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COMPLIANCE ASSURANCE
& ENFORCEMENT DIV.

August 31, 2018

Oklahoma Department of Environmental Quality
Attn: Air Quality Division Director
P.O. Box 1677
Oklahoma City, OK 73101-1677

RE: Annual Compliance Report – 40 CFR 60 Subpart OOOOa
BNK Petroleum Inc.
Compliance Period: June 3, 2017 – June 2, 2018

To Whom It May Concern:

BNK Petroleum Inc. hereby submits the annual compliance report for affected facilities under NSPS OOOOa. The affected facilities contained within this report include those for the reporting period between June 3, 2017, and June 2, 2018. Per §60.5420a(b), the initial annual report under NSPS OOOOa is due no later than 90 days after the end of the initial compliance period; therefore, the initial annual report for these facilities is due no later than August 31, 2018.

If you have any questions or comments about the information presented in this annual compliance report, please do not hesitate to call me at (972) 977-5343.

Sincerely,

BNK PETROLEUM INC.

Aug 31 - 2018

Derrick Schneider
Senior Engineer

cc: US-EPA Region 6
Compliance Assurance and Enforcement
1445 Ross Ave, Ste. 1200
Dallas, TX 75202

NSPS OOOOa Annual Report

Pursuant to 40 CFR §60.5420a(b)

Company Information

§60.5420a(b)(1)

Company Name: **BNK Petroleum Inc.**

Company Mailing Address:	760 Paseo Camarillo, Ste 350	Camarillo	CA	93010
	Street Address	City	State	Zip Code

For information regarding this report please contact the following:

Contact Name: **Derrick Schneider**

Contact Phone Number: **(972) 977-5343**

Contact Email Address: **dschneider@bnkpetroleum.com**

Reporting Period

Compliance Period Start Date: June 3, 2017

Compliance Period End Date: June 2, 2018

Date Report Submitted: August 31, 2018

Certification By a Certifying Official

Statement of Certification: Based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate and complete.

Name of Certifying Official: **Derrick Schneider**

Title of Certifying Official: **Senior Engineer**

Email Address: **dschneider@bnkpetroleum.com**

Phone Number: **(972) 977-5343**

Signature:

Signature Date: Aug 31-2018

List of Affected Facilities

§60.5420a(b)(1)(i)-(iii)

Site Name	Company Name	US Well ID *(if applicable)*	County	State	Latitude	Longitude	Description of the Site Location	Affected Facility Categories
Brock 9-2H	BNK Petroleum Inc.	35-069-20178	Johnston	OK	34.21541	-96.88028	2.0 miles North of Mannsville, OK	Storage Vessels; Fugitive Components (Well Site); Well
Chandler 8-6H	BNK Petroleum Inc.	35-069-20165	Johnston	OK	34.21563	-96.89612	3.0 miles Northwest of Mannsville, OK	Storage Vessels; Fugitive Components (Well Site); Well
Glenn 16-2H	BNK Petroleum Inc.	35-069-20185	Johnston	OK	34.21541	-96.88028	2.0 miles North of Mannsville, OK	Storage Vessels; Fugitive Components (Well Site); Well
Hartgraves 1-6H	BNK Petroleum Inc.	35-019-26249	Carter	OK	34.23158	-96.93577	6.0 miles Northwest of Mannsville, OK	Storage Vessels; Fugitive Components (Well Site); Well
Wiggins 12-8H	BNK Petroleum Inc.	35-019-25988	Carter	OK	34.23158	-96.93577	6.0 miles Northwest of Mannsville, OK	Fugitive Components (Well Site); Well
WLC 14-1H	BNK Petroleum Inc.	35-069-20186	Johnston	OK	34.19940	-96.84335	7.4 miles Southwest of Ravia, OK	Fugitive Components (Well Site); Well

Well Affected Facilities

§60.5420a(b)(2)

Well Name	Flowback Onset (Date/Time)	First Attempt to Direct Flowback to Separator (Date/Time)	Return to Initial Flowback Stage (Date/Time)	Well Shut In or Startup of Production (Date/Time)	Total Flowback (Hours) (b)(2)(i)	Separation Flowback (Hours)	Separation Recovery (Hours)	Separation Combustion (Hours)	Separation Venting (Hours)	Disposition of Recovery	Reason for Venting
Brock 9-2H	9/30/2017 4:15 PM	10/7/2017 11:15 PM	N/A	10/8/2017 2:00 PM	189.8	26.8	26.8	24	0	Reinjected into well (excess gas is combusted)	N/A
Chandler 8-6H	2/17/2017 2:00 PM	2/23/2017 12:45 PM	N/A	2/24/2017 2:00 PM	168.0	25.3	25.3	24	0	Reinjected into well (excess gas is combusted)	N/A
Glenn 16-2H	3/22/2018 5:20 PM	3/27/2018 10:45 PM	N/A	3/28/2018 4:45 PM	143.5	30.0	30.0	30	0	Reinjected into well (excess gas is combusted)	N/A
Hartgraves 1-6H	8/24/2017 5:00 PM	8/29/2017 12:35 PM	N/A	8/30/2017 2:35 PM	141.5	26.0	26.0	26	0	Reinjected into well (excess gas is combusted)	N/A
WLC 14-1H	5/15/2018 3:30 PM	5/21/2018 9:45 PM	N/A	5/21/2018 9:45 PM	150.3	0.0	0.0	0	0	Reinjected into well (excess gas is combusted)	N/A

Well Affected Facilities Exceptions

§60.5420a(b)(2)

