Item Barcode: 100385949

# New Source Permits

## AIR NSR P 045

**Air #:** 106085228 94965

**File Type:** Permits

**Volume:** 001

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# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*



May 17, 2011

MR JOHN MCMICHAEL
ENVIRONMENTAL SPECIALIST
XTO ENERGY INC
810 HOUSTON ST
FORT WORTH TX 76102-6203

| | |
|---|---|
| Standard Permit Registration Number: | 94965 Renewal Date: May 17, 2021 |
| Location: | From Hwy 164 and CR 751, take CR 751 W; turn L on LCR 862 go ~ 0.5 mi; turn R on lease road; turn L to location |
| City/County: | Donie, Limestone County |
| Project Description/Unit: | Stone 19 Well Site |
| Regulated Entity Number: | RN106085228 |
| Customer Reference Number: | CN600601348 |
| New or Existing Site: | Existing |
| Affected Permit (if applicable): | None |
| Standard Permit Type: | Oil and Gas Production Facilities (§116.620 effective 09/04/2000) |

XTO Energy Inc. has registered the emissions associated with the Stone 19 Well Site under the standard permit listed above as authorized by the Commissioners pursuant to Title 30 Texas Administrative Code § 116.602 (30 TAC § 116.602). Emissions are listed on the attached table. For rule information see www.tceq.texas.gov/permitting/air/nav/standard.html.

Planned MSS emissions for 365 hours/year of preventative maintenance have been reviewed. These authorized MSS emissions are included on the emissions table. No other planned MSS emissions will be authorized under this registration.

As of July 1, 2008, all analytical data generated by a mobile or stationary laboratory in support of compliance with air permits must be obtained from a NELAC (National Environmental Laboratory Accreditation Conference) accredited laboratory under the Texas Laboratory Accreditation Program or meet one of several exemptions. Specific information concerning which laboratories must be accredited and which are exempt may be found in 30 TAC § 25.4 and § 25.6.

For additional information regarding the laboratory accreditation program and a list of accredited laboratories and their fields of accreditation, please see the following Web site:

www.tceq.texas.gov/compliance/compliance_support/qa/env_lab_accreditation.html

For questions regarding the accreditation program, you may contact the Texas Laboratory Accreditation Program at (512) 239-3754 or by email at labprgms@tceq.texas.gov.

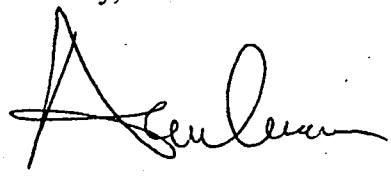
Re: Standard Permit Registration Number 94965

The company is also reminded that these facilities may be subject to and must comply with other state and federal air quality requirements. In addition, please be aware that the Commission is considering repeal and amendments to the standard permit under which your facilities are registered and these changes may affect your authorization. Under the applicability section for all Standard Permits, § 116.610(a)(2) states that "Construction or operation of the project must be commenced prior to the effective date of a revision to this subchapter." For more information regarding the proposed changes to the standard permit, please see the following Web site:

www.tceq.texas.gov/rules/pendprop.html

If you have questions, please contact Ms. Sherrie McGowan at (512) 239-1325. This action is taken under authority delegated by the Executive Director of the TCEQ.

Sincerely,



Anne M. Inman, P.E., Manager
Rule Registrations Section
Air Permits Division
Texas Commission on Environmental Quality

cc: Air Section Manager, Region 9 - Waco

Project Number: 163490

Standard Permit Maximum Emission Rates Table
Permit Number 94965

The facilities and emissions included in this table have been represented and reviewed as the maximum emissions authorized by this standard permit registration.

| MAXIMUM EMISSION RATES TABLE (MERT) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EPN / Emission Source | VOC | | NOx | | CO | | $PM_{10}$ | | $PM_{2.5}$ | | $SO_2$ | | $H_2S$ | |
| | lbs/hr | tpy | lbs/hr | tpy | lbs/hr | tpy | lbs/hr | tpy | lbs/hr | tpy | lbs/hr | tpy | lbs/hr | tpy |
| TK1 / Produced water tank | 0.02 | 0.07 | | | | | | | | | | | <0.01 | 0.02 |
| TK2 / Produced water tank | 0.02 | 0.07 | | | | | | | | | | | <0.01 | 0.02 |
| TK3 / Produced water tank | 0.02 | 0.07 | | | | | | | | | | | <0.01 | 0.02 |
| TRUCK / Water loading | 0.15 | 0.06 | | | | | | | | | | | <0.01 | 0.01 |
| FUG / MSS Fugitives | 2.05 | 0.37 | | | | | | | | | | | 0.03 | 0.01 |
| FUG / Fugitives | 0.16 | 0.70 | | | | | | | | | | | <0.01 | 0.01 |
| HTR1 / Line heater | 0.01 | 0.03 | 0.05 | 0.21 | 0.27 | 1.20 | <0.01 | 0.02 | <0.01 | 0.02 | 0.01 | 0.04 | | |
| **TOTAL EMISSIONS (TPY):** | | **1.38** | | **0.21** | | **1.20** | | **0.02** | | **0.02** | | **0.04** | | **0.09** |
| **MAXIMUM OPERATING SCHEDULE:** | **Hours/Day** | | | **Days/Week** | | | **Weeks/Year** | | | **Hours/Year** | | 8,760 | | |

VOC - volatile organic compounds
$NO_x$ - total oxides of nitrogen
CO - carbon monoxide
$PM_{10}$ - particulate matter equal to or less than 10 microns in size
$PM_{2.5}$ particulate matter equal to or less than 2.5 microns in size
$SO_2$ - sulfur dioxide
$H_2S$ - hydrogen sulfide

**Fugitive emissions are an estimate only and should not be considered as a maximum allowable

# TECHNICAL REVIEW: STANDARD PERMIT FOR INSTALLATION AND/OR MODIFICATION OF OIL AND GAS FACILITIES

| *Permit No.:* | 94965 | *Company Name:* | XTO Energy Inc. | *APD Reviewer:* | Ms. Sherrie McGowan |
|---|---|---|---|---|---|
| *Project No.:* | 163490 | *Site/Area Name:* | Stone 19 Well Site | *SP No.:* | 6002 - 116.620 PRE 2011-FEB-27 |

| GENERAL INFORMATION | | | |
|---|---|---|---|
| **Regulated Entity No.:** | RN106085228 | **Project Type:** | Standard Permit Application |
| **Customer Reference No.:** | CN600601348 | **Date Received by TCEQ:** | February 22, 2011 |
| **Account No.:** | None | **Date Received by Reviewer:** | April 5, 2011 |
| **City/County:** | Donie, Limestone County | **Physical Location:** | From Hwy 164 and CR 751, take CR 751 W; turn L on LCR 862 go ~ 0.5 mi; turn R on lease road; turn L to location. |

| CONTACT INFORMATION | | | | | |
|---|---|---|---|---|---|
| **Responsible Official/Primary Contact Name and Title:** | Mr. John McMichael<br>Environmental Specialist | **Phone No.:**<br>**Fax No.:** | (817) 885-3782<br>(817) 885-2683 | **Email:** | john_mcmichael@xtoenergy.com |
| **Technical Contact/Consultant Name and Title:** | | **Phone No.:**<br>**Fax No.:** | | **Email:** | |

| GENERAL RULES CHECK | YES | NO | COMMENTS |
|---|---|---|---|
| Is confidential information included in the application? | | X | |
| Are there associated NSR or Title V permits at the site? | | X | *If YES, list all permit numbers:* |
| Is the application for renewal of an existing standard permit? | | X | *If YES, list expiration date:* |

**DESCRIBE OVERALL PROCESS AT THE SITE**

XTO Energy, Inc. (XTO) owns and operates the Stone 19 Well Site located near Donie in Limestone County.

**DESCRIBE PROJECT AND INVOLVED PROCESS**

XTO has submitted a PI-1S to certify emissions associated with the Stone 19 Well Site under 30 TAC § 116.620. This location is an oil and gas production site with produced water tanks, a line heater, and other oil, gas, and water handling equipment typical to a production site. The representative gas analysis used for calculating emissions was pulled from a surrounding well site that is in the same formation represented 120 ppm of $H_2S$.

Associated gas from the well flows through a 500,000 Btu line heater (HTR1), where it is periodically heated to reduce the formation of hydrates. The associated gas then flows into the two-stage separator, where the liquids (produced water) are separated from the gas. The gas is flows to the gas sales meter while the liquids flow into one of three (3) 400-bbl produced water storage tanks. The tank vapors are vented to atmosphere, while the liquids are eventually trucked offsite.

The Water Tank emissions are calculated as if they were from 100% condensate/oil and then reduced by 99% using E&P TANKS with a throughput of 300-bbl/day. The Average Natural Gas Throughput is approximately 0.75 MMSCFD.

Planned MSS emissions are for preventative maintenance that is performed on the equipment at location. When maintenance is being performed on certain equipment, gas in the line will be vented to atmosphere during the maintenance, normally occurring 365 hours/year.

**TECHNICAL SUMMARY - DESCRIBE HOW THE PROJECT MEETS THE RULES**

The company did not submit an extended gas analysis. In order to comply with §116.610 (a)(1) emission limitations for benzene, the company accepted the following assumptions: in order to determine if benzene emissions were below the "E" value, projected site-wide benzene emissions (lb/hr) were based on 1% of the total VOC's (lb/hr) represented on the Table (1)(a) and compared with the E=L/K for benzene for that site.

Reviewer calculated benzene emissions (lb/hr) from the Table (1)(a) using the above methodology which resulted in site-wide emissions of 0.024 lb/hr benzene. These results continued to meet the E=L/K for benzene of 0.029 lb/hr. Reviewer notified Mr. McMichael (see communications). Mr. McMichael sent revised documents to correct the errors.

Reviewer reran E&P TANKS using the actual separator pressure and temperature from the low pressure gas analysis submitted in the application which resulted in lower C3+ and $H_2S$ emissions.

| 30 TAC §116.610 (Applicability) Rule Check | Y, N, n/a | COMMENTS |
|---|---|---|
| (a) The project (construction or modification of a facility or a group of facilities) to be authorized under this standard permit will meet the following requirements. | | |
| (a)(1) If the project results in a net increase in emissions of air contaminants (other than carbon dioxide, water, nitrogen, methane, ethane, hydrogen, oxygen, or those for which a national ambient air quality standard has been established), it will meet the emission limitations of §106.261 of this title. | Y | See 261/262 verifications below. |

# TECHNICAL REVIEW: STANDARD PERMIT FOR INSTALLATION AND/OR MODIFICATION OF OIL AND GAS FACILITIES

| *Permit No.:* | 94965 | *Company Name:* | XTO Energy Inc. | *APD Reviewer:* | Ms. Sherrie McGowan |
|---|---|---|---|---|---|
| *Project No.:* | 163490 | *Site/Area Name:* | Stone 19 Well Site | *SP No.:* | 6002 - 116.620 PRE 2011-FEB-27 |

| | | |
|---|---|---|
| *For $H_2S$ emissions from process vents, 10 mg/m$^3$ should be used as the "L" value.* | | |
| (a)(2) Construction or operation of the project will commence prior to the effective date of a revision to this subchapter, if the project would no longer meet the requirements of the revision to this subchapter. | Y | |
| (a)(3) The proposed project will comply with the applicable New Source Performance Standards (NSPS, 40 CFR Part 60). | NA | The company represents that none apply. |
| (a)(4) The proposed project will comply with the applicable National Emissions Standards for Hazardous Air Pollutants (NESHAPS, 40 CFR Part 61). | NA | The company represents that none apply. |
| (a)(5) The proposed project will comply with the applicable Maximum Achievable Control Technology standards (MACT, 40 CFR Part 63). | NA | The company represents that none apply. |
| (a)(6) If subject to Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program) the proposed facility, group of facilities, or account will obtain allocations to operate. | NA | Not located in the Houston/Galveston area. |
| (b) If the project constitutes a new major stationary source or major modification as defined in §116.12 of this title (relating to Nonattainment and Prevention of Significant Deterioration Review Definitions) is will be subject to the requirements of §116.110 of this title (relating to Applicability) rather than this subchapter. | Y | |
| (c) Requirements of §116.110 will not be circumvented by: (1) artificially limiting feed or production rates below the maximum capacity of the project's equipment; (2) claiming a limited chemical list; or (3) dividing and registering a project in separate segments. | Y | |
| (d) If the project involves a proposed affected source (as defined in §116.15(1) of this title (relating to Section 112(g) Definitions)), it will comply with all applicable requirements under Subchapter E of this chapter (relating to Hazardous Air Pollutants: Regulations Governing Constructed or Reconstructed Major Sources (FCAA, §112(g), 40 CFR Part 63)). *Affected sources subject to Subchapter E of this chapter may use a standard permit under this subchapter only if the terms and conditions of the specific standard permit meet the requirements of Subchapter E of this chapter.* | Y | |

| **30 TAC §116.611 (Registration to Use a Standard Permit) Rule Check** | **Y, N, n/a** | **COMMENTS** |
|---|---|---|
| (a) Form PI-1S has been submitted in order to register the proposed facility under this standard permit, along with the following supporting documentation: | Y | |
| (a)(1) the basis of emission estimates; | Y | |
| (a)(2) quantification of all emission increases and decreases associated with the project being registered; | Y | |
| (a)(3) sufficient information as may be necessary to demonstrate that the project will comply with §116.610(b) of this title (relating to Applicability); | Y | |
| (a)(4) information that describes efforts to be taken to minimize any collateral emissions increases that will result from the project; | Y | |
| (a)(5) a description of the project and related process; and | Y | |
| (a)(6) a description of any equipment being installed. | Y | |
| (b) Construction may begin any time after receipt of written notification from the executive director that there are no objections or 45 days after receipt by the executive director of the registration, whichever occurs first, except where a different time period is specified for a particular standard permit. | Y | |
| (c) The company has certified that the maximum emission rates listed on the registration reflect the reasonably anticipated maximums for operation of the facility by submission of Form PI-1S. | Y | |

| **30 TAC §116.614 (Standard Permit Fees) Rule Check** | **Y, N, n/a** | **COMMENTS** |
|---|---|---|
| The $900 standard permit fee has been submitted.<br>*No fee is required if a registration is automatically renewed by the commission. No fees will be refunded.* | Y | Check No. 7008912 |

| **30 TAC §116.615 (General Conditions) Rule Check** | **Y, N, n/a** | **COMMENTS** |
|---|---|---|
| (1) The emissions from the facility, including dockside vessel emissions, will comply with all applicable rules and regulations of the commission adopted under Texas Health and Safety Code, Chapter 382, and with the intent of the Texas Clean Air Act (TCAA), including protection of health and property of the public. | Y | |
| (2) All representations with regard to construction plans, operating procedures, and maximum emission rates in any registration for a standard permit will become conditions upon which the facility or changes thereto, must be constructed and operated. | Y | |
| (3) All changes authorized by standard permit to a facility previously permitted under §116.110 of this title will be administratively incorporated into that facility's permit at such time as the permit is amended or renewed. | Y | |
| (4) Start of construction, construction interruptions exceeding 45 days, and completion of construction will be reported to the appropriate regional office not later than 15 working days after occurrence of the | Y | |

# TECHNICAL REVIEW: STANDARD PERMIT FOR INSTALLATION AND/OR MODIFICATION OF OIL AND GAS FACILITIES

| *Permit No.:* | 94965 | *Company Name:* | XTO Energy Inc. | *APD Reviewer:* | Ms. Sherrie McGowan |
|---|---|---|---|---|---|
| *Project No.:* | 163490 | *Site/Area Name:* | Stone 19 Well Site | *SP No.:* | 6002 - 116.620 PRE 2011-FEB-27 |

| | | |
|---|---|---|
| event, except where a different time period is specified for a particular standard permit. | | |
| (5) The following start-up notification will be given (unless a particular standard permit modifies start-up notification requirements): | Y | |
| (5)(A) The appropriate air program regional office of the commission and any other air pollution control agency having jurisdiction will be notified prior to the commencement of operations of the facilities authorized by a standard permit in such a manner that a representative of the executive director may be present. | Y | |
| (5)(B) For phased construction, which may involve a series of units commencing operations at different times, the owner or operator of the facility will provide separate notification for the commencement of operations for each unit. | Y | |
| (5)(C) Prior to beginning operations of the facilities authorized by the permit, the permit holder will identify to the Office of Permitting, Remediation, and Registration, the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). | Y | |
| (6) If sampling of stacks or process vents is required, the standard permit holder will contact the commission's appropriate regional office and any other air pollution control agency having jurisdiction prior to sampling to obtain the proper data forms and procedures. | Y | |
| (7) The standard permit holder will demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the standard permit. Alternative methods must be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the standard permit. | Y | |
| (8) A copy of the standard permit along with information and data sufficient to demonstrate applicability of and compliance with the standard permit will be maintained in a file at the plant site and made available at the request of representatives of the executive director, the United States Environmental Protection Agency, or any air pollution control agency having jurisdiction. | Y | |
| (9) The facilities covered by the standard permit will not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. Notification for emissions events and scheduled maintenance shall be made in accordance with §101.201 and §101.211 of this title. | Y | |
| (10) Registration of a standard permit by a standard permit applicant constitutes an acknowledgment and agreement that the holder will comply with all rules, regulations, and orders of the commission issued in conformity with the TCAA and the conditions precedent to the claiming of the standard permit. If more than one state or federal rule or regulation or permit condition are applicable, the most stringent limit or condition shall govern. | Y | |
| (11) Notwithstanding any requirement in any standard permit, if a standard permit for a facility requires a distance, setback, or buffer from other property or structures as a condition of the permit, the determination of whether the distance, setback, or buffer is satisfied will be made on the basis of conditions existing at the earlier of the date new construction, expansion, or modification of a facility begins, or the date any application or notice of intent is first filed with the commission to obtain approval for the construction or operation of the facility. | Y | |

| **30 TAC §116.620 (Installation and/or Modification of Oil and Gas Facilities) Rule Check** | **Y, N, n/a** | **COMMENTS** |
|---|---|---|
| (a) The following emission specifications will be met: | | |
| (a)(1) Venting or flaring more than 0.3 long tons per day of total sulfur will not occur. *0.3 long tons/day = 672 pounds/day = 28 lb/hr* | Y | |
| (a)(2) Uncontrolled emissions of sulfur compounds (except sulfur dioxide, $SO_2$) from all vents (excluding process fugitive emissions) will not exceed 4 lb/hr unless the vapors are collected and routed to a flare. | Y | Site-side sulfur emissions are less than 4 lb/hr. |
| (a)(3) All vents, excluding any safety relief valves that discharge to the atmosphere only as a result of fire or failure of utilities, emitting sulfur compounds other than $SO_2$ will be at least 20 feet above ground level. | Y | |
| (a)(4) New or modified internal combustion reciprocating engines or gas turbines will satisfy all of the requirements of §106.512, except that registration using the Form PI-7 is not required. Emissions from engines or turbines shall be limited to the amounts found in §106.4(a)(1) of this title (relating to Requirements for Permitting by Rule). | NA | There are no engines at this site. |
| (a)(5) Total VOC emissions from a natural gas glycol dehydration unit will not exceed 10 tpy unless the vapors are collected and controlled in accordance with subsection (b)(2) of this section. | NA | There is no glycol dehydration equipment at this site. |
| (a)(6) Any combustion unit (excluding flares, internal combustion engines, or natural gas turbines), with a design maximum heat input greater than 40 million Btu per hour (using lower heating values) will not emit more than 0.06 pounds of nitrogen oxides per million Btu. | NA | Line heater is 0.5 MMBtu/hr. |
| (a)(7) If the facility is less than 500 feet from the nearest off-property receptor, it will emit less than 10 tpy uncontrolled VOC process fugitive emissions, unless the equipment is inspected and repaired | Y | This facility will emit less than 10 tpy of VOC fugitive emissions. |

# TECHNICAL REVIEW: STANDARD PERMIT FOR INSTALLATION AND/OR MODIFICATION OF OIL AND GAS FACILITIES

| *Permit No.:* | 94965 | *Company Name:* | XTO Energy Inc. | *APD Reviewer:* | Ms. Sherrie McGowan |
|---|---|---|---|---|---|
| *Project No.:* | 163490 | *Site/Area Name:* | Stone 19 Well Site | *SP No.:* | 6002 - 116.620 PRE 2011-FEB-27 |

| | | |
|---|---|---|
| according to subsection (c)(1) of this section. | | |
| (a)(8) If the facility is 500 feet or more from the nearest off-property receptor, it will emit less than 25 tpy uncontrolled VOC process fugitive emissions, unless the equipment is inspected and repaired according to subsection (c)(1) of this section. | Y | |
| (a)(9) If the facility is less than 500 feet from the nearest off-property receptor, it will emit less than 25 tpy uncontrolled VOC process fugitive emissions, unless the equipment is inspected and repaired according to subsection (c)(2) of this section. | Y | This facility emits less than 25 tpy of VOC fugitives and will comply with subsection (c)(2). |
| (a)(10) If the facility is 500 feet or more from the nearest off-property receptor, it will emit less than 40 tpy uncontrolled VOC process fugitive emissions, unless the equipment is inspected and repaired according to subsection (c)(2) of this section. | Y | This site emits less than 40 tpy of fugitive VOC's. |
| (a)(11) If the site handles sour gas, and if the facility is located less than 1/4 mile from the nearest off-plant receptor, it will not emit hydrogen sulfide $H_2S$ or $SO_2$ process fugitive emissions unless the equipment is inspected and repaired according to subsection (c)(3) of this section.<br><br>If the site handles sour gas, and if the facility is located at least 1/4 mile from the nearest off-plant receptor, it will not emit hydrogen sulfide $H_2S$ or $SO_2$ process fugitive emissions unless the equipment is inspected and repaired according to subsection (c)(3) of this section, or unless the $H_2S$ or $SO_2$ emissions are monitored with ambient property line monitors according to subsection (e)(1) of this section.<br><br>*sour gas = natural gas containing more than 1.5 grains of hydrogen sulfide per 100 cubic feet, or more than 30 grains of total sulfur per 100 cubic feet* | Y | This facility will comply with subsection (c)(3) of this section. |
| (a)(12) Flares will be designed and operated in accordance with 40 Code of Federal Regulations (CFR), Part 60.18 or equivalent standard approved by the commission, including specifications of minimum heating values of waste gas, maximum tip velocity, and pilot flame monitoring. If necessary to ensure adequate combustion, sufficient gas shall be added to make the gases combustible. An infrared monitor is considered equivalent to a thermocouple for flame monitoring purposes. An automatic ignition system may be used in lieu of a continuous pilot. | NA | There are no flares at this location. |
| (a)(13) Appropriate documentation has been submitted to demonstrate that compliance with the PSD and nonattainment new source review provisions of the FCAA, Parts C and D, and with Subchapter C of this chapter will be met.<br>*The oil and gas facility will be required to meet the requirements of Subchapter B of this chapter (relating to New Source Review Permits) instead of this subchapter if a PSD or nonattainment permit or a review under Subchapter C of this chapter is required.* | NA | This site will not be a major source under PSD. |
| (a)(14) Documentation has been submitted to demonstrate compliance with any applicable New Source Performance Standards (NSPS, 40 CFR Part 60). | NA | The company represents that no NSPS apply. |
| (a)(15) Documentation has been submitted to demonstrate compliance with any applicable National Emission Standards for Hazardous Air Pollution (NESHAP, 40 CFR Part 61). | NA | The company represents that no NESHAP apply. |
| (a)(16) Documentation has been submitted to demonstrate compliance with any applicable maximum achievable control technology standards (MACT, 40 CFR Part 63). | NA | The company represents that no MACT standards apply for this location. |
| (a)(17) New and increased emissions will not cause or contribute to a violation of any NAAQS or regulation property line standards as specified in Chapters 111, 112, and 113 of this title.<br>*Engineering judgment and/or computerized air dispersion modeling may be used in this demonstration.* | Y | The company represents that this site will not violate any NAAQS. |
| (a)(18) Fuel for all combustion units and flare pilots will be sweet natural gas or liquid petroleum gas, fuel gas containing no more than ten grains of total sulfur per 100 dry standard cubic feet (dscf), or field gas.<br><br>If field gas is sour, the operator will maintain records, including at least quarterly measurements of fuel $H_2S$ and total sulfur content, which demonstrate that the annual $SO_2$ emissions from the facility do not exceed the limitations listed in the standard permit registration. If a flare is the only combustion unit on a property, the operator is not required to maintain such records on flare pilot gas. | Y | Quarterly measurements will be taken if field gas is used. |
| (b) The following control requirements will be met: | | |
| (b)(1) Floating roofs or equivalent controls will be installed on all new or modified storage tanks, other than pressurized tanks which meet §106.476 of this title, unless the tank is less than 25,000 gallons in nominal size or the vapor pressure of the compound to be stored in the tank is less than 0.5 psia at maximum short-term storage temperature. | NA | No floating roof tanks onsite. |
| (b)(1)(A) For internal floating roofs, mechanical shoe primary seal or liquid-mounted primary seal or a vapor-mounted primary with rim-mounted secondary seal will be used. | NA | |
| (b)(1)(B) Mechanical shoe or liquid-mounted primary seals will include a rim-mounted secondary seal on all external floating roofs tanks. Vapor-mounted primary seals will not be accepted. | NA | |

