



Oklahoma Geological Survey
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Oklahoma Coal Production Data from 1996–2020

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Oklahoma Coal Production Data from 1996–2020

By Brian J. Cardott (OGS coal geologist, 1996-2021; retired)

The Western Region of the Interior Coal Province, defined by the U.S. Geological Survey (East, 2021; map below), includes Arkansas, Iowa, Kansas, Missouri, Nebraska, and Oklahoma. Coal geologists from the Western Region of the Interior Coal Province met annually from 1977-2021 to discuss coal production, stratigraphy, petrology, coalbed methane, and, later, gas shale activity. Below are annual Oklahoma coal production summary sheets, verified by coal operators, from reports given at forum meetings from 1997–2021.

Cardott (2018) summarized Oklahoma coal resources, production, and uses. Cumulative Oklahoma coal production from 1873 to 2020 is 300,814,581 short tons. Oklahoma coal production records came from the following publications: 1873-1879 data from Eavenson (1942); 1880-1923 data from U.S. Geological Survey Mineral Resources of the United States; 1924-1931 data from U.S. Bureau of Mines Mineral Resources of the United States; 1932-1948 data from U.S. Bureau of Mines Minerals Yearbook; 1949-2020 calendar year data from Oklahoma Department of Mines Annual Reports.

According to the Oklahoma Department of Mines 2023 Annual Report (p. 28-30), “In response to the *McGirt v Oklahoma* ruling, the federal government ceased funding to Oklahoma to administer its coal program and the program was closed December 31, 2021. Coal permitting and abandon mine reclamation programs were assumed by the federal Office of Surface Mining Reclamation and Enforcement (OSMRE).” Total Oklahoma coal production in 2021 was 375 short tons. In 2022, no coal production was reported in Oklahoma.

On the coal-mine maps from 2008–2019, green indicates the commercial coal belt and yellow indicates the noncommercial coal-bearing region in eastern Oklahoma (Cardott, 2018). The regions are the same in 1996–2007 maps.

References cited:

- Cardott, B.J., 2018, Oklahoma coal: resources, production and uses: Oklahoma Geology Notes, v. 77, no. 1, p. 5-17.
- East, J.A., 2013, Coal fields of the conterminous United States—National Coal Resource Assessment updated version: U.S. Geological Survey Open-File Report 2012–1205, 1 sheet, scale 1:5 million, <https://doi.org/10.3133/ofr20121205> (2021 simplified presentation format map)
- Eavenson, H.N., 1942, The first century and a quarter of American coal industry: Pittsburgh, PA, privately printed, 701 p. (Oklahoma, p. 342-343, 434, 568).
- Oklahoma Department of Mines Annual Reports
<https://oklahoma.gov/mines/forms-and-publications/annual-reports.html>

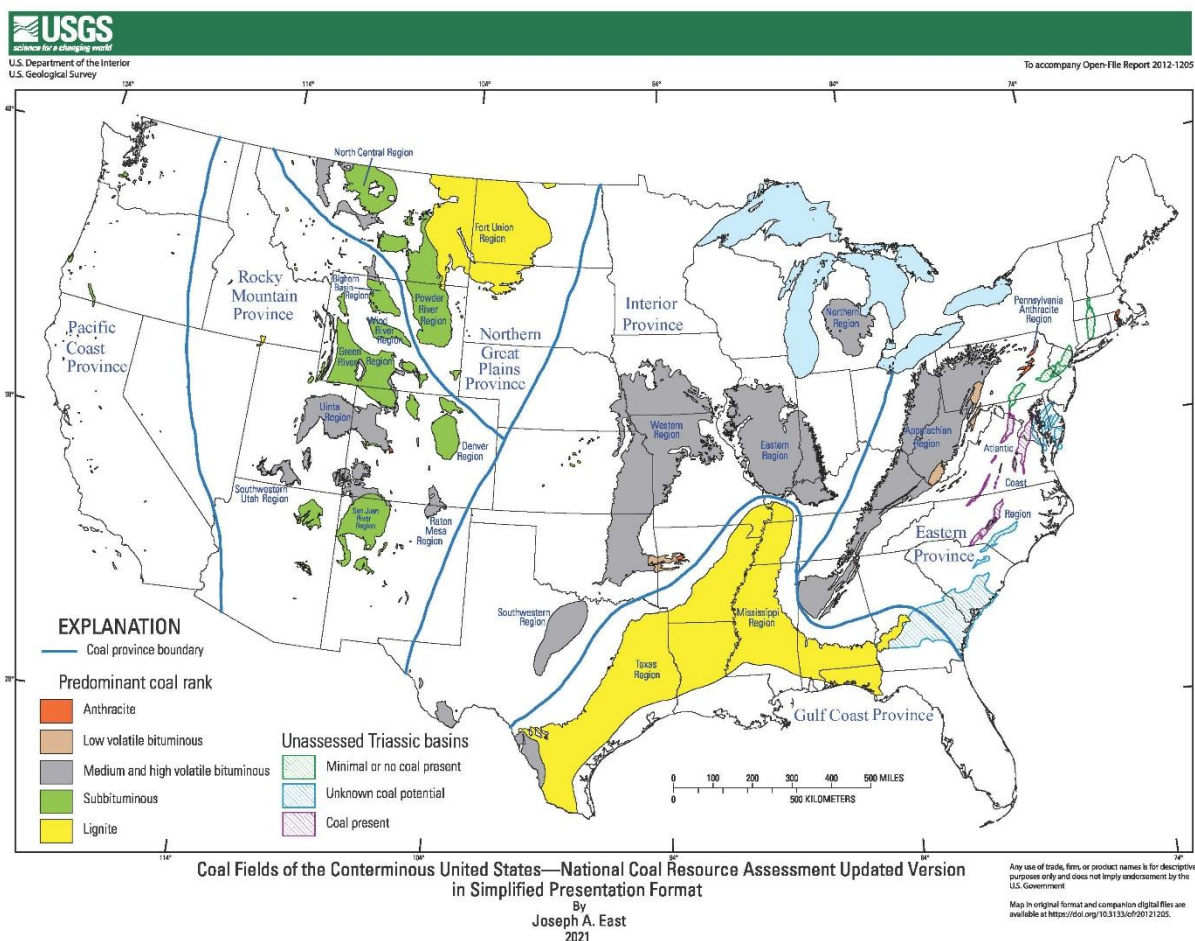


Figure 1. Map showing coal fields of the conterminous United States (East,2021)

Annual Forum of Coal Geologists of the Western Interior Coal Region

1 st Forum	February 8-9, 1977	Lawrence, Kansas
2 nd Forum	February 27-28, 1978	Lawrence, Kansas
3 rd Forum	February 28-March 1, 1979	Norman, Oklahoma
4 th Forum	February 21, 1980	Rolla, Missouri
5 th Forum	March 10-11, 1981	Lawrence, Kansas
6 th Forum	March 31-April 1, 1982	Norman, Oklahoma
7 th Forum	March 17-18, 1983	Columbia, Missouri
8 th Forum	April 10, 1984	Lincoln, Nebraska
9 th Forum	April 2-3, 1985	Lawrence, Kansas
10 th Forum	April 27-28, 1986	Tulsa, Oklahoma
11 th Forum	May 5-6, 1987	Columbia, Missouri
12 th Forum	May 3-4, 1988	Iowa City, Iowa
13 th Forum	June 6-7, 1989	Queen Wilhelmina State

14 th Forum	April 24-25, 1990	Pittsburg, Kansas
15 th Forum	May 15-16, 1991	Norman, Oklahoma
16 th Forum	June 2-3, 1992	Columbia, Missouri
17 th Forum	May 25-26, 1993	Iowa City, Iowa
18 th Forum	July 20-21, 1994	Fort Smith, Arkansas
19 th Forum	July 11-12, 1995	Pittsburg, Kansas
20 th Forum	July 16-17, 1996	Poteau, Oklahoma
21 st Forum	September 17, 1997 (after AAPG Mid-Continent Section Meeting in OKC)	Norman, Oklahoma
22 nd Forum	June 16-17, 1998	St. Joseph, Missouri
23 rd Forum	August 30, 1999 (during AAPG Mid-Continent Section Meeting in Wichita)	Wichita, Kansas
24 th Forum	June 6-7, 2000	Fort Smith, Arkansas
25 th Forum	June 19-20, 2001	Pittsburg, Kansas
26 th Forum	May 21-22, 2002	Poteau, Oklahoma
27 th Forum	July 8-9, 2003	Harrisonville, Missouri
28 th Forum	May 18-19, 2004	Queen Wilhelmina State Park, Mena, Arkansas
29 th Forum	May 24-25, 2005	Pittsburg, Kansas
30 th Forum	June 6-7, 2006	Poteau, Oklahoma
31 st Forum	June 5-6, 2007	Mt Magazine St.Pk, Arkansas
32 nd Forum	June 17-18, 2008	Montauk State Pk, Missouri
33 rd Forum	June 23-24, 2009	Poteau, Oklahoma
34 th Forum	May 25-26, 2010	Pittsburg, Kansas
35 th Forum	May 17-18, 2011	Mt Magazine St Pk, Arkansas
36 th Forum	May 15-16, 2012	Jefferson City, Missouri
37 th Forum	June 4-5, 2013	Poteau, Oklahoma
38 th Forum	June 3-4, 2014	Hutchinson, Kansas
39 th Forum	June 16-17, 2015	Mt Magazine St Pk, Arkansas
40 th Forum	May 19-20, 2016	Springfield, Missouri
41 st Forum	June 6-7, 2017	Claremore, Oklahoma
42 nd Forum	May 14-15, 2018	Lawrence, Kansas
43 rd Forum	May 14-15, 2019	Queen Wilhelmina State Park, Mena, Arkansas
44 th Forum	May 12, 2020	COVID-19 ZOOM Meeting
45 th Forum	May 11, 2021	COVID-19 ZOOM Meeting