Well Name	Specific Exception Claimed	Starting Date for the Exception	Ending Date for the Exception	Why the Well Meets the Exception	Name of Nearest Gathering Line	Location of Nearest Gathering Line	Technical Considerations For Not Routing to this Line	Capture, Reinjection and Reuse Considered	Aspects of Gas or Equipment that Prevent Use as Onsite Fuel	Technical Considerations Preventing Use for Other Useful Purpose	Additional Reasons for Technical Infeasibility
Brock 9-2H	Infeasibility under 60.5375a(a)(3)	10/7/2017	10/8/2017	Excess gas generated while quality is being tested for sales line	N/A	N/A	N/A	N/A	N/A	There is no other useful purpose available	Gas is reinjected and used as compressor fuel - any excess gas is temporarily flared while quality is being tested for sales line
Chandler 8-6H	Infeasibility under 60.5375a(a)(3)	2/23/2017	2/24/2017	Excess gas generated while quality is being tested for sales line	N/A	N/A	N/A	N/A	N/A	There is no other useful purpose available	Gas is reinjected and used as compressor fuel - any excess gas is temporarily flared while quality is being tested for sales line
Glenn 16-2H	Infeasibility under 60.5375a(a)(3)	3/27/2018	3/28/2018	Excess gas generated while quality is being tested for sales line	N/A	N/A	N/A	N/A	N/A	There is no other useful purpose available	Gas is reinjected and used as compressor fuel - any excess gas is temporarily flared while quality is being tested for sales line
Hartgraves 1-6H	Infeasibility under 60.5375a(a)(3)	8/29/2017	8/30/2017	Excess gas generated while quality is being tested for sales line	N/A	N/A	N/A	N/A	N/A	There is no other useful purpose available	Gas is reinjected and used as compressor fuel - any excess gas is temporarily flared while quality is being tested for sales line
WLC 14-1H	N/A										

Storage Vessel Affected Facilities

§60.5420a(b)(6)

Facility Name	Equipment ID (b)(6)(ii)	Constructed, Modified or Reconstructed during Period? (b)(6)(i)	Latitude (b)(6)(ii)	Longitude (b)(6)(ii)	VOC PTE (tpy) (b)(6)(ii)	Have You Met 60.5410a (h)(2) & (3)? (b)(6)(iv)	Date Removed from Service (b)(6)(v)	Date Returned to Service (b)(6)(vi)	Calculation Methodology
Brock 9-2H	Brock 9-2H T9-1	Constructed	34.21511	-96.87939	172.7 - See Attachment	No - See Deviations	N/A	N/A	E&P Tank
Brock 9-2H	Brock 9-2H T9-2	Constructed	34.21507	-96.87939	172.7 - See Attachment	No - See Deviations	N/A	N/A	E&P Tank
Chandler 8-6H	Chandler 8-6H T-1	Constructed	34.21568	-96.89592	71.8 - See Attachment	No - See Deviations	N/A	N/A	E&P Tank
Chandler 8-6H	Chandler 8-6H T-2	Constructed	34.21570	-96.89587	71.8 - See Attachment	No - See Deviations	N/A	N/A	E&P Tank
Glenn 16-2H	Glenn 16-2H T16-1	Constructed	34.21503	-96.87939	241.7 - See Attachment	No - See Deviations	N/A	N/A	E&P Tank
Glenn 16-2H	Glenn 16-2H T16-2	Constructed	34.21499	-96.87939	241.7 - See Attachment	No - See Deviations	N/A	N/A	E&P Tank
Hartgraves 1-6H	Hartgraves 1-6H T1-1	Constructed	34.23155	-96.93554	115.9 - See Attachment	No - See Deviations	N/A	N/A	E&P Tank
Hartgraves 1-6H	Hartgraves 1-6H T1-2	Constructed	34.23151	-96.93552	115.9 - See Attachment	No - See Deviations	N/A	N/A	E&P Tank

Collection of Fugitive Emissions Components at a Well Site

§60.5420a(b)(7)

Facility Name	Date (b)(7)(i)	Beginning and End Time (b)(7)(ii)	Name, Training and Experience of OGI Operator (b)(7)(iii)	Ambient Temperature, Sky Conditions and Max Wind Speed (b)(7)(iv)	Monitoring Instrument (b)(7)(v)	Deviations (or Statement of No Deviations) (b)(7)(vi)	Number and Type of Components for Which Emissions Were Detected (b)(7)(vii)	Number/Type of Components Not Repaired as Required (b)(7)(viii)	Number/Type of DTM & UTM Components Monitored (b)(7)(ix)	Date of Successful Leak Repairs (b)(7)(x)	Number/Type of Components Placed on DOR and Explanation (b)(7)(xi)	Instrument Used to Resurvey (b)(7)(xii)
Brock 9-2H	5/22/2018	10:00 AM 11:22 AM	Ryan Pickett[1]	77 deg F Clear 3 mph	FLIR GF320 OGI Camera	There were no deviations from the Plan	Four (4) Thief Hatches, Two (2) Valves, Two (2) Connectors, One (1) Pipe	None	None	6/6/2018	None	FLIR GF320 OGI Camera
Chandler 8-6H	5/22/2018	12:45 PM 1:41 PM	Ryan Pickett[1]	84 deg F Clear 5 mph	FLIR GF320 OGI Camera	There were no deviations from the Plan	None	N/A	None	N/A	None	N/A
Glenn 16-2H	See Brock 9-2H records - this well is located at the same wellsite											
Hartgraves 1-6H	5/22/2018	2:00 PM 2:43 PM	Ryan Pickett[1]	86 deg F Partly Cloudy 7 mph	FLIR GF320 OGI Camera	There were no deviations from the Plan	Five (5) Thief Hatches, One (1) Valve, One (1) Pipe	None	None	6/6/2018	None	FLIR GF320 OGI Camera
Wiggins 12-8H	See Hartgraves 1-6H records - this well is located at the same wellsite											
WLC 14-1H	This site is subject to initial monitoring, but initial monitoring was not required within the reporting timeframe of this report											

[1] Ryan Pickett (Trinity Consultants): Trained by a FLIR certified thermographer and has undergone 12 hours of office training and more than 50 hours of hands-on field training and practical application. Conducted OGI surveys at approximately 225 compressor stations, well sites, and tank batteries using a FLIR GF320 camera. Performed OGI surveys for oil and gas operations in Texas, Arkansas, North Dakota, and Oklahoma.

