

OIL AND GAS ACTIVITY IN TENNESSEE DURING 2017

By

Elaine Foust, PG
Tennessee Division of Water Resources
Tennessee Oil and Gas Program
· 711 R S Gass Blvd.
Nashville, TN 37216
Phone (615) 687-7109; Fax: (615) 687-7078

E-mail: Elaine.Foust@TN.gov

Presented to the 47th Annual Meeting of the Tennessee Oil and Gas Association in Gatlinburg, Tennessee, on May 8, 2018

Introduction

The oil and gas industry in Tennessee is beginning to show some improvement in permitting, oil production, oil and gas prices. Gas production was down for 2017 but then again with the price increase for gas for 2017, this has the value close to the previous year.

Permitting Activity

Oil and gas well permitting activity in Tennessee increased nearly 19 percent during 2017 and is the first year increase in the last previous five years in a row with a decline. Figure 1 shows the five counties that had permitting activity in 2017 with the 16 more permits than in 2016. A total of 61 permits were issued, compared to 45 in in the previous year. The first table shows the complete county breakdown of permits issued during 2017. Overton was the most active, with 32 permits, Pickett County had 13, and Fentress was third, with 11 permits. With 100 percent of the permits issued in 2017, the Eastern Highland Rim (western Fentress, Overton, Pickett, Clay, and Macon counties) once again overshadowed the Cumberland Plateau in terms of permitting activity. This continues an eight-year trend when permitting activity began moving away from the Cumberland Plateau in favor of the Eastern Highland Rim. Permitting on the Cumberland Plateau (eastern Fentress, Morgan, and Scott counties) decreased to zero percent of the total for 2017 and is down from the 27 percent in 2016.

Permits Issued by County During 2017

Overton	32
Pickett	
Fentress	
Clay	4
Macon	1
Total	61

Figure 1. Counties with Permits Issued During 2017

Clay

Overton

Overton

Oil and Gas Well Completions

The Tennessee Oil and Gas Program classified 884 oil and gas tests during 2017. These completions included 505 new field wildcats, 335 development wells, 37 outposts, and seven abandoned locations. There were 35 oil wells, 75 gas, one oil and gas, and 766 dry holes. The 2017 overall success rate was 12.66 percent, while the success rate for new field wildcats was about 6.05 percent, for development wells 5.94 percent, and for outposts was 0.68 percent. Since 1980 the overall success rate has averaged 52.66 percent. Total drilling footage reported for 2017 was 81,939 feet. Since 1982 total drilling footage reported is 14,780,997 feet, averaging 410,583 feet per year.

Summary of Tennessee Well Completion Activity

Year	Oil	Gas	<u>0&G</u>	Dry	Abd. Loc.	Total
1980	103	189	0	59	0	351
1981	104	133	0	79	0	316
1982	142	137	23	91	0	393
1983	229	390	24	346	174	1163
1984	201	385	42	309	108	1045
1985	184	359	116	296	62	1017
1986	110	227	69	144	13	563
1987	42	75	24	160	16	317
1988	44	131	22	132	15	344
1989	32	74	18	72	14	210

Year	<u>Oil</u>	Gas	<u>0&G</u>	Dry	Abd. Loc.	Total
1990	10	58	24	73	1	166
1991	13	29	13	55	0	110
1992	19	29	14	51	1	114
1993	27	56	5 × 1 × 11 × 11 × 11 × 11 × 11 × 11 × 1	53.	0	141
1994	26	39	10	86	0	161
1995	13	14	6	75		109
1996	13	16	1	74	0	104
1997	12	26	5	87	0	130
1998	17	21	7	80	0	125
1999	24	70 40 To 40	2	74	0	107
2000	28	20	4	126	0	178
2001	26	18	5 15 15	183	2	234
2002	0	19	0	91	2	112
2003	2	3	0	12	0	17
2004	1	1	0	0	0	2
2005	4	6	2	128	3	143
2006	3	2	0	10	16	31
2007	0	0	0	3	3	6
2008	15	69	3	31	23	141
2009	2	8	0	1	9	20
2010	2	4	0	5	13	24
2011	71	369	167	213	12	832
2012	54	132	43	111	2	342
2013	92	92	9	278	19	490
2014	65	87	16	290	45	503
2015	51	182	24	429	26	712
2016	54	160	18	526	14	772
2017	35	75	1	766	7	884
Totals	1,870	3,642	717	5,599	601	12,429

