.3673	0.3673	0.5011	0.0000	0.0321
16	Xylenes	106.17	1.3867	1.3867	1.8956	0.0000	0.1049

E&P TANKS_TK-3							
17 n-C6	86.18	10.0955	10.0955	11.8623	0.0000	9.3478	9.3478
18 224Tri methyl p	114.24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19 Pseudo Comp1	96.00	20.8116	20.8116	27.6205	0.0000	5.4742	5.4742
20 Pseudo Comp2	107.00	8.7581	8.7581	11.8988	0.0000	1.0156	1.0156
21 Pseudo Comp3	121.00	3.5818	3.5818	4.9216	0.0000	0.1518	0.1518
22 Pseudo Comp4	134.00	0.1281	0.1281	0.1767	0.0000	0.0024	0.0024
23 Pseudo Comp5	274.10	1.1452	1.1452	1.5837	0.0000	0.0000	0.0000
		LP Oil	Flash Oil	Sales Oil	Flash Gas	W&S Gas	Total
Emission MW (lb/lbmol):		85.97	85.97	92.84	0.00	73.62	73.62
Stream Mole Ratio:		1.0000	1.0000	0.9823		0.0177	0.0177
Stream Weight Ratio:		85.97	85.97	91.20		1.30	1.30
Total Emission (ton):						0.706	0.706
Heating Value (BTU/scf):						4021.49	4021.49
Gas Gravity (Gas/Air):						2.54	2.54
Bubble Pt. @100F (psia):		18.62	18.62	6.39			
RVP @100F (psia):		109.25	109.25	43.03			
Spec. Gravity @100F:		0.67	0.67	0.69			

GRI-GLYCalc VERSION 4.0 - AGGREGATE CALCULATIONS REPORT

Case Name: Marcus CS TEG

File Name: C:\Users\Martin Schluep\Alliant Client and Work Files\DJR Energy\077-012 DJR - GCP Transition Applications for Buena Suerte and Marcus CS\Marcus CS\DRAFT\Marcus CS.ddf

Date: October 11, 2019

DESCRIPTION:

Description:

Annual Hours of Operation: 8760.0 hours/yr

EMISSIONS REPORTS:

UNCONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	0.0836	2.006	0.3661
Ethane	0.0522	1.252	0.2285
Propane	0.0139	0.333	0.0608
Isobutane	0.0041	0.098	0.0179
n-Butane	0.0128	0.308	0.0562
Isopentane	0.0039	0.093	0.0170
n-Pentane	0.0052	0.126	0.0230
n-Hexane	0.0071	0.171	0.0311
Heptanes	0.0216	0.518	0.0945
Total Emissions	0.2043	4.904	0.8950
Total Hydrocarbon Emissions	0.2043	4.904	0.8950
Total VOC Emissions	0.0686	1.647	0.3005
Total HAP Emissions	0.0071	0.171	0.0311

FLASH TANK OFF GAS

Component	lbs/hr	lbs/day	tons/yr

EQUIPMENT REPORTS:

ABSORBER

Calculated Absorber Stages:	2.40
Specified Dry Gas Dew Point:	1.10 lbs. H2O/MMSCF
Temperature:	60.0 deg. F
Pressure:	24.0 psig
Dry Gas Flow Rate:	1.8000 MMSCF/day
Glycol Losses with Dry Gas:	0.0031 lb/hr
Wet Gas Water Content:	Saturated
Calculated Wet Gas Water Content:	317.95 lbs. H2O/MMSCF
Specified Lean Glycol Recirc. Ratio:	3.00 gal/lb H2O

Component	Remaining in Dry Gas	Absorbed in Glycol
Water	0.34%	99.66%
Carbon Dioxide	99.93%	0.07%
Nitrogen	100.00%	0.00%
Methane	100.00%	0.00%
Ethane	99.98%	0.02%
Propane	99.96%	0.04%
Isobutane	99.93%	0.07%
n-Butane	99.90%	0.10%
Isopentane	99.86%	0.14%
n-Pentane	99.82%	0.18%
n-Hexane	99.58%	0.42%
Heptanes	98.91%	1.09%
C8+ Heavies	94.09%	5.91%

FLASH TANK

Flash Control: Vented to atmosphere
Flash Temperature: 350.0 deg. F
Flash Pressure: 24.0 psig

Component	Left in Glycol	Removed in Flash Gas
Water	100.00%	0.00%
Carbon Dioxide	99.39%	0.61%
Nitrogen	97.82%	2.18%
Methane	97.84%	2.16%
Ethane	98.97%	1.03%
Propane	99.33%	0.67%
Isobutane	99.47%	0.53%
n-Butane	99.53%	0.47%
Isopentane	99.48%	0.52%
n-Pentane	99.53%	0.47%
n-Hexane	99.62%	0.38%
Heptanes	99.72%	0.28%
C8+ Heavies	0.00%	100.00%

REGENERATOR

No Stripping Gas used in regenerator.

Component	Remaining in Glycol	Distilled Overhead
Water	2.72%	97.28%
Carbon Dioxide	0.00%	100.00%
Nitrogen	0.00%	100.00%
Methane	0.00%	100.00%
Ethane	0.00%	100.00%
Propane	0.00%	100.00%
Isobutane	0.00%	100.00%
n-Butane	0.00%	100.00%
Isopentane	0.50%	99.50%
n-Pentane	0.50%	99.50%

n-Hexane	0.50%	99.50%
Heptanes	0.50%	99.50%

STREAM REPORTS:

WET GAS STREAM

Temperature: 60.00 deg. F
 Pressure: 38.70 psia
 Flow Rate: 7.55e+004 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	6.70e-001	2.40e+001
Carbon Dioxide	4.19e+000	3.67e+002
Nitrogen	8.94e-001	4.98e+001
Methane	8.78e+001	2.80e+003
Ethane	5.84e+000	3.50e+002
Propane	4.17e-001	3.66e+001
Isobutane	4.97e-002	5.74e+000
n-Butane	1.09e-001	1.26e+001
Isopentane	1.99e-002	2.85e+000
n-Pentane	1.99e-002	2.85e+000
n-Hexane	9.93e-003	1.70e+000
Heptanes	9.93e-003	1.98e+000
C8+ Heavies	1.99e-002	6.73e+000
Total Components	100.00	3.66e+003

DRY GAS STREAM

Temperature: 60.00 deg. F
 Pressure: 38.70 psia
 Flow Rate: 7.50e+004 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	2.32e-003	8.25e-002
Carbon Dioxide	4.22e+000	3.67e+002
Nitrogen	9.00e-001	4.98e+001
Methane	8.83e+001	2.80e+003
Ethane	5.88e+000	3.49e+002
Propane	4.20e-001	3.66e+001
Isobutane	5.00e-002	5.74e+000
n-Butane	1.10e-001	1.26e+001
Isopentane	2.00e-002	2.85e+000
n-Pentane	2.00e-002	2.85e+000
n-Hexane	9.96e-003	1.70e+000
Heptanes	9.89e-003	1.96e+000
C8+ Heavies	1.88e-002	6.34e+000
Total Components	100.00	3.64e+003

LEAN GLYCOL STREAM

Temperature: 60.00 deg. F
Flow Rate: 1.19e+000 gpm

Component	Conc. (wt%)	Loading (lb/hr)
TEG	9.99e+001	6.69e+002
Water	1.00e-001	6.70e-001
Carbon Dioxide	3.59e-012	2.41e-011
Nitrogen	2.19e-014	1.47e-013
Methane	4.27e-019	2.86e-018
Ethane	3.70e-009	2.48e-008
Propane	8.48e-011	5.68e-010
Isobutane	1.83e-011	1.23e-010
n-Butane	4.76e-011	3.19e-010
Isopentane	2.92e-006	1.95e-005
n-Pentane	3.95e-006	2.64e-005
n-Hexane	5.34e-006	3.58e-005
Heptanes	1.62e-005	1.09e-004
C8+ Heavies	8.12e-003	5.44e-002
Total Components	100.00	6.70e+002

RICH GLYCOL STREAM

Temperature: 60.00 deg. F
Pressure: 38.70 psia
Flow Rate: 1.23e+000 gpm
NOTE: Stream has more than one phase.

Component	Conc. (wt%)	Loading (lb/hr)
TEG	9.63e+001	6.68e+002
Water	3.55e+000	2.46e+001
Carbon Dioxide	3.47e-002	2.41e-001
Nitrogen	2.14e-004	1.48e-003
Methane	1.23e-002	8.52e-002
Ethane	7.58e-003	5.26e-002
Propane	2.01e-003	1.40e-002
Isobutane	5.90e-004	4.09e-003
n-Butane	1.86e-003	1.29e-002
Isopentane	5.63e-004	3.91e-003
n-Pentane	7.62e-004	5.29e-003
n-Hexane	1.03e-003	7.16e-003
Heptanes	3.13e-003	2.17e-002
C8+ Heavies	6.52e-002	4.52e-001
Total Components	100.00	6.93e+002

FLASH TANK OFF GAS STREAM

Temperature: 350.00 deg. F
Pressure: 38.70 psia
Flow Rate: 5.17e-002 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Total Components	0.00	0.00e+000

FLASH TANK GLYCOL STREAM

 Temperature: 350.00 deg. F
 Flow Rate: 1.23e+000 gpm

Component	Conc. (wt%)	Loading (lb/hr)
TEG	9.64e+001	6.68e+002
Water	3.55e+000	2.46e+001
Carbon Dioxide	3.45e-002	2.39e-001
Nitrogen	2.09e-004	1.45e-003
Methane	1.20e-002	8.34e-002
Ethane	7.51e-003	5.21e-002
Propane	2.00e-003	1.39e-002
Isobutane	5.87e-004	4.07e-003
n-Butane	1.85e-003	1.28e-002
Isopentane	5.61e-004	3.89e-003
n-Pentane	7.59e-004	5.26e-003
n-Hexane	1.03e-003	7.13e-003
Heptanes	3.12e-003	2.16e-002
Total Components	99.95	6.93e+002

REGENERATOR OVERHEADS STREAM

 Temperature: 212.00 deg. F
 Pressure: 14.70 psia
 Flow Rate: 5.10e+002 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	9.90e+001	2.40e+001
Carbon Dioxide	4.05e-001	2.40e-001
Nitrogen	3.86e-003	1.45e-003
Methane	3.88e-001	8.36e-002
Ethane	1.29e-001	5.22e-002
Propane	2.34e-002	1.39e-002
Isobutane	5.22e-003	4.08e-003
n-Butane	1.64e-002	1.28e-002
Isopentane	4.00e-003	3.88e-003
n-Pentane	5.41e-003	5.25e-003
n-Hexane	6.14e-003	7.11e-003
Heptanes	1.60e-002	2.16e-002
Total Components	100.02	2.44e+001



Protocol for Equipment Leak Emission Estimates

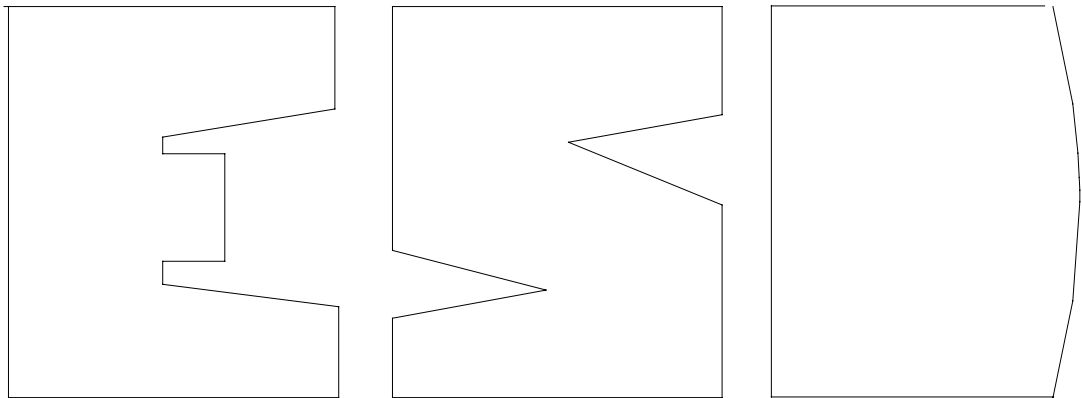
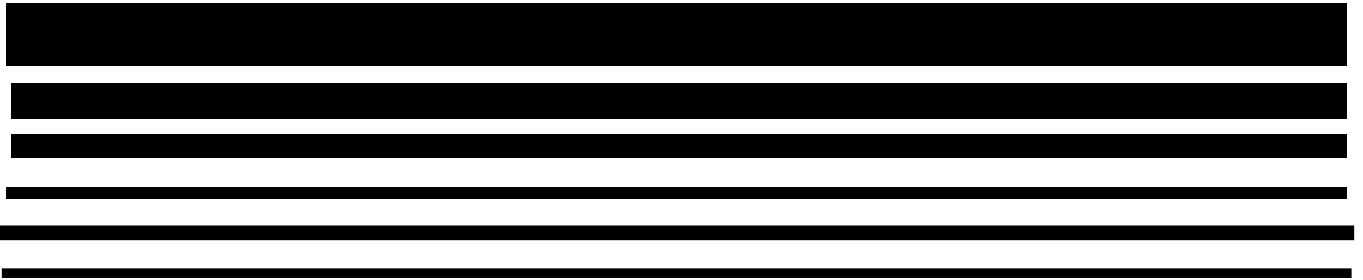


TABLE 2-4. OIL AND GAS PRODUCTION OPERATIONS AVERAGE EMISSION FACTORS (kg/hr/source)

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

^aWater/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.

