XTO ENERGY

March 12, 2013

XTO Energy, Inc.
Synthetic Minor Limit Request
Jicarilla Compressor Station
Rio Arriba County, New Mexico

USPS Certified Mail: 7010 0290 0000 3136 9388

Ms. Bonnie Braganza
Air Permits Section
U.S. EPA, Region 6
1445 Ross Avenue, Suite 1200
Dallas TX 75202-2733

Dear Ms. Bonnie Braganza:

XTO Energy, Inc. (XTO) respectfully submits a response to EPA Region 6 Air Permits Section in regards to the February 12, 2013 request for additional information on the Jicarilla Compressor Station located in Rio Arriba County, New Mexico. The following information is provided in this response:

- Attachment 1: A brief description and process flow diagrams of the operations in the XTO Jicarilla Apache field including the gathering system, well sites, tank batteries, and the compressor station.
- Attachment 2: A map showing the location of the field operations and production field facilities associated production unit(s) which gather and/or transport natural gas directly or indirectly to the Jicarilla Compressor Station. The production unit facilities include single well sites tank batteries, a dual-well site tank battery, and the Jicarilla Compressor Station.
- Attachment 3: A spreadsheet identifying the information requested in Enclosure A – Additional Information Request
    - Latitude and longitude coordinates for each field operation and production field component identified on the map
    - Confirmation of XTO's ownership and operation interest, and the Standard Industrial Classification (SIC) code
    - Emission summary associated with the operations of the equipment
- Attachment 4: Supporting documentation for emission calculations.

Should you have any questions or require additional information, please feel free to contact me at rykki_tepe@xtoenergy.com or 817-885-1249.

Sincerely,
XTO Energy, Inc.

Rykki Tepe

Rykki Tepe
Environmental Engineer

W:\EHS\Environmental\Air\New Mexico\San Juan - Rio Arriba\Correspondence\External\2012-10 Jicarilla NSR Application\20130311 - Response to Syn Minor Limit Request (Aggregation)\RT20130311 Synthetic Minor Limit Request.doc

ATTACHMENT 1

DESCRIPTION

Currently, the XTO Energy, Inc. (XTO) Jicarilla Apache field consists of 31 single well site tank batteries, 1 duel well site tank battery, 9 single production well sites, and the Jicarilla Compressor Station. These sites may consist of the following equipment:

- Single and Dual Well Site Tank Batteries: Pumping unit[1], condensate tank(s), pit tank(s),separator heater(s), tank heater(s), and associated emissions from truck-loading emissions
- Single Production Sites: Pumping unit[1], pit tank(s) and separator heater(s)
- Jicarilla Compressor Station: Refer to NSR Synthetic Minor Application for site equipment

I have attached four (4) process flow diagrams which illustrate the typical types of gas and liquids flow through the Jicarilla Apache production well locations.

- Jicarilla Apache #1: This is a representative process flow diagram of a typical well site with a pumping unit, production separator, and a pit tank. This well site location does not have condensate tanks.
- Jicarilla Apache #11: This is a representative process flow diagram of a typical well site with a pumping unit, pit tank, and a condensate tank.
- Jicarilla Apache #3: This is a representative process flow diagram of a typical well site with a production separator and a pit tank. This well site location does not have a pumping unit or condensate tanks.
- Jicarilla Apache #12G: This is a representative process flow diagram of a typical well site with a production separator, pit tank, and a condensate tank. This well site location does not have a pumping unit.

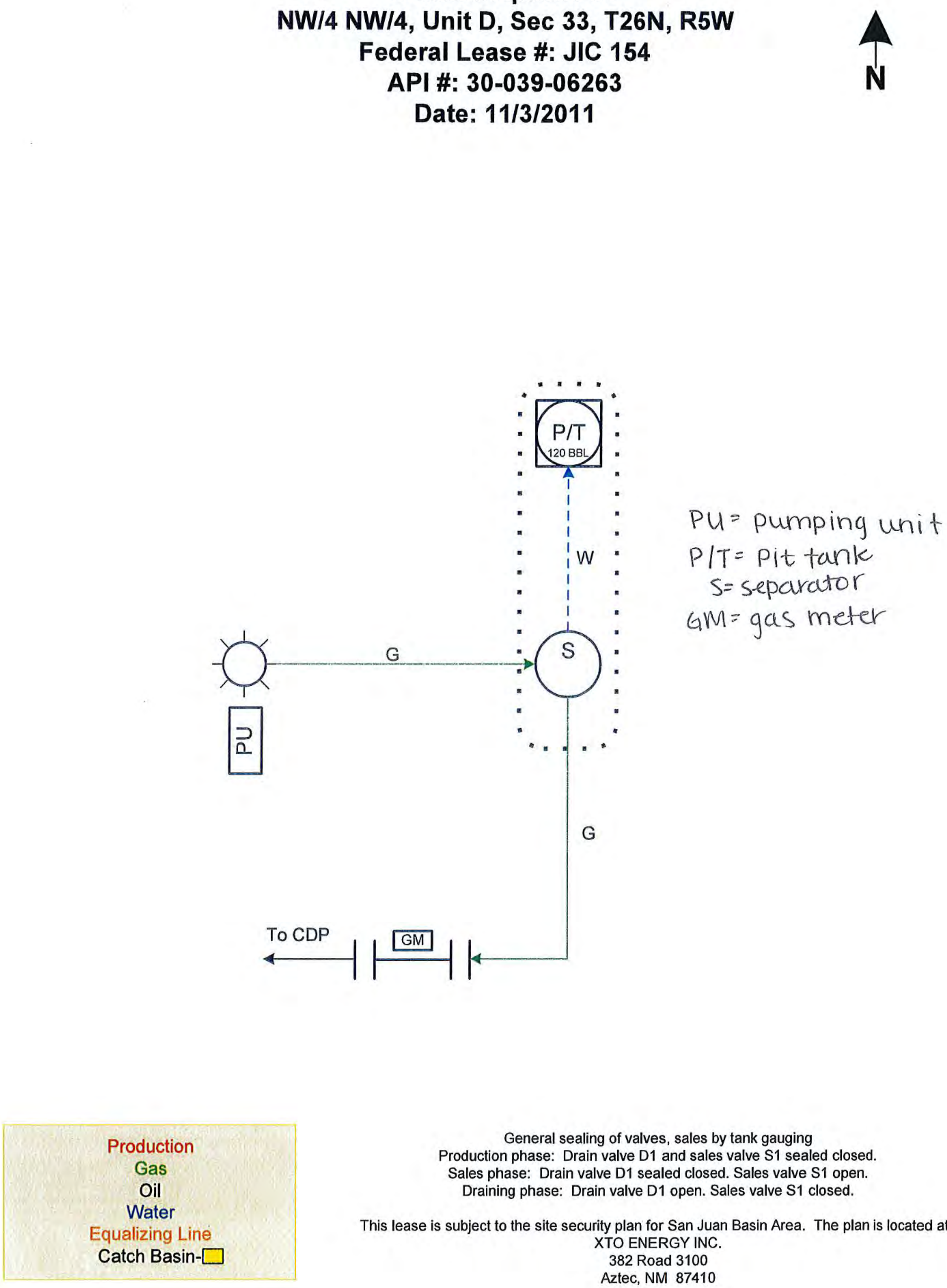
For the typical gas flow of a Jicarilla Apache well site tank battery, the wellhead stream enters the inlet production separator. In the production separator the gas is separated from the liquids. The gas from the inlet separators goes to the gas sales meter and onto the XTO owned and operated Jicarilla Compressor Station. The liquids from the production separator are sent to their respective storage tanks (pit tanks – water; condensate tank- condensate). From the tanks, the liquids are trucked offsite.

XTO owns and operates all the wells, production facilities, and pipeline which transport gas to the Jicarilla Compressor Station. After the gas is sent through the Jicarilla Compressor Station for compression and dehydration, the gas is sent to the William Field Services sales lines.

Attachment 3 references emission calculations associated with the facility. Each site was assumed to have 2.0 MMBTU/HR heater(s) and pit tank(s) emissions. If the site is equipped with condensate tanks, production volumes from 2011 and 2012 were used for estimates. Truck loading emissions from the pit tanks were considered insignificant. For the Jicarilla Compressor Station, emissions included are in the Synthetic Minor NSR Application.

NOTE 1: There are nine (9) pumping units in the Jicarilla Apache field, therefore not every well is equipped with a pumping unit.

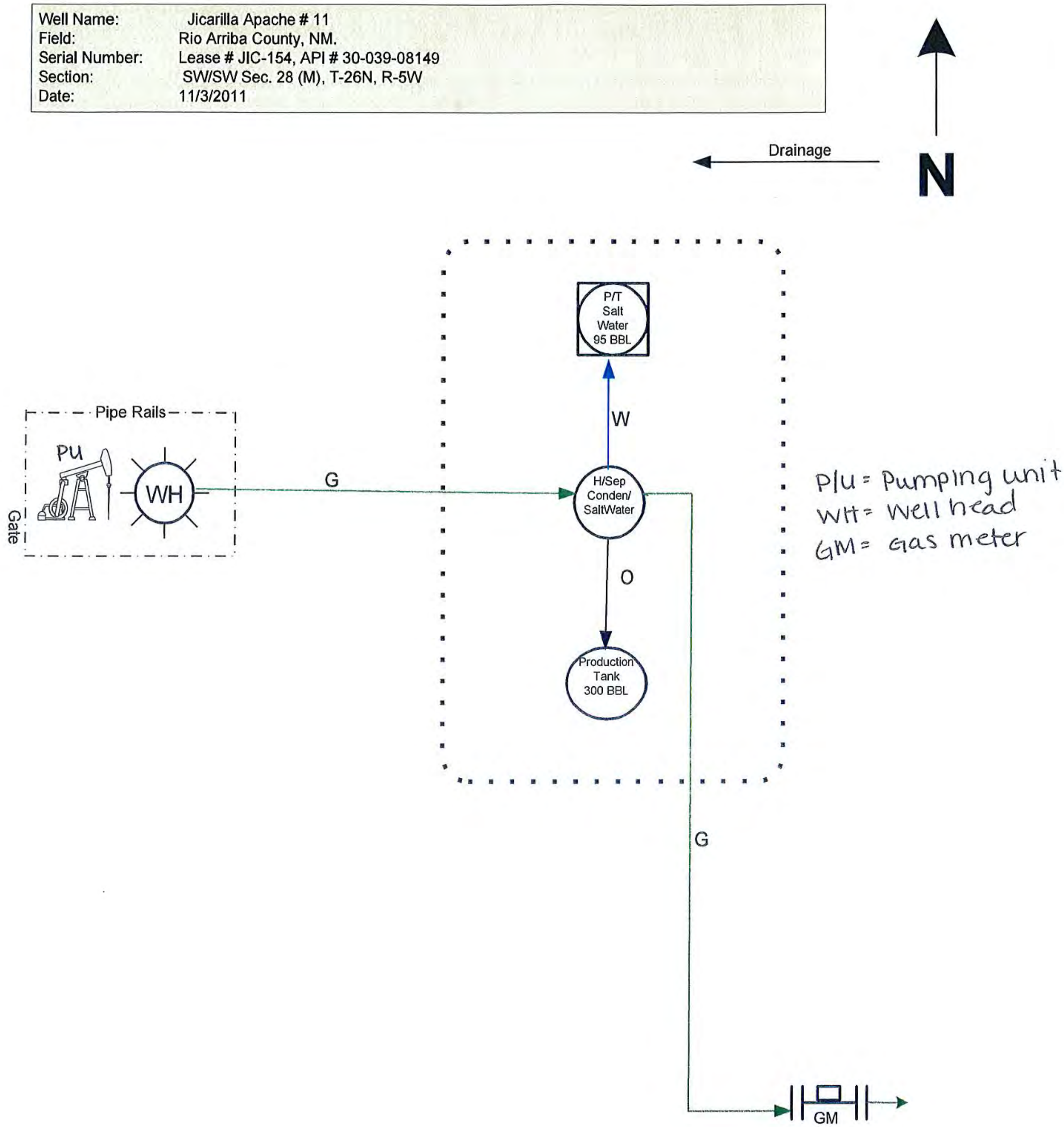
XTO ENERGY INC
Jicarilla Apache #1
NW/4 NW/4, Unit D, Sec 33, T26N, R5W
Federal Lease #: JIC 154
API #: 30-039-06263
Date: 11/3/2011



General sealing of valves, sales by tank gauging
Production phase: Drain valve D1 and sales valve S1 sealed closed.
Sales phase: Drain valve D1 sealed closed. Sales valve S1 open.
Draining phase: Drain valve D1 open. Sales valve S1 closed.

