Michelle McCracken
HES Professional
Marathon Oil Company
990 Town and Country Blvd.
Houston, TX 77024
(713) 296-3272
mmccracken@marathonoil.com

May 30, 2024

Ms. Claudia Smith
Minor NSR Permitting Coordinator
U.S. EPA, Region 8
1595 Wynkoop Street, 8P-AR
Denver, Colorado 80202-1129

Dear Ms. Smith:

Marathon Oil Company (Marathon) requests withdrawal of the Title V application for the Hunts Along USA well pad.

- A Title V permit application was submitted on August 27, 2021, covering the period from June 1, 2018 to May 31, 2019.
- Applicable emissions fees were paid for the period of June 1, 2018 to June 30, 2024.
- A Part 2 registration was submitted on June 26, 2023, indicating facility-wide potential annual non-fugitive emissions below 100 tpy for each criteria pollutant.

The wells included on the well pad are shown below:

Name	API Number
Hunts Along USA 12-1H	33-053-03083
Mamie USA 21-1TFH	33-053-07989
Mark USA 11-1H	33-053-07990
Timothy USA 11-1TFH-2B	33-053-07991
Shoots USA 41-2H	33-053-07988
Demaray USA 41-2TFH	33-053-07693

Please do not hesitate to contact me at the email address or telephone number shown above if you have any questions or require additional information.

Sincerely,

Michelle McCracken

Michelle McCracken

Attachment 1

Certificate of Truth, Accuracy, and Completeness

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS (CTAC)

This form must be completed, signed by the "Responsible Official" designated for the facility or emission unit, and sent with each submission of documents (i.e., application forms, updates to applications, reports, or any information required by a part 71 permit).

A. Responsible Official

Name: (Last)	Hudson	(First)	Chris		
Title	Operations Director				
Street or P.O. Box	990 Town & Country Blvd				
City	Houston	State	TX	ZIP	77024
Telephone	(713) 296-2081	Facsimile		(701) 456-7545	

B. Certification of Truth, Accuracy and Completeness (to be signed by the responsible official)

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.

Name (signed) Chris Hudson

Name (typed) Chris Hudson Date 11/6/2023

Attachment 2

Actual Annual Emissions and Fees

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE FILING FORM (FF)

The purpose of this form is to ensure that fee payments made by check are credited to the proper facility and to the proper government account. Send this form, along with form **FEE** and the check, to the appropriate lockbox bank address listed on the following page. This form is required whenever you pay by check, including for initial fee payment and to pay annual fees. Part 71 fees may be paid by check or electronically, and further information on making payments by check or electronically is provided on the following page.

Source or Facility Name__ Hunts Along USA Well Pad_____

Source Location __N 47.932497, W 102.665839_____

EPA Region where Source Located __8_____ _

Mailing Address:

Street/P.O. Box __3172 Highway 22 N_____

City__Dickinson_____

State _ND___ ZIP _58601____ - _____

Contact Person:__Patrick Wilkin_____

Title__HES Professional_____

Telephone (318_) 433___ - _0375_____ Ext. _____

Total Fee Payment Remitted: $ __33833_._02_

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCULATION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): _X_Initial ___Annual

Deadline for submitting fee calculation worksheet _6__/_1_/_2019__

For initial fees, emissions are based on (Check one):

_X_ Actual emissions for the preceding calendar year. (Required in most circumstances.)

___ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations __6_/_1_/_2018_

___ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name _____

Mailing address: Street or P.O. Box _____

City_____ State_____ ZIP_____ - _____

Contact person_____ Title_____

Telephone (_____) _____ - _____ Ext_____ Part 71 permit no. _____

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date:____ /____ /_____

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for __2018/19_____ (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.86	0.05	0	0.07		
ENG	9.46	0.03		0.02		
FUG		11.67				
OT		78.89				
WT		0.38				
HP-Flare	57.38	229.05				
VRT Flare	4.5	46.4				
LP-Flare	2.51	0.02				
SUBTOTALS:	78.9	366.5	0	0.1		

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-hexane	110-54-3	HAP5
2,2,4-Trimethylpentane	540-84-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for ___2018/19_____ (year)

Emissions Unit ID	Actual Emissions (Tons/Year)						
	HAP_1_	HAP_2_	HAP_3_	HAP_4_	HAP_5_	HAP_6_	HAP___
FUG	<0.1	<0.1	<0.1	<0.1	0.2	0	
OT	0.1	<0.1	<0.1	0.1	2.1	0	
HP Flare	0.1	0.1	<0.1	0.1	1.9	0	
MP Flare	0.1	<0.1	<0.1	<0.1	0.9	0	
SUBTOTALS:	0.3	0.1	<0.1	0.2	5.0	0	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	445.5
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	6.0
3. Sum lines 1 and 2.	451.5
4. Enter the emissions that were counted twice. If none, enter "0."	6.0
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	445.5
RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR) Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR) Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
11. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
16. Enter the total estimated actual emissions previously reported on line 5 of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	24,324.30

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	2236
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	0
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	2236
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	26,560.30
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	0
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	0
29. If line 28 is greater than "0," add it to line 27 and enter the result here. If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	26,560.30
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	0
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	26,560.30

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCULATION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): __Initial _X__Annual

Deadline for submitting fee calculation worksheet _6__/_1_/_2020__

For initial fees, emissions are based on (Check one):

_X_ Actual emissions for the preceding calendar year. (Required in most circumstances.)

___ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations __6_/_1_/_2018_

___ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

C. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name _____

Mailing address: Street or P.O. Box _____

City_____ State_____ ZIP_____ - _____

Contact person_____ Title_____

Telephone (_____) _____ - _____ Ext_____ Part 71 permit no. _____

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date:____ /____ /_____

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for __2019/20_____ (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.86	0.05	0	0.07		
ENG	9.48	0.03		0.02		
FUG		10.34				
OT		25.24				
WT		0.13				
HP-Flare	13.0	53.37				
VRT Flare	1.61	17.09				
LP-Flare	2.13	0.02				
SUBTOTALS:	26.9	106.3	0	0.1		

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-hexane	110-54-3	HAP5
2,2,4-Trimethylpentane	540-84-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for ___2017/18_____ (year)

Emissions Unit ID	Actual Emissions (Tons/Year)						
	HAP_1_	HAP_2_	HAP_3_	HAP_4_	HAP_5_	HAP_6_	HAP___
FUG	0.1	<0.1	<0.1	<0.1	0.1	0	
OT	0.1	0.1	<0.1	<0.1	0.3	0	
HP Flare	<0.1	<0.1	<0.1	<0.1	0.3	0	
VRT Flare	<0.1	<0.1	<0.1	<0.1	0.4	0	
SUBTOTALS:	0.2	0.1	<0.1	<0.1	1	0	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

26. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	133.2
27. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	2.1
28. Sum lines 1 and 2.	135.3
29. Enter the emissions that were counted twice. If none, enter "0."	2.1
30. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	133.2
RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR) Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
31. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
32. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
33. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
34. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
35. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR) Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
36. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
37. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
38. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
39. Enter double counted emission from line 13 here. If none, enter "0."	
40. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
41. Enter the total estimated actual emissions previously reported on line 5 of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
42. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
43. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
44. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
45. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
46. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	7,272.72

GHG FEE ADJUSTMENT	
47. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	0
48. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
49. Multiply the number in line 23 by $365 and enter the result.	
50. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	0
27. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
32. Add the total on line 21 and the total on line 26 and enter the result.	7272.72
33. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	0
34. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	0
35. If line 28 is greater than "0," add it to line 27 and enter the result here. If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	7272.72
36. Enter any credit for fee assessment error here. Otherwise, enter "0."	0
37. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	7272.72

Check No	Check Date	Bank	Bank No	Vendor No	Marathon Oil Company 5555 San Felipe St. Houston, TX 77056	Direct Inquiries to: ACCOUNTS PAYABLE DEPARTMENT Accounts Payable Phone: 866-323-1836	Hndlg
1493034	09/16/2021	NCBA	7780	0005004375			ND

Invoice Number	Invoice Date	Document No	Remit Comment	Gross Amount	Discount	Invoice/Pay Amount
0921 EP3383302		1900005087		33,833.02		33,833.02
			TOTAL:	33,833.02		33,833.02

(FOLD ON PERFORATION BELOW AND DETACH CHECK STUB BEFORE DEPOSITING)

DO NOT CASH UNLESS WARNING BAND AND THE CHECK BACKGROUND ARE IN VIOLET. THE LINE BELOW CONTAINS MICROPRINTING.

FORM 2501 REV. 5/00

ACCOUNTS PAYABLE CHECK

Marathon Oil Company
5555 San Felipe St.
Houston, TX 77056

56-389 / 412

CHECK DATE 9/16/2021

CHECK NUMBER 1493034

Thirty three thousand eight hundred thirty three and 02/100 Dollars

$33,833.02

PAY TO THE ORDER OF:

EPA US ENVIRONMENTAL PROTECTION
AGENCY
CINCINNATI FINACNCE CENTER
ST LOUIS, MO 63197-9000

U.S. Funds

MATCH AMOUNT IN WORDS WITH NUMBERS

By: _____
Authorized Representative

PNC Bank, N.A. 070
Ashland, OH

VOID AFTER 180 DAYS

DO NOT CASH UNLESS THIS CHECK IS ON WATERMARKED PAPER. HOLD TO LIGHT TO VIEW. THE LINE ABOVE CONTAINS MICROPRINTING.

⑈0001493034⑈ ⑆041203895⑆ 4239711179⑈

THIS IS WATERMARKED PAPER AND CONTAINS INVISIBLE FIBERS.
HOLD UNDER BLACKLIGHT TO VERIFY FIBERS.

HOLD TO LIGHT TO VERIFY WATERMARK. 

A CONTROL NUMBER SHOULD APPEAR IN BLUE ON THIS SIDE.

Do not accept without noting presence of fibers, watermark and control number.

5773043

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE FILING FORM (FF)

The purpose of this form is to ensure that fee payments made by check are credited to the proper facility and to the proper government account. Send this form, along with form FEE and the check, to the appropriate lockbox bank address listed on the following page. This form is required whenever you pay by check, including for initial fee payment and to pay annual fees. Part 71 fees may be paid by check or electronically, and further information on making payments by check or electronically is provided on the following page.

Source or Facility Name	Hunts Along
Source Location	
EPA Region where Source Located	8
Mailing Address:	
Street/P.O. Box	3172 Hwy 22 N
City	Dickinson
State	ND
ZIP	58601
Contact Person:	Michelle McCracken
Title	HES Professional
Telephone	(713) 296-3772

Total Fee Payment Remitted:	
$30,474.81	
$3,756.44	Hunts Along (6/1/2019 - 5/31/2020)
$3,756.44	Hunts Along (6/1/2020 - 5/31/2021)
$3,756.44	Hunts Along (6/1/2021 - 5/31/2022)
$3,756.44	Hunts Along (6/1/2022 - 5/31/2023)
$3,756.44	Hunts Along (6/1/2023 - 5/31/2024)
$308.75	Hunts Along (6/1/2024 - 6/30/2024)
$387.46	Demaray (6/1/2019 - 5/31/2020)
$387.46	Demaray (6/1/2020 - 5/31/2021)
$387.46	Demaray (6/1/2021 - 5/31/2022)
$387.46	Demaray (6/1/2022 - 5/31/2023)
$387.46	Demaray (6/1/2023 - 5/31/2024)
$31.85	Demaray (6/1/2024 - 6/30/2024)
$1,852.48	Shoots (6/1/2019 - 5/31/2020)
$1,852.48	Shoots (6/1/2020 - 5/31/2021)
$1,852.48	Shoots (6/1/2021 - 5/31/2022)
$1,852.48	Shoots (6/1/2022 - 5/31/2023)
$1,852.48	Shoots (6/1/2023 - 5/31/2024)
$152.26	Shoots (6/1/2024 - 6/30/2024)

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 5/31/2020

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2019

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name	Hunts Along				
Mailing address: Street or P.O. Box	3172 Hwy 22 N				
City	Dickinson	State	ND	ZIP	58601
Contact person	Michelle McCracken	Title	HES Professional		
Telephone	(713) 296-3772	Part 71 permit no.	Not yet issued		

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2019/2020 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.86	0.05	0.01	0.07		
FUG	--	4.20	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	0.13	38.93	--	0		
LP Flare	1.32	13.28	--	--		
Subtotals	2.32	56.45	0.01	0.07	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2019/2020 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.01	0.01	0.00	0.01	0.08	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.11	0.12	0.01	0.02	0.82	0.00	
LP Flare	0.05	0.05	0.00	0.01	0.34	0.00	
PNE	0.01	0.01	0.00	0.00	0.18	0.00	
Subtotals	0.18	0.19	0.01	0.04	1.42	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	58.83
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	1.84
3. Sum lines 1 and 2.	60.67
4. Enter the emissions that were counted twice. If none, enter "0."	1.84
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	58.83

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR)	
Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR)	
Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
11. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
line 5 of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	3756.44

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	3756.44
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
[illegible] here. If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	3756.44

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 6/1/2021

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2020

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name	Hunts Along				
Mailing address: Street or P.O. Box	3172 Hwy 22 N				
City	Dickinson	State	ND	ZIP	58601
Contact person	Michelle McCracken	Title	HES Professional		
Telephone	(713) 296-3772	Part 71 permit no.	Not yet issued		

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2020/2021 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.86	0.05	0.01	0.07		
FUG	--	4.20	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	0.13	38.93	--	0		
LP Flare	1.32	13.28	--	--		
Subtotals	2.32	56.45	0.01	0.07	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2020/2021 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.01	0.01	0.00	0.01	0.08	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.11	0.12	0.01	0.02	0.82	0.00	
LP Flare	0.05	0.05	0.00	0.01	0.34	0.00	
PNE	0.01	0.01	0.00	0.00	0.18	0.00	
Subtotals	0.18	0.19	0.01	0.04	1.42	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	58.83
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	1.84
3. Sum lines 1 and 2.	60.67
4. Enter the emissions that were counted twice. If none, enter "0."	1.84
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	58.83

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR)	
Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR)	
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line 5 of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	3756.44

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	3756.44
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
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30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	3756.44

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 6/1/2022

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2021

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name	Hunts Along				
Mailing address: Street or P.O. Box	3172 Hwy 22 N				
City	Dickinson	State	ND	ZIP	58601
Contact person	Michelle McCracken	Title	HES Professional		
Telephone	(713) 296-3772	Part 71 permit no.	Not yet issued		

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2021/2022 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.86	0.05	0.01	0.07		
FUG	--	4.20	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	0.13	38.93	--	0		
LP Flare	1.32	13.28	--	--		
Subtotals	2.32	56.45	0.01	0.07	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

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Xylene	1330-20-7	HAP4
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2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2021/2022 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.01	0.01	0.00	0.01	0.08	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.11	0.12	0.01	0.02	0.82	0.00	
LP Flare	0.05	0.05	0.00	0.01	0.34	0.00	
PNE	0.01	0.01	0.00	0.00	0.18	0.00	
Subtotals	0.18	0.19	0.01	0.04	1.42	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	58.83
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	1.84
3. Sum lines 1 and 2.	60.67
4. Enter the emissions that were counted twice. If none, enter "0."	1.84
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	58.83

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR)	
Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR)	
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EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	3756.44

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
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26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
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United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 6/1/2023

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2022

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name	Hunts Along				
Mailing address: Street or P.O. Box	3172 Hwy 22 N				
City	Dickinson	State	ND	ZIP	58601
Contact person	Michelle McCracken	Title	HES Professional		
Telephone	(713) 296-3772	Part 71 permit no.	Not yet issued		

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2022/2023 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.86	0.05	0.01	0.07		
FUG	--	4.20	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	0.13	38.93	--	0		
LP Flare	1.32	13.28	--	--		
Subtotals	2.32	56.45	0.01	0.07	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2022/2023 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.01	0.01	0.00	0.01	0.08	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.11	0.12	0.01	0.02	0.82	0.00	
LP Flare	0.05	0.05	0.00	0.01	0.34	0.00	
PNE	0.01	0.01	0.00	0.00	0.18	0.00	
Subtotals	0.18	0.19	0.01	0.04	1.42	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	58.83
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	1.84
3. Sum lines 1 and 2.	60.67
4. Enter the emissions that were counted twice. If none, enter "0."	1.84
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	58.83

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR)	
Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR)	
Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
11. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
line 5 of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	3756.44

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	3756.44
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
[illegible] here. If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	3756.44

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 5/31/2024

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2023

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name	Hunts Along				
Mailing address: Street or P.O. Box	3172 Hwy 22 N				
City	Dickinson	State	ND	ZIP	58601
Contact person	Michelle McCracken	Title	HES Professional		
Telephone	(713) 296-3772	Part 71 permit no.	Not yet issued		

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2023/2024 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.86	0.05	0.01	0.07		
FUG	--	4.20	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	0.13	38.93	--	0		
LP Flare	1.32	13.28	--	--		
Subtotals	2.32	56.45	0.01	0.07	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2023/2024 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.01	0.01	0.00	0.01	0.08	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.11	0.12	0.01	0.02	0.82	0.00	
LP Flare	0.05	0.05	0.00	0.01	0.34	0.00	
PNE	0.01	0.01	0.00	0.00	0.18	0.00	
Subtotals	0.18	0.19	0.01	0.04	1.42	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	58.83
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	1.84
3. Sum lines 1 and 2.	60.67
4. Enter the emissions that were counted twice. If none, enter "0."	1.84
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	58.83

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR)	
Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR)	
Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
11. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
line 5 of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	3756.44

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	3756.44
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
[illegible] here. If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	3756.44

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 6/1/2025

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2024

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name	Hunts Along				
Mailing address: Street or P.O. Box	3172 Hwy 22 N				
City	Dickinson	State	ND	ZIP	58601
Contact person	Michelle McCracken	Title	HES Professional		
Telephone	(713) 296-3772	Part 71 permit no.	Not yet issued		

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2024 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.07	0.00	0.00	0.01		
FUG	0.00	0.34	0.00	0.00		
LOADING	0.00	0.00	0.00	0.00		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	0.01	3.20	0.00	0.00		
LP Flare	0.11	1.09	0.00	0.00		
Subtotals	0.19	4.64	0.00	0.01	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2024 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.00	0.00	0.00	0.00	0.01	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.01	0.01	0.00	0.00	0.07	0.00	
LP Flare	0.00	0.00	0.00	0.00	0.03	0.00	
PNE	0.00	0.00	0.00	0.00	0.01	0.00	
Subtotals	0.01	0.02	0.00	0.00	0.12	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	4.84
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	0.15
3. Sum lines 1 and 2.	4.99
4. Enter the emissions that were counted twice. If none, enter "0."	0.15
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	4.84

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR) Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR) Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
11. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
line 5 of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	308.75

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	308.75
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
here. If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	308.75

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 5/31/2020

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2019

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name	Demaray				
Mailing address: Street or P.O. Box	3172 Hwy 22 N				
City	Dickinson	State	ND	ZIP	58601
Contact person	Michelle McCracken	Title	HES Professional		
Telephone	(713) 296-3772	Part 71 permit no.	Not yet issued		

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2019/2020 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.43	0.02	0.00	0.03		
FUG	--	1.14	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	0.33	1.86	--	0		
LP Flare	0.19	2.05	--	--		
Subtotals	0.96	5.08	0.00	0.03	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2019/2020 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.00	0.01	0.00	0.00	0.03	0.00	
LOADING	0.00		0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.01	0.01	0.00	0.00	0.07	0.00	
LP Flare	0.02	0.01	0.00	0.00	0.08	0.00	
PNE	0.00	0.00	0.00	0.00	0.04	0.00	
Subtotals	0.04	0.03	0.01	0.01	0.22	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	6.07
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	0.31
3. Sum lines 1 and 2.	6.38
4. Enter the emissions that were counted twice. If none, enter "0."	0.31
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	6.07

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR) Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR) Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
11. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	387.46

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	387.46
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	387.46

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 6/1/2021

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2020

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name Demaray

Mailing address: Street or P.O. Box 3172 Hwy 22 N

City Dickinson State ND ZIP 58601

Contact person Michelle McCracken Title HES Professional

Telephone (713) 296-3772 Part 71 permit no. Not yet issued

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2020/2021 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.43	0.02	0.00	0.03		
FUG	--	1.14	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	0.33	1.86	--	0		
LP Flare	0.19	2.05	--	--		
Subtotals	0.96	5.08	0.00	0.03	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2020/2021 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.00	0.01	0.00	0.00	0.03	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.01	0.01	0.00	0.00	0.07	0.00	
LP Flare	0.02	0.01	0.00	0.00	0.08	0.00	
PNE	0.00	0.00	0.00	0.00	0.04	0.00	
Subtotals	0.04	0.03	0.01	0.01	0.22	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	6.07
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	0.31
3. Sum lines 1 and 2.	6.38
4. Enter the emissions that were counted twice. If none, enter "0."	0.31
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	6.07

RECONCILIATION
(WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR)

Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.

6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR) Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
11. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	387.46

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter "0". [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter "0"	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0

OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	387.46
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
29. If line 28 is greater than "0," add it to line 27 and enter the result here. If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	387.46

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 6/1/2022

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2021

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name Demaray

Mailing address: Street or P.O. Box 3172 Hwy 22 N

City Dickinson State ND ZIP 58601

Contact person Michelle McCracken Title HES Professional

Telephone (713) 296-3772 Part 71 permit no. Not yet issued

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2021/2022 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.43	0.02	0.00	0.03		
FUG	--	1.14	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	0.33	1.86	--	0		
LP Flare	0.19	2.05	--	--		
Subtotals	0.96	5.08	0.00	0.03	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
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Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2021/2022 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.00	0.01	0.00	0.00	0.03	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.01	0.01	0.00	0.00	0.07	0.00	
LP Flare	0.02	0.01	0.00	0.00	0.08	0.00	
PNE	0.00	0.00	0.00	0.00	0.04	0.00	
Subtotals	0.04	0.03	0.01	0.01	0.22	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	6.07
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	0.31
3. Sum lines 1 and 2.	6.38
4. Enter the emissions that were counted twice. If none, enter "0."	0.31
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	6.07

RECONCILIATION
(WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR)

Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.

6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR) Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
11. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	387.46

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter "0". [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter "0"	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0

OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	387.46
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
29. If line 28 is greater than "0," add it to line 27 and enter the result here. If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	387.46

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 6/1/2023

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2022

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name	Demaray				
Mailing address: Street or P.O. Box	3172 Hwy 22 N				
City	Dickinson	State	ND	ZIP	58601
Contact person	Michelle McCracken	Title	HES Professional		
Telephone	(713) 296-3772	Part 71 permit no.	Not yet issued		

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2022/2023 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.43	0.02	0.00	0.03		
FUG	--	1.14	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	0.33	1.86	--	0		
LP Flare	0.19	2.05	--	--		
Subtotals	0.96	5.08	0.00	0.03	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2022/2023 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.00	0.01	0.00	0.00	0.03	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.01	0.01	0.00	0.00	0.07	0.00	
LP Flare	0.02	0.01	0.00	0.00	0.08	0.00	
PNE	0.00	0.00	0.00	0.00	0.04	0.00	
Subtotals	0.04	0.03	0.01	0.01	0.22	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	6.07
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	0.31
3. Sum lines 1 and 2.	6.38
4. Enter the emissions that were counted twice. If none, enter "0."	0.31
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	6.07

RECONCILIATION
(WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR)

Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.

6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION
(WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR)

Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.

11. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	

EMISSION FEE CALCULATION

21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	387.46

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	387.46
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	387.46

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 5/31/2024

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2023

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name	Demaray				
Mailing address: Street or P.O. Box	3172 Hwy 22 N				
City	Dickinson	State	ND	ZIP	58601
Contact person	Michelle McCracken	Title	HES Professional		
Telephone	(713) 296-3772	Part 71 permit no.	Not yet issued		

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2023/2024 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.43	0.02	0.00	0.03		
FUG	--	1.14	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	0.33	1.86	--	0		
LP Flare	0.19	2.05	--	--		
Subtotals	0.96	5.08	0.00	0.03	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2023/2024 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.00	0.01	0.00	0.00	0.03	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.01	0.01	0.00	0.00	0.07	0.00	
LP Flare	0.02	0.01	0.00	0.00	0.08	0.00	
PNE	0.00	0.00	0.00	0.00	0.04	0.00	
Subtotals	0.04	0.03	0.01	0.01	0.22	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	6.07
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	0.31
3. Sum lines 1 and 2.	6.38
4. Enter the emissions that were counted twice. If none, enter "0."	0.31
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	6.07

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR) Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR) Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
11. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	387.46

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	387.46
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	387.46

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 6/1/2025

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2024

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name	Demaray				
Mailing address: Street or P.O. Box	3172 Hwy 22 N				
City	Dickinson	State	ND	ZIP	58601
Contact person	Michelle McCracken	Title	HES Professional		
Telephone	(713) 296-3772	Part 71 permit no.	Not yet issued		

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2024 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.04	0.00	0.00	0.00		
FUG	0.00	0.09	0.00	0.00		
LOADING	0.00	0.00	0.00	0.00		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	0.03	0.15	0.00	0.00		
LP Flare	0.02	0.17	0.00	0.00		
Subtotals	0.08	0.42	0.00	0.00	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2024 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.00	0.00	0.00	0.00	0.00	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.00	0.00	0.00	0.00	0.01	0.00	
LP Flare	0.00	0.00	0.00	0.00	0.01	0.00	
PNE	0.00	0.00	0.00	0.00	0.00	0.00	
Subtotals	0.00	0.00	0.00	0.00	0.02	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	0.50
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	0.03
3. Sum lines 1 and 2.	0.52
4. Enter the emissions that were counted twice. If none, enter "0."	0.03
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	0.50

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR) Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR) Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
11. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	31.85

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	31.85
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	31.85

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 5/31/2020

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2019

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name Shoots

Mailing address: Street or P.O. Box 3172 Hwy 22 N

City Dickinson State ND ZIP 58601

Contact person Michelle McCracken Title HES Professional

Telephone (713) 296-3772 Part 71 permit no. Not yet issued

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2019/2020 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.43	0.02	0.00	0.03		
FUG	--	1.18	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	4.15	20.81	--	0		
LP Flare	0.23	2.15	--	--		
Subtotals	4.81	24.17	0.00	0.03	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2019/2020 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
ENG	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.00	0.01	0.00	0.01	0.03	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.14	0.12	0.02	0.02	0.78	0.00	
LP Flare	0.02	0.01	0.00	0.00	0.09	0.00	
PNE	0.00	0.00	0.00	0.00	0.04	0.00	
Subtotals	0.16	0.15	0.03	0.03	0.94	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	29.01
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	1.31
3. Sum lines 1 and 2.	30.33
4. Enter the emissions that were counted twice. If none, enter "0."	1.31
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	29.01

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR) Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR) Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
11. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
line 5 of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	1852.48

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	1852.48
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
here. If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	1852.48

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 6/1/2021

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2020

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name Shoots

Mailing address: Street or P.O. Box 3172 Hwy 22 N

City Dickinson State ND ZIP 58601

Contact person Michelle McCracken Title HES Professional

Telephone (713) 296-3772 Part 71 permit no. Not yet issued

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2020/2021 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.43	0.02	0.00	0.03		
FUG	--	1.18	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	4.15	20.81	--	0		
LP Flare	0.23	2.15	--	--		
Subtotals	4.81	24.17	0.00	0.03	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2020/2021 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
ENG	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.00	0.01	0.00	0.01	0.03	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.14	0.12	0.02	0.02	0.78	0.00	
LP Flare	0.02	0.01	0.00	0.00	0.09	0.00	
PNE	0.00	0.00	0.00	0.00	0.04	0.00	
Subtotals	0.16	0.15	0.03	0.03	0.94	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	29.01
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	1.31
3. Sum lines 1 and 2.	30.33
4. Enter the emissions that were counted twice. If none, enter "0."	1.31
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	29.01

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR) Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR) Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
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13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
line 5 of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	1852.48

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	1852.48
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
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30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	1852.48

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 6/1/2022

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2021

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name Shoots

Mailing address: Street or P.O. Box 3172 Hwy 22 N

City Dickinson State ND ZIP 58601

Contact person Michelle McCracken Title HES Professional

Telephone (713) 296-3772 Part 71 permit no. Not yet issued

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2021/2022 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.43	0.02	0.00	0.03		
FUG	--	1.18	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	4.15	20.81	--	0		
LP Flare	0.23	2.15	--	--		
Subtotals	4.81	24.17	0.00	0.03	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

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Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2021/2022 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
ENG	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.00	0.01	0.00	0.01	0.03	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.14	0.12	0.02	0.02	0.78	0.00	
LP Flare	0.02	0.01	0.00	0.00	0.09	0.00	
PNE	0.00	0.00	0.00	0.00	0.04	0.00	
Subtotals	0.16	0.15	0.03	0.03	0.94	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	29.01
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	1.31
3. Sum lines 1 and 2.	30.33
4. Enter the emissions that were counted twice. If none, enter "0."	1.31
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	29.01

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR) Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR) Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
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13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
line 5 of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	1852.48

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
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28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
here. If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	1852.48

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 6/1/2023

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2022

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name Shoots

Mailing address: Street or P.O. Box 3172 Hwy 22 N

City Dickinson State ND ZIP 58601

Contact person Michelle McCracken Title HES Professional

Telephone (713) 296-3772 Part 71 permit no. Not yet issued

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2022/2023 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.43	0.02	0.00	0.03		
FUG	--	1.18	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	4.15	20.81	--	0		
LP Flare	0.23	2.15	--	--		
Subtotals	4.81	24.17	0.00	0.03	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2022/2023 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
ENG	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.00	0.01	0.00	0.01	0.03	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.14	0.12	0.02	0.02	0.78	0.00	
LP Flare	0.02	0.01	0.00	0.00	0.09	0.00	
PNE	0.00	0.00	0.00	0.00	0.04	0.00	
Subtotals	0.16	0.15	0.03	0.03	0.94	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	29.01
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	1.31
3. Sum lines 1 and 2.	30.33
4. Enter the emissions that were counted twice. If none, enter "0."	1.31
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	29.01

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR) Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR) Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
11. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
line 5 of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	1852.48

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	1852.48
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
here. If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	1852.48

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 5/31/2024

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2023

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name	Shoots				
Mailing address: Street or P.O. Box	3172 Hwy 22 N				
City	Dickinson	State	ND	ZIP	58601
Contact person	Michelle McCracken	Title	HES Professional		
Telephone	(713) 296-3772	Part 71 permit no.	Not yet issued		

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2023/2024 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.43	0.02	0.00	0.03		
FUG	--	1.18	--	--		
LOADING	--	0.00	--	--		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	4.15	20.81	--	0		
LP Flare	0.23	2.15	--	--		
Subtotals	4.81	24.17	0.00	0.03	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2023/2024 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
ENG	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.00	0.01	0.00	0.01	0.03	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.14	0.12	0.02	0.02	0.78	0.00	
LP Flare	0.02	0.01	0.00	0.00	0.09	0.00	
PNE	0.00	0.00	0.00	0.00	0.04	0.00	
Subtotals	0.16	0.15	0.03	0.03	0.94	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	29.01
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	1.31
3. Sum lines 1 and 2.	30.33
4. Enter the emissions that were counted twice. If none, enter "0."	1.31
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	29.01

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR) Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR) Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
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12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
line 5 of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	1852.48

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	1852.48
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
here. If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	1852.48

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
FEE CALCUALTION WORKSHEET (FEE)

Use this form initially, or thereafter on an annual basis, to calculate part 71 fees.

A. General Information

Type of fee (Check one): ____ Initial X Annual

Deadline for submitting fee calculation worksheet 6/1/2025

For initial fees, emissions are based on (Check one):

X Actual emissions for the preceding calendar year. (Required in most circumstances.)

____ Estimates of actual emissions for the current calendar year. (Required when operations commenced during the preceding calendar year.)

Date commenced operations 6/1/2024

____ Estimates of actual emissions for the preceding calendar year. (Optional after a part 71 permit was issued to replace a part 70 permit, but only if initial fee payment is due between January 1 and March 31; otherwise use actual emissions for the preceding calendar year.)

For annual fee payment, you are required to use actual emissions for the preceding calendar year.

B. Source Information: Complete this section only if you are paying fees but not applying for a permit.

Source or facility name	Shoots				
Mailing address: Street or P.O. Box	3172 Hwy 22 N				
City	Dickinson	State	ND	ZIP	58601
Contact person	Michelle McCracken	Title	HES Professional		
Telephone	(713) 296-3772	Part 71 permit no.	Not yet issued		

C. Certification of Truth, Accuracy and Completeness: Only needed if not submitting a separate form CTAC.

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in this submittal (form and attachments) are true, accurate and complete.

Name (signed) _____

Name (typed) _____ Date / /

D. Annual Emissions Report for Fee Calculation Purposes -- Non-HAP

You may use this to report actual emissions (tons per year) of regulated pollutants (for fee calculation) on a calendar-year basis for both initial and annual fee calculation purposes. Section E is designed to report HAP emissions. Quantify all actual emissions, including fugitives, but do not include insignificant emissions and certain regulated air pollutants that are not counted for fee purposes, such as CO and GHGs (see instructions). Sum the emissions in each column to calculate subtotals. Subtotals should be reported to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000 for that column.

This data is for 2024 (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
HT	0.04	0.00	0.00	0.00		
FUG	0.00	0.10	0.00	0.00		
LOADING	0.00	0.00	0.00	0.00		
OT	Emissions represented at LP Flare					
WT	Emissions represented at LP Flare					
HP Flare	0.34	1.71	0.00	0.00		
LP Flare	0.02	0.18	0.00	0.00		
Subtotals	0.40	1.99	0.00	0.00	0	0

E. Annual Emissions Report for Fee Calculation Purposes -- HAP

HAP Identification. Identify individual HAP emitted at the facility, identify the CAS number, and assign a unique identifier for use in the second table in this section. Whenever assigning identifier codes, use "HAP1" for the first, "HAP2" for the second, and so on.

Name of HAP	CAS No	Identifier
Benzene	71-43-2	HAP1
Toluene	108-88-3	HAP2
Ethylbenzene	100-41-4	HAP3
Xylene	1330-20-7	HAP4
n-Hexane	110-54-3	HAP5
2,2,4-Trimethylepentane	540-87-1	HAP6

HAP Emissions. Report the actual emissions of individual HAP identified above. Use the identifiers assigned in the table above. Include all emissions, including fugitives, and do not include insignificant emissions. Sum the emissions in each column to calculate subtotals. Report subtotals to the nearest tenth (0.1) of a ton at the bottom of the page. If any subtotal exceeds 4,000 tons, enter 4,000.

This data is for 2024 (year)

Emission Unit ID	Actual Emissions (Tons/Year)						
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	
HT	0.00	0.00	0.00	0.00	0.00	0.00	
ENG	0.00	0.00	0.00	0.00	0.00	0.00	
FUG	0.00	0.00	0.00	0.00	0.00	0.00	
LOADING	0.00	0.00	0.00	0.00	0.00	0.00	
OT	Emissions represented at LP Flare						
WT	Emissions represented at LP Flare						
HP Flare	0.01	0.01	0.00	0.00	0.06	0.00	
LP Flare	0.00	0.00	0.00	0.00	0.01	0.00	
PNE	0.00	0.00	0.00	0.00	0.00	0.00	
Subtotals	0.01	0.01	0.00	0.00	0.08	0.00	

F. Fee Calculation Worksheet

This worksheet is used to calculate the total fee owed (including the emissions-based fee and the GHG fee adjustment) for both initial and annual fee payment purposes. Reconciliation is only for cases where you are paying the annual fee and you used any type of estimate of actual emissions when you calculated the initial fee. If you do not need to reconcile fees, complete line 1-5 (emissions summary) and then skip down to line 21 (emission calculation). See instructions for more detailed explanation.

EMISSIONS SUMMARY

1. Sum the subtotals from section D of this form (non-HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	2.38
2. Sum the subtotals from section E of this form (HAP) and enter the total, rounded to the nearest tenth (0.1) of a ton.	0.11
3. Sum lines 1 and 2.	2.49
4. Enter the emissions that were counted twice. If none, enter "0."	0.11
5. Subtract line 4 from line 3, round to the nearest ton, and enter the result here. This is the total emissions that count for fees purposes.	2.38

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "CURRENT" CALENDAR YEAR)	
Only complete lines 6-10 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year in which you paid initial fees; otherwise skip to line 11 or to line 21.	
6. Enter the total estimated actual emissions for the year the initial fee was paid (previously reported on line 5 of the initial fee form).	
7. If line 5 is greater than line 6, subtract line 6 from line 5, and enter the result. Otherwise enter "0."	
8. If line 6 is greater than line 5, subtract line 5 from line 6, and enter the result. Otherwise enter "0."	
9. If line 7 is greater than 0, multiply line 7 by last year's fee rate ($/ton) and enter the result here. This is the underpayment. Go to line 21.	
10. If line 8 is greater than 0, multiply line 8 by last year's fee rate ($/ton) and enter the result here. This is the overpayment. Go to line 21.	

RECONCILIATION (WHEN INITIAL FEES WERE BASED ON ESTIMATES FOR THE "PRECEDING" CALENDAR YEAR)	
Only complete lines 11-20 if you are paying the first annual fee and initial fees were based on estimated actual emissions for the calendar year preceding initial fee payment; otherwise skip to line 21. If completing this section, you will also need to complete sections D and E to report actual emissions for the calendar year preceding initial fee payment.	
11. Sum the actual emissions from section D (non-HAP) for the calendar year preceding initial fee payment and enter the result here.	
12. Sum the actual emissions from section E (HAP) for the calendar year preceding initial fee payment and enter the result here.	
13. Add lines 11 and 12 and enter the total here. These are total actual emissions for the calendar year preceding initial fee payment.	
14. Enter double counted emission from line 13 here. If none, enter "0."	
15. Subtract line 14 from line 13, round to the nearest ton, and enter the result here.	
line 5 of the initial fee form. These are estimated actual emissions for the calendar year preceding initial fee payment.	
17. If line 15 is greater than line 16, subtract line 16 from line 15, and enter the result here. Otherwise enter "0."	
18. If line 16 is greater than line 15, subtract line 15 from line 16, and enter the result here. Otherwise enter "0."	
19. If line 17 is greater than 0, multiply line 17 by last year's fee rate ($/ton) and enter the result here. This is the underpayment.	
20. If line 18 is greater than 0, multiply line 18 by last year's fee rate ($/ton) and enter the result on this line. This is the overpayment.	
EMISSION FEE CALCULATION	
21. Multiply line 5 (tons) by the current fee rate ($/ton) and enter the result here. This is the unadjusted emissions fee. Continue on to line 23.	152.26

GHG FEE ADJUSTMENT	
22. If you are submitting an initial permit application and this is the first time you are paying fees, enter $2,236, otherwise enter “0”. [Note that any updates to the initial application are covered under this one-time charge.]	
23. Enter the number of permit modifications (or related permit actions) you have submitted to the permitting authority since you last paid fees. If none, skip to line 25.	
24. Multiply the number in line 23 by $365 and enter the result.	
25. If you have submitted a permit renewal application since the last time you paid fees enter $520, otherwise enter “0”	
26. Sum line 22, 24, and 25 and enter the result. This is the GHG fee adjustment	0
OTHER ADJUSTMENTS	
26. Add the total on line 21 and the total on line 26 and enter the result.	152.26
27. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	
28. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	
here. If line 29 is greater than "0," subtract this from line 27 and enter the result here. Otherwise enter the amount on line 27 here. This is the fee adjusted for over/underpayment.	
30. Enter any credit for fee assessment error here. Otherwise, enter "0."	
31. Subtract line 31 from line 30 and enter the result here. Stop here. This is the **TOTAL FEE (AFTER ADJUSTMENTS)** that you must remit to EPA.	152.26

Marathon Oil Company
990 Town & Country Boulevard
Houston, TX 77001-669

Remittance Advice

To	Remittance Address
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION II 290 BROADWAY 17TH FLOOR NEW YORK NY 10007-1866 Attn: Accounts Receivable	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION II 290 BROADWAY 17TH FLOOR NEW YORK NY 10007-1866

Vendor No.: 5005415
Deposit Date: 05/31/2024
Remittance Advice The Payment for the following invoices will be deposited on the above **deposit date** to your bank account **XXXXXX9008, US ENVIRONMENTAL PROTECTION AGENCY,** through the Automated Clearing House (ACH). If you have questions, please contact the AP Supplier Hotline 866-323-1836 or for Joint Venture contact 866-925-6093. You can also email OpenInvoiceSupport@marathonoil.com.

Invoice Number	Inv Date	Document Number/Text	Gross Amount	Disc/WHTax	Net Amount
0524 UN3047481	05/23/2024	1900002627 *Hunts Along*	30,474.81	0.00	30,474.81
		Total		**USD**	**30,474.81**

Attachment 3

Potential Annual Emissions

Michelle McCracken
HES Professional

Marathon Oil Company
990 Town and Country Blvd.
Houston, TX 77024
(713) 296-3272
mmccracken@marathonoil.com

June 28, 2022

Ms. Claudia Smith
Minor NSR Permitting Coordinator
U.S. EPA, Region 8
1595 Wynkoop Street, 8P-AR
Denver, Colorado 80202-1129

Dear Ms. Smith:

Enclosed please find a Part 2 registration form for the Hunts Along USA well pad. This submittal addresses the removal of some high-pressure separators. Wells producing into the facility are listed below.

Well Name	**API Well Number**
Hunts Along USA 12-1H	33-053-03083
Mamie USA 21-1TFH	33-053-07989
Mark USA 11-1H	33-053-07990
Timothy USA 11-1TFH-2B	33-053-07991
Shoots USA 41-2H	33-053-07988
Demaray USA 41-2TFH	33-053-07693

Please do not hesitate to contact me if you have any questions regarding this registration.

