



Nytis Exploration Company LLC

Staten Run Compressor Station

Facility ID No. 039-00044

Montgomery, West Virginia

Title V Operating Permit Application

SLR Ref: 116.01914.00021

August 2018



August 30, 2018

Mr. William F. Durham
Director
WVDEP, Division of Air Quality
601 – 57th Street SE
Charleston, West Virginia 25304

Re: Nytis Exploration Company, Title V Operating Permit Application, Staten Run Compressor Station – Facility ID 039 - 00044

Dear Mr. Durham,

Nytis Exploration Company (Nytis) and SLR International Corporation (SLR) have prepared the attached Title V Operating Permit Application for Staten Run Compressor Station located in Kanawha County, West Virginia. This application is being submitted as part of an agreed upon Consent Order (Order No. CO-R13,30-E2018-03) between the West Virginia Department of Environmental Protection – Division of Air Quality (WVDEP-DAQ) and Nytis in order to achieve compliance at this facility.

If any additional information is needed, please feel free to contact me by telephone at (304) 545 8563 or by e-mail at jhanshaw@slrconsulting.com

Sincerely,
SLR International Corporation



Jesse Hanshaw, P.E.
Principal Engineer

Title V Operating Permit Application

Prepared for:

Nytis Exploration Company LLC
102 Third St.
Glasgow, West Virginia 25086

This document has been prepared by SLR International Corporation. The material and data in this permit application were prepared under the supervision and direction of the undersigned.



Chris Boggess
Associate Engineer



Jesse Hanshaw, P.E.
Principal Engineer

CONTENTS

ATTACHMENTS

APPLICATION FOR PERMIT

ATTACHMENT A AREA MAP

ATTACHMENT B PLOT PLAN

ATTACHMENT C PROCESS FLOW DIAGRAM

ATTACHMENT D EQUIPMENT TABLE

ATTACHMENT E EMISSION UNIT FORM(S)

ATTACHMENT F..... SCHEDULE OF COMPLIANCE FORM (SEE NOTE)

ATTACHMENT G..... AIR POLLUTION CONTROL DEVICE FORM

ATTACHMENT H.... COMPLIANCE ASSURANCE MONITORING FORM (SEE NOTE)

APPENDIX A SUPPORTING CALCULATIONS

APPENDIX B ELECTRONIC SUBMITTAL

Notes:

ATTACHMENT F – N/A – Source is in compliance with all facility wide requirements

ATTACHMENT H – N/A – No CAM plan requirements at the facility

APPLICATION FOR PERMIT

Title V Operating Permit Application

**Staten Run Compressor Station, Facility ID No. 039-00044
Montgomery, West Virginia**

Nytis Exploration Company LLC
102 Third St.
Glasgow, West Virginia

August 2018



**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL
PROTECTION**

DIVISION OF AIR QUALITY

601 57th Street SE

Charleston, WV 25304

Phone: (304) 926-0475

www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

1. Name of Applicant (As registered with the WV Secretary of State's Office): Nytis Exploration Company LLC	2. Facility Name or Location: Staten Run Compressor Station
3. DAQ Plant ID No.: 039-00044	4. Federal Employer ID No. (FEIN): 82-1462663
5. Permit Application Type: <input checked="" type="checkbox"/> Initial Permit When did operations commence? 1975 <input type="checkbox"/> Permit Renewal What is the expiration date of the existing permit? <input type="checkbox"/> Update to Initial/Renewal Permit Application	
6. Type of Business Entity: <input type="checkbox"/> Corporation <input type="checkbox"/> Governmental Agency <input checked="" type="checkbox"/> LLC <input type="checkbox"/> Partnership <input type="checkbox"/> Limited Partnership	7. Is the Applicant the: <input type="checkbox"/> Owner <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Both If the Applicant is not both the owner and operator, please provide the name and address of the other party. _____ _____ _____
8. Number of onsite employees: Less than ten (10) employees	
9. Governmental Code: <input checked="" type="checkbox"/> Privately owned and operated; 0 <input type="checkbox"/> County government owned and operated; 3 <input type="checkbox"/> Federally owned and operated; 1 <input type="checkbox"/> Municipality government owned and operated; 4 <input type="checkbox"/> State government owned and operated; 2 <input type="checkbox"/> District government owned and operated; 5	
10. Business Confidentiality Claims Does this application include confidential information (per 45CSR31)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, identify each segment of information on each page that is submitted as confidential, and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's "PRECAUTIONARY NOTICE-CLAIMS OF CONFIDENTIALITY" guidance.	

11. Mailing Address		
Street or P.O. Box: 102 3 rd Street		
City: Glasgow	State: WV	Zip: 25086
Telephone Number: (681) 245-8767	Fax Number: NA	

12. Facility Location			
Street: Off U.S. Route 60	City: Montgomery	County: Kanawha	
UTM Easting: 471.779 km	UTM Northing: 4,226.742 km	Zone: <input checked="" type="checkbox"/> 17 or <input type="checkbox"/> 18	
Directions: Heading southeast on U.S. Route 60 from Glasgow, WV, travel approximately 7.2 miles towards Montgomery. The station gate is located directly off U.S. Route 60 on the left hand side of the road. The station is approximately 0.2 miles from the gate.			
Portable Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is facility located within a nonattainment area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		If yes, for what air pollutants?	
Is facility located within 50 miles of another state? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		If yes, name the affected state(s).	
Is facility located within 100 km of a Class I Area¹? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If no, do emissions impact a Class I Area¹? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		If yes, name the area(s).	
¹ Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.			

13. Contact Information		
Responsible Official: Lloyd A. Hall		Title: Vice President of Operations
Street or P.O. Box: 2480 Fortune Drive, Suite 300		
City: Lexington	State: KY	Zip: 40509
Telephone Number: (859) 299-0771 Ext. 301	Fax Number: (859) 299-0772	
E-mail address: lhall@nytisky.com		
Environmental Contact: Jeff Roberts		Title: Environmental & Regulatory Consultant
Street or P.O. Box: 2480 Fortune Drive, Suite 300		
City: Lexington	City: Lexington	City: Lexington
Telephone Number: (606) 922-0323	Fax Number: NA	
E-mail address: jlroberts0323@gmail.com		
Application Preparer: Jesse Hanshaw		Title: Principal Engineer
Company: SLR International Corporation		
Street or P.O. Box: 8 Capitol St., Suite 300		
City: Charleston	State: WV	Zip: 25301
Telephone Number: (681) 205-8949	Fax Number: (681) 205-8969	
E-mail address: jhanshaw@slrconsulting.com		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Natural Gas Processing	Natural Gas	211111	1311

Provide a general description of operations.

Staten Run Compressor Station is a natural gas gathering and compression facility covered by Standard Industrial Classification (SIC) Code 1311. The station has the potential to operate twenty-four (24) hours per day, seven (7) days per week, fifty-two (52) weeks per year. The station consists of two (2) 412 hp, Caterpillar 398-SI, 4SRB reciprocating engines, one (1) 375 hp, Cooper Bessemer GMX-A6, 2SLB reciprocating engine, one (1) 115 hp, Ajax DPC 120, 2SLB reciprocating engine, one (1) 0.75 mmBtu/hr FLAMECO SB20-12 dehydrator reboiler, one (1) 12.0 mmscf/day Sivalis TEG dehydration unit controlled by a JATCO No. 5-96 BTEX Eliminator, one (1) 2,100 gallon pipeline liquids tank, and two (2) 1,050 gallon pipeline liquids tanks. The site also utilizes other various insignificant tanks.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.

16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."

17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
<input checked="" type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input checked="" type="checkbox"/> NESHAP (45CSR34)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input type="checkbox"/> Section 111 NSPS	<input type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqts.	<input type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input checked="" type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input type="checkbox"/> Compliance Assurance Monitoring (40CFR64)
<input type="checkbox"/> CAIR NO _x Annual Trading Program (45CSR39)	<input type="checkbox"/> CAIR NO _x Ozone Season Trading Program (45CSR40)
<input type="checkbox"/> CAIR SO ₂ Trading Program (45CSR41)	
19. Non Applicability Determinations	
<p>List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.</p> <p>45CSR4 – <i>To Prevent and Control the Discharge of Air Pollutants into the Open Air Which Causes or Contributes to an Objectionable Odor or Odors</i>: According to 45CSR§4-7.1, this rule shall not apply to the following sources of objectionable odor until such time as feasible control methods are developed: Internal Combustion Engines</p> <p>45CSR10 – <i>To Prevent and Control Air Pollution from the Emission of Sulfur Oxides</i>: 45CSR10 is not applicable to the facility's reboiler because its maximum design heat input (DHI) is less than 10 MMBtu/hr</p> <p>45CSR21 – <i>To Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds</i>: All storage tanks at the station, which are listed as insignificant sources, are below 40,000 gallons in capacity which exempts the facility from 45CSR§21-28. The compressor station is not engaged in the extraction or fractionation of natural gas which exempts the facility from 45CSR§21-29</p> <p>45CSR27 – <i>To Prevent and Control the Emissions of Toxic Air Pollutants</i>: Natural gas is included as a petroleum product and contains less than 5% benzene by weight. 45CSR§27-2.4 exempts equipment "used in the production and distribution of petroleum products providing that such equipment does not produce or contact materials containing more than 5% benzene by weight."</p>	
<input checked="" type="checkbox"/> Permit Shield	

19. Non Applicability Determinations (Continued) - Attach additional pages as necessary.

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

40 CFR 60 Subpart Dc – *Standards of Performance for Steam Generating Units*: The reboiler at this facility is less than 10 mmBtu/hr; Hence Subpart Dc is not applicable in accordance with 60.40c(a)

40 CFR 60 Subparts K,Ka – *Standards of Performance for Storage Vessels for Petroleum Liquids*: All tanks at the facility are below 40,000 gallons in capacity as specified in 60.110a(a)

40 CFR 60 Subpart Kb – *Standards of Performance for Volatile Organic Liquid Storage Vessels*: All tanks at the facility are below 75m³ (19,813 gallons) in capacity as specified in 60.110b(a)

40 CFR 60 Subpart KKK – *Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plant*: This compressor station is not engaged in the extraction or fractionation of natural gas liquids from field gas, the fractionation of mixed natural gas liquids to natural gas products, or both.

40 CFR 60 Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*: There are no compression ignition engines at this facility.

40 CFR 60 Subpart JJJJ – *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*: All engines at the facility were constructed, reconstructed, or modified prior to the June 12, 2006 applicability date listed in 60.4230(a)(4).

40 CFR 60 Subpart OOOO – *Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution*: Compressor Engine #4 does not meet the definition of "modification" under the NSPS since it was relocated and not "reconstructed" or "physically modified" and therefore is not subject to this subpart. Also, the Storage Vessel requirements for pipeline liquids tanks T03, T05, & T06 were found not to be applicable because emissions are well below 6 tpy of VOC in accordance with [40CFR§60.5365(e)]. No other affected sources were identified at this site.

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*. The GHG and VOC requirements defined by this NSPS are not applicable to this site because there were no affected sources that commenced construction after to September 18, 2015 in accordance with [40CFR§60.5365a]

40 CFR 63 Subpart HHH – *National Emission Standards for Hazardous Air Pollutants from Natural gas Transmission and Storage Facilities*: This subpart does not apply to the facility since it is not a major source of HAPs as defined in 40CFR§63.1270(a).

40 C.F.R. 63 Subpart DDDDD; *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters*: This subpart does not apply to the facility since it not a major source of HAPs as defined in 40CFR§63.7575.

40 C.F.R. 63 Subpart JJJJJJ; *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*: This subpart does not apply to the facility since the reboiler is fueled by natural gas as defined in 40CFR§63.11195(e).

40 CFR 64 – *Compliance Assurance Monitoring (CAM)*: There are no add-on controls at this facility, with the exception of the dehydration unit (RSV-1) , which is subject to 40 CFR 63, Subpart HH; therefore, in accordance with 40CFR§64.2(b)(1), CAM is not applicable to this facility.

☒ Permit Shield

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements).