This lease is subject to the site security plan for San Juan Basin Area. The plan is located at:
XTO ENERGY INC.
382 Road 3100
Aztec, NM 87410

Well Name:	Jicarilla Apache # 11
Field:	Rio Arriba County, NM.
Serial Number:	Lease # JIC-154, API # 30-039-08149
Section:	SW/SW Sec. 28 (M), T-26N, R-5W
Date:	11/3/2011

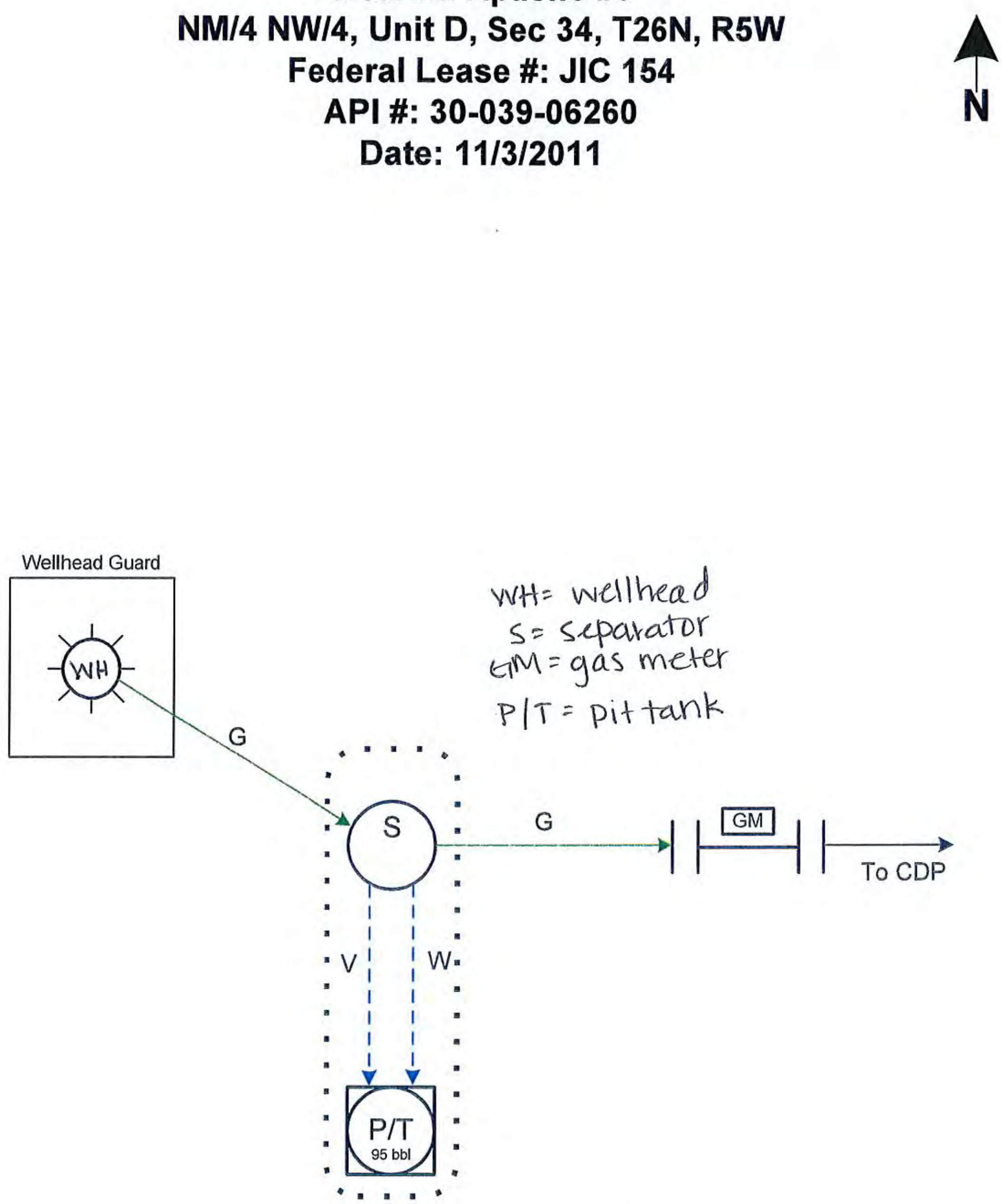


Production
Gas
Oil
Water
Equalizing Line
Catch Basin-

General sealing of valves, sales by tank gauging
Production phase: Drain valve D1 and sales valve S1 sealed closed.
Sales phase: Drain valve D1 sealed closed. Sales valve S1 open.
Draining phase: Drain valve D1 open. Sales valve S1 closed.

This lease is subject to the site security plan for San Juan Basin Area. The plan is located at:
XTO ENERGY INC.
382 Road 3100
Aztec, NM 87410

XTO ENERGY INC
Jicarilla Apache #3
NM/4 NW/4, Unit D, Sec 34, T26N, R5W
Federal Lease #: JIC 154
API #: 30-039-06260
Date: 11/3/2011

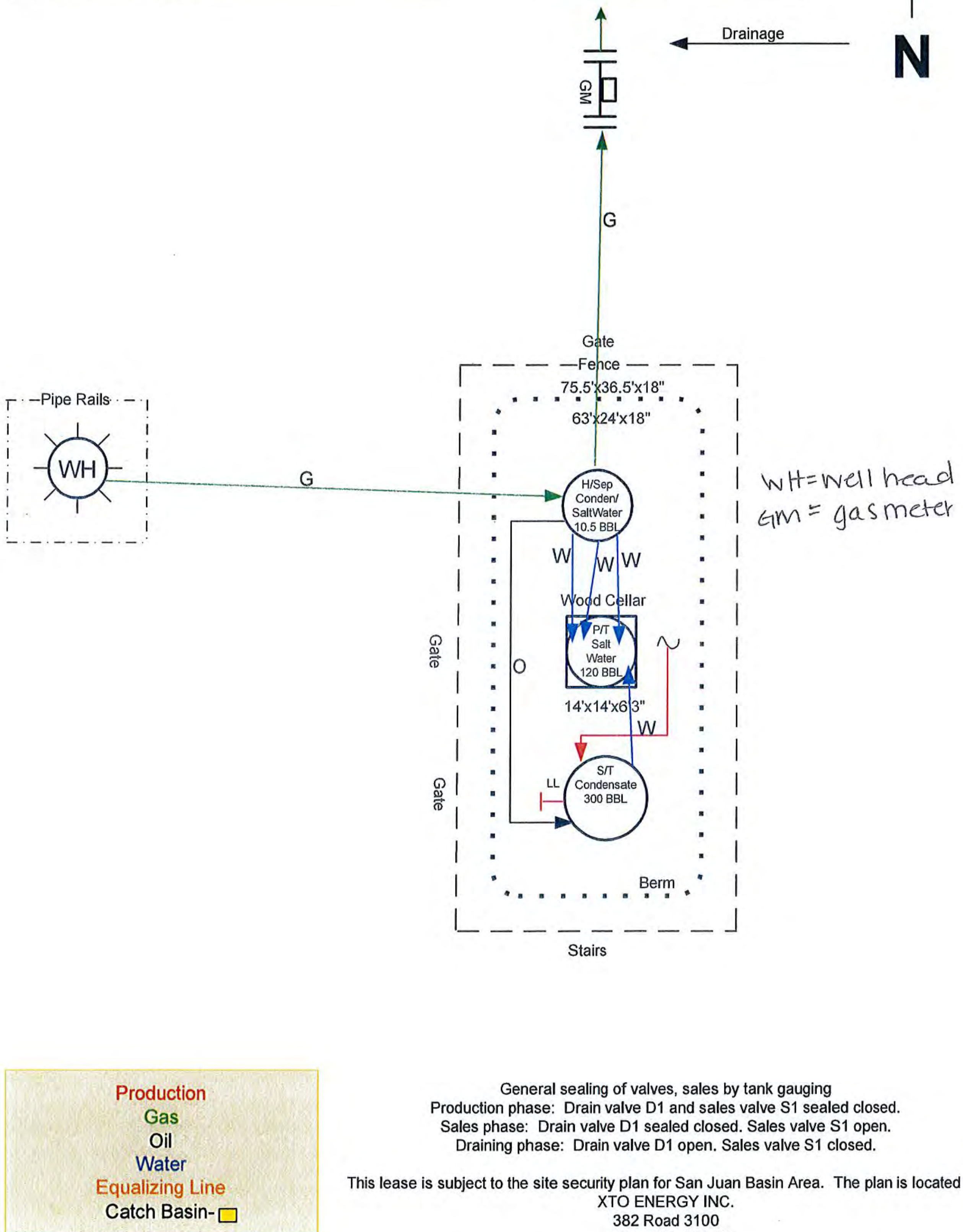


Production
Gas
Oil
Water
Equalizing Line
Catch Basin-

General sealing of valves, sales by tank gauging
Production phase: Drain valve D1 and sales valve S1 sealed closed.
Sales phase: Drain valve D1 sealed closed. Sales valve S1 open.
Draining phase: Drain valve D1 open. Sales valve S1 closed.

This lease is subject to the site security plan for San Juan Basin Area. The plan is located at:
XTO ENERGY INC.
382 Road 3100
Aztec, NM 87410

Well Name:	Jicarilla Apache # 12 G
Field:	Rio Arriba County, NM.
Serial Number:	Lease # JIC-154, API # 30-039-29654
Section:	SE/NE Sec. 33 (H), T-26N, R-5W
Date:	11/3/2011

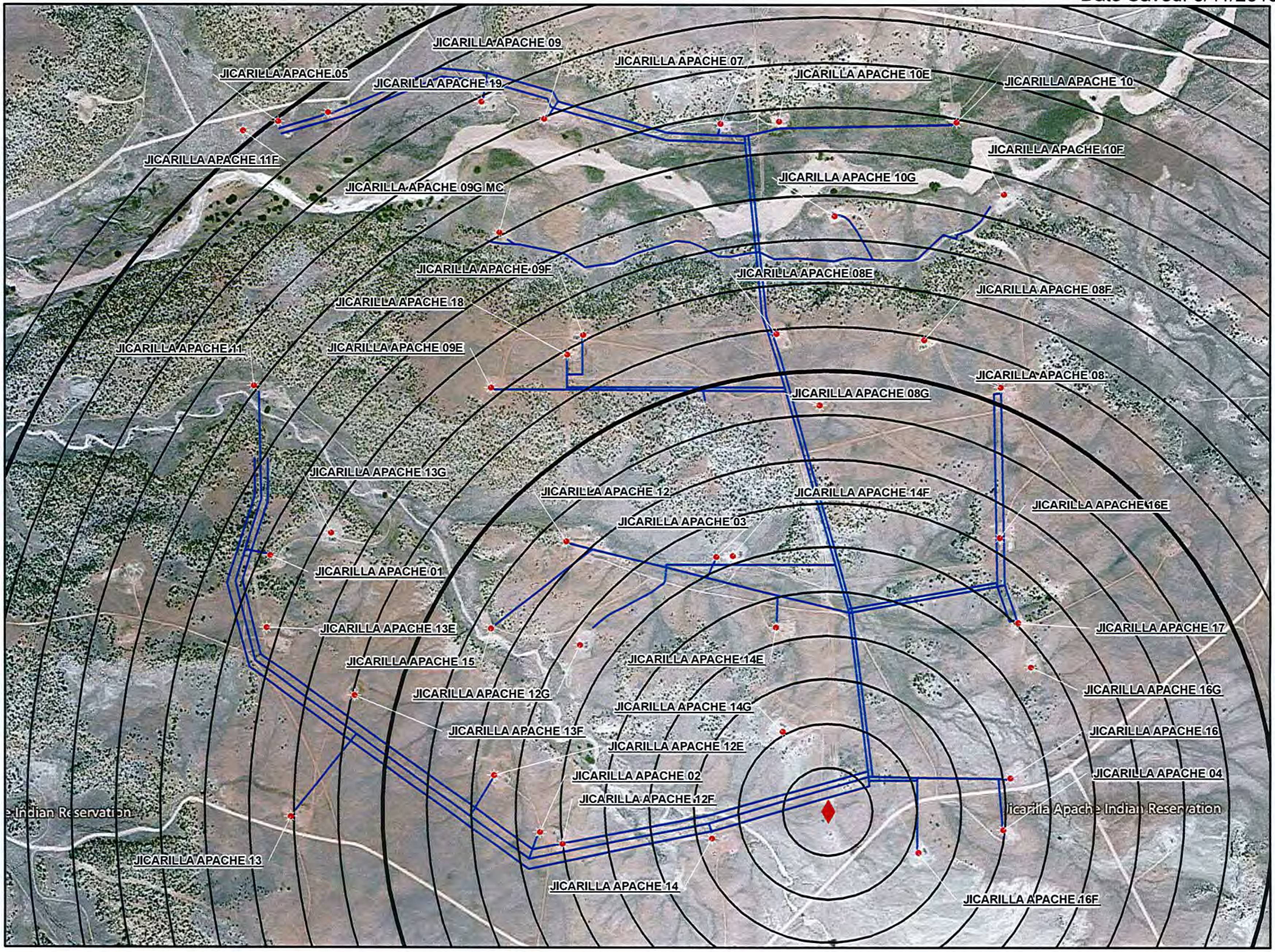


General sealing of valves, sales by tank gauging
Production phase: Drain valve D1 and sales valve S1 sealed closed.
Sales phase: Drain valve D1 sealed closed. Sales valve S1 open.
Draining phase: Drain valve D1 open. Sales valve S1 closed.