Overall Success6,229/11,828......52.66%

Drilling Footage from Wells Permitted During the Year in Tennessee

Year	Footage	Year	Footage	Year	Footage	Year	Footage
1982	1,331,962	1991	150,101	2000	- 409,059	2009	- 240,867
1983	1,070,260	1992	188,297	2001	- 369,758	2010	- 231,105
1984	904,456	1993	234,616	2002	- 357,034	2011	- 365,167
1985	474,014	1994	- 247,956	2003	- 742,350	2012	- 290,762
1986	389,411	1995	179,693	2004	- 432,453	2013	- 268,264
1987	362,126	1996	171,135	2005	- 844,980	2014	- 201,230
1988	142,081	1997	- 252,333	2006	- 878,197	2015	- 112,302
1989	190,346	1998	- 277,912	2007 1	1,200,204	2016	70,666
1990	131,901	1999	- 278,150	2008	- 707,910	2017	81,939
	Total	14,780	,997	Ave	erage	410,	583

Oil Production

Oil production totaled 270,376.5 barrels during 2017, an increase of nearly 4.5 percent from the 257,021 barrels that were produced in 2016. Eleven counties reported production, which are the same ten counties from 2016 plus the production coming from Putnam County to make this an eleven county year. The 2017 counties are shown in Figure 2. The average price per barrel increased to an estimated \$46.03, resulting in a total value just under \$12.5 million, up from over \$10.5 million in 2016, when the average price per barrel was \$41.20. The value of Tennessee's oil production reached an all-time high of nearly \$36 million in 1982, when the average price per barrel was \$30.92. For the state of Tennessee, the 2017 oil production generated estimated severance tax revenue of more than \$373,364.

The second table shows the complete county breakdown for oil produced in Tennessee during 2017. Overton County reclaimed the leader position this year, with 83,361.9 barrels, or 30.8 percent of the state's total with 114 wells contributing. Morgan County dropped to second place with 63,326.36 barrels with 325 wells contributing for 23.4 percent of the total, and Scott County remained in third with 45,159.04 barrels and 271 wells with production. Fentress County remained in fourth place with 129 wells producing while Anderson County remained in fifth place with 88 wells contributing and Pickett also remained in sixth place from with 63 wells while Claiborne County continued in seventh with 47 wells in production. Campbell stayed in eighth place with 15 wells in production. Clay County with 9 wells producing stayed in ninth place and Cumberland County had three wells producing. Putnam County had two wells producing to finalize the counties with oil produced during 2017. The State's oil production is coming from 1,066 wells this year which is down from the 1,098 wells in 2016.

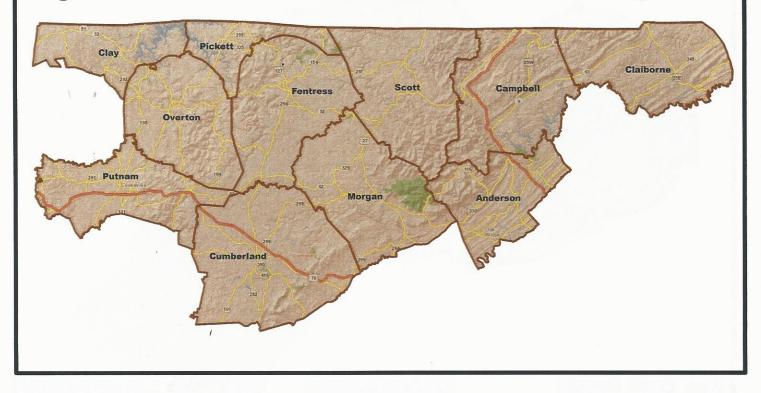
Figure 3 shows the location of the most productive oil wells in Tennessee during 2017. These five wells, all of which produced over 5,000 barrels of oil during the year, accounted for 50,350 barrels, almost 19 percent of Tennessee's total production during 2017. During 2016, Tennessee's five most productive oil wells accounted for 30,589 barrels, almost 12 percent of the state's total annual production.