R13-2863B – 3.1.1 – 45 CSR 6-3.1 – Open burning prohibited
R13-2863B – 3.1.2 – 45 CSR 6-3.2 – Open burning exemption stipulations
R13-2863B – 3.1.3 – 40 CFR Part 61 and 45 CSR 34 – Asbestos inspection and removal
R13-2863B – 3.1.4 – 45 CSR 4 – No objectionable odors
R13-2863B – 3.1.5 – 45 CSR 13-10.5 – Permanent shutdown
R13-2863B – 3.1.6 – 45 CSR 11-5.2 – Standby plans for reducing emissions
WV Code 22-5-4 (a) (14) – Annual emission inventory reporting
40 CFR Part 82 Subpart F – Ozone depleting substances
40 CFR Part 68 – Risk Management Plan
45 CSR 30-12.7 – Odor Control for Mercaptan
45 CSR 30-12.7 – Emergency Operating Conditions / unit replacement
R13-2863B – 3.3.1 – 45 CSR 22-5-4(a)(14-15) & 45CSR13 - Stack Testing - Conduct stack testing as required
R13-2863B – 3.4.1 – 45 CSR 30-5.1 – Retention of records- Maintain records for a period of 5 years
R13-2863B – 3.4.2 – 45 CSR 30-5.1 - Odors - Maintain records of odor complaints and corrective actions
45 CSR 17.3 – Fugitive PM shall not cause statutory Air Pollution
R13-2863B – 3.5.1 – 45 CSR 30-4.4. and 5.1.c.3.D – All documents required by permit shall be certified by a Responsible Official
R13-2863B – 3.5.2 – 45 CSR 30-5.1.c.3.E. - A permittee may request confidential treatment
R13-2863B – 3.5.3 – 45 CSR 30-5 - Communication required or permitted to be made to the DEP and/or USEPA
R13-2863B – 3.5.4 – 45 CSR 30-8 - Certified emissions statement – Operator will Submit a certified emissions statement and pay fees on an annual basis
R13-2863B – 3.5.5 – 45 CSR 30-8 - WV Code 22-5-4 (a) (14) – Annual emission inventory reporting
45 CSR 30-5.3.e. - Compliance certification. The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ
45 SR§30-5.1.c.3.A - Semi-annual monitoring reports.
45 CSR 30-5.7.a through e. - Emergencies
45 CSR 30-5.1.c.3.B. and C. - Deviations
45 CSR 30-4.3.h.1.B. New applicable requirements. If any requirement is promulgated, the permittee will meet such requirements on a timely basis
45 CSR 30-5.1.c.3.C. Natural Gas Use certification during Compliance Certification

☒ Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing / recordkeeping / reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

R13-2863B – 3.1.3 – 40 CFR Part 61 and 45 CSR 34 – Prior to demolition/construction buildings will be inspected for asbestos and documented accordingly

R13-2863B – 3.1.4 – 45 CSR 4 – Permittee shall maintain records of all odor complaints received

R13-2863B – 3.1.6 – 45 CSR 11 – Upon request by the Secretary, the permittee shall prepare a standby plan
40 CFR Part 82 Subpart F – The permittee will prohibit maintenance, service, or repair of appliances containing ozone depleting substances without persons certified pursuant to 40 CFR 82.161

40 CFR Part 68 – Should the permittee become subject to 40 CFR Part 68, a RMP shall be submitted
45CSR§30-12.7 For emergency situations which interrupt the critical supply of natural gas to the public, and which pose a life threatening circumstance to the customer, the permittee is allowed to temporarily replace failed engine(s). Proper notice will be provided to the WVDAQ

R13-2863B – 3.3.1 – 45 CSR 22-5-4 Stack Testing – All protocols and reports will be submitted to the WVDAQ

R13-2863B – 3.4.1 – 45 CSR 30-5.1 Retention of Records - Maintain records of all information required by permit for 5 yrs.

R13-2863B – 3.4.2 – 45 CSR 30-5.1 Odors - Maintain records of all odor complaints and responses.

R13-2863B – 3.5.1 – 45 CSR 30-4.4 and 5.1 Responsible Official - Reports, certifications, etc. shall contain a certification by the responsible official.

R13-2863B – 3.5.4 – 45 CSR 30-8 Certified emissions statement – Operator will Submit a certified emissions statement and pay fees on an annual basis

R13-2863B – 3.5.5 – WV 22-5-4 – The permittee shall submit annual emission inventory reports

45 CSR§30-5.1.c.3.A. Semi-annual monitoring reports.

45 CSR30-5.7.a through e. - For reporting emergency situations, refer to Section 2.17 of this permit

45 CSR 30-5.1.c.3.B. and C. – Deviations, In addition to required monitoring reports, the permittee shall promptly submit supplemental reports and notices of deviations / include upset conditions, cause of deviation(s) and corrective actions.

45 CSR 30-4.3.h.1.B. New applicable requirements. If any requirement is promulgated, the permittee will meet such requirements on a timely basis

45 CSR 30-5.1.c.3.C. During compliance certification, the facility shall certify that the facility burns natural gas in all stationary equipment except, when applicable, for emergency equipment.

Are you in compliance with all facility-wide applicable requirements? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

21. Active Permits/Consent Orders

[illegible]

22. Inactive Permits/Obsolete Permit Conditions

[illegible]

Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	11.97
Nitrogen Oxides (NO _x)	180.27
Lead (Pb)	-
Particulate Matter (PM _{2.5}) ¹	1.20
Particulate Matter (PM ₁₀) ¹	1.20
Total Particulate Matter (TSP)	1.20
Sulfur Dioxide (SO ₂)	0.03
Volatile Organic Compounds (VOC)	24.53
Hazardous Air Pollutants ²	Potential Emissions
Benzene	0.58
Toluene	0.96
Ethylbenzene	0.03
Xylene	0.62
n-Hexane	0.54
Formaldehyde	1.38
Total HAPs	4.63
Regulated Pollutants other than Criteria and HAP	Potential Emissions
CO _{2e}	5,801.43
¹ PM _{2.5} and PM ₁₀ are components of TSP. ² For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.	

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	1. Air compressors and pneumatically operated equipment, including hand tools.
<input type="checkbox"/>	2. Air contaminant detectors or recorders, combustion controllers or shutoffs.
<input checked="" type="checkbox"/>	3. Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
<input checked="" type="checkbox"/>	4. Bathroom/toilet vent emissions.
<input checked="" type="checkbox"/>	5. Batteries and battery charging stations, except at battery manufacturing plants.
<input type="checkbox"/>	6. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
<input type="checkbox"/>	7. Blacksmith forges.
<input type="checkbox"/>	8. Boiler water treatment operations, not including cooling towers.
<input checked="" type="checkbox"/>	9. Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
<input type="checkbox"/>	10. CO ₂ lasers, used only on metals and other materials which do not emit HAP in the process.
<input checked="" type="checkbox"/>	11. Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
<input checked="" type="checkbox"/>	12. Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
<input checked="" type="checkbox"/>	13. Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
<input type="checkbox"/>	14. Demineralized water tanks and demineralizer vents.
<input type="checkbox"/>	15. Drop hammers or hydraulic presses for forging or metalworking.
<input type="checkbox"/>	16. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
<input type="checkbox"/>	17. Emergency (backup) electrical generators at residential locations.

24. Insignificant Activities (Check all that apply)																
<input type="checkbox"/>	18. Emergency road flares.															
<input checked="" type="checkbox"/>	<p>19. Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO₂, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis:</p> <table border="1"> <thead> <tr> <th><i>Emission Point</i></th> <th><i>VOC Emissions (lb/hr)</i></th> <th><i>VOC Emissions (lb/yr)</i></th> </tr> </thead> <tbody> <tr> <td>T02</td> <td>0.000</td> <td>0.00</td> </tr> <tr> <td>T07</td> <td>0.000</td> <td>0.00</td> </tr> <tr> <td>T08</td> <td>0.000</td> <td>0.00</td> </tr> <tr> <td>Totals</td> <td>0.000</td> <td>0.00</td> </tr> </tbody> </table>	<i>Emission Point</i>	<i>VOC Emissions (lb/hr)</i>	<i>VOC Emissions (lb/yr)</i>	T02	0.000	0.00	T07	0.000	0.00	T08	0.000	0.00	Totals	0.000	0.00
<i>Emission Point</i>	<i>VOC Emissions (lb/hr)</i>	<i>VOC Emissions (lb/yr)</i>														
T02	0.000	0.00														
T07	0.000	0.00														
T08	0.000	0.00														
Totals	0.000	0.00														
<input type="checkbox"/>	<p>20. Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:</p>															
<input type="checkbox"/>	21. Environmental chambers not using hazardous air pollutant (HAP) gases.															
<input type="checkbox"/>	22. Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.															
<input type="checkbox"/>	23. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.															
<input checked="" type="checkbox"/>	24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.															
<input type="checkbox"/>	25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.															
<input checked="" type="checkbox"/>	26. Fire suppression systems.															
<input checked="" type="checkbox"/>	27. Firefighting equipment and the equipment used to train firefighters.															
<input checked="" type="checkbox"/>	28. Flares used solely to indicate danger to the public.															
<input checked="" type="checkbox"/>	29. Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.															
<input type="checkbox"/>	30. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.															
<input checked="" type="checkbox"/>	31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.															
<input type="checkbox"/>	32. Humidity chambers.															
<input type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.															
<input checked="" type="checkbox"/>	34. Indoor or outdoor kerosene heaters.															

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	35. Internal combustion engines used for landscaping purposes.
<input type="checkbox"/>	36. Laser trimmers using dust collection to prevent fugitive emissions.
<input type="checkbox"/>	37. Laundry activities, except for dry-cleaning and steam boilers.
<input checked="" type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input type="checkbox"/>	39. Oxygen scavenging (de-aeration) of water.
<input type="checkbox"/>	40. Ozone generators.
<input checked="" type="checkbox"/>	41. Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise requested.)
<input checked="" type="checkbox"/>	42. Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
<input type="checkbox"/>	43. Process water filtration systems and demineralizers.
<input checked="" type="checkbox"/>	44. Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
<input type="checkbox"/>	45. Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
<input type="checkbox"/>	46. Routing calibration and maintenance of laboratory equipment or other analytical instruments.
<input type="checkbox"/>	47. Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
<input type="checkbox"/>	48. Shock chambers.
<input type="checkbox"/>	49. Solar simulators.
<input checked="" type="checkbox"/>	50. Space heaters operating by direct heat transfer.
<input type="checkbox"/>	51. Steam cleaning operations.
<input type="checkbox"/>	52. Steam leaks.
<input type="checkbox"/>	53. Steam sterilizers.
<input type="checkbox"/>	54. Steam vents and safety relief valves.
<input type="checkbox"/>	55. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
<input type="checkbox"/>	56. Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
<input type="checkbox"/>	57. Such other sources or activities as the Director may determine.
<input checked="" type="checkbox"/>	58. Tobacco smoking rooms and areas.
<input checked="" type="checkbox"/>	59. Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table
Fill out the Title V Equipment Table and provide it as ATTACHMENT D .
26. Emission Units
For each emission unit listed in the Title V Equipment Table , fill out and provide an Emission Unit Form as ATTACHMENT E .
For each emission unit not in compliance with an applicable requirement, fill out a Schedule of Compliance Form as ATTACHMENT F .
27. Control Devices
For each control device listed in the Title V Equipment Table , fill out and provide an Air Pollution Control Device Form as ATTACHMENT G .
For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the Compliance Assurance Monitoring (CAM) Form(s) for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as ATTACHMENT H .

Section 6: Certification of Information

28. Certification of Truth, Accuracy and Completeness and Certification of Compliance

*Note: This Certification must be signed by a responsible official. The **original**, signed in **blue ink**, must be submitted with the application. Applications without an **original** signed certification will be considered as incomplete.*

a. Certification of Truth, Accuracy and Completeness

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

b. Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

Responsible official (type or print)

Name: Lloyd A. Hall

Title: Vice President of Operations

Responsible official's signature:

Signature:

Lloyd A Hall VP Operations
(Must be signed and dated in blue ink)

Signature Date:

8/28/18

Note: Please check all applicable attachments included with this permit application:

<input checked="" type="checkbox"/>	ATTACHMENT A: Area Map
<input checked="" type="checkbox"/>	ATTACHMENT B: Plot Plan(s)
<input checked="" type="checkbox"/>	ATTACHMENT C: Process Flow Diagram(s)
<input checked="" type="checkbox"/>	ATTACHMENT D: Equipment Table
<input checked="" type="checkbox"/>	ATTACHMENT E: Emission Unit Form(s)
<input type="checkbox"/>	ATTACHMENT F: Schedule of Compliance Form(s)
<input checked="" type="checkbox"/>	ATTACHMENT G: Air Pollution Control Device Form(s)
<input type="checkbox"/>	ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)

All of the required forms and additional information can be found and downloaded from, the DEP website at www.dep.wv.gov/daq, requested by phone (304) 926-0475, and/or obtained through the mail.

ATTACHMENT A

AREA MAP

Title V Operating Permit Application

**Staten Run Compressor Station, Facility ID No. 039-00044
Montgomery, West Virginia**

Nytis Exploration Company LLC
102 Third St.
Glasgow, West Virginia

August 2018

Attachment A - Area Map

Nytlis Exploration Company LLC
Staten Run Compressor Station - Facility ID: 039-00044