This lease is subject to the site security plan for San Juan Basin Area. The plan is located at:
XTO ENERGY INC.
382 Road 3100
Aztec, NM 87410

ATTACHMENT 2

Date Saved: 3/11/2013



Jicarilla Apache wells_Mar2013

Jicarilla Apache CDP

Jicarilla Apache CDP 1/10th mile buffers

1:20,000

0 0.125 0.25 0.5 0.75 1 Miles

N

Coordinate System: NAD 1983 StatePlane New Mexico West FIPS 3003 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 2,723,091.6667
False Northing: 0.0000
Central Meridian: -107.8333
Scale Factor: 0.9999
Latitude Of Origin: 31.0000
Units: Foot US

ATTACHMENT 3

ATTACHMENT 4

XTO ENERGY, INC.
JICARILLA PRODUCTION LOCATIONS
ARROW PUMPING ENGINE CALCULATIONS

					MANUFACTURER'S DATA G/BHP-HR			AP-42 FACTORS LB/MMBTU		LB/HR					TPY				
ID	DESCRIPTION	HRS	HP	MMBTU/HP-HR	NOx	CO	VOC	SO_2	PM_{10}	NOx	CO	VOC	SO_2	PM_{10}	NOx	CO	VOC	SO_2	PM_{10}
PU_A	ARROW C-66	8760	16	0.009	14.54	4.03	0.62	0.000588	0.009910	0.51	0.14	0.02	0.00	0.00	2.25	0.62	0.10	0.00	0.01
PU_B	ARROW C-96	8760	22	0.009	11.87	5.05	0.64	0.000588	0.009910	0.58	0.24	0.03	0.00	0.00	2.52	1.07	0.14	0.00	0.01

XTO ENERGY, INC.
JICARILLA PRODUCTION LOCATIONS
KOHLER AND AJAX PUMPING UNIT CALCULATIONS

					AP-42 FACTORS LB/MMBTU					LB/HR					TPY				
ID	DESCRIPTION	HRS	HP	MMBTU/HP-HR	NOx	CO	VOC	SO_2	PM_{10}	NOx	CO	VOC	SO_2	PM_{10}	NOx	CO	VOC	SO_2	PM_{10}
PU_C	KOHLER CH740	8760	27	0.0074	2.27	3.72	0.03	0.000588	0.009910	0.45	0.74	0.01	0.00	0.00	1.99	3.26	0.03	0.00	0.01
PU_D	KOHLER 18S	8760	18	0.0074	2.27	3.72	0.03	0.000588	0.009910	0.30	0.50	0.00	0.00	0.00	1.32	2.17	0.02	0.00	0.01
PU_E	AJAX	8760	35	0.0074	2.27	3.72	0.03	0.000588	0.009910	0.59	0.96	0.01	0.00	0.00	2.58	4.22	0.03	0.00	0.01

XTO ENERGY, INC.
JICARILLA PRODUCTION LOCATIONS
HEATER CALCULATIONS (TANKS AND SEPARATORS)

				AP-42 Factors LB/MMSCF					LB/HR					TPY				
ID	Fuel Gas BTU/SCF	Hours	MMBTU/Hr	NOx	CO	VOC	SO_2	PM/PM_{10}	NOx	CO	VOC	SO_2	PM/PM_{10}	NOx	CO	VOC	SO_2	PM/PM_{10}
HTR	1000	8760	2	100	84	5.5	0.6	7.6	0.200	0.168	0.011	0.001	0.015	0.88	0.74	0.05	0.01	0.07

XTO ENERGY, INC.
JICARILLA PRODUCTION LOCATIONS
TRUCKLOADING

TRUCKLOADING EMISSIONS

ID	Method of Calculation	Emissions Controlled (Yes/No)	Control Type (Flare, VRU, etc)
TL	AP-42	No	None

Total Uncontrolled Truck Loading Emissions			
Uncontrolled VOC Emissions @ 0.30 BOPD		Uncontrolled VOC Emissions @ 0.50 BOPD	
18.465	lb/hr	30.774	lb/hr
0.185	tpy	0.031	tpy

Total Uncontrolled Truck Loading Emissions			
Uncontrolled VOC Emissions @ 0.80 BOPD		Uncontrolled VOC Emissions @ 1.0 BOPD	
49.239	lb/hr	61.548	lb/hr
0.049	tpy	0.062	tpy

Total Uncontrolled Truck Loading Emissions			
Uncontrolled VOC Emissions @ 1.3 BOPD		Uncontrolled VOC Emissions @ 1.5 BOPD	
80.013	lb/hr	92.322	lb/hr
0.080	tpy	0.090	tpy

Total Uncontrolled Truck Loading Emissions			
Uncontrolled VOC Emissions @ 1.8 BOPD		Uncontrolled VOC Emissions@ 2.0 BOPD	
110.787	lb/hr	123.097	lb/hr
0.111	tpy	0.123	tpy

***Truckloading Emissions are based on AP-42 Section 5.2 [LL= 12.46 * SPM/T * (1-EFF/100)], where S=0.6, P=11.6 psia, T=540 deg, M= 50, EFF=0. Number of Loads per year is estimated to be 2.**

XTO ENERGY, INC.
JICARILLA PRODUCTION LOCATIONS
CONDENSATE TANKS

EMISSION CALCULATION FOR SITES WITH ≤1.0 BOPD

ID	Method of Calculation	Emissions Controlled	Control Type
TK	E&P Tanks	No	None

Total Uncontrolled Emissions - Condensate Tank Emissions - $TK_{0.30BOPD}$			
Uncontrolled VOC Emissions @ 0.30 BOPD		Uncontrolled HAP Emissions @ 0.30 BOPD	
0.149	lb/hr	0.005	lb/hr
0.652	tpy	0.020	tpy

Total Uncontrolled Emissions - Condensate Tank Emissions - $TK_{0.50BOPD}$			
Uncontrolled VOC Emissions @ 0.50 BOPD		Uncontrolled HAP Emissions @ 0.50 BOPD	
0.298	lb/hr	0.007	lb/hr
1.304	tpy	0.030	tpy

Total Uncontrolled Emissions - Condensate Tank Emissions - $TK_{0.80BOPD}$			
Uncontrolled VOC Emissions @ 0.80 BOPD		Uncontrolled HAP Emissions @ 0.80 BOPD	
0.447	lb/hr	0.011	lb/hr
1.956	tpy	0.050	tpy

Total Uncontrolled Emissions - Condensate Tank Emissions - $TK_{1.0BOPD}$			
Uncontrolled VOC Emissions @ 1.0 BOPD		Uncontrolled HAP Emissions@ 1.0 BOPD	
0.595	lb/hr	0.014	lb/hr
2.608	tpy	0.060	tpy

*TANK EMISSIONS ARE DEPENDENT ON PRODUCTION RATE NOT TANK CAPACITY.

XTO ENERGY, INC.
JICARILLA PRODUCTION LOCATIONS
CONDENSATE AND PIT TANKS

EMISSION CALCULATION FOR SITES WITH ≤ 2.0 BOPD

ID	Method of Calculation	Emissions Controlled (Yes/No)	Control Type (Flare, VRU, etc)
TK	E&P Tanks	No	None

Total Uncontrolled Emissions - Condensate Tank Emissions - $TK_{1.30BOPD}$			
Uncontrolled VOC Emissions @ 1.30 BOPD		Uncontrolled HAP Emissions @ 1.30 BOPD	
0.745	lb/hr	0.018	lb/hr
3.261	tpy	0.080	tpy

Total Uncontrolled Emissions - Condensate Tank Emissions - $TK_{1.50BOPD}$			
Uncontrolled VOC Emissions @ 1.50 BOPD		Uncontrolled HAP Emissions@ 1.50 BOPD	
0.893	lb/hr	0.023	lb/hr
3.913	tpy	0.100	tpy

Total Uncontrolled Emissions - Condensate Tank Emissions - $TK_{1.80BOPD}$			
Uncontrolled VOC Emissions @ 1.80BOPD		Uncontrolled HAP Emissions @ 1.80 BOPD	
1.042	lb/hr	0.025	lb/hr
4.565	tpy	0.110	tpy

Total Uncontrolled Emissions - Condensate Tank Emissions - $TK_{2.0BOPD}$			
Uncontrolled VOC Emissions @ 2.0 BOPD		Uncontrolled HAP Emissions@ 2.0 BOPD	
1.191	lb/hr	0.030	lb/hr
5.217	tpy	1.296	tpy

Total Uncontrolled Emissions - Pit Tank Emissions - TK_{PIT}			
Uncontrolled VOC Emissions		Uncontrolled HAP Emissions	
0.001	lb/hr	N/A	lb/hr
0.003	tpy	N/A	tpy

*TANK EMISSIONS ARE DEPENDENT ON PRODUCTION RATE NOT TANK CAPACITY.

SPL, Inc.
2440 Chambers Street
Suite A
Venus, TX 76084
817-539-2168 (O)
817-539-2170 (F)

2011120051-001A

Division	Barnett Gathering	**For:**	Clare Hoang Barnett Gathering 810 Houston Street Fort Worth, Texas 76102
Well:	Jicarilla Compressor Inlet		
County	XTO Energy - Jicarilla		
Sample of:	Liquid		
Conditions:	19 psi @ 50 °F		
Sampled by:	J.Petree	**Report Date:**	12/17/2011
Sample date:	12/01/2011	**API #:**	
Remarks:	Cylinder No.: 01220	**Tag #:**	Sample time 11:28AM, [

Analysis: (*GPA 2103M*)	**Mol. %**	**MW**	**Wt. %**	**Sp. Gravity**	**L.V. %**
Nitrogen	0.063	28.013	0.019	0.8094	0.017
Methane	0.871	16.043	0.152	0.3000	0.361
Carbon Dioxide	0.019	44.010	0.009	0.8180	0.008
Ethane	0.984	30.070	0.323	0.3562	0.643
Propane	2.410	44.097	1.160	0.5070	1.623
Iso-butane	13.169	58.123	8.353	0.5629	10.535
N-butane	3.899	58.123	2.473	0.5840	3.006
Iso-pentane	3.579	72.150	2.818	0.6244	3.203
N-pentane	4.133	72.150	3.254	0.6311	3.661
i-Hexanes	2.176	86.177	1.992	0.6795	2.088
n-Hexane	4.561	85.438	4.289	0.6640	4.584
2,2,4 trimethylpentane	0.106	114.231	0.132	0.6967	0.135
Methylcyclopentane	2.638	84.161	3.050	0.7535	2.638
Benzene	0.862	78.114	0.833	0.8846	0.589
Heptanes	19.419	94.300	19.680	0.7231	19.903
Methylcyclohexane	9.401	98.188	9.401	0.7740	8.623
Toluene	4.469	92.141	6.405	0.8719	3.659
Octanes	13.667	104.865	15.709	0.7603	17.144
E-benzene	0.356	106.167	0.412	0.8718	0.336
M-,O-,P-xylene	2.622	106.167	3.038	0.8731	2.484
Nonanes	6.166	116.971	8.222	0.7859	7.725
Decanes Plus	4.430	171.185	8.276	0.8353	7.035
	---------------		---------------		---------------
	100.000		100.000		100.000

Calculated Values	**Total Sample**	**Decanes Plus**
Specific Gravity at 60 °F	0.7100	0.8353
Api Gravity at 60 °F	67.810	37.910
Molecular Weight	91.634	171.185
Pounds per Gallon (in Vacuum)	5.919	6.964
Pounds per Gallon (in Air)	5.913	6.956
Cu. Ft. Vapor per Gallon @ 14.65 psia	24.436	15.486

Dandle D. Cuple Jr.

