811 Louisiana, Suite 2100
Houston, TX 77002
713.584.1000
www.targaresources.com

October 15, 2020

Colin Schwartz
Part 71 Operating Permits Lead
Air Program, 8P-AR
US EPA Region 8
1595 Wynkoop Street
Denver, CO 80202

RE: *Federal Operating Permit Application*
Targa Badlands LLC
Buffalo Compressor Station
McKenzie County, North Dakota

Dear Mr. Schwartz,

Targa Badlands LLC (Targa) currently owns and operates the Buffalo Compressor Station, a natural gas compressor station, in McKenzie County, North Dakota, which is located within the exterior bounds of the Fort Berthold Indian Reservation. The facility commenced operation and became a major source under the Part 71 program on October 18, 2019, and thus is subject to the Part 71 Title V permitting requirements of 40 CFR 71.3(a)(1).

Targa has installed the following components at the facility:

- Two (2) compressors driven by internal combustion engines fueled by natural gas (EU1, EU 2);
- Two (2) Pig Receivers (EU 5);
- One (1) produced water tank (EU 6) and its associated loading (EU 16);
- Two (2) condensate tanks (EU 7, EU 8) and their associated loading (EU 16);
- One (1) separator tank (EU 10);
- One (1) methanol storage tank (EU 11);
- Five (5) insignificant emission sources: two (2) lube oil tanks, two (2) coolant tanks, and one (1) triethylene glycol tank (TK 1-5);
- One (1) vapor combustor (EU 12);
- One (1) glycol dehydrator (EU 13);
- One (1) glycol reboiler (EU 14);
- Various fugitive emissions associated with equipment leak components (EU 15)

Targa has prepared a Part 71 Title V application to address the new operating units. This application includes permit application forms and a regulatory review for the emission units. A certification of truth, accuracy, and completeness (CTAC) form signed by the responsible official is included in this submittal. This submittal is organized in several sections, which include:

- Executive Summary;
- Process and Facility Description;
- Emission Calculations;
- Regulatory Analysis; and
- Appendices:
    - Part 71 Application forms;

- Potential to Emit Emission Calculations; and
- Vendor specific data.

Please do not hesitate to contact me at (713) 584-1292 or by email at twallace@targaresources.com, if you have any questions or comments regarding this submittal.

Sincerely,

TARGA BADLANDS LLC

Tammy Wallace
Senior Environmental Specialist

cc: Mr. Mitch Anderson, Targa Badlands LLC
Ms. Ashley Jones, Trinity Consultants

Enclosures:

TITLE V APPLICATION

Targa Badlands LLC > Buffalo Compressor Station

TARGA BADLANDS LLC

811 Louisiana Street, Suite 2100
Houston, TX 77002-1400

Prepared By:

TRINITY CONSULTANTS
1391 Speer Blvd, Suite 350
Denver, CO 80204
(720) 638-7647

October 2020

Project 182401.0074

Environmental solutions delivered uncommonly well

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1. EXECUTIVE SUMMARY

Targa Badlands LLC (Targa) is herein submitting the required information to complete the revised Part 71 Title V application for the existing Buffalo Compressor Station (also referred to herein as the "facility") under Part 71 of Title 40 of the Code of Federal Regulations (40 CFR). The Buffalo Compressor Station is located at latitude 47.66617° North and longitude 102.73642° West in McKenzie County, North Dakota, within the exterior bounds of the Fort Berthold Indian Reservation. The site is used to compress and dehydrate natural gas from nearby wells (SIC 1311, NAICS 211111).

Under §49.152(d), true minor source means a source, not including the exempt emissions units and activities listed in §49.153(c), that emits, or has the potential to emit, regulated New Source Review (NSR) pollutants in amounts that are less than the major source thresholds in §49.167 or §52.21, as applicable, but equal to or greater than the minor NSR thresholds in §49.153, without the need to take an enforceable restriction to reduce its potential to emit to such levels. The facility will be a true minor source.

On October 18, 2019, the facility commenced operations at the facility. The facility submitted timely Part 1 and Part 2 registration to satisfy the requirements under the Federal Implementation Plan for True Minor Oil and Gas Sources (FIP). Per §71.5(1)(i) Targa is required to submit a Title V permit application within 12 months of commencing operations. Targa is submitting this application to satisfy this requirement.

Targa has installed the following components at the facility:

- Two (2) compressors driven by internal combustion engines fueled by natural gas (EU1, EU 2);
- Two (2) Pig Receivers (EU 5);
- One (1) produced water tank (EU 6) and its associated loading (EU 16);
- Two (2) condensate tanks (EU 7, EU 8) and their associated loading (EU 16);
- One (1) separator tank (EU 10);
- One (1) methanol storage tank (EU 11);
- Five (5) insignificant emission sources: two (2) lube oil tanks, two (2) coolant tanks, and one (1) triethylene glycol tank (TK 1-5);
- One (1) vapor combustor (EU 12);
- One (1) glycol dehydrator (EU 13);
- One (1) glycol reboiler (EU 14);
- Various fugitive emissions associated with equipment leak components (EU 15)

1.1. GENERAL APPLICANT INFORMATION

Listed below, is the point of contact for the Buffalo Compressor Station registration application.

Project Site: Targa Badlands LLC – Buffalo Compressor Station
SW/4, NW/4, S1, T148N, R95W
McKenzie County, North Dakota

Applicant Contact: Tammy Wallace
Senior Environmental Specialist
Targa Badlands LLC
811 Louisiana Street, Suite 2100
Houston, TX 77002
(713) 584-1292

2.1. DESCRIPTION OF OPERATIONS

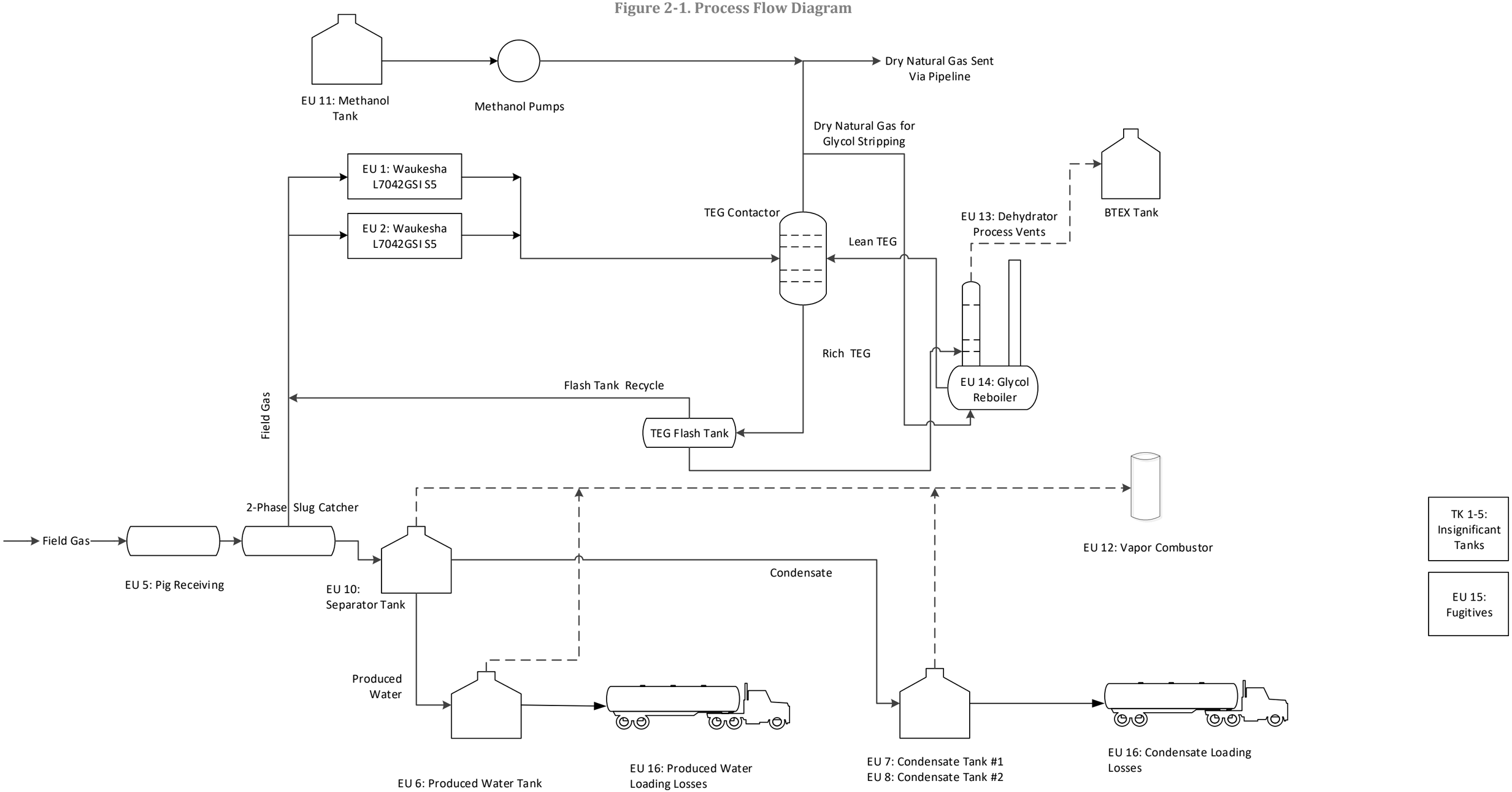
The inlet gas flows from gas lines through a Pipe Inspection Gauge (PIG) receiver to a 2-phase slug catcher. Condensate and produced water exit the bottom of the slug catcher and is routed to an atmospheric separator tank; field gas exits the overhead of the slug catcher. The field gas is routed to one of the four parallel 3-stage compressors and dehydrated before being discharged into the pipeline.

Once the condensate and produced water mixture is inside the separator tank, the flash gas from the mixture, caused by either ambient heating or pressure drop bubbles, is routed to the vapor combustion unit. The condensate and produced water are then separated by gravity and are sent either to the condensate tanks or the produced water tank. From their respective tanks, they are loaded and trucked from the facility. Working, breathing, and flash emissions from the condensate and produced water tanks are routed to the vapor combustion unit.

The rich glycol used for dehydrating the field gas is first directed to a flash tank to remove entrained hydrocarbons before being sent to the glycol dehydrator and reboiler. The flash tank emissions are captured, recycled, and recompressed to be sent back into the pipeline. The glycol dehydrator vapor stream will be directed to an open-to-atmosphere BTEX tank. Field gas is used as a stripping gas in the process to produce lean glycol. Methanol is injected at different points in the process using air-assisted pneumatic pumps to prevent hydrates from forming. A process flow diagram is presented in Section 2-2.

2.2. PROCESS FLOW DIAGRAM

Figure 2-1. Process Flow Diagram



2.3. IDENTIFICATION OF EMISSION UNITS

Table 2-1 presents the complete list of the emission units at the site. This table includes the Emission Unit ID (EU) and Emission Point Number (EPN) for each unit at the site, as well as equipment descriptions of each emission unit where applicable.

Table 2-1. Emission Unit Summary

EU	EPN	Equipment Description	Capacity/Rating
1	1	Waukesha L7042GSI S5	1500 HP
2	2	Waukesha L7042GSI S5	1500 HP
5	5	(2) Pig Receivers	12" Nominal 16" Oversize Chamber
6	12	Produced Water Tank	400 bbl
7	12	Condensate Tanks	400 bbl
8	12	Condensate Tanks	400 bbl
10	12	Separator Tank	400 bbl
11	11	Methanol Tank	2000 gal
12	12	Vapor Combustor Unit	--
13	13	Dehydrator Process Vents	24 MMScf
14	14	Glycol Reboiler	0.45 MMBtu/hr
15	15	Fugitive Emissions	--
16	16	Produced Water Truck Loading	--
16	16	Condensate Truck Loading	--
TK1-5	TK1-5	Various Tanks	500 gal

2.4. AIR POLLUTION CONTROLS

Table 2-2 lists the control devices currently installed at the Buffalo Compressor Station. This table also lists the federal regulation requiring the control equipment, such as New Source Performance Standards (NSPS) found in 40 CFR Part 60 or National Emission Standards for Hazardous Air Pollutants (NESHAP) found in 40 CFR Part 63. All other equipment onsite is uncontrolled.

Table 2-2. List of Controlled Emission Units

Emission Unit ID	Emission Point ID	Description	Controls	Control Requirement
1	1	Waukesha L7042GSI S5	NSCR	NSPS JJJJ/NESHAP ZZZZ
RC-1	RC-1	Reciprocating Compressor associated with engine EU 1	Rod packing replacements per 60.5385a	NSPS OOOOa
2	2	Waukesha L7042GSI S5	NSCR	NSPS JJJJ/NESHAP ZZZZ
RC-2	RC-2	Reciprocating Compressor associated with engine EU 2	Rod packing replacements per 60.5385a	NSPS OOOOa
6	12	Produced Water Tank #1	Vapor Combustor (EU 12)	N/A (Not Subject to NSPS OOOOa as PTE < 6 tpy). No controls are claimed in calculating emissions for this unit.
7	12	Condensate Tank #1	Vapor Combustor (EU 12)	NSPS OOOOa
8	12	Condensate Tank #2	Vapor Combustor (EU 12)	NSPS OOOOa
10	12	Separator Tank	Vapor Combustor (EU 12)	NSPS OOOOa

Section 4 outlines the underlying regulatory requirements for these control devices.

3.1. EXPECTED ACTUAL OPERATING SCHEDULE

Operation of the new equipment began on October 18, 2019. Targa plans to operate the facility 24 hours per day, 7 days per week, and 52 weeks per year (8,760 hours per year). As a full year of operations data was not available at the time of this report, Targa has conservatively assumed the actual emissions for the facility are equal to the potential to emit for the facility.

3.2. EMISSION CALCULATION METHODOLOGY

This section addresses the basis for the emission calculations for each emission unit at the facility. The pollutants that are evaluated for the emission units include nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter of less than 10 microns (PM_{10}) and less than 2.5 microns ($PM_{2.5}$), and hazardous air pollutants (HAPs). Each emission unit description also includes a unit identification number for cross-referencing with the attached emission calculation worksheets included in Appendix B. Appendix B also includes the potential to emit summary tables for criteria pollutants and hazardous air pollutants, respectively.

Targa has grouped similar emission units together for simplicity, and has outlined emissions for the following emission units and groups:

- Natural Gas-Fired Reciprocating Internal Compression Engines;
- Storage Tanks;
- Loading Losses;
- Pigging Operations;
- Fugitive Emissions;
- Glycol Dehydrators;
- Natural-Gas Fired Heaters; and
- Vapor Combustors.

3.2.1. Natural Gas-Fired Reciprocating Internal Combustion Engines

There are two (2) natural gas-fired engines at the facility – EU 1 and 2. The facility uses EU 1-2 to compress natural gas. The engines are four-stroke rich burn (4SRB) engines.

The engines are Waukesha L7042GSI S5 model engines. Manufacturer's specifications for were used for NO_X, CO, VOC, and formaldehyde emissions based on post non-selective catalytic reduction (NSCR) emission rates. All other emission factors were taken from AP-42 Chapter 3.2. Section 4.3.3 goes into detail on why these engines are subject to NSPS JJJJ limits.

Both potential and actual emissions assumed 8,760 hours of operation.

3.2.2. Storage Tanks

The facility includes the following storage tanks: one (1) produced water tank, two (2) condensate tanks, one (1) separator tank, and one (1) methanol tank.

The produced water (EU 6), condensate (EU 7-8), and separator (EU 10) tanks will have working, breathing, and flash emissions. Targa used ProMax 5.0 to predict emissions from both the produced water and condensate tanks. The program uses the Peng-Robinson equation of state to predict flash emissions and the equations of AP-42 Section 7.1[1] to predict working and standing losses. The output file from the ProMax run can be found in Appendix B. Emissions from the storage tank are routed to the vapor combustion unit (EU 12).

Emissions from the methanol tank (EU 11) were calculated using ProMax 5.0, which uses the equations of AP-42 Chapter 7.1. Emissions from the coolant tanks, lube oil tanks, and TEG tank (TK 1-5) are negligible due to low VOC content of each product; however, Targa has conservatively assumed emissions from each tank will be less than 0.01 tons per year (tpy).

3.2.3. Loading Losses

Loading losses for the produced water and condensate (EU 16) being loaded into tank trucks were calculated using equations from AP-42 Section 5.2[2]. Variables for the equation including molecular weight, vapor pressure, and vapor content were taken from the ProMax vapor phase of the condensate tank. Note that the composition of the produced water loaded was assumed to be 1% VOC.

3.2.4. Pigging Operations

The facility receives PIGs through two (2) 12" lines in gas services (EU 5). Each time a PIG is received or launched at the facility, the PIG trap must be depressurized to atmosphere in order to remove the PIG from or insert the PIG into the pipeline. VOC and HAP emissions will occur from each depressurization event. The operating conditions and dimensions of each receiver were used to calculate the volume of gas vented during each depressurization event. Emissions were calculated based on the depressurization volume, gas composition, and number of depressurization events.

3.2.5. Fugitive Emissions

Fugitive component leak emissions (EU 15) were calculated based on the emission factors in Table 2-4 of Protocol for Equipment Leak Emission Estimates (EPA 453/R-95-017). Components in each service were updated based on component counts from a similar facility. Stream compositions were taken from site-specific condensate and field gas analyses. Both actual and PTE emissions assume 8,760 hours of operation.

3.2.6. Glycol Dehydrator

One (1) 24 MMscfd triethylene glycol (TEG) dehydrator (EU 13) is used to remove water from natural gas. VOC and HAP emissions from the unit were calculated using GRI-GLYCalc v4.0. Inputs to the model are based on the extended site-specific gas analysis taken upstream of the dehydrator, using the maximum gas throughput, the optimal glycol pump rate, and the operating conditions of the dehydrator(s). The output file from the GRI-GLYCalc runs can be found in Appendix B.

[1] Organic Liquid Storage Tanks (11/06)

[2] Transportation and Marketing of Petroleum Liquids (7/08)

3.2.7. Natural Gas-Fired Heater

There is one (1) natural gas-fired glycol reboiler (EU 14) located at the facility. Emissions from this heater were calculated based on the unit's maximum heat input and the emission factors listed in AP-42 Section 1.4[3]

3.2.8. Vapor Combustor

There is one (1) vapor combustor (EU 12) at the facility, which is used to control emissions from the produced water (EU 6), condensate (EU 7-8), and separator (EU 10) tanks. Each vapor combustor has a 98% control efficiency; however a 95% control efficiency is claimed on each condensate tank and separator tank as required by 40 CFR 60, Subpart OOOO and OOOOa. In addition, a natural gas-fired pilot is associated with the vapor combustor, and also contributes to emissions. Note that the vapor combustor is not mandated to be operated for the produced water tanks by either NSPS OOOO or NSPS OOOOa, therefore no control efficiency is claimed when determining potential emissions from the produced water tanks.

VOC and HAP emission from the vapor combustor were calculated by calculating the uncontrolled emissions from the condensate and separator tanks and applying a 95% control efficiency[4]. The pilot VOC and HAP emissions were calculated using a speciated fuel gas analysis, pilot gas flowrate, and heat content. Formaldehyde emissions were calculated separately for the condensate vapor, separator vapor, and the pilot gas combustion by using emission factors from AP-42 Section 1.4 and flowrate of both the vapor in the tanks as well as the flowrate of the pilot gas. CO and NO_x emissions were also calculated for the vapor combustor using emission factors from AP-42 Section 13.5[5]. SO_2 emissions were calculated for the pilot by applying a flare efficiency fraction and fuel sulfur content to the total pilot fuel that was burned.

[3] Natural Gas Combustion (7/98)

[4] Note that the uncontrolled emission of the produced water tank were also included, but no control efficiency was applied.

[5] Industrial Flares (2/18).

4. REGULATORY ANALYSIS

This section presents a review of the air quality regulations and standards that govern operation at the facility. Only federal air regulations were reviewed for applicability to the project. Specifically, the following potentially applicable regulations, standards, and provisions were reviewed:

- Minor Source New Source Review (NSR) and Prevention of Significant Deterioration (PSD);
- Federal Title V Operating Permit Program (Title V);
- Compliance Assurance Monitoring (CAM);
- New Source Performance Standards (NSPS) in 40 CFR Part 60;
- National Emission Standards for Hazardous Air Pollutants (NESHAP) in 40 CFR Part 63; and
- Permit Shield.

The federal regulatory programs, as promulgated by the United States Environmental Protection Agency (U.S. EPA), and administered by Region 8 have been developed under the authority of the 1970 Clean Air Act (or Act) and subsequent amendments.

4.1. MINOR SOURCE NEW SOURCE REVIEW (NSR) AND PREVENTION OF SIGNIFICANT DETERIORATION (PSD)

The FIP for True Minor Oil and Gas Sources requires that oil and gas sources that are considered true minor sources under the PSD program must register as a minor source with the EPA. The FIP applies to new and modified true minor sources that are located or expanding in the referenced areas of Indian country designated as attainment, unclassifiable, or attainment/unclassifiable.

The facility is located in McKenzie County, North Dakota, which is designated as attainment or unclassifiable for all criteria pollutants per 40 CFR 81.335.

PSD preconstruction permitting applies to Categorical Sources as listed in 40 CFR 52.21(b)(1)(i)(a) (also known as the list of 28) that have the potential to emit above 100 tpy of any criteria pollutant or non-Categorical Sources that have the potential to emit above 250 tpy of any criteria pollutant. Compressor stations are not classified as a Categorical Source; therefore, the major source emission rate threshold for this source is 250 tpy of any criterial pollutant. The facility does not have a potential to emit which exceeds the PSD major source threshold of 250 tpy of any criteria pollutant and is therefore a true minor stationary source, as shown in the Appendix B tables.

Under the final rule, beginning Oct. 3, 2016, new and modified true minor sources using the FIP will be required to register using a specific form tailored to the FIP (Part 1 and Part 2 applications), rather than a permit application.

As the facility meets the definition of "oil and natural gas source" in §49.402 and meets the requirements outlined in §49.101(b) and §49.151(c)(1)(iii)(B), it is subject to the FIP requirements outlined in §49.101-105. A Part 1 form for the facility, which included a threatened or endangered species and historic properties review per the requirements of §49.104, was submitted 30 days prior to construction commencing. A Part 2 application was submitted within 60 days of the commencement of operations of the Part 1 modifications, satisfying the requirements of the FIP.

Table 4-1. Summary of Facility-Wide Potential to Emit

Pollutant	Facility-Wide Emissions[1] (tpy)
NO_x	14.7
CO	58.7
VOC	196.9
SO_2	0.1
$PM/PM_{10}/PM_{2.5}$	2.2
HAP	11.0

[1]Summary of total facility emissions does not include non-HAP fugitive emissions, which are not included in major source applicability for Part 71 Potential to Emit Total.

4.2. FEDERAL TITLE V OPERATING PERMIT PROGRAM (TITLE V)

Per 40 CFR 71.3(a) and 40 CFR 71.5(a)(1), sources that have the potential to emit above 100 tpy of any criteria pollutant, 10 tpy of a single HAP, or 25 tpy of total HAPs are required to submit an operating permit application within one year of commencing operation. As shown in the Appendix B tables, the facility is considered a major source under Part 71. Per §71.5(1)(i), a source is required to submit a Title V application within 12 months of commencing operations. Targa is hereby submitting this application to satisfy this requirement.

4.3. COMPLIANCE ASSURANCE MONITORING (CAM)

The CAM rule applies to each pollutant-specific emission unit (PSEU) at a major source that meets the applicability criteria outlined in 40 CFR 64.2(a) that:

- Is subject to a federally enforceable emission limit or standard for a regulated air pollutant;
  - Unless the emission limit under Section 111 (NSPS standards) or 112 (NESHAP standards) was proposed by the Administrator after November 15, 1990 (40 CFR 64.2(b)(i)).
- Uses a control device to comply with that federally enforceable emission limit or standard; and
- Has a PTE for the applicable regulated pollutant, without taking into account the control device, in an amount equal to or greater than 100 percent of the amount, in tons per year, required to be classified as a major source.

Although a Title V (Part 71) source, there are no emission units at the Buffalo Compressor Station that are subject to an applicable federally enforceable emission limit and have potential pre-control emissions in an amount equal to or greater than 100 percent of the major source thresholds (MST) and are also controlled emission units; therefore, the CAM requirements under 40 CFR 64 are not applicable.

4.4. NEW SOURCE PERFORMANCE STANDARDS (NSPS)

New Source Performance Standards (NSPS) are nationwide regulations that regulate air pollution from new, modified, and reconstructed stationary source categories determined to cause or contribute significantly to air pollution and that may reasonably be anticipated to endanger public health. The following NSPS subparts were assessed for applicability to the installation performed at the facility:

- Subpart A – General Provisions;
- Subpart Dc - Standard of Performance for Small Industrial-Commercial-Institutional Steam Generating Units;

- Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines;
- Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines;
- Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984;
- Subpart OOOO – Standards of Performance for Crude Oil and Natural Gas Production, Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced after August 23, 2011, and on or before September 18, 2015;
- Subpart OOOOa – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced after September 18, 2015;
- Subpart KKK – Standards of Performance for Equipment Leaks from Onshore Natural Gas Processing Plants; and

4.4.1. Subpart A – General Provisions

Certain provisions of 40 CFR 60 Subpart A apply to the owner or operator of any stationary source subject to a NSPS. Since the Buffalo Compressor Station is subject to at least one NSPS subpart, the facility will comply with the applicable general requirements in Subpart A. Unless specifically excluded by the source-specific NSPS, Subpart A generally requires initial construction notification, initial startup notification, performance tests, performance test date initial notification, general monitoring requirements, general recordkeeping requirements, and semiannual monitoring and/or excess emission reports.

4.4.2. Subpart Dc – Standards of Performance for Small Industrial-Commercial Institutional Steam Generating Units

NSPS Subpart Dc applies to steam generating units for which construction, modification, or reconstruction is commenced after June 9, 1989 and that have a maximum design heat input capacity of greater than or equal to 10 MMBtu/hr and less than or equal to 100 MMBtu/hr. Since the heater at the facility has a heat input capacity of less than 10 MMBtu/hr, the unit is not subject to the requirements of Subpart Dc.

4.4.3. Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

NSPS Subpart IIII (NSPS IIII) applies to manufacturers, owners, and operators of stationary compression ignition internal combustion engines (ICEs). None of the engines at the facility are compression ignition engines, thus no units are subject to this subpart.

4.4.4. Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

NSPS Subpart JJJJ (Subpart JJJJ) applies to manufacturers, owners and operators of stationary spark ignition (SI) internal combustion engines (ICE) constructed (including the date the engine was ordered), modified, or reconstructed after June 12, 2006. Affected engines from §60.4230(a)(4) are the following;

- Engines manufactured on or after July 1, 2007 with horsepower greater than or equal to 500 hp (with the exception of lean burn engines with hp between 500 hp and 1,350 hp);

EU 1-2 are all 4SRB Waukesha L7042GSI S5 model engines rated at 1,500 bhp. Each engine was manufactured after July 1, 2007 and therefore are subject to NSPS JJJJ emission limits as specified in Table 1 to Subpart JJJJ

(1.0 g/hp-hr NO_x; 2.0 g/hp-hr CO, 0.7 g/hp-hr VOC). To comply with the emission limits, all these units will be equipped with an NSCR to reduce exhaust emissions. They must meet the general compliance requirements of §60.4234 and §60.4243 (a)(1) and (b)(1); and the notification, reporting, and recordkeeping requirements of §60.4245(a).

4.4.5. Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

NSPS Subpart Kb (NSPS Kb) applies to each storage vessel at a facility with a capacity greater than or equal to 75 cubic meters that is used to store volatile organic liquids for which construction, reconstruction, or modification is commenced after July 23, 1984. The largest tanks at the facility have a capacity of 400 barrels, or approximately 63.6 cubic meters, thus none of the storage tanks at the facility are subject to this rule.

4.4.1. Subpart OOOO – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced after August 23, 2011, and on or before September 18, 2015

NSPS Subpart OOOO (NSPS OOOO) applies to owners and operators of gas wells, centrifugal compressors, reciprocating compressors, pneumatic controllers, natural gas processing plants, storage vessels, and natural gas sweetening units that commence construction, modification, or reconstruction after August 23, 2011, and on or before September 18, 2015.

Since the facility was constructed after September 18, 2015, it is not subject to NSPS OOOO.

4.4.2. Subpart OOOOa – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced after September 18, 2015

NSPS Subpart OOOOa (NSPS OOOOa) applies to affected facilities in the crude oil and natural gas source category that commence construction, modification, or reconstruction after September 18, 2015.

NSPS OOOOa regulates emissions and work practice standards for well affected facilities, centrifugal compressors, reciprocating compressors, pneumatic controllers, storage vessels, equipment leaks, sweetening units, and pneumatic pumps. The facility is not considered a well affected facility, and does not contain any centrifugal compressors or sweetening units. Applicability of the remaining items is outlined below.

- **Reciprocating Compressors** - Per §60.5365a(c), each reciprocating compressor affected facility, which is a single reciprocating compressor, is subject to NSPS OOOOa. The two (2) reciprocating compressors associated with EU 1-2 meet this criterion and will be subject to NSPS OOOOa per §60.5365a(c), as they were constructed after September 18, 2015. Per 40 CFR §60.5385a, reciprocating compressors are required to replace the rod packing before the compressor has operated for 26,000 hours, or prior to 36 months from the date of the most recent rod packing replacement. Targa will comply with this requirement.
- **Pneumatic Controllers** - Per §60.5365a(d), a pneumatic controller at a natural gas processing plant is defined as a single continuous bleed natural gas-driven pneumatic controller. Each of the pneumatic controllers at the site are instrument air and are not natural gas-driven. As such, the pneumatic controllers at the facility are not subject to this subpart.
- **Storage Vessels** - A storage vessel is an affected facility if it is located in the oil and natural gas production segment and has potential to emit (PTE) of 6 tpy or more VOC emissions. The condensate tanks (EU 7-8) and

separator tank (EU 10) have the potential to emit less than 6 tpy and complies with NSPS OOOOa by applying a legally and federally enforceable limit to restrict emissions below the 6 tpy threshold, as specified under 40 CFR § 60.5365a(e). The vapor combustor unit (EU 12) will act as the control device for these tanks. . The produced water tank (EU 6) is below 6 tpy without controls, so the unit is not subject to NSPS OOOOa, thus no controls are claimed for the unit even though it is also routed to the VCU (EU 12).

- **Pneumatic Pumps** - Per §60.5365a(h), pneumatic pumps at natural gas processing plants are considered single natural gas-driven diaphragm pumps. The pneumatic pumps at the site are either air-assisted or electric, and thus are not natural gas-driven. As such, the pneumatic pumps at the facility are not subject to this rule.
- **Equipment Leaks** - Per §60.5365a(j), the collection of fugitive emissions components at a compressor station is an affected facility. The equipment leak components at the site will be subject to the compliance monitoring, recordkeeping, and emission limitations for equipment leaks as outlined in NSPS OOOOa per §60.5397.

4.4.3. Subpart KKK – Standards of Performance for Equipment Leaks from Onshore Natural Gas Processing Plants

NSPS Subpart KKK (Subpart KKK) applies to equipment leaks from natural gas processing plants that were constructed after June 20, 1984 and before August 23, 2011. The facility does not extract natural gas liquids and does not meet this definition of a natural gas processing plant. Therefore, this subpart does not apply.

4.5. NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

NESHAP for Source Categories known as Maximum Available Control Technology (MACT) standards affect certain designated industrial sources referred to as "source categories" that may emit or have the potential to emit one or more of 188 designated HAPs. MACT standards (subparts) are codified in 40 CFR Part 63. The following NESHAP subparts were assessed for applicability to the facility:

- Subpart A – General Provisions;
- Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, an Institutional Boilers and Process Heaters;
- Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines;
- Subpart HH – National Emission Standards for Hazardous Air Pollutants from Natural Gas Production Facilities;
- Subpart HHH – National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities; and

4.5.1. Subpart A – General Provisions

The General Provisions set out in Subpart A apply for any source that is regulated by any MACT standard. Individual standards under Part 63 have requirements that differ from Subpart A, whereby the requirements within the relevant rule should be followed. The U.S. EPA provides a tabular summary at the end of each MACT standard that specifies those General Provisions that apply and those which do not for a particular rule. Specific sections of Subpart A that apply each affected source are covered in the sections below.

4.5.2. Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, an Institutional Boilers and Process Heaters

NESHAP Subpart DDDDD (NESHAP DDDDD) applies to industrial, commercial, and institutional boilers and process heaters located at major sources of HAP. Per §63.7485, "major source" for oil and natural gas production facilities is defined in §63.7575. Per §63.7575, for facilities that are production field facilities, only HAP emissions from glycol dehydration units and storage vessels with the potential for flash emissions shall be aggregated for major source determination. As the HAP emissions from the glycol dehydration unit and the storage vessels with the potential for flash emissions do not exceed the major source thresholds, this subpart does not apply.

4.5.3. Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines

MACT Subpart ZZZZ (NESHAP ZZZZ) applies to stationary reciprocating internal combustion engines (RICE) located at both major and area sources of HAP. After the completion of the proposed changes, Buffalo Compressor Station will become an area source for the purposes of MACT ZZZZ. MACT ZZZZ applies to RICE with greater than 500 hp constructed after December 19, 2002 and RICE with less than 500 hp constructed after June 12, 2006. All engines onsite fall into the category of RICE greater than 500 hp, constructed after December 19, 2002.

Per Subpart ZZZZ, a stationary RICE at an area source is considered existing if it commenced construction or reconstruction before June 12, 2006. Each of the engines onsite (EU 1-2) commenced construction after June 12, 2006, and thus are considered new engines. Per §63.6590(c)(1), any new or reconstructed RICE located at an area source must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart JJJJ, and no additional requirements apply to these engines under Subpart ZZZZ. The engines at the Buffalo Compressor Station comply with Subpart ZZZZ by complying with NSPS JJJJ.

4.5.4. Subpart HH – National Emission Standards for Hazardous Air Pollutants from Natural Gas Production Facilities

MACT Subpart HH (NESHAP HH) applies to emission points at oil and natural gas production facilities that are HAP major or HAP area sources and that process, upgrade, or store either hydrocarbon liquids or natural gas prior to the point of custody transfer. Only HAP emissions from glycol dehydration units and storage vessels are aggregated for the major/area source determination. The facility is an area source of HAP by this definition. As an area source, the facility will be potentially subject to the requirements of Subpart HH. According to §63.760(b)(2), the affected sources at HAP area sources include the TEG dehydrator unit (EU 13).

According to §63.764(e)(1)(i) and (ii), the owner/operator is exempt from the general standards if the flowrate of TEG is less than 3 MMscf/day to the dehydrator or if the benzene emissions from the dehydrator are less than 1.0 tpy. The TEG dehydrator unit (EU 13) at the facility has a throughput greater than 3 MMscf/day, but a PTE of benzene less than 1 tpy; therefore, the units will be exempt to this subpart. Targa will maintain records to demonstrate exemption status.

Targa will comply with the appropriate notifications, recordkeeping (§63.774) and reporting requirements (§63.775) specified in the Subpart.

4.5.5. Subpart HHH – National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities

MACT Subpart HHH (NESHAP HHH) applies to emission points at natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user that are located at a major source of HAP as defined by MACT Subpart A. A compressor station that transports natural gas prior to the point of custody transfer or to a natural gas processing plant (if present) is not considered a part of the natural gas transmission and storage source category. As such, the Buffalo Compressor Station is not subject to MACT HHH.

4.6. PERMIT SHIELD

Targa is requesting a permit shield for non-applicable regulations pursuant to 40 CFR 71.6(f) based on the regulatory applicability review above and identification of non-applicable federal regulations are as listed below.

Regulation	Potential affected units	Justification for non-applicability
40 CFR 60, Subpart Dc	EU 14	NSPS Subpart Dc applies to steam generating units for which construction, modification, or reconstruction is commenced after June 9, 1989 and that have a maximum design heat input capacity of greater than or equal to 10 MMBtu/hr and less than or equal to 100 MMBtu/hr. Since EU 14 has a heat input capacity of less than 10 MMBtu/hr, the unit is not subject to the requirements of Subpart Dc.
40 CFR 60, Subpart IIII	None	NSPS Subpart IIII applies to stationary compression ignition engines and since none of the engines at the facility are compression ignition engines, this subpart does not apply.
40 CFR 60, Subpart Kb	EU 6, 7-8	The largest storage tanks at the facility have capacities of approximately 63.6 cubic meters each, which is under the 75 cubic meters capacity threshold for this regulation. Therefore, this subpart does not apply to any of the tanks at the facility.
40 CFR 60, Subpart OOOO	Facility	NSPS Subpart OOOO applies to specific units that commence construction, modification, or reconstruction after August 23, 2011 and on, or before September 18, 2015. Since the facility was constructed after September 18, 2015, it is not subject to this regulation.
40 CFR 60, Subpart KKK	Facility	NSPS Subpart KKK applies to equipment leaks from natural gas processing plants and since Buffalo CS is not a natural gas processing plant, this subpart does not apply.

Regulation	Potential affected units	Justification for non-applicability
40 CFR 63, Subpart DDDDD	EU 14	MACT DDDDD applies to boilers and process heaters located at major sources of HAP. Since the facility is an area source of HAP emissions, this subpart does not apply.
40 CFR 63, Subpart HHH	Facility	MACT HHH applies to specific natural gas transmission and storage facilities that are major sources of HAP emissions. Buffalo CS is not considered a natural gas transmission and storage source category under this subpart and is not a major source of HAP emissions; therefore, it is not subject to MACT HHH.

APPENDIX A: PART 71 APPLICATION FORMS

EPA United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

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) Burks (First) Dwayne (MI) ____

Title Vice President Operations

Street or P.O. Box 110 West 7th Street, Suite 2300

City Tulsa State OK ZIP 74119 - 1031

Telephone (918) 574 - 3862 Ext. _____ Facsimile (____) ____ - _____

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) Dwayne Burks

Name (typed) Dwayne Burks Date: 10 / 16 / 2020

EPA Form 5900-02

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
GENERAL INFORMATION AND SUMMARY (GIS)

A. Mailing Address and Contact Information

Facility name **Buffalo Compressor Station**

Mailing address: Street or P.O. Box **1939 125th Ave. NW**

City **Watford City** State **ND** ZIP **58854**

Contact person: **Mitchell Anderson** Title **Senior Environmental Specialist**

Telephone **(701) 842 - 3315** Ext. _____

Facsimile (_____) _____ - _____

B. Facility Location

Temporary source? ___Yes **X** No Plant site location **47.66617°N, 102.73642°W**

City **Fort Berthold Indian Reservation** State **ND** County **McKenzie** EPA Region **8**

Is the facility located within:

Indian lands? **X** YES ___ NO An offshore source in federal waters? ___YES **X** NO

Non-attainment area? ___ YES **X** NO If yes, for what air pollutants? _____

Within 50 miles of affected State? **X** YES __ NO If yes, What State(s)? **North Dakota**

C. Owner

Name **Targa Badlands LLC** Street/P.O. Box **811 Louisiana Street, Suite 2100**

City **Houston** State **TX** ZIP **77002 - 1400**

Telephone **(713) 584 - 1138** Ext_____

D. Operator

Name **Targa Badlands LLC** Street/P.O. Box **811 Louisiana Street, Suite 2100**

City **Houston** State **TX** ZIP **77002 - 1400**

Telephone **(713) 584 - 1138** Ext_____

E. Application Type

Mark only one permit application type and answer the supplementary question appropriate for the type marked.

X Initial Permit ___ Renewal ___ Significant Mod ___ Minor Permit Mod(MPM)

___ Group Processing, MPM ___ Administrative Amendment

For initial permits, when did operations commence? **10 / 18 / 2019**

For permit renewal, what is the expiration date of current permit? _____/____/_____

F. Applicable Requirement Summary

Mark the types of applicable requirements that apply:

___ SIP ___ FIP/TIP ___ PSD ___Non-attainment NSR

X Minor source NSR **X** Section 111 ___ Phase I acid rain ___Phase II acid rain

___ Stratospheric ozone ___ OCS regulations **X** NESHAP **X** Sec. 112(d) MACT

___ Sec. 112(g) MACT ___ Early reduction of HAP ___ Sec 112(j) MACT ___ RMP [Sec.112(r)]

___ Section 129 ___ NAAQS, increments or visibility but for temporary sources (This is rare)

Is the source subject to the Deepwater Port Act? ___YES **X** NO

Has a risk management plan been registered? ___YES **X** NO Agency _____

Phase II acid rain application submitted? ___YES **X** NO If YES, Permitting Authority _____

G. Source-Wide PTE Restrictions and Generic Applicable Requirements

Cite and describe any emissions-limiting requirements and/or facility-wide "generic" applicable requirements.

EU 1-2 – 40 CFR Part 60, Subpart JJJJ; Emissions Limitations: §60.4233(e) Table 1 to NSPS JJJJ – 1.0 g/hp-hr NOx; 2.0 g/hp-hr CO, 0.7 g/hp-hr VOC
RC 1-2 (compressors associated with engines EU 1-2) – 40 CFR Part 60, Subpart OOOOa: Emission Limits: §60.5385a Reduce GHG (in the form of a limitation of methane emissions) and VOC emissions by complying with requirements of paragraphs (a) through (d) of this section.
EU 15 – 40 CFR Part 60, Subpart OOOOa: Emission Limits: §60.5397a Reduce GHG (in the form of a limitation of methane emissions) and VOC emissions by complying with requirements of paragraphs (a) through (j) of this section.
EU 7-8, 10 – 40 CFR Part 60, Subpart OOOOa: Emission Limits: §60.5395a Reduce VOC emissions by complying with requirements of paragraphs (a) through (d)

H. Process Description

List processes, products, and SIC codes for the facility.

Process	Products	SIC
Natural Gas Compression and Dehydration	Pressurized Natural Gas	1311

I. Emission Unit Identification

Assign an emissions unit ID and describe each emissions unit at the facility. Control equipment and/or alternative operating scenarios associated with emissions units should by listed on a separate line. Applicants may exclude from this list any insignificant emissions units or activities.

Emissions Unit ID	Description of Unit
1	Waukesha L7042GSI S5
2	Waukesha L7042GSI S5
5	(2) Pig Receivers
6	Produced Water Tank
7	Condensate Tank
8	Condensate Tank
10	Separator Tank
11	Methanol Tank
12	Vapor Combustor Unit
13	Dehydrator Process Vents
14	Glycol Reboiler
15	Fugitive Emissions
16	Produced Water Truck Loading
16	Condensate Truck Loading
TK1-5	Various Tanks

J. Facility Emissions Summary

Enter potential to emit (PTE) for the facility as a whole for each regulated air pollutant listed below. Enter the name of the single HAP emitted in the greatest amount and its PTE. For all pollutants, stipulations to major source status may be indicated by entering "major" in the space for PTE. Indicate the total actual emissions for fee purposes for the facility in the space provided. Applications for permit modifications need not include actual emissions information.

NOx **14.7** tons/yr VOC **196.9** tons/yr SO2 **0.1** tons/yr

PM-10 **2.2** tons/yr CO **58.7** tons/yr Lead **0** tons/yr

Total HAP **11.0** tons/yr

Single HAP with greatest amount **n-Hexane** PTE **6.6** tons/yr

Total of regulated pollutants (for fee calculation), Sec. F, line 5 of form FEE _**238.0**____ tons/yr

K. Existing Federally-Enforceable Permits

Permit number(s) _____ Permit type _____ Permitting authority _____

Permit number(s) _____ Permit type _____ Permitting authority _____

L. Emission Unit(s) Covered by General Permits

Emission unit(s) subject to general permit _None_____

Check one: ___ Application made ___ Coverage granted

General permit identifier _____ Expiration Date ____/____/____

M. Cross-referenced Information

Does this application cross-reference information? __ YES **_X_** NO (If yes, see instructions)

INSTRUCTIONS FOLLOW

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSION UNIT DESCRIPTION FOR FUEL COMBUSTION SOURCES (EUD-1)

A. General Information

Emissions unit ID **EU 1** Description **Waukesha L7042GSI S5**

SIC Code (4-digit) **1311** SCC Code_____

B. Emissions Unit Description

Primary use **Compression of Natural Gas** Temporary Source ___Yes **X** No

Manufacturer **Waukesha** Model No. **L7042GSI S5**

Serial Number **5283705910** Installation Date **07 / 01 / 2019**
*Start of operations was on October 18, 2019.

Boiler Type: ___ Industrial boiler ___ Process burner ___ Electric utility boiler

Other (describe) **Natural Gas Engine**

Boiler horsepower rating ____ Boiler steam flow (lb/hr)_____

Type of Fuel-Burning Equipment (coal burning only):

___ Hand fired ___Spreader stoker ___Underfeed stoker ___Overfeed stoker

___ Traveling grate ___Shaking grate ___Pulverized, wet bed ___ Pulverized, dry bed

Actual Heat Input **12.71** MM BTU/hr Max. Design Heat Input **12.71** MM BTU/hr

C. Fuel Data

Primary fuel type(s) Natural Gas Standby fuel type(s)_____

Describe each fuel you expected to use during the term of the permit.

Fuel Type	Max. Sulfur Content (%)	Max. Ash Content (%)	BTU Value (cf, gal., or lb.)
Natural Gas	**<0.01**	**<0.01**	**1,340 BTU/scf LHV 1,482 BTU/scf HHV**

D. Fuel Usage Rates

Fuel Type	Annual Actual Usage	Maximum Usage	
		Hourly	Annual
Natural Gas	**83.13 MMscf**	**9,490.18 scf**	**83.13 MMscf**

E. Associated Air Pollution Control Equipment

Emissions unit ID **EU 1** Device type **NSCR Catalyst**

Air pollutant(s) Controlled_**NOx, CO**_____ Manufacturer_**EMIT Technologies**_____

Model No.__**RT-2415-T**_____ Serial No._____

Installation date_____/_____/_____ Control efficiency (%) _**96% NOx, 78% CO**_____

Efficiency estimation method___**Per manufacturer specification data**_____

F. Ambient Impact Assessment

This information must be completed by temporary sources or when ambient impact assessment is an applicable requirement for this emissions unit (this is not common).

Stack height (ft) **N/A** Inside stack diameter (ft) _____._____

Stack temp (°F) _____._____ Design stack flow rate (ACFM) _____.____

Actual stack flow rate (ACFM) _____.____ Velocity (ft/sec) _____._____

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSION UNIT DESCRIPTION FOR FUEL COMBUSTION SOURCES (EUD-1)

A. General Information

Emissions unit ID **EU 2** Description **Waukesha L7042GSI S5**

SIC Code (4-digit) **1311** SCC Code_____

B. Emissions Unit Description

Primary use **Compression of Natural Gas** Temporary Source ___Yes **X** No

Manufacturer **Waukesha** Model No. **L7042GSI S5**

Serial Number **5283705923** Installation Date **07 / 01 / 2019**
*Start of operations was on October 18, 2019.

Boiler Type: ___ Industrial boiler ___ Process burner ___ Electric utility boiler

Other (describe) **Natural Gas Engine**

Boiler horsepower rating _____ Boiler steam flow (lb/hr)_____

Type of Fuel-Burning Equipment (coal burning only):

___ Hand fired ___Spreader stoker ___Underfeed stoker ___Overfeed stoker

___ Traveling grate ___Shaking grate ___Pulverized, wet bed ___ Pulverized, dry bed

Actual Heat Input **12.71** MM BTU/hr Max. Design Heat Input **12.71** MM BTU/hr

C. Fuel Data

Primary fuel type(s) Natural Gas Standby fuel type(s)_____

Describe each fuel you expected to use during the term of the permit.

Fuel Type	Max. Sulfur Content (%)	Max. Ash Content (%)	BTU Value (cf, gal., or lb.)
Natural Gas	**<0.01**	**<0.01**	**1,340 BTU/scf LHV 1,482 BTU/scf HHV**

D. Fuel Usage Rates

Fuel Type	Annual Actual Usage	Maximum Usage	
		Hourly	Annual
Natural Gas	**83.13 MMscf**	**9,490.18 scf**	**83.13 MMscf**

E. Associated Air Pollution Control Equipment

Emissions unit ID **EU 2** Device type **NSCR Catalyst**

Air pollutant(s) Controlled_ **NOx, CO** _____ Manufacturer_ **EMIT Technologies**

Model No.___ **RT-2415-T** _____ Serial No._____

Installation date_____/_____/_____ Control efficiency (%) _**96% NOx, 78% CO**

Efficiency estimation method__ **Per manufacturer specification data** _____

F. Ambient Impact Assessment

This information must be completed by temporary sources or when ambient impact assessment is an applicable requirement for this emissions unit (this is not common).

Stack height (ft) **N/A** Inside stack diameter (ft) _____._____

Stack temp (°F) _____._____ Design stack flow rate (ACFM) _____.____

Actual stack flow rate (ACFM) _____.____ Velocity (ft/sec) _____._____

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSIONS UNIT DESCRIPTION FOR VOC EMITTING SOURCES (EUD-2)

A. General Information

Emissions unit ID **EU 6** Description **Produced Water Tank**

SIC Code (4-digit) **1311** SCC Code _____

B. Emissions Unit Description

Equipment type **Storage Tank** Temporary source: ___Yes **X** No

Manufacturer_____ Model No. _____

Serial No. _____ Installation date **10 / 18 / 2019**

Articles being coated or degreased _____

Application method _____

Overspray (surface coating) (%) _____ Drying method_____

No. of dryers _____ Tank capacity (degreasers) (gal) _____

C. Associated Air Pollution Control Equipment

Emissions unit ID **EU 12** Device Type **Vapor Combustor**

Manufacturer **Tripoint** Model No **EC60-2S**

Serial No. **82174** Installation date **10 / 18 / 2019**

Control efficiency (%) **95%** Capture efficiency (%) **100%**

Air pollutant(s) controlled **VOC**

Efficiency estimation method **Vendor Specification Sheet and NSPS OOOOa limits**

D. Ambient Impact Assessment

This information must be completed by temporary sources or when ambient impact assessment is an applicable requirement for this emissions unit (this is not common).

Stack height (ft) **N/A** Inside stack diameter (ft) _____._____

Stack temp (F) _____._____ Design stack flow rate (ACFM) _____.____

Actual stack flow rate (ACFM) _____ Velocity (ft/sec) _____._____

E. VOC-containing Substance Data

List each VOC-containing substance consumed, processed or produced at the emissions unit that is emitted into the air. In the name column, if providing a brand name, include the name of the manufacture; if the substance contains HAP, list the constituent HAP.