UTM Coordinates of Site:
Northing: 4,226.742 km, Easting: 471.779 km, Zone: 17

Legend

300' Barrier

Nytlis - Staten Run Compressor Station



Google earth

© 2018 Google



1000 ft

Hwy 60

60

ATTACHMENT B

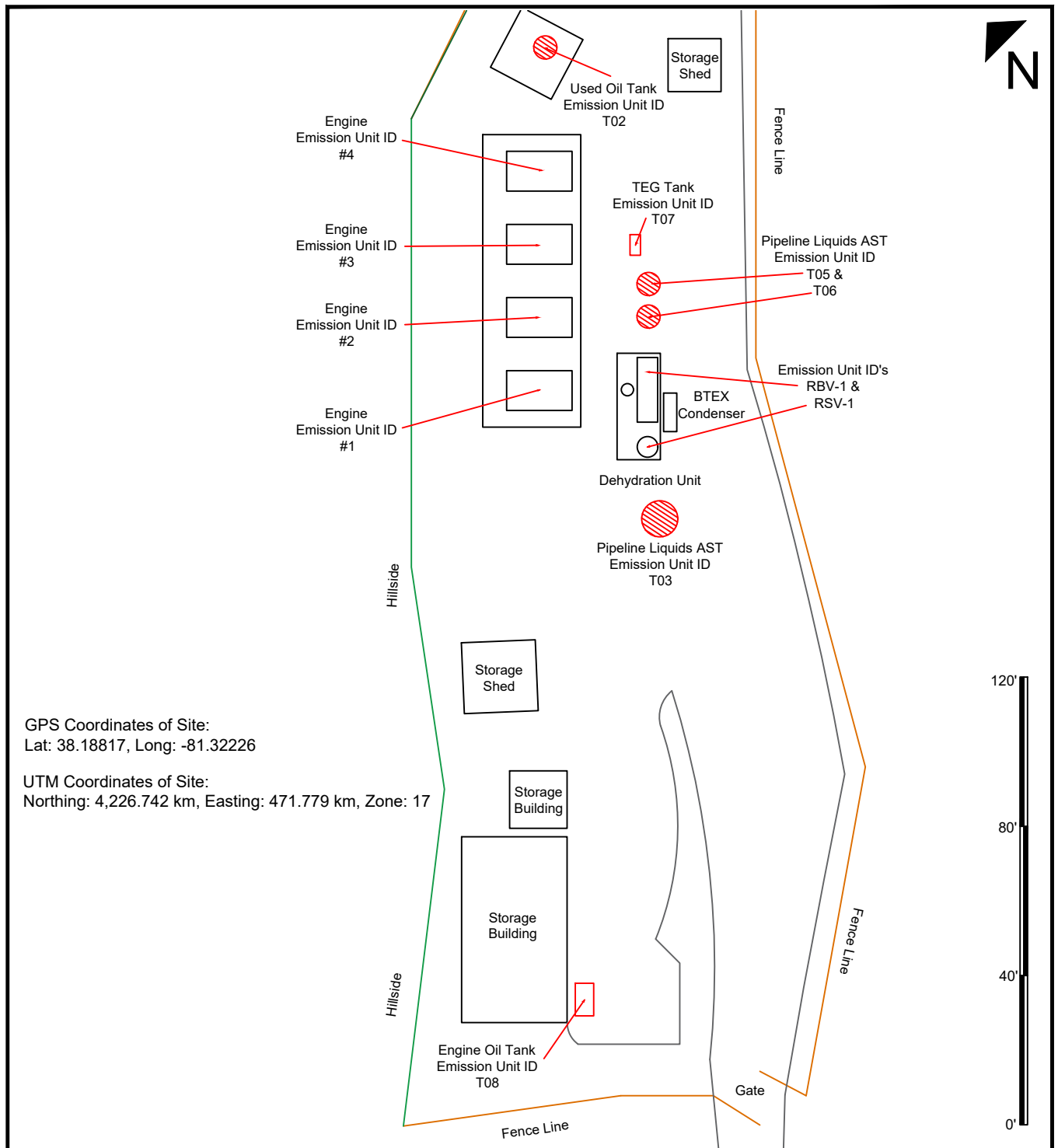
PLOT PLAN

Title V Operating Permit Application

**Staten Run Compressor Station, Facility ID No. 039-00044
Montgomery, West Virginia**

Nytis Exploration Company LLC
102 Third St.
Glasgow, West Virginia

August 2018



DRAWING LEGEND

	O/H Electric Line		Storage Tank
	Utility Pole		Secondary Containment Area
	Piping (above ground)		Direction of Surface Runoff
	Piping (under ground)		Well Head
	Valve		Meter
	Plug		Separator
	Tree/Brush line		Drain
	Crushed Stone Pad		Compressor
			Residential Meter
			Drip Tank

Nytis Exploration Company LLC
102 3rd St.
Glasgow, WV 25086

Report:
Title V Permit Application
Staten Run Compressor Station

Drawing:
Plot Plan

Drawn By:
CLB

Date: August 2018

Attachment B

Project #: 116.01914.00021

ATTACHMENT C

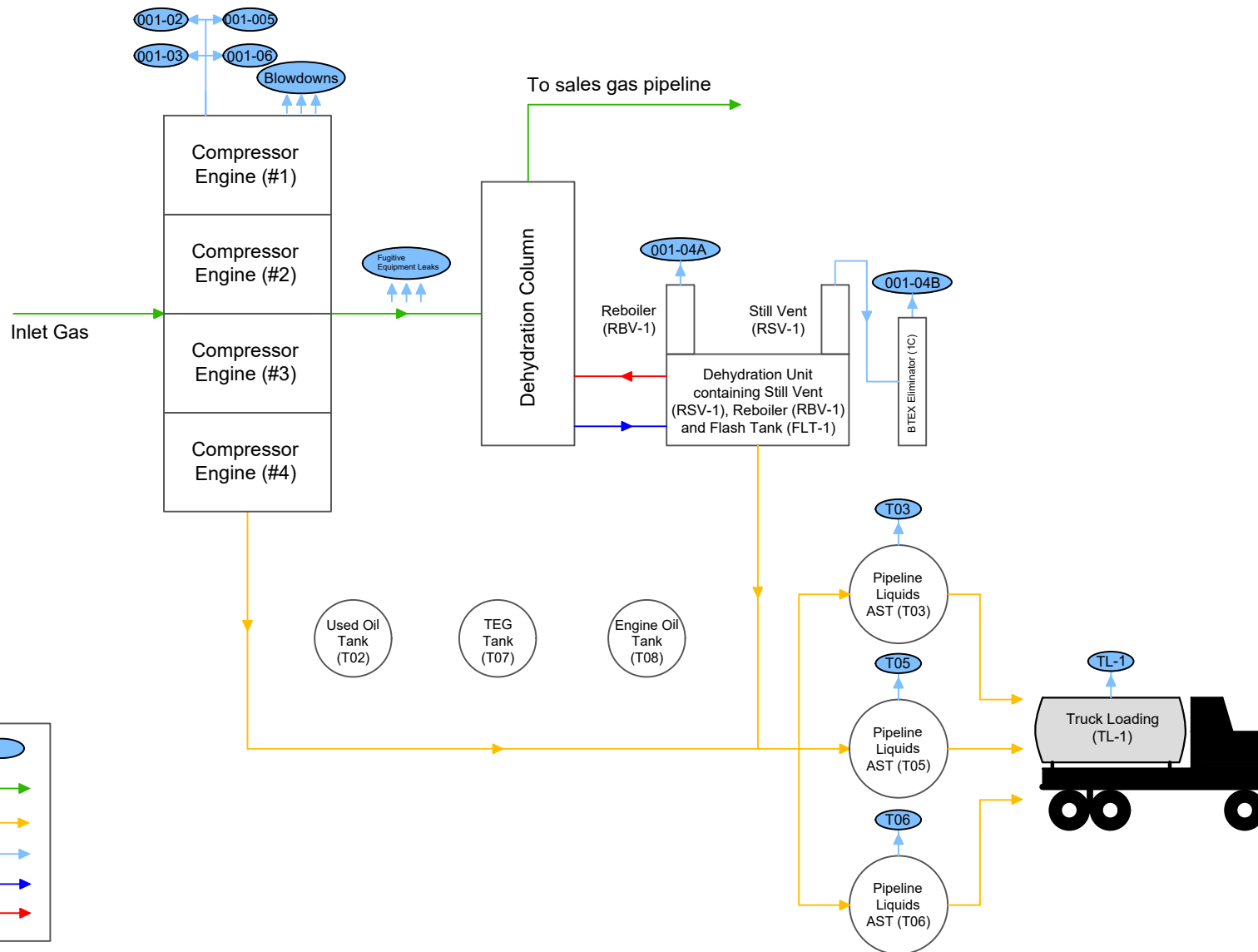
PROCESS FLOW DIAGRAM

Title V Operating Permit Application

**Staten Run Compressor Station, Facility ID No. 039-00044
Montgomery, West Virginia**

Nytis Exploration Company LLC
102 Third St.
Glasgow, West Virginia

August 2018



Nytis Exploration Company LLC

Attachment C - Process Flow Diagram

Staten Run
Compressor Station

August
2018

ATTACHMENT D

EQUIPMENT TABLE

Title V Operating Permit Application

Staten Run Compressor Station, Facility ID No. 039-00044
Montgomery, West Virginia

Nytis Exploration Company LLC
102 Third St.
Glasgow, West Virginia

August 2018

ATTACHMENT D - Title V Equipment Table
(includes all emission units at the facility except those designated as
insignificant activities in Section 4, Item 19 of the General Forms)

Emission Point ID ¹	Control Device ¹	Emission Unit ID ¹	Emission Unit Description	Design Capacity	Year Installed/Modified
001-02	None	#1	Reciprocating Engine; Caterpillar 398-SI; 4 Stroke Rich Burn	412 hp	1985
001-03	None	#2	Reciprocating Engine; Caterpillar 398-SI; 4 Stroke Rich Burn	412 hp	1985
001-05	None	#3	Reciprocating Engine; Cooper Bessemer GMX-A6; 2 Stroke Lean Burn	375 hp	1975
001-005	None	#4	Reciprocating Engine; AJAX DPC 120; 2 Stroke Lean Burn	115 bhp	2013
001-04A	None	RBV-1	Dehydration Unit Reboiler; FLAMECO; Model # SB20-12	0.75 mmBtu/hr	2011
001-04B	1C	RSV-1	Dehydration Unit Still Column; Sivalls; Model # UK	12 mmscf/d	2011
001-04B	APCD	APCD	JATCO No. 5-96 BTEX Eliminator	Control Efficiency - 98% (VOCs & HAPs)	2011
T03	None	T03	Pipeline Liquids AST	2,100 gallons	2011
T05	None	T05	Pipeline Liquids AST	1,050 gallons	2013
T06	None	T06	Pipeline Liquids AST	1,050 gallons	2013
TL-1	None	TL-1	Pipeline Liquids - Truck Loading	229,950 gal/yr	1983
Blowdowns	None	CE-BD	Compressor Engine Blowdown Venting Emissions	1.59 lb/event	1983

¹For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

*This equipment burns pipeline quality natural gas only.

ATTACHMENT E

EMISSION UNIT FORM(S)

Title V Operating Permit Application

Staten Run Compressor Station, Facility ID No. 039-00044
Montgomery, West Virginia

Nytis Exploration Company LLC
102 Third St.
Glasgow, West Virginia

August 2018

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number #1	Emission unit name: Reciprocating Engine/Compressor	List any control devices associated with this emission unit: NA	
Provide a description of the emission unit (type, method of operation, design parameters, etc.): 4-cycle, rich burn			
Manufacturer: Caterpillar	Model number: 398-SI	Serial number: 73B01690	
Construction date: NA	Installation date: 1985	Modification date(s): NA	
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 412 hp			
Maximum Hourly Throughput: NA	Maximum Annual Throughput: NA	Maximum Operating Schedule: 8,760	
Fuel Usage Data (fill out all applicable fields)			
Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired	
Maximum design heat input and/or maximum horsepower rating: 412 hp		Type and Btu/hr rating of burners: 7,460 Btu/hp-hr	
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. Natural Gas 3,014 scf/hr / 26,396,510 scf/yr			
Describe each fuel expected to be used during the term of the permit.			
Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	Pipeline Quality		1,020 Btu/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Appendix A	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	See Appendix A	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Appendix A</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

40 C.F.R. 63 Subpart ZZZZ

40 C.F.R. § 63.6603(a) and Table 2d (Line 10) – Maintenance Requirements for 4SRB Units

40 C.F.R. § 63.6605 – Operating Requirements

40 C.F.R. § 63.6625(e)(5), (h), and (j) – Monitoring Requirements

40 C.F.R. § 63.6640(a) and Table 6 (Line 9) – Continuous Compliance Requirements

40 C.F.R. § 63.6660 – Recordkeeping Requirements

40 C.F.R. § 63.6665 – General Requirements/Provisions

☒ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

40 C.F.R. 63 Subpart ZZZZ

40 C.F.R. § 63.6603 (a) and Table 2d (Line 10) – Change oil and oil filter, and inspect spark plugs, hoses, and belts every 1,440 hours of operation, or annually, whichever occurs first, and replace as necessary

40 C.F.R. § 63.6605 – Must comply with all emission, operating, and work practice standards at all times.

40 C.F.R. § 63.6625(e)(5), 63.6640 and Table 6 (Line 9) – Work or Management Practices: Operate and Maintain the RICE according to the manufacturer's instructions OR develop and follow your own maintenance plan

40 C.F.R. § 63.6625 (h) – Minimize Idle Time during Startup to not exceed 30 Minutes

40 C.F.R. § 63.6625 (j) – Oil Analysis Program in lieu of Oil change requirement in Table 2d (Line 10)

40 C.F.R. § 63.6655 (d), and (e)(3) – Keep records of maintenance conducted and operating schedule on the RICE

40 C.F.R. § 63.6660 – Records retained for five (5) years and readily available for expeditious review

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number #2	Emission unit name: Reciprocating Engine/Compressor	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

4-cycle, rich burn

Manufacturer: Caterpillar	Model number: 398-SI	Serial number: 73B01718
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Construction date: NA	Installation date: 1985	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 412 hp

Maximum Hourly Throughput: NA	Maximum Annual Throughput: NA	Maximum Operating Schedule: 8,760
---	---	---

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
--	---

Maximum design heat input and/or maximum horsepower rating: 412 hp	Type and Btu/hr rating of burners: 7,460 Btu/hp-hr
--	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural Gas
 3,014 scf/hr / 26,396,510 scf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	Pipeline Quality		1,020 Btu/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Appendix A	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	See Appendix A	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.). See Appendix A		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

40 C.F.R. 63 Subpart ZZZZ

40 C.F.R. § 63.6603(a) and Table 2d (Line 10) – Maintenance Requirements for 4SRB Units

40 C.F.R. § 63.6605 – Operating Requirements

40 C.F.R. § 63.6625(e)(5), (h), and (j) – Monitoring Requirements

40 C.F.R. § 63.6640(a) and Table 6 (Line 9) – Continuous Compliance Requirements

40 C.F.R. § 63.6660 – Recordkeeping Requirements

40 C.F.R. § 63.6665 – General Requirements/Provisions

☒ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

40 C.F.R. 63 Subpart ZZZZ

40 C.F.R. § 63.6603 (a) and Table 2d (Line 10) – Change oil and oil filter, and inspect spark plugs, hoses, and belts every 1,440 hours of operation, or annually, whichever occurs first, and replace as necessary

40 C.F.R. § 63.6605 – Must comply with all emission, operating, and work practice standards at all times.

40 C.F.R. § 63.6625(e)(5), 63.6640 and Table 6 (Line 9) – Work or Management Practices: Operate and Maintain the RICE according to the manufacturer's instructions OR develop and follow your own maintenance plan

40 C.F.R. § 63.6625 (h) – Minimize Idle Time during Startup to not exceed 30 Minutes

40 C.F.R. § 63.6625 (j) – Oil Analysis Program in lieu of Oil change requirement in Table 2d (Line 10)

40 C.F.R. § 63.6655 (d), and (e)(3) – Keep records of maintenance conducted and operating schedule on the RICE

40 C.F.R. § 63.6660 – Records retained for five (5) years and readily available for expeditious review

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number #3	Emission unit name: Reciprocating Engine/Compressor	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

2-cycle, lean burn

Manufacturer:
Cooper Bessemer

Model number:
GMX-A6

Serial number:
43678

Construction date:
NA

Installation date:
1975

Modification date(s):
NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 375 hp

Maximum Hourly Throughput:
NA

Maximum Annual Throughput:
NA

Maximum Operating Schedule:
8,760

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ☒ Yes ☐ No

If yes, is it?