^bThese 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.

^cThe "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.

BTU Report

Sample Information			
Sample Name	Marcus Compressor Suction	Flowing Pressure	15.2
Station Number	31476	Flowing Temp	77.4
FMP/Lease Number		Flow Rate	1626.4
Taken By/Lab Name	Justin Barker/DJR Lab	Heat Trace used	No
Operator	Justin Barker	Type of Sample	Spot
Method Name	GPA	Sample Method	Purge and Fill
Sample Date	9/12/2019		
Analysis Date	9/17/2019		
Data Source-Make & Model	Danalyzer 700XA		
Date of Calibration	9/16/2019		

Component Results

Component Name	Mole %	Weight Percent	GPM (Gal./1000 scf)	Gross HV (dry) (BTU/Ideal cu. Ft)	Relative Gas Density
Propane	9.14%	16.55%	2.5178	230.54	0.1392
i-Butane	1.12%	2.68%	0.3678	36.65	0.0226
n-Butane	3.18%	7.59%	1.0021	103.96	0.0638
i-Pentane	0.80%	2.36%	0.2916	31.98	0.0199
n-Pentane	0.80%	2.38%	0.2913	32.3	0.02
Nitrogen	5.34%	6.15%	0	0	0.0517
Methane	66.47%	43.77%	0	672.9	0.3682
Carbon Dioxide	0.54%	0.98%	0	0	0.0082
Ethane	11.89%	14.68%	3.1792	210.92	0.1235
C9+	0.03%	0.17%	0.018	2.24	0.0014
Hexanes	0.26%	0.93%	0.1084	12.57	0.0078
Heptanes	0.27%	1.10%	0.1228	14.69	0.0092
Octanes	0.14%	0.67%	0.0734	8.98	0.0057
TOTAL	100.00%	100.00%	7.9726	1357.74	0.8411

Results Summary

Results

Total Raw Mole % (Dry)	
Total Unnormalized Mole Percent	99.012
Pressure Base (psie)	14.73000 PSIA
Temperature Base	60.0 Deg.F
Water Mole %	
Gross Heating Value (BTU Dry SCF)	1363.9414
Gross Heating Value (BTU Sat SCF)	1340.2087
Relative Density Real	0.8446
Compressibility (Z) Factor	0.99545
Total GPM	7.9726



Sample Matrix: Condensate
 Sample Type: Spot
 Preservative: N/A
 Sample Container: Bottle

Client: Gas Analysis Services
 Project Location: N/A
 Sample Id.: Baker Hughes
 Marcus Condensate

Method(s): ASTM D 5443
 Multi-Isomer analysis by Gas
 Chromatography
 Water Content by Karl
 Fischer

Sample Temp.: N/A
 Atmospheric Temp.: 65°F
 Pressure: atm
 Field Data: N/A
 Sample Date: 9/19/19 Time: N/A
 Sampled By: A.G.
 Analysis Date: 9/25/19
 Analysis By: Jessica Keller

Lab #: 9064-2019092311.1

Analytical Results

<u>Gas Composition</u>			
	<u>Mol %</u>	<u>Vol. %</u>	<u>Wt. %</u>
Nitrogen (N2):	0.0171	0.0057	0.0057
Carbon Dioxide (CO2):	0.0021	0.0011	0.0011
Hydrogen Sulfide (H2S):	0.0000	0.0000	0.0000
<u>Hydrocarbon Composition</u>	<u>Mol %</u>	<u>Vol. %</u>	<u>Wt. %</u>
Methane (CH4):	0.0057	0.0031	0.0012
Ethane (C2H6):	0.0575	0.0473	0.0206
Propane (C3H8):	1.9198	1.6266	1.0107
Iso-Butane (C4H10):	2.7341	2.7500	1.8970
N-Butane (C4H10):	10.0207	9.7137	6.9519
Iso-Pentane (C5H12):	10.0456	11.2998	8.6506
N-Pentane (C5H12):	11.0419	12.2931	9.5075
*Hexane+ (C6H14):	64.1554	62.2594	71.9536
Totals	100.0000	100.0000	100.0000

Comments - Additional Data

SCF/gal (Vapor)	23.4097	
Specific Gravity	0.7058	
Molecular Weight	86.6647	14.65 Pressure Base
Vapor Pressure (psia)	19.7	

Water Content (wt. %)	0.003
-----------------------	-------

*See Next Page for Compositional breakdown of C6+ Fractions



9064-2019092311.1– Marcus Condensate

Analytical Results

<u>C6+ Fractions Composition</u>				
<u>Hexane Isomers (C6's)</u>		<u>Mol %</u>	<u>Vol. %</u>	<u>Wt. %</u>
2,2-dimethylbutane	P	0.1073	0.1089	0.1068
2,3-dimethylbutane	PN	0.3238	0.2629	0.2963
2-methylpentane	P	2.1325	2.0494	2.1247
3-methylpentane	P	4.6233	4.3240	4.6041
methylcyclopentane	N	5.4223	4.3918	5.2517
benzene	A	1.8662	1.1954	1.6778
cyclohexane	N	2.4487	1.9073	2.3716
n-hexane	P	9.8483	9.2671	9.7667
<u>Heptane Isomers (C7's)</u>				
2,2-dimethylpentane	P	0.0651	0.0529	0.0648
2,4-dimethylpentane		0.0939	0.0675	0.0877
2+3-methylhexane	P	1.7551	1.8295	2.0132
1,t3-dimethylcyclopentane	N	0.1150	0.1110	0.1288
1,c3-dimethylcyclopentane	N	0.0766	0.0706	0.0865
1,t2-dimethylcyclopentane	N	0.0575	0.0541	0.0650
toluene	A	2.0904	1.6021	2.2163
methylcyclohexane	N	10.3790	9.5531	11.7161
ethylcyclopentane	N	0.2797	0.2614	0.3203
n-heptane	P	7.4801	7.8934	8.6250
<u>Octane Isomers (C8's)</u>				
2,4 + 2,5-dimethylhexane	P	0.6898	0.8401	1.0295
1,t2,c4-trimethylcyclopentane	N	0.1456	0.1004	0.1165
1,t2,c3-trimethylcyclopentane	N	0.2088	0.1355	0.1671
2-methylheptane	P	1.6056	1.9086	2.1211
1,c2,t4-trimethylcyclopentane	N	0.0901	0.0894	0.1095
3-methylheptane	P	1.4428	1.6764	1.8877
1,c3-dimethylcyclohexane	N	0.2510	0.2652	0.3254
1,t4-dimethylcyclohexane	N	0.1514	0.1673	0.1990
methyl-ethylcyclopentanes	N	0.4560	0.4632	0.5866
1,c4 & 1,t3-dimethylcyclohexane	N	0.0881	0.0885	0.1136
1,c2-dimethylcyclohexane	N	0.2587	0.2722	0.3487
ethylcyclohexane	N	0.0364	0.0371	0.0465
ethylbenzene	A	0.3583	0.3167	0.4380
m + p-xylene	A	1.0404	0.9235	1.2709
o-xylene	A	0.3123	0.2720	0.3821
n-octane	P	3.1193	3.6526	4.0982

9064-2019092311.1– Marcus Condensate

<u>C6+ Fractions Composition (cont.)</u>				
<u>Nonane Isomers (C9's)</u>		<u>Mol %</u>	<u>Vol. %</u>	<u>Wt. %</u>
trimethylhexanes	P	0.4867	0.6044	0.7015
dimethylheptanes	P	0.1303	0.2085	0.2250
isopropylcyclopentane	N	0.0747	0.0607	0.0744
n-propylcyclopentane	N	0.0843	0.0872	0.1069
3-methyloctane	P	0.6112	0.7825	0.9044
trimethylcyclohexanes	N	0.1322	0.1528	0.1902
isopropylbenzene	A	0.0153	0.0152	0.0206
isopropylcyclohexane	N	0.3046	0.3554	0.4487
n-propylcyclohexane	N	0.2088	0.2410	0.3055
n-propylbenzene	A	0.0268	0.0276	0.0374
m-ethyltoluene	A	0.0027	0.0027	0.0038
p-ethyltoluene	A	0.0006	0.0006	0.0008
1,3,5-trimethylbenzene + 4&5-methylnonane	A/P	0.0920	0.1193	0.1462
o-ethyltoluene + 3-methylnonane	A/P	0.0172	0.0224	0.0275
1,2,3-trimethylbenzene	A	0.0038	0.0038	0.0053
n-nonane	P	1.3029	1.6853	1.9293
<u>Decane Isomers (C10's)</u>				
2-methylnonane	P	0.0556	0.0804	0.0939
tert-butylbenzene	A	0.0057	0.0070	0.0095
1,2,4-trimethylbenzene	A	0.0479	0.0506	0.0700
Isobutylcyclohexane + t-butylcyclohexane	N	0.0364	0.0445	0.0575
isobutylbenzene	A	0.0017	0.0020	0.0027
sec-butylbenzene	A	0.0001	0.0001	0.0001
n-butylcyclohexane	N	0.0939	0.1209	0.1534
1,3-diethylbenzene	A	0.0017	0.0019	0.0027
1,2-diethylbenzene + n-butylbenzene	A	0.0002	0.0003	0.0004
1,4-diethylbenzene	A	0.0046	0.0054	0.0075
n-decane	P	0.3679	0.5165	0.6018
unidentified C9 naphthenes + C10 paraffins		0.5422	0.7609	0.9500
unidentified C10 aromatics + C11 paraffins		0.0383	0.0288	0.0356
Ungrouped C10's		0.0446	0.0580	0.0749
<u>Undecane Isomers (C11's)</u>				
n-undecane	P	0.0010	0.0015	0.0017
<u>Dodecane Isomers (C12's)</u>				
isododecane +	P	0.0003	0.0004	0.0005

Comments - Additional Data

A – Aromatic (Ring Hydrocarbons), N – Naphthene (Cyclic Paraffins & Alkanes), P – Paraffin (Alkanes)



9064-2019092311.1– Marcus Condensate

Flash Vapor Composition from Condensate @ 72°F

	Mol %	GPM
Nitrogen	0.2308	0.0263
Carbon Dioxide	0.0395	0.0070
Methane	0.0971	0.0171
Ethane	0.9379	0.2601
Propane	17.7116	5.0605
Iso-Butane	8.6049	2.9203
N-Butane	37.6406	12.3067
Iso-Pentane	13.5613	5.1435
N-Pentane	16.4653	6.1898
Hexanes	3.7991	1.6200
Benzene	0.2847	0.1212
Heptanes	0.5344	0.2552
Toluene	0.0550	0.0263
ethylbenzene	0.0011	0.0006
m + p-xylene	0.0032	0.0017
o-xylene	0.0010	0.0005
Octanes+	0.0325	0.0172
TOTAL	100.0000	33.9740

Properties	14.73 psi Pressure Base
BTU -dry (BTU/ft ³):	3537.6
BTU -water vapor sat. (BTU/ft ³):	3477.4
Specific Gravity -dry:	2.1796
Specific Gravity-water vapor sat.:	2.1536
Z-Comp. Factor-dry:	0.96400
Z-Comp. Factor-water vapor sat.:	0.96360
Gasoline Content (GPM)	
Ethane & Heavier	33.9227
Propane & Heavier	33.6626
Butane & Heavier	28.6021
Pentane & Heavier	13.3751

