September 13, 2024

VIA STEERS

To: Texas Commission on Environmental Quality
Air Permits Initial Review Team, MC 161
Building C, Third Floor
12100 Park 35 Circle
Austin, Texas 78753

Re: Diamondback E&P, LLC
CN604396721
RN106966112
Permit by Rule Revision
Sallie 23 Battery

Diamondback E&P, LLC (the Operator) owns and operates the Sallie 23 Battery (Facility) in Ector County, Texas, under Texas Commission on Environmental Quality (TCEQ) Permit by Rule (PBR) Registration No. 114847 for §106.352, §106.359, and §106.492. The Operator has prepared a PI-7 submittal to register the updated site-wide emissions.

The fee of $450 has been paid via the online system. If you have any questions concerning the submittal or wish to discuss the information provided with this submission, please contact Mr. Carson Hughes, Coordinator Air Permitting, at (432) 556-3704 or chughes@diamondbackenergy.com.

Sincerely,
Altamira-US, LLC

Registration for Permits by Rule (PBR)
Form PI-7
(Page 1)
Texas Commission on Environmental Quality

I. Registrant Information
A. Company or Other Legal Customer Name:
Diamondback E&P, LLC
B. Company Official Contact Information (☒ Mr. ☐ Mrs. ☐ Ms. ☐ Other:) _____
Name: Carson Hughes
Title: Coordinator Air Permitting
Mailing Address: 500 West Texas Ave. Ste 100
City: Midland
State: TX
ZIP Code: 79701
Telephone Number: 432-556-3704
Fax Number:
Email Address: chughes@diamondbackenergy.com
All PBR registration responses will be sent via email.
C. Technical Contact Information (☒ Mr. ☐ Mrs. ☐ Ms. ☐ Other:) _____
Name: Carson Hughes
Title: Coordinator Air Permitting
Company Name: Diamondback E&P, LLC
Mailing Address: 500 West Texas Ave. Ste 100
City: Midland
State: TX
ZIP Code: 79701
Telephone Number: 432-556-3704
Fax Number:
Email Address: chughes@diamondbackenergy.com

Registration for Permits by Rule (PBR)
Form PI-7
(Page 2)
Texas Commission on Environmental Quality

II. Facility and Site Information
A. Name and Type of Facility
Facility Name: Sallie 23 Battery
Type of Facility: ☒ Permanent ☐ Temporary
For portable units, please provide the serial number of the equipment being authorized below.
Serial No(s):
B. Facility Location Information
Street Address:
If there is no street address, provide written driving directions to the site and provide the closest city or town, county, and ZIP code for the site (attach description if additional space is needed).
FROM INTERSECTION OF CITIES SERVICES RD AND DORA ROBERTS RD TRAVEL W ON LEASE RD
1 MI THEN S ON LEASE RD 1.7 MI THEN TURN E 0.1 MI TO BATTERY
City: Odessa
County: Ector
ZIP Code: 79766
C. TCEQ Core Data Form
Is the Core Data Form (TCEQ Form Number 10400) attached? ☐ YES ☒ NO
If "NO," provide customer reference number (CN) and regulated entity number (RN) below.
Customer Reference Number (CN): 604396721
Regulated Entity Number (RN): 106966112
D. TCEQ Account Identification Number (if known):
E. Type of Action
☐ Initial Application ☑ Change to Registration
For Change to Registration provide the Registration Number: 114847
F. PBR number(s) claimed under 30 TAC Chapter 106
(List all the individual rule number(s) that are being claimed.)
106 352 Oil and Gas Production Facilities
106 359 Planned MSS at Oil and Gas Facilities
106 492 Smokeless Gas Flares

II. Facility and Site Information *(continued)*	
G. Historical Standard Exemption or PBR	
Are you claiming a historical standard exemption or PBR?	☐ YES ☒ NO
If "YES," enter rule number(s) and associated effective date in the spaces provided below.	
Rule Number(s):	Effective Date:
Rule Number(s):	Effective Date:
Rule Number(s):	Effective Date:
H. Previous Standard Exemption or PBR Registration Number	
Is this authorization for a change to an existing facility previously authorized under a standard exemption or PBR?	☐ YES ☒ NO
If "YES," enter previous standard exemption number(s) and PBR registration number(s) and associated effective date in the spaces provided below.	
Standard Exemption and PBR Registration Number(s):	
Effective Date:	
Standard Exemption and PBR Registration Number(s):	
Effective Date:	
I. Other Facilities at this Site Authorized by Standard Exemption, PBR, or Standard Permit	
Are there any other facilities at this site that are authorized by an Air Standard Exemption, PBR, or Standard Permit?	☐ YES ☒ NO
If "YES," enter standard exemption number(s), PBR registration number(s), and Standard Permit registration number(s), and associated effective date in the spaces provided below.	
Standard Exemption and PBR Registration Number(s):	
Effective Date:	
Standard Exemption and PBR Registration Number(s):	
Effective Date:	
J. Other Air Preconstruction Permits	
Are there any other air preconstruction permits at this site?	☐ YES ☒ NO
If "YES," enter permit number(s) in the spaces provided below.	
Permit Number(s):	
Permit Number(s):	

II.	**Facility and Site Information *(continued)***
K.	Affected Air Preconstruction Permits
Does the PBR being claimed directly affect any permitted facility?	☐ YES ☒ NO
If "YES," enter the permit number(s) in the spaces provided below.	
Permit Number(s):	
Permit Number(s):	
L.	Federal Operating Permit (FOP) Requirements (30 TAC Chapter 122 Applicability)
Is this facility located at a site that is required to obtain an FOP pursuant to 30 TAC Chapter 122?	☐ YES ☒ NO ☐ To Be Determined
If the site currently has an existing FOP, enter the permit number:	
1.	Check the requirements of 30 TAC Chapter 122 that will be triggered if this claim is accepted *(check all that apply)*.
☐ Initial Application for an FOP ☐ Significant Revision for an SOP ☐ Minor Revision for an SOP	
☐ Operational Flexibility/Off Permit Notification for an SOP ☐ Revision for a GOP	
☐ To Be Determined ☒ None	
2.	Identify the type(s) of FOP issued and/or FOP application(s) submitted/pending for the site. (*check all that apply*)
☐ SOP ☐ GOP ☐ GOP Application/Revision (submitted or under APD review)	
☒ N/A ☐ SOP Application/Revision (submitted or under APD review)	
III.	**Fee Information** *(see Section VII. for address to send fee or go to www.tceq.texas.gov/epay to pay online)*
A.	Fee Requirements
Is a fee required per 30 TAC § 106.50?	☒ YES ☐ NO
If "NO," specify the exception. There are three exceptions to paying a PBR fee. *(check all that apply)*	
1.	Registration is solely to establish a federally enforceable emission limit. ☐
2.	Registration is within six months of an initial PBR review, and is addressing deficiencies, administrative changes, or other allowed changes. ☐
3.	Registration is for a remediation project (30 TAC § 106.533). ☐

III. Fee Information *(see Section VII. for address to send fee or go to www.tceq.texas.gov/epay to pay online)*	
B. Fee Amount	
1. A $100 fee is required if *any* of the answers in III.B.1 are "YES."	
This business has less than 100 employees.	☐ YES ☒ NO
This business has less than $6 million dollars in annual gross receipts.	☐ YES ☒ NO
This registration is submitted by a governmental entity with a population of less than 10,000.	☐ YES ☒ NO
This registration is submitted by a non-profit organization.	☐ YES ☒ NO
2. A $450 fee is required for all other registrations.	
C. Payment Information	
Check/money order/transaction or voucher number:	
Individual or company name on check:	
Fee Amount: $ 450	
Was fee paid online?	☒ YES ☐ NO
IV. Selected Facility Reviews and Voluntary Registrations *Only*	
Note: *If registering any of the PBRs listed in IV.B., or if voluntarily registering any other PBR(s), complete this section, then skip to Section VI. below:*	
A. List any PBRs that are being voluntarily registered.	
106.	
106.	
B. PBR Checklists	
If you are registering any of the following PBRs, did you attach the applicable PBR checklists that shows your facility meets all general and specific requirements?	☐ YES ☐ NO
• *Animal Feeding Operations § 106.161, Livestock Auction Facilities § 106.162, Saw Mills § 106.223, Grain Handling, Storage and Drying § 106.283, Auto Body Refinishing Facilities § 106.436,* or *Air Curtain Incinerator § 106.496.* (If "NO" then you ***must*** provide ***all*** technical information outlined in Section V.)	
C. Distances to Property Line and Nearest Off-Property Structure	
Distance from this facility's emission release point to the nearest property line:	feet
Distance from this facility's emission release point to the nearest off-property structure:	feet

V.	**Technical Information Including State and Federal Regulatory Requirements** **Check the appropriate box to indicate what is included in your submittal.** ***Note:*** *Any technical or essential information needed to confirm that facilities are meeting the requirements of the PBR must be provided. Not providing key information could result in a deficiency of the project.*
A.	PBR requirements (Checklists are optional; however, your review will go faster if you provide applicable checklists.)
Did you demonstrate that the general requirements in 30 TAC § 106.4 are met?	☒ YES ☐ NO
Did you demonstrate that the individual requirements of the specific PBR are met?	☒ YES ☐ NO
B. Confidential Information Included (If confidential information is submitted with this registration, all confidential pages must be properly marked "CONFIDENTIAL.")	☐ YES ☒ NO
C. Process Flow Diagram?	☒ YES ☐ NO
D. Process Description?	☒ YES ☐ NO
E. Maximum Emissions Data and Calculations?	☒ YES ☐ NO
Note: *If the facilities listed in this registration are subject to the Mass Emissions Cap & Trade program under* ***30 TAC Chapter 101****,* ***Subchapter H, Division 3****, the owner/operator of these facilities must possess* NO_x *allowances equivalent to the actual* NO_x *emissions from these facilities.*	
F. Distance from Property Line and Nearest Off-Property Structure	
Distance from this facility's emission release point to the nearest property line: >50	feet
Distance from this facility's emission release point to the nearest off-property structure: >1,320	feet
G. Project Status	
Has the company implemented the project or waiting on a response from TCEQ? ☒ Implemented ☐ Waiting	
H. Projected Start of Construction and Projected Start of Operation Dates:	
Projected Start of Construction (provide date):	
Project Start of Operation (provide date):	
VI.	**Delinquent Fees and Penalties**
This form **will not be processed** until all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ is paid in accordance with the Delinquent Fee and Penalty Protocol. For more information regarding Delinquent Fees and Penalties, go to the TCEQ website at www.tceq.texas.gov/agency/financial/fees/delin/index.html.	

VII. Copies of the Registration

Processing delays may occur if copies are not sent as noted. Copies must be sent as listed below:

Who	*Where*	*What*
Air Permits Initial Review Team (APIRT)	Regular, Certified, Priority Mail MC 161, P.O. Box 13087 Austin, Texas 78711-3087 Hand Delivery, Overnight Mail MC 161, 12100 Park 35 Circle, Building C, Third Floor Austin, Texas 78753	Originals of Form PI-7, Core Data Form, and all attachments. Not required if using ePermits[1]
Revenue Section, TCEQ	Regular, Certified, Priority Mail MC 214, P.O. Box 13088 Austin, Texas 78711-3088 Hand Delivery, Overnight Mail MC 214, 12100 Park 35 Circle, Building A, Third Floor Austin, Texas 78753	Original Money Order or Check, Copy of Form PI-7, and Core Data Form. Not required if fee was paid using ePay[2].
Appropriate TCEQ Regional Office	To find your Regional Office address, go to the TCEQ website at www.tceq.texas.gov//agency/directory/region or call (512) 239-1250.	Copy of Form PI-7, Core Data Form, and all attachments. Not required if using ePermits[1].
Appropriate Local Air Pollution Control Program(s)	To Find your local or Regional Air Pollution Control Programs go to the TCEQ, APD website at www.tceq.texas.gov/permitting/air/local_programs.html or call (512) 239-1250	Copy of Form PI-7, Core Data Form, and all attachments

[1] ePermits located at www3.tceq.texas.gov/steers/
[2] ePay located at www.tceq.texas.gov/epay/

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

The following checklist was developed by the Texas Commission on Environmental Quality (TCEQ), **Air Permits Division**, to assist applicants in determining whether or not a facility meets all of the applicable requirements. Before claiming a specific Permit by Rule (PBR), a facility must first meet all of the requirements of **Title 30 Texas Administrative Code § 106.4** (30 TAC § 106.4), "Requirements for Permitting by Rule." Only then can the applicant proceed with addressing requirements of the specific Permit by Rule being claimed.

The use of this checklist is not mandatory; however, it is the responsibility of each applicant to show how a facility being claimed under a PBR meets the general requirements of 30 TAC § 106.4 and also the specific requirements of the PBR being claimed. If all PBR requirements cannot be met, a facility will not be allowed to operate under the PBR and an application for a construction permit may be required under 30 TAC § 116.110(a).

Registration of a facility under a PBR can be performed by completing **Form PI-7** (Registration for Permits by Rule) or **Form PI-7-CERT** (Certification and Registration for Permits by Rule). The appropriate checklist should accompany the registration form. Check the most appropriate answer and include any additional information in the spaces provided. If additional space is needed, please include an extra page and reference the question number. The PBR forms, tables, checklists, and guidance documents are available from the TCEQ, Air Permits Division website at: www.tceq.texas.gov/permitting/air/nav/air_pbr.html.