☐ Indirect Fired ☒ Direct Fired

Maximum design heat input and/or maximum horsepower rating:
375 hp

Type and Btu/hr rating of burners:
7,270 Btu/hp-hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural Gas
2,673 scf/hr / 23,413,730 scf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	Pipeline Quality		1,020 Btu/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Appendix A	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	See Appendix A	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.). See Appendix A		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

40 C.F.R. 63 Subpart ZZZZ

40 C.F.R. § 63.6603(a) and Table 2d (Line 6) – Maintenance Requirements for 2SLB Units

40 C.F.R. § 63.6605 – Operating Requirements

40 C.F.R. § 63.6625(e)(5), (h), and (j) – Monitoring Requirements

40 C.F.R. § 63.6640(a) and Table 6 (Line 9) – Continuous Compliance Requirements

40 C.F.R. § 63.6660 – Recordkeeping Requirements

40 C.F.R. § 63.6665 – General Requirements/Provisions

☒ **Permit Shield**

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

40 C.F.R. 63 Subpart ZZZZ

40 C.F.R. § 63.6603(a) and Table 2d (Line 6) – Change oil and oil filter, and inspect spark plugs, hoses, and belts every 4,320 hours of operation, or annually, whichever occurs first, and replace as necessary

40 C.F.R. § 63.6605 – Must comply with all emission, operating, and work practice standards at all times.

40 C.F.R. § 63.6625(e)(5), 63.6640 and Table 6 (Line 9) – Work or Management Practices: Operate and Maintain the RICE according to the manufacturer's instructions OR develop and follow your own maintenance plan

40 C.F.R. § 63.6625 (h) – Minimize Idle Time during Startup to not exceed 30 Minutes

40 C.F.R. § 63.6625 (j) – Oil Analysis Program in lieu of Oil change requirement in Table 2d (Line 6)

40 C.F.R. § 63.6655(d), and (e)(3) – Keep records of maintenance conducted and operating schedule on the RICE

40 C.F.R. § 63.6660 – Records retained for five (5) years and readily available for expeditious review

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number #4	Emission unit name: Reciprocating Engine/Compressor	List any control devices associated with this emission unit: NA
--------------------------------------	---	---

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 2-cycle, lean burn

Manufacturer: Ajax	Model number: DPC-120	Serial number: 66442
------------------------------	---------------------------------	--------------------------------

Construction date: NA	Installation date: 2013	Modification date(s): NA
---------------------------------	-----------------------------------	------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 115 hp

Maximum Hourly Throughput: NA	Maximum Annual Throughput: NA	Maximum Operating Schedule: 8,760
---	---	---

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
--	---

Maximum design heat input and/or maximum horsepower rating: 115 hp	Type and Btu/hr rating of burners: 9,000 Btu/hp-hr
--	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural Gas
 1,015 scf/hr / 8,888,775 scf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	Pipeline Quality		1,020 Btu/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Appendix A	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	See Appendix A	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.). See Appendix A		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

40 C.F.R. 63 Subpart ZZZZ

40 C.F.R. § 63.6603(a) and Table 2d (Line 6) – Maintenance Requirements for 2SLB Units

40 C.F.R. § 63.6605 – Operating Requirements

40 C.F.R. § 63.6625(e)(5), (h), and (j) – Monitoring Requirements

40 C.F.R. § 63.6640(a) and Table 6 (Line 9) – Continuous Compliance Requirements

40 C.F.R. § 63.6660 – Recordkeeping Requirements

40 C.F.R. § 63.6665 – General Requirements/Provisions

45 C.S.R. 13, Permit R13-2863B

Condition 6.1.1 – To demonstrate compliance with Section 6.1.2., the quantity of natural gas that shall be consumed in the unit shall not exceed 1,015 cubic feet per hour and 8.90×10^6 cubic feet per year

Condition 6.1.2 – Maximum emissions from the unit shall not exceed the following limits:

<i>Pollutant</i>	<i>Maximum Hourly Emissions (lb/hr)</i>	<i>Maximum Annual Emissions (ton/yr)</i>
NO _x	1.40	6.11
CO	0.44	1.89
PM _{2.5} /PM ₁₀ /PM	0.05	0.22
VOCs	0.25	1.11
Formaldehyde	0.08	0.33

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For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

40 C.F.R. 63 Subpart ZZZZ

40 C.F.R. § 63.6603(a) and Table 2d (Line 6) – Change oil and oil filter, and inspect spark plugs, hoses, and belts every 4,320 hours of operation, or annually, whichever occurs first, and replace as necessary

40 C.F.R. § 63.6605 – Must comply with all emission, operating, and work practice standards at all times.

40 C.F.R. § 63.6625(e)(5), 63.6640 and Table 6 (Line 9) – Work or Management Practices: Operate and Maintain the RICE according to the manufacturer's instructions OR develop and follow your own maintenance plan

40 C.F.R. § 63.6625 (h) – Minimize Idle Time during Startup to not exceed 30 Minutes

40 C.F.R. § 63.6625 (j) – Oil Analysis Program in lieu of Oil change requirement in Table 2d (Line 6)

40 C.F.R. § 63.6655(d), and (e)(3) – Keep records of maintenance conducted and operating schedule on the RICE

40 C.F.R. § 63.6660 – Records retained for five (5) years and readily available for expeditious review

45 C.S.R. 13, Permit R13-2863B

Condition 6.2.1 – To demonstrate compliance with Sections 6.1-6.2, the permittee shall maintain records of the amount of natural gas consumed in the engine and the hours of operation of the unit. Said records shall be maintained on site or in readily accessible off site location maintained by the permittee for a period of five (5) years and shall be readily available to the Director

of the DAQ or his/her duly authorized representative for expeditious inspection and review.

Condition 7.1.1.a – If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to the is subpart and the operating limitations in Table 2b to this subpart that apply to you. [40 C.F.R. §§ 63.6603(a)]

Condition 7.1.1.b – As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions;

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	

¹ Sources have the option to utilize an oil analysis program as described in §63.6623(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

Condition 7.1.1.c. – The permittee shall meet all other applicable requirements given under 40 CFR 63, Subpart ZZZZ.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: RBV-1	Emission unit name: Dehydration Unit Reboiler	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Reboiler/regenerator

Manufacturer: FLAMECO	Model number: SB20-12	Serial number: NA
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Construction date: NA	Installation date: 2011	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

0.75 mmBtu/hr

Maximum Hourly Throughput: NA	Maximum Annual Throughput: NA	Maximum Operating Schedule: 8,760
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input checked="" type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	---

Maximum design heat input and/or maximum horsepower rating: 0.75 mmBtu/hr	Type and Btu/hr rating of burners: 0.75 mmBtu/hr
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural Gas 735.2 scf/hr / 6,440,000 scf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	Pipeline Quality		1,000 Btu/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Appendix A	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	See Appendix A	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.). See Appendix A		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 C.S.R. 2

45 CSR§2-3.1. – Opacity Limit; shall not exceed ten (10) percent opacity

45 C.S.R. 13, Permit R13-2863B

Condition 5.1.2 – The maximum design heat input for the reboiler shall not exceed 0.75 mmBtu/hr.

Condition 5.1.3 – The quantity of natural gas that shall be consumed in the unit (001-04A) shall not exceed 736 cubic feet per hour or 6.45×10^6 cubic feet per year.

Condition 5.1.4. – Maximum emissions for the unit shall not exceed the following limits;

<i>Pollutant</i>	<i>Maximum Hourly Emissions (lb/hr)</i>	<i>Maximum Annual Emissions (ton/yr)</i>
NO _x	0.08	0.33
CO	0.07	0.28

Condition 5.1.6.b – The reboiler shall only be fired with vapors from the still column and natural gas may be used as supplemental fuel

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For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

45 C.S.R. 2

45 CSR§2-3.2 – Compliance shall be determined using Method 9

45 C.S.R. 13, Permit R13-2863B

Condition 5.2.3 – As the annual emission limits given in Table 5.1.4 are based on operating 8,760 hours/yr at a maximum design heat input capacity of 0.75 mmBtu/hr, there is no limit on the annual hours of operation or fuel usage for the unit RBV-1 (001-04A).

Condition 5.3.3 – To demonstrate compliance with Sections 5.1.3 and 5.1.4., the permittee shall maintain records of the amount of natural gas consumed in the unit. Said records shall be maintained on site or in readily accessible off site location maintained by the permittee for a period of five (5) years and shall be readily available to the Director of the DAQ or his/her duly authorized representative for expeditious inspection and review.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: RSV-1	Emission unit name: Dehydration Unit Still Column	List any control devices associated with this emission unit: 1C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 TEG Dehydration Unit

Manufacturer: Sivalis	Model number: NA	Serial number: NA
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Construction date: NA	Installation date: 2011	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 12.0 mmscf/d

Maximum Hourly Throughput: 0.5 mmscf/hr	Maximum Annual Throughput: 4,380 mmscf/yr	Maximum Operating Schedule: 8,760
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u>X</u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	Pipeline Quality		1,000 Btu/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Appendix A	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	See Appendix A	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.). See Appendix A		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

40 C.F.R. 63 Subpart HH

40 C.F.R. § 63.764 (e)(1)(ii) – Less than one (1) ton of Benzene Exemption

40 C.F.R. § 63.772 – Compliance Procedures

40 C.F.R. § 63.774 – Recordkeeping Requirements

40 C.F.R. § 63.775 – Reporting Requirements

45 C.S.R. 13, Permit R13-2863B

Condition 5.1.1 – The maximum wet natural gas throughput to the unit shall not exceed 12.0 mmscf/d.

Condition 5.1.5 – Maximum aggregate emissions from the glycol regenerator still vent (RSV-1) and the glycol dehydration unit flash tank shall not exceed the following limits;

<i>Pollutant</i>	<i>Maximum Hourly Emissions (lb/hr) ⁽¹⁾</i>	<i>Maximum Annual Emissions (ton/yr) ⁽¹⁾</i>
VOCs	2.52	11.05
Total HAPs	0.59	2.59
n-Hexane	0.12	0.52
Benzene	0.12	0.51
Toluene	0.22	0.93
Ethylbenzene	0.01	0.03
Xylenes	0.14	0.60

(1) As based on GRI-GLYCalc with 20% safety factor

Condition 5.1.6 – The operation of the glycol dehydration unit shall be done in accordance with the following:

- The vapors/overheads from the still column shall be routed through a closed vent system to the flame zone of the reboiler at all times when the reboiler is in operation. At those times when the reboiler is not in operation and is unable to combust the vapors/exhaust, the vapors/exhaust shall be routed through the JATCO BTEX elimination system prior to the release from Emission Point 001-04B. Compliance with 5.1.6(a) will authorize the use of a maximum control efficiency of 75% on the uncontrolled emissions originating from the still column;
- The vapors/overheads from the flash tank shall at all times be routed through a closed vent system to the JATCO BTEX elimination system prior to release from emission point 001-04B. Compliance with 5.1.6(b) will authorize the use of a maximum control efficiency of 50% on the uncontrolled emissions originating from the flash tank;
- The JATCO BTEX elimination system (1C) shall be operated according to the manufacturer's specifications and shall be housed in an enclosed structure in order to prevent the unit from freezing.

Condition 5.1.7 – The permittee is exempt from the requirements of 40 C.F.R. § 63.760(b)(2) if the criteria below is met, except that the records of the determination of these criteria must be maintained as required in 40 C.F.R. § 63.774(d)(i).

- The actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.9 megagram per year (1 ton/yr), as determined by the procedures specified in § 63.772(b)(2) of this subpart.
[40 C.F.R. § 63.764(e)]

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

40 C.F.R. 63 Subpart HH

40 C.F.R. § 63.772(b)(2) – Permittee shall determine actual average Benzene emissions by using GRI-GLYCalc Version 3.0 or higher or by determining an average mass rate of benzene emissions in kg/hr through direct measurement.

40 C.F.R. § 63.774(d)(i) – Maintain records of actual average Benzene emissions

40 C.F.R. § 63.775(c)(8) – TEG Units located at an area source meeting the criteria found in 63.764(e)(1)(ii) are exempt from the reporting requirement

45 C.S.R. 13, Permit R13-2863B

Condition 5.2.1 – In order to show compliance with 5.1.1., the permittee shall monitor the throughput of wet natural gas fed to the dehydration system on a monthly basis for the glycol dehydration unit (001-04).