Substance Name (Chemical, Brand Name)	CAS No.	Substance Type	Actual Usage (gal/yr)	Max Usage (gal/day)	Max Usage (gal/yr)	VOC Content (lb/gal)
Produced Water	**N/A**		**869,058**	**2,381**	**869,058**	**1.2E-03**

United States Environmental Protection Agency

OMB No. 2060-0336,

Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)

EMISSIONS UNIT DESCRIPTION FOR VOC EMITTING SOURCES (EUD-2)

A. General Information

Emissions unit ID **EU 7** Description **Condensate Tank**

SIC Code (4-digit) **1311** SCC Code _____

B. Emissions Unit Description

Equipment type **Storage Tank** Temporary source: ___Yes **X** No

Manufacturer_____ Model No. _____

Serial No. _____ Installation date **10 / 18 / 2019**

Articles being coated or degreased _____

Application method _____

Overspray (surface coating) (%) _____ Drying method_____

No. of dryers _____ Tank capacity (degreasers) (gal) _____

C. Associated Air Pollution Control Equipment

Emissions unit ID **EU 12** Device Type **Vapor Combustor**

Manufacturer **Tripoint** Model No **EC60-2S**

Serial No. **82174** Installation date **10 / 18 / 2019**

Control efficiency (%) **95%** Capture efficiency (%) **100%**

Air pollutant(s) controlled **VOC**

Efficiency estimation method **Vendor Specification Sheet and NSPS OOOOa limits**

D. Ambient Impact Assessment

This information must be completed by temporary sources or when ambient impact assessment is an applicable requirement for this emissions unit (this is not common).

Stack height (ft) **N/A** Inside stack diameter (ft) _____._____

Stack temp (F) _____._____ Design stack flow rate (ACFM) _____._____

Actual stack flow rate (ACFM) _____ Velocity (ft/sec) _____._____

E. VOC-containing Substance Data

List each VOC-containing substance consumed, processed or produced at the emissions unit that is emitted into the air. In the name column, if providing a brand name, include the name of the manufacture; if the substance contains HAP, list the constituent HAP.

Substance Name (Chemical, Brand Name)	CAS No.	Substance Type	Actual Usage (gal/yr)	Max Usage (gal/day)	Max Usage (gal/yr)	VOC Content (lb/gal)
Natural Gas Condensate	**74-82-8**		**1,328,804**	**3,641**	**1,328,804**	**0.0017**

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSIONS UNIT DESCRIPTION FOR VOC EMITTING SOURCES (EUD-2)

A. General Information

Emissions unit ID **EU 8** Description **Condensate Tank**

SIC Code (4-digit) **1311** SCC Code _____

B. Emissions Unit Description

Equipment type **Storage Tank** Temporary source: ___Yes **X** No

Manufacturer_____ Model No. _____

Serial No. _____ Installation date **10 / 18 / 2019**

Articles being coated or degreased _____

Application method _____

Overspray (surface coating) (%) _____ Drying method_____

No. of dryers _____ Tank capacity (degreasers) (gal) _____

C. Associated Air Pollution Control Equipment

Emissions unit ID **EU 12** Device Type **Vapor Combustor**

Manufacturer **Tripoint** Model No **EC60-2S**

Serial No. **82174** Installation date **10 / 18 / 2019**

Control efficiency (%) **95%** Capture efficiency (%) **100%**

Air pollutant(s) controlled **VOC**

Efficiency estimation method **Vendor Specification Sheet and NSPS OOOOa limits**

D. Ambient Impact Assessment

This information must be completed by temporary sources or when ambient impact assessment is an applicable requirement for this emissions unit (this is not common).

Stack height (ft) **N/A** Inside stack diameter (ft) _____._____

Stack temp (F) _____._____ Design stack flow rate (ACFM) _____._____

Actual stack flow rate (ACFM) _____ Velocity (ft/sec) _____._____

E. VOC-containing Substance Data

List each VOC-containing substance consumed, processed or produced at the emissions unit that is emitted into the air. In the name column, if providing a brand name, include the name of the manufacture; if the substance contains HAP, list the constituent HAP.

Substance Name (Chemical, Brand Name)	CAS No.	Substance Type	Actual Usage (gal/yr)	Max Usage (gal/day)	Max Usage (gal/yr)	VOC Content (lb/gal)
Natural Gas Condensate	**74-82-8**		**1,328,804**	**3,641**	**1,328,804**	**0.0017**

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSIONS UNIT DESCRIPTION FOR VOC EMITTING SOURCES (EUD-2)

A. General Information

Emissions unit ID **EU 10** Description **Separator Tank**

SIC Code (4-digit) **1311** SCC Code _____

B. Emissions Unit Description

Equipment type **Storage Tank** Temporary source: ___Yes **X** No

Manufacturer_____ Model No. _____

Serial No. _____ Installation date **10 / 18 / 2019**

Articles being coated or degreased _____

Application method _____

Overspray (surface coating) (%) _____ Drying method_____

No. of dryers _____ Tank capacity (degreasers) (gal) _____

C. Associated Air Pollution Control Equipment

Emissions unit ID **EU 12** Device Type **Vapor Combustor**

Manufacturer **Tripoint** Model No **EC60-2S**

Serial No. **82174** Installation date **10 / 18 / 2019**

Control efficiency (%) **95%** Capture efficiency (%) **100%**

Air pollutant(s) controlled **VOC**

Efficiency estimation method **Vendor Specification Sheet and NSPS OOOOa limits**

D. Ambient Impact Assessment

This information must be completed by temporary sources or when ambient impact assessment is an applicable requirement for this emissions unit (this is not common).

Stack height (ft) **N/A** Inside stack diameter (ft) _____._____

Stack temp (F) _____._____ Design stack flow rate (ACFM) _____._____

Actual stack flow rate (ACFM) _____ Velocity (ft/sec) _____._____

E. VOC-containing Substance Data

List each VOC-containing substance consumed, processed or produced at the emissions unit that is emitted into the air. In the name column, if providing a brand name, include the name of the manufacture; if the substance contains HAP, list the constituent HAP.

Substance Name (Chemical, Brand Name)	CAS No.	Substance Type	Actual Usage (gal/yr)	Max Usage (gal/day)	Max Usage (gal/yr)	VOC Content (lb/gal)
Natural Gas Liquids	**N/A**		**3,525,619**	**9,659**	**3,525,619**	**0.002**

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSIONS UNIT DESCRIPTION FOR VOC EMITTING SOURCES (EUD-2)

A. General Information

Emissions unit ID **EU 12** Description **Vapor Combustion Unit**

SIC Code (4-digit) **1311** SCC Code _____

B. Emissions Unit Description

Equipment type **Vapor Combustion Unit** Temporary source: ___Yes **X** No

Manufacturer **Tripoint** Model No. **EC60-2S**

Serial No. **82174** Installation date **10 / 18 / 2019**

Articles being coated or degreased _____

Application method _____

Overspray (surface coating) (%) _____ Drying method_____

No. of dryers _____ Tank capacity (degreasers) (gal) _____

C. Associated Air Pollution Control Equipment

Emissions unit ID **None** Device Type _____

Manufacturer _____ Model No_____

Serial No. _____ Installation date ___/ ____ /_____

Control efficiency (%)_____ Capture efficiency (%) _____

Air pollutant(s) controlled _____

Efficiency estimation method _____

D. Ambient Impact Assessment

This information must be completed by temporary sources or when ambient impact assessment is an applicable requirement for this emissions unit (this is not common).

Stack height (ft) **N/A** Inside stack diameter (ft) _____._____

Stack temp (F) _____._____ Design stack flow rate (ACFM) _____._____

Actual stack flow rate (ACFM) _____ Velocity (ft/sec) _____._____

E. VOC-containing Substance Data

List each VOC-containing substance consumed, processed or produced at the emissions unit that is emitted into the air. In the name column, if providing a brand name, include the name of the manufacture; if the substance contains HAP, list the constituent HAP.

Substance Name (Chemical, Brand Name)	CAS No.	Substance Type	Actual Usage (MMscf/yr)	Max Usage (scf/hr)	Max Usage (MMscf/yr)	VOC Content (wt%)
Natural Gas Condensate Vapors	**N/A**		**1.1**	**3,537.4**	**1.1**	**100**
Produced Water Vapors	**N/A**		**0.0098**	**1.12**	**0.0098**	**100**
Separator Tank Vapors	**N/A**		**1.2**	**3,033.41**	**1.2**	**100**
Pilot Gas	**N/A**		**.438**	**50**	**.438**	**18 (mol %)**

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSIONS UNIT DESCRIPTION FOR VOC EMITTING SOURCES (EUD-2)

A. General Information

Emissions unit ID **EU 13** Description **Dehy Process Vents**

SIC Code (4-digit) **1311** SCC Code _____

B. Emissions Unit Description

Equipment type **Glycol Dehydrator** Temporary source: ___Yes **X** No

Manufacturer_Spectrum Process Systems_____ Model No. _N/A_____

Serial No. SPS 18-05362_____ Installation date **10 / 18 / 2019**

Articles being coated or degreased _____

Application method _____

Overspray (surface coating) (%) _____ Drying method_____

No. of dryers _____ Tank capacity (degreasers) (gal) _____

C. Associated Air Pollution Control Equipment

Emissions unit ID **None** Device Type _____

Manufacturer _____ Model No_____

Serial No. _____ Installation date ___/ ____ /_____

Control efficiency (%)_____ Capture efficiency (%) _____

Air pollutant(s) controlled _____

Efficiency estimation method _____

D. Ambient Impact Assessment

This information must be completed by temporary sources or when ambient impact assessment is an applicable requirement for this emissions unit (this is not common).

Stack height (ft) **N/A** Inside stack diameter (ft) _____._____

Stack temp (F) _____._____ Design stack flow rate (ACFM) _____._____

Actual stack flow rate (ACFM) _____ Velocity (ft/sec) _____.

E. VOC-containing Substance Data

List each VOC-containing substance consumed, processed or produced at the emissions unit that is emitted into the air. In the name column, if providing a brand name, include the name of the manufacture; if the substance contains HAP, list the constituent HAP.

Substance Name (Chemical, Brand Name)	CAS No.	Substance Type	Actual Usage (MMscf/yr)	Max Usage (MMscf/day)	Max Usage (MMscf/yr)	VOC Content (wt%)
Dry Gas	74-82-8	Vapor	8,760	24	8,760	100%

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSIONS UNIT DESCRIPTION FOR VOC EMITTING SOURCES (EUD-2)

A. General Information

Emissions unit ID **EU 16** Description **Condensate Truck Loading**
SIC Code (4-digit) **1311** SCC Code _____

B. Emissions Unit Description

Equipment type **Truck Loading Losses** Temporary source: ___Yes **X** No

Manufacturer_____ Model No. _____

Serial No. _____ Installation date **10 / 18 / 2019**

Articles being coated or degreased _____

Application method _____

Overspray (surface coating) (%) _____ Drying method_____

No. of dryers _____ Tank capacity (degreasers) (gal) _____

C. Associated Air Pollution Control Equipment

Emissions unit ID **None** Device Type_____

Manufacturer _____ Model No_____

Serial No. _____ Installation date ____/____/_____

Control efficiency (%) _____.___ Capture efficiency (%) _____.___

Air pollutant(s) controlled_____ Efficiency estimation method _____

D. Ambient Impact Assessment

This information must be completed by temporary sources or when ambient impact assessment is an applicable requirement for this emissions unit (this is not common).

Stack height (ft) **N/A** Inside stack diameter (ft) _____._____

Stack temp (F) _____._____ Design stack flow rate (ACFM) _____.____

Actual stack flow rate (ACFM) _____ Velocity (ft/sec) _____._____

E. VOC-containing Substance Data

List each VOC-containing substance consumed, processed or produced at the emissions unit that is emitted into the air. In the name column, if providing a brand name, include the name of the manufacture; if the substance contains HAP, list the constituent HAP.

Substance Name (Chemical, Brand Name)	CAS No.	Substance Type	Actual Usage (gal/yr)	Max Usage (gal/day)	Max Usage (gal/year)	VOC Content (lb/gal)
Natural Gas Condensate	N/A		2,657,609	7,281	2,657,609	.018
Produced Water	N/A		869,058	2,381	869,058	3.8E-05

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
INSIGNIFICANT EMISSIONS (IE)

On this page list each insignificant activity or emission unit. In the "number" column, indicate the number of units in this category. Descriptions should be brief but unique. Indicate which emissions criterion of part 71 is the basis for the exemption.

Number	Description of Activities or Emissions Units	RAP (except HAP)	HAP
2	Pig Receivers (EU 5)	<2 tpy	< 1000 lb/yr
1	Methanol Tank (EU 11)	<2 tpy	< 1000 lb/yr
1	Glycol Reboiler (EU 14)	<2 tpy	< 1000 lb/yr
5	Various Tanks (EU TK1-5)	<2 tpy	< 1000 lb/yr

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSION CALCULATIONS (EMISS)

Calculate potential to emit (PTE) for applicability purposes and actual emissions for fee purposes for each emissions unit, control device, or alternative operating scenario identified in section I of form **GIS**. If form **FEE** does not need to be submitted with the application, do not calculate actual emissions.

A. Emissions Unit ID EU 1

B. Identification and Quantification of Emissions

For each emissions unit identified above, list each regulated air pollutant or other pollutant for which the source is major, then list any other regulated pollutant (for fee calculation) not already listed. HAP may be simply listed as "HAP." Next, calculate PTE for applicability purposes and actual emissions for fee purposes for each pollutant. Do not calculate PTE for air pollutants listed solely for fee purposes. Include all fugitives for fee purposes. See instructions concerning GHGs. Values should be reported to the nearest tenth (0.1) of a ton for yearly values or tenth (0.1) of a pound for hourly values.

Air Pollutants	Emission Rates			CAS No.
	Actual Annual Emissions (tons/yr)	Potential to Emit		
		Hourly (lb/hr)	Annual (tons/yr)	
NO_x	7.2	1.7	7.2	10102-44-0
CO	29.0	6.6	29.0	630-08-0
VOC	10,1	2.3	10.1	N/A
SO_2	<0.1	<0.1	<0.1	7446-09-5
PM	1.1	0.2	1.1	N/A
PM_{10}	1.1	0.2	1.1	N/A
$PM_{2.5}$	1.1	0.2	1.1	N/A
Formaldehyde	0.3	0.1	0.3	50-00-0
Total HAP	1.0	0.2	1.0	N/A

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSION CALCULATIONS (EMISS)

Calculate potential to emit (PTE) for applicability purposes and actual emissions for fee purposes for each emissions unit, control device, or alternative operating scenario identified in section I of form **GIS**. If form **FEE** does not need to be submitted with the application, do not calculate actual emissions.

A. Emissions Unit ID EU 2

B. Identification and Quantification of Emissions

For each emissions unit identified above, list each regulated air pollutant or other pollutant for which the source is major, then list any other regulated pollutant (for fee calculation) not already listed. HAP may be simply listed as "HAP." Next, calculate PTE for applicability purposes and actual emissions for fee purposes for each pollutant. Do not calculate PTE for air pollutants listed solely for fee purposes. Include all fugitives for fee purposes. See instructions concerning GHGs. Values should be reported to the nearest tenth (0.1) of a ton for yearly values or tenth (0.1) of a pound for hourly values.

Air Pollutants	Emission Rates			CAS No.
	Actual Annual Emissions (tons/yr)	Potential to Emit		
		Hourly (lb/hr)	Annual (tons/yr)	
NO_x	7.2	1.7	7.2	10102-44-0
CO	29.0	6.6	29.0	630-08-0
VOC	10.1	2.3	10.1	N/A
SO_2	<0.1	<0.1	<0.1	7446-09-5
PM	1.1	0.2	1.1	N/A
PM_{10}	1.1	0.2	1.1	N/A
$PM_{2.5}$	1.1	0.2	1.1	N/A
Formaldehyde	0.3	0.1	0.3	50-00-0
Total HAP	1.0	0.2	1.0	N/A

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSION CALCULATIONS (EMISS)

Calculate potential to emit (PTE) for applicability purposes and actual emissions for fee purposes for each emissions unit, control device, or alternative operating scenario identified in section I of form **GIS**. If form **FEE** does not need to be submitted with the application, do not calculate actual emissions.

A. Emissions Unit ID EU 6

B. Identification and Quantification of Emissions

For each emissions unit identified above, list each regulated air pollutant or other pollutant for which the source is major, then list any other regulated pollutant (for fee calculation) not already listed. HAP may be simply listed as "HAP." Next, calculate PTE for applicability purposes and actual emissions for fee purposes for each pollutant. Do not calculate PTE for air pollutants listed solely for fee purposes. Include all fugitives for fee purposes. See instructions concerning GHGs. Values should be reported to the nearest tenth (0.1) of a ton for yearly values or tenth (0.1) of a pound for hourly values.

Air Pollutants	Emission Rates			CAS No.
	Actual Annual Emissions (tons/yr)	Potential to Emit		
		Hourly (lb/hr)	Annual (tons/yr)	
N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]

1. Emissions from EU 6 are routed to the vapor combustor unit (EU 12). PTE emissions are included under EU 12.

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSION CALCULATIONS (EMISS)

Calculate potential to emit (PTE) for applicability purposes and actual emissions for fee purposes for each emissions unit, control device, or alternative operating scenario identified in section I of form **GIS**. If form **FEE** does not need to be submitted with the application, do not calculate actual emissions.

A. Emissions Unit ID EU 7

B. Identification and Quantification of Emissions

For each emissions unit identified above, list each regulated air pollutant or other pollutant for which the source is major, then list any other regulated pollutant (for fee calculation) not already listed. HAP may be simply listed as "HAP." Next, calculate PTE for applicability purposes and actual emissions for fee purposes for each pollutant. Do not calculate PTE for air pollutants listed solely for fee purposes. Include all fugitives for fee purposes. See instructions concerning GHGs. Values should be reported to the nearest tenth (0.1) of a ton for yearly values or tenth (0.1) of a pound for hourly values.

Air Pollutants	Emission Rates			CAS No.
	Actual Annual Emissions (tons/yr)	Potential to Emit		
		Hourly (lb/hr)	Annual (tons/yr)	
N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]

1. Emissions from EU 7 are routed to the vapor combustor unit (EU 12). PTE emissions are included under EU 12.

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSION CALCULATIONS (EMISS)

Calculate potential to emit (PTE) for applicability purposes and actual emissions for fee purposes for each emissions unit, control device, or alternative operating scenario identified in section I of form **GIS**. If form **FEE** does not need to be submitted with the application, do not calculate actual emissions.

A. Emissions Unit ID EU 8

B. Identification and Quantification of Emissions

For each emissions unit identified above, list each regulated air pollutant or other pollutant for which the source is major, then list any other regulated pollutant (for fee calculation) not already listed. HAP may be simply listed as "HAP." Next, calculate PTE for applicability purposes and actual emissions for fee purposes for each pollutant. Do not calculate PTE for air pollutants listed solely for fee purposes. Include all fugitives for fee purposes. See instructions concerning GHGs. Values should be reported to the nearest tenth (0.1) of a ton for yearly values or tenth (0.1) of a pound for hourly values.

Air Pollutants	Emission Rates			CAS No.
	Actual Annual Emissions (tons/yr)	Potential to Emit		
		Hourly (lb/hr)	Annual (tons/yr)	
N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]

1. Emissions from EU 8 are routed to the vapor combustor unit (EU 12). PTE emissions are included under EU 12.

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSION CALCULATIONS (EMISS)

Calculate potential to emit (PTE) for applicability purposes and actual emissions for fee purposes for each emissions unit, control device, or alternative operating scenario identified in section I of form **GIS**. If form **FEE** does not need to be submitted with the application, do not calculate actual emissions.

A. Emissions Unit ID EU 10

B. Identification and Quantification of Emissions

For each emissions unit identified above, list each regulated air pollutant or other pollutant for which the source is major, then list any other regulated pollutant (for fee calculation) not already listed. HAP may be simply listed as "HAP." Next, calculate PTE for applicability purposes and actual emissions for fee purposes for each pollutant. Do not calculate PTE for air pollutants listed solely for fee purposes. Include all fugitives for fee purposes. See instructions concerning GHGs. Values should be reported to the nearest tenth (0.1) of a ton for yearly values or tenth (0.1) of a pound for hourly values.

Air Pollutants	Emission Rates			CAS No.
	Actual Annual Emissions (tons/yr)	Potential to Emit		
		Hourly (lb/hr)	Annual (tons/yr)	
N/A[1]	N/A[1]	N/A[1]	N/A[1]	N/A[1]

1. Emissions from EU 10 are routed to the vapor combustor unit (EU 12). PTE emissions are included under EU 12.

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSION CALCULATIONS (EMISS)

Calculate potential to emit (PTE) for applicability purposes and actual emissions for fee purposes for each emissions unit, control device, or alternative operating scenario identified in section I of form **GIS**. If form **FEE** does not need to be submitted with the application, do not calculate actual emissions.

A. Emissions Unit ID EU 12

B. Identification and Quantification of Emissions

For each emissions unit identified above, list each regulated air pollutant or other pollutant for which the source is major, then list any other regulated pollutant (for fee calculation) not already listed. HAP may be simply listed as "HAP." Next, calculate PTE for applicability purposes and actual emissions for fee purposes for each pollutant. Do not calculate PTE for air pollutants listed solely for fee purposes. Include all fugitives for fee purposes. See instructions concerning GHGs. Values should be reported to the nearest tenth (0.1) of a ton for yearly values or tenth (0.1) of a pound for hourly values.

Air Pollutants	Emission Rates			CAS No.
	Actual Annual Emissions (tons/yr)	Potential to Emit		
		Hourly (lb/hr)	Annual (tons/yr)	
NO_x	0.1	1.3	0.1	10102-44-0
CO	0.7	7.0	0.7	630-08-0
VOC	6.4	21.1	6.4	N/A
SO_2	<0.1	<0.1	<0.1	7446-09-5
2,2,4-TMP	<0.1	<0.1	<0.1	540-84-1
Benzene	<0.1	<0.1	<0.1	71-43-2
Ethylbenzene	<0.1	<0.1	<0.1	100-41-4
Formaldehyde	<0.1	<0.1	<0.1	50-00-0
n-Hexane	0.2	0.7	0.2	110-54-3
Toluene	<0.1	<0.1	<0.1	108-88-3
Xylenes	<0.1	<0.1	<0.1	1330-20-7
Total HAP	0.3	0.9	0.3	N/A

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSION CALCULATIONS (EMISS)

Calculate potential to emit (PTE) for applicability purposes and actual emissions for fee purposes for each emissions unit, control device, or alternative operating scenario identified in section I of form **GIS**. If form **FEE** does not need to be submitted with the application, do not calculate actual emissions.

A. Emissions Unit ID EU 13

B. Identification and Quantification of Emissions

For each emissions unit identified above, list each regulated air pollutant or other pollutant for which the source is major, then list any other regulated pollutant (for fee calculation) not already listed. HAP may be simply listed as "HAP." Next, calculate PTE for applicability purposes and actual emissions for fee purposes for each pollutant. Do not calculate PTE for air pollutants listed solely for fee purposes. Include all fugitives for fee purposes. See instructions concerning GHGs. Values should be reported to the nearest tenth (0.1) of a ton for yearly values or tenth (0.1) of a pound for hourly values.

Air Pollutants	Emission Rates			CAS No.
	Actual Annual Emissions (tons/yr)	Potential to Emit		
		Hourly (lb/hr)	Annual (tons/yr)	
VOC	146.4	33.4	146.4	N/A
Benzene	<0.1	<0.1	<0.1	71-43-2
Ethylbenzene	<0.1	<0.1	<0.1	100-41-4
n-Hexane	4.0	0.9	4.0	110-54-3
Toluene	<0.1	<0.1	<0.1	108-88-3
Xylenes	<0.1	<0.1	<0.1	1330-20-7
Total HAP	4.0	0.9	4.0	N/A

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSION CALCULATIONS (EMISS)

Calculate potential to emit (PTE) for applicability purposes and actual emissions for fee purposes for each emissions unit, control device, or alternative operating scenario identified in section I of form **GIS**. If form **FEE** does not need to be submitted with the application, do not calculate actual emissions.

A. Emissions Unit ID EU 15

B. Identification and Quantification of Emissions

For each emissions unit identified above, list each regulated air pollutant or other pollutant for which the source is major, then list any other regulated pollutant (for fee calculation) not already listed. HAP may be simply listed as "HAP." Next, calculate PTE for applicability purposes and actual emissions for fee purposes for each pollutant. Do not calculate PTE for air pollutants listed solely for fee purposes. Include all fugitives for fee purposes. See instructions concerning GHGs. Values should be reported to the nearest tenth (0.1) of a ton for yearly values or tenth (0.1) of a pound for hourly values.

Air Pollutants	Emission Rates			CAS No.
	Actual Annual Emissions[1] (tons/yr)	Potential to Emit		
		Hourly (lb/hr)	Annual (tons/yr)	
VOC	24.0	-	-	N/A
2,2,4-TMP	0.2	0.1	0.2	540-84-1
Benzene	0.1	<0.1	0.1	71-43-2
Ethylbenzene	0.1	<0.1	0.1	100-41-4
Methanol	1.4	0.3	1.4	67-56-1
n-Hexane	1.6	0.4	1.6	110-54-3
Toluene	0.3	0.1	0.3	108-88-3
Xylenes	0.2	<0.1	0.2	1330-20-7
Total HAP	3.9	0.9	3.9	

[1] Fugitive VOC emissions provided solely for fee calculation purposes.

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
EMISSION CALCULATIONS (EMISS)

Calculate potential to emit (PTE) for applicability purposes and actual emissions for fee purposes for each emissions unit, control device, or alternative operating scenario identified in section I of form **GIS**. If form **FEE** does not need to be submitted with the application, do not calculate actual emissions.

A. Emissions Unit ID EU 16

B. Identification and Quantification of Emissions

For each emissions unit identified above, list each regulated air pollutant or other pollutant for which the source is major, then list any other regulated pollutant (for fee calculation) not already listed. HAP may be simply listed as "HAP." Next, calculate PTE for applicability purposes and actual emissions for fee purposes for each pollutant. Do not calculate PTE for air pollutants listed solely for fee purposes. Include all fugitives for fee purposes. See instructions concerning GHGs. Values should be reported to the nearest tenth (0.1) of a ton for yearly values or tenth (0.1) of a pound for hourly values.

Air Pollutants	Emission Rates			CAS No.
	Actual Annual Emissions (tons/yr)	Potential to Emit		
		Hourly (lb/hr)	Annual (tons/yr)	
VOC	23.6	5.1	23.6	N/A
2,2,4-TMP	<0.1	<0.1	<0.1	540-84-1
Benzene	<0.1	<0.1	<0.1	71-43-2
Ethylbenzene	<0.1	<0.1	<0.1	100-41-4
n-Hexane	0.8	0.2	0.8	110-54-3
Toluene	<0.1	<0.1	<0.1	108-88-3
Xylenes	<0.1	<0.1	<0.1	1330-20-7
Total HAP	0.9	0.2	0.9	

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
POTENTIAL TO EMIT (PTE)

For each emissions unit at the facility, list the unit ID and the PTE of each air pollutant listed below and sum the values to determine the total PTE for the facility. It may be helpful to complete form **EMISS** before completing this form. Report each pollutant at each unit to the nearest tenth (0.1) of a ton; values may be reported with greater precision (i.e., more decimal places) if desired. Report facility total PTE for each listed pollutant on this form and in section **J** of form **GIS**. The HAP column is for the PTE of all HAPs for each unit. You may use an attachment to show any pollutants that may be present in major amounts that are not already listed on the form (this is not common).

Emissions Unit ID	Regulated Air Pollutants and Pollutants for which Source is Major (PTE in tons/yr)						
	NOx	**VOC**	**SO2**	**PM10**	**CO**	**Lead**	**HAP**
1	7.24	10.14	<0.1	1.1	29.0	-	0.95
2	7.24	10.14	<0.1	1.1	29.0	-	0.95
5	-	0.35	-	-	-	-	<0.1
6[1]	-	-	-	-	-	-	-
7[1]	-	-	-	-	-	-	-
8[1]	-	-	-	-	-	-	-
10[1]	-	-	-	-	-	-	-
11	-	<0.1	-	-	-	-	<0.1
12	0.12	6.35	<0.01	-	0.7	-	0.28
13	-	146.36	-	-	-	-	4.0
14	0.13	<0.01	<0.01	0.01	0.1	-	<0.01
15[2]	-	24.01	-	-	-	-	3.87
16	-	23.59	-	-	-	-	0.93
TK1-5	-	<0.01	-	-	-	-	<0.01
FACILITY TOTALS:	**14.7**	**196.94**	**<1**	**2.2**	**58.7**	**0**	**11.0**

[1] Emissions from the condensate tanks, produced water tanks, and separator tank are routed through the vapor combustor and thus are included in the vapor combustor emission calculation totals.

[2] Part 71 Potential to Emit Total does not include fugitive criteria pollutant emissions, as fugitive non-HAP emissions are not included in major source applicability. These emissions are being provided for fee calculation purposes only.

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
INITIAL COMPLIANCE PLAN AND COMPLIANCE CERTIFICATION (I-COMP)

SECTION A - COMPLIANCE STATUS AND COMPLIANCE PLAN

Complete this section for each unique combination of applicable requirements and emissions units at the facility. List all compliance methods (monitoring, recordkeeping and reporting) you used to determine compliance with the applicable requirement described above. Indicate your compliance status at this time for this requirement and compliance methods and check "YES" or "NO" to the follow-up question.

Emission Unit ID(s): EU 1-2 – new 1500 HP 4SRB engines

Applicable Requirement (Describe and Cite)

40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Source Categories

General Requirements
§63.6590
(c) Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

Compliance Methods for the Above (Description and Citation):
Targa will comply with requirements of 40 CFR 60 Subpart JJJJ.

Compliance Status:

_X_ In Compliance: Will you continue to comply up to permit issuance? _X_Yes ____No

___ Not In Compliance: Will you be in compliance at permit issuance? ___Yes ___No

___ Future-Effective Requirement: Do you expect to meet this on a timely basis? ____Yes ____No

Emission Unit ID(s): EU 1-2 – new 1500 HP 4SRB engines

Applicable Requirement (Description and Citation):
40 CFR 60, Subpart JJJJ – Standards of Performance for New Stationary Sources

Emission Limitations:

§60.4233(e)
(e) Owners and operators of stationary SI ICE with a maximum engine power greater than or

equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE(1.0 g/hp-hr NOx; 2.0 g/hp-hr CO, 0.7 g/hp-hr VOC). For owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 100 HP (except gasoline and rich burn engines that use LPG) manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR part 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO) standard above the standard in Table 1 to this subpart, then the owners and operators may meet the CO certification (not field testing) standard for which the engine was certified. EU 1-4 were manufactured after 2011.

General Requirements
§60.4234
Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in §60.4233 over the entire life of the engine.

Compliance Requirements
§60.4243
(a) If you are an owner or operator of a stationary SI internal combustion engine that is manufactured after July 1, 2008, and must comply with the emission standards specified in §60.4233(a) through (c), you must comply by purchasing an engine certified to the emission standards in §60.4231(a) through (c), as applicable, for the same engine class and maximum engine power. In addition, you must meet one of the requirements specified in (a)(1) and (2) of this section.

(1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator. You must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance.

(b) If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section.

(1) Purchasing an engine certified according to procedures specified in this subpart, for the same model year and demonstrating compliance according to one of the methods specified in paragraph (a) of this section.

Notification, Reporting and Recordkeeping Requirements
§60.4245
(a) Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section.

(1) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(2) Maintenance conducted on the engine.

(3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.

(4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.

Compliance Methods for the Above (Description and Citation):
Targa will equip each engine with an NSCR to reduce exhaust emissions.

Compliance Status:

_X_ In Compliance: Will you continue to comply up to permit issuance? _X_Yes ____No

___ Not In Compliance: Will you be in compliance at permit issuance? ___Yes ___No

___ Future-Effective Requirement: Do you expect to meet this on a timely basis? ____Yes _____No

Emission Unit ID(s): RC 1-2 (compressors associated with engines EU 1-2)

Applicable Requirement (Description and Citation):
40 CFR 60, Subpart OOOOa – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced after September 18, 2015

Operational Requirements
§60.5385a(a): Facility must replace the reciprocating compressor rod packing according to either paragraph (a)(1) or (2) of this section, or you must comply with paragraph (a)(3) of this section.

(1) On or before the compressor has operated for 26,000 hours. The number of hours of operation must be continuously monitored beginning upon initial startup of your reciprocating compressor affected facility, or the date of the most recent reciprocating compressor rod packing replacement, whichever is later.
(2) Prior to 36 months from the date of the most recent rod packing replacement, or 36 months from the date of startup for a new reciprocating compressor for which the rod packing has not yet been replaced.
(3) Collect the methane and VOC emissions from the rod packing using a rod packing emissions collection system that operates under negative pressure and route the rod packing emissions to a process through a closed vent system that meets the requirements of §60.5411a(a) and (d).

Compliance and Performance Testing Requirements
§60.5385a(b): Facility must demonstrate initial compliance with standards that apply to reciprocating compressor affected facilities as required by §60.5410a(c).

§60.5385a(c): The Facility must demonstrate initial compliance with the standards that apply to reciprocating compressor affected facilities as required by §60.5415a(c)

§60.5410a(c): To achieve initial compliance with the standards for each reciprocating compressor affected facility you must comply with paragraphs (c)(1) or (2) of this section.

(1) If complying with §60.5385a(a)(1) or (2), during the initial compliance period, you must continuously monitor the number of hours of operation or track the number of months since the last rod packing replacement.
(2) If complying with §60.5385a(a)(3), you must operate the rod packing emissions collection system under negative pressure and route emissions to a process through a closed vent system that meets the requirements of §60.5411a(a) and (d).

§60.5415a(c): If complying with §60.5385a(a)(1) or (2), demonstrate continuous compliance by.

(1) Continuously monitoring the hours of operations for each affected facility

(3) Replacing the reciprocating compressor rod packing on or before the total number of hours of operation reaches 26,000 hours or the number of months since the most recent rod packing replacement reaches 36 months.

§60.5415a(c)(4): If complying with §60.5385a(a)(3), operate the rod packing emissions collection system under negative pressure and continuously comply with the cover and closed vent requirements in §60.5416a(a) and (b).

Notification, Reports, and Recordkeeping Requirements

§60.5385a(c): You must demonstrate continuous compliance with standards that apply to reciprocating compressor affected facilities as required by § 60.5415a(c).

§60.5385a(d): You must perform the reporting as required by § 60.5420a(b)(1) and (4) and the recordkeeping as required by § 60.5420a(c)(3), (6) through (9), and (17), as applicable.

§60.5410a(c)(3): You must submit the initial annual report for your reciprocating compressor as required in § 60.5420a(b)(1) and (4).

§60.5410a(c)(4): You must maintain the records as specified in § 60.5420a(c)(3) for each reciprocating compressor affected facility.

§60.5415a(c)(2): Submit the annual reports as required in § 60.5420a(b)(1) and (4) and maintain records as required in § 60.5420a(c)(3).

§60.5420a(a): submit the notifications according to paragraphs (1) if you own or operate one or more affected facilities constructed, modified, or reconstructed during the reporting period.

(1) submit notifications as required in §60.7(a)(1),(3), and (4).

§60.5420a(b): The facility must submit annual reports containing the information specified in paragraphs (b)(1) and (4) of this section to the Administrator and performance test reports as specified in paragraph (b)(9) of this section. The initial annual report is due no later than 90 days after the end of the initial compliance period as determined according to §60.5410a. Subsequent annual reports are due no later than same date each year as the initial annual report.

(1) General information specified in (b)(1)(i) through (iv) is required in all reports

(i) The company name and address of the affected facility.

(ii) Identification of each affected facility included in report

(iii) Beginning and ending dates of reporting period

(iv) A certification by a certifying official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete

(4) for each reciprocating compressor the information in paragraphs (b)(4)(i) and (ii) is required.

(i) The cumulative number of hours of operation or the number of months since initial startup or since the previous reciprocating compressor rod packing replacement, whichever is later. Alternatively, a statement that emissions from the rod packing are being routed to a process through a closed vent system under negative pressure.

(ii) Records of deviations specified in paragraph (c)(3)(iii) of this section that occurred during the reporting period.

(11) Submit reports to EPA via CEDRI

§60.5420a(c): The facility must maintain the records identified as specified in §60.7(f) and in paragraphs (c)(3). All records required by this subpart must be maintained either onsite or at the nearest local field office for at least five years.

(3) For each reciprocating compressor affected facility, you must maintain the records in paragraphs (c)(3)(i) through (iii) of this section.

(i) Records of the cumulative number of hours of operation or number of months since initial startup or the previous replacement of the reciprocating compressor rod packing, whichever is later. Alternatively, a statement that emissions from the rod packing are being routed to a process through a closed vent system under negative pressure.

(ii) Records of the date and time of each reciprocating compressor rod packing replacement, or date of installation of a rod packing emissions collection system and closed vent system as specified in §60.5385a(a)(3).

(iii) Records of deviations in cases where the reciprocating compressor

Compliance Methods for the Above (Description and Citation):
Targa complies with all of the above listed requirements.

Compliance Status:

_X_ In Compliance: Will you continue to comply up to permit issuance? _X_ Yes ____ No

___ Not In Compliance: Will you be in compliance at permit issuance? ___ Yes ___ No

___ Future-Effective Requirement: Do you expect to meet this on a timely basis? ____ Yes _____ No

Emission Unit ID(s): EU 15 – Fugitive Emissions

Applicable Requirement (Description and Citation):
40 CFR 60, Subpart OOOOa – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced after September 18, 2015

Emission Limitations:

§60.5397a: Reduce GHG (in the form of a limitation of methane emissions) and VOC emissions by complying with the requirements of paragraphs (a) through (j) of this section.

Compliance Requirements
§60.5397a
(a) You must monitor all fugitive emission components, as defined in §60.5430a, in accordance with paragraphs (b) through (g) of this section. You must repair all sources of fugitive emissions in accordance with paragraph (h) of this section. You must keep records in accordance with paragraph (i) of this section and report in accordance with paragraph (j) of this section. For purposes of this section, fugitive emissions are defined as: Any visible emission from a fugitive emissions component observed using optical gas imaging or an instrument reading of 500 ppm or greater using Method 21.
(b) You must develop an emissions monitoring plan that covers the collection of fugitive emissions components at well sites and compressor stations within each company-defined area in accordance with paragraphs (c) and (d) of this section.

(c) Fugitive emissions monitoring plans must include the elements specified in paragraphs (c)(1) through (8) of this section, at a minimum.

(1) Frequency for conducting surveys. Surveys must be conducted at least as frequently as required by paragraphs (f) and (g) of this section.
(2) Technique for determining fugitive emissions (i.e., Method 21 at 40 CFR part 60, appendix A-7, or optical gas imaging).
(3) Manufacturer and model number of fugitive emissions detection equipment to be used.
(4) Procedures and timeframes for identifying and repairing fugitive emissions components from which fugitive emissions are detected, including timeframes for fugitive emission components that are unsafe to repair. Your repair schedule must meet the requirements of paragraph (h) of this section at a minimum.
(5) Procedures and timeframes for verifying fugitive emission component repairs.
(6) Records that will be kept and the length of time records will be kept.
(7) If you are using optical gas imaging, your plan must also include the elements specified in paragraphs (c)(7)(i) through (vii) of this section.
(i) Verification that your optical gas imaging equipment meets the specifications of paragraphs (c)(7)(i)(A) and (B) of this section. This verification is an initial verification and may either be performed by the facility, by the manufacturer, or by a third party. For the purposes of complying with the fugitives emissions monitoring program with optical gas imaging, a fugitive emission is defined as any visible emissions observed using optical gas imaging.
(A) Your optical gas imaging equipment must be capable of imaging gases in the spectral range for the compound of highest concentration in the potential fugitive emissions.
(B) Your optical gas imaging equipment must be capable of imaging a gas that is half methane, half propane at a concentration of 10,000 ppm at a flow rate of ≤60g/hr from a quarter inch diameter orifice.
(ii) Procedure for a daily verification check.
(iii) Procedure for determining the operator's maximum viewing distance from the equipment and how the operator will ensure that this distance is maintained.
(iv) Procedure for determining maximum wind speed during which monitoring can be performed and how the operator will ensure monitoring occurs only at wind speeds below this threshold.
(v) Procedures for conducting surveys, including the items specified in paragraphs (c)(7)(v)(A) through (C) of this section.
(A) How the operator will ensure an adequate thermal background is present in order to view potential fugitive emissions.
(B) How the operator will deal with adverse monitoring conditions, such as wind.
(C) How the operator will deal with interferences (e.g., steam).
(vi) Training and experience needed prior to performing surveys.
(vii) Procedures for calibration and maintenance. At a minimum, procedures must comply with those recommended by the manufacturer.
(8) If you are using Method 21 of appendix A-7 of this part, your plan must also include the elements specified in paragraphs (c)(8)(i) and (ii) of this section. For the purposes of complying with the fugitive emissions monitoring program using Method 21 a fugitive emission is defined as an instrument reading of 500 ppm or greater.
(i) Verification that your monitoring equipment meets the requirements specified in Section 6.0 of Method 21 at 40 CFR part 60, appendix A-7. For purposes of instrument capability, the fugitive emissions definition shall be 500 ppm or greater methane using a FID-based instrument. If you wish to use an analyzer other than a FID-based instrument, you must develop a site-specific fugitive emission

definition that would be equivalent to 500 ppm methane using a FID-based instrument (e.g., 10.6 eV PID with a specified isobutylene concentration as the fugitive emission definition would provide equivalent response to your compound of interest).

(ii) Procedures for conducting surveys. At a minimum, the procedures shall ensure that the surveys comply with the relevant sections of Method 21 at 40 CFR part 60, appendix A-7, including Section 8.3.1.

(d) Each fugitive emissions monitoring plan must include the elements specified in paragraphs (d)(1) through (4) of this section, at a minimum, as applicable.

(1) Sitemap.

(2) A defined observation path that ensures that all fugitive emissions components are within sight of the path. The observation path must account for interferences.

(3) If you are using Method 21, your plan must also include a list of fugitive emissions components to be monitored and method for determining location of fugitive emissions components to be monitored in the field (e.g. tagging, identification on a process and instrumentation diagram, etc.).

(4) Your plan must also include the written plan developed for all of the fugitive emission components designated as difficult-to-monitor in accordance with paragraph (g)(3)(i) of this section, and the written plan for fugitive emission components designated as unsafe-to-monitor in accordance with paragraph (g)(3)(ii) of this section.

(e) Each monitoring survey shall observe each fugitive emissions component, as defined in §60.5430a, for fugitive emissions.

(f)

(1) You must conduct an initial monitoring survey within 60 days of the startup of production, as defined in §60.5430a, for each collection of fugitive emissions components at a new well site or by June 3, 2017, whichever is later. For a modified collection of fugitive emissions components at a well site, the initial monitoring survey must be conducted within 60 days of the first day of production for each collection of fugitive emission components after the modification or by June 3, 2017, whichever is later. Notwithstanding the preceding deadlines, for each collection of fugitive emissions components at a well site located on the Alaskan North Slope, as defined in §60.5430a, that starts up production between September and March, you must conduct an initial monitoring survey within 6 months of the startup of production for a new well site, within 6 months of the first day of production after a modification of the collection of fugitive emission components, or by the following June 30, whichever is later.

(2) You must conduct an initial monitoring survey within 60 days of the startup of a new compressor station for each new collection of fugitive emissions components at the new compressor station or by June 3, 2017, whichever is later. For a modified collection of fugitive components at a compressor station, the initial monitoring survey must be conducted within 60 days of the modification or by June 3, 2017, whichever is later.

(g) A monitoring survey of each collection of fugitive emissions components at a well site or at a compressor station must be performed at the frequencies specified in paragraphs (g)(1) and (2) of this section, with the exceptions noted in paragraphs (g)(3) and (4) of this section.

(2) A monitoring survey of the collection of fugitive emissions components at a compressor station within a company-defined area must be conducted at least quarterly after the initial survey. Consecutive quarterly monitoring surveys must be conducted at least 60 days apart.

(3) Fugitive emissions components that cannot be monitored without elevating the monitoring personnel more than 2 meters above the surface may be designated as difficult-to-monitor. Fugitive emissions components that are designated difficult-to-monitor must meet the specifications of paragraphs (g)(3)(i) through (iv) of this section.

(i) A written plan must be developed for all of the fugitive emissions components

designated difficult-to-monitor. This written plan must be incorporated into the fugitive emissions monitoring plan required by paragraphs (b), (c), and (d) of this section.

(ii) The plan must include the identification and location of each fugitive emissions component designated as difficult-to-monitor.

(iii) The plan must include an explanation of why each fugitive emissions component designated as difficult-to-monitor is difficult-to-monitor.

(iv) The plan must include a schedule for monitoring the difficult-to-monitor fugitive emissions components at least once per calendar year.

(4) Fugitive emissions components that cannot be monitored because monitoring personnel would be exposed to immediate danger while conducting a monitoring survey may be designated as unsafe-to-monitor. Fugitive emissions components that are designated unsafe-to-monitor must meet the specifications of paragraphs (g)(4)(i) through (iv) of this section.

(i) A written plan must be developed for all of the fugitive emissions components designated unsafe-to-monitor. This written plan must be incorporated into the fugitive emissions monitoring plan required by paragraphs (b), (c), and (d) of this section.

(ii) The plan must include the identification and location of each fugitive emissions component designated as unsafe-to-monitor.

(iii) The plan must include an explanation of why each fugitive emissions component designated as unsafe-to-monitor is unsafe-to-monitor.

(iv) The plan must include a schedule for monitoring the fugitive emissions components designated as unsafe-to-monitor.

(5) The requirements of paragraph (g)(2) of this section are waived for any collection of fugitive emissions components at a compressor station located within an area that has an average calendar month temperature below 0 °Fahrenheit for two of three consecutive calendar months of a quarterly monitoring period. The calendar month temperature average for each month within the quarterly monitoring period must be determined using historical monthly average temperatures over the previous three years as reported by a National Oceanic and Atmospheric Administration source or other source approved by the Administrator. The requirements of paragraph (g)(2) of this section shall not be waived for two consecutive quarterly monitoring periods.

(h) Each identified source of fugitive emissions shall be repaired or replaced in accordance with paragraphs (h)(1) and (2) of this section. For fugitive emissions components also subject to the repair provisions of §§60.5416a(b)(9) through (12) and (c)(4) through (7), those provisions apply instead to those closed vent system and covers, and the repair provisions of paragraphs (h)(1) and (2) of this section do not apply to those closed vent systems and covers.

(1) Each identified source of fugitive emissions shall be repaired or replaced as soon as practicable, but no later than 30 calendar days after detection of the fugitive emissions.

(2) If the repair or replacement is technically infeasible, would require a vent blowdown, a compressor station shutdown, a well shutdown or well shut-in, or would be unsafe to repair during operation of the unit, the repair or replacement must be completed during the next scheduled compressor station shutdown, well shutdown, well shut-in, after a planned vent blowdown or within 2 years, whichever is earlier.

(3) Each repaired or replaced fugitive emissions component must be resurveyed as soon as practicable, but no later than 30 days after being repaired, to ensure that there are no fugitive emissions.

(i) For repairs that cannot be made during the monitoring survey when the fugitive emissions are initially found, the operator may resurvey the repaired fugitive emissions components using either Method 21 or optical gas imaging within 30 days of finding such fugitive emissions.

(ii) For each repair that cannot be made during the monitoring survey when the fugitive emissions are initially found, a digital photograph must be taken of that component or the component must be tagged for identification purposes. The digital photograph must include the date that the photograph was taken, must clearly identify the component by location within the site (e.g., the latitude and longitude of the component or by other descriptive landmarks visible in the picture).

(iii) Operators that use Method 21 to resurvey the repaired fugitive emissions components are subject to the resurvey provisions specified in paragraphs (h)(3)(iii)(A) and (B) of this section.

(A) A fugitive emissions component is repaired when the Method 21 instrument indicates a concentration of less than 500 ppm above background or when no soap bubbles are observed when the alternative screening procedures specified in section 8.3.3 of Method 21 are used.

(B) Operators must use the Method 21 monitoring requirements specified in paragraph (c)(8)(ii) of this section or the alternative screening procedures specified in section 8.3.3 of Method 21.

(iv) Operators that use optical gas imaging to resurvey the repaired fugitive emissions components, are subject to the resurvey provisions specified in paragraphs (h)(3)(iv)(A) and (B) of this section.

(A) A fugitive emissions component is repaired when the optical gas imaging instrument shows no indication of visible emissions.

(B) Operators must use the optical gas imaging monitoring requirements specified in paragraph (c)(7) of this section.

(i) Records for each monitoring survey shall be maintained as specified §60.5420a(c)(15).

§60.5410a

(j) To achieve initial compliance with the fugitive emission standards for each collection of fugitive emissions components at a well site and each collection of fugitive emissions components at a compressor station, you must comply with paragraphs (j)(1) through (5) of this section.

(1) You must develop a fugitive emissions monitoring plan as required in §60.5397a(b)(c), and (d).

(2) You must conduct an initial monitoring survey as required in §60.5397a(f).

(3) You must maintain the records specified in §60.5420a(c)(15).

(4) You must repair each identified source of fugitive emissions for each affected facility as required in §60.5397a(h).

(5) You must submit the initial annual report for each collection of fugitive emissions components at a well site and each collection of fugitive emissions components at a compressor station compressor station as required in §60.5420a(b)(1) and (7).

§60.5415a

(h) For each collection of fugitive emissions components at a well site and each collection of fugitive emissions components at a compressor station, you must demonstrate continuous compliance with the fugitive emission standards specified in §60.5397a according to paragraphs (h)(1) through (4) of this section.

(1) You must conduct periodic monitoring surveys as required in §60.5397a(g).

(2) You must repair or replace each identified source of fugitive emissions as required in §60.5397a(h).

(3) You must maintain records as specified in §60.5420a(c)(15).

(4) You must submit annual reports for collection of fugitive emissions components at a well site and each collection of fugitive emissions components at a compressor station as required in §60.5420a(b)(1) and (7).