Deviations

§60.5420a(b)(2-4)(ii); (5-6)(iii)

Facility Name	Start Date/Time	End Date/Time	Explanation
Chandler 8-6H	6/4/2017 12:00 AM	6/4/2017 12:00 AM	According to 60.5397a(f), an initial monitoring survey was required for the site by June 3, 2017. On April 18, 2017, EPA announced a proposed 90-day stay on certain parts of the NSPS OOOOa requirements, including leak monitoring at affected well sites. On June 5, 2017, the 90-day stay was published in the Federal Register. This action delayed compliance requirements from June 3, 2017, to September 1, 2017, and the published stay noted that the stay had gone into effect on June 2, 2017. On June 12, 2017, the EPA signed a notice to propose a two year stay of the same requirements included in the 90-day stay. In addition, a second, companion proposed rule was issued to ensure there was no gap between the 90-day stay and the proposed two year stay. Based on these actions, the development of the OOOOa LDAR program for this site was halted. On July 3, 2017, a federal court vacated the 90-day stay, noting that EPA did not have authority to implement the stay, although it did extend the stay to July 27, 2017. As such, the initial survey was not completed by June 3, 2017.
Chandler 8-6H	1/1/2018 12:00 AM	1/1/2018 12:00 AM	According to 60.5397a(g), a semiannual monitoring survey was required for the site during the period from July 1, 2017, to December 31, 2017. The required survey was not completed within the specified timeframe. The site is currently in compliance with all NSPS OOOOa requirements for the collection of fugitive emissions components at a well site.
Brock 9-2H	6/4/2017 12:00 AM	6/4/2017 12:00 AM	According to 60.5397a(f), a initial monitoring survey was required for the site within 60 days of startup. The required survey was not completed within the specified timeframe. The site is currently in compliance with all NSPS OOOOa requirements for the collection of fugitive emissions components at a well site. Note, the Glenn 16-2H well is also at this well site.
Hartgraves 1-6H	6/4/2017 12:00 AM	6/4/2017 12:00 AM	According to 60.5397a(f), a initial monitoring survey was required for the site within 60 days of startup. The required survey was not completed within the specified timeframe. The site is currently in compliance with all NSPS OOOOa requirements for the collection of fugitive emissions components at a well site. Note, the Wiggins 12-8H well is also at this well site.
Brock 9-2H	11/27/2017 12:00 AM	N/A	Storage vessel emissions have been reduced by at least 95% using a flare since the startup of production. However, the PE certification for the closed vent system (CVS), the monthly OVA inspections for the cover and CVS, and the 60.18 compliance testing for the flare have not been completed. All of these evaluations have been scheduled and are being completed as expeditiously as possible. The operator is also working with Oklahoma DEQ to resolve these compliance issues that were recently discovered earlier this year.
Chandler 8-6H	4/18/2017 12:00 AM	N/A	Storage vessel emissions have been reduced by at least 95% using a flare since the startup of production. However, the PE certification for the closed vent system (CVS), the monthly OVA inspections for the cover and CVS, and the 60.18 compliance testing for the flare have not been completed. All of these evaluations have been scheduled and are being completed as expeditiously as possible. The operator is also working with Oklahoma DEQ to resolve these compliance issues that were recently discovered earlier this year.
Glenn 16-2H	5/25/2018 12:00 AM	N/A	Storage vessel emissions have been reduced by at least 95% using a flare since the startup of production. However, the PE certification for the closed vent system (CVS), the monthly OVA inspections for the cover and CVS, and the 60.18 compliance testing for the flare have not been completed. All of these evaluations have been scheduled and are being completed as expeditiously as possible. The operator is also working with Oklahoma DEQ to resolve these compliance issues that were recently discovered earlier this year.
Hartgraves 1-6H	10/13/2017 12:00 AM	N/A	Storage vessel emissions have been reduced by at least 95% using a flare since the startup of production. However, the PE certification for the closed vent system (CVS), the monthly OVA inspections for the cover and CVS, and the 60.18 compliance testing for the flare have not been completed. All of these evaluations have been scheduled and are being completed as expeditiously as possible. The operator is also working with Oklahoma DEQ to resolve these compliance issues that were recently discovered earlier this year.
Chandler 8-6H	5/19/2018 12:00 AM	8/31/18 5:00 PM	The initial compliance period for this site started on February 2, 2017, and an initial annual report should have been submitted for the affected well completion by May 18, 2018.