The McDonald-Davis #10 by John Henry Oil Corporation in Overton County was the state's most productive oil well. It produced a total of 15,031.6 barrels in 2017, with an estimated market value of nearly \$692,000. This well was permitted in February 2017 and started producing so it cumulative production is 15,031.6 barrels from the Nashville Group from March of 2017. The second most productive oil well was the Barry Johnson #10 by Able Oil Company, Inc. in Overton County. This well was the largest well in 2015 and 2016. It produced a total of 12,575.34 barrels from the Stones River Group in 2017 and has 87,746 cumulative barrels total from July 2011. The 2017 estimated market value of the well is over \$578,800. The third most productive oil well was the McDonald-Williams (Roger McDonald) #2 by John Henry Oil Corp. in Overton County. It produced a total of 12,554.3 barrels with an estimated market value of over \$577,800. Cumulative production is 12,554.3 barrels (tank battery previously) which is from the Nashville and Stones River Group since January of 2015. The Emory River, LLC #HW-1508 by Know Energy, LLC dropped to fourth place from second place in 2017 and is located in Morgan County. The John Henry Oil Corporation well, McDonald-Williams #17 in Overton County is the fifth most productive oil well. This year has been a good for John Henry Oil Corp. for having three wells in the top five of the state.

The Wayne Brown #3 continues to be Tennessee's most productive oil well on record. The third table shows all of Tennessee's oil wells with cumulative production of over 124,000 barrels.

Cumulative oil production for the entire state now stands at more than 24.1 million barrels, with an estimated total value of over \$668 million.

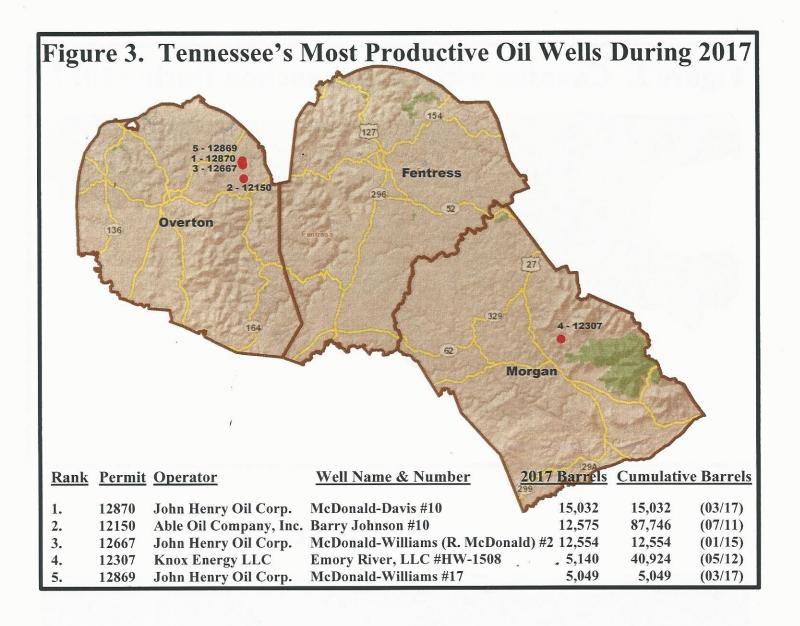
Figure 2. Counties with Oil Production During 2017



Tennessee Oil Production (BBLS) During 2017*

COUNTY	TOTAL PRODUCTION FOR COUNTY	NUMBER OF WELLS CONTRIBUTING TO PRODUCTION
Overton	83,361.90	114
Morgan	63,326.355	325
Scott	45,159.04	271
Fentress	38,125.07	129
Anderson	13,577.49	88
Pickett	11,426.60	63
Claiborne	9,359.09	, 47
Campbell	5,008.78	15
Clay	855.25	9
Cumberland	106.74	3
Putnam	70.22	2
Grand Total for State	270,376.535	1066

^{*}Oil production received through May 3, 2018.



Tennessee's Most Productive Oil Wells

County	<u>Field</u>	Permit	<u>Operator</u>	Well Name	Production (barrels)	Period	<u>Interval</u>
Overton	Miller Mountain	8822	OH-KY Oil Corp.	Wayne Brown #3	273,936.56	08/94 - 1/13	Nashville/ Stones River Group
Morgan	Burrville	792	Enrema, LLC	Davidson - Mason Unit #1	170,094.62	01/75 - 12/17	Fort Payne
Scott	Gum Branch	2318	John Miller Oil & Gas Co., Inc.	Vernon Lawhorn #1	150,183	01/81 - 08/06	Monteagle
Claiborne	Days Chapel	4112	Vinland Energy, LLC	J M Huber Corp # AT-6	133,051.06	01/82 - 12/15	Monteagle
Overton	Good Hope	2316	P Neal Richardson	John Billings #1	132,128.61	07/79- 07/88	Stones River Group
Claiborne	Days Chapel	8381	Vinland Energy, LLC	J. M. Huber Corp. #AT-102	127,865.38	01/90 - 12/17	Monteagle
Fentress	Stockton SW	5036	Blue Ridge Hydrocarbons Corp.	Gerald & Arthur Gernt #1	124,042.5	01/83 - 07/95	Monteagle/ Fort Payne