CERTIFICATE OF ANALYSIS

Number : 2011120051-002A

SPL, Inc,
DFW Hydrocarbon Unit
2440 Chambers St. Suite A
Venus, TX 76084
817-539-2168 (O)
817-539-2179 (F)

Barnett Gathering
Clare Hoang
810 Houston Street

Fort Worth, Texas 76102

Station:	Jicarilla Compressor Inlet
Field:	XTO Energy - Jicarilla
Sample Point:	
Cylinder # :	Tin Can

Report Date:	12/17/11
Sample Of:	Spot Liquid
Sample Date:	12/01/2011
Sample Pressure:	19
Sample Temperature:	87.2

Comments:

Analytical Data

Test	Method	Results	Units	Lab Tech.	Date Analyzed
Reid Vapor Pressure @ 100 °F	ASTM-D-323	11.60	psi	AO	12/9/2011
API Gravity @ 60 °F	ASTM-D-5002	64.02		AO	12/9/2011

```
******************************************************************************************
*     Project Setup Information                                                          *
******************************************************************************************
Project File              : C:\Users\RBELT\Desktop\Jicarilla Apache (0.25BOPD).ept
Flowsheet Selection       : Oil Tank with Separator
Calculation Method        : RVP Distillation
Control Efficiency        : 100.0%
Known Separator Stream    : Low Pressure Oil
Entering Air Composition  : No

Filed Name                : Jicarilla Apache - Rio Arriba
Date                      : 2013.03.08

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

Separator Pressure        : 19.00[psig]
Separator Temperature     : 50.00[F]
Ambient Pressure          : 14.70[psia]
Ambient Temperature       : 70.00[F]
C10+ SG                   : 0.8353
C10+ MW                   : 171.185

-- Low Pressure Oil ----------------------------------------------------------------------
   No.     Component              mol %
   1       H2S                    0.0000
   2       O2                     0.0000
   3       CO2                    0.0189
   4       N2                     0.0628
   5       C1                     0.8773
   6       C2                     0.9945
   7       C3                     2.4352
   8       i-C4                  13.3056
   9       n-C4                   3.9393
   10      i-C5                   3.6159
   11      n-C5                   4.1754
   12      C6                     5.4177
   13      C7                    26.8695
   14      C8                    12.7317
   15      C9                     5.9338
   16      C10+                   4.4758
   17      Benzene                0.9873
   18      Toluene                6.4363
   19      E-Benzene              0.3593
   20      Xylenes                2.6491
   21      n-C6                   4.6075
   22      224Trimethylp          0.1070

-- Sales Oil -----------------------------------------------------------------------------
Production Rate           : 0.3[bbl/day]
Days of Annual Operation  : 365 [days/year]
API Gravity               : 64.02
Reid Vapor Pressure       : 11.60[psia]

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

-- Emission Summary ----------------------------------------------------------------------
Item                 Uncontrolled   Uncontrolled
                     [ton/yr]       [lb/hr]
Total HAPs           0.020          0.005
Total HC             0.709          0.162
```

VOCs, C2+	0.691	0.158
VOCs, C3+	0.652	0.149

Uncontrolled Recovery Info.

Vapor	28.6300 x1E-3	[MSCFD]
HC Vapor	28.4100 x1E-3	[MSCFD]
GOR	114.52	[SCF/bbl]

-- Emission Composition --

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]
1	H2S	0.000	0.000
2	O2	0.000	0.000
3	CO2	0.001	0.000
4	N2	0.002	0.000
5	C1	0.018	0.004
6	C2	0.039	0.009
7	C3	0.113	0.026
8	i-C4	0.348	0.079
9	n-C4	0.070	0.016
10	i-C5	0.031	0.007
11	n-C5	0.026	0.006
12	C6	0.015	0.003
13	C7	0.028	0.006
14	C8	0.005	0.001
15	C9	0.001	0.000
16	C10+	0.000	0.000
17	Benzene	0.002	0.000
18	Toluene	0.004	0.001
19	E-Benzene	0.000	0.000
20	Xylenes	0.001	0.000
21	n-C6	0.010	0.002
22	224Trimethylp	0.000	0.000
	Total	0.714	0.163

-- 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0189	0.0055	0.0000	0.3388	0.0804	0.1790
4	N2	28.01	0.0628	0.0023	0.0000	1.5026	0.0344	0.5949
5	C1	16.04	0.8773	0.1112	0.0000	19.1215	1.6356	8.3109
6	C2	30.07	0.9945	0.4784	0.0025	13.2855	7.0014	9.4004
7	C3	44.10	2.4352	1.9356	0.5287	14.3327	21.2175	18.5892
8	i-C4	58.12	13.3056	12.4034	9.7479	34.7920	48.7980	43.4511
9	n-C4	58.12	3.9393	3.7978	3.3706	7.3085	9.6528	8.7578
10	i-C5	72.15	3.6159	3.6546	3.6800	2.6934	3.3072	3.0729
11	n-C5	72.15	4.1754	4.2550	4.3614	2.2800	2.7969	2.5996
12	C6	86.16	5.4177	5.5990	5.9085	1.1005	1.3572	1.2592
13	C7	100.20	26.8695	27.9226	29.7945	1.7902	2.2679	2.0855
14	C8	114.23	12.7317	13.2553	14.1972	0.2631	0.3450	0.3137
15	C9	128.28	5.9338	6.1812	6.6279	0.0416	0.0599	0.0529
16	C10+	171.19	4.4758	4.6637	5.0039	0.0010	0.0015	0.0013
17	Benzene	78.11	0.9873	1.0230	1.0850	0.1379	0.1721	0.1590
18	Toluene	92.13	6.4363	6.6962	7.1615	0.2469	0.3190	0.2915
19	E-Benzene	106.17	0.3593	0.3742	0.4011	0.0045	0.0059	0.0054
20	Xylenes	106.17	2.6491	2.7591	2.9577	0.0284	0.0382	0.0345
21	n-C6	86.18	4.6075	4.7705	5.0528	0.7254	0.9019	0.8345
22	224Trimethylp	114.24	0.1070	0.1113	0.1188	0.0057	0.0072	0.0067
	MW		90.87	92.75	95.49	46.02	55.21	51.70
	Stream Mole Ratio		1.0000	0.9597	0.8944	0.0403	0.0653	0.1056
	Heating Value	[BTU/SCF]				2576.17	3096.16	2897.65
	Gas Gravity	[Gas/Air]				1.59	1.91	1.78
	Bubble Pt. @ 100F	[psia]	55.90	23.04	12.43			
	RVP @ 100F	[psia]	25.55	17.78	11.61			
	Spec. Gravity @ 100F		0.672	0.676	0.681			

```
******************************************************************************************
*     Project Setup Information                                                          *
******************************************************************************************
Project File                : C:\Users\RBELT\Desktop\Jicarilla Apache (0.50BOPD).ept
Flowsheet Selection         : Oil Tank with Separator
Calculation Method          : RVP Distillation
Control Efficiency          : 100.0%
Known Separator Stream      : Low Pressure Oil
Entering Air Composition    : No

Filed Name                  : Jicarilla Apache - Rio Arriba
Date                        : 2013.03.08

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

Separator Pressure          : 19.00[psig]
Separator Temperature       : 50.00[F]
Ambient Pressure            : 14.70[psia]
Ambient Temperature         : 70.00[F]
C10+ SG                     : 0.8353
C10+ MW                     : 171.185

-- Low Pressure Oil ----------------------------------------------------------------------
   No.    Component            mol %
   1      H2S                  0.0000
   2      O2                   0.0000
   3      CO2                  0.0189
   4      N2                   0.0628
   5      C1                   0.8773
   6      C2                   0.9945
   7      C3                   2.4352
   8      i-C4                13.3056
   9      n-C4                 3.9393
   10     i-C5                 3.6159
   11     n-C5                 4.1754
   12     C6                   5.4177
   13     C7                  26.8695
   14     C8                  12.7317
   15     C9                   5.9338
   16     C10+                 4.4758
   17     Benzene              0.9873
   18     Toluene              6.4363
   19     E-Benzene            0.3593
   20     Xylenes              2.6491
   21     n-C6                 4.6075
   22     224Trimethylp        0.1070

-- Sales Oil -----------------------------------------------------------------------------
Production Rate             : 0.5[bbl/day]
Days of Annual Operation    : 365 [days/year]
API Gravity                 : 64.02
Reid Vapor Pressure         : 11.60[psia]

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

-- Emission Summary ----------------------------------------------------------------------
Item                 Uncontrolled   Uncontrolled
                     [ton/yr]       [lb/hr]
Total HAPs           0.030          0.007
Total HC             1.419          0.324
```

VOCs, C2+	1.382	0.316
VOCs, C3+	1.304	0.298

Uncontrolled Recovery Info.

Vapor	57.2700 x1E-3	[MSCFD]
HC Vapor	56.8300 x1E-3	[MSCFD]
GOR	114.54	[SCF/bbl]

-- Emission Composition --

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]
1	H2S	0.000	0.000
2	O2	0.000	0.000
3	CO2	0.002	0.000
4	N2	0.005	0.001
5	C1	0.037	0.008
6	C2	0.078	0.018
7	C3	0.226	0.052
8	i-C4	0.696	0.159
9	n-C4	0.140	0.032
10	i-C5	0.061	0.014
11	n-C5	0.052	0.012
12	C6	0.029	0.007
13	C7	0.056	0.013
14	C8	0.010	0.002
15	C9	0.002	0.000
16	C10+	0.000	0.000
17	Benzene	0.003	0.001
18	Toluene	0.007	0.002
19	E-Benzene	0.000	0.000
20	Xylenes	0.001	0.000
21	n-C6	0.020	0.005
22	224Trimethylp	0.000	0.000
	Total	1.425	0.325

-- 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0189	0.0055	0.0000	0.3388	0.0804	0.1790
4	N2	28.01	0.0628	0.0023	0.0000	1.5026	0.0344	0.5949
5	C1	16.04	0.8773	0.1112	0.0000	19.1215	1.6356	8.3109
6	C2	30.07	0.9945	0.4784	0.0025	13.2855	7.0014	9.4004
7	C3	44.10	2.4352	1.9356	0.5287	14.3327	21.2175	18.5892
8	i-C4	58.12	13.3056	12.4034	9.7479	34.7920	48.7980	43.4511
9	n-C4	58.12	3.9393	3.7978	3.3706	7.3085	9.6528	8.7578
10	i-C5	72.15	3.6159	3.6546	3.6800	2.6934	3.3072	3.0729
11	n-C5	72.15	4.1754	4.2550	4.3614	2.2800	2.7969	2.5996
12	C6	86.16	5.4177	5.5990	5.9085	1.1005	1.3572	1.2592
13	C7	100.20	26.8695	27.9226	29.7945	1.7902	2.2679	2.0855
14	C8	114.23	12.7317	13.2553	14.1972	0.2631	0.3450	0.3137
15	C9	128.28	5.9338	6.1812	6.6279	0.0416	0.0599	0.0529
16	C10+	171.19	4.4758	4.6637	5.0039	0.0010	0.0015	0.0013
17	Benzene	78.11	0.9873	1.0230	1.0850	0.1379	0.1721	0.1590
18	Toluene	92.13	6.4363	6.6962	7.1615	0.2469	0.3190	0.2915
19	E-Benzene	106.17	0.3593	0.3742	0.4011	0.0045	0.0059	0.0054
20	Xylenes	106.17	2.6491	2.7591	2.9577	0.0284	0.0382	0.0345
21	n-C6	86.18	4.6075	4.7705	5.0528	0.7254	0.9019	0.8345
22	224Trimethylp	114.24	0.1070	0.1113	0.1188	0.0057	0.0072	0.0067
	MW		90.87	92.75	95.49	46.02	55.21	51.70
	Stream Mole Ratio		1.0000	0.9597	0.8944	0.0403	0.0653	0.1056
	Heating Value	[BTU/SCF]				2576.17	3096.16	2897.65
	Gas Gravity	[Gas/Air]				1.59	1.91	1.78
	Bubble Pt. @ 100F	[psia]	55.90	23.04	12.43			
	RVP @ 100F	[psia]	25.55	17.78	11.61			
	Spec. Gravity @ 100F		0.672	0.676	0.681			

```
******************************************************************************************
*     Project Setup Information                                                          *
******************************************************************************************
Project File               : C:\Users\RBELT\Desktop\Jicarilla Apache (0.75BOPD).ept
Flowsheet Selection        : Oil Tank with Separator
Calculation Method         : RVP Distillation
Control Efficiency         : 100.0%
Known Separator Stream     : Low Pressure Oil
Entering Air Composition   : No

Filed Name                 : Jicarilla Apache - Rio Arriba
Date                       : 2013.03.08


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

Separator Pressure         : 19.00[psig]
Separator Temperature      : 50.00[F]
Ambient Pressure           : 14.70[psia]
Ambient Temperature        : 70.00[F]
C10+ SG                    : 0.8353
C10+ MW                    : 171.185

-- Low Pressure Oil ----------------------------------------------------------------------
   No.      Component              mol %
   1        H2S                    0.0000
   2        O2                     0.0000
   3        CO2                    0.0189
   4        N2                     0.0628
   5        C1                     0.8773
   6        C2                     0.9945
   7        C3                     2.4352
   8        i-C4                  13.3056
   9        n-C4                   3.9393
   10       i-C5                   3.6159
   11       n-C5                   4.1754
   12       C6                     5.4177
   13       C7                    26.8695
   14       C8                    12.7317
   15       C9                     5.9338
   16       C10+                   4.4758
   17       Benzene                0.9873
   18       Toluene                6.4363
   19       E-Benzene              0.3593
   20       Xylenes                2.6491
   21       n-C6                   4.6075
   22       224Trimethylp          0.1070

-- Sales Oil -----------------------------------------------------------------------------
Production Rate            : 0.8[bbl/day]
Days of Annual Operation   : 365 [days/year]
API Gravity                : 64.02
Reid Vapor Pressure        : 11.60[psia]


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

-- Emission Summary ----------------------------------------------------------------------
Item                 Uncontrolled   Uncontrolled
                     [ton/yr]       [lb/hr]
Total HAPs           0.050          0.011
Total HC             2.128          0.486
```

VOCs, C2+	2.073	0.473
VOCs, C3+	1.956	0.447

Uncontrolled Recovery Info.