| *Permit No.:* | 94965 | *Company Name:* | XTO Energy Inc. | *APD Reviewer:* | Ms. Sherrie McGowan |
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| *Project No.:* | 163490 | *Site/Area Name:* | Stone 19 Well Site | *SP No.:* | 6002 - 116.620 PRE 2011-FEB-27 |

| | | |
|---|---|---|
| (b)(1)(C) All floating roof tanks will comply with the requirements under §115.112(a)(2)(A) - (F) of this title (relating to Control Requirements). | NA | |
| (b)(1)(D) In lieu of a floating roof, tank emissions may be routed to: | NA | |
| (b)(1)(D)(i) a destruction device such that a minimum VOC destruction efficiency of 98% is achieved; or | NA | |
| (b)(1)(D)(ii) a vapor recovery system such that a minimum VOC recovery efficiency of 95% is achieved. | NA | |
| (b)(1)(E) Independent of the PBR listed in this paragraph, if the emissions from any fixed roof tank exceed 10 tpy of VOC or 10 tpy of sulfur compounds, the tank emissions will be routed to a destruction device, vapor recovery unit, or equivalent method of control that meets the requirements listed in subparagraph (D) of this paragraph. | Y | The VOC emissions are less than 10 tpy. |
| (b)(2) The VOC emissions from a natural gas glycol dehydration unit shall be controlled as follows. | | |
| (b)(2)(A) If total uncontrolled VOC emissions are equal to or greater than 10 tpy, but less than 50 tpy, a minimum of 80% by weight minimum control efficiency will be achieved by either operating a condenser and a separator (or flash tank), vapor recovery unit, destruction device, or equivalent control device. | NA | No glycol dehydration equipment at this location. |
| (b)(2)(B) If total uncontrolled VOC emissions are equal to or greater than 50 tpy, a minimum of: | NA | |
| (b)(2)(B)(i) 98% by weight minimum destruction efficiency shall be achieved by a destruction device or equivalent; or | NA | |
| (b)(2)(B)(ii) 95% by weight minimum control efficiency shall be achieved by a vapor recovery system or equivalent. | NA | |
| (c) The following inspection requirements will be met: | | |
| (c)(1) Owners or operators who are subject to subsection (a)(7) or (8) of this section will comply with all inspection requirements detailed in (c)(1)(A) through (c)(1)(J) of this section. | Y | The facility will comply with this section. |
| (c)(2) Owners or operators who are subject to subsection (a)(9) or (10) of this section will comply with all inspection requirements detailed in (c)(2)(A) through (c)(2)(K) of this section. | NA | This site is not subject to these fugitive monitoring requirements. |
| (c)(3) Owners and operators who are subject to the applicable parts of subsection (a)(11) of this section will conduct daily auditory and visual checks for $SO_2$ and $H_2S$ leaks within the operating area. Immediately, but no later than eight hours upon detection of a leak, operating personnel will isolate the leak and commence repair or replacement of the leaking component; or use a leak collection/containment system to prevent the leak until repair or replacement can be made if immediate repair is not possible. | Y | Inspections and repairs will be performed as necessary. |
| (d) The following approved test methods will be used: | | |
| (d)(1) An approved gas analyzer used for the VOC fugitive inspection and repair requirement in subsection (c) of this section, will conform to requirements listed in 40 CFR §60.485(a) and (b). | Y | Fugitive VOC monitoring will meet this requirement. |
| (d)(2) Tutweiler analysis or equivalent will be used to determine the $H_2S$ content as required under subsections (a) and (e) of this section. | Y | An annual measurement of the $H_2S$ in the fuel gas will be made using an approved method. |
| (d)(3) Proper operation of any condenser used as a VOC emissions control device to comply with subsection (a)(5) of this section will be tested to demonstrate compliance with the minimum control efficiency. Sampling will occur within 60 days after start-up of new or modified facilities. Notification and reporting requirements, as specified in this section, will be met. | NA | There is no condenser device at this location. |
| (e) The following monitoring and recordkeeping requirements will be met: | | |
| (e)(1) If the operator elects to install and maintain ambient $H_2S$ property line monitors to comply with subsection (a)(11) of this section, the monitors will be approved by the Engineering Services Section, Office of Compliance and Enforcement office in Austin, and will be capable of detecting and alarming at $H_2S$ concentrations of 10 ppmv. Operations personnel will perform an initial on-site inspection of the facility within 24 hours of initial alarm and take corrective actions as listed in subsection (c)(3)(A) - (C) of this section within eight hours of detection of a leak. | Y | Records will be maintained for at least the minimum requirement. |
| (e)(2) The results of the VOC leak detection and repair requirements will be made available to the executive director or any air pollution control agency having jurisdiction upon request. Records, for all components, will include appropriate dates, test methods, instrument readings, repair results, and corrective actions. Records of flange inspections are not required unless a leak is detected. | Y | |
| (e)(3) Records for repairs and replacements made, due to inspections of $H_2S$ and $SO_2$ components, will be maintained. | Y | |
| (e)(4) Records will be kept for each production, processing, and pipeline tank battery, or for each storage tank if not located at a tank battery, on a monthly basis. Records will include tank battery identification or storage tank identification (if not located at a tank battery), compound stored, monthly throughput (in barrels/month), and cumulative annual throughput (in barrels/year). | Y | |
| (e)(5) A plan will be submitted to show how ongoing compliance will be demonstrated for the efficiency requirements listed in subsection (b)(1)(D) of this section. The demonstration may | Y | |

# TECHNICAL REVIEW: STANDARD PERMIT FOR INSTALLATION AND/OR MODIFICATION OF OIL AND GAS FACILITIES

| *Permit No.:* | 94965 | *Company Name:* | XTO Energy Inc. | *APD Reviewer:* | Ms. Sherrie McGowan |
|---|---|---|---|---|---|
| *Project No.:* | 163490 | *Site/Area Name:* | Stone 19 Well Site | *SP No.:* | 6002 - 116.620 PRE 2011-FEB-27 |

| | | |
|---|---|---|
| include, but is not limited to, monitoring flowrates, temperatures, or other operating parameters. | | |
| (e)(6) Records will be kept, on at least a monthly basis, of all production facility flow rates (in standard cubic feet per day) and total sulfur content of process vents or flares or gas processing streams. Total sulfur shall be calculated in long tons per day. | Y | |
| (e)(7) Records will be kept of all ambient property line monitor alarms and will include the date, time, duration, and cause of alarm, date and time of initial on-site inspection, and date and time of corrective actions taken. | Y | |
| (e)(8) All required records will be made available to representatives of the agency, the EPA, or local air pollution control agencies upon request and be kept for at least two years. All required records will be kept at the plant site, unless the plant site is unmanned during business hours. For plant sites ordinarily unmanned during business hours, the records will be maintained at the nearest office in the state having day-to-day operations control of the plant site. | Y | |

# TECHNICAL REVIEW: STANDARD PERMIT FOR INSTALLATION AND/OR MODIFICATION OF OIL AND GAS FACILITIES

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| *Project No.:* | 163490 | *Site/Area Name:* | Stone 19 Well Site | *SP No.:* | 6002 - 116.620 PRE 2011-FEB-27 |

**XTO Energy, Inc.**

**106.261 NMEVOC Speciation Verification**

| Water Tanks | lb/hr |
|---|---|
| Propane | 0.015 |
| Iso-Butane | 0.006 |
| N-Butane | 0.005 |
| Iso-Pentane | 0.004 |
| N-Pentane | 0.002 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.016 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.015 |
| Total | 0.063 |

| Truck Loading - Water | lb/hr |
|---|---|
| Propane | 0.048 |
| Iso-Butane | 0.018 |
| N-Butane | 0.014 |
| Iso-Pentane | 0.012 |
| N-Pentane | 0.005 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.052 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.002 |
| Total | 0.152 |

| Line Heater | lb/hr |
|---|---|
| Propane | 0.002 |
| Iso-Butane | 0.001 |
| N-Butane | 0.001 |
| Iso-Pentane | 0.001 |
| N-Pentane | 0.000 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.003 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.000 |
| Total | 0.008 |

| MSS Venting | lb/hr |
|---|---|
| Propane | 0.656 |
| Iso-Butane | 0.253 |
| N-Butane | 0.198 |
| Iso-Pentane | 0.164 |
| N-Pentane | 0.075 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.705 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.029 |
| Total | 2.080 |

| Fugitives | lb/hr |
|---|---|
| Propane | 0.051 |
| Iso-Butane | 0.020 |
| N-Butane | 0.016 |
| Iso-Pentane | 0.013 |
| N-Pentane | 0.006 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.055 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.002 |
| Total | 0.163 |

| Total | lb/hr | TPY |
|---|---|---|
| Propane | 0.773 | 0.431 |
| Iso-Butane | 0.298 | 0.166 |
| N-Butane | 0.233 | 0.130 |
| Iso-Pentane | 0.193 | 0.108 |
| N-Pentane | 0.089 | 0.049 |
| Methylcyclopentane | 0.000 | 0.000 |
| n-Hexane | 0.000 | 0.000 |
| Hexane + | 0.831 | 0.463 |
| 2,4-Dimethylpentane | 0.000 | 0.000 |
| Methycyclohexane | 0.000 | 0.000 |
| Benzene | 0.000 | 0.000 |
| Cyclohexane | 0.000 | 0.000 |
| n-Heptane | 0.000 | 0.000 |
| Toluene | 0.000 | 0.000 |
| Ethylbenzene | 0.000 | 0.000 |
| Xylenes | 0.000 | 0.000 |
| Octanes+ | 0.000 | 0.000 |
| Nonanes+ | 0.000 | 0.000 |
| Decanes+ | 0.000 | 0.000 |
| $H_2S$ | 0.049 | 0.082 |
| Total | 2.466 | 1.428 |

*Speciation based off of gas analysis

*Bezene Emissions -Over estimated at 1% of Total VOC lb/hr and TPY - Per John Gott of the TCEQ

| | | |
|---|---|---|
| Total VOC | 2.4173 | lb/hr |
| Over estimated Benzene Emissions | 0.0242 | lb/hr |

# TECHNICAL REVIEW: STANDARD PERMIT FOR INSTALLATION AND/OR MODIFICATION OF OIL AND GAS FACILITIES

| *Permit No.:* | 94965 | *Company Name:* | XTO Energy Inc. | *APD Reviewer:* | Ms. Sherrie McGowan |
|---|---|---|---|---|---|
| *Project No.:* | 163490 | *Site/Area Name:* | Stone 19 Well Site | *SP No.:* | 6002 - 116.620 PRE 2011-FEB-27 |

**XTO Energy, Inc.**
**106.262 Verifications**

| Benzene | | |
|---|---|---|
| E=L/K | 0.029 | lbs/hr |
| L | 3 | mg/m^3 |
| K | 104 | constant |
| Site Total Benzene | 0.024 | lb/hr |
| | 0.013 | TPY |

| Toluene | | |
|---|---|---|
| E=L/K= | 1.808 | lbs/hr |
| L= | 188 | mg/m^3 |
| K= | 104 | constant |
| Site Total Toluene | 0.000 | lb/hr |
| | 0.000 | TPY |

| E-benzene | | |
|---|---|---|
| E=L/K= | 1.923 | lbs/hr |
| L= | 434 | mg/m^3 |
| K= | 104 | constant |
| Site Total E-benzene | 0.000 | lb/hr |
| | 0.000 | TPY |

| Xylene | | |
|---|---|---|
| E=L/K= | 2.692 | lbs/hr |
| L= | 434 | mg/m^3 |
| K= | 104 | constant |
| Site Total Xylene | 0.000 | lb/hr |
| | 0.000 | TPY |

| n-Hexane | | |
|---|---|---|
| E=L/K | 1.691 | lbs/hr |
| L= | 176 | mg/m^3 |
| K= | 104 | constant |
| Site Total n-Hexane | 0.000 | lb/hr |
| | 0.000 | TPY |

| Pentane (I & N) | | |
|---|---|---|
| E=L/K= | 22.652 | lbs/hr |
| L= | 2356 | mg/m^3 |
| K= | 104 | constant |
| Site Total Pentane | 0.282 | lb/hr |
| | 0.157 | TPY |

| Propane | | |
|---|---|---|
| E=L/K= | 43.259 | lbs/hr |
| L= | 4499 | mg/m^3 |
| K= | 104 | constant |
| Site Total Propane | 0.773 | lb/hr |
| | 0.431 | TPY |

| Butane (I & N) | | |
|---|---|---|
| E=L/K= | 18.248 | lbs/hr |
| L= | 1898 | mg/m^3 |
| K= | 104 | constant |
| Site Total Butane | 0.531 | lb/hr |
| | 0.296 | TPY |

| Hydrogen Sulfide | | |
|---|---|---|
| E=L/K= | 0.096 | lbs/hr |
| L= | 10 | mg/m^3 |
| K= | 104 | constant |
| Site Total Hydrogen Sulfide | 0.049 | lb/hr |
| | 0.082 | TPY |

| ~Distance to Receptor (Feet) | |
|---|---|
| Stone 17 | 443 |

| EPN / Description | Screen 3 model distance (meters) | Maximum Hourly Concentration of NOx ($\mu g/m^3$) |
|---|---|---|
| HTR1 | 33 | 35.19 |
| Background Concentration of Region 9 / Limestone County = | | 70 |
| Total = | | 105.19 |
| Is the total limit below the hourly NAAQS Limit of 188 $\mu g/m^3$ (yes/no)? | | Yes |

**COMMUNICATION LOG**

| Date | Time | Name/Company | Subject of Communication |
|---|---|---|---|
| 5/2/2011 | 1418 | Mr. John McMichael | Reviewer emailed the following request: Per our conversation on Friday, April 29th, please provide revisions or responses to the following list of deficiencies for the XTO Stand Permit applications we are currently working on:<br><br>**(1) Calculate the E=L/K for H2S for the following sites:**<br><br>Dunlap 2-11 Well (SP 95195/project 163933);<br>Bilsing No. 1 Well (SP 94839/project 163249);<br>Stone 17 Well (SP 94951/project 163480);<br>Pickett 7 Well (SP 95196/project 163937);<br>Pickett 8 Well (SP 95173/project 163903);<br>Buchanan 1 Well (SP 94844/project 163255);<br>Stone 13 Well (SP 94959/project 163484);<br>Newsome Estates CA 27 Well (SP 94846/project 163258);<br>Stone 19 Well (SP 94965/project 163490); |

| *Permit No.:* | 94965 | *Company Name:* | XTO Energy Inc. | *APD Reviewer:* | Ms. Sherrie McGowan |
|---|---|---|---|---|---|
| *Project No.:* | 163490 | *Site/Area Name:* | Stone 19 Well Site | *SP No.:* | 6002 - 116.620 PRE 2011-FEB-27 |

| | | | |
|---|---|---|---|
| | | | Reed P 3 Well (SP 95023/project 163500);<br>Reed P 19 Well (SP 94970/project 163493);<br>Stone 5 Well (SP 94971/project 163498);<br>Stone 9 Well (SP 95005/project 163532);<br>Standley 2-4 Well (SP 95007/project 163533);<br>Gail King 19 Well (SP 95204/project 163955);<br>Standley 1-4 Well (SP 95001/project 163549);<br>Standley 2-13 Well (SP 94997/project 163545);<br>Reed 4-7 Well (SP 94988/project 163535);<br>Standley 2-12 & 2-14 Well (SP 94975/project 163501);<br>Athel Ivy No. 2 Well (SP 92583/project 163977);<br>Cooper No. 1 Well (SP 92313/project 163984);<br>Reed P 7 Well (SP 94974/project 163499);<br>Reed P 8 Well (SP 94958/project 163471);<br>Reed P 18 Well (SP 94952/project 163469);<br>Beachcomber 2 No. 12 Well (SP 94859/project 163276);<br>Newsome Estates CA 26 Well (SP 94863/project 163279);<br>Billy Turner No. 1 Well (SP 94865/project 163283);<br><br>**(2) H2S was under represented for some of the storage tanks on the 106.261 speciation verification tables (ex. If you had 3 storage tanks, each representing 0.005 lb/hr H2S, then 0.015 lb/hr of H2S should be represented on the 106.261 table). Revise H2S storage tank emission totals on the 106.261 speciation verification tables for the following sites:**<br><br>Stone 17 Well (SP 94951/project 163480);<br>Bilsing No. 1 Well (SP 94839/project 163249). H2S emissions on E&P TANKS does not match 261/262 verification;<br>Stone 13 Well (SP 94959/project 163484);<br>Stone 19 Well (SP 94965/project 163490);<br>Stone 5 Well (SP 94971/project 163498);<br>Standley 1-4 Well (SP 95001/project 163549);<br>Standley 2-13 Well (SP 94997/project 163545);<br>Athel Ivy No. 2 Well (SP 92583/project 163977);<br>Beachcomber 2 No. 12 Well (SP 94859/project 163276);<br>Newsome Estates CA 26 Well (SP 94863/project 163279);<br>Billy Turner No. 1 Well (SP 94865/project 163283);<br><br>**(3) Represent site-wide Benzene emissions as 1% of the total VOC (lb/hr) and revise 262 verifications for the following sites:**<br><br>Dunlap 2-11 Well (SP 95195/project 163933);<br>Bilsing No. 1 Well (SP 94839/project 163249);<br>Stone 17 Well (SP 94951/project 163480);<br>Pickett 7 Well (SP 95196/project 163937);<br>Pickett 8 Well (SP 95173/project 163903);<br>Buchanan 1 Well (SP 94844/project 163255);<br>Stone 13 Well (SP 94959/project 163484);<br>Stone 19 Well (SP 94965/project 163490);<br>Reed P 3 Well (SP 95023/project 163500);<br>Reed P 19 Well (SP 94970/project 163493);<br>Stone 5 Well (SP 94971/project 163498);<br>Stone 9 Well (SP 95005/project 163532);<br>Standley 2-4 Well (SP 95007/project 163533);<br>Standley 1-4 Well (SP 95001/project 163549);<br>Standley 2-13 Well (SP 94997/project 163545);<br>Reed 4-7 Well (SP 94988/project 163535);<br>Standley 2-12 & 2-14 Well (SP 94975/project 163501);<br>Athel Ivy No. 2 Well (SP 92583/project 163977);<br>Cooper No. 1 Well (SP 92313/project 163984);<br>Reed P 7 Well (SP 94974/project 163499);<br>Reed P 8 Well (SP 94958/project 163471);<br>Reed P 18 Well (SP 94952/project 163469);<br>Reed E 4 Well (SP 95002/project 163531);<br>Stone 21 Well (SP 94995/project 163542);<br>Billy Turner No. 1 Well (SP 94865/project 163283);<br>Newsome Estates CA 26 Well (SP 94863/project 163279). Benzene emissions are included, |

# TECHNICAL REVIEW: STANDARD PERMIT FOR INSTALLATION AND/OR MODIFICATION OF OIL AND GAS FACILITIES

| *Permit No.:* | 94965 | *Company Name:* | XTO Energy Inc. | *APD Reviewer:* | Ms. Sherrie McGowan |
|---|---|---|---|---|---|
| *Project No.:* | 163490 | *Site/Area Name:* | Stone 19 Well Site | *SP No.:* | 6002 - 116.620 PRE 2011-FEB-27 |

| | | | |
|---|---|---|---|
| | | | but actual emissions do not match the 106.261 speciation verification table emissions (for tanks?);<br><br>**(4) Represent the actual distance to the nearest off-plant receptor used in calculating the E=L/K for 106.262 for the following sites:**<br><br>Dunlap 2-11 Well (SP 95195/project 163933);<br>Athel Ivy No. 2 Well (SP 92583/project 163977);<br>Cooper No. 1 Well (SP 92313/project 163984);<br>Pollard 21 Well (SP 95353/project 164248);<br>CC Thompson 22 Well (SP 95356/project 164255);<br>Pollard 19 Well (SP 95359/project 164261);<br>Newsome Estates C A 27 Well (SP 94846/project 163258). Distance is represented as 2000+ feet, but "K" value was 11 which is for 2500 feet. Also, do you really need a SP for this site, or PBR?;<br>Beachcomber 2 No. 12 Well (SP 94859/project 163276). Distance is represented as 2000+ feet, but "K" value was 11 which is for 2500 feet. Also, do you really need a SP for this site, or PBR?;<br>Newsome Estates CA 26 Well (SP 94863/project 163279). Distance is represented as 2000+ feet, but "K" value was 11 which is for 2500 feet. Also, do you really need a SP for this site, or PBR?;<br>CC Thompson 21 Well (SP 95478/project 164448);<br>McSwane No. 12 Well (SP 95485/project 164466);<br>McSwane No. 10 Well (SP 95498/project 164488);<br><br>**(5) Revise 106.261 speciation verification tables to include representation of MSS emissions (lb/hr) for the following sites:**<br><br>Dunlap 2-11 Well (SP 95195/project 163933);<br>Gail King 19 Well (SP 95204/project 163955). MSS emissions associated with the flare were not included on tables;<br><br>**(6) Revise 106.261 speciation verification tables to include representation of H2S emissions (lb/hr) for the following sites:**<br><br>Newsome Estates CA 27 Well (SP 94846/project 163258);<br><br>**(7) Revise 106.261 speciation verification tables to include representation of Flare emissions (lb/hr)associated with the storage tanks emissions for the following sites:**<br><br>Dunlap 2-11 Well (SP 95195/project 163933). Only flare pilot emissions were represented;<br><br>**(8) Review the applications submitted for the following sites for any of the above mentioned deficiencies and revise as necessary (Dana's projects):**<br><br>Anchicks 1 No. 1 Well (SP 94864/project 163280);<br>Pickett 13 Well (SP 95148/project 163874);<br>Pickett 14 Well (SP 95151/project 163877);<br>Curry 13 Well (SP 95155/project 163886);<br>Cooper 8 Well (SP 95159/project 163889);<br>Henderson 10 Well (SP 95160/project 163890);<br>Butler 8 Well (SP 95163/project 163893);<br>Pollard 25 Well (SP 95371/project 164286);<br>Pollard 17 Well (SP 95393/project 164304);<br>CC Thompson 15 Well (SP 95389/project 164305);<br><br>**(9) Revise associated documents as necessary.**<br><br>We are granting you additional time in order to make the necessary revisions, so please complete the revisions by end of business on Friday, May 13th. If you deem that you are unable to complete the revisions by this date, or if you have any questions regarding this request, please contact me at 512-239-1325 to further discuss the options. Please send all revisions directly to me and I will forward them to the appropriate reviewer. |
| 5/2/2011 | 1530 | Mr. John McMichael | Reviewer received the following email response and supporting documents: Please apply to STONE 5, 9, 13, 19, 17. Distances for each location are listed on 262 verification. |
| 5/16/2011 | 1230 | Mr. John McMichael | Reviewer emailed the following request: For the Stone 17 Well site I calculated all of the VOC's |

# TECHNICAL REVIEW: STANDARD PERMIT FOR INSTALLATION AND/OR MODIFICATION OF OIL AND GAS FACILITIES

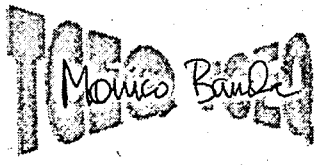
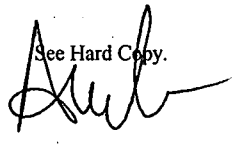
| *Permit No.:* | 94965 | *Company Name:* | XTO Energy Inc. | *APD Reviewer:* | Ms. Sherrie McGowan |
|---|---|---|---|---|---|
| *Project No.:* | 163490 | *Site/Area Name:* | Stone 19 Well Site | *SP No.:* | 6002 - 116.620 PRE 2011-FEB-27 |

| | | | |
|---|---|---|---|
| | | | (lb/hr) emissions from the Table (1)(a) which resulted in 2.4174 lb/hr. If I take 1% of that as site-wide benzene emissions, I get 0.024 lb/hr of benzene based on the agreed upon methodology.<br><br>Also, it appears that the MSS Venting lb/hr total on the 106.261 Verifications page have changed and are now not consistent with the calculations. I only requested that H2S totals be revised to reflect all three tanks. The total lb/hr VOC were correct on the original submittal, but have been altered and are now not consistent with the calculations submitted. Can you take a look and revise, or provide new calculations that are consistent with your 106.261 verifications for MSS Venting? |
| 5/16/2011 | 1335 | Mr. John McMichael | Reviewer received the following email response and supporting documents: Used wrong MSS Emission Rate. The Stone 17 and 21 were different. |
| 5/16/2011 | 1445 | Mr. John McMichael | Reviewer emailed the following request: It appears that the same corrections are needed for the Stone 13 well also. Can you verify and revise if necessary? If the revisions are the same, I can use the same revisions for this project as for the Stone 17 Well, as long as you provide the "OK" on that. Let me know. |
| 5/16/2011 | 1449 | Mr. John McMichael | Reviewer received the following email response: That's ok. |
| 5/17/2011 | 0927<br>0928 | Mr. John McMichael | Reviewer emailed the following request: Can I use the same revisions for the Stone 19 site as well?<br>Reviewer received the following email response: Yes Thanks. |