Gas Production

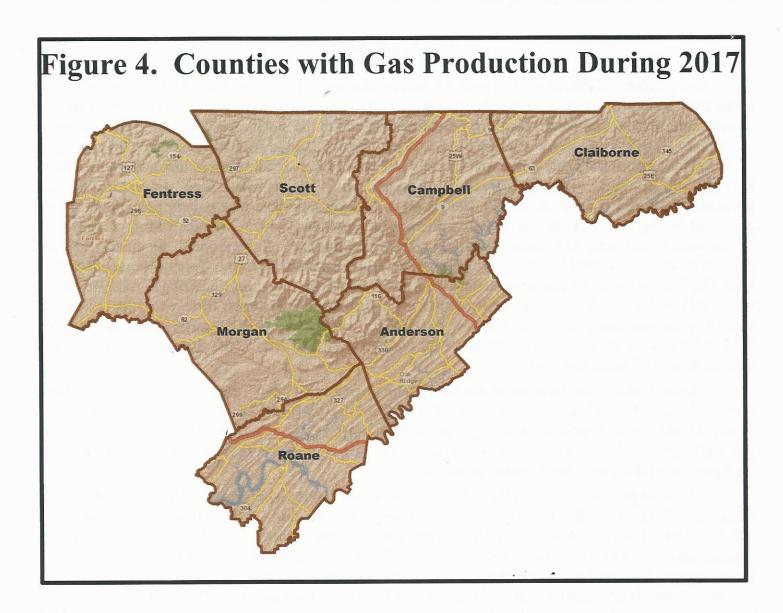
Gas production decreased just over 13 percent during 2017, to less than 2.97 billion cubic feet, down from a little less than 3.6 billion cubic feet in 2016 and is Tennessee's seventeenth over all-time record high. Production came from seven counties which are the same as in 2016 and they are shown in Figure 4. The average price increased to \$3.05 per thousand cubic feet, up from the 2016 average of \$2.53. Total estimated value decreased slightly but was still over \$9 million, down from just under \$9.1 million in 2016. For the state of Tennessee, the 2017 gas production generated estimated severance tax revenue over \$271,700. The fourth table shows the complete county breakdown for gas produced during 2017. Anderson County remained in first place, with 1,078,602.5 Mcf, or 36 percent of the state's total with 311 wells contributing to the production. Scott County remained in second place with 605,652.4 Mcf by means of 195 producing wells, and Claiborne County remained at third with 496,766 Mcf with 81 wells producing. Morgan County continued fourth with 433,542.915 Mcf in which 233 wells which contributed to the total, while Campbell remained fifth with 300,312.36 Mcf and 87 wells producing the total. Fentress continues at sixth place with 51 wells producing 39,420.2 Mcf and Roane is seventh again with one well producing 11,361 Mcf. The State's gas production is coming from 959 wells this year.

Figure 5 shows the location of the most productive gas wells in Tennessee during 2017. These five wells, all of which produced over 43,000 Mcf during the year, accounted for 351,610 Mcf, or nearly 12 percent of Tennessee's total gas production during 2017. During 2016, Tennessee's six top gas wells produced over 51,000 Mcf each during the year and accounted for 375,057 Mcf, or nearly 10.5 percent of the state's total annual production.