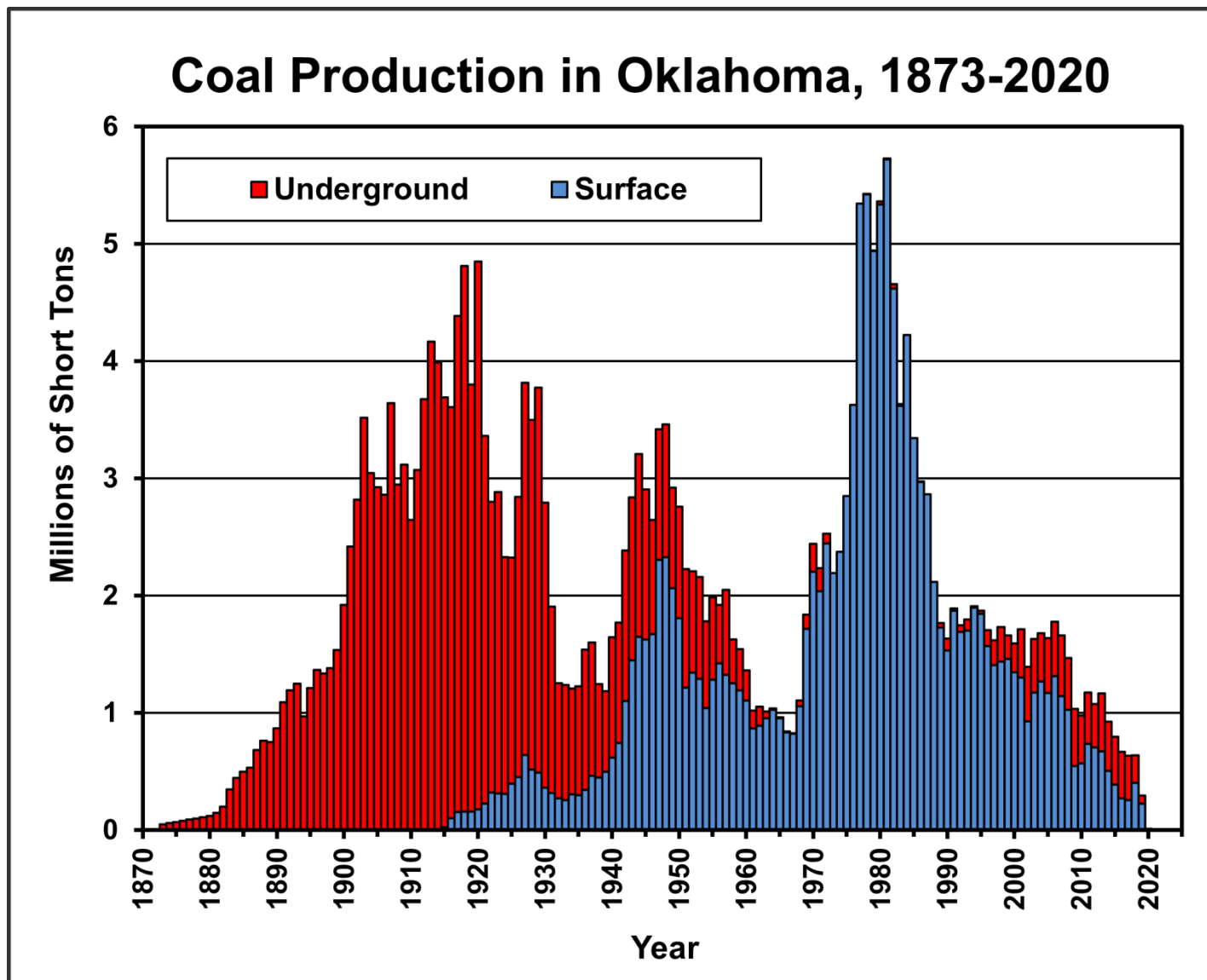


Figure 2. Coal production in Oklahoma, 1873–2020 (revised from Cardott, 2018).

Table 1: 1996 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL)	Coal Company	Mine	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1	Brazil Creek Minerals	Shady Point	Le Flore 35-7N-23E 1,2-6N-23E	Secor Rider Secor (U. Split) Secor (L. Split)	22,247 117,038 102,530	14.16	1.3 5.1 2.0	0.9 1.8 1.2	13,000 12,300 13,000	30% decrease; overburden of 49 ft; trucked to AES
2 (1043)	Farrell-Cooper Mining Co.	Pine Mtn	Le Flore 25,36-5N-25E	Lower Hartshorne	285,760	16.74	1.2	2.5	12,800	15% decrease; overburden of 62 ft; industrial use
3	Farrell-Cooper Mining Co.	Red Oak	Latimer 14,15-6N-21E	U. McAlester, McAlester	71,287 121,381	11.29	4.6 3.3	1.7 2.1	12,400 12,600	13% decrease; overburden of 64 ft; industrial use; dragline moved across Hwy 270, 12/96 (32-6N-21E)
4 (1073)	Farrell-Cooper Mining Co.	Wister	Le Flore 17-6N-24E 13-6N-23E	Secor Rider Secor (U. Split) Secor (L. Split)	26,666 239,997 114,285	22.31	1.1 5.0 1.3	0.9 1.8 0.9	12,900 11,800 12,700	11% increase; overburden of 42 ft; trucked to AES
5 (@976)	Heatherly Mining Inc./ GCI (P&K)	Pollyanna No.6	Le Flore 29,32-7N-25E	Secor	120,732	7.07	4.7	3.8	11,689	42% decrease; overburden of 60 ft; trucked to AES
6 (1035)	Heatherly Mining Inc./ GCI (P&K)	Pollyanna No.7	Le Flore 6,NW7-7N-25E	Secor	7,297	0.43	1.4	3.2	11,337	78% decrease; closed May 1996; trucked to AES; also in NE12-7N-24E
7	Heatherly Mining Inc./ GCI (P&K)	Pollyanna No.8	Le Flore panel at SE29,SW28 9N-26E	Hartshorne	136,702	8.01	1.9	5.0	11,440	249% increase; underground mine; trucked to AES; depth of 150-220 ft; entry at NW33-9N-26E
8	Heatherly Mining Inc./ GCI (P&K)	Pollyanna No.9	Le Flore SE4-9N-24E	Stigler	10,706	0.63	1.1	1.2	11,704	new August 1996; overburden of 50 ft; trucked to AES

9 (1107)	Inter-Chem Coal Co.	Nowata (Tri-C/ Warren)	Nowata SW 11-25N-17E	Iron Post	20,961	1.23	3.6	1.1	12,800	30% increase; closed August 1996; buy/sell coal, no longer mining coal in OK; cement plant
10 (1059)	Joshua Coal Co.	I-28	Okmulgee 28-12N-13E	Croweburg	3,008	0.18	2.0	3.0	12,700	48% decrease; overburden of 35 ft; cement plant
11	Joshua Coal Co.	Metropolis	Okmulgee 1-13N-14E	Mineral	3,376	0.20	2.0	1.5	12,500	212% increase; overburden of 15-50 ft
12 (1106)	Phoenix Coal Co.	No. 6	Craig SW 10-25N-18E	Croweburg	87,271	5.11	0.6	1.3	12,000	37% decrease; closed August 1996; cement plant
13	Phoenix Mineral Co.	Alluwe	Nowata 23-25N-17E	Iron Post	9,750	0.57	3.5	1.2	12,800	81% decrease; new December 1996; cement plant
14 (1108)	Phoenix Coal Co.	Bunker Hill	Craig 13-26N-18E	Croweburg	48,712	2.85	0.5	1.2	11,300	2 pits; new July 1996; coal to cement plants
15 (1105)	Phoenix Coal Co.	Winganon	Rogers SE 9,16-24N-17E	Iron Post	157,389	9.22	4.3	1.2	12,800	96% increase; trucked to GRDA for blending with Wyoming coal; closed December '96
Total	7	15	6	10	1,707,095	100.00	2.93	2.10	12,319	

MINE NAMES

1. Shady Point
2. Pine Mountain
3. Red Oak
4. Wister
5. Pollyanna 6
6. Pollyanna 7
7. Pollyanna 8
8. Pollyanna 9
9. Nowata
10. 1-28
11. Metropolis
12. Phoenix 6
13. Alluwe
14. Bunker Hill
15. Wiganon

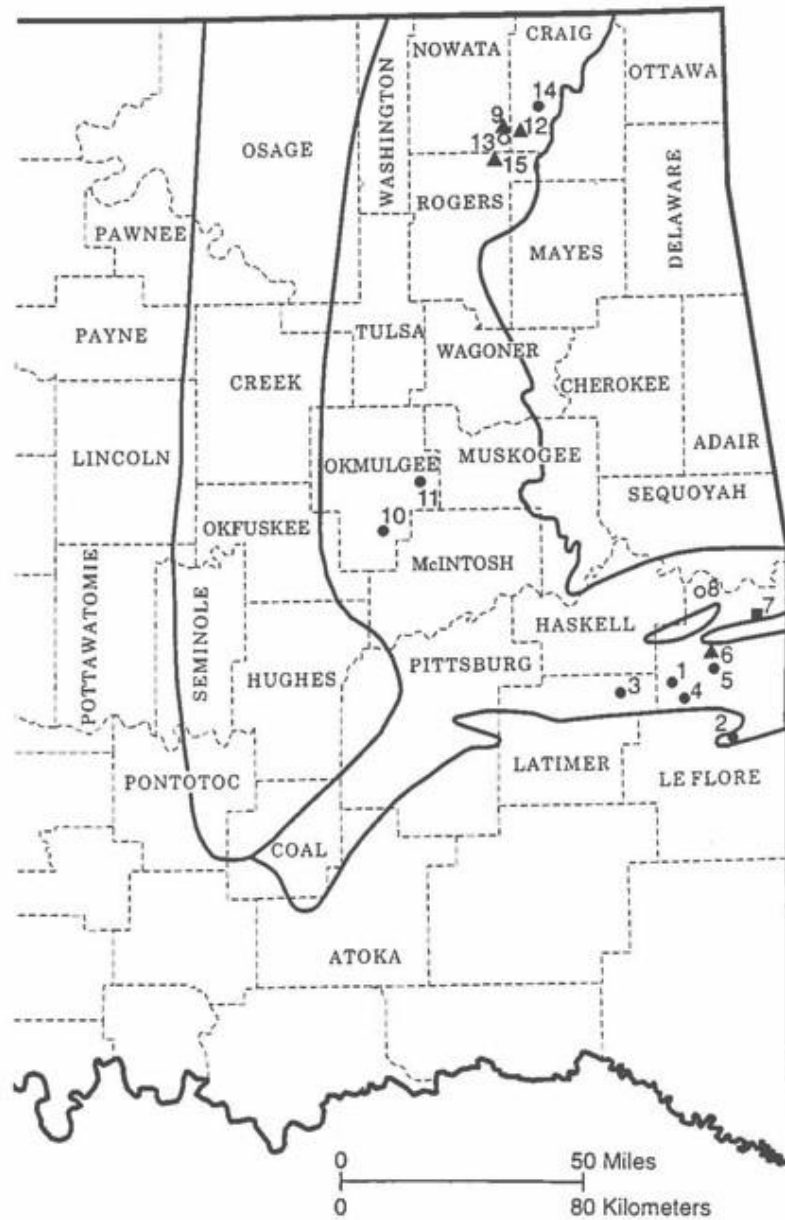


Figure 3. Map locating coal mines active in eastern Oklahoma in 1996. Numbers match those in Table 1. A solid square indicates an underground mine. Open circles indicate mines opened in 1996. Solid triangles indicate mines closed in 1996.