Emission Report		
	Uncontrolled Tons/yr	Controlled Tons/yr
CO2	0.0000	0.0000
N2	0.0000	0.0000
C1	0.0000	0.0000
C2	0.1550	0.0077
C3	7.0890	0.3544
iC4	7.3840	0.3692
nC4	20.3010	1.0151
iC5	10.4640	0.5232
NC5	8.7630	0.4381
C6	4.5040	0.2252
Benzene	0.4340	0.0217
Toluene	0.1670	0.0083
E-Benzene	0.0110	0.0005
Xylenes	0.0270	0.0014
n-C6	2.9240	0.1462
TOTAL	62.2230	3.1110

Section 8

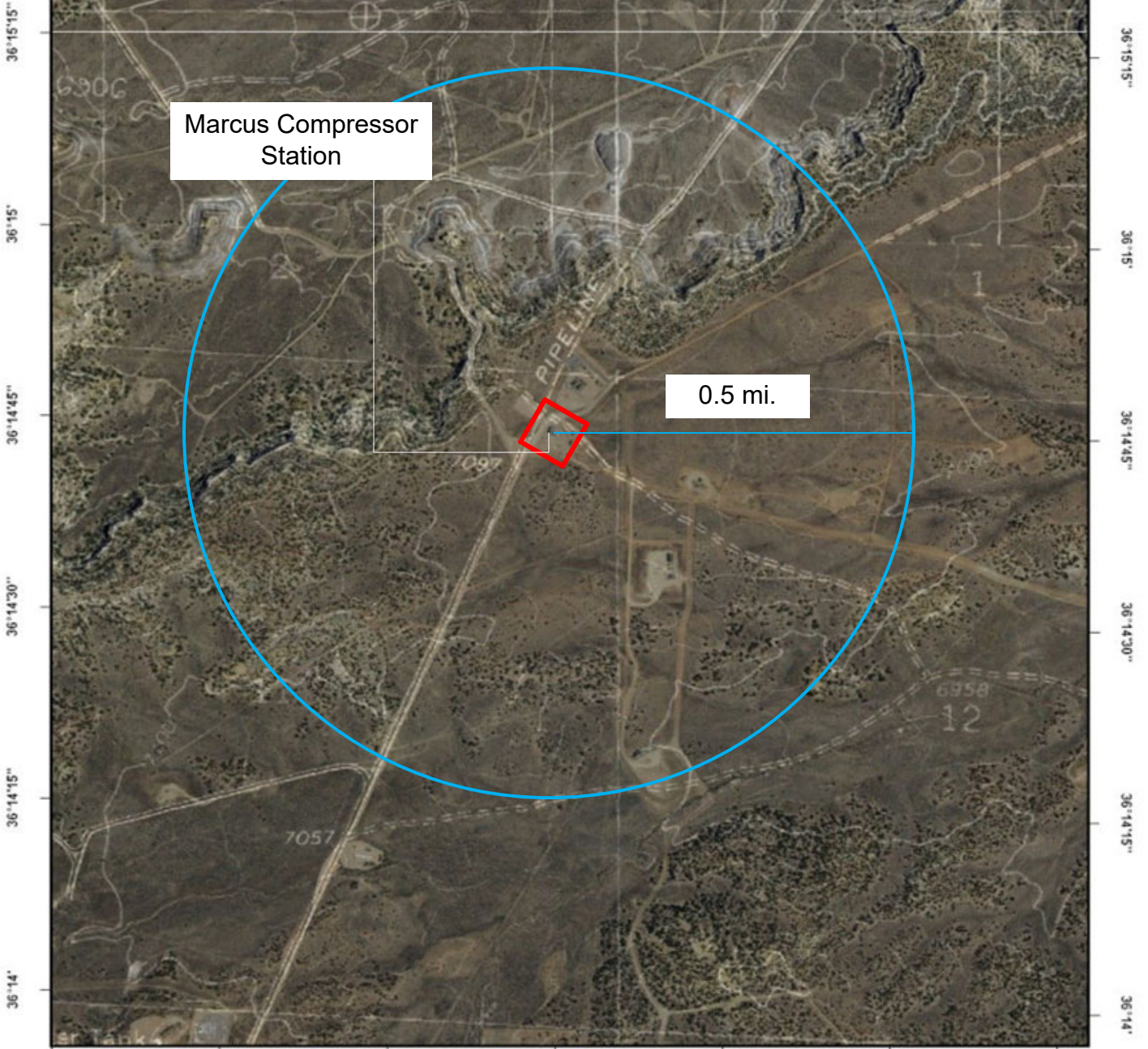
Map(s)

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

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

A map for this facility is included on the following page.

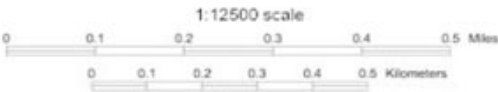
107°33' 107°32'45" 107°32'30" 107°32'15" 107°32' 107°31'45"



Marcus Compressor Station

0.5 mi.

Universal Transverse Mercator (UTM) Projection Zone 13
North American Datum of 1983



Magnetic declination of 11E at center of map
on March 17, 2011



Area Map

DJR Operating, LLC

Scale:	Drawn by:	Date:
1:12,500	MLS	4/30/2020
	Chk'd by:	Date:

Marcus Compressor Station
36°14'43.44"N Latitude
107°32'15.25"W Longitude

Project No.:
077-012

File Name:
Marcus Figures

Figure:
Figure 4-1

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) **See note below**
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. **See note below**
5. A sample of the letters sent to counties, municipalities, and Indian tribes. **See note below**
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.

Note:

In light of the New Mexico Governor’s Extended Stay-At-Home orders due to the COVID-19 virus pandemic, Mr. Ted Schooley, Permit Programs Section Chief, New Mexico Environment Department Air Quality Bureau, agreed that in lieu of mailing letters via certified mail through the post office, pictures of the stamped envelopes addressed to the recipients listed below and a copy of the public notice letter addressed to these individuals, would be acceptable.

DJR Marcus Public Notice List:

County: Rio Arriba
 UTME: 271982.94m
 UTMN: 4014153.97
 Zone 13
 T23N R7W S11 NENE

Postings:

- Facility entrance
- USPS in Nageezi, NM; 11577 US Highway 550, Nageezi, NM 87037
- Bloomfield City Public Library; 333 S 1st Street, Bloomfield, NM 87413
- USPS in Bloomfield, NM; 1108 W Broadway Ave, Bloomfield, NM 87413

Newspaper:

Rio Grande Sun (Española, Rio Arriba County)

The Public Notice was published in the Rio Grande Sun on June 4th, 2020 in the general ad and legal ad sections of the paper. The Rio Grande Sun newspaper only offer affidavits of publication for legal ads. A tear sheet was provided by the Rio Grande Sun for the display (general) ad, which includes all required information for NMED (attached)

Classifieds/Legal email: rgsunclass@cybermesa.com

Display Ad email: rgsunads@cybermesa.com

Radio:

KDAG 96.9 FM (Farmington): A request for PSA announcement was made on May 27th, 2020 online. A screenshot of the submittal is attached, as well as the requested announcement.

Owners/Municipalities/Counties/Indian Tribes:

Name	Mailing Address	Category of Notice
Navajo Nation	Office of Navajo Land Administration P.O. Box 2249 Window Rock, AZ 86515	Nearby Landowner
BLM	301 Dinosaur Trail Santa Fe, NM 87508	Nearby Landowner
State of New Mexico	New Mexico State Land Office P.O. Box 1148 Santa Fe, NM 87504	Nearby Landowner
Rio Arriba County	County Manager Rio Arriba County Annex Building 1122 Industrial Park Road Española, NM 87532	County
San Juan County	County Manager County Executive Office 100 S. Oliver Dr. Aztec, NM 87410	County
Sandoval County	County Manager P.O. Box 40 Bernalillo NM 87004	County
Jicarilla Apache Nation	P.O. Box 507 Dulce, NM 87528	Indian Tribe

Note: There are no municipalities within a 10 mile radius of the facility.

County Asked to End Sectarian Prayer

By Molly Montgomery
SUN Staff Writer

Rio Arriba County District 1 Commissioner James Martinez continues to pray to Jesus Christ and the Christian God out loud at the outset of County Commission meetings, despite County residents' claims that doing so is hurtful and exclusive.

In mid-May, several residents of the Embudo Valley wrote to County officials to say that the Christian prayer at the outset of Commission meetings is "inappropriate."

"Rio Arriba County is diverse," a May 12 email from seven Embudo Valley residents states. "People practice Native American religions, there is a Sikh community, a Muslim community, many Ashkenazi Jews, Buddhists, atheists, agnostics and others."

The letter also states that ancestors of County residents were persecuted Jews fleeing the Inquisition in Spain and Mexico City, where church and government were conflated.

"There is historical trauma surrounding the control of the state by the Church," it states. "It is time to end sectarian prayer at government meetings to demonstrate that you represent all the citizens of Rio Arriba County."

The letter requested that the commissioners implement a moment of silence, in which members of any faith can silently pray to any god, in place of the Christian prayer—a change that District 2 County Commissioner Leo Jaramillo said at a campaign event he would support.

Martinez wrote in a May 12 response that other constituents feel the prayer is "absolutely appropriate" and have expressed their support and appreciation of it.



Rio Arriba County Commissioner James Martinez (right) gathered with campaign volunteers and supporters, June 5, 2018, at the Rock Christian Fellowship Church in Española. Ross Barela (center) was a supporter

He wrote that he is not imposing his faith on anyone.

"As I pray, I ask for God's safety, help, healing and blessings for us All," he wrote. "As we are living in the middle of these challenging and uncertain times, I believe we need God's help more than ever before. My prayers continue."

Shel Neymark, who signed the letter from the Embudo Valley residents and is Jewish, wrote to Martinez that the group is not asking Martinez not to pray to his God—only that he do it silently.

Describing his reaction to the prayer, Neymark wrote that it made him feel excluded by his government.

"Your prayer induces a visceral sense of creepiness, a chill in the pit of my stomach that I recognize as historical trauma," he wrote.

He wrote that he loves local culture and respects that many people in the region have lived on their families' lands for generations—an option that was not available to him.

Neymark's grandmother grew up on a farm in Lithuania where her family had lived for generations. In the early 1900s, she and her family had to flee to the U.S. to avoid being slaughtered in the pogroms by the Christian Russian government, Neymark wrote.

His other grandparents arrived in the U.S. for similar reasons, coming here partly because the U.S.'s founding values demand that religion and government not be conflated, he wrote.

"In this situation the humble, empathetic response would be to put yourself in the shoes of your many constituents for

whom secular prayers at government functions are offensive or painful, and pray in silence," Neymark wrote. "If your God is listening, he will still hear you."

Nonetheless, a May 26 Commission meeting began with Martinez praying to the "Heavenly Father," thanking him for "watching over us and keeping us healthy and safe."

Jaramillo said he decided to implement a moment of silence for people who belong to other faiths, which, at the May 26 meeting, followed the Christian prayer.

In a May 28 phone call, Neymark called Martinez's choice to continue the prayer "totally unacceptable" and "hurtful."

"If they're still doing that prayer, they are not honoring the people who don't believe like them," he said. "They're not honoring their feelings."

Amid Boil Advisory, Chama Limits Water Use, Flushes Pipes

Mark Glover
Special to the SUN

Chama Village councilors unanimously approved a special resolution giving the mayor authority to shut off water to residential customers who do not comply with the 4,000 gallon-a-month emergency conservation restriction.

"Will it be hard to regulate — yes it will be," Mayor Billy Elbrock asked rhetorically looking into the Zoom camera lens during the May 27 regular village meeting. "Some are using 18,000 gallons a month watering their grass. Abuse or not abuse?"

It also limits commercial users to 6,000 gallons per month.

"It's hard to ask a business not to do business," the mayor said. "But I believe Leon at the car wash, and Mr. Armstrong at Speed Queen and the restaurants will cooperate. Certainly, we are at our restaurant (Fina's Diner)."

A \$300 disconnect/reconnect fee will be imposed on violators. To get reconnected a customer will also have to promise to comply with the water conservation restriction. The resolution includes a provision allowing the village to call on the New Mexico State Police to help enforce the ordinance.

"In a crisis situation we all have to buckle down," said Mayor Pro Tem Ernest Vigil. "In a crisis, this kicks in."

The mayor agreed.