Hartgraves

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*****************************************************************************************
*     Project Setup Information                                                         *
*****************************************************************************************
Project File                : C:\Users\kdunn\Desktop\BNK E&P Tank 180521.ept3
Flowsheet Selection         : Oil Tank with Separator
Calculation Method          : AP42
Control Efficiency          :  0.00%
Known Separator Stream      : Low Pressure Oil
Entering Air Composition    : No
Component Group             : C10+

Date                        : 2018.05.21


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

Separator Pressure (psia)          : 89.70
Separator Temperature (F)          : 73.0
C10+ SG                            : 0.86
C10+ MW(lb/lbmol)                  : 258.92

-- Low Pressure Oil ----------------------------------------------------------------
No.   Component            Mole%    Wt%
1     H2S                   0.0000   0.0000
2     O2                    0.0000   0.0000
3     CO2                   0.0260   0.0080
4     N2                    0.0250   0.0049
5     C1                    1.2070   0.1355
6     C2                    2.3930   0.5037
7     C3                    7.3110   2.2570
8     i-C4                  1.2630   0.5139
9     n-C4                  7.4760   3.0417
10    i-C5                  2.9340   1.4819
11    n-C5                  4.7270   2.3875
12    C6                    2.1470   1.2950
13    C7                   12.9230   9.0647
14    C8                   12.5160  10.0085
15    C9                    7.0720   6.3507
16    C10+                 32.9190  59.6671
17    Benzene               0.1180   0.0645
18    Toluene               0.5110   0.3296
19    E-Benzene             0.4100   0.3047
20    Xylenes               0.9120   0.6778
21    n-C6                  2.9730   1.7936
22    224Trimethylp         0.1370   0.1096

-- Sales Oil -----------------------------------------------------------------------
Production Rate (bbl/day)      : 129.00
Days of Annual Operation       : 365
API Gravity                    : 47.00
Reid Vapor Pressure (psia)     : 0.00
Bulk Temperature               : 62.0

-- Tank and Shell Data -------------------------------------------------------------
Diameter (ft)                  : 12.00
Shell Height (ft)              : 20.00
Cone Roof Slope                : 0.06
Average Liquid Height (ft)     : 10.00
Vent Pressure Range (psia)     : 0.06
Solar Absorbance               : 0.54

-- Meteorological Data -------------------------------------------------------------
City                       : Oklahoma City, OK
Min Ambient Temperature (F)    : 48.6
```

Max Ambient Temperature (F) : 71.2
Total Solar Insolation (F) : 1461.00
Ambient Pressure (psia) : 14.70
Ambient Temperature (F) : 73.0

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

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

	Uncontrolled ton
Total HAPs	1.8540
Total HC	148.6050
VOCs, C2+	140.0850
VOCs, C3+	115.9380
CO2	0.4600
CH4	8.5210

Uncontrolled Recovery Information:
Vapor(mscfd): 7.4700
HC Vapor(mscfd): 7.4300
CO2(mscfd): 0.0200
CH4(mscfd): 1.1000
GOR(SCF/STB): 57.9070

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

NoComponent	Uncontrolled ton
1 H2S	0.0000
2 O2	0.0000
3 CO2	0.4600
4 N2	0.3240
5 C1	8.5210
6 C2	24.1460
7 C3	59.9780
8 i-C4	7.0300
9 n-C4	29.9420
10 i-C5	6.0850
11 n-C5	7.3280
12 C6	1.1900
13 Benzene	0.0490
14 Toluene	0.0680
15 E-Benzene	0.0200
16 Xylenes	0.0380
17 n-C6	1.6430
18 224Trimethylp	0.0350
19 Pseudo Comp1	2.4100
20 Pseudo Comp2	0.1210
21 Pseudo Comp3	0.0000
22 Pseudo Comp4	0.0000
23 Pseudo Comp5	0.0000
24 Total	149.3880

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

NoComponent	MW lb/lbmol	LP Oil mole %	Flash Oil mole %	Sales Oil mole %	Flash Gas mole %	W&S Gas mole %	Total Emission mole %
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	0.0260	0.0041	0.0001	0.3021	0.0038	0.2906
4 N2	28.01	0.0250	0.0004	0.0000	0.3340	0.0001	0.3211
5 C1	16.04	1.2070	0.0823	0.0000	15.3556	0.0001	14.7624
6 C2	30.07	2.3930	0.7822	0.3533	22.6564	13.8398	22.3158
7 C3	44.10	7.3110	4.9224	4.0932	37.3597	48.6532	37.7959
8 i-C4	58.12	1.2630	1.1014	1.0378	3.2957	4.9933	3.3612
9 n-C4	58.12	7.4760	6.9562	6.7305	14.0149	21.8272	14.3167

10 i-C5	72.15	2.9340	2.9852	2.9868	2.2904	3.6744	2.3439
11 n-C5	72.15	4.7270	4.8835	4.9127	2.7580	4.4320	2.8227
12 C6	84.00	2.1470	2.2871	2.3251	0.3847	0.6146	0.3936
13 Benzene	78.11	0.1180	0.1260	0.1282	0.0169	0.0270	0.0173
14 Toluene	92.14	0.5110	0.5500	0.5611	0.0201	0.0316	0.0205
15 E-Benzene	106.17	0.4100	0.4422	0.4514	0.0052	0.0081	0.0053
16 Xylenes	106.17	0.9120	0.9837	1.0042	0.0098	0.0151	0.0100
17 n-C6	86.18	2.9730	3.1682	3.2211	0.5178	0.8290	0.5299
18 224Trimethylp	114.23	0.1370	0.1472	0.1501	0.0084	0.0134	0.0086
19 Pseudo Comp1	101.41	25.4390	27.4098	27.9695	0.6467	1.0023	0.6604
20 Pseudo Comp2	140.43	18.5235	19.9941	20.4139	0.0236	0.0349	0.0240
21 Pseudo Comp3	223.60	10.1655	10.9736	11.2042	0.0000	0.0001	0.0000
22 Pseudo Comp4	322.01	6.9905	7.5462	7.7048	0.0000	0.0000	0.0000
23 Pseudo Comp5	523.37	4.3115	4.6543	4.7521	0.0000	0.0000	0.0000

	LP Oil	Flash Oil	Sales Oil	Flash Gas	W&S Gas	Total Emission
MW (lb/lbmol):	140.87	148.79	150.63	41.20	49.44	41.52
Stream Mole Ratio:	1.0000	0.9264	0.9234	0.0736	0.0030	0.0766
Stream Weight Ratio:	140.87	137.83	139.09	3.03	0.15	3.18
Total Emission (ton):				142.516	6.873	149.389
Heating Value (BTU/scf):				2345.12	2796.97	2362.57
Gas Gravity (Gas/Air):				1.42	1.71	1.43
Bubble Pt. @100F (psia):	75.20	21.95	15.15			
RVP @100F (psia):	197.97	102.42	82.50			
Spec. Gravity @100F:	0.78	0.79	0.79			

Glenn