**MAXIMUM EMISSION RATES TABLE (MERT)**

| EPN / Emission Source | Specific VOC or Other Pollutants | VOC | | NOx | | CO | | $PM_{10}$ | | $PM_{2.5}$ | | $SO_2$ | | $H_2S$ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | lbs/hr | tpy | lbs/hr | tpy | lbs/hr | tpy | lbs/hr | tpy | lbs/hr | tpy | lbs/hr | tpy | lbs/hr | tpy |
| TK1 / Produced water tank | | 0.02 | 0.07 | | | | | | | | | | | <0.01 | 0.02 |
| TK2 / Produced water tank | | 0.02 | 0.07 | | | | | | | | | | | <0.01 | 0.02 |
| TK3 / Produced water tank | | 0.02 | 0.07 | | | | | | | | | | | <0.01 | 0.02 |
| TRUCK / Water loading | | 0.15 | 0.06 | | | | | | | | | | | <0.01 | 0.01 |
| FUG / MSS Fugitives | | 2.05 | 0.37 | | | | | | | | | | | 0.03 | 0.01 |
| FUG / Fugitives | | 0.16 | 0.70 | | | | | | | | | | | <0.01 | 0.01 |
| HTR1 / Line heater | | 0.01 | 0.03 | 0.05 | 0.21 | 0.27 | 1.20 | <0.01 | 0.02 | <0.01 | 0.02 | 0.01 | 0.04 | | |
| **TOTAL EMISSIONS (TPY):** | | | **1.38** | | **0.21** | | **1.20** | | **0.02** | | **0.02** | | **0.04** | | **0.09** |

| **MAXIMUM OPERATING SCHEDULE:** | **Hours/Day** | | **Days/Week** | | **Weeks/Year** | | **Hours/Year** | 8,760 |
|---|---|---|---|---|---|---|---|---|

| | TECHNICAL REVIEWER | PEER REVIEWER | FINAL REVIEWER |
|---|---|---|---|
| **SIGNATURE:** |  |  | See Hard Copy.  |
| **PRINTED NAME:** | Ms. Sherrie McGowan | Mr. Monico Banda | Ms. Anne M. Inman, P.E. |
| **DATE:** | May 17, 2011 | May 17, 2011 | May 17, 2011 |

| BASIS OF PROJECT POINTS | POINTS |
|---|---|
| *Base Points:* | 2.5 |
| *Project Complexity Description and Points:*<br>NAAQS<br>Communications | 0.25<br>1.0 |
| Technical Reviewer Project Points Assessment: | 3.75 |
| Final Reviewer Project Points Confirmation: | |

**05/17/2011 ----------NSR IMS - PROJECT RECORD ----------**

**PROJECT#:** 163490 PERMIT#: 94965 STATUS: PENDING DISP CODE: C
RECEIVED: 02/22/2011 PROJTYPE: INITIAL AUTHTYPE: STDPMT ISSUED DT: 5/17/11
RENEWAL: 5/17/21
PROJECT ADMIN NAME: STONE 19 WELL SITE
PROJECT TECH NAME: STONE 19 WELL SITE

3.75
MB

**Assigned Team: RULE REG SECTION**

**STAFF ASSIGNED TO PROJECT:**

| | | |
|---|---|---|
| BEATTY , JENNIFER | - REVIEWR1_2 - | AP INITIAL REVIEW |
| MCGOWAN , SHERRIE | - REVIEW ENG - | RR TEAM |

**CUSTOMER INFORMATION (OWNER/OPERATOR DATA)**
ISSUED TO: XTO ENERGY INC
COMPANY NAME: XTO Energy Inc.
CUSTOMER REFERENCE NUMBER: **CN600601348**

**REGULATED ENTITY/SITE INFORMATION**
REGULATED ENTITY NUMBER: **RN106085228** ACCOUNT:
PERMIT NAME: STONE 19 WELL SITE

REGULATED ENTITY LOCATION: FROM INTX OF HWY 164 AND CR 751 TAKE CR 751 W TURN L ON LCR 862 GO ~ 0.5 MI TURN R ON LEASE RD TURN L TO LOCATION
REGION 09 - WACO NEAR CITY: DONIE COUNTY: LIMESTONE

**CONTACT DATA**

CONTACT NAME: MR JOHN MCMICHAEL CONTACT ROLE: RESPONSIBLE OFFICIAL
JOB TITLE: ENVIRONMENTAL SPECIALIST ORGANIZATION: XTO ENERGY INC
MAILING ADDRESS: 810 HOUSTON ST , FORT WORTH, TX, 76102-6203
PHONE: (817) 885-3782 Ext: 0
FAX: (817) 885-2683 Ext: 0
EMAIL:JOHN_MCMICHAEL@XTOENERGY.COM

**FEE:**

| Reference | Fee Receipt Number | Amount | Fee Receipt Date | Fee Payment Type |
|---|---|---|---|---|
| 7008912 | | 900.00 | | CHECK |

**TRACKING ELEMENTS:**

| TE Name | Start Date | Complete Date |
|---|---|---|
| APIRT RECEIVED PROJECT (DATE) | 02/22/2011 | |
| APIRT TRANSFERRED PROJECT TO TECHNICAL STAFF (DATE) | 02/23/2011 | |
| CENTRAL REGISTRY UPDATED | 02/23/2011 | 02/23/2011 |
| PROJECT RECEIVED BY ENGINEER (DATE) | 04/05/2011 | |
| ENGINEER INITIAL REVIEW COMPLETED (DATE) | 04/25/2011 | |
| DEFICIENCY CYCLE | 05/02/2011 | 05/02/2011 |

| | | |
|---|---|---|
| DEFICIENCY CYCLE | 05/02/2011 | 05/[illegible]/2011 |
| PEER / MANAGER REVIEW PERIOD | 05/17/2011 | 05/17/2011 |

**UNIT TYPES:**

Project Unit Type:

| Industry Group | Industry Type | Source Type | Control/BACT Type | Request | Authorization |
|---|---|---|---|---|---|
| CHEMICAL | OIL AND GAS | | | | |

**PROJECT RULES:**

| Unit Desc | Rule Desc | Request Type | On Application | Approve |
|---|---|---|---|---|
| OIL AND GAS PRODUCTION FACILITIES | 6002 - 116.620 PRE 2011-FEB-27 - | ADD | Y | APPROVE |

**PERMIT RULES:**

| Unit Desc | Rule Desc | Start Date | End Date |
|---|---|---|---|

**PROJECT ATTRIBUTES:**

| Attributes | Value |
|---|---|
| MSS- 101.222(H)(1) | E |

02/23/2011 ----------NSR IMS - PROJECT RECORD ----------

PROJECT#: 163490 PERMIT#: 94965 STATUS: PENDING DISP CODE: _____
RECEIVED: 02/22/2011 PROJTYPE: INITIAL AUTHTYPE: STDPMT ISSUED DT: _____
RENEWAL:
PROJECT ADMIN NAME: STONE 19 WELL SITE
PROJECT TECH NAME: STONE 19 WELL SITE

Assigned Team: RULE REG SECTION

STAFF ASSIGNED TO PROJECT:
BEATTY , JENNIFER - REVIEWR1_2 - AP INITIAL REVIEW
TEAM LEADER , RR Sterrett - REVIEW ENG - RULE REG SECTION

CUSTOMER INFORMATION (OWNER/OPERATOR DATA)
ISSUED TO: XTO ENERGY INC
COMPANY NAME: XTO Energy Inc.
CUSTOMER REFERENCE NUMBER: CN600601348

REGULATED ENTITY/SITE INFORMATION
REGULATED ENTITY NUMBER: RN106085228 ACCOUNT:
PERMIT NAME: STONE 19 WELL SITE

REGULATED ENTITY LOCATION: FROM INTX OF HWY 164 AND CR 751 TAKE CR 751 W TURN L ON LCR 862 GO ~ 0.5 MI TURN R ON LEASE RD TURN L TO LOCATION
REGION 09 - WACO NEAR CITY: DONIE COUNTY: LIMESTONE

CONTACT DATA

MSS-365

CONTACT NAME: MR JOHN MCMICHAEL CONTACT ROLE: RESPONSIBLE OFFICIAL
JOB TITLE: ENVIRONMENTAL SPECIALIST ORGANIZATION: XTO ENERGY INC
MAILING ADDRESS: 810 HOUSTON ST , FORT WORTH, TX, 76102-6203
PHONE: (817) 885-3782 Ext: 0
FAX: (817) 885-2683 Ext: 0
EMAIL:JOHN_MCMICHAEL@XTOENERGY.COM

FEE:

| Reference | Fee Receipt Number | Amount | Fee Receipt Date | Fee Payment Type |
|---|---|---|---|---|
| 7008912 | | 900.00 | | CHECK |

TRACKING ELEMENTS:

| TE Name | Start Date | Complete Date |
|---|---|---|
| APIRT RECEIVED PROJECT (DATE) | 02/22/2011 | |
| APIRT TRANSFERRED PROJECT TO TECHNICAL STAFF (DATE) | 02/23/2011 | |
| CENTRAL REGISTRY UPDATED | 02/23/2011 | 02/23/2011 |
| COMPLIANCE HISTORY REVIEW COMPLETED (DATE) | | |
| DEFICIENCY CYCLE | | |
| DRAFT PERMIT RFC SENT TO REGION (DATE) | | |
| ENGINEER INITIAL REVIEW COMPLETED (DATE) | | |
| FINAL PACKAGE REWORK CYCLE | | |
| FINAL PACKAGE TO SECTION MANAGER FOR REVIEW (DATE) | | |
| FINAL PACKAGE TO TEAM LEADER OR SUPERVISOR FOR REVIEW (DATE) | | |
| PEER / MANAGER REVIEW PERIOD | | |
| PROJECT FORWARDED TO ADMIN (DATE) | | |
| PROJECT RECEIVED BY ENGINEER (DATE) | | |
| PROJECT RECEIVED BY TECHNICAL STAFF FROM APIRT (DATE) | | |
| WPO FINAL PACKAGE CYCLE | | |

PROJECT RULES:

| Unit Desc | Rule Desc | Request Type | On Application | Approve |
|---|---|---|---|---|
| OIL AND GAS PRODUCTION FACILITIES | 6002 - 116.620 PRE 2011-FEB-27 - | ADD | Y | APPROVE |

**PERMIT RULES:**

| Unit Desc | Rule Desc | Start Date | End Date |
|---|---|---|---|

**Sherrie Mcgowan - Re: XTO Standard Permit Applications**

**From:** <John_McMichael@xtoenergy.com>
**To:** "Sherrie Mcgowan" <Sherrie.Mcgowan@tceq.texas.gov>
**Date:** 5/17/2011 9:28 AM
**Subject:** Re: XTO Standard Permit Applications

---

**From:** <John_McMichael@xtoenergy.com>
**To:** "Sherrie Mcgowan" <Sherrie.Mcgowan@tceq.texas.gov>
**Date:** 5/17/2011 9:28 AM
**Subject:** Re: XTO Standard Permit Applications

Yes
Thanks,

John McMichael
Environmental Engineer
XTO Energy, Inc
810 Houston St.
Ft Worth, TX 76102
Office # 817.885.3782
Cell # 817.584.7588

"Sherrie Mcgowan" <Sherrie.Mcgowan@tceq.texas.gov>

05/17/2011 09:27 AM

To <John_McMichael@xtoenergy.com>
cc
Subject Re: XTO Standard Permit Applications

Can I use the same revisions for the Stone 19 site as well?

>>> <John_McMichael@xtoenergy.com> 5/16/2011 2:49 PM >>>
That's ok

---

**From:** "Sherrie Mcgowan" [Sherrie.Mcgowan@tceq.texas.gov]
**Sent:** 05/16/2011 14:48 EST
**To:** John McMichael
**Subject:** Re: XTO Standard Permit Applications

If the revisions are the same, I can use the same revisions for this project as for the Stone 17 Well, as long as you provide the "OK" on that. Let me know.

Thanks.

>>> <John_McMichael@xtoenergy.com> 5/16/2011 1:35 PM >>>

Used wrong MSS Emission Rate. The Stone 17 and 21 were different.

Thanks,

John McMichael
Environmental Engineer
XTO Energy, Inc
810 Houston St.
Ft Worth, TX 76102
Office # 817.885.3782
Cell # 817.584.7588

**"Sherrie Mcgowan" <Sherrie.Mcgowan@tceq.texas.gov>**

05/16/2011 12:26 PM

To <John_McMichael@xtoenergy.com>
cc "Amanda Berry" <Amanda.Berry@tceq.texas.gov>, "Dana Johnson" <Dana.Johnson@tceq.texas.gov>, "Jennifer Pfeil" <Jennifer.Pfeil@tceq.texas.gov>, "John Gott" <John.Gott@tceq.texas.gov>
Subject Re: XTO Standard Permit Applications

John,

For the Stone 17 Well site I calculated all of the VOC's (lb/hr) emissions from the Table (1)(a) which resulted in 2.4174 lb/hr. If I take 1% of that as site-wide benzene emissions, I get 0.024 lb/hr of benzene based on the agreed upon methodology.

Also, it appears that the MSS Venting lb/hr total on the 106.261 Verifications page have changed and are now not consistent with the calculations. I only requested that H2S totals be revised to reflect all three tanks. The total lb/hr VOC were correct on the original submittal, but have been altered and are now not consistent with the calculations submitted. Can you take a look and revise, or provide new calculations that are consistent with your 106.261 verifications for MSS Venting?

Thank,
Sherrie
>>> <John_McMichael@xtoenergy.com> 5/2/2011 3:29 PM >>>

Please apply to STONE 5, 9, 13, 19, 17.

Distances for each location are listed on 262 verification.

Thanks,

John McMichael
Environmental Engineer
XTO Energy, Inc
810 Houston St.
Ft Worth, TX 76102
Office # 817.885.3782
Cell # 817.584.7588

**"Sherrie Mcgowan" <Sherrie.Mcgowan@tceq.texas.gov>**

05/02/2011 02:19 PM

To <John_McMichael@xtoenergy.com>

cc "Amanda Berry" <Amanda.Berry@tceq.texas.gov>, "Dana Johnson" <Dana.Johnson@tceq.texas.gov>, "Jennifer Pfeil" <Jennifer.Pfeil@tceq.texas.gov>, "John Gott" <John.Gott@tceq.texas.gov>, "Kevin Whitenight" <Kevin.Whitenight@tceq.texas.gov>

Subject XTO Standard Permit Applications

John,

Per our conversation on Friday, April 29th, please provide revisions or responses to the following list of deficiencies for the XTO Stand Permit applications we are currently working on:

**(1) Calculate the E=L/K for H2S for the following sites:**

Dunlap 2-11 Well (SP 95195/project 163933);
Bilsing No. 1 Well (SP 94839/project 163249);
Stone 17 Well (SP 94951/project 163480);
Pickett 7 Well (SP 95196/project 163937);
Pickett 8 Well (SP 95173/project 163903);
Buchanan 1 Well (SP 94844/project 163255);
Stone 13 Well (SP 94959/project 163484);
Newsome Estates CA 27 Well (SP 94846/project 163258);
Stone 19 Well (SP 94965/project 163490);
Reed P 3 Well (SP 95023/project 163500);
Reed P 19 Well (SP 94970/project 163493);
Stone 5 Well (SP 94971/project 163498);
Stone 9 Well (SP 95005/project 163532);
Standley 2-4 Well (SP 95007/project 163533);
Gail King 19 Well (SP 95204/project 163955);
Standley 1-4 Well (SP 95001/project 163549);
Standley 2-13 Well (SP 94997/project 163545);
Reed 4-7 Well (SP 94988/project 163535);
Standley 2-12 & 2-14 Well (SP 94975/project 163501);
Athel Ivy No. 2 Well (SP 92583/project 163977);
Cooper No. 1 Well (SP 92313/project 163984);
Reed P 7 Well (SP 94974/project 163499);
Reed P 8 Well (SP 94958/project 163471);
Reed P 18 Well (SP 94952/project 163469);
Beachcomber 2 No. 12 Well (SP 94859/project 163276);
Newsome Estates CA 26 Well (SP 94863/project 163279);
Billy Turner No. 1 Well (SP 94865/project 163283);

**(2) H2S was under represented for some of the storage tanks on the 106.261 speciation verification tables (ex. If you had 3 storage tanks, each representing 0.005 lb/hr H2S, then 0.015 lb/hr of H2S should be represented on the 106.261 table). Revise H2S storage tank emission totals on the 106.261 speciation verification tables for the following sites:**

Stone 17 Well (SP 94951/project 163480);
Bilsing No. 1 Well (SP 94839/project 163249). H2S emissions on E&P TANKS does not match 261/262 verification;
Stone 13 Well (SP 94959/project 163484);
Stone 19 Well (SP 94965/project 163490);
Stone 5 Well (SP 94971/project 163498);
Standley 1-4 Well (SP 95001/project 163549);
Standley 2-13 Well (SP 94997/project 163545);
Athel Ivy No. 2 Well (SP 92583/project 163977);
Beachcomber 2 No. 12 Well (SP 94859/project 163276);
Newsome Estates CA 26 Well (SP 94863/project 163279);
Billy Turner No. 1 Well (SP 94865/project 163283);

**(3) Represent site-wide Benzene emissions as 1% of the total VOC (lb/hr) and revise 262 verifications for the following sites:**

Dunlap 2-11 Well (SP 95195/project 163933);
Bilsing No. 1 Well (SP 94839/project 163249);
Stone 17 Well (SP 94951/project 163480);
Pickett 7 Well (SP 95196/project 163937);
Pickett 8 Well (SP 95173/project 163903);
Buchanan 1 Well (SP 94844/project 163255);
Stone 13 Well (SP 94959/project 163484);
Stone 19 Well (SP 94965/project 163490);
Reed P 3 Well (SP 95023/project 163500);
Reed P 19 Well (SP 94970/project 163493);
Stone 5 Well (SP 94971/project 163498);
Stone 9 Well (SP 95005/project 163532);
Standley 2-4 Well (SP 95007/project 163533);
Standley 1-4 Well (SP 95001/project 163549);
Standley 2-13 Well (SP 94997/project 163545);
Reed 4-7 Well (SP 94988/project 163535);
Standley 2-12 & 2-14 Well (SP 94975/project 163501);
Athel Ivy No. 2 Well (SP 92583/project 163977);
Cooper No. 1 Well (SP 92313/project 163984);
Reed P 7 Well (SP 94974/project 163499);
Reed P 8 Well (SP 94958/project 163471);
Reed P 18 Well (SP 94952/project 163469);
Reed E 4 Well (SP 95002/project 163531);
Stone 21 Well (SP 94995/project 163542);
Billy Turner No. 1 Well (SP 94865/project 163283);
Newsome Estates CA 26 Well (SP 94863/project 163279). Benzene emissions are included, but actual emissions do not match the 106.261 speciation verification table emissions (for tanks?);

**(4) Represent the actual distance to the nearest off-plant receptor used in calculating the E=L/K for 106.262 for the following sites:**

Dunlap 2-11 Well (SP 95195/project 163933);
Athel Ivy No. 2 Well (SP 92583/project 163977);
Cooper No. 1 Well (SP 92313/project 163984);
Pollard 21 Well (SP 95353/project 164248);
CC Thompson 22 Well (SP 95356/project 164255);
Pollard 19 Well (SP 95359/project 164261);
Newsome Estates C A 27 Well (SP 94846/project 163258). Distance is represented as 2000+ feet, but "K" value was 11 which is for 2500 feet. Also, do you really need a SP for this site, or PBR?;

Beachcomber 2 No. 12 Well (SP 94[redacted]/project 163276). Distance is represented as 2000+ feet, but "K" value was 11 which is for 2500 feet. Also, do you really need a SP for this site, or PBR?;
Newsome Estates CA 26 Well (SP 94863/project 163279). Distance is represented as 2000+ feet, but "K" value was 11 which is for 2500 feet. Also, do you really need a SP for this site, or PBR?;
CC Thompson 21 Well (SP 95478/project 164448);
McSwane No. 12 Well (SP 95485/project 164466);
McSwane No. 10 Well (SP 95498/project 164488);

**(5) Revise 106.261 speciation verification tables to include representation of MSS emissions (lb/hr) for the following sites:**

Dunlap 2-11 Well (SP 95195/project 163933);
Gail King 19 Well (SP 95204/project 163955). MSS emissions associated with the flare were not included on tables;

**(6) Revise 106.261 speciation verification tables to include representation of H2S emissions (lb/hr) for the following sites:**

Newsome Estates CA 27 Well (SP 94846/project 163258);

**(7) Revise 106.261 speciation verification tables to include representation of Flare emissions (lb/hr)associated with the storage tanks emissions for the following sites:**

Dunlap 2-11 Well (SP 95195/project 163933). Only flare pilot emissions were represented;

**(8) Review the applications submitted for the following sites for any of the above mentioned deficiencies and revise as necessary (Dana's projects):**

Anchicks 1 No. 1 Well (SP 94864/project 163280);
Pickett 13 Well (SP 95148/project 163874);
Pickett 14 Well (SP 95151/project 163877);
Curry 13 Well (SP 95155/project 163886);
Cooper 8 Well (SP 95159/project 163889);
Henderson 10 Well (SP 95160/project 163890);
Butler 8 Well (SP 95163/project 163893);
Pollard 25 Well (SP 95371/project 164286);
Pollard 17 Well (SP 95393/project 164304);
CC Thompson 15 Well (SP 95389/project 164305);

**(9) Revise associated documents as necessary.**

We are granting you additional time in order to make the necessary revisions, so please complete the revisions by end of business on Friday, May 13th. If you deem that you are unable to complete the revisions by this date, or if you have any questions regarding this request, please contact me at 512-239-1325 to further discuss the options. Please send all revisions directly to me and I will forward them to the appropriate reviewer.

Thank you,

Sherrie

*"Be the change you wish to see in the world"*
--Gandhi

Sherrie McGowan - Air Permits Division
Environmental Permit Specialist
TCEQ
P.O. BOX 13087 (MC-163)
Austin, TX 78711-3087
(512) 239-1325
(512) 239-5698 FAX
sherrie.mcgowan@tceq.texas.gov

XTO Energy, Inc.