Notification, Reporting, and Recordkeeping Requirements

§60.5397a

(j) Annual reports shall be submitted for each collection of fugitive emissions components at a well site and each collection of fugitive emissions components at a compressor station that include the information specified in §60.5420a(b)(7). Multiple collection of fugitive emissions components at a well site or at a compressor station may be included in a single annual report.

§60.5420a

(b) Reporting requirements. You must submit annual reports containing the information specified in paragraphs (b)(1) through (8) and (12) of this section and performance test reports as specified in paragraph (b)(9) or (10) of this section, if applicable, except as provided in paragraph (b)(13) of this section. You must submit annual reports following the procedure specified in paragraph (b)(11) of this section. The initial annual report is due no later than 90 days after the end of the initial compliance period as determined according to §60.5410a. Subsequent annual reports are due no later than same date each year as the initial annual report. If you own or operate more than one affected facility, you may submit one report for multiple affected facilities provided the report contains all of the information required as specified in paragraphs (b)(1) through (8) of this section, except as provided in paragraph (b)(13) of this section. Annual reports may coincide with title V reports as long as all the required elements of the annual report are included. You may arrange with the Administrator a common schedule on which reports required by this part may be submitted as long as the schedule does not extend the reporting period.

(1) The general information specified in paragraphs (b)(1)(i) through (iv) of this section for all reports.

(i) The company name, facility site name associated with the affected facility, US Well ID or US Well ID associated with the affected facility, if applicable, and address of the affected facility. If an address is not available for the site, include a description of the site location and provide the latitude and longitude coordinates of the site in decimal degrees to an accuracy and precision of five (5) decimals of a degree using the North American Datum of 1983.

(ii) An identification of each affected facility being included in the annual report.

(iii) Beginning and ending dates of the reporting period.

(iv) A certification by a certifying official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(7) For the collection of fugitive emissions components at each well site and the collection of fugitive emissions components at each compressor station within the company-defined area, the records of each monitoring survey including the information specified in paragraphs (b)(7)(i) through (xii) of this section. For the collection of fugitive emissions components at a compressor station, if a monitoring survey is waived under §60.5397a(g)(5), you must include in your annual report the fact that a monitoring survey was waived and the calendar months that make up the quarterly monitoring period for which the monitoring survey was waived.

(i) Date of the survey.

(ii) Beginning and end time of the survey.

(iii) Name of operator(s) performing survey. If the survey is performed by optical gas imaging, you must note the training and experience of the operator.

(iv) Ambient temperature, sky conditions, and maximum wind speed at the time of the survey.

(v) Monitoring instrument used.

(vi) Any deviations from the monitoring plan or a statement that there were no deviations from the monitoring plan.

(vii) Number and type of components for which fugitive emissions were detected.

(viii) Number and type of fugitive emissions components that were not repaired as required

in §60.5397a(h).
(ix) Number and type of difficult-to-monitor and unsafe-to-monitor fugitive emission components monitored.
(x) The date of successful repair of the fugitive emissions component.
(xi) Number and type of fugitive emission components placed on delay of repair and explanation for each delay of repair.
(xii) Type of instrument used to resurvey a repaired fugitive emissions component that could not be repaired during the initial fugitive emissions finding.

(11) You must submit reports to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX (https://cdx.epa.gov/).) You must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the CEDRI Web site (https://www3.epa.gov/ttn/chief/cedri/). If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in §60.4. Once the form has been available in CEDRI for at least 90 calendar days, you must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted.

§60.5420a(c)(15) For each collection of fugitive emissions components at a well site and each collection of fugitive emissions components at a compressor station, the records identified in paragraphs (c)(15)(i) through (iii) of this section.
(i) The fugitive emissions monitoring plan as required in § 60.5397a(b), (c), and (d). 60.5420a(c)(15)(ii) The records of each monitoring survey as specified in paragraphs (c)(15)(ii)(A) through (I) of this section.
(ii)(A) Date of the survey.
(ii)(B) Beginning and end time of the survey.
(ii)(C) Name of operator(s) performing survey. You must note the training and experience of the operator.
(ii)(D) Monitoring instrument used.
(ii)(E) When optical gas imaging is used to perform the survey, one or more digital photographs or videos, captured from the optical gas imaging instrument used for conduct of monitoring, of each required monitoring survey being performed. The digital photograph must include the date the photograph was taken and the latitude and longitude of the collection of fugitive emissions components at a well site or collection of fugitive emissions components at a compressor station imbedded within or stored with the digital file. As an alternative to imbedded latitude and longitude within the digital file, the digital photograph or video may consist of an image of the monitoring survey being performed with a separately operating GPS device within the same digital picture or video, provided the latitude and longitude output of the GPS unit can be clearly read in the digital image.
(ii)(F) Fugitive emissions component identification when Method 21 is used to perform the monitoring survey.
(ii)(G) Ambient temperature, sky conditions, and maximum wind speed at the time of the survey.
(ii)(H) Any deviations from the monitoring plan or a statement that there were no deviations from the monitoring plan.
(ii)(I) Documentation of each fugitive emission, including the information specified in paragraphs (c)(15)(ii)(I)(1) through (12) of this section.
(ii)(I)(1) Location.
(ii)(I)(2) Any deviations from the monitoring plan or a statement that there were no deviations from the monitoring plan.
(ii)(I)(3) Number and type of components for which fugitive emissions were detected.
(ii)(I)(4) Number and type of difficult-to-monitor and unsafe-to-monitor fugitive emission components monitored.
(ii)(I)(5) Instrument reading of each fugitive emissions component that requires repair when Method 21 is used for monitoring.
(ii)(I)(6) Number and type of fugitive emissions components that were not repaired as required in §

60.5397a(h).
(ii)(I)(7) Number and type of components that were tagged as a result of not being repaired during the monitoring survey when the fugitive emissions were initially found as required in §60.5397a(h)(3)(ii).
(ii)(I)(8) If a fugitive emissions component is not tagged, a digital photograph or video of each fugitive emissions component that could not be repaired during the monitoring survey when the fugitive emissions were initially found as required in § 60.5397a(h)(3)(ii). The digital photograph or video must clearly identify the location of the component that must be repaired. Any digital photograph or video required under this paragraph can also be used to meet the requirements under paragraph (c)(15)(ii)(E) of this section, as long as the photograph or video is taken with the optical gas imaging instrument, includes the date and the latitude and longitude are either imbedded or visible in the picture.
(ii)(I)(9) Repair methods applied in each attempt to repair the fugitive emissions components.
(ii)(I)(10) Number and type of fugitive emission components placed on delay of repair and explanation for each delay of repair.
(ii)(I)(11) The date of successful repair of the fugitive emissions component.
(ii)(I)(12) Instrumentation used to resurvey a repaired fugitive emissions component that could not be repaired during the initial fugitive emissions finding.
(iii) For the collection of fugitive emissions components at a compressor station, if a monitoring survey is waived under § 60.5397a(g)(5), you must maintain records of the average calendar month temperature, including the source of the information, for each calendar month of the quarterly monitoring period for which the monitoring survey was waived.

Compliance Methods for the Above (Description and Citation):
Targa complies with the above listed compliance requirements.

Compliance Status:

_X_ In Compliance: Will you continue to comply up to permit issuance? _X_Yes ____No

___ Not In Compliance: Will you be in compliance at permit issuance? ___Yes ___No

___ Future-Effective Requirement: Do you expect to meet this on a timely basis? ____Yes _____No

B. SCHEDULE OF COMPLIANCE

Complete this section if you answered "NO" to any of the questions in section A. Also, complete this section if required to submit a schedule of compliance by an applicable requirement. Please attach copies of any judicial consent decrees or administrative orders for this requirement.

Unit(s)_____ Requirement_____

Reason for Noncompliance. Briefly explain reason for noncompliance at time of permit issuance or that future-effective requirement will not be met on a timely basis:

Narrative Description of how Source Compliance Will be Achieved. Briefly explain your plan for achieving compliance:

Schedule of Compliance. Provide a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance, including a date for final compliance.

Remedial Measure or Action	Date to be Achieved

C. SCHEDULE FOR SUBMISSION OF PROGRESS REPORTS

Only complete this section if you are required to submit one or more schedules of compliance in section B or if an applicable requirement requires submittal of a progress report. If a schedule of compliance is required, your progress report should start within 6 months of application submittal and subsequently, no less than every six months. One progress report may include information on multiple schedules of compliance.

Contents of Progress Report (describe):

First Report____/____/___ Frequency of Submittal_____

Contents of Progress Report (describe):

First Report____/____/___ Frequency of Submittal_____

D. SCHEDULE FOR SUBMISSION OF COMPLIANCE CERTIFICATIONS

This section must be completed once by every source. Indicate when you would prefer to submit compliance certifications during the term of your permit (at least once per year).

Frequency of submittal_____ Beginning____/____/____

E. COMPLIANCE WITH ENHANCED MONITORING & COMPLIANCE CERTIFICATION REQUIREMENTS

This section must be completed once by every source. To certify compliance with these, you must be able to certify compliance for every applicable requirement related to monitoring and compliance certification at every unit.

Enhanced Monitoring Requirements: __X__ In Compliance ____ Not In Compliance

Compliance Certification Requirements: __X__ In Compliance ____ Not In Compliance

EPA United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

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 10 / 18 / 2020

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

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

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

Date commenced operations 10 / 18 / 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 _____

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) Dwayne Burks

Name (typed) Dwayne Burks Date: 10 / 16 / 2020

EPA Form 5900-03

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** (year)

Emission Unit ID	NOx	VOC	SO2	PM10	Lead	Other
1	7.2	10.1	0.03	1.1	-	
2	7.2	10.1	0.03	1.1	-	
5	-	0.35	-	-	-	
6	-	-	-	-	-	
7	-	-	-	-	-	
8	-	-	-	-	-	
10	-	-	-	-	-	
11	-	<0.01	-	-	-	
12	0.12	6.4	<0.01	-	-	
13	-	146.4	-	-	-	
14	0.13	<0.01	<0.01	0.01	-	
15	-	24.0	-	-	-	
16	-	23.6	-	-	-	
TK1-5	-	<0.01	-	-	-	
SUBTOTALS:	14.7	221.0	0.1	2.2	-	

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
2,2,4-TMP	540-84-1	HAP1
Acetaldehyde	75-07-0	HAP2
Acrolein	107-02-8	HAP3
Benzene	71-43-2	HAP4
Ethylbenzene	100-41-4	HAP5
Formaldehyde	50-00-0	HAP6
Methanol	67-56-1	HAP7
n-Hezane	110-54-3	HAP8
Toluene	108-88-3	HAP9
Xylenes	1330-20-7	HAP10

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** (year)

Emissions Unit ID	Actual Emissions (Tons/Year)									
	HAP1	HAP2	HAP3	HAP4	HAP5	HAP6	HAP7	HAP8	HAP9	HAP10
1		0.2	0.1	0.1		0.3	0.2		<0.1	<0.1
2		0.2	0.1	0.1		0.3	0.2		<0.1	<0.1
6										
7										
8										
10										
11										
12	<0.1			<0.1				0.2	<0.1	
13								4.0		
14										
15	0.2			0.1	0.1		1.4	1.6	0.3	0.2
16	<0.1			0.1				0.8	0.1	
SUBTOTALS:	0.2	0.4	0.2	0.4	0.1	0.6	1.8	6.6	0.4	0.2

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.	238.0
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.	10.9
3. Sum lines 1 and 2.	248.9
4. Enter the emissions that were counted twice. If none, enter "0."	10.9
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.	238.0

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. Fee rate for 2020 is $53.81/ton.	$12,806.78

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.]	$2,236
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	$2,236
OTHER ADJUSTMENTS	
27. Add the total on line 21 and the total on line 26 and enter the result.	$15,042.78
28. Enter any underpayment from line 9 or 19 here. Otherwise enter "0."	0
29. Enter any overpayment from line 10 or 20 here. Otherwise enter "0."	0
30. 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**.**	$15,042.78
31. Enter any credit for fee assessment error here. Otherwise, enter "0."	0
32. 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.	$15,042.78

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

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 **Buffalo Compressor Station**

Source Location **47.66617°N, 102.73642°W**

EPA Region where Source Located **8**

Mailing Address:

Street/P.O. Box **1939 125th Ave. NW**

City **Watford City**

State **ND** ZIP **58854**

Contact Person:**Mitchell Anderson**

Title **Senior Environmental Specialist**

Telephone **(701) 842 - 3315** Ext. _____

Total Fee Payment Remitted[1]: $ **15,042.78**

[1] Fee payment receipts are included on the following page.

Wallace, Tammy H.

Subject: FW: [EXTERNAL] Buffalo Compressor Station Title V Application - ACH Payment Fee - 10/14/20

Targa Badlands Buffalo CS ACH Payment Receipt for $15,021.26

From: Jones, Melanie <MelanieJones@targaresources.com>
Sent: Wednesday, October 14, 2020 12:58 PM
To: Burnette, Jo <JBurnette@targaresources.com>
Subject: RE: [EXTERNAL] Buffalo Compressor Station Title V Application - ACH Payment Fee - 10/14/20

Jo,

See confirmation below.

10/14/2020
10/14/2020
DEBIT ACH SETTLEMENT
9026670003
2885368023TC
15,021.26
04:41 AM
ORIG CO NAME:
TARGA BADLANDS
ORIG ID :
9026670003
DESC DATE :
OFFSET
ENTRY DESCR :
CORP PAY
ENTRY CLASS :
CCD
TRACE NO :
021000025368023
ENTRY DATE :
201014
IND ID NO :
9026670003
IND NAME :
EFT FILE NAME: AXR034
COMPANY DATA:
201013 AXR034
REMARK :
EFT/ACH CREATED OFFSET FOR ORIGIN#:9090209001 CO EFF DATE: 20/10/14
ORIG BANK :
JPMorgan Chase Bank, N.A. (NY)

Melanie W. Jones
Treasury - Sr. Analyst
Targa Resources
811 Louisiana, Suite 2100
Houston, TX 77002

P - 713-584-1028
F - 713-584-1513

Alert Message:
Coronavirus (COVID-19) updates

For your security, we recommend you close your browser when you complete your payment.

Payment Confirmation - EPA Miscellaneous Payments - Cincinnati Finance Center

✓ Before You Begin ✓ Complete Agency Form ✓ Enter Payment Info ✓ Review & Submit **5 Confirmation**

Your payment is complete

You will not be able to access this receipt once you leave this page. A confirmation email has been sent to twallace@targaresources.com, mitchellanderson@targaresources.com.

Because you are not signed in:

This payment will not show in your payment activity. You can sign in or create an account now and Pay.gov will have a record of your payment.

To confirm your payment went through:

Contact the federal government agency you paid. Pay.gov is unable to cancel this transaction.

We value your feedback!

Let us know how we did. Complete our short two minute survey.

Tracking Information

Pay.gov Tracking ID: 26Q71VOQ

Agency Tracking ID: 76041808632

Form Name: EPA Miscellaneous Payments - Cincinnati Finance Center

Application Name: EPA Miscellaneous Payments

Payment Information

Payment Type: Debit or credit card

Payment Amount: $21.52

Transaction Date: 10/15/2020 05:59:02 AM EDT

Payment Date: 10/15/2020

Account Information

Cardholder Name: Targa Badlands LLC

Card Type: Visa

Card Number: **********9328

Register today!

Create an Account

or

Sign In

Please consider creating a Pay.gov account. With a Pay.gov account you can manage payments and view history.

Need Help?

Contact:
Craig Steffen

Email:
Click to email

Phone:
(513) 487-2091

APPENDIX B: EMISSION CALCULATIONS

Targa Badlands LLC - Buffalo Compressor Station
Potential to Emit Summary Table

EU	EPN	Tag ID	Equipment Description	Design Rating	Criteria Pollutant Emissions (tpy)					
					NO_x	CO	VOC	SO_2	PM_{10}	$PM_{2.5}$
1	1	C-101	Waukesha L7042GSI S5	1500 HP	7.24	28.97	10.14	0.03	1.08	1.08
2	2	C-102	Waukesha L7042GSI S5	1500 HP	7.24	28.97	10.14	0.03	1.08	1.08
5	5	PR-101	(2) Pig Receivers	12" Nominal 16" Oversize Chamber	-	-	0.35	-	-	-
6	12	-	Produced Water Tank	400 bbl	-	-	-	-	-	-
7	12	-	Condensate Tanks	400 bbl	-	-	-	-	-	-
8	12	-	Condensate Tanks	400 bbl	-	-	-	-	-	-
10	12	-	Separator Tank	400 bbl	-	-	-	-	-	-
11	11	-	Methanol Tank	--	-	-	<0.01	-	-	-
12	12	-	Vapor Combustor Unit	--	0.12	0.67	6.35	<0.01	-	-
13	13	-	Dehy Process Vents	24 MMScf	-	-	146.36	-	-	-
14	14	-	Glycol Reboiler	0.45 MMBtu/hr	0.13	0.11	<0.01	<0.01	0.01	0.01
15	15	-	Fugitive Emissions	--	-	-	24.01	-	-	-
16	16	-	PW Truck Loading	--	-	-	0.02	-	-	-
16	16	-	Condensate Truck Loading	--	-	-	23.58	-	-	-
TK1-5	TK1-5	-	Various Tanks	500 gal	-	-	<0.01	-	-	-
Facility Total					**14.74**	**58.72**	**220.94**	**0.07**	**2.17**	**2.17**
Part 71/Part 52 Potential to Emit Total[2]					**14.74**	**58.72**	**196.94**	**0.07**	**2.17**	**2.17**
PSD Threshold					**250.00**	**250.00**	**250.00**	**250.00**	**250.00**	**250.00**
Exceeds PSD Threshold					**No**	**No**	**No**	**No**	**No**	**No**

1. Emissions from the two condensate tanks, one produced water tank, and separator tank are routed through the Vapor Combustor, and are thus included in the vapor combustor emission totals. Note that no control efficiency from the combustor has been claimed for produced water tank (as it is not mandated by NSPS OOOO/OOOOOa), therefore uncontrolled emissions from the produced water tank is represented in the VOC emission total for the vapor combustor.

2. Part 71 (Title V) and Part 52 (PSD) Potential to Emit Totals do not include fugitive criteria pollutant emissions, which are not included in major source applicability.

Targa Badlands LLC - Buffalo Compressor Station
HAP Potential to Emit Summary Table

EU	EPN	Tag ID	Equipment Description	Design Rating	HAP Emissions (tpy) [1]										
					2,2,4-TMP	Acetaldehyde	Acrolein	Benzene	E-Benzene	CH_2O	Methanol	n-Hexane	Toluene	Xylenes	Total HAP
1	1	C-101	Waukesha L7042GSI S5	1500 HP	-	0.16	0.146	0.09	<0.01	0.29	0.17	-	0.03	0.01	0.95
2	2	C-102	Waukesha L7042GSI S5	1500 HP	-	0.16	0.146	0.09	<0.01	0.29	0.17	-	0.03	0.01	0.95
5	5	PR-101	(2) Pig Receivers	12" Nominal 16" Oversize Chamber	<0.01	-	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01	<0.01
6	12	-	Produced Water Tank	400 bbl	-	-	-	-	-	-	-	-	-	-	-
7	12	-	Condensate Tanks	400 bbl	-	-	-	-	-	-	-	-	-	-	-
8	12	-	Condensate Tanks	400 bbl	-	-	-	-	-	-	-	-	-	-	-
10	12	-	Separator Tank	400 bbl	-	-	-	-	-	-	-	-	-	-	-
11	11	-	Methanol Tank	--	-	-	-	-	-	-	<0.01	-	-	-	<0.01
12	12	-	Vapor Combustor Unit	--	0.01	-	-	0.02	<0.01	<0.01	-	0.23	0.01	<0.01	0.28
13	13	-	Dehy Process Vents	24 MMScf	-	-	-	<0.01	<0.01	-	-	4.049	<0.01	<0.01	4.0
14	14	-	Glycol Reboiler	0.45 MMBtu/hr	-	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	<0.01
15	15	-	Fugitive Emissions	--	0.22	-	-	0.10	0.09	-	1.42	1.56	0.33	0.16	3.87
16	16	-	PW Truck Loading	--	<0.01	-	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01	<0.01
16	16	-	Condensate Truck Loading	--	0.04	-	-	0.06	<0.01	-	-	0.77	0.05	<0.01	0.92
TK1-5	TK1-5	-	Various Tanks	500 gal	-	-	-	-	-	-	-	-	-	-	<0.01
Facility Total					**0.27**	**0.31**	**0.29**	**0.36**	**0.10**	**0.58**	**1.76**	**6.61**	**0.45**	**0.19**	**11.04**
HAP Major Source Threshold					**10.00**	**10.00**	**10.00**	**10.00**	**10.00**	**10.00**	**10.00**	**10.00**	**10.00**	**10.00**	**25.00**
Exceeds HAP Major Source Threshold					**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

1. Other HAPs not included in the above table can be found on the individual emission unit tabs.

2. Emissions from the three condensate tanks, produced water tank, and separator tank are routed through the Vapor Combustor, and are thus included in the vapor combustor emission totals. Note that no control efficiency from the combustor has been claimed for produced water tanks (as it is not mandated by NSPS OOOO/OOOOa), therefore uncontrolled emissions from produced water tanks are represented in the VOC emission total for the vapor combustor.

Targa Badlands LLC - Buffalo Compressor Station
GHG PTE Summary

EU	EPN	Tag ID	Equipment Description	Design Rating	Greenhouse Gas Emissions (tpy)				
					CO_2	CH_4	N_2O	Total Mass	CO_2e [1]
1	1	C-101	Waukesha L7042GSI S5	1500 HP	7343.61	2.17	-	7345.79	7401.55
2	2	C-102	Waukesha L7042GSI S5	1500 HP	7343.61	2.17	-	7345.79	7401.55
5	5	PR-101	(2) Pig Receivers	12" Nominal 16" Oversize Chamber	-	0.34	-	0.34	8.43
6	12	-	Produced Water Tank	400 bbl	-	-	-	-	-
7	12	-	Condensate Tanks	400 bbl	-	-	-	-	-
8	12	-	Condensate Tanks	400 bbl	-	-	-	-	-
10	12	-	Separator Tank	400 bbl	-	-	-	-	-
11	11	-	Methanol Tank	--	-	-	-	-	-
12	12	-	Vapor Combustor Unit	--	402.44	0.02	<0.01	402.46	404.02
13	13	-	Dehy Process Vents	24 MMScf	-	-	-	-	-
14	14	-	Glycol Reboiler	0.45 MMBtu/hr	159.60	<0.01	<0.01	159.60	160.54
15	15	-	Fugitive Emissions	--	-	10.57	-	10.57	264.29
16	16	-	PW Truck Loading	--	-	-	-	-	-
16	16	-	Condensate Truck Loading	--	-	-	-	-	-
TK1-5	TK1-5	-	Various Tanks	500 gal	-	-	-	-	-
Facility Total					**15249.26**	**15.28**	**<0.01**	**15264.55**	**15640.38**

[1] Per 40 CFR 98 - Mandatory Greenhouse Gas Reporting, Subpart A, Table A-1. Total CO_2e emissions are calculated based on the following Global Warming Potentials.

CO_2	1
CH_4	25
N_2O	298

CO_2e Emissions = CO_2 Emissions x CO_2 GWP (1) + CH_4 Emissions x CH_4 GWP (25) + N_2O Emissions x N_2O GWP (310)

Targa Badlands LLC - Buffalo Compressor Station
Waukesha L7042GSI S5 - IC Engine Emissions Calculations (EU 1)

Buffalo Compressor Station Engine Data (EU 1/EPN 1)					
IC Engine Make	Waukesha		Higher Heating Value[2]	1,482	Btu/scf
IC Engine Model	L7042GSI S5		Lower Heating Value[2]	1,340	Btu/scf
Power Rating [1]	1,500	bhp	Sulfur Content [3]	0.0020	gr/scf
Heat Rate (HHV)[2]	8,476	Btu/bhp-hr	Fuel Consumption	9,490.18	scf/hr
Duty (Input)	12.71	MMBtu/hr	Fuel Consumption	83.13	MMscf/yr
Hours per Year	8,760	hr/yr	Exhaust Gas Flow	7,062	acfm

Pollutant	Emission Factors [1]		Emission Rates (lb/hr)	Emission Rates (tpy)	Source of Emission Factors
NO_x	0.50	g/bhp-hr	1.7	7.2	Manufacturer's Specifications
CO	2.00	g/bhp-hr	6.6	29.0	Manufacturer's Specifications
VOC	0.70	g/bhp-hr	2.3	10.1	Manufacturer's Specifications
Formaldehyde	2.00E-02	g/bhp-hr	6.61E-02	2.90E-01	Manufacturer's Specifications
SO_2 [3]	5.88E-04	lb/MMBtu	7.48E-03	0.03	AP-42 Tbl 3.2-3; 4SRB (7/00)
PM_{10} [5]	0.019	lb/MMBtu	2.47E-01	1.08E+00	AP-42 Tbl 3.2-3; 4SRB (7/00)
$PM_{2.5}$ [5]	0.019	lb/MMBtu	2.47E-01	1.08E+00	AP-42 Tbl 3.2-3; 4SRB (7/00)
TSP [5]	0.019	lb/MMBtu	0.25	1.08	AP-42 Tbl 3.2-3; 4SRB (7/00)
Total HAP	-	-	0.22	0.95	AP-42 Tbl 3.2-3; 4SRB (7/00) and Manufacturer's Specifications

GHG	Uncontrolled Emission Factors		GHG Emissions lb/hr	GHG Emissions tpy	Source of Emission Factors
CO_2	507	g/bhp-hr	1,676.62	7,343.61	Manufacturer's Specifications
CH_4	0.15	g/bhp-hr	0.50	2.17	Manufacturer's Specifications
CO_2e	511.00	g/bhp-hr	1,689.85	7,401.55	Manufacturer's Specifications

Sample Calculations:

(bhp) (Btu/bhp-hr) ($MM/10^6$) = MMBtu/hr; (MMBtu/hr) / (Btu/scf) (10^6/MM) = scf/hr.

(g/bhp-hr) (bhp) (lb/453.59 g) = lb/hr; (lb/MMBtu) (MMBtu/hr) = lb/hr.

(lb/hr) (hrs/yr) (ton/2000 lb) = tons/yr.

1. Manufacturer specification data received from Tammy Wallace of Targa on December 10, 2018

2. Fuel heating values from manufacturer spec sheet

3. SO_2 emissions based on AP-42 Section 3.2, Table 3.2-3 footnote e (7/00), which is based on 100% conversion of sulfur to SO_2 at 2,000 grains/MMscf. Sulfur content of fuel at the Buffalo Compressor Station assumed to be 2,000 grains/MMscf.

5. Emission factor for TSP, PM10 and PM2.5 from AP-42 Section 3.2, Table 3.2-3 (7/00); includes PM10/PM2.5 filterable (9.50e-03 lb/MMBtu) and PM condensable (9.91e-3 lb/MMBtu) = 0.01941 lb/MMBtu.

EPN 1 HAP Emission Calculations			
Pollutant	Rich Burn Emission Factors [1] (lb/MMBtu)	Uncontrolled Emission Rate (lb/hr)	Uncontrolled Emission Rate (tpy)
1,1,2,2-Tetrachloroethane	2.53E-05	3.22E-04	1.41E-03
1,1,2-Trichloroethane	1.53E-05	1.95E-04	8.52E-04
1,3-Butadiene	6.63E-04	8.43E-03	3.69E-02
1,3-Dichloropropene	1.27E-05	1.61E-04	7.07E-04
Acetaldehyde	2.79E-03	3.55E-02	1.55E-01
Acrolein	2.63E-03	3.34E-02	1.46E-01
Benzene	1.58E-03	2.01E-02	8.80E-02
Carbon Tetrachloride	1.77E-05	2.25E-04	9.86E-04
Chlorobenzene	1.29E-05	1.64E-04	7.18E-04
Chloroform	1.37E-05	1.74E-04	7.63E-04
Ethylbenzene	2.48E-05	3.15E-04	1.38E-03
Ethylene Dibromide	2.13E-05	2.71E-04	1.19E-03
Formaldehyde [2]	-	6.61E-02	2.90E-01
Methanol	3.06E-03	3.89E-02	1.70E-01
Methylene Chloride	4.12E-05	5.24E-04	2.29E-03
Naphthalene	9.71E-05	1.23E-03	5.41E-03
PAH	1.41E-04	1.79E-03	7.85E-03
Styrene	1.19E-05	1.51E-04	6.63E-04
Toluene	5.58E-04	7.09E-03	3.11E-02
Vinyl Chloride	7.18E-06	9.13E-05	4.00E-04
Xylene	1.95E-04	2.48E-03	1.09E-02
Total HAP Emissions		**0.22**	**0.95**

1. HAP emission factors from AP-42 Section 3.2, Table 3.2-3 (7/00).

2. Formaldehyde emission factor from manufacturer. See calculations in criteria pollutants table.

Targa Badlands LLC - Buffalo Compressor Station
Waukesha L7042GSI S5 - IC Engine Emissions Calculations (EU 2)

Targa Badlands LLC - Buffalo Compressor Station
Waukesha L7042GSI S5 - IC Engine Emissions Calculations (EU 2)

Buffalo Compressor Station Engine Data (EU 2/EPN 2)					
IC Engine Make	Waukesha		Higher Heating Value[2]	1,482	Btu/scf
IC Engine Model	L7042GSI S5		Lower Heating Value[2]	1,340	Btu/scf
Power Rating [1]	1,500	bhp	Sulfur Content [3]	0.0020	gr/scf
Heat Rate (HHV)[2]	8,476	Btu/bhp-hr	Fuel Consumption	9,490.18	scf/hr
Duty (Input)	12.71	MMBtu/hr	Fuel Consumption	83.13	MMscf/yr
Hours per Year	8,760	hr/yr	Exhaust Gas Flow	7,062	acfm

Pollutant	Emission Factors [1]		Emission Rates (lb/hr)	Emission Rates (tpy)	Source of Emission Factors
NO_x	0.50	g/bhp-hr	1.7	7.2	Manufacturer's Specifications
CO	2.00	g/bhp-hr	6.6	29.0	Manufacturer's Specifications
VOC	0.70	g/bhp-hr	2.3	10.1	Manufacturer's Specifications
Formaldehyde	2.00E-02	g/bhp-hr	6.61E-02	2.90E-01	Manufacturer's Specifications
SO_2 [3]	5.88E-04	lb/MMBtu	7.48E-03	0.03	AP-42 Tbl 3.2-3; 4SRB (7/00)
PM_{10} [5]	0.019	lb/MMBtu	2.47E-01	1.08E+00	AP-42 Tbl 3.2-3; 4SRB (7/00)
$PM_{2.5}$ [5]	0.019	lb/MMBtu	2.47E-01	1.08E+00	AP-42 Tbl 3.2-3; 4SRB (7/00)
TSP [5]	0.019	lb/MMBtu	0.25	1.08	AP-42 Tbl 3.2-3; 4SRB (7/00)
Total HAP	-	-	0.22	0.95	AP-42 Tbl 3.2-3; 4SRB (7/00) and Manufacturer's Specifications

GHG	Uncontrolled Emission Factors		GHG Emissions lb/hr	GHG Emissions tpy	Source of Emission Factors
CO_2	507	g/bhp-hr	1,676.62	7,343.61	Manufacturer's Specifications
CH_4	0.15	g/bhp-hr	0.50	2.17	Manufacturer's Specifications
CO_2e	511.00	g/bhp-hr	1,689.85	7,401.55	Manufacturer's Specifications

Sample Calculations:

(bhp) (Btu/bhp-hr) (MM/10^6) = MMBtu/hr; (MMBtu/hr) / (Btu/scf) (10^6/MM) = scf/hr.

(g/bhp-hr) (bhp) (lb/453.59 g) = lb/hr; (lb/MMBtu) (MMBtu/hr) = lb/hr.

(lb/hr) (hrs/yr) (ton/2000 lb) = tons/yr.

1. Manufacturer specification data received from Tammy Wallace of Targa on December 10, 2018
2. Fuel heating values from manufacturer spec sheet
3. SO_2 emissions based on AP-42 Section 3.2, Table 3.2-3 footnote e (7/00), which is based on 100% conversion of sulfur to SO_2 at 2,000 grains/MMscf. Sulfur content of fuel at the Buffalo Compressor Station assumed to be 2,000 grains/MMscf.
5. Emission factor for TSP, PM10 and PM2.5 from AP-42 Section 3.2, Table 3.2-3 (7/00); includes PM10/PM2.5 filterable (9.50e-03 lb/MMBtu) and PM condensable (9.91e-3 lb/MMBtu) = 0.01941 lb/MMBtu.

EPN 2 HAP Emission Calculations			
Pollutant	Rich Burn Emission Factors [1] (lb/MMBtu)	Uncontrolled Emission Rate (lb/hr)	Uncontrolled Emission Rate (tpy)
1,1,2,2-Tetrachloroethane	2.53E-05	3.22E-04	1.41E-03
1,1,2-Trichloroethane	1.53E-05	1.95E-04	8.52E-04
1,3-Butadiene	6.63E-04	8.43E-03	3.69E-02
1,3-Dichloropropene	1.27E-05	1.61E-04	7.07E-04
Acetaldehyde	2.79E-03	3.55E-02	1.55E-01
Acrolein	2.63E-03	3.34E-02	1.46E-01
Benzene	1.58E-03	2.01E-02	8.80E-02
Carbon Tetrachloride	1.77E-05	2.25E-04	9.86E-04
Chlorobenzene	1.29E-05	1.64E-04	7.18E-04
Chloroform	1.37E-05	1.74E-04	7.63E-04
Ethylbenzene	2.48E-05	3.15E-04	1.38E-03
Ethylene Dibromide	2.13E-05	2.71E-04	1.19E-03
Formaldehyde [2]	-	6.61E-02	2.90E-01
Methanol	3.06E-03	3.89E-02	1.70E-01
Methylene Chloride	4.12E-05	5.24E-04	2.29E-03
Naphthalene	9.71E-05	1.23E-03	5.41E-03
PAH	1.41E-04	1.79E-03	7.85E-03
Styrene	1.19E-05	1.51E-04	6.63E-04
Toluene	5.58E-04	7.09E-03	3.11E-02
Vinyl Chloride	7.18E-06	9.13E-05	4.00E-04
Xylene	1.95E-04	2.48E-03	1.09E-02
Total HAP Emissions		**0.22**	**0.95**

1. HAP emission factors from AP-42 Section 3.2, Table 3.2-3 (7/00).
2. Formaldehyde emission factor from manufacturer. See calculations in criteria pollutants table.

Targa Badlands LLC - Buffalo Compressor Station
Pig Receiver Venting Emissions Calculations (EU 5)

Buffalo Compressor Station Venting Data (EPN 5)		
Pigging		
Emission Source:	Gas Venting Emissions	
Source Type:	Pig Trap	
Gas Pressure:	25	psig
Gas Temperature:	40	^{o}F
Vessel Volume:	17.21	cubic feet
Blowdown Volume:	48.67	scf/event
Gas Molecular Weight[1]	39.1	lb/lb-mole
Total number of Vessels	2	
Number of Blowdowns:	185	events/vessel/yr

Pollutant	Gas Composition[1] (wt %)	Emission Factors[2] (lb/event)	Emission Rates from One Vessel[3,4]		Emission Rates from All Vessels[3,4]	
			(lb/hr)	(tpy)	(lb/hr)	(tpy)
VOC	37.33%	1.87	0.04	0.17	0.08	0.35
n-Hexane	0.64%	0.03	6.81E-04	2.98E-03	1.36E-03	5.96E-03
Benzene	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylbenzene	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2,2,4-TMP	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methane	36.34%	1.82E+00	3.85E-02	1.69E-01	7.70E-02	3.37E-01

1. Gas pressure, temperature, and molecular weight are based on ProMax run, 09/2020.
2. Emission Factors (lb/event) = (Blowdown Volume, SCF/event) * (MW, lb/lb-mol) / (379 scf/lb-mole) * (wt %).
3. Hourly Emission Rate (lb/hr) = Emission Factor (lb/event) * Number of Blowdowns (events/vessel/yr) / (hr/yr).
4. Annual Emission Rate (tpy) = (Hourly Emission Rate, lb/event) * (Blowdowns, events/vessel/yr) / (2,000 lb/ton).

Targa Badlands LLC - Buffalo Compressor Station
Produced Water Tanks Emission Calculations (EU 6)

Buffalo Compressor Station Tank Data (EU 6/EPN 12)		
Emission Source	Produced Water Tank #1 (EU 6)	
Source Type	Tank	
Source control device	Vapor Combustor	
Tank Volume	400	bbl
Annual Throughput[1]	20,692	bbl/yr
Hourly Working Losses[1,2]	0.01	lb/hr
Annual Working Losses[1,2]	0.02	tpy
Hourly Breathing Losses[1,2]	<0.01	lb/hr
Annual Breathing Losses[1,2]	<0.01	tpy
Average Hourly Flash Losses[1,2]	0.12	lb/hr
Average Annual Flash Losses[1,2]	0.51	tpy
Total Hourly Uncontrolled Emissions	0.13	lb/hr
Total Annual Uncontrolled Emissions	0.53	tpy

1. Produced water tank losses based on ProMax run titled "Buffalo Slug Catcher Liquids 2018-12-02" and "Buffalo Slug Catcher Liquids 2018-12-22 Hourly" with a 56.69 bbl/day throughput for Produced water.

2. Working, breathing, and flash losses and weight percentages obtained from combined ProMax run titled "Buffalo Slug Catcher Liquids 2018-12-02", and "Buffalo Slug Catcher Liquids 2018-12-22 Hourly."

Pollutant	Weight Percent						Produced Water Tank #1 Emissions		Control Efficiency [3] (%)	Controlled Produced Water Tank #1 Emissions	
	Annual Working[1]	Hourly Working[1]	Annual Breathing[1]	Hourly Breathing[1]	Annual Flash[1]	Hourly Flash[1]	(lb/hr)	(tpy)		(lb/hr)	(tpy)
VOC[2]	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	0.13	0.53	0%	0.13	0.53
n-Hexane	2.96%	3.31%	2.96%	3.31%	3.32%	3.32%	0.00	1.76E-02	0%	4.37E-03	1.76E-02
Benzene	0.15%	0.16%	0.15%	0.16%	0.26%	0.26%	3.21E-04	1.34E-03	0%	3.21E-04	1.34E-03
Ethylbenzene	0.01%	0.01%	0.01%	0.01%	0.02%	0.02%	2.14E-05	8.85E-05	0%	2.14E-05	8.85E-05
Toluene	0.12%	0.13%	0.12%	0.13%	0.21%	0.21%	2.63E-04	1.09E-03	0%	2.63E-04	1.09E-03
Xylenes	0.01%	0.02%	0.01%	0.02%	0.03%	0.03%	3.40E-05	1.41E-04	0%	3.40E-05	1.41E-04
2,2,4-TMP	0.14%	0.16%	0.14%	0.16%	0.17%	0.17%	2.21E-04	8.90E-04	0%	2.21E-04	8.90E-04
Total HAP	3.39%	3.78%	3.39%	3.78%	3.83%	3.83%	0.01	2.03E-02	0%	5.03E-03	2.03E-02

1. Working, breathing, and flash losses and weight percentages based off of annual condensate ProMax runs referenced above.
2. VOC weight percentage assumed to be 100% for working and breathing losses.
3. As the vapor combustor is not required under NSPS OOOOa, the control efficiency has been assumed to be zero.

Targa Badlands LLC - Buffalo Compressor Station
Condensate Tanks Emission Calculations (EU7-8)

Buffalo Compressor Station Tank Data (EU 7/EPN 12, EU 8/EPN 12)				
Emission Source	Condensate Tank #1 (EU 7)		Condensate Tank #2 (EU 8)	
Source Type	Tank		Tank	
Tank Volume	400	bbl	400	bbl
Annual Throughput	31,638	bbl/yr	31,638	bbl/yr
Hourly Working Losses[1]	2.66	lb/hr	2.66	lb/hr
Annual Working Losses[1]	7.49	tpy	7.49	tpy
Hourly Breathing Losses[1]	0.19	lb/hr	0.19	lb/hr
Annual Breathing Losses[1]	1.22	tpy	1.22	tpy
Average Hourly Flash Losses[1]	3.04	lb/hr	3.04	lb/hr
Average Annual Flash Losses[1]	13.30	tpy	13.30	tpy
Total Hourly Uncontrolled Emissions	5.88	lb/hr	5.88	lb/hr
Total Annual Uncontrolled Emissions	22.01	tpy	22.01	tpy

1. Working, breathing, and flash losses and weight percentages obtained from combined ProMax run titled "Buffalo Slug Catcher Liquids 09-24-2020 Annual_updated" and "Buffalo Slug Catcher Liquids 09-24-2020 Hourly_updated". Hourly flash emissions were calculated based on annual flash emissions from ProMax run and conversion of tpy to lb/hr.

Pollutant	Weight Percent						Control Efficiency (%)	Condensate Tank #1 Emissions[3]		Condensate Tank #2 Emissions[3]	
	Annual Working[1]	Hourly Working[1]	Annual Breathing[1]	Hourly Breathing[1]	Annual Flash[1]	Hourly Flash[1]		(lb/hr)	(tpy)	(lb/hr)	(tpy)
VOC[2]	100.00%	100.00%	100.00%	100.00%	100.00%	100%	95%	0.29	1.10	0.29	1.10
n-Hexane	2.96%	3.33%	2.96%	3.33%	3.26%	3.26%	95%	0.01	0.03	0.01	0.03
Benzene	0.13%	0.15%	0.13%	0.15%	0.25%	0.25%	95%	0.00	<0.01	0.00	<0.01
Ethylbenzene	0.01%	0.01%	0.01%	0.01%	0.02%	0.02%	95%	<0.01	<0.01	<0.01	<0.01
Toluene	0.11%	0.01%	0.11%	0.01%	0.21%	0.21%	95%	0.00	<0.01	0.00	<0.01
Xylenes	0.01%	0.02%	0.01%	0.02%	0.03%	0.03%	95%	<0.01	<0.01	<0.01	<0.01
2,2,4-TMP	0.14%	0.16%	0.14%	0.16%	0.17%	0.17%	95%	0.00	<0.01	0.00	<0.01
Total HAP	3.38%	3.80%	3.38%	3.80%	3.76%	3.76%	95%	0.01	0.04	0.01	0.04

1. Working, breathing, and flash losses and weight percentages based off of annual condensate ProMax runs referenced above. Hourly flash weight percent values assumed to be equal to that of annual flash values.
2. VOC weight percentage assumed to be 100% for working and breathing losses.
3. Emissions from the condensate tanks are emitted through the vapor combustor, EPN 12.

Targa Badlands LLC - Buffalo Compressor Station
Separator Tank Emission Calculations (EU 10)

Buffalo Compressor Station Tank Data (EU 10/ EPN 12)		
Emission Source	Separator Tank #1 (EU 10)	
Source Type	Tank	
Source control device	Vapor Combustor	
Tank Volume	400	bbl
Annual Throughput[1]	83,943	bbl/yr
Hourly Working Losses[1]	20.74	lb/hr
Annual Working Losses[1]	6.11	tpy
Hourly Breathing Losses[1]	0.14	lb/hr
Annual Breathing Losses[1]	0.24	tpy
Average Hourly Flash Losses[1]	393.52	lb/hr
Average Annual Flash Losses[1]	60.67	tpy
Total Hourly Uncontrolled Emissions	414.40	lb/hr
Total Annual Uncontrolled Emissions	67.03	tpy

1. Working, breathing, and flash losses and weight percentages obtained from combined ProMax run titled "Buffalo Slug Catcher Liquids 09-24-2020 Annual_updated" and "Buffalo Slug Catcher Liquids 09-24-2020 Hourly_updated".

Pollutant	Weight Percent						Separator Tank #1 Emissions		Control Efficiency [3] (%)	Controlled Separator Tank #1 Emissions [3]	
	Annual Working[1]	Hourly Working[1]	Annual Breathing[1]	Hourly Breathing[1]	Annual Flash[1]	Hourly Flash[1]	(lb/hr)	(tpy)		(lb/hr)	(tpy)
VOC[2]	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	414.40	67.03	95.00	20.72	3.35
n-Hexane	3.02%	3.02%	3.02%	3.02%	3.31%	4.06%	13.67	2.20	95.00	0.68	0.11
Benzene	0.14%	0.14%	0.14%	1.37E-03	2.56E-03	3.10E-03	1.04E+00	1.64E-01	95.00	5.18E-02	8.21E-03
Ethylbenzene	0.01%	9.63E-05	0.01%	9.63E-05	1.70E-04	2.31E-04	6.87E-02	1.09E-02	95.00	3.44E-03	5.45E-04
Toluene	0.12%	1.16E-03	0.12%	1.16E-03	2.10E-03	2.70E-03	8.49E-01	1.35E-01	95.00	4.25E-02	6.73E-03
Xylenes	0.01%	1.49E-04	0.01%	1.49E-04	2.71E-04	3.69E-04	1.10E-01	1.74E-02	95.00	5.49E-03	8.70E-04
2,2,4-TMP	0.15%	1.47E-03	0.15%	1.47E-03	1.68E-03	2.14E-03	6.92E-01	1.11E-01	95.00	3.46E-02	5.57E-03
Total HAP	3.44%	3.45%	3.44%	3.45%	3.82%	4.91%	15.77	2.54E+00	95.00	0.79	0.13

1. Working, breathing, and flash losses and weight percentages based off of annual condensate ProMax runs referenced above.
2. VOC weight percentage assumed to be 100% for working and breathing losses.
3. Emissions from the separator tank are emited through the vapor combustor, EPN 12.

Targa Badlands LLC - Buffalo Compressor Station
Tank Emission Calculation (EU 11)

Storage Tank Working and Breathing Emissions (EU/EPN 11)						
EU			VOC		Total HAPS	
	Hourly Throughput (gal/hr)	Annual Throughput (gal/yr)	Hourly Emissions [1] (lb/hr)	Annual Emissions [1] (tpy)	Hourly Emissions [1] (lb/hr)	Annual Emissions [1] (tpy)
EU 11	2,000	24,000	0.535	0.0027	0.53	0.0027

1. Methanol tank emissions calculated using Promax, dated 9/24/2020.

Targa Badlands LLC - Buffalo Compressor Station
Vapor Combuster Emission Calculations (EU 12)

Total Emissions from VCU (EU/EPN 12)[1]		
Pollutant	**(lb/hr)**	**(tpy)**
NOx	1.294	0.12
CO	7.040	0.67
SO_2	2.68E-05	1.17E-04
VOC	21.50	6.35
HAPs	0.86	0.28
Formaldehyde	5.00E-04	1.05E-04

1. Total emissions from the vapor combustor include emissions from the combustion of pilot gas, combustion of gas vented from the condensate tanks and the separator tank overhead along with the uncontrolled emissions of the produced water tank.

Calculations of Tank Vent Gas Emissions - Condensate Tanks (EU 7-8)			
Parameters [1]	**Hourly Value ***	**Annual Value**	**Unit**
Vapor MW	51.84	41.30	lb/lb-mol
Net heating value	2,640.47	1,945.50	btu/scf
Gross heating value	2,864.55	2,115.14	btu/scf
Vapor volumetric flow [2]	3,581.80	127.44	scfh
VOC Destruction Efficiency	95.00		%

Calculations of Tank Vent Gas Emissions - Produced Water Tank (EU 6)			
Parameters [1]	**Hourly Value ***	**Annual Value**	**Unit**
Vapor MW	51.8441	41.3024	lb/lb-mol
Net Heating Value	2,640.47	1,945.50	btu/scf
Gross Heating Value	2,864.55	2,115.14	btu/scf
Vapor Volumetric Flow [2]	0.96	1.12	scfh
VOC Destruction Efficiency	0.00		%

Calculations of Tank Flash Emissions - Separator Tank (EU 10)			
Parameters [1]	**Hourly Value ***	**Annual Value**	**Unit**
Vapor MW	51.8441	41.3024	lb/lb-mol
Net Heating Value	2,640.47	1,945.50	btu/scf
Gross Heating Value	2,864.55	2,115.14	btu/scf
Vapor Volumetric Flow [2]	3,033.41	140.62	scfh
VOC Destruction Efficiency	95.00		%

NO_x, CO and VOC Emissions from the Vapor Combustor			
Pollutant	**Emission Factor (lb/MMbtu)**	**Hourly Emissions (lb/hr)**	**Annual Emissions (tpy)**
NOx [3, 4]	0.068	1.29	0.10
CO [3, 4]	0.37	7.01	0.55
VOC [5]	--	21.44	6.09
	(lb/MMscf)	**(lb/hr)**	**(tpy)**
Formaldehyde [6, 7]	0.075	4.96E-04	8.84E-05

HAP Emissions from VCU[8]	Hourly Emissions (lb/hr)	Annual Emissions (tpy)
n-Hexane	7.17E-01	2.31E-01
Benzene	5.39E-02	1.63E-02
Ethylbenzene	3.58E-03	1.09E-03
Toluene	4.37E-02	1.34E-02
Xylenes	5.72E-03	1.73E-03
2,2,4-TMP	3.63E-02	1.16E-02
Total HAPs [8]	**0.86**	**0.28**

* Hourly value is scaled from annual value assuming 8,760 hours of operation per year

1. Vapor MW, heating values, and vapor volumetric flow are obtained from the ProMax outputs for condensate tanks, produced water tank, and separator tank.

2. The volumetric flow for flash losses is calculated by summing the vapor volumetric flow for the vapor stream from the ProMax files and the working and breathing losses, converted to cubic feet per hour using the ideal gas law to assume 379.5 SCF/(lb-mol). Same approach was used for the produced water tank and separator tank.
3. Emission Factors from AP-42 Section 13.5, Tables 13.5-1 and 13.5-2 (2/18).
4. Emissions are calculated as (Emission Factor)*(Gross Heating Value)*(Vapor Volumetric Flow)/(1,000,000 Btu/MMBtu). Annual emission are converted to tons per year.
5. VOC emissions are calculated based on ProMax outputs and are calculated as [(Working and Breathing Losses)+(Flash Losses)]*(1-95% control efficiency) from all of the condensate tanks and the separator tank. Note that even though the VOC emissions are also controlled from the produced water tank, uncontrolled working, breathing and flash losses from the produced water tank are included in the VOC emissions represented above, as there is no federally enforceable requirement to control emissions from the produced water tank.
6. Emission Factor from AP-42 Table 1.3-2, Chapter 1.4 (Natural Gas Combustion, 7/98).
7. Formaldehyde emissions are calculated as (Emission Factor)*(Vapor Volumetric Flow)*(1 MMscf/1,000,000 scf).
8. HAP hourly and annual emissions are based off of condensate tank, separator tank, and produced water tank ProMax results. VOC destruction efficiency only included for condensate tanks and separator tank as it has >6 tpy. Because there is no federally enforceable requirement to control emissions from the produced water tank, this control efficiency was not claimed.