Sincerely,

Michelle McCracken

Michelle McCracken
Enclosures

EPA Form No. 5900-391
EPA ICR No. 1230.27
OMB Control No. 2060-0003
Approval expires 10/31/2020

United States Environmental Protection Agency
https://www.epa.gov/tribal-air/tribal-minor-new-source-review
April 29, 2019

Part 2: Submit Within 60 Days After Startup of Production -- Emission and Production Information

FEDERAL IMPLEMENTATION PLAN FOR TRUE MINOR SOURCES IN INDIAN COUNTRY IN THE OIL AND NATURAL GAS PRODUCTION AND NATURAL GAS PROCESSING SEGMENTS OF THE OIL AND NATURAL GAS SECTOR

Registration for New True Minor Oil and Natural Gas Sources and Minor Modifications at Existing True Minor Oil and Natural Gas Sources

Please submit information to:

[Reviewing Authority Address Phone]	Claudia Smith Minor NSR Permitting Coordinator U.S. EPA, Region 8 1595 Wynkoop Street, 8P-AR Denver, CO 80202-1129

A. GENERAL SOURCE INFORMATION (See Instructions Below)

1. Company Name Marathon Oil Company		**2. Source Name** Hunts Along USA well pad	
3. Type of Oil and Natural Gas Operation Oil and Gas Wellsite		**4. New Minor Source?** ☐ Yes ■ No **5. True Source Modification?** ■ Yes ☐ No	
6. NAICS Code 211111		**7. SIC Code** 1311	
8. U.S. Well ID(s) or API Number(s) [if applicable] 33-053-03083, 33-053-07989, 33-053-07990, 33-053-97991, 33-053-07988, 33-053-07693			
9. Area of Indian Country Ft. Berthold	**10. County** McKenzie	**11a. Latitude** 47.932497	**11b. Longitude** -102.665839

B. CONTACT INFORMATION (See Instructions Below)

1. Owner Name Jeff Parker	Title Production Manager
Mailing Address 3172 Hwy 22 N, Dickinson, ND 58601	
Email Address JRParker@MarathonOil.com	
Telephone Number (701) 456-7502	Facsimile Number (701) 456-7525
2. Operator Name (if different from owner) **Same**	Title
Mailing Address	
Email Address	
Telephone Number	Facsimile Number
3. Source Contact Michelle McCracken	Title HES Professional
Mailing Address 990 Town and Country Blvd, Houston, TX 77024	
Email Address mmccracken@marathonoil.com	
Telephone Number (713) 296-3272	Facsimile Number (701) 456-7525

4. Compliance Contact	Title
Jeff Parker	Production Manager
Mailing Address	
3172 Hwy 22 N, Dickinson, ND 58601	
Email Address	
JRParker@MarathonOil.com	
Telephone Number	Facsimile Number
(701) 456-7502	(701) 456-7525

C. EMISSIONS AND OTHER SOURCE INFORMATION

Include all of the following information in the table below and as attachments to this form:

Note: The emission estimates can be based upon actual test data or, in the absence of such data, upon procedures acceptable to the Reviewing Authority. The following procedures are generally acceptable for estimating emissions from air pollution sources: (1) unit-specific emission tests; (2) mass balance calculations; (3) published, verifiable emission factors that are applicable to the unit (i.e., manufacturer specifications); (4) other engineering calculations; or (5) other procedures to estimate emissions specifically approved by the Reviewing Authority. Guidance for estimating emissions can be found at https://www.epa.gov/chief.

- ■ Narrative description of the operations.
- ■ Identification and description of any air pollution control equipment and compliance monitoring devices or activities.
- ■ Type and actual amount (annually) of each fuel that will be used.
- ■ Type of raw materials used (e.g., water for hydraulic fracturing).
- ■ Actual, annual production rates.
- ■ Actual operating schedules.
- ■ Any existing limitations on source operations affecting emissions or any work practice standards, where applicable, for all regulated New Source Review (NSR) pollutants at your source. Indicate all requirements referenced in the Federal Implementation Plan (FIP) for True Minor Sources in Indian Country in the Oil and Natural Gas Production and Natural Gas Processing Segments of the Oil and Natural Gas Sector that apply to emissions units and air pollution generating activities at the source or proposed. Include statements indicating each emissions unit that is an emissions unit potentially subject to the requirements referenced in the FIP, but does not meet the definition of an affected facility under the referenced requirement, and therefore, is not subject to those requirements.
- ■ For each emissions unit comprising the new source or modification, estimates of the total allowable (potential to emit) annual emissions at startup of production from the air pollution source for the following air pollutants: particulate matter, PM_{10}, $PM_{2.5}$, sulfur oxides ( ), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compound (VOC), lead (Pb) and lead compounds, fluorides (gaseous and particulate), sulfuric acid mist (H_2SO_4), hydrogen sulfide (H_2S), total reduced sulfur (TRS) and reduced sulfur compounds, including all calculations for the estimates. Allowable annual emissions are defined as: emissions rate of an emissions unit calculated using the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical

or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation, or the effect it would have on emissions, is legally and practically enforceable. You must determine the potential for emissions within 30 days from the startup of production.

☒ For each emissions unit comprising the new source or modification, estimates of the total actual annual emissions during the upcoming, consecutive 12 months from the air pollution source for the following air pollutants: particulate matter (PM, PM_{10}, $PM_{2.5}$), sulfur oxides (SO_x), nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compound (VOC), lead (Pb) and lead compounds, ammonia (NH_3), fluorides (gaseous and particulate), sulfuric acid mist (H_2SO_4), hydrogen sulfide (H_2S), total reduced sulfur (TRS) and reduced sulfur compounds, including all calculations for the estimates. Estimates of actual emissions must take into account equipment, operating conditions, and air pollution control measures. You should calculate an estimate of the actual annual emissions using estimated operating hours, production rates, in-place control equipment, and types of materials processed, stored, or combusted.

D. TABLE OF ESTIMATED EMISSIONS

Provide in the table below estimates of the total allowable annual emissions in tons per year (tpy) and total actual annual emissions (tpy) for the following pollutants for all emissions units comprising the new source or modification.

POLLUTANT	TOTAL ALLOWABLE ANNUAL EMISSIONS (TPY)	TOTAL ACTUAL ANNUAL EMISSIONS (TPY)
PM	0.13	0.13
PM_{10}	0.13	0.13
$PM_{2.5}$	0.13	0.13
SO_x	0.01	0.01
NO_x	8.00	8.00
CO	27.61	27.61
VOC	52.63	52.63
Pb	0.00	0.00

POLLUTANT	TOTAL ALLOWABLE ANNUAL EMISSIONS (TPY)	TOTAL ACTUAL ANNUAL EMISSIONS (TPY)
NH3	0.00	0.00
Fluorides	0.00	0.00
H_2SO_4	0.00	0.00
H_2S	0.00	0.00
TRS	0.00	0.00

Attachment 1

Narrative and Process Flow Diagram

Narrative description of the operations:

The Hunts Along USA well pad includes the following wells: Hunts Along USA 12-1H, Mamie USA 21-1TFH, Mark USA 11-1H, Timothy USA 11-1TFH-2B, Shoots USA 41-2H, and Demaray USA 41-2TFH. The Hunts Along USA well pad is owned and operated by Marathon Oil Company (Marathon) and located on the Ft. Berthold Indian Reservation in McKenzie County, North Dakota. This oil and gas production facility consists of multiple wells and associated onsite equipment (discussed in detail below).

Produced fluid from the formation, initially an emulsion comprised of produced oil, natural gas, and produced water flows or is pumped from the wells to heater treaters. The oil is separated from the produced water and a small amount of gas is also separated. Oil and produced water transfer to above-ground storage tanks while the gas goes to sales or is combusted by a control device with a 98% minimum destruction efficiency. This site may have compressors in order to supply high-pressure gas for artificial lift as well as to compress unsold gas and sell it to a secondary pipeline. This site may contain natural gas liquid (NGL) recovery equipment to remove NGLs from gas prior to sales or combustion.

Produced water may be loaded into tanker trucks for off-site disposal or sent to disposal via pipeline. The oil is loaded into tanker trucks or passes through a Lease Automated Custody Transfer (LACT) unit prior to shipment via pipeline. Finally, storage tanks utilize a control device with a 98% minimum destruction efficiency to reduce emissions from these tanks.

Identification and description of all emission units and air pollution generating activities; include portable equipment:

The following is a narrative of potential emission equipment that may be used at this facility. Site-specific equipment may vary depending on gas sales and equipment placement. Please refer to Table 1 (see below) and Attachment 2 for equipment specific to the location.

1. Electrically-operated pumping units extract produced fluid from the formation. The fluid leaves the production well casing head via underground flowlines and enters heater treaters for separation. The heater treaters are equipped with 500,000 to 2,000,000 Btu/hr burners fueled by natural gas from the well or liquefied petroleum gas (LPG) from a pressurize storage tank. Production from locations where wells share common ownership may be commingled. Under this scenario, multiple heater treaters may be used to determine production rates of individual wells for accounting purposes.
2. Natural gas produced from the heater treaters is routed to the heater treater burner to provide its fuel or to control devices with a 98% destruction efficiency equipped with a continuous automatic igniter and pilot flame with a thermocouple. This device is monitored visually (when personnel are on site) or via the Supervisory Control and Data Acquisition (SCADA) network. Once gas sales line installation is complete, the treater gas is sometimes routed to it. If the temperature of the sales gas is too high, the site may require the use of one or more natural gas-driven coolers to meet sales temperature specification.
3. Produced oil from the heater treaters is routed to multiple vertical above ground fixed-roof storage tanks, where it is stored prior to tanker truck loading via submerged fill lines or custody transfer via a LACT unit. Emissions of regulated air pollutants (i.e., Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs)) from working/breathing/flash losses are routed to a control device with a 98% minimum destruction efficiency equipped with a continuous automatic igniter and pilot flame with a thermocouple. This device is monitored visually (when

personnel are on site) or via SCADA. Individual produced oil storage tanks may be subject to 40 CFR 60, subpart OOOOa (NSPS OOOOa) because VOC emissions from these tanks exceed the six tons per year (TPY) per tank threshold.

4. Produced water is routed from the heater treaters to vertical above ground fixed-roof storage tanks, where it is stored prior to tanker truck loading or transfer to pipeline. Emissions from produced water tanks are routed to the same control device with a 98% minimum destruction efficiency equipped with a continuous automatic igniter and pilot flame with a thermocouple. This device is monitored visually (when personnel are on site) or via SCADA. Produced water storage tanks are not subject to NSPS OOOOa because emissions from these tanks do not exceed the six TPY of VOC per tank threshold; however, water tanks share the same vent collection system as the oil tanks and therefore may be subject to the rule.
5. Emissions from oil tanker truck loading are evaluated in the attached calculation spreadsheet. Produced water loading emissions are assumed to be negligible.
6. If additional separation is necessary to meet buyer specifications, a recirculation pump is used to recirculate produced oil from storage tanks to the heater treater. This pump is powered by on-site electrical power or a gasoline-powered spark ignition (SI) reciprocating internal combustion engines (RICE) producing eight horsepower (hp). Each SI RICE used is manufactured after July 1, 2008 and certified in accordance with the requirements for new non-road SI engines (40 CFR Part 90) and is operated in accordance with the manufacturer's instructions (40 CFR 60.4243(a)(1)). Additionally, each SI RICE is subject to the maintenance and recordkeeping requirements for SI RICE in 40 CFR 63, subpart ZZZZ effective October 19, 2013.
7. This facility design may include multiple pneumatic controllers on-site. Marathon uses intermittent bleed pneumatic devices powered by pressurized natural gas for flow control devices and for maintaining process conditions such as liquid level, pressure, delta-pressure, and temperature. These devices are snap-acting that discharge the full volume of the actuator intermittently when control action is necessary but do not bleed continuously. If throttling devices are used, they vent less than six scf/h and are not subject to NSPS OOOOa.
8. The well pad may have one or more generators onsite to provide power to facility equipment. For the purpose of this application, calculations were prepared assuming generators operate for 8,760 hours per year. Once the site is connected to electrical power, generators are removed from the site. Generator engines may be fueled by natural gas or propane and are SI RICE, manufactured after July 1, 2008, certified in accordance with the requirements for new non-road SI engines (40 CFR Part 90), operated in accordance with the manufacturer's instructions (40 CFR 60.4243(a) (1)), and subject to the maintenance and recordkeeping requirements for SI RICE in 40 CFR 63, subpart ZZZZ effective October 19, 2013.

Identification and description of any existing air pollution control equipment and compliance monitoring devices or activities:

Emission Source	Emission Controls	Control Efficiency	Monitoring Type
Produced Oil/Produced Water Storage Tanks	Destruction efficiency control device(s) See Footnote 1 below.	98%	Visually by operator (when on site) or via SCADA
Heater Treater Produced Natural Gas	Destruction efficiency control device	98%	Visually by operator (when on site) or via SCADA
Heater Treater Fuel Gas	See Footnote 2 below	0% (uncontrolled)	See Footnote 3
RICE Engine	See Footnote 3 below	0% (uncontrolled)	See Footnote 3
Truck Loadout (Produced oil and produced water)	Submerged Fill	40%	Viewpoint Program oil production rates See attached calculations (Attachment 1)
Well Pad Site Generator	See Footnote 3 below	See Footnote 3	See Footnote 3
Pneumatic Controllers	None (uncontrolled)	N/A	---

Footnote 1: The 98% control device usage is noted here, so that use of either a combustor or utility flare to control tank emissions is acceptable on any location.
Footnote 2: The heater treater burner is controlled by a Burner Management System which regulates the flow of fuel gas to the burner to achieve a temperature in the vessel within the desired operational parameters.
Footnote 3: EPA certified engines, Catalytic Converter or Oxidizers if required by NSPS JJJJ.

Type and amount of fuels used:

Field gas (produced natural gas) is used at this location to fuel the heater treater burners. The contents of the field gas are included in the calculation spreadsheets provided in Part 2. The volume of gas utilized in the burner varies depending on well flow rate, wellhead temperature, and the desired operating temperature range.

Type of raw materials used:

The produced fluid is initially an emulsion comprised of produced oil, natural gas, and produced water. Please see the narrative above for a further description of the process.

Production Rates:

Production rates vary depending on the facility. The initial production rates are normally higher and decline over time. Production from the first thirty days is generally utilized with a decline factor consistent with the Bakken Pool Air Pollution Control Permitting and Guidance as published by the North Dakota Department of Health.

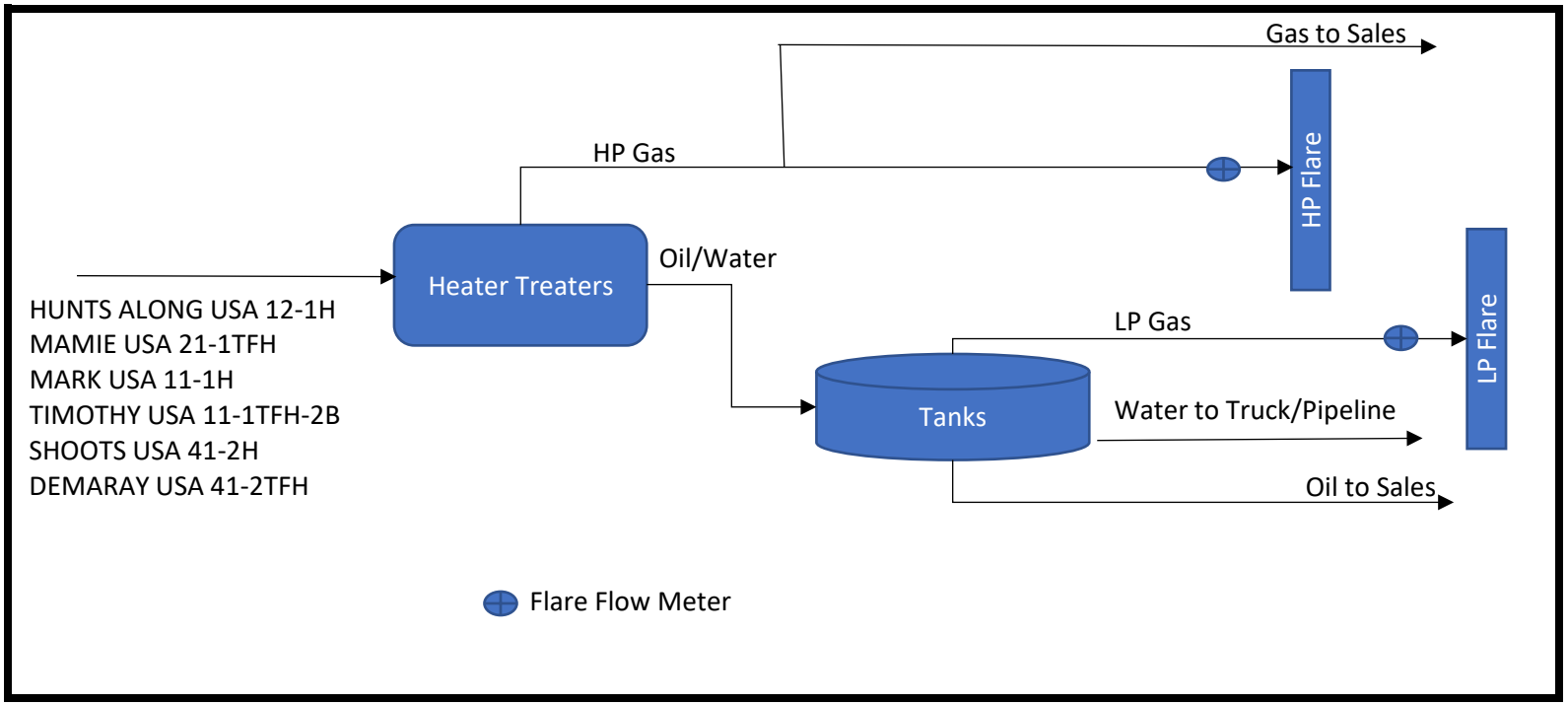
Operating Schedules:

The well pad is anticipated to operate 24-hours per day, 7-days per week, and 52-weeks per year for a total of 8,760 hours per year. Exceptions to this operating schedule may include but are not limited to, shutdowns associated with extreme weather conditions, scheduled maintenance, operation updates, and temporary shut-in (if required).

Any existing limitations on source operation affecting emissions or any work practice standards, where applicable, for all regulated NSR pollutants at your source:

Some emissions for this facility may be regulated under 40 CFR part 60, subpart OOOOa. Marathon will comply with the applicable requirements. In accordance with this rule, controls to reduce VOC emissions by 95% for storage tanks emitting six tons or more per year of VOC may be required. This reduction requirement applies to tanks used in oil and gas production, natural gas processing, and transmission and storage. The calculations for this facility indicate that with controls, the emissions from tanks may exceed the six-ton per year per tank threshold. Additionally, the New Source Performance Standards may require a Leak Detection and Repair Program to reduce emissions from fugitive emission sources.

PROCESS FLOW DIAGRAM
HUNTS ALONG USA WELL PAD



Attachment 2

Emissions Calculations

Calculation Basis

The Hunts Along USA well pad consists of six existing wells. This submittal addresses the removal some high-pressure separators.

Emissions Totals (tpy)

Model	NOx	CO	VOC	HAPS	Largest Single HAP	PM_{10}	SO_2
Hunts Along	5.86	21.54	38.59	2.03	1.30	0.07	0.01
Shoots	1.05	2.94	7.02	0.36	0.22	0.03	0.00
Demaray	1.10	3.13	7.02	0.35	0.22	0.03	0.00
Total (tpy)	8.00	27.61	52.63	2.73	1.74	0.13	0.01

Throughput

Thirty days of production data was used to calculate emissions. No decline was assumed. Any days of no production are replaced with an average production from the day prior and the day after the day or days with no production or with forecasted production.

Equipment

This site has the following separation equipment in order of highest operating pressure to lowest operating pressure:

- Heater treater(s)

The site also has:

- Oil tanks
- Water tanks
- High pressure flare(s) to control gas from the heater treaters
- Low pressure flare(s) to control flash and working & breathing emissions from the oil and water tanks
- Truck loading point(s) for both oil and water
- Pneumatic device(s)

Model

Pressurized oil sample(s) and gas sample(s) are collected from the highest-pressure separation equipment for analysis to model the emissions from the facility. The analyses are used in a process simulation, Promax, along with normal operating temperatures and pressures through the separation equipment to model emissions. If the analyses do not meet QA/QC criteria, another set of samples are collected, or representative analyses or sales gas analysis are used, and it will be noted. Samples are good if:

- Pressure on the sample vessel is within 15% of the pressure on the vessel sampled (from SCADA, account for pressure loss across sample valve),
- Passes lab QA/QC, and
- Methane plus ethane is within 3 mole % of gas sales analysis.

Because a gas sample is collected off the highest-pressure vessel and it may contain liquids, a flare scrubber (which is actually present in the field) is included in the model. If the sales gas analysis is used, the scrubber will be removed from the model.

User defined inputs into modelling software:

- Oil sample composition
- Gas sample composition
- Separation equipment operating temperatures and pressures
- Site ambient conditions (for tank emissions)
- Production throughputs for crude oil, produced water, and volume of gas flared from the highest-pressure separation equipment

The oil and gas sample compositions are used to estimate fugitive emissions using a count of major equipment at the site and default component counts are used based on the approach provided in EPA's Mandatory Reporting Rule for Greenhouse Gases (GHG MRR), 40 CFR Part 98, Subpart W, Table W-1B.

The gas sample composition is used to estimate emissions from the highest pressure-separation equipment that is not sold.

The heater treater temperature and pressure used in the model are the expected average over the course of a year.

Flash from the oil and water tanks is also modelled and working and breathing losses are estimated using the most current method from EPA AP-42. The total oil production is divided among the number of tanks in service to estimate the emissions from a single tank. Those emissions are then multiplied by the number of tanks in service. Tanks are modelled as adiabatic with no quench. Water tank emissions are assumed to contain 1% VOC for the purposes of estimating flash emissions. All emissions from storage tanks are controlled by the low-pressure flare. The low-pressure flare has a 98% destruction efficiency.

This site may have gas pneumatic pumps or venting snap acting controllers. A small percentage of the oil produced may be loaded onto trucks; the remainder will pass through a LACT to pipeline. Water loading, if present, is de-minimus.

AIR PERMITTING ANALYSIS

Company Name: Marathon Oil Company

Facility Name: Hunts Along

Field: Fort Berthold Reservation

Date Prepared: 6/28/2023

Prepared By: Marathon Oil Company

	Annual Averaged		Annual Total	
Produced Gas	823	mscfd	300,391	mscf/yr
Well Gas Flared			24,660	mscf/yr
Oil Production	362	bbls/day	132,133	bbls/yr
Produced Water Production	154	bbls/day	56,210	bbls/yr
Heater Treater Temp. / Pressure	110	deg F	59	psig
HP Flare Control Efficiency	98%			
LP Flare Control Efficiency	98%			
Operating Period	365	days	8760	hours

Emission Sources	NOx	CO	VOC	HAPs	n-Hexane	PM_{10}	SO_2
Boilers and/or Heaters	0.86	0.72	0.05	--	--	0.07	0.01
Engines and/or Turbines	-	-	-	0.00	0.00	-	-
Equipment Fugitives	--	--	2.95	0.19	0.08	--	--
Oil Truck Loading	--	--	0.77	0.04	0.03	--	--
Oil Tanks	Emissions represented at LP Flare						
Water Tank	Emissions represented at LP Flare						
High Pressure Flare	1.27	5.29	6.62	0.35	0.23	0.00	--
Low Pressure Flare	3.73	15.52	21.43	1.27	0.81	0.00	--
Pneumatics	--	--	6.77	0.17	0.15	--	--
Total (TPY)	**5.86**	**21.54**	**38.59**	**2.03**	**1.30**	**0.07**	**0.01**

6a. 2023-04-24 Hunts Along PTE Heater Burners

Heater ID:	Treater 1	Treater 2	Treater 3	Treater 4
Heater Rating (MMBtu/hr)	1.00	1.00		
Heater Fuel Source	High Pressure Gas	High Pressure Gas		
Fuel Heat Value (Btu/scf)	1,020	1,020		
Operating Hours	8,760	8,760		
Fuel Usage (Mscf/year)[1]	8,588	8,588		

(1) Fuel Usage = (Heater Treater Rating, MMBtu/hr) x (8760 hours/year) / (Fuel Heat Value, Btu/scf) x (1,000 Mscf/MMscf)

Emissions Factors (lb/MMscf) - From AP42, Ch.1.4, Tables 1.4-1 & 1.4-2 dated July 1998				
NOx	**CO**	**VOC**	**PM**	**SO_2**
100	84	5.5	7.6	0.6

Note: If the actual maximum fuel usage is provided, the above emission factors are adjusted by the ratio of the actual fuel heat value to 1020 Btu/scf.

Heater/Boiler Emissions (Tons/year)[2]						
Heater ID:	**Fuel Usage (Mscf/yr)**	**NOx**	**CO**	**VOC**	**PM**	**SO_2**
Treater 1	8,588	0.43	0.36	0.02	0.03	2.58E-03
Treater 2	8,588	0.43	0.36	0.02	0.03	2.58E-03
Total		**0.86**	**0.72**	**0.05**	**0.07**	**0.01**

(2) Emissions in TPY = (Fuel Usage Mscf/year) x (Emission Factor lb/MMscf) / (2000 lb/ton) x (1000 Mscf/MMscf)
(3) All PM emissions were assumed to be PM10 based on footnote (c) to Table 1.4-2 of AP-42 (dated 7/98).

Calculation Basis:
Natural gas-fired single-burner heater treaters will be used to heat the oil/water/gas mixture to help promote three phase separation.
External combustion emissions were calculated in accordance with AP-42 Section 1.4 (July 1998), Natural Gas Combustion, Tables 1.4-1, 1.4-2, and 1.4-3., using emission factors for Small Boilers (less than 100 MMBtu/hr rating).
All heaters are assumed to run 8760 hours per year.
Emissions of HAPs are assumed to be deminimis.

6a. 2023-04-24 Hunts Along PTE Fugitives

Default Component Counts - Light Oil Service (per major piece of equipment)[1]				
Equipment	Valves	Flanges	Connectors	Other Components
Wellhead	5	10	4	1
Separators	6	12	10	0
Heater Treater	8	12	20	0
Header	5	10	4	0

(1) From MRR Subpart W Table W-1C.

Default Component Counts - Gas Service (per major piece of equipment)[1]				
Equipment	Valves	Connectors	Open-Ended Lines	Pressure Relief Valves
Wellhead	11	36	1	0
Separators	34	106	6	2
Meters/Piping	14	51	1	1
Compressors	73	179	3	4
In-Line heaters	14	65	2	1

(1) From MRR Subpart W Table W-1C.

Total Fugitive Emissions (Tons/year)		
VOC	HAPs	n-Hexane
2.95	0.19	0.08
Operating Period	8,760	hours

Major Equipment Counts[2]	
Wellhead	4
Header	0
Separator	0
Heater Treater	2
Meters	1
Compressors	0
In-Line Heaters	0
Pumps	5

(2) Actual count of major equipment at facility

Component Type	Number of Components in Gas Service[3]	Gas Emission Factor (lb/hr per Component)[4]	VOC Emissions (TPY) from Gas Components[5]	HAP Emissions (TPY) from Gas Components[5]	n-Hexane Emissions (TPY) from Gas Components[5]	Number of Components in Oil Service[3]	Oil Emission Factor (lb/hr per Component)[4]	VOC Emissions (TPY) from Oil Components[5]	HAP Emissions (TPY) from Oil Components[5]	n-Hexane Emissions (TPY) from Oil Components[5]
Valves	58	0.010	0.82	0.02	0.02	36	0.006	0.86	0.07	0.02
Pumps	0	0.01	0.00E+00	0.00E+00	0.00E+00	5	0.029	6.23E-01	5.31E-02	1.80E-02
Flanges	0	8.60E-04	0.00E+00	0.00E+00	0.00E+00	64	2.43E-04	0.07	5.76E-03	1.96E-03
Compressors	0	0.019	0.00E+00	0.00E+00	0.00E+00	0	0.017	0.00E+00	0.00E+00	0.00E+00
Relief Valves	1	0.019	0.03	7.04E-04	6.15E-04	0	0.017	0.00E+00	0.00E+00	0.00E+00
Open-ended Lines	5	4.41E-03	0.03	8.00E-04	6.99E-04	0	0.003	0.00E+00	0.00E+00	0.00E+00
Connectors	195	4.40E-04	0.12	3.11E-03	2.72E-03	56	4.63E-04	0.11	0.01	3.26E-03
Other	0	0.019	0.00E+00	0.00E+00	0.00E+00	4	0.017	0.29	0.02	0.01

(3) The number of components for a particular type of equipment were calculated as follows: (Number of Components) = (Equipment Count) x (Components per Equipment for service)

(4) Factors taken from EPA document EPA-453/R-95-017; November, 1995; pp. 2-15.

(5) Per Service Type and Per Component Type: (VOC or HAP Emissions, TPY) = (Component Count) x (Emission Factor, lb/hr/component) x (8760 hours per year) x (wts%VOC or HAP) x (1 ton per 2000 lb)

Calculation Basis:

Site specific component counts are not available so default component counts are used based on the approach provided in EPA's Mandatory Reporting Rule for Greenhouse Gases (GHG MMR), 40 CFR Part 98, Subpart W, Table W-1B. Actual counts were compiled for major equipment (i.e. wellheads, separators, in-line heaters, etc.), and default component counts were applied to each equipment type.

Oil produced at the site will have an API gravity of greater than 20° API; therefore, all hydrocarbon liquids are considered "light oil". There are no "heavy oil" components at this site.

6a. 2023-04-24 Hunts Along PTE Pneumatics

Pneumatic Devices					
Type	Count	Bleed Rate (scf/hr/component)	VOC (TPY)	HAP (TPY)	n-Hexane
Valves	12	6	6.77	0.17	0.15
Pumps	0	0	0.00E+00	0.00E+00	0.00E+00

No venting pneumatic valves

Total Fugitive Emissions (Tons/year)		
VOC	HAPs	n-Hexane
6.77	**0.17**	**0.15**

Calculation Basis: Emissions are estimated using the estimated controller count (for those that vent to atmosphere), an emission factor for pneumatics that is the same as what would be considered a covered continuous venting pneumatic device, and a gas composition. Note: devices used are snap acting versus throttling. The gas composition used is that of the high pressure separator gas composition.
Where pneumatic pumps are used, the manufacturer specified bleed rate will be used.

Emissions (TPY) = Count of devices * Bleed Rate (scf/hr/controller) * Gas Molecular Weight (lb/lbmole) * Weight Percent VOC or HAP * 1/molar volume conversion (379.3 scf/lbmole) * 8760 hr/yr * 1 ton/2000 lb

Gas Composition (High Pressure Separator Gas)	
Date of Analysis:	8/26/2022
Component	**wt%**
Water	0.00E+00
H2S	0.00E+00
Nitrogen	2.75%
Carbon Dioxide	1.63%
Methane	39.48%
Ethane	23.59%
Propane	16.17%
Isobutane	2.23%
n-Butane	6.99%
Isopentane	1.56%
n-Pentane	2.36%
2-Methylpentane	0.00E+00
3-Methylpentane	0.00E+00
n-Hexane	0.72%
Cyclohexane	1.20%
Heptane	0.80%
Methylcyclohexane	0.14%
Benzene	0.06%
Toluene	0.03%
Ethylbenzene	2.12E-05
o-Xylene	1.32E-04
2,2,4-Trimethylpentane	0.00E+00
Octane	0.18%
Nonane	0.07%
Decane	0.00E+00
Decanes+	2.69E-04
Gas wt %VOC	**32.55%**
Gas wt %HAPs	**0.83%**

Flowsheet Information				
Tank Losses Stencil Name		Oil Tank Losses		
Tank Losses Stencil Reference Stream		Oil Tank Feed		
Separator Name		Oil Tank		
Separator Inlet Stream		Oil Tank Feed		
Separator Pressure [psia]	Inlet | Outlet	72.7	13.7	
Separator Temperature [°F]	Inlet | Outlet	110.0	89.8	

Tank Characteristics				
Tank Type		Vertical Cylinder		
Time Frame		Year		
Material Category		Light Organics		
Number of Tanks		4.0		
Shell Height	[ft]	25.000		
Diameter [ft]	[ft]	13.500		
Maximum Liquid Height	[%] | [ft]	90.000	22.500	
Average Liquid Height	[%] | [ft]	50.000	12.500	
Minimum Liquid Height	[%] | [ft]	10.000	2.500	
Sum of Increases in Liquid Level	[ft/yr]	-		
Tank Volume	[gal] | [bbl]	26768.817	637.353	
Insulation		Uninsulated		
Bolted or Riveted Construction		FALSE		
Vapor Balance Tank		FALSE		

Paint Characteristics	
Shell Color	Tan
Shell Paint Condition	Average
Roof Color	Tan
Roof Paint Condition	Average

Roof Characteristics		
Type		Cone
Diameter	[ft]	-
Slope	[ft/ft]	0.063

Breather Vent Settings		
Breather Vacuum Pressure	[psig]	-0.030
Breather Vent Pressure	[psig]	0.030

Loading Loss Parameters		
Cargo Carrier		
Land Based Mode of Operation		
Marine Based Mode of Operation		
Overall Reduction Efficiency	[%]	
Maximum Hourly Loading Rate	[bbl/h]	

Meteorological Data			
Location		Williston, ND	
Average Atmospheric Pressure	[psia]	13.720	
Maximum Average Temperature	[°F]	53.200	
Minimum Average Temperature	[°F]	29.900	
Solar Insolation	[BTU/ft^2*day]	1193.000	
Average Wind Speed	[mph]	8.900	
Tank Conditions			
Flashing Temperature	[°F]	89.814	
Maximum Liquid Surface Temperature	[°F]	89.814	
Average Liquid Surface Temperature	[°F]	82.563	
Set Bulk Temperature to Stream Temperature?		TRUE	
Bulk Liquid Temperature	[°F]	110.000	
Net Throughput	[bbl/day] | [bbl/yr]	365.145	133277.753
Net Throughput Per Tank	[bbl/day] | [bbl/yr]	91.286	33319.438
Turnovers Per Tank	[per day]	65.341	
Residual Liquid	[bbl/day]	360.609	
Residual Liquid Per Tank	[bbl/day]	90.152	
Raoult's Law Used for Vapor Pressure Calc?		FALSE	
VP @ Minimum Liquid Surface Temperature	[psia]	11.746	
VP @ Maximum Liquid Surface Temperature	[psia]	13.720	
True Vapor Pressure	[psia]	12.701	

6a. 2023-04-24 Hunts Along PTE Water Tanks

Produced Water Production	154	BWPD
Oil Production	362	BOPD
Percent Oil in Produced Water	1%	Percent
Number of Water Tanks	2	
Number of Oil Tanks	4	

	Uncontrolled Water Flash			Uncontrolled Water W&S		
Component	**Oil Flash Mass Flow (lb/hr)**	**Ratioed Water Flash Mass Flow (lb/hr)**	**Water Flash Mass Flow 99% Reduction (lb/hr)**	**Oil W&B Mass Flow (lb/hr)**	**Ratioed Water W&S Mass Flow (lb/hr)**	**Water W&B Mass Flow 99% Reduction (lb/hr)**
Water	0.55	0.23	0.00	0.09	0.04	4.29E-04
H2S	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nitrogen	0.17	0.07	7.11E-04	0.00	0.00	1.53E-05
Carbon Dioxide	0.55	0.23	2.35E-03	0.08	0.04	3.77E-04
Methane	6.26	2.66	0.03	0.33	0.17	0.00
Ethane	14.43	6.14	0.06	2.23	1.12	0.01
Propane	18.40	7.83	0.08	2.77	1.38	0.01
Isobutane	3.16	1.35	0.01	0.47	0.23	0.00
n-Butane	10.73	4.57	0.05	1.57	0.79	0.01
Isopentane	4.01	1.71	0.02	0.58	0.29	2.88E-03
n-Pentane	5.33	2.27	0.02	0.76	0.38	0.00
2-Methylpentane	1.23	0.52	0.01	0.17	0.09	8.63E-04
3-Methylpentane	0.72	0.31	3.06E-03	0.10	0.05	5.04E-04
n-Hexane	2.06	0.88	0.01	0.29	0.14	1.43E-03
Cyclohexane	0.56	0.24	2.37E-03	0.08	0.04	3.86E-04
Heptane	2.37	1.01	0.01	0.32	0.16	1.61E-03
Methylcyclohexane	0.02	9.07E-03	9.07E-05	2.91E-03	1.46E-03	1.46E-05
Benzene	0.40	0.17	1.70E-03	0.06	0.03	2.81E-04
Toluene	0.31	0.13	1.31E-03	0.04	0.02	2.10E-04
Ethylbenzene	0.05	0.02	2.10E-04	6.56E-03	3.28E-03	3.28E-05
o-Xylene	0.19	0.08	8.02E-04	0.02	1.25E-02	1.25E-04
2,2,4-Trimethylpentane	2.16E-01	9.20E-02	9.20E-04	2.94E-02	1.47E-02	1.47E-04
Octane	0.70	0.30	2.97E-03	0.09	0.05	4.60E-04
Nonane	0.13	0.06	5.57E-04	0.02	0.01	8.41E-05
Decane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Oil 10+	1.08E-03	4.57E-04	4.57E-06	1.17E-04	5.85E-05	5.85E-07
Total	72.56	30.87	0.31	10.10	5.05	0.05
Total VOC	50.60	21.53	0.22	7.37	3.68	0.04
Total HAPs	3.23	1.37	0.01	0.45	0.22	2.23E-03

Maximum Annual Emission Rates and Composition to LP Flare										
ProMax Stream:	**Pilot Gas**	**Propane Pilot**	**Oil Flash**	**Oil W&B**	**Water Flash**	**Water Tank W&B**	**Sweep Blanket Gas**	**Total to Flare**	**Destruction Efficiency**	**Flare Exhaust (controlled)**
Component	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(%)**	**(tpy)**
Water	0.13	0.00E+00	2.41	0.38	0.01	1.88E-03	26.80	**29.72**	0%	**29.72**
H2S	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**	98%	**0.00E+00**
Nitrogen	0.27	0.00E+00	0.73	0.01	3.11E-03	6.69E-05	55.54	**56.56**	0%	**56.56**
Carbon Dioxide	0.16	0.00E+00	2.42	0.33	0.01	1.65E-03	32.49	**35.41**	0%	**35.41**
Methane	3.85	0.00E+00	27.40	1.46	0.12	0.01	791.21	**824.05**	98%	**16.48**
Ethane	2.31	0.00E+00	63.21	9.77	0.27	0.05	475.78	**551.39**	98%	**11.03**
Propane	1.61	17.93	80.61	12.11	0.34	0.06	331.15	**443.81**	98%	**8.88**
Isobutane	0.23	0.00E+00	13.85	2.04	0.06	0.01	47.18	**63.37**	98%	**1.27**
n-Butane	0.75	0.00E+00	47.00	6.88	0.20	0.03	153.19	**208.06**	98%	**4.16**
Isopentane	0.27	0.00E+00	17.58	2.52	0.07	0.01	55.28	**75.75**	98%	**1.51**
n-Pentane	0.36	0.00E+00	23.36	3.33	0.10	0.02	73.68	**100.84**	98%	**2.02**
2-Methylpentane	0.08	0.00E+00	5.39	0.76	0.02	3.78E-03	17.31	**23.56**	98%	**0.47**
3-Methylpentane	0.05	0.00E+00	3.15	0.44	0.01	2.21E-03	10.18	**13.84**	98%	**0.28**
n-Hexane	0.14	0.00E+00	9.04	1.26	0.04	0.01	29.80	**40.29**	98%	**0.81**
Cyclohexane	0.04	0.00E+00	2.44	0.34	0.01	1.69E-03	8.00	**10.83**	98%	**0.22**
Heptane	0.18	0.00E+00	10.39	1.41	0.04	0.01	36.77	**48.80**	98%	**0.98**
Methylcyclohexane	1.56E-03	0.00E+00	0.09	0.01	3.97E-04	6.38E-05	0.32	**0.43**	98%	**0.01**
Benzene	0.03	0.00E+00	1.76	0.25	0.01	1.23E-03	5.58	**7.61**	98%	**0.15**
Toluene	0.02	0.00E+00	1.35	0.18	5.74E-03	9.21E-04	4.64	**6.20**	98%	**0.12**
Ethylbenzene	3.94E-03	0.00E+00	0.22	0.03	9.21E-04	1.44E-04	0.81	**1.06**	98%	**0.02**
o-Xylene	0.02	0.00E+00	0.83	0.11	3.51E-03	5.47E-04	3.12	**4.07**	98%	**0.08**
2,2,4-Trimethylpentane	0.02	0.00E+00	0.95	0.13	4.03E-03	6.44E-04	3.31	**4.41**	98%	**0.09**
Octane	0.06	0.00E+00	3.06	0.40	0.01	2.02E-03	11.74	**15.27**	98%	**0.31**
Nonane	0.01	0.00E+00	0.57	0.07	2.44E-03	3.68E-04	2.40	**3.06**	98%	**0.06**
Oil 10+	1.70E-04	0.00E+00	4.71E-03	5.12E-04	2.00E-05	2.56E-06	0.03	**0.04**	98%	**8.08E-04**
Total	**10.58**	**17.93**	**317.80**	**44.23**	**1.35**	**0.22**	**2176.31**	**2,568.41**	--	**170.62**
Total VOC	**3.86**	**17.93**	**221.63**	**32.28**	**0.94**	**0.16**	**794.49**	**1,071.29**	--	**21.43**
Total HAP	**0.23**	**0.00E+00**	**14.14**	**1.95**	**0.06**	**0.01**	**47.26**	**63.65**	--	**1.27**
Annual Hours (Hrs)	**8,760**	**8,760**	**8,760**	**8,760**	**8,760**	**8,760**	**8,760**	--		
Heating Value HHV (Btu/scf)	1,466	2,557	2,264	2,446	2,264	2,446	1,466	**1,549**		
Heating Value LHV (Btu/scf)	1,336	2,557	2,080	2,250	2,080	2,250	1,336	**1,414**		
Molecular Weight	26.05	44.10	40.27	43.68	40.27	43.68	26.05	--		
Volumetric Flow (scf/hr)	35.20	35.20	684	87.73	2.91	0.44	7237.50	**8,083**		
Volumetric Flow (MMscf/yr)	0.31	0.31	5.99	0.77	0.03	3.84E-03	63.40	**70.19**		
H2S PPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**		

Oil Tank Flash GOR (scf/bbl)	45.33
Tank Total GOR (scf/bbl)	51.37

Combustion Emissions from Flare								Totals
	(tpy)	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**
Total NOx	0.02	0.03	0.46	0.06	1.96E-03	3.19E-04	3.16	**3.73**
Total CO	0.06	0.12	1.93	0.27	0.01	1.34E-03	13.13	**15.52**
Total SO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
Total PM_{10}	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
Total $PM_{2.5}$	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**

Criteria Pollutant Emissions from Flare [a]		
Component	**Emission Factor**	**Emission Factor Units**
NO_X	0.068	lb/MMBtu
CO	0.31	lb/MMBtu
SO_2	--	--
PM_{10}	0.00	lb/MMscf
$PM_{2.5}$	0.00	lb/MMscf
H_2S	--	--

Constants	
H_2S Molecular Weight	34.08
SO_2 Molecular Weight	64.06
Gas Constant (scf/lb-mol)	379.30

Variables	
Flare Destruction Efficiency	98%
Number of Pilots	2
Volume of Gas/Tip (scf/hr)	35.20
Operating Hours	8,760

Footnotes:

[a] Flare CO and NOx emission factors from AP-42, Table 13.5-1 & 13.5-2, February 2018. PM_{10} and $PM_{2.5}$ emission factors from AP-42, Table 1.4-1 and 1.4-2, July 1998. SO_2 emissions assume 100% conversion of H_2S to SO_2.