106.261 NMEVOC Speciation Verification

| Water Tanks | lb/hr |
|---|---|
| Propane | 0.015 |
| Iso-Butane | 0.006 |
| N-Butane | 0.005 |
| Iso-Pentane | 0.004 |
| N-Pentane | 0.002 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.016 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.015 |
| Total | 0.063 |

| Truck Loading - Water | lb/hr |
|---|---|
| Propane | 0.048 |
| Iso-Butane | 0.018 |
| N-Butane | 0.014 |
| Iso-Pentane | 0.012 |
| N-Pentane | 0.005 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.052 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.002 |
| Total | 0.152 |

| Line Heater | lb/hr |
|---|---|
| Propane | 0.002 |
| Iso-Butane | 0.001 |
| N-Butane | 0.001 |
| Iso-Pentane | 0.001 |
| N-Pentane | 0.000 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.003 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.000 |
| Total | 0.008 |

| MSS Venting | lb/hr |
|---|---|
| Propane | 0.656 |
| Iso-Butane | 0.253 |
| N-Butane | 0.198 |
| Iso-Pentane | 0.164 |
| N-Pentane | 0.075 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.705 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.029 |
| Total | 2.080 |

| Fugitives | lb/hr |
|---|---|
| Propane | 0.051 |
| Iso-Butane | 0.020 |
| N-Butane | 0.016 |
| Iso-Pentane | 0.013 |
| N-Pentane | 0.006 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.055 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.002 |
| Total | 0.163 |

| Total | lb/hr | TPY |
|---|---|---|
| Propane | 0.773 | 0.431 |
| Iso-Butane | 0.298 | 0.166 |
| N-Butane | 0.233 | 0.130 |
| Iso-Pentane | 0.193 | 0.108 |
| N-Pentane | 0.089 | 0.049 |
| Methylcyclopentane | 0.000 | 0.000 |
| n-Hexane | 0.000 | 0.000 |
| Hexane + | 0.831 | 0.463 |
| 2,4-Dimethylpentane | 0.000 | 0.000 |
| Methycyclohexane | 0.000 | 0.000 |
| Benzene | 0.000 | 0.000 |
| Cyclohexane | 0.000 | 0.000 |
| n-Heptane | 0.000 | 0.000 |
| Toluene | 0.000 | 0.000 |
| Ethylbenzene | 0.000 | 0.000 |
| Xylenes | 0.000 | 0.000 |
| Octanes+ | 0.000 | 0.000 |
| Nonanes+ | 0.000 | 0.000 |
| Decanes+ | 0.000 | 0.000 |
| $H_2S$ | 0.049 | 0.082 |
| Total | 2.466 | 1.428 |

*Speciation based off of gas analysis

*Bezene Emissions -Over estimated at 1%

of Total VOC lb/hr and TPY - Per John Gott of the TCEQ

| | | |
|---|---|---|
| Total VOC | 2.4173 | lb/hr |
| Over estimated Benzene Emissions | 0.0242 | lb/hr |

XTO Energy, Inc.
106.262 Verifications

| Benzene | | |
|---|---|---|
| E=L/K | 0.029 | lbs/hr |
| L | 3 | mg/m^3 |
| K | 104 | constant |
| Site Total Benzene | 0.024 | lb/hr |
| | 0.013 | TPY |

| Toluene | | |
|---|---|---|
| E=L/K= | 1.808 | lbs/hr |
| L= | 188 | mg/m^3 |
| K= | 104 | constant |
| Site Total Toluene | 0.000 | lb/hr |
| | 0.000 | TPY |

| E-benzene | | |
|---|---|---|
| E=L/K= | 1.923 | lbs/hr |
| L= | 434 | mg/m^3 |
| K= | 104 | constant |
| Site Total E-benzene | 0.000 | lb/hr |
| | 0.000 | TPY |

| Xylene | | |
|---|---|---|
| E=L/K= | 2.692 | lbs/hr |
| L= | 434 | mg/m^3 |
| K= | 104 | constant |
| Site Total Xylene | 0.000 | lb/hr |
| | 0.000 | TPY |

| n-Hexane | | |
|---|---|---|
| E=L/K | 1.691 | lbs/hr |
| L= | 176 | mg/m^3 |
| K= | 104 | constant |
| Site Total n-Hexane | 0.000 | lb/hr |
| | 0.000 | TPY |

| Pentane (I & N) | | |
|---|---|---|
| E=L/K= | 22.652 | lbs/hr |
| L= | 2356 | mg/m^3 |
| K= | 104 | constant |
| Site Total Pentane | 0.282 | lb/hr |
| | 0.157 | TPY |

| Propane | | |
|---|---|---|
| E=L/K= | 43.259 | lbs/hr |
| L= | 4499 | mg/m^3 |
| K= | 104 | constant |
| Site Total Propane | 0.773 | lb/hr |
| | 0.431 | TPY |

| Butane (I & N) | | |
|---|---|---|
| E=L/K= | 18.248 | lbs/hr |
| L= | 1898 | mg/m^3 |
| K= | 104 | constant |
| Site Total Butane | 0.531 | lb/hr |
| | 0.296 | TPY |

| Hydrogen Sulfide | | |
|---|---|---|
| E=L/K= | 0.096 | lbs/hr |
| L= | 10 | mg/m^3 |
| K= | 104 | constant |
| Site Total Hydrogen Sulfide | 0.049 | lb/hr |
| | 0.082 | TPY |

| ~Distance to Receptor (Feet) | |
|---|---|
| Stone 17 | 443 |

**Sherrie Mcgowan - Re: XTO Standard Permit Applications**

**From:** <John_McMichael@xtoenergy.com>
**To:** "Sherrie Mcgowan" <Sherrie.Mcgowan@tceq.texas.gov>
**Date:** 5/2/2011 3:30 PM
**Subject:** Re: XTO Standard Permit Applications
**Attachments:** STONE LOCATIONS.pdf

**From:** <John_McMichael@xtoenergy.com>
**To:** "Sherrie Mcgowan" <Sherrie.Mcgowan@tceq.texas.gov>
**Date:** 5/2/2011 3:30 PM
**Subject:** Re: XTO Standard Permit Applications
**Attachments:** STONE LOCATIONS.pdf

Please apply to STONE 5, 9, 13, 19, 17.

Distances for each location are listed on 262 verification.

Thanks,

John McMichael
Environmental Engineer
XTO Energy, Inc
810 Houston St.
Ft Worth, TX 76102
Office # 817.885.3782
Cell # 817.584.7588

"Sherrie Mcgowan" <Sherrie.Mcgowan@tceq.texas.gov>

05/02/2011 02:19 PM

To <John_McMichael@xtoenergy.com>

cc "Amanda Berry" <Amanda.Berry@tceq.texas.gov>, "Dana Johnson" <Dana.Johnson@tceq.texas.gov>, "Jennifer Pfeil" <Jennifer.Pfeil@tceq.texas.gov>, "John Gott" <John.Gott@tceq.texas.gov>, "Kevin Whitenight" <Kevin.Whitenight@tceq.texas.gov>

Subject XTO Standard Permit Applications

John,

Per our conversation on Friday, April 29th, please provide revisions or responses to the following list of deficiencies for the XTO Stand Permit applications we are currently working on:

**(1) Calculate the E=L/K for H2S for the following sites:**

Dunlap 2-11 Well (SP 95195/project 163933);
Bilsing No. 1 Well (SP 94839/project 163249);
Stone 17 Well (SP 94951/project 163480);
Pickett 7 Well (SP 95196/project 163937);

Pickett 8 Well (SP 95173/project 163903);
Buchanan 1 Well (SP 94844/project 163255);
Stone 13 Well (SP 94959/project 163484);
Newsome Estates CA 27 Well (SP 94846/project 163258);
Stone 19 Well (SP 94965/project 163490);
Reed P 3 Well (SP 95023/project 163500);
Reed P 19 Well (SP 94970/project 163493);
Stone 5 Well (SP 94971/project 163498);
Stone 9 Well (SP 95005/project 163532);
Standley 2-4 Well (SP 95007/project 163533);
Gail King 19 Well (SP 95204/project 163955);
Standley 1-4 Well (SP 95001/project 163549);
Standley 2-13 Well (SP 94997/project 163545);
Reed 4-7 Well (SP 94988/project 163535);
Standley 2-12 & 2-14 Well (SP 94975/project 163501);
Athel Ivy No. 2 Well (SP 92583/project 163977);
Cooper No. 1 Well (SP 92313/project 163984);
Reed P 7 Well (SP 94974/project 163499);
Reed P 8 Well (SP 94958/project 163471);
Reed P 18 Well (SP 94952/project 163469);
Beachcomber 2 No. 12 Well (SP 94859/project 163276);
Newsome Estates CA 26 Well (SP 94863/project 163279);
Billy Turner No. 1 Well (SP 94865/project 163283);

**(2) H2S was under represented for some of the storage tanks on the 106.261 speciation verification tables (ex. If you had 3 storage tanks, each representing 0.005 lb/hr H2S, then 0.015 lb/hr of H2S should be represented on the 106.261 table). Revise H2S storage tank emission totals on the 106.261 speciation verification tables for the following sites:**

Stone 17 Well (SP 94951/project 163480);
Bilsing No. 1 Well (SP 94839/project 163249). H2S emissions on E&P TANKS does not match 261/262 verification;
Stone 13 Well (SP 94959/project 163484);
Stone 19 Well (SP 94965/project 163490);
Stone 5 Well (SP 94971/project 163498);
Standley 1-4 Well (SP 95001/project 163549);
Standley 2-13 Well (SP 94997/project 163545);
Athel Ivy No. 2 Well (SP 92583/project 163977);
Beachcomber 2 No. 12 Well (SP 94859/project 163276);
Newsome Estates CA 26 Well (SP 94863/project 163279);
Billy Turner No. 1 Well (SP 94865/project 163283);

**(3) Represent site-wide Benzene emissions as 1% of the total VOC (lb/hr) and revise 262 verifications for the following sites:**

Dunlap 2-11 Well (SP 95195/project 163933);
Bilsing No. 1 Well (SP 94839/project 163249);
Stone 17 Well (SP 94951/project 163480);
Pickett 7 Well (SP 95196/project 163937);
Pickett 8 Well (SP 95173/project 163903);
Buchanan 1 Well (SP 94844/project 163255);
Stone 13 Well (SP 94959/project 163484);
Stone 19 Well (SP 94965/project 163490);
Reed P 3 Well (SP 95023/project 163500);
Reed P 19 Well (SP 94970/project 163493);

Stone 5 Well (SP 94971/project 163498);
Stone 9 Well (SP 95005/project 163532);
Standley 2-4 Well (SP 95007/project 163533);
Standley 1-4 Well (SP 95001/project 163549);
Standley 2-13 Well (SP 94997/project 163545);
Reed 4-7 Well (SP 94988/project 163535);
Standley 2-12 & 2-14 Well (SP 94975/project 163501);
Athel Ivy No. 2 Well (SP 92583/project 163977);
Cooper No. 1 Well (SP 92313/project 163984);
Reed P 7 Well (SP 94974/project 163499);
Reed P 8 Well (SP 94958/project 163471);
Reed P 18 Well (SP 94952/project 163469);
Reed E 4 Well (SP 95002/project 163531);
Stone 21 Well (SP 94995/project 163542);
Billy Turner No. 1 Well (SP 94865/project 163283);
Newsome Estates CA 26 Well (SP 94863/project 163279). Benzene emissions are included, but actual emissions do not match the 106.261 speciation verification table emissions (for tanks?);

**(4) Represent the actual distance to the nearest off-plant receptor used in calculating the E=L/K for 106.262 for the following sites:**

Dunlap 2-11 Well (SP 95195/project 163933);
Athel Ivy No. 2 Well (SP 92583/project 163977);
Cooper No. 1 Well (SP 92313/project 163984);
Pollard 21 Well (SP 95353/project 164248);
CC Thompson 22 Well (SP 95356/project 164255);
Pollard 19 Well (SP 95359/project 164261);
Newsome Estates C A 27 Well (SP 94846/project 163258). Distance is represented as 2000+ feet, but "K" value was 11 which is for 2500 feet. Also, do you really need a SP for this site, or PBR?;
Beachcomber 2 No. 12 Well (SP 94859/project 163276). Distance is represented as 2000+ feet, but "K" value was 11 which is for 2500 feet. Also, do you really need a SP for this site, or PBR?;
Newsome Estates CA 26 Well (SP 94863/project 163279). Distance is represented as 2000+ feet, but "K" value was 11 which is for 2500 feet. Also, do you really need a SP for this site, or PBR?;
CC Thompson 21 Well (SP 95478/project 164448);
McSwane No. 12 Well (SP 95485/project 164466);
McSwane No. 10 Well (SP 95498/project 164488);

**(5) Revise 106.261 speciation verification tables to include representation of MSS emissions (lb/hr) for the following sites:**

Dunlap 2-11 Well (SP 95195/project 163933);
Gail King 19 Well (SP 95204/project 163955). MSS emissions associated with the flare were not included on tables;

**(6) Revise 106.261 speciation verification tables to include representation of H2S emissions (lb/hr) for the following sites:**

Newsome Estates CA 27 Well (SP 94846/project 163258);

**(7) Revise 106.261 speciation verification tables to include representation of Flare emissions (lb/hr)associated with the storage tanks emissions for the following sites:**

Dunlap 2-11 Well (SP 95195/project 163933). Only flare pilot emissions were represented;

**(8) Review the applications submitted for the following sites for any of the above mentioned deficiencies and**

**revise as necessary (Dana's projects):**

Anchicks 1 No. 1 Well (SP 94864/project 163280);
Pickett 13 Well (SP 95148/project 163874);
Pickett 14 Well (SP 95151/project 163877);
Curry 13 Well (SP 95155/project 163886);
Cooper 8 Well (SP 95159/project 163889);
Henderson 10 Well (SP 95160/project 163890);
Butler 8 Well (SP 95163/project 163893);
Pollard 25 Well (SP 95371/project 164286);
Pollard 17 Well (SP 95393/project 164304);
CC Thompson 15 Well (SP 95389/project 164305);

**(9) Revise associated documents as necessary.**

We are granting you additional time in order to make the necessary revisions, so please complete the revisions by end of business on Friday, May 13th. If you deem that you are unable to complete the revisions by this date, or if you have any questions regarding this request, please contact me at 512-239-1325 to further discuss the options. Please send all revisions directly to me and I will forward them to the appropriate reviewer.

Thank you,

Sherrie

*"Be the change you wish to see in the world"*
--Gandhi

Sherrie McGowan - Air Permits Division
Environmental Permit Specialist
TCEQ
P.O. BOX 13087 (MC-163)
Austin, TX 78711-3087
(512) 239-1325
(512) 239-5698 FAX
sherrie.mcgowan@tceq.texas.gov

XTO Energy, Inc.
106.262 Verifications

| Benzene | | |
|---|---|---|
| E=L/K | 0.029 | lbs/hr |
| L | 3 | mg/m^3 |
| K | 104 | constant |
| Site Total Benzene | 0.014 | lb/hr |
| | 0.012 | TPY |

| Toluene | | |
|---|---|---|
| E=L/K= | 1.808 | lbs/hr |
| L= | 188 | mg/m^3 |
| K= | 104 | constant |
| Site Total Toluene | 0.000 | lb/hr |
| | 0.000 | TPY |

| E-benzene | | |
|---|---|---|
| E=L/K= | 1.923 | lbs/hr |
| L= | 434 | mg/m^3 |
| K= | 104 | constant |
| Site Total E-benzene | 0.000 | lb/hr |
| | 0.000 | TPY |

| Xylene | | |
|---|---|---|
| E=L/K= | 2.692 | lbs/hr |
| L= | 434 | mg/m^3 |
| K= | 104 | constant |
| Site Total Xylene | 0.000 | lb/hr |
| | 0.000 | TPY |

| n-Hexane | | |
|---|---|---|
| E=L/K | 1.691 | lbs/hr |
| L= | 176 | mg/m^3 |
| K= | 104 | constant |
| Site Total n-Hexane | 0.000 | lb/hr |
| | 0.000 | TPY |

| Pentane (I & N) | | |
|---|---|---|
| E=L/K= | 22.652 | lbs/hr |
| L= | 2356 | mg/m^3 |
| K= | 104 | constant |
| Site Total Pentane | 0.162 | lb/hr |
| | 0.135 | TPY |

| Propane | | |
|---|---|---|
| E=L/K= | 43.259 | lbs/hr |
| L= | 4499 | mg/m^3 |
| K= | 104 | constant |
| Site Total Propane | 0.445 | lb/hr |
| | 0.371 | TPY |

| Butane (I & N) | | |
|---|---|---|
| E=L/K= | 18.248 | lbs/hr |
| L= | 1898 | mg/m^3 |
| K= | 104 | constant |
| Site Total Butane | 0.306 | lb/hr |
| | 0.255 | TPY |

| Hydrogen Sulfide | | |
|---|---|---|
| E=L/K= | 0.096 | lbs/hr |
| L= | 10 | mg/m^3 |
| K= | 104 | constant |
| Site Total Hydrogen Sulfide | 0.034 | lb/hr |
| | 0.079 | TPY |

| ~Distance to Receptor (Feet) | |
|---|---|
| Stone 5 | 543.84 |
| Stone 9 | 987.36 |
| Stone 13 | 422.4 |
| Stone 17 | 443.52 |
| Stone 19 | 1056 |

Each Location Passes at 400, which the closes distance of all the locations is 422.4 feet

XTO Energy, Inc.

106.261 NMEVOC Speciation Verification

| Water Tanks | lb/hr |
|---|---|
| Propane | 0.015 |
| Iso-Butane | 0.006 |
| N-Butane | 0.005 |
| Iso-Pentane | 0.004 |
| N-Pentane | 0.002 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.016 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.015 |
| Total | 0.048 |

| Truck Loading - Water | lb/hr |
|---|---|
| Propane | 0.048 |
| Iso-Butane | 0.018 |
| N-Butane | 0.014 |
| Iso-Pentane | 0.012 |
| N-Pentane | 0.005 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.052 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.002 |
| Total | 0.150 |

| Line Heater | lb/hr |
|---|---|
| Propane | 0.002 |
| Iso-Butane | 0.001 |
| N-Butane | 0.001 |
| Iso-Pentane | 0.001 |
| N-Pentane | 0.000 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.003 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.000 |
| Total | 0.008 |

| MSS Venting | lb/hr |
|---|---|
| Propane | 0.328 |
| Iso-Butane | 0.127 |
| N-Butane | 0.099 |
| Iso-Pentane | 0.082 |
| N-Pentane | 0.038 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.353 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.015 |
| Total | 1.026 |

| Fugitives | lb/hr |
|---|---|
| Propane | 0.051 |
| Iso-Butane | 0.020 |
| N-Butane | 0.016 |
| Iso-Pentane | 0.013 |
| N-Pentane | 0.006 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.055 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ | 0.002 |
| Total | 0.161 |

| Total | lb/hr | TPY |
|---|---|---|
| Propane | 0.445 | 0.371 |
| Iso-Butane | 0.172 | 0.143 |
| N-Butane | 0.134 | 0.112 |
| Iso-Pentane | 0.111 | 0.093 |
| N-Pentane | 0.051 | 0.043 |
| Methylcyclopentane | 0.000 | 0.000 |
| n-Hexane | 0.000 | 0.000 |
| Hexane + | 0.479 | 0.399 |
| 2,4-Dimethylpentane | 0.000 | 0.000 |
| Methycyclohexane | 0.000 | 0.000 |
| Benzene | 0.000 | 0.000 |
| Cyclohexane | 0.000 | 0.000 |
| n-Heptane | 0.000 | 0.000 |
| Toluene | 0.000 | 0.000 |
| Ethylbenzene | 0.000 | 0.000 |
| Xylenes | 0.000 | 0.000 |
| Octanes+ | 0.000 | 0.000 |
| Nonanes+ | 0.000 | 0.000 |
| Decanes+ | 0.000 | 0.000 |
| $H_2S$ | 0.034 | 0.079 |
| Total | 1.392 | 1.159 |

*Speciation based off of gas analysis

*Bezene Emissions -Over estimated at 1%

of Total VOC lb/hr and TPY - Per John Gott of the TCEQ

| | | |
|---|---|---|
| Total VOC | 1.3916 | lb/hr |
| Over estimated Benzene Emissions | 0.0139 | lb/hr |

**********
* Project Setup Information *
**********

Project File : Untitled.Ept
Flowsheet Selection : Oil Tank with Separator
Calculation Method : AP42
Control Efficiency : 100.0%
Known Separator Stream : Low Pressure Gas
Entering Air Composition : No

Filed Name : Farrar
Well Name : Stone 17 Well
Permit Number : 94951
Date : 2011.05.16

5/16/11

**********
* Data Input *
**********

Separator Pressure : 73.00[psig]
Separator Temperature : 65.00[F]
Molar GOR : 0.0500
Ambient Pressure : 14.70[psia]
Ambient Temperature : 77.00[F]
C10+ SG : 0.8990
C10+ MW : 166.00

-- Low Pressure Gas ----------

| No. | Component | mol % |
|---|---|---|
| 1 | H2S | 0.0120 |
| 2 | O2 | 0.0000 |
| 3 | CO2 | 3.3616 |
| 4 | N2 | 0.2444 |
| 5 | C1 | 94.5589 |
| 6 | C2 | 1.3415 |
| 7 | C3 | 0.2097 |
| 8 | i-C4 | 0.0614 |
| 9 | n-C4 | 0.0480 |
| 10 | i-C5 | 0.0320 |
| 11 | n-C5 | 0.0147 |
| 12 | C6 | 0.1158 |
| 13 | C7+ | 0.0000 |
| 14 | Benzene | 0.0000 |
| 15 | Toluene | 0.0000 |
| 16 | E-Benzene | 0.0000 |
| 17 | Xylenes | 0.0000 |
| 18 | n-C6 | 0.0000 |
| 19 | 224Trimethylp | 0.0000 |

C7+ Molar Ratio: C7 : C8 : C9 : C10+
1.0000 1.0000 1.0000 1.0000

-- Sales Oil ----------
Production Rate : 100[bbl/day]
Days of Annual Operation : 365 [days/year]
API Gravity : 60.0
Reid Vapor Pressure : 7.70[psia]
Bulk Temperature : 80.00[F]

-- Tank and Shell Data ----------
Diameter : 12.00[ft]
Shell Height : 20.00[ft]
Cone Roof Slope : 0.06
Average Liquid Height : 8.00[ft]
Vent Pressure Range : 0.06[psi]

Solar Absorbance : 0.39

-- Meteorological Data ----------

City : Dallas, TX
Ambient Pressure : 14.70[psia]
Ambient Temperature : 77.00[F]
Min Ambient Temperature : 55.00[F]
Max Ambient Temperature : 76.90[F]
Total Solar Insolation : 1468.00[Btu/ft^2*day]

**********
* Calculation Results *
**********

-- Emission Summary ----------

| Item | Uncontrolled [ton/yr] | Uncontrolled [lb/hr] |
|---|---|---|
| Total HAPs | 0.000 | 0.000 |
| Total HC | 23.838 | 5.442 |
| VOCs, C2+ | 7.481 | 1.708 |
| VOCs, C3+ | 5.915 | 1.350 |

Uncontrolled Recovery Info.

| | | |
|---|---|---|
| Vapor | 2.5500 | [MSCFD] |
| HC Vapor | 2.3700 | [MSCFD] |
| GOR | 25.50 | [SCF/bbl] |

-- Emission Composition ----------

| No | Component | Uncontrolled [ton/yr] | Uncontrolled [lb/hr] |
|---|---|---|---|
| 1 | H2S | 0.019 | 0.004 |
| 2 | O2 | 0.000 | 0.000 |
| 3 | CO2 | 3.645 | 0.832 |
| 4 | N2 | 0.021 | 0.005 |
| 5 | C1 | 16.356 | 3.734 |
| 6 | C2 | 1.566 | 0.358 |
| 7 | C3 | 0.580 | 0.132 |
| 8 | i-C4 | 0.263 | 0.060 |
| 9 | n-C4 | 0.214 | 0.049 |
| 10 | i-C5 | 0.187 | 0.043 |
| 11 | n-C5 | 0.088 | 0.020 |
| 12 | C6 | 0.826 | 0.189 |
| 13 | C7 | 2.476 | 0.565 |
| 14 | C8 | 0.913 | 0.208 |
| 15 | C9 | 0.356 | 0.081 |
| 16 | C10+ | 0.013 | 0.003 |
| 17 | Benzene | 0.000 | 0.000 |
| 18 | Toluene | 0.000 | 0.000 |
| 19 | E-Benzene | 0.000 | 0.000 |
| 20 | Xylenes | 0.000 | 0.000 |
| 21 | n-C6 | 0.000 | 0.000 |
| 22 | 224Trimethylp | 0.000 | 0.000 |
| | Total | 27.523 | 6.284 |

-- Stream Data ----------

| No. | Component | MW | LP Oil mol % | Flash Oil mol % | Sale Oil mol % | Flash Gas mol % | W&S Gas mol % | Total Emissions mol % |
|---|---|---|---|---|---|---|---|---|
| 1 | H2S | 34.80 | 0.0034 | 0.0020 | 0.0020 | 0.0461 | 0.0513 | 0.0462 |
| 2 | O2 | 32.00 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 3 | CO2 | 44.01 | 0.2953 | 0.0941 | 0.0886 | 6.7352 | 7.2039 | 6.7465 |
| 4 | N2 | 28.01 | 0.0020 | 0.0001 | 0.0001 | 0.0629 | 0.0462 | 0.0625 |
| 5 | C1 | 16.04 | 2.9272 | 0.4220 | 0.3596 | 83.1066 | 81.1388 | 83.0592 |
| 6 | C2 | 30.07 | 0.2493 | 0.1248 | 0.1213 | 4.2322 | 4.6618 | 4.2425 |
| 7 | C3 | 44.10 | 0.1413 | 0.1123 | 0.1115 | 1.0689 | 1.2139 | 1.0724 |
| 8 | i-C4 | 58.12 | 0.1053 | 0.0972 | 0.0969 | 0.3667 | 0.4223 | 0.3681 |
| 9 | n-C4 | 58.12 | 0.1203 | 0.1147 | 0.1145 | 0.2989 | 0.3461 | 0.3001 |
| 10 | i-C5 | 72.15 | 0.2075 | 0.2074 | 0.2074 | 0.2107 | 0.2465 | 0.2115 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 11 | n-C5 | 72.15 | 0.1312 | 0.1322 | 0.1322 | 0.0985 | 0.1158 | 0.0989 |
| 12 | C6 | 86.16 | 3.0323 | 3.1022 | 3.1039 | 0.7970 | 0.9482 | 0.8007 |
| 13 | C7 | 100.20 | 23.1867 | 23.8465 | 23.8630 | 2.0692 | 2.4933 | 2.0794 |
| 14 | C8 | 114.23 | 23.1968 | 23.9008 | 23.9186 | 0.6665 | 0.8139 | 0.6701 |
| 15 | C9 | 128.28 | 23.1999 | 23.9175 | 23.9357 | 0.2342 | 0.2896 | 0.2355 |
| 16 | C10+ | 166.00 | 23.2015 | 23.9262 | 23.9447 | 0.0065 | 0.0083 | 0.0065 |
| 17 | Benzene | 78.11 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 18 | Toluene | 92.13 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 19 | E-Benzene | 106.17 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 20 | Xylenes | 106.17 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 21 | n-C6 | 86.18 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 22 | 224Trimethylp | 114.24 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| | MW | | 118.95 | 121.97 | 121.97 | 22.40 | 23.35 | 22.42 |
| | Stream Mole Ratio | | 1.0000 | 0.9697 | 0.9690 | 0.0303 | 0.0007 | 0.0310 |
| | Heating Value | [BTU/SCF] | | | | 1179.20 | 1218.27 | 1180.14 |
| | Gas Gravity | [Gas/Air] | | | | 0.77 | 0.81 | 0.77 |
| | Bubble Pt. @ 100F | [psia] | 100.43 | 16.62 | 14.55 | | | |
| | RVP @ 100F | [psia] | 126.06 | 29.74 | 25.92 | | | |
| | Spec. Gravity @ 100F | | 0.728 | 0.731 | 0.731 | | | |

# Texas Commission on Environmental Quality
# Registration for Air Standard Permit
# Form PI-1S

## I. REGISTRANT INFORMATION

A. Is a TCEQ Core Data Form (TCEQ Form No. 10400) attached? ☑ YES ☐ NO
Core Data Form required for Standard Permits 6004, 6006, 6007, 6008, and 6013.
*If "NO," please indicate the following.*

Customer Reference No.: CN600601348 | Regulated Entity No.:

B. Company or Other Legal Customer Name (*must be same as Core Data "Customer"*):
XTO Energy, Inc.

Company Official Contact Name: John McMichael | Title: Environmental Specialist

Mailing Address: 810 Houston St.