"If we are not in a water emergency situation, the resolution is not in effect," Elbrock said.

Councilman Matthew Gallegos said residents need to understand the importance of conserving water.

Chama Village Water Plant officials worked furiously over the weekend and through Monday flushing the distribution system with hopes of lifting the boil water order sometime in the next two weeks.

Chama has been under a boil water advisory since April 23.

"All water pipes in the city are being flushed. It's taking a lot of water," said water operator Nicole Mangin, owner of Mountain Pacific Meter Tech Services, who is on contract with Chama.

Tierra Amarilla and Española are supplying the water. The National Guard is using two 6,000-gallon stainless steel tankers to transport it.

"We're back-washing all the filters and hope to have one side of the system flushed by (Tuesday)," Mangin said. "We have two units. The system is completely off-line at the moment (Monday)."

In other village business, the Council unanimously voted to cancel the Chama Days celebration. Preparation for the August event generally begins in February but due to the coronavirus pandemic, Village worker furloughs and an expected downturn in donations, the Council reluctantly canceled the event.

Western Heritage Days was also canceled.

However, the July Fourth celebration still has a chance. Councilors tabled a cancellation vote on the event until a special meeting, scheduled for Wednesday (6/3) in hopes that state officials will further relax some of the restrictions, as they did on May 28.

"I feel the whole tide could change by next week," Vigil said on May 27.

NOTICE OF AIR QUALITY PERMIT APPLICATION

DJR Operating, LLC announces its application to the New Mexico Environment Department for an air quality permit for the modification of its Marcus Compressor Station. The expected date of application submittal to the Air Quality Bureau is May 29, 2020.

The exact location for the facility known as, Marcus Compressor Station, is at latitude 36 deg. 14 min, 43.4 sec and longitude -107 deg, 32 min, 15.3 sec. The approximate location of this facility is 40.3 miles southeast of Bloomfield, NM in Rio Arriba County.

The proposed modification consists of changing the permit authorization from the existing General Construction Permit (GCP-1) to a New Source Review Permit as the GCP-1 is no longer available.

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

Pollutant:	Pounds per hour	Tons per year
PM 10	0.19 pph	0.84 tpy
PM 2.5	0.19 pph	0.84 tpy
Sulfur Dioxide (SO2)	0.03 pph	0.12 tpy
Nitrogen Oxides (NOx)	10.48 pph	45.91 tpy
Carbon Monoxide (CO)	15.73 pph	68.88 tpy
Volatile Organic Compounds (VOC)	76.17 pph	55.69 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	1.78 pph	7.78 tpy
Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO2e	n/a	9,930.34 tpy

The standard and maximum operating schedules of the facility will be 24 hours per day, 7 days a week, and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: DJR Operating, LLC; 1 Road 3263, Aztec, NM 87410.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009;

https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

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

Atención

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

Notice of Non-Discrimination

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Kristine Yurdin, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> to learn how and where to file a complaint of discrimination.



Get 1% Cash Back When You Move Your Auto Loan to us.*

Drive with style! • ziacu.org/cashbackauto

This credit union is federally insured by the National Credit Union Administration.

*All loans are subject to credit, income, debt, and membership qualifications. Offer is valid for auto loan refinancing applications submitted through 05/31/2020 and may be changed or discontinued at any time without notice. The ZAP down your rate may not be combined with this offer and the refinancing of an existing Zia CU auto loan is not eligible, nor is the refinancing of an auto loan previously held by Zia CU within 60 days prior to new application. 1.00% cash back is calculated based on the final total funded loan amount, including any ancillary products, with a maximum payout of \$500.00. Cash back will be paid 90 after closing the loan, by check or direct deposit into the member's account. Recipient is responsible for any applicable taxes related to the cash back payment. Other restrictions and conditions may apply; please visit a Zia CU branch or ziacu.org/cashbackauto for complete details.

Affidavit of Publication

State of New Mexico
County of Rio Arriba

I, Robert Trapp, being first duly sworn, declare and say I am the publisher of the Rio Grande SUN, a weekly newspaper published in the English language and having a general circulation in the County of Rio Arriba, State of New Mexico, and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 of the Session Laws of 1937. The publication, a copy of which is hereto attached, was published in said paper once each week for

Publisher's Bill

185 lines one time at \$148.00
_____ lines _____ times at _____

Affidavit \$50.00

Subtotal \$153.00

Tax \$13.67

Total \$166.67

1 consecutive weeks and on the same day of each week in the regular issue of the paper during the time of publication and the notice was published in the newspaper proper, and not in any supplement. The first publication being on the 4 day of June, 2020 and the last publication on the 4 day of June, 2020 payment for said advertisement has been duly made, or assessed as court costs. The undersigned has personal knowledge of the matters and things set forth in this affidavit.

Robert Trapp
Publisher

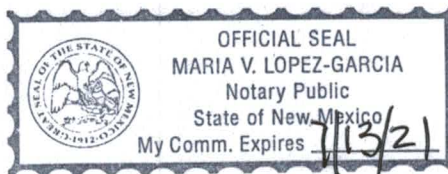
Payment received at Rio Grande SUN

Date June 1, 2020

By [Signature]

Subscribed and sworn to before me this 5th day of June A.D. 2020

[Signature]
Maria V. Lopez-Garcia/Notary Public
My commission expires 13 July 2021





cs / Questions / Concerns

Environmental Department, Air Quality Bureau located at 525 Camino de los
Suite 1, Santa Fe, New Mexico 87505-1816; (505) 476-4300;
24-7009."

ou like a reply?

ot a robot



! Your request has been received.

96.9 the Dog Rocks! • Farmington's Rock
[Listen Now] Listen Now on iHeartRadio

May 27, 2020

Dear KDAG radio:

DJR Operating, LLC kindly requests, according to New Mexico air quality regulations, that KDAG radio (96.9 FM) make the following public services announcement:

DJR Operating, LLC has applied for an NSR permit for their existing Marcus Compressor Station located at latitude: 36 degrees, 14 minutes, 43.4 seconds and longitude: -107 degrees, 32 minutes, 15.3 seconds. The plant is approximately 40.3 miles southeast of Bloomfield, NM. The proposed modification consists of changing the permit authorization from the existing General Construction Permit (GCP-1) to a New Source Review Permit as the GCP-1 is no longer available. Public notice of this change is being posted at the facility entrance, the USPS in Nageezi, the Bloomfield City Public Library, and also at the USPS in Bloomfield.

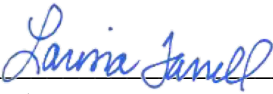
If you have any questions regarding this application, please contact the New Mexico Environmental Department, Air Quality Bureau located at 525 Camino de los Marquez, Suite 1, Santa Fe, New Mexico 87505-1816; (505) 476-4300; 1-800-224-7009.

General Posting of Notices – Certification

I, Larissa Farrell, the undersigned, certify that on **5/28/2020**, posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in the **City of Bloomfield and Nageezi (nearest public places)** of **San Juan County**, State of New Mexico on the following dates:

1. Facility Entrance 5/28/2020
2. USPS in Nageezi, NM 5/28/2020
3. Bloomfield City Public Library 5/28/2020
4. USPS in Bloomfield, NM 5/28/2020

Signed this 22 day of June, 2020,


Signature

6/22/2020
Date

Larissa Farrell
Printed Name

Regulatory Specialist
Title

NOTICE

DJR Operating, LLC announces its application to the New Mexico Environment Department for an air quality permit for the modification of its Marcus Compressor Station. The expected date of application submittal to the Air Quality Bureau is June 15, 2020.

The exact location for the facility known as, Marcus Compressor Station, is at latitude 36 deg, 14 min, 43.4 sec and longitude - 107 deg, 32 min, 15.3 sec. The approximate location of this facility is 40.3 miles southeast of Bloomfield, NM in Rio Arriba County.

The proposed modification consists of changing the permit authorization from the existing General Construction Permit (GCP-1) to a New Source Review Permit as the GCP-1 is no longer available.

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

Pollutant:	Pounds per hour	Tons per year
PM ₁₀	0.19 pph	0.84 tpy
PM _{2.5}	0.19 pph	0.84 tpy
Sulfur Dioxide (SO ₂)	0.03 pph	0.12 tpy
Nitrogen Oxides (NO _x)	10.48 pph	45.91 tpy
Carbon Monoxide (CO)	15.73 pph	68.88 tpy
Volatile Organic Compounds (VOC)	76.17 pph	55.69 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	1.78 pph	7.78 tpy
Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO _{2e}	n/a	9,930.34 tpy

The standard and maximum operating schedules of the facility will be 24 hours per day, 7 days a week, and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: DJR Operating, LLC; 1 Road 3263, Aztec, NM 87410.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

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

Atención

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

Notice of Non-Discrimination

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Kristine Yurdin, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> to learn how and where to file a complaint of discrimination.

MARCUS COMPRESSOR STATION

OWNER: ELM RIDGE EXPLORATION CO

OPERATOR: DJR OPERATING, LLC

116 ROAD 378

LYBROOK, NM. RIO ARRIBA COUNTY

SECTION 11 T-23-N R-7-W UNIT

N36° 14.7' W107° 32.3'

EMERGENCY CONTACT

**EMERGENCY CONTACT:
505-632-3476**

NOTICE

Notwithstanding to whom this notice is addressed, it shall be deemed to have been received by the addressee on the date hereon.

1. The undersigned hereby certifies that the information herein is true and correct to the best of its knowledge.

2. The undersigned hereby certifies that the information herein is true and correct to the best of its knowledge.

Item	Quantity	Unit Price	Total
100' x 100' x 12' Box	1	100.00	100.00
100' x 100' x 12' Box	1	100.00	100.00
100' x 100' x 12' Box	1	100.00	100.00
100' x 100' x 12' Box	1	100.00	100.00
100' x 100' x 12' Box	1	100.00	100.00
100' x 100' x 12' Box	1	100.00	100.00
100' x 100' x 12' Box	1	100.00	100.00
100' x 100' x 12' Box	1	100.00	100.00
100' x 100' x 12' Box	1	100.00	100.00
100' x 100' x 12' Box	1	100.00	100.00

3. The undersigned hereby certifies that the information herein is true and correct to the best of its knowledge.

4. The undersigned hereby certifies that the information herein is true and correct to the best of its knowledge.

5. The undersigned hereby certifies that the information herein is true and correct to the best of its knowledge.

**NO SMOKING
INSIDE FENCE
AREA**

1-855-

NOTICE

DIR Operating, LLC announces its application to the New Mexico Environment Department for an air quality permit for the modification of its Marcus Compressor Station. The expected date of application submittal to the Air Quality Bureau is June 15, 2020.

The exact location for the facility known as, Marcus Compressor Station, is at latitude 36 deg, 14 min, 43.4 sec and longitude 107 deg, 32 min, 15.3 sec. The approximate location of this facility is 40.3 miles southeast of Bloomfield, NM in Rio Arriba County.

The proposed modification consists of changing the permit authorization from the existing General Construction Permit (GCP-1) to a New Source Review Permit as the GCP-1 is no longer available.

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

Pollutant:	Pounds per hour	Tons per year
PM ₁₀	0.19 pph	0.84 tpy
PM _{2.5}	0.19 pph	0.84 tpy
Sulfur Dioxide (SO ₂)	0.03 pph	0.12 tpy
Nitrogen Oxides (NO _x)	10.48 pph	45.91 tpy
Carbon Monoxide (CO)	15.73 pph	68.88 tpy
Volatile Organic Compounds (VOC)	76.17 pph	55.69 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	1.78 pph	7.78 tpy
Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO _{2e}	n/a	9,930.34 tpy

The standard and maximum operating schedules of the facility will be 24 hours per day, 7 days a week, and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: DIR Operating, LLC, 1 Road 3263, Aztec, NM 87410.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager, New Mexico Environment Department, Air Quality Bureau, 525 Camino de los Marquez, Suite 1, Santa Fe, New Mexico, 87505-1816; (505) 476-4306; 1 800 224-7009; https://www.env.nm.gov/air/permits/air_quality_permitting/. Other comments and questions may be submitted verbally.

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

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Notice of Non-Discrimination

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975; Title IX of the Education Amendments of 1972; and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact Kristine Yordis, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, kd.Coordinator@state.nm.us. You may also visit our website at <https://www.env.nm.gov/non-employment-discrimination-consultant-team/> to learn how and where to file a complaint of discrimination.