HP Flare Annual Emissions

Maximum Annual Emission Rates and Composition to HP Flare							
ProMax Stream:	**Pilot Gas**	**Propane Pilot**	**HP Flared Gas**	**Heater Treater Gas**	**Total to Flare**	**Destruction Efficiency**	**Flare Exhaust (controlled)**
Component	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(%)**	**(tpy)**
Water	0.13	0.00E+00	0.00	10.42	10.55	0%	**10.55**
H2S	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	98%	**0.00E+00**
Nitrogen	0.27	0.00E+00	0.00	21.60	21.87	0%	**21.87**
Carbon Dioxide	0.16	0.00E+00	0.00	12.64	12.80	0%	**12.80**
Methane	3.85	0.00E+00	0.00	307.75	311.60	98%	**6.23**
Ethane	2.31	0.00E+00	0.00	185.06	187.37	98%	**3.75**
Propane	1.61	17.93	0.00	128.80	148.34	98%	**2.97**
Isobutane	0.23	0.00E+00	0.00	18.35	18.58	98%	**0.37**
n-Butane	0.75	0.00E+00	0.00	59.59	60.33	98%	**1.21**
Isopentane	0.27	0.00E+00	0.00	21.50	21.77	98%	**0.44**
n-Pentane	0.36	0.00E+00	0.00	28.66	29.02	98%	**0.58**
2-Methylpentane	0.08	0.00E+00	0.00	6.73	6.82	98%	**0.14**
3-Methylpentane	0.05	0.00E+00	0.00	3.96	4.01	98%	**0.08**
n-Hexane	0.14	0.00E+00	0.00	11.59	11.74	98%	**0.23**
Cyclohexane	0.04	0.00E+00	0.00	3.11	3.15	98%	**0.06**
Heptane	0.18	0.00E+00	0.00	14.30	14.48	98%	**0.29**
Methylcyclohexane	1.56E-03	0.00E+00	0.00	0.13	0.13	98%	**2.53E-03**
Benzene	0.03	0.00E+00	0.00	2.17	2.20	98%	**0.04**
Toluene	0.02	0.00E+00	0.00	1.80	1.83	98%	**0.04**
Ethylbenzene	3.94E-03	0.00E+00	0.00	0.32	0.32	98%	**0.01**
o-Xylene	0.02	0.00E+00	0.00	1.21	1.23	98%	**0.02**
2,2,4-Trimethylpentane	0.02	0.00E+00	0.00E+00	1.29	1.30	98%	**0.03**
Octane	0.06	0.00E+00	0.00	4.56	4.62	98%	**0.09**
Nonane	0.01	0.00E+00	0.00	0.93	0.94	98%	**0.02**
Decane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	98%	**0.00E+00**
Oil 10+	1.70E-04	0.00E+00	0.00	0.01	0.01	98%	**2.76E-04**
Total	**10.58**	**17.93**	**0.00**	**846**	**875**	--	**61.82**
Total VOC	**3.86**	**17.93**	**0.00**	**309**	**331**	--	**6.62**
Total HAP	**0.21**	**0.00E+00**	**0.00**	**17.09**	**17.31**	--	**0.35**
Annual Hours (Hrs)	**8,760**	**8,760**	**0**	**720**	--		
Heating Value HHV (Btu/scf)	1,466	2,557		1,466	**1,467**		
Heating Value LHV (Btu/scf)	1,336	2,557		1,336	**1,337**		
Molecular Weight	26.05	44.10		26.05	--		
Volumetric Flow (scf/hr)	35.20	35.20	0	34,250	**34,320**		
Volumetric Flow (MMscf/yr)	0.31	0.31	0.00	24.66	**25.28**		
H2S PPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**		

Combustion Emissions from Flare					Totals
	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)
Total NOx	0.02	0.03		1.23	**1.27**
Total CO	0.06	0.12		5.11	**5.29**
Total SO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
Total PM_{10}	0.00E+00	0.00E+00	0.00	0.00E+00	**0.00E+00**
Total $PM_{2.5}$	0.00E+00	0.00E+00	0.00	0.00E+00	**0.00E+00**

Criteria Pollutant Emissions from Flare[a]		
Component	**Emission Factor**	**Emission Factor Units**
NO_X	0.068	lb/MMBtu
CO	0.31	lb/MMBtu
SO_2	--	--
PM_{10}	0.00	lb/MMscf
$PM_{2.5}$	0.00	lb/MMscf
H_2S	--	--

Constants	
H_2S Molecular Weight	34.08
SO_2 Molecular Weight	64.06
Gas Constant (scf/lb-mol)	379.30

Variables	
Flare Destruction Efficiency	98%
Number of Pilots	2
Volume of Gas/Tip (scf/hr)	35.20
HT Gas Op hours	720
HP Sep Operating Hours	0

Footnotes:

[a] Flare CO and NOx emission factors from AP-42, Table 13.5-1 & 13.5-2, February 2018. PM_{10} and $PM_{2.5}$ emission factors from AP-42, Table 1.4-1 and 1.4-2, July 1998. SO_2 emissions assume 100% conversion of H_2S to SO_2.

Truck Loading Losses Calculations

Promax Stream Speciation	32 - Oil Tool W&B	
Controlled/Uncontrolled	UNCONTROLLED	
Oil Loaded	**6,607**	**bbls / yr**

Promax Report Results		
LL= 12.46 * SPM/T * (1-EFF/100)		
Saturation Factor (S) =	0.6	
Average True Vapor Pressure of Liquid Loaded (P)=	12.70	psi
Average Surface Temperature of Liquid Loaded (T)[a]=	542.23	Rankin
Molecular Weight (M)[a]=	43.68	lb/lb-mole
Control Efficiency * Collection Efficiency (EFF)[e]=	0	%
Hydrocarbon Content[a]=	100.00	Weight %
VOC Content[a]=	72.98	Weight %
HAP Conent[a]=	4.13	Weight %
Average Uncontrolled LL[b] =	7.6493	lb/1000 gallon
Average Uncontrolled LL[b] =	0.3213	lb/bbl
Average Uncontrolled LL[b] =	0.2345	lb VOC/bbl
Estimated Throughput=	6,607	bbl/Year

Total Emissions	TPY
	1.06
Total VOC Emissions	TPY
	0.77
Total HAP Emissions	TPY
	0.04

Component	Total Speciated Vapors Emitted During Loading (Fugitives)	
	Mass Fraction	ton / yr[d]
Water	0.85	0.01
H2S	0.00E+00	0.00E+00
Nitrogen	0.03	3.21E-04
Carbon Dioxide	0.75	0.01
Methane	3.30	0.04
Ethane	22.09	0.23
Propane	27.39	0.29
Isobutane	4.62	0.05
n-Butane	15.56	0.17
Isopentane	5.71	0.06
n-Pentane	7.52	0.08
2-Methylpentane	1.71	0.02
3-Methylpentane	1.00	0.01
n-Hexane	2.84	0.03
Cyclohexane	0.76	0.01
Heptane	3.18	0.03
Methylcyclohexane	0.03	3.06E-04
Benzene	0.56	0.01
Toluene	0.42	4.42E-03
Ethylbenzene	0.06	6.89E-04
o-Xylene	0.25	2.62E-03
2,2,4-Trimethylpentane	0.29	3.09E-03
Octane	0.91	0.01
Nonane	0.17	1.77E-03
Decane	0.00E+00	0.00E+00
Oil 10+	1.16E-03	1.23E-05
Total	100.00	1.06
Total VOC	72.98	0.77
Total HAP	4.13	0.04

Footnotes:

[a]Values were obtained from Promax.

[b]Loading emissions include total hydrocarbons as calculated using AP-42, Section 5.2.

[c]Oil tanks are only trucked out when transfer to pipeline is unavailable.

[d]The component speciation was obtained from Promax Stream 'Oil Tool Loading' and multiplied by the total hydrocarbon emissions.

[e]Loading emissions are uncontrolled.

Process Streams	Heater Treater Gas	HP Flared Gas	HT Flared Gas	Inlet Gas	Inlet Oil	Inlet Separator Gas	Inlet Water	Oil Flash	Oil Loadout	Oil Tank Feed	Pilot Gas	Sales	Sales Gas	Sat. Gas	Sweep Blanket Gas	To Flare	VRT to Flare	VRT to Sales	Water Flash	Water Loadout	Water Tank feed
Composition Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total From Block:	Heater Treater	SPLT-104	SPLT-105	--	--	HP Separator	--	Oil Tank	Oil Tank	MIX-102	SPLT-102	SPLT-102	MIX-101	Inlet Mixer	SPLT-102	MIX-108	SPLT-103	SPLT-103	Water Tank	Water Tank	MIX-100
To Block:	SPLT-105	--	MIX-101	Inlet Mixer	Inlet Mixer	SPLT-104	Inlet Mixer	--	--	Oil Tank	--	--	SPLT-102	SPLT-100	--	--	MIX-108	MIX-103	--	--	Water Tank
Std Vapor Volumetric Flow	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD
Water	0.0146539	0	0.0146363	0*	0*	0	1.15071*	0.000277751	6.80678E-05	0.000345819	7.52113E-06	0.0115535	0.0146539	1.15071	0.00309285	0	0	0	4.69698E-06	1.13570	1.13571
H2S	0	0	0	0*	0*	0	0*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N2	0.0195318	0	0.0195083	0.0193703*	0.000218599*	0	0*	5.43327E-05	1.39907E-06	5.57317E-05	1.00247E-05	0.0153994	0.0195318	0.0195889	0.00412238	0	0	0	1.17415E-06	1.45622E-07	1.31978E-06
CO2	0.00727319	0	0.00726445	0.00733104*	9.52869E-05*	0	0*	0.000114267	2.20003E-05	0.000136268	3.73297E-06	0.00573438	0.00727319	0.00742633	0.00153508	0	0	0	2.90791E-06	1.39658E-05	1.68737E-05
C1	0.485901	0	0.485317	0.486119*	0.00366574*	0	0*	0.00355176	0.000266513	0.00381827	0.000249389	0.383097	0.485901	0.489785	0.102554	0	0	0	5.26058E-05	1.33899E-05	6.59957E-05
C2	0.155887	0	0.155700	0.154983*	0.00718856*	0	0*	0.00437105	0.00188705	0.00625810	8.00093E-05	0.122906	0.155887	0.162172	0.0329015	0	0	0	1.97155E-05	7.03957E-06	2.67551E-05
C3	0.0739866	0	0.0738977	0.0724288*	0.0112214*	0	0*	0.00380108	0.00585387	0.00965495	3.79737E-05	0.0583330	0.0739866	0.0836502	0.0156156	0	0	0	6.89433E-06	1.72075E-06	8.61508E-06
iC4	0.00799689	0	0.00798728	0.00756546*	0.00266523*	0	0*	0.000495494	0.00173778	0.00223327	4.10441E-06	0.00630496	0.00799689	0.0102307	0.00168782	0	0	0	4.57265E-07	7.33353E-08	5.30601E-07
nC4	0.0259669	0	0.0259357	0.0237493*	0.0122276*	0	0*	0.00168153	0.00832570	0.0100072	1.33275E-05	0.0204730	0.0259669	0.0359769	0.00548057	0	0	0	2.23227E-06	5.13189E-07	2.74546E-06
iC5	0.00754914	0	0.00754006	0.00426144*	0.0100556*	0	0*	0.000506727	0.00626067	0.00676740	3.87460E-06	0.00595194	0.00754914	0.0143170	0.00159332	0	0	0	4.19574E-07	6.43268E-08	4.83900E-07
nC5	0.0100608	0	0.0100487	0.00646044*	0.0152011*	0	0*	0.000673126	0.0109272	0.0116004	5.16372E-06	0.00793221	0.0100608	0.0216615	0.00212343	0	0	0	3.18406E-07	2.19938E-08	3.40399E-07
2-Methylpentane	0.00197849	0	0.00197611	0*	0.00665607*	0	0*	0.000129971	0.00454754	0.00467751	1.01546E-06	0.00155989	0.00197849	0.00665607	0.000417579	0	0	0	7.17180E-08	6.38884E-09	7.81068E-08
3-Methylpentane	0.00116366	0	0.00116226	0*	0.00419262*	0	0*	7.61269E-05	0.00295274	0.00302886	5.97250E-07	0.000917460	0.00116366	0.00419262	0.000245602	0	0	0	8.43877E-08	1.75735E-08	1.01961E-07
nC6	0.00340708	0	0.00340298	0.00165832*	0.0125611*	0	0*	0.000218226	0.0105940	0.0108122	1.74868E-06	0.00268623	0.00340708	0.0142194	0.000719097	0	0	0	6.82660E-08	3.11113E-09	7.13772E-08
Cyclohexane	0.000936995	0	0.000935869	0.00280597*	0.00216638*	0	0*	6.02273E-05	0.00397483	0.00403506	4.80914E-07	0.000738752	0.000936995	0.00497235	0.000197762	0	0	0	1.62736E-07	1.27889E-07	2.90626E-07
C7	0.00361552	0	0.00361117	0.00158492*	0.0346284*	0	0*	0.000215550	0.0323822	0.0325977	1.85567E-06	0.00285057	0.00361552	0.0362133	0.000763091	0	0	0	4.70079E-08	1.49880E-09	4.85067E-08
Methylcyclohexane	3.22576E-05	0	3.22188E-05	0.000290463*	0*	0	0*	1.97829E-06	0.000256223	0.000258201	1.65563E-08	2.54328E-05	3.22576E-05	0.000290463	6.80829E-06	0	0	0	3.16635E-09	1.06265E-09	4.22901E-09
Benzene	0.000703382	0	0.000702536	0.000155493*	0.00233733*	0	0*	4.67236E-05	0.00173528	0.00178201	3.61011E-07	0.000554565	0.000703382	0.00249282	0.000148456	0	0	0	2.53842E-07	7.18417E-06	7.43801E-06
Toluene	0.000496144	0	0.000495548	5.99870E-05*	0.00474193*	0	0*	3.04762E-05	0.00427134	0.00430181	2.54647E-07	0.000391173	0.000496144	0.00480191	0.000104716	0	0	0	1.75846E-07	3.77895E-06	3.95479E-06
Ethylbenzene	7.51973E-05	0	7.51069E-05	3.94651E-06*	0.00197300*	0	0*	4.23807E-06	0.00189705	0.00190128	3.85951E-08	5.92875E-05	7.51973E-05	0.00197695	1.58711E-05	0	0	0	2.41924E-08	4.41521E-07	4.65714E-07
o-Xylene	0.000289356	0	0.000289008	2.44684E-05*	0.00899060*	0	0*	1.61718E-05	0.00870683	0.00872300	1.48512E-07	0.000228136	0.000289356	0.00901507	6.10714E-05	0	0	0	9.55799E-08	2.61858E-06	2.71416E-06
2,2,4-Trimethylpentane	0.000285726	0	0.000285382	0*	0.00283058*	0	0*	1.72366E-05	0.00252762	0.00254485	1.46649E-07	0.000225274	0.000285726	0.00283058	6.03053E-05	0	0	0	3.71053E-09	1.52003E-10	3.86254E-09
C8	0.00101213	0	0.00101092	0.000318878*	0.0266467*	0	0*	5.56159E-05	0.0258978	0.0259534	5.19478E-07	0.000797993	0.00101213	0.0269656	0.000213621	0	0	0	6.30638E-09	9.00905E-11	6.39647E-09
C9	0.000184135	0	0.000183914	0.000106556*	0.0134355*	0	0*	9.29717E-06	0.0133486	0.0133579	9.45075E-08	0.000145177	0.000184135	0.0135420	3.88635E-05	0	0	0	7.49952E-10	9.09967E-12	7.59052E-10
C10	0	0	0	0*	0*	0	0*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C10+	1.53407E-06	0	1.53222E-06	2.36791E-05*	0.0965453*	0	0*	4.35774E-08	0.0965674	0.0965674	7.87361E-10	1.20950E-06	1.53407E-06	0.0965689	3.23780E-07	0	0	0	5.31982E-13	7.15721E-16	5.32697E-13
Mole Fraction																					
Water	0.0178057		0.0178057	0*	0*		1*	0.0169268	0.000277817	0.00132285	0.0178057	0.0178057	0.0178057	0.518277	0.0178057				0.0508223	0.999955	0.999878
H2S	0		0	0*	0*		0*	0	0	0	0	0	0	0	0				0	0	0
N2	0.0237328		0.0237328	0.024541*	0.000780031*		0*	0.00331115	5.71026E-06	0.000213190	0.0237328	0.0237328	0.0237328	0.00882281	0.0237328				0.0127046	1.28216E-07	1.16193E-06
CO2	0.00883753		0.00883753	0.009288*	0.000340014*		0*	0.00696370	8.97936E-05	0.000521262	0.00883753	0.00883753	0.00883753	0.00334481	0.00883753				0.0314642	1.22965E-05	1.48556E-05
C1	0.590410		0.590410	0.615885*	0.0130805*		0*	0.216452	0.00108776	0.0146060	0.590410	0.590410	0.590410	0.220599	0.590410				0.569206	1.17895E-05	5.81028E-05
C2	0.189416		0.189416	0.196355*	0.0256510*		0*	0.266381	0.00770196	0.0239390	0.189416	0.189416	0.189416	0.0730421	0.189416				0.213326	6.19816E-06	2.35552E-05
C3	0.0898999		0.0898999	0.091763*	0.0400416*		0*	0.231646	0.0238924	0.0369329	0.0898999	0.0898999	0.0898999	0.0376760	0.0898999				0.0745980	1.51508E-06	7.58474E-06
iC4	0.00971689		0.00971689	0.009585*	0.00951038*		0*	0.0301965	0.00709269	0.00854289	0.00971689	0.00971689	0.00971689	0.00460790	0.00971689				0.00494770	6.45698E-08	4.67142E-07
nC4	0.0315519		0.0315519	0.030089*	0.0436317*		0*	0.102476	0.0339811	0.0382804	0.0315519	0.0315519	0.0315519	0.0162040	0.0315519				0.0241536	4.51850E-07	2.41711E-06
iC5	0.00917283		0.00917283	0.005399*	0.0358814*		0*	0.0308811	0.0255527	0.0258872	0.00917283	0.00917283	0.00917283	0.00644837	0.00917283				0.00453987	5.66380E-08	4.26027E-07
nC5	0.0122247		0.0122247	0.008185*	0.0542422*		0*	0.0410218	0.0445992	0.0443747	0.0122247	0.0122247	0.0122247	0.00975632	0.0122247				0.00344521	1.93649E-08	2.99688E-07
2-Methylpentane	0.00240403		0.00240403	0*	0.0237510*		0*	0.00792071	0.0185606	0.0178928	0.00240403	0.00240403	0.00240403	0.00299789	0.00240403				0.000776003	5.62520E-09	6.87654E-08
3-Methylpentane	0.00141394		0.00141394	0*	0.0149606*		0*	0.00463934	0.0120515	0.0115863	0.00141394	0.00141394	0.00141394	0.00188835	0.00141394				0.000913092	1.54730E-08	8.97668E-08
nC6	0.00413988		0.00413988	0.002101*	0.0448218*		0*	0.0132992	0.0432391	0.0413598	0.00413988	0.00413988	0.00413988	0.00640440	0.00413988				0.000738652	2.73927E-09	6.28406E-08
Cyclohexane	0.00113853		0.00113853	0.003555*	0.00773031*		0*	0.00367038	0.0162232	0.0154352	0.00113853	0.00113853	0.00113853	0.00223954	0.00113853				0.00176084	1.12603E-07	2.55868E-07
C7	0.00439315		0.00439315	0.002008*	0.123565*		0*	0.0131361	0.132167	0.124696	0.00439315	0.00439315	0.00439315	0.0163104	0.00439315				0.000508635	1.31965E-09	4.27054E-08
Methylcyclohexane	3.91957E-05		3.91957E-05	0.000368*	0*		0*	0.000120561	0.00104577	0.000987693	3.91957E-05	3.91957E-05	3.91957E-05	0.000130824	3.91957E-05				3.42606E-05	9.35638E-10	3.72322E-09
Benzene	0.000854667		0.000854667	0.000197*	0.00834033*		0*	0.00284744	0.00708250	0.00681667	0.000854667	0.000854667	0.000854667	0.00112277	0.000854667				0.00274662	6.32547E-06	6.54844E-06
Toluene	0.000602856		0.000602856	7.60000E-05*	0.0169207*		0*	0.00185729	0.0174333	0.0164556	0.000602856	0.000602856	0.000602856	0.00216278	0.000602856				0.00190269	3.32726E-06	3.48181E-06
Ethylbenzene	9.13709E-05		9.13709E-05	5.00000E-06*	0.00704028*		0*	0.000258277	0.00774274	0.00727294	9.13709E-05	9.13709E-05	9.13709E-05	0.000890415	9.13709E-05				0.000261767	3.88748E-07	4.10015E-07
o-Xylene	0.000351591		0.000351591	3.10000E-05*	0.0320813*		0*	0.000985545	0.0355367	0.0333679	0.000351591	0.000351591	0.000351591	0.00406038	0.000351591				0.00103419	2.30559E-06	2.38955E-06
2,2,4-Trimethylpentane	0.000347181		0.000347181	0*	0.0101004*		0*	0.00105043	0.0103164	0.00973478	0.000347181	0.000347181	0.000347181	0.00127489	0.000347181				4.01487E-05	1.33835E-10	3.40059E-09
C8	0.00122983		0.00122983	0.000404*	0.0950838*		0*	0.00338936	0.105701	0.0992792	0.00122983	0.00122983	0.00122983	0.0121453	0.00122983				6.82363E-05	7.93223E-11	5.63146E-09
C9	0.000223739		0.000223739	0.000135*	0.0479419*		0*	0.000566590	0.0544818	0.0510976	0.000223739	0.000223739	0.000223739	0.00609931	0.000223739				8.11464E-06	8.01202E-12	6.68271E-10
C10	0		0	0*	0*		0*	0	0	0	0	0	0	0	0				0	0	0
C10+	1.86402E-06		1.86402E-06	3.00000E-05*	0.344504*		0*	2.65570E-06	0.394137	0.369398	1.86402E-06	1.86402E-06	1.86402E-06	0.0434946	1.86402E-06				5.75615E-09	6.30174E-16	4.68988E-13
Mass Fraction																					
Water	0.0123126		0.0123126	0*	0*		1*	0.00757214	3.44236E-05	0.000171704	0.0123126	0.0123126	0.0123126	0.265130	0.0123126				0.0370503	0.999882	0.999775
H2S	0		0	0*	0*		0*	0	0	0	0	0	0	0	0				0	0	0
N2	0.0255190		0.0255190	0.0274693*	0.000162412*		0*	0.00230329	1.10022E-06	4.30288E-05	0.0255190	0.0255190	0.0255190	0.00701825	0.0255190				0.0144020	1.99360E-07	1.80660E-06
CO2	0.0149288		0.0149288	0.0163327*	0.000111220*		0*	0.00761010	2.71800E-05	0.000165284	0.0149288	0.0149288	0.0149288	0.00417998	0.0149288				0.0560350	3.00369E-05	3.62870E-05
C1	0.363558		0.363558	0.394784*	0.00155968*		0*	0.0862256	0.000120022	0.00168822	0.363558	0.363558	0.363558	0.100492	0.363558				0.369519	1.04977E-05	5.17347E-05
C2	0.218618		0.218618	0.235912*	0.00573276*		0*	0.198897	0.00159286	0.00518625	0.218618	0.218618	0.218618	0.0623662	0.218618				0.259573	1.03445E-05	3.93116E-05
C3	0.152161		0.152161	0.161679*	0.0131234*		0*	0.253644	0.00724623	0.0117337	0.152161	0.152161	0.152161	0.0471754	0.152161				0.133113	3.70816E-06	1.85631E-05
iC4	0.0216780		0.0216780	0.0222599*	0.00410846*		0*	0.0435815	0.00283537	0.00357746	0.0216780	0.0216780	0.0216780	0.00760503	0.0216780				0.0116370	2.08305E-07	1.50697E-06
nC4	0.0703910		0.0703910	0.0698778*	0.0188488*		0*	0.147900	0.0135843	0.0160305	0.0703910	0.0703910	0.0703910	0.0267435	0.0703910				0.0568095	1.45768E-06	7.79745E-06
iC5	0.0254028		0.0254028	0.0155644*	0.0192415*		0*	0.0553255	0.0126801	0.0134568	0.0254028	0.0254028	0.0254028	0.0132110	0.0254028				0.0132547	2.26811E-07	1.70600E-06
nC5	0.0338545		0.0338545	0.0235959*	0.0290874*		0*	0.0734932	0.0221316	0.0230670	0.0338545	0.0338545	0.0338545	0.0199881	0.0338545				0.0100587	7.75483E-08	1.20009E-06
2-Methylpentane	0.00795191		0.00795191	0*	0.0152126*		0*	0.0169493	0.0110010	0.0111093	0.00795191	0.00795191	0.00795191	0.00733592	0.00795191				0.00270610	2.69060E-08	3.28903E-07
3-Methylpentane	0.00467697		0.00467697	0*	0.00958233*		0*	0.00992758	0.00714301	0.00719373	0.00467697	0.00467697	0.00467697	0.00462086	0.00467697				0.00318416	7.40089E-08	4.29352E-07
nC6	0.0136937		0.0136937	0.00723433*	0.0287086*		0*	0.0284585	0.0256281	0.0256797	0.0136937	0.0136937	0.0136937	0.0156717	0.0136937				0.00257584	1.31022E-08	3.00564E-07
Cyclohexane	0.00367786		0.00367786	0.0119545*	0.00483547*		0*	0.00767041	0.00939065	0.00935932	0.00367786	0.00367786	0.00367786	0.00535202	0.00367786				0.00599680	5.25995E-07	1.19518E-06
C7	0.0168967		0.0168967	0.00803950*	0.0920260*		0*	0.0326849	0.0910869	0.0900233	0.0168967	0.0168967	0.0168967	0.0464085	0.0168967				0.00206243	7.33944E-09	2.37505E-07
Methylcyclohexane	0.000147719		0.000147719	0.00144373*	0*		0*	0.000293941	0.000706223	0.000698714	0.000147719	0.000147719	0.000147719	0.000364749	0.000147719				0.000136126	5.09900E-09	2.02901E-08
Benzene	0.00256249		0.00256249	0.000614855*	0.00484216*		0*	0.00552300	0.00380505	0.00383634	0.00256249	0.00256249	0.00256249	0.00249036	0.00256249				0.00868184	2.74244E-05	2.83902E-05
Toluene	0.00213208		0.00213208	0.000279797*	0.0115877*		0*	0.00424937	0.0110479	0.0109240	0.00213208	0.00213208	0.00213208	0.00565859	0.00213208				0.00709424	1.70159E-05	1.78057E-05
Ethylbenzene	0.000372339		0.000372339	2.12100E-05*	0.00555534*		0*	0.000680881	0.00565370	0.00556313	0.000372339	0.000372339	0.000372339	0.00268429	0.000372339				0.00112459	2.29074E-06	2.41599E-06
o-Xylene	0.00143274		0.00143274	0.000131502*	0.0253147*		0*	0.00259814	0.0259487	0.0255234	0.00143274	0.00143274	0.00143274	0.0122406	0.00143274				0.00444304	1.35860E-05	1.40803E-05
2,2,4-Trimethylpentane	0.00152223		0.00152223	0*	0.00857536*		0*	0.00297952	0.00810512	0.00801177	0.00152223	0.00152223	0.00152223	0.00413527	0.00152223				0.000185585	8.48536E-10	2.15597E-08
C8	0.00539222		0.00539222	0.00184393*	0.0807273*		0*	0.00961381	0.0830446	0.0817073	0.00539222	0.00539222	0.00539222	0.0393947	0.00539222				0.000315418	5.02918E-10	3.57034E-08
C9	0.00110145		0.00110145	0.000691827*	0.0457014*		0*	0.00180446	0.0480599	0.0472175	0.00110145	0.00110145	0.00110145	0.0222132	0.00110145				4.21153E-05	5.70353E-11	4.75709E-09
C10	0		0	0*	0*		0*	0	0	0	0	0	0	0	0				0	0	0
C10+	1.60769E-05		1.60769E-05	0.000269348*	0.575356*		0*	1.48179E-05	0.609126	0.598032	1.60769E-05	1.60769E-05	1.60769E-05	0.277520	1.60769E-05				5.23398E-08	7.85942E-15	5.84896E-12
Mass Flow	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
Water	28.9861	0	28.9513	0*	0*	0	2276.15*	0.549404	0.134641	0.684045	0.0148771	22.8534	28.9861	2276.15	6.11780	0	0	0	0.00929085	2246.47	2246.48
H2S	0	0	0	0*	0*	0	0*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N2	60.0764	0	60.0042	59.5795*	0.672373*	0	0*	0.167118	0.00430328	0.171421	0.0308343	47.3658	60.0764	60.2518	12.6797	0	0	0	0.00361149	0.000447908	0.00405940
CO2	35.1452	0	35.1030	35.4248*	0.460442*	0	0*	0.552158	0.106309	0.658467	0.0180383	27.7094	35.1452	35.8852	7.41775	0	0	0	0.0140515	0.0674848	0.0815363
C1	855.882	0	854.854	856.267*	6.45696*	0	0*	6.25618	0.469444	6.72563	0.439282	674.800	855.882	862.724	180.642	0	0	0	0.0926616	0.0235855	0.116247
C2	514.666	0	514.047	511.682*	23.7332*	0	0*	14.4311	6.23016	20.6613	0.264153	405.776	514.666	535.415	108.625	0	0	0	0.0650912	0.0232413	0.0883326
C3	358.215	0	357.785	350.672*	54.3299*	0	0*	18.4034	28.3422	46.7456	0.183854	282.426	358.215	405.002	75.6048	0	0	0	0.0333797	0.00833124	0.0417110
iC4	51.0339	0	50.9725	48.2806*	17.0087*	0	0*	3.16210	11.0900	14.2521	0.0261932	40.2365	51.0339	65.2894	10.7712	0	0	0	0.00291814	0.000468005	0.00338614
nC4	165.713	0	165.514	151.561*	78.0327*	0	0*	10.7310	53.1322	63.8632	0.0850525	130.653	165.713	229.594	34.9754	0	0	0	0.0142457	0.00327503	0.0175207
iC5	59.8028	0	59.7309	33.7583*	79.6583*	0	0*	4.01420	49.5958	53.6100	0.0306938	47.1501	59.8028	113.417	12.6220	0	0	0	0.00332378	0.000509584	0.00383336
nC5	79.6997	0	79.6039	51.1783*	120.420*	0	0*	5.33237	86.5635	91.8958	0.0409060	62.8374	79.6997	171.598	16.8214	0	0	0	0.00252235	0.000174230	0.00269658
2-Methylpentane	18.7202	0	18.6977	0*	62.9791*	0	0*	1.22977	43.0283	44.2581	0.00960818	14.7595	18.7202	62.9791	3.95109	0	0	0	0.000678589	6.04505E-05	0.000739039
3-Methylpentane	11.0104	0	10.9972	0*	39.6702*	0	0*	0.720305	27.9385	28.6588	0.00565111	8.68092	11.0104	39.6702	2.32386	0	0	0	0.000798468	0.000166278	0.000964746
nC6	32.2374	0	32.1987	15.6909*	118.851*	0	0*	2.06483	100.239	102.304	0.0165459	25.4168	32.2374	134.542	6.80402	0	0	0	0.000645926	2.94372E-05	0.000675363
Cyclohexane	8.65836	0	8.64795	25.9287*	20.0185*	0	0*	0.556534	36.7297	37.2862	0.00444391	6.82648	8.65836	45.9473	1.82743	0	0	0	0.00150378	0.00118177	0.00268555
C7	39.7779	0	39.7301	17.4373*	380.981*	0	0*	2.37148	356.269	358.640	0.0204161	31.3620	39.7779	398.419	8.39552	0	0	0	0.000517180	1.64898E-05	0.000533670
Methylcyclohexane	0.347758	0	0.347340	3.13138*	0*	0	0*	0.0213272	2.76225	2.78358	0.000178487	0.274182	0.347758	3.13138	0.0733978	0	0	0	3.41353E-05	1.14561E-05	4.55914E-05
Benzene	6.03258	0	6.02533	1.33359*	20.0462*	0	0*	0.400727	14.8827	15.2834	0.00309623	4.75625	6.03258	21.3798	1.27324	0	0	0	0.00217708	0.0616153	0.0637924
Toluene	5.01931	0	5.01328	0.606866*	47.9723*	0	0*	0.308317	43.2115	43.5199	0.00257616	3.95736	5.01931	48.5792	1.05937	0	0	0	0.00177897	0.0382302	0.0400092
Ethylbenzene	0.876554	0	0.875500	0.0460034*	22.9987*	0	0*	0.0494020	22.1133	22.1627	0.000449892	0.691099	0.876554	23.0447	0.185005	0	0	0	0.000282004	0.00514669	0.00542869
o-Xylene	3.37294	0	3.36889	0.285221*	104.801*	0	0*	0.188510	101.493	101.682	0.00173117	2.65932	3.37294	105.086	0.711893	0	0	0	0.00111415	0.0305241	0.0316382
2,2,4-Trimethylpentane	3.58360	0	3.57929	0*	35.5014*	0	0*	0.216182	31.7016	31.9178	0.00183929	2.82540	3.58360	35.5014	0.756354	0	0	0	4.65378E-05	1.90643E-06	4.84443E-05
C8	12.6943	0	12.6790	3.99940*	334.205*	0	0*	0.697540	324.813	325.510	0.00651534	10.0085	12.6943	338.205	2.67925	0	0	0	7.90951E-05	1.12992E-06	8.02250E-05
C9	2.59302	0	2.58991	1.50054*	189.200*	0	0*	0.130924	187.977	188.108	0.00133087	2.04441	2.59302	190.701	0.547283	0	0	0	1.05610E-05	1.28143E-07	1.06891E-05
C10	0	0	0	0*	0*	0	0*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C10+	0.0378480	0	0.0378025	0.584202*	2381.93*	0	0*	0.00107513	2382.48	2382.48	1.94255E-05	0.0298403	0.0378480	2382.52	0.00798819	0	0	0	1.31249E-08	1.76580E-11	1.31425E-08

Process Streams	1	2	3	6	8	9	10	11	12	14	15	18	21	22
Composition Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total From Block:	SPLT-104	SPLT-105	Heater Treater	MIX-103	VRU	--	Heater Treater	SPLT-101	SPLT-101	VRT	VRT	--	SPLT-100	SPLT-100
To Block:	MIX-101	MIX-103	MIX-100	VRU	MIX-101	--	SPLT-101	MIX-102	VRT	MIX-102	SPLT-103	--	HP Separator	MIX-104
Std Vapor Volumetric Flow	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD
Water	0	1.76100E-05	1.13571	1.76100E-05	1.76100E-05	2.46920E-05*	0.000345819	0.000345819	0	0	0	1.77125E-05*	0	1.15071
H2S	0	0	0	0	0	0*	0	0	0	0	0	0*	0	0
N2	0	2.34719E-05	1.31978E-06	2.34719E-05	2.34719E-05	4.05659E-07*	5.57317E-05	5.57317E-05	0	0	0	4.05659E-07*	0	0.0195889
CO2	0	8.74038E-06	1.68737E-05	8.74038E-06	8.74038E-06	6.37897E-06*	0.000136268	0.000136268	0	0	0	6.37897E-06*	0	0.00742633
C1	0	0.000583920	6.59957E-05	0.000583920	0.000583920	7.72751E-05*	0.00381827	0.00381827	0	0	0	7.72751E-05*	0	0.489785
C2	0	0.000187334	2.67551E-05	0.000187334	0.000187334	0.00121136*	0.00625810	0.00625810	0	0	0	0.000275918*	0	0.162172
C3	0	8.89117E-05	8.61508E-06	8.89117E-05	8.89117E-05	0.00528264*	0.00965495	0.00965495	0	0	0	0.000233261*	0	0.0836502
iC4	0	9.61008E-06	5.30601E-07	9.61008E-06	9.61008E-06	0.00166469*	0.00223327	0.00223327	0	0	0	2.98471E-05*	0	0.0102307
nC4	0	3.12051E-05	2.74546E-06	3.12051E-05	3.12051E-05	0.00807944*	0.0100072	0.0100072	0	0	0	0.000100560*	0	0.0359769
iC5	0	9.07199E-06	4.83900E-07	9.07199E-06	9.07199E-06	0.00618792*	0.00676740	0.00676740	0	0	0	2.97068E-05*	0	0.0143170
nC5	0	1.20903E-05	3.40399E-07	1.20903E-05	1.20903E-05	0.0108313*	0.0116004	0.0116004	0	0	0	3.91698E-05*	0	0.0216615
2-Methylpentane	0	2.37760E-06	7.81068E-08	2.37760E-06	2.37760E-06	0.00452929*	0.00467751	0.00467751	0	0	0	7.44982E-06*	0	0.00665607
3-Methylpentane	0	1.39840E-06	1.01961E-07	1.39840E-06	1.39840E-06	0.00294208*	0.00302886	0.00302886	0	0	0	4.35298E-06*	0	0.00419262
nC6	0	4.09437E-06	7.13772E-08	4.09437E-06	4.09437E-06	0.0105637*	0.0108122	0.0108122	0	0	0	1.23734E-05*	0	0.0142194
Cyclohexane	0	1.12601E-06	2.90626E-07	1.12601E-06	1.12601E-06	0.00396647*	0.00403506	0.00403506	0	0	0	3.41354E-06*	0	0.00497235
C7	0	4.34486E-06	4.85067E-08	4.34486E-06	4.34486E-06	0.0323530*	0.0325977	0.0325977	0	0	0	1.19215E-05*	0	0.0362133
Methylcyclohexane	0	3.87648E-08	4.22901E-09	3.87648E-08	3.87648E-08	0.000255953*	0.000258201	0.000258201	0	0	0	1.10273E-07*	0	0.000290463
Benzene	0	8.45272E-07	7.43801E-06	8.45272E-07	8.45272E-07	0.00172872*	0.00178201	0.00178201	0	0	0	2.67993E-06*	0	0.00249282
Toluene	0	5.96229E-07	3.95479E-06	5.96229E-07	5.96229E-07	0.00426718*	0.00430181	0.00430181	0	0	0	1.69748E-06*	0	0.00480191
Ethylbenzene	0	9.03665E-08	4.65714E-07	9.03665E-08	9.03665E-08	0.00189648*	0.00190128	0.00190128	0	0	0	2.29817E-07*	0	0.00197695
o-Xylene	0	3.47727E-07	2.71416E-06	3.47727E-07	3.47727E-07	0.00870469*	0.00872300	0.00872300	0	0	0	8.74621E-07*	0	0.00901507
2,2,4-Trimethylpentane	0	3.43364E-07	3.86254E-09	3.43364E-07	3.43364E-07	0.00252527*	0.00254485	0.00254485	0	0	0	9.58149E-07*	0	0.00283058
C8	0	1.21631E-06	6.39647E-09	1.21631E-06	1.21631E-06	0.0258905*	0.0259534	0.0259534	0	0	0	2.99821E-06*	0	0.0269656
C9	0	2.21280E-07	7.59052E-10	2.21280E-07	2.21280E-07	0.0133474*	0.0133579	0.0133579	0	0	0	4.87873E-07*	0	0.0135420
C10	0	0	0	0	0	0*	0	0	0	0	0	0*	0	0
C10+	0	1.84353E-09	5.32697E-13	1.84353E-09	1.84353E-09	0.0965674*	0.0965674	0.0965674	0	0	0	1.93524E-09*	0	0.0965689
Mole Fraction														
Water		0.0178057	0.999878	0.0178057	0.0178057	0.000101653*	0.00132285	0.00132285	0.00132285			0.0206011*	0.518277	0.518277
H2S		0	0	0	0	0*	0	0	0			0*	0	0
N2		0.0237328	1.16193E-06	0.0237328	0.0237328	1.67004E-06*	0.000213190	0.000213190	0.000213190			0.000471815*	0.00882281	0.00882281
CO2		0.00883753	1.48556E-05	0.00883753	0.00883753	2.62613E-05*	0.000521262	0.000521262	0.000521262			0.00741927*	0.00334481	0.00334481
C1		0.590410	5.81028E-05	0.590410	0.590410	0.000318130*	0.0146060	0.0146060	0.0146060			0.0898774*	0.220599	0.220599
C2		0.189416	2.35552E-05	0.189416	0.189416	0.00498701*	0.0239390	0.0239390	0.0239390			0.320915*	0.0730421	0.0730421
C3		0.0898999	7.58474E-06	0.0898999	0.0898999	0.0217478*	0.0369329	0.0369329	0.0369329			0.271302*	0.0376760	0.0376760
iC4		0.00971689	4.67142E-07	0.00971689	0.00971689	0.00685326*	0.00854289	0.00854289	0.00854289			0.0347146*	0.00460790	0.00460790
nC4		0.0315519	2.41711E-06	0.0315519	0.0315519	0.0332618*	0.0382804	0.0382804	0.0382804			0.116960*	0.0162040	0.0162040
iC5		0.00917283	4.26027E-07	0.00917283	0.00917283	0.0254747*	0.0258872	0.0258872	0.0258872			0.0345515*	0.00644837	0.00644837
nC5		0.0122247	2.99688E-07	0.0122247	0.0122247	0.0445909*	0.0443747	0.0443747	0.0443747			0.0455578*	0.00975632	0.00975632
2-Methylpentane		0.00240403	6.87654E-08	0.00240403	0.00240403	0.0186464*	0.0178928	0.0178928	0.0178928			0.00866475*	0.00299789	0.00299789
3-Methylpentane		0.00141394	8.97668E-08	0.00141394	0.00141394	0.0121121*	0.0115863	0.0115863	0.0115863			0.00506288*	0.00188835	0.00188835
nC6		0.00413988	6.28406E-08	0.00413988	0.00413988	0.0434892*	0.0413598	0.0413598	0.0413598			0.0143913*	0.00640440	0.00640440
Cyclohexane		0.00113853	2.55868E-07	0.00113853	0.00113853	0.0163294*	0.0154352	0.0154352	0.0154352			0.00397023*	0.00223954	0.00223954
C7		0.00439315	4.27054E-08	0.00439315	0.00439315	0.133192*	0.124696	0.124696	0.124696			0.0138657*	0.0163104	0.0163104
Methylcyclohexane		3.91957E-05	3.72322E-09	3.91957E-05	3.91957E-05	0.00105372*	0.000987693	0.000987693	0.000987693			0.000128257*	0.000130824	0.000130824
Benzene		0.000854667	6.54844E-06	0.000854667	0.000854667	0.00711687*	0.00681667	0.00681667	0.00681667			0.00311698*	0.00112277	0.00112277
Toluene		0.000602856	3.48181E-06	0.000602856	0.000602856	0.0175673*	0.0164556	0.0164556	0.0164556			0.00197431*	0.00216278	0.00216278
Ethylbenzene		9.13709E-05	4.10015E-07	9.13709E-05	9.13709E-05	0.00780753*	0.00727294	0.00727294	0.00727294			0.000267296*	0.000890415	0.000890415
o-Xylene		0.000351591	2.38955E-06	0.000351591	0.000351591	0.0358359*	0.0333679	0.0333679	0.0333679			0.00101726*	0.00406038	0.00406038
2,2,4-Trimethylpentane		0.000347181	3.40059E-09	0.000347181	0.000347181	0.0103962*	0.00973478	0.00973478	0.00973478			0.00111441*	0.00127489	0.00127489
C8		0.00122983	5.63146E-09	0.00122983	0.00122983	0.106587*	0.0992792	0.0992792	0.0992792			0.00348717*	0.0121453	0.0121453
C9		0.000223739	6.68271E-10	0.000223739	0.000223739	0.0549492*	0.0510976	0.0510976	0.0510976			0.000567437*	0.00609931	0.00609931
C10		0	0	0	0	0*	0	0	0			0*	0	0
C10+		1.86402E-06	4.68988E-13	1.86402E-06	1.86402E-06	0.397553*	0.369398	0.369398	0.369398			2.25084E-06*	0.0434946	0.0434946
Mass Fraction														
Water		0.0123126	0.999775	0.0123126	0.0123126	1.25197E-05	0.000171704	0.000171704	0.000171704			0.00849649	0.265130	0.265130
H2S		0	0	0	0	0	0	0	0			0	0	0
N2		0.0255190	1.80660E-06	0.0255190	0.0255190	3.19833E-07	4.30288E-05	4.30288E-05	4.30288E-05			0.000302584	0.00701825	0.00701825
CO2		0.0149288	3.62870E-05	0.0149288	0.0149288	7.90121E-06	0.000165284	0.000165284	0.000165284			0.00747509	0.00417998	0.00417998
C1		0.363558	5.17347E-05	0.363558	0.363558	3.48905E-05	0.00168822	0.00168822	0.00168822			0.0330088	0.100492	0.100492
C2		0.218618	3.93116E-05	0.218618	0.218618	0.00102516	0.00518625	0.00518625	0.00518625			0.220911	0.0623662	0.0623662
C3		0.152161	1.85631E-05	0.152161	0.152161	0.00655606	0.0117337	0.0117337	0.0117337			0.273877	0.0471754	0.0471754
iC4		0.0216780	1.50697E-06	0.0216780	0.0216780	0.00272314	0.00357746	0.00357746	0.00357746			0.0461916	0.00760503	0.00760503
nC4		0.0703910	7.79745E-06	0.0703910	0.0703910	0.0132166	0.0160305	0.0160305	0.0160305			0.155628	0.0267435	0.0267435
iC5		0.0254028	1.70600E-06	0.0254028	0.0254028	0.0125652	0.0134568	0.0134568	0.0134568			0.0570695	0.0132110	0.0132110
nC5		0.0338545	1.20009E-06	0.0338545	0.0338545	0.0219941	0.0230670	0.0230670	0.0230670			0.0752488	0.0199881	0.0199881
2-Methylpentane		0.00795191	3.28903E-07	0.00795191	0.00795191	0.0109852	0.0111093	0.0111093	0.0111093			0.0170942	0.00733592	0.00733592
3-Methylpentane		0.00467697	4.29352E-07	0.00467697	0.00467697	0.00713565	0.00719373	0.00719373	0.00719373			0.00998824	0.00462086	0.00462086
nC6		0.0136937	3.00564E-07	0.0136937	0.0136937	0.0256210	0.0256797	0.0256797	0.0256797			0.0283917	0.0156717	0.0156717
Cyclohexane		0.00367786	1.19518E-06	0.00367786	0.00367786	0.00939515	0.00935932	0.00935932	0.00935932			0.00764940	0.00535202	0.00535202
C7		0.0168967	2.37505E-07	0.0168967	0.0168967	0.0912403	0.0900233	0.0900233	0.0900233			0.0318074	0.0464085	0.0464085
Methylcyclohexane		0.000147719	2.02901E-08	0.000147719	0.000147719	0.000707305	0.000698714	0.000698714	0.000698714			0.000288296	0.000364749	0.000364749
Benzene		0.00256249	2.83902E-05	0.00256249	0.00256249	0.00380047	0.00383634	0.00383634	0.00383634			0.00557389	0.00249036	0.00249036
Toluene		0.00213208	1.78057E-05	0.00213208	0.00213208	0.0110657	0.0109240	0.0109240	0.0109240			0.00416452	0.00565859	0.00565859
Ethylbenzene		0.000372339	2.41599E-06	0.000372339	0.000372339	0.00566665	0.00556313	0.00556313	0.00556313			0.000649655	0.00268429	0.00268429
o-Xylene		0.00143274	1.40803E-05	0.00143274	0.00143274	0.0260094	0.0255234	0.0255234	0.0255234			0.00247241	0.0122406	0.0122406
2,2,4-Trimethylpentane		0.00152223	2.15597E-08	0.00152223	0.00152223	0.00811855	0.00801177	0.00801177	0.00801177			0.00291425	0.00413527	0.00413527
C8		0.00539222	3.57034E-08	0.00539222	0.00539222	0.0832360	0.0817073	0.0817073	0.0817073			0.00911919	0.0393947	0.0393947
C9		0.00110145	4.75709E-09	0.00110145	0.00110145	0.0481800	0.0472175	0.0472175	0.0472175			0.00166610	0.0222132	0.0222132
C10		0	0	0	0	0	0	0	0			0	0	0
C10+		1.60769E-05	5.84896E-12	1.60769E-05	1.60769E-05	0.610703	0.598032	0.598032	0.598032			1.15786E-05	0.277520	0.277520
Mass Flow	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
Water	0	0.0348333	2246.48	0.0348333	0.0348333	0.0488420*	0.684045	0.684045	0	0	0	0.0350361*	0	2276.15
H2S	0	0	0	0	0	0*	0	0	0	0	0	0*	0	0
N2	0	0.0721953	0.00405940	0.0721953	0.0721953	0.00124773*	0.171421	0.171421	0	0	0	0.00124773*	0	60.2518
CO2	0	0.0422349	0.0815363	0.0422349	0.0422349	0.0308242*	0.658467	0.658467	0	0	0	0.0308242*	0	35.8852
C1	0	1.02854	0.116247	1.02854	1.02854	0.136115*	6.72563	6.72563	0	0	0	0.136115*	0	862.724
C2	0	0.618487	0.0883326	0.618487	0.618487	3.99935*	20.6613	20.6613	0	0	0	0.910949*	0	535.415
C3	0	0.430476	0.0417110	0.430476	0.430476	25.5766*	46.7456	46.7456	0	0	0	1.12936*	0	405.002
iC4	0	0.0613287	0.00338614	0.0613287	0.0613287	10.6235*	14.2521	14.2521	0	0	0	0.190476*	0	65.2894
nC4	0	0.199142	0.0175207	0.199142	0.199142	51.5606*	63.8632	63.8632	0	0	0	0.641746*	0	229.594
iC5	0	0.0718666	0.00383336	0.0718666	0.0718666	49.0195*	53.6100	53.6100	0	0	0	0.235332*	0	113.417
nC5	0	0.0957772	0.00269658	0.0957772	0.0957772	85.8036*	91.8958	91.8958	0	0	0	0.310296*	0	171.598
2-Methylpentane	0	0.0224966	0.000739039	0.0224966	0.0224966	42.8557*	44.2581	44.2581	0	0	0	0.0704894*	0	62.9791
3-Methylpentane	0	0.0132315	0.000964746	0.0132315	0.0132315	27.8376*	28.6588	28.6588	0	0	0	0.0411875*	0	39.6702
nC6	0	0.0387405	0.000675363	0.0387405	0.0387405	99.9527*	102.304	102.304	0	0	0	0.117076*	0	134.542
Cyclohexane	0	0.0104050	0.00268555	0.0104050	0.0104050	36.6524*	37.2862	37.2862	0	0	0	0.0315431*	0	45.9473
C7	0	0.0478021	0.000533670	0.0478021	0.0478021	355.947*	358.640	358.640	0	0	0	0.131161*	0	398.419
Methylcyclohexane	0	0.000417910	4.55914E-05	0.000417910	0.000417910	2.75934*	2.78358	2.78358	0	0	0	0.00118882*	0	3.13138
Benzene	0	0.00724951	0.0637924	0.00724951	0.00724951	14.8264*	15.2834	15.2834	0	0	0	0.0229845*	0	21.3798
Toluene	0	0.00603183	0.0400092	0.00603183	0.00603183	43.1695*	43.5199	43.5199	0	0	0	0.0171728*	0	48.5792
Ethylbenzene	0	0.00105338	0.00542869	0.00105338	0.00105338	22.1068*	22.1627	22.1627	0	0	0	0.00267892*	0	23.0447
o-Xylene	0	0.00405335	0.0316382	0.00405335	0.00405335	101.468*	101.682	101.682	0	0	0	0.0101952*	0	105.086
2,2,4-Trimethylpentane	0	0.00430650	4.84443E-05	0.00430650	0.00430650	31.6721*	31.9178	31.9178	0	0	0	0.0120172*	0	35.5014
C8	0	0.0152550	8.02250E-05	0.0152550	0.0152550	324.721*	325.510	325.510	0	0	0	0.0376039*	0	338.205
C9	0	0.00311610	1.06891E-05	0.00311610	0.00311610	187.960*	188.108	188.108	0	0	0	0.00687032*	0	190.701
C10	0	0	0	0	0	0*	0	0	0	0	0	0*	0	0
C10+	0	4.54829E-05	1.31425E-08	4.54829E-05	4.54829E-05	2382.48*	2382.48	2382.48	0	0	0	4.77455E-05*	0	2382.52