1. 30 TAC § 106.4(a)(1) and (4): Emission Limits	**Answer**
List emissions in tpy for **each** facility (add additional pages or table if needed):	
Are the SO_2, PM_{10}, VOC, or other air contaminant emissions claimed for **each** facility in this PBR submittal less than 25 tpy?	☒ YES ☐ NO
Are the NO_x and CO emissions claimed for each facility in this PBR submittal less than 250 tpy?	☒ YES ☐ NO
*If the answer to both is "Yes," continue to the question below. If the answer to either question is "No," a **PBR cannot be claimed**.*	
Has any facility at the property had public notice and opportunity for comment under 30 TAC Section 116 for a regular permit or permit renewal? (This does not include public notice for voluntary emission reduction permits, grandfathered existing facility permits, or federal operating permits.)	☐ YES ☒ NO
If "Yes," skip to Section 2. If "No," continue to the questions below.	
If the site has had no public notice, please answer the following:	
Are the SO_2, PM_{10}, VOC, or other emissions claimed for **all** facilities in this PBR submittal less than 25 tpy?	☒ YES ☐ NO
Are the NO_x and CO emissions claimed for all facilities in this PBR submittal less than 250 tpy?	☒ YES ☐ NO
If the answer to both questions is "Yes," continue to Section 2.	
*If the answer to either question is "No," **a PBR cannot be claimed**. A permit will be required under Chapter 116.*	

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

2. 30 TAC § 106.4(a)(2): Nonattainment Check	Answer
Are the facilities to be claimed under this PBR located in a designated ozone nonattainment county?	☐ YES ☒ NO
If "Yes," please indicate which county by checking the appropriate box to the right.	
(Moderate) - Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller counties:	☐ HGB
(Moderate) - Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise counties:	☐ DFW
If "Yes," to any of the above, continue to the next question. If "No," continue to Section 3.	
Does this project trigger a nonattainment review?	☐ YES ☐ NO
Is the project's potential to emit (PTE) for emissions of VOC or NO_x increasing by 100 tpy or more?	☐ YES ☐ NO
PTE is the maximum capacity of a stationary source to emit any air pollutant under its worst-case physical and operational design unless limited by a permit, rules, or made federally enforceable by a certification.	
Is the site an existing major nonattainment site and are the emissions of VOC or NO_x increasing by 40 tpy or more?	☐ YES ☐ NO
If needed, attach contemporaneous netting calculations per nonattainment guidance.	
Additional information can be found at: www.tceq.texas.gov/permitting/air/forms/newsourcereview/tables/nsr_table8.html and www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html	
*If "Yes," to any of the above, the project is a major source or a major modification and **a PBR may not be used**. A Nonattainment Permit review must be completed to authorize this project. If "No," continue to Section 3.*	
3. 30 TAC § 106.4(a)(3): Prevention of Significant Deterioration (PSD) check	
Does this project trigger a review under PSD rules?	
To determine the answer, review the information below:	
Are emissions of any regulated criteria pollutant increasing by 100 tpy of any criteria pollutant at a named source?	☐ YES ☒ NO
Are emissions of any criteria pollutant increasing by 250 tpy of any criteria pollutant at an unnamed source?	☐ YES ☒ NO
Are emissions increasing above significance levels at an existing major site?	☐ YES ☒ NO
PSD information can be found at: www.tceq.texas.gov/assets/public/permitting/air/Forms/NewSourceReview/Tables/10173tbl.pdf and www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html	
*If "Yes," to any of the above, **a PBR may not be used**. A PSD Permit review must be completed to authorize the project.*	
If "No," continue to Section 4.	

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

4. 30 TAC § 106.4(a)(6): Federal Requirements	Answer
Will all facilities under this PBR meet applicable requirements of Title 40 Code of Federal Regulations (40 CFR) Part 60, New Source Performance Standards (NSPS)?	☐ YES ☐ NO ☒ NA
If "Yes," which Subparts are applicable? *(answer below.)*	
Will all facilities under this PBR meet applicable requirements of 40 CFR Part 63, Hazardous Air Pollutants Maximum Achievable Control Technology (MACT) standards?	☐ YES ☐ NO ☒ NA
If "Yes," which Subparts are applicable? *(answer below.)*	
Will all facilities under this PBR meet applicable requirements of 40 CFR Part 61, National Emissions Standards for Hazardous Air Pollutants (NESHAPs)?	☐ YES ☐ NO ☒ NA
If "Yes," which Subparts are applicable? *(answer below.)*	
If "Yes" to any of the above, please attach a discussion of how the facilities will meet any applicable standards.	
5. 30 TAC § 106.4(a)(7): PBR prohibition check	
Are there any air permits at the site containing conditions which prohibit or restrict the use of PBRs?	☐ YES ☒ NO
If "Yes," PBRs may not be used or their use must meet the restrictions of the permit. A new permit or permit amendment may be required.	
List permit number(s):	
6. 30 TAC § 106.4(a)(8): NO_x Cap and Trade	
Is the facility located in Harris, Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County?	☐ YES ☒ NO
If "Yes," answer the question below.	
If "No," continue to Section 7.	
Will the proposed facility or group of facilities obtain required allowances for NO_x if they are subject to 30 TAC Chapter 101, Subchapter H, Division 3 (relating to the Mass Emissions Cap and Trade Program)?	☐ YES ☐ NO

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

7. Highly Reactive Volatile Organic Compounds (HRVOC) check		
Is the facility located in Harris County?		☐ YES ☒ NO
If "Yes," answer the next question. If "No," skip to the box below.		
Will the project be constructed after June 1, 2006?		☐ YES ☐ NO
If "Yes," answer the next question.		
If "No," skip to the box below.		
Will one or more of the following HRVOC be emitted as a part of this project?		☐ YES ☐ NO
If "Yes," complete the information below:		
Information	**lb/hr**	**tpy**
► 1,3-butadiene		
► all isomers of butene (e.g., isobutene [2-methylpropene or isobutylene])		
► alpha-butylene (ethylethylene)		
► beta-butylene (dimethylethylene, including both cis- and trans-isomers)		
► ethylene		
► propylene		
Is the facility located in Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County?		☐ YES ☒ NO
If "Yes," answer the next question. If "No," the checklist is complete.		
Will the project be constructed after June 1, 2006?		☐ YES ☐ NO
If "Yes," answer the next question. If "No," the checklist is complete.		
Will one or more of the following HRVOC be emitted as a part of this project?		☐ YES ☐ NO
If "Yes," complete the information below:		
Information	**lb//hr**	**tpy**
► ethylene		
► propylene		

Texas Commission on Environmental Quality
Oil and Gas Handling and Production Facilities
Air Permits by Rule (PBR) Checklist
Title 30 Texas Administrative Code § 106.352(l)

Check the most appropriate answer and include any technical information in the spaces provided. If additional space is needed, please include an extra page that references this checklist. The forms, checklists, and guidance documents are available from the Texas Commission on Environmental Quality (TCEQ), Air Permits Division Web site at: www.tceq.texas.gov/permitting/air/permitbyrule/subchapter-o/oil_and_gas.html. If you have any questions, or need additional assistance, please contact the Air Permits Division at (512) 239-1250.

The facility can register by submitting this application and any supporting documentation. Below is a checklist to ensure you have provided all appropriate documentation. For sites that require registration or if the company chooses to register the site with the TCEQ, a Core Data Form is required with this checklist.
For additional assistance with your application, including resources to help calculate your emissions, please visit the Small Business and Local Government Assistance (SBLGA) webpage at the following link: www.TexasEnviroHelp.org.

This checklist is for use by the operator to ensure a complete application.		
Have you included each of the following items in the application?		
☒	Process Description.	
☒	Plot plan or area map.	
☒	TCEQ Oil and Gas Emission Calculation Spreadsheet (or equivalent).	
☒	Detailed summary of maximum emissions estimates with supporting documentation, such as result reports from any emission estimation computer program.	
☒	Gas and Liquid analyses. If a site specific analysis is not submitted, please provide justification as to why a representative site was used.	
☒	Technical documents (manufacturer's specification sheet, operational design sheets)	
☒	State and Federal applicability.	
☐	Core Data Form (for new sites that have never been registered with the TCEQ).	
1	Is the project located in one of the Barnett Shale counties and did the start of construction or modification begin on or after April 1, 2011?	☐ Yes ☒ No
Note: *Counties included in the Barnett Shale area: Cooke, , Dallas, Denton, , Ellis, Erath, Hill, Hood, Jack, Johnson, Montague, Palo Pinto, Parker, Somervell, Tarrant, and Wise counties.*		
For what is considered start of construction see: www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/factsheet-const.pdf		
*If **"Yes,"** do not complete this checklist. The project is subject to the requirements of §106.352(a)-(k). Additional information for Barnett Shale area projects can be found at:* www.tceq.texas.gov/permitting/air/permitbyrule/subchapter-o/oil_and_gas.html.		

Texas Commission on Environmental Quality
Oil and Gas Handling and Production Facilities
Air Permits by Rule (PBR) Checklist
Title 30 Texas Administrative Code § 106.352(l)

General Information and Questions/Descriptions *(continued)*	
2 Are the total site-wide emissions from all facilities claimed under 30 TAC §106.352(l) less than 25 tpy VOC, 250 tpy NOx, 250 tpy CO, and 25 tpy SO_2?	☒ Yes ☐ No
3. Are there flares, engines, or turbines at the site?	☒ Yes ☐ No
*If **"Yes,"** attach supporting documentation to demonstrate compliance with the requirements.*	
Additional information and checklists can be found at: *§106.492 Flares:* www.tceq.texas.gov/permitting/air/permitbyrule/subchapter-v/flares.html *§106.512 Stationary Engines and turbines:* www.tceq.texas.gov/permitting/air/permitbyrule/subchapter-w/stationary_eng_turb.html	
4. Does any facility at the site handle a stream with more than 24 ppm hydrogen sulfide (H_2S)?	☐ Yes ☒ No
*If **"Yes,"** proceed to question (4)(a) and (4)(b) and then proceed to questions 5 and 6 .*	
*If **"No,"** continue to questions 5 and 6.*	
4a. What is the actual H_2S content of the stream?	ppm
Site specific H_2S analysis is required.	
4b. Indicate the actual distance from the nearest emissions point to the nearest offsite receptor:	_____ ft.
Note: *An offsite receptor includes any recreational area, residence, or other structure not occupied or used solely by the owner or operator of the facility. A facility handling sour gas must be located at least 1/4 mile from the nearest offsite receptor.*	
5. Indicate the total actual emission rate of sulfur compounds, excluding sulfur oxides, from all vents	See Table 1 lb/hr.
6. Does the height of all vents at the site emitting sulfur compounds meet the minimum required height based on the H_2S emission rate in 106.352(l)(4)?	☒ Yes ☐ No
Note: *Truck loading and fugitive sources are not considered vents.*	

Recordkeeping: To demonstrate compliance with the requirements of the PBR, sufficient records must be maintained at all times. The records must be made available immediately upon request to the commission or any air pollution control program having jurisdiction. If you have any questions about the recordkeeping requirements, contact the Air Permits Division or the Air Program in the TCEQ Regional Office for the region in which the site is located.

Save Form Reset Form

Exemption § 106.492 Checklist
(Previously Standard Exemption 80)
Smokeless Gas Flares

You must submit a PI-7 with required attachments before construction or operation if the gas burned in the flare has a sulfur or chlorine concentration greater than 24 ppmv.

The following checklist is designed to help you confirm that you meet Exemption § 106.492, previously standard exemption 80, requirements. **Any "NO" answers indicate that the claim of exemption may not meet all requirements for the use of Exemption § 106.492, previously standard exemption 80.** If you do not meet all the requirements, you may alter the project design/operation in such a way that all the requirements of the exemption are met, or obtain a construction permit.

Question/Description	Response
Have you included a description of how this exemption claim meets the general rule for the use of exemptions (§ 106.4 checklist is available)?	☒ YES ☐ NO ☐ NA
Is the flare equipped with a tip designed to provide good mixing with air, flame stability and a tip velocity less than 60 ft/sec for gases having a lower heating value less than 1,000 BTU/ft^3, or less than 400 ft/sec for gases with a LHV greater than 1,000 BTU/ft^3?	☒ YES ☐ NO ☐ NA
Attach a description including BTU content and tip velocity (Table 8 is available).	
Is the flare equipped with a continuously burning pilot or other automatic ignition system that assures gas ignition whenever vents are directed to the flare?	☒ YES ☐ NO ☐ NA
Attach a description of the system.	
If the flare emits more than 4 lb/hr of reduced sulfur compounds, excluding sulfur oxides, is it equipped with an alarm system that immediately notifies appropriate personnel when the ignition system ceases functioning?	☐ YES ☐ NO ☒ NA
Attach a description of the system.	
If the flare emits less than 4 lb/hr of reduced sulfur compounds and is not equipped with an alarm system, does the stack height meet the requirements of condition (d) of §106.352, previously standard exemption STDX 66?	☒ YES ☐ NO ☐ NA
Required Height: 20 feet	Actual Height: 30 feet
If the flare burns gases containing more than 24 ppmv of sulfur, chlorine or compounds containing either element, is it located at least 1/4 mile from any recreational area, residence, or other structure not occupied or used solely by the owner or operator of the flare or owner of the property where the flare is located?	☐ YES ☐ NO ☒ NA
Attach a scaled map.	