Calculations of Pilot Gas Combustion Emissions		
VCU Information[1]		
VOC DRE [1]	95	%
Pilot Gas Flow [1]	50	SCFH
Heat Content [2]	1,482	Btu/scf

Pollutant	Emission Factor [3]		Emissions (lb/hr)	Emissions (tpy)
NO_X [4]	0.068	lb/MMBtu	5.04E-03	0.02
CO [4]	0.37	lb/MMBtu	0.03	0.12
Formaldehyde [5]	0.075	lb/MMScf	3.75E-06	1.64E-05

1. Information from vendor specification sheet.
2. Heat Content from fuel gas analysis.
3. Emission Factors from AP-42 Section 13.5, Tables 13.5-1 and 13.5-2 (2/18) and AP-42 Section 1.4, Table 1.4-3 (7/98).
4. Emissions calculated as (Emission Factor)(Pilot Gas Heat Content)(Pilot gas Flow)(1 MMBtu/ 1,000,000 Btu). Annual emission include conversion factors to convert to tons per year.
5. Emissions calculated as (Emission Factor)(Pilot gas Flow)(1 MMscf/ 1,000,000 scf). Annual emission include conversion factors to convert to tons per year.

Calculations of Pilot Gas VOC Emissions

$$M=\frac{60(MW)PV}{RT}$$

Where *m=mass flow rate in lb/hr*
MW=molecular weight in lb/lbmole
P=standard pressure=14.7 psia
V=flow rate in scfm
R=gas constant=10.73 psia · ft$^{3.}$ lbmol$^{-1.}$ ºR^{-1}, and
T=standard temperature=528ºR

Constituent[1]	Federal HAP?	Molecular Weight (lb/lb-mole)	Mole %[1] (%)	Volume Flow Rate (scf/hr)	Mass Flow Rate (lb/hr)	Pilot Gas Emissions (lb/hr)	Pilot Gas Emissions (tpy)
Methane	No	16.043	58.08%	29.04	1.21	6.04E-02	2.65E-01
Ethane	No	30.070	20.74%	10.37	0.81	4.04E-02	1.77E-01
Propane	No	44.097	11.23%	5.61	0.64	3.21E-02	1.41E-01
i-Butane	No	58.123	1.24%	0.62	0.09	4.66E-03	2.04E-02
n-Butane	No	58.123	3.71%	1.85	0.28	1.40E-02	6.13E-02
i-Pentane	No	72.150	0.77%	0.38	0.07	3.59E-03	1.57E-02
n-Pentane	No	72.150	0.76%	0.38	0.07	3.56E-03	1.56E-02
n-Hexane	Yes	86.177	0.17%	0.09	0.02	9.61E-04	4.21E-03
n-Heptane	No	100.210	0.19%	0.10	0.03	1.26E-03	5.54E-03
Octane	No	114.230	0.02%	7.55E-03	2.24E-03	1.12E-04	4.90E-04
Nonane	No	128.200	0.01%	3.00E-03	9.98E-04	4.99E-05	2.19E-04
TEG	No	150.174	0.00%	1.00E-04	3.90E-05	1.95E-06	8.53E-06
H_2O	No	18.015	0.01%	3.15E-03	1.47E-04	7.36E-06	3.22E-05
CO_2	No	44.010	0.80%	0.40	0.05	2.29E-03	1.00E-02
N_2	No	28.013	2.29%	1.14	0.08	4.15E-03	1.82E-02
					Total Emissions	1.68E-01	7.34E-01
					Total VOC Emissions[2]	6.01E-02	2.63E-01
					Total HAP Emissions[2]	9.65E-04	4.23E-03

1. Constituents and Mol % from Fuel Gas Analysis performed at Clark's Creek in 2015.
2. Formaldehyde emissions are included in Total HAP and Total VOC emissions.

Calculations of Pilot Gas SO_2 Emissions

SO_2 is based on a material balance with 100% flare efficiency and a maximum 4 ppm fuel Sulfur content.

Gas Stream	Flare Efficiency Fraction	Fuel Burned (lbs/hr)	SO_2 [1] (lb/hr)	SO_2 [1] (TPY)
Fuel Gas	1.00	3.35	2.68E-05	1.17E-04

1. Emissions calculated are equal to (Flare Efficiency Fraction)*(Pilot Fuel Burned)*(Fuel Sulfur Content)*(Mole Wt. of SO2)/(Mole Wt. of Sulfur). Annual emission are converted to tons per year.

Calculations of GHG Emissions

	Hourly (MMBtu/hr)	Annual Average (MMBtu/hr)
Total Heat Content [1]	19.03	0.64

Pollutant	Emission Factor [2] lb/MMBtu	GWPs [3]	Emission Rate [4] lb/hr	tpy
CO_2	142.79	1	2,716.85	402.44
CH_4	6.61E-03	25	0.13	0.02
N_2O	1.32E-03	298	2.52E-02	0.004
Total CO_2e			2,727	404

1. Total heat content is calculated by multiplying the pilot fuel gas heat content by the pilot gas fuel flow and adding the tank vent gas heat content multiplied by the tank vent gas flow.
2. GHG emission factors from 40 CFR 98 Table C-1 for butane and 40 CFR 98 Table C-2 for Petroleum (All fuel types in Table C-1).
3. Global Warming Potentials (GWPs) from 40 CFR 98 Table A-1.

Targa Badlands LLC - Buffalo Compressor Station
Glycol Dehydrator Pollutant Emissions Calculations (EU 13)

Buffalo Compressor Station Dehydrator Data (EU 13)			
Emission Source		TEG Glycol Dehydrator	
Source Type		Dehydrator	
Gas Throughput[1]		24	MMscfd
Inlet Gas Pressure[1]		1,000	psig
Inlet Gas Temperature[1]		110	°F
Glycol Pump Rate[1]		7.50	gpm
Stripping Gas[1]	Dry Gas[1]	750.00	scfh
Glycol Pump Type[1]		Pneumatic	
Flash Tank Pressure[1]		65.0	psig
Flash Tank Temperature[1]		124.0	°F
Flash Tank Control Method		Recycle/Recompression	
Regenerator Control Method		Uncontrolled	
Operating Hours per Year		8,760	hr/yr

1. Dehydrator specifications based on GRI-GLYCalc model, run dated December 27, 2018.

Pollutant	Emission Factors[1]		Emission Rates[2] (lb/hr)	Emission Rates[2] (tpy)
VOC	33.42	lb/MMscf	33.42	146.36
n-Hexane	0.92	lb/MMscf	0.92	4.05
Benzene	0.00	lb/MMscf	0.00	0.00
Toluene	0.00	lb/MMscf	0.00	0.00
Ethlybenzene	0.00	lb/MMscf	0.00	0.00
Xylene	0.00	lb/MMscf	0.00	0.00
Methane	18.89	lb/MMscf	18.89	82.75
Isobutane	2.41	lb/MMscf	2.41	10.55
n-Butane	8.65	lb/MMscf	8.65	37.89
Isopentane	2.14	lb/MMscf	2.14	9.38
n-Pentane	2.53	lb/MMscf	2.53	11.09
Heptanes	1.91	lb/MMscf	1.91	8.36
C8 +	0.64	lb/MMscf	0.64	2.80
Total HAP	0.92	lb/MMscf	0.92	4.05

1. Emission Factor (lb/MMscf) = (Hourly Emission Rate, lb/hr) / (Gas Throughput, MMscfd) * (24 hrs/day).

2. Hourly Emission Rate (lb/hr) is based on uncontrolled regenerator emissions from the GRI-GLY Calc model, run December 19, 2018.

Targa Badlands LLC - Buffalo Compressor Station
Glycol Reboiler Criteria Pollutant Emissions Calculations (EU 14)

Buffalo Compressor Station Reboiler Data (EPN 14)		
Emission Source	Glycol Reboiler	
Source Type	Natural Gas Fired Heater	
Heat Input	0.450	MMBtu/hr
Flow rate	303.64	scf/hr
Flow rate	2.66	MMscf/yr
Estimated HHV	1,482.00	Btu/scf
Sulfur Content of Fuel	0.0020	gr/scf
Operating Hours per Year	8,760	hr/yr

Pollutant	Emission Factors[1]		Emission Rates	
			Hourly[2,3] (lb/hr)	Annual[4] (tpy)
NO_x	100	lb/MMscf	0.03	1.33E-01
CO	84	lb/MMscf	0.03	1.12E-01
VOC	5.50	lb/MMscf	1.67E-03	7.31E-03
SO_2	3.85E-04	lb/MMBtu	1.73E-04	7.59E-04
PM_{10}	7.60	lb/MMscf	2.31E-03	1.01E-02
$PM_{2.5}$	7.60	lb/MMscf	2.31E-03	1.01E-02
CO_2	120,000	lb/MMscf	36.44	159.6
Methane	2.30	lb/MMscf	6.98E-04	3.06E-03
N_2O	2.20	lb/MMscf	6.68E-04	2.93E-03
CO_2e [5]	-	-	36.65	160.54

1. Emission factors are from AP-42 Tables 1.4-1 & 2 (07/98) (small boilers). SO_2 emissions based on AP42 Table 1.4-2, which is based on 2,000 grains /MMscf and 100% conversion to SO_2.

2. Hourly Emission Rate (lb/hr) = (Emission Factor, lb/MMscf) * (Flow rate, scf/hr) * (MM / 1,000,000).

3. Hourly Emission Rate (lb/hr) = (Emission Factor, lb/MMBtu) * (Heat Input, MMBtu/hr).

4. Annual Emission Rate (tpy) = (Hourly Emission Rate, lb/hr) * (hr/yr) / (2,000 lb/ton).

5. Per 40 CFR 98 - Mandatory Greenhouse Gas Reporting, Subpart A, Table A-1. Total CO_2e emissions are calculated based on the following Global Warming Potentials.

CO_2	1
CH_4	25
N_2O	298

CO_2e Emissions = CO_2 Emissions x CO_2 GWP (1) + CH_4 Emissions x CH_4 GWP (25) + N_2O Emissions x N_2O GWP

Targa Badlands LLC - Buffalo Compressor Station
Glycol Reboiler Hazardous Air Pollutant Emissions Calculations (EU 14)

Buffalo Compressor Station Reboiler Data (EPN 14)		
Emission Source	Glycol Reboiler	
Source Type	Natural Gas Fired Heater	
Heat Input	0.450	MMBtu/hr
Flow rate	303.64	scf/hr
Flow rate	2.66	MMscf/yr
Estimated HHV	1,482.00	Btu/scf
Sulfur Content of Fuel	0.0020	gr/scf
Operating Hours per Year	8,760	hr/yr

Pollutant	Emission Factors[1] (lb/MMscf)	Emission Rates[2,3] (lb/hr)	Emission Rates[2,3] (tpy)
2-Methylnaphthalene	2.4E-05	7.3E-09	3.2E-08
3-Methylchloranthrene	1.8E-06	5.5E-10	2.4E-09
7,12-Dimethylbenz(a)anthracene	1.6E-05	4.9E-09	2.1E-08
Acenaphthene	1.8E-06	5.5E-10	2.4E-09
Acenaphthylene	1.8E-06	5.5E-10	2.4E-09
Anthracene	2.4E-06	7.3E-10	3.2E-09
Benz(a)anthracene	1.8E-06	5.5E-10	2.4E-09
Benzene	2.1E-03	6.4E-07	2.8E-06
Benzo(a)pyrene	1.2E-06	3.6E-10	1.6E-09
Benzo(b)fluoranthene	1.8E-06	5.5E-10	2.4E-09
Benzo(g,h,i)perylene	1.2E-06	3.6E-10	1.6E-09
Benzo(k)fluoranthene	1.8E-06	5.5E-10	2.4E-09
Chrysene	1.8E-06	5.5E-10	2.4E-09
Dibenzo(a,h)anthracene	1.2E-06	3.6E-10	1.6E-09
Dichlorobenzene	1.2E-03	3.6E-07	1.6E-06
Fluoranthene	3.0E-06	9.1E-10	4.0E-09
Fluorene	2.8E-06	8.5E-10	3.7E-09
Formaldehyde	7.5E-02	2.3E-05	1.0E-04
Hexane	1.8E+00	5.5E-04	2.4E-03
Indeno(1,2,3-cd)pyrene	1.8E-06	5.5E-10	2.4E-09
Naphthalene	6.1E-04	1.9E-07	8.1E-07
Phenanathrene	1.7E-05	5.2E-09	2.3E-08
Pyrene	5.0E-06	1.5E-09	6.6E-09
Toluene	3.4E-03	1.0E-06	4.5E-06
Heater Total HAPs (tpy)			**2.50E-03**

1. Emission factors from AP-42, Section 1.4, Table 1.4-3 (7/98).

2. Hourly Emission Rate (lb/hr) = [Heat Input Rate (MMBtu/hr) * Emission Factor (lb/MMscf)] / [Natural Gas Heating Value (BTU/scf)].

3. Annual Emission Rate (tpy) = (Average Hourly Emission Rate, lb/hr) * (8760 hr/yr) / (2,000 lb/ton).

Targa Badlands LLC - Buffalo Compressor Station
Fugitive Emissions Calculations (EU15)

Buffalo Compressor Station Fugitives Data (EU/EPN 15)																												
					Emissions																							
					VOC			n-Hexane			Benzene			Toluene			Ethylbenzene			Methanol			Xylene			2,2,4-TMP		
Service	Service Type	Equipment Type	Emission Factors[1] (kg/hr/source)	Count[2]	(wt %)	(lb/hr)[3]	(tpy)[4]	(wt %)	(lb/hr)[3]	(tpy)[4]	(wt %)	(lb/hr)[3]	(tpy)[4]	(wt %)	(lb/hr)[3]	(tpy)[4]	(wt %)	(lb/hr)[3]	(tpy)[4]	(wt %)	(lb/hr)[3]	(tpy)[4]	(wt %)	(lb/hr)[3]	(tpy)[4]	(wt %)	(lb/hr)[3]	(tpy)[4]
Gas	Field gas[5]	Valves	4.50E-03	480	37.33%	1.78	7.79	0.64%	0.03	0.13	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00
		Pump Seals	2.40E-03	0		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Others	8.80E-03	40		0.29	1.27		0.00	0.02		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Connectors	2.00E-04	2,453		0.40	1.77		0.01	0.03		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Flanges	3.90E-04	24		0.01	0.03		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Open-Ended	2.00E-03	0		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
Light Oil	Condensate[6]	Valves	2.50E-03	294	99.7%	1.61	7.07	11.7%	0.19	0.83	0.9%	0.01	0.06	2.8%	0.05	0.20	0.8%	0.01	0.05	0.0%	0.00	0.00	1.3%	0.02	0.10	1.9%	0.03	0.13
		Pump Seals	1.30E-02	8		0.23	1.00		0.03	0.12		0.00	0.01		0.01	0.03		0.00	0.01		0.00	0.00		0.00	0.01		0.00	0.02
		Others	7.50E-03	0		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Connectors	2.10E-04	1,764		0.81	3.56		0.10	0.42		0.01	0.03		0.02	0.10		0.01	0.03		0.00	0.00		0.01	0.05		0.02	0.07
		Flanges	1.10E-04	20		0.00	0.02		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Open-Ended	1.40E-03	0		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
	Methanol[7]	Valves	2.50E-03	28	100.00%	0.15	0.68	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	100.00%	0.15	0.68	0.00%	0.00	0.00	0.00%	0.00	0.00
		Pump Seals	1.30E-02	4		0.11	0.50		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.11	0.50		0.00	0.00		0.00	0.00
		Others	7.50E-03	0		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Connectors	2.10E-04	117		0.05	0.24		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.05	0.24		0.00	0.00		0.00	0.00
		Flanges	1.10E-04	0		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Open-Ended	1.40E-03	0		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
Oil/Water	Produced Water[6]	Valves	9.80E-05	47	1.00%	0.00	0.00	0.12%	0.00	0.00	0.01%	0.00	0.00	0.03%	0.00	0.00	0.01%	0.00	0.00	0.00%	0.00	0.00	0.01%	0.00	0.00	0.02%	0.00	0.00
		Pump Seals	2.40E-05	1		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Others	1.40E-02	0		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Connectors	1.10E-04	156		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Flanges	2.90E-06	15		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Open-Ended	2.50E-04	0		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
Heavy Oil	Triethylene Glycol[8]	Valves	8.40E-06	160	100.00%	0.00	0.01	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00
		Pump Seals	NA	5		-	-		-	-		-	-		-	-		-	-		-	-		-	-		-	-
		Others	3.20E-05	0		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Connectors	7.50E-06	803		0.01	0.06		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Flanges	3.90E-07	0		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
		Open-Ended	1.40E-04	0		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
Total				**6,419**	**-**	**5.48**	**24.01**	**-**	**0.36**	**1.56**	**-**	**0.02**	**0.10**	**-**	**0.07**	**0.33**	**-**	**0.02**	**0.09**	**-**	**0.32**	**1.42**	**-**	**0.04**	**0.16**	**-**	**0.05**	**0.22**

Total CO_2e = 264.29 tpy

1. Emission factors are from Table 2-4 of the "Protocol for Equipment Leak Emission Estimates". EPA-453/R-95-017.
2. Based on conservative component counts performed at a similar 4-unit compressor station similarly equipped to Buffalo Compressor Station.
3. Hourly Emission Rate (lb/hr) = (Emission Factor, kg/hour/source) * (count) * (1000 kg/g) / (453.59 g/lb) * (wt %).
4. Annual Emission Rate (tpy) = (Hourly Emission Rate, lb/hr) * (hr/yr) / (2,000 lb/ton).
5. Weight Percents of Hydrocarbons obtained from Tammy Wallace of Targa Resources via email to Trinity Consultants on 12/27/18, based on historical gas composition used by Targa
6. Condensate stream based on Promax file titled "Buffalo Slug Catcher Liquids 09-24-2020 Annual_updated". Produced water stream based on 1% of condensate stream.
7. Light oil methanol stream assumed to be 100% methanol/VOC.
8. Triethylene glycol stream assumed to be 100% VOC.

Per 40 CFR 98 - Mandatory Greenhouse Gas Reporting, Subpart A, Table A-1. Total CO_2e emissions are calculated based on the following Global Warming Potentials.

CO_2	1
CH_4	25
N_2O	298

Targa Badlands LLC - Buffalo Compressor Station
Atmospheric Loading Emissions (EU 16)

Equation[1]:

L_L = 12.46* SPM/T

Variables[1]:

L_L - Loading Loss (lbs/1000 gal loaded)
S - Saturation Factor (From Table 5.2-1 of AP-42, Section 5.2)
P - True Vapor Pressure of Loaded Liquid (psia)
M - Molecular Weight of Vapor (lb/lb mol)
T- Temperature of Bulk Liquid (°R = [°F + 460])

EU	EP	Material Loaded	Loading Method	S	P_{max} [2] (psia)	M (lb/lbmol)	T (°R)	L_L (lbs/1,000 gal)	Max Hourly Throughput [4] (gal/hr)	Uncontrolled VOC Emissions (lb/hr)
16	16	Produced Water	Submerged	0.60	14.00	19	530.70	3.73	99	3.70E-03
		Condensate	Submerged	0.60	14.00	86	530.70	16.94	303	5.14
EU 16 Total										**5.14**

EU	EP	Material Loaded	Loading Method	S	P_{max} [2] (psia)	M (lb/lbmol)	T (°R)	L_L (lbs/1,000 gal)	Total Annual Throughput [4] (gallons/yr)	Uncontrolled VOC Emissions (tpy)
16	16	Produced Water	Submerged	0.60	14.00	18	499.74	3.84	869,058	0.02
		Condensate	Submerged	0.60	14.00	85	499.74	17.74	2,657,609	23.58
EU 16 Total										**23.59**

1. Loading Loss Equation and Variables are from AP-42, Section 5.2 (6/08), Transportation and Marketing of Petroleum Liquids.
2. The vapor pressure is based off of the bubble point pressure from the hourly and annual Promax runs, run 09/2020.
3. Temperature based off liquid temperature from ProMax files run 09/2020.
4. The produced water maximum hourly throughput is based on the loading of one 400 barrel produced water tank with a daily throughput of 56.69 bbl/day. The condensate is based on a daily loading rate of 173.4 bbl/day for 2 condensate tanks

HAP Emission Calculations

EU	EP	Material Loaded	Components	Hourly Wt % [1]	Annual Wt % [1]	Uncontrolled Hourly Emissions [2] (lb/hr)	Uncontrolled Annual Emissions [2] (tpy)
16	16	Produced Water	Hexane	3.32%	3.32%	1.23E-04	5.53E-04
			Benzene	0.26%	0.26%	9.46E-06	4.26E-05
			Toluene	0.21%	0.21%	7.75E-06	3.49E-05
			Ethylbenzene	0.02%	0.02%	6.28E-07	2.83E-06
			Xylene	0.03%	0.03%	1.00E-06	4.52E-06
			2,2,4-Trimethylpentane	0.17%	0.17%	6.23E-06	2.80E-05
			Total			**1.48E-04**	**6.66E-04**
		Condensate	Hexane	3.26%	3.26%	0.17	0.77
			Benzene	0.25%	0.25%	0.01	0.06
			Toluene	0.21%	0.21%	0.01	0.05
			Ethylbenzene	0.02%	0.02%	8.57E-04	3.93E-03
			Xylene	0.03%	0.03%	1.37E-03	6.28E-03
			2,2,4-Trimethylpentane	0.17%	0.17%	8.48E-03	0.04
			Total			**0.20**	**0.92**
EU 16 Total						**0.20**	**0.93**

1. The produced water and condensate component wt % is based on ProMax simulations.
2. Hourly and annual emissions are calculated by multiplying the total uncaptured or controlled VOC emission rate by the component wt%.

Targa Badlands LLC - Buffalo Compressor Station
Various Tanks Emission Calculations (EU TK1-5)

Atmospheric Storage Tanks with Negligible Emissions [1]

EPN	Description	VOC	
		Hourly Emissions [1] (lb/hr)	Annual Emissions [1] (tpy)
TK1	500 gal Lube Oil Tank	<0.01	<0.01
TK2	500 gal Lube Oil Tank	<0.01	<0.01
TK3	500 gal Coolant Tank	<0.01	<0.01
TK4	500 gal Coolant Tank	<0.01	<0.01
TK5	500 gal Triethylene Glycol Tank	<0.01	<0.01
TK1-5	Miscellaneous Tanks Total	<0.01	<0.01

1. There is a lube oil, used oil and lube oil day tank and one coolant tank associated with each compressor engine. Emissions are determined negligible based on engineering judgment due to the low vapor pressure and low throughput of each tank.

Targa Badlands LLC - Buffalo Compressor Station
GlyCalc Gas Composition

Pollutant	Mol [1,2,3] %
Carbon Dioxide	0.80%
Nitrogen	2.286%
Methane	58.069%
Ethane	20.741%
Propane	11.232%
i-Butane	1.238%
n-Butane	3.712%
i-Pentane	0.768%
n-Pentane	0.763%
n-Hexane	0.172%
Heptane	0.195%
Octane	0.015%
Nonane	0.006%

1. Mole percentages of Hydrocarbons obtained from Tammy Wallace of Targa Resources via email to Trinity Consultants on 12/27/18, based on simulated feed to the TEG contactor.

2. It is assumed that volume percent of the components are equal to mole percent.

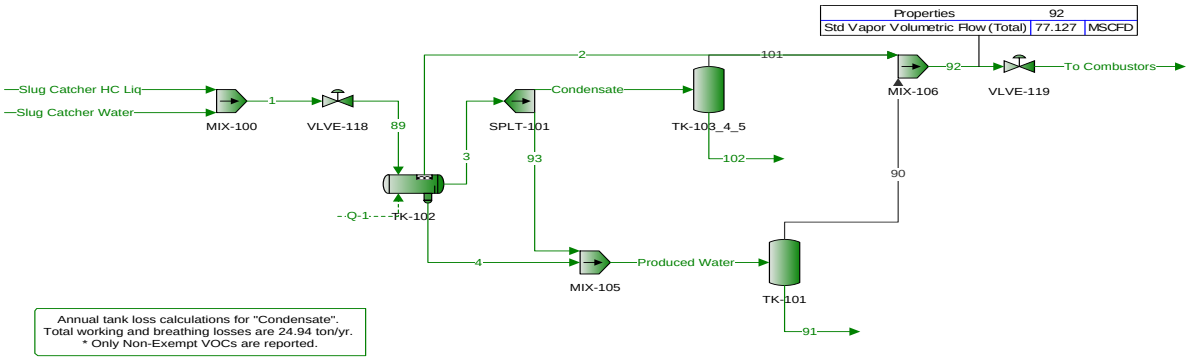
3. Mole % is normalized to exclude water weight because gas is set as saturated in GlyCalc

Targa Badlands LLC - Buffalo Compressor Station
Field Gas Composition

Pollutant	Mol [1] %	Molar Mass (g/mol)	Wt%	Weighted Wt% Omitting Nitrogen
Carbon Dioxide	0.7946	44.01	1.35%	1.38%
Nitrogen	2.2547	28.01	2.43%	-
Methane	57.3708	16.04	35.46%	36.34%
Ethane	20.6003	30.07	23.87%	24.46%
Propane	11.2437	44.10	19.11%	19.58%
i-Butane	1.2515	58.12	2.80%	2.87%
n-Butane	3.7744	58.12	8.45%	8.66%
i-Pentane	0.7946	72.15	2.21%	2.26%
n-Pentane	0.7946	72.15	2.21%	2.26%
n-Hexane	0.1887	86.18	0.63%	0.64%
Heptane	0.2285	100.21	0.88%	0.90%
Octane	0.0199	114.23	0.09%	0.09%
Nonane	0.0099	128.20	0.05%	0.05%
Water	0.6739	18.02	0.47%	0.48%
VOC			36.42%	37.33%

1. Mole percentages of Hydrocarbons obtained from Tammy Wallace of Targa Resources via email to Trinity Consultants on 12/27/18, based on historical gas composition used by Targa

Buffalo Compressor Station
- Maximum Tank Flash Emissions (Hourly)
- (2) 400-bbl Condensate Tanks
- (1) 400-bbl Produced Water Tank



Annual tank loss calculations for "Condensate".
Total working and breathing losses are 24.94 ton/yr.
* Only Non-Exempt VOCs are reported.

TK-103_4_5 Condensate1

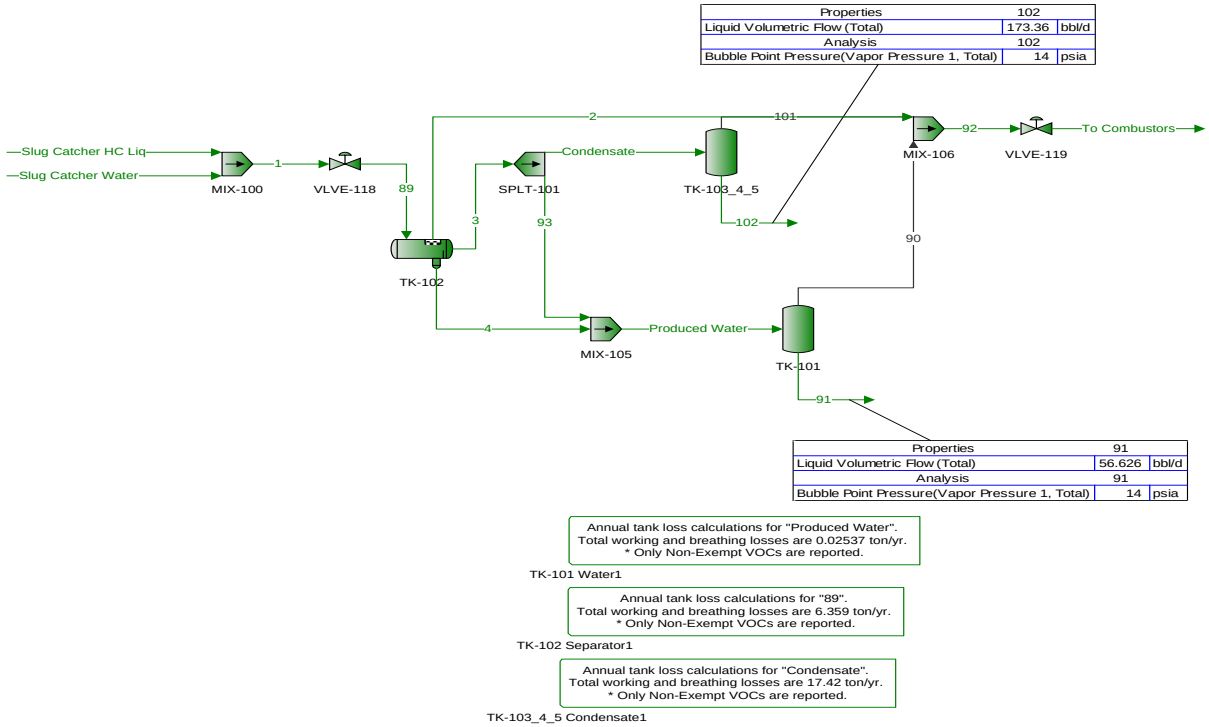
Annual tank loss calculations for "Produced Water".
Total working and breathing losses are 0.06953 ton/yr.
* Only Non-Exempt VOCs are reported.

TK-101 Produced Water

Annual tank loss calculations for "89".
Total working and breathing losses are 91.46 ton/yr.
* Only Non-Exempt VOCs are reported.

TK-102 Separator

Buffalo Compressor Station
- (2) 400-bbl Condensate Tanks
- (1) 400-bbl Produced Water Tank



Annual tank loss calculations for "Produced Water".
Total working and breathing losses are 0.02537 ton/yr.
* Only Non-Exempt VOCs are reported.

TK-101 Water1

Annual tank loss calculations for "89".
Total working and breathing losses are 6.359 ton/yr.
* Only Non-Exempt VOCs are reported.

TK-102 Separator1

Annual tank loss calculations for "Condensate".
Total working and breathing losses are 17.42 ton/yr.
* Only Non-Exempt VOCs are reported.

TK-103_4_5 Condensate1

Process Streams	Condensate	Produced Water	Slug Catcher HC Liq	Slug Catcher Water	To Combustors	1	2	3	4	89	90	91	92	93	101	102
Composition	Status:	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
Phase: Total	From Block:	SPLT-101	MIX-105	--	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	TK-101	MIX-106	SPLT-101	TK-103_4_5	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	MIX-106	--	VLVE-119	MIX-105	MIX-106	--
Mole Fraction		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Carbon Dioxide		0	0	0*	0*	0	0	0	0	0	0	0	0	0	0	0	0
Nitrogen		0.0212954	0.000312459	0.0844932*	0*	14.4462	0.0267553	14.4462	0.0212954	0.000215633	0.0267553	0.000312459	14.4462	0.0212954	0.0212954	0.0212954
Methane		0.0654427	0.000648851	0.115926*	0*	11.4990	0.0367087	11.4990	0.0654427	0.000349861	0.0367087	0.000648851	11.4990	0.0654427	0.0654427	0.0654427
Ethane		0.906067	0.00526635	0.992396*	0*	20.1848	0.314248	20.1848	0.906067	0.00110963	0.314248	0.00526635	20.1848	0.906067	0.906067	0.906067
Propane		4.51969	0.0217883	4.61435*	0*	25.6624	1.46116	25.6624	4.51969	0.00103279	1.46116	0.0217883	25.6624	4.51969	4.51969	4.51969
I-Butane		2.11713	0.00987305	2.12635*	0*	4.11270	0.673321	4.11270	2.11713	0.000149173	0.673321	0.00987305	4.11270	2.11713	2.11713	2.11713
n-Butane		10.2250	0.0474250	10.2376*	0*	12.6511	3.24180	12.6511	10.2250	0.000460837	3.24180	0.0474250	12.6511	10.2250	10.2250	10.2250
I-Pentane		6.87875	0.0316939	6.86357*	0*	3.17174	2.17339	3.17174	6.87875	9.82610E-05	2.17339	0.0316939	3.17174	6.87875	6.87875	6.87875
n-Pentane		13.8117	0.0634801	13.7728*	0*	4.50857	4.36125	4.50857	13.8117	3.90348E-05	4.36125	0.0634801	4.50857	13.8117	13.8117	13.8117
n-Hexane		11.5151	0.0528981	11.4702*	0*	0.922244	3.63212	0.922244	11.5151	6.09699E-06	3.63212	0.0528981	0.922244	11.5151	11.5151	11.5151
Heptane		19.9927	0.0918345	19.9097*	0*	0.429115	6.30453	0.429115	19.9927	2.46489E-06	6.30453	0.0918345	0.429115	19.9927	19.9927	19.9927
Octane		9.59289	0.0440630	9.55244*	0*	0.0554057	3.02483	0.0554057	9.59289	1.16417E-07	3.02483	0.0440630	0.0554057	9.59289	9.59289	9.59289
Nonane		1.87386	0.00860721	1.86593*	0*	0.00285872	0.590857	0.00285872	1.87386	1.08308E-08	0.590857	0.00860721	0.00285872	1.87386	1.87386	1.87386
Decane		0.520883	0.00239257	0.518675*	0*	0.000231903	0.164241	##########	0.520883	2.24571E-10	0.164241	0.00239257	##########	0.520883	0.520883	0.520883
Water		0.0164923	99.5364	0*	100*	0.861720	68.3344	0.861720	0.0164923	99.9956	68.3344	99.5364	0.861720	0.0164923	0.0164923	0.0164923
TEG		0	0	0*	0*	0	0	0	0	0	0	0	0	0	0	0
EG		0	0	0*	0*	0	0	0	0	0	0	0	0	0	0	0
2-Methylpentane		8.10626	0.0372484	8.07616*	0*	0.977904	2.55736	0.977904	8.10626	1.40895E-05	2.55736	0.0372484	0.977904	8.10626	8.10626	8.10626
3-Methylpentane		3.23167	0.0148573	3.21948*	0*	0.340658	1.01947	0.340658	3.23167	1.33360E-05	1.01947	0.0148573	0.340658	3.23167	3.23167	3.23167
2,2,4-Trimethylpentane		1.40374	0.00644861	1.39794*	0*	0.0336589	0.442664	0.0336589	1.40374	8.22072E-07	0.442664	0.00644861	0.0336589	1.40374	1.40374	1.40374
Benzene		0.962391	0.00500578	0.959923*	0*	0.0796400	0.303965	0.0796400	0.962391	0.000587943	0.303965	0.00500578	0.0796400	0.962391	0.962391	0.962391
Toluene		2.55506	0.0120132	2.54505*	0*	0.0512834	0.805903	0.0512834	2.55506	0.000278376	0.805903	0.0120132	0.0512834	2.55506	2.55506	2.55506
Ethylbenzene		0.614867	0.00284330	0.612315*	0*	0.00335707	0.193893	0.00335707	0.614867	1.91313E-05	0.193893	0.00284330	0.00335707	0.614867	0.614867	0.614867
m-Xylene		0.123138	0.000567458	0.122622*	0*	0.000608411	0.0388290	##########	0.123138	1.85926E-06	0.0388290	0.000567458	##########	0.123138	0.123138	0.123138
p-Xylene		0.764408	0.00352515	0.761213*	0*	0.00400471	0.241042	0.00400471	0.764408	1.40692E-05	0.241042	0.00352515	0.00400471	0.764408	0.764408	0.764408
o-Xylene		0.181501	0.000839912	0.180748*	0*	0.000762925	0.0572350	##########	0.181501	6.25252E-06	0.0572350	0.000839912	##########	0.181501	0.181501	0.181501
Molar Flow		lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
Carbon Dioxide		0	0	0*	0*	0	0	0	0	0	0	0	0	0	0	0
Nitrogen		0.00433314	0.000139814	0.0174401*	0*	0.0129672	0.0174401	0.0129672	0.00437691	9.60449E-05	0.0174401	0	0.000139814	0.0129672	4.37691E-05	0	0.00433314
Methane		0.0133161	0.000290337	0.0239281*	0*	0.0103217	0.0239281	0.0103217	0.0134506	0.000155831	0.0239281	0	0.000290337	0.0103217	##########	0	0.0133161
Ethane		0.184364	0.00235650	0.204839*	0*	0.0181182	0.204839	0.0181182	0.186227	0.000494237	0.204839	0	0.00235650	0.0181182	0.00186227	0	0.184364
Propane		0.919656	0.00974947	0.952441*	0*	0.0230349	0.952441	0.0230349	0.928946	0.000460014	0.952441	0	0.00974947	0.0230349	0.00928946	0	0.919656
I-Butane		0.430788	0.00441783	0.438897*	0*	0.00369162	0.438897	0.00369162	0.435139	6.64429E-05	0.438897	0	0.00441783	0.00369162	0.00435139	0	0.430788
n-Butane		2.08055	0.0212210	2.11313*	0*	0.0113559	2.11313	0.0113559	2.10157	0.000205261	2.11313	0	0.0212210	0.0113559	0.0210157	0	2.08055
I-Pentane		1.39967	0.0141819	1.41670*	0*	0.00284700	1.41670	0.00284700	1.41381	4.37663E-05	1.41670	0	0.0141819	0.00284700	0.0141381	0	1.39967
n-Pentane		2.81038	0.0284050	2.84283*	0*	0.00404696	2.84283	0.00404696	2.83877	1.73864E-05	2.84283	0	0.0284050	0.00404696	0.0283877	0	2.81038
n-Hexane		2.34306	0.0236700	2.36756*	0*	0.000827821	2.36756	##########	2.36672	2.71565E-06	2.36756	0	0.0236700	##########	0.0236672	0	2.34306
Heptane		4.06806	0.0410926	4.10954*	0*	0.000385180	4.10954	##########	4.10915	1.09788E-06	4.10954	0	0.0410926	##########	0.0410915	0	4.06806
Octane		1.95194	0.0197166	1.97170*	0*	4.97330E-05	1.97170	4.97330E-05	1.97165	5.18532E-08	1.97170	0	0.0197166	4.97330E-05	0.0197165	0	1.95194
Nonane		0.381290	0.00385141	0.385143*	0*	2.56603E-06	0.385143	2.56603E-06	0.385141	4.82413E-09	0.385143	0	0.00385141	2.56603E-06	0.00385141	0	0.381290
Decane		0.105988	0.00107059	0.107059*	0*	2.08159E-07	0.107059	2.08159E-07	0.107059	1.00026E-10	0.107059	0	0.00107059	2.08159E-07	0.00107059	0	0.105988
Water		0.00335581	44.5389	0*	44.5430*	0.000773493	44.5430	##########	0.00338971	44.5389	44.5430	0	44.5389	##########	3.38971E-05	0	0.00335581
TEG		0	0	0*	0*	0	0	0	0	0	0	0	0	0	0	0	0
EG		0	0	0*	0*	0	0	0	0	0	0	0	0	0	0	0	0
2-Methylpentane		1.64944	0.0166673	1.66699*	0*	0.000877782	1.66699	##########	1.66610	6.27558E-06	1.66699	0	0.0166673	##########	0.0166610	0	1.64944
3-Methylpentane		0.657573	0.00664810	0.664527*	0*	0.000305780	0.664527	##########	0.664216	5.93996E-06	0.664527	0	0.00664810	##########	0.00664216	0	0.657573
2,2,4-Trimethylpentane		0.285630	0.00288552	0.288546*	0*	3.02127E-05	0.288546	3.02127E-05	0.288515	3.66158E-07	0.288546	0	0.00288552	3.02127E-05	0.00288515	0	0.285630
Benzene		0.195825	0.00223990	0.198136*	0*	7.14861E-05	0.198136	7.14861E-05	0.197803	0.000261875	0.198136	0	0.00223990	7.14861E-05	0.00197803	0	0.195825
Toluene		0.519897	0.00537548	0.525319*	0*	4.60328E-05	0.525319	4.60328E-05	0.525149	0.000123991	0.525319	0	0.00537548	4.60328E-05	0.00525149	0	0.519897
Ethylbenzene		0.125112	0.00127228	0.126387*	0*	3.01336E-06	0.126387	3.01336E-06	0.126375	8.52122E-06	0.126387	0	0.00127228	3.01336E-06	0.00126375	0	0.125112
m-Xylene		0.0250558	0.000253917	0.0253103*	0*	5.46119E-07	0.0253103	5.46119E-07	0.0253089	8.28131E-07	0.0253103	0	0.000253917	5.46119E-07	##########	0	0.0250558
p-Xylene		0.155540	0.00157738	0.157121*	0*	3.59469E-06	0.157121	3.59469E-06	0.157111	6.26653E-06	0.157121	0	0.00157738	3.59469E-06	0.00157111	0	0.155540
o-Xylene		0.0369315	0.000375830	0.0373080*	0*	6.84813E-07	0.0373080	6.84813E-07	0.0373045	2.78492E-06	0.0373080	0	0.000375830	6.84813E-07	##########	0	0.0369315
Mass Fraction		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Carbon Dioxide		0	0	0*	0*	0	0	0	0	0	0	0	0	0	0	0	0
Nitrogen		0.00704214	0.000477708	0.028*	0*	9.79817	0.0191794	9.79817	0.00704214	0.000335280	0.0191794	0.000477708	9.79817	0.00704214	0.00704214	0.00704214
Methane		0.0123932	0.000568093	0.022*	0*	4.46639	0.0150695	4.46639	0.0123932	0.000311525	0.0150695	0.000568093	4.46639	0.0123932	0.0123932	0.0123932
Ethane		0.321612	0.00864238	0.353*	0*	14.6949	0.241797	14.6949	0.321612	0.00185192	0.241797	0.00864238	14.6949	0.321612	0.321612	0.321612
Propane		2.35265	0.0524351	2.407*	0*	27.3979	1.64874	27.3979	2.35265	0.00252775	1.64874	0.0524351	27.3979	2.35265	2.35265	2.35265
I-Butane		1.45259	0.0313182	1.462*	0*	5.78753	1.00144	5.78753	1.45259	0.000481236	1.00144	0.0313182	5.78753	1.45259	1.45259	1.45259
n-Butane		7.01548	0.150436	7.039*	0*	17.8031	4.82156	17.8031	7.01548	0.00148667	4.82156	0.150436	17.8031	7.01548	7.01548	7.01548
I-Pentane		5.85856	0.124798	5.858*	0*	5.54052	4.01260	5.54052	5.85856	0.000393493	4.01260	0.124798	5.54052	5.85856	5.85856	5.85856
n-Pentane		11.7633	0.249960	11.755*	0*	7.87575	8.05192	7.87575	11.7633	0.000156317	8.05192	0.249960	7.87575	11.7633	11.7633	11.7633
n-Hexane		11.7139	0.248786	11.693*	0*	1.92422	8.00945	1.92422	11.7139	2.91625E-05	8.00945	0.248786	1.92422	11.7139	11.7139	11.7139
Heptane		23.6483	0.502211	23.6*	0*	1.04106	16.1655	1.04106	23.6483	1.37088E-05	16.1655	0.502211	1.04106	23.6483	23.6483	23.6483
Octane		12.9353	0.274696	12.908*	0*	0.153233	8.84170	0.153233	12.9353	7.38104E-07	8.84170	0.274696	0.153233	12.9353	12.9353	12.9353
Nonane		2.83704	0.0602477	2.831*	0*	0.00887709	1.93917	0.00887709	2.83704	7.71012E-08	1.93917	0.0602477	0.00887709	2.83704	2.83704	2.83704
Decane		0.874868	0.0185788	0.873*	0*	0.000798876	0.597986	##########	0.874868	1.77349E-09	0.597986	0.0185788	##########	0.874868	0.874868	0.874868
Water		0.00350731	97.8648	0*	100*	0.375865	31.5022	0.375865	0.00350731	99.9881	31.5022	97.8648	0.375865	0.00350731	0.00350731	0.00350731
TEG		0	0	0*	0*	0	0	0	0	0	0	0	0	0	0	0	0
EG		0	0	0*	0*	0	0	0	0	0	0	0	0	0	0	0	0
2-Methylpentane		8.24625	0.175184	8.233*	0*	2.04035	5.63943	2.04035	8.24625	6.73914E-05	5.63943	0.175184	2.04035	8.24625	8.24625	8.24625
3-Methylpentane		3.28748	0.0698757	3.282*	0*	0.710766	2.24810	0.710766	3.28748	6.37873E-05	2.24810	0.0698757	0.710766	3.28748	3.28748	3.28748
2,2,4-Trimethylpentane		1.89284	0.0402017	1.889*	0*	0.0930891	1.29392	0.0930891	1.89284	5.21208E-06	1.29392	0.0402017	0.0930891	1.89284	1.89284	1.89284
Benzene		0.887404	0.0213399	0.887*	0*	0.150617	0.607576	0.150617	0.887404	0.00254905	0.607576	0.0213399	0.150617	0.887404	0.887404	0.887404
Toluene		2.77904	0.0604093	2.774*	0*	0.114404	1.90013	0.114404	2.77904	0.00142363	1.90013	0.0604093	0.114404	2.77904	2.77904	2.77904
Ethylbenzene		0.770576	0.0164744	0.769*	0*	0.00862913	0.526748	0.00862913	0.770576	0.000112733	0.526748	0.0164744	0.00862913	0.770576	0.770576	0.770576
m-Xylene		0.154321	0.00328790	0.154*	0*	0.00156388	0.105487	0.00156388	0.154321	1.09559E-05	0.105487	0.00328790	0.00156388	0.154321	0.154321	0.154321
p-Xylene		0.957987	0.0204250	0.956*	0*	0.0102938	0.654839	0.0102938	0.957987	2.29041E-05	0.654839	0.0204250	0.0102938	0.957987	0.957987	0.957987
o-Xylene		0.227465	0.00486652	0.227*	0*	0.00196105	0.155490	0.00196105	0.227465	3.68436E-05	0.155490	0.00486652	0.00196105	0.227465	0.227465	0.227465
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
Carbon Dioxide		0	0	0*	0*	0	0	0	0	0	0	0	0	0	0	0	0
Nitrogen		0.121386	0.00391666	0.488557*	0*	0.363254	0.488557	0.363254	0.122612	0.0026954	0.488557	0	0.00391666	0.363254	0.00122612	0	0.121386
Methane		0.213623	0.00465772	0.383866*	0*	0.165585	0.383866	0.165585	0.215781	0.00249991	0.383866	0	0.00465772	0.165585	0.00215781	0	0.213623
Ethane		5.54366	0.0708578	6.15931*	0*	0.544796	6.15931	0.544796	5.59965	0.0148612	6.15931	0	0.0708578	0.544796	0.0559965	0	5.54366
Propane		40.5528	0.429909	41.9985*	0*	1.01574	41.9985	1.01574	40.9624	0.0202846	41.9985	0	0.429909	1.01574	0.409624	0	40.5528
I-Butane		25.0383	0.256774	25.5097*	0*	0.214565	25.5097	0.214565	25.2912	0.00386181	25.5097	0	0.256774	0.214565	0.252912	0	25.0383
n-Butane		120.926	1.23341	122.820*	0*	0.660027	122.820	0.660027	122.148	0.0119302	122.820	0	1.23341	0.660027	1.22148	0	120.926
I-Pentane		100.985	1.02320	102.213*	0*	0.205408	102.213	0.205408	102.005	0.00315768	102.213	0	1.02320	0.205408	1.02005	0	100.985
n-Pentane		202.765	2.04939	205.107*	0*	0.291983	205.107	0.291983	204.814	0.00125441	205.107	0	2.04939	0.291983	2.04814	0	202.765
n-Hexane		201.914	2.03977	204.025*	0*	0.0713378	204.025	0.0713378	203.953	0.000234022	204.025	0	2.03977	0.0713378	2.03953	0	201.914
Heptane		407.628	4.11756	411.784*	0*	0.0385958	411.784	0.0385958	411.745	0.000110010	411.784	0	4.11756	0.0385958	4.11745	0	407.628
Octane		222.967	2.25220	225.225*	0*	0.00568093	225.225	0.00568093	225.219	5.92311E-06	225.225	0	2.25220	0.00568093	2.25219	0	222.967
Nonane		48.9023	0.493963	49.3966*	0*	0.000329107	49.3966	##########	49.3963	6.18719E-07	49.3966	0	0.493963	##########	0.493963	0	48.9023
Decane		15.0802	0.152325	15.2325*	0*	2.96173E-05	15.2325	2.96173E-05	15.2325	1.42318E-08	15.2325	0	0.152325	2.96173E-05	0.152325	0	15.0802
Water		0.0604558	802.381	0*	802.456*	0.0139347	802.456	0.0139347	0.0610665	802.380	802.456	0	802.381	0.0139347	##########	0	0.0604558
TEG		0	0	0*	0*	0	0	0	0	0	0	0	0	0	0	0	0
EG		0	0	0*	0*	0	0	0	0	0	0	0	0	0	0	0	0
2-Methylpentane		142.141	1.43631	143.653*	0*	0.0756432	143.653	0.0756432	143.577	0.000540800	143.653	0	1.43631	0.0756432	1.43577	0	142.141
3-Methylpentane		56.6666	0.572902	57.2659*	0*	0.0263507	57.2659	0.0263507	57.2390	0.000511878	57.2659	0	0.572902	0.0263507	0.572390	0	56.6666
2,2,4-Trimethylpentane		32.6271	0.329608	32.9602*	0*	0.00345116	32.9602	0.00345116	32.9567	4.18257E-05	32.9602	0	0.329608	0.00345116	0.329567	0	32.6271
Benzene		15.2962	0.174963	15.4768*	0*	0.00558391	15.4768	0.00558391	15.4508	0.0204555	15.4768	0	0.174963	0.00558391	0.154508	0	15.2962
Toluene		47.9025	0.495288	48.4021*	0*	0.00424139	48.4021	0.00424139	48.3864	0.0114243	48.4021	0	0.495288	0.00424139	0.483864	0	47.9025
Ethylbenzene		13.2825	0.135071	13.4179*	0*	0.000319914	13.4179	##########	13.4166	0.000904656	13.4179	0	0.135071	##########	0.134166	0	13.2825
m-Xylene		2.66005	0.0269571	2.68706*	0*	5.79787E-05	2.68706	5.79787E-05	2.68692	8.79186E-05	2.68706	0	0.0269571	5.79787E-05	0.0268692	0	2.66005
p-Xylene		16.5129	0.167462	16.6807*	0*	0.000381630	16.6807	##########	16.6797	0.000665286	16.6807	0	0.167462	##########	0.166797	0	16.5129
o-Xylene		3.92083	0.0399000	3.96080*	0*	7.27032E-05	3.96080	7.27032E-05	3.96043	0.000295662	3.96080	0	0.0399000	7.27032E-05	0.0396043	0	3.92083