City: Fort Worth | State: Texas | Zip Code: 76102-6298

Phone No.: (817) 885-3782 | Fax No.: (817) 885-2683 | E-mail: john_mcmichael@xtoenergy.com

C. Technical Contact Name: John McMichael | Title: Environmental Specialist

Company: XTO Energy Inc.

Mailing Address: 810 Houston St.

City: Fort Worth | State: Texas | Zip Code: 76102

Phone No.: (817) 885-3782 | Fax No.: | E-mail: john_mcmichael@xtoenergy.com

D. Facility Location Information (Street Address):

If no street address, provide written driving directions to the site: (*Attach description if additional space is needed.*)

From Donie, TX. at the intersection of Hwy 164 and CR 751 take CR 751 west. Turn left on LCR 862 and go approx. 0.5 miles. Turn right on lease road and then turn left to location.

City: Donie | County: Limestone | Zip Code: 75838

## II. FACILITY AND SITE INFORMATION

A. Name and Type of Facility: Stone 19 Well Site | ☑ Permanent ☐ Portable

B. Type of Action | ☑ Initial Application | ☐ Change to Registration | Registration No.:
☐ Renewal | Expiration Date:

C. Standard Permit Claimed: 116.620 | Description: Oil & Gas Standard Permit

D. Concrete Batch Plant Standard Permit (*Check one*) | ☐ Central Mix ☐ Ready Mix ☐ Specialty Mix ☐ Enhanced Controls for Concrete Batch Plants

E. Proposed start of construction: | Length of time at the Site:

108490/94965

**Texas Commission on Environmental Quality**
**Registration for Air Standard Permit**
**Form PI-1S**

| | | |
|---|---|---|
| **II. FACILITY AND SITE INFORMATION** *(continued)* | | |
| F. Is there a previous Standard Exemption or Permit by Rule for the facilities in this registration? *(Attach details regarding changes)* | ☐ YES ☑ NO | If "YES," list Permit No.: |
| G. Are there any other facilities at this site which are authorized by an air Standard Permit? | ☐ YES ☑ NO | If "YES," list Permit No.: |
| H. Are there any other air preconstruction permits at this site? | ☐ YES ☑ NO | If "YES," list Permit No.: |
| Are there any other air preconstruction permits at this site that would be directly associated with this project? | ☐ YES ☑ NO | If "YES," list Permit No.: |
| I. TCEQ Account Identification Number *(if known)*: | | |
| J. Is this facility located at a site which is required to obtain a federal operating permit pursuant to 30 TAC Chapter 122? | ☐ YES ☑ NO ☐ To be determined | |

K. Identify the requirements of 30 TAC Chapter 122 that will be triggered if this Form PI-1S application is approved.

☐ Application for an FOP ☐ FOP Significant Revision ☐ FOP Minor

☐ Operational Flexibility/Off-Permit Notification ☐ Streamlined Revision for GOP ☐ To be determined ☑ None

L. Identify the type(s) issued and/or FOP application(s) submitted/pending for the site. (check all that apply)

☐ SOP ☐ GOP ☐ GOP application/revision application: submitted or under APD review

☐ SOP application/revision application: submitted or under APD review ☑ N/A

**III. FEE INFORMATION**

Check/Money Order/Transaction No.: 7008912

Name on Check: XTO Energy, Inc.

Fee Amount: $900.00

**IV. PUBLIC NOTICE** *(If applicable)*

| | |
|---|---|
| A. Is the plant located at a site contiguous or adjacent to the public works project? | ☐ YES ☑ NO |

# Texas Commission on Environmental Quality
# Registration for Air Standard Permit
# Form PI-1S

| IV. PUBLIC NOTICE *(If applicable) (continued)* | | | |
|---|---|---|---|
| B. Application in Public Place: | | | |
| Name of Public Place: | | | |
| Physical Address: | | | |
| City: | | County: | |
| C. Small Business Classification: | | | ☐ YES ☐ NO |
| D. Concrete batch plants with enhanced controls, permanent rock crushers, and animal carcass incinerators shall place a copy of the technically complete application at the appropriate TCEQ regional office only. | | | |
| E. Please furnish the names of the state legislators who represent the area where the facility site is located: | | | |
| State Senator: | | State Representative: | |
| F. For Concrete Batch Plants, name of the County Judge for this facility site: | | | |
| County Judge: | | | |
| Mailing Address: | | | |
| City: | State: | | Zip Code: |
| G. For Concrete Batch Plants, is the facility located in a municipality and/or extraterritorial jurisdiction of a municipality? | | | ☐ YES ☐ NO |
| If "YES," list the name(s) of the Presiding Officer(s) for the municipality and/or extraterritorial jurisdiction: | | | |
| | | | |
| Mailing Address: | | | |
| City: | State: | | Zip Code: |

| V. TECHNICAL INFORMATION INCLUDING STATE AND FEDERAL REGULATORY REQUIREMENTS<br>***Registrants must be in compliance with all applicable state and federal regulations and standards to claim a Standard Permit.*** | |
|---|---|
| A. Is confidential information submitted and properly marked with this registration? | ☐ YES ☑ NO |
| B. Is a process flow diagram and a process description attached? | ☑ YES ☐ NO |
| C. Is a plot plan attached? | ☐ YES ☑ NO |
| D. Are emissions data and calculations for this claim attached? | ☑ YES ☐ NO |
| E. Is information attached showing how the **general** requirements and **applicability** (30 TAC § 116.610 and 116.615) are met? | ☑ YES ☐ NO |
| F. Is information attached showing how the **specific** requirements are met? | ☑ YES ☐ NO |

**Texas Commission on Environmental Quality**
**Registration for Air Standard Permit**
**Form PI-1S**

## V. SIGNATURE REQUIREMENTS

The signature below indicates that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further state that to the best of my knowledge and belief, the project for which application is made will not in any way violate any provision of the Texas Water Code (TWC), Chapter 7, Texas Clean Air Act (TCAA), as amended, or any of the air quality rules and regulations of the Texas Commission on Environmental Quality or any local governmental ordinance or resolution enacted pursuant to the TCAA. I further state that I have read and understand TWC §§ 7.177-7.183, which defines CRIMINAL OFFENSES for certain violations, including intentionally or knowingly making or causing to be made false material statements or representations in this application, and TWC §§ 7.187, pertaining to CRIMINAL PENALTIES.

**PRINT NAME:** John McMichael **SIGNATURE:** _____ **DATE:** 2/14/2011

*NOTE: ORIGINAL SIGNATURE IN INK IS REQUIRED*

## VI. COPIES OF THE REGISTRATION

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

| | | |
|---|---|---|
| Air Permits Initial Review Team (APIRT) | **Regular, Certified, Priority Mail**<br>MC 161, P.O. Box 13087, Austin, Texas 78711-3087<br>**Hand Delivery, Overnight Mail**<br>MC 161, 12100 Park 35 Circle, Building C, Third Floor, Austin, Texas 78753<br>(512) 239-1250 | Original Money Order or Check, a Copy of Form PI-1S and Core Data Form; all attachments |
| Revenue Section, TCEQ | **Regular, Certified, Priority Mail**<br>MC 214, P.O. Box 13087, Austin, Texas 78711-3087<br>**Hand Delivery, Overnight Mail**<br>MC 214, 12100 Park 35 Circle, Building A, Third Floor, Austin, Texas 78753<br>(512) 239-6260 | Original Money Order or Check, a Copy of Form PI-1S and Core Data Form |
| Appropriate TCEQ Regional Office | To find your regional office address, go to the TCEQ Web site at www.tceq.state.tx.us/comm_exec/forms_pubs/pubs/gi/gi-002.html, or call (512) 239-1250 | Copy of Form PI-1S, Core Data Form, and all attachments |
| Appropriate Local Air Pollution Control Program(s) | To find your local air pollution control programs go to the TCEQ, APD Web site at www.tceq.state.tx.us/cgi-bin/permitting/air/tps-ost/localprograms/localprograms.pl, or call (512) 239-1250 | Copy of Form PI-1S, Core Data Form, and all attachments |

TCEQ

TCEQ Use Only

# TCEQ Core Data Form

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

## SECTION I: General Information

**1. Reason for Submission** *(If other is checked please describe in space provided)*

- [x] New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application)*
- [ ] Renewal *(Core Data Form should be submitted with the renewal form)*
- [ ] Other

**2. Attachments** **Describe Any Attachments:** *(ex. Title V Application, Waste Transporter Application, etc.)*

[x] Yes [ ] No — Standard Permit Application

| 3. Customer Reference Number *(if issued)* | Follow this link to search for CN or RN numbers in Central Registry** | 4. Regulated Entity Reference Number *(if issued)* |
|---|---|---|
| CN 600601348 | | RN |

## SECTION II: Customer Information

**5. Effective Date for Customer Information Updates (mm/dd/yyyy)** 03/22/2010

**6. Customer Role** (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check only one of the following:*

- [ ] Owner
- [ ] Operator
- [x] Owner & Operator
- [ ] Occupational Licensee
- [ ] Responsible Party
- [ ] Voluntary Cleanup Applicant
- [ ] Other: _____

**7. General Customer Information**

- [ ] New Customer
- [ ] Update to Customer Information
- [ ] Change in Regulated Entity Ownership
- [ ] Change in Legal Name (Verifiable with the Texas Secretary of State)
- [x] No Change**

***If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.***

| 8. Type of Customer: | | | |
|---|---|---|---|
| | [x] Corporation | [ ] Individual | [ ] Sole Proprietorship- D.B.A |
| [ ] City Government | [ ] County Government | [ ] Federal Government | [ ] State Government |
| [ ] Other Government | [ ] General Partnership | [ ] Limited Partnership | [ ] Other: |

**9. Customer Legal Name** *(If an individual, print last name first: ex: Doe, John)* *If new Customer, enter previous Customer below* *End Date:*

XTO Energy, Inc.

**10. Mailing Address:** 810 Houston St.

| City | State | ZIP | ZIP + 4 |
|---|---|---|---|
| Fort Worth | TX | 76102 | 6298 |

**11. Country Mailing Information** *(if outside USA)*

**12. E-Mail Address** *(if applicable)*

**13. Telephone Number** ( 817 ) 885-3782

**14. Extension or Code**

**15. Fax Number** *(if applicable)* ( 817 ) 885-3782

| 16. Federal Tax ID *(9 digits)* | 17. TX State Franchise Tax ID *(11 digits)* | 18. DUNS Number *(if applicable)* | 19. TX SOS Filing Number *(if applicable)* |
|---|---|---|---|
| 75-2347769 | 17523477697 | | |

**20. Number of Employees**

- [ ] 0-20
- [ ] 21-100
- [ ] 101-250
- [ ] 251-500
- [x] 501 and higher

**21. Independently Owned and Operated?**

- [ ] Yes
- [x] No

## SECTION III: Regulated Entity Information

**22. General Regulated Entity Information** *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

- [x] New Regulated Entity
- [ ] Update to Regulated Entity Name
- [ ] Update to Regulated Entity Information
- [ ] No Change** *(See below)*

**If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.

**23. Regulated Entity Name** *(name of the site where the regulated action is taking place)*

Stone 19 Well Site

APIRT
FEB 22 2011

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 24. Street Address of the Regulated Entity: *(No P.O. Boxes)* | | | | | | | | |
| | City | | State | | ZIP | | ZIP + 4 | |
| 25. Mailing Address: | 810 Houston St. | | | | | | | |
| | City | Fort Worth | State | TX | ZIP | 76102 | ZIP + 4 | 6298 |

| | | |
|---|---|---|
| 26. E-Mail Address: | john_mcmichael@xtoenergy.com | |
| 27. Telephone Number | 28. Extension or Code | 29. Fax Number *(if applicable)* |
| (817 )885-3782 | | (817 )885-2683 |

| | | | |
|---|---|---|---|
| 30. Primary SIC Code (4 digits) | 31. Secondary SIC Code (4 digits) | 32. Primary NAICS Code (5 or 6 digits) | 33. Secondary NAICS Code (5 or 6 digits) |
| 1311 | | | |

34. What is the Primary Business of this entity? *(Please do not repeat the SIC or NAICS description.)*

Oil and Gas Exploration and Production

**Questions 34 – 37 address geographic location. Please refer to the instructions for applicability.**

35. Description to Physical Location: From Donie, TX. at the intersection of Hwy 164 and CR 751 take CR 751 west. Turn left on LCR 862 and go approx. 0.5 miles. Turn right on lease road and then turn left to location.

| 36. Nearest City | County | State | Nearest ZIP Code |
|---|---|---|---|
| Donie | Limestone | TX | 75838 |

| 37. Latitude (N) In Decimal: | | | 38. Longitude (W) In Decimal: | | |
|---|---|---|---|---|---|
| Degrees | Minutes | Seconds | Degrees | Minutes | Seconds |
| | | | | | |

39. **TCEQ Programs and ID Numbers** Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form or the updates may not be made. If your Program is not listed, check other and write it in. See the Core Data Form instructions for additional guidance.

| | | | | |
|---|---|---|---|---|
| ☐ Dam Safety | ☐ Districts | ☐ Edwards Aquifer | ☐ Industrial Hazardous Waste | ☐ Municipal Solid Waste |
| ■ New Source Review – Air | ☐ OSSF | ☐ Petroleum Storage Tank | ☐ PWS | ☐ Sludge |
| ☐ Stormwater | ☐ Title V – Air | ☐ Tires | ☐ Used Oil | ☐ Utilities |
| ☐ Voluntary Cleanup | ☐ Waste Water | ☐ Wastewater Agriculture | ☐ Water Rights | ☐ Other: |

## SECTION IV: Preparer Information

| | | | |
|---|---|---|---|
| 40. Name: | John McMichael | 41. Title: | Environmental Specialist |

| 42. Telephone Number | 43. Ext./Code | 44. Fax Number | 45. E-Mail Address |
|---|---|---|---|
| (817)885-3782 | | (817) 885-3782 | john_mcmichael@xtoenergy.com |

## SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 9 and/or as required for the updates to the ID numbers identified in field 39.

*(See the Core Data Form instructions for more information on who should sign this form.)*

| | | | |
|---|---|---|---|
| Company: | XTO Energy, Inc. | Job Title: | Environmental Specialist |
| Name *(In Print)*: | John McMichael | Phone: | (817) 885-3782 |
| Signature: | | Date: | 2/14/2011 |

APIRT
FEB 22 2011

XTO ENERGY

APIRT
FEB 22 2011

February 14, 2011 **CERTIFIED MAIL # 7009 1680 0001 8533 1323**

Texas Commission on Environmental Quality
Air Permits Division
MC-161
P.O. Box 13087
Austin, TX 78711-3087

RECEIVED
FEB 22 2011
AIR PERMITS DIVISION

**RE: XTO Energy, Inc**
**Stone 19 Well Site**
**Limestone County, Texas**

Air Permits Division:

XTO Energy, Inc. is submitting an application to the Texas Commission on Environmental Quality (TCEQ) for a Standard Permit for the location referenced above. The facility is authorized under 30 Texas Administrative Code (TAC) § 116.620.

If you have any questions or need any additional information to process this application, please feel free to contact me at 817.885.3782 or by email at john_mcmichael@xtoenergy.com.

Sincerely,

John McMichael
Environmental Specialist

cc:

Texas Commission on Environmental Quality
Region 9 – Waco Texas
6801 Sanger Avenue, Suite 2500
Waco, Texas 76710-7826
**CERTIFIED MAIL # 7009 1680 0001 8533 2337**

# XTO Energy, Inc
# Standard Permit Application

## Table of Content

# Attachment # 1
# Project Description

# Project Description

**XTO Energy, Inc.**
**Limestone County, Texas**

The purpose of this Standard Permit Application is to register the XTO Energy, Inc., Well Site located in Limestone County, Texas. This site is an oil and gas production site with produced water tanks, a line heater, and other oil, gas, and water handling equipment typical to a production site. This facility is authorized under 30 TAC § 116.620.

This location has not produced any condensate/oil. XTO Energy Inc. (XTO) used the default values in the low pressure gas option in E&P tanks because each sample of the water that has been sent to a lab for analysis has shown results of non-detectable for the Gas to Oil Ratio (GOR). E&P Tanks is used to determine an over estimated GOR in order to calculate emissions. The Water Tank emissions are calculated as if they were from 100% condensate/oil and then reduced by 99%.

A representative gas analysis was used for emissions calculations. The analysis was pulled from a surrounding well site that is in the same formation.

The Average Natural Gas Throughput is approximately 0.75 MMSCFD.

# Attachment # 2
# Site Wide Emission Summary Table

# XTO Energy, Inc.
# Site Wide Emission Summary

| Emission Summary Table (TPY) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Emission Source | EPN | $NO_X$ | CO | VOC | PM | $SO_2$ | $H_2S$ |
| Line Heater | HTR1 | 0.21 | 1.20 | 0.03 | 0.02 | 0.04 | 0.000 |
| Water Tank | TK1 | --- | --- | 0.07 | --- | --- | 0.023 |
| Water Tank | TK2 | --- | --- | 0.07 | --- | --- | 0.023 |
| Water Tank | TK3 | --- | --- | 0.07 | --- | --- | 0.023 |
| Truck Loading - Water | TRUCK | --- | --- | 0.06 | --- | --- | 0.001 |
| Fugitives (Includes MSS Emissions) | FUG | --- | --- | 1.08 | --- | --- | 0.015 |

| | $NO_X$ | CO | VOC | PM | $SO_2$ | $H_2S$ |
|---|---|---|---|---|---|---|
| TOTAL EMISSIONS (TPY) | 0.21 | 1.20 | 1.38 | 0.02 | 0.04 | 0.09 |

# Attachment # 5
# Table 1a

XTO Energy, Inc.

# TABLE 1(a)
# EMISSION SOURCES

| AIR CONTAMINANT DATA | | | | | | EMISSION POINT DISCHARGE PARAMETERS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EMISSION POINT [1] | | | COMPONENT OR AIR CONTAMINANT NAME [2] | AIR CONTAMINANT EMISSION RATE | | UTMA COORDINATES OF EMISSION PT. [5] | | | SOURCE | | | | | | | | |
| | | | | | | | | | HEIGHT ABOVE GROUND [ft.] | HEIGHT ABOVE STRUCT. [ft.] [6(A)] | STACK EXIT DATA | | | FUGITIVES | | | |
| EMISSION POINT NUMBER | FACILITY IDENTIFICATION NUMBER | NAME | | #/HR [3] | TONS/ YR [4] | ZONE | EAST [meters] | NORTH [meters] | | | DIA. [ft.] [6(B)] | VEL. [fps] [6(C)] | TEMP. [°F] [6(D)] | LENGTH [ft.] [7(A)] | WIDTH [ft.] [7(B)] | AXIS DEG. [7(C)] | E/W OF NORTH [7(D)] |
| EPN: TK1 | FIN: TK1 | Water Tank | VOC | 0.0159 | 0.0696 | | | | | | | | | | | | |
| | | | $H_2S$ | 0.0050 | 0.0230 | | | | | | | | | | | | |
| EPN: TK2 | FIN: TK2 | Water Tank | VOC | 0.0159 | 0.0696 | | | | | | | | | | | | |
| | | | $H_2S$ | 0.0050 | 0.0230 | | | | | | | | | | | | |
| EPN: TK3 | FIN: TK3 | Water Tank | VOC | 0.0159 | 0.0696 | | | | | | | | | | | | |
| | | | $H_2S$ | 0.0050 | 0.0230 | | | | | | | | | | | | |
| EPN: TRUCK | FIN: TRUCK | Truck Loading (Water) | VOC | 0.1498 | 0.0637 | | | | | | | | | | | | |
| | | | $H_2S$ | 0.0021 | 0.0009 | | | | | | | | | | | | |
| EPN: FUG | FIN: MSS | MSS Fugitive Emissions | VOC | 2.0515 | 0.3744 | | | | | | | | | | | | |
| | | | $H_2S$ | 0.0290 | 0.0053 | | | | | | | | | | | | |
| EPN: FUG | FIN: FUG | Fugitive Emissions | VOC | 0.1609 | 0.7045 | | | | | | | | | | | | |
| | | | $H_2S$ | 0.0023 | 0.0100 | | | | | | | | | | | | |
| EPN: HTR1 | FIN: HTR1 | Line Heater | NOx | 0.0481 | 0.2106 | | | | | | | | | | | | |
| | | | CO | 0.2748 | 1.2036 | | | | | | | | | | | | |
| | | | VOC | 0.0075 | 0.0329 | | | | | | | | | | | | |
| | | | PM | 0.0038 | 0.0167 | | | | | | | | | | | | |
| | | | $SO_2$ | 0.0100 | 0.0437 | | | | | | | | | | | | |

# Attachment # 6
# 30 TAC § 116.610 – 116.615 Verification

# Air Quality Standard Permits (SP)
# General Requirements Checklist
# Title 30 Texas Administrative Code §§116.610-116.615

Check the most appropriate answer and include any additional information in the spaces provided. If additional space is needed, please include an extra page and reference the rule number. The SP forms, tables, checklists, and guidance documents are available from the TCEQ, Air Permits Division web site at: www.tceq.state.tx.us/permitting/air/nav/standard.html.