The most productive gas well for 2017 is new to the top producers, David Morrow & O. E. Chambers ETAL #Chambes1; a well by Nucorp Energy, Inc. in Scott County. It produced a total of 156,062.7 Mcf from the Monteagle with a market value estimated more than \$475,900. Cumulative production is 159,181.5 Mcf since 2016. The Coal Creek Company #CH-2001, a horizontal well by Knox Energy, LLC in Anderson County was the state's second most productive gas well up from fourth last year. It produced a total of 53,262.9 Mcf from the Chattanooga Shale for 2017, with an estimated market value of more than \$162,400. This well has a cumulative production of 774,505 Mcf from 2008. The third most productive gas well remained the in the same from last year was the Corrigan TLP, LLC #DPI-211, a horizontal well by Magnum Hunter Production Inc. in Claiborne County. It produced a total of 52,630 Mcf in 2017, with a market value over \$160,500 with cumulative production of 443,672 Mcf from the Chattanooga Shale since 2011. The fourth productive well is new to the top producers this year and is operated by Knox Energy, LLC, the MAP0406 (General Partnership) #AH-1008, a horizontal well by Knox Energy, LLC in Campbell County. This horizontal well produced 46,615 Mcf with a total cumulative production of 364,230 Mcf since 2014 from the Fort Payne and Chattanooga shale. The Corrigan TLP, LLC #DPI-209, a horizontal well in the Chattanooga shale by Magnum Hunter Production Inc., in Claiborne County was the state's fifth most productive gas well up from sixth last year. It produced a total of 43,040 Mcf in 2017 with a cumulative production of 416,533 Mcf since 2011.

The Teague Heirs Et Al Community #1 in Claiborne County continues to be Tennessee's most productive gas well on record, with cumulative production of 991,548 Mcf from the Monteagle Limestone since January of 1990. The fifth table shows all of Tennessee's top producing gas wells with cumulative production of at least 674,000 Mcf per well.

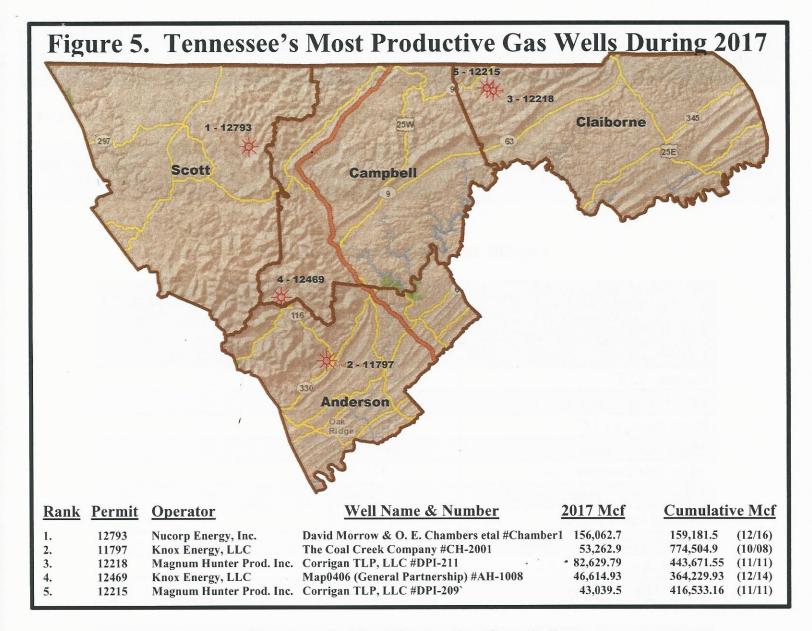
Cumulative gas production in Tennessee is over 167.4 billion cubic feet, with an estimated total value of nearly \$417.4 million.



Tennessee Gas Production (MCF) During 2017*

COUNTY	TOTAL PRODUCTION FOR COUNTY	NUMBER OF WELLS CONTRIBUTING TO PRODUCTION
Anderson	1,078,602.50	311
Scott	605,652.40	195
Claiborne	496,766.00	81
Morgan	433,542.92	; 233
Campbell	300,312.36	87
Fentress	39,420.20	51
Roane	11,361.00	1
Grand Total for State	2,969,806.38	959

^{*}Gas production received through May 3, 2018.



Tennessee's Most Productive Gas Wells

County	<u>Field</u>	<u>Permit</u>	<u>Operator</u>	Well Name	Production (Mcf)	<u>Period</u>	Interval
Claiborne	Days Chapel	5620	Vinland Energy, LLC	Teague Heirs Et Al Community #1	991,547.93	01/90 - 12/16	Monteagle
Hancock	NFW	9278	Swan Creek Partners, LLC	Warren Reed #2	856,334	04/01 - 12/15	Knox Group
Fentress	Hurricane Ridge West	1577	Saint Joseph Petroleum, Inc.	Stearns #1	812,657.2	12/83 - 05/07	Fort Payne
Anderson	NFW	11797	Knox Energy, LLC	The Coal Creek Company #CH- 2001	774,504.3	10/08 – 12/16	Chattanooga Shale