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	Slug Catcher Water	To Combustors	1	2	3	4	89	90	91	92	93	101	102
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block:	SPLT-101	MIX-105	--	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	TK-101	MIX-106	SPLT-101	TK-103_4_5	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	MIX-106	--	VLVE-119	MIX-105	MIX-106	--
Property	**Units**																
Temperature	°F	39.7418	39.7418	40*	40*	39.6503	39.9703	39.7418	39.7418	39.7418	39.7418		39.7418	39.7418	39.7418		39.7418
Pressure	psia	14	14	38.5*	38.5*	13.5	38.5	14	14	14	14*	14	14	14	14	14	14
Mole Fraction Vapor	%	0	0	0	0	100	0	100	0	0	0.137705		0	100	0		0
Mole Fraction Light Liquid	%	100	0.459329	100	100	0	31.6671	0	100	100	31.5312		0.459329	0	100		100
Mole Fraction Heavy Liquid	%	0	99.5407	0	0	0	68.3329	0	0	0	68.3311		99.5407	0	0		0
Molecular Weight	lb/lbmol	84.7124	18.3230	84.5337	18.0153	41.3024	39.0787	41.3024	84.7124	18.0166	39.0787		18.3230	41.3024	84.7124		84.7124
Mass Density	lb/ft^3	42.5030	61.8916	42.4861	62.5120	0.105519	47.2575	0.109464	42.5030	62.5103	29.0554		61.8916	0.109464	42.5030		42.5030
Molar Flow	lbmol/h	20.3478	44.7464	20.6408	44.5430	0.0897615	65.1839	0.0897615	20.5533	44.5408	65.1839	0	44.7464	0.0897615	0.205533	0	20.3478
Mass Flow	lb/h	1723.71	819.888	1744.85	802.456	3.70737	2547.30	3.70737	1741.12	802.476	2547.30	0	819.888	3.70737	17.4112	0	1723.71
Vapor Volumetric Flow	ft^3/h	40.5550	13.2471	41.0686	12.8368	35.1347	53.9026	33.8685	40.9646	12.8375	87.6706	0	13.2471	33.8685	0.409646	0	40.5550
Liquid Volumetric Flow	gpm	5.05621	1.65159	5.12024	1.60044	4.38042	6.72032	4.22257	5.10728	1.60052	10.9304	0	1.65159	4.22257	0.0510728	0	5.05621
Std Vapor Volumetric Flow	MMSCFD	0.185320	0.407533	0.187989	0.405681	0.000817514	0.593670	##########	0.187192	0.405661	0.593670	0	0.407533	##########	0.00187192	0	0.185320
Std Liquid Volumetric Flow	sgpm	5.18308	1.65671	5.25*	1.60417*	0.0143817	6.85417	0.0143817	5.23543	1.60435	6.85417	0	1.65671	0.0143817	0.0523543	0	5.18308
Compressibility		0.00520635	0.000773339	0.0142855	0.00206915	0.986135	0.005937 58	0.985624	0.00520635	0.000752883	0.00351333		0.000773339	0.985624	0.00520635		0.00520635
Specific Gravity		0.681479	0.992350	0.681209	1.00230	1.42607	0.757711	1.42607	0.681479	1.00227			0.992350	1.42607	0.681479		0.681479
API Gravity		79.3756	11.4572	79.4205	9.99537		57.3472		79.3756	10.0029			11.4572		79.3756		79.3756
Enthalpy	Btu/h	-1.65930E+06	-5.51946E+06	-1.67949E+06	-5.50289E+06	-3613.77	##########	-3613.77	##########	##########	##########	0	##########	-3613.77	-16760.6	0	##########
Mass Enthalpy	Btu/lb	-962.633	-6731.98	-962.543	-6857.56	-974.753	-2819.60	-974.753	-962.633	-6857.15	-2819.60		-6731.98	-974.753	-962.633		-962.633
Mass Cp	Btu/(lb*°F)	0.503144	0.975487	0.503334	0.985648	0.376591	0.655283	0.376742	0.503144	0.985735	0.654990		0.975487	0.376742	0.503144		0.503144
Ideal Gas CpCv Ratio		1.06837	1.32169	1.06849	1.32729	1.14760	1.14901	1.14758	1.06837	1.32728	1.14905		1.32169	1.14758	1.06837		1.06837
Dynamic Viscosity	cP	0.367122	1.47620	0.365903	1.50674	0.008677 40	0.637710	0.008682 0	0.367122	1.51159			1.47620	0.008682 0	0.367122		0.367122
Kinematic Viscosity	cSt	0.539225	1.48899	0.537649	1.50471	5.13380	0.842425	4.95039	0.539225	1.50960			1.48899	4.95039	0.539225		0.539225
Thermal Conductivity	Btu/(h*ft*°F)	0.07158877	0.323774?	0.07152107	0.332053	0.0103806	0.1335477	0.0103856	0.07158877	0.331822?			0.323774?	0.0103856	0.07158877		0.07158877
Surface Tension	lbf/ft	0.001375847	0.005140957	0.00134360	0.00525958		0.002276457		0.001375847	0.005261097			0.005140957		##########		0.001375847
Net Ideal Gas Heating Value	Btu/ft^3	4305.34	19.8803	4295.76	0	1945.50	1360.28	1945.50	4305.34	0.105193	1360.28		19.8803	1945.50	4305.34		4305.34
Net Liquid Heating Value	Btu/lb	19131.6	-628.698	19129.5	-1059.76	17736.4	12769.4	17736.4	19131.6	-1057.43	12769.4		-628.698	17736.4	19131.6		19131.6
Gross Ideal Gas Heating Value	Btu/ft^3	4643.27	71.5170	4633.00	50.3100	2115.14	1501.45	2115.14	4643.27	50.4207	1501.45		71.5170	2115.14	4643.27		4643.27
Gross Liquid Heating Value	Btu/lb	20645.6	440.741	20643.6	0	19295.5	14140.4	19295.5	20645.6	2.35971	14140.4		440.741	19295.5	20645.6		20645.6

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	Slug Catcher Water	To Combustors	1	2	3	4	89	90	91	92	93	101	102
Composition	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Vapor	From Block:	SPLT-101	MIX-105	--	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	TK-101	MIX-106	SPLT-101	TK-103_4_5	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	MIX-106	--	VLVE-119	MIX-105	MIX-106	--
Mole Fraction						%	%			%				%			
Carbon Dioxide						0	0			0				0			
Nitrogen						14.4462	14.4462			14.4462				14.4462			
Methane						11.4990	11.4990			11.4990				11.4990			
Ethane						20.1848	20.1848			20.1848				20.1848			
Propane						25.6624	25.6624			25.6624				25.6624			
I-Butane						4.11270	4.11270			4.11270				4.11270			
n-Butane						12.6511	12.6511			12.6511				12.6511			
I-Pentane						3.17174	3.17174			3.17174				3.17174			
n-Pentane						4.50857	4.50857			4.50857				4.50857			
n-Hexane						0.922244	0.922244			0.922244				0.922244			
Heptane						0.429115	0.429115			0.429115				0.429115			
Octane						0.0554057	0.0554057			0.0554057				0.0554057			
Nonane						0.00285872	0.00285872			0.00285872				0.00285872			
Decane						0.000231903	##########			0.000231903				##########			
Water						0.861720	0.861720			0.861720				0.861720			
TEG						0	0			0				0			
EG						0	0			0				0			
2-Methylpentane						0.977904	0.977904			0.977904				0.977904			
3-Methylpentane						0.340658	0.340658			0.340658				0.340658			
2,2,4-Trimethylpentane						0.0336589	0.0336589			0.0336589				0.0336589			
Benzene						0.0796400	0.0796400			0.0796400				0.0796400			
Toluene						0.0512834	0.0512834			0.0512834				0.0512834			
Ethylbenzene						0.00335707	0.00335707			0.00335707				0.00335707			
m-Xylene						0.000608411	##########			0.000608411				##########			
p-Xylene						0.00400471	0.00400471			0.00400471				0.00400471			
o-Xylene						0.000762925	##########			0.000762925				##########			
Molar Flow						lbmol/h	lbmol/h			lbmol/h				lbmol/h			
Carbon Dioxide						0	0			0				0			
Nitrogen						0.0129672	0.0129672			0.0129672				0.0129672			
Methane						0.0103217	0.0103217			0.0103217				0.0103217			
Ethane						0.0181182	0.0181182			0.0181182				0.0181182			
Propane						0.0230349	0.0230349			0.0230349				0.0230349			
I-Butane						0.00369162	0.00369162			0.00369162				0.00369162			
n-Butane						0.0113559	0.0113559			0.0113559				0.0113559			
I-Pentane						0.00284700	0.00284700			0.00284700				0.00284700			
n-Pentane						0.00404696	0.00404696			0.00404696				0.00404696			
n-Hexane						0.000827821	##########			0.000827821				##########			
Heptane						0.000385180	##########			0.000385180				##########			
Octane						4.97330E-05	4.97330E-05			4.97330E-05				4.97330E-05			
Nonane						2.56603E-06	2.56603E-06			2.56603E-06				2.56603E-06			
Decane						2.08159E-07	2.08159E-07			2.08159E-07				2.08159E-07			
Water						0.000773493	##########			0.000773493				##########			
TEG						0	0			0				0			
EG						0	0			0				0			
2-Methylpentane						0.000877782	##########			0.000877782				##########			
3-Methylpentane						0.000305780	##########			0.000305780				##########			
2,2,4-Trimethylpentane						3.02127E-05	3.02127E-05			3.02127E-05				3.02127E-05			
Benzene						7.14861E-05	7.14861E-05			7.14861E-05				7.14861E-05			
Toluene						4.60328E-05	4.60328E-05			4.60328E-05				4.60328E-05			
Ethylbenzene						3.01336E-06	3.01336E-06			3.01336E-06				3.01336E-06			
m-Xylene						5.46119E-07	5.46119E-07			5.46119E-07				5.46119E-07			
p-Xylene						3.59469E-06	3.59469E-06			3.59469E-06				3.59469E-06			
o-Xylene						6.84813E-07	6.84813E-07			6.84813E-07				6.84813E-07			
Mass Fraction						%	%			%				%			
Carbon Dioxide						0	0			0				0			
Nitrogen						9.79817	9.79817			9.79817				9.79817			
Methane						4.46639	4.46639			4.46639				4.46639			
Ethane						14.6949	14.6949			14.6949				14.6949			
Propane						27.3979	27.3979			27.3979				27.3979			
I-Butane						5.78753	5.78753			5.78753				5.78753			
n-Butane						17.8031	17.8031			17.8031				17.8031			
I-Pentane						5.54052	5.54052			5.54052				5.54052			
n-Pentane						7.87575	7.87575			7.87575				7.87575			
n-Hexane						1.92422	1.92422			1.92422				1.92422			
Heptane						1.04106	1.04106			1.04106				1.04106			
Octane						0.153233	0.153233			0.153233				0.153233			
Nonane						0.00887709	0.00887709			0.00887709				0.00887709			
Decane						0.000798876	##########			0.000798876				##########			
Water						0.375865	0.375865			0.375865				0.375865			
TEG						0	0			0				0			
EG						0	0			0				0			
2-Methylpentane						2.04035	2.04035			2.04035				2.04035			
3-Methylpentane						0.710766	0.710766			0.710766				0.710766			
2,2,4-Trimethylpentane						0.0930891	0.0930891			0.0930891				0.0930891			
Benzene						0.150617	0.150617			0.150617				0.150617			
Toluene						0.114404	0.114404			0.114404				0.114404			
Ethylbenzene						0.00862913	0.00862913			0.00862913				0.00862913			
m-Xylene						0.00156388	0.00156388			0.00156388				0.00156388			
p-Xylene						0.0102938	0.0102938			0.0102938				0.0102938			
o-Xylene						0.00196105	0.00196105			0.00196105				0.00196105			
Mass Flow						lb/h	lb/h			lb/h				lb/h			
Carbon Dioxide						0	0			0				0			
Nitrogen						0.363254	0.363254			0.363254				0.363254			
Methane						0.165585	0.165585			0.165585				0.165585			
Ethane						0.544796	0.544796			0.544796				0.544796			
Propane						1.01574	1.01574			1.01574				1.01574			
I-Butane						0.214565	0.214565			0.214565				0.214565			
n-Butane						0.660027	0.660027			0.660027				0.660027			
I-Pentane						0.205408	0.205408			0.205408				0.205408			
n-Pentane						0.291983	0.291983			0.291983				0.291983			
n-Hexane						0.0713378	0.0713378			0.0713378				0.0713378			
Heptane						0.0385958	0.0385958			0.0385958				0.0385958			
Octane						0.00568093	0.00568093			0.00568093				0.00568093			
Nonane						0.000329107	##########			0.000329107				##########			
Decane						2.96173E-05	2.96173E-05			2.96173E-05				2.96173E-05			
Water						0.0139347	0.0139347			0.0139347				0.0139347			
TEG						0	0			0				0			
EG						0	0			0				0			
2-Methylpentane						0.0756432	0.0756432			0.0756432				0.0756432			
3-Methylpentane						0.0263507	0.0263507			0.0263507				0.0263507			
2,2,4-Trimethylpentane						0.00345116	0.00345116			0.00345116				0.00345116			
Benzene						0.00558391	0.00558391			0.00558391				0.00558391			
Toluene						0.00424139	0.00424139			0.00424139				0.00424139			
Ethylbenzene						0.000319914	##########			0.000319914				##########			
m-Xylene						5.79787E-05	5.79787E-05			5.79787E-05				5.79787E-05			
p-Xylene						0.000381630	##########			0.000381630				##########			
o-Xylene						7.27032E-05	7.27032E-05			7.27032E-05				7.27032E-05			

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	Slug Catcher Water	To Combustors	1	2	3	4	89	90	91	92	93	101	102
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Vapor	From Block:	SPLT-101	MIX-105	--	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	TK-101	MIX-106	SPLT-101	TK-103_4_5	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	MIX-106	--	VLVE-119	MIX-105	MIX-106	--
Property	**Units**																

Temperature	°F	39.6503	39.7418	39.7418	39.7418
Pressure	psia	13.5	14	14	14
Mole Fraction Vapor	%	100	100	100	100
Mole Fraction Light Liquid	%	0	0	0	0
Mole Fraction Heavy Liquid	%	0	0	0	0
Molecular Weight	lb/lbmol	41.3024	41.3024	41.3024	41.3024
Mass Density	lb/ft^3	0.105519	0.109464	0.109464	0.109464
Molar Flow	lbmol/h	0.0897615	0.0897615	0.0897615	0.0897615
Mass Flow	lb/h	3.70737	3.70737	3.70737	3.70737
Vapor Volumetric Flow	ft^3/h	35.1347	33.8685	33.8685	33.8685
Liquid Volumetric Flow	gpm	4.38042	4.22257	4.22257	4.22257
Std Vapor Volumetric Flow	MMSCFD	0.000817514	##########	0.000817514	##########
Std Liquid Volumetric Flow	sgpm	0.0143817	0.0143817	0.0143817	0.0143817
Compressibility		0.986135	0.985624	0.985624	0.985624
Specific Gravity		1.42607	1.42607	1.42607	1.42607
API Gravity					
Enthalpy	Btu/h	-3613.77	-3613.77	-3613.77	-3613.77
Mass Enthalpy	Btu/lb	-974.753	-974.753	-974.753	-974.753
Mass Cp	Btu/(lb*°F)	0.376591	0.376742	0.376742	0.376742
Ideal Gas CpCv Ratio		1.14760	1.14758	1.14758	1.14758
Dynamic Viscosity	cP	0.00867740	0.00868020	0.00868020	0.00868020
Kinematic Viscosity	cSt	5.13380	4.95039	4.95039	4.95039
Thermal Conductivity	Btu/(h*ft*°F)	0.0103806	0.0103856	0.0103856	0.0103856
Surface Tension	lbf/ft				
Net Ideal Gas Heating Value	Btu/ft^3	1945.50	1945.50	1945.50	1945.50
Net Liquid Heating Value	Btu/lb	17736.4	17736.4	17736.4	17736.4
Gross Ideal Gas Heating Value	Btu/ft^3	2115.14	2115.14	2115.14	2115.14
Gross Liquid Heating Value	Btu/lb	19295.5	19295.5	19295.5	19295.5

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	Slug Catcher Water	To Combustors	1	2	3	4	89	90	91	92	93	101	102
Composition	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Light Liquid	From Block:	SPLT-101	MIX-105	--	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	TK-101	MIX-106	SPLT-101	TK-103_4_5	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	MIX-106	--	VLVE-119	MIX-105	MIX-106	--
Mole Fraction		%	%	%	%		%	%	%	%	%		%		%		%
Carbon Dioxide		0	0	0	0		0	0	0	0	0		0		0		0
Nitrogen		0.0212954	0.0212954	0.0844932	0		0.0826852	0.0212954	0.000215633	0.0212954	0.0212954		0.0212954		0.0212954		0.0212954
Methane		0.0654427	0.0654427	0.115926	0		0.114599	0.0654427	0.000349861	0.0654427	0.0654427		0.0654427		0.0654427		0.0654427
Ethane		0.906067	0.906067	0.992396	0		0.989732	0.906067	0.00110963	0.906067	0.906067		0.906067		0.906067		0.906067
Propane		4.51969	4.51969	4.61435	0		4.61185	4.51969	0.0010579	4.51969	4.51969		4.51969		4.51969		4.51969
i-Butane		2.11713	2.11713	2.12635	0		2.12592	2.11713	0.000149173	2.11713	2.11713		2.11713		2.11713		2.11713
n-Butane		10.2250	10.2250	10.2376	0		10.2361	10.2250	0.000460837	10.2250	10.2250		10.2250		10.2250		10.2250
i-Pentane		6.87875	6.87875	6.86357	0		6.86302	6.87875	9.82610E-05	6.87875	6.87875		6.87875		6.87875		6.87875
n-Pentane		13.8117	13.8117	13.7728	0		13.7721	13.8117	3.90348E-05	13.8117	13.8117		13.8117		13.8117		13.8117
n-Hexane		11.5151	11.5151	11.4702	0		11.4697	11.5151	6.09699E-06	11.5151	11.5151		11.5151		11.5151		11.5151
Heptane		19.9927	19.9927	19.9097	0		19.9088	19.9927	2.46489E-06	19.9927	19.9927		19.9927		19.9927		19.9927
Octane		9.59289	9.59289	9.55244	0		9.55197	9.59289	1.16417E-07	9.59289	9.59289		9.59289		9.59289		9.59289
Nonane		1.87386	1.87386	1.86593	0		1.86584	1.87386	1.08308E-08	1.87386	1.87386		1.87386		1.87386		1.87386
Decane		0.520883	0.520883	0.518675	0		0.518649	0.520883	2.24571E-10	0.520883	0.520883		0.520883		0.520883		0.520883
Water		0.0164923	0.0164923	0	100		0.0165739	0.0164923	99.9956	0.0164923	0.0164923		0.0164923		0.0164923		0.0164923
TEG		0	0	0	0		0	0	0	0	0		0		0		0
EG		0	0	0	0		0	0	0	0	0		0		0		0
2-Methylpentane		8.10626	8.10626	8.07616	0		8.07573	8.10626	1.40895E-05	8.10626	8.10626		8.10626		8.10626		8.10626
3-Methylpentane		3.23167	3.23167	3.21948	0		3.21929	3.23167	1.33360E-05	3.23167	3.23167		3.23167		3.23167		3.23167
2,2,4-Trimethylpentane		1.40374	1.40374	1.39794	0		1.39787	1.40374	8.22072E-07	1.40374	1.40374		1.40374		1.40374		1.40374
Benzene		0.962391	0.962391	0.959923	0		0.958610	0.962391	0.000587943	0.962391	0.962391		0.962391		0.962391		0.962391
Toluene		2.55506	2.55506	2.54505	0		2.54432	2.55506	0.000278776	2.55506	2.55506		2.55506		2.55506		2.55506
Ethylbenzene		0.614867	0.614867	0.612315	0		0.612244	0.614867	1.91313E-05	0.614867	0.614867		0.614867		0.614867		0.614867
m-Xylene		0.123138	0.123138	0.122622	0		0.122612	0.123138	1.85926E-06	0.123138	0.123138		0.123138		0.123138		0.123138
p-Xylene		0.764408	0.764408	0.761213	0		0.761145	0.764408	1.40692E-05	0.764408	0.764408		0.764408		0.764408		0.764408
o-Xylene		0.181501	0.181501	0.180748	0		0.180726	0.181501	6.25252E-06	0.181501	0.181501		0.181501		0.181501		0.181501
Molar Flow		lbmol/h	lbmol/h	lbmol/h	lbmol/h		lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h		lbmol/h		lbmol/h		lbmol/h
Carbon Dioxide		0	0	0	0		0	0	0	0	0		0		0		0
Nitrogen		0.00433314	4.37691E-05	0.0174401	0		0.0170678	0.00437691	9.60449E-05	0.00437691	4.37691E-05		4.37691E-05		4.37691E-05		0.00433314
Methane		0.0133161	0.000134506	0.0239281	0		0.0236554	0.0134506	0.000155831	0.0134506	0.000134506		##########		##########		0.0133161
Ethane		0.184364	0.00186227	0.204839	0		0.204299	0.186227	0.000494237	0.186227	0.00186227		0.00186227		0.00186227		0.184364
Propane		0.919656	0.00928946	0.952441	0		0.951971	0.928946	0.000460014	0.928946	0.00928946		0.00928946		0.00928946		0.919656
i-Butane		0.430788	0.00435139	0.438897	0		0.438830	0.435139	6.64429E-05	0.435139	0.00435139		0.00435139		0.00435139		0.430788
n-Butane		2.08055	0.0210157	2.11313	0		2.11292	2.10157	0.000205261	2.10157	0.0210157		0.0210157		0.0210157		2.08055
i-Pentane		1.39967	0.0141381	1.41670	0		1.41666	1.41381	4.37663E-05	1.41381	0.0141381		0.0141381		0.0141381		1.39967
n-Pentane		2.81038	0.0283877	2.84283	0		2.84281	2.83877	1.73864E-05	2.83877	0.0283877		0.0283877		0.0283877		2.81038
n-Hexane		2.34306	0.0236672	2.36756	0		2.36755	2.36672	2.71565E-06	2.36672	0.0236672		0.0236672		0.0236672		2.34306
Heptane		4.06806	0.0410915	4.10954	0		4.10954	4.10915	1.09788E-06	4.10915	0.0410915		0.0410915		0.0410915		4.06806
Octane		1.95194	0.0197165	1.97170	0		1.97170	1.97165	5.18532E-08	1.97165	0.0197165		0.0197165		0.0197165		1.95194
Nonane		0.381290	0.00385141	0.385143	0		0.385143	0.385141	4.82413E-09	0.385141	0.00385141		0.00385141		0.00385141		0.381290
Decane		0.105988	0.00107059	0.107059	0		0.107059	0.107059	1.00026E-10	0.107059	0.00107059		0.00107059		0.00107059		0.105988
Water		0.00335581	3.38971E-05	0	44.5430		0.00342116	0.00338971	44.5389	0.00338971	3.38971E-05		3.38971E-05		3.38971E-05		0.00335581
TEG		0	0	0	0		0	0	0	0	0		0		0		0
EG		0	0	0	0		0	0	0	0	0		0		0		0
2-Methylpentane		1.64944	0.0166610	1.66699	0		1.66698	1.66610	6.27558E-06	1.66610	0.0166610		0.0166610		0.0166610		1.64944
3-Methylpentane		0.657573	0.00664216	0.664527	0		0.664521	0.664216	5.93996E-06	0.664216	0.00664216		0.00664216		0.00664216		0.657573
2,2,4-Trimethylpentane		0.285630	0.00288515	0.288546	0		0.288545	0.288515	3.66158E-07	0.288515	0.00288515		0.00288515		0.00288515		0.285630
Benzene		0.195825	0.00197803	0.198136	0		0.197875	0.197803	0.000261875	0.197803	0.00197803		0.00197803		0.00197803		0.195825
Toluene		0.519897	0.00525149	0.525319	0		0.525195	0.525149	0.000123991	0.525149	0.00525149		0.00525149		0.00525149		0.519897
Ethylbenzene		0.125112	0.00126375	0.126387	0		0.126378	0.126375	8.52122E-06	0.126375	0.00126375		0.00126375		0.00126375		0.125112
m-Xylene		0.0250558	0.000253089	0.0253103	0		0.0253094	0.0253089	8.28131E-07	0.0253089	0.000253089		##########		##########		0.0250556
p-Xylene		0.155540	0.00157111	0.157121	0		0.157115	0.157111	6.26653E-06	0.157111	0.00157111		0.00157111		0.00157111		0.155540
o-Xylene		0.0369315	0.000373045	0.0373080	0		0.0373052	0.0373045	2.78492E-06	0.0373045	0.000373045		##########		##########		0.0369315
Mass Fraction		%	%	%	%		%	%	%	%	%		%		%		%
Carbon Dioxide		0	0	0	0		0	0	0	0	0		0		0		0
Nitrogen		0.00704214	0.00704215	0.028	0		0.0274029	0.00704214	0.000335280	0.00704214	0.00704215		0.00704214		0.00704214		0.00704214
Methane		0.0123932	0.0123932	0.022	0		0.0217498	0.0123932	0.000311525	0.0123932	0.0123932		0.0123932		0.0123932		0.0123932
Ethane		0.321612	0.321612	0.353	0		0.352079	0.321612	0.00185192	0.321612	0.321612		0.321612		0.321612		0.321612
Propane		2.35265	2.35265	2.407	0		2.40588	2.35265	0.00252775	2.35265	2.35265		2.35265		2.35265		2.35265
i-Butane		1.45259	1.45259	1.462	0		1.46182	1.45259	0.000481236	1.45259	1.45259		1.45259		1.45259		1.45259
n-Butane		7.01548	7.01548	7.039	0		7.03850	7.01548	0.00148667	7.01548	7.01548		7.01548		7.01548		7.01548
i-Pentane		5.85856	5.85856	5.858	0		5.85797	5.85856	0.000393493	5.85856	5.85856		5.85856		5.85856		5.85856
n-Pentane		11.7633	11.7633	11.755	0		11.7552	11.7633	0.000156317	11.7633	11.7633		11.7633		11.7633		11.7633
n-Hexane		11.7139	11.7139	11.693	0		11.6933	11.7139	2.91625E-05	11.7139	11.7139		11.7139		11.7139		11.7139
Heptane		23.6483	23.6483	23.6	0		23.6006	23.6483	1.37088E-05	23.6483	23.6483		23.6483		23.6483		23.6483
Octane		12.9353	12.9353	12.908	0		12.9083	12.9353	7.38104E-07	12.9353	12.9353		12.9353		12.9353		12.9353
Nonane		2.83704	2.83704	2.831	0		2.83107	2.83704	7.71012E-08	2.83704	2.83704		2.83704		2.83704		2.83704
Decane		0.874868	0.874868	0.873	0		0.873023	0.874868	1.77349E-09	0.874868	0.874868		0.874868		0.874868		0.874868
Water		0.00350731	0.00350731	0	100		0.00353239	0.00350731	99.9881	0.00350731	0.00350731		0.00350731		0.00350731		0.00350731
TEG		0	0	0	0		0	0	0	0	0		0		0		0
EG		0	0	0	0		0	0	0	0	0		0		0		0
2-Methylpentane		8.24625	8.24625	8.233	0		8.23318	8.24625	6.73914E-05	8.24625	8.24625		8.24625		8.24625		8.24625
3-Methylpentane		3.28748	3.28748	3.282	0		3.28206	3.28748	6.37873E-05	3.28748	3.28748		3.28748		3.28748		3.28748
2,2,4-Trimethylpentane		1.89284	1.89284	1.889	0		1.88905	1.89284	5.21208E-06	1.89284	1.89284		1.89284		1.89284		1.89284
Benzene		0.887404	0.887404	0.887	0		0.885853	0.887404	0.00254905	0.887404	0.887404		0.887404		0.887404		0.887404
Toluene		2.77904	2.77904	2.774	0		2.77342	2.77904	0.00142363	2.77904	2.77904		2.77904		2.77904		2.77904
Ethylbenzene		0.770576	0.770576	0.769	0		0.768968	0.770576	0.000112733	0.770576	0.770576		0.770576		0.770576		0.770576
m-Xylene		0.154321	0.154321	0.154	0		0.153999	0.154321	1.09559E-05	0.154321	0.154321		0.154321		0.154321		0.154321
p-Xylene		0.957987	0.957987	0.956	0		0.955987	0.957987	8.29041E-05	0.957987	0.957987		0.957987		0.957987		0.957987
o-Xylene		0.227465	0.227465	0.227	0		0.226989	0.227465	3.68436E-05	0.227465	0.227465		0.227465		0.227465		0.227465
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
Carbon Dioxide		0	0	0	0		0	0	0	0	0		0		0		0
Nitrogen		0.121386	0.00122612	0.488557	0		0.478126	0.122612	0.00269054	0.122612	0.00122612		0.00122612		0.00122612		0.121386
Methane		0.213623	0.00215781	0.383866	0		0.379490	0.215781	0.00249991	0.215781	0.00215781		0.00215781		0.00215781		0.213623
Ethane		5.54366	0.0559965	6.15931	0		6.14308	5.59965	0.0148612	5.59965	0.0559965		0.0559965		0.0559965		5.54366
Propane		40.5528	0.409624	41.9985	0		41.9778	40.9624	0.0202846	40.9624	0.409624		0.409624		0.409624		40.5528
i-Butane		25.0383	0.252912	25.5097	0		25.5058	25.2912	0.00386181	25.2912	0.252912		0.252912		0.252912		25.0383
n-Butane		120.926	1.22148	122.820	0		122.808	122.148	0.0119302	122.148	1.22148		1.22148		1.22148		120.926
i-Pentane		100.985	1.02005	102.213	0		102.210	102.005	0.00315768	102.005	1.02005		1.02005		1.02005		100.985
n-Pentane		202.765	2.04814	205.107	0		205.105	204.814	0.00125441	204.814	2.04814		2.04814		2.04814		202.765
n-Hexane		201.914	2.03953	204.025	0		204.025	203.953	0.000234022	203.953	2.03953		2.03953		2.03953		201.914
Heptane		407.628	4.11745	411.784	0		411.784	411.745	0.000110010	411.745	4.11745		4.11745		4.11745		407.628
Octane		222.967	2.25219	225.225	0		225.225	225.219	5.92311E-06	225.219	2.25219		2.25219		2.25219		222.967
Nonane		48.9023	0.493963	49.3966	0		49.3966	49.3963	6.18719E-07	49.3963	0.493963		0.493963		0.493963		48.9023
Decane		15.0802	0.152325	15.2325	0		15.2325	15.2325	1.42318E-08	15.2325	0.152325		0.152325		0.152325		15.0802
Water		0.0604558	0.000610665	0	802.456		0.0616332	0.0610665	802.380	0.0610665	0.000610665		##########		##########		0.0604558
TEG		0	0	0	0		0	0	0	0	0		0		0		0
EG		0	0	0	0		0	0	0	0	0		0		0		0
2-Methylpentane		142.141	1.43577	143.653	0		143.653	143.577	0.000540800	143.577	1.43577		1.43577		1.43577		142.141
3-Methylpentane		56.6666	0.572390	57.2659	0		57.2654	57.2390	0.000511878	57.2390	0.572390		0.572390		0.572390		56.6666
2,2,4-Trimethylpentane		32.6271	0.329567	32.9602	0		32.9601	32.9567	4.18257E-05	32.9567	0.329567		0.329567		0.329567		32.6271
Benzene		15.2962	0.154508	15.4768	0		15.4564	15.4508	0.0204555	15.4508	0.154508		0.154508		0.154508		15.2962
Toluene		47.9025	0.483864	48.4021	0		48.3906	48.3864	0.00114243	48.3864	0.483864		0.483864		0.483864		47.9025
Ethylbenzene		13.2825	0.134166	13.4179	0		13.4170	13.4166	0.000904656	13.4166	0.134166		0.134166		0.134166		13.2825
m-Xylene		2.66005	0.0268692	2.68706	0		2.68698	2.68692	8.79186E-05	2.68692	0.0268692		0.0268692		0.0268692		2.66005
p-Xylene		16.5129	0.166797	16.6807	0		16.6801	16.6797	0.000665286	16.6797	0.166797		0.166797		0.166797		16.5129
o-Xylene		3.92083	0.0396043	3.96080	0		3.96051	3.96043	0.000295662	3.96043	0.0396043		0.0396043		0.0396043		3.92083

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	Slug Catcher Water	To Combustors	1	2	3	4	89	90	91	92	93	101	102
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Light Liquid	From Block:	SPLT-101	MIX-105	--	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	TK-101	MIX-106	SPLT-101	TK-103_4_5	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	MIX-106	--	VLVE-119	MIX-105	MIX-106	--
Property	**Units**																
Temperature	°F	39.7418	39.7418	40	40		39.9703	39.7418	39.7418	39.7418	39.7418		39.7418		39.7418		39.7418
Pressure	psia	14	14	38.5	38.5		38.5	14	14	14	14		14		14		14
Mole Fraction Vapor	%	0	0	0	0		0	0	0	0	0		0		0		0
Mole Fraction Light Liquid	%	100	100	100	100		100	100	100	100	100		100		100		100
Mole Fraction Heavy Liquid	%	0	0	0	0		0	0	0	0	0		0		0		0
Molecular Weight	lb/lbmol	84.7124	84.7124	84.5337	18.0153		84.5273	84.7124	18.0166	84.7124	84.7124		84.7124		84.7124		84.7124
Mass Density	lb/ft^3	42.5030	42.5030	42.4861	62.5120		42.4892	42.5030	62.5103	42.5030	42.5030		42.5030		42.5030		42.5030
Molar Flow	lbmol/h	20.3478	0.205533	20.6408	44.5430		20.6419	20.5533	44.5408	20.5533	0.205533		0.205533		0.205533		20.3478
Mass Flow	lb/h	1723.71	17.4112	1744.85	802.456		1744.80	1741.12	802.476	1741.12	17.4112		17.4112		17.4112		1723.71
Vapor Volumetric Flow	ft^3/h	40.5550	0.409646	41.0686	12.8368		41.0646	40.9646	12.8375	40.9646	0.409646		0.409646		0.409646		40.5550
Liquid Volumetric Flow	gpm	5.05621	0.0510728	5.12024	1.60044		5.11974	5.10728	1.60052	5.10728	0.0510728		0.0510728		0.0510728		5.05621
Std Vapor Volumetric Flow	MMSCFD	0.185320	0.00187192	0.187989	0.405681		0.187998	0.187192	0.405661	0.187192	0.00187192		0.00187192		0.00187192		0.185320
Std Liquid Volumetric Flow	sqpm	5.18308	0.0523543	5.25	1.60417		5.24975	5.23543	1.60435	5.23543	0.0523543		0.0523543		0.0523543		5.18308
Compressibility		0.00520635	0.00520635	0.0142855	0.00206915		0.0142843	0.00520635	0.000752883	0.00520635	0.00520635		0.00520635		0.00520635		0.00520635
Specific Gravity		0.681479	0.681479	0.681209	1.00230		0.681258	0.681479	1.00227	0.681479	0.681479		0.681479		0.681479		0.681479
API Gravity		79.3756	79.3756	79.4205	9.99537		79.4096	79.3756	10.0029	79.3756	79.3756		79.3756		79.3756		79.3756
Enthalpy	Btu/h	-1.65930E+06	-16760.6	-1.67949E+06	-5.50289E+06		##########	##########	##########	##########	-16760.6		-16760.6		-16760.6		##########
Mass Enthalpy	Btu/lb	-962.633	-962.633	-962.543	-6857.56		-962.752	-962.633	-6857.15	-962.633	-962.633		-962.633		-962.633		-962.633
Mass Cp	Btu/(lb*°F)	0.503144	0.503144	0.503334	0.985648		0.503326	0.503144	0.985735	0.503144	0.503144		0.503144		0.503144		0.503144
Ideal Gas CpCv Ratio		1.06837	1.06837	1.06849	1.32729		1.06850	1.06837	1.32728	1.06837	1.06837		1.06837		1.06837		1.06837
Dynamic Viscosity	cP	0.367122	0.367122	0.365903	1.50674		0.366014	0.367122	1.51159	0.367122	0.367122		0.367122		0.367122		0.367122
Kinematic Viscosity	cSt	0.539225	0.539225	0.537649	1.50471		0.537772	0.539225	1.50960	0.539225	0.539225		0.539225		0.539225		0.539225
Thermal Conductivity	Btu/(h*ft*°F)	0.07158877	0.07158877	0.07152102	0.332053		0.07152717	0.07158877	0.3318227	0.07158877	0.07158877		0.07158877		0.07158877		0.07158877
Surface Tension	lbf/ft	0.00137584?	0.00137584?	0.00134360	0.00525958		0.00134394	0.00137584?	0.0052610997	0.00137584?	0.00137584?		0.00137584?		##########		0.00137584?
Net Ideal Gas Heating Value	Btu/ft^3	4305.34	4305.34	4295.76	0		4295.31	4305.34	0.105193	4305.34	4305.34		4305.34		4305.34		4305.34
Net Liquid Heating Value	Btu/lb	19131.6	19131.6	19129.5	-1059.76		19128.9	19131.6	-1057.43	19131.6	19131.6		19131.6		19131.6		19131.6
Gross Ideal Gas Heating Value	Btu/ft^3	4643.27	4643.27	4633.00	50.3100		4632.53	4643.27	50.4207	4643.27	4643.27		4643.27		4643.27		4643.27
Gross Liquid Heating Value	Btu/lb	20645.6	20645.6	20643.6	0		20643.0	20645.6	2.35971	20645.6	20645.6		20645.6		20645.6		20645.6

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	Slug Catcher Water	To Combustors	1	2	3	4	89	90	91	92	93	101	102
Composition	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Heavy Liquid	From Block:	SPLT-101	MIX-105	--	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	TK-101	MIX-106	SPLT-101	TK-103_4_5	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	MIX-106	--	VLVE-119	MIX-105	MIX-106	--
Mole Fraction		%					%				%		%				

Carbon Dioxide	0	0	0	0
Nitrogen	0.000215633	0.000835968	0.000215633	0.000215633
Methane	0.000349861	0.000612384	0.000349861	0.000349861
Ethane	0.00110963	0.00121176	0.00110963	0.00110963
Propane	0.00103279	0.00105412	0.00103279	0.00103279
i-Butane	0.000149173	0.000149660	0.000149173	0.000149173
n-Butane	0.000460837	0.000462031	0.000460837	0.000460837
i-Pentane	9.82610E-05	9.80917E-05	9.82610E-05	9.82610E-05
n-Pentane	3.90348E-05	3.90619E-05	3.90348E-05	3.90348E-05
n-Hexane	6.09699E-06	6.09523E-06	6.09699E-06	6.09699E-06
Heptane	2.46489E-06	2.46308E-06	2.46489E-06	2.46489E-06
Octane	1.16417E-07	1.16564E-07	1.16417E-07	1.16417E-07
Nonane	1.08308E-08	1.08032E-08	1.08308E-08	1.08308E-08
Decane	2.24571E-10	2.24415E-10	2.24571E-10	2.24571E-10
Water	99.9956	99.9946	99.9956	99.9956
TEG	0	0	0	0
EG	0	0	0	0
2-Methylpentane	1.40895E-05	1.40762E-05	1.40895E-05	1.40895E-05
3-Methylpentane	1.33360E-05	1.33142E-05	1.33360E-05	1.33360E-05
2,2,4-Trimethylpentane	8.22072E-07	8.14643E-07	8.22072E-07	8.22072E-07
Benzene	0.000587943	0.000586714	0.000587943	0.000587943
Toluene	0.000278376	0.000278011	0.000278376	0.000278376
Ethylbenzene	1.91313E-05	1.90995E-05	1.91313E-05	1.91313E-05
m-Xylene	1.85926E-06	1.85868E-06	1.85926E-06	1.85926E-06
p-Xylene	1.40692E-05	1.40595E-05	1.40692E-05	1.40692E-05
o-Xylene	6.25252E-06	6.24481E-06	6.25252E-06	6.25252E-06
Molar Flow	**lbmol/h**	**lbmol/h**	**lbmol/h**	**lbmol/h**
Carbon Dioxide	0	0	0	0
Nitrogen	9.60449E-05	0.000372357	9.60449E-05	9.60449E-05
Methane	0.000155831	0.000272768	0.000155831	0.000155831
Ethane	0.000494237	0.000539744	0.000494237	0.000494237
Propane	0.000460014	0.000469526	0.000460014	0.000460014
i-Butane	6.64429E-05	6.66616E-05	6.64429E-05	6.64429E-05
n-Butane	0.000205261	0.000205798	0.000205261	0.000205261
i-Pentane	4.37663E-05	4.36921E-05	4.37663E-05	4.37663E-05
n-Pentane	1.73864E-05	1.73990E-05	1.73864E-05	1.73864E-05
n-Hexane	2.71565E-06	2.71494E-06	2.71565E-06	2.71565E-06
Heptane	1.09788E-06	1.09711E-06	1.09788E-06	1.09788E-06
Octane	5.18532E-08	5.19201E-08	5.18532E-08	5.18532E-08
Nonane	4.82413E-09	4.81198E-09	4.82413E-09	4.82413E-09
Decane	1.00026E-10	9.99588E-11	1.00026E-10	1.00026E-10
Water	44.5389	44.5396	44.5389	44.5389
TEG	0	0	0	0
EG	0	0	0	0
2-Methylpentane	6.27558E-06	6.26981E-06	6.27558E-06	6.27558E-06
3-Methylpentane	5.93996E-06	5.93042E-06	5.93996E-06	5.93996E-06
2,2,4-Trimethylpentane	3.66158E-07	3.62859E-07	3.66158E-07	3.66158E-07
Benzene	0.000261875	0.000261334	0.000261875	0.000261875
Toluene	0.000123991	0.000123832	0.000123991	0.000123991
Ethylbenzene	8.52122E-06	8.50731E-06	8.52122E-06	8.52122E-06
m-Xylene	8.28131E-07	8.27896E-07	8.28131E-07	8.28131E-07
p-Xylene	6.26653E-06	6.26240E-06	6.26653E-06	6.26653E-06
o-Xylene	2.78492E-06	2.78157E-06	2.78492E-06	2.78492E-06
Mass Fraction	**%**	**%**	**%**	**%**
Carbon Dioxide	0	0	0	0
Nitrogen	0.000335280	0.00129981	0.000335280	0.000335280
Methane	0.000311525	0.000545280	0.000311525	0.000311525
Ethane	0.00185192	0.00202237	0.00185192	0.00185192
Propane	0.00252775	0.00257994	0.00252775	0.00252775
i-Butane	0.000481236	0.000482805	0.000481236	0.000481236
n-Butane	0.00148667	0.00149052	0.00148667	0.00148667
i-Pentane	0.000393493	0.000392813	0.000393493	0.000393493
n-Pentane	0.000156317	0.000156425	0.000156317	0.000156317
n-Hexane	2.91625E-05	2.91540E-05	2.91625E-05	2.91625E-05
Heptane	1.37088E-05	1.36987E-05	1.37088E-05	1.37088E-05
Octane	7.38104E-07	7.39035E-07	7.38104E-07	7.38104E-07
Nonane	7.71012E-08	7.69047E-08	7.71012E-08	7.71012E-08
Decane	1.77349E-09	1.77225E-09	1.77349E-09	1.77349E-09
Water	99.9881	99.9866	99.9881	99.9881
TEG	0	0	0	0
EG	0	0	0	0
2-Methylpentane	6.73914E-05	6.73274E-05	6.73914E-05	6.73914E-05
3-Methylpentane	6.37873E-05	6.36829E-05	6.37873E-05	6.37873E-05
2,2,4-Trimethylpentane	5.21208E-06	5.16495E-06	5.21208E-06	5.21208E-06
Benzene	0.00254905	0.00254371	0.00254905	0.00254905
Toluene	0.00142363	0.00142176	0.00142363	0.00142363
Ethylbenzene	0.000112733	0.000112545	0.000112733	0.000112733
m-Xylene	1.09559E-05	1.09525E-05	1.09559E-05	1.09559E-05
p-Xylene	8.29041E-05	8.28470E-05	8.29041E-05	8.29041E-05
o-Xylene	3.68436E-05	3.67981E-05	3.68436E-05	3.68436E-05
Mass Flow	**lb/h**	**lb/h**	**lb/h**	**lb/h**
Carbon Dioxide	0	0	0	0
Nitrogen	0.00269054	0.0104310	0.00269054	0.00269054
Methane	0.00249991	0.00437588	0.00249991	0.00249991
Ethane	0.0148612	0.0162296	0.0148612	0.0148612
Propane	0.0202846	0.0207041	0.0202846	0.0202846
i-Butane	0.00386181	0.00387452	0.00386181	0.00386181
n-Butane	0.0119302	0.0119614	0.0119302	0.0119302
i-Pentane	0.00315768	0.00315233	0.00315768	0.00315768
n-Pentane	0.00125441	0.00125532	0.00125441	0.00125441
n-Hexane	0.000234022	0.000233961	0.000234022	0.000234022
Heptane	0.000110010	0.000109932	0.000110010	0.000110010
Octane	5.92311E-06	5.93076E-06	5.92311E-06	5.92311E-06
Nonane	6.18719E-07	6.17161E-07	6.18719E-07	6.18719E-07
Decane	1.42318E-08	1.42223E-08	1.42318E-08	1.42318E-08
Water	802.380	802.394	802.380	802.380
TEG	0	0	0	0
EG	0	0	0	0
2-Methylpentane	0.000540800	0.000540303	0.000540800	0.000540800
3-Methylpentane	0.000511878	0.000511056	0.000511878	0.000511878
2,2,4-Trimethylpentane	4.18257E-05	4.14488E-05	4.18257E-05	4.18257E-05
Benzene	0.0204555	0.0204133	0.0204555	0.0204555
Toluene	0.0114243	0.0114096	0.0114243	0.0114243
Ethylbenzene	0.000904656	0.000903178	0.000904656	0.000904656
m-Xylene	8.79186E-05	8.78936E-05	8.79186E-05	8.79186E-05
p-Xylene	0.000665286	0.000664848	0.000665286	0.000665286
o-Xylene	0.000295662	0.000295305	0.000295662	0.000295662

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	Slug Catcher Water	To Combustors	1	2	3	4	89	90	91	92	93	101	102
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Heavy Liquid	From Block:	SPLT-101	MIX-105	--	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	TK-101	MIX-106	SPLT-101	TK-103_4_5	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	MIX-106	--	VLVE-119	MIX-105	MIX-106	--
Property	**Units**																
Temperature	°F		39.7418				39.9703				39.7418		39.7418				
Pressure	psia		14				38.5				14		14				
Mole Fraction Vapor	%		0				0				0		0				
Mole Fraction Light Liquid	%		0				0				0		0				
Mole Fraction Heavy Liquid	%		100				100				100		100				
Molecular Weight	lb/lbmol		18.0166				18.0167				18.0166		18.0166				
Mass Density	lb/ft^3		62.5103				62.5097				62.5103		62.5103				
Molar Flow	lbmol/h		44.5408				44.5420				44.5408		44.5408				
Mass Flow	lb/h		802.476				802.501				802.476		802.476				
Vapor Volumetric Flow	ft^3/h		12.8375				12.8380				12.8375		12.8375				
Liquid Volumetric Flow	gpm		1.60052				1.60058				1.60052		1.60052				
Std Vapor Volumetric Flow	MMSCFD		0.405661				0.405672				0.405661		0.405661				
Std Liquid Volumetric Flow	sgpm		1.60435				1.60442				1.60435		1.60435				
Compressibility			0.000752883				0.00206951				0.000752883		0.000752883				
Specific Gravity			1.00227				1.00226				1.00227		1.00227				
API Gravity			10.0029				10.0011				10.0029		10.0029				
Enthalpy	Btu/h		-5.50270E+06				###########				###########		###########				
Mass Enthalpy	Btu/lb		-6857.15				-6856.77				-6857.15		-6857.15				
Mass Cp	Btu/(lb**F)		0.985735				0.985669				0.985735		0.985735				
Ideal Gas CpCv Ratio			1.32728				1.32727				1.32728		1.32728				
Dynamic Viscosity	cP		1.51159				1.50678				1.51159		1.51159				
Kinematic Viscosity	cSt		1.50960				1.50480				1.50960		1.50960				
Thermal Conductivity	Btu/(h*ft**F)		0.331822?				0.331929?				0.331822?		0.331822?				
Surface Tension	lbf/ft		0.00526109?				0.00525927?				0.00526109?		0.00526109?				
Net Ideal Gas Heating Value	Btu/ft^3		0.105193				0.109709				0.105193		0.105193				
Net Liquid Heating Value	Btu/lb		-1057.43				-1057.32				-1057.43		-1057.43				
Gross Ideal Gas Heating Value	Btu/ft^3		50.4207				50.4252				50.4207		50.4207				
Gross Liquid Heating Value	Btu/lb		2.35971				2.46421				2.35971		2.35971				