Vapor	85.9000 x1E-3	[MSCFD]
HC Vapor	85.2400 x1E-3	[MSCFD]
GOR	114.53	[SCF/bbl]

-- Emission Composition ---

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]
1	H2S	0.000	0.000
2	O2	0.000	0.000
3	CO2	0.003	0.001
4	N2	0.007	0.002
5	C1	0.055	0.013
6	C2	0.117	0.027
7	C3	0.339	0.077
8	i-C4	1.045	0.239
9	n-C4	0.211	0.048
10	i-C5	0.092	0.021
11	n-C5	0.078	0.018
12	C6	0.044	0.010
13	C7	0.084	0.019
14	C8	0.014	0.003
15	C9	0.003	0.001
16	C10+	0.000	0.000
17	Benzene	0.005	0.001
18	Toluene	0.011	0.003
19	E-Benzene	0.000	0.000
20	Xylenes	0.002	0.000
21	n-C6	0.030	0.007
22	224Trimethylp	0.000	0.000
	Total	2.140	0.489

-- 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0189	0.0055	0.0000	0.3388	0.0804	0.1790
4	N2	28.01	0.0628	0.0023	0.0000	1.5026	0.0344	0.5949
5	C1	16.04	0.8773	0.1112	0.0000	19.1215	1.6356	8.3109
6	C2	30.07	0.9945	0.4784	0.0025	13.2855	7.0014	9.4004
7	C3	44.10	2.4352	1.9356	0.5287	14.3327	21.2175	18.5892
8	i-C4	58.12	13.3056	12.4034	9.7479	34.7920	48.7980	43.4511
9	n-C4	58.12	3.9393	3.7978	3.3706	7.3085	9.6528	8.7578
10	i-C5	72.15	3.6159	3.6546	3.6800	2.6934	3.3072	3.0729
11	n-C5	72.15	4.1754	4.2550	4.3614	2.2800	2.7969	2.5996
12	C6	86.16	5.4177	5.5990	5.9085	1.1005	1.3572	1.2592
13	C7	100.20	26.8695	27.9226	29.7945	1.7902	2.2679	2.0855
14	C8	114.23	12.7317	13.2553	14.1972	0.2631	0.3450	0.3137
15	C9	128.28	5.9338	6.1812	6.6279	0.0416	0.0599	0.0529
16	C10+	171.19	4.4758	4.6637	5.0039	0.0010	0.0015	0.0013
17	Benzene	78.11	0.9873	1.0230	1.0850	0.1379	0.1721	0.1590
18	Toluene	92.13	6.4363	6.6962	7.1615	0.2469	0.3190	0.2915
19	E-Benzene	106.17	0.3593	0.3742	0.4011	0.0045	0.0059	0.0054
20	Xylenes	106.17	2.6491	2.7591	2.9577	0.0284	0.0382	0.0345
21	n-C6	86.18	4.6075	4.7705	5.0528	0.7254	0.9019	0.8345
22	224Trimethylp	114.24	0.1070	0.1113	0.1188	0.0057	0.0072	0.0067
	MW		90.87	92.75	95.49	46.02	55.21	51.70
	Stream Mole Ratio		1.0000	0.9597	0.8944	0.0403	0.0653	0.1056
	Heating Value	[BTU/SCF]				2576.17	3096.16	2897.65
	Gas Gravity	[Gas/Air]				1.59	1.91	1.78
	Bubble Pt. @ 100F	[psia]	55.90	23.04	12.43			
	RVP @ 100F	[psia]	25.55	17.78	11.61			
	Spec. Gravity @ 100F		0.672	0.676	0.681			

```
*************************************************************************************
*     Project Setup Information                                                     *
*************************************************************************************
Project File                : C:\Users\RBELT\Desktop\Jicarilla Apache (1BOPD).ept
Flowsheet Selection         : Oil Tank with Separator
Calculation Method          : RVP Distillation
Control Efficiency          : 100.0%
Known Separator Stream      : Low Pressure Oil
Entering Air Composition    : No

Filed Name                  : Jicarilla Apache - Rio Arriba
Date                        : 2013.03.08

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

Separator Pressure          : 19.00[psig]
Separator Temperature       : 50.00[F]
Ambient Pressure            : 14.70[psia]
Ambient Temperature         : 70.00[F]
C10+ SG                     : 0.8353
C10+ MW                     : 171.185

-- Low Pressure Oil -----------------------------------------------------------------
   No.     Component            mol %
   1       H2S                  0.0000
   2       O2                   0.0000
   3       CO2                  0.0189
   4       N2                   0.0628
   5       C1                   0.8773
   6       C2                   0.9945
   7       C3                   2.4352
   8       i-C4                13.3056
   9       n-C4                 3.9393
   10      i-C5                 3.6159
   11      n-C5                 4.1754
   12      C6                   5.4177
   13      C7                  26.8695
   14      C8                  12.7317
   15      C9                   5.9338
   16      C10+                 4.4758
   17      Benzene              0.9873
   18      Toluene              6.4363
   19      E-Benzene            0.3593
   20      Xylenes              2.6491
   21      n-C6                 4.6075
   22      224Trimethylp        0.1070

-- Sales Oil ------------------------------------------------------------------------
Production Rate             : 1[bbl/day]
Days of Annual Operation    : 365 [days/year]
API Gravity                 : 64.02
Reid Vapor Pressure         : 11.60[psia]

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

-- Emission Summary -----------------------------------------------------------------
Item                  Uncontrolled   Uncontrolled   Controlled    Controlled
                      [ton/yr]       [lb/hr]        [ton/yr]      [lb/hr]
Total HAPs            0.060          0.014          0.003         0.001
Total HC              2.838          0.648          0.142         0.032
```

VOCs, C2+	2.764	0.631	0.138	0.032
VOCs, C3+	2.608	0.595	0.130	0.030

Uncontrolled Recovery Info.

Vapor	114.5400 x1E-3	[MSCFD]
HC Vapor	113.6500 x1E-3	[MSCFD]
GOR	114.54	[SCF/bbl]

-- Emission Composition --

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]	Controlled [ton/yr]	Controlled [lb/hr]
1	H2S	0.000	0.000	0.000	0.000
2	O2	0.000	0.000	0.000	0.000
3	CO2	0.004	0.001	0.004	0.001
4	N2	0.009	0.002	0.009	0.002
5	C1	0.074	0.017	0.004	0.001
6	C2	0.156	0.036	0.008	0.002
7	C3	0.452	0.103	0.023	0.005
8	i-C4	1.393	0.318	0.070	0.016
9	n-C4	0.281	0.064	0.014	0.003
10	i-C5	0.122	0.028	0.006	0.001
11	n-C5	0.103	0.024	0.005	0.001
12	C6	0.058	0.013	0.003	0.001
13	C7	0.112	0.026	0.006	0.001
14	C8	0.019	0.004	0.001	0.000
15	C9	0.004	0.001	0.000	0.000
16	C10+	0.000	0.000	0.000	0.000
17	Benzene	0.007	0.002	0.000	0.000
18	Toluene	0.015	0.003	0.001	0.000
19	E-Benzene	0.000	0.000	0.000	0.000
20	Xylenes	0.002	0.000	0.000	0.000
21	n-C6	0.040	0.009	0.002	0.000
22	224Trimethylp	0.000	0.000	0.000	0.000
	Total	2.851	0.651	0.143	0.033

-- 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0189	0.0055	0.0000	0.3388	0.0804	0.1790
4	N2	28.01	0.0628	0.0023	0.0000	1.5026	0.0344	0.5949
5	C1	16.04	0.8773	0.1112	0.0000	19.1215	1.6356	8.3109
6	C2	30.07	0.9945	0.4784	0.0025	13.2855	7.0014	9.4004
7	C3	44.10	2.4352	1.9356	0.5287	14.3327	21.2175	18.5892
8	i-C4	58.12	13.3056	12.4034	9.7479	34.7920	48.7980	43.4511
9	n-C4	58.12	3.9393	3.7978	3.3706	7.3085	9.6528	8.7578
10	i-C5	72.15	3.6159	3.6546	3.6800	2.6934	3.3072	3.0729
11	n-C5	72.15	4.1754	4.2550	4.3614	2.2800	2.7969	2.5996
12	C6	86.16	5.4177	5.5990	5.9085	1.1005	1.3572	1.2592
13	C7	100.20	26.8695	27.9226	29.7945	1.7902	2.2679	2.0855
14	C8	114.23	12.7317	13.2553	14.1972	0.2631	0.3450	0.3137
15	C9	128.28	5.9338	6.1812	6.6279	0.0416	0.0599	0.0529
16	C10+	171.19	4.4758	4.6637	5.0039	0.0010	0.0015	0.0013
17	Benzene	78.11	0.9873	1.0230	1.0850	0.1379	0.1721	0.1590
18	Toluene	92.13	6.4363	6.6962	7.1615	0.2469	0.3190	0.2915
19	E-Benzene	106.17	0.3593	0.3742	0.4011	0.0045	0.0059	0.0054
20	Xylenes	106.17	2.6491	2.7591	2.9577	0.0284	0.0382	0.0345
21	n-C6	86.18	4.6075	4.7705	5.0528	0.7254	0.9019	0.8345
22	224Trimethylp	114.24	0.1070	0.1113	0.1188	0.0057	0.0072	0.0067
	MW		90.87	92.75	95.49	46.02	55.21	51.70
	Stream Mole Ratio		1.0000	0.9597	0.8944	0.0403	0.0653	0.1056
	Heating Value	[BTU/SCF]				2576.17	3096.16	2897.65
	Gas Gravity	[Gas/Air]				1.59	1.91	1.78
	Bubble Pt. @ 100F	[psia]	55.90	23.04	12.43			
	RVP @ 100F	[psia]	25.55	17.78	11.61			
	Spec. Gravity @ 100F		0.672	0.676	0.681			

```
******************************************************************************************
*     Project Setup Information                                                          *
******************************************************************************************
Project File               : C:\Users\RBELT\Desktop\Jicarilla Apache (1.25BOPD).ept
Flowsheet Selection        : Oil Tank with Separator
Calculation Method         : RVP Distillation
Control Efficiency         : 100.0%
Known Separator Stream     : Low Pressure Oil
Entering Air Composition   : No

Filed Name                 : Jicarilla Apache - Rio Arriba
Date                       : 2013.03.08

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

Separator Pressure         : 19.00[psig]
Separator Temperature      : 50.00[F]
Ambient Pressure           : 14.70[psia]
Ambient Temperature        : 70.00[F]
C10+ SG                    : 0.8353
C10+ MW                    : 171.185

-- Low Pressure Oil ----------------------------------------------------------------------
   No.     Component             mol %
   1       H2S                   0.0000
   2       O2                    0.0000
   3       CO2                   0.0189
   4       N2                    0.0628
   5       C1                    0.8773
   6       C2                    0.9945
   7       C3                    2.4352
   8       i-C4                 13.3056
   9       n-C4                  3.9393
   10      i-C5                  3.6159
   11      n-C5                  4.1754
   12      C6                    5.4177
   13      C7                   26.8695
   14      C8                   12.7317
   15      C9                    5.9338
   16      C10+                  4.4758
   17      Benzene               0.9873
   18      Toluene               6.4363
   19      E-Benzene             0.3593
   20      Xylenes               2.6491
   21      n-C6                  4.6075
   22      224Trimethylp         0.1070

-- Sales Oil -----------------------------------------------------------------------------
Production Rate            : 1.3[bbl/day]
Days of Annual Operation   : 365 [days/year]
API Gravity                : 64.02
Reid Vapor Pressure        : 11.60[psia]

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

-- Emission Summary ----------------------------------------------------------------------
Item                 Uncontrolled   Uncontrolled
                     [ton/yr]       [lb/hr]
Total HAPs           0.080          0.018
Total HC             3.547          0.810
```

VOCs, C2+	3.455	0.789
VOCs, C3+	3.261	0.745

Uncontrolled Recovery Info.