Exemption § 106.492 Checklist
(Previously Standard Exemption 80)
Smokeless Gas Flares

Question/Description	Response
If the flare emits HCI, does the heat release (BRU/hr based on lower heating value) equal or exceed 2.73 x 10E5 x HCI emission rate (lb/hr)?	☐ YES ☐ NO ☒ NA
Attach calculations.	
If the flare emits SO2, does the heat release (BTU/hr based on lower heating value) equal or exceed 0.53 x 10E5 x SO2 emission rates (lb/hr)?	☒ YES ☐ NO ☐ NA
Attach calculations.	
Will you limit the flare to burning only combustible mixtures of gases containing only carbon, hydrogen, nitrogen, oxygen, sulfur, chlorine, or compounds derived from these elements?	☒ YES ☐ NO ☐ NA
Will the gas mixture always have a net or lower heating value of at least 200 BTU/ft3 prior to addition of air?	☒ YES ☐ NO ☐ NA
Do you understand and will you ensure that liquids shall never be burned in the flare?	☒ YES ☐ NO ☐ NA

Save Form Reset Form

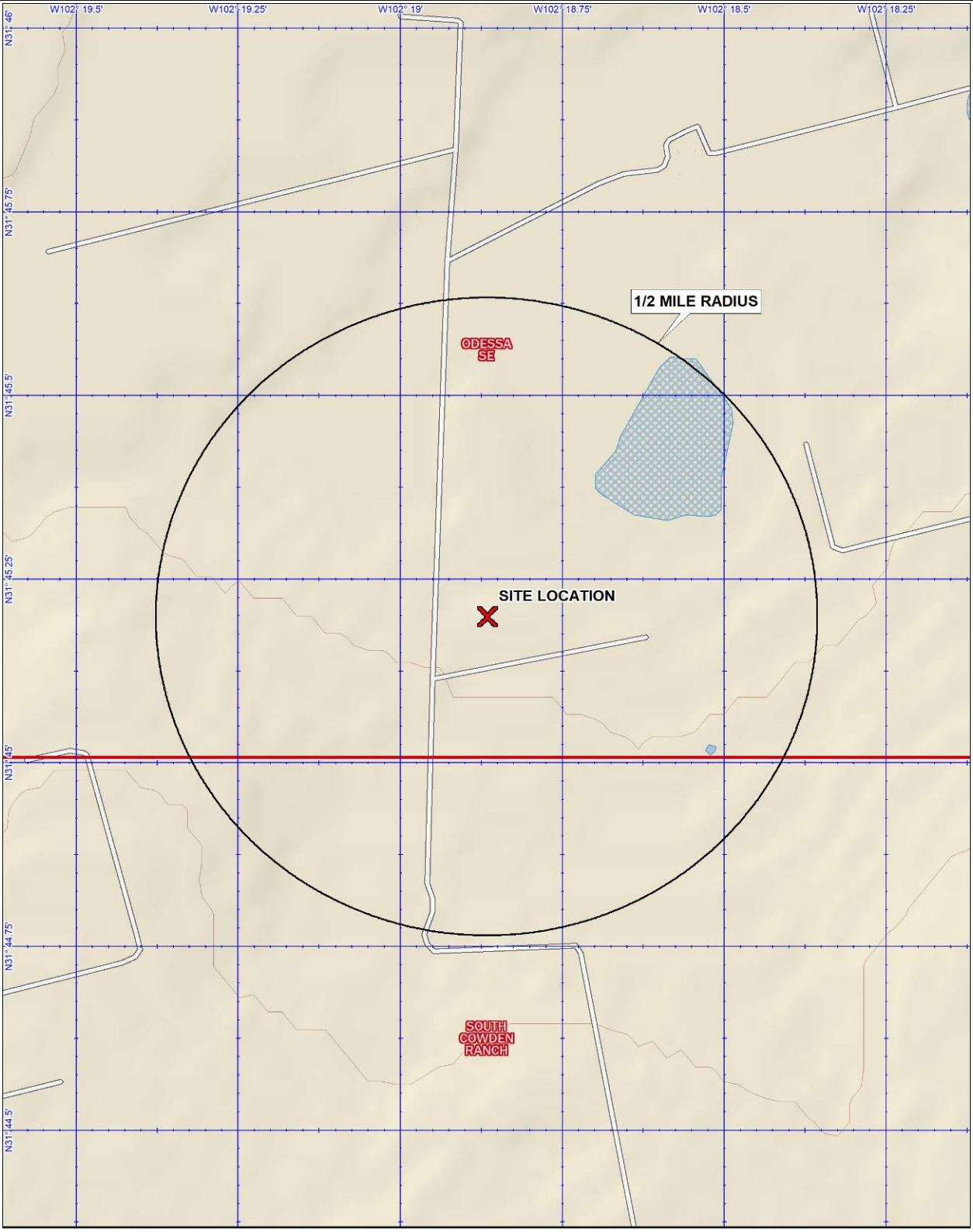

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FIGURE TITLE	AREA MAP
DOCUMENT TITLE	PBR UPDATE
CLIENT	DIAMONDBACK E&P, LLC
LOCATION	SALLIE 23 BATTERY ECTOR COUNTY, TEXAS

DATE	9/6/2024
SCALE	AS SHOWN
DESIGNED BY	AT
APPROVED BY	SS
DRAWN BY	AT
PROJECT NUMBER	DIAATX2401
FIGURE NUMBER	N/A

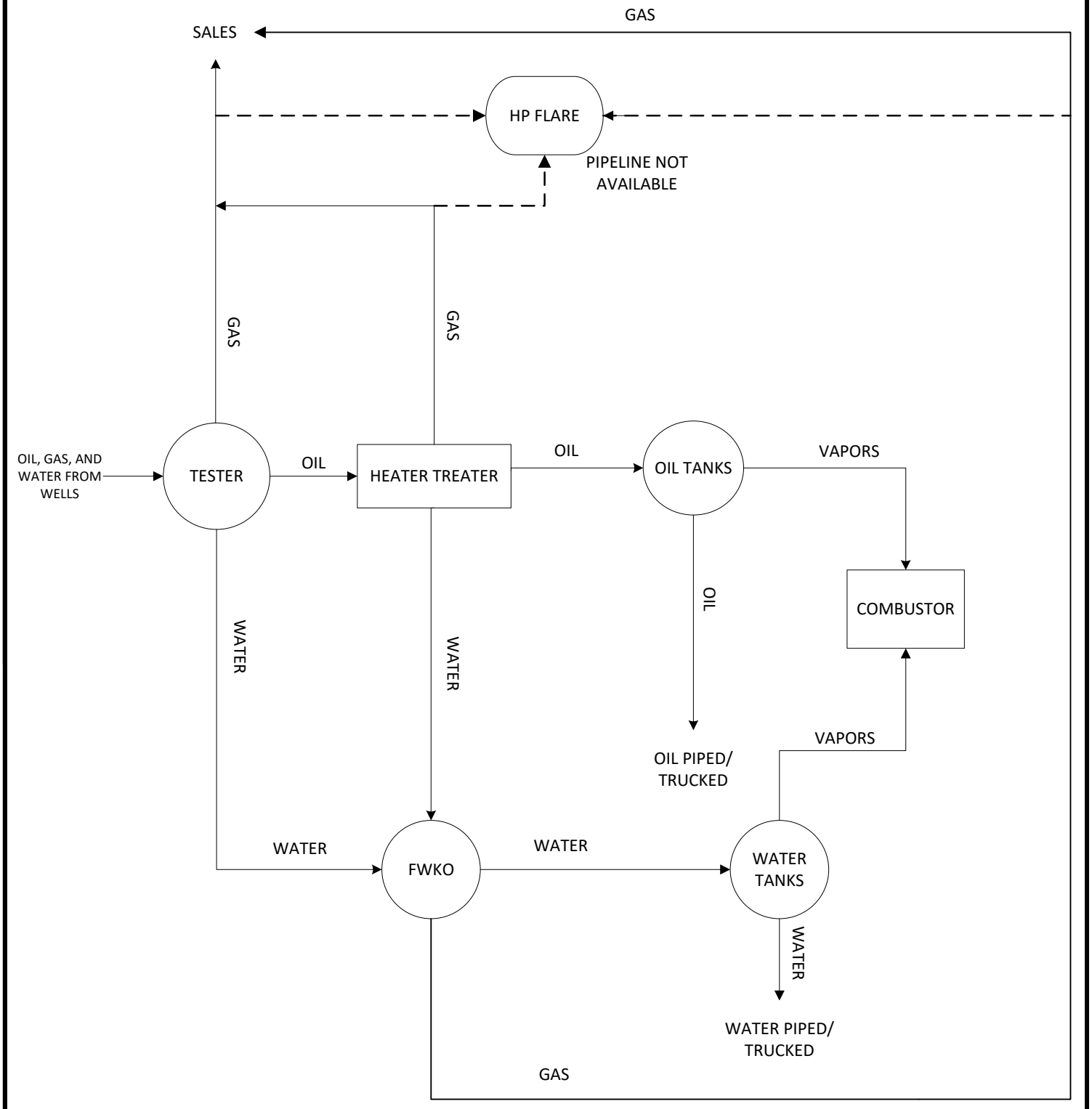

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FIGURE TITLE	PROCESS FLOW DIAGRAM
DOCUMENT TITLE	PBR UPDATE
CLIENT	DIAMONDBACK E&P, LLC
LOCATION	SALLIE 23 BATTERY ECTOR COUNTY, TEXAS

DATE	9/6/2024
SCALE	NOT TO SCALE
DESIGNED BY	AT
APPROVED BY	SS
DRAWN BY	AT
PROJECT NUMBER	
DIAATX2401	
FIGURE NUMBER	
N/A	

DIAMONDBACK E&P, LLC
SALLIE 23 BATTERY
ECTOR COUNTY, TEXAS
PROCESS DESCRIPTION

Diamondback E&P, LLC (Diamondback) owns and operates the Sallie 23 Battery (Facility), which is located in Ector County, Texas. The Facility is an existing oil and gas production facility.

Annual natural gas throughput is expected to be about 73 million standard cubic feet (MMSCF). Annual oil production is expected to be about 9,125 barrels per year (BPY). Water production is estimated to be about 21,900 BPY.

Maximum daily production levels are expected to be as follows: 25 barrels oil per day (BOPD), 60 barrels water per day (BWPD), and 0.2 million standard cubic feet per day (MMSCFD). When the pipeline is unavailable, this application permits as much as 6,600 MCFD and up to 80,000 MCF per year to be flared as an alternative operating scenario. Diamondback will maintain sufficient records to demonstrate that actual emissions do not exceed the annual limits certified in this PBR.

Fluids flow from the wells to the testers, where gas, oil, and water are separated. Oil from the heater-treaters flows to the oil tanks. Water from the testers and heater-treaters is sent to the free water knockout (FWKO), and then to the water tanks. Gas from the separators, the heater-treaters and FWKO is sent to sales when possible and is routed to the HP Flare if it cannot be sold. Emissions from the oil and water tanks are controlled by a combustor with 98% control efficiency.

A ProMax process simulator run was used to estimate VOC emissions from the separators, heater-treaters, FWKO, oil tanks, and water tanks. The water tanks breathing and working losses and truck loading losses assume all the water is gasoline RVP-10.

During normal operations, all produced oil is sold by the LACT and water from the tanks is removed via pipeline. When the pipeline is unavailable, water and oil can be transferred offsite via trucks.

Equipment leak fugitive emissions were estimated using TCEQ Technical Guidance Document: Equipment Leak Fugitives, and a representative gas and liquid analysis.

Emissions from MSS activities are included in this application. Emissions from MSS activities are based on the default values as provided in the TCEQ guidance dated October 2014.

The Facility was constructed before September 18, 2015; therefore, the site is not subject to NSPS Subpart OOOOa. Tank PTE is less than 6 T/yr; therefore, the tanks are not subject to NSPS Subpart OOOO. The site may be equipped with intermittent and/or low bleed pneumatic controllers which are not subject to NSPS Subpart OOOO.

All emission sources at the Facility are authorized under Texas Commission on Environmental Quality (TCEQ) permit by rule (PBR) 106.352, 106.359, and 106.492.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Date:	9/11/2024	Permit Number:	114847	Regulated Entity No:	RN106966112
Area Name:	DIAMONDBACK E&P, LLC, SALLIE 23 BATTERY			Customer Reference No.:	CN604396721

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA

1. Emission Point			2. Component or Air Contaminant Name	3. Air Contaminant Emission Rate	
EPN	FIN	NAME		Pounds per Hour	TPY
(A)	(B)	(C)		(A)	(B)
HT1	HT1	Heater Treater (0.50 MMBtu/hr)	NOx	0.05	0.21
			CO	0.04	0.18
			VOC	<0.01	0.01
			SO_2	<0.01	<0.01
			PM_{10}	<0.01	0.02
HT2	HT2	Heater Treater (0.50 MMBtu/hr)	NOx	0.05	0.21
			CO	0.04	0.18
			VOC	<0.01	0.01
			SO_2	<0.01	<0.01
			PM_{10}	<0.01	0.02
TANK1	TANK1	Oil Storage Tank (500-bbl)	VOC	1.16	5.08
			H_2S	<0.01	<0.01
TANK2	TANK2	Produced Water Storage Tank (500-bbl)	VOC	0.04	0.19
			H_2S	<0.01	<0.01
COMB1	COMB1	Combustor	VOC	0.02	0.08
			NOx	0.02	0.08
			CO	0.04	0.16
			PM10	<0.01	0.01
			H_2S	<0.01	<0.01
			SO_2	<0.01	<0.01
HP-FLARE	HP-FLARE	HP Flare	NOx	48.59	7.13
			CO	97.00	14.23
			VOC	96.38	14.02
			H_2S	0.01	<0.01
			SO_2	1.05	0.17
			PM_{10}	<0.01	0.01

EPN = Emission Point Number FIN = Facility Identification Number

[a]VOC includes formaldehyde.