Process Streams		Heater Treater Gas	HP Flared Gas	HT Flared Gas	Inlet Gas	Inlet Oil	Inlet Separator Gas	Inlet Water	Oil Flash	Oil Loadout	Oil Tank Feed	Pilot Gas	Sales	Sales Gas	Sat. Gas	Sweep Blanket Gas	To Flare	VRT to Flare	VRT to Sales	Water Flash	Water Loadout	Water Tank feed
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block:	Heater Treater	SPLT-104	SPLT-105	--	--	HP Separator	--	Oil Tank	Oil Tank	MIX-102	SPLT-102	SPLT-102	MIX-101	Inlet Mixer	SPLT-102	MIX-108	SPLT-103	SPLT-103	Water Tank	Water Tank	MIX-100
	To Block:	SPLT-105	--	MIX-101	Inlet Mixer	Inlet Mixer	SPLT-104	Inlet Mixer	--	--	Oil Tank	--	--	SPLT-102	SPLT-100	--	--	MIX-108	MIX-103	--	--	Water Tank
Property	**Units**																					
Temperature	°F	110*	89	110	120*	120*	89*	120*	89.8136*	89.8136	110	110.083	110.083	110.083	112.674	110.083				89.8136*	89.8136	110
Pressure	psig	59*	102	59	76*	76*	102*	76*	0*	0	59	59	59	59	76	59	8	8	8	0*	0	59
Molecular Weight	lb/lbmol	26.0526		26.0526	25.0271	134.543		18.0153	40.2713	145.393	138.794	26.0526	26.0526	26.0526	35.2163	26.0526				24.7117	18.0166	18.0171
Mass Flow	lb/h	2354.18	0	2351.35	2168.95	4139.93	0	2276.15	72.5560	3911.30	3983.86	1.20829	1856.10	2354.18	8585.03	496.874	0	0	0	0.250763	2246.73	2246.98
Std Vapor Volumetric Flow	MMSCFD	0.822989	0*	0.822*	0.789302*	0.280244	0	1.15071	0.0164090	0.245010	0.261419	0.0004224*	0.648867	0.822989	2.22025	0.1737*	0	0	0	9.24197E-05	1.13575	1.13584
Std Liquid Volumetric Flow	sgpm	11.9041	0	11.8898	11.3504	11.3563*	0	4.55019*	0.301348	10.5586	10.8599	0.00610977	9.38548	11.9041	27.2569	2.51247	0	0	0	0.00127853	4.49167	4.49295
Net Ideal Gas Heating Value	Btu/ft^3	1335.91		1335.91	1300.99	6745.66		0	2080.23	7279.46	6953.11	1335.91	1335.91	1335.91	1313.95	1335.91				1198.74	0.0769829	0.174514
Gross Ideal Gas Heating Value	Btu/ft^3	1465.78		1465.78	1428.14	7233.42		50.3100	2263.60	7801.50	7453.89	1465.78	1465.78	1465.78	1446.80	1465.78				1318.21	50.3896	50.4928

Process Streams		1	2	3	6	8	9	10	11	12	14	15	18	21	22
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block:	SPLT-104	SPLT-105	Heater Treater	MIX-103	VRU	--	Heater Treater	SPLT-101	SPLT-101	VRT	VRT	--	SPLT-100	SPLT-100
	To Block:	MIX-101	MIX-103	MIX-100	VRU	MIX-101	--	SPLT-101	MIX-102	VRT	MIX-102	SPLT-103	--	HP Separator	MIX-104
Property	**Units**														
Temperature	°F	89	110	110	110	170.001	89.8136	110	110	110			89.8136		112.674
Pressure	psig	102	59	59	59	102*	-4.01363	59	59	59	8	8*	0.363659	76	76
Molecular Weight	lb/lbmol		26.0526	18.0171	26.0526	26.0526	146.275	138.794	138.794	138.794			43.6809	35.2163	35.2163
Mass Flow	lb/h	0	2.82908	2246.98	2.82908	2.82908	3901.21	3983.86	3983.86	0	0	0	4.12360	0	8585.03
Std Vapor Volumetric Flow	MMSCFD	0	0.000989007	1.13584	0.000989007	0.000989007	0.242904	0.261419	0.261419	0	0	0	0.000859784	0	2.22025
Std Liquid Volumetric Flow	sgpm	0	0.0143054	4.49295	0.0143054	0.0143054	10.5178	10.8599	10.8599	0	0	0	0.0166619	0	27.2569
Net Ideal Gas Heating Value	Btu/ft^3		1335.91	0.174514	1335.91	1335.91	7323.05	6953.11	6953.11	6953.11			2250.33	1313.95	1313.95
Gross Ideal Gas Heating Value	Btu/ft^3		1465.78	50.4928	1465.78	1465.78	7847.92	7453.89	7453.89	7453.89			2445.93	1446.80	1446.80

Process Streams		25	26	27	28	31	32 - Oil Tool W&B
Composition	Status	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block	--	--	--	HP Separator	MIX-104	MIX-105
	To Block	MIX-105	--	MIX-105	MIX-104	Heater Treater	--
Std Vapor Volumetric Flow		MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD
Water		3.16316E-05*	0.000277751*	1.17442E-05*	0	1.15071	4.33757E-05
H2S		0*	0*	0*	0	0	0
N2		7.24440E-07*	5.43327E-05*	2.68970E-07*	0	0.0195889	9.93409E-07
CO2		1.13918E-05*	0.000114267*	4.22954E-06*	0	0.00742633	1.56213E-05
C1		0.000138001*	0.00355176*	5.12368E-05*	0	0.489785	0.000189237
C2		0.000492743*	0.00437105*	0.000182945*	0	0.162172	0.000675689
C3		0.000416566*	0.00380108*	0.000154662*	0	0.0836502	0.000571228
IC4		5.33020E-05*	0.000495494*	1.97899E-05*	0	0.0102307	7.30919E-05
nC4		0.000179584*	0.001681153*	6.66758E-05*	0	0.0359769	0.000246260
IC5		5.30515E-05*	0.000506727*	1.96969E-05*	0	0.0143170	7.27485E-05
nC5		6.99509E-05*	0.000673126*	2.59713E-05*	0	0.0216615	9.59222E-05
2-Methylpentane		1.33042E-05*	0.000129971*	4.93956E-06*	0	0.00665607	1.82437E-05
3-Methylpentane		7.77371E-06*	7.61269E-05*	2.88622E-06*	0	0.00419262	1.06599E-05
nC6		2.20969E-05*	0.000218226*	8.20410E-06*	0	0.0142194	3.03010E-05
Cyclohexane		6.09603E-06*	6.02273E-05*	2.26333E-06*	0	0.00497235	8.35936E-06
C7		2.12899E-05*	0.000215550*	7.90451E-06*	0	0.0362133	2.91944E-05
Methylcyclohexane		1.96930E-07*	1.97829E-06*	7.31159E-08*	0	0.000290463	2.70046E-07
Benzene		4.78591E-06*	4.67236E-05*	1.77691E-06*	0	0.00249282	6.56282E-06
Toluene		3.03142E-06*	3.04762E-05*	1.12550E-06*	0	0.00480191	4.15693E-06
Ethylbenzene		4.10416E-07*	4.23807E-06*	1.52379E-07*	0	0.00197695	5.62795E-07
o-Xylene		1.56193E-06*	1.61718E-05*	5.79912E-07*	0	0.00901507	2.14184E-06
2,2,4-Trimethylpentane		1.71110E-06*	1.72366E-05*	6.35295E-07*	0	0.00283058	2.34639E-06
C8		5.35432E-06*	5.56159E-05*	1.98795E-06*	0	0.0269656	7.34227E-06
C9		8.71262E-07*	9.29717E-06*	3.23482E-07*	0	0.0135420	1.19474E-06
C10		0*	0*	0*	0	0	0
C10+		3.45602E-09*	4.35774E-08*	1.28315E-09*	0	0.0965689	4.73916E-09
Mole Fraction							
Water		0.0206011*	0.0169268*	0.0206011*		0.518277	0.0206011
H2S		0*	0*	0*		0	0
N2		0.000471815*	0.00331115*	0.000471815*		0.00882281	0.000471815
CO2		0.00741927*	0.00696370*	0.00741927*		0.00334481	0.00741927
C1		0.0898774*	0.216452*	0.0898774*		0.220599	0.0898774
C2		0.320915*	0.266381*	0.320915*		0.0730421	0.320915
C3		0.271302*	0.231646*	0.271302*		0.0376760	0.271302
IC4		0.0347146*	0.0301965*	0.0347146*		0.00460790	0.0347146
nC4		0.116960*	0.102476*	0.116960*		0.0162040	0.116960
IC5		0.0345515*	0.0308811*	0.0345515*		0.00644837	0.0345515
nC5		0.0455578*	0.0410218*	0.0455578*		0.00975632	0.0455578
2-Methylpentane		0.00866475*	0.00792071*	0.00866475*		0.00299789	0.00866475
3-Methylpentane		0.00506288*	0.00463934*	0.00506288*		0.00188835	0.00506288
nC6		0.0143913*	0.0132992*	0.0143913*		0.00640440	0.0143913
Cyclohexane		0.00397023*	0.00367038*	0.00397023*		0.00223954	0.00397023
C7		0.0138657*	0.0131361*	0.0138657*		0.0163104	0.0138657
Methylcyclohexane		0.000128257*	0.000120561*	0.000128257*		0.000130824	0.000128257
Benzene		0.00311698*	0.00284744*	0.00311698*		0.00112277	0.00311698
Toluene		0.00197431*	0.00185729*	0.00197431*		0.00216278	0.00197431
Ethylbenzene		0.000267296*	0.000258277*	0.000267296*		0.000890415	0.000267296
o-Xylene		0.00101726*	0.00098554*	0.00101726*		0.00406038	0.00101726
2,2,4-Trimethylpentane		0.00111441*	0.00105043*	0.00111441*		0.00127489	0.00111441
C8		0.00348717*	0.00338936*	0.00348717*		0.0121453	0.00348717
C9		0.000567437*	0.000566590*	0.000567437*		0.00609931	0.000567437
C10		0*	0*	0*		0	0
C10+		2.25084E-06*	2.65570E-06*	2.25084E-06*		0.0434946	2.25084E-06
Mass Fraction							
Water		0.00849649	0.00757214	0.00849649		0.265130	0.00849649
H2S		0	0	0		0	0
N2		0.000302584	0.00230329	0.000302584		0.00701825	0.000302584
CO2		0.00747509	0.00761010	0.00747509		0.00417998	0.00747509
C1		0.0330088	0.0862256	0.0330088		0.100492	0.0330088
C2		0.220911	0.198897	0.220911		0.0623662	0.220911
C3		0.273877	0.253644	0.273877		0.0471754	0.273877
IC4		0.0461916	0.0435815	0.0461916		0.00760503	0.0461916
nC4		0.155628	0.147900	0.155628		0.0267435	0.155628
IC5		0.0570695	0.0553255	0.0570695		0.0132110	0.0570695
nC5		0.0752488	0.0734932	0.0752488		0.0199881	0.0752488
2-Methylpentane		0.0170942	0.0169493	0.0170942		0.00733592	0.0170942
3-Methylpentane		0.0099824	0.0099275	0.0099824		0.00462086	0.0099824
nC6		0.0283917	0.0284585	0.0283917		0.0156717	0.0283917
Cyclohexane		0.00764940	0.00767041	0.00764940		0.00535202	0.00764940
C7		0.0318074	0.0326849	0.0318074		0.0464085	0.0318074
Methylcyclohexane		0.000288296	0.000293941	0.000288296		0.000364749	0.000288296
Benzene		0.00557389	0.00552300	0.00557389		0.00249036	0.00557389
Toluene		0.00416452	0.00424937	0.00416452		0.00565859	0.00416452
Ethylbenzene		0.000649655	0.000680881	0.000649655		0.00268429	0.000649655
o-Xylene		0.00247241	0.00259814	0.00247241		0.0122406	0.00247241
2,2,4-Trimethylpentane		0.00291425	0.00297952	0.00291425		0.00413527	0.00291425
C8		0.00911919	0.00961381	0.00911919		0.0393947	0.00911919
C9		0.00166610	0.00180446	0.00166610		0.0222132	0.00166610
C10		0	0	0		0	0
C10+		1.15786E-05	1.48179E-05	1.15786E-05		0.277520	1.15786E-05
Mole Flow		lbmol	lbmol	lbmol	lbmol	lbmol	lbmol
Water		0.0625687*	0.549404*	0.0232305*	0	2276.15	0.0857992
H2S		0*	0*	0*	0	0	0
N2		0.00222825*	0.167118*	0.000827302*	0	60.2518	0.00305555
CO2		0.0550470*	0.552158*	0.0204378*	0	35.8852	0.0754849
C1		0.2430799*	6.25618*	0.0902502*	0	862.724	0.333329
C2		1.62681*	14.4311*	0.603999*	0	535.415	2.23080
C3		2.01685*	18.4034*	0.748816*	0	405.002	2.76567
IC4		0.340158*	3.16210*	0.126294*	0	65.2894	0.466452
nC4		1.14605*	10.7310*	0.425506*	0	229.594	1.57156
IC5		0.420264*	4.01420*	0.156035*	0	113.417	0.576299
nC5		0.554138*	5.33237*	0.205740*	0	171.598	0.759877
2-Methylpentane		0.125883*	1.22977*	0.0467376*	0	62.9791	0.172620
3-Methylpentane		0.0735541*	0.720305*	0.0273091*	0	39.6702	0.100863
nC6		0.209078*	2.06483*	0.0776264*	0	134.542	0.286705
Cyclohexane		0.0563307*	0.556334*	0.0209144*	0	45.9473	0.0772451
C7		0.234232*	2.37148*	0.0869653*	0	398.419	0.321197
Methylcyclohexane		0.00212303*	0.0213272*	0.000788237*	0	3.13138	0.00291127
Benzene		0.0410465*	0.400727*	0.0152397*	0	21.3798	0.0562862
Toluene		0.0306678*	0.308317*	0.0113863*	0	48.5792	0.0420541
Ethylbenzene		0.00478411*	0.0494020*	0.00177624*	0	23.0447	0.00656035
o-Xylene		0.0182070*	0.188510*	0.00675988*	0	105.086	0.0249669
2,2,4-Trimethylpentane		0.0214607*	0.216182*	0.00796792*	0	35.5014	0.0294287
C8		0.0671543*	0.697540*	0.0249330*	0	338.205	0.0920873
C9		0.0122693*	0.130924*	0.00455532*	0	190.701	0.0168246
C10		0*	0*	0*	0	0	0
C10+		8.52657E-05*	0.00107513*	3.16574E-05*	0	2382.52	0.000116923

Process Streams		25	26	27	28	31	32 - Oil Tool W&B
Properties	Status	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block	--	--	--	HP Separator	MIX-104	MIX-105
	To Block	MIX-105	--	MIX-105	MIX-104	Heater Treater	--
Property	Units						
Temperature	°F	89.8136	89.8136	89.8136	89	112.674	89.8136
Pressure	psig	0.363659	-2.33958E-07	0.363659	102	76	0.363659
Molecular Weight	lb/lbmol	43.6809	40.2713	43.6809		35.2163	43.6809
Mass Flow	lb/h	7.36407	72.5560	2.73413	0	8585.03	10.0982
Std Vapor Volumetric Flow	MMSCFD	0.00153543	0.0164090	0.000570075	0	2.22025	0.00210551
Std Liquid Volumetric Flow	sgpm	0.0297554	0.301348	0.0110476	0	27.2569	0.0408030
Net Ideal Gas Heating Value	Btu/ft^3	2250.33	2080.23	2250.33		1313.95	2250.33
Gross Ideal Gas Heating Value	Btu/ft^3	2445.93	2263.60	2445.93		1446.80	2445.93

AIR PERMITTING ANALYSIS

Company Name: Marathon Oil Company

Facility Name: Shoots

Field: Fort Berthold Reservation

Date Prepared: 6/28/2023

Prepared By: Marathon Oil Company

	Annual Averaged		Annual Total	
Produced Gas	327	mscfd	119,358	mscf/yr
Well Gas Flared			9,780	mscf/yr
Oil Production	95	bbls/day	34,673	bbls/yr
Produced Water Production	51	bbls/day	18,615	bbls/yr
Heater Treater Temp. / Pressure	110	deg F	56	psig
HP Flare Control Efficiency	98%			
LP Flare Control Efficiency	98%			
Operating Period	365	days	8760	hours

Emission Sources	NOx	CO	VOC	HAPs	n-Hexane	PM_{10}	SO_2
Boilers and/or Heaters	0.43	0.36	0.02	--	--	0.03	0.00
Engines and/or Turbines	-	-	-	0.00	0.00	-	-
Equipment Fugitives	--	--	1.40	0.09	0.04	--	--
Oil Truck Loading	--	--	0.20	0.01	0.01	--	--
Oil Tanks	Emissions represented at LP Flare						
Water Tank	Emissions represented at LP Flare						
High Pressure Flare	0.49	2.02	2.43	0.13	0.09	0.00	--
Low Pressure Flare	0.13	0.56	1.27	0.08	0.05	0.00	--
Pneumatics	--	--	1.69	0.04	0.04	--	--
Total (TPY)	**1.05**	**2.94**	**7.02**	**0.36**	**0.22**	**0.03**	**0.00**

6b. 2023-04-24 Shoots PTE Heater Burners

Heater ID:	Treater 1	Treater 2	Treater 3	Treater 4
Heater Rating (MMBtu/hr)	1.00			
Heater Fuel Source	High Pressure Gas			
Fuel Heat Value (Btu/scf)	1,020			
Operating Hours	8,760			
Fuel Usage (Mscf/year)[1]	8,588			

(1) Fuel Usage = (Heater Treater Rating, MMBtu/hr) x (8760 hours/year) / (Fuel Heat Value, Btu/scf) x (1,000 Mscf/MMscf)

Emissions Factors (lb/MMscf) - From AP42, Ch.1.4, Tables 1.4-1 & 1.4-2 dated July 1998				
NOx	**CO**	**VOC**	**PM**	**SO_2**
100	84	5.5	7.6	0.6

Note: If the actual maximum fuel usage is provided, the above emission factors are adjusted by the ratio of the actual fuel heat value to 1020 Btu/scf.

Heater/Boiler Emissions (Tons/year)[2]						
Heater ID:	**Fuel Usage (Mscf/yr)**	**NOx**	**CO**	**VOC**	**PM**	**SO_2**
Treater 1	8,588	0.43	0.36	0.02	0.03	2.58E-03
Total		**0.43**	**0.36**	**0.02**	**0.03**	**0.00**

(2) Emissions in TPY = (Fuel Usage Mscf/year) x (Emission Factor lb/MMscf) / (2000 lb/ton) x (1000 Mscf/MMscf)
(3) All PM emissions were assumed to be PM10 based on footnote (c) to Table 1.4-2 of AP-42 (dated 7/98).

Calculation Basis:
Natural gas-fired single-burner heater treaters will be used to heat the oil/water/gas mixture to help promote three phase separation.
External combustion emissions were calculated in accordance with AP-42 Section 1.4 (July 1998), Natural Gas Combustion, Tables 1.4-1, 1.4-2, and 1.4-3., using emission factors for Small Boilers (less than 100 MMBtu/hr rating).
All heaters are assumed to run 8760 hours per year.
Emissions of HAPs are assumed to be deminimis.

6b. 2023-04-24 Shoots PTE Fugitives

Default Component Counts - Light Oil Service (per major piece of equipment)[1]				
Equipment	Valves	Flanges	Connectors	Other Components
Wellhead	5	10	4	1
Separators	6	12	10	0
Heater Treater	8	12	20	0
Header	5	10	4	0

(1) From MRR Subpart W Table W-1C.

Default Component Counts - Gas Service (per major piece of equipment)[1]				
Equipment	Valves	Connectors	Open-Ended Lines	Pressure Relief Valves
Wellhead	11	36	1	0
Separators	34	106	6	2
Meters/Piping	14	51	1	1
Compressors	73	179	3	4
In-Line heaters	14	65	2	1

(1) From MRR Subpart W Table W-1C.

Total Fugitive Emissions (Tons/year)		
VOC	HAPs	n-Hexane
1.40	0.09	0.04
Operating Period	8,760	hours

Major Equipment Counts[2]	
Wellhead	1
Header	0
Separator	0
Heater Treater	1
Meters	1
Compressors	0
In-Line Heaters	0
Pumps	4

(2) Actual count of major equipment at facility

Component Type	Number of Components in Gas Service[3]	Gas Emission Factor (lb/hr per Component)[4]	VOC Emissions (TPY) from Gas Components[5]	HAP Emissions (TPY) from Gas Components[5]	n-Hexane Emissions (TPY) from Gas Components[5]	Number of Components in Oil Service[3]	Oil Emission Factor (lb/hr per Component)[4]	VOC Emissions (TPY) from Oil Components[5]	HAP Emissions (TPY) from Oil Components[5]	n-Hexane Emissions (TPY) from Oil Components[5]
Valves	25	0.010	0.35	0.01	0.01	13	0.006	0.31	0.03	0.01
Pumps	0	0.01	0.00E+00	0.00E+00	0.00E+00	4	0.029	4.98E-01	4.25E-02	1.44E-02
Flanges	0	8.60E-04	0.00E+00	0.00E+00	0.00E+00	22	2.43E-04	0.02	1.98E-03	6.72E-04
Compressors	0	0.019	0.00E+00	0.00E+00	0.00E+00	0	0.017	0.00E+00	0.00E+00	0.00E+00
Relief Valves	1	0.019	0.03	7.04E-04	6.15E-04	0	0.017	0.00E+00	0.00E+00	0.00E+00
Open-ended Lines	2	4.41E-03	0.01	3.20E-04	2.79E-04	0	0.003	0.00E+00	0.00E+00	0.00E+00
Connectors	87	4.40E-04	0.05	1.39E-03	1.21E-03	24	4.63E-04	0.05	0.00	1.40E-03
Other	0	0.019	0.00E+00	0.00E+00	0.00E+00	1	0.017	0.07	0.01	0.00

(3) The number of components for a particular type of equipment were calculated as follows: (Number of Components) = (Equipment Count) x (Components per Equipment for service)

(4) Factors taken from EPA document EPA-453/R-95-017; November, 1995; pp. 2-15.

(5) Per Service Type and Per Component Type: (VOC or HAP Emissions, TPY) = (Component Count) x (Emission Factor, lb/hr/component) x (8760 hours per year) x (wts%VOC or HAP) x (1 ton per 2000 lb)

Calculation Basis:

Site specific component counts are not available so default component counts are used based on the approach provided in EPA's Mandatory Reporting Rule for Greenhouse Gases (GHG MMR), 40 CFR Part 98, Subpart W, Table W-1B. Actual counts were compiled for major equipment (i.e. wellheads, separators, in-line heaters, etc.), and default component counts were applied to each equipment type.

Oil produced at the site will have an API gravity of greater than 20° API; therefore, all hydrocarbon liquids are considered "light oil". There are no "heavy oil" components at this site.

6b. 2023-04-24 Shoots PTE Pneumatics

Pneumatic Devices					
Type	Count	Bleed Rate (scf/hr/component)	VOC (TPY)	HAP (TPY)	n-Hexane
Valves	3	6	1.69	0.04	0.04
Pumps	0	0	0.00E+00	0.00E+00	0.00E+00

No venting pneumatic valves

Total Fugitive Emissions (Tons/year)		
VOC	HAPs	n-Hexane
1.69	**0.04**	**0.04**

Calculation Basis: Emissions are estimated using the estimated controller count (for those that vent to atmosphere), an emission factor for pneumatics that is the same as what would be considered a covered continuous venting pneumatic device, and a gas composition. Note: devices used are snap acting versus throttling. The gas composition used is that of the high pressure separator gas composition.
Where pneumatic pumps are used, the manufacturer specified bleed rate will be used.

Emissions (TPY) = Count of devices * Bleed Rate (scf/hr/controller) * Gas Molecular Weight (lb/lbmole) * Weight Percent VOC or HAP * 1/molar volume conversion (379.3 scf/lbmole) * 8760 hr/yr * 1 ton/2000 lb

Gas Composition (High Pressure Separator Gas)	
Date of Analysis:	8/26/2022
Component	**wt%**
Water	0.00E+00
H2S	0.00E+00
Nitrogen	2.75%
Carbon Dioxide	1.63%
Methane	39.48%
Ethane	23.59%
Propane	16.17%
Isobutane	2.23%
n-Butane	6.99%
Isopentane	1.56%
n-Pentane	2.36%
2-Methylpentane	0.00E+00
3-Methylpentane	0.00E+00
n-Hexane	0.72%
Cyclohexane	1.20%
Heptane	0.80%
Methylcyclohexane	0.14%
Benzene	0.06%
Toluene	0.03%
Ethylbenzene	2.12E-05
o-Xylene	1.32E-04
2,2,4-Trimethylpentane	0.00E+00
Octane	0.18%
Nonane	0.07%
Decane	0.00E+00
Decanes+	2.69E-04
Gas wt %VOC	**32.55%**
Gas wt %HAPs	**0.83%**

Flowsheet Information				
Tank Losses Stencil Name		Oil Tank Losses		
Tank Losses Stencil Reference Stream		Oil Tank Feed		
Separator Name		Oil Tank		
Separator Inlet Stream		Oil Tank Feed		
Separator Pressure [psia]	Inlet | Outlet	69.7	13.7	
Separator Temperature [°F]	Inlet | Outlet	110.0	89.8	

Tank Characteristics				
Tank Type		Vertical Cylinder		
Time Frame		Year		
Material Category		Light Organics		
Number of Tanks		3.0		
Shell Height	[ft]	25.000		
Diameter [ft]	[ft]	13.500		
Maximum Liquid Height	[%] | [ft]	90.000	22.500	
Average Liquid Height	[%] | [ft]	50.000	12.500	
Minimum Liquid Height	[%] | [ft]	10.000	2.500	
Sum of Increases in Liquid Level	[ft/yr]	-		
Tank Volume	[gal] | [bbl]	26768.817	637.353	
Insulation		Uninsulated		
Bolted or Riveted Construction		FALSE		
Vapor Balance Tank		FALSE		

Paint Characteristics	
Shell Color	Tan
Shell Paint Condition	Average
Roof Color	Tan
Roof Paint Condition	Average

Roof Characteristics		
Type		Cone
Diameter	[ft]	-
Slope	[ft/ft]	0.063

Breather Vent Settings		
Breather Vacuum Pressure	[psig]	-0.030
Breather Vent Pressure	[psig]	0.030

Loading Loss Parameters		
Cargo Carrier		
Land Based Mode of Operation		
Marine Based Mode of Operation		
Overall Reduction Efficiency	[%]	
Maximum Hourly Loading Rate	[bbl/h]	

Meteorological Data				
Location			Williston, ND	
Average Atmospheric Pressure		[psia]	13.720	
Maximum Average Temperature		[°F]	53.200	
Minimum Average Temperature		[°F]	29.900	
Solar Insulation		[BTU/ft^2*day]	1193.000	
Average Wind Speed		[mph]	8.900	
Tank Conditions				
Flashing Temperature		[°F]	89.814	
Maximum Liquid Surface Temperature		[°F]	89.814	
Average Liquid Surface Temperature		[°F]	82.563	
Set Bulk Temperature to Stream Temperature?			TRUE	
Bulk Liquid Temperature		[°F]	110.000	
Net Throughput	[bbl/day] |	[bbl/yr]	95.826	34976.345
Net Throughput Per Tank	[bbl/day] |	[bbl/yr]	31.942	11658.782
Turnovers Per Tank		[per day]	22.863	
Residual Liquid		[bbl/day]	94.460	
Residual Liquid Per Tank		[bbl/day]	31.487	
Raoult's Law Used for Vapor Pressure Calc?			FALSE	
VP @ Minimum Liquid Surface Temperature		[psia]	11.777	
VP @ Maximum Liquid Surface Temperature		[psia]	13.720	
True Vapor Pressure		[psia]	12.718	

6b. 2023-04-24 Shoots PTE Water Tanks

Produced Water Production	51	BWPD
Oil Production	95	BOPD
Percent Oil in Produced Water	1%	Percent
Number of Water Tanks	2	
Number of Oil Tanks	3	

	Uncontrolled Water Flash			Uncontrolled Water W&S		
Component	**Oil Flash Mass Flow (lb/hr)**	**Ratioed Water Flash Mass Flow (lb/hr)**	**Water Flash Mass Flow 99% Reduction (lb/hr)**	**Oil W&B Mass Flow (lb/hr)**	**Ratioed Water W&S Mass Flow (lb/hr)**	**Water W&B Mass Flow 99% Reduction (lb/hr)**
Water	0.14	0.08	0.00	0.03	0.02	1.97E-04
H2S	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nitrogen	0.04	0.02	2.22E-04	9.18E-04	6.12E-04	6.12E-06
Carbon Dioxide	0.14	0.07	7.27E-04	0.02	0.01	1.50E-04
Methane	1.54	0.83	0.01	0.10	0.07	6.65E-04
Ethane	3.49	1.87	0.02	0.89	0.60	0.01
Propane	4.33	2.32	0.02	1.08	0.72	0.01
Isobutane	0.73	0.39	3.92E-03	0.18	0.12	1.19E-03
n-Butane	2.45	1.32	0.01	0.60	0.40	3.98E-03
Isopentane	0.86	0.46	0.00	0.20	0.14	1.36E-03
n-Pentane	1.17	0.63	0.01	0.28	0.18	1.85E-03
2-Methylpentane	0.26	0.14	1.37E-03	0.06	0.04	3.97E-04
3-Methylpentane	0.15	0.08	8.10E-04	0.04	0.02	2.34E-04
n-Hexane	0.47	0.25	2.50E-03	0.11	0.07	7.17E-04
Cyclohexane	0.16	0.08	8.36E-04	0.04	0.02	2.39E-04
Heptane	0.56	0.30	2.99E-03	0.13	0.08	8.36E-04
Methylcyclohexane	0.01	3.91E-03	3.91E-05	1.65E-03	1.10E-03	1.10E-05
Benzene	0.09	0.05	4.64E-04	0.02	0.01	1.34E-04
Toluene	0.07	0.04	3.83E-04	0.02	0.01	1.08E-04
Ethylbenzene	0.01	0.01	6.33E-05	2.60E-03	1.73E-03	1.73E-05
o-Xylene	0.05	0.02	2.42E-04	0.01	0.01	6.62E-05
2,2,4-Trimethylpentane	0.05	0.03	2.67E-04	0.01	0.01	7.49E-05
Octane	0.17	0.09	8.98E-04	0.04	0.02	2.44E-04
Nonane	0.03	0.02	1.70E-04	0.01	4.52E-03	4.52E-05
Decane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Oil 10+	2.61E-04	1.40E-04	1.40E-06	4.71E-05	3.14E-05	3.14E-07
Total	16.94	9.09	0.09	3.85	2.57	0.03
Total VOC	11.60	6.22	0.06	2.81	1.87	0.02
Total HAPs	0.73	0.39	3.92E-03	0.17	0.11	1.12E-03

Maximum Annual Emission Rates and Composition to LP Flare										
ProMax Stream:	Pilot Gas	Propane Pilot	Oil Flash	Oil W&B	Water Flash	Water Tank W&B	Sweep Blanket Gas	Total to Flare	Destruction Efficiency	Flare Exhaust (controlled)
Component	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(%)	(tpy)
Water	0.00	0.00E+00	0.61	0.13	3.29E-03	8.63E-04	0.00	**0.75**	0%	**0.75**
H2S	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**	98%	**0.00E+00**
Nitrogen	0.00	0.00E+00	0.18	4.02E-03	9.71E-04	2.68E-05	0.00	**0.19**	0%	**0.19**
Carbon Dioxide	0.00	0.00E+00	0.59	0.10	3.19E-03	6.56E-04	0.00	**0.70**	0%	**0.70**
Methane	0.00	0.00E+00	6.76	0.44	0.04	2.91E-03	0.00	**7.24**	98%	**0.14**
Ethane	0.00	0.00E+00	15.27	3.92	0.08	0.03	0.00	**19.30**	98%	**0.39**
Propane	0.00	0.00	18.95	4.73	0.10	0.03	0.00	**23.81**	98%	**0.48**
Isobutane	0.00	0.00E+00	3.20	0.78	0.02	0.01	0.00	**4.00**	98%	**0.08**
n-Butane	0.00	0.00E+00	10.75	2.61	0.06	0.02	0.00	**13.44**	98%	**0.27**
Isopentane	0.00	0.00E+00	3.76	0.90	0.02	5.97E-03	0.00	**4.68**	98%	**0.09**
n-Pentane	0.00	0.00E+00	5.13	1.21	0.03	0.01	0.00	**6.38**	98%	**0.13**
2-Methylpentane	0.00	0.00E+00	1.12	0.26	0.01	1.74E-03	0.00	**1.39**	98%	**0.03**
3-Methylpentane	0.00	0.00E+00	0.66	0.15	3.55E-03	1.03E-03	0.00	**0.82**	98%	**0.02**
n-Hexane	0.00	0.00E+00	2.04	0.47	0.01	3.14E-03	0.00	**2.53**	98%	**0.05**
Cyclohexane	0.00	0.00E+00	0.68	0.16	0.00	1.05E-03	0.00	**0.84**	98%	**0.02**
Heptane	0.00	0.00E+00	2.44	0.55	0.01	3.66E-03	0.00	**3.01**	98%	**0.06**
Methylcyclohexane	0.00E+00	0.00E+00	0.03	0.01	1.71E-04	4.82E-05	0.00	**0.04**	98%	**0.00**
Benzene	0.00	0.00E+00	0.38	0.09	0.00	5.89E-04	0.00	**0.47**	98%	**0.01**
Toluene	0.00	0.00E+00	0.31	0.07	1.68E-03	4.72E-04	0.00	**0.39**	98%	**0.01**
Ethylbenzene	0.00E+00	0.00E+00	0.05	0.01	2.77E-04	7.59E-05	0.00	**0.06**	98%	**0.00**
o-Xylene	0.00	0.00E+00	0.20	0.04	1.06E-03	2.90E-04	0.00	**0.24**	98%	**0.00**
2,2,4-Trimethylpentane	0.00	0.00E+00	0.22	0.05	1.17E-03	3.28E-04	0.00	**0.27**	98%	**0.01**
Octane	0.00	0.00E+00	0.73	0.16	3.93E-03	1.07E-03	0.00	**0.90**	98%	**0.02**
Nonane	0.00	0.00E+00	0.14	0.03	7.46E-04	1.98E-04	0.00	**0.17**	98%	**0.00**
Oil 10+	0.00E+00	0.00E+00	1.14E-03	2.06E-04	6.13E-06	1.38E-06	0.00	**0.00**	98%	**2.71E-05**
Total	**0.00**	**0.00**	**74.20**	**16.88**	**0.40**	**0.11**	**0.00**	**91.59**	--	**3.43**
Total VOC	**0.00**	**0.00**	**50.79**	**12.29**	**0.27**	**0.08**	**0.00**	**63.43**	--	**1.27**
Total HAP	**0.00**	**0.00E+00**	**3.20**	**0.73**	**0.02**	**4.90E-03**	**0.00**	**3.96**	--	**0.08**
Annual Hours (Hrs)	**8,760**	**0**	**8,760**	**8,760**	**8,760**	**8,760**	**8,760**	--		
Heating Value HHV (Btu/scf)	1,462	2,557	2,227	2,465	2,227	2,465	1,462	**2,267**		
Heating Value LHV (Btu/scf)	1,332	2,557	2,046	2,268	2,046	2,268	1,332	**2,084**		
Molecular Weight	25.99	44.10	39.62	43.92	39.62	43.92	25.99	--		
Volumetric Flow (scf/hr)	0.00	0.00	162	33.30	0.87	0.22	0.00	**197**		
Volumetric Flow (MMscf/yr)	0.00	0.00	1.42	0.29	0.01	1.94E-03	0.00	**1.72**		
H2S PPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**		

Oil Tank Flash GOR (scf/bbl)	41.00
Tank Total GOR (scf/bbl)	49.69

Combustion Emissions from Flare								Totals
	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)
Total NOx	0.00	0.00	0.11	0.02	0.00	1.63E-04	0.00	**0.13**
Total CO	0.00	0.00	0.45	0.10	0.00	6.83E-04	0.00	**0.56**
Total SO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
Total PM_{10}	0.00E+00	0.00E+00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
Total $PM_{2.5}$	0.00E+00	0.00E+00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**

Criteria Pollutant Emissions from Flare [a]		
Component	Emission Factor	Emission Factor Units
NO_X	0.068	lb/MMBtu
CO	0.31	lb/MMBtu
SO_2	--	--
PM_{10}	0.00	lb/MMscf
$PM_{2.5}$	0.00	lb/MMscf
H_2S	--	--

Constants	
H_2S Molecular Weight	34.08
SO_2 Molecular Weight	64.06
Gas Constant (scf/lb-mol)	379.30

Variables	
Flare Destruction Efficiency	98%
Number of Pilots	2
Volume of Gas/Tip (scf/hr)	35.20
Operating Hours	8,760

Footnotes:

[a] Flare CO and NOx emission factors from AP-42, Table 13.5-1 & 13.5-2, February 2018. PM_{10} and $PM_{2.5}$ emission factors from AP-42, Table 1.4-1 and 1.4-2, July 1998. SO_2 emissions assume 100% conversion of H_2S to SO_2.
Emissions are routed to the Hunts Along flare. Pilot and sweep gas emissions are shown at the Hunts Along flare.