County	<u>Field</u>	<u>Permit</u>	<u>Operator</u>	Well Name	Production (Mcf)	Period	Interval
Fentress	Hurricane Ridge West	2167	Saint Joseph Petroleum, Inc.	Stearns #5	695,604.2	02/84 - 03/03	Fort Payne
Morgan	Pleasant Ridge	4518	BJ, Inc.	Brown- Pemberton CA- 1981-1 Unit #1	674,302	12/82 – 09/00	Nashville Group

Top Oil and Gas Producers for 2017

Top 10 Producers of Oil for 2017						
Operator	Total Production in Barrels	Total Count of Wells Contributing to Total Production				
Enrema, LLC	49,879.765	254				
John Henry Oil Corporation	33,698.930	8				
Knox Energy LLC '	16,405.990	25				
Hornet Corporation	15,453.120	15				
Able Oil Company, Inc.	12,575.340	1				
Atlas Energy Tennessee, LLC	11,248.600	99				
Vinland Energy, LLC	11,138.520	60				
Citizens Gas Utility District	8,391.700	37				
Fork Ridge Energy, LLC	7,476.880	29				
Arnco Oil Company, Inc.	6,487.000	21				

Top 10 Producers of Gas for 2017					
Operator	Total Production in Mcf	Total Count of Wells Contributing to Total Production			
Atlas Energy Tennessee, LLC	979,392.56	431			
Knox Energy LLC	836,597.81	98			
Vinland Energy, LLC	370,122.63	145			
Magnum Hunter Production, Inc.	289,688.40	24			
Nucorp Energy, Inc.	156,062.70	1			
Enrema, LLC	130,444.275	153			
Delta Producers, Inc.	56,843.00	22			
Energy Associates, Inc	56,553.00	32			
Walden Resources, Inc.	36,126.00	10			
Gary & Jeff Yancey	7250.00	8			

Largest Oil Wells in the Producing Counties for 2016

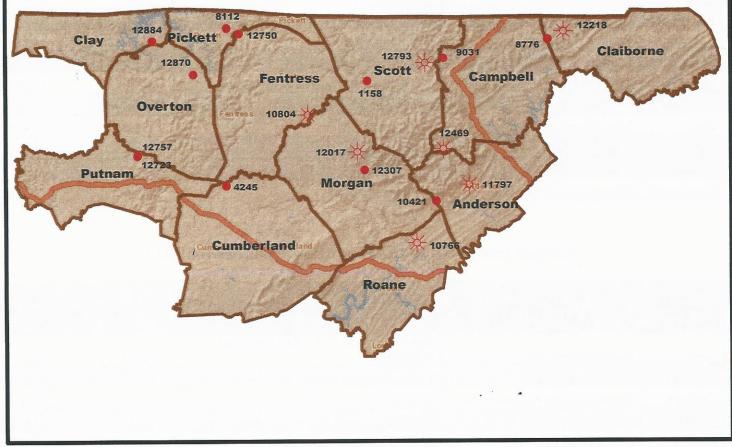
County	Operator	Well Name	Permit	Total 2016 Production in Barrels
Overton	John Henry Oil Corporation	McDonald-Davis #10	12870	15,031.60
Scott	Fork Ridge Energy, LLC	BERTRAM W C #2	1158	7,476.88
Morgan	Knox Energy LLC	Emory River, LLC #HW-1508	12307	5,140.28
Fentress	Hornet Corporation	Charlotte Stephens Stover Unit #1	12750	3,457.88
Anderson	Walden Resources, Inc.	R D Parten etal #3	10421	2,933.86
Pickett	Duncan Drilling Co.	POORE ET AL UNIT #1	8112	1,872.58
Campbell	Little Elk Energy Development	TRT LOGGING (LENDON BAIRD) #3	9031	1,259.11
Claiborne	Vinland Energy LLC	J M HUBER CORP #AT-120	8776	551.99
Clay	John Henry Oil Corporation	Iron Creek #3A	12884	196.00
Putnam	Plateau Well Service	Gene A. Bilbrey #1	12723	70.22
Putnam	Plateau Well Service George Terry Gant, III #1		12757	10.22
Cumberland	Phoenix Oil Company, Inc.	BORING JOHN #1	4245	66.60