Condition 5.2.2 – The permittee shall monitor the throughput of liquid gathered in storage from the condenser on a monthly basis.

Condition 5.2.4 – In order to show compliance with 5.1.6(c), the permittee shall monitor the temperature of the enclosed building in which the JATCO BTEX elimination system (1C) is housed on a monthly basis.

Condition 5.2.5. – In order to demonstrate compliance with the benzene exemption provided under condition 5.1.7, the following parameters shall be measured at least once monthly with the exception of wet gas composition, in order to define annual average values or, if monitoring is not practical, some parameters may be assigned default values as listed below.

- a. Natural gas Flowrate including number of days operated per year, monthly throughput (mmscf/month), annual daily average (mmscf/d) and maximum design capacity (mmscf/d)
- b. Absorber temperature and pressure
- c. Lean glycol circulation rate
- d. Glycol pump type and maximum design capacity
- e. Flash tank temperature and pressure, if applicable
- f. Stripping Gas flow rate, if applicable
- g. Wet gas composition (upstream of the absorber – dehydration column) Sampled in accordance with GPA method 2166 and analyzed consistent with GPA extended method 2286 as well as the procedures presented in the GRI-GLYCalc Technical Reference User Manual and Handbook V4.
- h. Wet gas water content
- i. Dry gas water content at a point directly after exiting the dehydration column and before any additional separation points

The following operating parameters may be assigned default values when using GRI-GLYCalc:

- a. Dry gas water content can be assumed to be equivalent to pipeline quality at 7 lb H₂O/mmscf
- b. Wet gas water content can be assumed to be saturated
- c. Lean glycol water content if not directly measured may use the default value of 1.5% water as established by GRI
- d. Lean glycol circulation rate may be estimated using the TEG recirculation ratio of 3 gal TEG / lb H₂O removed

Note: If you are measuring and using actual wet or dry water content then you should also measure the glycol recirculation rate rather than using the default TEG recirculation ratio. **[45 C.S.R. § 13-5.11, §63.772(b)(2)(i)]**

Condition 5.3.1 – The permittee shall maintain a record of the wet natural gas throughput through the dehydration unit/still column to demonstrate compliance with section 5.1.1 of this permit. Said records shall be maintained on site or in readily accessible off site location maintained by the permittee for a period of five (5) years and shall be readily available to the Director of the DAQ or his/her duly authorized representative for expeditious inspection and review.

Condition 5.3.2 – The permittee shall maintain a record of the condensate gathered from the condenser to demonstrate compliance with section 5.2.2 of this permit. Said records shall be maintained on site or in readily accessible off site location maintained by the permittee for a period of five (5) years and shall be readily available to the Director of the DAQ or his/her duly authorized representative for expeditious inspection and review.

Condition 5.3.4 – To demonstrate compliance with sections 5.1.6, the permittee shall maintain records of the temperature of the enclosed building in which the JATCO BTEX elimination system (1) is housed. Said records shall be maintained on site or in readily accessible off site location maintained by the permittee for a period of five (5) years and shall be readily available to the Director of the DAQ or his/her duly authorized representative for expeditious inspection and review.

Condition 5.3.5 – For the purpose of demonstrating compliance with section 4.1.2., 5.1.5, and 5.1.6, the permittee shall maintain a record of the potential to emit (PTE) HAP calculations for the entire affected facility. These records shall include the natural gas compressor engines and ancillary equipment.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: T03	Emission unit name: Pipeline Liquids AST	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Pipeline Liquids / Vertical / Aboveground

Manufacturer: NA	Model number: NA	Serial number: NA
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Construction date: NA	Installation date: 2011	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 2,100 gallons

Maximum Hourly Throughput: 8.75 gallons	Maximum Annual Throughput: 76,650 gallons	Maximum Operating Schedule: 8,760
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Appendix A	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	See Appendix A	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.). See Appendix A		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 C.S.R. 13, Permit R13-2863B

Condition 8.1.1 – The maximum aggregate pipeline liquids throughput of storage tanks T03, T05, and T06 shall not exceed 230,000 gallons/yr and the maximum aggregate annual VOC emissions from all tanks the facility shall not exceed 0.96 tons/yr

Condition 8.1.2 – Tank size and material stored shall be limited to as specified under Table 1.0 of this permit (T03: 2,100 gallons / Pipeline Liquids)

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For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

45 C.S.R. 13, Permit R13-2863B

Condition 8.2.1 – For the purpose of demonstrating compliance with section 8.1.1, the permittee shall maintain records of the maximum aggregate throughput of the storage tanks (T03, T05, and T06).

Condition 8.2.2 – All records required under Section 8.2 shall be maintained on site or in readily accessible off site location maintained by the permittee for a period of five (5) years and shall be readily available to the Director of the DAQ or his/her duly authorized representative for expeditious inspection and review.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: T05	Emission unit name: Pipeline Liquids AST	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Pipeline Liquids / Vertical / Aboveground

Manufacturer: NA	Model number: NA	Serial number: NA
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Construction date: NA	Installation date: 2013	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1,050 gallons

Maximum Hourly Throughput: 8.75 gallons	Maximum Annual Throughput: 76,650 gallons	Maximum Operating Schedule: 8,760
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Appendix A	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	See Appendix A	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.). See Appendix A		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 C.S.R. 13, Permit R13-2863B

Condition 8.1.1 – The maximum aggregate pipeline liquids throughput of storage tanks T03, T05, and T06 shall not exceed 230,000 gallons/yr and the maximum aggregate annual VOC emissions from all tanks the facility shall not exceed 0.96 tons/yr

Condition 8.1.2 – Tank size and material stored shall be limited to as specified under Table 1.0 of this permit (T05: 1,050 gallons / Pipeline Liquids)

☒ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

45 C.S.R. 13, Permit R13-2863B

Condition 8.2.1 – For the purpose of demonstrating compliance with section 8.1.1, the permittee shall maintain records of the maximum aggregate throughput of the storage tanks (T03, T05, and T06).

Condition 8.2.2 – All records required under Section 8.2 shall be maintained on site or in readily accessible off site location maintained by the permittee for a period of five (5) years and shall be readily available to the Director of the DAQ or his/her duly authorized representative for expeditious inspection and review.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: T06	Emission unit name: Pipeline Liquids AST	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Pipeline Liquids / Vertical / Aboveground

Manufacturer: NA	Model number: NA	Serial number: NA
----------------------------	----------------------------	-----------------------------

Construction date: NA	Installation date: 2013	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1,050 gallons

Maximum Hourly Throughput: 8.75 gallons	Maximum Annual Throughput: 76,650 gallons	Maximum Operating Schedule: 8,760
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Appendix A	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	See Appendix A	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Appendix A</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 C.S.R. 13, Permit R13-2863B

Condition 8.1.1 – The maximum aggregate pipeline liquids throughput of storage tanks T03, T05, and T06 shall not exceed 230,000 gallons/yr and the maximum aggregate annual VOC emissions from all tanks the facility shall not exceed 0.96 tons/yr

Condition 8.1.2 – Tank size and material stored shall be limited to as specified under Table 1.0 of this permit (T06: 1,050 gallons / Pipeline Liquids)

☒ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

45 C.S.R. 13, Permit R13-2863B

Condition 8.2.1 – For the purpose of demonstrating compliance with section 8.1.1, the permittee shall maintain records of the maximum aggregate throughput of the storage tanks (T03, T05, and T06).

Condition 8.2.2 – All records required under Section 8.2 shall be maintained on site or in readily accessible off site location maintained by the permittee for a period of five (5) years and shall be readily available to the Director of the DAQ or his/her duly authorized representative for expeditious inspection and review.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: TL-1	Emission unit name: Pipeline Liquids – Truck Loading	List any control devices associated with this emission unit: NA
---	--	---

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Pipeline liquids loaded via truck

Manufacturer: NA	Model number: NA	Serial number: NA
----------------------------	----------------------------	-----------------------------

Construction date: NA	Installation date: 1983	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 229,500 gallons/yr

Maximum Hourly Throughput: 26.2 gallons	Maximum Annual Throughput: 229,500 gallons	Maximum Operating Schedule: 8,760
---	--	---

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? __Yes <input checked="" type="checkbox"/> No	If yes, is it? __ Indirect Fired ____ Direct Fired
---	--

Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Appendix A	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	See Appendix A	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.). See Appendix A		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 C.S.R. 13, Permit R13-2863B

Condition 9.1.1 – The maximum quantity of pipeline liquids that shall be loaded from the facility shall not exceed 229,500 gallons/yr. Compliance with this limit shall be demonstrated using a 12 month rolling total meaning the sum of the monthly throughput at any given time during the previous 12 consecutive calendar months.

Condition 9.1.2 – All trucks shall be loaded using the submerged-fill method. The “submerged-fill method” shall, for the purposes of this permit, mean either bottom filling or filling by extending the pipe to near the bottom of the tank and as soon as practicable, below the level of the liquid

☒ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

45 C.S.R. 13, Permit R13-2863B

Condition 9.2.1 – For the purpose of demonstrating compliance with section 9.1.1, the permittee shall maintain records of the amount of pipeline liquids loaded.

Condition 9.2.2 – All records required under Section 9.2 shall be maintained on site or in readily accessible off site location maintained by the permittee for a period of five (5) years and shall be readily available to the Director of the DAQ or his/her duly authorized representative for expeditious inspection and review.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: CE-BD	Emission unit name: Compressor Engine Blowdown Venting Emissions	List any control devices associated with this emission unit: NA
--	---	---

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Compressor Engine Blowdown Venting

Manufacturer: NA	Model number: NA	Serial number: NA
----------------------------	----------------------------	-----------------------------

Construction date: NA	Installation date: 1983	Modification date(s): NA
---------------------------------	-----------------------------------	------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1.59 lb/event

Maximum Hourly Throughput: 1.59 lb/event	Maximum Annual Throughput: 0.04 ton/yr	Maximum Operating Schedule: 8,760
--	--	---

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Appendix A	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	See Appendix A	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Appendix A</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 C.S.R. 13, Permit R13-2863B

Condition 10.1.1 – The number of compressor blowdowns at the facility shall not exceed 48 per year. Compliance with this annual limitation shall be determined using a 12 month rolling total meaning the sum of the monthly throughput at any given time during the previous 12 consecutive calendar months. However, in lieu of the blowdown limit given under 10.1.1, if the permittee can accurately determine the quantity of gas released during each event, the permittee may show compliance by limiting total annual gas released during blowdowns to less than 34,416 scf.

☒ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

45 C.S.R. 13, Permit R13-2863B

Condition 10.2.1 – For the purpose of demonstrating compliance with section 10.1.1, the permittee shall monitor and record the monthly and rolling 12 month records of the number of compressor blowdowns at the facility. The information will further include the duration, estimated volume of gas vented, and reason for event.

Condition 10.3.1 – The permittee shall report all events recorded under 10.2.1 to the DAQ in writing as soon as practicable, but no later than 15 days after the event.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT F

SCHEDULE OF COMPLIANCE FORM (NOT APPLICABLE)

Title V Operating Permit Application

**Staten Run Compressor Station, Facility ID No. 039-00044
Montgomery, West Virginia**

Nytis Exploration Company LLC
102 Third St.
Glasgow, West Virginia

August 2018

ATTACHMENT G

AIR POLLUTION CONTROL DEVICE FORM

Title V Operating Permit Application

Staten Run Compressor Station, Facility ID No. 039-00044
Montgomery, West Virginia

Nytis Exploration Company LLC
102 Third St.
Glasgow, West Virginia

August 2018

ATTACHMENT G - Air Pollution Control Device Form		
Control device ID number: 1C	List all emission units associated with this control device. RSV-1	
Manufacturer: JATCO	Model number: No. 5-96	Installation date: 2011
Type of Air Pollution Control Device:		
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input type="checkbox"/> Baghouse/Fabric Filter</div> <div style="width: 33%;"><input type="checkbox"/> Venturi Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Multiclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Bed Adsorber</div> <div style="width: 33%;"><input type="checkbox"/> Packed Tower Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Single Cyclone</div> <div style="width: 33%;"><input type="checkbox"/> Carbon Drum(s)</div> <div style="width: 33%;"><input type="checkbox"/> Other Wet Scrubber</div> <div style="width: 33%;"><input type="checkbox"/> Cyclone Bank</div> <div style="width: 33%;"><input type="checkbox"/> Catalytic Incinerator</div> <div style="width: 33%;"><input checked="" type="checkbox"/> Condenser</div> <div style="width: 33%;"><input type="checkbox"/> Settling Chamber</div> <div style="width: 33%;"><input type="checkbox"/> Thermal Incinerator</div> <div style="width: 33%;"><input type="checkbox"/> Flare</div> <div style="width: 33%;"><input type="checkbox"/> Other (describe) _____</div> <div style="width: 33%;"><input type="checkbox"/> Wet Plate Electrostatic Precipitator</div> <div style="width: 33%;"><input type="checkbox"/> Dry Plate Electrostatic Precipitator</div> </div>		
List the pollutants for which this device is intended to control and the capture and control efficiencies.		
Pollutant	Capture Efficiency	Control Efficiency
BTEX eliminator controls emissions from the dehydration unit at 75%; See Appendix A for pollutants controlled.		
VOCs	100%	75%
HAPs	100%	75%
Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).		
Condenser: Temperature – 125.0 °F Pressure – 14.7 psia Combustion Device: Control Efficiency – 75.0% Excess Oxygen – 5% Ambient Air Temperature – 55.0 °F		
Is this device subject to the CAM requirements of 40 C.F.R. 64? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If Yes, Complete ATTACHMENT H		
If No, Provide justification.		
This unit is subject to 40 CFR 63 Subpart HH and therefore meets the exemption criteria of 40 CFR 64.2(b)(1)		

Describe the parameters monitored and/or methods used to indicate performance of this control device.