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800-941-3738
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NOTICE

DJR Operating, LLC announces its application to the New Mexico Environment Department for an air quality permit for the modification of its Marcus Compressor Station. The expected date of application submittal to the Air Quality Bureau is June 15, 2020.

The exact location for the facility known as, Marcus Compressor Station, is at latitude 36 deg, 14 min, 43.4 sec and longitude 107 deg, 32 min, 15.3 sec. The approximate location of this facility is 40.3 miles southeast of Bloomfield, NM in Rio Arriba County.

The proposed modification consists of changing the permit authorization from the existing General Construction Permit (GCP-1) to a New Source Review Permit as the GCP-1 is no longer available.

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

Pollutant:	Pounds per hour	Tons per year
PM ₁₀	0.19 pph	0.84 tpy
PM _{2.5}	0.19 pph	0.84 tpy
Sulfur Dioxide (SO ₂)	0.03 pph	0.12 tpy
Nitrogen Oxides (NO _x)	10.48 pph	45.92 tpy
Carbon Monoxide (CO)	15.73 pph	68.88 tpy
Volatile Organic Compounds (VOC)	76.17 pph	55.69 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	1.78 pph	7.78 tpy
Toxic Air Pollutants (TAP)	n/a	n/a
Green House Gas Emissions as Total CO ₂ e	n/a	9,930.34 tpy

The standard and maximum operating schedules of the facility will be 24 hours per day, 7 days a week, and a maximum of 32 weeks per year.

The owner and/or operator of the Facility is: DJR Operating, LLC, 1 Road 3283, Artes, NM 87410.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager, New Mexico Environment Department, Air Quality Bureau, 525 Camino de los Marquez, Suite 3, Santa Fe, New Mexico, 87505-1816; (505) 476-4366; 1 800 224-7009; https://www.enr.nm.gov/air/permits/air_quality_permit.html. Other comments and questions may be submitted verbally.

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the Age Discrimination Act of
Federal Water Pollution Control Act
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Department, 1190 St. Francis
n.nm.gov. If you believe that you
the Non-Discrimination
html to learn how and where to

NOTICE

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Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO ₂ e	n/a	9,930.34 tpy

The standard and maximum operating schedules of the facility will be 24 hours per day, 7 days a week, and a maximum of 52 weeks per year.

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County Executive Office
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Albino, NY 13740

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New Mexico State Land Office
P.O. Box 199
Santa Fe, NY 87509

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County Manager
Rio Arriba County Annex Building
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Albuquerque, NY 87122

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BLM
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Santa Fe, NY 87506

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Office of Navajo Land Administration
P.O. Box 2289
Window Rock, AZ 86515

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Jicarilla Apache Nation
P.O. Box 507
Duke, NY 87128

May 27, 2020

Dear Bureau of Land Management:

DJR Operating, LLC announces its application to the New Mexico Environment Department for an air quality permit for the modification of its Marcus Compressor Station. The expected date of application submittal to the Air Quality Bureau is May 29, 2020.

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Volatile Organic Compounds (VOC)	76.17 pph	55.69 tpy
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Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO _{2e}	n/a	9,930.34 tpy

The standard and maximum operating schedules of the facility will be 24 hours per day, 7 days a week, and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: DJR Operating, LLC; 1 Road 3263, Aztec, NM 87410.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

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May 27, 2020

Dear State of New Mexico:

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May 27, 2020

Dear Navajo Nation:

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The standard and maximum operating schedules of the facility will be 24 hours per day, 7 days a week, and a maximum of 52 weeks per year.

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May 27, 2020

Dear Rio Arriba County Manager:

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May 27, 2020

Dear San Juan County Manager:

DJR Operating, LLC announces its application to the New Mexico Environment Department for an air quality permit for the modification of its Marcus Compressor Station. The expected date of application submittal to the Air Quality Bureau is May 29, 2020.

The exact location for the facility known as, Marcus Compressor Station, is at latitude 36 deg, 14 min, 43.4 sec and longitude - 107 deg, 32 min, 15.3 sec. The approximate location of this facility is 40.3 miles southeast of Bloomfield, NM in Rio Arriba County.

The proposed modification consists of changing the permit authorization from the existing General Construction Permit (GCP-1) to a New Source Review Permit as the GCP-1 is no longer available.

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

Pollutant:	Pounds per hour	Tons per year
PM ₁₀	0.19 pph	0.84 tpy
PM _{2.5}	0.19 pph	0.84 tpy
Sulfur Dioxide (SO ₂)	0.03 pph	0.12 tpy
Nitrogen Oxides (NO _x)	10.48 pph	45.91 tpy
Carbon Monoxide (CO)	15.73 pph	68.88 tpy
Volatile Organic Compounds (VOC)	76.17 pph	55.69 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	1.78 pph	7.78 tpy
Toxic Air Pollutant (TAP)	n/a	n/a
Green House Gas Emissions as Total CO _{2e}	n/a	9,930.34 tpy

The standard and maximum operating schedules of the facility will be 24 hours per day, 7 days a week, and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: DJR Operating, LLC; 1 Road 3263, Aztec, NM 87410.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

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

Atención

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

Notice of Non-Discrimination

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Kristine Yurdin, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> to learn how and where to file a complaint of discrimination.

May 27, 2020

Dear Sandoval County Manager:

DJR Operating, LLC announces its application to the New Mexico Environment Department for an air quality permit for the modification of its Marcus Compressor Station. The expected date of application submittal to the Air Quality Bureau is May 29, 2020.

The exact location for the facility known as, Marcus Compressor Station, is at latitude 36 deg, 14 min, 43.4 sec and longitude - 107 deg, 32 min, 15.3 sec. The approximate location of this facility is 40.3 miles southeast of Bloomfield, NM in Rio Arriba County.

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Green House Gas Emissions as Total CO _{2e}	n/a	9,930.34 tpy

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May 27, 2020

Dear Jicarilla Apache Nation:

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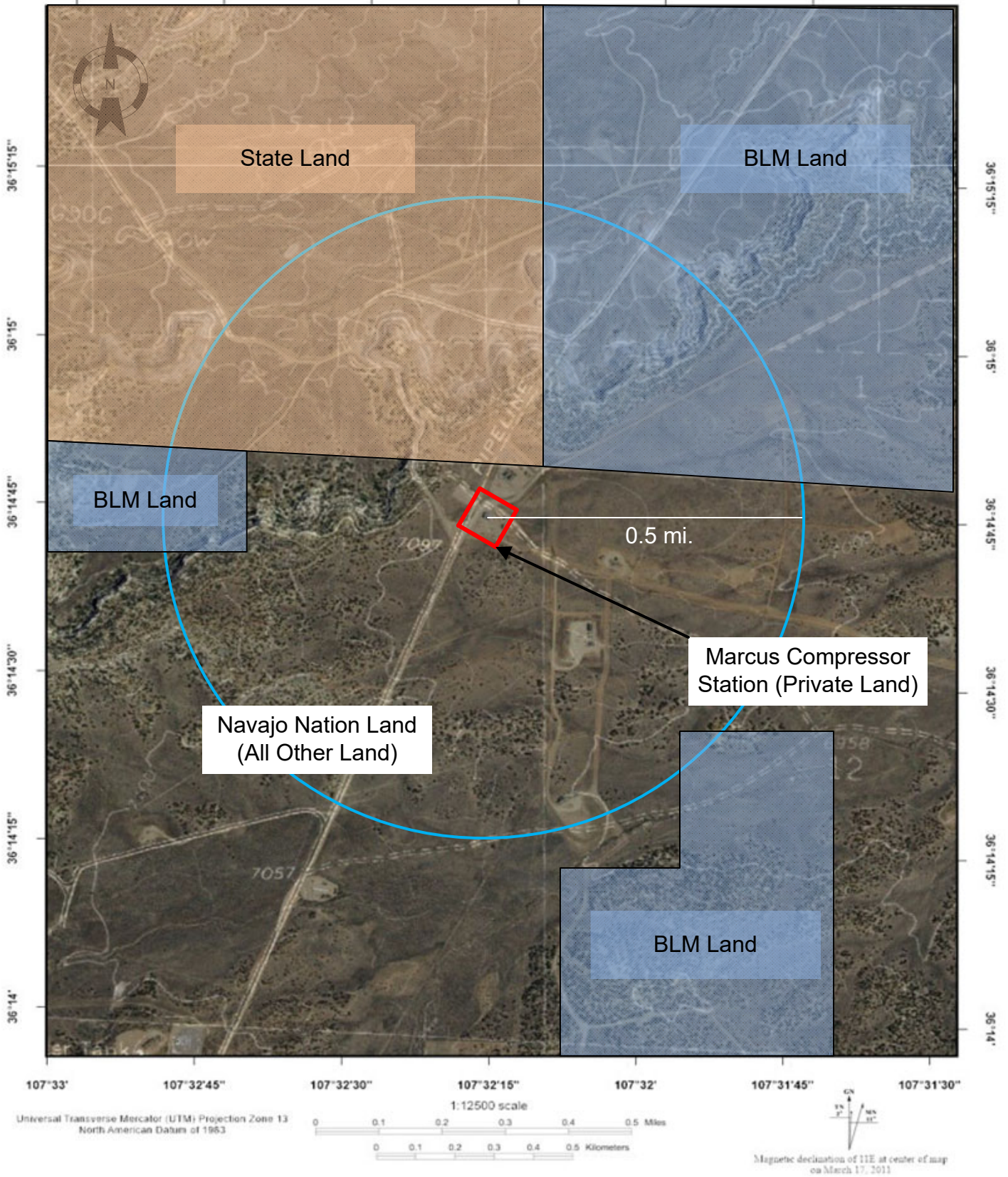
Atención

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107°33' 107°32'45" 107°32'30" 107°32'15" 107°32' 107°31'45"



36°15'15"
36°15'
36°14'45"
36°14'30"
36°14'15"
36°14'



Area Map

DJR Operating, LLC

Scale: 1:12,500	Drawn by: MLS	Date: 4/30/2020
	Chk'd by:	Date:

Marcus Compressor Station
36°14'43.44"N Latitude
107°32'15.25"W Longitude

Project No.:
077-012

File Name:
Marcus Figures

Figure:
Section 9

Statement of Taxes Due

Account Number R024284

Parcel 2037137128310

Assessed To

UNITED STATES OF AMERICA

Legal Description

Situs Address

S: 00 T: 23N R: 07W S: 11 T: 23N R: 07W PORTION OF S: 12 T: 23N R: 07W PORTION OF S: 13 T: 23N R: 07W PORTION OF S:
 14 T: 23N R: 07W PORTION OF 1327.20
 , BK.124 PG.182-185
 BK.148 PG.754-755
 BK.160 PG.961-64
 BK.164 PG.381
 BK.191 PG.763

Year	Tax	Interest	Fees	Payments	Balance
Grand Total Due as of 04/30/2020					\$0.00

Tax Billed at 2019 Rates for Tax Area 53_NR - 53_NR

Authority	Mill Levy	Amount	Values	Actual	Assessed
County Hospital	4.2500000	\$0.00	EXEMPT USA LAND	\$7,962	\$2,654
COUNTY NON-RES OPERATIONAL	11.8500000	\$0.00	Total	\$7,962	\$2,654
STATE	1.3600000	\$0.00			
NORTHERN NM COLLEGE-BRANCH	2.0000000	\$0.00			
SCHOOL 53 NON-RES SCHOOL DI	2.0000000	\$0.00			
SCHOOL 53 NON-RES SCHOOL DI	0.5000000	\$0.00			
CUBA SWCD	1.0000000	\$0.00			
Taxes Billed 2019	22.9600000	\$0.00			

Rio Arriba County Treasurer P. O. Box 548 Tierra Amarilla, NM 87575 575-588-7727

Property Profile Rio Arriba County

Account: R024284 Tax Year: 2021 Account Type:
 Mill Levy: 22.960000 Version: 08/12/2016 Area ID: 53_NR
 Estimated Tax: \$0.00 Parcel: 2-037-137-128-310 Map Number:
 *This mill levy is from the most recent tax roll Status: Active

Name and Address Information	Property Location
UNITED STATES OF AMERICA	No Location Information Available

Legal Description
 S: 00 T: 23N R: 07W S: 11 T: 23N R: 07W PORTION OF S: 12 T: 23N R: 07W PORTION OF S:
 13 T: 23N R: 07W PORTION OF S: 14 T: 23N R: 07W PORTION OF 1327.20
 , BK.124 PG.182-185
 BK.148 PG.754-755
 BK.160 PG.961-64
 BK.164 PG.381