Largest Gas Wells in the Producing Counties for 2017

County	Operator	Well Name	Permit	Total 2017 Production in Mcf	
Scott	Nucorp Energy, Inc.	David Morrow & O. E. Chambers ETAL #Chambers1	12793	156,062.70	
Anderson Knox Energy LLC Claiborne Magnum Hunter Production, Inc.		The Coal Creek Company #CH-2001	11797	53,262.90	
		Corrigan TLP, LLC #DPI-211	12218	52,629.79	
Campbell	Knox Energy LLC	Map0406 (General Partnership) #AH-1008	12469	46,614.93	
Morgan	Knox Energy LLC	Emory River LLC #HH-1024	12017	21,008.14	
Roane Enrema, LLC		Edwards-Fowler Unit #1	10766	11,361.00	
Fentress	Enrema, LLC	Bruno Gernt #25	10804	5,713.00	

Production information comes from monthly purchasers' reports and/or operators' annual well reports.

Figure 6. Tennessee's Most Productive Oil or Gas Wells in Producing Counties for 2017



Water Quality, Oil and Gas Board Activity

During 2017, the Tennessee Board of Water Quality, Oil and Gas did not have any held board meetings that pertained to oil and gas situations.

Staff

The Oil and Gas Program staff can be contacted at the following:

Glenn Burke	Oil and Gas Inspector	Glenn.Burke@TN.gov	(865) 207-0733
Mike Burton	Oil and Gas Supervisor	Michael.K.Burton@TN.gov	(615) 687-7120
Christina Coyt	Oil and Gas Inspector	Christina.Coyt@TN.gov	_(931) 312-9112
Elaine Foust	Geologist	Elaine.Foust@TN.gov	(615) 687-7109
Martin Kohl	Geologist - Special Projects	Martin.Kohl@TN.gov	(865) 594-5597
Kathy Mitchell	Administrative Assistant	Kathy.Mitchell@TN.gov	(615) 687-7053

Computerized Oil and Gas Database and Well Information

Well information continues to be added to the oil and gas database that combines all information related to oil and gas permitting and production into one integrated file. The database currently contains information on nearly 16,100 wells.

Scanned well information can be obtained by contacting our office and we can help you with the specifics to obtain this information. Well record review must also be coordinated with the program prior to arriving at our office at 711 R S Gass Blvd, Nashville, TN.

Minimal well permit information can be found on-line within the Water Resources Permits Data viewer which is updated at the first of the month at the following:

http://environment-online.state.tn.us:8080/pls/enf reports/f?p=9034:34300:0::NO

The test site (snapshot of data from May 2016 for permit information only) for geographic information system on oil and gas wells with parcels and production data (does not account for master meters or tank batteries so should be checked before being used) can be found at the following:

http://tdeconline.tn.gov/OilGasWells/

Conclusion

Even with permitting increasing somewhat, it has allowed field investigations of wells to increase, preparing for the database move to oracle, and supported the catching up on well classifications this year. Oil production was up nearly 4.5 percent with the price of oil increase around 5.3 percent and gas production was down a little over 13 percent with gas prices increase by almost 19 percent this year compared to 2016. During the first five months of 2018, permitting activity has increased with the Tennessee Oil and Gas Program issuing 48 oil and gas well drilling permits, compared to 29 permits during the same time period of 2017. Hopefully the industry will continue to rebound in 2018 across the board.

I would like to acknowledge all of the oil and gas purchasers and producers for their diligence in providing the State Oil and Gas Program with monthly production reports and the Annual Well Reports coming in this year. These forms are our only source for production information. If all of the oil and gas produced in Tennessee continues to be reported as required, then we will be able to continue to provide accurate, complete, and verifiable production figures upon which both the oil and gas industry and the general public can rely.