The JATCO BTEX elimination system shall be operated according to the manufacturer's specifications and shall be housed in an enclosed structure in order to prevent the unit from freezing.

The permittee shall monitor the throughput of liquid gathered in storage from the condenser on a monthly basis.

The permittee shall monitor the temperature of the enclosed building in which the JATCO BTEX elimination system is housed on a monthly basis.

ATTACHMENT H

**COMPLIANCE ASSURANCE MONITORING FORM (NOT
APPLICABLE)**

Title V Operating Permit Application

**Staten Run Compressor Station, Facility ID No. 039-00044
Montgomery, West Virginia**

Nytis Exploration Company LLC
102 Third St.
Glasgow, West Virginia

August 2018

APPENDIX A

SUPPORTING CALCULATIONS

Title V Operating Permit Application

**Staten Run Compressor Station, Facility ID No. 039-00044
Montgomery, West Virginia**

Nytis Exploration Company LLC
102 Third St.
Glasgow, West Virginia

August 2018

Table 1. Annual Potential To Emit (PTE) Summary
Nytis Exploration Company - Staten Run Compressor Station

Criteria Pollutants

Proposed Facility Wide PTE - Criteria Pollutants

Source	PM	PM10	PM2.5	SO2	NOx	CO	VOC	CO2e
Engine (ton/yr)	1.172	1.172	1.172	0.024	179.940	11.690	11.727	5078.032
Reboiler (ton/yr)	0.024	0.024	0.024	0.002	0.322	0.271	0.018	384.378
Dehy Unit (ton/yr)	--	--	--	--	--	--	11.048	332.018
Tanks (ton/yr)	--	--	--	--	--	--	0.959	--
Truck Loading (ton/yr)	--	--	--	--	--	--	0.421	--
Fugitives (ton/yr)	--	--	--	--	--	--	0.317	6.999
Blowdown Venting (ton/yr)	--	--	--	--	--	--	0.038	--
Total Emissions (ton/yr)	1.196	1.196	1.196	0.026	180.262	11.961	24.527	5801.426
Total Emissions (lb/hr)	0.273	0.273	0.273	0.006	41.156	2.731	5.600	1324.526

Hazardous Air Pollutants (HAPs)

Proposed Facility Wide PTE - HAPs

Source		Benzene	Toluene	Ethylbenzene	Xylene	n-Hexane	Formaldehyde	Total HAPs
Engine (ton/yr)	--	0.069	0.028	0.002	0.009	0.006	1.377	2.023
Reboiler (ton/yr)	--	0.000	0.000	--	--	0.006	0.000	0.006
Dehy Unit (ton/yr)	--	0.507	0.926	0.028	0.605	0.520	--	2.587
Tanks (ton/yr)	--	--	--	--	--	--	--	--
Truck Loading (ton/yr)	--	--	--	--	--	--	--	--
Fugitives (ton/yr)	--	0.000	0.000	0.000	0.000	0.006	--	0.006
Blowdown Venting (ton/yr)	--	--	--	--	--	--	--	--
Total Emissions (ton/yr)	--	0.576	0.954	0.030	0.614	0.537	1.377	4.622
Total Emissions (lb/hr)	--	0.132	0.218	0.007	0.140	0.123	0.314	1.055

Table 2. Reciprocating Engine / Compressor Emissions (#1)
Caterpillar G398-SI; 4SRB
Nytis Exploration Company - Staten Run Compressor Station

Pollutant	Emission Factor	PTE per Engine (lb/hr)	PTE per Engine (tons/yr)
Criteria Pollutants			
PM/PM10/PM2.5**	1.94E-02 lb/MMBtu (1)	0.060	0.261
SO ₂	5.88E-04 lb/MMBtu (1)	0.002	0.008
NOx	1.83E+01 g/hp-hr (2)	16.622	72.803
CO	8.00E-01 g/hp-hr (2)	0.727	3.183
VOC	1.20E+00 g/hp-hr (2)	1.090	4.774
Hazardous Air Pollutants			
1,1,2,2-Tetrachloroethane	2.53E-05 lb/MMBtu (1)	0.000	0.000
1,1,2-Trichloroethane	1.53E-05 lb/MMBtu (1)	0.000	0.000
1,3-Butadiene	6.63E-04 lb/MMBtu (1)	0.002	0.009
1,3-Dichloropropene	1.27E-05 lb/MMBtu (1)	0.000	0.000
Acetaldehyde	2.73E-03 lb/MMBtu (1)	0.008	0.037
Acrolein	2.63E-03 lb/MMBtu (1)	0.008	0.035
Benzene	1.58E-03 lb/MMBtu (1)	0.005	0.021
Carbon Tetrachloride	1.77E-05 lb/MMBtu (1)	0.000	0.000
Chlorobenzene	1.29E-05 lb/MMBtu (1)	0.000	0.000
Chloroform	1.37E-05 lb/MMBtu (1)	0.000	0.000
Ethylbenzene	2.48E-05 lb/MMBtu (1)	0.000	0.000
Ethylene Dibromide	2.13E-05 lb/MMBtu (1)	0.000	0.000
Formaldehyde	2.05E-02 lb/MMBtu (1)	0.063	0.276
Methanol	3.06E-03 lb/MMBtu (1)	0.009	0.041
Methylene Chloride	4.12E-05 lb/MMBtu (1)	0.000	0.001
Naphthalene	9.71E-05 lb/MMBtu (1)	0.000	0.001
PAH (POM)	1.41E-04 lb/MMBtu (1)	0.000	0.002
Styrene	1.19E-05 lb/MMBtu (1)	0.000	0.000
Toluene	5.58E-04 lb/MMBtu (1)	0.002	0.008
Vinyl Chloride	7.18E-06 lb/MMBtu (1)	0.000	0.000
Xylenes	1.95E-04 lb/MMBtu (1)	0.001	0.003
Total HAP		0.099	0.436
Greenhouse Gas Emissions			
CO ₂	116.89 lb/MMBtu (3)	359.26	1573.56
CH ₄	2.2E-03 lb/MMBtu (3)	0.01	0.03
N ₂ O	2.2E-04 lb/MMBtu (3)	0.00	0.00
CO ₂ e ^(b)	-	359.63	1575.19

** PM Emission Factor includes condensables and filterables

Hourly Emissions - If emission factor note 1 or 3 is used, use calculation (a). If emission factor note 2 is used, use calculation (b).

(a) Hourly Emissions (lb/hr) = Emission factor (lb/MMBtu) * (1MMBtu/1000000 Btu) * Engine Power Output (hp) * BSFC (Btu/hp-hr)

(b) Hourly Emissions (lb/hr) = Emission factor (g/hp-hr) * Engine Power Output (hp) * (lb/453.6g)

Annual Emissions - If emission factor note 1 or 3 is used, use calculation (c). If emission factor note 2 is used, use calculation (d).

(c) Annual emissions (tons/yr) = Emission factor (lb/MMBtu) * (1MMBtu/1000000Btu) * Engine Power Output (hp) * BSFC (Btu/hp-hr) * Annual Hours of operation (hr/yr) * (1ton/2000lbs)

(d) Annual emissions (tons/yr) = Emission factor (g/hp-hr) * Engine Power Output (hp) * Annual Hours of operation (hr/yr) * (1ton/2000lbs) * (lb/453.6g)

EMISSION INPUTS TABLE	
Engine Power Output (kW) =	307
Engine Power Output (hp) =	412
Average BSFC (BTU/HP-hr) =	7,460 (4)
Heat Content Natural Gas(Btu/scf) =	1,020.0 (5)
Fuel Throughput (ft3/hr) =	3,013.3 (6)
PTE Hours of Operation =	8,760

(b) CO₂ equivalent = [(CO₂ emissions)*(GWP_{CO2})]+[(CH₄ emissions)*(GWP_{CH4})]+[(N₂O emissions)*(GWP_{N2O})]
Global Warming Potential (GWP)

CO ₂	1	(7)
CH ₄	25	(7)
N ₂ O	298	(7)

Notes:

(1) AP-42, Chapter 3.2, Table 3.2-3. Natural Gas-fired Reciprocating Engines (7/00). Uncontrolled Emission Factors for 4-Stroke Rich-Burn Engines.

(2) Manufacturers Spec Sheet

(3) Emission factors are from 40 CFR 98, Subpart C, Table C-1 and C-2.

(4) Fuel consumption from manufacturer's specification sheet.

(5) Value obtained from AP-42, section 3.2

(6) Fuel throughput = BSFC (BTU/HP-hr) x Power (HP) / Heat Content (BTU/scf)

(7) Global Warming Potentials obtained from 40 CFR 98, Subpart A, Table A-1

Table 3. Reciprocating Engine / Compressor Emissions (#2)
Caterpillar G398-SI; 4SRB
Nytis Exploration Company - Staten Run Compressor Station

Pollutant	Emission Factor	PTE per Engine (lb/hr)	PTE per Engine (tons/yr)
Criteria Pollutants			
PM/PM10/PM2.5**	1.94E-02 lb/MMBtu (1)	0.060	0.261
SO ₂	5.88E-04 lb/MMBtu (1)	0.002	0.008
NOx	1.83E+01 g/hp-hr (2)	16.622	72.803
CO	8.00E-01 g/hp-hr (2)	0.727	3.183
VOC	1.20E+00 g/hp-hr (2)	1.090	4.774
Hazardous Air Pollutants			
1,1,2,2-Tetrachloroethane	2.53E-05 lb/MMBtu (1)	0.000	0.000
1,1,2-Trichloroethane	1.53E-05 lb/MMBtu (1)	0.000	0.000
1,3-Butadiene	6.63E-04 lb/MMBtu (1)	0.002	0.009
1,3-Dichloropropene	1.27E-05 lb/MMBtu (1)	0.000	0.000
Acetaldehyde	2.73E-03 lb/MMBtu (1)	0.008	0.037
Acrolein	2.63E-03 lb/MMBtu (1)	0.008	0.035
Benzene	1.58E-03 lb/MMBtu (1)	0.005	0.021
Carbon Tetrachloride	1.77E-05 lb/MMBtu (1)	0.000	0.000
Chlorobenzene	1.29E-05 lb/MMBtu (1)	0.000	0.000
Chloroform	1.37E-05 lb/MMBtu (1)	0.000	0.000
Ethylbenzene	2.48E-05 lb/MMBtu (1)	0.000	0.000
Ethylene Dibromide	2.13E-05 lb/MMBtu (1)	0.000	0.000
Formaldehyde	2.05E-02 lb/MMBtu (1)	0.063	0.276
Methanol	3.06E-03 lb/MMBtu (1)	0.009	0.041
Methylene Chloride	4.12E-05 lb/MMBtu (1)	0.000	0.001
Naphthalene	9.71E-05 lb/MMBtu (1)	0.000	0.001
PAH (POM)	1.41E-04 lb/MMBtu (1)	0.000	0.002
Styrene	1.19E-05 lb/MMBtu (1)	0.000	0.000
Toluene	5.58E-04 lb/MMBtu (1)	0.002	0.008
Vinyl Chloride	7.18E-06 lb/MMBtu (1)	0.000	0.000
Xylenes	1.95E-04 lb/MMBtu (1)	0.001	0.003
Total HAP		0.099	0.436
Greenhouse Gas Emissions			
CO ₂	116.89 lb/MMBtu (3)	359.26	1573.56
CH ₄	2.2E-03 lb/MMBtu (3)	0.01	0.03
N ₂ O	2.2E-04 lb/MMBtu (3)	0.00	0.00
CO ₂ e ^(b)	-	359.63	1575.19

** PM Emission Factor includes condensables and filterables

Hourly Emissions - If emission factor note 1 or 3 is used, use calculation (a). If emission factor note 2 is used, use calculation (b).

(a) Hourly Emissions (lb/hr) = Emission factor (lb/MMBtu) * (1MMBtu/1000000 Btu) * Engine Power Output (hp) * BSFC (Btu/hp-hr)

(b) Hourly Emissions (lb/hr) = Emission factor (g/hp-hr) * Engine Power Output (hp) * (lb/453.6g)

Annual Emissions - If emission factor note 1 or 3 is used, use calculation (c). If emission factor note 2 is used, use calculation (d).

(c) Annual emissions (tons/yr) = Emission factor (lb/MMBtu) * (1MMBtu/1000000Btu) * Engine Power Output (hp) * BSFC (Btu/hp-hr) * Annual Hours of operation (hr/yr) * (1ton/2000lbs)

(d) Annual emissions (tons/yr) = Emission factor (g/hp-hr) * Engine Power Output (hp) * Annual Hours of operation (hr/yr) * (1ton/2000lbs) * (lb/453.6g)

EMISSION INPUTS TABLE	
Engine Power Output (kW) =	307
Engine Power Output (hp) =	412
Average BSFC (BTU/HP-hr) =	7,460 (4)
Heat Content Natural Gas(Btu/scf) =	1,020.0 (5)
Fuel Throughput (ft3/hr) =	3,013.3 (6)
PTE Hours of Operation =	8,760

(b) CO₂ equivalent = [(CO₂ emissions)*(GWP_{CO2})]+[(CH₄ emissions)*(GWP_{CH4})]+[(N₂O emissions)*(GWP_{N2O})]
Global Warming Potential (GWP)

CO ₂	1	(7)
CH ₄	25	(7)
N ₂ O	298	(7)

Notes:

(1) AP-42, Chapter 3.2, Table 3.2-3. Natural Gas-fired Reciprocating Engines (7/00). Uncontrolled Emission Factors for 4-Stroke Rich-Burn Engines.