Table 2: 1997 Oklahoma Coal Production

(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 [hvb]	Farco Mining of Texas	Shady Point	Le Flore 2-6N-23E	Secor Rider Secor (U. Split) Secor (L. Split)	34 180 158	0.02	1.3 5.1 2.0	0.9 1.8 1.2	13,000 12,300 13,000	overburden of 49 ft; closed February 1997; reclamation
2 (1043) [mvb]	Farrell- Cooper Mining Co.	Pine Mtn (Federal coal)	Le Flore 35,36- 5N-25E	Lower Hartshorne	96,828	5.98	1.2	2.5	12,800	overburden of 62 ft; industrial use; closed August 1997
3 [hvb]	Farrell- Cooper Mining Co.	Red Oak (south) (Federal coal)	Latimer 32,33- 6N-21E	U. McAlester, McAlester	102,024 171,500	16.89	4.6 3.3	1.7 2.1	12,400 12,600	overburden of 64 ft; industrial use; dragline moved across Hwy 270, 12/96
4 (1073) [hvb]	Farrell- Cooper Mining Co.	Wister	Le Flore 11-14- 6N-23E	Secor Rider Secor (U. Split) Secor (L. Split)	17,977 161,795 77,046	15.86	1.1 5.0 1.3	0.9 1.8 0.9	12,900 11,800 12,700	overburden of 42 ft; trucked to AES; closed April 1998
5 [mvb]	Farrell- Cooper Mining Co.	Liberty	Haskell 7,8,17- 10N-22E	Stigler	201,260	12.43	5.0	2.3	12,700	New June 1997
6 (@976) [mvb]	Georges Colliers	Pollyanna No.6	Le Flore SW 28- 7N-25E	Secor	134,308	8.30	4.0	3.7	11,850	overburden of 85 ft; trucked to AES
7 [lvb]	Georges Colliers	Pollyanna No.8	Le Flore panel at SW 28- 9N-26E	Hartshorne	211,686	13.07	1.9	5.9	11,884	underground mine; trucked to AES; depth of 150-220 ft; entry at NW33-9N-26E; wash plant
8 [mvb]	Georges Colliers	Pollyanna No.9	Le Flore S2 SE 4- 9N-24E	Stigler	61,046	3.77	2.4	1.3	12,123	suspended operation March 1998; overburden of 50 ft; trucked to AES
9 (1059) [hvb]	Joshua Coal Co.	I-28	Okmulgee 28-12N-13E	Croweburg	933	0.06	2.0	3.0	12,700	overburden of 35 ft; cement plant
10 [hvb]	Joshua Coal Co.	Metropolis	Okmulgee 1-13N-14E	Mineral	5,248	0.33	2.0	1.5	12,500	overburden of 15-50 ft
11 [hvb]	Phoenix Coal Co.	Alluwe	Nowata 10,23- 25N-17E	Iron Post	189,328	11.69	3.5	1.2	12,700	GRDA/cement plants
12 (1108) [hvb]	Phoenix Coal Co.	Bunker Hill North	Craig 13-26N-18E	Croweburg	115,784	7.15	0.4	1.2	11,300	coal to cement plants
13 [hvb]	Phoenix Coal Co.	Bunker Hill #2	Craig 31-27N-19E 36-27N-18E	Iron Post	72,113	4.45	3.5	0.8	12,600	New January 1997
Total	4	13	6	10	1,619,248	100.00	3.18	2.39	12,285	

MINE NAMES

1. Shady Point
2. Pine Mountain
3. Red Oak
4. Wister
5. Liberty
6. Pollyanna 6
7. Pollyanna 8
8. Pollyanna 9
9. 1-28
10. Metropolis
11. Alluwe
12. Bunker Hill North
13. Bunker Hill 2



Figure 4. Map locating coal mines active in eastern Oklahoma in 1997. Numbers match those in Table 2. A solid square indicates an underground mine. Open circles indicate mines opened in 1997. Solid triangles indicate mines closed in 1997.

Table 3: 1998 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 [hvb]	Farrell-Cooper Mining Co.	Red Oak (South) [4252F]	Latimer 32,33- 6N-21E	U. McAlester, McAlester	301,691	7.0 10.4	4.6 3.3	1.7 2.1	12,400 12,600	overburden of 64 ft; industrial use
2 (1073) [hvb]	Farrell-Cooper Mining Co.	Wister [4217]	Le Flore 11-14- 6N-23E	Secor (U. Split)	5,654	0.3	5.0	1.8	11,800	overburden of 42 ft; trucked to AES; closed June 1998
3 [mvb]	Farrell-Cooper Mining Co.	Liberty [4210]	Haskell 7,8,17- 10N-22E	Stigler	640,728	37.0	5.0	2.3	12,700	
4 (@976) [mvb]	Georges Colliers	Pollyanna No.6 [4242F]	Le Flore NE 28- 7N-25E	Secor	88,368	5.1	4.0	3.7	11,850	overburden of 85 ft; trucked to AES
5 (1131) [lvb]	Georges Colliers	Pollyanna No.8 [4243F]	Le Flore panel at SE 29-NW 32- 9N-26E	Hartshorne	294,205	17.0	1.9	5.9	11,884	underground mine; trucked to AES; depth of 100-450 ft; entry at NW33-9N-26E; wash plant
6 [mvb]	Georges Colliers	Pollyanna No.9 [4250]	Le Flore S2 SE 4- 9N-24E	Stigler	7,332	0.4	2.4	1.3	12,123	closed March 1998; overburden of 50 ft; trucked to AES
7 (1059) [hvb]	Joshua Coal Co.	I-28 [4195]	Okmulgee 28-12N-13E	Croweburg	520	0.03	2.0	3.0	12,700	overburden of 35 ft; cement plant; closed May 1999
8 [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee 1-13N-14E	Mineral	3,897	0.2	2.0	1.5	12,000	overburden of 15-50 ft; cement plant
9 [hvb]	Phoenix Coal Co.	Alluwe [4256]	Nowata 10, 23- 25N-17E	Iron Post	33,599	1.9	3.5	1.2	12,700	GRDA/cement plants closed April 1998
10 (1108) [hvb]	Phoenix Coal Co.	Bunker Hill North [4249]	Craig 13-26N-18E	Croweburg	28,015	1.6	0.4	1.2	11,300	coal to cement plants closed September 1998
11 [hvb]	Phoenix Coal Co.	Bunker Hill #2 [4251]	Craig 31-27N-19E 36-27N-18E	Iron Post	92,839	5.4	3.5	0.8	12,600	coal to cement plants.
12 [hvb]	Phoenix Coal Co.	Winganon [4259]	Rogers 18-24N-17E	Iron Post	178,825	10.3	3.5	0.8	12,700	new March 1998
13 [hvb]	Phoenix Coal Co.	Bunker Hill Mine [4260]	Craig 24-26N-18E	Croweburg	58,241	3.4	0.4	1.2	11,003	new March 1998 closed December 1998 (mined out)
Total	4	13	7	9	1,733,914	100.00	3.7	2.6	12,400	

MINE NAMES

1. Red Oak
2. Wister
3. Liberty
4. Pollyanna 6
5. Pollyanna 8
6. Pollyanna 9
7. 1-28
8. Metropolis
9. Alluwe
10. Bunker Hill North
11. Bunker Hill 2
12. Winganon
13. Bunker Hill

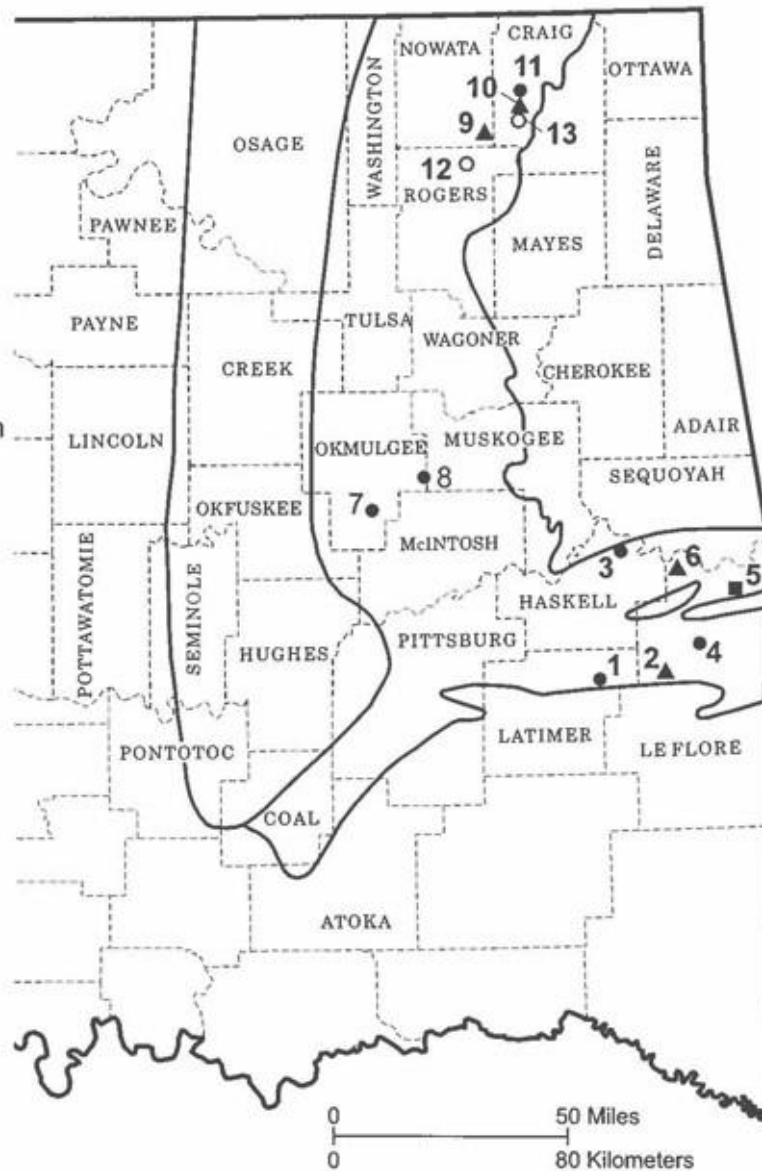


Figure 5. Map locating coal mines active in eastern Oklahoma in 1998. Numbers match those in Table 3. A solid square indicates an underground mine. Open circles indicate mines opened in 1998. Solid triangles indicate mines closed in 1998.