HP Flare Annual Emissions

Maximum Annual Emission Rates and Composition to HP Flare							
ProMax Stream:	**Pilot Gas**	**Propane Pilot**	**HP Flared Gas**	**Heater Treater Gas**	**Total to Flare**	**Destruction Efficiency**	**Flare Exhaust (controlled)**
Component	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(%)**	**(tpy)**
Water	0.00	0.00E+00	0.00	4.31	4.31	0%	**4.31**
H2S	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	98%	**0.00E+00**
Nitrogen	0.00	0.00E+00	0.00	8.55	8.55	0%	**8.55**
Carbon Dioxide	0.00	0.00E+00	0.00	5.03	5.03	0%	**5.03**
Methane	0.00	0.00E+00	0.00	122.17	122.17	98%	**2.44**
Ethane	0.00	0.00E+00	0.00	73.42	73.42	98%	**1.47**
Propane	0.00	0.00	0.00	51.05	51.05	98%	**1.02**
Isobutane	0.00	0.00E+00	0.00	7.25	7.25	98%	**0.14**
n-Butane	0.00	0.00E+00	0.00	23.43	23.43	98%	**0.47**
Isopentane	0.00	0.00E+00	0.00	7.96	7.96	98%	**0.16**
n-Pentane	0.00	0.00E+00	0.00	10.92	10.92	98%	**0.22**
2-Methylpentane	0.00	0.00E+00	0.00	2.43	2.43	98%	**0.05**
3-Methylpentane	0.00	0.00E+00	0.00	1.44	1.44	98%	**0.03**
n-Hexane	0.00	0.00E+00	0.00	4.55	4.55	98%	**0.09**
Cyclohexane	0.00	0.00E+00	0.00	1.52	1.52	98%	**0.03**
Heptane	0.00	0.00E+00	0.00	5.84	5.84	98%	**0.12**
Methylcyclohexane	0.00E+00	0.00E+00	0.00	0.07	0.07	98%	**1.48E-03**
Benzene	0.00	0.00E+00	0.00	0.81	0.81	98%	**0.02**
Toluene	0.00	0.00E+00	0.00	0.73	0.73	98%	**0.01**
Ethylbenzene	0.00E+00	0.00E+00	0.00	0.13	0.13	98%	**2.61E-03**
o-Xylene	0.00	0.00E+00	0.00	0.50	0.50	98%	**0.01**
2,2,4-Trimethylpentane	0.00	0.00E+00	0.00E+00	0.51	0.51	98%	**0.01**
Octane	0.00	0.00E+00	0.00	1.90	1.90	98%	**0.04**
Nonane	0.00	0.00E+00	0.00	0.39	0.39	98%	**0.01**
Decane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	98%	**0.00E+00**
Oil 10+	0.00E+00	0.00E+00	0.00	0.01	0.01	98%	**1.14E-04**
Total	**0.00**	**0.00**	**0.00**	**334.92**	**334.92**	--	**24.23**
Total VOC	**0.00**	**0.00**	**0.00**	**121.45**	**121.45**	--	**2.43**
Total HAP	**0.00**	**0.00E+00**	**0.00**	**6.73**	**6.73**	--	**0.13**
Annual Hours (Hrs)	**8,760**	**0**	**0**	**720**	--		
Heating Value HHV (Btu/scf)	1,462	2,557		1,462	**1,462**		
Heating Value LHV (Btu/scf)	1,332	2,557		1,332	**1,332**		
Molecular Weight	25.99	44.10		25.99	--		
Volumetric Flow (scf/hr)	0.00	0.00	0	13,583	**13,583**		
Volumetric Flow (MMscf/yr)	0.00	0.00	0.00	9.78	**9.78**		
H2S PPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**		

Criteria Pollutant Emissions from Flare[a]		
Component	**Emission Factor**	**Emission Factor Units**
NO_X	0.068	lb/MMBtu
CO	0.31	lb/MMBtu
SO_2	--	--
PM_{10}	0.00	lb/MMscf
$PM_{2.5}$	0.00	lb/MMscf
H_2S	--	--

Constants	
H_2S Molecular Weight	34.08
SO_2 Molecular Weight	64.06
Gas Constant (scf/lb-mol)	379.30

Variables	
Flare Destruction Efficiency	98%
Number of Pilots	2
Volume of Gas/Tip (scf/hr)	0.00
HT Gas Op hours	720
HP Sep Operating Hours	0

Combustion Emissions from Flare					**Totals**
	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)
Total NOx	0.00	0.00		0.49	**0.49**
Total CO	0.00	0.00		2.02	**2.02**
Total SO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
Total PM_{10}	0.00E+00	0.00E+00	0.00	0.00E+00	**0.00E+00**
Total $PM_{2.5}$	0.00E+00	0.00E+00	0.00	0.00E+00	**0.00E+00**

Footnotes:

[a] Flare CO and NOx emission factors from AP-42, Table 13.5-1 & 13.5-2, February 2018. PM_{10} and $PM_{2.5}$ emission factors from AP-42, Table 1.4-1 and 1.4-2, July 1998. SO_2 emissions assume 100% conversion of H_2S to SO_2. Emissions are routed to the Hunts Along flare. Pilot gas emissions are shown at the Hunts Along flare.

Truck Loading Losses Calculations

Promax Stream Speciation	32 - Oil Tool W&B	
Controlled/Uncontrolled	UNCONTROLLED	
Oil Loaded	**1,734**	**bbls / yr**

Promax Report Results		
LL= 12.46 * SPM/T * (1-EFF/100)		
Saturation Factor (S) =	0.6	
Average True Vapor Pressure of Liquid Loaded (P)=	12.72	psi
Average Surface Temperature of Liquid Loaded (T)[a]=	542.23	Rankin
Molecular Weight (M)[a]=	43.92	lb/lb-mole
Control Efficiency * Collection Efficiency (EFF)[e]=	0	%
Hydrocarbon Content[a]=	100.00	Weight %
VOC Content[a]=	72.81	Weight %
HAP Conent[a]=	4.06	Weight %
Average Uncontrolled LL[b] =	7.7011	lb/1000 gallon
Average Uncontrolled LL[b] =	0.3234	lb/bbl
Average Uncontrolled LL[b] =	0.2355	lb VOC/bbl
Estimated Throughput=	1,734	bbl/Year

Total Emissions	TPY
	0.28
Total VOC Emissions	TPY
	0.20
Total HAP Emissions	TPY
	0.01

Component	Total Speciated Vapors Emitted During Loading (Fugitives)	
	Mass Fraction	ton / yr[d]
Water	0.77	2.15E-03
H2S	0.00E+00	0.00E+00
Nitrogen	0.02	6.68E-05
Carbon Dioxide	0.58	1.64E-03
Methane	2.59	0.01
Ethane	23.22	0.07
Propane	28.02	0.08
Isobutane	4.64	0.01
n-Butane	15.49	0.04
Isopentane	5.31	0.01
n-Pentane	7.20	0.02
2-Methylpentane	1.54	4.33E-03
3-Methylpentane	0.91	2.55E-03
n-Hexane	2.79	0.01
Cyclohexane	0.93	2.61E-03
Heptane	3.25	0.01
Methylcyclohexane	0.04	1.20E-04
Benzene	0.52	1.47E-03
Toluene	0.42	1.18E-03
Ethylbenzene	0.07	1.89E-04
o-Xylene	0.26	7.23E-04
2,2,4-Trimethylpentane	2.92E-01	8.18E-04
Octane	0.95	2.67E-03
Nonane	0.18	4.93E-04
Decane	0.00E+00	0.00E+00
Oil 10+	1.22E-03	3.43E-06
Total	100.00	0.28
Total VOC	72.81	0.20
Total HAP	4.06	0.01

Footnotes:

[a]Values were obtained from Promax.

[b]Loading emissions include total hydrocarbons as calculated using AP-42, Section 5.2.

[c]Oil tanks are only trucked out when transfer to pipeline is unavailable.

[d]The component speciation was obtained from Promax Stream 'Oil Tool Loading' and multiplied by the total hydrocarbon emissions.

[e]Loading emissions are uncontrolled.

Process Streams	Heater Treater Gas	HP Flared Gas	HT Flared Gas	Inlet Gas	Inlet Oil	Inlet Separator Gas	Inlet Water	Oil Flash	Oil Loadout	Oil Tank Feed	Pilot Gas	Sales	Sales Gas	Sat. Gas	Sweep Blanket Gas
Composition — Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total — From Block:	Heater Treater	SPLT-104	SPLT-105	--	--	HP Separator	--	Oil Tank	Oil Tank	MIX-102	SPLT-102	SPLT-102	MIX-101	Inlet Mixer	SPLT-102
To Block:	SPLT-105	--	MIX-101	Inlet Mixer	Inlet Mixer	SPLT-104	Inlet Mixer	--	--	Oil Tank	--	--	SPLT-102	SPLT-100	--
Std Vapor Volumetric Flow	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD
Water	0.00606987	0	0.00605117	0*	0*	0	0.382271*	7.06778E-05	1.90130E-05	8.96908E-05	7.84053E-06	0.00283783	0.00606987	0.382271	0.00322420
H2S	0	0	0	0*	0*	0	0*	0	0	0	0	0	0	0	0
N2	0.00774410	0	0.00772024	0.00770002*	5.83009E-05*	0	0*	1.34275E-05	3.79604E-07	1.38072E-05	1.00032E-05	0.00362058	0.00774410	0.00775832	0.00411352
CO2	0.00290030	0	0.00289136	0.00291422*	2.54132E-05*	0	0*	2.80367E-05	5.91505E-06	3.39517E-05	3.74636E-06	0.00135597	0.00290030	0.00293963	0.00154058
C1	0.193249	0	0.192654	0.193241*	0.000977662*	0	0*	0.000876192	7.20628E-05	0.000948255	0.000249623	0.0903494	0.193249	0.194219	0.102650
C2	0.0619621	0	0.0617712	0.0616086*	0.00191720*	0	0*	0.00105579	0.000499475	0.00155527	8.00373E-05	0.0289690	0.0619621	0.0635259	0.0329131
C3	0.0293783	0	0.0292878	0.0287917*	0.00299278*	0	0*	0.000893423	0.00151000	0.00240342	3.79484E-05	0.0137352	0.0293783	0.0317845	0.0156052
iC4	0.00316413	0	0.00315438	0.00300740*	0.000710823*	0	0*	0.000114321	0.000439611	0.000553932	4.08715E-06	0.00147932	0.00316413	0.00371823	0.00168072
nC4	0.0102308	0	0.0101993	0.00944077*	0.00326112*	0	0*	0.000384517	0.00208571	0.00247023	1.32153E-05	0.00478318	0.0102308	0.0127019	0.00543440
iC5	0.00279997	0	0.00279134	0.00169400*	0.00268184*	0	0*	0.000108309	0.00146742	0.00157573	3.61676E-06	0.00130906	0.00279997	0.00437584	0.00148729
nC5	0.00384135	0	0.00382952	0.00256814*	0.00405416*	0	0*	0.000147917	0.00263292	0.00278084	4.96193E-06	0.00179594	0.00384135	0.00662230	0.00204045
2-Methylpentane	0.000714792	0	0.000712590	0*	0.00177519*	0	0*	2.69692E-05	0.00103341	0.00106037	9.23307E-07	0.000334185	0.000714792	0.00177519	0.000379684
3-Methylpentane	0.000424637	0	0.000423329	0*	0.00111818*	0	0*	1.59525E-05	0.000677563	0.000693516	5.48509E-07	0.000198529	0.000424637	0.00111818	0.000225559
nC6	0.00134004	0	0.00133591	0.000659213*	0.00335006*	0	0*	4.92784E-05	0.00261994	0.00266921	1.73095E-06	0.000626505	0.00134004	0.00400928	0.000711803
Cyclohexane	0.000456969	0	0.000455561	0.00111542*	0.000577777*	0	0*	1.68595E-05	0.00121926	0.00123612	5.90273E-07	0.000213645	0.000456969	0.00169320	0.000242733
C7	0.00148028	0	0.00147572	0.000630033*	0.00923547*	0	0*	5.06762E-05	0.00833453	0.00838521	1.91210E-06	0.000692071	0.00148028	0.00986550	0.000786295
Methylcyclohexane	1.91804E-05	0	1.91213E-05	0.000115464*	0*	0	0*	6.75161E-07	9.56067E-05	9.62819E-05	2.47756E-08	8.96735E-06	1.91804E-05	0.000115464	1.01882E-05
Benzene	0.000264299	0	0.000263485	6.18110E-05*	0.000623372*	0	0*	1.00796E-05	0.000408559	0.000418639	3.41399E-07	0.000123567	0.000264299	0.000685183	0.000140391
Toluene	0.000200002	0	0.000199386	2.38459E-05*	0.00126468*	0	0*	7.05150E-06	0.00108019	0.00108724	2.58346E-07	9.35066E-05	0.000200002	0.00128853	0.000106237
Ethylbenzene	3.12392E-05	0	3.11430E-05	1.56881E-06*	0.000526203*	0	0*	1.01135E-06	0.000495366	0.000496377	4.03522E-08	1.46052E-05	3.12392E-05	0.000527772	1.65937E-05
o-Xylene	0.000120638	0	0.000120266	9.72661E-06*	0.00239781*	0	0*	3.87325E-06	0.00228212	0.00228599	1.55830E-07	5.64015E-05	0.000120638	0.00240754	6.40805E-05
2,2,4-Trimethylpentane	0.000114406	0	0.000114053	0*	0.000754923*	0	0*	3.96308E-06	0.000636553	0.000640516	1.47779E-07	5.34878E-05	0.000114406	0.000754923	6.07701E-05
C8	0.000422158	0	0.000420858	0.000126760*	0.00710674*	0	0*	1.33307E-05	0.00679801	0.00681134	5.45308E-07	0.000197370	0.000422158	0.00723350	0.000224242
C9	7.76433E-05	0	7.74041E-05	4.23578E-05*	0.00358327*	0	0*	2.25436E-06	0.00354573	0.00354798	1.00293E-07	3.63004E-05	7.76433E-05	0.00362562	4.12426E-05
C10	0	0	0	0*	0*	0	0*	0	0	0	0	0	0	0	0
C10+	6.42314E-07	0	6.40336E-07	9.41285E-06*	0.0257488*	0	0*	1.05750E-08	0.0257576	0.0257576	8.29686E-10	3.00299E-07	6.42314E-07	0.0257583	3.41185E-07
Mole Fraction															
Water	0.0185619		0.0185619	0*	0*		1*	0.0181476	0.000298398	0.00132656	0.0185619	0.0185619	0.0185619	0.495957	0.0185619
H2S	0		0	0*	0*		0*	0	0	0	0	0	0	0	0
N2	0.0236817		0.0236817	0.024541*	0.000780031*		0*	0.00344773	5.95766E-06	0.000204213	0.0236817	0.0236817	0.0236817	0.0100656	0.0236817
CO2	0.00886921		0.00886921	0.009288*	0.000340014*		0*	0.00719885	9.28333E-05	0.000502159	0.00886921	0.00886921	0.00886921	0.00381387	0.00886921
C1	0.590964		0.590964	0.615885*	0.0130805*		0*	0.224976	0.00113098	0.0140251	0.590964	0.590964	0.590964	0.251979	0.590964
C2	0.189482		0.189482	0.196355*	0.0256510*		0*	0.271092	0.00783897	0.0230030	0.189482	0.189482	0.189482	0.0824182	0.189482
C3	0.0898400		0.0898400	0.091763*	0.0400416*		0*	0.229400	0.0236985	0.0355475	0.0898400	0.0898400	0.0898400	0.0412371	0.0898400
iC4	0.00967601		0.00967601	0.009585*	0.00951038*		0*	0.0293538	0.00689943	0.00819287	0.00967601	0.00967601	0.00967601	0.00482401	0.00967601
nC4	0.0312861		0.0312861	0.030089*	0.0436317*		0*	0.0987309	0.0327340	0.0365356	0.0312861	0.0312861	0.0312861	0.0164794	0.0312861
iC5	0.00856240		0.00856240	0.005399*	0.0358814*		0*	0.0278099	0.0230303	0.0233057	0.00856240	0.00856240	0.00856240	0.00567720	0.00856240
nC5	0.0117470		0.0117470	0.008185*	0.0542422*		0*	0.0379801	0.0413222	0.0411297	0.0117470	0.0117470	0.0117470	0.00859174	0.0117470
2-Methylpentane	0.00218586		0.00218586	0*	0.0237510*		0*	0.00692477	0.0162187	0.0156833	0.00218586	0.00218586	0.00218586	0.00230312	0.00218586
3-Methylpentane	0.00129855		0.00129855	0*	0.0149606*		0*	0.00409606	0.0106340	0.0102574	0.00129855	0.00129855	0.00129855	0.00145073	0.00129855
nC6	0.00409789		0.00409789	0.002101*	0.0448218*		0*	0.0126530	0.0411184	0.0394787	0.00409789	0.00409789	0.00409789	0.00520162	0.00409789
Cyclohexane	0.00139743		0.00139743	0.003555*	0.00773031*		0*	0.00432894	0.0191355	0.0182826	0.00139743	0.00139743	0.00139743	0.00219675	0.00139743
C7	0.00452674		0.00452674	0.002008*	0.123565*		0*	0.0130119	0.130806	0.124020	0.00452674	0.00452674	0.00452674	0.0127995	0.00452674
Methylcyclohexane	5.86542E-05		5.86542E-05	0.000368*	0*		0*	0.000173358	0.00150049	0.00142405	5.86542E-05	5.86542E-05	5.86542E-05	0.000149803	5.86542E-05
Benzene	0.000808236		0.000808236	0.000197*	0.00834033*		0*	0.00258810	0.00641210	0.00619182	0.000808236	0.000808236	0.000808236	0.000888953	0.000808236
Toluene	0.000611614		0.000611614	7.60000E-05*	0.0169207*		0*	0.00181058	0.0169530	0.0160807	0.000611614	0.000611614	0.000611614	0.00167173	0.000611614
Ethylbenzene	9.55307E-05		9.55307E-05	5.00000E-06*	0.00704028*		0*	0.000259679	0.00777448	0.00734161	9.55307E-05	9.55307E-05	9.55307E-05	0.000684730	9.55307E-05
o-Xylene	0.000368915		0.000368915	3.10000E-05*	0.0320813*		0*	0.000994517	0.0358165	0.0338107	0.000368915	0.000368915	0.000368915	0.00312353	0.000368915
2,2,4-Trimethylpentane	0.000349856		0.000349856	0*	0.0101004*		0*	0.00101758	0.00999032	0.00947347	0.000349856	0.000349856	0.000349856	0.000979434	0.000349856
C8	0.00129097		0.00129097	0.000404*	0.0950838*		0*	0.00342287	0.106691	0.100742	0.00129097	0.00129097	0.00129097	0.00938471	0.00129097
C9	0.000237436		0.000237436	0.000135*	0.0479419*		0*	0.000578841	0.0556481	0.0524760	0.000237436	0.000237436	0.000237436	0.00470387	0.000237436
C10	0		0	0*	0*		0*	0	0	0	0	0	0	0	0
C10+	1.96422E-06		1.96422E-06	3.00000E-05*	0.344504*		0*	2.71530E-06	0.404251	0.380965	1.96422E-06	1.96422E-06	1.96422E-06	0.0334187	1.96422E-06
Mass Fraction															
Water	0.0128657		0.0128657	0*	0*		1*	0.00825234	3.65774E-05	0.000169751	0.0128657	0.0128657	0.0128657	0.277744	0.0128657
H2S	0		0	0*	0*		0*	0	0	0	0	0	0	0	0
N2	0.0255241		0.0255241	0.0274693*	0.000162412*		0*	0.00243790	1.13558E-06	4.06344E-05	0.0255241	0.0255241	0.0255241	0.00876527	0.0255241
CO2	0.0150177		0.0150177	0.0163327*	0.000111220*		0*	0.00799697	2.77988E-05	0.000156975	0.0150177	0.0150177	0.0150177	0.00521760	0.0150177
C1	0.364757		0.364757	0.394784*	0.00155968*		0*	0.0911010	0.000123453	0.00159816	0.364757	0.364757	0.364757	0.125659	0.364757
C2	0.219210		0.219210	0.235912*	0.00573276*		0*	0.205755	0.00160381	0.00491302	0.219210	0.219210	0.219210	0.0770374	0.219210
C3	0.152418		0.152418	0.161679*	0.0131234*		0*	0.255332	0.00711037	0.0111339	0.152418	0.152418	0.152418	0.0565252	0.152418
iC4	0.0216376		0.0216376	0.0222599*	0.00410846*		0*	0.0430648	0.00272855	0.00338238	0.0216376	0.0216376	0.0216376	0.00871585	0.0216376
nC4	0.0699625		0.0699625	0.0698778*	0.0188488*		0*	0.144847	0.0129454	0.0150835	0.0699625	0.0699625	0.0699625	0.0297743	0.0699625
iC5	0.0237682		0.0237682	0.0155644*	0.0192415*		0*	0.0506460	0.0113059	0.0119436	0.0237682	0.0237682	0.0237682	0.0127328	0.0237682
nC5	0.0326082		0.0326082	0.0235959*	0.0290874*		0*	0.0691674	0.0202856	0.0210780	0.0326082	0.0326082	0.0326082	0.0192694	0.0326082
2-Methylpentane	0.00724731		0.00724731	0*	0.0152126*		0*	0.0150628	0.00950988	0.00959989	0.00724731	0.00724731	0.00724731	0.00616963	0.00724731
3-Methylpentane	0.00430541		0.00430541	0*	0.00958233*		0*	0.00890976	0.00623525	0.00627861	0.00430541	0.00430541	0.00430541	0.00388622	0.00430541
nC6	0.0135867		0.0135867	0.00723433*	0.0287086*		0*	0.0275228	0.0241099	0.0241652	0.0135867	0.0135867	0.0135867	0.0139342	0.0135867
Cyclohexane	0.00452484		0.00452484	0.0119545*	0.00483547*		0*	0.00919604	0.0109577	0.0109291	0.00452484	0.00452484	0.00452484	0.00574702	0.00452484
C7	0.0174515		0.0174515	0.00803950*	0.0920260*		0*	0.0329104	0.0891822	0.0882701	0.0174515	0.0174515	0.0174515	0.0398682	0.0174515
Methylcyclohexane	0.000221575		0.000221575	0.00144373*	0*		0*	0.000429646	0.00100244	0.000993157	0.000221575	0.000221575	0.000221575	0.000457224	0.000221575
Benzene	0.00242899		0.00242899	0.000614855*	0.00484216*		0*	0.00510286	0.00340795	0.00343542	0.00242899	0.00242899	0.00242899	0.00215851	0.00242899
Toluene	0.00216815		0.00216815	0.000279797*	0.0115877*		0*	0.00421090	0.0106283	0.0105243	0.00216815	0.00216815	0.00216815	0.00478813	0.00216815
Ethylbenzene	0.000390208		0.000390208	2.12100E-05*	0.00555534*		0*	0.000695880	0.00561602	0.00553627	0.000390208	0.000390208	0.000390208	0.00225975	0.000390208
o-Xylene	0.00150688		0.00150688	0.000131502*	0.0253147*		0*	0.00266508	0.0258726	0.0254964	0.00150688	0.00150688	0.00150688	0.0103083	0.00150688
2,2,4-Trimethylpentane	0.00153757		0.00153757	0*	0.00857536*		0*	0.00293400	0.00776479	0.00768649	0.00153757	0.00153757	0.00153757	0.00347783	0.00153757
C8	0.00567366		0.00567366	0.00184393*	0.0807273*		0*	0.00986916	0.0829234	0.0817392	0.00567366	0.00567366	0.00567366	0.0333238	0.00567366
C9	0.00117164		0.00117164	0.000691827*	0.0457014*		0*	0.00187392	0.0485625	0.0478057	0.00117164	0.00117164	0.00117164	0.0187538	0.00117164
C10	0		0	0*	0*		0*	0	0	0	0	0	0	0	0
C10+	1.69811E-05		1.69811E-05	0.000269348*	0.575356*		0*	1.54006E-05	0.618058	0.608040	1.69811E-05	1.69811E-05	1.69811E-05	0.233427	1.69811E-05
Mass Flow	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
Water	12.0065	0	11.9695	0*	0*	0	756.150*	0.139804	0.0376086	0.177413	0.0155089	5.61335	12.0065	756.150	6.37761
H2S	0	0	0	0*	0*	0	0*	0	0	0	0	0	0	0	0
N2	23.8195	0	23.7461	23.6839*	0.179323*	0	0*	0.0413007	0.00116759	0.0424683	0.0307679	11.1362	23.8195	23.8632	12.6524
CO2	14.0147	0	13.9715	14.0820*	0.122801*	0	0*	0.135478	0.0285825	0.164060	0.0181030	6.55226	14.0147	14.2048	7.44435
C1	340.396	0	339.347	340.381*	1.72209*	0	0*	1.54335	0.126934	1.67029	0.439694	159.144	340.396	342.103	180.812
C2	204.569	0	203.939	203.403*	6.32970*	0	0*	3.48573	1.64903	5.13476	0.264245	95.6418	204.569	209.732	108.663
C3	142.239	0	141.801	139.398*	14.4899*	0	0*	4.32561	7.31083	11.6364	0.183732	66.5005	142.239	153.888	75.5545
iC4	20.1925	0	20.1303	19.1924*	4.53627*	0	0*	0.729567	2.80547	3.53504	0.0260830	9.44057	20.1925	23.7287	10.7259
nC4	65.2900	0	65.0889	60.2483*	20.8115*	0	0*	2.45388	13.3104	15.7643	0.0843360	30.5249	65.2900	81.0598	34.6808
iC5	22.1808	0	22.1125	13.4195*	21.2450*	0	0*	0.858000	11.6246	12.4826	0.0286512	10.3701	22.1808	34.6646	11.7820
nC5	30.4305	0	30.3367	20.3443*	32.1163*	0	0*	1.17177	20.8575	22.0293	0.0393075	14.2271	30.4305	52.4605	16.1641
2-Methylpentane	6.76329	0	6.74245	0*	16.7967*	0	0*	0.255180	9.77798	10.0332	0.00873624	3.16202	6.76329	16.7967	3.59253
3-Methylpentane	4.01787	0	4.00549	0*	10.5801*	0	0*	0.150941	6.41104	6.56198	0.00518994	1.87846	4.01787	10.5801	2.13421
nC6	12.6793	0	12.6403	6.23741*	31.6979*	0	0*	0.466267	24.7896	25.2558	0.0163781	5.92793	12.6793	37.9354	6.73501
Cyclohexane	4.22265	0	4.20964	10.3071*	5.33899*	0	0*	0.155791	11.2666	11.4224	0.00545445	1.97420	4.22265	15.6461	2.24299
C7	16.2860	0	16.2358	6.93162*	101.609*	0	0*	0.557539	91.6964	92.2540	0.0210369	7.61415	16.2860	108.540	8.65081
Methylcyclohexane	0.206777	0	0.206140	1.24478*	0*	0	0*	0.00727868	1.03070	1.03798	0.000267097	0.0966738	0.206777	1.24478	0.109836
Benzene	2.26677	0	2.25979	0.530125*	5.34637*	0	0*	0.0864482	3.50402	3.59047	0.00292802	1.05978	2.26677	5.87650	1.20407
Toluene	2.02335	0	2.01712	0.241240*	12.7943*	0	0*	0.0713374	10.9279	10.9992	0.00261359	0.945971	2.02335	13.0356	1.07476
Ethylbenzene	0.364147	0	0.363026	0.0182872*	6.13381*	0	0*	0.0117890	5.77434	5.78613	0.000470374	0.170249	0.364147	6.15210	0.193428
o-Xylene	1.40624	0	1.40191	0.113380*	27.9507*	0	0*	0.0451494	26.6020	26.6472	0.00181646	0.657457	1.40624	28.0640	0.746969
2,2,4-Trimethylpentane	1.43488	0	1.43047	0*	9.46830*	0	0*	0.0497053	7.98370	8.03340	0.00185346	0.670848	1.43488	9.46830	0.762183
C8	5.29474	0	5.27843	1.58983*	89.1333*	0	0*	0.167195	85.2612	85.4284	0.00683929	2.47544	5.29474	90.7231	2.81247
C9	1.09339	0	1.09002	0.596490*	50.4602*	0	0*	0.0317462	49.9315	49.9633	0.00141234	0.511188	1.09339	51.0567	0.580786
C10	0	0	0	0*	0*	0	0*	0	0	0	0	0	0	0	0
C10+	0.0158470	0	0.0157981	0.232230*	635.266*	0	0*	0.000260903	635.483	635.483	2.04697E-05	0.00740888	0.0158470	635.499	0.00841760