(2) Manufacturers Spec Sheet

(3) Emission factors are from 40 CFR 98, Subpart C, Table C-1 and C-2.

(4) Fuel consumption from manufacturer's specification sheet.

(5) Value obtained from AP-42, section 3.2

(6) Fuel throughput = BSFC (BTU/HP-hr) x Power (HP) / Heat Content (BTU/scf)

(7) Global Warming Potentials obtained from 40 CFR 98, Subpart A, Table A-1

Table 4. Reciprocating Engine / Compressor Emissions (#3)
Cooper Bessemer GMX-A6; 2SLB
Nytis Exploration Company - Staten Run Compressor Station

Pollutant	Emission Factor	PTE per Engine (lb/hr)	PTE per Engine (tons/yr)
Criteria Pollutants			
PM/PM10/PM2.5**	4.83E-02 lb/MMBtu (2)	0.132	0.430
SO ₂	5.88E-04 lb/MMBtu (2)	0.002	0.005
NOx	3.17E+00 lb/MMBtu (2)	8.642	28.227
CO	3.86E-01 lb/MMBtu (2)	1.052	3.437
VOC	1.20E-01 lb/MMBtu (2)	0.327	1.069
Hazardous Air Pollutants			
1,1,2,2-Tetrachloroethane	6.63E-05 lb/MMBtu (2)	0.000	0.001
1,1,2-Trichloroethane	5.27E-05 lb/MMBtu (2)	0.000	0.000
1,3-Butadiene	8.20E-04 lb/MMBtu (2)	0.002	0.007
1,3-Dichloropropene	4.38E-05 lb/MMBtu (2)	0.000	0.000
2-Methylnapthalene	2.14E-05 lb/MMBtu (2)	0.000	0.000
2,2,4-Trimethylpentane	8.46E-04 lb/MMBtu (2)	0.002	0.008
Acetaldehyde	7.76E-03 lb/MMBtu (2)	0.021	0.069
Acrolein	7.78E-03 lb/MMBtu (2)	0.021	0.069
Benzene	1.94E-03 lb/MMBtu (2)	0.005	0.017
Biphenyl	3.95E-06 lb/MMBtu (2)	0.000	0.000
Carbon Tetrachloride	6.07E-05 lb/MMBtu (2)	0.000	0.001
Chlorobenzene	4.44E-05 lb/MMBtu (2)	0.000	0.000
Chloroform	4.71E-05 lb/MMBtu (2)	0.000	0.000
Ethylbenzene	1.08E-04 lb/MMBtu (2)	0.000	0.001
Ethylene Dibromide	7.34E-05 lb/MMBtu (2)	0.000	0.001
Formaldehyde	5.52E-02 lb/MMBtu (2)	0.150	0.492
Methanol	2.48E-03 lb/MMBtu (2)	0.007	0.022
Methylene Chloride	1.47E-04 lb/MMBtu (2)	0.000	0.001
n-Hexane	4.45E-04 lb/MMBtu (2)	0.001	0.004
Naphthalene	9.63E-05 lb/MMBtu (2)	0.000	0.001
PAH (POM)	1.34E-04 lb/MMBtu (2)	0.000	0.001
Phenol	4.21E-05 lb/MMBtu (2)	0.000	0.000
Styrene	5.48E-05 lb/MMBtu (2)	0.000	0.000
Toluene	9.63E-04 lb/MMBtu (2)	0.003	0.009
Vinyl Chloride	2.47E-05 lb/MMBtu (2)	0.000	0.000
Xylenes	2.68E-04 lb/MMBtu (2)	0.001	0.002
Total HAP		0.162	0.708
Greenhouse Gas Emissions			
CO ₂	116.89 lb/MMBtu (3)	318.67	1395.77
CH ₄	2.2E-03 lb/MMBtu (3)	0.01	0.03
N ₂ O	2.2E-04 lb/MMBtu (3)	0.00	0.00
CO ₂ e ^(b)	-	319.00	1397.21

** PM Emission Factor includes condensables and filterables

Hourly Emissions - If emission factor note 1 or 3 is used, use calculation (a). If emission factor note 2 is used, use calculation (b).

(a) Hourly Emissions (lb/hr) = Emission factor (lb/MMBtu) * (1MMBtu/1000000 Btu) * Engine Power Output (hp) * BSFC (Btu/hp-hr)

(b) Hourly Emissions (lb/hr) = Emission factor (g/hp-hr) * Engine Power Output (hp) * (lb/453.6g)

Annual Emissions - If emission factor note 1 or 3 is used, use calculation (c). If emission factor note 2 is used, use calculation (d).

(c) Annual emissions (tons/yr) = Emission factor (lb/MMBtu) * (1MMBtu/1000000 Btu) * Engine Power Output (hp) * BSFC (Btu/hp-hr) * Annual Hours of operation (hr/yr) * (1ton/2000lbs)

(d) Annual emissions (tons/yr) = [Emission Factor (lbs/MMBtu)] x Brake Specific Fuel Consumption (BTU/HP-hr)] x Power Output (HP)] x [Number of engines] x [8760 (hrs/yr)] x [1 ton/2000 lbs)

EMISSION INPUTS TABLE	
Engine Power Output (kW) =	280
Engine Power Output (hp) =	375
Average BSFC (BTU/HP-hr) =	7,270 (4)
Heat Content Natural Gas(Btu/scf) =	1,020.0 (5)
Fuel Throughput (ft3/hr) =	2,672.8 (6)
PTE Hours of Operation =	8,760

(b) CO₂ equivalent = [(CO₂ emissions)*(GWP_{CO2})]+[(CH₄ emissions)*(GWP_{CH4})]+[(N₂O emissions)*(GWP_{N2O})]
Global Warming Potential (GWP)

CO ₂	1	(7)
CH ₄	25	(7)
N ₂ O	298	(7)

Notes:

(1) Manufacturers Spec Sheet

(2) AP-42, Chapter 3.2, Table 3.2-1. *Natural Gas-fired Reciprocating Engines* (7/00). Uncontrolled Emission Factors for 2-Stroke Lean-Burn Engines.

(3) Emission factors are from 40 CFR 98, Subpart C, Table C-1 and C-2.

(4) Fuel consumption from manufacturer's specification sheet.

(5) Value obtained from AP-42, section 3.2

(6) Fuel throughput = BSFC (BTU/HP-hr) x Power (HP) / Heat Content (BTU/scf)

(7) Global Warming Potentials obtained from 40 CFR 98, Subpart A, Table A-1

Table 5. Reciprocating Engine / Compressor Emissions (#4)
AJAX DPC 120 2SLB
Nyxis Exploration Company - Staten Run Compressor Station

Pollutant	Emission Factor	PTE per Engine (lb/hr)	PTE per Engine (tons/yr)
Criteria Pollutants			
PM/PM10/PM2.5**	4.83E-02 lb/MMBtu (1)	0.050	0.219
SO ₂	5.88E-04 lb/MMBtu (1)	0.001	0.003
NO _x	5.50E+00 g/hp-hr (2)	1.394	6.107
CO	1.70E+00 g/hp-hr (2)	0.431	1.888
VOC	1.00E+00 g/hp-hr (2)	0.254	1.110
Hazardous Air Pollutants			
1,1,2,2-Tetrachloroethane	6.63E-05 lb/MMBtu (1)	0.000	0.000
1,1,2-Trichloroethane	5.27E-05 lb/MMBtu (1)	0.000	0.000
1,3-Butadiene	8.20E-04 lb/MMBtu (1)	0.001	0.004
1,3-Dichloropropene	4.38E-05 lb/MMBtu (1)	0.000	0.000
2-Methylnappthalene	2.14E-05 lb/MMBtu (1)	0.000	0.000
2,2,4-Trimethylpentane	8.46E-04 lb/MMBtu (1)	0.001	0.004
Acetaldehyde	7.76E-03 lb/MMBtu (1)	0.008	0.035
Acrolein	7.78E-03 lb/MMBtu (1)	0.008	0.035
Benzene	1.94E-03 lb/MMBtu (1)	0.002	0.009
Biphenyl	3.95E-06 lb/MMBtu (1)	0.000	0.000
Carbon Tetrachloride	6.07E-05 lb/MMBtu (1)	0.000	0.000
Chlorobenzene	4.44E-05 lb/MMBtu (1)	0.000	0.000
Chloroform	4.71E-05 lb/MMBtu (1)	0.000	0.000
Ethylbenzene	1.08E-04 lb/MMBtu (1)	0.000	0.000
Ethylene Dibromide	7.34E-05 lb/MMBtu (1)	0.000	0.000
Formaldehyde	3.00E-01 g/hp-hr (2)	0.076	0.333
Methanol	2.48E-03 lb/MMBtu (1)	0.003	0.011
Methylene Chloride	1.47E-04 lb/MMBtu (1)	0.000	0.001
n-Hexane	4.45E-04 lb/MMBtu (1)	0.000	0.002
Naphthalene	9.63E-05 lb/MMBtu (1)	0.000	0.000
PAH (POM)	1.34E-04 lb/MMBtu (1)	0.000	0.001
Phenol	4.21E-05 lb/MMBtu (1)	0.000	0.000
Styrene	5.48E-05 lb/MMBtu (1)	0.000	0.000
Toluene	9.63E-04 lb/MMBtu (1)	0.001	0.004
Vinyl Chloride	2.47E-05 lb/MMBtu (1)	0.000	0.000
Xylenes	2.68E-04 lb/MMBtu (1)	0.000	0.001
Total HAP		0.101	0.443
Greenhouse Gas Emissions			
CO ₂	116.89 lb/MMBtu (3)	120.98	529.89
CH ₄	2.2E-03 lb/MMBtu (3)	0.00	0.01
N ₂ O	2.2E-04 lb/MMBtu (3)	0.00	0.00
CO ₂ e ^(b)	-	121.11	530.44

** PM Emission Factor includes condensables and filterables

Hourly Emissions - If emission factor note 1 or 3 is used, use calculation (a). If emission factor note 2 is used, use calculation (b).

(a) Hourly Emissions (lb/hr) = Emission factor (lb/MMBtu) * (1MMBtu/1000000 Btu) * Engine Power Output (hp) * BSFC (Btu/hp-hr)

(b) Hourly Emissions (lb/hr) = Emission factor (g/hp-hr) * Engine Power Output (hp) * (lb/453.6g)

Annual Emissions - If emission factor note 1 or 3 is used, use calculation (c). If emission factor note 2 is used, use calculation (d).

(c) Annual emissions (tons/yr) = Emission factor (lb/MMBtu) * (1MMBtu/1000000Btu) * Engine Power Output (hp) * BSFC (Btu/hp-hr) * Annual Hours of operation (hr/yr) * (1ton/2000lbs)

(d) Annual emissions (tons/yr) = Emission factor (g/hp-hr) * Engine Power Output (hp) * Annual Hours of operation (hr/yr) * (1ton/2000lbs) * (lb/453.6g)

EMISSION INPUTS TABLE		
Engine Power Output (kW) =	86	
Engine Power Output (hp) =	115	
Average BSFC (BTU/HP-hr) =	9,000	(4)
Heat Content Natural Gas(Btu/scf) =	1,020.0	(5)
Fuel Throughput (ft3/hr) =	1,014.7	(6)
PTE Hours of Operation =	8,760	

(b) CO₂ equivalent = [(CO₂ emissions)*(GWP_{CO2})]+[(CH₄ emissions)*(GWP_{CH4})]+[(N₂O emissions)*(GWP_{N2O})]
Global Warming Potential (GWP)

CO ₂	1	(7)
CH ₄	25	(7)
N ₂ O	298	(7)

Notes:

(1) AP-42, Chapter 3.2, Table 3.2-1. Natural Gas-fired Reciprocating Engines (7/00). Uncontrolled Emission Factors for 2-Stroke Lean-Burn Engines.

(2) Manufacturers Spec Sheets

(3) Emission factors are from 40 CFR 98, Subpart C, Table C-1 and C-2.

(4) Fuel consumption from manufacturer's specification sheet.