Assessment Information

2021	Actual	Assessed	Sq Ft	Acres	Taxable
Land	0	0			
Improvements					
Exempt	7,962	2,654			
Total	7,962	2,654			-2,654
2020	Actual	Assessed	Sq Ft	Acres	Taxable
Land	0	0			
Improvements					
Exempt	7,962	2,654			
Total	7,962	2,654		13.270	2,654

User Remarks



Section 10

Written Description of the Routine Operations of the Facility

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

The Marcus Compressor Station is a natural gas compressor station with natural gas entering the station through an inlet separator. The gas from the inlet separator is sent to the compressor engines where the gas is compressed then sent to the dehydration unit. Once the gas passes through the dehydration unit, it is sent off site via pipeline. The liquids from inlet separator are sent to the condensate tanks and water storage tank. The Marcus Compressor Station compresses natural gas to facilitate the transport of the natural gas via pipeline. The facility includes the following regulated emission sources:

- Two (2) compressor engines (Unit: CMP-1 & CMP-2);
- Three (3) storage tanks (Units: TK1, TK2 & TK-3);
- One (1) Dehydration Unit (Unit: DEHY-1);
- One (1) Reboiler (Unit: D-1);
- Condensate Truck loading (Unit: LOAD-COND)
- Produced Water Truck Loading (Unit: LOAD-WATER)
- Facility-wide fugitive emissions (Unit: FUG);
- Startup, shutdown, maintenance, and malfunction emissions (Units SSM and M)

Section 11

Source Determination

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

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

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

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

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

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

Yes **No**

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

Yes **No**

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

Yes **No**

C. Make a determination:

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

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 application/modification are not significant as the site is not considered a major stationary source. The “project” emissions listed below do only result from changes described in this permit application, thus no emissions from other revisions or modifications, past or future to this facility. Also, specifically discuss whether this project results in “de-bottlenecking”, or other associated emissions resulting in higher emissions. The project emissions (before netting) for this project are as follows [see Table 2 in 20.2.74.502 NMAC for a complete list of significance levels]:**

- a. **NOx: 45.91 TPY**
- b. **CO: 68.88 TPY**
- c. **VOC: 55.69 TPY**
- d. **SOx: 0.12 TPY**
- e. **PM: 0.84 TPY**
- f. **PM10: 0.84 TPY**
- g. **PM2.5: 0.84 TPY**
- h. **Fluorides: 0.0 TPY**
- i. **Lead: 0.0 TPY**
- j. **Sulfur compounds (listed in Table 2): 0.0 TPY**
- k. **GHG: 9,930.34 TPY**

C. If this is an existing PSD major source, or any facility with emissions greater than 250 TPY (or 100 TPY for 20.2.74.501 Table 1 – PSD Source Categories), determine whether any permit modifications are related, or could be considered a single project with this action, and provide an explanation for your determination whether a PSD modification is triggered.

Not applicable as this site is not an existing PSD major source.

The Marcus Compressor Station is not considered a major stationary source under 20.2.74. This application is being submitted under 20.2.72.200. There is no de-bottlenecking associated with this application as the site is intended to operate at maximum capacity at all times.

Section 13

Determination of State & Federal Air Quality Regulations

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

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

Required Information for Specific Equipment:

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

Required Information for Regulations that Apply to the Entire Facility:

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

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

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

Regulatory Citations for Emission Standards:

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

Federally Enforceable Conditions:

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

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

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

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

Table for STATE REGULATIONS:

<u>STATE REGULATIONS</u> CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.1 NMAC	General Provisions	Yes	Facility	General Provisions apply to Notice of Intent, Construction, and Title V permit applications.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes	Facility	If subject, this would normally apply to the entire facility. 20.2.3 NMAC is a State Implementation Plan (SIP) approved regulation that limits the maximum allowable concentration of, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. Title V applications, see exemption at 20.2.3.9 NMAC The TSP NM ambient air quality standard was repealed by the EIB effective November 30, 2018.
20.2.7 NMAC	Excess Emissions	Yes	Facility	If subject, this would normally apply to the entire facility. If your entire facility or individual pieces of equipment are subject to emissions limits in a permit or numerical emissions standards in a federal or state regulation, this applies. This would not apply to Notices of Intent since these are not permits.
20.2.23 NMAC	Fugitive Dust Control	No for permitted facilities, possible for NOIs	Facility	This regulation may apply if, this is an application for a notice of intent (NOI) per 20.2.73 NMAC, if the activity or facility is a fugitive dust source listed at 20.2.23.108.A NMAC, and if the activity or facility is located in an area subject to a mitigation plan pursuant to 40 CFR 51.930. http://164.64.110.134/parts/title20/20.002.0023.html As of January 2019, the only areas of the State subject to a mitigation plan per 40 CFR 51.930 are in Doña Ana and Luna Counties. Sources exempt from 20.2.23 NMAC are activities and facilities subject to a permit issued pursuant to the NM Air Quality Control Act, the Mining Act, or the Surface Mining Act (20.2.23.108.B NMAC). 20.2.23.108 APPLICABILITY: A. This part shall apply to persons owning or operating the following fugitive dust sources in areas requiring a mitigation plan in accordance with 40 CFR Part 51.930: (1) disturbed surface areas or inactive disturbed surface areas, or a combination thereof, encompassing an area equal to or greater than one acre; (2) any commercial or industrial bulk material processing, handling, transport or storage operations. B. The following fugitive dust sources are exempt from this part: (1) agricultural facilities, as defined in this part; (2) roadways, as defined in this part; (3) operations issued permits pursuant to the state of New Mexico Air Quality Control Act, Mining Act or Surface Mining Act; and (4) lands used for state or federal military activities. [20.2.23.108 NMAC - N, 01/01/2019]
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No		This regulation does not apply to internal combustion equipment such as engines. It only applies to external combustion equipment such as heaters or boilers. The Glycol Reboiler at this facility is rated at less than 1MMBtu/hr; therefore, this regulation does not apply.
20.2.34 NMAC	Oil Burning Equipment: NO ₂	No		This regulation does not apply to internal combustion equipment such as engines. It only applies to external combustion equipment such as heaters or boilers. This facility has oil burning equipment (external combustion emission sources, such as oil fired boilers and heaters) having a heat input of greater than 1,000,000 million British Thermal Units per year per unit.
20.2.35	Natural Gas	No		This regulation could apply to existing (prior to July 1, 1974) or new (on or after

STATE REGULATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
NMAC	Processing Plant – Sulfur			July 1, 1974) natural gas processing plants that use a Sulfur Recovery Unit to reduce sulfur emissions. See ‘Guidance and Clarification Regarding Applicability of 20.2.35 NMAC’ located with the Air Quality Bureau’s Permit Section website guidance documents.
20.2.37 and 20.2.36 NMAC	Petroleum Processing Facilities and Petroleum Refineries	N/A	N/A	These regulations were repealed by the Environmental Improvement Board. If you had equipment subject to 20.2.37 NMAC before the repeal, your combustion emission sources are now subject to 20.2.61 NMAC.
20.2.38 NMAC	Hydrocarbon Storage Facility	No		This regulation could apply to storage tanks at petroleum production facilities, processing facilities, tanks batteries, or hydrocarbon storage facilities. There are no tanks or tank batteries that meet the storage capacity and weekly throughput requirements that would trigger this requirement.
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No		This regulation could apply to sulfur recovery plants that are not part of petroleum or natural gas processing facilities.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	CMP-1, CMP-2, D-1	This regulation that limits opacity to 20% applies to Stationary Combustion Equipment, such as engines, boilers, heaters, and flares unless your equipment is subject to another state regulation that limits particulate matter such as 20.2.19 NMAC (see 20.2.61.109 NMAC). If equipment at your facility was subject to the repealed regulation 20.2.37 NMAC it is now subject to 20.2.61 NMAC.
20.2.70 NMAC	Operating Permits	No		If subject, this would normally apply to the entire facility. Applies if your facility’s potential to emit (PTE) is 100 tpy or more of any regulated air pollutant other than HAPs; and/or a HAPs PTE of 10 tpy or more for a single HAP or 25 or more tpy for combined HAPs; is subject to a 20.2.79 NMAC nonattainment permit; or is a facility subject to a federal regulation that requires you to obtain a Title V permit such as landfills or air curtain incinerators. Include both stack and fugitive emissions to determine the HAP’s PTE regardless of the facility type. If your facility is one of those listed at 20.2.70.7(2)(a) through (aa) state which source type your facility is and count both fugitive and stack emissions to determine your PTE. If your facility is not in this (a) through (aa) list, count only stack emissions to determine your PTE. Landfills and Air Curtain Incinerators are not Title V Major Sources, but it would apply pursuant to 20.2.70.200.B NMAC.
20.2.71 NMAC	Operating Permit Fees	No		If subject to 20.2.70 NMAC and your permit includes numerical ton per year emission limits, you are subject to 20.2.71 NMAC and normally applies to the entire facility.
20.2.72 NMAC	Construction Permits	Yes	Facility	If subject, this would normally apply to the entire facility. Could apply if your facility’s potential emission rate (PER) is greater than 10 pph or greater than 25 tpy for any pollutant subject to a state or federal ambient air quality standard (does not include VOCs or HAPs); if the PER of lead is 5 tpy or more; if your facility is subject to 20.2.72.400 NMAC; or if you have equipment subject to 40 CFR 60 Subparts I and OOO, 40 CFR 61 Subparts C and D. Include both stack and fugitive emissions to determine PER.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	No		20.2.73.200 NMAC (NOI) does not apply as the site emits more than the threshold levels. As this site will not be a Title V major source, Emissions Inventory Reporting per 20.2.73.300 NMAC is not expected to be applicable. DJR understands that NMED may still request Emissions Inventory Reporting be completed.

<u>STATE REGU- LATIONS</u> CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No		Not applicable as the physical change occurring with this application does not qualify under paragraphs (1) or (2) of this subsection and the change does constitute a major stationary source by itself (an increase of 250 tpy or more) (20.2.74.7.AG(3)).
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	As this application is being submitted under 20.2.72, this regulation applies.
20.2.77 NMAC	New Source Performance	No		The engines were manufactured prior to June 12, 2006; therefore Subpart JJJJ is not applicable. The tanks, compressors and fugitive components were constructed prior to 2011; therefore Subpart OOOO and OOOOa is not applicable.
20.2.78 NMAC	Emission Standards for HAPS	No		There are no requirements under 40 CFR Part 61 that are applicable to this site.
20.2.79 NMAC	Permits – Nonattainment Areas	No		This site is not located in a nonattainment area.
20.2.80 NMAC	Stack Heights	No		Not applicable as the stack heights for the engines follow good engineering practice.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	CMP-1, CMP-2	As the engines are located at an area source of HAPs and are considered new stationary RICE, the requirements of 40 CFR Part 63 Subpart ZZZZ will be met.

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

<u>FEDERAL REGU- LATIONS</u> CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
40 CFR 50	NAAQS	Yes	Facility	If subject, this would normally apply to the entire facility. This applies if you are subject to 20.2.70, 20.2.72, 20.2.74, and/or 20.2.79 NMAC.
NSPS 40 CFR 60, Subpart A	General Provisions	No		Applies if any other Subpart in 40 CFR 60 applies.
NSPS 40 CFR60.40a, Subpart Da	Subpart Da, Performance Standards for Electric Utility Steam Generating Units	No		There are no steam generating units at the facility.