Vapor	143.1700 x1E-3	[MSCFD]
HC Vapor	142.0700 x1E-3	[MSCFD]
GOR	114.54	[SCF/bbl]

-- Emission Composition --

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]
1	H2S	0.000	0.000
2	O2	0.000	0.000
3	CO2	0.005	0.001
4	N2	0.011	0.003
5	C1	0.092	0.021
6	C2	0.195	0.045
7	C3	0.565	0.129
8	i-C4	1.741	0.397
9	n-C4	0.351	0.080
10	i-C5	0.153	0.035
11	n-C5	0.129	0.029
12	C6	0.073	0.017
13	C7	0.139	0.032
14	C8	0.024	0.005
15	C9	0.004	0.001
16	C10+	0.000	0.000
17	Benzene	0.009	0.002
18	Toluene	0.019	0.004
19	E-Benzene	0.000	0.000
20	Xylenes	0.003	0.001
21	n-C6	0.050	0.011
22	224Trimethylp	0.001	0.000
	Total	3.564	0.814

-- 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0189	0.0055	0.0000	0.3388	0.0804	0.1790
4	N2	28.01	0.0628	0.0023	0.0000	1.5026	0.0344	0.5949
5	C1	16.04	0.8773	0.1112	0.0000	19.1215	1.6356	8.3109
6	C2	30.07	0.9945	0.4784	0.0025	13.2855	7.0014	9.4004
7	C3	44.10	2.4352	1.9356	0.5287	14.3327	21.2175	18.5892
8	i-C4	58.12	13.3056	12.4034	9.7479	34.7920	48.7980	43.4511
9	n-C4	58.12	3.9393	3.7978	3.3706	7.3085	9.6528	8.7578
10	i-C5	72.15	3.6159	3.6546	3.6800	2.6934	3.3072	3.0729
11	n-C5	72.15	4.1754	4.2550	4.3614	2.2800	2.7969	2.5996
12	C6	86.16	5.4177	5.5990	5.9085	1.1005	1.3572	1.2592
13	C7	100.20	26.8695	27.9226	29.7945	1.7902	2.2679	2.0855
14	C8	114.23	12.7317	13.2553	14.1972	0.2631	0.3450	0.3137
15	C9	128.28	5.9338	6.1812	6.6279	0.0416	0.0599	0.0529
16	C10+	171.19	4.4758	4.6637	5.0039	0.0010	0.0015	0.0013
17	Benzene	78.11	0.9873	1.0230	1.0850	0.1379	0.1721	0.1590
18	Toluene	92.13	6.4363	6.6962	7.1615	0.2469	0.3190	0.2915
19	E-Benzene	106.17	0.3593	0.3742	0.4011	0.0045	0.0059	0.0054
20	Xylenes	106.17	2.6491	2.7591	2.9577	0.0284	0.0382	0.0345
21	n-C6	86.18	4.6075	4.7705	5.0528	0.7254	0.9019	0.8345
22	224Trimethylp	114.24	0.1070	0.1113	0.1188	0.0057	0.0072	0.0067
	MW		90.87	92.75	95.49	46.02	55.21	51.70
	Stream Mole Ratio		1.0000	0.9597	0.8944	0.0403	0.0653	0.1056
	Heating Value	[BTU/SCF]				2576.17	3096.16	2897.65
	Gas Gravity	[Gas/Air]				1.59	1.91	1.78
	Bubble Pt. @ 100F	[psia]	55.90	23.04	12.43			
	RVP @ 100F	[psia]	25.55	17.78	11.61			
	Spec. Gravity @ 100F		0.672	0.676	0.681			

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

Project File : C:\Users\RBELT\Desktop\Jicarilla Apache (1.50BOPD).ept
Flowsheet Selection : Oil Tank with Separator
Calculation Method : RVP Distillation
Control Efficiency : 100.0%
Known Separator Stream : Low Pressure Oil
Entering Air Composition : No

Filed Name : Jicarilla Apache - Rio Arriba
Date : 2013.03.08

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

Separator Pressure : 19.00[psig]
Separator Temperature : 50.00[F]
Ambient Pressure : 14.70[psia]
Ambient Temperature : 70.00[F]
C10+ SG : 0.8353
C10+ MW : 171.185

-- Low Pressure Oil --

No.	Component	mol %
1	H2S	0.0000
2	O2	0.0000
3	CO2	0.0189
4	N2	0.0628
5	C1	0.8773
6	C2	0.9945
7	C3	2.4352
8	i-C4	13.3056
9	n-C4	3.9393
10	i-C5	3.6159
11	n-C5	4.1754
12	C6	5.4177
13	C7	26.8695
14	C8	12.7317
15	C9	5.9338
16	C10+	4.4758
17	Benzene	0.9873
18	Toluene	6.4363
19	E-Benzene	0.3593
20	Xylenes	2.6491
21	n-C6	4.6075
22	224Trimethylp	0.1070

-- Sales Oil ---

Production Rate : 1.5[bbl/day]
Days of Annual Operation : 365 [days/year]
API Gravity : 64.02
Reid Vapor Pressure : 11.60[psia]

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

-- Emission Summary --

Item	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]
Total HAPs	0.100	0.023
Total HC	4.257	0.972

VOCs, C2+	4.147	0.947
VOCs, C3+	3.913	0.893

Uncontrolled Recovery Info.

Vapor	171.8100 x1E-3	[MSCFD]
HC Vapor	170.4800 x1E-3	[MSCFD]
GOR	114.54	[SCF/bbl]

-- Emission Composition --

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]
1	H2S	0.000	0.000
2	O2	0.000	0.000
3	CO2	0.007	0.002
4	N2	0.014	0.003
5	C1	0.110	0.025
6	C2	0.234	0.053
7	C3	0.678	0.155
8	i-C4	2.089	0.477
9	n-C4	0.421	0.096
10	i-C5	0.183	0.042
11	n-C5	0.155	0.035
12	C6	0.088	0.020
13	C7	0.167	0.038
14	C8	0.029	0.007
15	C9	0.005	0.001
16	C10+	0.000	0.000
17	Benzene	0.010	0.002
18	Toluene	0.022	0.005
19	E-Benzene	0.000	0.000
20	Xylenes	0.003	0.001
21	n-C6	0.059	0.013
22	224Trimethylp	0.001	0.000
	Total	4.275	0.976

-- 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0189	0.0055	0.0000	0.3388	0.0804	0.1790
4	N2	28.01	0.0628	0.0023	0.0000	1.5026	0.0344	0.5949
5	C1	16.04	0.8773	0.1112	0.0000	19.1215	1.6356	8.3109
6	C2	30.07	0.9945	0.4784	0.0025	13.2855	7.0014	9.4004
7	C3	44.10	2.4352	1.9356	0.5287	14.3327	21.2175	18.5892
8	i-C4	58.12	13.3056	12.4034	9.7479	34.7920	48.7980	43.4511
9	n-C4	58.12	3.9393	3.7978	3.3706	7.3085	9.6528	8.7578
10	i-C5	72.15	3.6159	3.6546	3.6800	2.6934	3.3072	3.0729
11	n-C5	72.15	4.1754	4.2550	4.3614	2.2800	2.7969	2.5996
12	C6	86.16	5.4177	5.5990	5.9085	1.1005	1.3572	1.2592
13	C7	100.20	26.8695	27.9226	29.7945	1.7902	2.2679	2.0855
14	C8	114.23	12.7317	13.2553	14.1972	0.2631	0.3450	0.3137
15	C9	128.28	5.9338	6.1812	6.6279	0.0416	0.0599	0.0529
16	C10+	171.19	4.4758	4.6637	5.0039	0.0010	0.0015	0.0013
17	Benzene	78.11	0.9873	1.0230	1.0850	0.1379	0.1721	0.1590
18	Toluene	92.13	6.4363	6.6962	7.1615	0.2469	0.3190	0.2915
19	E-Benzene	106.17	0.3593	0.3742	0.4011	0.0045	0.0059	0.0054
20	Xylenes	106.17	2.6491	2.7591	2.9577	0.0284	0.0382	0.0345
21	n-C6	86.18	4.6075	4.7705	5.0528	0.7254	0.9019	0.8345
22	224Trimethylp	114.24	0.1070	0.1113	0.1188	0.0057	0.0072	0.0067
	MW		90.87	92.75	95.49	46.02	55.21	51.70
	Stream Mole Ratio		1.0000	0.9597	0.8944	0.0403	0.0653	0.1056
	Heating Value	[BTU/SCF]				2576.17	3096.16	2897.65
	Gas Gravity	[Gas/Air]				1.59	1.91	1.78
	Bubble Pt. @ 100F	[psia]	55.90	23.04	12.43			
	RVP @ 100F	[psia]	25.55	17.78	11.61			
	Spec. Gravity @ 100F		0.672	0.676	0.681			

```
******************************************************************************************
*     Project Setup Information                                                          *
******************************************************************************************
Project File               : C:\Users\RBELT\Desktop\Jicarilla Apache (1.75BOPD).ept
Flowsheet Selection        : Oil Tank with Separator
Calculation Method         : RVP Distillation
Control Efficiency         : 100.0%
Known Separator Stream     : Low Pressure Oil
Entering Air Composition   : No

Filed Name                 : Jicarilla Apache - Rio Arriba
Date                       : 2013.03.08


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

Separator Pressure         : 19.00[psig]
Separator Temperature      : 50.00[F]
Ambient Pressure           : 14.70[psia]
Ambient Temperature        : 70.00[F]
C10+ SG                    : 0.8353
C10+ MW                    : 171.185

-- Low Pressure Oil ----------------------------------------------------------------------
   No.      Component           mol %
   1        H2S                 0.0000
   2        O2                  0.0000
   3        CO2                 0.0189
   4        N2                  0.0628
   5        C1                  0.8773
   6        C2                  0.9945
   7        C3                  2.4352
   8        i-C4               13.3056
   9        n-C4                3.9393
   10       i-C5                3.6159
   11       n-C5                4.1754
   12       C6                  5.4177
   13       C7                 26.8695
   14       C8                 12.7317
   15       C9                  5.9338
   16       C10+                4.4758
   17       Benzene             0.9873
   18       Toluene             6.4363
   19       E-Benzene           0.3593
   20       Xylenes             2.6491
   21       n-C6                4.6075
   22       224Trimethylp       0.1070

-- Sales Oil -----------------------------------------------------------------------------
Production Rate            : 1.8[bbl/day]
Days of Annual Operation   : 365 [days/year]
API Gravity                : 64.02
Reid Vapor Pressure        : 11.60[psia]


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

-- Emission Summary ----------------------------------------------------------------------
Item                 Uncontrolled   Uncontrolled
                     [ton/yr]       [lb/hr]
Total HAPs           0.110          0.025
Total HC             4.966          1.134
```

VOCs, C2+	4.838	1.105
VOCs, C3+	4.565	1.042

Uncontrolled Recovery Info.