Table 4: 1999 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 [lvb]	Farrell- Cooper Mining Co.	Heavener East No. 2 [4263F]	Le Flore 19,20- 5N-27E	Lower Hartshorne	198,619	12.0	1.5	6.0	12,100	new April 1999; overburden of 120 ft, augering 300 ft
2 [mvb]	Farrell- Cooper Mining Co.	Liberty [4210]	Haskell 7,8,17- 10N-22E	Stigler	614,069	37.0	5.0	2.3	12,700	overburden of < 90 ft
3 [mvb]	Farrell- Cooper Mining Co.	Pine Mountain [4205F]	Le Flore 25-5N-25E	Lower Hartshorne	2,277	0.1	1.5	2.5	12,000	closed August 1997; cleaned coal pad, Feb. & March 1999
4 [hvb]	Farrell- Cooper Mining Co.	Red Oak (South) [4252F;4203F]	Latimer 32,33- 6N-21E	U. McAlester, McAlester	116,454	7.0	4.6 3.3	1.7 2.1	12,400 12,600	overburden of 64 ft; industrial use; in reclamation
5 [lvb]	Georges Colliers	Milton [Test] [E-99-01]	Le Flore NE SE 20- 8N-23E	Upper, Lower Hartshorne	8,675	0.5	2.5	5.5 [30"; 41"]	13,000	overburden of 20 ft; September & December; 10" between coals
6 (@976) [mvb]	Georges Colliers	Pollyanna No.6 [4255F]	Le Flore SW 22- 7N-25E	Secor	99,351	6.0	4.0	3.7	11,850	overburden of 85 ft; trucked to AES
7 (1131) [lvb]	Georges Colliers	Pollyanna No.8 [4243F]	Le Flore panel at SE 29-NW 32-9N-26E	Hartshorne	199,760	12.0	1.9	5.9	11,884	underground mine; trucked to AES; depth of 100-450 ft; entry at NW33-9N-26E; wash plant
8 (1059) [hvb]	Joshua Coal Co.	I-28 [4195]	Okmulgee 28-12N-13E	Croweburg	500	0.03	2.0	3.0	12,700	overburden of 35 ft; cement plant; closed May 1999
9 [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee 1-13N-14E	Mineral	4,529	0.3	2.0	1.5	12,000	overburden of 15-50 ft; cement plant
10 [hvb]	Phoenix Coal Co.	Bunker Hill #2 [4251]	Craig 31-27N-19E 36-27N-18E	Iron Post	195,001	11.7	3.5	0.8	12,600	coal to cement plants.
11 [hvb]	Phoenix Coal Co.	Alluwe [4256]	Nowata 10, 23- 25N-17E	Iron Post	17,321	1.0	3.5	1.2	12,700	GRDA/cement plants closed April 1998; June-Sept. 1999 addition
12 [hvb]	Phoenix Coal Co.	Winganon [4259] (pit 2)	Rogers 18-24N-17E	Iron Post	142,622	8.6	3.5	1.2	12,700	new March 1998 closed November 1999
13 [hvb]	Phoenix Coal Co.	Alluwe [4264] (pit 2)	Rogers 5, 8- 24N-17E	Iron Post	59,313	3.6	3.5	1.2	12,700	new September 1999
14 [hvb]	Phoenix Coal Co.	Winganon [4265]	Rogers 7,13,24,25- 24N-16E	Iron Post	2,503	0.2	3.5	1.2	12,700	new December 1999
Total	4	14	7	6	1,660,994	100.0	3.7	2.9	12,456	

MINE NAMES

1. Heavener East
2. Liberty
3. Pine Mountain
4. Red Oak South
5. Milton
6. Pollyanna 6
7. Pollyanna 8
8. 1-28
9. Metropolis
10. Bunker Hill 2
11. Alluwe
12. Winganon
13. Alluwe
14. Winganon

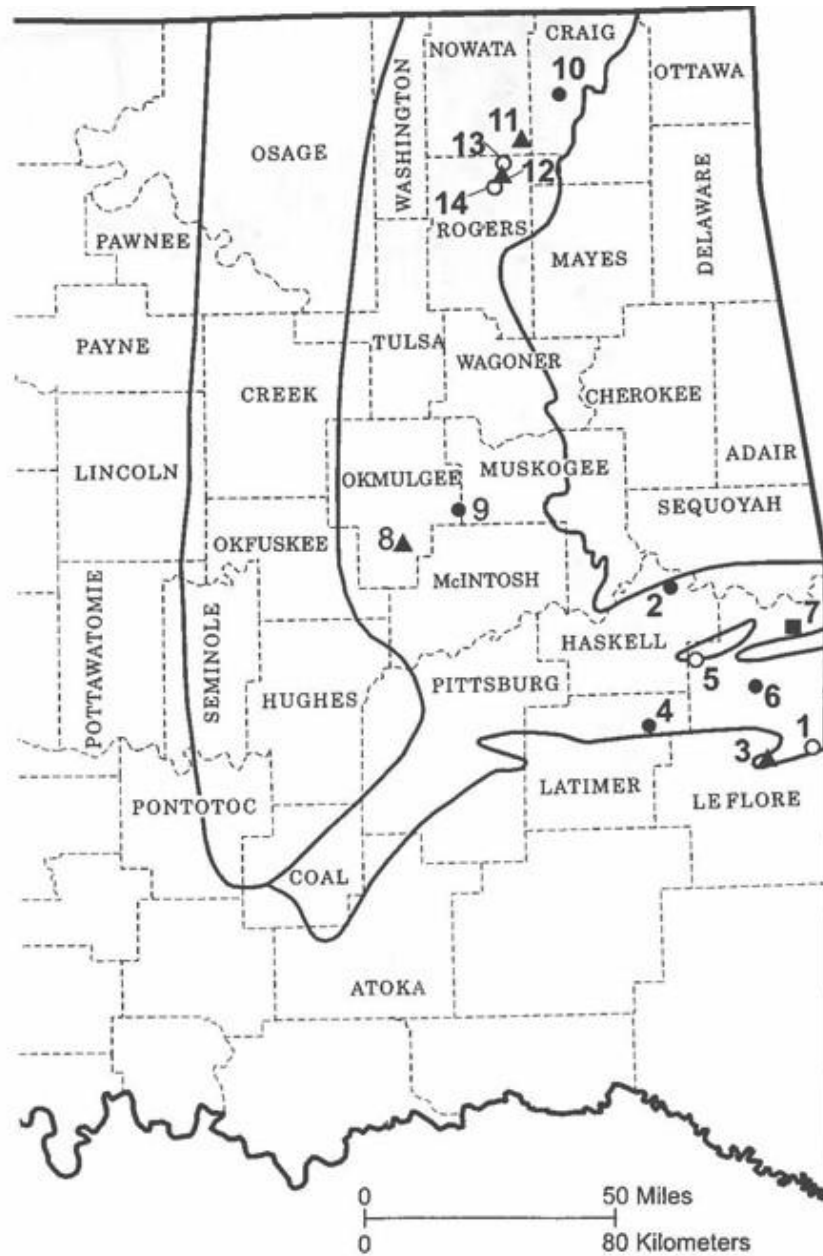


Figure 6. Map locating coal mines active in eastern Oklahoma in 1999. Numbers match those in Table 4. A solid square indicates an underground mine. Open circles indicate mines opened in 1999. Solid triangles indicate mines closed in 1999.

Table 5: 2000 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 (1144) [mvb]	Farrell- Cooper Mining Co.	Heavener East No. 2 [4263F]	Le Flore 24- 5N-26E	Lower Hartshorne	372,234	23.4	1.1	5.9	13,500	overburden of 120 ft, augering 300-432 ft 53" dia. auger, dip 15°
2 (1143) [mvb]	Farrell- Cooper Mining Co.	Liberty [4267]	Haskell E½ 9- 10N-22E	Stigler	521,789	32.7	4.5	2.3	14,000	overburden of <100 ft; Page dragline, 45 yard bucket
3 [hvb]	Farrell- Cooper Mining Co.	Red Oak (Wash Plant) [4127]	Latimer 13- 6N-21E	REFUSE	16,229	1.0	2.9	POND FINES	6,330	Slurry Pond Refuse
4 (@976) [mvb]	Georges Colliers	Pollyanna No. 6 [4255F]	Le Flore SW 22- 7N-25E	Secor	95,782	6.0	4.0	3.7	11,850	overburden of 85 ft; trucked to AES; closed January 2001
5 (1131) [lvb]	Georges Colliers (Sunrise Coal Co.)	Pollyanna No. 8 [4243F]	Le Flore panel at SE 29-NW 32-9N-26E	Hartshorne	244,577	15.4	1.9	5.9	11,884	underground mine; trucked to AES; depth of 100-700 ft; entry at NW33-9N-26E; wash plant
6 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee 1-13N-14E	Mineral	4,926	0.3	1.5	1.7	13,000	overburden of 15-50 ft; cement plant
7 [hvb]	Phoenix Coal Co.	Bunker Hill #2 [4251]	Craig 31-27N-19E 36-27N-18E	Iron Post	23,898	1.5	3.5	0.8	12,600	GRDA/cement plants closed April 2000
8 [hvb]	Phoenix Coal Co.	Spencer [4240]	Rogers 19,20,29,3 0-24N-17E	Iron Post	96,488	6.1	3.5	1.2	12,700	new January 2000
9 [hvb]	Phoenix Coal Co.	No. 3 [4194]	Craig 16 to 21- 27N-19E	Iron Post	49,374	3.1	3.5	1.2	12,700	new March 2000
10 [hvb]	Phoenix Coal Co.	Alluwe [4264] (pit 2)	Rogers 5, 8- 24N-17E	Iron Post	30,877	1.9	3.5	1.2	12,700	closed April 2000
11 [hvb]	Phoenix Coal Co.	Winganon [4265]	Rogers 13,24,25- 24N-16E	Iron Post	137,439	8.6	3.5	1.2	12,700	
Total	4	11	6	6	1,593,613	100.0	3.0	3.5	13,071	

MINE NAMES

1. Heavener East
2. Liberty
3. Red Oak South
4. Pollyanna 6
5. Pollyanna 8
6. Metropolis
7. Bunker Hill 2
8. Spencer
9. No. 3
10. Alluwe
11. Winganon