<u>FEDERAL REGULATIONS CITATION</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
NSPS 40 CFR60.40b Subpart Db	Electric Utility Steam Generating Units	No		There are no steam generating units at the facility.
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	No		There are no steam generating units at the facility.
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		Not applicable as the storage tanks (TK-1 and TK-2) commenced construction after July 23, 1984.
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		Not applicable as the storage tanks (TK-1, TK-2, and TK-3) have a capacity less than 75 cubic meters (m ³).
NSPS 40 CFR 60.330 Subpart GG	Stationary Gas Turbines	No		There are no stationary combust turbines onsite.
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from Onshore Gas Plants	No		The Marcus Compressor Station is not considered an onshore natural gas processing plant.
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for Onshore Natural Gas Processing: SO₂ Emissions	No		The Marcus Compressor Station is not considered a natural 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	No		The rule applies to “affected” facilities that are constructed, modified, or reconstructed after Aug 23, 2011 (40 CFR 60.5365): gas wells, including fractured and hydraulically refractured wells, centrifugal compressors, reciprocating compressors, pneumatic controllers, certain equipment at natural gas processing plants, sweetening units at natural gas processing plants, and storage vessels. The Marcus Compressor Station and all equipment and components were

<u>FEDERAL REGU- LATIONS CITATION</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
	construction, modification or reconstruction commenced after August 23, 2011 and before September 18, 2015			constructed prior to 2011.
NSPS 40 CFR Part 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015	No		The Marcus Compressor Station and all equipment and components were constructed prior to 2011.
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	No		There are no compression ignition engines at this site.
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	No		The two engines (CMP-1 and CMP-2) at the Marcus Compressor Station were constructed prior to June 12, 2006.
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	No		There are no electric generating units at this facility.
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	No		There are no electric generating units at this facility.
NSPS 40 CFR 60, Subparts WWW, XXX, Cc, and Cf	Standards of performance for Municipal Solid Waste (MSW) Landfills	No		The site is not a MSW Landfill.
NESHAP 40 CFR 61 Subpart A	General Provisions	No		Applies if any other Subpart in 40 CFR 61 applies.
NESHAP 40 CFR 61 Subpart E	National Emission Standards for Mercury	No		The provisions of this subpart are applicable to those stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge

<u>FEDERAL REGULATIONS CITATION</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
NESHAP 40 CFR 61 Subpart V	National Emission Standards for Equipment Leaks (Fugitive Emission Sources)	No		The provisions of this subpart apply to each of the following sources that are intended to operate in volatile hazardous air pollutant (VHAP) service: pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and control devices or systems required by this subpart. VHAP service means a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 10 percent by weight of VHAP. VHAP means a substance regulated under this subpart for which a standard for equipment leaks of the substance has been promulgated. Benzene is a VHAP (See 40 CFR 61 Subpart J). Link to 40 CFR 61 Subpart V Note: If 40 CFR 60 also applies source only needs to comply with this part. Not applicable as there are no sources at this site that are intended to operate in VHAP service.
MACT 40 CFR 63, Subpart A	General Provisions	Yes	CMP-1, CMP-2	Applies if any other Subpart in 40 CFR 63 applies. CMP-1 and CMP-2
MACT 40 CFR 63.760 Subpart HH	Oil and Natural Gas Production Facilities	Yes	DEHY-1	The facility is not a major source of HAPs but does operate a TEG dehydration unit that could trigger the area source portion of the regulation.
MACT 40 CFR 63 Subpart HHH		No		This subpart applies to owners and operators of natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user (if there is no local distribution company), and that are major sources of hazardous air pollutants (HAP) emissions as defined in §63.1271. See link below 40 CFR 63 Subpart HHH Not applicable as this site is not a major source of HAP emissions.
MACT 40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters	No		See 63.7480 EPA Guidance Page: https://www.epa.gov/boilers The 0.25 MMBtu/hr Glycol Reboiler 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		No applicable as there are no electric utility steam generating units at this site.
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion	Yes	CMP-1, CMP-2	See 63.6580 and EPA Region 1's Reciprocating Internal Combustion Guidance website.

<u>FEDERAL REGU- LATIONS CITATION</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
	Engines (RICE MACT)			
40 CFR 64	Compliance Assurance Monitoring	No		Applies only to Title V Major Sources. As this site is not a Title V major source, Part 64 does not apply.
40 CFR 68	Chemical Accident Prevention	No		The facility does not maintain onsite more than the threshold quantity of any material covered by this regulation.
Title IV – Acid Rain 40 CFR 72	Acid Rain	No		Does not apply because 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		Does not apply because the facility does not generate commercial electric power or electric power for sale.
Title IV-Acid Rain 40 CFR 75	Continuous Emissions Monitoring	No		Does not apply because 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		Does not apply because 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	Does not apply as this facility does not: (40 CFR 82.1 and 82.100) produce, transform, destroy, import or export a controlled substance or import or export a controlled product; (40 CFR 82.30) perform service on a motor vehicle for consideration when this service involves the refrigerant in the motor vehicle air conditioner; (82.150) service, maintain, or repair appliances, dispose of appliances, refrigerant reclaimers, if you are an owner or operator of an appliance , if you are a manufacturer of appliances or of recycling and recovery equipment, if you are an approved recycling and recovery equipment testing organization, and/or if you sell or offer for sell or purchase class I or class I 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.
-

DJR will establish and implement an operational plan to mitigate source emissions during malfunction, startup, or shutdown and a plan to minimize emissions during routine or predicable startup, shutdown, or scheduled maintenance. These plans will include startup and shutdown procedures either based on manufacturer's recommendations or based on DJR's experience with specific equipment. These procedures are designed to proactively address the potential for malfunction to the greatest extent possible. These procedures dictate a sequence of operations that are designed to minimize emissions from the facility during events that result in shutdown and subsequent startup.

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

Section 15

Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

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

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

This facility will operate on a continuous basis with no 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:	Marcus Compressor Station
2	Name of company:	DJR Operating, LLC
3	Current Permit number:	GCP-1 3280-M1
4	Name of applicant’s modeler:	Martin R. Schluep
5	Phone number of modeler:	(505) 205-4819
6	E-mail of modeler:	mschluep@alliantenv.com

16-B: Brief		
1	Was a modeling protocol submitted and approved?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2	Why is the modeling being done?	Other (describe below)
3	<p>Describe the permit changes relevant to the modeling.</p> <p>DJR Operating, LLC (DJR) owns and operates the Marcus Compressor Station located in Rio Arriba County, NM. The Marcus Compressor Station currently operates under permit GCP-1-3280-M1. NMED is requiring sites permitted under a GCP-1 or GCP-4 to convert their permit to a GCP-Oil & Gas (if able to qualify under the new permit) as the GCP-1 and GCP-4 are set to expire in the next few years. As such, DJR is submitting this application pursuant to 20.2.72.219.D NMAC.</p> <p>The Rincon Compressor Station, owned and operated by Harvest Midstream, was granted a construction permit by NMED and authorized to operate its facility near the Marcus Compressor Station. Unfortunately, the distance limitation in the Oil & Gas GCP of 150 meters between the Marcus Compressor Station engine stack and the closest stack at the Rincon Compressor Station emitting greater than 25 tpy can’t be met, even though the Marcus Compressor Station was constructed years before the Rincon</p>	

	Compressor Station. This is the reason why DJR is not allowed to transform the existing GCP-1 to the new Oil & Gas GCP. As a results, a case-by-case NSR construction permit and initial air dispersion modeling is now required for this facility.		
4	What geodetic datum was used in the modeling?	NAD83	
5	How long will the facility be at this location?	Permanent	
6	Is the facility a major source with respect to Prevention of Significant Deterioration (PSD)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
7	Identify the Air Quality Control Region (AQCR) in which the facility is located	157	
8	List the PSD baseline dates for this region (minor or major, as appropriate).		
	NO2	Not established	
	SO2	Not established	
	PM10	Not established	
	PM2.5	Not established	
9	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits).		
	The nearest Class I area is San Pedro Parks Wilderness (over 67 km from the site)		
10	Is the facility located in a non-attainment area? If so describe below	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
11	Describe any special modeling requirements, such as streamline permit requirements.		
	N/A		

16-C: Modeling History of Facility

1	Describe the modeling history of the facility, including the air permit numbers, the pollutants modeled, the National Ambient Air Quality Standards (NAAQS), New Mexico AAQS (NMAAQs), and PSD increments modeled. (Do not include modeling waivers). There is no modeling history at this site since it currently operates under a GCP-1.			
	Pollutant	Latest permit and modification number that modeled the pollutant facility-wide.	Date of Permit	Comments
	CO	N/A		
	NO ₂	N/A		
	SO ₂	N/A		
	H ₂ S	N/A		
	PM _{2.5}	N/A		
	PM ₁₀	N/A		
	TSP	N/A		
	Lead	N/A		
	Ozone (PSD only)	N/A		
NM Toxic Air Pollutants (20.2.72.402 NMAC)	N/A			

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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	NO ₂	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	SO ₂	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	H ₂ S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	PM _{2.5}	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	PM ₁₀	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	TSP (N/A)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Lead	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Ozone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
State air toxic(s) (20.2.72.402 NMAC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

16-E: New Mexico toxic air pollutants modeling

1	List any New Mexico toxic air pollutants (NMTAPs) from Tables A and B in 20.2.72.502 NMAC that are modeled for this application. N/A – There are no New Mexico TAPs that are modeled for this application.					
2	List any NMTAPs that are emitted but not modeled because stack height correction factor. Add additional rows to the table below, if required.					
	Pollutant	Emission Rate (pounds/hour)	Emission Rate Screening Level (pounds/hour)	Stack Height (meters)	Correction Factor	Emission Rate/ Correction Factor

16-F: Modeling options

1	Was the latest version of AERMOD used with regulatory default options? If not explain below.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

16-G: Surrounding source modeling

1	Date of surrounding source retrieval	4/20/2020 (from NMED – Eric Peters)
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

Various	Deleted Marcus Compressor Station sources since that is the site we are modeling for.

16-H: Building and structure downwash

1	How many buildings are present at the facility?	There are no closed buildings. The engines are covered, but the cover is open on the sides.		
2	How many above ground storage tanks are present at the facility?	Three (3) above ground storage tanks		
3	Was building downwash modeled for all buildings and tanks? If not explain why below.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
4	Building comments	No comments		

16-I: Receptors and modeled property boundary

1	<p>“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.</p> <p>Describe the fence or other physical barrier at the facility that defines the restricted area.</p>					
	The restricted area at the facility is defined by a fence and entry gates.					
2	Receptors must be placed along publicly accessible roads in the restricted area. Are there public roads passing through the restricted area?				Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
3	Are restricted area boundary coordinates included in the modeling files?				Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
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
5	Describe receptor spacing along the fence line.					
	<p>Fenceline receptors were placed along the facility boundary at least every 50-meters in linear fenceline distance.</p> <p>A rectangular fine grid receptor array was placed at 100- by 100-meter spacing from the fenceline outward to 1,000 meters in all directions.</p>					

	<p>A medium receptor grid was placed at 250- by 250-meter spacing from the fine grid to areas beyond 2,500 meters if the radius of impact exceeds 1,000 meters.</p> <p>A coarse receptor was placed at 500- by 500-meter spacing from the medium grid to areas beyond 5,000 meters if the radius of impact exceeds 2,500 meters.</p> <p>A coarse receptor was placed at 1,000- by 1,000-meter spacing from the medium grid to areas beyond 10,000 meters but no more than 50,000 meters, if the radius of impact exceeds 5,000 meters.</p>
6	<p>Describe the PSD Class I area receptors.</p> <p>PSD Class I area receptors are not applicable.</p>

16-J: Sensitive areas			
1	<p>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.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
3	<p>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?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

16-K: Modeling Scenarios											
1	<p>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).</p> <p>All sources as applicable were modeled as one scenario. The site does not have SSM/M emissions that require modeling (only have VOC SSM/M).</p>										
2	<p>Which scenario produces the highest concentrations? Why?</p> <p>N/A – only one scenario was modeled</p>										
3	<p>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.)</p>									Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
4	<p>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: N/A</p>										
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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>

16-L: NO₂ Modeling

1	Which types of NO ₂ modeling were used? Check all that apply.		
	<input checked="" type="checkbox"/>	ARM2	
	<input type="checkbox"/>	100% NO _x to NO ₂ conversion	
	<input type="checkbox"/>	PVMRM	
	<input type="checkbox"/>	OLM	
<input type="checkbox"/>	Other:		
2	Describe the NO ₂ modeling. ARM2 was used to convert from NO _x to NO ₂ .		
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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>
4	Describe the design value used for each averaging period modeled. 1-hour: High eighth high Annual: Highest Annual Average of Three Years		

16-M: Particulate Matter Modeling

1	Select the pollutants for which plume depletion modeling was used.	
	<input type="checkbox"/>	PM2.5
	<input type="checkbox"/>	PM10
<input checked="" type="checkbox"/>	None	
2	Describe the particle size distributions used. Include the source of information. N/A	

3	Does the facility emit at least 40 tons per year of NO _x or at least 40 tons per year of SO ₂ ? Sources that emit at least 40 tons per year of NO _x or at least 40 tons per year of SO ₂ are considered to emit significant amounts of precursors and must account for secondary formation of PM _{2.5} .			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
4	Was secondary PM modeled for PM _{2.5} ?			Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
5	If MERPs were used to account for secondary PM _{2.5} fill out the information below. If another method was used describe below.				
	NO _x (ton/yr)	SO ₂ (ton/yr)	[PM _{2.5}] _{annual}	[PM _{2.5}] _{24-hour}	
	47.84	0.11	0.01 ug/m ³	0.003 ug/m ³	
	Note, even by adding the secondary PM _{2.5} to the modeled PM _{2.5} , the concentrations are below the SIL.				