Vapor	200.4400 x1E-3	[MSCFD]
HC Vapor	198.8900 x1E-3	[MSCFD]
GOR	114.54	[SCF/bbl]

-- Emission Composition ---

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]
1	H2S	0.000	0.000
2	O2	0.000	0.000
3	CO2	0.008	0.002
4	N2	0.016	0.004
5	C1	0.129	0.029
6	C2	0.273	0.062
7	C3	0.791	0.181
8	i-C4	2.438	0.557
9	n-C4	0.491	0.112
10	i-C5	0.214	0.049
11	n-C5	0.181	0.041
12	C6	0.102	0.023
13	C7	0.195	0.045
14	C8	0.034	0.008
15	C9	0.006	0.001
16	C10+	0.000	0.000
17	Benzene	0.012	0.003
18	Toluene	0.026	0.006
19	E-Benzene	0.001	0.000
20	Xylenes	0.004	0.001
21	n-C6	0.069	0.016
22	224Trimethylp	0.001	0.000
	Total	4.991	1.139

-- 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0189	0.0055	0.0000	0.3388	0.0804	0.1790
4	N2	28.01	0.0628	0.0023	0.0000	1.5026	0.0344	0.5949
5	C1	16.04	0.8773	0.1112	0.0000	19.1215	1.6356	8.3109
6	C2	30.07	0.9945	0.4784	0.0025	13.2855	7.0014	9.4004
7	C3	44.10	2.4352	1.9356	0.5287	14.3327	21.2175	18.5892
8	i-C4	58.12	13.3056	12.4034	9.7479	34.7920	48.7980	43.4511
9	n-C4	58.12	3.9393	3.7978	3.3706	7.3085	9.6528	8.7578
10	i-C5	72.15	3.6159	3.6546	3.6800	2.6934	3.3072	3.0729
11	n-C5	72.15	4.1754	4.2550	4.3614	2.2800	2.7969	2.5996
12	C6	86.16	5.4177	5.5990	5.9085	1.1005	1.3572	1.2592
13	C7	100.20	26.8695	27.9226	29.7945	1.7902	2.2679	2.0855
14	C8	114.23	12.7317	13.2553	14.1972	0.2631	0.3450	0.3137
15	C9	128.28	5.9338	6.1812	6.6279	0.0416	0.0599	0.0529
16	C10+	171.19	4.4758	4.6637	5.0039	0.0010	0.0015	0.0013
17	Benzene	78.11	0.9873	1.0230	1.0850	0.1379	0.1721	0.1590
18	Toluene	92.13	6.4363	6.6962	7.1615	0.2469	0.3190	0.2915
19	E-Benzene	106.17	0.3593	0.3742	0.4011	0.0045	0.0059	0.0054
20	Xylenes	106.17	2.6491	2.7591	2.9577	0.0284	0.0382	0.0345
21	n-C6	86.18	4.6075	4.7705	5.0528	0.7254	0.9019	0.8345
22	224Trimethylp	114.24	0.1070	0.1113	0.1188	0.0057	0.0072	0.0067
	MW		90.87	92.75	95.49	46.02	55.21	51.70
	Stream Mole Ratio		1.0000	0.9597	0.8944	0.0403	0.0653	0.1056
	Heating Value	[BTU/SCF]				2576.17	3096.16	2897.65
	Gas Gravity	[Gas/Air]				1.59	1.91	1.78
	Bubble Pt. @ 100F	[psia]	55.90	23.04	12.43			
	RVP @ 100F	[psia]	25.55	17.78	11.61			
	Spec. Gravity @ 100F		0.672	0.676	0.681			

```
******************************************************************************************
*     Project Setup Information                                                          *
******************************************************************************************
Project File               : C:\Users\RBELT\Desktop\Jicarilla Apache (2BOPD).ept
Flowsheet Selection        : Oil Tank with Separator
Calculation Method         : RVP Distillation
Control Efficiency         : 100.0%
Known Separator Stream     : Low Pressure Oil
Entering Air Composition   : No

Filed Name                 : Jicarilla Apache - Rio Arriba
Date                       : 2013.03.08

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

Separator Pressure         : 19.00[psig]
Separator Temperature      : 50.00[F]
Ambient Pressure           : 14.70[psia]
Ambient Temperature        : 70.00[F]
C10+ SG                    : 0.8353
C10+ MW                    : 171.185

-- Low Pressure Oil ----------------------------------------------------------------------
   No.     Component            mol %
   1       H2S                  0.0000
   2       O2                   0.0000
   3       CO2                  0.0189
   4       N2                   0.0628
   5       C1                   0.8773
   6       C2                   0.9945
   7       C3                   2.4352
   8       i-C4                13.3056
   9       n-C4                 3.9393
   10      i-C5                 3.6159
   11      n-C5                 4.1754
   12      C6                   5.4177
   13      C7                  26.8695
   14      C8                  12.7317
   15      C9                   5.9338
   16      C10+                 4.4758
   17      Benzene              0.9873
   18      Toluene              6.4363
   19      E-Benzene            0.3593
   20      Xylenes              2.6491
   21      n-C6                 4.6075
   22      224Trimethylp        0.1070

-- Sales Oil -----------------------------------------------------------------------------
Production Rate            : 2[bbl/day]
Days of Annual Operation   : 365 [days/year]
API Gravity                : 64.02
Reid Vapor Pressure        : 11.60[psia]

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

-- Emission Summary ----------------------------------------------------------------------
Item              Uncontrolled    Uncontrolled    Controlled     Controlled
                  [ton/yr]        [lb/hr]         [ton/yr]       [lb/hr]
Total HAPs        0.130           0.030           0.007          0.001
Total HC          5.676           1.296           0.284          0.065
```

VOCs, C2+	5.529	1.262	0.276	0.063
VOCs, C3+	5.217	1.191	0.261	0.060

Uncontrolled Recovery Info.

Vapor	229.0800 x1E-3	[MSCFD]
HC Vapor	227.3000 x1E-3	[MSCFD]
GOR	114.54	[SCF/bbl]

-- Emission Composition --

No	Component	Uncontrolled [ton/yr]	Uncontrolled [lb/hr]	Controlled [ton/yr]	Controlled [lb/hr]
1	H2S	0.000	0.000	0.000	0.000
2	O2	0.000	0.000	0.000	0.000
3	CO2	0.009	0.002	0.009	0.002
4	N2	0.018	0.004	0.018	0.004
5	C1	0.147	0.034	0.007	0.002
6	C2	0.312	0.071	0.016	0.004
7	C3	0.904	0.206	0.045	0.010
8	i-C4	2.786	0.636	0.139	0.032
9	n-C4	0.562	0.128	0.028	0.006
10	i-C5	0.245	0.056	0.012	0.003
11	n-C5	0.207	0.047	0.010	0.002
12	C6	0.117	0.027	0.006	0.001
13	C7	0.223	0.051	0.011	0.003
14	C8	0.038	0.009	0.002	0.000
15	C9	0.007	0.002	0.000	0.000
16	C10+	0.000	0.000	0.000	0.000
17	Benzene	0.014	0.003	0.001	0.000
18	Toluene	0.030	0.007	0.002	0.000
19	E-Benzene	0.001	0.000	0.000	0.000
20	Xylenes	0.004	0.001	0.000	0.000
21	n-C6	0.079	0.018	0.004	0.001
22	224Trimethylp	0.001	0.000	0.000	0.000
	Total	5.704	1.302	0.285	0.065

-- 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	O2	32.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	CO2	44.01	0.0189	0.0055	0.0000	0.3388	0.0804	0.1790
4	N2	28.01	0.0628	0.0023	0.0000	1.5026	0.0344	0.5949
5	C1	16.04	0.8773	0.1112	0.0000	19.1215	1.6356	8.3109
6	C2	30.07	0.9945	0.4784	0.0025	13.2855	7.0014	9.4004
7	C3	44.10	2.4352	1.9356	0.5287	14.3327	21.2175	18.5892
8	i-C4	58.12	13.3056	12.4034	9.7479	34.7920	48.7980	43.4511
9	n-C4	58.12	3.9393	3.7978	3.3706	7.3085	9.6528	8.7578
10	i-C5	72.15	3.6159	3.6546	3.6800	2.6934	3.3072	3.0729
11	n-C5	72.15	4.1754	4.2550	4.3614	2.2800	2.7969	2.5996
12	C6	86.16	5.4177	5.5990	5.9085	1.1005	1.3572	1.2592
13	C7	100.20	26.8695	27.9226	29.7945	1.7902	2.2679	2.0855
14	C8	114.23	12.7317	13.2553	14.1972	0.2631	0.3450	0.3137
15	C9	128.28	5.9338	6.1812	6.6279	0.0416	0.0599	0.0529
16	C10+	171.19	4.4758	4.6637	5.0039	0.0010	0.0015	0.0013
17	Benzene	78.11	0.9873	1.0230	1.0850	0.1379	0.1721	0.1590
18	Toluene	92.13	6.4363	6.6962	7.1615	0.2469	0.3190	0.2915
19	E-Benzene	106.17	0.3593	0.3742	0.4011	0.0045	0.0059	0.0054
20	Xylenes	106.17	2.6491	2.7591	2.9577	0.0284	0.0382	0.0345
21	n-C6	86.18	4.6075	4.7705	5.0528	0.7254	0.9019	0.8345
22	224Trimethylp	114.24	0.1070	0.1113	0.1188	0.0057	0.0072	0.0067
	MW		90.87	92.75	95.49	46.02	55.21	51.70
	Stream Mole Ratio		1.0000	0.9597	0.8944	0.0403	0.0653	0.1056
	Heating Value	[BTU/SCF]				2576.17	3096.16	2897.65
	Gas Gravity	[Gas/Air]				1.59	1.91	1.78
	Bubble Pt. @ 100F	[psia]	55.90	23.04	12.43			
	RVP @ 100F	[psia]	25.55	17.78	11.61			
	Spec. Gravity @ 100F		0.672	0.676	0.681			

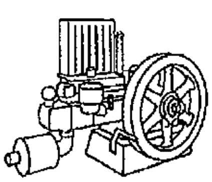
ARROW ENGINE COMPANY
a TRIMAS company

Prior to July 1, 2008 Engines

We are pleased to confirm the observed emissions levels for the Arrow C-46, C-66, C-96 and C-106 spark ignited engines as below:

Model	C-46	C-66	C-96	C-106
NOx	9.26	14.54	11.87	23.32
CO	20.19	4.03	5.05	0.222
CO2	666	621	641	486
THC	0.006	0.332	0.142	0.094
HP	11	15.8	21.4	34

- Units for all values, grams/HP-hr.
- Values represent emissions at 100% loads at maximum RPM. Horsepower numbers reflect 100% load corrected to standard conditions. (29.38 Hg, 85 deg. F)
- All tests based on pipeline quality Natural Gas of 900 BTU/FT3 (LHV).
- Actual readings may vary based on site conditions and fuel composition.



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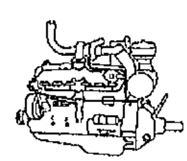

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification		
User Identification:	BGT-1 (Pit Sump Liquids)	
City:	San Juan and Rio Arriba Counties	
State:	New Mexico	
Company:	XTO Energy, Inc.	
Type of Tank:	Vertical Fixed Roof Tank	
Description:	120-barrel Pit Tank	
Tank Dimensions		
Shell Height (ft):		5.00
Diameter (ft):		15.00
Liquid Height (ft) :		4.00
Avg. Liquid Height (ft):		2.50
Volume (gallons):		5,040.00
Turnovers:		10.00
Net Throughput(gal/yr):		50,400.00
Is Tank Heated (y/n):	N	
Paint Characteristics		
Shell Color/Shade:	Red/Primer	
Shell Condition	Poor	
Roof Color/Shade:	Red/Primer	
Roof Condition:	Poor	
Roof Characteristics		
Type:	Cone	
Height (ft)		0.00
Slope (ft/ft) (Cone Roof)		0.06
Breather Vent Settings		
Vacuum Settings (psig):		-0.03
Pressure Settings (psig)		0.03

Meterological Data used in Emissions Calculations: Albuquerque, New Mexico (Avg Atmospheric Pressure = 12.15 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

BGT-1 (Pit Sump Liquids) - Vertical Fixed Roof Tank
San Juan and Rio Arriba Counties, New Mexico

		Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp	Vapor Pressure (psia)			Vapor Mol.	Liquid Mass	Vapor Mass	Mol.	Basis for Vapor Pressure
Mixture/Component	Month	Avg.	Min.	Max.	(deg F)	Avg.	Min.	Max.	Weight	Fract.	Fract.	Weight	Calculations
Distillate fuel oil no. 2	All	71.34	55.07	87.61	60.61	0.0094	0.0060	0.0150	130.0000			188.00	Option 1: VP70 = .009 VP80 = .012

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

BGT-1 (Pit Sump Liquids) - Vertical Fixed Roof Tank
San Juan and Rio Arriba Counties, New Mexico

Annual Emission Calcaulations	
Standing Losses (lb):	4.3449
Vapor Space Volume (cu ft):	469.3981
Vapor Density (lb/cu ft):	0.0002
Vapor Space Expansion Factor:	0.1184
Vented Vapor Saturation Factor:	0.9987
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	469.3981
Tank Diameter (ft):	15.0000
Vapor Space Outage (ft):	2.6563
Tank Shell Height (ft):	5.0000
Average Liquid Height (ft):	2.5000
Roof Outage (ft):	0.1563
Roof Outage (Cone Roof)	
Roof Outage (ft):	0.1563
Roof Height (ft):	0.0000
Roof Slope (ft/ft):	0.0625
Shell Radius (ft):	7.5000
Vapor Density	
Vapor Density (lb/cu ft):	0.0002
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0094
Daily Avg. Liquid Surface Temp. (deg. R):	531.0126
Daily Average Ambient Temp. (deg. F):	56.1542
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	520.2842
Tank Paint Solar Absorptance (Shell):	0.9100
Tank Paint Solar Absorptance (Roof):	0.9100
Daily Total Solar Insulation Factor (Btu/sqft day):	1,765.3167
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.1184
Daily Vapor Temperature Range (deg. R):	65.0863
Daily Vapor Pressure Range (psia):	0.0091
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0094
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0060
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0150
Daily Avg. Liquid Surface Temp. (deg R):	531.0126
Daily Min. Liquid Surface Temp. (deg R):	514.7411
Daily Max. Liquid Surface Temp. (deg R):	547.2842
Daily Ambient Temp. Range (deg. R):	27.9250
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9987
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0094

Vapor Space Outage (ft):	2.6563
Working Losses (lb):	1.4668
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0094
Annual Net Throughput (gal/yr.):	50,400.0000
Annual Turnovers:	10.0000
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	5,040.0000
Maximum Liquid Height (ft):	4.0000
Tank Diameter (ft):	15.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	5.8117

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

BGT-1 (Pit Sump Liquids) - Vertical Fixed Roof Tank
San Juan and Rio Arriba Counties, New Mexico

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Distillate fuel oil no. 2	1.47	4.34	5.81

XTO ENERGY, INC.