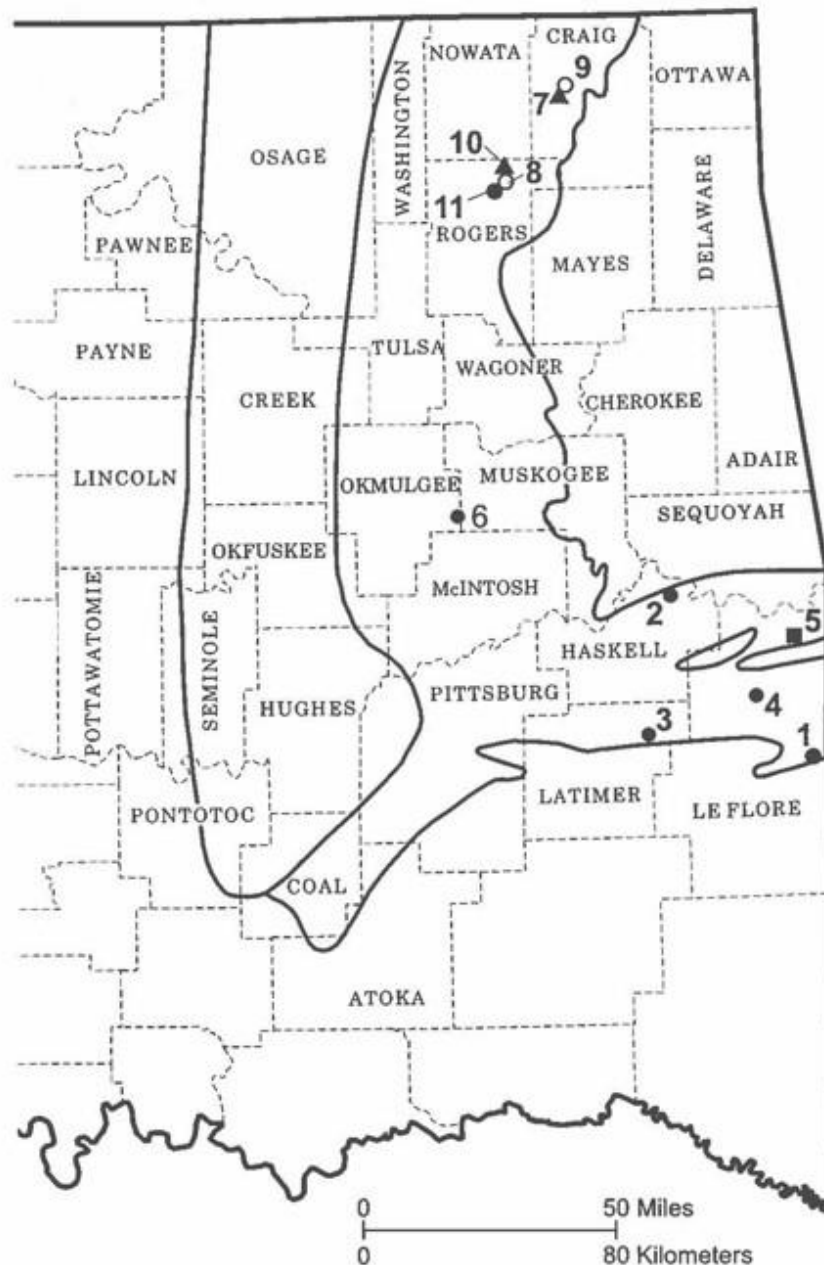


Figure 7. Map locating coal mines active in eastern Oklahoma in 2000. Numbers match those in Table 5. A solid square indicates an underground mine. Open circles indicate mines opened in 2000. Solid triangles indicate mines closed in 2000.

Table 6: 2001 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 (1144) [mvb]	Farrell- Cooper Mining Co.	Heavener East No. 2 [4263F] No. 3 [4266F]	Le Flore 24, 25- 5N-26E 20,21- 5N-27E	Lower Hartshorne	369,772	21.6	1.1	5.9	12,100	overburden of 120 ft, augering 300-432 ft 53" dia. auger, dip 15°
2 (1143) [mvb]	Farrell- Cooper Mining Co.	Liberty [4210] No.2 [4267]	Haskell EH 9, SE 4, WH 3 10N-22E	Stigler	496,142	28.9	4.5	2.3	13,000	overburden of <100 ft; Page dragline, 45 cubic yard bucket
3 [hvb]	Farrell- Cooper Mining Co.	Red Oak (Wash Plant) [4203,4252]	Latimer 13- 6N-21E	REFUSE	16,547	0.9	2.9	POND FINES	6,330	Slurry Pond Refuse
4 (1131) [lvb]	Georges Colliers (Sunrise Coal Co.)	Pollyanna No.8 [4243F]	Le Flore panel at SE 29-9N-26E	Hartshorne	412,484	24.0	1.9	5.9	11,884	underground mine; trucked to AES; depth of 100-700 ft; entry at NW33-9N-26E; wash plant
5 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee 1-13N-14E	Mineral	4,467	0.3	1.4	1.7	13,100	overburden of 15-50 ft; cement plant
6 [hvb]	Phoenix Coal Co.	Bunker Hill #2 [4260]	Craig WH 25; WH 36; SE 35 26N-18E	Croweburg	81,010	4.7	0.45	1.2	11,400	GRDA/cement plants new August 2001
7 [hvb]	Phoenix Coal Co.	Spencer [4240]	Rogers W/4 29; NE 30-24N-17E	Croweburg	66,598	3.9	0.45	1.2	12,500	closed May 2001
8 [hvb]	Phoenix Coal Co.	No.3 [4194]	Craig 16-27N-19E	Iron Post	38,898	2.3	3.4	0.9	12,500	current
9 [hvb]	Phoenix Coal Co.	Alluwe [4264] (pit 1)	Nowata SH 32- 25N-17E	Iron Post	142,317	8.3	3.5	1.2	12,700	new March 2001
10 [hvb]	Phoenix Coal Co.	Winganon No.2 [4265]	Rogers SE 18-24N-17E WH 7-24N-17E SE 24-24N-16E	Croweburg Iron Post	54,540 29,781 3,262	3.2 1.7 0.2	0.45 3.5	1.2 1.2	12,500 12,500	open/close 2001 closed March 2001 current
Total	4	10	7	6	1,715,818	100.0	2.5	3.6	12,321	

MINE NAMES

1. Heavener East
2. Liberty
3. Red Oak South
4. Pollyanna 8
5. Metropolis
6. Bunker Hill 2
7. Spencer
8. No. 3
9. Alluwe
10. Winganon

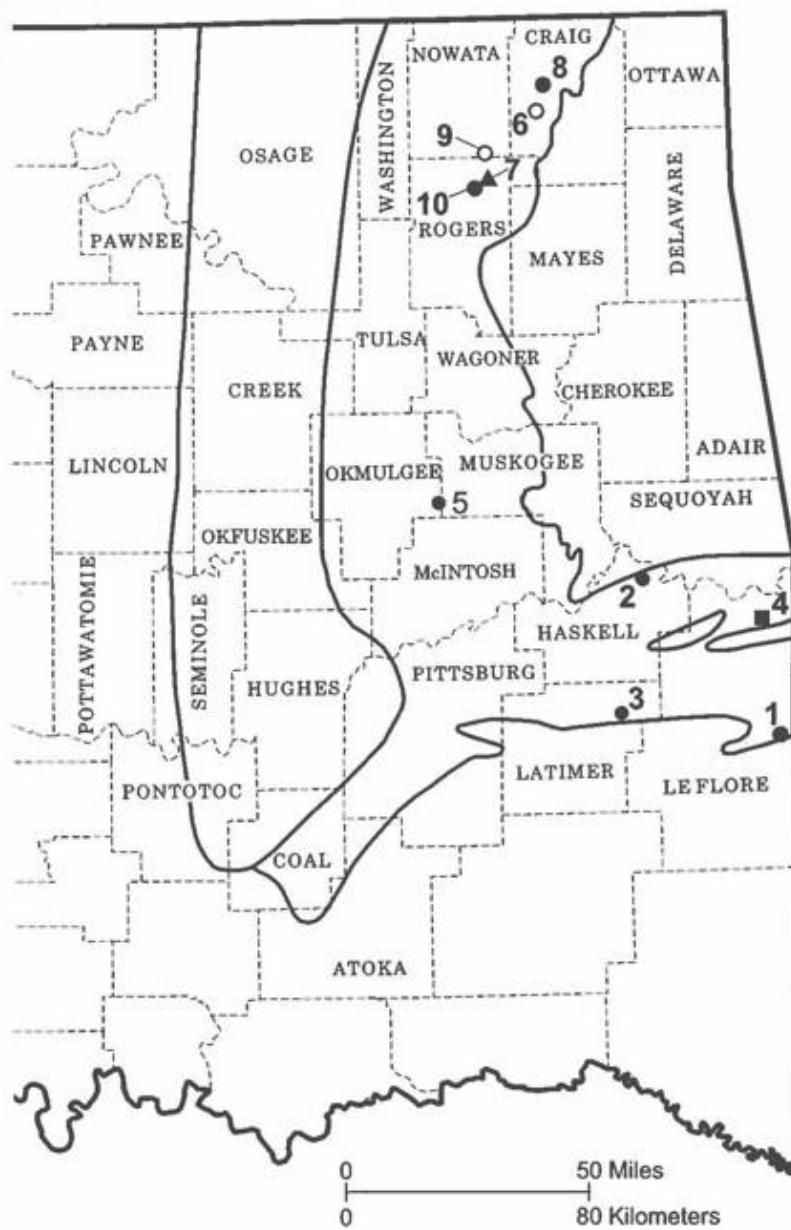


Figure 8. Map locating coal mines active in eastern Oklahoma in 2001. Numbers match those in Table 6. A solid square indicates an underground mine. Open circles indicate mines opened in 2001. Solid triangles indicate mines closed in 2001.