```
*****************************************************************************************
*     Project Setup Information                                                         *
*****************************************************************************************
Project File               : C:\Users\kdunn\Desktop\BNK E&P Tank 180521.ept3
Flowsheet Selection        : Oil Tank with Separator
Calculation Method         : AP42
Control Efficiency         :  0.00%
Known Separator Stream     : Low Pressure Oil
Entering Air Composition   : No
Component Group            : C10+

Date                       : 2018.05.21


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

Separator Pressure (psia)          : 89.70
Separator Temperature (F)          : 73.0
C10+ SG                            : 0.86
C10+ MW(lb/lbmol)                  : 258.92

-- Low Pressure Oil ----------------------------------------------------------------
No.   Component            Mole%    Wt%
1     H2S                   0.0000   0.0000
2     O2                    0.0000   0.0000
3     CO2                   0.0260   0.0080
4     N2                    0.0250   0.0049
5     C1                    1.2070   0.1355
6     C2                    2.3930   0.5037
7     C3                    7.3110   2.2570
8     i-C4                  1.2630   0.5139
9     n-C4                  7.4760   3.0417
10    i-C5                  2.9340   1.4819
11    n-C5                  4.7270   2.3875
12    C6                    2.1470   1.2950
13    C7                   12.9230   9.0647
14    C8                   12.5160  10.0085
15    C9                    7.0720   6.3507
16    C10+                 32.9190  59.6671
17    Benzene               0.1180   0.0645
18    Toluene               0.5110   0.3296
19    E-Benzene             0.4100   0.3047
20    Xylenes               0.9120   0.6778
21    n-C6                  2.9730   1.7936
22    224Trimethylp         0.1370   0.1096

-- Sales Oil -----------------------------------------------------------------------
Production Rate (bbl/day)      : 268.00
Days of Annual Operation       : 365
API Gravity                    : 47.00
Reid Vapor Pressure (psia)     : 0.00
Bulk Temperature               : 62.0

-- Tank and Shell Data -------------------------------------------------------------
Diameter (ft)                  : 12.00
Shell Height (ft)              : 20.00
Cone Roof Slope                : 0.06
Average Liquid Height (ft)     : 10.00
Vent Pressure Range (psia)     : 0.06
Solar Absorbance               : 0.54