16-N: Setback Distances

1	Portable sources or sources that need flexibility in their site configuration requires that setback distances be determined between the emission sources and the restricted area boundary (e.g. fence line) for both the initial location and future locations. Describe the setback distances for the initial location.
	N/A
2	Describe the requested, modeled, setback distances for future locations, if this permit is for a portable stationary source. Include a haul road in the relocation modeling.
	N/A

16-O: PSD Increment and Source IDs

1	The unit numbers in the Tables 2-A, 2-B, 2-C, 2-E, 2-F, and 2-I should match the ones in the modeling files. Do these match? If not, provide a cross-reference table between unit numbers if they do not match below.			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	Unit Number in UA-2		Unit Number in Modeling Files		
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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>
3	Have the minor NSR exempt sources or Title V Insignificant Activities" (Table 2-B) sources been modeled?			Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
4	Which units consume increment for which pollutants? Units CMP-1, CMP-2, and D-1 consume increments for NO₂ only.				
	Unit ID	NO ₂	SO ₂	PM10	PM2.5
5	PSD increment description for sources. (for unusual cases, i.e., baseline unit expanded emissions after baseline date).		N/A		
	Are all the actual installation dates included in Table 2A of the application form, as required?			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

6	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.		

16-P: Flare Modeling

1	For each flare or flaring scenario, complete the following: Not applicable, there f no flare at this site.			
	Flare ID (and scenario)	Average Molecular Weight	Gross Heat Release (cal/s)	Effective Flare Diameter (m)

16-Q: Volume and Related Sources

1	Were the dimensions of volume sources different from standard dimensions in the Air Quality Bureau (AQB) Modeling Guidelines?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	If not please explain how increment consumption status is determined for the missing installation dates below. There are no volume sources at this site.		
2	Describe the determination of sigma-Y and sigma-Z for fugitive sources.		
	N/A		
3	Describe how the volume sources are related to unit numbers. Or say they are the same.		
	N/A		
4	Describe any open pits.		
	N/A		
5	Describe emission units included in each open pit.		
	N/A		

16-R: Background Concentrations

1	Were NMED provided background concentrations used? Identify the background station used below. If non-NMED provided background concentrations were used describe the data that was used.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	CO: N/A		
	NO ₂ : Bloomfield (350450009)		
	PM2.5: N/A		
	PM10: N/A		

	SO ₂ : N/A		
	Other:		
	Comments:	Note, PM _{2.5} /PM ₁₀ , CO and SO ₂ sitewide modeling showed concentrations below the Significant Impact Levels (SILs) for all averaging periods.	
2	Were background concentrations refined to monthly or hourly values? If so describe below.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

16-S: Meteorological Data			
1	Was NMED provided meteorological data used? If so select the station used.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	Four Corners (Bloomfield) Dataset used: BLOOM_4C_ALB-ua_2013-2015		
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.		

16-T: Terrain			
1	Was complex terrain used in the modeling? If not, describe why below.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2	What was the source of the terrain data?		
	http://nationalmap.gov/viewer.html		

16-U: Modeling Files			
1	Describe the modeling files:		
	File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
	Marcus SILs	NO ₂ , SO ₂ , CO, PM _{2.5}	SIL/ROI, cumulative
	Marcus NO ₂ PSD	NO ₂	PSD Increment

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

1	A new PSD major source or a major modification to an existing PSD major source requires additional analysis. Was preconstruction monitoring done (see 20.2.74.306 NMAC and PSD Preapplication Guidance on the AQB website)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2	If not, did AQB approve an exemption from preconstruction monitoring?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
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 <input type="checkbox"/>	No <input type="checkbox"/>

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 <input type="checkbox"/> No <input checked="" type="checkbox"/>
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 (m)
CO 1-hr	213.64	N/A	N/A	N/A	N/A	<SIL	30.5	271,300	4,013,700	2,180.76
CO 8-hr	64.06	N/A	N/A	N/A	N/A	<SIL	N/A	272,100	4,014,100	2,157.82
SO ₂ 1-hr	0.30	N/A	N/A	N/A	N/A	<SIL	N/A	271,300	4,013,700	2,180.76
SO ₂ 3-hr	0.15	N/A	N/A	N/A	N/A	<SIL	N/A	271,200	4,014,000	2,186.25
SO ₂ 24-hr	0.04	N/A	N/A	N/A	N/A	<SIL	N/A	272,100	4,014,200	2,156.61
SO ₂ Annual	0.01	N/A	N/A	N/A	N/A	<SIL	N/A	272,100	4,014,200	2,156.61
NO ₂ 1-hr	90.06	N/A	N/A	67.3	157.35	188	83.7	271,300	4,013,700	2,180.76
NO ₂ Annual	3.81	N/A	N/A	19.6	23.41	94	24.9	272,100	4,014,200	2,156.61
PM _{2.5} 24-hr		N/A	0.05	N/A	N/A	<SIL	N/A	272,100	4,014,200	2,156.61
PM _{2.5} Annual		N/A	0.003	N/A	N/A	<SIL	N/A	271,800	4,014,200	2,165.68

Please see attached modeling results table for detailed results and NO₂ PSD Increment results.

16-X: Summary/conclusions

1	A statement that modeling requirements have been satisfied and that the permit can be issued.
	DJR Operating, LLC has demonstrated through this air dispersion modeling analysis that the proposed revisions to the existing facility neither cause nor contribute to an exceedance of the applicable standards.

Table 16-1: NAAQS Analysis (SILs)

Units	Criteria Pollutant	Averaging Period	Significance Level (ug/m ³)	NAAQS (ug/m ³)	GLC _{max} (ug/m ³)	GLC _{max} < Significance Level? If Yes, NAAQS is met (ug/m ³)
Site-wide	NO ₂	1-hour	7.5	188	123.56	No
Site-wide	NO ₂	Annual	1.0	100	3.81	No
Site-wide	PM _{2.5}	24-hour	1.2	35	0.44	Yes, no further analysis required
Site-wide	PM _{2.5}	Annual	0.2	12	0.07	Yes, no further analysis required
Site-wide	CO	1-hour	2000	14,992	213.64	Yes, no further analysis required
Site-wide	CO	8-hour	500	9,957	64.06	Yes, no further analysis required
Site-wide	SO ₂	1-hour	7.8	196.4	0.30	Yes, no further analysis required
Site-wide	SO ₂	3-hour	25.0	1,309	0.15	Yes, no further analysis required
Site-wide	SO ₂	24-hour	5.0	261.8	0.04	Yes, no further analysis required
Site-wide	SO ₂	Annual	1.0	52.4	0.01	Yes, no further analysis required

Table 16-2: NAAQS Analysis

Unit: VC-6	Criteria Pollutant	Averaging Period	GLC _{max} (ug/m ³)	Meteorological data year	Average
	NO ₂	1-hour	131.20	2013	
		1-hour	121.34	2014	
		1-hour	118.14	2015	123.56
		Annual	3.64	2013	
		Annual	4.02	2014	
		Annual	3.77	2015	3.81
	PM _{2.5}	24-hour	0.311	2013	
		24-hour	0.598	2014	
		24-hour	0.264	2015	0.39
		Annual	0.065	2013	
		Annual	0.074	2014	
		Annual	0.068	2015	0.07
	CO	1-hour	249.26	2013	
		1-hour	203.66	2014	
		1-hour	188.00	2015	213.64
		8-hour	63.13	2013	
		8-hour	78.40	2014	
		8-hour	50.66	2015	64.06
	SO ₂	1-hour	0.348	2013	
		1-hour	0.284	2014	
		1-hour	0.268	2015	0.30
		3-hour	0.162	2013	
		3-hour	0.175	2014	
		3-hour	0.120	2015	0.15
		24-hour	0.035	2013	
		24-hour	0.069	2014	
		24-hour	0.030	2015	0.04
		Annual	0.0075	2013	
		Annual	0.0084	2014	
		Annual	0.0078	2015	0.01

Table 16-3: 1-Hour NO₂ NAAQS Analysis

Units	Criteria Pollutant	Averaging Period	NAAQS (ug/m ³)	GLC _{max} (ug/m ³)	Background Concentration (ug/m ³)	GLC _{max} incl. Background conc. (ug/m ³)	GLC _{max} incl. Background conc. < NAAQS?	ROI (m)	Percent of Standard (%)
Site-wide	NO ₂	1-hour	188.03	90.05	67.30	157.35	Yes	11,007	83.7
		Annual	94.02	3.81	19.60	23.41	Yes	796.5	24.9

Note:

1-hour NO₂ GLC_{max} is the high 8th high, representative of the 98th percentile.
 Annual NO₂ GLC_{max} is the high 1st high.

Background Concentrations:

1-hour and annual NO₂ background concentration added from ID: 1ZB, 350450009 Bloomfield: 162 Hwy 544, Bloomfield, NM 87413

AQCR: 014; NO2 PSD Baseline Date: 6/6/1989

PM_{2.5} Secondary Formation:

$$\begin{aligned}
 \text{24-hr} &= ((\text{NO}_x \text{ emission rate (tpy)} / 1155) + (\text{SO}_2 \text{ emission rate (tpy)} / 229)) \times 1.2 \text{ ug/m}^3 \\
 &= ((47.84 \text{ tpy NO}_x / 1155) + (0.11 \text{ tpy SO}_2 / 229)) \times 1.2 \text{ ug/m}^3 = \mathbf{0.05 \text{ ug/m}^3}
 \end{aligned}$$

$$\begin{aligned}
 \text{Annual} &= ((\text{NO}_x \text{ emission rate (tpy)} / 3184) + (\text{SO}_2 \text{ emission rate (tpy)} / 2289)) \times 0.2 \text{ ug/m}^3 \\
 &= ((47.84 \text{ tpy NO}_x / 3184) + (0.11 \text{ tpy SO}_2 / 2289)) \times 0.2 \text{ ug/m}^3 = \mathbf{0.003 \text{ ug/m}^3}
 \end{aligned}$$

Table 16-4: Annual NO₂ PSD Increments Analysis

Units	Criteria Pollutant	Averaging Period	Class II PSD Increment (ug/m ³)	GLC _{max} (ug/m ³)	GLC _{max} < PSD Class II Increment? (ug/m ³)
Site-wide	NO ₂	Annual	25.00	11.16	Yes

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
CMP-1, CMP-2	Tested in accordance with EPA test methods for NOx and CO.	12/7/2005 2/23/2006

Section 18

Addendum for Streamline Applications

Do not print this section unless this is a streamline application.

NOT APPLICABLE

Section 19

Requirements for Title V Program

Do not print this section unless this is a Title V application.

NOT APPLICABLE

Section 20

Other Relevant Information

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

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

No other relevant information is being submitted with this application.

Section 21

Addendum for Landfill Applications

Do not print this section unless this is a landfill application.

NOT APPLICABLE

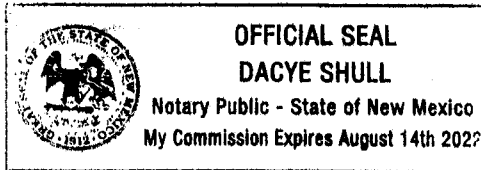
Section 22: Certification

Company Name: **DJR Operating, LLC**

I, David Brown, hereby certify that the information and data submitted in this application are true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Signed this 29 day of June, 2020, upon my oath or affirmation, before a notary of the State of

D Shull



David Brown

*Signature

6/29/2020

Date

David Brown

Printed Name

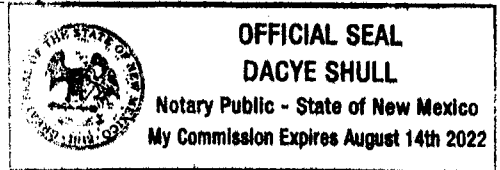
Manager of Government and Regulatory Affairs.

Title

Scribed and sworn before me on this 29th day of June, 2020

My authorization as a notary of the State of New Mexico
~~8/14/2022~~ expires on the

8 day of June, 2020.



D Shull

Notary's Signature

6/29/20

Date

DACYE SHULL

Notary's Printed Name

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