[TCEQ-10153 (Revised 04/08) Table 1(a)
(APDG 5178 v5)
Sallie23BatteryCalcs_090624.xlsx 9/11/2024

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Date:	9/11/2024	Permit Number:	114847	Regulated Entity No:	RN106966112
Area Name:	DIAMONDBACK E&P, LLC, SALLIE 23 BATTERY			Customer Reference No.:	CN604396721

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA

1. Emission Point			2. Component or Air Contaminant Name	3. Air Contaminant Emission Rate	
EPN	FIN	NAME		Pounds per Hour	TPY
(A)	(B)	(C)		(A)	(B)
LOADING1	LOADING1	Oil Loading Emissions	VOC	40.51	<0.01
			H_2S	<0.01	<0.01
LOADING2	LOADING2	Water Loading Emissions	VOC	0.35	<0.01
			H_2S	<0.01	<0.01
FUG	FUG	Site Fugitives	VOC	1.07	4.67
			H_2S	<0.01	<0.01
MSS	MSS	Maintenance, Startup, Shutdown Emissions	VOC	8.18	0.27
			Sitewide HAP Total	--	<25
			Sitewide Individual HAP	--	<10

EPN = Emission Point Number FIN = Facility Identification Number

[a]VOC includes formaldehyde.

[TCEQ-10153 (Revised 04/08) Table 1(a)
(APDG 5178 v5)
Sallie23BatteryCalcs_090624.xlsx 9/11/2024

SUMMARY TABLE

ESTIMATED EMISSIONS															
EPN/Emission Source	Specific VOC or Other Pollutants	VOC		NO_x		CO		PM_{10}		$PM_{2.5}$		H_2S		SO_2	
		lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy
HT1 / Heater Treater (0.50 MMBtu/hr)		<0.01	0.01	0.05	0.21	0.04	0.18	<0.01	0.02	<0.01	0.02	--	--	<0.01	<0.01
HT2 / Heater Treater (0.50 MMBtu/hr)		<0.01	0.01	0.05	0.21	0.04	0.18	<0.01	0.02	<0.01	0.02	--	--	<0.01	<0.01
TANK1 / Oil Storage Tank (500-bbl)		1.16	5.08	--	--	--	--	--	--	--	--	<0.01	<0.01	--	--
TANK2 / Produced Water Storage Tank (500-bbl)		0.04	0.19	--	--	--	--	--	--	--	--	<0.01	<0.01	--	--
COMB1 / Combustor		0.02	0.08	0.02	0.08	0.04	0.16	<0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01	0.02
HP-FLARE / HP Flare		96.38	14.02	48.59	7.13	97.00	14.23	<0.01	0.01	<0.01	0.01	0.01	<0.01	1.05	0.17
LOADING1 / Oil Loading Emissions		40.51	<0.01	--	--	--	--	--	--	--	--	<0.01	<0.01	--	--
LOADING2 / Water Loading Emissions		0.35	<0.01	--	--	--	--	--	--	--	--	<0.01	<0.01	--	--
FUG / Site Fugitives		1.07	4.67	--	--	--	--	--	--	--	--	<0.01	<0.01	--	--
MSS / Tank Cleaning		8.13	0.02	--	--	--	--	--	--	--	--	--	--	--	--
MSS / General MSS		0.06	0.25	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL EMISSIONS (TPY):			24.34		7.64		14.75		0.05		0.05		<0.01		0.20
MAXIMUM OPERATING SCHEDULE:		Hours/Day		24		Days/Week		7		Weeks/Year		52		Hours/Year	

TABLE 1

POTENTIAL EMISSIONS SUMMARY
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

Emissions Source	EU-ID	NO_x		VOC		CO		$PM_{10}/PM_{2.5}$		SO_2		H_2S		Benzene		TOTAL HAPs	
		(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)
Heater Treater (0.50 MMBtu/hr)	HT1	0.05	0.21	0.003	0.01	0.04	0.18	0.004	0.02	0.0003	0.001	--	--	0.000001	0.000005	--	--
Heater Treater (0.50 MMBtu/hr)	HT2	0.05	0.21	0.003	0.01	0.04	0.18	0.004	0.02	0.0003	0.001	--	--	0.000001	0.000005	--	--
Oil Storage Tank (500-bbl)	TANK1	--	--	1.16	5.08	--	--	--	--	--	--	0.0001	0.00001	--	--	0.0004	0.02
Produced Water Storage Tank (500-bbl)	TANK2	--	--	0.04	0.19	--	--	--	--	--	--	0.00003	0.00000	--	--	0.0001	0.03
Combustor	COMB1	0.02	0.08	0.02	0.08	0.04	0.16	0.002	0.01	0.01	0.02	0.000002	0.00001	--	--	0.001	0.003
HP Flare	HP-FLARE	48.59	7.13	96.38	14.02	97.00	14.23	0.002	0.01	1.05	0.17	0.01	0.002	0.06	0.01	3.19	0.46
Oil Loading Emissions	LOADING1	--	--	40.51	0.01	--	--	--	--	--	--	0.003	0.000001	0.08	0.00002	0.003	0.000001
Water Loading Emissions	LOADING2	--	--	0.35	0.0002	--	--	--	--	--	--	0.0002	0.0000001	0.003	0.000002	0.01	0.00001
Site Fugitives	FUG	--	--	1.07	4.67	--	--	--	--	--	--	0.00005	0.0002	0.001	0.003	0.04	0.17
Tank Cleaning	MSS	--	--	8.13	0.02	--	--	--	--	--	--	--	--	--	--	--	--
General MSS	MSS	--	--	0.06	0.25	--	--	--	--	--	--	--	--	--	--	--	--
Total Facility Emissions		**48.71**	**7.64**	**147.72**	**24.34**	**97.12**	**14.75**	**0.01**	**0.05**	**1.06**	**0.20**	**0.01**	**0.002**	**0.14**	**0.01**	**3.24**	**0.69**

Note: General MSS is based on default TCEQ MSS calculations.

TABLE 2

POTENTIAL EMISSIONS
HEATER TREATER (HT1)
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

Pollutant	Max Firing Rate (MMBtu/hr)	Gas Heating Value (MMBtu/scf)	Emission Factors (lb/MMSCF) [1]	Potential Emission Rates [2]	
				(lb/hr)	(T/yr)
NOx	0.50	1,020	100.00	0.05	0.21
VOC	0.50	1,020	5.50	0.003	0.01
CO	0.50	1,020	84.00	0.04	0.18
PM	0.50	1,020	7.60	0.004	0.02
SO2	0.50	1,020	0.60	0.0003	0.001
Formaldehyde	0.50	1,020	0.08	0.00004	0.0002
Benzene	0.50	1,020	0.002	0.000001	0.000005

Notes:

1. Emission factors obtained from AP-42 Table 1.4-1 through 1.4-3 for commercial boilers.
2. Potential emissions based on AP-42 emission factors, maximum firing rate, fuel heating value, and 8,760 hours per year of operation. Heater only burns sweet gas.

TABLE 3

POTENTIAL EMISSIONS
HEATER TREATER (HT2)
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

Pollutant	Max Firing Rate (MMBtu/hr)	Gas Heating Value (MMBtu/scf)	Emission Factors (lb/MMSCF) [1]	Potential Emission Rates [2]	
				(lb/hr)	(T/yr)
NOx	0.50	1,020	100.00	0.05	0.21
VOC	0.50	1,020	5.50	0.003	0.01
CO	0.50	1,020	84.00	0.04	0.18
PM	0.50	1,020	7.60	0.004	0.02
SO2	0.50	1,020	0.60	0.0003	0.001
Formaldehyde	0.50	1,020	0.08	0.00004	0.0002
Benzene	0.50	1,020	0.002	0.000001	0.000005

Notes:

1. Emission factors obtained from AP-42 Table 1.4-1 through 1.4-3 for commercial boilers.
2. Potential emissions based on AP-42 emission factors, maximum firing rate, fuel heating value, and 8,760 hours per year of operation. Heater only burns sweet gas.

TABLE 4

POTENTIAL EMISSIONS
PROCESS VESSEL FLASH
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

Source	EU-ID	Total Annual Throughput [1]	Potential Emissions													
			Total VOC Potential Emissions [2]		Total H2S Potential Emissions [2]		Total HAP Potential Emissions [2]		Sale Gas Capture Efficiency [3]	Sale Gas Downtime [3]	Captured VOC Emissions [4]		Captured H2S Emissions [4]		Captured HAP Emissions [4]	
		(bbls/year)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(%)	(%)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)
Heater Treater Flash	HT-FLASH	9,125	1.58	6.92	0.0001	0.0004	0.06	0.27	99%	5%	1.58	0.41	0.0001	0.00002	0.06	0.02
FWKO Flash	FWKO-FLASH	21,900	0.02	0.07	0.000004	0.00002	0.0003	0.001	99%	5%	0.02	0.004	0.000004	0.000001	0.0003	0.0001

Notes:

1. Based on annual throughput value of 9,125-bbl/yr of oil and annual throughput value of 21,900-bbl/yr of water.
2. Emission factors from ProMax simulation.
3. Flash emissions from the heater treater and FWKO will be routed to sales during normal operation.
   To allow for maintenance, it is conservatively estimated that sales pipeline may be down 5% annually. During downtime emissions are sent to the HP Flare.
   It is conservatively estimated that 99% of the vapors are sent to the sales, with the remaining 1% being captured by the HP Flare.
4. Captured emissions calculated based on:

   Captured Emissions (lb/hr) = Total Potential Emissions (lb/hr)

   Captured Emissions (T/yr) = [Total Potential Emissions (T/yr) x (100% - Sales Gas Capture%)] + [Total Potential Emissions (T/yr) x Sales Gas Capture% x Downtime%]

TABLE 5

POTENTIAL EMISSIONS
STORAGE TANKS
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

Source	EU-ID	Annual Throughput [1]	Tank Capacity	Potential VOC Emissions																						
				Annual Breathing Losses [2]	Annual Working Losses [2]	Annual Flash Losses [3]	Total Uncontrolled Emissions		Combustor Capture Efficiency [4]	Uncaptured Combustor Emissions [5]		Uncombusted Combustor Emissions [5]		Total VOC Emissions [6]		Total VOC Emissions to Combustor [4]		H2S [7]	Total Uncontrolled H2S Emissions [8]		Total H2S Emission to Control Device [8]		HAP [7]	Total Uncontrolled HAP Emissions [8]		Total HAP Emission to Control Device [8]	
		(gallons/year)	(gallons)	(T/yr)	(T/yr)	(T/yr)	(lb/hr)	(T/yr)	(%)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(% of VOC)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(% of VOC)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)
Oil Storage Tank (500-bbl)	TANK1	383,250	21,000	1.95	1.13	2.10	1.18	5.18	98%	0.02	0.10	0.02	0.10	1.18	0.21	1.16	5.08	0.01%	0.0001	0.00001	0.0001	0.0004	2.40%	0.03	0.005	0.03	0.12
Produced Water Storage Tank (500-bbl)	TANK2	919,800	21,000	0.03	0.11	0.05	0.04	0.19	98%	0.001	0.004	0.001	0.004	0.04	0.01	0.04	0.19	0.06%	0.00003	0.000005	0.00003	0.0001	3.03%	0.001	0.0002	0.001	0.01

Notes:

1. Based on maximum annual oil throughput value of 9,125-bbl/yr and maximum annual produced water throughput value of 21,900-bbl/yr.
2. Annual breathing and working losses were determined using AP-42 Section 7 (6/20) (refer to Table 6).
3. Annual flash emissions from the storage tanks were determined using ProMax simulation.
4. Emissions from the storage tanks will be routed to the combustor during normal operations which has a 98% capture efficiency.
5. Uncaptured Emissions = Total Uncontrolled Emissions x (1 - Capture Efficiency (%))
   Uncombusted Emissions = Total Uncontrolled Emissions x Combustor Capture Efficiency (%) x [1 - Combustor Destruction Efficiency (%)]
6. Total VOC Emisisons (T/yr) = Uncaptured Emissions (T/yr) + Uncombusted Emissions (T/yr)
7. HAP and H2S percent of VOC determined using ProMax simulation.
8. Emissions = Total VOC Emissions to Combustor or Total VOC Emissions x HAP or H2S (%)