-- Meteorological Data -------------------------------------------------------------
City                       : Oklahoma City, OK
Min Ambient Temperature (F)    : 48.6
```

Max Ambient Temperature (F) : 71.2
Total Solar Insolation (F) : 1461.00
Ambient Pressure (psia) : 14.70
Ambient Temperature (F) : 73.0

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

-- Emission Summary --

	Uncontrolled ton
Total HAPs	3.7900
Total HC	306.1530
VOCs, C2+	288.3710
VOCs, C3+	237.9990
CO2	0.9690
CH4	17.7820

Uncontrolled Recovery Information:

Vapor(mscfd):	15.4400
HC Vapor(mscfd):	15.3400
CO2(mscfd):	0.0500
CH4(mscfd):	2.3000
GOR(SCF/STB):	57.6119

-- Emission Composition --

NoComponent	Uncontrolled ton
1 H2S	0.0000
2 O2	0.0000
3 CO2	0.9690
4 N2	0.6750
5 C1	17.7820
6 C2	50.3720
7 C3	123.4580
8 i-C4	14.4060
9 n-C4	61.3020
10 i-C5	12.4450
11 n-C5	14.9850
12 C6	2.4320
13 Benzene	0.0990
14 Toluene	0.1390
15 E-Benzene	0.0420
16 Xylenes	0.0780
17 n-C6	3.3600
18 224Trimethylp	0.0720
19 Pseudo Comp1	4.9310
20 Pseudo Comp2	0.2490
21 Pseudo Comp3	0.0010
22 Pseudo Comp4	0.0000
23 Pseudo Comp5	0.0000
24 Total	307.7970

-- Stream Data --

NoComponent	MW lb/lbmol	LP Oil mole %	Flash Oil mole %	Sales Oil mole %	Flash Gas mole %	W&S Gas mole %	Total Emission mole %
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	0.0260	0.0041	0.0015	0.3021	0.1021	0.2962
4 N2	28.01	0.0250	0.0004	0.0000	0.3340	0.0001	0.3242
5 C1	16.04	1.2070	0.0823	0.0014	15.3556	0.1580	14.9105
6 C2	30.07	2.3930	0.7822	0.5173	22.6564	18.3578	22.5305
7 C3	44.10	7.3110	4.9224	4.4345	37.3597	47.3643	37.6527
8 i-C4	58.12	1.2630	1.1014	1.0649	3.2957	4.5953	3.3337
9 n-C4	58.12	7.4760	6.9562	6.8289	14.0149	19.8612	14.1862

10 i-C5	72.15	2.9340	2.9852	2.9880	2.2904	3.2969	2.3199
11 n-C5	72.15	4.7270	4.8835	4.9035	2.7580	3.9680	2.7934
12 C6	84.00	2.1470	2.2871	2.3105	0.3847	0.5483	0.3895
13 Benzene	78.11	0.1180	0.1260	0.1274	0.0169	0.0241	0.0171
14 Toluene	92.14	0.5110	0.5500	0.5568	0.0201	0.0281	0.0203
15 E-Benzene	106.17	0.4100	0.4422	0.4478	0.0052	0.0072	0.0053
16 Xylenes	106.17	0.9120	0.9837	0.9962	0.0098	0.0135	0.0099
17 n-C6	86.18	2.9730	3.1682	3.2009	0.5178	0.7390	0.5243
18 224Trimethylp	114.23	0.1370	0.1472	0.1490	0.0084	0.0119	0.0085
19 Pseudo Comp1	101.41	25.4390	27.4098	27.7512	0.6467	0.8930	0.6539
20 Pseudo Comp2	140.43	18.5235	19.9941	20.2497	0.0236	0.0311	0.0238
21 Pseudo Comp3	223.60	10.1655	10.9736	11.1140	0.0000	0.0001	0.0000
22 Pseudo Comp4	322.01	6.9905	7.5462	7.6428	0.0000	0.0000	0.0000
23 Pseudo Comp5	523.37	4.3115	4.6543	4.7139	0.0000	0.0000	0.0000

	LP Oil	Flash Oil	Sales Oil	Flash Gas	W&S Gas	Total Emission
MW (lb/lbmol):	140.87	148.79	149.88	41.20	48.06	41.40
Stream Mole Ratio:	1.0000	0.9264	0.9241	0.0736	0.0022	0.0759
Stream Weight Ratio:	140.87	137.83	138.51	3.03	0.11	3.14
Total Emission (ton):				297.331	10.467	307.797
Heating Value (BTU/scf):				2345.12	2721.59	2356.15
Gas Gravity (Gas/Air):				1.42	1.66	1.43
Bubble Pt. @100F (psia):	75.20	21.95	16.83			
RVP @100F (psia):	197.97	102.42	89.34			
Spec. Gravity @100F:	0.78	0.79	0.79			

Chandler

```
*****************************************************************************************
*     Project Setup Information                                                         *
*****************************************************************************************
Project File               : C:\Users\kdunn\Desktop\BNK E&P Tank 180521.ept3
Flowsheet Selection        : Oil Tank with Separator
Calculation Method         : AP42
Control Efficiency         :  0.00%
Known Separator Stream     : Low Pressure Oil
Entering Air Composition   : No
Component Group            : C10+

Date                       : 2018.05.21


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

Separator Pressure (psia)          : 89.70
Separator Temperature (F)          : 73.0
C10+ SG                            : 0.86
C10+ MW(lb/lbmol)                  : 258.92

-- Low Pressure Oil ----------------------------------------------------------------
No.   Component            Mole%    Wt%
1     H2S                    0.0000   0.0000
2     O2                     0.0000   0.0000
3     CO2                    0.0260   0.0080
4     N2                     0.0250   0.0049
5     C1                     1.2070   0.1355
6     C2                     2.3930   0.5037
7     C3                     7.3110   2.2570
8     i-C4                   1.2630   0.5139
9     n-C4                   7.4760   3.0417
10    i-C5                   2.9340   1.4819
11    n-C5                   4.7270   2.3875
12    C6                     2.1470   1.2950
13    C7                    12.9230   9.0647
14    C8                    12.5160  10.0085
15    C9                     7.0720   6.3507
16    C10+                  32.9190  59.6671
17    Benzene                0.1180   0.0645
18    Toluene                0.5110   0.3296
19    E-Benzene              0.4100   0.3047
20    Xylenes                0.9120   0.6778
21    n-C6                   2.9730   1.7936
22    224Trimethylp          0.1370   0.1096

-- Sales Oil -----------------------------------------------------------------------
Production Rate (bbl/day)      : 79.00
Days of Annual Operation       : 365
API Gravity                    : 47.00
Reid Vapor Pressure (psia)     : 0.00
Bulk Temperature               : 62.0

-- Tank and Shell Data -------------------------------------------------------------
Diameter (ft)                  : 12.00
Shell Height (ft)              : 20.00
Cone Roof Slope                : 0.06
Average Liquid Height (ft)     : 10.00
Vent Pressure Range (psia)     : 0.06
Solar Absorbance               : 0.54