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	Slug Catcher Water	To Combustors	1	2	3	4	89	90	91	92	93	101	102
Composition	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Mixed Liquid	From Block:	SPLT-101	MIX-105	--	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	TK-101	MIX-106	SPLT-101	TK-103_4_5	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	MIX-106	--	VLVE-119	MIX-105	MIX-106	--
Mole Fraction		%					%				%		%				
Carbon Dioxide		0					0				0		0				
Nitrogen		0.000312459					0.0267553				0.00687152		0.000312459				
Methane		0.000648851					0.0367087				0.0209027		0.000648851				
Ethane		0.00526635					0.314248				0.286847		0.00526635				
Propane		0.0217883					1.46116				1.42779		0.0217883				
i-Butane		0.00987305					0.673321				0.668579		0.00987305				
n-Butane		0.0474250					3.24180				3.22882		0.0474250				
i-Pentane		0.0316939					2.17339				2.17201		0.0316939				
n-Pentane		0.0634801					4.36125				4.36104		0.0634801				
n-Hexane		0.0528981					3.63212				3.63585		0.0528981				
Heptane		0.0918345					6.30453				6.31263		0.0918345				
Octane		0.0440630					3.02483				3.02893		0.0440630				
Nonane		0.00860721					0.590857				0.591668		0.00860721				
Decane		0.00239257					0.164241				0.164467		0.00239257				
Water		99.5364					68.3344				68.4275		99.5364				
TEG		0					0				0		0				
EG		0					0				0		0				
2-Methylpentane		0.0372484					2.55736				2.55954		0.0372484				
3-Methylpentane		0.0148573					1.01947				1.02040		0.0148573				
2,2,4-Trimethylpentane		0.00644861					0.442664				0.443228		0.00644861				
Benzene		0.00500578					0.303965				0.304274		0.00500578				
Toluene		0.0120132					0.805903				0.806943		0.0120132				
Ethylbenzene		0.00284330					0.193893				0.194156		0.00284330				
m-Xylene		0.000567458					0.0388290				0.0388817		0.000567458				
p-Xylene		0.00352515					0.241042				0.241369		0.00352515				
o-Xylene		0.000839912					0.0572350				0.0573128		0.000839912				
Molar Flow		lbmol/h					lbmol/h				lbmol/h		lbmol/h				
Carbon Dioxide		0					0				0		0				
Nitrogen		0.000139814					0.0174401				0.00447295		0.000139814				
Methane		0.000290337					0.0239281				0.0136665		0.000290337				
Ethane		0.00235650					0.204839				0.186721		0.00235650				
Propane		0.00974947					0.952441				0.929406		0.00974947				
i-Butane		0.00441783					0.438897				0.435205		0.00441783				
n-Butane		0.0212210					2.11313				2.10177		0.0212210				
i-Pentane		0.0141819					1.41670				1.41385		0.0141819				
n-Pentane		0.0284050					2.84283				2.83878		0.0284050				
n-Hexane		0.0236700					2.36756				2.36673		0.0236700				
Heptane		0.0410926					4.10954				4.10915		0.0410926				
Octane		0.0197166					1.97170				1.97165		0.0197166				
Nonane		0.00385141					0.385143				0.385141		0.00385141				
Decane		0.00107059					0.107059				0.107059		0.00107059				
Water		44.5389					44.5430				44.5423		44.5389				
TEG		0					0				0		0				
EG		0					0				0		0				
2-Methylpentane		0.0166673					1.66699				1.66611		0.0166673				
3-Methylpentane		0.00664810					0.664527				0.664221		0.00664810				
2,2,4-Trimethylpentane		0.00288552					0.288546				0.288516		0.00288552				
Benzene		0.00223990					0.198136				0.198065		0.00223990				
Toluene		0.00537548					0.525319				0.525273		0.00537548				
Ethylbenzene		0.00127228					0.126387				0.126384		0.00127228				
m-Xylene		0.000253917					0.0253103				0.0253097		0.000253917				
p-Xylene		0.00157738					0.157121				0.157117		0.00157738				
o-Xylene		0.000375830					0.0373080				0.0373073		0.000375830				
Mass Fraction		%					%				%		%				
Carbon Dioxide		0					0				0		0				
Nitrogen		0.000477708					0.0191794				0.00492620		0.000477708				
Methane		0.000568093					0.0150695				0.00858159		0.000568093				
Ethane		0.00864238					0.241797				0.220731		0.00864238				
Propane		0.0524351					1.64874				1.61121		0.0524351				
i-Butane		0.0313182					1.00144				0.994462		0.0313182				
n-Butane		0.150436					4.82156				4.80264		0.150436				
i-Pentane		0.124798					4.01260				4.01038		0.124798				
n-Pentane		0.249960					8.05192				8.05218		0.249960				
n-Hexane		0.248786					8.00945				8.01832		0.248786				
Heptane		0.502211					16.1655				16.1875		0.502211				
Octane		0.274696					8.84170				8.85436		0.274696				
Nonane		0.0602477					1.93917				1.94199		0.0602477				
Decane		0.0185788					0.597986				0.598856		0.0185788				
Water		97.8648					31.5022				31.5475		97.8648				
TEG		0					0				0		0				
EG		0					0				0		0				
2-Methylpentane		0.175184					5.63943				5.64467		0.175184				
3-Methylpentane		0.0698757					2.24810				2.25034		0.0698757				
2,2,4-Trimethylpentane		0.0402017					1.29392				1.29567		0.0402017				
Benzene		0.0213399					0.607576				0.608242		0.0213399				
Toluene		0.0604093					1.90013				1.90273		0.0604093				
Ethylbenzene		0.0164744					0.526748				0.527503		0.0164744				
m-Xylene		0.00328790					0.105487				0.105638		0.00328790				
p-Xylene		0.0204250					0.654839				0.655779		0.0204250				
o-Xylene		0.00486652					0.155490				0.155714		0.00486652				
Mass Flow		lb/h					lb/h				lb/h		lb/h				
Carbon Dioxide		0					0				0		0				
Nitrogen		0.00391666					0.488557				0.125303		0.00391666				
Methane		0.00465772					0.383866				0.218281		0.00465772				
Ethane		0.0708578					6.15931				5.61451		0.0708578				
Propane		0.429909					41.9985				40.9827		0.429909				
i-Butane		0.256774					25.5097				25.2951		0.256774				
n-Butane		1.23341					122.820				122.160		1.23341				
i-Pentane		1.02320					102.213				102.008		1.02320				
n-Pentane		2.04939					205.107				204.815		2.04939				
n-Hexane		2.03977					204.025				203.954		2.03977				
Heptane		4.11756					411.784				411.745		4.11756				
Octane		2.25220					225.225				225.219		2.25220				
Nonane		0.493963					49.3966				49.3963		0.493963				
Decane		0.152325					15.2325				15.2325		0.152325				
Water		802.381					802.456				802.442		802.381				
TEG		0					0				0		0				
EG		0					0				0		0				
2-Methylpentane		1.43631					143.653				143.578		1.43631				
3-Methylpentane		0.572902					57.2659				57.2395		0.572902				
2,2,4-Trimethylpentane		0.329608					32.9602				32.9567		0.329608				
Benzene		0.174963					15.4768				15.4712		0.174963				
Toluene		0.495288					48.4021				48.3978		0.495288				
Ethylbenzene		0.135071					13.4179				13.4176		0.135071				
m-Xylene		0.0269571					2.68706				2.68701		0.0269571				
p-Xylene		0.167462					16.6807				16.6804		0.167462				
o-Xylene		0.0399000					3.96080				3.96073		0.0399000				

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	Slug Catcher Water	To Combustors	1	2	3	4	89	90	91	92	93	101	102
Properties	**Status:**	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Mixed Liquid	**From Block:**	SPLT-101	MIX-105	--	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	TK-101	MIX-106	SPLT-101	TK-103_4_5	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	MIX-106	--	VLVE-119	MIX-105	MIX-106	--
Property	**Units**																
Temperature	°F		39.7418				39.9703				39.7418		39.7418				
Pressure	psia		14				38.5				14		14				
Mole Fraction Vapor	%		0				0				0		0				
Mole Fraction Light Liquid	%		0.459329				31.6671				31.5747		0.459329				
Mole Fraction Heavy Liquid	%		99.5407				68.3329				68.4253		99.5407				
Molecular Weight	lb/lbmol		18.3230				39.0787				39.0756		18.3230				
Mass Density	lb/ft^3		61.8916				47.2575				47.2768		61.8916				
Molar Flow	lbmol/h		44.7464				65.1839				65.0941		44.7464				
Mass Flow	lb/h		819.888				2547.30				2543.60		819.888				
Vapor Volumetric Flow	ft^3/h		13.2471				53.9026				53.8021		13.2471				
Liquid Volumetric Flow	gpm		1.65159				6.72032				6.70780		1.65159				
Std Vapor Volumetric Flow	MMSCFD		0.407533				0.593670				0.592853		0.407533				
Std Liquid Volumetric Flow	sgpm		1.65671				6.85417				6.83978		1.65671				
Compressibility			0.000773339				0.00593758				0.00215905		0.000773339				
Specific Gravity			0.992350				0.757711				0.758022		0.992350				
API Gravity			11.4572				57.3472				57.2912		11.4572				
Enthalpy	Btu/h		-5.51946E+06				###########				###########		###########				
Mass Enthalpy	Btu/lb		-6731.98				-2819.60				-2822.29		-6731.98				
Mass Cp	Btu/(lb**F)		0.975487				0.655283				0.655396		0.975487				
Ideal Gas CpCv Ratio			1.32169				1.14901				1.14905		1.32169				
Dynamic Viscosity	cP		1.47620				0.637710				0.640199		1.47620				
Kinematic Viscosity	cSt		1.48899				0.842425				0.845368		1.48899				
Thermal Conductivity	Btu/(h*ft**F)		0.323774?				0.133547?				0.133682?		0.323774?				
Surface Tension	lbf/ft		0.00514095?				0.00227645?				0.00230288?		0.00514095?				
Net Ideal Gas Heating Value	Btu/ft^3		19.8803				1360.28				1359.47		19.8803				
Net Liquid Heating Value	Btu/lb		-628.698				12769.4				12762.2		-628.698				
Gross Ideal Gas Heating Value	Btu/ft^3		71.5170				1501.45				1500.60		71.5170				
Gross Liquid Heating Value	Btu/lb		440.741				14140.4				14132.9		440.741				

Targa Badlands LLC - Buffalo Compressor Station
ProMax AP-42 Emissions Report
Condensate Working and Breathing Emissions

Components	Is HAP? [1]	Molecular Weight (g/mol)	Working Losses (ton/yr)	Weight Percent	Breathing Losses (ton/yr)	Weight Percent	Total Losses (ton/yr)	Weight Percent
Propane	No	44.10	5.647	0.38	0.916	0.38	6.563	0.38
i-Butane	No	58.12	1.207	0.08	0.196	0.08	1.403	0.08
n-Butane	No	58.12	3.899	0.26	0.633	0.26	4.532	0.26
i-Pentane	No	72.15	1.161	0.08	0.189	0.08	1.350	0.08
n-Pentane	No	72.15	1.681	0.11	0.273	0.11	1.954	0.11
Hexane	Yes	86.18	0.444	0.03	0.072	0.03	0.516	0.03
Heptane	No	100.21	0.241	0.02	0.039	0.02	0.280	0.02
Octane	No	114.23	0.033	2.19E-03	0.005	2.19E-03	0.038	2.19E-03
Nonane	No	128.20	0.002	1.25E-04	0.000	1.25E-04	0.002	1.25E-04
Decane	No	142.29	0.000	1.13E-05	0.000	1.13E-05	0.000	1.13E-05
2-Methylpentane	No	86.18	0.453	3.02E-02	0.074	3.02E-02	0.527	3.02E-02
3-Methylpentane	No	86.18	0.160	1.07E-02	0.026	1.07E-02	0.186	1.07E-02
Pentane, 2,2,4-Trimethyl-	Yes	114.23	0.022	1.44E-03	0.004	1.44E-03	0.025	1.44E-03
Benzene	Yes	78.11	0.020	1.34E-03	0.003	1.34E-03	0.023	1.34E-03
Toluene	Yes	92.14	0.017	1.14E-03	0.003	1.14E-03	0.020	1.14E-03
Ethylbenzene	Yes	106.17	0.001	9.43E-05	0.000	9.43E-05	0.002	9.43E-05
m-Xylene	Yes	106.16	0.000	1.64E-05	0.000	1.64E-05	0.000	1.64E-05
p-Xylene	Yes	106.16	0.002	1.10E-04	0.000	1.10E-04	0.002	1.10E-04
o-Xylene	Yes	106.16	0.000	1.89E-05	0.000	1.89E-05	0.000	1.89E-05
VOC Total		-	14.990	1.00	2.433	1.00	17.42	1.00
HAP Total		-	0.506	0.03	0.082	0.03	0.59	0.03

1. HAP classification derived from EPA's *Initial List of Hazardous Air Polluitants with Modifications*

Vapor Molecular Weight: 58.44

Working, Breathing, and Total losses updated from ProMax run "Buffalo Slug Catcher Liquids 09-24-2020 Annual_updated"

Targa Badlands LLC - Buffalo Compressor Station
ProMax AP-42 Emissions Report
Annual Condensate Flash Emissions

Components	Is HAP? [1]	Molecular Weight (g/mol)	Flash Losses (ton/yr)	Weight Percent
Propane	No	44.10	9.298	0.35
i-Butane	No	58.12	2.151	0.08
n-Butane	No	58.12	6.813	0.26
i-pentane	No	72.15	2.245	0.08
n-Pentane	No	72.15	3.267	0.12
Hexane	Yes	86.18	0.866	0.03
Heptane	No	100.21	0.501	0.02
Octane	No	114.23	0.079	2.97E-03
Nonane	No	128.20	0.005	1.85E-04
Decane	No	142.29	0.000	1.77E-05
2-Methylpentane	No	86.18	0.888	3.34E-02
3-Methylpentane	No	86.18	0.312	1.17E-02
Pentane, 2,2,4-Trimethyl-	Yes	114.23	0.044	1.65E-03
Benzene	Yes	78.11	0.067	2.52E-03
Toluene	Yes	92.14	0.055	2.06E-03
Ethylbenzene	Yes	106.17	0.004	1.67E-04
m-Xylene	Yes	106.16	0.001	3.03E-05
p-Xylene	Yes	106.16	0.005	1.98E-04
o-Xylene	Yes	106.16	0.001	3.83E-05
VOC Total		-	26.603	1.00
HAP Total		-	0.999	0.04

1. HAP classification derived from EPA's *Initial List of Hazardous Air Polluitants with Modifications*

Flash losses updated from ProMax run "Buffalo Slug Catcher Liquids 09-24-2020 Annual_updated"

ProMax AP-42 Emissions Report - Annual (TK-101 Water)
Based on "Buffalo Slug Catcher Liquids 09-24-2020 Annual_updated"

Condensate Tank

Components	Working Losses (ton/yr)	Breathing Losses (ton/yr)	Total Losses (ton/yr)
Mixture	14.99	2.433	17.42
Propane	5.647	0.9164	6.563
i-Butane	1.207	0.1959	1.403
n-Butane	3.899	0.6327	4.532
i-Pentane	1.161	0.1885	1.35
n-Pentane	1.681	0.2729	1.954
n-Hexane	0.4439	0.07205	0.516
Heptane	0.2409	0.0391	0.28
Octane	0.03281	0.005324	0.03813
Nonane	0.001874	0.0003041	0.002178
Decane	0.0001689	2.74E-05	0.0001963
TEG	0	0	0
EG	0	0	0
2-Methylpentane	0.4531	0.07354	0.5267
3-Methylpentane	0.1598	0.02594	0.1858
2,2,4-Trimethylpe	0.02159	0.003503	0.02509
Benzene	0.02014	0.003269	0.02341
Toluene	0.0171	0.002775	0.01987
Ethylbenzene	0.001414	0.0002295	0.001643
m-Xylene	0.0002458	3.99E-05	0.0002856
p-Xylene	0.001655	0.0002686	0.001924
o-Xylene	0.0002828	4.59E-05	0.0003287

Components	Flashing Losses (ton/yr)
Mixture	26.6
Propane	9.298
i-Butane	2.151
n-Butane	6.813
i-Pentane	2.245
n-Pentane	3.267
n-Hexane	0.866
Heptane	0.5008
Octane	0.07898
Nonane	0.004934
Decane	0.0004722
TEG	0
EG	0
2-Methylpentane	0.8884
3-Methylpentane	0.3121
2,2,4-Trimethylpe	0.0439
Benzene	0.067
Toluene	0.05479
Ethylbenzene	0.004434
m-Xylene	0.000805
p-Xylene	0.005267
o-Xylene	0.001018

Targa Badlands LLC - Buffalo Compressor Station
ProMax AP-42 Emissions Report
Annual Produced Water Working and Breathing Emissions

Components	Is HAP? [1]	Molecular Weight (g/mol)	Working Losses (ton/yr)	Weight Percent	Breathing Losses (ton/yr)	Weight Percent	Total Losses (ton/yr)	Weight Percent
Propane	No	44.10	8.454E-03	0.38	1.146E-03	0.38	9.600E-03	0.38
i-Butane	No	58.12	1.793E-03	0.08	2.431E-04	0.08	2.036E-03	0.08
n-Butane	No	58.12	5.794E-03	0.26	7.856E-04	0.26	6.580E-03	0.26
i-pentane	No	72.15	1.727E-03	0.08	2.341E-04	0.08	1.961E-03	0.08
n-Pentane	No	72.15	2.497E-03	0.11	3.385E-04	0.11	2.836E-03	0.11
Hexane	Yes	86.18	6.605E-04	0.03	8.955E-05	0.03	7.501E-04	0.03
Heptane	No	100.21	3.586E-04	0.02	4.862E-05	0.02	4.072E-04	0.02
Octane	No	114.23	4.884E-05	2.19E-03	6.622E-06	2.19E-03	5.546E-05	2.19E-03
Nonane	No	128.20	2.790E-06	1.25E-04	3.783E-07	1.25E-04	3.168E-06	1.25E-04
Decane	No	142.29	2.515E-07	1.13E-05	3.409E-08	1.13E-05	2.856E-07	1.13E-05
2-Methylpentane	No	86.18	6.741E-04	3.02E-02	9.139E-05	3.02E-02	7.655E-04	3.02E-02
3-Methylpentane	No	86.18	2.379E-04	1.06E-02	3.226E-05	1.06E-02	2.702E-04	1.06E-02
Pentane, 2,2,4-Trimethyl-	Yes	114.23	3.214E-05	1.44E-03	4.357E-06	1.44E-03	3.650E-05	1.44E-03
Benzene	Yes	78.11	3.394E-05	1.52E-03	4.601E-06	1.52E-03	3.854E-05	1.52E-03
Toluene	Yes	92.14	2.606E-05	1.17E-03	3.533E-06	1.17E-03	2.959E-05	1.17E-03
Ethylbenzene	Yes	106.17	2.119E-06	9.48E-05	2.873E-07	9.48E-05	2.406E-06	9.48E-05
m-Xylene	Yes	106.16	3.671E-07	1.64E-05	4.977E-08	1.64E-05	4.169E-07	1.64E-05
p-Xylene	Yes	106.16	2.474E-06	1.11E-04	3.354E-07	1.11E-04	2.809E-06	1.11E-04
o-Xylene	Yes	106.16	4.242E-07	1.90E-05	5.751E-08	1.90E-05	4.817E-07	1.90E-05
VOC Total		-	0.022	1.00	0.003	1.00	0.03	1.00
HAP Total		-	0.001	0.03	0.000	0.03	0.00	0.03

1. HAP classification derived from EPA's *Initial List of Hazardous Air Polluitants with Modifications*

Vapor Molecular Weight: 58.41

Working, Breathing, and Total losses updated from ProMax run "Buffalo Slug Catcher Liquids 09-24-2020 Annual_updated"

Targa Badlands LLC - Buffalo Compressor Station
ProMax AP-42 Emissions Report
Annual Produced Water Flash Emissions

Components	Is HAP? [1]	Molecular Weight (g/mol)	Flash Losses (ton/yr)	Weight Percent
Propane	No	44.10	1.74E-01	0.34
i-Butane	No	58.12	4.12E-02	0.08
n-Butane	No	58.12	1.31E-01	0.26
i-pentane	No	72.15	4.35E-02	0.09
n-Pentane	No	72.15	6.34E-02	0.12
Hexane	Yes	86.18	1.68E-02	0.03
Heptane	No	100.21	9.74E-03	0.02
Octane	No	114.23	1.54E-03	3.03E-03
Nonane	No	128.20	9.60E-05	1.89E-04
Decane	No	142.29	9.18E-06	1.81E-05
2-Methylpentane	No	86.18	1.73E-02	3.40E-02
3-Methylpentane	No	86.18	6.07E-03	1.20E-02
Pentane, 2,2,4-Trimethyl-	Yes	114.23	8.54E-04	1.68E-03
Benzene	Yes	78.11	1.30E-03	2.55E-03
Toluene	Yes	92.14	1.06E-03	2.09E-03
Ethylbenzene	Yes	106.17	8.61E-05	1.70E-04
m-Xylene	Yes	106.16	1.56E-05	3.08E-05
p-Xylene	Yes	106.16	1.02E-04	2.01E-04
o-Xylene	Yes	106.16	1.98E-05	3.90E-05
VOC Total		-	0.508	1.00
HAP Total		-	0.019	0.04

1. HAP classification derived from EPA's *Initial List of Hazardous Air Pollutants with Modifications*

Flash losses updated from ProMax run "Buffalo Slug Catcher Liquids 09-24-2020 Annual_updated"

ProMax AP-42 Emissions Report - Annual (TK-101 Water)
Based on "Buffalo Slug Catcher Liquids 09-24-2020 Annual_updated"

Produced Water Tank

Components	Working Losses (ton/yr)	Breathing Losses (ton/yr)	Total Losses (ton/yr)
Mixture	0.02234	0.003029	0.02537
Propane	0.008454	0.001146	0.0096
i-Butane	0.001793	0.0002431	0.002036
n-Butane	0.005794	0.0007856	0.00658
i-Pentane	0.001727	0.0002341	0.001961
n-Pentane	0.002497	0.0003385	0.002835
n-Hexane	0.0006605	8.96E-05	0.00075
Heptane	0.0003586	4.86E-05	0.0004072
Octane	4.88E-05	6.62E-06	5.55E-05
Nonane	2.79E-06	3.78E-07	3.17E-06
Decane	2.52E-07	3.41E-08	2.86E-07
TEG	0	0	0
EG	0	0	0
2-Methylpentane	0.0006741	9.14E-05	0.0007654
3-Methylpentane	0.0002379	3.23E-05	0.0002702
2,2,4-Trimethylpentan	3.21E-05	4.36E-06	3.65E-05
Benzene	3.39E-05	4.60E-06	3.85E-05
Toluene	2.61E-05	3.53E-06	2.96E-05
Ethylbenzene	2.12E-06	2.87E-07	2.41E-06
m-Xylene	3.67E-07	4.98E-08	4.17E-07
p-Xylene	2.47E-06	3.35E-07	2.81E-06
o-Xylene	4.24E-07	5.75E-08	4.82E-07

Components	Flashing Losses (ton/yr)
Mixture	0.5077
Propane	0.1736
i-Butane	0.04122
n-Butane	0.131
i-Pentane	0.04351
n-Pentane	0.06338
n-Hexane	0.01684
Heptane	0.009739
Octane	0.001536
Nonane	9.60E-05
Decane	9.18E-06
TEG	0
EG	0
2-Methylpentane	0.01727
3-Methylpentane	0.006068
2,2,4-Trimethylpentan	0.000854
Benzene	0.001297
Toluene	0.001062
Ethylbenzene	8.61E-05
m-Xylene	1.56E-05
p-Xylene	0.0001023
o-Xylene	1.98E-05

Targa Badlands LLC - Buffalo Compressor Station
ProMax AP-42 Emissions Report
Annual Separator Tank Working and Breathing Emissions

Components	Is HAP? [1]	Molecular Weight (g/mol)	Working Losses[2] (ton/yr)	Weight Percent	Breathing Losses[2] (ton/yr)	Weight Percent	Total Losses (ton/yr)	Weight Percent
Propane	No	44.10	2.2560	0.37	0.0903	0.37	2.346E+00	0.37
i-Butane	No	58.12	0.4941	0.08	0.0198	0.08	5.139E-01	0.08
n-Butane	No	58.12	1.6050	0.26	0.0642	0.26	1.669E+00	0.26
i-pentane	No	72.15	0.4813	0.08	0.0193	0.08	5.006E-01	0.08
n-Pentane	No	72.15	0.6975	0.11	0.0279	0.11	7.254E-01	0.11
Hexane	Yes	86.18	0.1846	0.03	0.0074	0.03	1.920E-01	0.03
Heptane	No	100.21	0.1002	0.02	0.0040	0.02	1.042E-01	0.02
Octane	No	114.23	0.0137	2.23E-03	0.0005	2.23E-03	1.420E-02	2.23E-03
Nonane	No	128.20	0.0008	1.28E-04	0.0000	1.28E-04	8.111E-04	1.28E-04
Decane	No	142.29	0.0001	1.15E-05	0.0000	1.15E-05	7.311E-05	1.15E-05
2-Methylpentane	No	86.18	0.1884	3.08E-02	0.0075	3.08E-02	1.959E-01	3.08E-02
3-Methylpentane	No	86.18	0.0665	1.09E-02	0.0027	1.09E-02	6.911E-02	1.09E-02
Pentane, 2,2,4-Trimethyl-	Yes	114.23	0.0090	1.47E-03	0.0004	1.47E-03	9.341E-03	1.47E-03
Benzene	Yes	78.11	0.0084	1.37E-03	0.0003	1.37E-03	8.723E-03	1.37E-03
Toluene	Yes	92.14	0.0071	1.16E-03	0.0003	1.16E-03	7.403E-03	1.16E-03
Ethylbenzene	Yes	106.17	0.0006	9.63E-05	0.0000	9.63E-05	6.121E-04	9.63E-05
m-Xylene	Yes	106.16	0.0001	1.67E-05	0.0000	1.67E-05	1.064E-04	1.67E-05
p-Xylene	Yes	106.16	0.0007	1.13E-04	0.0000	1.13E-04	7.165E-04	1.13E-04
o-Xylene	Yes	106.16	0.0001	1.93E-05	0.0000	1.93E-05	1.224E-04	1.93E-05
VOC Total		-	6.114	1.00	0.245	1.00	6.36	1.00
HAP Total		-	0.211	0.03	0.008	0.03	0.22	0.03

1. HAP classification derived from EPA's *Initial List of Hazardous Air Polluitants with Modifications*

Vapor Molecular Weight: 58.65

2. Working, Breathing, and Total losses updated from ProMax run "Buffalo Slug Catcher Liquids 09-24-2020 Annual_updated"

Targa Badlands LLC - Buffalo Compressor Station
ProMax AP-42 Emissions Report
Annual Separator Tank Flash Emissions

Components	Is HAP? [1]	Molecular Weight (g/mol)	Flash Losses (ton/yr)	Weight Percent
Propane	No	44.10	20.75	0.34
i-Butane	No	58.12	4.92	0.08
n-Butane	No	58.12	15.67	0.26
i-pentane	No	72.15	5.20	0.09
n-Pentane	No	72.15	7.57	0.12
Hexane	Yes	86.18	2.01	0.03
Heptane	No	100.21	1.16	0.02
Octane	No	114.23	0.18	3.02E-03
Nonane	No	128.20	0.01	1.89E-04
Decane	No	142.29	0.00	1.81E-05
2-Methylpentane	No	86.18	2.06	0.03
3-Methylpentane	No	86.18	0.72	0.01
Pentane, 2,2,4-Trimethyl-	Yes	114.23	0.10	0.00
Benzene	Yes	78.11	0.16	2.56E-03
Toluene	Yes	92.14	0.13	2.10E-03
Ethylbenzene	Yes	106.17	0.01	1.70E-04
m-Xylene	Yes	106.16	0.00	3.08E-05
p-Xylene	Yes	106.16	0.01	2.01E-04
o-Xylene	Yes	106.16	0.00	0.00
VOC Total		-	60.674	1.00
HAP Total		-	2.320	0.04

1. HAP classification derived from EPA's *Initial List of Hazardous Air Polluitants with Modifications*

Working, Breathing, and Total losses updated from "Buffalo Slug Catcher Liquids 09-24-2020 Annual_updated"

ProMax AP-42 Emissions Report - Annual (TK-102 - Separator)
Based on "Buffalo Slug Catcher Liquids 09-24-2020 Annual_updated"

TK-102 Separator

Components	Working Losses (ton/yr)	Breathing Losses (ton/yr)	Total Losses (ton/yr)
Mixture	6.114	0.2446	6.359
Propane	2.256	0.09027	2.346
i-Butane	0.4941	0.01977	0.5139
n-Butane	1.605	0.06421	1.669
i-Pentane	0.4813	0.01926	0.5005
n-Pentane	0.6975	0.02791	0.7254
n-Hexane	0.1846	0.007387	0.192
Heptane	0.1002	0.004011	0.1043
Octane	0.01365	0.0005463	0.0142
Nonane	0.0007799	3.12E-05	0.0008111
Decane	7.03E-05	2.81E-06	7.31E-05
TEG	0	0	0
EG	0	0	0
2-Methylpentane	0.1884	0.007536	0.1959
3-Methylpentane	0.06645	0.002659	0.06911
2,2,4-Trimethylpen	0.008982	0.0003594	0.009342
Benzene	0.008387	0.0003356	0.008722
Toluene	0.007118	0.0002848	0.007402
Ethylbenzene	0.0005885	2.36E-05	0.0006121
m-Xylene	0.0001023	4.09E-06	0.0001064
p-Xylene	0.0006889	2.76E-05	0.0007164
o-Xylene	0.0001177	4.71E-06	0.0001224

Components	Flashing Losses (ton/yr)
Mixture	60.67
Propane	20.75
i-Butane	4.92
n-Butane	15.67
i-Pentane	5.197
n-Pentane	7.569
n-Hexane	2.011
Heptane	1.163
Octane	0.1834
Nonane	0.01146
Decane	0.001096
TEG	0
EG	0
2-Methylpentane	2.062
3-Methylpentane	0.7246
2,2,4-Trimethylpen	0.102
Benzene	0.1554
Toluene	0.1272
Ethylbenzene	0.01029
m-Xylene	0.001869
p-Xylene	0.01222
o-Xylene	0.002363

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	To Combustors	1	2	3	4	89	91	92	93	102
Composition	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block:	SPLT-101	MIX-105	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	MIX-106	SPLT-101	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	--	VLVE-119	MIX-105	--
Mole Fraction		%	%	%	%	%	%	%	%	%	%	%	%	%
Carbon Dioxide		0	0	0*	0	0	0	0	0	0	0	0	0	0
Nitrogen		0.00278016	5.92475E-05	0.0844932*	1.89914	0.0495197	1.89914	0.00278016	2.22441E-05	0.0495197	5.92475E-05	1.89914	0.00278016	0.00278016
Methane		0.0122269	0.000221317	0.115926*	2.41805	0.0679418	2.41805	0.0122269	5.80457E-05	0.0679418	0.000221317	2.41805	0.0122269	0.0122269
Ethane		0.440346	0.00638410	0.992396*	13.2319	0.581622	13.2319	0.440346	0.000482355	0.581622	0.00638410	13.2319	0.440346	0.440346
Propane		3.46064	0.0471955	4.61435*	30.1080	2.70437	30.1080	3.46064	0.000773763	2.70437	0.0471955	30.1080	3.46064	3.46064
i-Butane		1.93266	0.0260464	2.12635*	6.35925	1.24621	6.35925	1.93266	0.000117123	1.24621	0.0260464	6.35925	1.93266	1.93266
n-Butane		9.72768	0.131008	10.2376*	21.2159	6.00004	21.2159	9.72768	0.000496163	6.00004	0.131008	21.2159	9.72768	9.72768
i-Pentane		6.88648	0.0924990	6.86357*	6.11160	4.02259	6.11160	6.88648	0.000103106	4.02259	0.0924990	6.11160	6.88648	6.88648
n-Pentane		13.9606	0.187370	13.7728*	9.11174	8.07196	9.11174	13.9606	5.85053E-05	8.07196	0.187370	9.11174	13.9606	13.9606
n-Hexane		11.8694	0.159264	11.4702*	2.18686	6.72246	2.18686	11.8694	9.66191E-06	6.72246	0.159264	2.18686	11.8694	11.8694
Heptane		20.7217	0.278030	19.9097*	1.14797	11.6687	1.14797	20.7217	3.80063E-06	11.6687	0.278030	1.14797	20.7217	20.7217
Octane		9.95921	0.133625	9.55244*	0.167687	5.59848	0.167687	9.95921	2.29927E-07	5.59848	0.133625	0.167687	9.95921	9.95921
Nonane		1.94641	0.0261154	1.86593*	0.00992863	1.09358	0.00992863	1.94641	1.48790E-08	1.09358	0.0261154	0.00992863	1.94641	1.94641
Decane		0.541130	0.00726045	0.518675*	0.000896655	0.303984	0.000896655	0.541130	3.84731E-10	0.303984	0.00726045	0.000896655	0.541130	0.541130
Water		0.0410442	98.6557	0*	2.64401	41.3922	2.64401	0.0410442	99.9968	41.3922	98.6557	2.64401	0.0410442	0.0410442
TEG		0	0	0*	0	0	0	0	0	0	0	0	0	0
EG		0	0	0*	0	0	0	0	0	0	0	0	0	0
2-Methylpentane		8.32837	0.111763	8.07616*	2.18143	4.73326	2.18143	8.32837	1.96504E-05	4.73326	0.111763	2.18143	8.32837	8.32837
3-Methylpentane		3.32440	0.0446210	3.21948*	0.771986	1.88687	0.771986	3.32440	1.71438E-05	1.88687	0.0446210	0.771986	3.32440	3.32440
2,2,4-Trimethylpentane		1.45465	0.0195179	1.39794*	0.0870400	0.819300	0.0870400	1.45465	5.21750E-07	0.819300	0.0195179	0.0870400	1.45465	1.45465
Benzene		0.992803	0.0139461	0.959923*	0.184382	0.562590	0.184382	0.992803	0.000633958	0.562590	0.0139461	0.184382	0.992803	0.992803
Toluene		2.64906	0.0358867	2.54505*	0.136053	1.49160	0.136053	2.64906	0.000348509	1.49160	0.0358867	0.136053	2.64906	2.64906
Ethylbenzene		0.638401	0.00858872	0.612315*	0.0100947	0.358865	0.0100947	0.638401	2.34853E-05	0.358865	0.00858872	0.0100947	0.638401	0.638401
m-Xylene		0.127856	0.00171812	0.122622*	0.00183607	0.0718662	0.00183607	0.127856	2.68890E-06	0.0718662	0.00171812	0.00183607	0.127856	0.127856
p-Xylene		0.793677	0.0106681	0.761213*	0.0119569	0.446131	0.0119569	0.793677	1.94442E-05	0.446131	0.0106681	0.0119569	0.793677	0.793677
o-Xylene		0.188477	0.00253677	0.180748*	0.00233817	0.105933	0.00233817	0.188477	8.05481E-06	0.105933	0.00253677	0.00233817	0.188477	0.188477
Molar Flow		lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
Carbon Dioxide		0	0	0*	0	0	0	0	0	0	0	0	0	0
Nitrogen		0.00518565	8.31970E-05	0.166096*	0.160828	0.166096	0.160828	0.00523803	3.08167E-05	0.166096	8.31970E-05	0.160828	5.23803E-05	0.00518565
Methane		0.0228060	0.000310780	0.227887*	0.204770	0.227887	0.204770	0.0230364	8.04158E-05	0.227887	0.000310780	0.204770	0.000230364	0.0228060
Ethane		0.821351	0.00896472	1.95085*	1.12053	1.95085	1.12053	0.829648	0.000668248	1.95085	0.00896472	1.12053	0.00829648	0.821351
Propane		6.45492	0.0662732	9.07086*	2.54967	9.07086	2.54967	6.52012	0.00107196	9.07086	0.0662732	2.54967	0.0652012	6.45492
i-Butane		3.60487	0.0365751	4.17997*	0.538528	4.17997	0.538528	3.64128	0.000162261	4.17997	0.0365751	0.538528	0.0364128	3.60487
n-Butane		18.1444	0.183964	20.1250*	1.79665	20.1250	1.79665	18.3277	0.000687378	20.1250	0.183964	1.79665	0.183277	18.1444
i-Pentane		12.8449	0.129890	13.4924*	0.517556	13.4924	0.517556	12.9747	0.000142841	13.4924	0.129890	0.517556	0.129747	12.8449
n-Pentane		26.0398	0.263110	27.0746*	0.771621	27.0746	0.771621	26.3029	8.10525E-05	27.0746	0.263110	0.771621	0.263029	26.0398
n-Hexane		22.1393	0.223643	22.5481*	0.185193	22.5481	0.185193	22.3629	1.33855E-05	22.5481	0.223643	0.185193	0.223629	22.1393
Heptane		38.6508	0.390418	39.1385*	0.0972146	39.1385	0.0972146	39.0413	5.26534E-06	39.1385	0.390418	0.0972146	0.390413	38.6508
Octane		18.5763	0.187640	18.7781*	0.0142004	18.7781	0.0142004	18.7639	3.18538E-07	18.7781	0.187640	0.0142004	0.187639	18.5763
Nonane		3.63052	0.0366719	3.66803*	0.000840799	3.66803	0.000840799	3.66719	2.06132E-08	3.66803	0.0366719	0.000840799	0.0366719	3.63052
Decane		1.00934	0.0101953	1.01961*	7.59326E-05	1.01961	7.59326E-05	1.01953	5.33002E-10	1.01961	0.0101953	7.59326E-05	0.0101953	1.00934
Water		0.0765572	138.535	0*	0.223906	138.835	0.223906	0.0773305	138.534	138.835	138.535	0.223906	0.000773305	0.0765572
TEG		0	0	0*	0	0	0	0	0	0	0	0	0	0
EG		0	0	0*	0	0	0	0	0	0	0	0	0	0
2-Methylpentane		15.5344	0.156940	15.8761*	0.184732	15.8761	0.184732	15.6913	2.72234E-05	15.8761	0.156940	0.184732	0.156913	15.5344
3-Methylpentane		6.20080	0.0626581	6.32883*	0.0653751	6.32883	0.0653751	6.26343	2.37507E-05	6.32883	0.0626581	0.0653751	0.0626343	6.20080
2,2,4-Trimethylpentane		2.71328	0.0274076	2.74806*	0.00737091	2.74806	0.00737091	2.74068	7.22826E-07	2.74806	0.0274076	0.00737091	0.0274068	2.71328
Benzene		1.85181	0.0195835	1.78970*	0.0156143	1.88701	0.0156143	1.87052	0.000878277	1.88701	0.0195835	0.0156143	0.0187052	1.85181
Toluene		4.94112	0.0503931	5.00304*	0.0115215	5.00304	0.0115215	4.99103	0.000482820	5.00304	0.0503931	0.0115215	0.0499103	4.94112
Ethylbenzene		1.19077	0.0120605	1.20369*	0.000854858	1.20369	0.000854858	1.20280	3.25362E-05	1.20369	0.0120605	0.000854858	0.0120280	1.19077
m-Xylene		0.238482	0.00241263	0.241050*	0.000155486	0.241050	0.000155486	0.240891	3.72516E-06	0.241050	0.00241263	0.000155486	0.00240891	0.238482
p-Xylene		1.48040	0.0149804	1.49639*	0.00101256	1.49639	0.00101256	1.49535	2.69377E-05	1.49639	0.0149804	0.00101256	0.0149535	1.48040
o-Xylene		0.351554	0.00356221	0.355314*	0.000198006	0.355314	0.000198006	0.355105	1.11590E-05	0.355314	0.00356221	0.000198006	0.00355105	0.351554
Mass Fraction		%	%	%	%	%	%	%	%	%	%	%	%	%
Carbon Dioxide		0	0	0*	0	0	0	0	0	0	0	0	0	0
Nitrogen		0.000906684	8.76891E-05	0.028*	1.02618	0.0243370	1.02618	0.000906684	3.45866E-05	0.0243370	8.76891E-05	1.02618	0.000906684	0.000906684
Methane		0.00228353	0.000187584	0.022*	0.748231	0.0191219	0.748231	0.00228353	5.16855E-05	0.0191219	0.000187584	0.748231	0.00228353	0.00228353
Ethane		0.154147	0.0101421	0.353*	7.67435	0.306820	7.67435	0.154147	0.000805032	0.306820	0.0101421	7.67435	0.154147	0.154147
Propane		1.77653	0.109953	2.407*	25.6081	2.09211	25.6081	1.77653	0.00189379	2.09211	0.109953	25.6081	1.77653	1.77653
i-Butane		1.30773	0.0799834	1.462*	7.12932	1.27074	7.12932	1.30773	0.000277843	1.27074	0.0799834	7.12932	1.30773	1.30773
n-Butane		6.58221	0.402299	7.039*	23.7850	6.11814	23.7850	6.58221	0.00160064	6.11814	0.402299	23.7850	6.58221	6.58221
i-Pentane		5.78425	0.352595	5.858*	8.50519	5.09164	8.50519	5.78425	0.000412895	5.09164	0.352595	8.50519	5.78425	5.78425
n-Pentane		11.7261	0.714231	11.755*	12.6803	10.2172	12.6803	11.7261	0.000234289	10.2172	0.714231	12.6803	11.7261	11.7261
n-Hexane		11.9079	0.725121	11.693*	3.63500	10.1633	3.63500	11.9079	4.62140E-05	10.1633	0.725121	3.63500	11.9079	11.9079
Heptane		24.1725	1.47190	23.6*	2.21874	20.5126	2.21874	24.1725	2.11378E-05	20.5126	1.47190	2.21874	24.1725	24.1725
Octane		13.2440	0.806439	12.908*	0.369465	11.2193	0.369465	13.2440	1.45778E-06	11.2193	0.806439	0.369465	13.2440	13.2440
Nonane		2.90623	0.176962	2.831*	0.0245620	2.46064	0.0245620	2.90623	1.05920E-07	2.46064	0.176962	0.0245620	2.90623	2.90623
Decane		0.896338	0.0545786	0.873*	0.00246079	0.758792	0.00246079	0.896338	3.03832E-09	0.758792	0.0545786	0.00246079	0.896338	0.896338
Water		0.00860823	93.9016	0*	0.918765	13.0822	0.918765	0.00860823	99.9895	13.0822	93.9016	0.918765	0.00860823	0.00860823
TEG		0	0	0*	0	0	0	0	0	0	0	0	0	0
EG		0	0	0*	0	0	0	0	0	0	0	0	0	0
2-Methylpentane		8.35534	0.508850	8.233*	3.62597	7.15594	3.62597	8.35534	9.39899E-05	7.15594	0.508850	3.62597	8.35534	8.35534
3-Methylpentane		3.33516	0.203157	3.282*	1.28320	2.85264	1.28320	3.33516	8.20005E-05	2.85264	0.203157	1.28320	3.33516	3.33516
2,2,4-Trimethylpentane		1.93444	0.117792	1.889*	0.191776	1.64188	0.191776	1.93444	3.30799E-06	1.64188	0.117792	0.191776	1.93444	1.93444
Benzene		0.902820	0.0575545	0.887*	0.277803	0.770961	0.277803	0.902820	0.00274856	0.770961	0.0575545	0.277803	0.902820	0.902820
Toluene		2.84153	0.174697	2.774*	0.241796	2.41110	0.241796	2.84153	0.00178231	2.41110	0.174697	0.241796	2.84153	2.84153
Ethylbenzene		0.789034	0.0481748	0.769*	0.0206716	0.668398	0.0206716	0.789034	0.000138390	0.668398	0.0481748	0.0206716	0.789034	0.789034
m-Xylene		0.158024	0.00963708	0.154*	0.00375985	0.133853	0.00375985	0.158024	1.58447E-05	0.133853	0.00963708	0.00375985	0.158024	0.158024
p-Xylene		0.980948	0.0598382	0.956*	0.0244850	0.830934	0.0244850	0.980948	0.000114577	0.830934	0.0598382	0.0244850	0.980948	0.980948
o-Xylene		0.232948	0.0142290	0.227*	0.00478804	0.197303	0.00478804	0.232948	4.74639E-05	0.197303	0.0142290	0.00478804	0.232948	0.232948
Mass Flow		lbm/h	lbm/h	lbm/h	lbm/h	lbm/h	lbm/h	lbm/h	lbm/h	lbm/h	lbm/h	lbm/h	lbm/h	lbm/h
Carbon Dioxide		0	0	0*	0	0	0	0	0	0	0	0	0	0
Nitrogen		0.145268	0.00233063	4.65293*	4.50533	4.65293	4.50533	0.146735	0.000863279	4.65293	0.00233063	4.50533	0.00146735	0.145268
Methane		0.365865	0.00498567	3.65587*	3.28502	3.65587	3.28502	0.369560	0.00129007	3.65587	0.00498567	3.28502	0.00369560	0.365865
Ethane		24.6972	0.269561	58.6601*	33.6933	58.6601	33.6933	24.9467	0.0200936	58.6601	0.269561	33.6933	0.249467	24.6972
Propane		284.634	2.92236	399.985*	112.429	399.985	112.429	287.509	0.0472688	399.985	2.92236	112.429	2.87509	284.634
i-Butane		209.523	2.12582	242.949*	31.3004	242.949	31.3004	211.639	0.00943095	242.949	2.12582	31.3004	2.11639	209.523
n-Butane		1054.59	10.6924	1169.71*	104.425	1169.71	104.425	1065.25	0.0399519	1169.71	10.6924	104.425	10.6525	1054.59
i-Pentane		926.746	9.37138	973.458*	37.3410	973.458	37.3410	936.107	0.0103058	973.458	9.37138	37.3410	9.36107	926.746
n-Pentane		1878.74	18.9831	1953.40*	55.6715	1953.40	55.6715	1897.72	0.00584784	1953.40	18.9831	55.6715	18.9772	1878.74
n-Hexane		1907.86	19.2725	1943.09*	15.9590	1943.09	15.9590	1927.13	0.00115350	1943.09	19.2725	15.9590	19.2713	1907.86
Heptane		3872.89	39.1206	3921.75*	9.74109	3921.75	9.74109	3912.01	0.000527598	3921.75	39.1206	9.74109	39.1201	3872.89
Octane		2121.94	21.4338	2145.00*	1.62209	2145.00	1.62209	2143.38	3.63861E-05	2145.00	21.4338	1.62209	21.4336	2121.94
Nonane		465.633	4.70336	470.444*	0.107837	470.444	0.107837	470.336	2.64375E-06	470.444	4.70336	0.107837	4.70336	465.633
Decane		143.610	1.45061	145.072*	0.0108038	145.072	0.0108038	145.061	7.58364E-08	145.072	1.45061	0.0108038	1.45061	143.610
Water		1.37920	2495.75	0*	4.03373	2501.16	4.03373	1.39313	2495.73	2501.16	2495.75	4.03373	0.0139313	1.37920
TEG		0	0	0*	0	0	0	0	0	0	0	0	0	0
EG		0	0	0*	0	0	0	0	0	0	0	0	0	0
2-Methylpentane		1338.68	13.5244	1368.13*	15.9194	1368.13	15.9194	1352.20	0.00234598	1368.13	13.5244	15.9194	13.5220	1338.68
3-Methylpentane		534.356	5.39958	545.389*	5.63372	545.389	5.63372	539.754	0.00204673	545.389	5.39958	5.63372	5.39754	534.356
2,2,4-Trimethylpentane		309.934	3.13072	313.906*	0.841969	313.906	0.841969	313.064	8.25673E-05	313.906	3.13072	0.841969	3.13064	309.934
Benzene		144.649	1.52970	147.398*	1.21966	147.398	1.21966	146.110	0.0686038	147.398	1.52970	1.21966	1.46110	144.649
Toluene		455.267	4.64315	460.972*	1.06158	460.972	1.06158	459.866	0.0444863	460.972	4.64315	1.06158	4.59866	455.267
Ethylbenzene		126.418	1.28040	127.789*	0.0907560	127.789	0.0907560	127.695	0.00345420	127.789	1.28040	0.0907560	1.27695	126.418
m-Xylene		25.3184	0.256137	25.5911*	0.0165072	25.5911	0.0165072	25.5742	0.00095482	25.5911	0.256137	0.0165072	0.255742	25.3184
o-Xylene		157.166	1.59040	158.864*	0.107498	158.864	0.107498	158.754	0.00285984	158.864	1.59040	0.107498	1.58754	157.166
o-Xylene		37.3227	0.378182	37.7219*	0.0210213	37.7219	0.0210213	37.6997	0.00118470	37.7219	0.378182	0.0210213	0.376997	37.3227