(5) Value obtained from AP-42, section 3.2

(6) Fuel throughput = BSFC (BTU/HP-hr) x Power (HP) / Heat Content (BTU/scf)

(7) Global Warming Potentials obtained from 40 CFR 98, Subpart A, Table A-1

Table 6. TEG Dehydration Unit Reboiler Emissions (RBV-1)
FLAMECO; Model # SB20-12
Nytis Exploration Company - Staten Run Compressor Station

Pollutant	Emission Factor	PTE per Burner (lb/hr)	PTE per Burner (ton/yr)
Criteria Pollutants			
PM/PM10/PM2.5	7.6 lb/MMcf (1)	0.006 (a)	0.024 (b)
SO ₂	0.6 lb/MMcf (1)	0.000 (e)	0.002 (f)
NO _x	100 lb/MMcf (2)	0.074 (a)	0.322 (b)
CO	84 lb/MMcf (2)	0.062 (a)	0.271 (b)
VOC	5.5 lb/MMcf (1)	0.004 (a)	0.018 (b)
Hazardous Air Pollutants			
Arsenic	2.00E-04 lb/MMcf (3)	0.000 (a)	0.000 (b)
Benzene	2.10E-03 lb/MMcf (4)	0.000 (a)	0.000 (b)
Beryllium	1.20E-05 lb/MMcf (3)	0.000 (a)	0.000 (b)
Cadmium	1.10E-03 lb/MMcf (3)	0.000 (a)	0.000 (b)
Chromium	1.40E-03 lb/MMcf (3)	0.000 (a)	0.000 (b)
Cobalt	8.40E-05 lb/MMcf (3)	0.000 (a)	0.000 (b)
Dichlorobenzene	1.20E-03 lb/MMcf (4)	0.000 (a)	0.000 (b)
Formaldehyde	7.50E-02 lb/MMcf (4)	0.000 (a)	0.000 (b)
Hexane	1.80E+00 lb/MMcf (4)	0.001 (a)	0.006 (b)
Lead	5.00E-04 lb/MMcf (3)	0.000 (a)	0.000 (b)
Manganese	3.80E-04 lb/MMcf (3)	0.000 (a)	0.000 (b)
Mercury	2.60E-04 lb/MMcf (3)	0.000 (a)	0.000 (b)
Naphthalene	6.10E-04 lb/MMcf (4)	0.000 (a)	0.000 (b)
Nickel	2.10E-03 lb/MMcf (3)	0.000 (a)	0.000 (b)
PAH/POM	1.29E-03 lb/MMcf (4)	0.000 (a)	0.000 (b)
Selenium	2.40E-05 lb/MMcf (3)	0.000 (a)	0.000 (b)
Toluene	3.40E-03 lb/MMcf (4)	0.000 (a)	0.000 (b)
Total HAP		0.00	0.006
Greenhouse Gas Emissions			
CO ₂	116.89 lb/MMBtu (6)	87.67 (c)	383.98 (d)
CH ₄	2.2E-03 lb/MMBtu (6)	0.00 (c)	0.01 (d)
N ₂ O	2.2E-04 lb/MMBtu (6)	0.00 (c)	0.00 (d)
CO ₂ e ^(g)	- -	87.76	384.38

Calculations:

LB/MMCF

(a) Hourly emissions (lb/hr) = Emission Factor (lb/MMcf) * Fuel Use (MMCF/yr) / Annual hours of operation (hr/yr)

(b) Annual emissions (ton/yr) = Emission Factor (lb/MMcf) * Fuel Use (MMcf/yr) * (1ton/2000lbs)

LB/MMBTU

(c) Hourly Emissions (lb/hr) = Emission Factor (lb/MMBtu) * Fuel Use (MMBtu/hr)

(d) Annual Emissions (ton/yr) = Emission Factor (lb/MMBtu) * Fuel Use (MMBtu/hr) * Hours of operation (hr/yr) * (1ton/2000lbs)

EMISSION INPUTS TABLE	
Fuel Use (MMBtu/hr) =	0.75
Number of Reboilers =	1
Hours of Operation (hr/yr) =	8760
MMBtu/MMcf =	1020
PTE Fuel Use (MMft3/yr) =	6.44

(g) CO₂ equivalent = [(CO₂ emissions)*(GWP_{CO2})]+[(CH₄ emissions)*(GWP_{CH4})]+[(N₂O emissions)*(GWP_{N2O})]
Global Warming Potential (GWP)

CO ₂	1	(7)
CH ₄	25	(7)
N ₂ O	298	(7)

Notes:

(1) AP-42, Chapter 1.4, Table 1.4-2. Emission Factors For Criteria Pollutants and Greenhouse Gases From Natural Gas Combustion, July 1998.

(2) AP-42, Chapter 1.4, Table 1.4-1. Emission Factors For Nitrogen Oxides (Nox) and Carbon Monoxide(CO) From Natural Gas Combustion, July 1998.

(3) AP-42, Chapter 1.4, Table 1.4-4. Emission Factors For Metals From Natural Gas Combustion, July 1998.

(4) AP-42, Chapter 1.4, Table 1.4-3. Emission Factors for Speciated Organic Compounds from Natural Gas Combustion, July 1998.

(5) AP-42, Chapter 5.3, Section 5.3.1

(6) Emission factors are from 40 CFR 98, Subpart C, Table C-1 and C-2.

(7) Global Warming Potentials obtained from 40 CFR 98, Subpart A, Table A-1

Table 7. Dehydration Unit Still Column Emissions (RSV-1)
Sivalls; Model # UK
Nytis Exploration Company - Staten Run Compressor Station

Pollutant	PTE ⁽¹⁾ (lbs/hr)	PTE ⁽¹⁾ (ton/yr)	R13 Allowables ⁽²⁾ (lbs/hr)	R13 Allowables ⁽²⁾ (tons/yr)
Criteria Pollutants				
VOC	2.10	9.21	2.52	11.05
Hazardous Air Pollutants				
Benzene	0.10	0.42	0.12	0.51
Toluene	0.18	0.77	0.21	0.93
Ethylbenzene	0.01	0.02	0.01	0.03
Xylenes	0.12	0.50	0.14	0.60
n-Hexane	0.10	0.43	0.12	0.52
Total HAPs	0.49	2.16	0.59	2.59
Greenhouse Gas Emissions				
CO ₂	--	--	--	--
CH ₄	3.03	13.28	3.03	13.28
N ₂ O	--	--	--	--
CO ₂ e ^(a)	75.80	332.02	75.80	332.02

Calculations:

75% Destruction Efficiency for Still Vent in Reboiler Burner

50% Destruction Efficiency for Flash Tank in Reboiler Burner

GLYCALC 4.0 EMISSION ESTIMATES INPUTS	
Dehy Design Rating (MMscf/d) =	12.0
TEG Pump Rate (gpm) =	5.0
Pressure (psig) =	74.08
Temperature (°F) =	71.83
Wet Gas Water Content (lb H ₂ O/mmscf) =	64.2
Dry Gas Water Content (lb H ₂ O/mmscf) =	21.5
Condenser Temperature (°F) =	125.0
Hours of Operation =	8760

(a) CO₂ equivalent = [(CO₂ emissions)*(GWP_{CO₂})]+[(CH₄ emissions)*(GWP_{CH₄})]+[(N₂O emissions)*(GWP_{N₂O})]

Global Warming Potential (GWP)

CO ₂	1	(3)
CH ₄	25	(3)
N ₂ O	298	(3)

Notes:

(1) Current PTE emissions based on most recent wet gas analysis from 2017 are calculated utilizing GRI-GLYCalc 4.0 and reflect the controlled combined regenerator vent/flash gas emissions

(2) 45 CSR 13, Permit R13-2863B, Condition 5.1.5

(3) Global Warming Potentials obtained from 40 CFR 98, Subpart A, Table A-1

Table 8. Tank Emissions
Nytis Exploration Company - Staten Run Compressor Station

Emission Unit ID	Tank Capacity (gal)	Tank Contents	Control Devices	Tank Throughput (bbls/day)	VOC Emission Factor (lbs/bbls)		VOC Emissions (lbs/yr) ^(a)	VOC Emissions (lb/hr) ^(b)	VOC Emissions (tons/yr) ^(c)
T02	2150	Used Oil	None	0.70	1.80E-03	(2)	0.46	0.000	0.000
T03	2100	Pipeline Liquids	None	5.00	3.50E-01	(1)	638.75	0.073	0.319
T05	1050	Pipeline Liquids	None	5.00	3.50E-01	(1)	638.75	0.073	0.319
T06	1050	Pipeline Liquids	None	5.00	3.50E-01	(1)	638.75	0.073	0.319
T07	520	TEG	None	0.17	3.23E-04	(2)	0.02	0.000	0.000
T08	1000	Engine Oil	None	0.33	5.38E-03	(2)	0.64	0.000	0.000
Totals							1917.37	0.22	0.96

Calculations:

(a) VOC Emissions (lb/day) = Tank Throughput (bbls/day) * VOC Emission Factor (lbs/bbls)

(b) VOC Emissions (lb/hr) = VOC Emissions (lbs/yr) * (yr/8760hr)

(c) VOC Emissions (ton/yr) = VOC Emissions (lbs/yr) * (1ton/2000lbs)

Notes:

(1) VOC emission factor includes Flashing/Working/Breathing losses calculated from pressurized liquid sample (GOR= 0.35 lb VOC/bbl) direct flash measurement. The pressurized liquid sample was taken from the Putnam B6 site on 4/25/2013 and is considered to be worst case representative with respect to gas composition and pressure at the Station

(2) VOC emission factor includes Working/Breathing losses as calculated from TANKS 4.0.9.d

Table 9. Truck Loading (TL-1) VOC Emissions
Nytis Exploration Company - Staten Run Compressor Station

Contents	Volume Transferred ³	Loading Loss ^(a) (lb VOC/1000gal)	PTE VOC Emissions (lb/hr)	PTE VOC Emissions (ton/yr) ^(b)
Pipeline Liquids	229,950 gal/yr	3.659	0.096	0.421
Total			0.096	0.421

Calculations:

(a) Loading Loss (lbs/1000 gal) = 12.46x[Saturation Factor] x [True Vapor Pressure of Liquid Loaded (psia)] x[Molecular Weight of Vapors(lbs/lbmole)]/ [Temperature of Bulk Liquid Loaded(*R)]

(b) Annual Emissions(tons/yr) = [Loading Loss (lb VOC/ 1000 gal)]*[Volume Transferred(gal/yr)]/1000/2000

	<u>Pipeline liquids</u>	
Saturation factor	0.60	Note ⁽¹⁾
Pvap (psia)	7.70	Note ⁽²⁾
Molecular Weight Vap (lb/lbmol)	33.37	Note ⁽²⁾
Bulk Liquid Temperature (F)	65.00	Note ⁽²⁾

Notes:

(1) AP-42 Section 5.2, Table 5.2-1 Saturation Factors for Calculating Petroleum Liquid Loading Losses, Submerged loading - dedicated normal service

(2) Putnam B6 Compressor Station Pressurized Separator Sampling and Emission Estimation Report, August 2013

(3) Annual rates based on maximum throughput of 5 bbls/d per tank

Table 10. Fugitive Leak Emissions
Nytis Exploration Company - Staten Run Compressor Station

Pollutant	Emission Factor (1)	PTE ^(a) Gas Service (tons/yr)	PTE VOC emissions (ton/yr)	PTE CO ₂ e emissions (ton/yr)	PTE Total HAPs emissions (ton/yr)
Valves	9.9E-03 lb/hr/source	4.82	0.22	4.85	0.00
Pressure Relief Valves	1.9E-02 lb/hr/source	0.25	0.01	0.26	0.00
Connectors (2)	8.6E-04 lb/hr/source	1.80	0.08	1.81	0.00
Open Ended Lines	4.4E-03 lb/hr/source	0.08	0.00	0.08	0.00
Total	-	6.95	0.32	7.00	0.01

Pollutant	PTE Benzene emissions (ton/yr)	PTE Toluene emissions (ton/yr)	PTE Ethylbenzene emissions (ton/yr)	PTE Xylenes emissions (ton/yr)	PTE n-Hexane emissions (ton/yr)
Valves	1.45E-04	1.93E-04	0.00E+00	9.64E-05	4.00E-03
Pressure Relief Valves	7.64E-06	1.02E-05	0.00E+00	5.09E-06	2.11E-04
Connectors (2)	5.41E-05	7.21E-05	0.00E+00	3.60E-05	1.50E-03
Open Ended Lines	2.32E-06	3.09E-06	0.00E+00	1.54E-06	6.41E-05
Total	0.00	0.00	0.00	0.00	0.01

Calculations:

(a) Annual emissions (tons/yr) = [Emission Factor (lb/hr/source)] x [Number of Sources] x [Hours of Operation per Year] x [ton/2000lb]

WET GAS INPUTS TABLE	
Gas Stream Components	Wt Percent
Methane	88.39%
Ethane	7.05%
VOC	4.56%
Benzene	0.00%
Toluene	0.00%
Ethylbenzene	0.00%
Xylenes	0.00%
n-Hexane	0.08%

(3) Number of Components in Gas Service

Valves =	111
Pressure Relief Valves =	3
Connectors =	479
Open Ended Lines =	4

Maximum Hour of Operation = 8,760

Global Warming Potential
(GWP)

CO ₂	1	(4)
CH ₄	25	(4)
N ₂ O	298	(4)

(1) Emission factors from 1995 EPA Protocol for Equipment Leak Emission Estimates, Table 2-4 Oil and Gas Production

(2) Connectors is assumed to include flange connections in the total count

(3) Default Average Component Counts for Major Onshore Natural Gas Production Equipment from 40 CFR 98, Subpart W, Table W-1B

(4) Global Warming Potentials obtained from 40 CFR 98, Subpart A, Table A-1

Table 11. Reciprocating Engine / Compressor Emissions (#1 through #4) Blowdown Venting
Nytis Exploration Company - Staten Run Compressor Station

Pollutant	Maximum Hourly Emissions		Annual Emissions	
	Emission Factor	PTE per Engine Event (lb/hr)	Emission Factor	Annual PTE (tons/yr)
Criteria Pollutants				
VOC	1.59E+00 lb/Event (1)	1.59 (a)	1.59E+00 lb/Event (1)	0.04 (a)

(1) 1.59 lbs VOC / Engine blowdown event; based on 717 scf/event of 18.77 MW gas with 4.56 wt % VOC

(a) Worst case blowdown events per year = 48 : 1 per unit per month x 4 units x 12 months = 48 blowdown events per year

APPENDIX B

ELECTRONIC SUBMITTAL

Title V Operating Permit Application

Staten Run Compressor Station, Facility ID No. 039-00044
Montgomery, West Virginia

Nytis Exploration Company LLC
102 Third St.
Glasgow, West Virginia

August 2018