Summary of Tennessee Oil and Gas Activity

T 7	Permits	Oil prod.	Vales	Average	Gas prod.	Value	Average
Year	Issued	(bbls)	Value	Price	(Mcf)**	value	Price
1866-		1,104,436	13,708,493				311/2/11/11
1969						un i de la laci	
1908-			l rough permission	TOUR HOUSE	51,311,756	335,000	a tomas
1969	,			10.143			THE RESIDEN
1968	13				7.114		
1969	27		10000000000000000000000000000000000000	Marie Marie			THE SHEET SERVE
1970	161	318,613			63,959	13,000	.20*
1971	179	400,508			90,305	20,000	.22*
1972	137	198,234			24,636	8,000	.32*
1973	128	204,827			31,497	6,000	.19*
1974	250	768,674	7,256,283	9.44*	16,628	6,000	.36*
1975	254	682,457	7,855,080	11.51*	26,651	12,000	.45*
1976	180	598,427	8,210,418	13.72*	46,964	24,000	.51*
1977	318	819,747	11,271,521	13.75*	262,460	195,000	.74*
1978	397	593,130	7,532,751	12.70*	467,762	767,000	1.64*
1979	619	613,671	14,494,909	23.62*	941,049	1,336,290	1.42*
1980	927	742,926	25,437,786	34.24*	1,248,094	2,196,645	1.76*
1981	1228	917,524	32,636,329	35.57*	1,718,915	4,383,233	2.55*
1982	1069	1,157,897	35,813,754	30.92*	3,026,863	9,080,589	3.00*
1983	822	1,104,960	31,734,451	28.72*	4,549,097	11,372,743	2.50*
1984	670	967,719	28,063,851	29.00*	5,022,717	17,579,510	3.50*
1985	336	796,089	20,698,314	26.00*	4,686,381	11,622,225	2.48*
1986	248	644,497	9,667,455	15.00*	3,464,266	6,166,393	1.78*
1987	256	614,581	9,734,963	15.84*	2,707,204	3,546,437	1.31*
1988	93	600,466	8,400,519	13.99*	2,102,074	3,026,987	1.44*
1989	105	531,854	8,557,531	16.09*	1,929,645	2,682,207	1.39*
1990	76	508,292	10,023,518	19.72*	2,078,415	3,429,385	1.65*
1991	95	485,317	9,376,324	19.32*	1,854,118	3,189,083	1.72*
1992	85	500,724	9,108,170	18.19*	1,777,736	3,182,147	1.79*
1993	122	418,532	6,780,218	16.20*	1,719,507	4,556,694	2.65*
1994	119	417,083	5,826,650	13.97*	1,991,493	4,321,540	2.17*
1995	93	384,244	5,802,084	15.10*	1,822,286	2,879,212	1.58*
1996	86	380,750	7,340,860	19.28*	1,692,234	4,332,119	2.56*
1997	124	367,267	6,339,029	17.26*	1,510,010	3,850,526	2.55*
1998	141	305,597	3,386,015	11.08*	1,416,109	3,058,795	2.16*
1999	138	347,993	5,543,528	15.93*	1,230,246	2,743,449	2.23*
2000	205	346,332	9,101,592	26.28*	1,154,197	4,709,124	4.08*
2001	168	386,428	8,485,967	21.96*	2,002,812	7,256,189	3.62*
2002	140	316,234	6,922,362	21.89*	2,051,213	6,990,641	3.41*
2003	285	359,924	9,559,581	26.56*	1,802,531	9,411,962	5.22*
2004	223	362,032	13,199,266	36.46*	2,145,981	14,477,704	6.75*

Year	Permits Issued	Oil prod. (bbls)	Value	Average Price	Gas prod. (Mcf)**	Value	Average Price
2005	354	326,565	14,881,545	45.57*	2,213,518	20,995,803	9.49*
2006	386	261,575	14,925,470	57.06*	2,662,584	18,052,320	6.78*
2007	417	285,284	18,649,015	65.37*	3,941,785	26,144,604	6.63*
2008	258	345,653	31,807,451	92.02*	4,668,728	41,313,582	8.85*
2009	113	278,347	14;755,174	53.01*	5,026,288	20,205,678	4.02*
2010	,105	256,505	18,478,620	72.04*	5,380,351	23,404,527	4.35*
2011	161	291,327	25,293,010	86.82*	4,902,901	19,807,720	4.04*
2012	159	371,443	32,634,971	87.86*	5,889,332	16,490,130	2.80*
2013	₹147	334,013	31,089,904	93.08*	5,400,258	19,721,743	3.65*
2014	138	328,817	29,751,362	90.48*	5,293,693	24,022,779	4.54*
2015	86	294,047	13,752,601	46.77*	4,264,168	11,683,820	2.74*
2016	45	257,021	10,589,261	41.20*	3,596,785	9,099,866	2.53*
2017	61	270,377	12,445,453	46.03*	2,969,806	9,057,909	3.05*
Totals	12,947	24,184,221	\$668,082,756	\$27.62*	167,461,622	\$417,418,431	\$2.49*

^{*}Estimated price from purchasers and/or market prices

^{**}Note: 1 Mcf = 1,000 cubic feet of natural gas