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	To Combustors	1	2	3	4	89	91	92	93	102
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Total	From Block:	SPLT-101	MIX-105	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	MIX-106	SPLT-101	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	--	VLVE-119	MIX-105	--
Property	**Units**													
Temperature	°F	70.7	70.7000	40*	70.5922	39.9547	70.7*	70.7	70.7	39.5890	70.7000	70.7	70.7	70.7
Pressure	psia	14	14	38.5*	13.5	38.5	14	14	14	14*	14	14	14	14
Mole Fraction Vapor	%	0	0	0	100	0	100	0	0	0.254246	0	100	0	0
Mole Fraction Light Liquid	%	100	1.34172	100	0	58.6153	0	100	100	58.3635	1.34172	0	100	100
Mole Fraction Heavy Liquid	%	0	98.6583	0	0	41.3847	0	0	0	41.3822	98.6583	0	0	0
Molecular Weight	lb/lbmol	85.8972	18.9274	84.5337	51.8441	57.0003	51.8441	85.8972	18.0166	57.0003	18.9274	51.8441	85.8972	85.8972
Mass Density	lb/ft^3	41.6639	60.4531	42.4861	0.125593	44.3474	0.130321	41.6639	62.2740	25.4306	60.4531	0.130321	41.6639	41.6639
Molar Flow	lbmol/h	186.524	140.423	196.580	8.46842	335.415	8.46842	188.408	138.539	335.415	140.423	8.46842	1.88408	186.524
Mass Flow	lb/h	16021.9	2657.83	16617.6	439.038	19118.7	439.038	16183.7	2496.00	19118.7	2657.83	439.038	161.837	16021.9
Vapor Volumetric Flow	ft^3/h	384.551	43.9652	391.130	3495.71	431.113	3368.90	388.435	40.0809	751.800	43.9652	3368.90	3.88435	384.551
Liquid Volumetric Flow	gpm	47.9440	5.48138	48.7642	435.828	53.7491	420.019	48.4283	4.99710	93.7309	5.48138	420.019	0.484283	47.9440
Std Vapor Volumetric Flow	MMSCFD	1.69879	1.27892	1.79037	0.0771272	3.05483	0.0771272	1.71595	1.26176	3.05483	1.27892	0.0771272	0.0171595	1.69879
Std Liquid Volumetric Flow	sgpm	47.9336	5.47415	50*	1.59229	55	1.59229	48.4177	4.98998	55	5.47415	1.59229	0.484177	47.9336
Compressibility		0.00507113	0.000770118	0.0142855	0.979292	0.00922915	0.978524	0.00507113	0.000711626	0.00585677	0.000770118	0.978524	0.00507113	0.00507113
Specific Gravity		0.668025	0.969285	0.681209	1.79004	0.711053	1.79004	0.668025	0.998481		0.969285	1.79004	0.668025	0.668025
API Gravity		78.5693	14.2027	79.4205		70.2276		78.5693	10.0009		14.2027		78.5693	78.5693
Enthalpy	Btu/h	-1.51062E+07	-1.71922E+07	-1.59951E+07	-439061	-3.31470E+07	-439061	-1.52587E+07	-1.70396E+07	-3.31470E+07	-1.71922E+07	-439061	-152587	-1.51062E+07
Mass Enthalpy	Btu/lb	-942.846	-6468.49	-962.543	-1000.05	-1733.74	-1000.05	-942.846	-6826.77	-1733.74	-6468.49	-1000.05	-942.846	-942.846
Mass Cp	Btu/(lb*°F)	0.521877	0.954091	0.503334	0.399086	0.566413	0.399274	0.521877	0.982115	0.566954	0.954091	0.399274	0.521877	0.521877
Ideal Gas CpCv Ratio		1.06405	1.30885	1.06849	1.10714	1.10182	1.10712	1.06405	1.32579	1.10188	1.30885	1.10712	1.06405	1.06405
Dynamic Viscosity	cP	0.313920	0.927441	0.365903	0.00790939	0.471921	0.00791262	0.313920	0.986899		0.927441	0.00791262	0.313920	0.313920
Kinematic Viscosity	cSt	0.470369	0.957739	0.537649	3.93147	0.664324	3.79041	0.470369	0.989339		0.957739	3.79041	0.470369	0.470369
Thermal Conductivity	Btu/(ft*ft^2*°F)	0.0685766	0.322719	0.0715210?	0.00961899	0.0959327	0.00962478	0.0685766	0.347348		0.322719	0.00962478	0.0685766	0.0685766
Surface Tension	lbf/ft	0.001261507	0.004694087	0.00134360		0.001707437		0.001261507	0.005026747		0.004694087		0.001261507	0.001261507
Net Ideal Gas Heating Value	Btu/ft^3	4363.32	58.6356	4295.76	2640.47	2517.65	2640.47	4363.32	0.0932767	2517.65	58.6356	2640.47	4363.32	4363.32
Net Liquid Heating Value	Btu/lb	19121.8	171.043	19129.5	19164.3	16488.3	19164.3	19121.8	-1057.70	16488.3	171.043	19164.3	19121.8	19121.8
Gross Ideal Gas Heating Value	Btu/ft^3	4705.20	112.862	4633.00	2864.55	2736.13	2864.55	4705.20	50.4080	2736.13	112.862	2864.55	4705.20	4705.20
Gross Liquid Heating Value	Btu/lb	20632.3	1258.27	20643.6	20804.9	17942.9	20804.9	20632.3	2.08069	17942.9	1258.27	20804.9	20632.3	20632.3

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	To Combustors	1	2	3	4	89	91	92	93	102
Composition	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Vapor	From Block:	SPLT-101	MIX-105	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	MIX-106	SPLT-101	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	--	VLVE-119	MIX-105	--
Mole Fraction					%		%			%		%		
Carbon Dioxide					0		0			0		0		
Nitrogen					1.89914		1.89914			14.5260		1.89914		
Methane					2.41805		2.41805			11.5572		2.41805		
Ethane					13.2319		13.2319			20.1911		13.2319		
Propane					30.1080		30.1080			25.6134		30.1080		
i-Butane					6.35925		6.35925			4.10143		6.35925		
n-Butane					21.2159		21.2159			12.6132		21.2159		
i-Pentane					6.11160		6.11160			3.16057		6.11160		
n-Pentane					9.11174		9.11174			4.49167		9.11174		
n-Hexane					2.18686		2.18686			0.918098		2.18686		
Heptane					1.14797		1.14797			0.426921		1.14797		
Octane					0.167687		0.167687			0.0550867		0.167687		
Nonane					0.00992863		0.00992863			0.00284025		0.00992863		
Decane					0.000896655		0.000896655			0.000230271		0.000896655		
Water					2.64401		2.64401			0.856625		2.64401		
TEG					0		0			0		0		
EG					0		0			0		0		
2-Methylpentane					2.18143		2.18143			0.973813		2.18143		
3-Methylpentane					0.771986		0.771986			0.339207		0.771986		
2,2,4-Trimethylpentane					0.0870400		0.0870400			0.0334931		0.0870400		
Benzene					0.184382		0.184382			0.0793608		0.184382		
Toluene					0.136053		0.136053			0.0510313		0.136053		
Ethylbenzene					0.0100947		0.0100947			0.00333797		0.0100947		
m-Xylene					0.00183607		0.00183607			0.000604928		0.00183607		
p-Xylene					0.0119569		0.0119569			0.00398204		0.0119569		
o-Xylene					0.00233817		0.00233817			0.000758521		0.00233817		
Molar Flow					lbmol/h		lbmol/h			lbmol/h		lbmol/h		
Carbon Dioxide					0		0			0		0		
Nitrogen					0.160828		0.160828			0.123875		0.160828		
Methane					0.204770		0.204770			0.0985578		0.204770		
Ethane					1.12053		1.12053			0.172185		1.12053		
Propane					2.54967		2.54967			0.218426		2.54967		
i-Butane					0.538528		0.538528			0.0349762		0.538528		
n-Butane					1.79665		1.79665			0.107563		1.79665		
i-Pentane					0.517556		0.517556			0.0269527		0.517556		
n-Pentane					0.771621		0.771621			0.0383041		0.771621		
n-Hexane					0.185193		0.185193			0.00782937		0.185193		
Heptane					0.0972146		0.0972146			0.00364070		0.0972146		
Octane					0.0142004		0.0142004			0.000469769		0.0142004		
Nonane					0.000840799		0.000840799			2.42211E-05		0.000840799		
Decane					7.59326E-05		7.59326E-05			1.96371E-06		7.59326E-05		
Water					0.223906		0.223906			0.00730514		0.223906		
TEG					0		0			0		0		
EG					0		0			0		0		
2-Methylpentane					0.184732		0.184732			0.00830449		0.184732		
3-Methylpentane					0.0653751		0.0653751			0.00289269		0.0653751		
2,2,4-Trimethylpentane					0.00737091		0.00737091			0.000285623		0.00737091		
Benzene					0.0156143		0.0156143			0.000676774		0.0156143		
Toluene					0.0115215		0.0115215			0.000435185		0.0115215		
Ethylbenzene					0.000854858		0.000854858			2.84656E-05		0.000854858		
m-Xylene					0.000155486		0.000155486			5.15871E-06		0.000155486		
p-Xylene					0.00101256		0.00101256			3.39580E-05		0.00101256		
o-Xylene					0.000198006		0.000198006			6.46852E-06		0.000198006		
Mass Fraction					%		%			%		%		
Carbon Dioxide					0		0			0		0		
Nitrogen					1.02618		1.02618			9.86408		1.02618		
Methane					0.748231		0.748231			4.49437		0.748231		
Ethane					7.67435		7.67435			14.7171		7.67435		
Propane					25.6081		25.6081			27.3783		25.6081		
i-Butane					7.12932		7.12932			5.77858		7.12932		
n-Butane					23.7850		23.7850			17.7710		23.7850		
i-Pentane					8.50519		8.50519			5.52762		8.50519		
n-Pentane					12.6803		12.6803			7.85563		12.6803		
n-Hexane					3.63500		3.63500			1.91786		3.63500		
Heptane					2.21874		2.21874			1.03697		2.21874		
Octane					0.369465		0.369465			0.152534		0.369465		
Nonane					0.0245620		0.0245620			0.00883031		0.0245620		
Decane					0.00246079		0.00246079			0.000794206		0.00246079		
Water					0.918765		0.918765			0.374090		0.918765		
TEG					0		0			0		0		
EG					0		0			0		0		
2-Methylpentane					3.62597		3.62597			2.03424		3.62597		
3-Methylpentane					1.28320		1.28320			0.708586		1.28320		
2,2,4-Trimethylpentane					0.191776		0.191776			0.0927416		0.191776		
Benzene					0.277803		0.277803			0.150268		0.277803		
Toluene					0.241796		0.241796			0.113978		0.241796		
Ethylbenzene					0.0206716		0.0206716			0.00859029		0.0206716		
m-Xylene					0.00375985		0.00375985			0.00155679		0.00375985		
p-Xylene					0.0244850		0.0244850			0.0102478		0.0244850		
o-Xylene					0.00478804		0.00478804			0.00195206		0.00478804		
Mass Flow					lb/h		lb/h			lb/h		lb/h		
Carbon Dioxide					0		0			0		0		
Nitrogen					4.50533		4.50533			3.47016		4.50533		
Methane					3.28502		3.28502			1.58111		3.28502		
Ethane					33.6933		33.6933			5.17745		33.6933		
Propane					112.429		112.429			9.63164		112.429		
i-Butane					31.3004		31.3004			2.03289		31.3004		
n-Butane					104.425		104.425			6.25182		104.425		
i-Pentane					37.3410		37.3410			1.94461		37.3410		
n-Pentane					55.6715		55.6715			2.76359		55.6715		
n-Hexane					15.9590		15.9590			0.674699		15.9590		
Heptane					9.74109		9.74109			0.364805		9.74109		
Octane					1.62209		1.62209			0.0536610		1.62209		
Nonane					0.107837		0.107837			0.00310648		0.107837		
Decane					0.0108038		0.0108038			0.000279400		0.0108038		
Water					4.03373		4.03373			0.131604		4.03373		
TEG					0		0			0		0		
EG					0		0			0		0		
2-Methylpentane					15.9194		15.9194			0.715643		15.9194		
3-Methylpentane					5.63372		5.63372			0.249279		5.63372		
2,2,4-Trimethylpentane					0.841969		0.841969			0.0326263		0.841969		
Benzene					1.21966		1.21966			0.0528641		1.21966		
Toluene					1.06158		1.06158			0.0400973		1.06158		
Ethylbenzene					0.0907560		0.0907560			0.00302205		0.0907560		
m-Xylene					0.0165072		0.0165072			0.000547675		0.0165072		
p-Xylene					0.107498		0.107498			0.00360515		0.107498		
o-Xylene					0.0210213		0.0210213			0.000686730		0.0210213		

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq To Combustors	1	2	3	4	89	91	92	93	102
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Vapor	From Block:	SPLT-101	MIX-105	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	MIX-106	SPLT-101	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	--	VLVE-119	MIX-105	--
Property	Units													
Temperature	°F				70.5922	70.7			39.5890		70.7			
Pressure	psia				13.5	14			14		14			
Mole Fraction Vapor	%				100	100			100		100			
Mole Fraction Light Liquid	%				0	0			0		0			
Mole Fraction Heavy Liquid	%				0	0			0		0			
Molecular Weight	lb/lbmol				51.8441	51.8441			41.2530		51.8441			
Mass Density	lb/ft^3				0.125593	0.130321			0.109362		0.130321			
Molar Flow	lbmol/h				8.46842	8.46842			0.852781		8.46842			
Mass Flow	lb/h				439.038	439.038			35.1798		439.038			
Vapor Volumetric Flow	ft^3/h				3495.71	3368.90			321.681		3368.90			
Liquid Volumetric Flow	gpm				435.828	420.019			40.1057		420.019			
Std Vapor Volumetric Flow	MMSCFD				0.0771272	0.0771272			0.00776680		0.0771272			
Std Liquid Volumetric Flow	sgpm				1.59229	1.59229			0.136500		1.59229			
Compressibility					0.979292	0.978524			0.985660		0.978524			
Specific Gravity					1.79004	1.79004			1.42436		1.79004			
API Gravity														
Enthalpy	Btu/h				-439061	-439061			-34282.2		-439061			
Mass Enthalpy	Btu/lb				-1000.05	-1000.05			-974.485		-1000.05			
Mass Cp	Btu/(lb*°F)				0.399086	0.399274			0.376622		0.399274			
Ideal Gas CpCv Ratio					1.10714	1.10712			1.14783		1.10712			
Dynamic Viscosity	cP				0.00790939	0.00791262			0.00868544		0.00791262			
Kinematic Viscosity	cSt				3.93147	3.79041			4.95797		3.79041			
Thermal Conductivity	Btu/(h*ft*°F)				0.00961899	0.00962478			0.0103910		0.00962478			
Surface Tension	lbf/ft													
Net Ideal Gas Heating Value	Btu/ft^3				2640.47	2640.47			1941.88		2640.47			
Net Liquid Heating Value	Btu/lb				19164.3	19164.3			17724.7		19164.3			
Gross Ideal Gas Heating Value	Btu/ft^3				2864.55	2864.55			2111.24		2864.55			
Gross Liquid Heating Value	Btu/lb				20804.9	20804.9			19283.1		20804.9			

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq To Combustors	1	2	3	4	89	91	92	93	102
Composition	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Light Liquid	From Block:	SPLT-101	MIX-105	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	MIX-106	SPLT-101	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	--	VLVE-119	MIX-105	--
Mole Fraction		%	%	%		%		%	%	%	%		%	%
Carbon Dioxide		0	0	0	0	0		0	0	0	0		0	0
Nitrogen		0.00278016	0.00278016	0.0844932	0.0838836			0.00278016	2.22441E-05	0.0214139	0.00278016		0.00278016	0.00278016
Methane		0.0122269	0.0122269	0.115926	0.115476			0.0122269	5.80457E-05	0.0658156	0.0122269		0.0122269	0.0122269
Ethane		0.440346	0.440346	0.992396	0.991412			0.440346	0.000482355	0.907804	0.440346		0.440346	0.440346
Propane		3.46064	3.46064	4.61435	4.61302			3.46064	0.000773763	4.52135	3.46064		3.46064	3.46064
i-Butane		1.93266	1.93266	2.12635	2.12598			1.93266	0.000117123	2.11728	1.93266		1.93266	1.93266
n-Butane		9.72768	9.72768	10.2376	10.2360			9.72768	0.000496163	10.2252	9.72768		9.72768	9.72768
i-Pentane		6.88648	6.88648	6.86357	6.86263			6.88648	0.000103106	6.87846	6.88648		6.88648	6.88648
n-Pentane		13.9606	13.9606	13.7728	13.7711			13.9606	5.85053E-05	13.8109	13.9606		13.9606	13.9606
n-Hexane		11.8694	11.8694	11.4702	11.4688			11.8694	9.66191E-06	11.5143	11.8694		11.8694	11.8694
Heptane		20.7217	20.7217	19.9097	19.9072			20.7217	3.80063E-06	19.9912	20.7217		20.7217	20.7217
Octane		9.95921	9.95921	9.55244	9.55122			9.95921	2.29927E-07	9.59218	9.95921		9.95921	9.95921
Nonane		1.94641	1.94641	1.86593	1.86569			1.94641	1.48790E-08	1.87373	1.94641		1.94641	1.94641
Decane		0.541130	0.541130	0.518675	0.518609			0.541130	3.84731E-10	0.520845	0.541130		0.541130	0.541130
Water		0.0410442	0.0410442	0	0.0165660			0.0410442	99.9968	0.0164142	0.0410442		0.0410442	0.0410442
TEG		0	0	0	0			0	0	0	0		0	0
EG		0	0	0	0			0	0	0	0		0	0
2-Methylpentane		8.32837	8.32837	8.07616	8.07512			8.32837	1.96504E-05	8.10571	8.32837		8.32837	8.32837
3-Methylpentane		3.32440	3.32440	3.21948	3.21906			3.32440	1.71438E-05	3.23147	3.32440		3.32440	3.32440
2,2,4-Trimethylpentane		1.45465	1.45465	1.39794	1.39776			1.45465	5.21750E-07	1.40364	1.45465		1.45465	1.45465
Benzene		0.992803	0.992803	0.959923	0.959386			0.992803	0.000633958	0.963179	0.992803		0.992803	0.992803
Toluene		2.64906	2.64906	2.54505	2.54462			2.64906	0.000348509	2.55528	2.64906		2.64906	2.64906
Ethylbenzene		0.638401	0.638401	0.612315	0.612223			0.638401	2.34853E-05	0.614850	0.638401		0.638401	0.638401
m-Xylene		0.127856	0.127856	0.122622	0.122605			0.127856	2.68890E-06	0.123132	0.127856		0.127856	0.127856
p-Xylene		0.793677	0.793677	0.761213	0.761106			0.793677	1.94442E-05	0.764372	0.793677		0.793677	0.793677
o-Xylene		0.188477	0.188477	0.180748	0.180721			0.188477	8.05481E-06	0.181497	0.188477		0.188477	0.188477
Molar Flow		lbmol/h	lbmol/h	lbmol/h	lbmol/h			lbmol/h	lbmol/h	lbmol/h	lbmol/h		lbmol/h	lbmol/h
Carbon Dioxide		0	0	0	0	0		0	0	0	0		0	0
Nitrogen		0.00518565	5.23803E-05	0.166096	0.164919			0.00523803	3.08167E-05	0.0419200	5.23803E-05		5.23803E-05	0.00518565
Methane		0.0228060	0.000230364	0.227887	0.227030			0.0230364	8.04158E-05	0.128841	0.000230364		0.000230364	0.0228060
Ethane		0.821351	0.00829648	1.95085	1.94916			0.829648	0.000668248	1.77712	0.00829648		0.00829648	0.821351
Propane		6.45492	0.0652012	9.07086	9.06940			6.52012	0.00107196	8.85100	0.0652012		0.0652012	6.45492
i-Butane		3.60487	0.0364128	4.17997	4.17976			3.64128	0.000162261	4.14479	0.0364128		0.0364128	3.60487
n-Butane		18.1444	0.183277	20.1250	20.1244			18.3277	0.000687378	20.0168	0.183277		0.183277	18.1444
i-Pentane		12.8449	0.129747	13.4924	13.4922			12.9747	0.000142841	13.4653	0.129747		0.129747	12.8449
n-Pentane		26.0398	0.263029	27.0746	27.0745			26.3029	8.10525E-05	27.0362	0.263029		0.263029	26.0398
n-Hexane		22.1393	0.223629	22.5481	22.5481			22.3629	1.33855E-05	22.5403	0.223629		0.223629	22.1393
Heptane		38.6508	0.390413	39.1385	39.1385			39.0413	5.26534E-06	39.1348	0.390413		0.390413	38.6508
Octane		18.5763	0.187639	18.7781	18.7781			18.7639	3.18538E-07	18.7777	0.187639		0.187639	18.5763
Nonane		3.63052	0.0366719	3.66803	3.66803			3.66719	2.06132E-08	3.66801	0.0366719		0.0366719	3.63052
Decane		1.00934	0.0101953	1.01961	1.01961			1.01953	5.33002E-10	1.01961	0.0101953		0.0101953	1.00934
Water		0.0765572	0.000773305	0	0.0325695			0.0773305	138.534	0.0321325	0.000773305		0.000773305	0.0765572
TEG		0	0	0	0			0	0	0	0		0	0
EG		0	0	0	0			0	0	0	0		0	0
2-Methylpentane		15.5344	0.156913	15.8761	15.8761			15.6913	2.72234E-05	15.8677	0.156913		0.156913	15.5344
3-Methylpentane		6.20080	0.0626343	6.32883	6.32881			6.26343	2.37507E-05	6.32592	0.0626343		0.0626343	6.20080
2,2,4-Trimethylpentane		2.71328	0.0274068	2.74805	2.74805			2.74068	7.22826E-07	2.74777	0.0274068		0.0274068	2.71328
Benzene		1.85181	0.0187052	1.88701	1.88620			1.87052	0.000878277	1.88552	0.0187052		0.0187052	1.85181
Toluene		4.94112	0.0499103	5.00304	5.00265			4.99103	0.000482820	5.00222	0.0499103		0.0499103	4.94112
Ethylbenzene		1.19077	0.0120280	1.20369	1.20366			1.20280	3.25362E-05	1.20363	0.0120280		0.0120280	1.19077
m-Xylene		0.238482	0.0024091	0.241050	0.241048			0.240891	3.72516E-06	0.241042	0.0024091		0.0024091	0.238482
p-Xylene		1.48040	0.0149535	1.49639	1.49637			1.49535	2.69377E-05	1.49634	0.0149535		0.0149535	1.48040
o-Xylene		0.351554	0.00355105	0.355314	0.355306			0.355105	1.11590E-05	0.355299	0.00355105		0.00355105	0.351554
Mole Fraction		%	%	%	%			%	%	%	%		%	%
Carbon Dioxide		0	0	0	0	0		0	0	0	0		0	0
Nitrogen		0.000906684	0.000906684	0.028	0.0278011			0.000906684	3.45866E-05	0.00708155	0.000906684		0.000906684	0.000906684
Methane		0.00228353	0.00228353	0.022	0.0219170			0.00228353	5.16855E-05	0.0124642	0.00228353		0.00228353	0.00228353
Ethane		0.154147	0.154147	0.353	0.352690			0.154147	0.000805032	0.322238	0.154147		0.154147	0.154147
Propane		1.77653	1.77653	2.407	2.40658			1.77653	0.00189379	2.35358	1.77653		1.77653	1.77653
i-Butane		1.30773	1.30773	1.462	1.46191			1.30773	0.000377843	1.45273	1.30773		1.30773	1.30773
n-Butane		6.58221	6.58221	7.039	7.03867			6.58221	0.00160064	7.01583	6.58221		6.58221	6.58221
i-Pentane		5.78425	5.78425	5.858	5.85785			5.78425	0.000412895	5.85850	5.78425		5.78425	5.78425
n-Pentane		11.7261	11.7261	11.755	11.7548			11.7261	0.00034289	11.7630	11.7261		11.7261	11.7261
n-Hexane		11.9079	11.9079	11.693	11.6928			11.9079	4.62140E-05	11.7134	11.9079		11.9079	11.9079
Heptane		24.1725	24.1725	23.6	23.5996			24.1725	2.11378E-05	23.6473	24.1725		24.1725	24.1725
Octane		13.2440	13.2440	12.908	12.9078			13.2440	1.45778E-06	12.9347	13.2440		13.2440	13.2440
Nonane		2.90623	2.90623	2.831	2.83096			2.90623	1.05920E-07	2.83692	2.90623		2.90623	2.90623
Decane		0.896338	0.896338	0.873	0.872987			0.896338	3.03832E-09	0.874829	0.896338		0.896338	0.896338
Water		0.00860823	0.00860823	0	0.00353084			0.00860823	99.9895	0.00349082	0.00860823		0.00860823	0.00860823
TEG		0	0	0	0			0	0	0	0		0	0
EG		0	0	0	0			0	0	0	0		0	0
2-Methylpentane		8.35534	8.35534	8.233	8.23287			8.35534	9.39899E-05	8.24594	8.35534		8.35534	8.35534
3-Methylpentane		3.33516	3.33516	3.282	3.28194			3.33516	8.20005E-05	3.28737	3.33516		3.33516	3.33516
2,2,4-Trimethylpentane		1.93444	1.93444	1.889	1.88897			1.93444	3.30799E-06	1.89276	1.93444		1.93444	1.93444
Benzene		0.902820	0.902820	0.887	0.886603			0.902820	0.00274856	0.888156	0.902820		0.902820	0.902820
Toluene		2.84153	2.84153	2.774	2.77374			2.84153	0.00178231	2.77936	2.84153		2.84153	2.84153
Ethylbenzene		0.789034	0.789034	0.769	0.768971			0.789034	0.000138390	0.770577	0.789034		0.789034	0.789034
m-Xylene		0.158024	0.158024	0.154	0.153996			0.158024	1.58447E-05	0.154318	0.158024		0.158024	0.158024
p-Xylene		0.980948	0.980948	0.956	0.955973			0.980948	0.000114577	0.957970	0.980948		0.980948	0.980948
o-Xylene		0.232948	0.232948	0.227	0.226991			0.232948	4.74639E-05	0.227466	0.232948		0.232948	0.232948
Mass Flow		lb/h	lb/h	lb/h	lb/h			lb/h	lb/h	lb/h	lb/h		lb/h	lb/h
Carbon Dioxide		0	0	0	0	0		0	0	0	0		0	0
Nitrogen		0.145268	0.00146735	4.65293	4.61994			0.146735	0.000863279	1.17432	0.00146735		0.00146735	0.145268
Methane		0.365865	0.00369560	3.65587	3.64213			0.369560	0.00129007	2.06692	0.00369560		0.00369560	0.365865
Ethane		24.6972	0.249467	58.6601	58.6094			24.9467	0.0200936	53.4362	0.249467		0.249467	24.6972
Propane		284.634	2.87509	399.985	399.921			287.509	0.0472688	390.290	2.87509		2.87509	284.634
i-Butane		209.523	2.11639	242.949	242.937			211.639	0.00943095	240.904	2.11639		2.11639	209.523
n-Butane		1054.59	10.6525	1169.71	1169.67			1065.25	0.0289519	1163.42	10.6525		10.6525	1054.59
i-Pentane		926.746	9.36107	973.458	973.449			936.107	0.0103058	971.504	9.36107		9.36107	926.746
n-Pentane		1878.74	18.9772	1953.40	1953.39			1897.72	0.00584784	1950.63	18.9772		18.9772	1878.74
n-Hexane		1907.86	19.2713	1943.09	1943.09			1927.13	0.00115350	1942.42	19.2713		19.2713	1907.86
Heptane		3872.89	39.1201	3921.75	3921.75			3912.01	0.00097598	3921.39	39.1201		39.1201	3872.89
Octane		2121.94	21.4338	2145.00	2145.00			2143.38	3.63861E-05	2144.94	21.4338		21.4338	2121.94
Nonane		465.633	4.70336	470.444	470.444			470.336	2.64375E-06	470.441	4.70336		4.70336	465.633
Decane		143.610	1.45061	145.072	145.072			145.061	7.58364E-08	145.071	1.45061		1.45061	143.610
Water		1.37920	0.0139313	0	0.586749			1.39313	2495.73	0.578876	0.0139313		0.0139313	1.37920
TEG		0	0	0	0	0		0	0	0	0		0	0
EG		0	0	0	0	0		0	0	0	0		0	0
2-Methylpentane		1338.68	13.5220	1368.13	1368.12			1352.20	0.00234598	1367.41	13.5220		13.5220	1338.68
3-Methylpentane		534.356	5.39754	545.389	545.388			539.754	0.00204673	545.138	5.39754		5.39754	534.356
2,2,4-Trimethylpentane		309.934	3.13064	313.906	313.906			313.064	8.25673E-05	313.874	3.13064		3.13064	309.934
Benzene		144.649	1.46110	147.398	147.334			146.110	0.0686038	147.281	1.46110		1.46110	144.649
Toluene		455.267	4.59866	460.972	460.936			459.866	0.0444863	460.896	4.59866		4.59866	455.267
Ethylbenzene		126.418	1.27695	127.789	127.786			127.695	0.00345420	127.783	1.27695		1.27695	126.418
m-Xylene		25.3184	0.255742	25.5911	25.5908			25.5742	0.000395482	25.5903	0.255742		0.255742	25.3184
p-Xylene		157.166	1.58754	158.864	158.862			158.754	0.00285984	158.858	1.58754		1.58754	157.166
o-Xylene		37.3227	0.376997	37.7219	37.7210			37.6997	0.00118470	37.7203	0.376997		0.376997	37.3227

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	To Combustors	1	2	3	4	89	91	92	93	102
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Light Liquid	From Block:	SPLT-101	MIX-105	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	MIX-106	SPLT-101	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	--	VLVE-119	MIX-105	--
Property	Units													
Temperature	°F	70.7	70.7000	40	39.9547	70.7	70.7	39.5890	70.7000			70.7	70.7	
Pressure	psia	14	14	38.5	38.5	14	14	14	14			14	14	
Mole Fraction Vapor	%	0	0	0	0	0	0	0	0			0	0	
Mole Fraction Light Liquid	%	100	100	100	100	100	100	100	100			100	100	
Mole Fraction Heavy Liquid	%	0	0	0	0	0	0	0	0			0	0	
Molecular Weight	lb/lbmol	85.8972	85.8972	84.5337	84.5242	85.8972	18.0166	84.7099	85.8972			85.8972	85.8972	
Mass Density	lb/ft^3	41.6639	41.6639	42.4861	42.4895	41.6639	62.2740	42.5077	41.6639			41.6639	41.6639	
Molar Flow	lbmol/h	186.524	1.88408	196.580	196.605	188.408	138.539	195.760	1.88408			1.88408	186.524	
Mass Flow	lb/h	16021.9	161.837	16617.6	16617.8	16183.7	2496.00	16582.8	161.837			161.837	16021.9	
Vapor Volumetric Flow	ft^3/h	384.551	3.88435	391.130	391.104	388.435	40.0809	390.113	3.88435			3.88435	384.551	
Liquid Volumetric Flow	gpm	47.9440	0.484283	48.7642	48.7611	48.4283	4.99710	48.6375	0.484283			0.484283	47.9440	
Std Vapor Volumetric Flow	MMSCFD	1.69879	0.0171595	1.79037	1.79060	1.71595	1.26176	1.78291	0.0171595			0.0171595	1.69879	
Std Liquid Volumetric Flow	sgpm	47.9336	0.484177	50	50.0000	48.4177	4.98998	49.8639	0.484177			0.484177	47.9336	
Compressibility		0.00507113	0.00507113	0.0142855	0.0142841	0.00507113	0.000711626	0.00520721	0.00507113			0.00507113	0.00507113	
Specific Gravity		0.668025	0.668025	0.681209	0.681263	0.668025	0.998481	0.681554	0.668025			0.668025	0.668025	
API Gravity		78.5693	78.5693	79.4205	79.4105	78.5693	10.0009	79.3765	78.5693			78.5693	78.5693	
Enthalpy	Btu/h	-1.51062E+07	-152587	-1.59951E+07	-1.59988E+07	-1.52587E+07	-1.70396E+07	-1.59643E+07	-152587			-152587	-1.51062E+07	
Mass Enthalpy	Btu/lb	-942.846	-942.846	-962.543	-962.749	-942.846	-6826.77	-962.702	-942.846			-942.846	-942.846	
Mass Cp	Btu/(lb*°F)	0.521877	0.521877	0.503334	0.503317	0.521877	0.982115	0.503047	0.521877			0.521877	0.521877	
Ideal Gas CpCv Ratio		1.06405	1.06405	1.06849	1.06850	1.06405	1.32579	1.06839	1.06405			1.06405	1.06405	
Dynamic Viscosity	cP	0.313920	0.313920	0.365903	0.366024	0.313920	0.986899	0.367452	0.313920			0.313920	0.313920	
Kinematic Viscosity	cSt	0.470369	0.470369	0.537649	0.537783	0.470369	0.989339	0.539649	0.470369			0.470369	0.470369	
Thermal Conductivity	Btu/(h*ft*°F)	0.0685766	0.0685766	0.0715210?	0.0715282?	0.0685766	0.347348	0.0716044?	0.0685766			0.0685766	0.0685766	
Surface Tension	lbf/ft	0.001261507	0.001261507	0.00134360	0.00134408	0.001261507	0.005026747	0.001376467	0.001261507			0.001261507	0.001261507	
Net Ideal Gas Heating Value	Btu/ft^3	4363.32	4363.32	4295.76	4295.14	4363.32	0.0932767	4305.21	4363.32			4363.32	4363.32	
Net Liquid Heating Value	Btu/lb	19121.8	19121.8	19129.5	19128.8	19121.8	-1057.70	19131.6	19121.8			19121.8	19121.8	
Gross Ideal Gas Heating Value	Btu/ft^3	4705.20	4705.20	4633.00	4632.34	4705.20	50.4080	4643.13	4705.20			4705.20	4705.20	
Gross Liquid Heating Value	Btu/lb	20632.3	20632.3	20643.6	20642.9	20632.3	2.08069	20645.6	20632.3			20632.3	20632.3	

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	To Combustors	1	2	3	4	89	91	92	93	102
Composition	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Heavy Liquid	From Block:	SPLT-101	MIX-105	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	MIX-106	SPLT-101	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	--	VLVE-119	MIX-105	--
Mole Fraction			%			%				%	%			
Carbon Dioxide			0			0				0	0			
Nitrogen			2.22441E-05			0.000848193				0.000217129	2.22441E-05			
Methane			5.80457E-05			0.000617109				0.000352105	5.80457E-05			
Ethane			0.000482355			0.00121391				0.00111255	0.000482355			
Propane			0.000773763			0.00105442				0.00103345	0.000773763			
i-Butane			0.000117123			0.000149679				0.000149335	0.000117123			
n-Butane			0.000496164			0.000462004				0.000460620	0.000496164			
i-Pentane			0.000103106			9.80858E-05				9.82527E-05	0.000103106			
n-Pentane			5.85053E-05			3.90517E-05				3.89580E-05	5.85053E-05			
n-Hexane			9.66191E-06			6.09353E-06				6.08406E-06	9.66191E-06			
Heptane			3.80063E-06			2.46245E-06				2.46015E-06	3.80063E-06			
Octane			2.29927E-07			1.16520E-07				1.16043E-07	2.29927E-07			
Nonane			1.48791E-08			1.08013E-08				1.08180E-08	1.48791E-08			
Decane			3.84731E-10			2.24348E-10				2.24047E-10	3.84731E-10			
Water			99.9968			99.9946				99.9956	99.9968			
TEG			0			0				0	0			
EG			0			0				0	0			
2-Methylpentane			1.96504E-05			1.40732E-05				1.40687E-05	1.96504E-05			
3-Methylpentane			1.71438E-05			1.33121E-05				1.33222E-05	1.71438E-05			
2,2,4-Trimethylpentane			5.21750E-07			8.14882E-07				8.24967E-07	5.21750E-07			
Benzene			0.000633958			0.000587190				0.000588340	0.000633958			
Toluene			0.000348509			0.000278014				0.000278156	0.000348509			
Ethylbenzene			2.34853E-05			1.90978E-05				1.91167E-05	2.34853E-05			
m-Xylene			2.68890E-06			1.85832E-06				1.85617E-06	2.68890E-06			
p-Xylene			1.94442E-05			1.40572E-05				1.40493E-05	1.94442E-05			
o-Xylene			8.05481E-06			6.24417E-06				6.24616E-06	8.05481E-06			
Molar Flow			lbmol/h			lbmol/h				lbmol/h	lbmol/h			
Carbon Dioxide			0			0				0	0			
Nitrogen			3.08167E-05			0.00117738				0.000301380	3.08167E-05			
Methane			8.04158E-05			0.00856612				0.000488730	8.04158E-05			
Ethane			0.000668248			0.00168503				0.00154424	0.000668248			
Propane			0.00107196			0.00146364				0.00143445	0.00107196			
i-Butane			0.000162261			0.000207770				0.000207280	0.000162261			
n-Butane			0.000687378			0.000641310				0.000639350	0.000687378			
i-Pentane			0.000142842			0.000136153				0.000136377	0.000142842			
n-Pentane			8.10525E-05			5.42078E-05				5.40746E-05	8.10525E-05			
n-Hexane			1.33855E-05			8.45846E-06				8.44481E-06	1.33855E-05			
Heptane			5.26534E-06			3.41814E-06				3.41474E-06	5.26534E-06			
Octane			3.18538E-07			1.61741E-07				1.61071E-07	3.18538E-07			
Nonane			2.06132E-08			1.49933E-08				1.50157E-08	2.06132E-08			
Decane			5.33002E-10			3.11418E-10				3.10982E-10	5.33002E-10			
Water			138.534			138.803				138.796	138.534			
TEG			0			0				0	0			
EG			0			0				0	0			
2-Methylpentane			2.72234E-05			1.95351E-05				1.95276E-05	2.72234E-05			
3-Methylpentane			2.37508E-05			1.84785E-05				1.84914E-05	2.37508E-05			
2,2,4-Trimethylpentane			7.22826E-07			1.13114E-06				1.14507E-06	7.22826E-07			
Benzene			0.000878277			0.000815080				0.000816629	0.000878277			
Toluene			0.000482820			0.000385912				0.000386086	0.000482820			
Ethylbenzene			3.25362E-05			2.65097E-05				2.65344E-05	3.25362E-05			
m-Xylene			3.72516E-06			2.57954E-06				2.57641E-06	3.72516E-06			
p-Xylene			2.69377E-05			1.95128E-05				1.95007E-05	2.69377E-05			
o-Xylene			1.11590E-05			8.66756E-06				8.66981E-06	1.11590E-05			

Mass Fraction		%		%		%	
Carbon Dioxide		0		0		0	0
Nitrogen		3.45866E-05		0.00131882		0.000337606	3.45866E-05
Methane		5.16855E-05		0.000549487		0.000313523	5.16855E-05
Ethane		0.000805032		0.00202595		0.00185680	0.000805032
Propane		0.00189379		0.00258067		0.00252936	0.00189379
I-Butane		0.000377843		0.000482867		0.000481758	0.000377843
n-Butane		0.00160064		0.00149043		0.00148597	0.00160064
I-Pentane		0.000412895		0.000392789		0.000393459	0.000412895
n-Pentane		0.000234289		0.000156384		0.000156010	0.000234289
n-Hexane		4.62140E-05		2.91459E-05		2.91007E-05	4.62140E-05
Heptane		2.11378E-05		1.36952E-05		1.36824E-05	2.11378E-05
Octane		1.45778E-06		7.38750E-07		7.35734E-07	1.45778E-06
Nonane		1.05920E-07		7.68907E-08		7.70104E-08	1.05920E-07
Decane		3.03832E-09		1.77172E-09		1.76935E-09	3.03832E-09
Water		99.9895		99.9866		99.9880	99.9895
TEG		0		0		0	0
EG		0		0		0	0
2-Methylpentane		9.39899E-05		6.73132E-05		6.72918E-05	9.39899E-05
3-Methylpentane		8.20005E-05		6.36726E-05		6.37212E-05	8.20005E-05
2,2,4-Trimethylpentane		3.30799E-06		5.16647E-06		5.23043E-06	3.30799E-06
Benzene		0.00274856		0.00254577		0.00255077	0.00274856
Toluene		0.00178231		0.00142178		0.00142251	0.00178231
Ethylbenzene		0.000138390		0.000112535		0.000112647	0.000138390
m-Xylene		1.58447E-05		1.09503E-05		1.09377E-05	1.58447E-05
p-Xylene		0.000114577		8.28330E-05		8.27868E-05	0.000114577
o-Xylene		4.74639E-05		3.67943E-05		3.68062E-05	4.74639E-05
Mass Flow		**lbl/h**		**lbl/h**		**lbl/h**	**lbl/h**
Carbon Dioxide		0		0		0	0
Nitrogen		0.000863279		0.0329824		0.00844268	0.000863279
Methane		0.00129007		0.0137422		0.0078043	0.00129007
Ethane		0.0200936		0.0506672		0.0464338	0.0200936
Propane		0.0472688		0.0645401		0.0632530	0.0472688
I-Butane		0.00943095		0.0120761		0.0120476	0.00943095
n-Butane		0.0399519		0.0372744		0.0371604	0.0399519
I-Pentane		0.0103058		0.00982330		0.00983943	0.0103058
n-Pentane		0.00584784		0.00391102		0.00390142	0.00584784
n-Hexane		0.00115350		0.000728911		0.000727734	0.00115350
Heptane		0.000527598		0.000342504		0.000342163	0.000527598
Octane		3.63861E-05		1.84755E-05		1.83989E-05	3.63861E-05
Nonane		2.64375E-06		1.92297E-06		1.92584E-06	2.64375E-06
Decane		7.58364E-08		4.43091E-08		4.42470E-08	7.58364E-08
Water		2495.73		2500.57		2500.45	2495.73
TEG		0		0		0	0
EG		0		0		0	0
2-Methylpentane		0.00234598		0.00168344		0.00168280	0.00234598
3-Methylpentane		0.00204673		0.00159239		0.00159351	0.00204673
2,2,4-Trimethylpentane		8.25673E-05		0.000129209		0.000130800	8.25673E-05
Benzene		0.0686039		0.0636674		0.0637884	0.0686039
Toluene		0.0444863		0.0355573		0.0355734	0.0444863
Ethylbenzene		0.00345420		0.00281440		0.00281702	0.00345420
m-Xylene		0.000395482		0.000273857		0.000273524	0.000395482
p-Xylene		0.00285985		0.00207158		0.00207029	0.00285985
o-Xylene		0.00118470		0.000920191		0.000920430	0.00118470

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq To Combustors	1	2	3	4	89	91	92	93	102
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Heavy Liquid	From Block:	SPLT-101	MIX-105	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	MIX-106	SPLT-101	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	--	VLVE-119	MIX-105	--
Property	**Units**													
Temperature	°F		70.7000		39.9547				39.5890	70.7000			
Pressure	psia		14		38.5				14	14			
Mole Fraction Vapor	%		0		0				0	0			
Mole Fraction Light Liquid	%		0		0				0	0			
Mole Fraction Heavy Liquid	%		100		100				100	100			
Molecular Weight	lb/lbmol		18.0166		18.0167				18.0166	18.0166			
Mass Density	lb/ft^3		62.2740		62.5098				62.5112	62.2740			
Molar Flow	lbmol/h		138.539		138.810				138.802	138.539			
Mass Flow	lb/h		2496.00		2500.91				2500.75	2496.00			
Vapor Volumetric Flow	ft^3/h		40.0809		40.0082				40.0048	40.0809			
Liquid Volumetric Flow	gpm		4.99710		4.98804				4.98761	4.99710			
Std Vapor Volumetric Flow	MMSCFD		1.26176		1.26423				1.26416	1.26176			
Std Liquid Volumetric Flow	sgpm		4.98998		5.00001				4.99963	4.98998			
Compressibility			0.000711626		0.00206957				0.000753103	0.000711626			
Specific Gravity			0.998481		1.00226				1.00228	0.998481			
API Gravity			10.0009		10.0011				10.0029	10.0009			
Enthalpy	Btu/h		-1.70396E+07		-1.71482E+07				-1.71484E+07	-1.70396E+07			
Mass Enthalpy	Btu/lb		-6826.77		-6856.78				-6857.30	-6826.77			
Mass Cp	Btu/(lb*°F)		0.982115		0.985671				0.985760	0.982115			
Ideal Gas CpCv Ratio			1.32579		1.32727				1.32729	1.32579			
Dynamic Viscosity	cP		0.986899		1.50713				1.51506	0.986899			
Kinematic Viscosity	cSt		0.989339		1.50515				1.51304	0.989339			
Thermal Conductivity	Btu/(hr*ft*°F)		0.347348		0.331920?				0.331739?	0.347348			
Surface Tension	lbf/ft		0.005026747		0.005259397				0.005262277	0.005026747			
Net Ideal Gas Heating Value	Btu/ft^3		0.0932767		0.109809				0.105272	0.0932767			
Net Liquid Heating Value	Btu/lb		-1057.70		-1057.32				-1057.43	-1057.70			
Gross Ideal Gas Heating Value	Btu/ft^3		50.4080		50.4253				50.4208	50.4080			
Gross Liquid Heating Value	Btu/lb		2.08069		2.46651				2.36151	2.08069			

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	To Combustors	1	2	3	4	89	91	92	93	102
Composition	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Mixed Liquid	From Block:	SPLT-101	MIX-105	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	MIX-106	SPLT-101	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	--	VLVE-119	MIX-105	--
Mole Fraction			%			%				%	%			
Carbon Dioxide			0			0				0	0			
Nitrogen			5.92475E-05			0.0495197				0.0126199	5.92475E-05			
Methane			0.000221317			0.0679418				0.0386563	0.000221317			
Ethane			0.00638410			0.581622				0.531638	0.00638410			
Propane			0.0471955			2.70437				2.64598	0.0471955			
i-Butane			0.0260464			1.24621				1.23893	0.0260464			
n-Butane			0.131008			6.00004				5.98319	0.131008			
i-Pentane			0.0924990			4.00259				4.02479	0.0924990			
n-Pentane			0.187370			8.07196				8.08109	0.187370			
n-Hexane			0.159264			6.72246				6.73726	0.159264			
Heptane			0.278030			11.6687				11.6973	0.278030			
Octane			0.133625			5.59848				5.61261	0.133625			
Nonane			0.0261154			1.09358				1.09636	0.0261154			
Decane			0.00726045			0.303984				0.304758	0.00726045			
Water			98.6557			41.3922				41.4955	98.6557			
TEG			0			0				0	0			
EG			0			0				0	0			
2-Methylpentane			0.111763			4.73326				4.74284	0.111763			
3-Methylpentane			0.0446210			1.88687				1.89081	0.0446210			
2,2,4-Trimethylpentane			0.0195179			0.819300				0.821303	0.0195179			
Benzene			0.0139461			0.562590				0.563822	0.0139461			
Toluene			0.0358867			1.49160				1.49527	0.0358867			
Ethylbenzene			0.00858872			0.358865				0.359771	0.00858872			
m-Xylene			0.00171812			0.0718662				0.0720479	0.00171812			
p-Xylene			0.0106681			0.446131				0.447258	0.0106681			
o-Xylene			0.00253677			0.105933				0.106201	0.00253677			
Molar Flow			lbmol/h			lbmol/h				lbmol/h	lbmol/h			
Carbon Dioxide			0			0				0	0			
Nitrogen			8.31970E-05			0.166096				0.0422213	8.31970E-05			
Methane			0.000310780			0.227887				0.129329	0.000310780			
Ethane			0.00896472			1.95085				1.77866	0.00896472			
Propane			0.0662732			9.07086				8.85244	0.0662732			
i-Butane			0.0365751			4.17997				4.14500	0.0365751			
n-Butane			0.183964			20.1250				20.0175	0.183964			
i-Pentane			0.129890			13.4924				13.4654	0.129890			
n-Pentane			0.263110			27.0746				27.0363	0.263110			
n-Hexane			0.223643			22.5481				22.5403	0.223643			
Heptane			0.390418			39.1385				39.1348	0.390418			
Octane			0.187640			18.7781				18.7777	0.187640			
Nonane			0.0366719			3.66803				3.66801	0.0366719			
Decane			0.0101953			1.01961				1.01961	0.0101953			
Water			138.535			138.835				138.828	138.535			
TEG			0			0				0	0			
EG			0			0				0	0			
2-Methylpentane			0.156940			15.8761				15.8678	0.156940			
3-Methylpentane			0.0626581			6.32883				6.32594	0.0626581			
2,2,4-Trimethylpentane			0.0274076			2.74806				2.74777	0.0274076			
Benzene			0.0195835			1.88701				1.88634	0.0195835			
Toluene			0.0503931			5.00304				5.00260	0.0503931			
Ethylbenzene			0.0120605			1.20369				1.20366	0.0120605			
m-Xylene			0.00241263			0.241050				0.241045	0.00241263			
p-Xylene			0.0149804			1.49639				1.49636	0.0149804			
o-Xylene			0.00356221			0.355314				0.355308	0.00356221			
Mass Fraction			%			%				%	%			
Carbon Dioxide			0			0				0	0			
Nitrogen			8.76891E-05			0.0243370				0.00619781	8.76891E-05			
Methane			0.000187584			0.0191219				0.0108720	0.000187584			
Ethane			0.0101421			0.306820				0.280255	0.0101421			
Propane			0.109953			2.09211				2.04550	0.109953			
i-Butane			0.0799834			1.27074				1.26243	0.0799834			
n-Butane			0.402299			6.11814				6.09666	0.402299			
i-Pentane			0.352595			5.09164				5.09084	0.352595			
n-Pentane			0.714231			10.2172				10.2215	0.714231			
n-Hexane			0.725121			10.1633				10.1785	0.725121			
Heptane			1.47190			20.5126				20.5485	1.47190			
Octane			0.806439			11.2193				11.2397	0.806439			
Nonane			0.176962			2.46064				2.46516	0.176962			
Decane			0.0545786			0.758792				0.760189	0.0545786			
Water			93.9016			13.0822				13.1057	93.9016			
TEG			0			0				0	0			
EG			0			0				0	0			
2-Methylpentane			0.508850			7.15594				7.16538	0.508850			
3-Methylpentane			0.203157			2.85264				2.85659	0.203157			
2,2,4-Trimethylpentane			0.117792			1.64188				1.64473	0.117792			
Benzene			0.0575545			0.770961				0.772105	0.0575545			
Toluene			0.174697			2.41110				2.41533	0.174697			
Ethylbenzene			0.0481748			0.668398				0.669614	0.0481748			
m-Xylene			0.00963708			0.133863				0.134097	0.00963708			
p-Xylene			0.0598382			0.830934				0.832447	0.0598382			
o-Xylene			0.0142290			0.197303				0.197663	0.0142290			
Mass Flow			lb/h			lb/h				lb/h	lb/h			
Carbon Dioxide			0			0				0	0			
Nitrogen			0.00233063			4.65293				1.18276	0.00233063			
Methane			0.00498567			3.65587				2.07476	0.00498567			
Ethane			0.269561			58.6601				53.4826	0.269561			
Propane			2.92236			399.985				390.354	2.92236			
i-Butane			2.12582			242.949				240.916	2.12582			
n-Butane			10.6924			1169.71				1163.46	10.6924			
i-Pentane			9.37138			973.458				971.514	9.37138			
n-Pentane			18.9831			1953.40				1950.63	18.9831			
n-Hexane			19.2725			1943.09				1942.42	19.2725			
Heptane			39.1206			3921.75				3921.39	39.1206			
Octane			21.4338			2145.00				2144.94	21.4338			
Nonane			4.70336			470.444				470.441	4.70336			
Decane			1.45061			145.072				145.071	1.45061			
Water			2495.75			2501.16				2501.03	2495.75			
TEG			0			0				0	0			
EG			0			0				0	0			
2-Methylpentane			13.5244			1368.13				1367.41	13.5244			
3-Methylpentane			5.39958			545.389				545.140	5.39958			
2,2,4-Trimethylpentane			3.13072			313.906				313.874	3.13072			
Benzene			1.52970			147.398				147.345	1.52970			
Toluene			4.64315			460.972				460.932	4.64315			
Ethylbenzene			1.28040			127.789				127.786	1.28040			
m-Xylene			0.256137			25.5911				25.5905	0.256137			
p-Xylene			1.59040			158.864				158.861	1.59040			
o-Xylene			0.378182			37.7219				37.7212	0.378182			