TABLE 6

POTENTIAL EMISSIONS
AP-42 SECTION 7 FIXED-ROOF TANK EMISSIONS
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

Tank Identification	**TANK1**	**TANK2**
Actual Location	Ector	Ector
Location for Calculation Purposes	Midland, Texas	Midland, Texas
Contents of Tank	Crude Oil (RVP 10)	Crude Oil (RVP 1.1)
Tank/Roof Type	Dome	Dome
Underground?	Aboveground	Aboveground
Will flashing occur at the tank?	Yes	No
Is the tank vapor balanced?	Yes	Yes
Diameter, ft	15.5	15.5
Shell Height or Length, ft	16.0	16.0
Nominal Capacity, gal	21,000	21,000
Throughput PER TANK, gallons/yr	383,250	919,800
Tank Paint Color	Tan	Tan
Tank Paint Condition	Average	Average
Effective Diameter, ft	15.5	15.5
Geometric Capacity, gal	21,173	21,173
Maximum Liquid Height, ft	15.00	15.00
Average Liquid Height, ft	9.00	9.00
Minimum Liquid Height, ft	1.00	1.00
Cone Tank Roof Slope, ft/ft	0.0625	0.0625
Dome Tank Roof Radius, ft	15.50	15.50
Dome Tank Roof Height, ft	2.077	2.077
Roof Outage, ft	1.063	1.063
Vapor Space Outage, ft	8.06	8.06
Vapor Space Volume, ft^3	1521	1521
Average Daily Minimum Ambient Temperature, F	51.40	51.40
Average Daily Maximum Ambient Temperature, F	76.70	76.70
Daily Maximum Ambient Temperature, F	95.00	95.00
Daily Total Solar Insolation Factor, Btu/ft^2/day	1698	1698
Daily Average Ambient Temperature, F	64.1	64.1
Tank Paint Solar Absorbance, dimensionless	0.490	0.490
Daily Vapor Temperature Range, R	34.2	34.2
Daily Average Liquid Surf. Temperature, F	69.0	69.0
Daily Minimum Liquid Surf. Temperature, F	60.4	60.4
Daily Maximum Liquid Surf. Temperature, F	77.5	77.5
Liquid Bulk Temperature	66.55	66.55
Vapor Molecular Weight, lb/lbmol	39.1	23.0
Antoine's Coefficient A	N/A	N/A
Antoine's Coefficient B	N/A	N/A
Antoine's Coefficient C	N/A	N/A
Type of Substance (for use in calculations)	Crude	Crude
Vapor Pressure at Daily Av. Liquid Surf. Temp., psia	8.597	0.454
Vapor Pressure at Daily Min. Liquid Surf. Temp., psia	7.483	0.363
Vapor Pressure at Daily Max. Liquid Surf. Temp., psia	9.832	0.563
Vapor Pressure Calculation Method	AP-42 Figure 7.1-13b: RVP=10	AP-42 Figure 7.1-13b: RVP=1.1
Vapor Density, lb/ft^3	0.059230	0.001840
Daily Vapor Pressure range, psi	2.349	0.199
Breather Vent Pressure Setting, psig	0.0300	0.0300
Breather Vent Vacuum Setting, psig	-0.0300	-0.0300
Breather Vent Pressure Setting Range, psi	0.0600	0.0600
Ambient Pressure, psia	13.3	13.3
Vapor Space Expansion Factor	0.5555	0.0755
Vented Vapor Saturation Factor	0.214	0.838
Annual Turnovers	19.39	46.54
Turnover Factor	1.00	1.00
Working Loss KB Factor	0.99	1.00
Working Loss Product Factor	0.75	1.00
Breathing Storage Loss, lb/yr	3,909.44	64.64
Working Loss, lb/yr	2,253.53	225.27
Total Losses, lb/yr	6,162.97	289.91
Breathing Storage Loss, TPY	1.95	0.03
Working Loss, TPY	1.13	0.11
Total Losses, TPY	3.08	0.14

Based on AP-42, June 2020, Section 7.1.3.1.

TABLE 7

POTENTIAL EMISSIONS
COMBUSTOR (COMB-1)
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

Input Parameters for Emission Calculations[1]

Designed Max. Firing Rate	0.13	MMBtu/hr	Annual Avg. Firing Rate[3]	1153.85 MMBtu/yr
Operating Hours per Year	8,760	Hrs/Yr	Annual Avg. Natural Gas Usage[3]	1.00 MM Cubic Feet/Yr
Estimated Natural Gas Usage	0.0001	MM Cubic Feet/Hr		
Pilot Rate	100.0	scf/hr		

Pollutant	Emission Factor			Rate Per Hour		Emission Factor			Rate Per Hour			Total Emissions (lb/hr)	Total Emissions (T/yr)
NO_x[2]	0.138	lb NOx / MMBtu	x	0.13	MMBtu / Hr	0.0001	Ton NOx / MMBtu	x	1153.85	MMBtu / Yr	=	0.02	0.08
VOC[2]	5.50	lb PM / MMcf Natural Gas Burned	x	0.0001	MMcf / Hr	8,760	Hours / yr	x	1 / 2,000	ton / lbs	=	0.001	0.002
VOC[3]	1.20	From Storage Tanks: Total lb VOC / hr											
VOC[3]	1.16	From Oil: Total lb VOC / hr				5.08	From Oil: Total T VOC / yr						
VOC[3]	0.04	From Prod. Water: Total lb VOC / hr				0.19	From Prod. Water: Total T VOC / yr						
VOC[3]	0.62	lb propane / hr	x	99%	Destruction Efficiency	2.70	T propane / yr	x	99%	Destruction Efficiency	=	0.01	0.03
VOC[3]	0.59	lb non-propane VOC / hr	x	98%	Destruction Efficiency	2.57	T non-propane VOC / yr	x	98%	Destruction Efficiency	=	0.01	0.05
											Total =	**0.02**	**0.08**
CO[2]	0.28	lb CO / MMBtu	x	0.13	MMBtu / Hr	0.0001	Ton CO / MMBtu	x	1153.85	MMBtu / Yr	=	0.04	0.16
PM[2]	19.70	lb PM / MMcf Natural Gas Burned	x	0.0001	MMcf / Hr	0.01	Ton PM / MMcf Natural Gas Burned	x	1.0038	MMcf / Yr	=	0.002	0.01
SO_2[2]	42.00	lb SO_2 / MMcf Natural Gas Burned	x	0.0001	MMcf / Hr	0.02	Ton SO_2 / MMcf Natural Gas Burned	x	1.0038	MMcf / Yr	=	0.005	0.02
SO_2[3]	0.0001	lb H2S / hr	x	64 / 34	lb SO2/lb-mol / lb H2S/lb-mol	0.98	lb H2S / yr	x	64 / 34	lb SO2/lb-mol / lb H2S/lb-mol	=	0.0002	0.001
											Total SO_2	**0.005**	**0.02**
H_2S[3]	0.0001	lb H2S / hr	x	98%	Destruction Efficiency	0.0005	T H2S / yr	x	98%	Destruction Efficiency	=	0.000002	0.00001
HAPs[3]	0.03	lb HAPs / hr	x	98%	Destruction Efficiency	0.13	T HAPs / yr	x	98%	Destruction Efficiency	=	0.001	0.003

Notes:

1. Input Parameters:

Estimated Max. Heat Input (MMBTU/Hr) is the sum of:

Pilot	Gas Rate (scf/hr) x Heating Value (btu/scf) / 1,000,000	=	0.10
Oil Tank Flash	ProMax Gas Rate (scf/hr) x Heating Value (btu/scf) / 1,000,000 x Cap. Eff. (%)	=	0.01
Oil Tank W/B	Total Tank W/B VOC (lb/hr) x Cap. Eff. (%) x 379.4 (scf/lb-mol) / Molecular Wt. of vapors (lb/lb-mol) x Heat Value (btu/scf) / 1,000,000	=	0.02
Water Tank Flash	ProMax Gas Rate (scf/hr) x Heating Value (btu/scf) / 1,000,000 x Cap. Eff. (%)	=	0.001
Water Tank W/B	Total Tank W/B VOC (lb/hr) x Cap. Eff. (%) x 379.4 (scf/lb-mol) / Molecular Wt. of vapors (lb/lb-mol) x Heat Value (btu/scf) / 1,000,000	=	0.0003
	Total	**=**	**0.13**

Estimated Max. Gas Burned (MMCF/Hr) is the sum of:

Pilot	Gas Rate (scf/hr) x 8760 (hr) / 1,000,000	=	0.0001
Oil Tank Flash	ProMax Gas Rate (MMSCFD) / 24 x Cap. Eff. (%)	=	0.00001
Oil Tank W/B	Total Tank W/B VOC (lb/hr) x Capture Eff. (%) x 379.4 (scf/lb-mol) / Molecular Wt. of vapors (lb/lb-mol)	=	0.00001
Water Tank Flash	ProMax Gas Rate (MMSCFD) / 24 x Cap. Eff. (%)	=	0.000001
Water Tank W/B	Total Tank W/B VOC (lb/hr) x Capture Eff. (%) x 379.4 (scf/lb-mol) / Molecular Wt. of vapors (lb/lb-mol)	=	0.000001
	Total	**=**	**0.0001**

2. NOx and CO emission factors obtained from TCEQ Air Permit Technical Guidance for Chemical Sources: Flares and Vapor Oxidizers, October 2000 RG-109 (Draft), Table 4, high Btu, "other" flare type. VOCPM and SO_2 emission factors obtained from AP-42 for Natural Gas Combustion, Table 1.4-1, (7/98) < 100 MMBtu/hr heat input; & Table 1.4-2, (7/98). VOC is pilot gas only. VOC from controlled sources is represented at the source.
3. Vapors from the oil tanks and water tanks are routed to the combustor during normal operations. A 99% destruction efficiency of propane is utilized, with a destruction efficiency of 98% for all others. Percent propane is based on ProMax. It is conservatively assumed that all H2S is converted to SO_2.

TABLE 8

POTENTIAL EMISSIONS
FLARE (HP-FLARE)
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

Input Parameters for Emission Calculations[1]

Designed Max. Firing Rate	0.15	MMBtu/hr	Annual Avg. Firing Rate[3]	913.67 MMBtu/yr
Operating Hours per Year	8,760	Hrs/Yr	Annual Avg. Natural Gas Usage[3]	0.89 MM Cubic Feet/Yr
Estimated Natural Gas Usage	0.0001	MM Cubic Feet/Hr		
Pilot Rate	100.0	scf/hr		

Pollutant	Emission Factor			Rate Per Hour		Emission Factor			Rate Per Hour			Total Emissions (lb/hr)	Total Emissions (T/yr)
NO_x[2]	0.14	lb NOx / MMBtu	x	0.15	MMBtu / Hr	0.0001	Ton NOx / MMBtu	x	913.7	MMBtu / Yr	=	0.02	0.06
VOC[2]	5.50	lb PM / MMcf Natural Gas Burned	x	0.0001	MMcf / Hr	8,760	Hours / yr	x	1 / 2,000	ton / lbs	=	0.001	0.002
VOC[3]	1.58	From HT: Total lb VOC / hr				0.41	From HT: Total T VOC / yr						
	0.02	From FWKO: Total lb VOC / hr				0.004	From FWKO: Total T VOC / yr						
VOC[3]	0.67	lb propane / hr	x	99%	Destruction Efficiency	0.17	T propane / yr	x	99%	Destruction Efficiency	=	0.01	0.002
VOC[3]	0.91	lb non-propane VOC / hr	x	98%	Destruction Efficiency	0.24	T non-propane VOC / yr	x	98%	Destruction Efficiency	=	0.02	0.00
											Total =	**0.03**	**0.01**
CO[2]	0.28	lb CO / MMBtu	x	0.15	MMBtu / Hr	0.0001	Ton CO / MMBtu	x	913.67	MMBtu / Yr	=	0.04	0.13
PM[2]	19.70	lb PM / MMcf Natural Gas Burned	x	0.0001	MMcf / Hr	0.01	Ton PM / MMcf Natural Gas Burned	x	0.8864	MMcf / Yr	=	0.00	0.01
SO_2[2]	42.00	lb SO_2 / MMcf Natural Gas Burned	x	0.0001	MMcf / Hr	0.02	Ton SO_2 / MMcf Natural Gas Burned	x	0.8864	MMcf / Yr	=	0.01	0.02
SO_2[2]	0.0001	lb H2S / hr	x	64 / 34	lb SO2/lb-mol / lb H2S/lb-mol	0.05	lb H2S / yr	x	64 / 34	lb SO2/lb-mol / lb H2S/lb-mol	=	0.0002	0.00005
											Total SO_2	**0.01**	**0.02**
H_2S[3]	0.0001	lb H2S / hr	x	98%	Destruction Efficiency	0.00002	T H2S / yr	x	98%	Destruction Efficiency	=	0.000002	0.0000005
HAPs[3]	0.06	lb HAPs / hr	x	98%	Destruction Efficiency	0.02	T HAPs / yr	x	98%	Destruction Efficiency	=	0.001	0.0003

Notes:

1. Input Parameters:

Estimated Max. Heat Input (MMBTU/Hr) is the sum of:

Pilot Gas Rate (scf/hr) x Heating Value (btu/scf) / 1,000,000		=	0.10
HT Flash ProMax Gas Rate (scf/hr) x Heating Value (btu/scf) / 1,000,000		=	0.05
FWKO Flash ProMax Gas Rate (scf/hr) x Heating Value (btu/scf) / 1,000,000		=	0.001
	Total	**=**	**0.15**

Estimated Max. Gas Burned (MMCF/Hr) is the sum of:

Pilot Gas Rate (scf/hr) x 8760 (hr) / 1,000,000		=	0.0001
HT Flash ProMax Gas Rate (MMSCFD) / 24		=	0.00002
FWKO Flash ProMax Gas Rate (MMSCFD) / 24		=	0.000001
	Total	**=**	**0.0001**

2. NOx and CO emission factors obtained from TCEQ Air Permit Technical Guidance for Chemical Sources: Flares and Vapor Oxidizers, October 2000 RG-109 (Draft), Table 4, high Btu, "other" flare type. VOCPM and SO_2 emission factors obtained from AP-42 for Natural Gas Combustion, Table 1.4-1, (7/98) < 100 MMBtu/hr heat input; & Table 1.4-2, (7/98). VOC is pilot gas only. VOC from controlled sources is represented at the source.
3. Vapors from HT and FWKO flash are routed to the flare during VRU downtime, which is conservatively estimated to be 5% annually. A 99% destruction efficiency of propane is utilized, with a destruction efficiency of 98% for all others. Percent propane is based on ProMax. It is conservatively assumed that all H_2S is converted to SO_2.