Process Streams	To Flare	VRT to Flare	VRT to Sales	Water Flash	Water Loadout	Water Tank feed	1	2	3	6	8	9	10	11	12	14	15	18	21	22
Composition — Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total — From Block:	MIX-108	SPLT-103	SPLT-103	Water Tank	Water Tank	MIX-100	SPLT-104	SPLT-105	Heater Treater	MIX-103	VRU	--	Heater Treater	SPLT-101	SPLT-101	VRT	VRT	--	SPLT-100	SPLT-100
To Block:	--	MIX-108	MIX-103	--	--	Water Tank	MIX-101	MIX-103	MIX-100	VRU	MIX-101	--	SPLT-101	MIX-102	VRT	MIX-102	SPLT-103	--	HP Separator	MIX-104
Std Vapor Volumetric Flow	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD
Water	0	0	0	1.47378E-06	0.376110	0.376112	0	1.86968E-05	0.376112	1.86968E-05	1.86968E-05	4.06385E-06*	8.96908E-05	8.96908E-05	0	0	0	4.06385E-06*	0	0.382271
H2S	0	0	0	0	0	0	0	0	0	0	0	0*	0	0	0	0	0	0*	0	0
N2	0	0	0	3.69595E-07	4.83787E-08	4.17974E-07	0	2.38539E-05	4.17974E-07	2.38539E-05	2.38539E-05	8.11366E-08*	1.38072E-05	1.38072E-05	0	0	0	8.11366E-08*	0	0.00775832
CO2	0	0	0	8.86708E-07	4.49462E-06	5.38133E-06	0	8.93368E-06	5.38133E-06	8.93368E-06	8.93368E-06	1.26428E-06*	3.39517E-05	3.39517E-05	0	0	0	1.26428E-06*	0	0.00293963
C1	0	0	0	1.65382E-05	4.44282E-06	2.09810E-05	0	0.000595259	2.09810E-05	0.000595259	0.000595259	1.54027E-05*	0.000948255	0.000948255	0	0	0	1.54027E-05*	0	0.194219
C2	0	0	0	6.18253E-06	2.32985E-06	8.51238E-06	0	0.000190859	8.51238E-06	0.000190859	0.000190859	0.000228407*	0.00155527	0.00155527	0	0	0	7.36882E-05*	0	0.0635259
C3	0	0	0	2.16967E-06	5.71533E-07	2.74121E-06	0	9.04929E-05	2.74121E-06	9.04929E-05	9.04929E-05	0.00128700*	0.00240342	0.00240342	0	0	0	6.06204E-05*	0	0.0317845
iC4	0	0	0	1.44018E-07	2.43770E-08	1.68395E-07	0	9.74634E-06	1.68395E-07	9.74634E-06	9.74634E-06	0.000411601*	0.000553932	0.000553932	0	0	0	7.61438E-06*	0	0.00371823
nC4	0	0	0	6.98334E-07	1.69438E-07	8.67772E-07	0	3.15135E-05	8.67772E-07	3.15135E-05	3.15135E-05	0.00199217*	0.00247023	0.00247023	0	0	0	2.54270E-05*	0	0.0127019
iC5	0	0	0	1.24068E-07	2.00750E-08	1.44143E-07	0	8.62463E-06	1.44143E-07	8.62463E-06	8.62463E-06	0.00144160*	0.00157573	0.00157573	0	0	0	7.02101E-06*	0	0.00437584
nC5	0	0	0	9.72932E-08	7.09276E-09	1.04386E-07	0	1.18324E-05	1.04386E-07	1.18324E-05	1.18324E-05	0.00259791*	0.00278084	0.00278084	0	0	0	9.51774E-06*	0	0.00662230
2-Methylpentane	0	0	0	2.07338E-08	1.94933E-09	2.26831E-08	0	2.20175E-06	2.26831E-08	2.20175E-06	2.20175E-06	0.00102712*	0.00106037	0.00106037	0	0	0	1.70941E-06*	0	0.00177519
3-Methylpentane	0	0	0	2.45202E-08	5.38909E-09	2.99093E-08	0	1.30799E-06	2.99093E-08	1.30799E-06	1.30799E-06	0.000673853*	0.000693516	0.000693516	0	0	0	1.00869E-06*	0	0.00111818
nC6	0	0	0	2.15379E-08	1.03592E-09	2.25738E-08	0	4.12767E-06	2.25738E-08	4.12767E-06	4.12767E-06	0.00260857*	0.00266921	0.00266921	0	0	0	3.08972E-06*	0	0.00400928
Cyclohexane	0	0	0	6.22739E-08	5.16501E-08	1.13924E-07	0	1.40758E-06	1.13924E-07	1.40758E-06	1.40758E-06	0.00121537*	0.00123612	0.00123612	0	0	0	1.05668E-06*	0	0.00169320
C7	0	0	0	1.54664E-08	5.20441E-10	1.59869E-08	0	4.55965E-06	1.59869E-08	4.55965E-06	4.55965E-06	0.00832313*	0.00838521	0.00838521	0	0	0	3.09944E-06*	0	0.00986550
Methylcyclohexane	0	0	0	1.49396E-09	5.29157E-10	2.02312E-09	0	5.90806E-08	2.02312E-09	5.90806E-08	5.90806E-08	9.54536E-05*	9.62819E-05	9.62819E-05	0	0	0	4.16198E-08*	0	0.000115464
Benzene	0	0	0	7.27234E-08	2.17225E-06	2.24497E-06	0	8.14111E-07	2.24497E-06	8.14111E-07	8.14111E-07	0.000406207*	0.000418639	0.000418639	0	0	0	6.39363E-07*	0	0.000685183
Toluene	0	0	0	5.41370E-08	1.22787E-06	1.28200E-06	0	6.16060E-07	1.28200E-06	6.16060E-07	6.16060E-07	0.00107859*	0.00108724	0.00108724	0	0	0	4.34355E-07*	0	0.00128853
Ethylbenzene	0	0	0	7.68851E-09	1.48091E-07	1.55780E-07	0	9.62251E-08	1.55780E-07	9.62251E-08	9.62251E-08	0.000495143*	0.000496377	0.000496377	0	0	0	6.06504E-08*	0	0.000527772
o-Xylene	0	0	0	3.04605E-08	8.80750E-07	9.11210E-07	0	3.71596E-07	9.11210E-07	3.71596E-07	3.71596E-07	0.00228127*	0.00228599	0.00228599	0	0	0	2.31663E-07*	0	0.00240754
2,2,4-Trimethylpentane	0	0	0	1.19356E-09	5.16021E-11	1.24516E-09	0	3.52399E-07	1.24516E-09	3.52399E-07	3.52399E-07	0.000635656*	0.000640516	0.000640516	0	0	0	2.43614E-07*	0	0.000754923
C8	0	0	0	2.11821E-09	3.19354E-11	2.15015E-09	0	1.30036E-06	2.15015E-09	1.30036E-06	1.30036E-06	0.00679508*	0.00681134	0.00681134	0	0	0	7.94727E-07*	0	0.00723350
C9	0	0	0	2.55017E-10	3.26560E-12	2.58283E-10	0	2.39162E-07	2.58283E-10	2.39162E-07	2.39162E-07	0.00354524*	0.00354798	0.00354798	0	0	0	1.30824E-07*	0	0.00362562
C10	0	0	0	0	0	0	0	0	0	0	0	0*	0	0	0	0	0	0*	0	0
C10+	0	0	0	1.81417E-13	2.57576E-16	1.81675E-13	0	1.97850E-09	1.81675E-13	1.97850E-09	1.97850E-09	0.0257576*	0.0257576	0.0257576	0	0	0	5.19370E-10*	0	0.0257583
Mole Fraction																				
Water				0.0508220	0.999956	0.999883		0.0185619	0.999883	0.0185619	0.0185619	6.45898E-05*	0.00132656	0.00132656	0.00132656			0.0187065*	0.495957	0.495957
H2S				0	0	0		0	0	0	0	0*	0	0	0			0*	0	0
N2				0.0127452	1.28623E-07	1.11117E-06		0.0236817	1.11117E-06	0.0236817	0.0236817	1.28957E-06*	0.000204213	0.000204213	0.000204213			0.000373485*	0.0100656	0.0100656
CO2				0.0305774	1.19497E-05	1.43061E-05		0.00886921	1.43061E-05	0.00886921	0.00886921	2.00942E-05*	0.000502159	0.000502159	0.000502159			0.00581971*	0.00381387	0.00381387
C1				0.570307	1.18120E-05	5.57775E-05		0.590964	5.57775E-05	0.590964	0.590964	0.000244807*	0.0140251	0.0140251	0.0140251			0.0709012*	0.251979	0.251979
C2				0.213199	6.19432E-06	2.26299E-05		0.189482	2.26299E-05	0.189482	0.189482	0.00363025*	0.0230030	0.0230030	0.0230030			0.339199*	0.0824182	0.0824182
C3				0.0748193	1.51952E-06	7.28742E-06		0.0898400	7.28742E-06	0.0898400	0.0898400	0.0204553*	0.0355475	0.0355475	0.0355475			0.279046*	0.0412371	0.0412371
iC4				0.00496635	6.48106E-08	4.47674E-07		0.00967601	4.47674E-07	0.00967601	0.00967601	0.00654188*	0.00819287	0.00819287	0.00819287			0.0350502*	0.00482401	0.00482401
nC4				0.0240815	4.50482E-07	2.30695E-06		0.0312861	2.30695E-06	0.0312861	0.0312861	0.0316631*	0.0365356	0.0365356	0.0365356			0.117044*	0.0164794	0.0164794
iC5				0.00427836	5.33731E-08	3.83199E-07		0.00856240	3.83199E-07	0.00856240	0.00856240	0.0229124*	0.0233057	0.0233057	0.0233057			0.0323188*	0.00567720	0.00567720
nC5				0.00335507	1.88574E-08	2.77507E-07		0.0117470	2.77507E-07	0.0117470	0.0117470	0.0412905*	0.0411297	0.0411297	0.0411297			0.0438117*	0.00859174	0.00859174
2-Methylpentane				0.000714987	5.18263E-09	6.03025E-08		0.00218586	6.03025E-08	0.00218586	0.00218586	0.0163248*	0.0156833	0.0156833	0.0156833			0.00786867*	0.00230312	0.00230312
3-Methylpentane				0.000845558	1.43279E-08	7.95130E-08		0.00129855	7.95130E-08	0.00129855	0.00129855	0.0107101*	0.0102574	0.0102574	0.0102574			0.00464317*	0.00145073	0.00145073
nC6				0.000742715	2.75419E-09	6.00118E-08		0.00409789	6.00118E-08	0.00409789	0.00409789	0.0414600*	0.0394787	0.0394787	0.0394787			0.0142225*	0.00520162	0.00520162
Cyclohexane				0.00214746	1.37321E-07	3.02864E-07		0.00139743	3.02864E-07	0.00139743	0.00139743	0.0193168*	0.0182826	0.0182826	0.0182826			0.00486405*	0.00219675	0.00219675
C7				0.000533347	1.38368E-09	4.25007E-08		0.00452674	4.25007E-08	0.00452674	0.00452674	0.132286*	0.124020	0.124020	0.124020			0.0142672*	0.0127995	0.0127995
Methylcyclohexane				5.15180E-05	1.40686E-09	5.37841E-09		5.86542E-05	5.37841E-09	5.86542E-05	5.86542E-05	0.00151712*	0.00142405	0.00142405	0.00142405			0.000191583*	0.000149803	0.000149803
Benzene				0.00250780	5.77530E-06	5.96819E-06		0.000808236	5.96819E-06	0.000808236	0.000808236	0.00645616*	0.00619182	0.00619182	0.00619182			0.00294309*	0.000888953	0.000888953
Toluene				0.00186687	3.26450E-06	3.40817E-06		0.000611614	3.40817E-06	0.000611614	0.000611614	0.0171429*	0.0160807	0.0160807	0.0160807			0.00199940*	0.00167173	0.00167173
Ethylbenzene				0.000265132	3.93727E-07	4.14137E-07		9.55307E-05	4.14137E-07	9.55307E-05	9.55307E-05	0.00786968*	0.00734161	0.00734161	0.00734161			0.000279183*	0.000684730	0.000684730
o-Xylene				0.00105040	2.34163E-06	2.42243E-06		0.000368915	2.42243E-06	0.000368915	0.000368915	0.0362579*	0.0338107	0.0338107	0.0338107			0.00106638*	0.00312353	0.00312353
2,2,4-Trimethylpentane				4.11589E-05	1.37193E-10	3.31023E-09		0.000349856	3.31023E-09	0.000349856	0.000349856	0.0101030*	0.00947347	0.00947347	0.00947347			0.00112139*	0.000979434	0.000979434
C8				7.30447E-05	8.49060E-11	5.71610E-09		0.00129097	5.71610E-09	0.00129097	0.00129097	0.107999*	0.100742	0.100742	0.100742			0.00365826*	0.00938471	0.00938471
C9				8.79406E-06	8.68219E-12	6.86638E-10		0.000237436	6.86638E-10	0.000237436	0.000237436	0.0563473*	0.0524760	0.0524760	0.0524760			0.000602204*	0.00470387	0.00470387
C10				0	0	0		0	0	0	0	0*	0	0	0			0*	0	0
C10+				6.25603E-09	6.84812E-16	4.82978E-13		1.96422E-06	4.82978E-13	1.96422E-06	1.96422E-06	0.409385*	0.380965	0.380965	0.380965			2.39074E-06*	0.0334187	0.0334187
Mass Fraction																				
Water				0.0371040	0.999885	0.999784		0.0128657	0.999784	0.0128657	0.0128657	7.84748E-06	0.000169751	0.000169751	0.000169751			0.00767308	0.277744	0.277744
H2S				0	0	0		0	0	0	0	0	0	0	0			0	0	0
N2				0.0144690	1.99993E-07	1.72768E-06		0.0255241	1.72768E-06	0.0255241	0.0255241	2.43632E-07	4.06344E-05	4.06344E-05	4.06344E-05			0.000238218	0.00876527	0.00876527
CO2				0.0545349	2.91900E-05	3.49449E-05		0.0150177	3.49449E-05	0.0150177	0.0150177	5.96408E-06	0.000156975	0.000156975	0.000156975			0.00583154	0.00521760	0.00521760
C1				0.370772	1.05178E-05	4.96645E-05		0.364757	4.96645E-05	0.364757	0.364757	2.64862E-05	0.00159816	0.00159816	0.00159816			0.0258976	0.125659	0.125659
C2				0.259797	1.03381E-05	3.77676E-05		0.219210	3.77676E-05	0.219210	0.219210	0.000736175	0.00491302	0.00491302	0.00491302			0.232225	0.0770374	0.0770374
C3				0.133702	3.71904E-06	1.78355E-05		0.152418	1.78355E-05	0.152418	0.152418	0.00608311	0.0111339	0.0111339	0.0111339			0.280160	0.0565252	0.0565252
iC4				0.0116979	2.09082E-07	1.44418E-06		0.0216376	1.44418E-06	0.0216376	0.0216376	0.00256431	0.00338238	0.00338238	0.00338238			0.0463840	0.00871585	0.00871585
nC4				0.0567222	1.45328E-06	7.44211E-06		0.0699625	7.44211E-06	0.0699625	0.0699625	0.0124114	0.0150835	0.0150835	0.0150835			0.154892	0.0297743	0.0297743
iC5				0.0125093	2.13737E-07	1.53451E-06		0.0237682	1.53451E-06	0.0237682	0.0237682	0.0111487	0.0119436	0.0119436	0.0119436			0.0530909	0.0127328	0.0127328
nC5				0.00980977	7.55159E-08	1.11127E-06		0.0326082	1.11127E-06	0.0326082	0.0326082	0.0200912	0.0210780	0.0210780	0.0210780			0.0719705	0.0192694	0.0192694
2-Methylpentane				0.00249695	2.47892E-08	2.88426E-07		0.00724731	2.88426E-07	0.00724731	0.00724731	0.00948757	0.00959989	0.00959989	0.00959989			0.0154390	0.00616963	0.00616963
3-Methylpentane				0.00295294	6.85319E-08	3.80310E-07		0.00430541	3.80310E-07	0.00430541	0.00430541	0.00622444	0.00627861	0.00627861	0.00627861			0.00911030	0.00388622	0.00388622
nC6				0.00259378	1.31736E-08	2.87036E-07		0.0135867	2.87036E-07	0.0135867	0.0135867	0.0240956	0.0241652	0.0241652	0.0241652			0.0279058	0.0139342	0.0139342
Cyclohexane				0.00732414	6.41458E-07	1.41471E-06		0.00452484	1.41471E-06	0.00452484	0.00452484	0.0109639	0.0109291	0.0109291	0.0109291			0.00932045	0.00574702	0.00574702
C7				0.00216578	7.69558E-09	2.36368E-07		0.0174515	2.36368E-07	0.0174515	0.0174515	0.0893953	0.0882701	0.0882701	0.0882701			0.0325500	0.0398682	0.0398682
Methylcyclohexane				0.000204992	7.66706E-09	2.93103E-08		0.000221575	2.93103E-08	0.000221575	0.000221575	0.00100460	0.000993157	0.000993157	0.000993157			0.000428294	0.000457224	0.000457224
Benzene				0.00793850	2.50392E-05	2.58747E-05		0.00242899	2.58747E-05	0.00242899	0.00242899	0.00340108	0.00343542	0.00343542	0.00343542			0.00523427	0.00215851	0.00215851
Toluene				0.00697080	1.66950E-05	1.74292E-05		0.00216815	1.74292E-05	0.00216815	0.00216815	0.0106525	0.0105243	0.0105243	0.0105243			0.00419447	0.00478813	0.00478813
Ethylbenzene				0.00114070	2.32009E-06	2.44029E-06		0.000390208	2.44029E-06	0.000390208	0.000390208	0.00563461	0.00553627	0.00553627	0.00553627			0.000674849	0.00225975	0.00225975
o-Xylene				0.00451924	1.37984E-05	1.42741E-05		0.00150688	1.42741E-05	0.00150688	0.00150688	0.0259603	0.0254964	0.0254964	0.0254964			0.00257769	0.0103083	0.0103083
2,2,4-Trimethylpentane				0.000190531	8.69834E-10	2.09869E-08		0.00153757	2.09869E-08	0.00153757	0.00153757	0.00778303	0.00768649	0.00768649	0.00768649			0.00291654	0.00347783	0.00347783
C8				0.000338136	5.38321E-10	3.62402E-08		0.00567366	3.62402E-08	0.00567366	0.00567366	0.0831996	0.0817392	0.0817392	0.0817392			0.00951446	0.0333238	0.0333238
C9				4.57079E-05	6.18063E-11	4.88786E-09		0.00117164	4.88786E-09	0.00117164	0.00117164	0.0487386	0.0478057	0.0478057	0.0478057			0.00175855	0.0187538	0.0187538
C10				0	0	0		0	0	0	0	0	0	0	0			0	0	0
C10+				5.69678E-08	8.54088E-15	6.02347E-12		1.69811E-05	6.02347E-12	1.69811E-05	1.69811E-05	0.620384	0.608040	0.608040	0.608040			1.22313E-05	0.233427	0.233427
Mass Flow	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
Water	0	0	0	0.00291520	743.963	743.966	0	0.0369831	743.966	0.0369831	0.0369831	0.00803847*	0.177413	0.177413	0	0	0	0.00803847*	0	756.150
H2S	0	0	0	0	0	0	0	0	0	0	0	0*	0	0	0	0	0	0*	0	0
N2	0	0	0	0.00113681	0.000148804	0.00128561	0	0.0733702	0.00128561	0.0733702	0.0733702	0.000249562*	0.0424683	0.0424683	0	0	0	0.000249562*	0	23.8632
CO2	0	0	0	0.00428472	0.0217187	0.0260034	0	0.0431690	0.0260034	0.0431690	0.0431690	0.00610923*	0.164060	0.164060	0	0	0	0.00610923*	0	14.2048
C1	0	0	0	0.0291310	0.00782572	0.0369567	0	1.04851	0.0369567	1.04851	1.04851	0.0271308*	1.67029	1.67029	0	0	0	0.0271308*	0	342.103
C2	0	0	0	0.0204118	0.00769206	0.0281039	0	0.630127	0.0281039	0.630127	0.630127	0.754092*	5.13476	5.13476	0	0	0	0.243284*	0	209.732
C3	0	0	0	0.0105047	0.00276715	0.0132719	0	0.438132	0.0132719	0.438132	0.438132	6.23116*	11.6364	11.6364	0	0	0	0.293501*	0	153.888
iC4	0	0	0	0.000919084	0.000155567	0.00107465	0	0.0621984	0.00107465	0.0621984	0.0621984	2.62672*	3.53504	3.53504	0	0	0	0.0485928*	0	23.7287
nC4	0	0	0	0.00445657	0.00108131	0.00553787	0	0.201110	0.00553787	0.201110	0.201110	12.7135*	15.7643	15.7643	0	0	0	0.162268*	0	81.0598
iC5	0	0	0	0.000982839	0.000159031	0.00114187	0	0.0683227	0.00114187	0.0683227	0.0683227	11.4200*	12.4826	12.4826	0	0	0	0.0556190*	0	34.6646
nC5	0	0	0	0.000770737	5.61874E-05	0.000826925	0	0.0937338	0.000826925	0.0937338	0.0937338	20.5801*	22.0293	22.0293	0	0	0	0.0753977*	0	52.4605
2-Methylpentane	0	0	0	0.000196181	1.84443E-05	0.000214625	0	0.0208327	0.000214625	0.0208327	0.0208327	9.71848*	10.0332	10.0332	0	0	0	0.0161742*	0	16.7967
3-Methylpentane	0	0	0	0.000232008	5.09910E-05	0.000282999	0	0.0123761	0.000282999	0.0123761	0.0123761	6.37593*	6.56198	6.56198	0	0	0	0.00954413*	0	10.5801
nC6	0	0	0	0.000203789	9.80180E-06	0.000213591	0	0.0390556	0.000213591	0.0390556	0.0390556	24.6820*	25.2558	25.2558	0	0	0	0.0292346*	0	37.9354
Cyclohexane	0	0	0	0.000575446	0.000477276	0.00105272	0	0.0130069	0.00105272	0.0130069	0.0130069	11.2307*	11.4224	11.4224	0	0	0	0.00976428*	0	15.6461
C7	0	0	0	0.000170162	5.72588E-06	0.000175888	0	0.0501652	0.000175888	0.0501652	0.0501652	91.5710*	92.2540	92.2540	0	0	0	0.0341000*	0	108.540
Methylcyclohexane	0	0	0	1.61059E-05	5.70466E-06	2.18105E-05	0	0.000636927	2.18105E-05	0.000636927	0.000636927	1.02905*	1.03798	1.03798	0	0	0	0.000448689*	0	1.24478
Benzene	0	0	0	0.000623715	0.0186304	0.0192541	0	0.00698225	0.0192541	0.00698225	0.00698225	3.48385*	3.59047	3.59047	0	0	0	0.00548352*	0	5.87650
Toluene	0	0	0	0.000547684	0.0124219	0.0129696	0	0.00623245	0.0129696	0.00623245	0.00623245	10.9117*	10.9992	10.9992	0	0	0	0.00439421*	0	13.0356
Ethylbenzene	0	0	0	8.96229E-05	0.00172626	0.00181588	0	0.00112167	0.00181588	0.00112167	0.00112167	5.77174*	5.78613	5.78613	0	0	0	0.000706985*	0	6.15210
o-Xylene	0	0	0	0.000355069	0.0102667	0.0106217	0	0.00433159	0.0106217	0.00433159	0.00433159	26.5921*	26.6472	26.6472	0	0	0	0.00270044*	0	28.0640
2,2,4-Trimethylpentane	0	0	0	1.49697E-05	6.47198E-07	1.56169E-05	0	0.00441982	1.56169E-05	0.00441982	0.00441982	7.97246*	8.03340	8.03340	0	0	0	0.00305542*	0	9.46830
C8	0	0	0	2.65668E-05	4.00537E-07	2.69673E-05	0	0.0163092	2.69673E-05	0.0163092	0.0163092	85.2245*	85.4284	85.4284	0	0	0	0.00996753*	0	90.7231
C9	0	0	0	3.59120E-06	4.59868E-08	3.63719E-06	0	0.00336792	3.63719E-06	0.00336792	0.00336792	49.9248*	49.9633	49.9633	0	0	0	0.00184229*	0	51.0567
C10	0	0	0	0	0	0	0	0	0	0	0	0*	0	0	0	0	0	0*	0	0
C10+	0	0	0	4.47587E-09	6.35483E-12	4.48222E-09	0	4.88128E-05	4.48222E-09	4.88128E-05	4.88128E-05	635.483*	635.483	635.483	0	0	0	1.28137E-05*	0	635.499

Process Streams		Heater Treater Gas	HP Flared Gas	HT Flared Gas	Inlet Gas	Inlet Oil	Inlet Separator Gas	Inlet Water	Oil Flash	Oil Loadout	Oil Tank Feed	Pilot Gas	Sales	Sales Gas	Sat. Gas	Sweep Blanket Gas
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block:	Heater Treater	SPLT-104	SPLT-105	--	--	HP Separator	--	Oil Tank	Oil Tank	MIX-102	SPLT-102	SPLT-102	MIX-101	Inlet Mixer	SPLT-102
	To Block:	SPLT-105	--	MIX-101	Inlet Mixer	Inlet Mixer	SPLT-104	Inlet Mixer	--	--	Oil Tank	--	--	SPLT-102	SPLT-100	--
Property	**Units**															
Temperature	°F	110*	89	110	120*	120*	89*	120*	89.8136*	89.8136	110	110.210	110.210	110.210	111.523	110.210
Pressure	psig	56*	102	56	76*	76*	102*	76*	0*	0	56	56	56	56	76	56
Molecular Weight	lb/lbmol	25.9913		25.9913	25.0271	134.543		18.0153	39.6172	146.968	140.785	25.9913	25.9913	25.9913	32.1693	25.9913
Mass Flow	lb/h	933.214	0	930.339	862.195	1104.13	0	756.150	16.9411	1028.19	1045.13	1.20545	436.303	933.214	2722.47	495.705
Std Vapor Volumetric Flow	MMSCFD	0.327007	0*	0.326*	0.313762*	0.0747418	0	0.382271	0.00389460	0.0637169	0.0676115	0.0004224*	0.152885	0.327007	0.770775	0.1737*
Std Liquid Volumetric Flow	sgpm	4.72286	0	4.70831	4.51199	3.02875*	0	1.51160*	0.0709136	2.77067	2.84159	0.00610058	2.20806	4.72286	9.05234	2.50869
Net Ideal Gas Heating Value	Btu/ft^3	1332.07		1332.07	1300.99	6745.66		0	2045.74	7356.85	7050.91	1332.07	1332.07	1332.07	1183.72	1332.07
Gross Ideal Gas Heating Value	Btu/ft^3	1461.67		1461.67	1428.14	7233.42		50.3100	2226.65	7883.76	7557.90	1461.67	1461.67	1461.67	1307.73	1461.67

Process Streams		To Flare	VRT to Flare	VRT to Sales	Water Flash	Water Loadout	Water Tank feed	1	2	3	6	8	9	10	11	12	14	15	18	21	22
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block:	MIX-108	SPLT-103	SPLT-103	Water Tank	Water Tank	MIX-100	SPLT-104	SPLT-105	Heater Treater	MIX-103	VRU	--	Heater Treater	SPLT-101	SPLT-101	VRT	VRT	--	SPLT-100	SPLT-100
	To Block:	--	MIX-108	MIX-103	--	--	Water Tank	MIX-101	MIX-103	MIX-100	VRU	MIX-101	--	SPLT-101	MIX-102	VRT	MIX-102	SPLT-103	--	HP Separator	MIX-104
Property	**Units**																				
Temperature	°F				89.8136*	89.8136	110	89	110	110	110	175.600	89.8136	110	110	110			89.8136		111.523
Pressure	psig	8	8	8	0*	0	56	102	56	56	56	102*	-5.27841	56	56	56	8	8*	-0.141157	76	76
Molecular Weight	lb/lbmol				24.6758	18.0165	18.0171		25.9913	18.0171	25.9913	25.9913	148.277	140.785	140.785	140.785			43.9202	32.1693	32.1693
Mass Flow	lb/h	0	0	0	0.0785684	744.048	744.127	0	2.87454	744.127	2.87454	2.87454	1024.34	1045.13	1045.13	0	0	0	1.04762	0	2722.47
Std Vapor Volumetric Flow	MMSCFD	0	0	0	2.89988E-05	0.376127	0.376156	0	0.00100727	0.376156	0.00100727	0.00100727	0.0629178	0.0676115	0.0676115	0	0	0	0.000217242	0	0.770775
Std Liquid Volumetric Flow	sgpm	0	0	0	0.000401074	1.48750	1.48790	0	0.0145476	1.48790	0.0145476	0.0145476	2.75507	2.84159	2.84159	0	0	0	0.00424215	0	9.05234
Net Ideal Gas Heating Value	Btu/ft^3				1198.99	0.0750488	0.167476		1332.07	0.167476	1332.07	1332.07	7421.48	7050.91	7050.91	7050.91			2268.18	1183.72	1183.72
Gross Ideal Gas Heating Value	Btu/ft^3				1318.53	50.3877	50.4854		1461.67	50.4854	1461.67	1461.67	7952.59	7557.90	7557.90	7557.90			2465.06	1307.73	1307.73

Process Streams		25	26	27	28	31	32 - Oil Tool W&B
Composition	Status	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block	--	--	--	HP Separator	MIX-104	MIX-105
	To Block	MIX-105	--	MIX-105	MIX-104	Heater Treater	--
Std Vapor Volumetric Flow		MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD
Water		7.25736E-06*	7.06778E-05*	7.69180E-06*	0	0.382271	1.49492E-05
H2S		0*	0*	0*	0	0	0
N2		1.44897E-07*	1.34275E-05*	1.53571E-07*	0	0.00775832	2.98467E-07
CO2		2.25781E-06*	2.80367E-05*	2.39296E-06*	0	0.00293963	4.65077E-06
C1		2.75067E-05*	0.000876192*	2.91533E-05*	0	0.194219	5.66600E-05
C2		0.000131595*	0.00105579*	0.000139473*	0	0.0635259	0.000271068
C3		0.000108258*	0.000893423*	0.000114739*	0	0.0317845	0.000222997
IC4		1.35980E-05*	0.000114321*	1.44120E-05*	0	0.00371823	2.80101E-05
nC4		4.54084E-05*	0.000384517*	4.81267E-05*	0	0.0127019	9.35351E-05
IC5		1.25384E-05*	0.000108309*	1.32889E-05*	0	0.00437584	2.58273E-05
nC5		1.69971E-05*	0.000147917*	1.80146E-05*	0	0.00662230	3.50177E-05
2-Methylpentane		3.05272E-06*	2.69692E-05*	3.23546E-06*	0	0.00177519	6.28818E-06
3-Methylpentane		1.80136E-06*	1.59525E-05*	1.90919E-06*	0	0.00111818	3.71054E-06
nC6		5.51773E-06*	4.92784E-05*	5.84803E-06*	0	0.00400928	1.13658E-05
Cyclohexane		1.88705E-06*	1.68595E-05*	2.00001E-06*	0	0.00169320	3.88706E-06
C7		5.53509E-06*	5.06762E-05*	5.86643E-06*	0	0.00986550	1.14015E-05
Methylcyclohexane		7.43262E-08*	6.75161E-07*	7.87755E-08*	0	0.000115464	1.53102E-07
Benzene		1.14180E-06*	1.00796E-05*	1.21015E-06*	0	0.000685183	2.35195E-06
Toluene		7.75686E-07*	7.05150E-06*	8.22120E-07*	0	0.00128853	1.59781E-06
Ethylbenzene		1.08312E-07*	1.01135E-06*	1.14795E-07*	0	0.000527772	2.23107E-07
o-Xylene		4.13713E-07*	3.87325E-06*	4.38479E-07*	0	0.00240754	8.52192E-07
2,2,4-Trimethylpentane		4.35054E-07*	3.96308E-06*	4.61098E-07*	0	0.000754923	8.96152E-07
C8		1.41925E-06*	1.33307E-05*	1.50421E-06*	0	0.00723350	2.92346E-06
C9		2.33630E-07*	2.25436E-06*	2.47616E-07*	0	0.00362562	4.81246E-07
C10		0*	0*	0*	0	0	0
C10+		9.27509E-10*	1.05750E-08*	9.83031E-10*	0	0.0257583	1.91054E-09
Mole Fraction							
Water		0.0187065*	0.0181476*	0.0187065*		0.495957	0.0187065
H2S		0*	0*	0*		0	0
N2		0.000373485*	0.00344771*	0.000373485*		0.0100656	0.000373485
CO2		0.00581971*	0.00719885*	0.00581971*		0.00381387	0.00581971
C1		0.0709012*	0.224976*	0.0709012*		0.251979	0.0709012
C2		0.339199*	0.271092*	0.339199*		0.0824182	0.339199
C3		0.279046*	0.229400*	0.279046*		0.0412371	0.279046
IC4		0.0350502*	0.0293538*	0.0350502*		0.00482401	0.0350502
nC4		0.117044*	0.0987309*	0.117044*		0.0164794	0.117044
IC5		0.0323188*	0.0278099*	0.0323188*		0.00567720	0.0323188
nC5		0.0438117*	0.0379801*	0.0438117*		0.00859174	0.0438117
2-Methylpentane		0.00786867*	0.00692477*	0.00786867*		0.00230312	0.00786867
3-Methylpentane		0.00464317*	0.00409606*	0.00464317*		0.00145073	0.00464317
nC6		0.0142225*	0.0126530*	0.0142225*		0.00520162	0.0142225
Cyclohexane		0.00486405*	0.00432894*	0.00486405*		0.00219675	0.00486405
C7		0.0142672*	0.0130119*	0.0142672*		0.0127995	0.0142672
Methylcyclohexane		0.000191583*	0.000173358*	0.000191583*		0.000149803	0.000191583
Benzene		0.00294309*	0.00258810*	0.00294309*		0.000888953	0.00294309
Toluene		0.00199940*	0.00181058*	0.00199940*		0.00167173	0.00199940
Ethylbenzene		0.000279183*	0.000259679*	0.000279183*		0.000684730	0.000279183
o-Xylene		0.00106638*	0.000994517*	0.00106638*		0.0031253	0.00106638
2,2,4-Trimethylpentane		0.00112139*	0.00101758*	0.00112139*		0.000979434	0.00112139
C8		0.00365826*	0.00342287*	0.00365826*		0.00938471	0.00365826
C9		0.000602204*	0.000578841*	0.000602204*		0.00470387	0.000602204
C10		0*	0*	0*		0	0
C10+		2.39074E-06*	2.71530E-06*	2.39074E-06*		0.0334187	2.39074E-06
Mass Fraction							
Water		0.00767308	0.00825234	0.00767308		0.277744	0.00767308
H2S		0	0	0		0	0
N2		0.000238218	0.00243790	0.000238218		0.00876527	0.000238218
CO2		0.00583154	0.00799697	0.00583154		0.00521760	0.00583154
C1		0.0258976	0.0911010	0.0258976		0.125659	0.0258976
C2		0.232225	0.205755	0.232225		0.0770374	0.232225
C3		0.280160	0.255332	0.280160		0.0565252	0.280160
IC4		0.0463840	0.0430648	0.0463840		0.00871585	0.0463840
nC4		0.154892	0.144847	0.154892		0.0297743	0.154892
IC5		0.0530909	0.0506460	0.0530909		0.0127328	0.0530909
nC5		0.0719705	0.0691674	0.0719705		0.0192694	0.0719705
2-Methylpentane		0.0154390	0.0150628	0.0154390		0.00616963	0.0154390
3-Methylpentane		0.00911030	0.00890976	0.00911030		0.00388622	0.00911030
nC6		0.0279058	0.0275228	0.0279058		0.0139342	0.0279058
Cyclohexane		0.00932045	0.00919604	0.00932045		0.00574702	0.00932045
C7		0.0325500	0.0329104	0.0325500		0.0398682	0.0325500
Methylcyclohexane		0.000428294	0.000429646	0.000428294		0.000457224	0.000428294
Benzene		0.00523427	0.00510286	0.00523427		0.00215851	0.00523427
Toluene		0.00419447	0.00421090	0.00419447		0.00478813	0.00419447
Ethylbenzene		0.000674849	0.000695880	0.000674849		0.00225975	0.000674849
o-Xylene		0.00257769	0.00266508	0.00257769		0.0103083	0.00257769
2,2,4-Trimethylpentane		0.00291654	0.00293400	0.00291654		0.00347783	0.00291654
C8		0.00951446	0.00986916	0.00951446		0.0333238	0.00951446
C9		0.00175855	0.00187392	0.00175855		0.0187538	0.00175855
C10		0	0	0		0	0
C10+		1.22313E-05	1.54006E-05	1.22313E-05		0.233427	1.22313E-05
Mass Flow		lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
Water		0.0143554*	0.139804*	0.0152147*	0	756.150	0.0295701
H2S		0*	0*	0*	0	0	0
N2		0.000445676*	0.0413007*	0.000472355*	0	23.8632	0.000918032
CO2		0.0109101*	0.135478*	0.0115632*	0	14.2048	0.0224733
C1		0.0484512*	1.54335*	0.0513516*	0	342.103	0.0998029
C2		0.434465*	3.48573*	0.460473*	0	209.732	0.894937
C3		0.524145*	4.32561*	0.555521*	0	153.888	1.07967
IC4		0.0867787*	0.729567*	0.0919735*	0	23.7287	0.178752
nC4		0.289783*	2.45388*	0.307130*	0	81.0598	0.596914
IC5		0.0993265*	0.858000*	0.105272*	0	34.6646	0.204599
nC5		0.134648*	1.17177*	0.142708*	0	52.4605	0.277356
2-Methylpentane		0.0288945*	0.255180*	0.0306136*	0	16.7967	0.0594981
3-Methylpentane		0.0170442*	0.150941*	0.0180646*	0	10.5801	0.0351088
nC6		0.0522082*	0.466267*	0.0553335*	0	37.9354	0.107542
Cyclohexane		0.0174374*	0.155791*	0.0184812*	0	15.6461	0.0359186
C7		0.0608970*	0.557539*	0.0645424*	0	108.540	0.125439
Methylcyclohexane		0.000801285*	0.00727868*	0.000849252*	0	1.24478	0.00165054
Benzene		0.00979267*	0.0864482*	0.0103789*	0	5.87650	0.0201715
Toluene		0.00784733*	0.0713374*	0.00831709*	0	13.0356	0.0161644
Ethylbenzene		0.00126256*	0.0117890*	0.00133814*	0	6.15210	0.00260070
o-Xylene		0.00482254*	0.0451494*	0.00511122*	0	28.0640	0.00993376
2,2,4-Trimethylpentane		0.00545649*	0.0497053*	0.00578312*	0	9.46830	0.0112396
C8		0.0178004*	0.167195*	0.0188659*	0	90.7231	0.0366663
C9		0.00329002*	0.0317462*	0.00348697*	0	51.0567	0.00677699
C10		0*	0*	0*	0	0	0
C10+		2.28832E-05*	0.000260903*	2.42530E-05*	0	635.499	4.71362E-05

Process Streams		25	26	27	28	31	32 - Oil Tool W&B
Properties	Status	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block	--	--	--	HP Separator	MIX-104	MIX-105
	To Block	MIX-105	--	MIX-105	MIX-104	Heater Treater	--
Property	Units						
Temperature	°F	89.8136	89.8136	89.8136	89	111.523	89.8136
Pressure	psig	-0.141157	-2.31978E-07	-0.141157	102	76	-0.141157
Molecular Weight	lb/lbmol	43.9202	39.6172	43.9202		32.1693	43.9202
Mass Flow	lb/h	1.87088	16.9411	1.98287	0	2722.47	3.85375
Std Vapor Volumetric Flow	MMSCFD	0.000387959	0.00389460	0.000411183	0	0.770775	0.000799141
Std Liquid Volumetric Flow	sgpm	0.00757579	0.0709136	0.00802929	0	9.05234	0.0156051
Net Ideal Gas Heating Value	Btu/ft^3	2268.18	2045.74	2268.18		1183.72	2268.18
Gross Ideal Gas Heating Value	Btu/ft^3	2465.06	2226.65	2465.06		1307.73	2465.06

AIR PERMITTING ANALYSIS

Company Name: Marathon Oil Company

Facility Name: Demaray

Field: Fort Berthold Reservation

Date Prepared: 6/28/2023

Prepared By: Marathon Oil Company

	Annual Averaged		Annual Total	
Produced Gas	380	mscfd	138,700	mscf/yr
Well Gas Flared			11,370	mscf/yr
Oil Production	73	bbls/day	26,645	bbls/yr
Produced Water Production	63	bbls/day	22,995	bbls/yr
Heater Treater Temp. / Pressure	110	deg F	59	psig
HP Flare Control Efficiency	98%			
LP Flare Control Efficiency	98%			
Operating Period	365	days	8760	hours

Emission Sources	NOx	CO	VOC	HAPs	n-Hexane	PM_{10}	SO_2
Boilers and/or Heaters	0.43	0.36	0.02	--	--	0.03	0.00
Engines and/or Turbines	-	-	-	0.00	0.00	-	-
Equipment Fugitives	--	--	1.40	0.09	0.04	--	--
Oil Truck Loading	--	--	0.16	0.01	0.01	--	--
Oil Tanks	Emissions represented at LP Flare						
Water Tank	Emissions represented at LP Flare						
High Pressure Flare	0.56	2.33	2.74	0.14	0.10	0.00	--
Low Pressure Flare	0.11	0.44	1.01	0.06	0.04	0.00	--
Pneumatics	--	--	1.69	0.04	0.04	--	--
Total (TPY)	**1.10**	**3.13**	**7.02**	**0.35**	**0.22**	**0.03**	**0.00**

6c. 2023-04-24 Demaray PTE Heater Burners

Heater ID:	Treater 1	Treater 2	Treater 3	Treater 4
Heater Rating (MMBtu/hr)	1.00			
Heater Fuel Source	High Pressure Gas			
Fuel Heat Value (Btu/scf)	1,020			
Operating Hours	8,760			
Fuel Usage (Mscf/year)[1]	8,588			

(1) Fuel Usage = (Heater Treater Rating, MMBtu/hr) x (8760 hours/year) / (Fuel Heat Value, Btu/scf) x (1,000 Mscf/MMscf)

Emissions Factors (lb/MMscf) - From AP42, Ch.1.4, Tables 1.4-1 & 1.4-2 dated July 1998				
NOx	**CO**	**VOC**	**PM**	**SO_2**
100	84	5.5	7.6	0.6

Note: If the actual maximum fuel usage is provided, the above emission factors are adjusted by the ratio of the actual fuel heat value to 1020 Btu/scf.

Heater/Boiler Emissions (Tons/year)[2]						
Heater ID:	**Fuel Usage (Mscf/yr)**	**NOx**	**CO**	**VOC**	**PM**	**SO_2**
Treater 1	8,588	0.43	0.36	0.02	0.03	2.58E-03
Total		**0.43**	**0.36**	**0.02**	**0.03**	**0.00**

(2) Emissions in TPY = (Fuel Usage Mscf/year) x (Emission Factor lb/MMscf) / (2000 lb/ton) x (1000 Mscf/MMscf)
(3) All PM emissions were assumed to be PM10 based on footnote (c) to Table 1.4-2 of AP-42 (dated 7/98).

Calculation Basis:
Natural gas-fired single-burner heater treaters will be used to heat the oil/water/gas mixture to help promote three phase separation.
External combustion emissions were calculated in accordance with AP-42 Section 1.4 (July 1998), Natural Gas Combustion, Tables 1.4-1, 1.4-2, and 1.4-3., using emission factors for Small Boilers (less than 100 MMBtu/hr rating).
All heaters are assumed to run 8760 hours per year.
Emissions of HAPs are assumed to be deminimis.

6c. 2023-04-24 Demaray PTE Fugitives

Default Component Counts - Light Oil Service (per major piece of equipment)[1]				
Equipment	Valves	Flanges	Connectors	Other Components
Wellhead	5	10	4	1
Separators	6	12	10	0
Heater Treater	8	12	20	0
Header	5	10	4	0

(1) From MRR Subpart W Table W-1C.

Default Component Counts - Gas Service (per major piece of equipment)[1]				
Equipment	Valves	Connectors	Open-Ended Lines	Pressure Relief Valves
Wellhead	11	36	1	0
Separators	34	106	6	2
Meters/Piping	14	51	1	1
Compressors	73	179	3	4
In-Line heaters	14	65	2	1

(1) From MRR Subpart W Table W-1C.

Total Fugitive Emissions (Tons/year)		
VOC	HAPs	n-Hexane
1.40	0.09	0.04
Operating Period	8,760	hours

Major Equipment Counts[2]	
Wellhead	1
Header	0
Separator	0
Heater Treater	1
Meters	1
Compressors	0
In-Line Heaters	0
Pumps	4

(2) Actual count of major equipment at facility

Component Type	Number of Components in Gas Service[3]	Gas Emission Factor (lb/hr per Component)[4]	VOC Emissions (TPY) from Gas Components[5]	HAP Emissions (TPY) from Gas Components[5]	n-Hexane Emissions (TPY) from Gas Components[5]	Number of Components in Oil Service[3]	Oil Emission Factor (lb/hr per Component)[4]	VOC Emissions (TPY) from Oil Components[5]	HAP Emissions (TPY) from Oil Components[5]	n-Hexane Emissions (TPY) from Oil Components[5]
Valves	25	0.010	0.35	0.01	0.01	13	0.006	0.31	0.03	8.99E-03
Pumps	0	0.01	0.00E+00	0.00E+00	0.00E+00	4	0.029	0.50	0.04	0.01
Flanges	0	8.60E-04	0.00E+00	0.00E+00	0.00E+00	22	2.43E-04	0.02	1.98E-03	6.72E-04
Compressors	0	0.019	0.00E+00	0.00E+00	0.00E+00	0	0.017	0.00E+00	0.00E+00	0.00E+00
Relief Valves	1	0.019	0.03	7.04E-04	6.15E-04	0	0.017	0.00E+00	0.00E+00	0.00E+00
Open-ended Lines	2	4.41E-03	0.01	3.20E-04	2.79E-04	0	0.003	0.00E+00	0.00E+00	0.00E+00
Connectors	87	4.40E-04	0.05	1.39E-03	1.21E-03	24	4.63E-04	0.05	4.12E-03	1.40E-03
Other	0	0.019	0.00E+00	0.00E+00	0.00E+00	1	0.017	0.07	0.01	2.07E-03

(3) The number of components for a particular type of equipment were calculated as follows: (Number of Components) = (Equipment Count) x (Components per Equipment for service)

(4) Factors taken from EPA document EPA-453/R-95-017; November, 1995; pp. 2-15.

(5) Per Service Type and Per Component Type: (VOC or HAP Emissions, TPY) = (Component Count) x (Emission Factor, lb/hr/component) x (8760 hours per year) x (wts%VOC or HAP) x (1 ton per 2000 lb)

Calculation Basis:

Site specific component counts are not available so default component counts are used based on the approach provided in EPA's Mandatory Reporting Rule for Greenhouse Gases (GHG MMR), 40 CFR Part 98, Subpart W, Table W-1B. Actual counts were compiled for major equipment (i.e. wellheads, separators, in-line heaters, etc.), and default component counts were applied to each equipment type.

Oil produced at the site will have an API gravity of greater than 20° API; therefore, all hydrocarbon liquids are considered "light oil". There are no "heavy oil" components at this site.

6c. 2023-04-24 Demaray PTE Pneumatics

Pneumatic Devices					
Type	Count	Bleed Rate (scf/hr/component)	VOC (TPY)	HAP (TPY)	n-Hexane
Valves	3	6	1.69	0.04	0.04
Pumps	0	0	0.00E+00	0.00E+00	0.00E+00

No venting pneumatic valves

Total Fugitive Emissions (Tons/year)		
VOC	HAPs	n-Hexane
1.69	**0.04**	**0.04**

Calculation Basis: Emissions are estimated using the estimated controller count (for those that vent to atmosphere), an emission factor for pneumatics that is the same as what would be considered a covered continuous venting pneumatic device, and a gas composition. Note: devices used are snap acting versus throttling. The gas composition used is that of the high pressure separator gas composition.
Where pneumatic pumps are used, the manufacturer specified bleed rate will be used.

Emissions (TPY) = Count of devices * Bleed Rate (scf/hr/controller) * Gas Molecular Weight (lb/lbmole) * Weight Percent VOC or HAP * 1/molar volume conversion (379.3 scf/lbmole) * 8760 hr/yr * 1 ton/2000 lb

Gas Composition (High Pressure Separator Gas)	
Date of Analysis:	8/26/2022
Component	**wt%**
Water	0.00E+00
H2S	0.00E+00
Nitrogen	2.75%
Carbon Dioxide	1.63%
Methane	39.48%
Ethane	23.59%
Propane	16.17%
Isobutane	2.23%
n-Butane	6.99%
Isopentane	1.56%
n-Pentane	2.36%
2-Methylpentane	0.00E+00
3-Methylpentane	0.00E+00
n-Hexane	0.72%
Cyclohexane	1.20%
Heptane	0.80%
Methylcyclohexane	0.14%
Benzene	0.06%
Toluene	0.03%
Ethylbenzene	2.12E-05
o-Xylene	1.32E-04
2,2,4-Trimethylpentane	0.00E+00
Octane	0.18%
Nonane	0.07%
Decane	0.00E+00
Decanes+	2.69E-04
Gas wt %VOC	**32.55%**
Gas wt %HAPs	**0.83%**

Flowsheet Information				
Tank Losses Stencil Name		Oil Tank Losses		
Tank Losses Stencil Reference Stream		Oil Tank Feed		
Separator Name		Oil Tank		
Separator Inlet Stream		Oil Tank Feed		
Separator Pressure [psia]	Inlet | Outlet	72.7	13.7	
Separator Temperature [°F]	Inlet | Outlet	110.0	89.8	

Tank Characteristics				
Tank Type		Vertical Cylinder		
Time Frame		Year		
Material Category		Light Organics		
Number of Tanks		2.0		
Shell Height	[ft]	25.000		
Diameter [ft]	[ft]	13.500		
Maximum Liquid Height	[%] | [ft]	90.000	22.500	
Average Liquid Height	[%] | [ft]	50.000	12.500	
Minimum Liquid Height	[%] | [ft]	10.000	2.500	
Sum of Increases in Liquid Level	[ft/yr]	-		
Tank Volume	[gal] | [bbl]	26768.817	637.353	
Insulation		Uninsulated		
Bolted or Riveted Construction		FALSE		
Vapor Balance Tank		FALSE		

Paint Characteristics	
Shell Color	Tan
Shell Paint Condition	Average
Roof Color	Tan
Roof Paint Condition	Average

Roof Characteristics		
Type		Cone
Diameter	[ft]	-
Slope	[ft/ft]	0.063

Breather Vent Settings		
Breather Vacuum Pressure	[psig]	-0.030
Breather Vent Pressure	[psig]	0.030

Loading Loss Parameters		
Cargo Carrier		
Land Based Mode of Operation		
Marine Based Mode of Operation		
Overall Reduction Efficiency	[%]	
Maximum Hourly Loading Rate	[bbl/h]	

Meteorological Data			
Location		Williston, ND	
Average Atmospheric Pressure	[psia]	13.720	
Maximum Average Temperature	[°F]	53.200	
Minimum Average Temperature	[°F]	29.900	
Solar Insolation	[BTU/ft^2*day]	1193.000	
Average Wind Speed	[mph]	8.900	
Tank Conditions			
Flashing Temperature	[°F]	89.814	
Maximum Liquid Surface Temperature	[°F]	89.814	
Average Liquid Surface Temperature	[°F]	82.563	
Set Bulk Temperature to Stream Temperature?		TRUE	
Bulk Liquid Temperature	[°F]	110.000	
Net Throughput	[bbl/day] | [bbl/yr]	73.640	26878.517
Net Throughput Per Tank	[bbl/day] | [bbl/yr]	36.820	13439.259
Turnovers Per Tank	[per day]	26.355	
Residual Liquid	[bbl/day]	72.616	
Residual Liquid Per Tank	[bbl/day]	36.308	
Raoult's Law Used for Vapor Pressure Calc?		FALSE	
VP @ Minimum Liquid Surface Temperature	[psia]	11.780	
VP @ Maximum Liquid Surface Temperature	[psia]	13.720	
True Vapor Pressure	[psia]	12.719	

6c. 2023-04-24 Demaray PTE Water Tanks

Produced Water Production	63	BWPD
Oil Production	73	BOPD
Percent Oil in Produced Water	1%	Percent
Number of Water Tanks	1	
Number of Oil Tanks	2	

	Uncontrolled Water Flash			Uncontrolled Water W&S		
Component	**Oil Flash Mass Flow (lb/hr)**	**Ratioed Water Flash Mass Flow (lb/hr)**	**Water Flash Mass Flow 99% Reduction (lb/hr)**	**Oil W&B Mass Flow (lb/hr)**	**Ratioed Water W&S Mass Flow (lb/hr)**	**Water W&B Mass Flow 99% Reduction (lb/hr)**
Water	0.11	0.09	9.37E-04	0.02	0.01	1.06E-04
H2S	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nitrogen	0.03	0.03	2.87E-04	6.85E-04	3.43E-04	3.43E-06
Carbon Dioxide	0.11	0.10	9.51E-04	0.02	0.01	8.44E-05
Methane	1.25	1.08	0.01	0.07	0.04	3.73E-04
Ethane	2.85	2.46	0.02	0.64	0.32	3.22E-03
Propane	3.58	3.09	0.03	0.79	0.39	3.93E-03
Isobutane	0.60	0.52	0.01	0.13	0.07	6.51E-04
n-Butane	2.02	1.74	0.02	0.43	0.22	2.16E-03
Isopentane	0.65	0.56	0.01	0.14	0.07	6.85E-04
n-Pentane	0.91	0.79	0.01	0.19	0.09	9.49E-04
2-Methylpentane	0.18	0.15	1.54E-03	0.04	0.02	1.82E-04
3-Methylpentane	0.11	0.09	9.17E-04	0.02	0.01	1.09E-04
n-Hexane	0.36	0.31	3.12E-03	0.07	0.04	3.67E-04
Cyclohexane	0.15	0.13	1.32E-03	0.03	0.02	1.55E-04
Heptane	0.45	0.38	3.85E-03	0.09	0.04	4.41E-04
Methylcyclohexane	0.01	0.01	7.27E-05	1.68E-03	8.41E-04	8.41E-06
Benzene	0.06	0.05	5.48E-04	0.01	0.01	6.51E-05
Toluene	0.06	0.05	4.81E-04	0.01	0.01	5.55E-05
Ethylbenzene	0.01	0.01	8.22E-05	1.85E-03	9.24E-04	9.24E-06
o-Xylene	0.04	0.03	3.16E-04	0.01	3.55E-03	3.55E-05
2,2,4-Trimethylpentane	0.04	0.03	3.32E-04	0.01	3.82E-03	3.82E-05
Octane	0.14	0.12	1.17E-03	0.03	0.01	1.31E-04
Nonane	0.03	0.02	2.26E-04	4.92E-03	2.46E-03	2.46E-05
Decane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Oil 10+	2.16E-04	1.86E-04	1.86E-06	3.43E-05	1.71E-05	1.71E-07
Total	13.74	11.86	0.12	2.76	1.38	0.01
Total VOC	9.39	8.10	0.08	2.00	1.00	0.01
Total HAPs	0.57	0.49	4.88E-03	0.11	0.06	5.71E-04