Process Streams		Condensate	Produced Water	Slug Catcher HC Liq	To Combustors	1	2	3	4	89	91	92	93	102
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: Mixed Liquid	From Block:	SPLT-101	MIX-105	--	VLVE-119	MIX-100	TK-102	TK-102	TK-102	VLVE-118	TK-101	MIX-106	SPLT-101	TK-103_4_5
	To Block:	TK-103_4_5	TK-101	MIX-100	--	VLVE-118	MIX-106	SPLT-101	MIX-105	TK-102	--	VLVE-119	MIX-105	--
Property	Units													
Temperature	°F		70.7000			39.9547				39.5890	70.7000			
Pressure	psia		14			38.5				14	14			
Mole Fraction Vapor	%		0			0				0	0			
Mole Fraction Light Liquid	%		1.34172			58.6153				58.5123	1.34172			
Mole Fraction Heavy Liquid	%		98.6583			41.3847				41.4877	98.6583			
Molecular Weight	lb/lbmol		18.9274			57.0003				57.0404	18.9274			
Mass Density	lb/ft^3		60.4531			44.3474				44.3682	60.4531			
Molar Flow	lbmol/h		140.423			335.415				334.562	140.423			
Mass Flow	lb/h		2657.83			19118.7				19083.6	2657.83			
Vapor Volumetric Flow	ft^3/h		43.9652			431.113				430.118	43.9652			
Liquid Volumetric Flow	gpm		5.48138			53.7491				53.6251	5.48138			
Std Vapor Volumetric Flow	MMSCFD		1.27892			3.05483				3.04706	1.27892			
Std Liquid Volumetric Flow	sgpm		5.47415			55				54.8635	5.47415			
Compressibility			0.000770118			0.00922915				0.00335931	0.000770118			
Specific Gravity			0.969285			0.711053				0.711385	0.969285			
API Gravity			14.2027			70.2276				70.1801	14.2027			
Enthalpy	Btu/h		-1.71922E+07			-3.31470E+07				-3.31127E+07	-1.71922E+07			
Mass Enthalpy	Btu/lb		-6468.49			-1733.74				-1735.14	-6468.49			
Mass Cp	Btu/(lb*°F)		0.954091			0.566413				0.566303	0.954091			
Ideal Gas CpCv Ratio			1.30885			1.10182				1.10179	1.30885			
Dynamic Viscosity	cP		0.927441			0.471921				0.474189	0.927441			
Kinematic Viscosity	cSt		0.957739			0.664324				0.667205	0.957739			
Thermal Conductivity	Btu/(hr*ft*°F)		0.322719			0.0956932?				0.0957993?	0.322719			
Surface Tension	lbf/ft		0.00469408?			0.00170743?				0.00173787?	0.00469408?			
Net Ideal Gas Heating Value	Btu/ft^3		58.6356			2517.65				2519.12	58.6356			
Net Liquid Heating Value	Btu/lb		171.043			16488.3				16486.0	171.043			
Gross Ideal Gas Heating Value	Btu/ft^3		112.862			2736.13				2737.72	112.862			
Gross Liquid Heating Value	Btu/lb		1258.27			17942.9				17940.5	1258.27			

Targa Badlands LLC - Buffalo Compressor Station
ProMax AP-42 Emissions Report
Hourly Condensate Working and Breathing Emissions

Components	Is HAP? [1]	Molecular Weight (g/mol)	Working Losses (ton/yr)	Working Losses (lb/hr)	Weight Percent	Breathing Losses (ton/yr)	Breathing Losses (lb/hr)	Weight Percent	Total Losses (ton/yr)	Total Losses (lb/hr)	Weight Percent
Propane	No	44.10	7.716	1.762	0.33	0.555	0.127	0.33	8.271	1.888	0.33
i-Butane	No	58.12	1.901	0.434	0.08	0.137	0.031	0.08	2.038	0.465	0.08
n-Butane	No	58.12	6.355	1.451	0.27	0.457	0.104	0.27	6.812	1.555	0.27
i-Pentane	No	72.15	1.977	0.451	0.08	0.142	0.032	0.08	2.119	0.484	0.08
n-Pentane	No	72.15	2.885	0.659	0.12	0.207	0.047	0.12	3.092	0.706	0.12
Hexane	Yes	86.18	0.775	0.177	0.03	0.056	0.013	0.03	0.830	0.190	0.03
Heptane	No	100.21	0.422	0.096	0.02	0.030	0.007	0.02	0.453	0.103	0.02
Octane	No	114.23	0.058	0.013	2.48E-03	0.004	0.001	2.48E-03	0.062	0.014	2.48E-03
Nonane	No	128.20	0.003	0.001	1.41E-04	0.000	0.000	1.41E-04	0.004	0.001	1.41E-04
Decane	No	142.29	0.000	0.000	1.28E-05	0.000	0.000	1.28E-05	0.000	0.000	1.28E-05
2-Methylpentane	No	86.18	0.789	0.180	3.39E-02	0.057	0.013	3.39E-02	0.845	0.193	3.39E-02
3-Methylpentane	No	86.18	0.278	0.064	1.20E-02	0.020	0.005	1.20E-02	0.298	0.068	1.20E-02
Pentane, 2,2,4-Trimethyl-	Yes	114.23	0.038	0.009	1.63E-03	0.003	0.001	1.63E-03	0.041	0.009	1.63E-03
Benzene	Yes	78.11	0.035	0.008	1.51E-03	0.003	0.001	1.51E-03	0.038	0.009	1.51E-03
Toluene	Yes	92.14	0.030	0.007	1.29E-03	0.002	0.000	1.29E-03	0.032	0.007	1.29E-03
Ethylbenzene	Yes	106.17	0.002	0.001	1.07E-04	0.000	0.000	1.07E-04	0.003	0.001	1.07E-04
m-Xylene	Yes	106.16	0.000	0.000	1.85E-05	0.000	0.000	1.86E-05	0.000	0.000	1.85E-05
p-Xylene	Yes	106.16	0.003	0.001	1.25E-04	0.000	0.000	1.25E-04	0.003	0.001	1.25E-04
o-Xylene	Yes	106.16	0.000	0.000	2.13E-05	0.000	0.000	2.13E-05	0.001	0.000	2.13E-05
VOC Total		-	23.269	5.312	1.00	1.673	0.382	1.00	24.94	5.69	1.00
HAP Total		-	0.884	0.202	0.04	0.064	0.015	0.04	0.95	0.22	0.04

1. HAP classification derived from EPA's *Initial List of Hazardous Air Polluitants with Modifications*

Vapor Molecular Weight: 59.71

Working, Breathing, and Total losses updated from ProMax run "Buffalo Slug Catcher Liquids 09-24-2020 Hourly_updated"

Targa Badlands LLC - Buffalo Compressor Station
ProMax AP-42 Emissions Report
Hourly Condensate Flash Emissions

Components	Is HAP? [1]	Molecular Weight (g/mol)	Flash Losses[2] (ton/yr)	Flash Losses (lb/hr)	Weight Percent
Propane	No	44.10	9.298	2.123	34.95%
i-Butane	No	58.12	2.151	0.491	8.09%
n-Butane	No	58.12	6.813	1.555	25.61%
i-pentane	No	72.15	2.245	0.513	8.44%
n-Pentane	No	72.15	3.267	0.746	12.28%
Hexane	Yes	86.18	0.866	0.198	3.26%
Heptane	No	100.21	0.501	0.114	1.88%
Octane	No	114.23	0.079	0.018	0.30%
Nonane	No	128.20	0.005	0.001	0.02%
Decane	No	142.29	0.000	0.000	0.00%
2-Methylpentane	No	86.18	0.888	0.203	3.34%
3-Methylpentane	No	86.18	0.312	0.071	1.17%
Pentane, 2,2,4-Trimethyl-	Yes	114.23	0.044	0.010	0.17%
Benzene	Yes	78.11	0.067	0.015	0.25%
Toluene	Yes	92.14	0.055	0.013	0.21%
Ethylbenzene	Yes	106.17	0.004	0.001	0.02%
m-Xylene	Yes	106.16	0.001	0.000	0.00%
p-Xylene	Yes	106.16	0.005	0.001	0.02%
o-Xylene	Yes	106.16	0.001	0.000	0.00%
VOC Total		-	26.603	6.074	1.00
HAP Total		-	0.999	0.228	0.04

1. HAP classification derived from EPA's *Initial List of Hazardous Air Polluitants with Modifications*

2. Flash losses based on ProMax run "Buffalo Slug Catcher Liquids 09-24-2020 Annual_updated"

ProMax AP-42 Emissions Report - Hourly (TK-103_4_5 Condensate)
Based on "Buffalo Slug Catcher Liquids 09-24-2020 Hourly_updated"

TK_103_4_5 Condensate

Components	Working Losses (ton/yr)	Breathing Losses (ton/yr)	Total Losses (ton/yr)
Mixture	23.27	1.673	24.94
Propane	7.716	0.5547	8.271
i-Butane	1.901	0.1366	2.037
n-Butane	6.355	0.4568	6.812
i-Pentane	1.977	0.1421	2.119
n-Pentane	2.885	0.2074	3.092
n-Hexane	0.7747	0.05569	0.8304
Heptane	0.4224	0.03036	0.4528
Octane	0.05761	0.004141	0.06175
Nonane	0.003292	0.0002366	0.003528
Decane	0.0002967	2.13E-05	0.0003181
TEG	0	0	0
EG	0	0	0
2-Methylpentane	0.7885	0.05668	0.8451
3-Methylpentane	0.2784	0.02001	0.2984
2,2,4-Trimethylpentane	0.03784	0.00272	0.04056
Benzene	0.03517	0.002529	0.0377
Toluene	0.02999	0.002156	0.03215
Ethylbenzene	0.002483	0.0001785	0.002661
m-Xylene	0.0004316	3.10E-05	0.0004626
p-Xylene	0.002906	0.0002089	0.003115
o-Xylene	0.0004967	3.57E-05	0.0005324

Targa Badlands LLC - Buffalo Compressor Station
ProMax AP-42 Emissions Report
Hourly PW Working and Breathing Emissions

Components	Is HAP? [1]	Molecular Weight (g/mol)	Working Losses[2] (ton/yr)	Working Losses (lb/hr)	Weight Percent	Breathing Losses[2] (ton/yr)	Breathing Losses (lb/hr)	Weight Percent	Total Losses (ton/yr)	Total Losses (lb/hr)	Weight Percent
Propane	No	44.10	2.053E-02	0.005	0.33	2.743E-03	0.001	0.33	0.023	0.005	0.33
i-Butane	No	58.12	4.998E-03	0.001	0.08	6.676E-04	0.000	0.08	0.006	0.001	0.08
n-Butane	No	58.12	1.670E-02	0.004	0.27	2.231E-03	0.001	0.27	0.019	0.004	0.27
i-Pentane	No	72.15	5.180E-03	0.001	0.08	6.919E-04	0.000	0.08	0.006	0.001	0.08
n-Pentane	No	72.15	7.554E-03	0.002	0.12	1.009E-03	0.000	0.12	0.009	0.002	0.12
Hexane	Yes	86.18	2.028E-03	0.000	0.03	2.709E-04	0.000	0.03	0.002	0.001	0.03
Heptane	No	100.21	1.106E-03	0.000	0.02	1.477E-04	0.000	0.02	0.001	0.000	0.02
Octane	No	114.23	1.508E-04	0.000	2.46E-03	2.014E-05	0.000	2.46E-03	0.000	0.000	2.46E-03
Nonane	No	128.20	8.617E-06	0.000	1.40E-04	1.151E-06	0.000	1.40E-04	0.000	0.000	1.40E-04
Decane	No	142.29	7.768E-07	0.000	1.27E-05	1.038E-07	0.000	1.27E-05	0.000	0.000	1.27E-05
2-Methylpentane	No	86.18	2.064E-03	0.000	3.36E-02	2.758E-04	0.000	3.37E-02	0.002	0.001	3.36E-02
3-Methylpentane	No	86.18	7.291E-04	0.000	1.19E-02	9.740E-05	0.000	1.19E-02	0.001	0.000	1.19E-02
Pentane, 2,2,4-Trimethyl-	Yes	114.23	9.906E-05	0.000	1.61E-03	1.323E-05	0.000	1.61E-03	0.000	0.000	1.61E-03
Benzene	Yes	78.11	9.640E-05	0.000	1.57E-03	1.288E-05	0.000	1.57E-03	0.000	0.000	1.57E-03
Toluene	Yes	92.14	7.927E-05	0.000	1.29E-03	1.059E-05	0.000	1.29E-03	0.000	0.000	1.29E-03
Ethylbenzene	Yes	106.17	6.517E-06	0.000	1.06E-04	8.706E-07	0.000	1.06E-04	0.000	0.000	1.06E-04
m-Xylene	Yes	106.16	1.132E-06	0.000	1.85E-05	1.512E-07	0.000	1.85E-05	0.000	0.000	1.85E-05
p-Xylene	Yes	106.16	7.622E-06	0.000	1.24E-04	1.018E-06	0.000	1.24E-04	0.000	0.000	1.24E-04
o-Xylene	Yes	106.16	1.304E-06	0.000	2.13E-05	1.742E-07	0.000	2.13E-05	0.000	0.000	2.13E-05
VOC Total		-	0.061	0.014	1.00	0.008	0.002	1.00	0.07	0.02	1.00
HAP Total		-	0.002	0.001	0.04	3.10E-04	7.07E-05	0.04	2.63E-03	6.00E-04	0.04

1. HAP classification derived from EPA's *Initial List of Hazardous Air Polluitants with Modifications*

Vapor Molecular Weight: 59.63

2. Working, Breathing, and Total losses updated from ProMax run "Buffalo Slug Catcher Liquids 09-24-2020 Hourly_updated"

Targa Badlands LLC - Buffalo Compressor Station
ProMax AP-42 Emissions Report
Hourly PW Flash Emissions

Components	Is HAP? [1]	Molecular Weight (g/mol)	Flash Losses (ton/yr)	Flash Losses (lb/hr)	Weight Percent
Propane	No	44.10	0.174	0.040	34.19%
i-Butane	No	58.12	0.041	0.009	8.12%
n-Butane	No	58.12	0.131	0.030	25.80%
i-pentane	No	72.15	0.044	0.010	8.57%
n-Pentane	No	72.15	0.063	0.014	12.48%
Hexane	Yes	86.18	0.017	0.004	3.32%
Heptane	No	100.21	0.010	0.002	1.92%
Octane	No	114.23	0.002	0.000	0.30%
Nonane	No	128.20	0.000	0.000	0.02%
Decane	No	142.29	0.000	0.000	0.00%
2-Methylpentane	No	86.18	0.017	0.004	3.40%
3-Methylpentane	No	86.18	0.006	0.001	1.20%
Pentane, 2,2,4-Trimethyl-	Yes	114.23	0.001	0.000	0.17%
Benzene	Yes	78.11	0.001	0.000	0.26%
Toluene	Yes	92.14	0.001	0.000	0.21%
Ethylbenzene	Yes	106.17	0.000	0.000	0.02%
m-Xylene	Yes	106.16	0.000	0.000	0.00%
p-Xylene	Yes	106.16	0.000	0.000	0.02%
o-Xylene	Yes	106.16	0.000	0.000	0.00%
VOC Total		-	0.508	0.116	1.00
HAP Total		-	0.019	0.004	0.04

1. HAP classification derived from EPA's *Initial List of Hazardous Air Polluitants with Modifications*

Flash losses updated from ProMax run "Buffalo Slug Catcher Liquids 09-24-2020 Annual_updated"

ProMax AP-42 Emissions Report - Hourly (TK-101 Produced Water)
Based on "Buffalo Slug Catcher Liquids 09-24-2020 Hourly_updated"

TK-101 Produced Water

Components	Working Losses (ton/yr)	Breathing Losses (ton/yr)	Total Losses (ton/yr)
Mixture	0.06134	0.008194	0.06953
Propane	0.02053	0.002743	0.02327
i-Butane	0.004998	0.0006676	0.005666
n-Butane	0.0167	0.002231	0.01893
i-Pentane	0.00518	0.0006919	0.005872
n-Pentane	0.007554	0.001009	0.008563
n-Hexane	0.002028	0.0002709	0.002299
Heptane	0.001106	0.0001477	0.001253
Octane	0.0001508	2.01E-05	0.0001709
Nonane	8.62E-06	1.15E-06	9.77E-06
Decane	7.77E-07	1.04E-07	8.81E-07
TEG	0	0	0
EG	0	0	0
2-Methylpentane	0.002064	0.0002758	0.00234
3-Methylpentane	0.0007291	9.74E-05	0.0008265
2,2,4-Trimethylpent	9.91E-05	1.32E-05	0.0001123
Benzene	9.64E-05	1.29E-05	0.0001093
Toluene	7.93E-05	1.06E-05	8.99E-05
Ethylbenzene	6.52E-06	8.71E-07	7.39E-06
m-Xylene	1.13E-06	1.51E-07	1.28E-06
p-Xylene	7.62E-06	1.02E-06	8.64E-06
o-Xylene	1.30E-06	1.74E-07	1.48E-06

Targa Badlands LLC - Buffalo Compressor Station
ProMax AP-42 Emissions Report
Hourly Separator Working and Breathing Emissions

Components	Is HAP? [1]	Molecular Weight (g/mol)	Working Losses (ton/yr)	Working Losses (lb/hr)	Weight Percent	Breathing Losses (ton/yr)	Breathing Losses (lb/hr)	Weight Percent	Total Losses (ton/yr)	Total Losses (lb/hr)	Weight Percent
Propane	No	44.10	33.510	7.651	0.37	0.232	0.053	0.37	33.742	7.704	0.37
i-Butane	No	58.12	7.341	1.676	0.08	0.051	0.012	0.08	7.392	1.688	0.08
n-Butane	No	58.12	23.840	5.443	0.26	0.165	0.038	0.26	24.005	5.481	0.26
i-Pentane	No	72.15	7.150	1.632	0.08	0.049	0.011	0.08	7.199	1.644	0.08
n-Pentane	No	72.15	10.360	2.365	0.11	0.072	0.016	0.11	10.432	2.382	0.11
Hexane	Yes	86.18	2.743	0.626	0.03	0.019	0.004	0.03	2.762	0.631	0.03
Heptane	No	100.21	1.490	0.340	0.02	0.010	0.002	0.02	1.500	0.343	0.02
Octane	No	114.23	0.203	0.046	2.23E-03	0.001	0.000	2.23E-03	0.204	0.047	2.23E-03
Nonane	No	128.20	0.012	0.003	1.28E-04	0.000	0.000	1.28E-04	0.012	0.003	1.28E-04
Decane	No	142.29	0.001	0.000	1.15E-05	0.000	0.000	1.15E-05	0.001	0.000	1.15E-05
2-Methylpentane	No	86.18	2.799	0.639	3.08E-02	0.019	0.004	3.08E-02	2.818	0.643	3.08E-02
3-Methylpentane	No	86.18	0.987	0.225	1.09E-02	0.007	0.002	1.09E-02	0.994	0.227	1.09E-02
Pentane, 2,2,4-Trimethyl-	Yes	114.23	0.134	0.030	1.47E-03	0.001	2.11E-04	1.47E-03	0.134	0.031	1.47E-03
Benzene	Yes	78.11	0.125	0.028	1.37E-03	0.001	1.97E-04	1.37E-03	0.125	0.029	1.37E-03
Toluene	Yes	92.14	0.106	0.024	1.16E-03	0.001	1.67E-04	1.16E-03	0.107	0.024	1.16E-03
Ethylbenzene	Yes	106.17	0.009	0.002	9.63E-05	0.000	1.38E-05	9.63E-05	0.009	0.002	9.63E-05
m-Xylene	Yes	106.16	0.002	0.000	1.67E-05	0.000	2.40E-06	1.67E-05	0.002	0.000	1.67E-05
p-Xylene	Yes	106.16	0.010	0.002	1.13E-04	0.000	1.62E-05	1.13E-04	0.010	0.002	1.13E-04
o-Xylene	Yes	106.16	0.002	3.99E-04	1.93E-05	0.000	2.76E-06	1.93E-05	0.002	0.000	1.93E-05
VOC Total		-	90.822	20.736	1.00	0.628	0.143	1.00	91.45	20.88	1.00
HAP Total		-	3.129	0.714	0.03	0.022	0.005	0.03	3.15	0.72	0.03

1. HAP classification derived from EPA's *Initial List of Hazardous Air Polluitants with Modifications*

Vapor Molecular Weight: 58.66

Targa Badlands LLC - Buffalo Compressor Station
ProMax AP-42 Emissions Report
Hourly Separator Flash Emissions

Components	Is HAP? [1]	Molecular Weight (g/mol)	Flash Losses (lb/hr)	Weight Percent
Propane	No	44.10	112.43	0.29
i-Butane	No	58.12	31.30	0.08
n-Butane	No	58.12	104.43	0.27
i-pentane	No	72.15	37.34	0.09
n-Pentane	No	72.15	55.67	0.14
Hexane	Yes	86.18	15.96	0.04
Heptane	No	100.21	9.74	0.02
Octane	No	114.23	1.62	0.00
Nonane	No	128.20	0.11	0.00
Decane	No	142.29	0.01	0.00
2-Methylpentane	No	86.18	15.92	0.04
3-Methylpentane	No	86.18	5.63	0.01
Pentane, 2,2,4-Trimethyl-	Yes	114.23	0.84	0.00
Benzene	Yes	78.11	1.22	0.00
Toluene	Yes	92.14	1.06	0.00
Ethylbenzene	Yes	106.17	0.09	0.00
m-Xylene	Yes	106.16	0.02	0.00
p-Xylene	Yes	106.16	0.11	0.00
o-Xylene	Yes	106.16	0.02	0.00
VOC Total		-	393.521	1.000
HAP Total		-	19.318	0.049

1. HAP classification derived from EPA's *Initial List of Hazardous Air Polluitants with Modifications*

Working, Breathing, and Total losses updated from "Buffalo Slug Catcher Liquids 09-24-2020 Hourly_updated" ProMax run

ProMax AP-42 Emissions Report - Hourly (TK-102 Separator)
Based on "Buffalo Slug Catcher Liquids 09-24-2020 Hourly_updated"

TK-102 Separator

Components	Working Losses (ton/yr)	Breathing Losses (ton/yr)	Total Losses (ton/yr)
Mixture	90.83	0.6279	91.46
Propane	33.51	0.2316	33.74
i-Butane	7.341	0.05074	7.392
n-Butane	23.84	0.1648	24.01
i-Pentane	7.15	0.04943	7.2
n-Pentane	10.36	0.07164	10.44
n-Hexane	2.743	0.01896	2.762
Heptane	1.49	0.0103	1.5
Octane	0.2029	0.001402	0.2043
Nonane	0.01159	8.01E-05	0.01167
Decane	0.001045	7.22E-06	0.001052
TEG	0	0	0
EG	0	0	0
2-Methylpentane	2.799	0.01934	2.818
3-Methylpentane	0.9874	0.006825	0.9942
2,2,4-Trimethylpent	0.1335	0.0009225	0.1344
Benzene	0.1246	0.0008613	0.1255
Toluene	0.1058	0.000731	0.1065
Ethylbenzene	0.008744	6.04E-05	0.008805
m-Xylene	0.00152	1.05E-05	0.00153
p-Xylene	0.01024	7.08E-05	0.01031
o-Xylene	0.001749	1.21E-05	0.001761

Components	Flashing Losses (ton/yr)
Mixture	579.2
Propane	198.1
i-Butane	46.97
n-Butane	149.6
i-Pentane	49.61
n-Pentane	72.26
n-Hexane	19.2
Heptane	11.1
Octane	1.751
Nonane	0.1095
Decane	0.01047
TEG	0
EG	0
2-Methylpentane	19.69
3-Methylpentane	6.918
2,2,4-Trimethylpent	0.9735
Benzene	1.485
Toluene	1.214
Ethylbenzene	0.09825
m-Xylene	0.01784
p-Xylene	0.1167
o-Xylene	0.02256

[InputSummary]
OperatingHours=8.760000E+003
[UncontrolledEmissions]
74-82-8=8.275282E+001
74-84-0=6.495168E+001
74-98-6=6.223945E+001
75-28-5=1.054562E+001
106-97-8=3.789346E+001
78-78-4=9.384715E+000
109-66-0=1.108828E+001
110-54-3=4.048824E+000
142-82-5=8.357705E+000
Heavy=2.803355E+000
TOTAL-VOC=1.463614E+002
TOTAL-HAP=4.048824E+000
[ControlledEmissions]
74-82-8=4.137641E+000
74-84-0=3.247584E+000
74-98-6=3.111973E+000
75-28-5=5.272808E-001
106-97-8=1.894673E+000
78-78-4=4.692358E-001
109-66-0=5.544140E-001
110-54-3=2.024412E-001
142-82-5=4.178853E-001
Heavy=1.401678E-001
TOTAL-VOC=7.318071E+000
TOTAL-HAP=2.024412E-001

APPENDIX C: VENDOR SPECIFICATION SHEETS

Prepared For:
Steve Watson
Bidell

Date: August 8, 2018

APPLICATION INFORMATION

DRIVER

Make:	Waukesha
Model:	L7042GSI S5
Horsepower:	1500
RPM:	1200
Compression Ratio:	9.7
Exhaust Flow Rate:	7061
Exhaust Temperature:	1130
Reference:	Targa Hawkeye EngCalc
Fuel:	Bypass Fuel
Annual Operating Hours:	8760

UNCONTROLLED EMISSIONS DATA

	g/bhp-hr	lb/hr	Tons/Year
NO_x:	13.10	43.32	189.75
CO:	10.10	33.40	146.29
THC:	0.40	1.32	5.79
NMHC:	0.24	0.79	3.48
NMNEHC:	0.14	0.46	2.03
HCHO:	0.15	0.50	2.17
Oxygen:	0.30%		

CATALYST ELEMENT

Model:	RT-2415-T
Catalyst Type:	NSCR, Standard Precious Metals Group
Substrate Type:	Brazed
Element Size:	Rectangle, 24" x 15" x 3.5"
Element Quantity:	3

POST CATALYST EMISSIONS DATA

	g/bhp-hr	lb/hr
NO_x:	< 0.50	1.65
CO	< 2.00	6.61
VOC	< 0.70	2.31
HCHO	< 0.02	0.05

****POST CATALYST EMISSIONS ARE ONLY GUARANTEED FOR CATALYST ELEMENTS SUPPLIED BY EMIT**

EMIT Technologies, Inc.
мптл {dzNЭlNfl·yŘ Dr.
Sheridan, WY. 82801

WARRANTY

EMIT Technologies,Inc. warrants that the goods supplied will be free from defects in workmanship by EMIT Technologies, Inc. for a period of one (1) year from date of shipment. EMIT Technologies, Inc. will not be responsible for any defects which result from improper use, neglect, failure to properly maintain or which are attributable to defects, errors or omissions in any drawings, specifications, plans or descriptions, whether written or oral, supplied to EMIT Technologies, Inc. by Buyer.

Catalyst performance using an EMIT Air/Fuel ratio controller is dependent upon properly defined set-points, variable with engine and fuel gas composition. Air/fuel ratio controller performance is guaranteed, but not limited, to fuel gas with an HHV content of 1400 BTU/SCF.

Catalyst performance will be guaranteed for a period of 1 year from installation, or 8760 operating hours, whichever comes first. The catalyst shall be operated with an automatic air/fuel ratio controller. The performance guarantee shall not cover the effects of excessive ash masking due to operation at low load, improper engine maintenance, or inappropriate lubrication oil. The performance guarantee shall not cover the effects of continuous engine misfires (cylinder or ignition) exposing the catalyst to excessive exothermic reaction temperatures.

Unless otherwise stated the exhaust temperature operating range at the converter inlet is 600°F minimum for oxidation catalyst and 750°F for NSCR catalyst and 1250°F maximum.

If a high temperature shut down switch is not installed, thermal deactivation of catalyst at temperatures above 1300 °F is not covered.

The catalyst conversion efficiencies (% reduction) will be guaranteed for engine loads of 50 to 100 percent.

Engine lubrication oil shall contain less than 0.6% ash (by weight) with a maximum allowable specific oil consumption of 0.01 gal/bhp-hr. The maximum ash loading on the catalyst shall be limited to 350 g/m3. Phosphorous and zinc additives are limited to 0.03% (by weight).

The catalyst must not be exposed to the following known poisoning agents, including: iron, nickel, sodium, chromium, arsenic, zinc, lead, phosphorous, silicon, potassium, magnesium, copper, tin, and mercury. Total poison concentrations in the gas are limited to 0.3 ppm.

Shipment - Promised shipping dates are approximate and are not guaranteed and are from the point of manufacture. EMIT Technologies,Inc. will not be liable for any loss, damage or delay in manufacture or delivery resulting from any cause beyond its control including, but not limited to a period equal to the time lost by reason of that delay. All products will be crated as per best practice to prevent any damage during shipment. Unless otherwise specified, Buyer will pay for any special packing and shipping requirements. Acceptance of goods by common carrier constitutes delivery to Buyer. EMIT Technologies,Inc. shall not be responsible for goods damaged or lost in transit.

PAYMENT TERMS AND ADVANCE PAYMENT REQUIREMENT

Terms: Credit is extended to purchaser for net 30 time period. If payment is not received in the net 30 timeframe, interest on the unpaid balance will accrue at a rate of 1.5% per month from the invoice date.

Advance Payment Requirement: Proposals with a project value of $100,000 or greater, and 60 days or greater time to completion, will require an advance payment of 30% of the total value. The advance payment will be invoiced to the customer upon receipt of the customer's purchase order. Advance payment is due 30 days after the date of the invoice. If payment is not received in the net 30 timeframe, interest on the unpaid balance will accrue at the rate of 1.5% per month from the invoice date. Failure to pay this invoice may delay completion of the project outlined in this proposal.

Order Cancellation Terms: Upon cancellation of an order once submittal of a Purchase Order has occurred, the customer will pay a 25% restocking fee for Catalyst Housings, Catalyst Elements, and Air/Fuel Ratio Controllers; 50% restocking fee for Cooler Top Solutions,Exhaust System Accessories, and other Custom Built Products; 100% of all associated shipping costs incurred by EMIT; 100% of all project expenses incurred by EMIT for Field Services.

GE Power

Targa Resources - Hawkeye Station

VHP - L7042GSI S5

Bidell Gas Compression Steve Watson 403 816 9335 swatson@bidell.com

Gas Compression

ENGINE SPEED (rpm):	1200	NOx SELECTION (g/bhp-hr):	Customer Catalyst
DISPLACEMENT (in3):	7040	COOLING SYSTEM:	JW, IC + OC
COMPRESSION RATIO:	9.7:1	INTERCOOLER WATER INLET (°F):	130
IGNITION SYSTEM:	ESM2	JACKET WATER OUTLET (°F):	180
EXHAUST MANIFOLD:	Water Cooled	JACKET WATER CAPACITY (gal):	100
COMBUSTION:	Rich Burn, Turbocharged	AUXILIARY WATER CAPACITY (gal):	11
ENGINE DRY WEIGHT (lbs):	24250	LUBE OIL CAPACITY (gal):	190
AIR/FUEL RATIO SETTING:	0.38% CO	MAX. EXHAUST BACKPRESSURE (in. H2O):	20
ENGINE SOUND LEVEL (dBA)	101.3	MAX. AIR INLET RESTRICTION (in. H2O):	15
IGNITION TIMING:	ESM2 Controlled	EXHAUST SOUND LEVEL (dBA)	98.5

SITE CONDITIONS:

FUEL:	Fuel Skid Bypassed	ALTITUDE (ft):	2200
FUEL PRESSURE RANGE (psig):	40 - 60	MAXIMUM INLET AIR TEMPERATURE (°F):	105
FUEL HHV (BTU/ft3):	1,482.0	FUEL WKI:	49.9
FUEL LHV (BTU/ft3):	1,339.7		

SITE SPECIFIC TECHNICAL DATA

POWER RATING	UNITS		MAX RATING AT 100 °F AIR TEMP	SITE RATING AT MAXIMUM INLET AIR TEMPERATURE OF 105 °F		
				100%	75%	50%
CONTINUOUS ENGINE POWER	BHP		1500	1500	1125	757
OVERLOAD	% 2/24 hr		0	0	-	-
MECHANICAL EFFICIENCY (LHV)	%		33.3	33.2	32.2	30.0
CONTINUOUS POWER AT FLYWHEEL	BHP		1500	1500	1125	757
based on no auxiliary engine driven equipment						
AVAILABLE TURNDOWN SPEED RANGE	RPM		900 - 1200			
FUEL CONSUMPTION						
FUEL CONSUMPTION (LHV)	BTU/BHP-hr		7656	7662	7905	8489
FUEL CONSUMPTION (HHV)	BTU/BHP-hr		8469	8476	8745	9391
FUEL FLOW *based on fuel analysis LHV*	SCFM		143	143	111	80
HEAT REJECTION						
JACKET WATER (JW)	BTU/hr x 1000		3241	3262	2628	1999
LUBE OIL (OC)	BTU/hr x 1000		479	477	441	397
INTERCOOLER (IC)	BTU/hr x 1000		447	465	241	65
EXHAUST	BTU/hr x 1000		3124	3110	2341	1644
RADIATION	BTU/hr x 1000		598	582	551	522
EMISSIONS (ENGINE OUT):						
NOx (NO + NO2)	g/bhp-hr		13.1	13.1	13.9	14.1
CO	g/bhp-hr		10.1	10.1	10.1	10.4
THC	g/bhp-hr		0.4	0.4	0.4	0.4
NMHC	g/bhp-hr		0.24	0.24	0.34	0.45
NM,NEHC (VOC)	g/bhp-hr		0.14	0.14	0.20	0.26
CO2	g/bhp-hr		507	507	524	562
CO2e	g/bhp-hr		511	511	529	569
CH2O	g/bhp-hr		0.001	0.001	0.001	0.001
CH4	g/bhp-hr		0.15	0.15	0.21	0.28
AIR INTAKE / EXHAUST GAS						
INDUCTION AIR FLOW	SCFM		2149	2151	1664	1203
EXHAUST GAS MASS FLOW	lb/hr		9992	9999	7737	5594
EXHAUST GAS FLOW *at exhaust temp, 14.5 psia*	ACFM		7061	7062	5361	3801
EXHAUST TEMPERATURE	°F		1130	1129	1099	1069

HEAT EXCHANGER SIZING[12]			
TOTAL JACKET WATER CIRCUIT (JW)	BTU/hr x 1000		3699
TOTAL AUXILIARY WATER CIRCUIT (IC + OC)	BTU/hr x 1000		1071

COOLING SYSTEM WITH ENGINE MOUNTED WATER PUMPS		
JACKET WATER PUMP MIN. DESIGN FLOW	GPM	450
JACKET WATER PUMP MAX. EXTERNAL RESTRICTION	psig	16
AUX WATER PUMP MIN. DESIGN FLOW	GPM	79
AUX WATER PUMP MAX. EXTERNAL RESTRICTION	psig	36

All data provided per the condtions listed in the notes section on page three.

Data Generated by EngCalc Program Version 3.7 GE Distributed Power, Inc.

8/5/2018 7:25 AM

Targa Resources - Hawkeye Station

Bidell Gas Compression Steve Watson 403 816 9335 swatson@bidell.com

VHP - L7042GSI S5

Gas Compression

FUEL COMPOSITION

HYDROCARBONS:		Mole or Volume %
Methane	CH4	58.799
Ethane	C2H6	20.645
Propane	C3H8	10.963
Iso-Butane	I-C4H10	1.186
Normal Butane	N-C4H10	3.523
Iso-Pentane	I-C5H12	0.71
Normal Pentane	N-C5H12	0.7
Hexane	C6H14	0.151
Heptane	C7H16	0.182
Ethene	C2H4	0
Propene	C3H6	0
	SUM HYDROCARBONS	96.859
NON-HYDROCARBONS:		
Nitrogen	N2	2.331
Oxygen	O2	0
Helium	He	0
Carbon Dioxide	CO2	0.807
Carbon Monoxide	CO	0
Hydrogen	H2	0
Water Vapor	H2O	0.003
	TOTAL FUEL	100

FUEL:	Fuel Skid Bypassed
FUEL PRESSURE RANGE (psig):	40 - 60
FUEL WKI:	49.9
FUEL SLHV (BTU/ft3):	1316.42
FUEL SLHV (MJ/Nm3):	51.77
FUEL LHV (BTU/ft3):	1339.69
FUEL LHV (MJ/Nm3):	52.68
FUEL HHV (BTU/ft3):	1481.96
FUEL HHV (MJ/Nm3):	58.28
FUEL DENSITY (SG):	0.88

Standard Conditions per ASTM D3588-91 [60°F and 14.696psia] and ISO 6976:1996-02-01[25, V(0;101.325)].
Based on the fuel composition, supply pressure and temperature, liquid hydrocarbons may be present in the fuel. No liquid hydrocarbons are allowed in the fuel. The fuel must not contain any liquid water. Waukesha recommends both of the following:
1) Dew point of the fuel gas to be at least 20°F (11°C) below the measured temperature of the gas at the inlet of the engine fuel regulator.
2) A fuel filter separator to be used on all fuels except commercial quality natural gas.
Refer to the 'Fuel and Lubrication' section of 'Technical Data' or contact the Waukesha Application Engineering Department for additional information on fuels, or LHV and WKI* calculations.
* Trademark of General Electric Company

FUEL CONTAMINANTS

Total Sulfur Compounds	0	% volume
Total Halogen as Cloride	0	% volume
Total Ammonia	0	% volume
Siloxanes		
Tetramethyl silane	0	% volume
Trimethyl silanol	0	% volume
Hexamethyldisiloxane (L2)	0	% volume
Hexamethylcyclotrisiloxane (D3)	0	% volume
Octamethyltrisiloxane (L3)	0	% volume
Octamethylcyclotetrasiloxane (D4)	0	% volume
Decamethyltetrasiloxane (L4)	0	% volume
Decamethylcyclopentasiloxane (D5)	0	% volume
Dodecamethylpentasiloxane (L5)	0	% volume
Dodecamethylcyclohexasiloxane (D6)	0	% volume
Others	0	% volume

Total Sulfur Compounds	0 µg/BTU
Total Halogen as Cloride	0 µg/BTU
Total Ammonia	0 µg/BTU
Total Siloxanes (as Si)	0 µg/BTU

Calculated fuel contaminant analysis will depend on the entered fuel composition and selected engine model.

No water or hydrocarbon condensates are allowed in the engine. Requires liquids removal.

Targa Resources - Hawkeye Station

VHP - L7042GSI S5

Bidell Gas Compression Steve Watson 403 816 9335 swatson@bidell.com Gas Compression

NOTES

1. All data is based on engines with standard configurations unless noted otherwise.
2. Power rating is adjusted for fuel, site altitude, and site air inlet temperature, in accordance with ISO 3046/1 with tolerance of ± 3%.
3. Fuel consumption is presented in accordance with ISO 3046/1 with a tolerance of -0 / +5% at maximum rating. Fuel flow calculation based on fuel LHV and fuel consumption with a tolerance of -0/+5 %. For sizing piping and fuel equipment, it is recommended to include the 5% tolerance.
4. Heat rejection tolerances are ± 30% for radiation, and ± 8% for jacket water, lube oil, intercooler, and exhaust energy.
5. Emission levels for engines with GE supplied 3-way catalyst are given at catalyst outlet flange. For all other engine models, emission levels are given at engine exhaust outlet flange prior to any after treatment. Values are based on a new engine operating at indicated site conditions, and adjusted to the specified timing and air/fuel ratio at rated load. Catalyst out emission levels represent emission levels the catalyst is sized to achieve. Manual adjustment may be necessary to achieve compliance as catalyst/engine age. Catalyst-out emission levels are valid for the duration of the engine warranty. Emissions are at an absolute humidity of 75 grains H2O/lb (10.71 g H2O/kg) of dry air. Emission levels may vary subject to instrumentation, measurement, ambient conditions, fuel quality, and engine variation. Engine may require adjustment on-site to meet emission values, which may affect engine performance and heat output. NOx, CO, THC, and NMHC emission levels are listed as a not to exceed limit, all other emission levels are estimated. CO2 emissions based on EPA Federal Register/Vol. 74, No. 209/Friday, October 30, 2009 Rules and Regulations 56398, 56399 (3) Tier 3 Calculation Methodology, Equation C-5.
6. Air flow is based on undried air with a tolerance of ± 7%.
7. Exhaust temperature given at engine exhaust outlet flange with a tolerance of ± 50°F (28°C).
8. Exhaust gas mass flow value is based on a "wet basis" with a tolerance of ± 7%.
9. Inlet air restrictions based on full rated engine load. Exhaust backpressure based on 140.6 PSI BMEP and 1200 RPM. Refer to the engine specification section of Waukesha's standard technical data for more information.
10. Cooling circuit capacity, lube oil capacity, and engine dry weight values are typical.
11. Fuel must conform to Waukesha's "Gaseous Fuel Specification" S7884-7 or most current version. Fuel may require treatment to meet current fuel specification.
12. Heat exchanger sizing values given as the maximum heat rejection of the circuit, with applied tolerances and an additional 5% reserve factor.
13. Fuel volume flow calculation in english units is based on 100% relative humidity of the fuel gas at standard conditions of 60°F and 14.696 psia (29.92 inches of mercury; 101.325 kPa).
14. Fuel volume flow calculation in metric units is based on 100% relative humidity of the fuel gas at a combustion temperature of 25°C and metering conditions of 0°C and 101.325 kPa (14.696 psia; 29.92 inches of mercury). This is expressed as [25, V(0;101.325)].
15. Engine sound data taken with the microphone at 1 m (3.3 ft) from the side of the engine at the approximate front-to-back centerline. Microphone height was at intake manifold level. Engine sound pressure data may be different at front, back and opposite side locations. Exhaust sound data taken with microphone 1 meter (3.3 ft) away and 1 meter (3.3 ft) to the side of the exhaust outlet.
16. Due to variation between test conditions and final site conditions, such as exhaust configuration and background sound level, sound pressure levels under site conditions may be different than those tabulated above.
17. Cooling system design flow is based on minimum allowable cooling system flow. Cooling system maximum external restriction is defined as the allowable restriction at the minimum cooling system flow.
18. Continuous Power Rating: The highest load and speed that can be applied 24 hours per day, seven days per week, 365 days per year except for normal maintenance at indicated ambient reference conditions and fuel. No engine overload power rating is available.
19. emPact emission compliance available for entire range of operable fuels; however, fuel system and/or O2 set point may need to be adjusted in order to maintain compliance.
20. In cold ambient temperatures, heating of the engine jacket water, lube oil and combustion air may be required. See Waukesha Technical Data.
21. Available Turndown Speed Range refers to the constant torque speed range available. Reduced power may be available at speeds outside of this range. Contact application engineering.

SPECIAL REQUIREMENTS

TRIPOINT	**Environmental Control Equipment Data Sheet**	Item/Tag No.:	EC60-2S	Page	1	of	2
		Project No.:	L-TP18RO-305-CMB-GA-R1	Revision:	0		
		Project Name:	EC60-2S 84 LEGS TARGA	Date:	5/11/2018		
				By:	SJV		
		P.O. No.:	TBD	Checked:	ZB		
		RFQ No.:	TP18RO-305	Approved:	ZHG		

Client:	TARGA	Ref. P&ID:		Supplier:	LEED FABRICATION
Jobsite:	NORTH DAKOTA	Remarks:			
Unit/Lease:	N/A			Model No.:	EC60-2S

GENERAL

1	Design Code:	NDE:	LEED FABRICATION STANDARDS
2	Service:	Customer Specs:	☐ YES
3	Description:		☑ NO

PROCESS DATA

	Gas Composition:	mol %	Process Conditions: Variable	Value	Units
4	Methane		Flow Rate	125	MSCFD
5	Ethane		Pressure	16	OZ/IN2
6	Propane		Temperature	< 2300	°F
7	I-Butane		Molecular Weight		
8	N-Butane		Process/Waste Stream	☑ GAS ☐ LIQUID	
9	I-Pentane		Detailed Process Decription / Process Notes:		
10	N-Pentane		1. Turndown 10:1. Based on an expected normal operating rate indicated above.		
11	Hexanes		2. DRE: 98% operating at design conditions.		
12	Heptanes		3. Burner Pressure Drop: Min. 0.10 oz/in^2		
13	Octanes				
14	Nonanes				
15	Hydrogen				
16	Helium				
17	Nitrogen				
18	Oxygen				
19	Carbon Dioxide				
20					
21	TOTAL				
	Other Compoents:	PPMV	Available Utilities:		
22	H2S		**Fuel / Pilot Gas**	Min. 30 psig Natural Gas / Propane 40-50 SCFH	
23	Benzene		**Insturment Air**	N/A	
24	Toluene		**Power**	120 V / 60 Hz or Solar Power	
25	E-Benzene		**Steam**	N/A	
26	Xylene		**Purge Gas**		

DESIGN DATA

27	**Ambient Tempatures:**		**Noise Performance Requirements:**	Under 85 dBA
28	Low, °F	-20	**Structural Design Code:**	
29	High, °F	120	**Wind Design Code:**	ASCE
30	**Design Conditions:**			
31	**Max. Relative Humidity, %**	90	Pressure/Speed	100 mph
32	**Elevation (ASL), ft**		Category	
33	**Area Classification:**	Class I Div 2	**Seismic Design Code:**	
34	**Electrical Design Code:**	NEC	Location	

EQUIPMENT SPECIFICATION

35	**Type:**	☐ ELEVATED	☑ ENCLOSED	**Equipment Design:**		
36		☐ ABOVE GROUND		Component	Material / Size / Rating / Other	
37		☑ STACK	☐ MULTIPLE STACK	**Burner**		
38		☐ PORTABLE / TRAILER		Burner Tip / Assist Gas Burner	304 SS	
39				Burner Body	CARBON STEEL	
40	**Smokeless By:**	☐ STEAM	☐ ASSIST AIR	**Pilot**		
41		☐ GAS ASSIST	☐ STAGING	Pilot Tip	304 SS	
42				Pilot Line(s)	CARBON STEEL	
43	**Stack:**	☐ SELF SUPPORTING		**Firebox/Stack**		
44	**Flare Burner:**	☐ NON-SMOKELESS	☐ SMOKELESS ☐ GAS ASSIST	Shell	CARBON STEEL	
45	**Pilot:**	☑ INTERMITTEN	☐ CONTINUOUS	Piping	CARBON STEEL	
46	**Pilot Air Inspirator:**	☐ LOCAL	☐ REMOTE	Nozzles	CARBON STEEL	
47	**Pilot Flame Control:**	☐ NO	☑ YES (THERMOCOUPLE)	Flanges	CARBON STEEL	
48				Insulation	BLANKET	
49	**Pilot Ignition:**	☐ FLAMEFRONT GENERATOR	☑ INSPIRATING IGNITOR	Insulation Pins	304 SS	
50		☐ ELECTRONIC	☑ AUTOMATI ☐ MANUAL	Refractory	N/A	
51		☐ WITH PILOT FLAME CONTROL		Refractory Anchors	N/A	
52		☐ WITH AUTO PILOT RE-GINITION		Ladders and Platforms	N/A	
53				Stack Sample Connections	PER EPA REQUIREMENTS	
54	**Pilot Ignition Backup:**	☐ MANUAL	**Specify: i.e. Piezo-Electric**	Sight Glass	2	
55		☐ BATTERY PACK		Other		

TRIPOINT	**Environmental Control Equipment Data Sheet**	Item/Tag No.:	EC60-2S	Page	2	of	2
		Project No.:	L-TP18RO-305-CMB-GA-R1	Revision:	0		
		Project Name:	EC60-2S 84 LEGS TARGA	Date:	5/11/2018		
				By:	SJV		
		P.O. No.:	TBD	Checked:	ZB		
		RFQ No.:	TBD	Approved:	ZHG		

Client:	TARGA	Ref. P&ID:	TP18RO-305	Supplier:	LEED FABRICATION
Jobsite:	NORTH DAKOTA	Remarks:			
Unit/Lease:	N/A			Model No.:	EC60-2S

EQUIPMENT SPECIFICATION

Flame Detection: ☐ THERMOCOUPLE ☑ IONIZATION ROD ☐ UV SCANNER

General Configuration:

Auxiliary Equipment	
Valves	N/A
Blowers	N/A
Dampers	N/A
Inlet KO / Liquid Seal	N/A
Flame / Detenation Arrestor	YES
Instrumentation & Controls	
Solenoid / Shut-off Valves	ASCO 1/4" 2 way, ASCO 1/4" 3 way
Flow Meters	N/A
Calorimeter	N/A
Pressure Switches / Transmitters	N/A
Thermocouples	Type K Thermocouple
Temperature Switches / Transmitters	N/A
BMS	Profire Model #2100
CEMS	N/A
Other	N/A

FABRICATION AND INSPECTION

Special Requirements	☐ SKID MOUNTED ☑ CONCRETE PAD ☐ OTHER	**Equipment Info**	
		Component	**Weight / Dimensions**
		Burner	
Inspection	☑ VENDOR STANDARD ☐ OTHER Specify:	Burner Assembly	585 LBS
		Stack	
Material Certification	☑ VENDOR STANDARD ☐ MTR ☐ CERTIFICATE OF COMPLIANCE ☐ OTHER Specify:	Stack Assembly	60" OD X 30' H, 8065 LBS
		Pilot Tip	PROFIRE NOZZLE
		Pilot Line(s)	1/4"
		Auxiliary Equipment	
NDE	☑ VENDOR STANDARD ☐ RADIOGRAPHY Specify: ☐ ULTRASONIC Specify: ☐ LIQUID PENETRANT ☐ MAGNETIC PARTICLES ☐ PMI Specify: ☐ OTHER Specify:	Blowers	N/A
		Inlet KO / Liquid Seal	N/A
		Flame / Detoniation Arrestor	3" INLINE
		Skid	N/A
Surface Preparation	☑ VENDOR STANDARD ☐ OTHER Specify:		
Paint System	☑ VENDOR STANDARD ☐ OTHER Specify: Shale Green		
Finished Color	☑ VENDOR STANDARD ☐ OTHER Specify:		

Additional Notes: Pilot to consist of Profire Nozzle and alternatvie flame rod location compared to Tri-Point, LEED typical pilot.