-- Meteorological Data -------------------------------------------------------------
City                       : Oklahoma City, OK
Min Ambient Temperature (F)    : 48.6
```

Max Ambient Temperature (F) : 71.2
Total Solar Insolation (F) : 1461.00
Ambient Pressure (psia) : 14.70
Ambient Temperature (F) : 73.0

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

-- Emission Summary --

	Uncontrolled ton
Total HAPs	1.1560
Total HC	91.5850
VOCs, C2+	86.3930
VOCs, C3+	71.7890
CO2	0.2800
CH4	5.1910

Uncontrolled Recovery Information:

Vapor(mscfd):	4.5900
HC Vapor(mscfd):	4.5600
CO2(mscfd):	0.0100
CH4(mscfd):	0.6700
GOR(SCF/STB):	58.1013

-- Emission Composition --

NoComponent	Uncontrolled ton
1 H2S	0.0000
2 O2	0.0000
3 CO2	0.2800
4 N2	0.1970
5 C1	5.1910
6 C2	14.6040
7 C3	36.9720
8 i-C4	4.3640
9 n-C4	18.6190
10 i-C5	3.7920
11 n-C5	4.5670
12 C6	0.7420
13 Benzene	0.0300
14 Toluene	0.0420
15 E-Benzene	0.0130
16 Xylenes	0.0240
17 n-C6	1.0240
18 224Trimethylp	0.0220
19 Pseudo Comp1	1.5020
20 Pseudo Comp2	0.0760
21 Pseudo Comp3	0.0000
22 Pseudo Comp4	0.0000
23 Pseudo Comp5	0.0000
24 Total	92.0610

-- Stream Data --

NoComponent	MW lb/lbmol	LP Oil mole %	Flash Oil mole %	Sales Oil mole %	Flash Gas mole %	W&S Gas mole %	Total Emission mole %
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	0.0260	0.0041	0.0000	0.3021	0.0001	0.2881
4 N2	28.01	0.0250	0.0004	0.0000	0.3340	0.0001	0.3186
5 C1	16.04	1.2070	0.0823	0.0000	15.3556	0.0001	14.6459
6 C2	30.07	2.3930	0.7822	0.1836	22.6564	7.9757	21.9779
7 C3	44.10	7.3110	4.9224	3.7038	37.3597	49.8683	37.9378
8 i-C4	58.12	1.2630	1.1014	1.0055	3.2957	5.5099	3.3980
9 n-C4	58.12	7.4760	6.9562	6.6110	14.0149	24.4351	14.4965

10 i-C5	72.15	2.9340	2.9852	2.9839	2.2904	4.1869	2.3781
11 n-C5	72.15	4.7270	4.8835	4.9212	2.7580	5.0640	2.8646
12 C6	84.00	2.1470	2.2871	2.3412	0.3847	0.7054	0.3995
13 Benzene	78.11	0.1180	0.1260	0.1292	0.0169	0.0310	0.0175
14 Toluene	92.14	0.5110	0.5500	0.5659	0.0201	0.0363	0.0208
15 E-Benzene	106.17	0.4100	0.4422	0.4554	0.0052	0.0093	0.0054
16 Xylenes	106.17	0.9120	0.9837	1.0132	0.0098	0.0174	0.0101
17 n-C6	86.18	2.9730	3.1682	3.2437	0.5178	0.9524	0.5379
18 224Trimethylp	114.23	0.1370	0.1472	0.1513	0.0084	0.0154	0.0087
19 Pseudo Comp1	101.41	25.4390	27.4098	28.2157	0.6467	1.1525	0.6701
20 Pseudo Comp2	140.43	18.5235	19.9941	20.5992	0.0236	0.0401	0.0244
21 Pseudo Comp3	223.60	10.1655	10.9736	11.3062	0.0000	0.0001	0.0000
22 Pseudo Comp4	322.01	6.9905	7.5462	7.7748	0.0000	0.0000	0.0000
23 Pseudo Comp5	523.37	4.3115	4.6543	4.7953	0.0000	0.0000	0.0000

	LP Oil	Flash Oil	Sales Oil	Flash Gas	W&S Gas	Total Emission
MW (lb/lbmol):	140.87	148.79	151.50	41.20	51.21	41.66
Stream Mole Ratio:	1.0000	0.9264	0.9228	0.0736	0.0036	0.0772
Stream Weight Ratio:	140.87	137.83	139.81	3.03	0.18	3.22
Total Emission (ton):				86.832	5.230	92.062
Heating Value (BTU/scf):				2345.12	2890.28	2370.31
Gas Gravity (Gas/Air):				1.42	1.77	1.44
Bubble Pt. @100F (psia):	75.20	21.95	13.41			
RVP @100F (psia):	197.97	102.42	75.60			
Spec. Gravity @100F:	0.78	0.79	0.79			

Brock

```
*****************************************************************************************
*     Project Setup Information                                                         *
*****************************************************************************************
Project File              : C:\Users\kdunn\Desktop\BNK E&P Tank 180521.ept3
Flowsheet Selection       : Oil Tank with Separator
Calculation Method        : AP42
Control Efficiency        :  0.00%
Known Separator Stream    : Low Pressure Oil
Entering Air Composition  : No
Component Group           : C10+

Date                      : 2018.05.21


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

Separator Pressure (psia)         : 89.70
Separator Temperature (F)         : 73.0
C10+ SG                           : 0.86
C10+ MW(lb/lbmol)                 : 258.92

-- Low Pressure Oil ----------------------------------------------------------------
No.   Component           Mole%    Wt%
1     H2S                   0.0000   0.0000
2     O2                    0.0000   0.0000
3     CO2                   0.0260   0.0080
4     N2                    0.0250   0.0049
5     C1                    1.2070   0.1355
6     C2                    2.3930   0.5037
7     C3                    7.3110   2.2570
8     i-C4                  1.2630   0.5139
9     n-C4                  7.4760   3.0417
10    i-C5                  2.9340   1.4819
11    n-C5                  4.7270   2.3875
12    C6                    2.1470   1.2950
13    C7                   12.9230   9.0647
14    C8                   12.5160  10.0085
15    C9                    7.0720   6.3507
16    C10+                 32.9190  59.6671
17    Benzene               0.1180   0.0645
18    Toluene               0.5110   0.3296
19    E-Benzene             0.4100   0.3047
20    Xylenes               0.9120   0.6778
21    n-C6                  2.9730   1.7936
22    224Trimethylp         0.1370   0.1096