Maximum Annual Emission Rates and Composition to LP Flare										
ProMax Stream:	Pilot Gas	Propane Pilot	Oil Flash	Oil W&B	Water Flash	Water Tank W&B	Sweep Blanket Gas	Total to Flare	Destruction Efficiency	Flare Exhaust (controlled)
Component	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(%)	(tpy)
Water	0.00	0.00E+00	0.48	0.09	4.10E-03	4.65E-04	0.00	**0.57**	0%	**0.57**
H2S	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**	98%	**0.00E+00**
Nitrogen	0.00	0.00E+00	0.15	3.00E-03	1.26E-03	1.50E-05	0.00	**0.15**	0%	**0.15**
Carbon Dioxide	0.00	0.00E+00	0.48	0.07	4.16E-03	3.70E-04	0.00	**0.56**	0%	**0.56**
Methane	0.00	0.00E+00	5.47	0.33	0.05	1.63E-03	0.00	**5.84**	98%	**0.12**
Ethane	0.00	0.00E+00	12.48	2.82	0.11	0.01	0.00	**15.43**	98%	**0.31**
Propane	0.00	0.00	15.69	3.45	0.14	0.02	0.00	**19.29**	98%	**0.39**
Isobutane	0.00	0.00E+00	2.64	0.57	0.02	2.85E-03	0.00	**3.24**	98%	**0.06**
n-Butane	0.00	0.00E+00	8.85	1.89	0.08	0.01	0.00	**10.82**	98%	**0.22**
Isopentane	0.00	0.00E+00	2.86	0.60	0.02	3.00E-03	0.00	**3.49**	98%	**0.07**
n-Pentane	0.00	0.00E+00	4.00	0.83	0.03	4.16E-03	0.00	**4.87**	98%	**0.10**
2-Methylpentane	0.00	0.00E+00	0.78	0.16	0.01	7.99E-04	0.00	**0.95**	98%	**0.02**
3-Methylpentane	0.00	0.00E+00	0.47	0.10	4.02E-03	4.76E-04	0.00	**0.57**	98%	**0.01**
n-Hexane	0.00	0.00E+00	1.59	0.32	0.01	1.61E-03	0.00	**1.92**	98%	**0.04**
Cyclohexane	0.00	0.00E+00	0.67	0.14	0.01	6.79E-04	0.00	**0.81**	98%	**0.02**
Heptane	0.00	0.00E+00	1.95	0.39	0.02	1.93E-03	0.00	**2.36**	98%	**0.05**
Methylcyclohexane	0.00E+00	0.00E+00	0.04	0.01	3.18E-04	3.69E-05	0.00	**0.04**	98%	**0.00**
Benzene	0.00	0.00E+00	0.28	0.06	2.40E-03	2.85E-04	0.00	**0.34**	98%	**0.01**
Toluene	0.00	0.00E+00	0.24	0.05	2.11E-03	2.43E-04	0.00	**0.29**	98%	**0.01**
Ethylbenzene	0.00E+00	0.00E+00	0.04	0.01	3.60E-04	4.05E-05	0.00	**0.05**	98%	**0.00**
o-Xylene	0.00	0.00E+00	0.16	0.03	1.39E-03	1.55E-04	0.00	**0.19**	98%	**0.00**
2,2,4-Trimethylpentane	0.00	0.00E+00	0.17	0.03	1.45E-03	1.67E-04	0.00	**0.20**	98%	**0.00**
Octane	0.00	0.00E+00	0.60	0.11	0.01	5.75E-04	0.00	**0.72**	98%	**0.01**
Nonane	0.00	0.00E+00	0.11	0.02	9.90E-04	1.08E-04	0.00	**0.14**	98%	**0.00**
Oil 10+	0.00E+00	0.00E+00	9.45E-04	1.50E-04	8.15E-06	7.51E-07	0.00	**0.00**	98%	**2.21E-05**
Total	**0.00**	**0.00**	**60.19**	**12.08**	**0.52**	**0.06**	**0**	**73**	--	**2.72**
Total VOC	**0.00**	**0.00**	**41.13**	**8.76**	**0.35**	**0.04**	**0.00**	**50.29**	--	**1.01**
Total HAP	**0.00**	**0.00E+00**	**2.48**	**0.50**	**0.02**	**2.50E-03**	**0.00**	**3.00**	--	**0.06**
Annual Hours (Hrs)	**8,760**	**8,760**	**8,760**	**8,760**	**8,760**	**8,760**	**8,760**	--		
Heating Value HHV (Btu/scf)	1,451	2,557	2,222	2,449	2,222	2,449	1,451	**2,257**		
Heating Value LHV (Btu/scf)	1,322	2,557	2,041	2,254	2,041	2,254	1,322	**2,074**		
Molecular Weight	25.78	44.10	39.51	43.64	39.51	43.64	25.78	--		
Volumetric Flow (scf/hr)	0.00	0.00	132	23.98	1.14	0.12	0.00	**157**		
Volumetric Flow (MMscf/yr)	0.00	0.00	1.16	0.21	0.01	1.05E-03	0.00	**1.38**		
H2S PPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**		

Oil Tank Flash GOR (scf/bbl)	43.40
Tank Total GOR (scf/bbl)	51.69

Combustion Emissions from Flare								Totals
	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)
Total NOx	0.00	0.00	0.09	0.02	7.53E-04	8.74E-05	0.00	**0.11**
Total CO	0.00	0.00	0.37	0.07	3.16E-03	3.67E-04	0.00	**0.44**
Total SO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
Total PM_{10}	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
Total $PM_{2.5}$	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**

Criteria Pollutant Emissions from Flare [a]		
Component	Emission Factor	Emission Factor Units
NO_X	0.068	lb/MMBtu
CO	0.31	lb/MMBtu
SO_2	--	--
PM_{10}	0.00	lb/MMscf
$PM_{2.5}$	0.00	lb/MMscf
H_2S	--	--

Constants	
H_2S Molecular Weight	34.08
SO_2 Molecular Weight	64.06
Gas Constant (scf/lb-mol)	379.30

Variables	
Flare Destruction Efficiency	98%
Number of Pilots	2
Volume of Gas/Tip (scf/hr)	35.20
Operating Hours	8,760

Footnotes:

[a] Flare CO and NOx emission factors from AP-42, Table 13.5-1 & 13.5-2, February 2018. PM_{10} and $PM_{2.5}$ emission factors from AP-42, Table 1.4-1 and 1.4-2, July 1998. SO_2 emissions assume 100% conversion of H_2S to SO_2.
Emissions are routed to the Hunts Along flare. Pilot and sweep gas emissions are shown at the Hunts Along flare.

HP Flare Annual Emissions

Maximum Annual Emission Rates and Composition to HP Flare							
ProMax Stream:	**Pilot Gas**	**Propane Pilot**	**HP Flared Gas**	**Heater Treater Gas**	**Total to Flare**	**Destruction Efficiency**	**Flare Exhaust (controlled)**
Component	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(%)**	**(tpy)**
Water	0.00	0.00E+00	0.00	4.81	4.81	0%	**4.81**
H2S	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	98%	**0.00E+00**
Nitrogen	0.00	0.00E+00	0.00	9.98	9.98	0%	**9.98**
Carbon Dioxide	0.00	0.00E+00	0.00	5.89	5.89	0%	**5.89**
Methane	0.00	0.00E+00	0.00	142.92	142.92	98%	**2.86**
Ethane	0.00	0.00E+00	0.00	85.69	85.69	98%	**1.71**
Propane	0.00	0.00	0.00	59.25	59.25	98%	**1.18**
Isobutane	0.00	0.00E+00	0.00	8.33	8.33	98%	**0.17**
n-Butane	0.00	0.00E+00	0.00	26.69	26.69	98%	**0.53**
Isopentane	0.00	0.00E+00	0.00	8.35	8.35	98%	**0.17**
n-Pentane	0.00	0.00E+00	0.00	11.70	11.70	98%	**0.23**
2-Methylpentane	0.00	0.00E+00	0.00	2.33	2.33	98%	**0.05**
3-Methylpentane	0.00	0.00E+00	0.00	1.40	1.40	98%	**0.03**
n-Hexane	0.00	0.00E+00	0.00	4.85	4.85	98%	**0.10**
Cyclohexane	0.00	0.00E+00	0.00	2.04	2.04	98%	**0.04**
Heptane	0.00	0.00E+00	0.00	6.42	6.42	98%	**0.13**
Methylcyclohexane	0.00E+00	0.00E+00	0.00	0.12	0.12	98%	**2.36E-03**
Benzene	0.00	0.00E+00	0.00	0.82	0.82	98%	**0.02**
Toluene	0.00	0.00E+00	0.00	0.78	0.78	98%	**0.02**
Ethylbenzene	0.00E+00	0.00E+00	0.00	0.15	0.15	98%	**2.90E-03**
o-Xylene	0.00	0.00E+00	0.00	0.56	0.56	98%	**0.01**
2,2,4-Trimethylpentane	0.00	0.00E+00	0.00E+00	0.55	0.55	98%	**0.01**
Octane	0.00	0.00E+00	0.00	2.13	2.13	98%	**0.04**
Nonane	0.00	0.00E+00	0.00	0.45	0.45	98%	**0.01**
Decane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	98%	**0.00E+00**
Oil 10+	0.00E+00	0.00E+00	0.00	0.01	0.01	98%	**1.30E-04**
Total	**0.00**	**0.00**	**0.00**	**386.19**	**386.19**	--	**27.99**
Total VOC	**0.00**	**0.00**	**0.00**	**136.90**	**136.90**	--	**2.74**
Total HAP	**0.00**	**0.00E+00**	**0.00**	**7.16**	**7.16**	--	**0.14**
Annual Hours (Hrs)	**8,760**	**8,760**	**0**	**720**	--		
Heating Value HHV (Btu/scf)	1,451	2,557		1,451	**1,451**		
Heating Value LHV (Btu/scf)	1,322	2,557		1,322	**1,322**		
Molecular Weight	25.78	44.10		25.78	--		
Volumetric Flow (scf/hr)	0.00	0.00	0	15,792	**15,792**		
Volumetric Flow (MMscf/yr)	0.00	0.00	0.00	11.37	**11.37**		
H2S PPM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**		

Criteria Pollutant Emissions from Flare[a]		
Component	**Emission Factor**	**Emission Factor Units**
NO_x	0.068	lb/MMBtu
CO	0.31	lb/MMBtu
SO_2	--	--
PM_{10}	0.00	lb/MMscf
$PM_{2.5}$	0.00	lb/MMscf
H_2S	--	--

Constants	
H_2S Molecular Weight	34.08
SO_2 Molecular Weight	64.06
Gas Constant (scf/lb-mol)	379.30

Variables	
Flare Destruction Efficiency	98%
Number of Pilots	2
Volume of Gas/Tip (scf/hr)	0.00
HT Gas Op hours	720
HP Sep Operating Hours	0

Combustion Emissions from Flare					**Totals**
	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)
Total NOx	0.00	0.00		0.56	**0.56**
Total CO	0.00	0.00		2.33	**2.33**
Total SO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**0.00E+00**
Total PM_{10}	0.00E+00	0.00E+00	0.00	0.00E+00	**0.00E+00**
Total $PM_{2.5}$	0.00E+00	0.00E+00	0.00	0.00E+00	**0.00E+00**

Footnotes:

[a] Flare CO and NOx emission factors from AP-42, Table 13.5-1 & 13.5-2, February 2018. PM_{10} and $PM_{2.5}$ emission factors from AP-42, Table 1.4-1 and 1.4-2, July 1998. SO_2 emissions assume 100% conversion of H_2S to SO_2. Emissions are routed to the Hunts Along flare. Pilot gas emissions are shown at the Hunts Along flare.

Truck Loading Losses Calculations

Promax Stream Speciation	32 - Oil Tool W&B	
Controlled/Uncontrolled	UNCONTROLLED	
Oil Loaded	**1,332**	**bbls / yr**

Promax Report Results		
LL= 12.46 * SPM/T * (1-EFF/100)		
Saturation Factor (S) =	0.6	
Average True Vapor Pressure of Liquid Loaded (P)=	12.72	psi
Average Surface Temperature of Liquid Loaded (T)[a]=	542.23	Rankin
Molecular Weight (M)[a]=	43.64	lb/lb-mole
Control Efficiency * Collection Efficiency (EFF)[e]=	0	%
Hydrocarbon Content[a]=	100.00	Weight %
VOC Content[a]=	72.54	Weight %
HAP Conent[a]=	3.86	Weight %
Average Uncontrolled LL[b] =	7.6524	lb/1000 gallon
Average Uncontrolled LL[b] =	0.3214	lb/bbl
Average Uncontrolled LL[b] =	0.2331	lb VOC/bbl
Estimated Throughput=	1,332	bbl/Year

Total Emissions	TPY
	0.21
Total VOC Emissions	TPY
	0.16
Total HAP Emissions	TPY
	0.01

Component	Total Speciated Vapors Emitted During Loading (Fugitives)	
	Mass Fraction	ton / yr[d]
Water	0.77	1.65E-03
H2S	0.00E+00	0.00E+00
Nitrogen	0.02	5.32E-05
Carbon Dioxide	0.61	1.31E-03
Methane	2.71	0.01
Ethane	23.35	0.05
Propane	28.53	0.06
Isobutane	4.72	0.01
n-Butane	15.67	0.03
Isopentane	4.97	0.01
n-Pentane	6.89	0.01
2-Methylpentane	1.32	2.83E-03
3-Methylpentane	0.79	1.69E-03
n-Hexane	2.66	0.01
Cyclohexane	1.12	2.41E-03
Heptane	3.20	0.01
Methylcyclohexane	0.06	1.31E-04
Benzene	0.47	1.01E-03
Toluene	0.40	8.62E-04
Ethylbenzene	0.07	1.44E-04
o-Xylene	0.26	5.51E-04
2,2,4-Trimethylpentane	2.77E-01	5.94E-04
Octane	0.95	2.04E-03
Nonane	0.18	3.82E-04
Decane	0.00E+00	0.00E+00
Oil 10+	1.24E-03	2.66E-06
Total	100.00	0.21
Total VOC	72.54	0.16
Total HAP	3.86	0.01

Footnotes:

[a]Values were obtained from Promax.

[b]Loading emissions include total hydrocarbons as calculated using AP-42, Section 5.2.

[c]Oil tanks are only trucked out when transfer to pipeline is unavailable.

[d]The component speciation was obtained from Promax Stream 'Oil Tool Loading' and multiplied by the total hydrocarbon emissions.

[e]Loading emissions are uncontrolled.

Process Streams	Heater Treater Gas	HP Flared Gas	HT Flared Gas	Inlet Gas	Inlet Oil	Inlet Separator Gas	Inlet Water	Oil Flash	Oil Loadout	Oil Tank Feed	Pilot Gas	Sales	Sales Gas	Sat. Gas	Sweep Blanket Gas
Composition Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total From Block:	Heater Treater	SPLT-104	SPLT-105	--	--	HP Separator	--	Oil Tank	Oil Tank	MIX-102	SPLT-102	SPLT-102	MIX-101	Inlet Mixer	SPLT-102
To Block:	SPLT-105	--	MIX-101	Inlet Mixer	Inlet Mixer	SPLT-104	Inlet Mixer	--	--	Oil Tank	--	--	SPLT-102	SPLT-100	--
Std Vapor Volumetric Flow	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD
Water	0.00676708	0	0.00674927	0*	0*	0	0.471446*	5.48878E-05	1.38752E-05	6.87630E-05	7.52214E-06	0.00366629	0.00676708	0.471446	0.00309327
H2S	0	0	0	0*	0*	0	0*	0	0	0	0	0	0	0	0
N2	0.00903918	0	0.00901539	0.00900550*	4.53385E-05*	0	0*	1.08293E-05	2.88246E-07	1.11176E-05	1.00478E-05	0.00489728	0.00903918	0.00905084	0.00413186
CO2	0.00339377	0	0.00338484	0.00340830*	1.97629E-05*	0	0*	2.28012E-05	4.51916E-06	2.73204E-05	3.77244E-06	0.00183869	0.00339377	0.00342806	0.00155131
C1	0.225973	0	0.225379	0.226004*	0.000760291*	0	0*	0.000708646	5.47911E-05	0.000763437	0.000251187	0.122428	0.225973	0.226764	0.103294
C2	0.0722868	0	0.0720966	0.0720539*	0.00149094*	0	0*	0.000863330	0.000383761	0.00124709	8.03525E-05	0.0391638	0.0722868	0.0735449	0.0330427
C3	0.0340806	0	0.0339909	0.0336731*	0.00232737*	0	0*	0.000739971	0.00117637	0.00191635	3.78833E-05	0.0184643	0.0340806	0.0360005	0.0155784
iC4	0.00363333	0	0.00362377	0.00351729*	0.000552780*	0	0*	9.46094E-05	0.000341917	0.000436526	4.03873E-06	0.00196848	0.00363333	0.00407007	0.00166081
nC4	0.0116476	0	0.0116170	0.0110414*	0.00253605*	0	0*	0.000316445	0.00161228	0.00192872	1.29472E-05	0.00631048	0.0116476	0.0135774	0.00532419
iC5	0.00293443	0	0.00292671	0.00198120*	0.00208557*	0	0*	8.24313E-05	0.00104974	0.00113218	3.26185E-06	0.00158982	0.00293443	0.00406677	0.00134134
nC5	0.00411456	0	0.00410373	0.00300355*	0.00315277*	0	0*	0.000115161	0.00192647	0.00204163	4.57366E-06	0.00222920	0.00411456	0.00615631	0.00188079
2-Methylpentane	0.000685045	0	0.000683242	0*	0.00138050*	0	0*	1.88116E-05	0.000676618	0.000695429	7.61481E-07	0.000371146	0.000685045	0.00138050	0.000313138
3-Methylpentane	0.000410638	0	0.000409557	0*	0.000869568*	0	0*	1.12292E-05	0.000447669	0.000458899	4.56457E-07	0.000222477	0.000410638	0.000869568	0.000187705
nC6	0.00142893	0	0.00142517	0.000770978*	0.00260522*	0	0*	3.82511E-05	0.00190899	0.00194724	1.58836E-06	0.000774168	0.00142893	0.00337620	0.000653170
Cyclohexane	0.000615030	0	0.000613411	0.00130453*	0.000449316*	0	0*	1.65233E-05	0.00112213	0.00113865	6.83654E-07	0.000333213	0.000615030	0.00175385	0.000281133
C7	0.00162627	0	0.00162199	0.000736851*	0.00718208*	0	0*	4.05173E-05	0.00625212	0.00629264	1.80773E-06	0.000881087	0.00162627	0.00791893	0.000743377
Methylcyclohexane	3.04902E-05	0	3.04099E-05	0.000135040*	0*	0	0*	7.81468E-07	0.000103765	0.000104547	3.38922E-08	1.65191E-05	3.04902E-05	0.000135040	1.39372E-05
Benzene	0.000266437	0	0.000265736	7.22906E-05*	0.000484773*	0	0*	7.40039E-06	0.000280728	0.000288128	2.96166E-07	0.000144351	0.000266437	0.000557063	0.000121790
Toluene	0.000214375	0	0.000213811	2.78888E-05*	0.000983496*	0	0*	5.50497E-06	0.000789989	0.000795494	2.38295E-07	0.000116145	0.000214375	0.00101138	9.79921E-05
Ethylbenzene	3.46849E-05	0	3.45936E-05	1.83479E-06*	0.000409209*	0	0*	8.17131E-07	0.000375351	0.000376168	3.85550E-08	1.87917E-05	3.46849E-05	0.000411043	1.58546E-05
o-Xylene	0.000134558	0	0.000134204	1.13757E-05*	0.00186469*	0	0*	3.14362E-06	0.00173724	0.00174039	1.49572E-07	7.29011E-05	0.000134558	0.00187607	6.15071E-05
2,2,4-Trimethylpentane	0.000121651	0	0.000121331	0*	0.000587075*	0	0*	3.06645E-06	0.000462356	0.000465423	1.35224E-07	6.59083E-05	0.000121651	0.000587075	5.56072E-05
C8	0.000472405	0	0.000471162	0.000148251*	0.00552664*	0	0*	1.08481E-05	0.00519164	0.00520249	5.25116E-07	0.000255941	0.000472405	0.00567489	0.000215939
C9	8.81407E-05	0	8.79087E-05	4.95393E-05*	0.00278657*	0	0*	1.85964E-06	0.00274611	0.00274797	9.79753E-08	4.77531E-05	8.81407E-05	0.00283611	4.02896E-05
C10	0	0	0	0*	0*	0	0*	0	0	0	0	0	0	0	0
C10+	7.36179E-07	0	7.34242E-07	1.10087E-05*	0.0200239*	0	0*	8.74037E-09	0.0200342	0.0200342	8.18322E-10	3.98850E-07	7.36179E-07	0.0200349	3.36512E-07
Mole Fraction															
Water	0.0178081		0.0178081	0*	0*		1*	0.0173264	0.000284954	0.00132592	0.0178081	0.0178081	0.0178081	0.525858	0.0178081
H2S	0		0	0*	0*		0*	0	0	0	0	0	0	0	0
N2	0.0237873		0.0237873	0.024541*	0.000780031*		0*	0.00341848	5.91968E-06	0.000214373	0.0237873	0.0237873	0.0237873	0.0100954	0.0237873
CO2	0.00893097		0.00893097	0.009288*	0.000340014*		0*	0.00719765	9.28095E-05	0.000526803	0.00893097	0.00893097	0.00893097	0.00382371	0.00893097
C1	0.594666		0.594666	0.615885*	0.0130805*		0*	0.223698	0.00112524	0.0147209	0.594666	0.594666	0.594666	0.252936	0.594666
C2	0.190228		0.190228	0.196355*	0.0256510*		0*	0.272527	0.00788125	0.0240469	0.190228	0.190228	0.190228	0.0820331	0.190228
C3	0.0896859		0.0896859	0.091763*	0.0400416*		0*	0.233586	0.0241591	0.0369517	0.0896859	0.0896859	0.0896859	0.0401555	0.0896859
iC4	0.00956139		0.00956139	0.009585*	0.00951038*		0*	0.0298653	0.00702190	0.00841727	0.00956139	0.00956139	0.00956139	0.00453982	0.00956139
nC4	0.0306516		0.0306516	0.030089*	0.0436317*		0*	0.0998917	0.0331112	0.0371904	0.0306516	0.0306516	0.0306516	0.0151445	0.0306516
iC5	0.00772219		0.00772219	0.005399*	0.0358814*		0*	0.0260210	0.0215585	0.0218311	0.00772219	0.00772219	0.00772219	0.00453614	0.00772219
nC5	0.0108278		0.0108278	0.008185*	0.0542422*		0*	0.0363529	0.0395637	0.0393675	0.0108278	0.0108278	0.0108278	0.00686685	0.0108278
2-Methylpentane	0.00180275		0.00180275	0*	0.0237510*		0*	0.00593823	0.0138956	0.0134095	0.00180275	0.00180275	0.00180275	0.00153983	0.00180275
3-Methylpentane	0.00108063		0.00108063	0*	0.0149606*		0*	0.00354470	0.00919373	0.00884867	0.00108063	0.00108063	0.00108063	0.000969930	0.00108063
nC6	0.00376033		0.00376033	0.002101*	0.0448218*		0*	0.0120747	0.0392047	0.0375475	0.00376033	0.00376033	0.00376033	0.00376586	0.00376033
Cyclohexane	0.00161850		0.00161850	0.003555*	0.00773031*		0*	0.00521589	0.0230450	0.0219559	0.00161850	0.00161850	0.00161850	0.00195627	0.00161850
C7	0.00427966		0.00427966	0.002008*	0.123565*		0*	0.0127901	0.128399	0.121337	0.00427966	0.00427966	0.00427966	0.00883289	0.00427966
Methylcyclohexane	8.02373E-05		8.02373E-05	0.000368*	0*		0*	0.000246685	0.00213101	0.00201591	8.02373E-05	8.02373E-05	8.02373E-05	0.000150626	8.02373E-05
Benzene	0.000701150		0.000701150	0.000197*	0.00834033*		0*	0.00233607	0.00576527	0.00555580	0.000701150	0.000701150	0.000701150	0.000621357	0.000701150
Toluene	0.000564146		0.000564146	7.60000E-05*	0.0169207*		0*	0.00173775	0.0162239	0.0153390	0.000564146	0.000564146	0.000564146	0.00112811	0.000564146
Ethylbenzene	9.12760E-05		9.12760E-05	5.00000E-06*	0.00704028*		0*	0.000257943	0.00770854	0.00725342	9.12760E-05	9.12760E-05	9.12760E-05	0.000458484	9.12760E-05
o-Xylene	0.000354099		0.000354099	3.10000E-05*	0.0320813*		0*	0.000992343	0.0356776	0.0335589	0.000354099	0.000354099	0.000354099	0.00209259	0.000354099
2,2,4-Trimethylpentane	0.000320133		0.000320133	0*	0.0101004*		0*	0.000967985	0.00949536	0.00897447	0.000320133	0.000320133	0.000320133	0.000654832	0.000320133
C8	0.00124317		0.00124317	0.000404*	0.0950838*		0*	0.00342440	0.106620	0.100316	0.00124317	0.00124317	0.00124317	0.00632986	0.00124317
C9	0.000231949		0.000231949	0.000135*	0.0479419*		0*	0.000587031	0.0563965	0.0529875	0.000231949	0.000231949	0.000231949	0.00316344	0.000231949
C10	0		0	0*	0*		0*	0	0	0	0	0	0	0	0
C10+	1.93731E-06		1.93731E-06	3.00000E-05*	0.344504*		0*	2.75907E-06	0.411439	0.386307	1.93731E-06	1.93731E-06	1.93731E-06	0.0223473	1.93731E-06
Mass Fraction															
Water	0.0124451		0.0124451	0*	0*		1*	0.00790116	3.46969E-05	0.000169015	0.0124451	0.0124451	0.0124451	0.333103	0.0124451
H2S	0		0	0*	0*		0*	0	0	0	0	0	0	0	0
N2	0.0258494		0.0258494	0.0274693*	0.000162412*		0*	0.00242405	1.12083E-06	4.24918E-05	0.0258494	0.0258494	0.0258494	0.00994400	0.0258494
CO2	0.0152470		0.0152470	0.0163327*	0.000111220*		0*	0.00801825	2.76067E-05	0.000164045	0.0152470	0.0152470	0.0152470	0.00591700	0.0152470
C1	0.370069		0.370069	0.394784*	0.00155968*		0*	0.0908395	0.000122009	0.00167099	0.370069	0.370069	0.370069	0.142676	0.370069
C2	0.221888		0.221888	0.235912*	0.00573276*		0*	0.207430	0.00160173	0.00511620	0.221888	0.221888	0.221888	0.0867318	0.221888
C3	0.153411		0.153411	0.161679*	0.0131234*		0*	0.260726	0.00720029	0.0115292	0.153411	0.153411	0.153411	0.0622602	0.153411
iC4	0.0215576		0.0215576	0.0222599*	0.00410846*		0*	0.0439391	0.00275849	0.00346164	0.0215576	0.0215576	0.0215576	0.00927791	0.0215576
nC4	0.0691089		0.0691089	0.0698778*	0.0188488*		0*	0.146965	0.0130074	0.0152947	0.0691089	0.0691089	0.0691089	0.0309504	0.0691089
iC5	0.0216126		0.0216126	0.0155644*	0.0192415*		0*	0.0475221	0.0105129	0.0111448	0.0216126	0.0216126	0.0216126	0.0115076	0.0216126
nC5	0.0303045		0.0303045	0.0235959*	0.0290874*		0*	0.0663911	0.0192930	0.0200972	0.0303045	0.0303045	0.0303045	0.0174203	0.0303045
2-Methylpentane	0.00602638		0.00602638	0*	0.0152126*		0*	0.0129534	0.00809349	0.00817647	0.00602638	0.00602638	0.00602638	0.00466579	0.00602638
3-Methylpentane	0.00361241		0.00361241	0*	0.00958233*		0*	0.00773223	0.00535488	0.00539547	0.00361241	0.00361241	0.00361241	0.00293896	0.00361241
nC6	0.0125704		0.0125704	0.00723433*	0.0287086*		0*	0.0263391	0.0228348	0.0228946	0.0125704	0.0125704	0.0125704	0.0114108	0.0125704
Cyclohexane	0.00528389		0.00528389	0.0119545*	0.00483547*		0*	0.0111115	0.0131085	0.0130744	0.00528389	0.00528389	0.00528389	0.00578898	0.00528389
C7	0.0166350		0.0166350	0.00803950*	0.0920260*		0*	0.0324408	0.0869586	0.0860277	0.0166350	0.0166350	0.0166350	0.0311207	0.0166350
Methylcyclohexane	0.000305608		0.000305608	0.00144373*	0*		0*	0.000613105	0.00141420	0.00140052	0.000305608	0.000305608	0.000305608	0.000520020	0.000305608
Benzene	0.00212455		0.00212455	0.000614855*	0.00484216*		0*	0.00461898	0.00304377	0.00307066	0.00212455	0.00212455	0.00212455	0.00170658	0.00212455
Toluene	0.00201637		0.00201637	0.000279797*	0.0115877*		0*	0.00405294	0.0101035	0.0100002	0.00201637	0.00201637	0.00201637	0.00365480	0.00201637
Ethylbenzene	0.000375903		0.000375903	2.12100E-05*	0.00555534*		0*	0.000693182	0.00553131	0.00544870	0.000375903	0.000375903	0.000375903	0.00171149	0.000375903
o-Xylene	0.00145829		0.00145829	0.000131502*	0.0253147*		0*	0.00266677	0.0256007	0.0252091	0.00145829	0.00145829	0.00145829	0.00781152	0.00145829
2,2,4-Trimethylpentane	0.00141855		0.00141855	0*	0.00857536*		0*	0.00279889	0.00733096	0.00725357	0.00141855	0.00141855	0.00141855	0.00263011	0.00141855
C8	0.00550864		0.00550864	0.00184393*	0.0807273*		0*	0.00990151	0.0823167	0.0810803	0.00550864	0.00550864	0.00550864	0.0254237	0.00550864
C9	0.00115400		0.00115400	0.000691827*	0.0457014*		0*	0.00190580	0.0488880	0.0480857	0.00115400	0.00115400	0.00115400	0.0142661	0.00115400
C10	0		0	0*	0*		0*	0	0	0	0	0	0	0	0
C10+	1.68866E-05		1.68866E-05	0.000269348*	0.575356*		0*	1.56931E-05	0.624861	0.614192	1.68866E-05	1.68866E-05	1.68866E-05	0.176562	1.68866E-05
Mass Flow	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
Water	13.3856	0	13.3504	0*	0*	0	932.541*	0.108571	0.0274458	0.136016	0.0148791	7.25209	13.3856	932.541	6.11862
H2S	0	0	0	0*	0*	0	0*	0	0	0	0	0	0	0	0
N2	27.8029	0	27.7297	27.6993*	0.139453*	0	0*	0.0333091	0.000886594	0.0341956	0.0309051	15.0631	27.8029	27.8388	12.7089
CO2	16.3992	0	16.3561	16.4695*	0.0954977*	0	0*	0.110179	0.0218373	0.132017	0.0182291	8.88483	16.3992	16.5650	7.49618
C1	398.037	0	396.989	398.090*	1.33920*	0	0*	1.24823	0.0965109	1.34474	0.442449	215.650	398.037	399.429	181.945
C2	238.657	0	238.029	237.888*	4.92237*	0	0*	2.85031	1.26700	4.11730	0.265286	129.300	238.657	242.810	109.091
C3	165.005	0	164.571	163.032*	11.2683*	0	0*	3.58266	5.69556	9.27822	0.183417	89.3972	165.005	174.301	75.4248
iC4	23.1869	0	23.1258	22.4463*	3.52769*	0	0*	0.603770	2.18201	2.78578	0.0257740	12.5622	23.1869	25.9740	10.5988
nC4	74.3317	0	74.1361	70.4629*	16.1843*	0	0*	2.01946	10.2891	12.3086	0.0826256	40.2717	74.3317	86.6473	33.9774
iC5	23.2460	0	23.1848	15.6947*	16.5215*	0	0*	0.653004	8.31587	8.96887	0.0258397	12.5943	23.2460	32.2162	10.6259
nC5	32.5947	0	32.5090	23.7935*	24.9756*	0	0*	0.912286	15.2611	16.1734	0.0362316	17.6593	32.5947	48.7691	14.8992
2-Methylpentane	6.48182	0	6.46477	0*	13.0621*	0	0*	0.177993	6.40209	6.58008	0.00720506	3.51174	6.48182	13.0621	2.96288
3-Methylpentane	3.88541	0	3.87519	0*	8.22777*	0	0*	0.106249	4.23580	4.34205	0.00431895	2.10505	3.88541	8.22777	1.77604
nC6	13.5204	0	13.4848	7.29491*	24.6503*	0	0*	0.361928	18.0627	18.4246	0.0150289	7.32510	13.5204	31.9452	6.18022
Cyclohexane	5.68322	0	5.66826	12.0546*	4.15193*	0	0*	0.152685	10.3691	10.5218	0.00631735	3.07907	5.68322	16.2065	2.59783
C7	17.8922	0	17.8451	8.10682*	79.0172*	0	0*	0.445771	68.7858	69.2315	0.0198886	9.69371	17.8922	87.1240	8.17863
Methylcyclohexane	0.328704	0	0.327839	1.45582*	0*	0	0*	0.00842473	1.11866	1.12708	0.000365381	0.178086	0.328704	1.45582	0.150252
Benzene	2.28511	0	2.27909	0.620003*	4.15767*	0	0*	0.0634697	2.40767	2.47114	0.00254008	1.23803	2.28511	4.77768	1.04453
Toluene	2.16876	0	2.16305	0.282140*	9.94967*	0	0*	0.0556917	7.99203	8.04772	0.00241074	1.17500	2.16876	10.2318	0.991350
Ethylbenzene	0.404312	0	0.403248	0.0213876*	4.77003*	0	0*	0.00952507	4.37536	4.38489	0.000449425	0.219049	0.404312	4.79142	0.184813
o-Xylene	1.56850	0	1.56438	0.132603*	21.7362*	0	0*	0.0366443	20.2506	20.2872	0.00174351	0.849788	1.56850	21.8688	0.716971
2,2,4-Trimethylpentane	1.52575	0	1.52174	0*	7.36314*	0	0*	0.0384597	5.79891	5.83737	0.00169600	0.826627	1.52575	7.36314	0.697430
C8	5.92495	0	5.90936	1.85937*	69.3156*	0	0*	0.136057	65.1140	65.2500	0.00658605	3.21004	5.92495	71.1750	2.70832
C9	1.24121	0	1.23795	0.697621*	39.2410*	0	0*	0.0261878	38.6712	38.6974	0.00137971	0.672468	1.24121	39.9386	0.567365
C10	0	0	0	0*	0*	0	0*	0	0	0	0	0	0	0	0
C10+	0.0181628	0	0.0181150	0.271603*	494.023*	0	0*	0.000215640	494.276	494.276	2.01893E-05	0.00984028	0.0181628	494.294	0.00830230