JICARILLA APACHE PRODUCTION LOCATIONS & CDP - EMISSION SUMMARY

RIO ARRIBA COUNTY, NEW MEXICO

WELL SITE / LOCATION	OWNERSHIP / OPERATIONAL INTEREST	SIC CODE	LATITUDE	LONGITUDE	EMISSIONS SOURCES[1]					EMISSION ESTIMATES - TPY				
					PUMPING UNIT	COND. TANKS	PIT TANKS	TRUCKLOADING	HEATER(S)	NO_X	CO	VOC	SO_X	PM_{10}
JICARILLA APACHE 01	XTO Energy - 100%	1311	36.344793	107.36982	PU_A	N/A	TK_{PIT}	N/A	HTR	3.12	1.36	0.15	0.01	0.07
JICARILLA APACHE 02	XTO Energy - 100%	1311	36.43883	107.35895	PU_C	N/A	TK_{PIT}	N/A	HTR	2.86	3.99	0.08	0.01	0.08
JICARILLA APACHE 03[2]	XTO Energy - 100%	1311	36.44783	107.35170	N/A	N/A	TK_{PIT}	N/A	HTR	0.88	0.74	0.05	0.01	0.07
JICARILLA APACHE 04	XTO Energy - 100%	1311	36.43886	107.34027	N/A	N/A	TK_{PIT}	N/A	HTR	0.88	0.74	0.05	0.01	0.07
JICARILLA APACHE 05	XTO Energy - 100%	1311	36.46220	107.36937	PU_D	N/A	TK_{PIT}	N/A	HTR	2.20	2.91	0.07	0.01	0.07
JICARILLA APACHE 07	XTO Energy - 100%	1311	36.46210	107.35146	PU_A	N/A	TK_{PIT}	N/A	HTR	3.12	1.36	0.15	0.01	0.07
JICARILLA APACHE 08	XTO Energy - 100%	1311	36.45337	107.34027	N/A	$TK_{0.30BOPD}$	TK_{PIT}	$TL_{0.30BOPD}$	HTR	0.88	0.74	0.89	0.01	0.07
JICARILLA APACHE 08E	XTO Energy - 100%	1311	36.45520	107.34924	N/A	$TK_{0.50BOPD}$	TK_{PIT}	$TL_{0.50BOPD}$	HTR	0.88	0.74	1.39	0.01	0.07
JICARILLA APACHE 08F	XTO Energy - 100%	1311	36.45486	107.34333	N/A	$TK_{0.50BOPD}$	TK_{PIT}	$TL_{0.50BOPD}$	HTR	0.88	0.74	1.39	0.01	0.07
JICARILLA APACHE 08G	XTO Energy - 100%	1311	36.4527222	107.3475556	N/A	$TK_{0.50BOPD}$	TK_{PIT}	$TL_{0.50BOPD}$	HTR	0.88	0.74	1.39	0.01	0.07
JICARILLA APACHE 09	XTO Energy - 100%	1311	36.46229	107.35856	N/A	$TK_{0.50BOPD}$	TK_{PIT}	$TL_{0.50BOPD}$	HTR	0.88	0.74	1.39	0.01	0.07
JICARILLA APACHE 09E	XTO Energy - 100%	1311	36.45343	107.36075	N/A	$TK_{0.80BOPD}$	TK_{PIT}	$TL_{0.80BOPD}$	HTR	0.88	0.74	2.06	0.01	0.07
JICARILLA APACHE 09F	XTO Energy - 100%	1311	38.45505	107.35705	N/A	$TK_{0.80BOPD}$	TK_{PIT}	$TL_{0.80BOPD}$	HTR	0.88	0.74	2.06	0.01	0.07
JICARILLA APACHE 09G	XTO Energy - 100%	1311	36.45845	107.36087	N/A	$TK_{0.30BOPD}$	TK_{PIT}	$TL_{0.30BOPD}$	HTR	0.88	0.74	0.89	0.01	0.07
JICARILLA APACHE 10	XTO Energy - 100%	1311	36.46208	107.34201	N/A	$TK_{0.30BOPD}$	TK_{PIT}	$TL_{0.30BOPD}$	HTR	0.88	0.74	0.89	0.01	0.07
JICARILLA APACHE 10E	XTO Energy - 100%	1311	36.46216	107.34909	N/A	$TK_{0.80BOPD}$	TK_{PIT}	$TL_{0.80BOPD}$	HTR	0.88	0.74	2.06	0.01	0.07
JICARILLA APACHE 10F	XTO Energy - 100%	1311	36.460278	107.340028	N/A	$TK_{0.80BOPD}$	TK_{PIT}	$TL_{0.80BOPD}$	HTR	0.88	0.74	2.06	0.01	0.07
JICARILLA APACHE 10G	XTO Energy - 100%	1311	36.45892N	107.34737W	N/A	$TK_{1.30BOPD}$	TK_{PIT}	$TL_{1.30BOPD}$	HTR	0.88	0.74	3.39	0.01	0.07
JICARILLA APACHE 11	XTO Energy - 100%	1311	36.45351	107.37046	PU_E	$TK_{0.30BOPD}$	TK_{PIT}	$TL_{0.30BOPD}$	HTR	3.45	4.96	0.92	0.01	0.08
JICARILLA APACHE 11E	XTO Energy - 100%	1311	36.46254	107.36734	N/A	$TK_{0.30BOPD}$	TK_{PIT}	$TL_{0.30BOPD}$	HTR	0.88	0.74	0.89	0.01	0.07
JICARILLA APACHE 11F	XTO Energy - 100%	1311	36.46162	107.37111	N/A	$TK_{1.30BOPD}$	TK_{PIT}	$TL_{1.30BOPD}$	HTR	0.88	0.74	3.39	0.01	0.07
JICARILLA APACHE 12	XTO Energy - 100%	1311	36.44835	107.35779	N/A	$TK_{0.80BOPD}$	TK_{PIT}	$TL_{0.80BOPD}$	HTR	0.88	0.74	2.06	0.01	0.07
JICARILLA APACHE 12E	XTO Energy - 100%	1311	36.44074	107.36078	N/A	$TK_{0.50BOPD}$	TK_{PIT}	$TL_{0.50BOPD}$	HTR	0.88	0.74	1.39	0.01	0.07
JICARILLA APACHE 12F	XTO Energy - 100%	1311	36.4383333	107.3580000	N/A	$TK_{1.80BOPD}$	TK_{PIT}	$TL_{1.80BOPD}$	HTR	0.88	0.74	4.73	0.01	0.07
JICARILLA APACHE 12G	XTO Energy - 100%	1311	36.4448889	107.3572500	N/A	$TK_{0.80BOPD}$	TK_{PIT}	$TL_{0.80BOPD}$	HTR	0.88	0.74	2.06	0.01	0.07
JICARILLA APACHE 13	XTO Energy - 100%	1311	36.43937	107.36903	N/A	$TK_{0.30BOPD}$	TK_{PIT}	$TL_{0.30BOPD}$	HTR	0.88	0.74	0.89	0.01	0.07
JICARILLA APACHE 13E	XTO Energy - 100%	1311	36.44557	107.36999	N/A	$TK_{0.80BOPD}$	TK_{PIT}	$TL_{0.80BOPD}$	HTR	0.88	0.74	2.06	0.01	0.07
JICARILLA APACHE 13F[2]	XTO Energy - 100%	1311	36.4432500	107.3663611	N/A	$TK_{1.80BOPD}$	TK_{PIT}	$TL_{1.80BOPD}$	HTR	0.88	0.74	4.73	0.00	0.00
JICARILLA APACHE 13G	XTO Energy - 100%	1311	36.4485833	107.3672778	N/A	$TK_{1.30BOPD}$	TK_{PIT}	$TL_{1.30BOPD}$	HTR	0.88	0.74	3.39	0.01	0.07
JICARILLA APACHE 14	XTO Energy - 100%	1311	36.43859	107.35198	PU_B	$TK_{0.80BOPD}$	TK_{PIT}	$TL_{0.80BOPD}$	HTR	3.40	1.81	2.19	0.01	0.08
JICARILLA APACHE 14E	XTO Energy - 100%	1311	36.44145	107.35026	N/A	$TK_{0.50BOPD}$	TK_{PIT}	$TL_{0.50BOPD}$	HTR	0.88	0.74	1.39	0.01	0.07
JICARILLA APACHE 14F	XTO Energy - 100%	1311	36.4477778	107.3510833	N/A	$TK_{0.50BOPD}$	TK_{PIT}	$TL_{0.50BOPD}$	HTR	0.88	0.74	1.39	0.01	0.07
JICARILLA APACHE 14G	XTO Energy - 100%	1311	36.4420000	107.3491111	N/A	$TK_{0.30BOPD}$	TK_{PIT}	$TL_{0.30BOPD}$	HTR	0.88	0.74	0.89	0.01	0.07
JICARILLA APACHE 15	XTO Energy - 100%	1311	36.44551	107.36084	PU_A	N/A	TK_{PIT}	N/A	HTR	3.12	1.36	0.15	0.01	0.07
JICARILLA APACHE 16	XTO Energy - 100%	1311	36.44054	107.33997	N/A	$TK_{0.30BOPD}$	TK_{PIT}	$TL_{0.30BOPD}$	HTR	0.88	0.74	0.89	0.01	0.07
JICARILLA APACHE 16E	XTO Energy - 100%	1311	36.44838	107.34019	N/A	$TK_{0.30BOPD}$	TK_{PIT}	$TL_{0.30BOPD}$	HTR	0.88	0.74	0.89	0.01	0.07
JICARILLA APACHE 16F	XTO Energy - 100%	1311	36.4379722	107.3436667	N/A	$TK_{1.0BOPD}$	TK_{PIT}	$TL_{1.0BOPD}$	HTR	0.88	0.74	2.72	0.01	0.07
JICARILLA APACHE 16G	XTO Energy - 100%	1311	36.44406	107.33911	N/A	$TK_{0.50BOPD}$	TK_{PIT}	$TL_{0.50BOPD}$	HTR	0.88	0.74	1.39	0.01	0.07
JICARILLA APACHE 17	XTO Energy - 100%	1311	36.44557	107.33962	PU_D	N/A	TK_{PIT}	N/A	HTR	2.20	2.91	0.07	0.01	0.07
JICARILLA APACHE 19	XTO Energy - 100%	1311	36.46289	107.36110	PU_A	N/A	TK_{PIT}	N/A	HTR	3.12	1.36	0.15	0.01	0.07
JICARILLA APACHE CDP	XTO Energy - 100%	1311	PROVIDED IN APPLICATION SUBMITTAL							37.1	49.1	39.4	0.01	0.7

TOTAL ESTIMATED EMISSIONS	**90.86**	**93.91**	**98.35**	**0.22**	**3.36**

NOTE 1: TANK AND TRUCKLOADING EMISSIONS ARE BASED OFF OF 2011 AND 2012 YEARLY AVERAGED PRODUCTION VOLUMES, AND ROUNDED UP TO THE NEAREST CALCULATION ESTIMATE.

NOTE 2: JICARILLA APACHE 03 AND 14F ARE LOCATED ON THE SAME SITE.