TABLE 9

POTENTIAL EMISSIONS
PRODUCED GAS FLARING - HOURLY (HP-FLARE)
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

FLARE FEED AND EXHAUST RATES - (VENT-FLARE)										
Control Feed Rates and Composition					Control DRE%	Control Exhaust lb/hr[2]	Component BTU/SCF	Heat Release MMBtu/hr	FLARE EMISSION RATES	
Inlet Gas		MCF/Hr	Cu Ft/ #	lbs/hr						
N2	2.7480%	7.557	13.5460	557.87	0.00%	557.8696	0.0	0.000	TCEQ Flare NOx factor[4]:	0.1380 lb/MMBtu
CO2	0.3670%	1.009	8.6229	117.04	0.00%	117.0415	0.0	0.000	TCEQ Flare CO factor[4]:	0.2755 lb/MMBtu
H2S	0.0023%	0.006	11.1351	0.57	98.00%	0.0114	586.8	0.004		
SO2[3]	--	--	--	--	--	1.0480	--	--		
C1	67.4161%	185.394	23.6540	7837.76	99.00%	78.3776	909.4	168.598	NOx emissions from control:	48.57 lbs/hour
C2	13.3418%	36.690	12.6200	2907.29	99.00%	29.0729	1618.7	59.390	CO emissions from control:	96.96 lbs/hour
C3	9.3699%	25.767	8.6059	2994.13	99.00%	29.9413	2314.9	59.648	SO2 emissions from control:	1.05 lbs/hour
IC4	0.8480%	2.332	6.5291	357.17	98.00%	7.1433	3000.4	6.997		
NC4	2.9500%	8.112	6.5291	1242.50	98.00%	24.8500	3010.8	24.425		
IC5	0.5900%	1.622	5.2596	308.48	98.00%	6.1696	3699.0	6.002		
NC5	0.6830%	1.878	5.2596	357.10	98.00%	7.1421	3706.9	6.962		
Benzene	0.0200%	0.055	4.8581	11.32	98.00%	0.2264	3707.9	0.204	Control Volume	275 MCF/HR
Toluene	0.0270%	0.074	4.1184	18.03	98.00%	0.3606	3708.9	0.275		6600 MCF/D
Ethylbenzene	0.0110%	0.030	3.5744	8.46	98.00%	0.1693	3709.9	0.112		
Xylenes	0.0150%	0.041	3.5744	11.54	98.00%	0.2308	3710.9	0.153		
n-Hexane	0.1760%	0.484	4.4035	109.91	98.00%	2.1982	3711.9	1.797		
C6+	1.4350%	3.946	4.4035	896.15	98.00%	17.9230	4403.8	17.378		
Total	100.00%	275.0	--	--	--	879.7754	--	351.945	Total Volume[1]	275 MCF/HR
Total VOC	--	--	--	--	--	96.3545	--	--		

Notes

1. Volume (MCF/Hr) is based on flaring 275 Mcf per hour of gas.
2. Control Exhaust (lb/hr) = Volume (MCF/hr) x constituent composition (%) x 1000 / Cu Ft/# x (100-Flare DRE (%))
3. Conservatively assumes that one mole H_2S will form one mole SO_2. SO_2 (lb/hr) = H_2S (lb/hr) x (64 lb SO_2/lb-mol / 34 lb H_2S/lb-mol)
4. Flare CO and NOx emission factors from TCEQ Air Permit Techincal Guidance for Chemical Sources: Flares and Vapor Oxidizers, October 2000 RG-109 (Draft), Table 4, high Btu, "other" flare type.

TABLE 10

POTENTIAL EMISSIONS
PRODUCED GAS FLARING - ANNUAL (HP-FLARE)
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

FLARE FEED AND EXHAUST RATES - (VENT-FLARE)										
Control Feed Rates and Composition					Control DRE%	Control Exhaust Components T/yr	Component BTU/SCF	Heat Release MMBtu/yr	FLARE EMISSION RATES	
Inlet Gas		MCF/YR	Cu Ft/ #	lbs/yr						
N2	2.7480%	2198.371	13.5460	162289.34	0.00%	81.1447	0.0	0.000	TCEQ Flare NOx factor[4]:	0.1380 lb/MMBtu
CO2	0.3670%	293.596	8.6229	34048.43	0.00%	17.0242	0.0	0.000	TCEQ Flare CO factor[4]:	0.2755 lb/MMBtu
H2S	0.0023%	1.840	11.1351	165.26	98.00%	0.0017	586.8	1.080		
SO2[3]	--	--	--	--	--	0.1524	--	--		
C1	67.4161%	53932.899	23.6540	2280075.20	99.00%	11.4004	909.4	49046.578		
C2	13.3418%	10673.461	12.6200	845757.62	99.00%	4.2288	1618.7	17277.132		
C3	9.3699%	7495.903	8.6059	871019.01	99.00%	4.3551	2314.9	17352.265		
IC4	0.8480%	678.391	6.5291	103902.71	98.00%	1.0390	3000.4	2035.445	NOx emissions from control:	7.06 T/yr
NC4	2.9500%	2359.969	6.5291	361454.00	98.00%	3.6145	3010.8	7105.396	CO emissions from control:	14.10 T/yr
IC5	0.5900%	471.994	5.2596	89739.50	98.00%	0.8974	3699.0	1745.905	SO2 emissions from control:	0.15 T/yr
NC5	0.6830%	546.393	5.2596	103884.88	98.00%	1.0388	3706.9	2025.424		
Benzene	0.0200%	16.000	4.8581	3293.43	98.00%	0.0329	3707.9	59.326	Control Volume[1]	80,000 MCF/YR
Toluene	0.0270%	21.600	4.1184	5244.69	98.00%	0.0524	3708.9	80.111		
Ethylbenzene	0.0110%	8.800	3.5744	2461.92	98.00%	0.0246	3709.9	32.647		
Xylenes	0.0150%	12.000	3.5744	3357.16	98.00%	0.0336	3710.9	44.530		
n-Hexane	0.1760%	140.798	4.4035	31974.15	98.00%	0.3197	3711.9	522.629		
C6+	1.4350%	1147.985	4.4035	260698.32	98.00%	2.6070	4403.8	5055.497		
Total	100.00%	80000	--	--	--	127.9673	--	102383.963	Total Volume	80,000 MCF/YR
Total VOC	--		--		--	14.0152	--	--		

Notes:

1. Volume (MCF/Hr) is based on flaring 80,000 Mcf per year of gas.
2. Control Exhaust (lb/hr) = Volume (MCF/hr) x constituent composition (%) x 1000 / Cu Ft/# x (100-Flare DRE (%))
3. Conservatively assumes that one mole H_2S will form one mole SO_2. SO_2 (lb/hr) = H_2S (lb/hr) x (64 lb SO_2/lb-mol / 34 lb H_2S/lb-mol)
4. Flare CO and NOx emission factors from TCEQ Air Permit Techincal Guidance for Chemical Sources: Flares and Vapor Oxidizers, October 2000 RG-109 (Draft), Table 4, high Btu, "other" flare type.

TABLE 11

POTENTIAL EMISSIONS
TRUCK LOADING (LOADING1 & LOADING2)
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

Material Name	EU-ID	Saturation Factor [1]	True Vapor Pressure [2] (P)		Molecular Weight of Vapors [2] (M)	Temp of Loaded Liquid [2] (F)		Emission Factor [1] (lb VOC/10^3 gal)		Annual Throughput [3]	Estimated Hourly Throughput [3]	Weight Percent of VOC in HC Vapors	Total Uncontrolled VOC Emissions		Weight Percent of H2S in VOC Vapors [6]	Total Controlled H2S Emissions [7]		Weight Percent of HAP in VOC Vapors [6]	Total Controlled HAP Emissions [7]	
		(S)	Max	Avg	(lb/lb-mole)	Max	Avg	Max	Avg	(gals)	(gal)	(%)	(lb/hr) [4]	(T/yr) [5]	(%)	(lb/hr)	(T/yr)	(%)	(lb/hr)	(T/yr)
Oil	LOADING1	0.6	9.83	8.60	39	95	66.55	5.18	4.77	3,833	8,000	97.81%	40.51	0.01	0.01%	0.003	0.000001	0.01%	0.003	0.000001
Produced Water	LOADING2	0.6	0.56	0.45	23	95	66.55	0.17	0.15	9,198	8,000	25.40%	0.35	0.0002	0.06%	0.0002	0.0000001	3.03%	0.01	0.00001

Notes:

1. Per AP-42, 5th Edition (6/08), Section 5.2, Equation 1

$$\text{Emission Factor (lb VOC/10}^3\text{gal)} = \frac{S \times P \times M \times 12.46}{F + 460}$$

Saturation Factor = 0.6 for submerged loading: dedicated normal service

2. True vapor pressure, weight of vapors and temp of loaded liquid obtained from AP-42 Section 7 using factors from ProMax.
3. Throughput is the amount of oil and water loaded out from the storage tanks. It is estimated that one truck can load 8,000 gallons in one hour.
   Oil and Produced water are mainly transferred offsite via pipeline. 1% truck loading for produced water and 1% for crude oil is used to conservatively to estimate emissions and allow for flexibility.
4. Uncontrolled Hourly VOC Emissions = Estimated Hourly Throughput (gal/hr) x Max Emission Factor (lb VOC/10^3 gal) / 1000 x VOC in Vapors (%).
5. Uncontrolled Annual VOC Emissions = Annual Throughput (gal) x Avg Emission Factor (lb VOC/10^3 gal) / 1000 / 2000 (lb/T) x VOC in Vapors (%).
6. Total HAP and H2S in VOC based on ProMax.
7. Emissions = Total Controlled VOC Emissions x HAP or H2S (%)

TABLE 12
POTENTIAL EMISSIONS FROM MSS ACTIVITIES (MSS)
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

Summary of MSS Activities						
Activity	VOC[1]		PM		Other HAPs	
	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)
Engine, compressor, turbine and other combustion facilities maintenance	0.06	0.25	-	-	-	-
Repair, adjustment, calibration, lubrication and cleaning of site process equipment			-	-	-	-
Replacement of piping components, pneumatic controllers, boiler refractories, wet and dry seals, meters, instruments, analyzers, screens and filters			-	-	-	-
Turbine or engine component swaps			-	-	-	-
Piping used to bypass a facility during maintenance			-	-	-	-
Pigging and purging of piping	119.92	0.60	-	-	-	-
Abrasive blasting, surface preparation and surface coating of facilities and structures used at the site	8.13	0.02	0.68	0.001	0.08	0.0002
Total =	**128.11**	**0.87**	**0.68**	**0.001**	**0.08**	**0.0002**

MSS - Pigging Operations

Description	Pigging
Number of Events per Year	10
Number of Events per hour	1
Volume per Event, scf	5000
Stream Specific Gravity	0.8341
Air MW, lb/mole	28.96
Fuel Stream Density, lb/scf	0.064
VOC Percentage in Gas Stream, wt%	37.63%
VOC Hourly Emission Rate (lb/hr):	119.92
VOC Annual Emission Rate (T/yr):	0.60

MSS - Sandblasting

Description	Sandblasting	
Application Rate[1]	2,000	lb/hr
Operating Hours	4	hr/yr
PM10 Emission Factor[1]	0.00034	lb/lb usage
PM2.5 Emission Factor[1]	0.00005	lb/lb usage
PM10 Emissions	**0.68**	**lb/hr**
PM10 Emissions	**0.001**	**T/yr**
PM2.5 Emissions	**0.10**	**lb/hr**
PM2.5 Emissions	**<0.01**	**T/yr**

MSS - Solvent Cleaning

Description	Solvent Cleaning	
Annual Usage	5	gal/yr
Maximum Hourly Usage	1	gal/hr
Density	6.5	lb/gal
VOC Wt%	100%	-
Dipropylene Glycol Methyl Ether Wt%	1%	-
HAP Emissions	**0.08**	**lb/hr**
HAP Emissions	**0.0002**	**T/yr**
VOC Emissions	**8.13**	**lb/hr**
VOC Emissions	**0.02**	**T/yr**

Notes:

1. Defaults from TCEQ emissions spreadsheet.

TABLE 13

POTENTIAL EMISSIONS
SITEWIDE FUGITIVES (FUG)
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

Component Type	Type of Service	Estimated Equipment At Site [1]	Emission Factor lb/hr/component [2]	% VOC [3]	% H2S	% HAP [3]	VOC Emissions		H2S Emissions		HAP Emissions	
							(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)
Flanges	Gas	112	0.000860	37.63%	0.003%	0.92%	0.04	0.16	0.000003	0.00001	0.001	0.004
	Light Oil	52	0.000243	99.64%	0.0001%	4.69%	0.01	0.06	0.00000001	0.0000001	0.001	0.003
	Water/Oil	46	0.000006	99.64%	0.0001%	4.69%	0.0003	0.001	0.0000000003	0.000000001	0.00001	0.0001
Valves	Gas	80	0.009920	37.63%	0.003%	0.92%	0.30	1.31	0.00003	0.0001	0.01	0.03
	Light Oil	42	0.005500	99.64%	0.0001%	4.69%	0.23	1.01	0.0000002	0.000001	0.01	0.05
	Water/Oil	40	0.000216	99.64%	0.0001%	4.69%	0.01	0.04	0.00000001	0.00000004	0.0004	0.002
Compressor Seals	Gas	16	0.019400	37.63%	0.003%	0.92%	0.12	0.51	0.00001	0.00004	0.003	0.01
	Light Oil	5	0.016500	99.64%	0.0001%	4.69%	0.08	0.36	0.0000001	0.0000003	0.004	0.02
Connectors	Gas	125	0.000440	37.63%	0.003%	0.92%	0.02	0.09	0.000002	0.00001	0.0005	0.002
	Light Oil	130	0.000463	99.64%	0.0001%	4.69%	0.06	0.26	0.0000001	0.0000002	0.003	0.01
	Water/Oil	70	0.000243	99.64%	0.0001%	4.69%	0.02	0.07	0.00000002	0.0000001	0.001	0.003
Open-Ended Lines	Gas	8	0.004410	37.63%	0.003%	0.92%	0.01	0.06	0.000001	0.000005	0.0003	0.001
	Light Oil	5	0.003090	99.64%	0.0001%	4.69%	0.02	0.07	0.00000001	0.0000001	0.001	0.003
	Water/Oil	4	0.000550	99.64%	0.0001%	4.69%	0.002	0.01	0.000000002	0.00000001	0.0001	0.0005
Other	Gas	8	0.019400	37.63%	0.003%	0.92%	0.06	0.26	0.000005	0.00002	0.001	0.01
	Light Oil	2	0.016500	99.64%	0.0001%	4.69%	0.03	0.14	0.00000003	0.0000001	0.002	0.01
	Water/Oil	2	0.030900	99.64%	0.0001%	4.69%	0.06	0.27	0.0000001	0.0000003	0.003	0.01
Total Component Count		**747**				**Total**	**1.07**	**4.67**	**0.00005**	**0.0002**	**0.04**	**0.17**

Notes:

1. Number of each component and type of service estimated based on a similar site.
2. Emission factors based on EPA's oil and gas production operations factors for process piping fugitive emissions.
3. Percent VOC, H2S, and HAP based on a representative sample and ProMax (refer to Tables 14 & 15).

TABLE 14

GAS ANALYSIS
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

Component	Molecular Weight	Mole % [1]	lb/100 mole	Wt % Total	Wt % Hydrocarbon	Wt % VOC [2]
Hydrogen Sulfide	34.08	0.0023%	0.001	0.003%	--	--
Water	18.01	0.00%	0.00	0.00%	--	--
Nitrogen	28.01	2.75%	0.77	3.12%	--	--
Carbon Dioxide	44.01	0.37%	0.16	0.65%	--	--
Methane	16.04	67.42%	10.81	43.77%	43.77%	--
Ethane	30.07	13.34%	4.01	16.24%	16.24%	--
Propane	44.10	9.37%	4.13	16.73%	16.73%	17.38%
i-Butane	58.12	0.85%	0.49	2.00%	2.00%	2.07%
n-Butane	58.12	2.95%	1.71	6.94%	6.94%	7.21%
i-Pentane	72.15	0.59%	0.43	1.72%	1.72%	1.79%
n-Pentane	72.15	0.68%	0.49	1.99%	1.99%	2.07%
Other Hexanes	86.17	0.30%	0.26	1.05%	1.05%	1.09%
Heptanes	100.20	0.61%	0.61	2.48%	2.48%	2.58%
Octanes+	114.23	0.52%	0.60	2.41%	2.41%	2.50%
Benzene	78.11	0.02%	0.02	0.06%	0.06%	0.07%
Toluene	92.14	0.03%	0.02	0.10%	0.10%	0.105%
Ethylbenzene	106.17	0.01%	0.01	0.05%	0.05%	0.05%
Xylenes	106.17	0.01%	0.02	0.06%	0.06%	0.07%
n-Hexane	86.17	0.18%	0.15	0.61%	0.61%	0.64%
Total	--	100.00%	24.70	100.00%	96.23%	37.63%

Notes:

1. Representative gas analysis and extended HAPs based on a sample taken 11/14/2023. H2S is represented as 23 ppm to allow for changes in gas quality.
2. Wt % VOC is the VOC % in the hydrocarbon portion of the gas.

TABLE 15

LIQUID ANALYSIS
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

Component	Molecular Weight	Mole % [1]	lb/100 mole	Wt % Total	Wt % Hydrocarbon	Wt % VOC [2]
Hydrogen Sulfide	34.08	0.0003%	0.0001	0.0001%	--	--
Water	18.01	0.15%	0.03	0.03%	--	--
Nitrogen	28.01	0.001%	0.0004	0.0004%	--	--
Carbon Dioxide	44.01	0.01%	0.003	0.003%	--	--
Methane	16.04	0.21%	0.03	0.03%	0.03%	--
Ethane	30.07	1.08%	0.33	0.32%	0.32%	--
Propane	44.10	3.33%	1.47	1.45%	1.45%	1.46%
i-Butane	58.12	0.97%	0.56	0.56%	0.56%	0.56%
n-Butane	58.12	4.89%	2.84	2.81%	2.81%	2.81%
i-Pentane	72.15	2.35%	1.69	1.67%	1.67%	1.68%
n-Pentane	72.15	3.50%	2.53	2.50%	2.50%	2.50%
Other Hexanes	86.17	3.30%	2.85	2.82%	2.82%	2.82%
Heptanes	100.20	12.70%	12.73	12.59%	12.59%	12.60%
Octanes+	114.23	62.40%	71.28	70.52%	70.52%	70.54%
Benzene	78.11	0.25%	0.20	0.19%	0.19%	0.19%
Toluene	92.14	0.76%	0.70	0.69%	0.69%	0.69%
Ethylbenzene	106.17	0.81%	0.86	0.85%	0.85%	0.85%
Xylenes	106.17	0.79%	0.84	0.83%	0.83%	0.83%
n-Hexane	86.17	2.49%	2.15	2.12%	2.12%	2.13%
Total	--	100.00%	101.08	100.00%	99.97%	99.64%

Notes:

1. Liquid analysis based on ProMax.
2. Wt % VOC is the VOC % in the hydrocarbon portion of the gas.

TABLE 16

FLARE COMPLIANCE DOCUMENTATION CHECK
HP FLARE
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

HP FLARE FEED AND EMISSION RATES				
	Gas to Flare[1] (CFM)	Tip Area (ft^2)	Tip Velocity[2] (ft/sec)	Gas Heating Value[3] (Btu/scf)
Sales Gas Flaring	4583.333	--	--	1279.80
HT Flash	0.397	--	--	1930.05
FWKO Flash	0.018	--	--	1179.028
Total:	4583.749	0.20	389.081	

HP FLARE TIP INFO/AREA		
Number of Flare Tips:	1	
Shape of Flare Tip:	circular	
Diameter of Flare Tip:	6.00	in
Radius of Flare Tip:	0.25	ft
Area of Circle:	πr^2	
Area of Flare Tip[4]:	0.20	ft^2

Notes:
1. Gas to Flare (CFM) = (Volume of Stream to Flare (MCF/Hr) x 1000 cu. Ft/MCF) / 60 sec/1 min.
2. Tip Velocity (ft/sec) = (Total Gas to Flare (CFM) x 1 min/60 sec) / Tip Area (ft^2)
3. Gas Heating Value (Btu/scf) = (Total Heat Release of Stream (MMBtu/Hr) x 1000000 Btu/MMBtu) / (Volume of Stream to Flare (MCF/Hr) x 1000 scf/MCF)
4. Area of Flare Tip (ft^2) = PI x (Radius of Flare Tip (ft))^2 x Number of Flare Tips

TABLE 17
ESTIMATED BENZENE EMISSIONS
SALLIE 23 BATTERY
DIAMONDBACK E&P, LLC
ECTOR COUNTY, TEXAS

Emissions Source	Method Used For Calculations	FIN/EPN	VOC (lb/hr)	VOC (T/yr)	Benzene (Wt%)	Benzene (lb/hr)	Benzene (T/yr)
Heater Treater (0.50 MMBtu/hr)	AP-42 Emission Factors	HT1	0.003	0.01	--	0.000001	0.000005
Heater Treater (0.50 MMBtu/hr)	AP-42 Emission Factors	HT2	0.003	0.01	--	0.000001	0.000005
HP Flare	Gas Analysis	HP-FLARE	96.38	14.02	0.07%	0.06	0.01
Oil Loading Emissions	ProMax	LOADING1	40.51	0.01	0.19%	0.08	0.00002
Water Loading Emissions	ProMax	LOADING2	0.35	0.0002	0.94%	0.003	0.000002
Combustor	Promax	COMB-1	0.02	0.08	0.12%	0.00002	0.0001
Site Fugitives	Gas Analysis	FUG	1.07	4.67	0.07%	0.001	0.003
Total:						0.14	0.01

Diamondback E&P, LLC

FACILITY: SALLIE 23 BATTERY
SAMPLE: GUARDIAN H BATTERY

C10+ Specific Gravity = 0.8767

C10+ Molecular Weight = 279.3 lb/lbmol

Target Water = 60 bbl/d

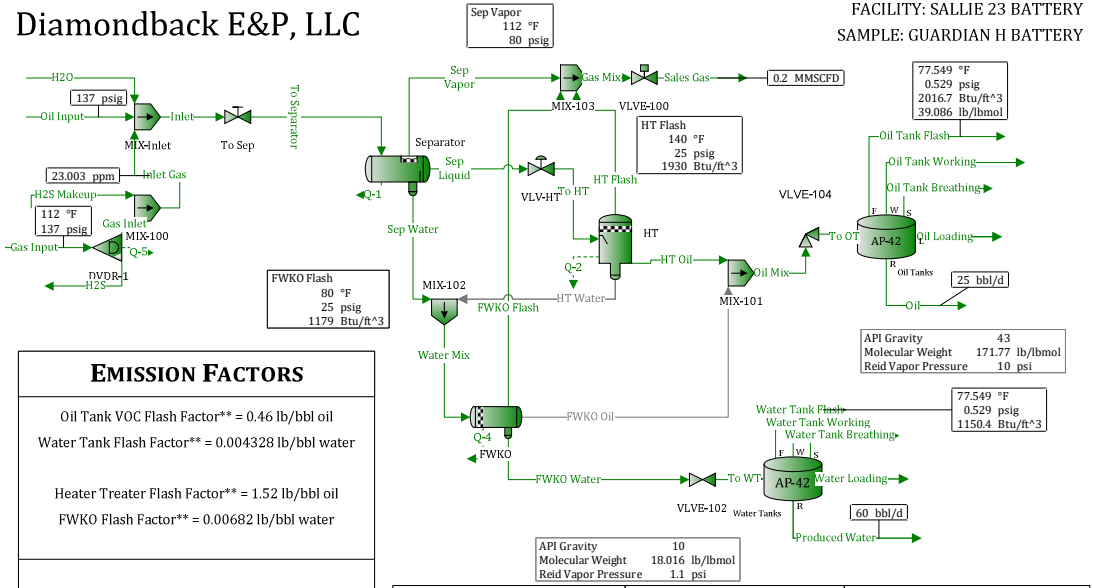
Target Oil = 25 bbl/d

Target Gas = 0.2 MMSCFD

Target H2S = 23 ppm

Oil Tanks = 1

Water Tanks = 1



EMISSION FACTORS

Oil Tank VOC Flash Factor** = 0.46 lb/bbl oil

Water Tank Flash Factor** = 0.004328 lb/bbl water

Heater Treater Flash Factor** = 1.52 lb/bbl oil

FWKO Flash Factor** = 0.00682 lb/bbl water

Oil Tank Total Volume Factor*** = 6.476 SCF/bbl oil

Water Tank Volume Factor*** = 0.3082 SCF/bbl water

Heater Treater Volume Factor*** = 22.89 SCF/bbl oil

FWKO Volume Factor*** = 0.4285 SCF/bbl water

HC FLASH HAPS	LOADING HAPS	LOADING PARAMETERS
Benzene = 0.18 wt% of VOC	Benzene = 0.2 wt% of VOC	Bulk Liquid Temp = 66.5 °F
Toluene = 0.182 wt% of VOC	Toluene = 0.18 wt% of VOC	True Vapor Pressure = 11.1 psia
Ethylbenzene = 0.07 wt% of VOC	Ethylbenzene = 0.07 wt% of VOC	Vapor Molecular Weight = 43.3 lb/lbmol
Xylenes = 0.062 wt% of VOC	Xylenes = 0.06 wt% of VOC	Liquid Molecular Weight = 171.77 lb/lbmol
n-Hexane = 1.36 wt% of VOC	n-Hexane = 1.4 wt% of VOC	Liquid Density = 6.45 lb/gal

*GOR is the total flash volume from all vessels per barrel of stock tank oil.
**Flash Factors are the pounds of VOC emissions per barrel of stock tank oil/stock tank water.
***Volume Factors are the total flash volume per barrel of stock tank oil/stock tank water.