Table 7: 2002 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 (1144) [mvb]	Farrell- Cooper Mining Co.	Heavener East No. 3 [4266F]	Le Flore NE 20, SW & SE 16- 5N-27E	Lower Hartshorne	279,867	20.1	1.1	5.9	12,100	overburden of 120 ft, augering 300-432 ft 72" dia. auger, dip 15°
2 (1143) [mvb]	Farrell- Cooper Mining Co.	Liberty No.2 [4267]	Haskell EH 9, SE 4, WH 3 10N-22E	Stigler	276,205	19.8	4.5	2.3	13,000	overburden of <100 ft; Page dragline, 45 cubic yard bucket closed Sept. 2002
3 [mvb]	Farrell- Cooper Mining Co.	Liberty No. 3 [4268]	Haskell SE 7-10N-22E	Stigler	117,221	8.4	4.5	2.3	13,000	new Aug. 2002
4 [hvb]	Farrell- Cooper Mining Co.	Red Oak (Wash Plant) [4203,4252]	Latimer 13- 6N-21E	REFUSE	12,106	0.9	2.9	POND FINES	6,330	Slurry Pond Refuse
5 (1131) [lvb]	Georges Colliers (Sunrise Coal Co.)	Pollyanna No.8 [4243F]	Le Flore panel at SE 29-9N-26E	Hartshorne	463,481	33.2	1.9	5.9	11,884	underground mine; trucked to AES; depth of 100-700 ft; entry at NW33-9N-26E; wash plant
6 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee 1-13N-14E	Mineral	2,913	0.2	1.4	1.7	13,100	overburden of 15-50 ft; cement plant
7 [hvb]	Phoenix Coal Co.	Bunker Hill #2 [4260]	Craig WH 25; WH 36; SE 35 26N-18E	Croweburg	132,910	9.5	0.45	1.2	11,400	cement plants new August 2001
8 [hvb]	Phoenix Coal Co.	No.3 [4194]	Craig 16-27N-19E	Iron Post	39,040	2.8	3.4	0.9	12,500	Electric company in Missouri
9 [hvb]	Phoenix Coal Co.	Alluwe [4264] (pit 1)	Nowata SH 32- 25N-17E	Iron Post	39,030	2.8	3.5	1.2	12,700	new March 2001
10 [hvb]	Phoenix Coal Co.	Winganon No.2 [4265]	Rogers SE 18-24N-17E WH 7-24N-17E SE 24-24N-16E	Croweburg Iron Post	19 31,346	2.3	0.45 3.5	1.2 1.2	12,500 12,500	Cement plants; open/close 2001 closed March 2001 current
Total	4	10	7	6	1,394,138	100.0	2.47	4.0	12,203	

MINE NAMES

1. Heavener East 3
2. Liberty 2
3. Liberty 3
4. Red Oak South
5. Pollyanna 8
6. Metropolis
7. Bunker Hill 2
8. No. 3
9. Alluwe
10. Winganon 2



Figure 9. Map locating coal mines active in eastern Oklahoma in 2002.
 * Numbers match those in Table 7. A solid square indicates an underground mine. Open circles indicate mines opened in 2002. Solid triangles indicate mines closed in 2002.

Table 8: 2003 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 (1144) [mvb]	Farrell- Cooper Mining Co.	Heavener East No. 3 [4266F] No. 1 [4258F]	Le Flore NW 21,SW 16- 5N-27E NH 26-5N-26E	Lower Hartshorne	265,959	16.3	1.1 1.1	6.75 5.0	12,100 12,100	overburden of 100 ft, augering 300-500 ft 72" dia. auger, dip 15° 48" dia. auger, dip 17°
2 [mvb]	Farrell- Cooper Mining Co.	Liberty No. 3 [4268]	Haskell SE 7-10N-22E	Stigler	496,205	30.4	4.5	2.3	13,000	overburden of <100 ft; Page dragline, 45 yd ³ bucket; new August 2002
3 [hvb]	Farrell- Cooper Mining Co.	Red Oak (Wash Plant) [4203,4252]	Latimer 31-33- 6N-21E	REFUSE (McAlester)	9845	0.6	2.9	POND FINES	6,330	Slurry Pond Refuse (Page dragline is idle; 26 yd ³ bucket, 200 ft boom)
4 (1131) [lvb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore panel at SE NW, NW SW 28-9N-26E	Hartshorne	456,837	28.0	1.5	5.5	11,562	underground mine; trucked to AES; depth of 100-700 ft; entry at NW33-9N-26E; wash plant
5 (1152) [lvb]	Mining Systems (GCI)	Milton mine (GCI) [4269]	Le Flore SE, SW 20- 8N-23E	Hartshorne	37,644	2.3	3.0	5.5	12,562	new April 2003; overburden to 100 ft, test burn
6 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee 1-13N-14E	Mineral	3231	0.2	1.4	1.7	13,100	overburden of 15-50 ft; cement plant
7 [hvb]	Phoenix Coal Co.	Bunker Hill #2 [4260]	Craig WH 25; WH 36; SE 35 26N-18E	Croweburg	99,812	6.1	0.45	1.2	11,400	cement plants new August 2001 closed November 2003
8 [hvb]	Phoenix Coal Co.	No.3 [4194]	Craig 16-27N-19E	Iron Post	39,960	2.5	3.4	0.9	12,500	Electric company in Missouri
9 [hvb]	Phoenix Coal Co.	Alluwe [4264] (pit 1)	Nowata SE30, NW33- 25N-17E	Iron Post	123,558	7.6	3.5	1.2	12,700	Cement plants
10 [hvb]	Phoenix Coal Co.	Winganon No. 2 [4265]	Rogers SE 18-24N-17E	Croweburg	3	0	0.45	1.2	12,500	Cement plants; open/closed 2001 current
11 [hvb]	Phoenix Coal Co.	Kelly [4270]	Craig SE 19-25N-18E	Croweburg	98,020	6.0	0.48	1.2	12,500	new July 2003; cement plants
Total	4	11	7	6	1,631,074	100.0	2.46	3.4	12,238	

MINE NAMES

1. Heavener East 3
2. Liberty
3. Red Oak South
4. Pollyanna 8
5. Milton
6. Metropolis
7. Bunker Hill 2
8. No. 3
9. Alluwe
10. Winganon
11. Kelly

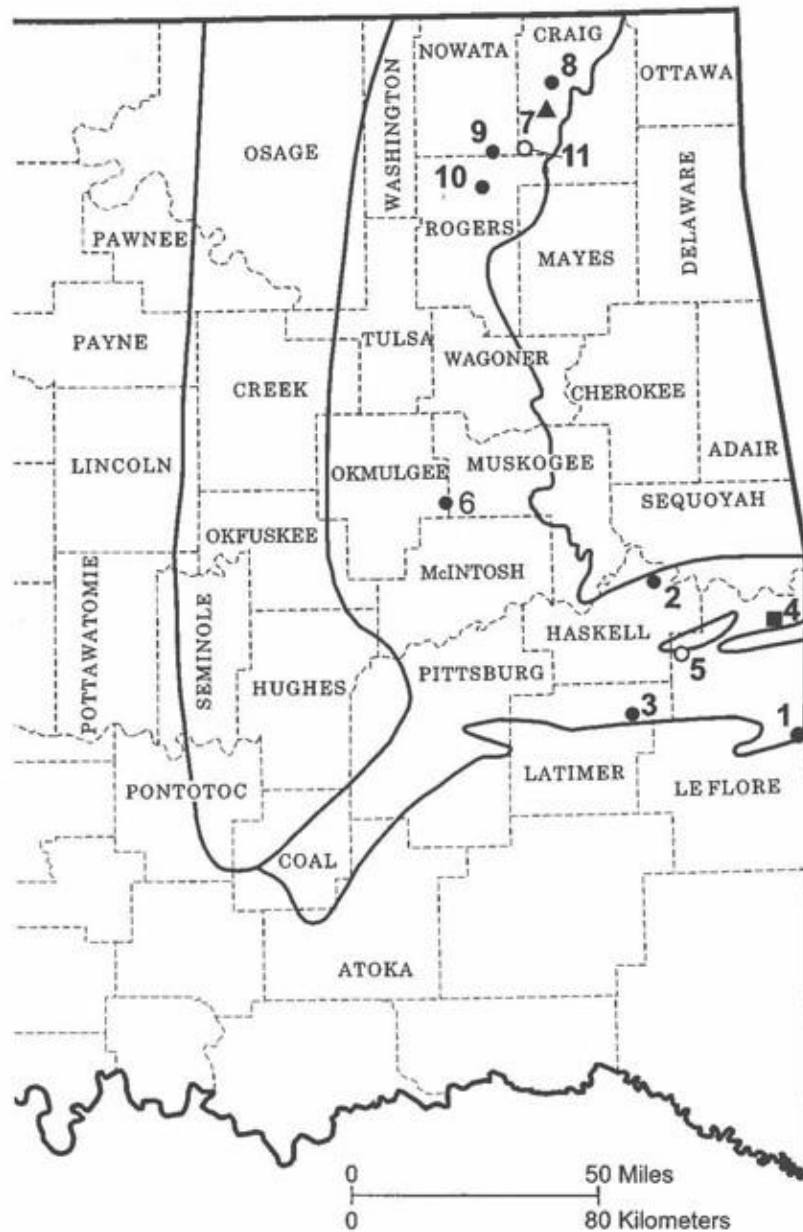


Figure 10. Map locating coal mines active in eastern Oklahoma in 2003. Numbers match those in Table 8. A solid square indicates an underground mine. Open circles indicate mines opened in 2003. Solid triangles indicate mines closed in 2003.

Table 9: 2004 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 (1144) [mvb]	Farrell- Cooper Mining Co.	Heavener East No. 1 [4258F]	Le Flore NW 26-5N-26E SE 27-5N-26E	Lower Hartshorne	318,999	19.0	1.1	5.0	12,100	overburden of 100 ft, augering 300-500 ft 48" dia. auger, dip 17°
2 (1143) [mvb]	Farrell- Cooper Mining Co.	Liberty No. 3 [4268]	Haskell SE 7-10N-22E	Stigler	432,996	25.8	4.5	2.3	12,500	overburden of <100 ft; Page dragline, 45 yd ³ bucket
3 [hvb]	Farrell- Cooper Mining Co.	Red Oak (Wash Plant) [4203,4252]	Latimer 31-33- 6N-21E	REFUSE (McAlester)	3,611	0.2	2.9	POND FINES	6,330	Slurry Pond Refuse (Page dragline is idle; 26 yd ³ bucket, 200 ft boom)
4 (1131) [lvb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore panel at SE NW, NW SW 28-9N-26E	Hartshorne	409,068	24.4	1.5	5.5	11,562	underground mine; trucked to AES; depth of 100-700 ft; entry at NW33-9N-26E; wash plant
5 (1152) [lvb]	Mining Systems (GCI)	Milton mine (GCI) [4269]	Le Flore SE, SW 20- 8N-23E	Hartshorne	61,693	3.7	3.0	5.5	12,562	Overburden to 100 ft; test burn
6 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee 1-13N-14E	Mineral	4,959	0.3	1.4	1.7	13,100	overburden of 15-50 ft; cement plant
7 [hvb]	Phoenix Coal Co.	No.3 [4194]	Craig 16-27N-19E	Iron Post	41,020	2.5	3.4	0.9	12,500	Electric company in Missouri
8 [hvb]	Phoenix Coal Co.	Alluwe [4264] (pit 2)	Nowata SE30, NW33- 25N-17E	Iron Post	94,715	5.6	3.5	1.2	12,700	Cement plants; closed September 2004
9 (1183) [hvb]	Phoenix Coal Co.	Alluwe [4273]	Nowata NW 33- 25N-17E	Iron Post	64,580	3.8	4.0	1.4	13,670	new August 2004; Stop 1 Midcont. CBM Field Trip Nov. 2004
10 [hvb]	Phoenix Coal Co.	Winganon No.2 [4265]	Rogers SE 18-24N-17E	Croweburg	3	0	0.45	1.2	12,500	Cement plants; closed August 2004
11 (1184) [hvb]	Phoenix Coal Co.	Kelley [4270]	Craig SE 19-25N-18E	Croweburg	247,393	14.7	0.37	1.4	12,950	Cement plants; Stop 2 Midcont. CBM Field Trip Nov. 2004
Total	4	11	7	6	1,679,037	100.0	2.3	3.4	12,309	