Most Standard Permits require registration with the commission's Office of Permitting, Remediation, and Registration in Austin. The facilities and/or changes to facilities can be registered by completing a **Form PI-1S**, "Registration for Air Standard Permit." This checklist should accompany the registration form to expedite any registration review.

| CHECK THE MOST APPROPRIATE ANSWERS AND FILL IN THE REQUESTED INFORMATION | | | |
|---|---|---|---|
| **Rule** | **Questions/Description** | **Information** | **Response** |
| 116.610 (a)(1) | Are there net emissions increases associated with this registration? | Attach emissions summary & calculations | ☑ YES ☐ NO |
| | *If "YES," will net emission increases of air contaminants from the project, other than those for which a National Ambient Air Quality Standard (NAAQS) has been established, meet the emission limits of § 106.261 or § 106.262?* | | ☑ YES ☐ NO |
| | *If "NO," does the specific standard permit exempt emissions from this limit?* | | ☐ YES ☐ NO |
| 116.610 (a)(3) | Do any of the Title 40 Code of Federal Regulations Part (CFR) 60, New Source Performance Standards apply to this registration?<br>*If "YES," list subparts* | List subparts: | ☐ YES ☑ NO |
| 116.610 (a)(4) | Do any Hazardous Air Pollutant requirements apply to this registration?<br>*If "YES," list subparts* | List subparts: | ☐ YES ☑ NO |
| 116.610 (a)(5) | Do any maximum achievable control technology (MACT) standards as listed under 40 CFR Part 63 or Chapter 113, Subchapter C (National Emissions Standard for Hazardous Air for Source Categories) apply to this registration?<br>*If "YES," list subparts* | List subparts: | ☐ YES ☑ NO |
| 116.610 (a)(6) | Will additional emission allowances under Chapter 101, Subchapter H, Division 3, Emissions Banking and Trading, need to be obtained following this registration? | | ☐ YES ☑ NO |

# Air Quality Standard Permits (SP)
# General Requirements Checklist
# Title 30 Texas Administrative Code §§116.610-116.615

| CHECK THE MOST APPROPRIATE ANSWERS AND FILL IN THE REQUESTED INFORMATION | | | |
|---|---|---|---|
| **Rule** | **Questions/Description** | **Information** | **Response** |
| 116.611 (a) (1-6) | Is the following documentation included with this registration: | | ☑YES ☐NO |
| | Emissions calculations including the basis of the calculations? | | ☑YES ☐NO |
| | Quantification of all emission increases and/or decreases associated with this project? | | ☑YES ☐NO |
| | Sufficient information demonstrating that this project does not trigger PSD or NNSR review? | | ☑YES ☐NO |
| | Description of efforts to minimize collateral emissions increases associated with this project? | | ☑YES ☐NO |
| | Process descriptions including related processes? | | ☑YES ☐NO |
| | Description of any equipment being installed? | | ☑YES ☐NO |
| 116.614 | Are the required fee and a copy of the check or money order provided with the application? | | ☑YES ☐NO |
| 116.615 (1) | Will emissions from the facility comply with all applicable rules and regulations of the commission adopted under Texas Health and Safety Code, Chapter 382, and with the intent of the Texas Clean Air Act? | | ☑YES ☐NO |
| 116.615 (2) | Do you understand that all representations with regard to construction plans, operating procedures, and maximum emission rates in this registration become conditions upon which the facility will be constructed and operated? | | ☑YES ☐NO |
| 116.615 (3) | Do you understand that all changes authorized by this registration need to be incorporated into the facility's permit if the facility is currently permitted under §116.110 (relating to Applicability)? | *List all related permit numbers:* | ☑YES ☐NO |
| 116.615 (9) 617 (e)(1) | Will all air pollution emission capture and abatement equipment be maintained in good working order? | | ☑YES ☐NO |
| 116.615 (10) | Will the facility comply with all applicable rules and regulations of the TCEQ, the Texas Health and Safety Code, Chapter 382, and the Texas Clean Air Act? | | ☑YES ☐NO |

# Attachment # 7
# 30 TAC § 116.620 Verification

# Title 30 TAC 116.620

## Subchapter F Standard Permits

### 116.620 Installation and/or Modification of Oil and Gas Facilities

(a) Emission specifications.

(1) Venting or flaring more than 0.3 long tons per day of total sulfur shall not be allowed.

No emissions of more than 0.3 long tons per day of sulfur as shown in Table 1a.

(2) No facility shall be allowed to emit total uncontrolled emissions of sulfur compounds, except sulfur dioxide ($SO_2$), from all vents (excluding process fugitives emissions) equal to or greater than four pounds per hour unless the vapors are collected and routed to a flare.

N/A - There are no flares at this location.

(3) Any vent, excluding any safety relief valves that discharge to the atmosphere only as a result of fire or failure of utilities, emitting sulfur compounds other than $SO_2$ shall be at least 20 feet above ground level.

Any vent that emits sulfur compounds, other than SO2, will be at least 20 ft. above ground level.

(4) New or modified internal combustion reciprocating engines or gas turbines permitted under this standard permit shall satisfy all of the requirements of § 106.512 of this title (relating to Stationary Engines and Turbines (Previously SE 6)), except that registration using the Form PI-7 or PI-8 shall not be required. Emissions from engines or turbines shall be limited to the amounts found in § 106.4(a)(1) of this title (relating to Requirements for exemption from Permitting).

N/A - There are no engines at this site.

(5) Total Volatile Organic Compound (VOC) emissions from a natural gas glycol dehydration unit shall not exceed ten tons per year (tpy) unless the vapors are collected and controlled in accordance with subsection (b)(2) of this section.

N/A- There is no glycol dehydration equipment at this site.

(6) Any combustion unit (excluding flares, internal combustion engines, or natural gas turbines), with a design maximum heat input greater than 40 million British thermal units (Btu) per hour (using lower heating values) shall not emit more than 0.06 pounds of nitrogen oxides per million Btu.

N/A - There are no "combustion units" as described above that are over 40 MMBTU at this site.

(7) No facility which is less than 500 feet from the nearest off-plant receptor shall be allowed to emit uncontrolled VOC process fugitive emissions equal to or greater than ten tpy, but less than 25 tpy, unless the equipment is inspected and repaired according to subsection (c)(1) of this section.

N/A - This facility will emit less than 10 TPY of VOC fugitive emissions

(8) No facility which is 500 feet or more from the nearest off-plant receptor shall be allowed to emit uncontrolled VOC process fugitive emissions equal to or greater than 25 tpy unless the equipment is inspected and repaired according to subsection (c)(1) of this section.

This facility emits less than 25 TPY of fugitive VOC's and greater than 500 ft from the nearest receptor.

(9) No facility which is less than 500 feet from the nearest off-plant receptor shall be allowed to emit uncontrolled VOC process fugitive emissions equal to or greater than 25 tpy unless the equipment is inspected and repaired according to subsection (c)(2) of this section.

This facility emits less than 25 TPY VOC fugitive emissions and is will comply with subsection (c)(2).

(10) No facility shall be allowed to emit uncontrolled VOC process fugitive emissions equal to or greater than 40 tpy unless the equipment is inspected and repaired according to subsection (c)(2) of this section.

This site emits less than 40 TPY of fugitive VOC's.

(11) No facility which is located less than 1/4 mile from the nearest off-plant receptor shall be allowed to emit hydrogen sulfide ($H_2S$) or $SO_2$process fugitive emissions unless the equipment is inspected and repaired according to subsection (c)(3) of this section. No facility which is located at least 1/4 mile from the nearest off-plant receptor shall be allowed to emit $H_2S$ or $SO_2$ process fugitive emissions unless the equipment is inspected and repaired according to subsection (c)(3) of this section or unless the $H_2S$ or $SO_2$ emissions are monitored with ambient property line monitors according to subsection (e)(1) of this section. Components in sweet crude oil or gas service as defined by Chapter 101 of this title (relating to General Rules) are exempt from these limitations.

This facility will comply with subsection (C)(3) of this section.

(12) Flares shall be designed and operated in accordance with 40 Code of Federal Regulations (CFR), Part 60.18 or equivalent standard approved by the commission, including specifications of minimum heating values of waste gas, maximum tip velocity, and pilot flame monitoring. If necessary to ensure adequate combustion, sufficient gas shall be added to make the gases combustible. An infrared monitor is considered equivalent to a thermocouple for flame monitoring purposes. An automatic ignition system may be used in lieu of a continuous pilot.

N/A - There are no flares at this location.

(13) Appropriate documentation shall be submitted to demonstrate that compliance with the Prevention of Significant Deterioration (PSD) and nonattainment new source review provisions of the FCAA, Parts C and D, and regulations promulgated thereunder, and with Subchapter C of this chapter (relating to Hazardous Air Pollutants: Regulations Governing Constructed or Reconstructed Major Sources (FCAA, § 112(g), 40 CFR Part 63)) are being met. The oil and gas facility shall be required to meet the requirements of Subchapter B of this chapter (relating to New Source Review Permits) instead of this subchapter if a PSD or nonattainment permit or a review under Subchapter C of this chapter is required.

This site will not be a major source under PSD.

(14) Documentation shall be submitted to demonstrate compliance with applicable New Source Performance Standards (NSPS, 40 CFR Part 60).

There are no NSPS for this facility.

(15) Documentation shall be submitted to demonstrate compliance with applicable National Emission Standards for Hazardous Air Pollution (NESHAP, 40 CFR Part 61).

No NESHAP applies for this facility.

(16) Documentation shall be submitted to demonstrate compliance with applicable maximum achievable control technology standards as listed under 40 CFR Part 63, promulgated by the EPA under FCAA, § 112 or as listed in Chapter 113, Subchapter C of this title (relating to National Emissions Standards for Hazardous Air Pollutants for Source Categories (FCAA § 112, 40 CFR Part 63)).

N/A - No MACT standards for this location.

(17) New and increased emissions shall not cause or contribute to a violation of any National Ambient Air Quality Standard or regulation property line standards as specified in Chapters 111, 112, and 113 of this title (relating to Control of Air Pollution from Visible Emissions and Particulate Matter; Control of Air Pollution from Sulfur Compounds; and Control of Air Pollution from Toxic Materials). Engineering judgment and/or computerized air dispersion modeling may be used in this demonstration. To show compliance with § 116.610(a)(1) of this title (relating to Applicability) for $H_2S$ emissions from process vents, ten milligrams per cubic meter shall be used as the "L" value instead of the value represented by § 116.610(a)(1) of this title.

This site will not violate any NAAQS.

(18) Fuel for all combustion units and flare pilots shall be sweet natural gas or liquid petroleum gas, fuel gas containing no more than ten grains of total sulfur per 100 dry standard cubic feet (dscf), or field gas. If field gas contains more than 1.5 grains of $H_2S$ or 30 grains total sulfur compounds per 100 dscf, the operator shall maintain records, including at least quarterly measurements of fuel $H_2S$ and total sulfur content, which demonstrate that the annual $SO_2$ emissions from the facility do not exceed the limitations listed in the standard permit registration. If a flare is the only combustion unit on a property, the operator shall not be required to maintain such records on flare pilot gas.

Quarterly measurements will be taken if field gas is used.

(b) Control requirements.

(1) Floating roofs or equivalent controls shall be required on all new or modified storage tanks, other than pressurized tanks which meet § 106.476 of this title (relating to Pressurized Tanks or Tanks Vented to Control (Previously SE 83)), unless the tank is less than 25,000 gallons in nominal size or the vapor pressure of the compound to be stored in the tank is less than 0.5 pounds per square inch absolute (psia) at maximum short-term storage temperature.

(A) For internal floating roofs, mechanical shoe primary seal or liquid-mounted primary seal or a vapor-mounted primary with rim-mounted secondary seal shall be used.

(B) Mechanical shoe or liquid-mounted primary seals shall include a rim-mounted secondary seal on all external floating roofs tanks. Vapor-mounted primary seals will not be accepted.

(C) All floating roof tanks shall comply with the requirements under § 115.112(a)(2)(A)-(F) of this title (relating to Control Requirements).

(D) In lieu of a floating roof, tank emissions may be routed to:

(i) a destruction device such that a minimum VOC destruction efficiency of 98% is achieved; or

(ii) a vapor recovery system such that a minimum VOC recovery efficiency of 95% is achieved.

No floating roof tanks onsite.

(E) Independent of the exemptions listed in this paragraph, if the emissions from any fixed roof tank exceed ten tpy of VOC or ten tpy of sulfur compounds, the tank emissions shall be routed to a destruction device, vapor recovery unit, or equivalent method of control that meets the requirements listed in subparagraph (D) of this paragraph.

The VOC Emissions are less than 10 TPY.

(2) The VOC emissions from a natural gas glycol dehydration unit shall be controlled as follows.

(A) If total uncontrolled VOC emissions are equal to or greater than ten tpy, but less than 50 tpy, a minimum of 80% by weight minimum control efficiency shall be achieved by either operating a condenser and a separator (or flash tank), vapor recovery unit, destruction device, or equivalent control device.

(B) If total uncontrolled VOC emissions are equal to or greater than 50 tpy, a minimum of:

(i) 98% by weight minimum destruction efficiency shall be achieved by a destruction device or equivalent; or

(ii) 95% by weight minimum control efficiency shall be achieved by a vapor recovery system or equivalent.

No glycol dehydration equipment at this location.

(c) Inspection requirements.

(1) Owners or operators who are subject to subsection (a)(7) or (8) of this section shall comply with the following requirements.

(A) No component shall be allowed to have a VOC leak for more than 15 days after the leak is detected to exceed a VOC concentration greater than 10,000 parts per million by volume (ppmv) above background as methane, propane, or hexane, or the dripping or exuding of process fluid based on sight, smell, or sound for all components. The VOC fugitive emission components which contact process fluids where the VOCs have an aggregate partial pressure or vapor pressure of less than 0.5 psia at 100 degrees Fahrenheit are exempt from this requirement. If VOC fugitive emission components are in service where the operating pressure is at least 0.725 pounds per square inch (psi) (five kilopascals

(Kpa)) below ambient pressure, then these components are also exempt from this requirement as long as the equipment is identified in a list that is made available upon request by the agency representatives, the EPA, or any other air pollution agency having jurisdiction. All piping and valves two inches nominal size and smaller, unless subject to federal NSPS requiring a fugitive VOC emissions leak detection and repair program or Chapter 115 of this title (relating to Control of Air Pollution from Volatile Organic Compounds), are also exempt from this requirement.

(B) All technically feasible repairs shall be made to repair a VOC leaking process fugitive component within 15 days after the leak is detected. If the repair of a component would require a unit shutdown, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging. The executive director, at his discretion, may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown.

(C) New and reworked underground process pipelines containing VOCs shall contain no buried valves such that process fugitive emission inspection and repair is rendered impractical.

(D) To the extent that good engineering practice will permit, new and reworked valves and piping connections in VOC service shall be so located to be reasonably accessible for leak-checking during plant operation. Valves elevated more than two meters above a support surface will be considered non-accessible and shall be identified in a list to be made available upon request.

(E) New and reworked piping connections in VOC service shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. No later than the next scheduled quarterly monitoring after initial installation or replacement, all new or reworked connections shall be gas-tested or hydraulically-tested at no less than normal operating pressure and adjustments made as necessary to obtain leak-free performance. Flanges in VOC service shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

(F) Each open-ended valve or line in VOC service, other than a valve or line used for safety relief, shall be equipped with a cap, blind flange, plug, or a second valve. Except during sampling, the second valve shall be closed.

(G) Accessible valves in VOC service shall be monitored by leak-checking for

fugitive emissions at least quarterly using an approved gas analyzer. For valves equipped with rupture discs, a pressure gauge shall be installed between the relief valve and rupture disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity, but no later than the next process shutdown. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc or venting to a control device are exempt from monitoring.

(H) Dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system, submerged pumps, or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic driven pumps) are exempt from monitoring.

(I) All other pump and compressor seals emitting VOC shall be monitored with an approved gas analyzer at least quarterly.

(J) After completion of the required quarterly inspections for a period of at least two years, the operator of the oil and gas facility may request in writing to the Office of Air Quality, New Source Review Permits Division that the monitoring schedule be revised based on the percent of valves leaking. The percent of valves leaking shall be determined by dividing the sum of valves leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements. This request shall include all data that has been developed to justify the following modifications in the monitoring schedule.

(i) After two consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0%, an owner or operator may begin to skip one of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(ii) After five consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0%, an owner or operator may begin to skip three of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

The facility will comply with this section.

(2) Owners or operators who are subject to subsection (a)(9) or (10) of this section shall comply with the following requirements.

(A) No component shall be allowed to have a VOC leak for more than 15 days after the leak is found which exceeds a VOC concentration greater than 500 ppmv for all components except pumps and compressors and greater than 2,000 ppmv for pumps and compressors above background as methane, propane, or hexane, or the dripping or exuding of process fluid based on sight, smell, or sound. The VOC fugitive emission components which contact process fluids where the VOCs have an aggregate partial pressure or vapor pressure of less than 0.044 psia at 100 degrees Fahrenheit are exempt from this requirement. If VOC fugitive emission components are in service where the operating pressure is at least 0.725 psi (five Kpa) below ambient pressure, these components are also exempt from this requirement as long as the equipment is identified in a list that is made available upon request by agency representatives, the EPA, or any air pollution control agency having jurisdiction. All piping and valves two inches nominal size and smaller are also exempt from this requirement.

(B) All technically feasible repairs shall be made to repair a VOC leaking process fugitive component within 15 days after the leak is detected. If the repair of a component would require a unit shutdown, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging. The executive director, at his or her discretion, may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown.

(C) New and reworked underground process pipelines containing VOCs shall contain no buried valves such that process fugitive emission inspection and repair is rendered impractical.

(D) To the extent that good engineering practice will permit, new and reworked valves and piping connections in VOC service shall be so located to be reasonably accessible for leak-checking during plant operation. Valves elevated more than two meters above a support surface will be considered non-accessible and shall be identified in a list to be made available upon request.

(E) New and reworked piping connections in VOC service shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. No later than the next scheduled quarterly monitoring after initial

installation or replacement, all new or reworked connections shall be gas-tested or hydraulically-tested at no less than normal operating pressure and adjustments made as necessary to obtain leak-free performance. Flanges in VOC service shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

(F) Each open-ended valve or line in VOC service, other than a valve or line used for safety relief, shall be equipped with a cap, blind flange, plug, or a second valve. Except during sampling, the second valve shall be closed.

(G) Accessible valves in VOC service shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer. For valves equipped with rupture discs, a pressure gauge shall be installed between the relief valve and rupture disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity, but no later than the next process shutdown. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc or venting to a control device are exempt from monitoring.

(H) Dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order or seals equipped with an automatic seal failure detection and alarm system, submerged pumps, or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic driven pumps) are exempt from monitoring.

(I) All other pump and compressor seals emitting VOC shall be monitored with an approved gas analyzer at least quarterly.

(J) After completion of the required quarterly inspections for a period of at least two years, the operator of the oil and gas facility may request in writing to the Office of Air Quality, New Source Review Permits Division that the monitoring schedule be revised based on the percent of valves leaking. The percent of valves leaking shall be determined by dividing the sum of valves leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements. This request shall include all data that have been developed to justify the following modifications in the monitoring schedule.

(i) After two consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0%, an owner or operator may begin to skip one of the quarterly leak detection periods for the valves in gas/vapor and light

liquid service.

(ii) After five consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0%, an owner or operator may begin to skip three of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(K) A directed maintenance program shall be used and consist of the repair and maintenance of VOC fugitive emission components assisted simultaneously by the use of an approved gas analyzer such that a minimum concentration of leaking VOC is obtained for each component being maintained. Replaced components shall be remonitored within 30 days of being placed back into VOC service.

This site is not subject to these fugitive monitoring requirements.

(3) For owners and operators who are subject to the applicable parts of subsection (a)(11) of this section, auditory and visual checks for $SO_2$ and $H_2S$ leaks within the operating area shall be made every day. Immediately, but no later than eight hours upon detection of a leak, operating personnel shall take the following actions:

(A) isolate the leak; and

(B) commence repair or replacement of the leaking component; or

(C) use a leak collection/containment system to prevent the leak until repair or replacement can be made if immediate repair is not possible.

Inspections and repairs will be performed as necessary.

(d) Approved test methods.

(1) An approved gas analyzer used for the VOC fugitive inspection and repair requirement in subsection (c) of this section, shall conform to requirements listed in 40 CFR 60.485(a) and (b).

Fugitive VOC monitoring will meet this requirement.

(2) Tutweiler analysis or equivalent shall be used to determine the $H_2S$ content as required under subsections (a) and (e) of this section.

An annual measurement of the H2S in the fuel gas will be made using an approved method.

(3) Proper operation of any condenser used as a VOC emissions control device to comply with subsection (a)(5) of this section shall be tested to demonstrate compliance with the minimum control efficiency. Sampling shall occur within 60 days after start-up of new or modified facilities. The permittee shall contact the Engineering Services Section, Office of Compliance and Enforcement 45 days prior to sampling for approval of sampling protocol. The appropriate regional office in the region where the source is located shall also be contacted 45 days prior to sampling to provide them the opportunity to view the sampling. Neither the regional office nor the Engineering Services Section, Office of Compliance and Enforcement personnel are required to view the testing. Sampling reports which comply with the provisions of the "TNRCC Sampling Procedures Manual," Chapter 14 ("Contents of Sampling Reports," dated January 1983 and revised July 1985), shall be distributed to the appropriate regional office, any local programs, and the Engineering Services Section, Office of Compliance and Enforcement.

There is no condenser device at this location.

(e) Monitoring and recordkeeping requirements.

(1) If the operator elects to install and maintain ambient $H_2S$ property line monitors to comply with subsection (a)(11) of this section, the monitors shall be approved by the Engineering Services Section, Office of Compliance and Enforcement office in Austin, and shall be capable of detecting and alarming at $H_2S$ concentrations of ten ppmv. Operations personnel shall perform an initial on-site inspection of the facility within 24 hours of initial alarm and take corrective actions as listed in subsection (c)(3)(A)-(C) of this section within eight hours of detection of a leak.

(2) The results of the VOC leak detection and repair requirements shall be made available to the executive director or any air pollution control agency having jurisdiction upon request. Records, for all components, shall include:

(A) appropriate dates;

(B) test methods;

(C) instrument readings;

(D) repair results; and

(E) corrective actions. Records of flange inspections are not required unless a leak is detected.

(3) Records for repairs and replacements made due to inspections of $H_2S$ and $SO_2$ components shall be maintained.

(4) Records shall be kept for each production, processing, and pipeline tank battery or for each storage tank if not located at a tank battery, on a monthly basis, as follows:

(A) tank battery identification or storage tank identification, if not located at a tank battery;

(B) compound stored;

(C) monthly throughput in barrels/month; and

(D) cumulative annual throughput, barrels/year.

(5) A plan shall be submitted to show how ongoing compliance will be demonstrated for the efficiency requirements listed in subsection (b)(1)(D) of this section. The demonstration may include, but is not limited to, monitoring flow rates, temperatures, or other operating parameters.

(6) Records shall be kept on at least a monthly basis of all production facility flow rates (in standard cubic feet per day) and total sulfur content of process vents or flares or gas processing streams. Total sulfur shall be calculated in long tons per day.

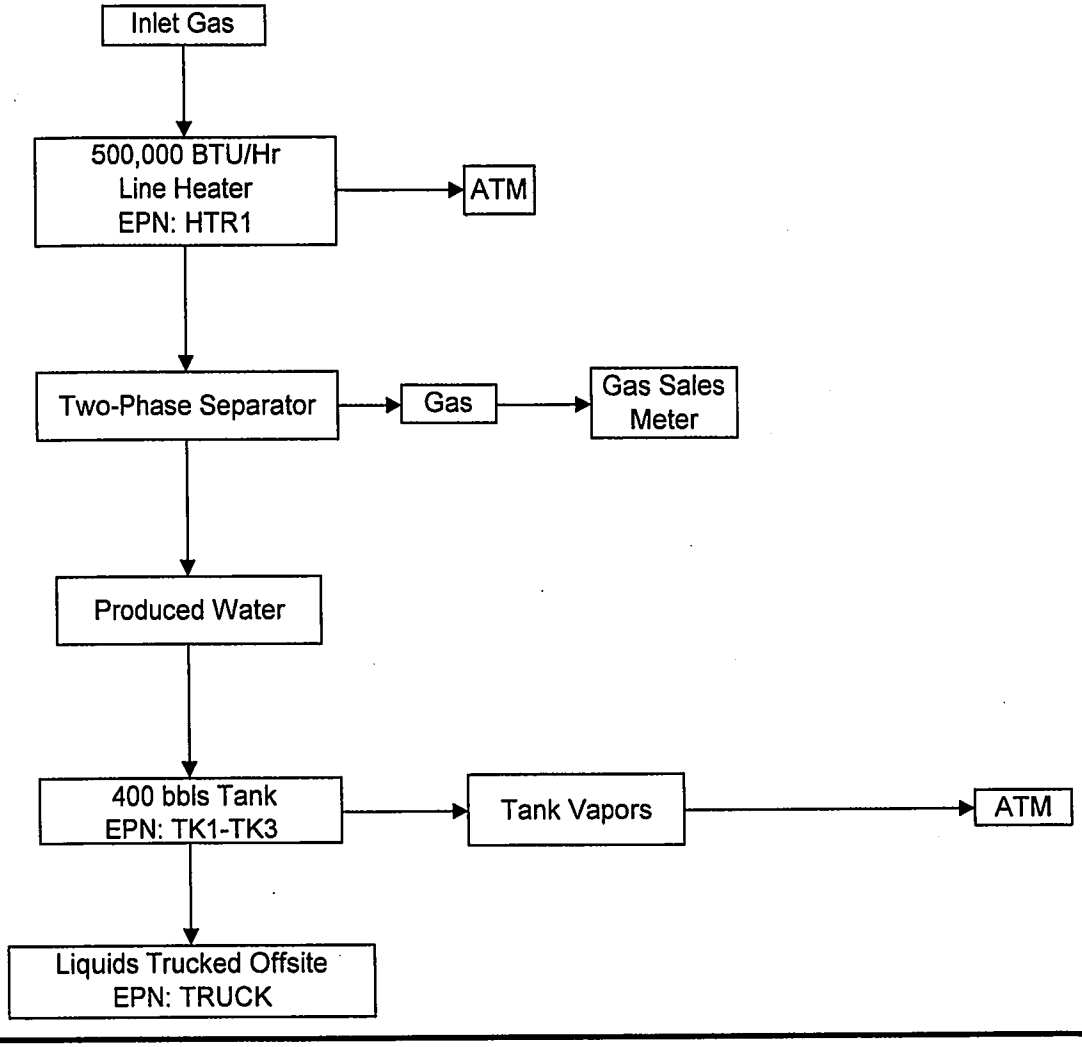
(7) Records shall be kept of all ambient property line monitor alarms and shall include the date, time, duration, and cause of alarm, date and time of initial on-site inspection, and date and time of corrective actions taken.