LAST EDIT: 8/28/2024

Methane Flash Factors

Heater Treater CH4 FF** = 0.277 lb CH4/bbl oil

Oil Tank CH4 FF = 0.0433 lb CH4/bbl oil

FWKO CH4 FF** = 0.0127 lb CH4/bbl water

Water Tank CH4 FF** = 0.00864 lb CH4/bbl water

Methane Volume Factors

Heater Treater CH4 VF** = 6.56 SCF CH4/bbl oil

Oil Tank CH4 VF = 1.02 SCF CH4/bbl oil

FWKO CH4 VF** = 0.3 SCF CH4/bbl water

Water Tank CH4 VF** = 0.204 SCF CH4/bbl water

December 6, 2023

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

For: Diamondback E&P, LLC
515 Central Park Drive, Suite 500
Oklahoma City, Oklahoma 73105

Sample: Guardian H Battery
Production Separator V-2110
Spot Gas Sample @ 137 psig & 112 °F

Date Sampled: 11/14/2023 Job Number: 233543.001

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286

COMPONENT	MOL%	GPM
Hydrogen Sulfide*	< 0.001	
Nitrogen	2.748	
Carbon Dioxide	0.367	
Methane	67.417	
Ethane	13.342	3.566
Propane	9.370	2.580
Isobutane	0.848	0.277
n-Butane	2.941	0.927
2-2 Dimethylpropane	0.009	0.003
Isopentane	0.590	0.216
n-Pentane	0.683	0.247
Hexanes	0.478	0.197
Heptanes Plus	1.207	0.524
Totals	100.000	8.536

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity	3.557	(Air=1)
Molecular Weight	102.50	
Gross Heating Value	5381	BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity	0.856	(Air=1)
Compressibility (Z)	0.9950	
Molecular Weight	24.67	
Gross Heating Value		
Dry Basis	1418	BTU/CF
Saturated Basis	1394	BTU/CF

*Hydrogen Sulfide tested on location by: Stain Tube Method (GPA 2377)
Results: 0.252 Gr/100 CF, 4.0 PPMV or 0.0004 Mol%

Base Conditions: 14.650 PSI & 60 Deg F

Sampled By: (16) K. Hinojosa
Analyst: JS
Processor: KV
Cylinder ID: T-5044

Certified: FESCO, Ltd. - Alice, Texas

_____
Conan Pierce 361-661-7015

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286
TOTAL REPORT

COMPONENT	MOL %	GPM	WT %
Hydrogen Sulfide*	< 0.001		< 0.001
Nitrogen	2.748		3.121
Carbon Dioxide	0.367		0.655
Methane	67.417		43.848
Ethane	13.342	3.566	16.264
Propane	9.370	2.580	16.750
Isobutane	0.848	0.277	1.998
n-Butane	2.941	0.927	6.930
2,2 Dimethylpropane	0.009	0.003	0.026
Isopentane	0.590	0.216	1.726
n-Pentane	0.683	0.247	1.998
2,2 Dimethylbutane	0.002	0.001	0.007
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.077	0.032	0.269
2 Methylpentane	0.131	0.054	0.458
3 Methylpentane	0.092	0.038	0.321
n-Hexane	0.176	0.072	0.615
Methylcyclopentane	0.182	0.064	0.621
Benzene	0.020	0.006	0.063
Cyclohexane	0.091	0.031	0.310
2-Methylhexane	0.028	0.013	0.114
3-Methylhexane	0.042	0.019	0.171
2,2,4 Trimethylpentane	0.068	0.035	0.315
Other C7's	0.118	0.051	0.475
n-Heptane	0.083	0.038	0.337
Methylcyclohexane	0.121	0.049	0.482
Toluene	0.027	0.009	0.101
Other C8's	0.225	0.105	1.005
n-Octane	0.034	0.017	0.157
Ethylbenzene	0.011	0.004	0.047
M & P Xylenes	0.011	0.004	0.047
O-Xylene	0.004	0.002	0.017
Other C9's	0.093	0.047	0.476
n-Nonane	0.011	0.006	0.057
Other C10's	0.032	0.019	0.183
n-Decane	0.003	0.002	0.017
Undecanes (11)	0.003	0.002	0.019
Totals	100.000	8.536	100.000

Computed Real Characteristics of Total Sample		
Specific Gravity	0.856	(Air=1)
Compressibility (Z)	0.9950	
Molecular Weight	24.67	
Gross Heating Value		
Dry Basis	1418	BTU/CF
Saturated Basis	1394	BTU/CF

December 6, 2023

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

Sample: Guardian H Battery
Production Separator V-2110
Spot Gas Sample @ 137 psig & 112 °F

Date Sampled: 11/14/2023 Job Number: 233543.001

GLYCALC FORMAT

COMPONENT	MOL%	GPM	Wt %
Carbon Dioxide	0.367		0.655
Hydrogen Sulfide	< 0.001		< 0.001
Nitrogen	2.748		3.121
Methane	67.417		43.848
Ethane	13.342	3.566	16.264
Propane	9.370	2.580	16.750
Isobutane	0.848	0.277	1.998
n-Butane	2.950	0.930	6.956
Isopentane	0.590	0.216	1.726
n-Pentane	0.683	0.247	1.998
Cyclopentane	0.000	0.000	0.000
n-Hexane	0.176	0.072	0.615
Cyclohexane	0.091	0.031	0.310
Other C6's	0.302	0.124	1.055
Heptanes	0.453	0.186	1.718
Methylcyclohexane	0.121	0.049	0.482
2,2,4 Trimethylpentane	0.068	0.035	0.315
Benzene	0.020	0.006	0.063
Toluene	0.027	0.009	0.101
Ethylbenzene	0.011	0.004	0.047
Xylenes	0.015	0.006	0.064
Octanes Plus	0.401	0.198	1.914
Totals	100.000	8.536	100.000

Real Characteristics Of Octanes Plus:

Specific Gravity	4.089	(Air=1)
Molecular Weight	117.83	
Gross Heating Value	6015	BTU/CF

Real Characteristics Of Total Sample:

Specific Gravity	0.856	(Air=1)
Compressibility (Z)	0.9950	
Molecular Weight	24.67	
Gross Heating Value		
Dry Basis	1418	BTU/CF
Saturated Basis	1394	BTU/CF

December 6, 2023

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

For: Diamondback E&P, LLC
515 Central Park Drive, Suite 500
Oklahoma City, Oklahoma 73105

Sample: Guardian H Battery
Production Separator V-2110 Hydrocarbon Liquid
Sampled @ 140 psig & 112 °F

Date Sampled: 11/14/2023 Job Number: 233543.002

CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2186-M

COMPONENT	MOL %	LIQ VOL %	WT %
Nitrogen	0.105	0.018	0.018
Carbon Dioxide	0.034	0.009	0.009
Methane	3.146	0.832	0.309
Ethane	2.990	1.247	0.551
Propane	6.365	2.736	1.721
Isobutane	1.161	0.593	0.414
n-Butane	5.593	2.751	1.993
2,2 Dimethylpropane	0.043	0.026	0.019
Isopentane	2.335	1.332	1.033
n-Pentane	3.351	1.895	1.483
2,2 Dimethylbutane	0.021	0.014	0.011
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.590	0.377	0.312
2 Methylpentane	1.398	0.905	0.739
3 Methylpentane	0.981	0.625	0.518
n-Hexane	2.200	1.412	1.163
Heptanes Plus	69.688	85.228	89.706
Totals:	100.000	100.000	100.000

Characteristics of Heptanes Plus:

Specific Gravity	0.8486	(Water=1)
°API Gravity	35.24	@ 60°F
Molecular Weight	209.9	
Vapor Volume	12.83	CF/Gal
Weight	7.07	Lbs/Gal

Characteristics of Total Sample:

Specific Gravity	0.8063	(Water=1)
°API Gravity	44.00	@ 60°F
Molecular Weight	163.1	
Vapor Volume	15.69	CF/Gal
Weight	6.72	Lbs/Gal

Base Conditions: 14.650 PSI & 60 °F

Certified: FESCO, Ltd. - Alice, Texas

Sampled By: (16) R. Elizondo
Analyst: JG
Processor: JLdjv
Cylinder ID: W-2698

Conan Pierce 361-661-7015

FESCO, Ltd. Job Number: 233543.002

TANKS DATA INPUT REPORT - GPA 2186-M

COMPONENT	Mol %	LiqVol %	Wt %
Carbon Dioxide	0.034	0.009	0.009
Nitrogen	0.105	0.018	0.018
Methane	3.146	0.832	0.309
Ethane	2.990	1.247	0.551
Propane	6.365	2.736	1.721
Isobutane	1.161	0.593	0.414
n-Butane	5.636	2.777	2.012
Isopentane	2.335	1.332	1.033
n-Pentane	3.351	1.895	1.483
Other C-6's	2.990	1.921	1.580
Heptanes	8.465	5.346	4.824
Octanes	10.319	7.294	6.810
Nonanes	5.486	4.479	4.259
Decanes Plus	41.712	65.698	71.438
Benzene	0.263	0.115	0.126
Toluene	0.670	0.350	0.379
E-Benzene	0.764	0.460	0.497
Xylenes	0.683	0.411	0.445
n-Hexane	2.200	1.412	1.163
2,2,4 Trimethylpentane	1.325	1.075	0.928
Totals:	100.000	100.000	100.000

Characteristics of Total Sample:

Specific Gravity ----------	0.8063	(Water=1)
°API Gravity ----------	44.00	@ 60°F
Molecular Weight----------	163.1	
Vapor Volume ----------	15.69	CF/Gal
Weight ----------	6.72	Lbs/Gal

Characteristics of Decanes (C10) Plus:

Specific Gravity ----------	0.8767	(Water=1)
Molecular Weight----------	279.3	

Characteristics of Atmospheric Sample:

°API Gravity ----------	40.02	@ 60°F
Reid Vapor Pressure Equivalent (D-6377)----------	9.48	psi

QUALITY CONTROL CHECK			
	Sampling Conditions	Test Samples	
Cylinder Number	------	W-2698	------
Pressure, PSIG	140	137	------
Skin Temperature, °F	112	112	------

* Sample used for analysis

FESCO, Ltd. Job Number: 233543.002

TOTAL EXTENDED REPORT - GPA 2186-M

COMPONENT	Mol %	LiqVol %	Wt %
Nitrogen	0.105	0.018	0.018
Carbon Dioxide	0.034	0.009	0.009
Methane	3.146	0.832	0.309
Ethane	2.990	1.247	0.551
Propane	6.365	2.736	1.721
Isobutane	1.161	0.593	0.414
n-Butane	5.593	2.751	1.993
2,2 Dimethylpropane	0.043	0.026	0.019
Isopentane	2.335	1.332	1.033
n-Pentane	3.351	1.895	1.483
2,2 Dimethylbutane	0.021	0.014	0.011
Cyclopentane	0.000	0.000	0.000
2,3 Dimethylbutane	0.590	0.377	0.312
2 Methylpentane	1.398	0.905	0.739
3 Methylpentane	0.981	0.625	0.518
n-Hexane	2.200	1.412	1.163
Methylcyclopentane	2.284	1.261	1.179
Benzene	0.263	0.115	0.126
Cyclohexane	1.435	0.762	0.740
2-Methylhexane	0.560	0.406	0.344
3-Methylhexane	0.748	0.536	0.460
2,2,4 Trimethylpentane	1.325	1.075	0.928
Other C-7's	1.836	1.228	1.117
n-Heptane	1.601	1.152	0.984
Methylcyclohexane	2.709	1.699	1.631
Toluene	0.670	0.350	0.379
Other C-8's	6.136	4.417	4.147
n-Octane	1.473	1.177	1.032
E-Benzene	0.764	0.460	0.497
M & P Xylenes	0.463	0.280	0.301
O-Xylene	0.221	0.131	0.144
Other C-9's	4.560	3.666	3.530
n-Nonane	0.926	0.813	0.728
Other C-10's	4.647	4.106	4.026
n-decane	0.755	0.723	0.659
Undecanes(11)	4.312	3.909	3.887
Dodecanes(12)	3.418	3.346	3.374
Tridecanes(13)	3.450	3.622	3.702
Tetradecanes(14)	2.753	3.096	3.208
Pentadecanes(15)	2.341	2.820	2.957
Hexadecanes(16)	1.790	2.304	2.437
Heptadecanes(17)	1.685	2.294	2.449
Octadecanes(18)	1.564	2.241	2.407
Nonadecanes(19)	1.458	2.178	2.352
Eicosanes(20)	1.129	1.752	1.903
Heneicosanes(21)	0.943	1.539	1.682
Docosanes(22)	0.871	1.482	1.629
Tricosanes(23)	0.772	1.362	1.505
Tetracosanes(24)	0.668	1.221	1.356
Pentacosanes(25)	0.625	1.186	1.323
Hexacosanes(26)	0.551	1.083	1.213
Heptacosanes(27)	0.535	1.090	1.227
Octacosanes(28)	0.506	1.067	1.204
Nonacosanes(29)	0.455	0.991	1.123
Triacontanes(30)	0.410	0.920	1.046
Hentriacontanes Plus(31+)	6.074	21.366	24.770
Total	100.000	100.000	100.000

December 02, 2023

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

For: DiamondBack E&P, LLC
515 Central Park Drive, Suite 500
Oklahoma City, Oklahoma 73105

Sample: Guardian H Battery
Atmospheric Hydrocarbon Liquid

Date Sampled: 11/14/2023 **Job Number:** 233543

WATER CONTENT OF HYDROCARBON LIQUID

TEST	RESULTS	UNITS	METHOD
Water Content by Karl Fischer	**4142.1**	**PPMV**	**ASTM D-4928**
	5027.1	**PPM Wt.**	**ASTM D-4928**

Sampled By: (16) Robbie E.
Analyst: JG
Processor: JG
Cylinder ID: Can

FESCO, Ltd. - Alice, Texas

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Conan Pierce 361-661-7015