Process Streams	To Flare	VRT to Flare	VRT to Sales	Water Flash	Water Loadout	Water Tank feed	1	2	3	6	8	9	10	11	12	14	15	18	21	22
Composition Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total From Block:	MIX-108	SPLT-103	SPLT-103	Water Tank	Water Tank	MIX-100	SPLT-104	SPLT-105	Heater Treater	MIX-103	VRU	--	Heater Treater	SPLT-101	SPLT-101	VRT	VRT	--	SPLT-100	SPLT-100
To Block:	--	MIX-108	MIX-103	--	--	Water Tank	MIX-101	MIX-103	MIX-100	VRU	MIX-101	--	SPLT-101	MIX-102	VRT	MIX-102	SPLT-103	--	HP Separator	MIX-104
Std Vapor Volumetric Flow	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD
Water	0	0	0	1.92935E-06	0.464608	0.464610	0	1.78081E-05	0.464610	1.78081E-05	1.78081E-05	3.12726E-06*	6.87630E-05	6.87630E-05	0	0	0	3.12726E-06*	0	0.471446
H2S	0	0	0	0	0	0	0	0	0	0	0	0*	0	0	0	0	0	0*	0	0
N2	0	0	0	4.81481E-07	5.94686E-08	5.40950E-07	0	2.37873E-05	5.40950E-07	2.37873E-05	2.37873E-05	6.49681E-08*	1.11176E-05	1.11176E-05	0	0	0	6.49681E-08*	0	0.00905084
CO2	0	0	0	1.20614E-06	5.76898E-06	6.97512E-06	0	8.93094E-06	6.97512E-06	8.93094E-06	8.93094E-06	1.01856E-06*	2.73204E-05	2.73204E-05	0	0	0	1.01856E-06*	0	0.00342806
C1	0	0	0	2.16892E-05	5.49793E-06	2.71872E-05	0	0.000594665	2.71872E-05	0.000594665	0.000594665	1.23493E-05*	0.000763437	0.000763437	0	0	0	1.23493E-05*	0	0.226764
C2	0	0	0	8.10934E-06	2.88363E-06	1.09930E-05	0	0.000190228	1.09930E-05	0.000190228	0.000190228	0.000188203*	0.00124709	0.00124709	0	0	0	5.68415E-05*	0	0.0735449
C3	0	0	0	2.81683E-06	7.00172E-07	3.51701E-06	0	8.96856E-05	3.51701E-06	8.96856E-05	8.96856E-05	0.00101210*	0.00191635	0.00191635	0	0	0	4.73625E-05*	0	0.0360005
iC4	0	0	0	1.84263E-07	2.94307E-08	2.13694E-07	0	9.56136E-06	2.13694E-07	9.56136E-06	9.56136E-06	0.000320988*	0.000436526	0.000436526	0	0	0	5.94422E-06*	0	0.00407007
nC4	0	0	0	8.88311E-07	2.03383E-07	1.09169E-06	0	3.06515E-05	1.09169E-06	3.06515E-05	3.06515E-05	0.00154198*	0.00192872	0.00192872	0	0	0	1.97391E-05*	0	0.0135774
iC5	0	0	0	1.44679E-07	2.20906E-08	1.66770E-07	0	7.72216E-06	1.66770E-07	7.72216E-06	7.72216E-06	0.00103047*	0.00113218	0.00113218	0	0	0	5.03906E-06*	0	0.00406677
nC5	0	0	0	1.15491E-07	7.94486E-09	1.23436E-07	0	1.08278E-05	1.23436E-07	1.08278E-05	1.08278E-05	0.00189902*	0.00204163	0.00204163	0	0	0	6.98849E-06*	0	0.00615631
2-Methylpentane	0	0	0	2.20296E-08	1.95444E-09	2.39840E-08	0	1.80274E-06	2.39840E-08	1.80274E-06	1.80274E-06	0.000671215*	0.000695429	0.000695429	0	0	0	1.12401E-06*	0	0.00138050
3-Methylpentane	0	0	0	2.64283E-08	5.48114E-09	3.19095E-08	0	1.08062E-06	3.19095E-08	1.08062E-06	1.08062E-06	0.000444367*	0.000458899	0.000458899	0	0	0	6.69364E-07*	0	0.000869568
nC6	0	0	0	2.53966E-08	1.15268E-09	2.65493E-08	0	3.76032E-06	2.65493E-08	3.76032E-06	3.76032E-06	0.00189778*	0.00194724	0.00194724	0	0	0	2.26195E-06*	0	0.00337620
Cyclohexane	0	0	0	9.48969E-08	7.42725E-08	1.69169E-07	0	1.61849E-06	1.69169E-07	1.61849E-06	1.61849E-06	0.00111778*	0.00113865	0.00113865	0	0	0	9.77634E-07*	0	0.00175385
C7	0	0	0	1.87596E-08	5.95686E-10	1.93553E-08	0	4.27965E-06	1.93553E-08	4.27965E-06	4.27965E-06	0.00623372*	0.00629264	0.00629264	0	0	0	2.33760E-06*	0	0.00791893
Methylcyclohexane	0	0	0	2.65739E-09	8.88209E-10	3.54560E-09	0	8.02371E-08	3.54560E-09	8.02371E-08	8.02371E-08	0.000103580*	0.000104547	0.000104547	0	0	0	4.55059E-08*	0	0.000135040
Benzene	0	0	0	8.55977E-08	2.41273E-06	2.49833E-06	0	7.01148E-07	2.49833E-06	7.01148E-07	7.01148E-07	0.000278629*	0.000288128	0.000288128	0	0	0	4.42652E-07*	0	0.000557063
Toluene	0	0	0	6.76538E-08	1.44799E-06	1.51564E-06	0	5.64144E-07	1.51564E-06	5.64144E-07	5.64144E-07	0.000787487*	0.000795494	0.000795494	0	0	0	3.19849E-07*	0	0.00101138
Ethylbenzene	0	0	0	9.93757E-09	1.80629E-07	1.90567E-07	0	9.12757E-08	1.90567E-07	9.12757E-08	9.12757E-08	0.000374592*	0.000376168	0.000376168	0	0	0	4.62296E-08*	0	0.000411043
o-Xylene	0	0	0	3.95858E-08	1.08013E-06	1.11972E-06	0	3.54098E-07	1.11972E-06	3.54098E-07	3.54098E-07	0.00173390*	0.00174039	0.00174039	0	0	0	1.77385E-07*	0	0.00187607
2,2,4-Trimethylpentane	0	0	0	1.40177E-09	5.71894E-11	1.45896E-09	0	3.20132E-07	1.45896E-09	3.20132E-07	3.20132E-07	0.000460910*	0.000465423	0.000465423	0	0	0	1.77779E-07*	0	0.000587075
C8	0	0	0	2.61194E-09	3.71609E-11	2.64910E-09	0	1.24317E-06	2.64910E-09	1.24317E-06	1.24317E-06	0.00518143*	0.00520249	0.00520249	0	0	0	6.10114E-07*	0	0.00567489
C9	0	0	0	3.18627E-10	3.85035E-12	3.22478E-10	0	2.31949E-07	3.22478E-10	2.31949E-07	2.31949E-07	0.00274167*	0.00274797	0.00274797	0	0	0	1.01816E-07*	0	0.00283611
C10	0	0	0	0	0	0	0	0	0	0	0	0*	0	0	0	0	0	0*	0	0
C10+	0	0	0	2.27018E-13	3.04193E-16	2.27322E-13	0	1.93731E-09	2.27322E-13	1.93731E-09	1.93731E-09	0.0200048*	0.0200342	0.0200342	0	0	0	4.04978E-10*	0	0.0200349
Mole Fraction																				
Water				0.0508227	0.999956	0.999879		0.0178081	0.999879	0.0178081	0.0178081	6.50953E-05*	0.00132592	0.00132592	0.00132592			0.0186405*	0.525858	0.525858
H2S				0	0	0		0	0	0	0	0*	0	0	0			0*	0	0
N2				0.0126831	1.27992E-07	1.16417E-06		0.0237873	1.16417E-06	0.0237873	0.0237873	1.35234E-06*	0.000214373	0.000214373	0.000214373			0.000387251*	0.0100954	0.0100954
CO2				0.0317720	1.24163E-05	1.50110E-05		0.00893097	1.50110E-05	0.00893097	0.00893097	2.12018E-05*	0.000526803	0.000526803	0.000526803			0.00607128*	0.00382371	0.00382371
C1				0.571335	1.18330E-05	5.85090E-05		0.594666	5.85090E-05	0.594666	0.594666	0.000257056*	0.0147209	0.0147209	0.0147209			0.0736096*	0.252936	0.252936
C2				0.213615	6.20631E-06	2.36578E-05		0.190228	2.36578E-05	0.190228	0.190228	0.00391754*	0.0240469	0.0240469	0.0240469			0.338812*	0.0820331	0.0820331
C3				0.0742006	1.50695E-06	7.56888E-06		0.0896859	7.56888E-06	0.0896859	0.0896859	0.0210674*	0.0369517	0.0369517	0.0369517			0.282311*	0.0401555	0.0401555
iC4				0.00485383	6.33424E-08	4.59886E-07		0.00956139	4.59886E-07	0.00956139	0.00956139	0.00668152*	0.00841727	0.00841727	0.00841727			0.0354313*	0.00453982	0.00453982
nC4				0.0233997	4.37733E-07	2.34942E-06		0.0306516	2.34942E-06	0.0306516	0.0306516	0.0320971*	0.0371904	0.0371904	0.0371904			0.117658*	0.0151445	0.0151445
iC5				0.00381111	4.75448E-08	3.58902E-07		0.00772219	3.58902E-07	0.00772219	0.00772219	0.0214498*	0.0218311	0.0218311	0.0218311			0.0300360*	0.00453614	0.00453614
nC5				0.00304225	1.70994E-08	2.65644E-07		0.0108278	2.65644E-07	0.0108278	0.0108278	0.0395291*	0.0393675	0.0393675	0.0393675			0.0416559*	0.00686685	0.00686685
2-Methylpentane				0.000580300	4.20645E-09	5.16156E-08		0.00180275	5.16156E-08	0.00180275	0.00180275	0.0139717*	0.0134095	0.0134095	0.0134095			0.00669980*	0.00153983	0.00153983
3-Methylpentane				0.000696171	1.17968E-08	6.86718E-08		0.00108063	6.86718E-08	0.00108063	0.00108063	0.00924972*	0.00884867	0.00884867	0.00884867			0.00398984*	0.000969930	0.000969930
nC6				0.000668993	2.48087E-09	5.71362E-08		0.00376033	5.71362E-08	0.00376033	0.00376033	0.0395032*	0.0375475	0.0375475	0.0375475			0.0134826*	0.00376586	0.00376586
Cyclohexane				0.00249976	1.59854E-07	3.64067E-07		0.00161850	3.64067E-07	0.00161850	0.00161850	0.0232672*	0.0219559	0.0219559	0.0219559			0.00582732*	0.00195627	0.00195627
C7				0.000494162	1.28207E-09	4.16541E-08		0.00427966	4.16541E-08	0.00427966	0.00427966	0.129758*	0.121337	0.121337	0.121337			0.0139336*	0.00883289	0.00883289
Methylcyclohexane				7.00006E-05	1.91165E-09	7.63042E-09		8.02373E-05	7.63042E-09	8.02373E-05	8.02373E-05	0.00215607*	0.00201591	0.00201591	0.00201591			0.000271244*	0.000150626	0.000150626
Benzene				0.00225480	5.19281E-06	5.37660E-06		0.000701150	5.37660E-06	0.000701150	0.000701150	0.00579979*	0.00555580	0.00555580	0.00555580			0.00263849*	0.000621357	0.000621357
Toluene				0.00178213	3.11645E-06	3.26179E-06		0.000564146	3.26179E-06	0.000564146	0.000564146	0.0163919*	0.0153390	0.0153390	0.0153390			0.00190650*	0.00112811	0.00112811
Ethylbenzene				0.000261774	3.88760E-07	4.10115E-07		9.12760E-05	4.10115E-07	9.12760E-05	9.12760E-05	0.00779730*	0.00725342	0.00725342	0.00725342			0.000275558*	0.000458484	0.000458484
o-Xylene				0.00104276	2.32472E-06	2.40972E-06		0.000354099	2.40972E-06	0.000354099	0.000354099	0.0360919*	0.0335589	0.0335589	0.0335589			0.00105733*	0.00209259	0.00209259
2,2,4-Trimethylpentane				3.69252E-05	1.23086E-10	3.13980E-09		0.000320133	3.13980E-09	0.000320133	0.000320133	0.00959406*	0.00897447	0.00897447	0.00897447			0.00105968*	0.000654832	0.000654832
C8				6.88034E-05	7.99798E-11	5.70109E-09		0.00124317	5.70109E-09	0.00124317	0.00124317	0.107854*	0.100316	0.100316	0.100316			0.00363667*	0.00632986	0.00632986
C9				8.39323E-06	8.28696E-12	6.93998E-10		0.000231949	6.93998E-10	0.000231949	0.000231949	0.0570691*	0.0529875	0.0529875	0.0529875			0.000606889*	0.00316344	0.00316344
C10				0	0	0		0	0	0	0	0*	0	0	0			0*	0	0
C10+				5.98006E-09	6.54701E-16	4.89215E-13		1.93731E-06	4.89215E-13	1.93731E-06	1.93731E-06	0.416409*	0.386307	0.386307	0.386307			2.41392E-06*	0.0223473	0.0223473
Mass Fraction																				
Water				0.0372297	0.999888	0.999780		0.0124451	0.999780	0.0124451	0.0124451	7.85952E-06	0.000169015	0.000169015	0.000169015			0.00769580	0.333103	0.333103
H2S				0	0	0		0	0	0	0	0	0	0	0			0	0	0
N2				0.0144471	1.99011E-07	1.81008E-06		0.0258494	1.81008E-06	0.0258494	0.0258494	2.53897E-07	4.24918E-05	4.24918E-05	4.24918E-05			0.000248608	0.00994400	0.00994400
CO2				0.0568566	3.03298E-05	3.66668E-05		0.0152470	3.66668E-05	0.0152470	0.0152470	6.25352E-06	0.000164045	0.000164045	0.000164045			0.00612326	0.00591700	0.00591700
C1				0.372693	1.05364E-05	5.20967E-05		0.370069	5.20967E-05	0.370069	0.370069	2.76378E-05	0.00167099	0.00167099	0.00167099			0.0270621	0.142676	0.142676
C2				0.261181	1.03581E-05	3.94830E-05		0.221888	3.94830E-05	0.221888	0.221888	0.000789474	0.00511620	0.00511620	0.00511620			0.233472	0.0867318	0.0867318
C3				0.133043	3.68828E-06	1.85244E-05		0.153411	1.85244E-05	0.153411	0.153411	0.00622603	0.0115292	0.0115292	0.0115292			0.285285	0.0622602	0.0622602
iC4				0.0114714	2.04346E-07	1.48357E-06		0.0215576	1.48357E-06	0.0215576	0.0215576	0.00260269	0.00346164	0.00346164	0.00346164			0.0471939	0.00927791	0.00927791
nC4				0.0553023	1.41215E-06	7.57911E-06		0.0691089	7.57911E-06	0.0691089	0.0691089	0.0125030	0.0152947	0.0152947	0.0152947			0.156718	0.0309504	0.0309504
iC5				0.0111808	1.90397E-07	1.43721E-06		0.0216126	1.43721E-06	0.0216126	0.0216126	0.0103719	0.0111448	0.0111448	0.0111448			0.0496623	0.0115076	0.0115076
nC5				0.00892512	6.84761E-08	1.06377E-06		0.0303045	1.06377E-06	0.0303045	0.0303045	0.0191139	0.0200972	0.0200972	0.0200972			0.0688750	0.0174203	0.0174203
2-Methylpentane				0.00203342	2.01200E-08	2.46877E-07		0.00602638	2.46877E-07	0.00602638	0.00602638	0.00806930	0.00817647	0.00817647	0.00817647			0.0132313	0.00466579	0.00466579
3-Methylpentane				0.00243943	5.64258E-08	3.28456E-07		0.00361241	3.28456E-07	0.00361241	0.00361241	0.00534216	0.00539547	0.00539547	0.00539547			0.00787942	0.00293896	0.00293896
nC6				0.00234420	1.18663E-08	2.73282E-07		0.0125704	2.73282E-07	0.0125704	0.0125704	0.0228150	0.0228946	0.0228946	0.0228946			0.0266265	0.0114108	0.0114108
Cyclohexane				0.00855444	7.46715E-07	1.70059E-06		0.00528389	1.70059E-06	0.00528389	0.00528389	0.0131236	0.0130744	0.0130744	0.0130744			0.0112390	0.00578898	0.00578898
C7				0.00201342	7.13046E-09	2.31660E-07		0.0166350	2.31660E-07	0.0166350	0.0166350	0.0871394	0.0860277	0.0860277	0.0860277			0.0319960	0.0311207	0.0311207
Methylcyclohexane				0.000279474	1.04181E-08	4.15829E-08		0.000305608	4.15829E-08	0.000305608	0.000305608	0.00141879	0.00140052	0.00140052	0.00140052			0.000610332	0.000520020	0.000520020
Benzene				0.00716169	2.25138E-05	2.33099E-05		0.00212455	2.33099E-05	0.00212455	0.00212455	0.00303622	0.00307066	0.00307066	0.00307066			0.00472312	0.00170658	0.00170658
Toluene				0.00667682	1.59379E-05	1.66807E-05		0.00201637	1.66807E-05	0.00201637	0.00201637	0.0101222	0.0100002	0.0100002	0.0100002			0.00402563	0.00365480	0.00365480
Ethylbenzene				0.00113005	2.29083E-06	2.41659E-06		0.000375903	2.41659E-06	0.000375903	0.000375903	0.00554793	0.00544870	0.00544870	0.00544870			0.000670425	0.00171149	0.00171149
o-Xylene				0.00450150	1.36988E-05	1.41992E-05		0.00145829	1.41992E-05	0.00145829	0.00145829	0.0256800	0.0252091	0.0252091	0.0252091			0.00257246	0.00781152	0.00781152
2,2,4-Trimethylpentane				0.000171509	7.80394E-10	1.99064E-08		0.00141855	1.99064E-08	0.00141855	0.00141855	0.00734484	0.00725357	0.00725357	0.00725357			0.00277399	0.00263011	0.00263011
C8				0.000319576	5.07089E-10	3.61450E-08		0.00550864	3.61450E-08	0.00550864	0.00550864	0.0825687	0.0810803	0.0810803	0.0810803			0.00951994	0.0254237	0.0254237
C9				4.37717E-05	5.89928E-11	4.94025E-09		0.00115400	4.94025E-09	0.00115400	0.00115400	0.0490547	0.0480857	0.0480857	0.0480857			0.00178377	0.0142661	0.0142661
C10				0	0	0		0	0	0	0	0	0	0	0			0	0	0
C10+				5.46385E-08	8.16536E-15	6.10126E-12		1.68866E-05	6.10126E-12	1.68866E-05	1.68866E-05	0.627088	0.614192	0.614192	0.614192			1.24303E-05	0.176562	0.176562
Mass Flow	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
Water	0	0	0	0.00381635	919.015	919.019	0	0.0352251	919.019	0.0352251	0.0352251	0.00618586*	0.136016	0.136016	0	0	0	0.00618586*	0	932.541
H2S	0	0	0	0	0	0	0	0	0	0	0	0*	0	0	0	0	0	0*	0	0
N2	0	0	0	0.00148095	0.000182915	0.00166387	0	0.0731653	0.00166387	0.0731653	0.0731653	0.000199830*	0.0341956	0.0341956	0	0	0	0.000199830*	0	27.8388
CO2	0	0	0	0.00582827	0.0278767	0.0337049	0	0.0431558	0.0337049	0.0431558	0.0431558	0.00492186*	0.132017	0.132017	0	0	0	0.00492186*	0	16.5650
C1	0	0	0	0.0382042	0.00968423	0.0478884	0	1.04746	0.0478884	1.04746	1.04746	0.0217525*	1.34474	1.34474	0	0	0	0.0217525*	0	399.429
C2	0	0	0	0.0267732	0.00952037	0.0362936	0	0.628042	0.0362936	0.628042	0.628042	0.621358*	4.11730	4.11730	0	0	0	0.187664*	0	242.810
C3	0	0	0	0.0136380	0.00338997	0.0170280	0	0.434224	0.0170280	0.434224	0.434224	4.90022*	9.27822	9.27822	0	0	0	0.229311*	0	174.301
iC4	0	0	0	0.00117591	0.000187818	0.00136373	0	0.0610179	0.00136373	0.0610179	0.0610179	2.04845*	2.78578	2.78578	0	0	0	0.0379343*	0	25.9740
nC4	0	0	0	0.00566895	0.00129793	0.00696688	0	0.195609	0.00696688	0.195609	0.195609	9.84050*	12.3086	12.3086	0	0	0	0.125969*	0	86.6473
iC5	0	0	0	0.00114612	0.000174998	0.00132112	0	0.0611735	0.00132112	0.0611735	0.0611735	8.16322*	8.96887	8.96887	0	0	0	0.0399184*	0	32.2162
nC5	0	0	0	0.000914898	6.29376E-05	0.000977836	0	0.0857754	0.000977836	0.0857754	0.0857754	15.0437*	16.1734	16.1734	0	0	0	0.0553615*	0	48.7691
2-Methylpentane	0	0	0	0.000208442	1.84927E-05	0.000226935	0	0.0170574	0.000226935	0.0170574	0.0170574	6.35097*	6.58008	6.58008	0	0	0	0.0106352*	0	13.0621
3-Methylpentane	0	0	0	0.000250062	5.18620E-05	0.000301924	0	0.0102247	0.000301924	0.0102247	0.0102247	4.20456*	4.34205	4.34205	0	0	0	0.00633345*	0	8.22777
nC6	0	0	0	0.000240300	1.09066E-05	0.000251207	0	0.0355798	0.000251207	0.0355798	0.0355798	17.9566*	18.4246	18.4246	0	0	0	0.0214023*	0	31.9452
Cyclohexane	0	0	0	0.000876901	0.000686319	0.00156322	0	0.0149558	0.00156322	0.0149558	0.0149558	10.3289*	10.5218	10.5218	0	0	0	0.00903389*	0	16.2065
C7	0	0	0	0.000206393	6.55374E-06	0.000212946	0	0.0470847	0.000212946	0.0470847	0.0470847	68.5833*	69.2315	69.2315	0	0	0	0.0257183*	0	87.1240
Methylcyclohexane	0	0	0	2.86484E-05	9.57547E-06	3.82239E-05	0	0.000865008	3.82239E-05	0.000865008	0.000865008	1.11666*	1.12708	1.12708	0	0	0	0.000490583*	0	1.45582
Benzene	0	0	0	0.000734132	0.0206929	0.0214270	0	0.00601342	0.0214270	0.00601342	0.00601342	2.38967*	2.47114	2.47114	0	0	0	0.00379643*	0	4.77768
Toluene	0	0	0	0.000684429	0.0146488	0.0153332	0	0.00570724	0.0153332	0.00570724	0.00570724	7.96672*	8.04772	8.04772	0	0	0	0.00323579*	0	10.2318
Ethylbenzene	0	0	0	0.000115840	0.00210554	0.00222138	0	0.00106398	0.00222138	0.00106398	0.00106398	4.36651*	4.38489	4.38489	0	0	0	0.000538886*	0	4.79142
o-Xylene	0	0	0	0.000461441	0.0125908	0.0130522	0	0.00412763	0.0130522	0.00412763	0.00412763	20.2116*	20.2872	20.2872	0	0	0	0.00206773*	0	21.8688
2,2,4-Trimethylpentane	0	0	0	1.75811E-05	7.17274E-07	1.82984E-05	0	0.00401513	1.82984E-05	0.00401513	0.00401513	5.78077*	5.83737	5.83737	0	0	0	0.00222972*	0	7.36314
C8	0	0	0	3.27592E-05	4.66075E-07	3.32253E-05	0	0.0155919	3.32253E-05	0.0155919	0.0155919	64.9859*	65.2500	65.2500	0	0	0	0.00765210*	0	71.1750
C9	0	0	0	4.48696E-06	5.42214E-08	4.54119E-06	0	0.00326634	4.54119E-06	0.00326634	0.00326634	38.6087*	38.6974	38.6974	0	0	0	0.00143379*	0	39.9386
C10	0	0	0	0	0	0	0	0	0	0	0	0*	0	0	0	0	0	0*	0	0
C10+	0	0	0	5.60090E-09	7.50494E-12	5.60841E-09	0	4.77966E-05	5.60841E-09	4.77966E-05	4.77966E-05	493.552*	494.276	494.276	0	0	0	9.99147E-06*	0	494.294

Process Streams		Heater Treater Gas	HP Flared Gas	HT Flared Gas	Inlet Gas	Inlet Oil	Inlet Separator Gas	Inlet Water	Oil Flash	Oil Loadout	Oil Tank Feed	Pilot Gas	Sales	Sales Gas	Sat. Gas	Sweep Blanket Gas
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block:	Heater Treater	SPLT-104	SPLT-105	--	--	HP Separator	--	Oil Tank	Oil Tank	MIX-102	SPLT-102	SPLT-102	MIX-101	Inlet Mixer	SPLT-102
	To Block:	SPLT-105	--	MIX-101	Inlet Mixer	Inlet Mixer	SPLT-104	Inlet Mixer	--	--	Oil Tank	--	--	SPLT-102	SPLT-100	--
Property	**Units**															
Temperature	°F	110*	89	110	110*	110*	89*	110*	89.8136*	89.8136	110	110.167	110.167	110.167	101.316	110.167
Pressure	psig	59*	102	59	59*	59*	102*	59*	0*	0	59	59	59	59	59	59
Molecular Weight	lb/lbmol	25.7787		25.7787	25.0271	134.543		18.0153	39.5055	147.953	141.329	25.7787	25.7787	25.7787	28.4400	25.7787
Mass Flow	lb/h	1075.57	0	1072.74	1008.37	858.639	0	932.541	13.7411	791.017	804.758	1.19559	582.728	1075.57	2799.55	491.651
Std Vapor Volumetric Flow	MMSCFD	0.380000	0*	0.379*	0.366957*	0.0581239	0	0.471446	0.00316788	0.0486929	0.0518608	0.0004224*	0.205878	0.380000	0.896527	0.1737*
Std Liquid Volumetric Flow	sgpm	5.47170	0	5.45730	5.27697	2.35535*	0	1.86422*	0.0576372	2.12917	2.18680	0.00608223	2.96448	5.47170	9.49653	2.50114
Net Ideal Gas Heating Value	Btu/ft^3	1322.00		1322.00	1300.99	6745.66		0	2041.14	7405.37	7077.70	1322.00	1322.00	1322.00	969.845	1322.00
Gross Ideal Gas Heating Value	Btu/ft^3	1450.86		1450.86	1428.14	7233.42		50.3100	2221.71	7935.34	7586.33	1450.86	1450.86	1450.86	1079.97	1450.86

Process Streams	To Flare	VRT to Flare	VRT to Sales	Water Flash	Water Loadout	Water Tank feed	1	2	3	6	8	9	10	11	12	14	15	18	21	22
Properties Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
From Block:	MIX-108	SPLT-103	SPLT-103	Water Tank	Water Tank	MIX-100	SPLT-104	SPLT-105	Heater Treater	MIX-103	VRU	--	Heater Treater	SPLT-101	SPLT-101	VRT	VRT	--	SPLT-100	SPLT-100
To Block:	--	MIX-108	MIX-103	--	--	Water Tank	MIX-101	MIX-103	MIX-100	VRU	MIX-101	--	SPLT-101	MIX-102	VRT	MIX-102	SPLT-103	--	HP Separator	MIX-104
Temperature				89.8136*	89.8136	110	89	110	110	110	170.535	89.8136	110	110	110			89.8136		101.316
Pressure	7	7	7	0*	0	59	102	59	59	59	102*	-5.07212	59	59	59	7	7*	-0.0224434	59	59
Molecular Weight				24.5929	18.0165	18.0171		25.7787	18.0171	25.7787	25.7787	149.209	141.329	141.329	141.329			43.6359	28.4400	28.4400
Mass Flow	0	0	0	0.102508	919.119	919.221	0	2.83045	919.221	2.83045	2.83045	787.053	804.758	804.758	0	0	0	0.803797	0	2799.55
Std Vapor Volumetric Flow	0	0	0	3.79624E-05	0.464628	0.464666	0	0.000999997	0.464666	0.000999997	0.000999997	0.0480412	0.0518608	0.0518608	0	0	0	0.000167767	0	0.896527
Std Liquid Volumetric Flow	0	0	0	0.000524074	1.83750	1.83802	0	0.0143992	1.83802	0.0143992	0.0143992	2.11471	2.18680	2.18680	0	0	0	0.00326426	0	9.49653
Net Ideal Gas Heating Value				1192.30	0.0722338	0.169637		1322.00	0.169637	1322.00	1322.00	7467.37	7077.70	7077.70	7077.70			2253.57	969.845	969.845
Gross Ideal Gas Heating Value				1311.36	50.3847	50.4878		1450.86	50.4878	1450.86	1450.86	8001.37	7586.33	7586.33	7586.33			2449.40	1079.97	1079.97

Process Streams		25	26	27	28	31	32 - Oil Tool W&B
Composition	Status	Stream	Stream	Stream	Stream	Stream	Stream
Phase: Total	From Block	--	--	--	HP Separator	MIX-104	MIX-105
	To Block	MIX-105	--	MIX-105	MIX-104	Heater Treater	--
Std Vapor Volumetric Flow		MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD	MMSCFD
Water		5.58477E-06*	5.48013E-05*	5.14208E-06*	0	0.471446	1.07268E-05
H2S		0*	0*	0*	0	0	0
N2		1.16022E-07*	1.08125E-05*	1.06825E-07*	0	0.00905084	2.22848E-07
CO2		1.81898E-06*	2.27657E-05*	1.67480E-06*	0	0.00342806	3.49378E-06
C1		2.20538E-05*	0.000707542*	2.03057E-05*	0	0.226764	4.23595E-05
C2		0.000101510*	0.000861970*	9.34632E-05*	0	0.0735449	0.000194973
C3		8.45817E-05*	0.000738788*	7.78771E-05*	0	0.0360005	0.000162459
IC4		1.06154E-05*	9.44552E-05*	9.77394E-06*	0	0.00407007	2.03894E-05
nC4		3.52508E-05*	0.000315921*	3.24566E-05*	0	0.0135774	6.77074E-05
IC5		8.99893E-06*	8.22710E-05*	8.28560E-06*	0	0.00406677	1.72845E-05
nC5		1.24803E-05*	0.000114948*	1.14910E-05*	0	0.00615631	2.39713E-05
2-Methylpentane		2.00729E-06*	1.87677E-05*	1.84818E-06*	0	0.00138050	3.85547E-06
3-Methylpentane		1.19537E-06*	1.12034E-05*	1.10062E-06*	0	0.000869568	2.29599E-06
nC6		4.03946E-06*	3.81801E-05*	3.71926E-06*	0	0.00337620	7.75873E-06
Cyclohexane		1.74589E-06*	1.65079E-05*	1.60750E-06*	0	0.00175385	3.35340E-06
C7		4.17457E-06*	4.04482E-05*	3.84366E-06*	0	0.00791893	8.01823E-06
Methylcyclohexane		8.12660E-08*	7.81218E-07*	7.48242E-08*	0	0.000135040	1.56090E-07
Benzene		7.90505E-07*	7.38486E-06*	7.27843E-07*	0	0.000557063	1.51835E-06
Toluene		5.71197E-07*	5.49497E-06*	5.25919E-07*	0	0.00101138	1.09712E-06
Ethylbenzene		8.25585E-08*	8.15789E-07*	7.60142E-08*	0	0.000411043	1.58573E-07
o-Xylene		3.16781E-07*	3.13853E-06*	2.91671E-07*	0	0.00187607	6.08452E-07
2,2,4-Trimethylpentane		3.17485E-07*	3.06076E-06*	2.92318E-07*	0	0.000587075	6.09803E-07
C8		1.08956E-06*	1.08306E-05*	1.00320E-06*	0	0.00567489	2.09276E-06
C9		1.81827E-07*	1.85678E-06*	1.67414E-07*	0	0.00283611	3.49241E-07
C10		0*	0*	0*	0	0	0
C10+		7.23224E-10*	8.72703E-09*	6.65895E-10*	0	0.0200349	1.38912E-09
Mole Fraction							
Water		0.0186405*	0.0173271*	0.0186405*		0.525858	0.0186405
H2S		0*	0*	0*		0	0
N2		0.000387251*	0.00341869*	0.000387251*		0.0100954	0.000387251
CO2		0.00607128*	0.00719805*	0.00607128*		0.00382371	0.00607128
C1		0.0736096*	0.223711*	0.0736096*		0.252936	0.0736096
C2		0.338812*	0.272538*	0.338812*		0.0820331	0.338812
C3		0.282311*	0.233590*	0.282311*		0.0401555	0.282311
IC4		0.0354313*	0.0298648*	0.0354313*		0.00453982	0.0354313
nC4		0.117658*	0.0998878*	0.117658*		0.0151445	0.117658
IC5		0.0300360*	0.0260124*	0.0300360*		0.00453614	0.0300360
nC5		0.0416559*	0.0363441*	0.0416559*		0.00686685	0.0416559
2-Methylpentane		0.00669980*	0.00593397*	0.00669980*		0.00153983	0.00669980
3-Methylpentane		0.00398984*	0.00354230*	0.00398984*		0.000969930	0.00398984
nC6		0.0134826*	0.0120718*	0.0134826*		0.00376586	0.0134826
Cyclohexane		0.00582732*	0.00521947*	0.00582732*		0.00195627	0.00582732
C7		0.0139336*	0.0127889*	0.0139336*		0.00883289	0.0139336
Methylcyclohexane		0.000271244*	0.000247006*	0.000271244*		0.000150626	0.000271244
Benzene		0.00263849*	0.00233494*	0.00263849*		0.000621357	0.00263849
Toluene		0.00190650*	0.00173740*	0.00190650*		0.00112811	0.00190650
Ethylbenzene		0.000275558*	0.000257936*	0.000275558*		0.000458484	0.000275558
o-Xylene		0.00105733*	0.000992340*	0.00105733*		0.00209259	0.00105733
2,2,4-Trimethylpentane		0.00105968*	0.000967752*	0.00105968*		0.000654832	0.00105968
C8		0.00363667*	0.00342442*	0.00363667*		0.00632986	0.00363667
C9		0.000606889*	0.000587077*	0.000606889*		0.00316344	0.000606889
C10		0*	0*	0*		0	0
C10+		2.41392E-06*	2.75931E-06*	2.41392E-06*		0.0223473	2.41392E-06
Mass Fraction							
Water		0.00769580	0.00790178	0.00769580		0.333103	0.00769580
H2S		0	0	0		0	0
N2		0.000248608	0.00242429	0.000248608		0.00994400	0.000248608
CO2		0.00612326	0.00801899	0.00612326		0.00591700	0.00612326
C1		0.0270621	0.0908482	0.0270621		0.142676	0.0270621
C2		0.233472	0.207446	0.233472		0.0867318	0.233472
C3		0.285285	0.260741	0.285285		0.0622602	0.285285
IC4		0.0471939	0.0439401	0.0471939		0.00927791	0.0471939
nC4		0.156718	0.146965	0.156718		0.0309504	0.156718
IC5		0.0496623	0.0475082	0.0496623		0.0115076	0.0496623
nC5		0.0688750	0.0663777	0.0688750		0.0174203	0.0688750
2-Methylpentane		0.0132313	0.0129445	0.0132313		0.00466579	0.0132313
3-Methylpentane		0.00787942	0.00772728	0.00787942		0.00293896	0.00787942
nC6		0.0266265	0.0263338	0.0266265		0.0114108	0.0266265
Cyclohexane		0.0112390	0.0111196	0.0112390		0.00578898	0.0112390
C7		0.0319960	0.0324391	0.0319960		0.0311207	0.0319960
Methylcyclohexane		0.000610332	0.000613925	0.000610332		0.000520020	0.000610332
Benzene		0.00472312	0.00461692	0.00472312		0.00170658	0.00472312
Toluene		0.00402563	0.00405228	0.00402563		0.00365480	0.00402563
Ethylbenzene		0.000670425	0.000693190	0.000670425		0.00171149	0.000670425
o-Xylene		0.00257246	0.00266686	0.00257246		0.00781152	0.00257246
2,2,4-Trimethylpentane		0.00277399	0.00279832	0.00277399		0.00263011	0.00277399
C8		0.00951994	0.00990195	0.00951994		0.0254237	0.00951994
C9		0.00178377	0.00190602	0.00178377		0.0142661	0.00178377
C10		0	0	0		0	0
C10+		1.24303E-05	1.56950E-05	1.24303E-05		0.176562	1.24303E-05
Mass Flow		lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
Water		0.0110469*	0.108399*	0.0101713*	0	932.541	0.0212182
H2S		0*	0*	0*	0	0	0
N2		0.000356864*	0.0332573*	0.000328576*	0	27.8388	0.000685440
CO2		0.00878963*	0.110007*	0.00809289*	0	16.5650	0.0168825
C1		0.0388463*	1.24629*	0.0357670*	0	399.429	0.0746134
C2		0.335137*	2.84582*	0.308571*	0	242.810	0.643708
C3		0.409512*	3.57693*	0.377051*	0	174.301	0.786563
IC4		0.0677445*	0.602786*	0.0623745*	0	25.9740	0.130119
nC4		0.224961*	2.01612*	0.207129*	0	86.6473	0.432089
IC5		0.0712877*	0.651735*	0.0656369*	0	32.2162	0.136925
nC5		0.0988665*	0.910592*	0.0910296*	0	48.7691	0.189896
2-Methylpentane		0.0189928*	0.177578*	0.0174873*	0	13.0621	0.0364801
3-Methylpentane		0.0113105*	0.106006*	0.0104140*	0	8.22777	0.0217245
nC6		0.0382210*	0.361256*	0.0351913*	0	31.9452	0.0734123
Cyclohexane		0.0161330*	0.152542*	0.0148542*	0	16.2065	0.0309873
C7		0.0459286*	0.445011*	0.0422879*	0	87.1240	0.0882165
Methylcyclohexane		0.000876101*	0.00842204*	0.000806654*	0	1.45582	0.00168275
Benzene		0.00677979*	0.0633365*	0.00624257*	0	4.77768	0.0130222
Toluene		0.00578597*	0.0559906*	0.00532053*	0	10.2318	0.0110991
Ethylbenzene		0.000962361*	0.00950942*	0.000886077*	0	4.79142	0.00184844
o-Xylene		0.00369263*	0.0365850*	0.00339992*	0	21.8688	0.00709255
2,2,4-Trimethylpentane		0.00398192*	0.0383883*	0.00366628*	0	7.36314	0.00764820
C8		0.0136654*	0.135838*	0.0125822*	0	71.1750	0.0262476
C9		0.00256052*	0.0261475*	0.00235755*	0	39.9386	0.00491807
C10		0*	0*	0*	0	0	0
C10+		1.78431E-05*	0.000215310*	1.64287E-05*	0	494.294	3.42719E-05

Process Streams		25	26	27	28	31	32 - Oil Tool W&B
Properties	Status	Stream	Stream	Stream	Stream	Stream	Stream
Phase: Total	From Block	--	--	--	HP Separator	MIX-104	MIX-105
	To Block	MIX-105	--	MIX-105	MIX-104	Heater Treater	--
Property	Units						
Temperature	°F	89.8136	89.8136	89.8136	89	101.316	89.8136
Pressure	psig	-0.0224434	-2.26420E-07	-0.0224434	102	59	-0.0224434
Molecular Weight	lb/lbmol	43.6359	39.5040	43.6359		28.4400	43.6359
Mass Flow	lb/h	1.43545	13.7184	1.32166	0	2799.55	2.75711
Std Vapor Volumetric Flow	MMSCFD	0.000299605	0.00316275	0.000275856	0	0.896527	0.000575461
Std Liquid Volumetric Flow	sgpm	0.00582943	0.0575430	0.00536735	0	9.49653	0.0111968
Net Ideal Gas Heating Value	Btu/ft^3	2253.57	2041.06	2253.57		969.845	2253.57
Gross Ideal Gas Heating Value	Btu/ft^3	2449.40	2221.63	2449.40		1079.97	2449.40

Attachment 3

Production Data

HUNTS ALONG PRODUCTION

Row Labels	Sum of Oil	Sum of Water	Sum of Gas Prod-Emi	Sum of HP Flare
9/1/2022	445.71	173.85	922.23	0
9/2/2022	432.545	163.15	939.595	0
9/3/2022	328.345	179.51	938.445	0
9/4/2022	473.665	165.07	939.895	0
9/5/2022	400.585	148.85	909.475	0
9/6/2022	326.05	115.1	735.48	0
9/7/2022	409.67	165	829.36	0
9/8/2022	398.35	179.28	981.9	0
9/9/2022	376.94	165.11	916.91	0
9/10/2022	391.15	174.09	934.29	0
9/11/2022	404.49	175.91	929.13	0
9/12/2022	404.79	204.74	914.18	0
9/13/2022	383.36	171.78	931.27	0
9/14/2022	415.63	181.69	894.04	0
9/15/2022	396.95	180.74	933.62	0
9/16/2022	397.7	170.31	922.59	0
9/17/2022	400.56	168.18	916.3	0
9/18/2022	388.06	169.75	927.64	0
9/19/2022	382.36	158.33	883.39	0
9/20/2022	350.36	146.88	812.96	0
9/21/2022	346.72	137.09	739.63	0
9/22/2022	281.81	114.09	678.86	0
9/23/2022	213.02	72.39	500.71	0
9/24/2022	238.29	75.53	494.04	0
9/25/2022	249.45	67.21	484.58	0
9/26/2022	261.18	117.21	457.35	0
9/27/2022	331.3	179.69	846.13	0
9/28/2022	300.48	159.38	775	0
9/29/2022	375.26	138.25	674.23	0
9/30/2022	333.9	173.82	873.05	0
Grand Total	**10838.68**	**4591.98**	**24636.28**	**0**
AVERAGE	361.29	153.07	821.21	N/A

SHOOTS PRODUCTION

Row Labels	Sum of Oil	Sum of Water	Sum of Gas Prod-Emis	Sum of HP Flare
9/1/2022	97.37	55.21	380.48	0
9/2/2022	91.03	48.81	377.2	0
9/3/2022	93.14	50.52	330.94	0
9/4/2022	96.31	48.96	313.31	0
9/5/2022	96.84	50.23	266.29	0
9/6/2022	94.86	51.04	305.81	0
9/7/2022	97.37	46.95	309.54	0
9/8/2022	93.67	50.52	310.5	0
9/9/2022	95.32	51.56	308.92	0
9/10/2022	94.27	49.67	307.24	0
9/11/2022	97.57	49.48	305.03	0
9/12/2022	73.98	34.9	219.2	0
9/13/2022	94.6	55.73	296.35	0
9/14/2022	93.35	59.37	280.6	0
9/15/2022	91.62	51.67	294.13	0
9/16/2022	95.98	51.04	320.84	0
9/17/2022	97.96	49.48	310.08	0
9/18/2022	95.32	49.56	311.9	0
9/19/2022	100.21	50	297.98	0
9/20/2022	92.94	51.04	300.97	0
9/21/2022	94.73	50.52	306.61	0
9/22/2022	93.21	49.48	318.58	0
9/23/2022	96.84	54.17	342.3	0
9/24/2022	97.5	47.4	348.8	0
9/25/2022	96.38	52.06	363.7	0
9/26/2022	94.86	47.54	338.17	0
9/27/2022	92.02	56.25	378.06	0
9/28/2022	91.42	57.29	392.11	0
9/29/2022	89.77	52.6	404.11	0
9/30/2022	104.31	51.04	416.24	0
Grand Total	**2834.75**	**1524.09**	**9755.99**	**0**
AVERAGE	94.49	50.80	325.20	N/A

DEMARAY PRODUCTION

Row Labels	Sum of Oil	Sum of Water	Sum of Gas Prod-E	Sum of HP Flare
9/1/2022	78.04	69.27	384.67	0
9/2/2022	74.9	64.58	383.16	0
9/3/2022	77.37	62	382.08	0
9/4/2022	75.56	65.63	379.64	0
9/5/2022	75.36	53.25	373.79	0
9/6/2022	72.15	67.71	379.95	0
9/7/2022	73.38	65.1	378.05	0
9/8/2022	72.08	53.38	378.59	0
9/9/2022	68.48	59.37	357.04	0
9/10/2022	74.32	67.19	371.43	0
9/11/2022	70.08	56.9	372.28	0
9/12/2022	71.71	59.37	359.92	0
9/13/2022	71.62	74.48	381.48	0
9/14/2022	73.73	59.49	376.41	0
9/15/2022	71.66	69.79	377.01	0
9/16/2022	77.08	64.06	381.82	0
9/17/2022	72.15	54.09	380.41	0
9/18/2022	73.77	68.23	378.93	0
9/19/2022	75.19	62.5	375.55	0
9/20/2022	69.67	61.98	374.66	0
9/21/2022	72.19	57.75	374.96	0
9/22/2022	71.02	62.5	376.41	0
9/23/2022	72.85	53.23	376.6	0
9/24/2022	72.08	67.19	379.84	0
9/25/2022	71.66	61.98	383.81	0
9/26/2022	72.61	50.52	374.19	0
9/27/2022	68.42	73.96	404.17	0
9/28/2022	73.18	66.67	398.68	0
9/29/2022	74.73	66.31	401.3	0
9/30/2022	63.19	58.33	372.51	0
Grand Total	**2180.23**	**1876.81**	**11369.34**	**0**
AVERAGE	72.67	62.56	378.98	N/A

Attachment 4

Sampling Data

SPL, Inc.
3111 1st Ave W
Williston, ND 58801
701-368-7183

EXTENDED HYDROCARBON LIQUID STUDY
CERTIFICATE OF ANALYSIS

Company:	Marathon Oil	Sample Name:	**Crows Fly High USA CTB Pressurized Liquid**
Sample Date:	8/26/2022	Lab ID Number:	22080222-010A
Sample Facility:	Crows Fly High USA CTB	Date Tested:	9/1/2022
Sample Equipment:	Treater	Test Method:	GPA 2186M
Sample Location:	ND	Date Reported:	9/1/2022
Sample Pressure:	76 PSIG		
Sample Temperature:	120°F		
Sampling Method:	GPA-2174		
Type Sample:	Spot		

Components	Mole %	Weight %	Liq. Vol. %
Nitrogen	0.078	0.017	0.015
Methane	1.308	0.162	0.396
Carbon Dioxide	0.034	0.012	0.011
Ethane	2.565	0.594	1.223
Propane	4.004	1.359	1.966
Isobutane	0.951	0.426	0.555
n-Butane	4.363	1.953	2.453
Isopentane	3.588	1.993	2.340
n-Pentane	5.424	3.013	3.506
2-Methylpentane	2.375	1.576	1.758
3-Methylpentane	1.496	0.993	1.089
Other Hexanes	0.773	0.422	0.416
n-Hexane	4.482	2.974	3.287
Benzene	0.834	0.502	0.417
2,2,4-Trimethylpentane	1.014	0.892	0.940
Heptanes	12.356	8.962	9.205
Toluene	1.692	1.200	1.010
Octanes	9.508	7.935	7.892
Ethylbenzene	0.704	0.575	0.484
m-Xylene	2.015	1.647	1.391
p-Xylene	0.325	0.266	0.225
o-Xylene	0.868	0.710	0.589
Nonanes	4.794	4.365	4.220
Decanes+	34.449	57.452	54.612
Totals	**100.000**	**100.000**	**100.000**

CALCULATED SAMPLE CHARACTERISTICS

	Total	C10+
RELATIVE SPECIFIC GRAVITY	**0.7331**	**0.7734**
API GRAVITY AT 60/60 F	**61.51**	**51.47**
TRUE VAPOR PRESSURE AT 100 F, PSIA	**99.1**	**0.0013**
AVERAGE MOLECULAR WEIGHT	**129.88**	**224.7**
AVERAGE BOILING POINT, F	**209.88**	**340.2**
BTU / GALLON OF LIQUID AT 14.73 PSIA	**124,647**	**130,395**
LBS / GALLON OF LIQUID	**6.112**	**6.448**

NOTATION: ALL CALCULATIONS PERFORMED USING PHYSICAL CONSTANTS FROM GPA 2145-16, THE TABLES OF PHYSICAL CONSTANTS FOR HYDROCARBONS AND OTHER COMPOUNDS OF INTEREST TO THE NATURAL GAS INDUSTRY.

Williston Laboratory
3111 1st Ave W
Williston, ND 58801

Certificate of Analysis

Number: 172-22080222-009A

Sep. 02, 2022

Michelle McCracken
Marathon
Houston, TX 77024

Station Name: Crows Fly High USA CTB
Method: GPA 2286
Cylinder No: 1346
Analyzed: 09/02/2022 08:00:53 by SPL

Sampled By: Jon Holte
Sample Of: Gas Spot
Sample Date: 08/26/2022
Sample Conditions: 76 psig, @ 120 °F

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.696 psia
Hydrogen Sulfide	0.0000	0.0000	
Nitrogen	2.4541	2.7465	
Carbon Dioxide	0.9288	1.6330	
Methane	61.5885	39.4729	
Ethane	19.6355	23.5878	5.2648
Propane	9.1763	16.1655	2.5346
Iso-Butane	0.9585	2.2257	0.3145
n-Butane	3.0089	6.9868	0.9510
Iso-Pentane	0.5399	1.5562	0.1980
n-Pentane	0.8185	2.3593	0.2975
Hexanes	0.2992	1.0301	0.1231
n-Hexane	0.2101	0.7233	0.0866
Benzene	0.0197	0.0615	0.0055
Cyclohexane	0.0563	0.1893	0.0192
Heptanes	0.2008	0.8038	0.0929
Methylcyclohexane	0.0368	0.1444	0.0148
Toluene	0.0076	0.0280	0.0026
Octanes	0.0404	0.1844	0.0208
Ethylbenzene	0.0005	0.0021	0.0002
Xylenes	0.0031	0.0131	0.0012
Nonanes	0.0135	0.0692	0.0076
Decanes Plus	0.0030	0.0171	0.0018
	100.0000	100.0000	9.9367

GPM TOTAL C2+ 9.938

Calculated Physical Properties	Total	C10+
Calculated Molecular Weight	25.03	142.28
GPA 2172 Calculation:		
Calculated Gross BTU per ft³ @ 14.696 psia & 60°F		
Real Gas Dry BTU	1436.2	7742.9
Water Sat. Gas Base BTU	1411.8	7607.8
Relative Density Real Gas	0.8684	4.9126
Compressibility Factor	0.9949	

Comments: H2S Field Content 0 ppm

Jessica Christoffersen

Data reviewed by: Jessica M. Christoffersen, Laboratory Technician

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