(8) All required records shall be made available to representatives of the agency, the EPA, or local air pollution control agencies upon request and be kept for at least two years. All required records shall be kept at the plant site, unless the plant site is unmanned during business hours. For plant sites ordinarily unmanned during business hours, the records shall be maintained at the nearest office in the state having day-to-day operations control of the plant site.

Records will be retained for at least the minimum requirement.

# Attachment # 8
# Process Description & Flow Diagram

# Process Flow Diagram




## Process Description

Associated gas from the well flows through a 500,000 Btu line heater (HTR1), where it is periodically heated to reduce the formation of hydrates. The associated gas then flows into the two-stage separator, where the liquids (water) are separated from the gas. The gas is flows to the gas sales meter while the liquids flow into produced water storage tanks on the site. The tank vapor are vented to atmosphere, while the liquids are eventually trucked offsite.

# Attachment # 9
# Emission Calculations

Gas Analysis

Conversion of Mole Percent to Weight Percent

| | |
|---|---|
| Specific Gravity | 0.603 |
| Gross BTU | 997.69 |

| Component | Mole % | MW | Mole % * MW | Weight % |
|---|---|---|---|---|
| Carbon Dioxide | 3.3616 | 44 | 1.4791 | 8.514% |
| Nitrogen | 0.2444 | 28 | 0.0684 | 0.394% |
| Hydrogen Sulfide | 0.0120 | 34 | 0.0041 | 0.023% |
| Helium | | 4 | 0.0000 | 0.000% |
| Methane | 94.5589 | 16 | 15.1294 | 87.090% |
| Ethane | 1.3415 | 30 | 0.4025 | 2.317% |
| Propane | 0.2097 | 44 | 0.0923 | 0.531% |
| Iso-Butane | 0.0614 | 58 | 0.0356 | 0.205% |
| N-Butane | 0.0480 | 58 | 0.0278 | 0.160% |
| Iso-Pentane | 0.0320 | 72 | 0.0230 | 0.133% |
| N-Pentane | 0.0147 | 72 | 0.0106 | 0.061% |
| Methylcyclopentane | | 86 | 0.0000 | 0.000% |
| n-Hexane | | 86 | 0.0000 | 0.000% |
| Hexane + | 0.1154 | 86 | 0.0992 | 0.571% |
| 2,4-Dimethylpentane | | 100 | 0.0000 | 0.000% |
| Methycyclohexane | | 96 | 0.0000 | 0.000% |
| Benzene | | 78 | 0.0000 | 0.000% |
| Cyclohexane | | 84 | 0.0000 | 0.000% |
| n-Heptane | | 100 | 0.0000 | 0.000% |
| Toluene | | 92 | 0.0000 | 0.000% |
| Ethylbenzene | | 106 | 0.0000 | 0.000% |
| Xylenes | | 106 | 0.0000 | 0.000% |
| Octanes+ | | 114 | 0.0000 | 0.000% |
| Nonanes+ | | 128 | 0.0000 | 0.000% |
| Decanes+ | | 142 | 0.0000 | 0.000% |
| Total | 99.9996 | | | 100.000% |
| Molecular Weight | | | 17.3721 | |

| HEXANES | | |
|---|---|---|
| NMHC | 0.6910 | 3.978% |
| VOCs (NMNEHC) | 0.2886 | 1.661% |
| HAPs | 0.0000 | 0.00% |
| H2S Mole Fraction | 0.0041 | 0.023% |
| Total HC | 15.8205 | 91.068% |
| THC:VOC Ratio | 1.8241 | 1.824% |

***A Representative Gas Analysis was used to determine emissions**

# XTO Energy, Inc.
## FUGITIVE EMISSIONS

| | Estimated Components Count | Hours | Factors | %NMNEVOC | %Reduction | Emissions | |
|---|---|---|---|---|---|---|---|
| | | | | | | lb/year | tons/year |
| Valves | | | | | | | |
| Gas/Vapor | 150 | 8760 | 0.00992000 | 1.66% | 0 | 216.5377 | 0.1083 |
| Light Oil | | 8760 | 0.00550000 | 100.00% | 0 | 0.0000 | 0.0000 |
| Heavy Oil | | 8760 | 0.00001900 | 100.00% | 0 | 0.0000 | 0.0000 |
| Water/Light Oil | 25 | 8760 | 0.00021600 | 100.00% | 0 | 47.3040 | 0.0237 |
| Pumps | | | | | | | |
| Gas/Vapor | | 8760 | 0.00529000 | 1.66% | 0 | 0.0000 | 0.0000 |
| Light Oil | | 8760 | 0.02866000 | 100.00% | 0 | 0.0000 | 0.0000 |
| Heavy Oil | | 8760 | 0.00113000 | 100.00% | 0 | 0.0000 | 0.0000 |
| Water/Light Oil | | 8760 | 0.00005300 | 100.00% | 0 | 0.0000 | 0.0000 |
| Flanges | | | | | | | |
| Gas/Vapor | 150 | 8760 | 0.00086000 | 1.66% | 0 | 18.7724 | 0.0094 |
| Light Oil | | 8760 | 0.00024300 | 100.00% | 0 | 0.0000 | 0.0000 |
| Heavy Oil | | 8760 | 0.00000086 | 100.00% | 0 | 0.0000 | 0.0000 |
| Water/Light Oil | 25 | 8760 | 0.00000620 | 100.00% | 0 | 1.3578 | 0.0007 |
| Open-ended Lines | | | | | | | |
| Gas/Vapor | | 8760 | 0.00441000 | 1.66% | 0 | 0.0000 | 0.0000 |
| Light Oil | | 8760 | 0.00309000 | 100.00% | 0 | 0.0000 | 0.0000 |
| Heavy Oil | | 8760 | 0.00030900 | 100.00% | 0 | 0.0000 | 0.0000 |
| Water/Light Oil | | 8760 | 0.00055000 | 100.00% | 0 | 0.0000 | 0.0000 |
| Connectors | | | | | | | |
| Gas/Vapor | | 8760 | 0.00044000 | 1.66% | 0 | 0.0000 | 0.0000 |
| Light Oil | | 8760 | 0.00046300 | 100.00% | 0 | 0.0000 | 0.0000 |
| Heavy Oil | | 8760 | 0.00001700 | 100.00% | 0 | 0.0000 | 0.0000 |
| Water/Light Oil | | 8760 | 0.00024300 | 100.00% | 0 | 0.0000 | 0.0000 |
| Other: Compressors, relief valves, process drains, diaphragms, dump arms, hatches, instruments, meters, polished rods, and vents | | | | | | | |
| Gas/Vapor | 15 | 8760 | 0.01940000 | 1.66% | 0 | 42.3471 | 0.0212 |
| Light Oil | | 8760 | 0.01650000 | 100.00% | 0 | 0.0000 | 0.0000 |
| Heavy Oil | | 8760 | 0.00006800 | 100.00% | 0 | 0.0000 | 0.0000 |
| Water/Light Oil | 4 | 8760 | 0.03090000 | 100.00% | 0 | 1082.7360 | 0.5414 |

| | |
|---|---|
| Total VOC in tons/year: | 0.7045 |
| Total VOC in Lb/hr: | 0.1609 |
| Total H2S in tons/year: | 0.0100 |
| Total H2S in Lb/hr: | 0.0023 |

Station: MSS Fugitive Emissions: Venting

| | |
|---|---|
| Quantity Released in SCF | 1000000 |
| Duration in hrs | 365 |
| Vented | Yes |

| Component | Estimated Quantity Vented | Total Estimated Quantity Emitted | Emissions ( lb/hr ) | TPY ( 365 Hours ) |
|---|---|---|---|---|
| VOCs | 748.793 | 748.793 | 2.051 | 0.374 |
| Hydrogen Sulfide | 10.586 | 10.586 | 0.029 | 0.005 |
| Propane | 239.406 | 239.406 | 0.656 | 0.120 |
| Iso-Butane | 92.402 | 92.402 | 0.253 | 0.046 |
| N-Butane | 72.236 | 72.236 | 0.198 | 0.036 |
| Iso-Pentane | 59.781 | 59.781 | 0.164 | 0.030 |
| N-Pentane | 27.462 | 27.462 | 0.075 | 0.014 |
| Methylcyclopentane | 0.000 | 0.000 | 0.000 | 0.000 |
| n-Hexane | 0.000 | 0.000 | 0.000 | 0.000 |
| Hexane + | 257.506 | 257.506 | 0.705 | 0.129 |
| 2,4-Dimethylpentane | 0.000 | 0.000 | 0.000 | 0.000 |
| Methycyclohexane | 0.000 | 0.000 | 0.000 | 0.000 |
| Benzene | 0.000 | 0.000 | 0.000 | 0.000 |
| Cyclohexane | 0.000 | 0.000 | 0.000 | 0.000 |
| n-Heptane | 0.000 | 0.000 | 0.000 | 0.000 |
| Toluene | 0.000 | 0.000 | 0.000 | 0.000 |
| Ethylbenzene | 0.000 | 0.000 | 0.000 | 0.000 |
| Xylenes | 0.000 | 0.000 | 0.000 | 0.000 |
| Octanes+ | 0.000 | 0.000 | 0.000 | 0.000 |
| Nonanes+ | 0.000 | 0.000 | 0.000 | 0.000 |
| Decanes+ | 0.000 | 0.000 | 0.000 | 0.000 |

*CALCULATIONS BASED ON API METHODOLOGY

| | |
|---|---|
| MSS Fugitives: | MSS is for preventative maintenance that is preformed on the equipment at location. When maintenance is being preformed on certain equipment, gas in the line will be sent to vented to atmosphere during the maintenance. This normally equates to 365 Hours/Year |

Station: Line Heater

| | |
|---|---|
| Quantity Released in SCF | 12028 |
| Duration in hrs | 24 |
| Flared | Yes |
| BTU / HR | 500000 |

| Component | Estimated Quantity Flared | Total Estimated Quantity Emitted | Emissions (lb/hr) | TPY ( 8760 Hours ) |
|---|---|---|---|---|
| Carbon Monoxide | 6.595 | 6.595 | 0.275 | 1.204 |
| Nitric Dioxide | 0.577 | 0.577 | 0.048 | 0.211 |
| VOCs | 0.180 | 0.180 | 0.008 | 0.033 |
| Sulfur Dioxide | 0.240 | 0.240 | 0.010 | 0.044 |
| Carbon Dioxide | 0.000 | 0.000 | 0.000 | 0.000 |
| Nitrogen | 0.000 | 0.000 | 0.000 | 0.000 |
| Hydrogen Sulfide | 0.003 | 0.003 | 0.000 | 0.000 |
| Helium | 0.000 | 0.000 | 0.000 | 0.000 |
| Methane | 9.439 | 9.439 | 0.393 | 1.723 |
| Ethane | 0.251 | 0.251 | 0.010 | 0.046 |
| Propane | 0.058 | 0.058 | 0.002 | 0.011 |
| Iso-Butane | 0.022 | 0.022 | 0.001 | 0.004 |
| N-Butane | 0.017 | 0.017 | 0.001 | 0.003 |
| Iso-Pentane | 0.014 | 0.014 | 0.001 | 0.003 |
| N-Pentane | 0.007 | 0.007 | 0.000 | 0.001 |
| Methylcyclopentane | 0.000 | 0.000 | 0.000 | 0.000 |
| n-Hexane | 0.000 | 0.000 | 0.000 | 0.000 |
| Hexane + | 0.062 | 0.062 | 0.003 | 0.011 |
| 2,4-Dimethylpentane | 0.000 | 0.000 | 0.000 | 0.000 |
| Methycyclohexane | 0.000 | 0.000 | 0.000 | 0.000 |
| Benzene | 0.000 | 0.000 | 0.000 | 0.000 |
| Cyclohexane | 0.000 | 0.000 | 0.000 | 0.000 |
| n-Heptane | 0.000 | 0.000 | 0.000 | 0.000 |
| Toluene | 0.000 | 0.000 | 0.000 | 0.000 |
| Ethylbenzene | 0.000 | 0.000 | 0.000 | 0.000 |
| Xylenes | 0.000 | 0.000 | 0.000 | 0.000 |
| Octanes+ | 0.000 | 0.000 | 0.000 | 0.000 |
| Nonanes+ | 0.000 | 0.000 | 0.000 | 0.000 |
| Decanes+ | 0.000 | 0.000 | 0.000 | 0.000 |
| PM | 0.091 | 0.091 | 0.004 | 0.017 |

*CALCULATIONS BASED ON API METHODOLOGY

## XTO Energy, Inc.

### WATER - TRUCK LOADING LOSSES

AP-42,Section 5.2

LL= 12.46 * SPM/T * (1-EFF/100), where

| | |
|---|---|
| S= Saturation Factor : = | 0.6 |
| P= True Vapor Pressure of liquid loaded = | 4 psia |
| T= Temperature of bulk liquid loaded in Rankin = | 540.0 degrees |
| M= Molecular Weight = | 50 |

= 2.769 lb VOC (NMNEHC) emissions per 1,000 gal. throughput

Estimated throughput 4599000 gal/year 300 bbl/day 5410.5882 gal/hr
4599 Mgal/year

Estimated Number of Loads: 850
Each load takes approximately 1 hour

Total VOC Loading Losses = 6.3671 tpy
14.9813 lb/hr
= 6.36706 VOC (NMNEHC) Tons per Year

**This site's water tanks have small amounts of hydrocarbons. The loading losses associated with truck loading of the water and hydrocarbon mixture is estimated at 1% of the calculated rate of 14.9813 lb/hr.**

| | | |
|---|---|---|
| **Adjusted Loading Loss:** | **0.064** | **tpy** |
| | **0.150** | **lb/hr** |

**********
* Project Setup Information *
**********

Project File : Untitled.Ept
Flowsheet Selection : Oil Tank with Separator
Calculation Method : AP42
Control Efficiency : 100.0%
Known Separator Stream : Low Pressure Gas
Entering Air Composition : No

Filed Name : Farrar
Well ID : Water Tanks
Date : 2011.02.09

**********
* Data Input *
**********

Separator Pressure : 100.00[psig]
Separator Temperature : 85.00[F]
Molar GOR : 0.0500
Ambient Pressure : 14.70[psia]
Ambient Temperature : 77.00[F]
C10+ SG : 0.8990
C10+ MW : 166.00

-- Low Pressure Gas ----------

| No. | Component | mol % |
|---|---|---|
| 1 | H2S | 0.0120 |
| 2 | O2 | 0.0000 |
| 3 | CO2 | 3.3616 |
| 4 | N2 | 0.2444 |
| 5 | C1 | 94.5589 |
| 6 | C2 | 1.3415 |
| 7 | C3 | 0.2097 |
| 8 | i-C4 | 0.0614 |
| 9 | n-C4 | 0.0480 |
| 10 | i-C5 | 0.0320 |
| 11 | n-C5 | 0.0147 |
| 12 | C6 | 0.1158 |
| 13 | C7+ | 0.0000 |
| 14 | Benzene | 0.0000 |
| 15 | Toluene | 0.0000 |
| 16 | E-Benzene | 0.0000 |
| 17 | Xylenes | 0.0000 |
| 18 | n-C6 | 0.0000 |
| 19 | 224Trimethylp | 0.0000 |

| C7+ Molar Ratio: C7 : | C8 : | C9 : | C10+ |
|---|---|---|---|
| 1.0000 | 1.0000 | 1.0000 | 1.0000 |

-- Sales Oil ----------
Production Rate : 100[bbl/day]
Days of Annual Operation : 365 [days/year]
API Gravity : 60.0
Reid Vapor Pressure : 7.70[psia]
Bulk Temperature : 80.00[F]

-- Tank and Shell Data ----------
Diameter : 12.00[ft]
Shell Height : 20.00[ft]
Cone Roof Slope : 0.06
Average Liquid Height : 8.00[ft]
Vent Pressure Range : 0.06[psi]
Solar Absorbance : 0.39

-- Meteorological Data ----------

| | |
|---|---|
| City | : Dallas, TX |
| Ambient Pressure | : 14.70[psia] |
| Ambient Temperature | : 77.00[F] |
| Min Ambient Temperature | : 55.00[F] |
| Max Ambient Temperature | : 76.90[F] |
| Total Solar Insolation | : 1468.00[Btu/ft^2*day] |

**********
* Calculation Results *
**********

-- Emission Summary ----------

| Item | Uncontrolled [ton/yr] | Uncontrolled [lb/hr] |
|---|---|---|
| Total HAPs | 0.000 | 0.000 |
| Total HC | 29.154 | 6.656 |
| VOCs, C2+ | 8.828 | 2.016 |
| VOCs, C3+ | 6.957 | 1.588 |

Uncontrolled Recovery Info.

| | | |
|---|---|---|
| Vapor | 3.1400 | [MSCFD] |
| HC Vapor | 2.9300 | [MSCFD] |
| GOR | 31.40 | [SCF/bbl] |

-- Emission Composition ----------

| No | Component | Uncontrolled [ton/yr] | Uncontrolled [lb/hr] |
|---|---|---|---|
| 1 | H2S | 0.023 | 0.005 |
| 2 | O2 | 0.000 | 0.000 |
| 3 | CO2 | 4.325 | 0.987 |
| 4 | N2 | 0.028 | 0.006 |
| 5 | C1 | 20.326 | 4.641 |
| 6 | C2 | 1.871 | 0.427 |
| 7 | C3 | 0.682 | 0.156 |
| 8 | i-C4 | 0.300 | 0.068 |
| 9 | n-C4 | 0.240 | 0.055 |
| 10 | i-C5 | 0.201 | 0.046 |
| 11 | n-C5 | 0.092 | 0.021 |
| 12 | C6 | 0.814 | 0.186 |
| 13 | C7 | 3.050 | 0.696 |
| 14 | C8 | 1.124 | 0.257 |
| 15 | C9 | 0.438 | 0.100 |
| 16 | C10+ | 0.016 | 0.004 |
| 17 | Benzene | 0.000 | 0.000 |
| 18 | Toluene | 0.000 | 0.000 |
| 19 | E-Benzene | 0.000 | 0.000 |
| 20 | Xylenes | 0.000 | 0.000 |
| 21 | n-C6 | 0.000 | 0.000 |
| 22 | 224Trimethylp | 0.000 | 0.000 |
| | Total | 33.530 | 7.655 |

-- Stream Data ----------

| No. | Component | MW | LP Oil mol % | Flash Oil mol % | Sale Oil mol % | Flash Gas mol % | W&S Gas mol % | Total Emissions mol % |
|---|---|---|---|---|---|---|---|---|
| 1 | H2S | 34.80 | 0.0036 | 0.0020 | 0.0019 | 0.0446 | 0.0498 | 0.0447 |
| 2 | O2 | 32.00 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 3 | CO2 | 44.01 | 0.3297 | 0.0908 | 0.0856 | 6.4872 | 6.9468 | 6.4960 |
| 4 | N2 | 28.01 | 0.0026 | 0.0001 | 0.0001 | 0.0670 | 0.0493 | 0.0666 |
| 5 | C1 | 16.04 | 3.5387 | 0.4254 | 0.3637 | 83.7831 | 81.8564 | 83.7462 |
| 6 | C2 | 30.07 | 0.2700 | 0.1212 | 0.1179 | 4.1040 | 4.5264 | 4.1121 |
| 7 | C3 | 44.10 | 0.1414 | 0.1073 | 0.1065 | 1.0193 | 1.1598 | 1.0219 |
| 8 | i-C4 | 58.12 | 0.0996 | 0.0903 | 0.0901 | 0.3400 | 0.3925 | 0.3410 |
| 9 | n-C4 | 58.12 | 0.1110 | 0.1047 | 0.1046 | 0.2722 | 0.3160 | 0.2730 |
| 10 | i-C5 | 72.15 | 0.1813 | 0.1812 | 0.1812 | 0.1834 | 0.2153 | 0.1840 |
| 11 | n-C5 | 72.15 | 0.1118 | 0.1128 | 0.1129 | 0.0837 | 0.0988 | 0.0840 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12 | C6 | 86.16 | 2.4283 | 2.4977 | 2.4991 | 0.6383 | 0.7627 | 0.6407 |
| 13 | C7 | 100.20 | 23.1830 | 24.0021 | 24.0184 | 2.0701 | 2.5073 | 2.0785 |
| 14 | C8 | 114.23 | 23.1961 | 24.0702 | 24.0878 | 0.6666 | 0.8189 | 0.6695 |
| 15 | C9 | 128.28 | 23.2003 | 24.0914 | 24.1094 | 0.2341 | 0.2914 | 0.2352 |
| 16 | C10+ | 166.00 | 23.2027 | 24.1027 | 24.1210 | 0.0064 | 0.0084 | 0.0065 |
| 17 | Benzene | 78.11 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 18 | Toluene | 92.13 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 19 | E-Benzene | 106.17 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 20 | Xylenes | 106.17 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 21 | n-C6 | 86.18 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 22 | 224Trimethylp | 114.24 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| | MW | | 118.52 | 122.26 | 122.26 | 22.15 | 23.09 | 22.16 |
| | Stream Mole Ratio | | 1.0000 | 0.9627 | 0.9619 | 0.0373 | 0.0007 | 0.0381 |
| | Heating Value | [BTU/SCF] | | | | 1171.84 | 1210.53 | 1172.58 |
| | Gas Gravity | [Gas/Air] | | | | 0.76 | 0.80 | 0.77 |
| | Bubble Pt. @ 100F | [psia] | 121.08 | 16.61 | 14.57 | | | |
| | RVP @ 100F | [psia] | 146.67 | 29.22 | 25.57 | | | |
| | Spec. Gravity @ 100F | | 0.728 | 0.732 | 0.732 | | | |

**********
* Project Setup Information *
**********

Project File : Untitled.Ept
Flowsheet Selection : Oil Tank with Separator
Calculation Method : AP42
Control Efficiency : 100.0%
Known Separator Stream : Low Pressure Gas
Entering Air Composition : No

Filed Name : Farrar
Well ID : Water Tanks
Date : 2011.02.09

**********
* Data Input *
**********

Separator Pressure : 100.00[psig]
Separator Temperature : 85.00[F]
Molar GOR : 0.0500
Ambient Pressure : 14.70[psia]
Ambient Temperature : 77.00[F]
C10+ SG : 0.8990
C10+ MW : 166.00

-- Low Pressure Gas ----------

| No. | Component | mol % |
|---|---|---|
| 1 | H2S | 0.0120 |
| 2 | O2 | 0.0000 |
| 3 | CO2 | 3.3616 |
| 4 | N2 | 0.2444 |
| 5 | C1 | 94.5589 |
| 6 | C2 | 1.3415 |
| 7 | C3 | 0.2097 |
| 8 | i-C4 | 0.0614 |
| 9 | n-C4 | 0.0480 |
| 10 | i-C5 | 0.0320 |
| 11 | n-C5 | 0.0147 |
| 12 | C6 | 0.1158 |
| 13 | C7+ | 0.0000 |
| 14 | Benzene | 0.0000 |
| 15 | Toluene | 0.0000 |
| 16 | E-Benzene | 0.0000 |
| 17 | Xylenes | 0.0000 |
| 18 | n-C6 | 0.0000 |
| 19 | 224Trimethylp | 0.0000 |

C7+ Molar Ratio:

| C7 : | C8 : | C9 : | C10+ |
|---|---|---|---|
| 1.0000 | 1.0000 | 1.0000 | 1.0000 |

-- Sales Oil ----------
Production Rate : 100[bbl/day]
Days of Annual Operation : 365 [days/year]
API Gravity : 60.0
Reid Vapor Pressure : 7.70[psia]
Bulk Temperature : 80.00[F]

-- Tank and Shell Data ----------
Diameter : 12.00[ft]
Shell Height : 20.00[ft]
Cone Roof Slope : 0.06
Average Liquid Height : 8.00[ft]
Vent Pressure Range : 0.06[psi]
Solar Absorbance : 0.39

-- Meteorological Data ----------

| | |
|---|---|
| City | : Dallas, TX |
| Ambient Pressure | : 14.70[psia] |
| Ambient Temperature | : 77.00[F] |
| Min Ambient Temperature | : 55.00[F] |
| Max Ambient Temperature | : 76.90[F] |
| Total Solar Insolation | : 1468.00[Btu/ft^2*day] |

**********
* Calculation Results *
**********

-- Emission Summary ----------

| Item | Uncontrolled [ton/yr] | Uncontrolled [lb/hr] |
|---|---|---|
| Total HAPs | 0.000 | 0.000 |
| Total HC | 29.154 | 6.656 |
| VOCs, C2+ | 8.828 | 2.016 |
| VOCs, C3+ | 6.957 | 1.588 |