-- Sales Oil -----------------------------------------------------------------------
Production Rate (bbl/day)     : 81.00
Days of Annual Operation      : 365
API Gravity                   : 47.00
Reid Vapor Pressure (psia)    : 0.00
Bulk Temperature              : 62.0

-- Tank and Shell Data -------------------------------------------------------------
Diameter (ft)                 : 12.00
Shell Height (ft)             : 20.00
Cone Roof Slope               : 0.06
Average Liquid Height (ft)    : 10.00
Vent Pressure Range (psia)    : 0.06
Solar Absorbance              : 0.54

-- Meteorological Data -------------------------------------------------------------
City                      : Oklahoma City, OK
Min Ambient Temperature (F)   : 48.6
```

Max Ambient Temperature (F) : 71.2
Total Solar Insolation (F) : 1461.00
Ambient Pressure (psia) : 14.70
Ambient Temperature (F) : 73.0

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

-- Emission Summary --

	Uncontrolled ton
Total HAPs	1.1840
Total HC	93.8740
VOCs, C2+	88.5490
VOCs, C3+	73.5600
CO2	0.2870
CH4	5.3250

Uncontrolled Recovery Information:

Vapor(mscfd):	4.7100
HC Vapor(mscfd):	4.6800
CO2(mscfd):	0.0100
CH4(mscfd):	0.6900
GOR(SCF/STB):	58.1481

-- Emission Composition --

NoComponent	Uncontrolled ton
1 H2S	0.0000
2 O2	0.0000
3 CO2	0.2870
4 N2	0.2020
5 C1	5.3250
6 C2	14.9890
7 C3	37.8970
8 i-C4	4.4710
9 n-C4	19.0720
10 i-C5	3.8830
11 n-C5	4.6780
12 C6	0.7600
13 Benzene	0.0310
14 Toluene	0.0430
15 E-Benzene	0.0130
16 Xylenes	0.0240
17 n-C6	1.0490
18 224Trimethylp	0.0230
19 Pseudo Comp1	1.5380
20 Pseudo Comp2	0.0770
21 Pseudo Comp3	0.0000
22 Pseudo Comp4	0.0000
23 Pseudo Comp5	0.0000
24 Total	94.3620

-- Stream Data --

NoComponent	MW lb/lbmol	LP Oil mole %	Flash Oil mole %	Sales Oil mole %	Flash Gas mole %	W&S Gas mole %	Total Emission mole %
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	0.0260	0.0041	0.0000	0.3021	0.0001	0.2882
4 N2	28.01	0.0250	0.0004	0.0000	0.3340	0.0001	0.3187
5 C1	16.04	1.2070	0.0823	0.0000	15.3556	0.0001	14.6519
6 C2	30.07	2.3930	0.7822	0.1936	22.6564	8.3646	22.0015
7 C3	44.10	7.3110	4.9224	3.7280	37.3597	49.8017	37.9299
8 i-C4	58.12	1.2630	1.1014	1.0075	3.2957	5.4747	3.3955
9 n-C4	58.12	7.4760	6.9562	6.6187	14.0149	24.2552	14.4842

10 i-C5	72.15	2.9340	2.9852	2.9841	2.2904	4.1511	2.3757
11 n-C5	72.15	4.7270	4.8835	4.9207	2.7580	5.0197	2.8616
12 C6	84.00	2.1470	2.2871	2.3402	0.3847	0.6990	0.3991
13 Benzene	78.11	0.1180	0.1260	0.1291	0.0169	0.0307	0.0175
14 Toluene	92.14	0.5110	0.5500	0.5656	0.0201	0.0359	0.0208
15 E-Benzene	106.17	0.4100	0.4422	0.4552	0.0052	0.0092	0.0054
16 Xylenes	106.17	0.9120	0.9837	1.0126	0.0098	0.0172	0.0101
17 n-C6	86.18	2.9730	3.1682	3.2423	0.5178	0.9438	0.5374
18 224Trimethylp	114.23	0.1370	0.1472	0.1513	0.0084	0.0152	0.0087
19 Pseudo Comp1	101.41	25.4390	27.4098	28.2005	0.6467	1.1419	0.6694
20 Pseudo Comp2	140.43	18.5235	19.9941	20.5878	0.0236	0.0397	0.0243
21 Pseudo Comp3	223.60	10.1655	10.9736	11.2998	0.0000	0.0001	0.0000
22 Pseudo Comp4	322.01	6.9905	7.5462	7.7705	0.0000	0.0000	0.0000
23 Pseudo Comp5	523.37	4.3115	4.6543	4.7926	0.0000	0.0000	0.0000

	LP Oil	Flash Oil	Sales Oil	Flash Gas	W&S Gas	Total Emission
MW (lb/lbmol):	140.87	148.79	151.45	41.20	51.09	41.65
Stream Mole Ratio:	1.0000	0.9264	0.9228	0.0736	0.0035	0.0772
Stream Weight Ratio:	140.87	137.83	139.76	3.03	0.18	3.21
Total Emission (ton):				89.059	5.304	94.364
Heating Value (BTU/scf):				2345.12	2883.94	2369.81
Gas Gravity (Gas/Air):				1.42	1.76	1.44
Bubble Pt. @100F (psia):	75.20	21.95	13.52			
RVP @100F (psia):	197.97	102.42	76.03			
Spec. Gravity @100F:	0.78	0.79	0.79			