MINE NAMES

1. Heavener East 3
2. Liberty
3. Red Oak South
4. Pollyanna 8
5. Milton
6. Metropolis
7. No. 3
8. Alluwe Pit 2
9. Alluwe
10. Winganon
11. Kelley

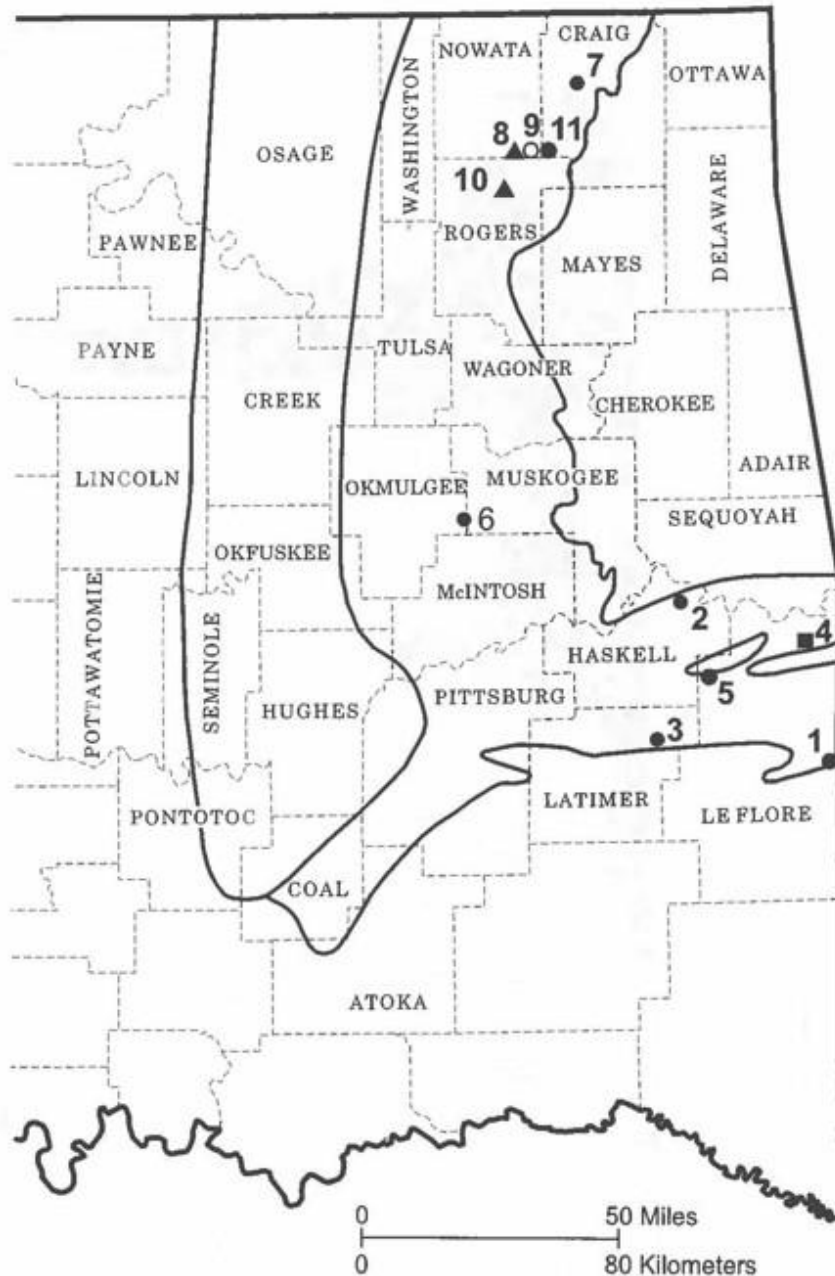


Figure 11. Map locating coal mines active in eastern Oklahoma in 2004. Numbers match those in Table 9. A solid square indicates an underground mine. Open circles indicate mines opened in 2004. Solid triangles indicate mines closed in 2004.

Table 10: 2005 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 [mvb]	Farrell- Cooper Mining Co.	Cavanal [4254F]	Le Flore SW 10-7N-24E	Secor	2,873	0.2	5.0	3.6	12,100	New April 2005; test burn using backhoe and tractors
2 (1144) [mvb]	Farrell- Cooper Mining Co.	Heavener East No. 1 [4266F]	Le Flore SH 28-5N-26E SE 29-5N-26E SW 27-5N-26E	Lower Hartshorne	195,182	11.9	1.1	5.0	12,100	overburden of 100 ft, augering 300-500 ft 48" dia. auger, dip 17°
3 (1143) [mvb]	Farrell- Cooper Mining Co.	Liberty No. 3 [4268]	Haskell NH 5-10N-22E NE 6-10N-22E SE 32-11N-22E	Stigler	408,440	24.9	4.5	2.3	12,500	overburden of <100 ft; Page dragline, 45 yd ³ bucket
4 [hvb]	Farrell- Cooper Mining Co.	Red Oak (Wash Plant) [4203,4252]	Latimer 31,33- 6N-21E	REFUSE (McAlester)	377	0.02	2.9	POND FINES	6,330	Slurry Pond Refuse (Page dragline is idle; 26 yd ³ bucket, 200 ft boom)
5 (1131) [lvb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore panel at SE NW, NW SW 28-9N-26E	Hartshorne	465,459	28.4	1.5	5.5	11,562	underground mine; trucked to AES; depth of 100-700 ft; entry at NW33-9N-26E; wash plant
6 (1152) [lvb]	Mining Systems (GCI)	Milton mine (GCI) [4269]	Le Flore SE, SW 20- 8N-23E	Hartshorne	50,133	3.1	3.0	5.5	12,562	Overburden to 100 ft; test burn
7 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee 1-13N-14E	Mineral	4,889	0.3	1.4	1.7	13,100	overburden of 15-50 ft; cement plant
8 (1183) [hvb]	Phoenix Coal Co.	Alluwe [4273]	Nowata NW 33- 25N-17E	Iron Post	208,358	12.7	4.0	1.4	13,670	new August 2004; Stop 1 Midcont. CBM Field Trip Nov. 2004
9 (1184) [hvb]	Phoenix Coal Co.	Kelley [4270]	Craig SE 19-25N-18E	Croweburg	302,499	18.5	0.37	1.4	12,950	Cement plants; Stop 2 Midcont. CBM Field Trip Nov. 2004
Total	4	9	6	7	1,638,210	100.0	2.36	3.3	12,421	

MINE NAMES

1. Cavanal
2. Heavener East
3. Liberty
4. Red Oak South
5. Pollyanna 8
6. Milton
7. Metropolis
8. Alluwe
9. Kelley

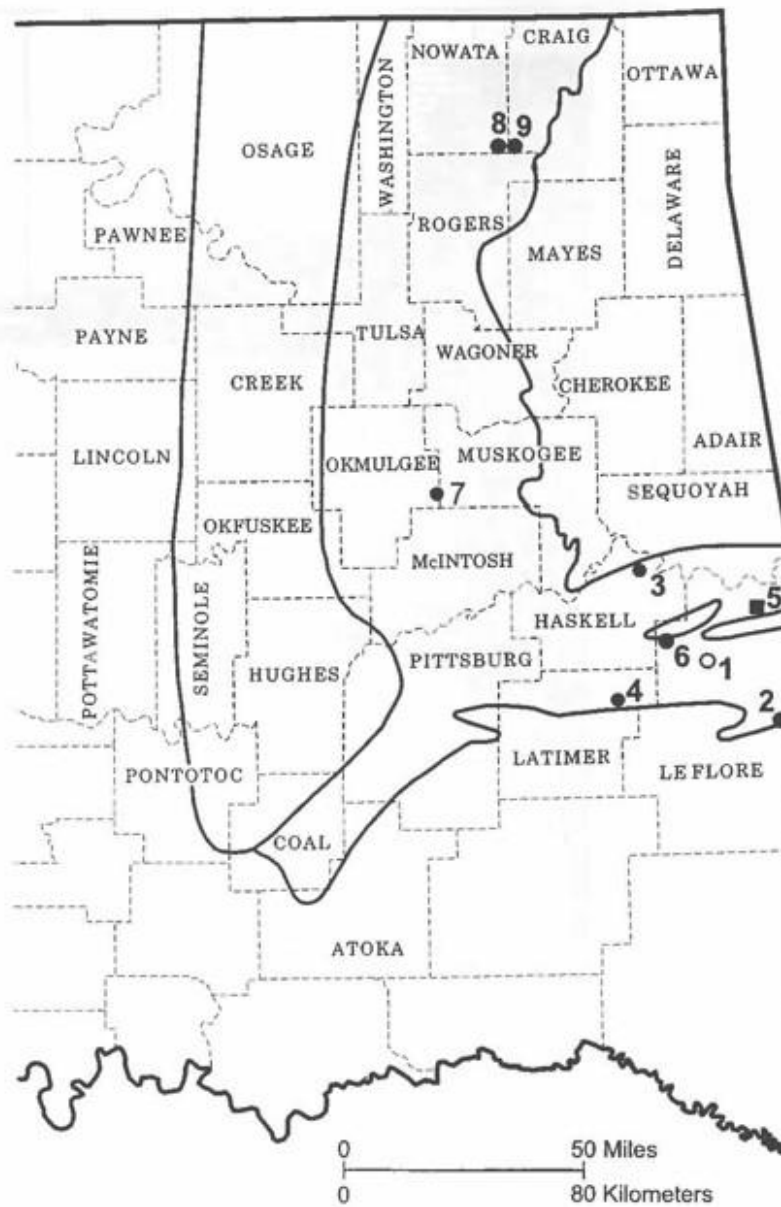


Figure 12. Map locating coal mines active in eastern Oklahoma in 2005. Numbers match those in Table 10. A solid square indicates an underground mine. Open circles indicate mines opened in 2005. Solid triangles indicate mines closed in 2005.