Uncontrolled Recovery Info.

| | | |
|---|---|---|
| Vapor | 3.1400 | [MSCFD] |
| HC Vapor | 2.9300 | [MSCFD] |
| GOR | 31.40 | [SCF/bbl] |

-- Emission Composition ----------

| No | Component | Uncontrolled [ton/yr] | Uncontrolled [lb/hr] |
|---|---|---|---|
| 1 | H2S | 0.023 | 0.005 |
| 2 | O2 | 0.000 | 0.000 |
| 3 | CO2 | 4.325 | 0.987 |
| 4 | N2 | 0.028 | 0.006 |
| 5 | C1 | 20.326 | 4.641 |
| 6 | C2 | 1.871 | 0.427 |
| 7 | C3 | 0.682 | 0.156 |
| 8 | i-C4 | 0.300 | 0.068 |
| 9 | n-C4 | 0.240 | 0.055 |
| 10 | i-C5 | 0.201 | 0.046 |
| 11 | n-C5 | 0.092 | 0.021 |
| 12 | C6 | 0.814 | 0.186 |
| 13 | C7 | 3.050 | 0.696 |
| 14 | C8 | 1.124 | 0.257 |
| 15 | C9 | 0.438 | 0.100 |
| 16 | C10+ | 0.016 | 0.004 |
| 17 | Benzene | 0.000 | 0.000 |
| 18 | Toluene | 0.000 | 0.000 |
| 19 | E-Benzene | 0.000 | 0.000 |
| 20 | Xylenes | 0.000 | 0.000 |
| 21 | n-C6 | 0.000 | 0.000 |
| 22 | 224Trimethylp | 0.000 | 0.000 |
| | Total | 33.530 | 7.655 |

-- Stream Data ----------

| No. | Component | MW | LP Oil mol % | Flash Oil mol % | Sale Oil mol % | Flash Gas mol % | W&S Gas mol % | Total Emissions mol % |
|---|---|---|---|---|---|---|---|---|
| 1 | H2S | 34.80 | 0.0036 | 0.0020 | 0.0019 | 0.0446 | 0.0498 | 0.0447 |
| 2 | O2 | 32.00 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 3 | CO2 | 44.01 | 0.3297 | 0.0908 | 0.0856 | 6.4872 | 6.9468 | 6.4960 |
| 4 | N2 | 28.01 | 0.0026 | 0.0001 | 0.0001 | 0.0670 | 0.0493 | 0.0666 |
| 5 | C1 | 16.04 | 3.5387 | 0.4254 | 0.3637 | 83.7831 | 81.8564 | 83.7462 |
| 6 | C2 | 30.07 | 0.2700 | 0.1212 | 0.1179 | 4.1040 | 4.5264 | 4.1121 |
| 7 | C3 | 44.10 | 0.1414 | 0.1073 | 0.1065 | 1.0193 | 1.1598 | 1.0219 |
| 8 | i-C4 | 58.12 | 0.0996 | 0.0903 | 0.0901 | 0.3400 | 0.3925 | 0.3410 |
| 9 | n-C4 | 58.12 | 0.1110 | 0.1047 | 0.1046 | 0.2722 | 0.3160 | 0.2730 |
| 10 | i-C5 | 72.15 | 0.1813 | 0.1812 | 0.1812 | 0.1834 | 0.2153 | 0.1840 |
| 11 | n-C5 | 72.15 | 0.1118 | 0.1128 | 0.1129 | 0.0837 | 0.0988 | 0.0840 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12 | C6 | 86.16 | 2.4283 | 2.4977 | 2.4991 | 0.6383 | 0.7627 | 0.6407 |
| 13 | C7 | 100.20 | 23.1830 | 24.0021 | 24.0184 | 2.0701 | 2.5073 | 2.0785 |
| 14 | C8 | 114.23 | 23.1961 | 24.0702 | 24.0878 | 0.6666 | 0.8189 | 0.6695 |
| 15 | C9 | 128.28 | 23.2003 | 24.0914 | 24.1094 | 0.2341 | 0.2914 | 0.2352 |
| 16 | C10+ | 166.00 | 23.2027 | 24.1027 | 24.1210 | 0.0064 | 0.0084 | 0.0065 |
| 17 | Benzene | 78.11 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 18 | Toluene | 92.13 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 19 | E-Benzene | 106.17 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 20 | Xylenes | 106.17 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 21 | n-C6 | 86.18 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 22 | 224Trimethylp | 114.24 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| | MW | | 118.52 | 122.26 | 122.26 | 22.15 | 23.09 | 22.16 |
| | Stream Mole Ratio | | 1.0000 | 0.9627 | 0.9619 | 0.0373 | 0.0007 | 0.0381 |
| | Heating Value | [BTU/SCF] | | | | 1171.84 | 1210.53 | 1172.58 |
| | Gas Gravity | [Gas/Air] | | | | 0.76 | 0.80 | 0.77 |
| | Bubble Pt. @ 100F | [psia] | 121.08 | 16.61 | 14.57 | | | |
| | RVP @ 100F | [psia] | 146.67 | 29.22 | 25.57 | | | |
| | Spec. Gravity @ 100F | | 0.728 | 0.732 | 0.732 | | | |

**********
* Project Setup Information *
**********

Project File : Untitled.Ept
Flowsheet Selection : Oil Tank with Separator
Calculation Method : AP42
Control Efficiency : 100.0%
Known Separator Stream : Low Pressure Gas
Entering Air Composition : No

Filed Name : Farrar
Well ID : Water Tanks
Date : 2011.02.09

**********
* Data Input *
**********

Separator Pressure : 100.00[psig]
Separator Temperature : 85.00[F]
Molar GOR : 0.0500
Ambient Pressure : 14.70[psia]
Ambient Temperature : 77.00[F]
C10+ SG : 0.8990
C10+ MW : 166.00

-- Low Pressure Gas ----------

| No. | Component | mol % |
|---|---|---|
| 1 | H2S | 0.0120 |
| 2 | O2 | 0.0000 |
| 3 | CO2 | 3.3616 |
| 4 | N2 | 0.2444 |
| 5 | C1 | 94.5589 |
| 6 | C2 | 1.3415 |
| 7 | C3 | 0.2097 |
| 8 | i-C4 | 0.0614 |
| 9 | n-C4 | 0.0480 |
| 10 | i-C5 | 0.0320 |
| 11 | n-C5 | 0.0147 |
| 12 | C6 | 0.1158 |
| 13 | C7+ | 0.0000 |
| 14 | Benzene | 0.0000 |
| 15 | Toluene | 0.0000 |
| 16 | E-Benzene | 0.0000 |
| 17 | Xylenes | 0.0000 |
| 18 | n-C6 | 0.0000 |
| 19 | 224Trimethylp | 0.0000 |

| C7+ Molar Ratio: | C7 : | C8 : | C9 : | C10+ |
|---|---|---|---|---|
| | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

-- Sales Oil ----------
Production Rate : 100[bbl/day]
Days of Annual Operation : 365 [days/year]
API Gravity : 60.0
Reid Vapor Pressure : 7.70[psia]
Bulk Temperature : 80.00[F]

-- Tank and Shell Data ----------
Diameter : 12.00[ft]
Shell Height : 20.00[ft]
Cone Roof Slope : 0.06
Average Liquid Height : 8.00[ft]
Vent Pressure Range : 0.06[psi]
Solar Absorbance : 0.39

-- Meteorological Data ----------

| | |
|---|---|
| City | : Dallas, TX |
| Ambient Pressure | : 14.70[psia] |
| Ambient Temperature | : 77.00[F] |
| Min Ambient Temperature | : 55.00[F] |
| Max Ambient Temperature | : 76.90[F] |
| Total Solar Insolation | : 1468.00[Btu/ft^2*day] |

**********
* Calculation Results *
**********

-- Emission Summary ----------

| Item | Uncontrolled [ton/yr] | Uncontrolled [lb/hr] |
|---|---|---|
| Total HAPs | 0.000 | 0.000 |
| Total HC | 29.154 | 6.656 |
| VOCs, C2+ | 8.828 | 2.016 |
| VOCs, C3+ | 6.957 | 1.588 |

Uncontrolled Recovery Info.

| | | |
|---|---|---|
| Vapor | 3.1400 | [MSCFD] |
| HC Vapor | 2.9300 | [MSCFD] |
| GOR | 31.40 | [SCF/bbl] |

-- Emission Composition ----------

| No | Component | Uncontrolled [ton/yr] | Uncontrolled [lb/hr] |
|---|---|---|---|
| 1 | H2S | 0.023 | 0.005 |
| 2 | O2 | 0.000 | 0.000 |
| 3 | CO2 | 4.325 | 0.987 |
| 4 | N2 | 0.028 | 0.006 |
| 5 | C1 | 20.326 | 4.641 |
| 6 | C2 | 1.871 | 0.427 |
| 7 | C3 | 0.682 | 0.156 |
| 8 | i-C4 | 0.300 | 0.068 |
| 9 | n-C4 | 0.240 | 0.055 |
| 10 | i-C5 | 0.201 | 0.046 |
| 11 | n-C5 | 0.092 | 0.021 |
| 12 | C6 | 0.814 | 0.186 |
| 13 | C7 | 3.050 | 0.696 |
| 14 | C8 | 1.124 | 0.257 |
| 15 | C9 | 0.438 | 0.100 |
| 16 | C10+ | 0.016 | 0.004 |
| 17 | Benzene | 0.000 | 0.000 |
| 18 | Toluene | 0.000 | 0.000 |
| 19 | E-Benzene | 0.000 | 0.000 |
| 20 | Xylenes | 0.000 | 0.000 |
| 21 | n-C6 | 0.000 | 0.000 |
| 22 | 224Trimethylp | 0.000 | 0.000 |
| | Total | 33.530 | 7.655 |

-- Stream Data ----------

| No. | Component | MW | LP Oil mol % | Flash Oil mol % | Sale Oil mol % | Flash Gas mol % | W&S Gas mol % | Total Emissions mol % |
|---|---|---|---|---|---|---|---|---|
| 1 | H2S | 34.80 | 0.0036 | 0.0020 | 0.0019 | 0.0446 | 0.0498 | 0.0447 |
| 2 | O2 | 32.00 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 3 | CO2 | 44.01 | 0.3297 | 0.0908 | 0.0856 | 6.4872 | 6.9468 | 6.4960 |
| 4 | N2 | 28.01 | 0.0026 | 0.0001 | 0.0001 | 0.0670 | 0.0493 | 0.0666 |
| 5 | C1 | 16.04 | 3.5387 | 0.4254 | 0.3637 | 83.7831 | 81.8564 | 83.7462 |
| 6 | C2 | 30.07 | 0.2700 | 0.1212 | 0.1179 | 4.1040 | 4.5264 | 4.1121 |
| 7 | C3 | 44.10 | 0.1414 | 0.1073 | 0.1065 | 1.0193 | 1.1598 | 1.0219 |
| 8 | i-C4 | 58.12 | 0.0996 | 0.0903 | 0.0901 | 0.3400 | 0.3925 | 0.3410 |
| 9 | n-C4 | 58.12 | 0.1110 | 0.1047 | 0.1046 | 0.2722 | 0.3160 | 0.2730 |
| 10 | i-C5 | 72.15 | 0.1813 | 0.1812 | 0.1812 | 0.1834 | 0.2153 | 0.1840 |
| 11 | n-C5 | 72.15 | 0.1118 | 0.1128 | 0.1129 | 0.0837 | 0.0988 | 0.0840 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12 | C6 | 86.16 | 2.4283 | 2.4977 | 2.4991 | 0.6383 | 0.7627 | 0.6407 |
| 13 | C7 | 100.20 | 23.1830 | 24.0021 | 24.0184 | 2.0701 | 2.5073 | 2.0785 |
| 14 | C8 | 114.23 | 23.1961 | 24.0702 | 24.0878 | 0.6666 | 0.8189 | 0.6695 |
| 15 | C9 | 128.28 | 23.2003 | 24.0914 | 24.1094 | 0.2341 | 0.2914 | 0.2352 |
| 16 | C10+ | 166.00 | 23.2027 | 24.1027 | 24.1210 | 0.0064 | 0.0084 | 0.0065 |
| 17 | Benzene | 78.11 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 18 | Toluene | 92.13 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 19 | E-Benzene | 106.17 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 20 | Xylenes | 106.17 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 21 | n-C6 | 86.18 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 22 | 224Trimethylp | 114.24 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| | MW | | 118.52 | 122.26 | 122.26 | 22.15 | 23.09 | 22.16 |
| | Stream Mole Ratio | | 1.0000 | 0.9627 | 0.9619 | 0.0373 | 0.0007 | 0.0381 |
| | Heating Value | [BTU/SCF] | | | | 1171.84 | 1210.53 | 1172.58 |
| | Gas Gravity | [Gas/Air] | | | | 0.76 | 0.80 | 0.77 |
| | Bubble Pt. @ 100F | [psia] | 121.08 | 16.61 | 14.57 | | | |
| | RVP @ 100F | [psia] | 146.67 | 29.22 | 25.57 | | | |
| | Spec. Gravity @ 100F | | 0.728 | 0.732 | 0.732 | | | |

XTO Energy, Inc.

106.261 NMEVOC Speciation Verification

| Water Tanks | lb/hr |
|---|---|
| Propane | 0.015 |
| Iso-Butane | 0.006 |
| N-Butane | 0.005 |
| Iso-Pentane | 0.004 |
| N-Pentane | 0.002 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.016 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ 0.015 | 0.005 |
| Total | 0.048 |

| Truck Loading - Water | lb/hr |
|---|---|
| Propane | 0.048 |
| Iso-Butane | 0.018 |
| N-Butane | 0.014 |
| Iso-Pentane | 0.012 |
| N-Pentane | 0.005 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.052 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ ✓ | 0.002 |
| Total | 0.150 |

| Line Heater | lb/hr |
|---|---|
| Propane | 0.002 |
| Iso-Butane | 0.001 |
| N-Butane | 0.001 |
| Iso-Pentane | 0.001 |
| N-Pentane | 0.000 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.003 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ ✓ | 0.000 |
| Total | 0.008 |

| MSS Venting | lb/hr |
|---|---|
| Propane | 0.656 |
| Iso-Butane | 0.253 |
| N-Butane | 0.198 |
| Iso-Pentane | 0.164 |
| N-Pentane | 0.075 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.705 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ ✓ | 0.029 |
| Total | 2.051 |

| Fugitives | lb/hr |
|---|---|
| Propane | 0.051 |
| Iso-Butane | 0.020 |
| N-Butane | 0.016 |
| Iso-Pentane | 0.013 |
| N-Pentane | 0.006 |
| Methylcyclopentane | 0.000 |
| n-Hexane | 0.000 |
| Hexane + | 0.055 |
| 2,4-Dimethylpentane | 0.000 |
| Methycyclohexane | 0.000 |
| Benzene | 0.000 |
| Cyclohexane | 0.000 |
| n-Heptane | 0.000 |
| Toluene | 0.000 |
| Ethylbenzene | 0.000 |
| Xylenes | 0.000 |
| Octanes+ | 0.000 |
| Nonanes+ | 0.000 |
| Decanes+ | 0.000 |
| $H_2S$ ✓ | 0.002 |
| Total | 0.161 |

| Total | lb/hr | TPY |
|---|---|---|
| Propane | 0.773 | 0.431 |
| Iso-Butane | 0.298 | 0.166 |
| N-Butane | 0.233 | 0.130 |
| Iso-Pentane | 0.193 | 0.108 |
| N-Pentane | 0.089 | 0.049 |
| Methylcyclopentane | 0.000 | 0.000 |
| n-Hexane | 0.000 | 0.000 |
| Hexane + | 0.831 | 0.463 |
| 2,4-Dimethylpentane | 0.000 | 0.000 |
| Methycyclohexane | 0.000 | 0.000 |
| Benzene | 0.000 | 0.000 |
| Cyclohexane | 0.000 | 0.000 |
| n-Heptane | 0.000 | 0.000 |
| Toluene | 0.000 | 0.000 |
| Ethylbenzene | 0.000 | 0.000 |
| Xylenes | 0.000 | 0.000 |
| Octanes+ | 0.000 | 0.000 |
| Nonanes+ | 0.000 | 0.000 |
| Decanes+ | 0.000 | 0.000 |
| $H_2S$ | 0.039 | 0.038 |
| Total | 2.417 | 1.347 |

*Speciation based off of gas analysis

# XTO Energy, Inc.
## 106.262 Verifications

| Benzene | | |
|---|---|---|
| E=L/K | 0.029 | lbs/hr |
| L | 3 | mg/m^3 |
| K | 104 | constant |
| Site Total Benzene | 0.000 | lb/hr |
| | 0.000 | TPY |

| Toluene | | |
|---|---|---|
| E=L/K= | 1.808 | lbs/hr |
| L= | 188 | mg/m^3 |
| K= | 104 | constant |
| Site Total Toluene | 0.000 | lb/hr |
| | 0.000 | TPY |

| E-benzene | | |
|---|---|---|
| E=L/K= | 1.923 | lbs/hr |
| L= | 434 | mg/m^3 |
| K= | 104 | constant |
| Site Total E-benzene | 0.000 | lb/hr |
| | 0.000 | TPY |

| Xylene | | |
|---|---|---|
| E=L/K= | 2.692 | lbs/hr |
| L= | 434 | mg/m^3 |
| K= | 104 | constant |
| Site Total Xylene | 0.000 | lb/hr |
| | 0.000 | TPY |

| n-Hexane | | |
|---|---|---|
| E=L/K | 1.691 | lbs/hr |
| L= | 176 | mg/m^3 |
| K= | 104 | constant |
| Site Total n-Hexane | 0.000 | lb/hr |
| | 0.000 | TPY |

| Pentane (I & N) | | |
|---|---|---|
| E=L/K= | 22.652 | lbs/hr |
| L= | 2356 | mg/m^3 |
| K= | 104 | constant |
| Site Total Pentane | 0.282 | lb/hr |
| | 0.157 | TPY |

| Propane | | |
|---|---|---|
| E=L/K= | 43.259 | lbs/hr |
| L= | 4499 | mg/m^3 |
| K= | 104 | constant |
| Site Total Propane | 0.773 | lb/hr |
| | 0.431 | TPY |

| Butane (I & N) | | |
|---|---|---|
| E=L/K= | 18.248 | lbs/hr |
| L= | 1898 | mg/m^3 |
| K= | 104 | constant |
| Site Total Butane | 0.531 | lb/hr |
| | 0.296 | TPY |

| | | ppm | MW | mg/m^3 |
|---|---|---|---|---|
| TLV's | Toluene | 50 | 92 | 188 |
| | E-benzene | 100 | 106 | 434 |
| | Xyelene | 100 | 106 | 434 |
| | N-Hexane | 50 | 86 | 176 |
| | Pentane | 800 | 72 | 2356 |
| | Propane | 2500 | 44 | 4499 |
| | Butane | 800 | 58 | 1898 |

mg/m^3 = ppm*MW/24.45

E=L/K

Distance to nearest receptor: 400

K= 104 From Figure 1 of 30 TAC 106.262(a)(2)

| Pollutant | L Value | lb/hr |
|---|---|---|
| Benzene | 10 | 0.096 |
| Toluene | 188 | 1.808 |
| Ethylbenzene | 200 | 1.923 |
| Xylene | 280 | 2.692 |
| Formaldehyde | 18 | 0.173 |

# Attachment # 10
# 1-Hr NOx Verification

## XTO Energy, Inc.
## 1-Hr $NO_x$ Verification

| 1 Hr $NO_x$ NAAQS Verification | | |
|---|---|---|
| **Emission Point** | **Distance to Maximum Concentration (m)** | **Maximum Concentration ( $\mu g/m^3$ )** |
| HTR1 | 33 | 35.19 |

| | |
|---|---|
| Background Concentration | 70 |

| | |
|---|---|
| **Total Concentration ( $\mu g/m^3$ ):** | **105.19** |

02/08/11
08:41:01

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Line Heater

SIMPLE TERRAIN INPUTS:

| | | |
|---|---|---|
| SOURCE TYPE | = | POINT |
| EMISSION RATE (G/S) | = | .606000E-02 |
| STACK HEIGHT (M) | = | 4.5700 |
| STK INSIDE DIAM (M) | = | .1800 |
| STK EXIT VELOCITY (M/S) | = | .5000 |
| STK GAS EXIT TEMP (K) | = | 811.0000 |
| AMBIENT AIR TEMP (K) | = | 293.0000 |
| RECEPTOR HEIGHT (M) | = | 2.0000 |
| URBAN/RURAL OPTION | = | RURAL |
| BUILDING HEIGHT (M) | = | .0000 |
| MIN HORIZ BLDG DIM (M) | = | .0000 |
| MAX HORIZ BLDG DIM (M) | = | .0000 |

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = .025 M**4/S**3; MOM. FLUX = .001 M**4/S**2.

*** FULL METEOROLOGY ***

**********
*** SCREEN AUTOMATED DISTANCES ***
**********

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | SIGMA Y (M) | SIGMA Z (M) | DWASH |
|---|---|---|---|---|---|---|---|---|---|
| 25. | 32.25 | 3 | 1.0 | 1.0 | 320.0 | 5.57 | 3.47 | 2.13 | NO |
| 100. | 25.53 | 4 | 1.0 | 1.0 | 320.0 | 5.57 | 8.21 | 4.67 | NO |
| MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 25. M: | | | | | | | | | |
| 33. | 35.19 | 3 | 1.0 | 1.0 | 320.0 | 5.57 | 4.54 | 2.76 | NO |

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

**********
*** SUMMARY OF SCREEN MODEL RESULTS ***
**********

| CALCULATION PROCEDURE | MAX CONC (UG/M**3) | DIST TO MAX (M) | TERRAIN HT (M) |
|---|---|---|---|
| SIMPLE TERRAIN | 35.19 | 33. | 0. |

**********
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**********

# Attachment # 11
# Representative Gas Analysis

**J-W Measurement**
**Shreveport, LA**
**(888) 226-9110**
**www.metrongas.com**

U

| | | | |
|---|---|---|---|
| **J-WMC Number:** | 113810560055181 | **Date Sampled:** | 12/21/2010 |
| **Customer:** | TREND GATHERING & TREATING | **Date Analyzed:** | 12/30/2010 |
| **Station ID:** | 707703 | **Effective Date:** | 1/1/2011 |
| **Station Name:** | STANDLEY 1 # 4 | **Pressure:** | 73.00 |
| **Area:** | FARRAR | **Temp:** | 65.0 |
| **County/Parish:** | LIMESTONE | **Cylinder ID:** | 2860 |
| **State:** | TX | **Sampled By:** | RW |

| COMPONENT | MOL % | GPM @ 14.65(PSIA) |
|---|---|---|
| Methane | 94.5589 | 0.0000 |
| Ethane | 1.3415 | 0.3567 |
| Propane | 0.2097 | 0.0574 |
| Iso-Butane | 0.0614 | 0.0200 |
| Normal-Butane | 0.0480 | 0.0150 |
| Iso-Pentane | 0.0320 | 0.0116 |
| Normal-Pentane | 0.0147 | 0.0053 |
| Hexanes++ | 0.1158 | 0.0500 |
| Nitrogen | 0.2444 | 0.0000 |
| Carbon-Dioxide | 3.3616 | 0.0000 |
| Oxygen | 0.0000 | 0.0000 |
| Hydrogen Sulfide 120 ppmv | 0.0120 | 0.0016 |
| **TOTAL** | **100.0000** | **0.5177** |

**Compressibility Factor (Z) @ 14.65 PSIA @ 60 DEG. F =** 1.0009

| **Real Gravity:** | 0.603 | **Ideal Gravity:** | 0.602 | |
|---|---|---|---|---|
| **BTU @ (PSIA)** | **@14.65** | **@14.696** | **@14.73** | **@15.025** |
| **GPM** | 0.518 | 0.519 | 0.521 | 0.531 |
| **Ideal BTU Dry** | 992.39 | 995.51 | 997.81 | 1017.80 |
| **Ideal BTU Sat** | 975.03 | 978.14 | 980.45 | 1000.43 |
| **Real BTU Dry** | 994.56 | 997.69 | 1000.01 | 1020.08 |
| **Real BTU Sat** | 977.43 | 980.57 | 982.88 | 1002.96 |

**COMMENTS:**

**METHOD: GPA 2261-00**

Note: Calibration, Standards, and testing procedures are archieved pursuant to GPA regulations.

This Analysis Report is not intended for submission to Lousiana Department of Environmental Quality.

Deborah Murphy
*J-W ANALYST*

# Attachment # 12
# Application Fee Payment

# Attachment # 3
# TCEQ Core Data Form

**Attachment # 4**
**Form PI-1S**