Table 11: 2006 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick-ness (ft)	Btu/lb	Production Notes
1 (1243) [lvb]	Coal Creek Minerals (AES)	Red Bank Creek	Le Flore NW NE 19-9N-25E	Hartshorne	15,206	0.9	1.2	4.0	12,791	New March 2006; underground mine; depth of 200 ft; entry at SE SW 18-9N-25E
2 [mvp]	Farrell-Cooper Mining Co.	Cavanal [4254F]	Le Flore SE SE 9-7N-24E; SW & NE 10-7N-24E	Secor	119,084	6.7	5.0	3.6	12,100	
3 (1144) [mvp]	Farrell-Cooper Mining Co.	Heavener East No. 1 [4266F]	Le Flore NH NH 32-5N-26E	Lower Hartshorne	101,920	5.7	1.1	5.0	12,100	Closed Dec. 2006; overburden of 100 ft, dip 17°
4 [mvp]	Farrell-Cooper Mining Co.	Heavener [4271]	Le Flore NH NH 31-5N-26E	Lower Hartshorne	105,812	5.9	1.1	5.0	12,100	New Feb. 2006 Closed Dec. 2006
5 (1143) [mvp]	Farrell-Cooper Mining Co.	Liberty No. 3 [4268]	Haskell EH 6-10N-22E	Stigler	349,928	19.7	4.5	2.3	12,500	overburden of <100 ft; Page dragline, 45 yd ³ bucket
6 (506) [mvp]	Farrell-Cooper Mining Co.	Liberty [4274]	Haskell 23-10N-21E	Stigler	642	0.04	0.8	2.3	13,800	New Feb. 2006
7 [lvb]	Farrell-Cooper Mining Co.	Lincoln Power [4272]	Le Flore NW 5-5N-25E	Lower Hartshorne	23,015	1.3	1.5	4.0	12,800	New Nov. 2006
8 (1131) [lvb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore NW SW 28; SW & S/2 NE 29; NE 31; N/2 32-9N-26E	Hartshorne	448,880	25.2	1.5	5.5	11,562	underground mine; trucked to AES; depth of 100-700 ft; entry at NW33-9N-26E; wash plant
9 (1152) [lvb]	Mining Systems (GCI)	Milton mine (GCI) [4269F]	Le Flore N/2 S/2 21-8N-23E	Hartshorne	26,920	1.5	3.0	5.5	12,562	Overburden to 100 ft; test burn
10 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	4,193	0.2	1.4	1.7	13,100	overburden of 15-50 ft; cement plant
11 [hvb]	Phoenix Coal Co.	Alluwe No. 2 [4264]	Nowata E/2 32; NW 33-25N-17E	Iron Post	140,725	7.9	4.0	1.1	12,700	New March 2006 Stop 1 Midcont. CBM Field Trip Oct. 2006
12 (1183) [hvb]	Phoenix Coal Co.	Alluwe [4273]	Nowata E/2 33-25N-17E	Iron Post	63,271	3.6	4.0	1.1	12,700	Closed March 2006
13 (1184) [hvb]	Phoenix Coal Co.	Kelley Ranch [4270]	Craig 8,19-25N-18E 12,13-25N-17E (Nowata Co.)	Croweburg	367,887	20.7	0.5	1.4	12,000	Cement plants; Stop 2 Midcont. CBM Field Trip Oct. 2006
14 [hvb]	Phoenix Coal Co.	Lipe [4276]	Rogers NE 8-22N-16E	Iron Post	12,476	0.7	4.1	1.1	12,600	New Dec. 2006
Total	5	14	6	7	1,779,959	100.0	2.4	3.3	12,119	

MINE NAMES

1. Red Bank Creek
2. Cavanal
3. Heavener East
4. Heavener
5. Liberty 3
6. Liberty
7. Lincoln Power
8. Pollyanna 8
9. Milton
10. Metropolis
11. Alluwe 2
12. Alluwe
13. Kelley
14. Lipe

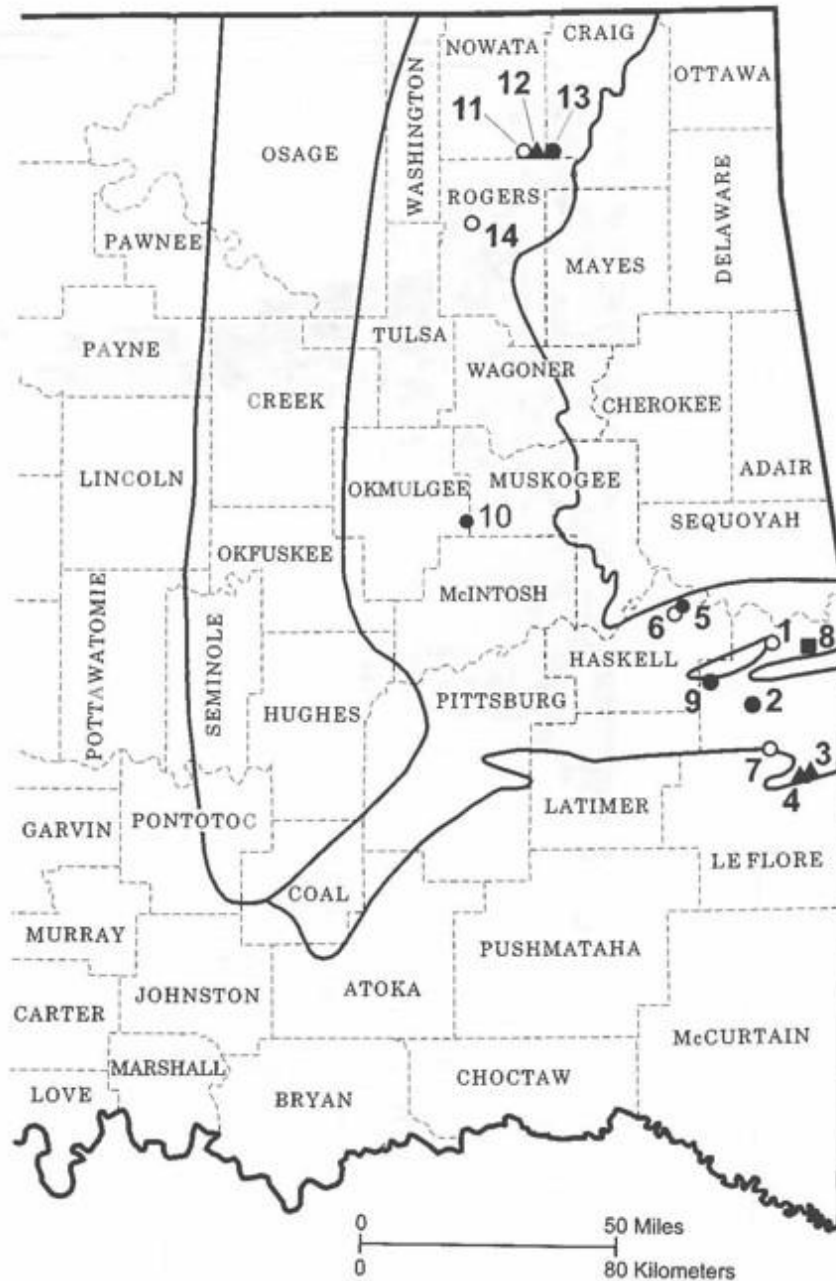


Figure 13. Map locating coal mines active in eastern Oklahoma in 2006. Numbers match those in Table 11 A solid square indicates an underground mine. Open circles indicate mines opened in 2006. Solid triangles indicate mines closed in 2006.

Table 12: 2007 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 (1243) [lvb]	Coal Creek Minerals (AES)	Red Bank Creek [4246]	Le Flore NW NE 19-9N-25E	Hartshorne	22,445	1.4	0.8	4.0	12,791	Closed August 2007; underground mine; ash averaged 35% (31-43%)
2 [mvb]	Farrell-Cooper Mining Co.	Cavanal [4254F]	Le Flore SE 9-7N-24E SW & SE 10-7N-24E NE 16-7N-24E	Secor	312,358	18.8	5.0	3.6	12,100	Overburden 90 ft
3 [lvb]	Farrell-Cooper Mining Co.	Rock Island [4262]	Le Flore SW & SE 7-6N-27E	Lower Hartshorne	61,744	3.7	1.0	3.5	12,500	New July 2007; overburden 100 ft; dip 11°
4 (1144) [mvb]	Farrell-Cooper Mining Co.	Heavener East No. 1 [4266F]	Le Flore NH NH 32-5N-26E (inventory coal)	Lower Hartshorne	3,706	0.2	1.1	5.0	12,100	Closed Dec. 2006; overburden of 100 ft; dip 17°
5 (506) [mvb]	Farrell-Cooper Mining Co.	Liberty [4274]	Haskell NW, NE, SW 23-10N-21E	Stigler	138,978	8.4	0.8	2.3	13,800	Overburden 120 ft; Page dragline, 45 yd ³ bucket
6 [lvb]	Farrell-Cooper Mining Co.	Lincoln Power [4272]	Le Flore NW 5-5N-25E	Lower Hartshorne	93,860	5.7	1.5	4.0	12,800	Closed September 2007
7 (1131) [lvb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore NW SW 28; SW & S/2 NE 29; NE 31; N/2 32-9N-26E	Hartshorne	491,843	29.6	1.5	5.0	11,562	underground mine; trucked to AES; depth of @600 ft; entry at NW33-9N-26E; wash plant
8 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	693	0	1.4	1.7	13,100	overburden of 15-50 ft; cement plant
9 [hvb]	Phoenix Coal Co.	Alluwe No. 2 [4264]	Nowata E/2 32; NW 33-25N-17E	Iron Post	321	0	4.0	1.1	12,700	Closed January 2007 Stop 1 Midcont. CBM Field Trip Oct. 2006
10 (1184) [hvb]	Phoenix Coal Co.	Kelley Ranch [4270]	Craig 8,19-25N-18E 12,13-25N-17E (Nowata Co.)	Croweburg	307,915	18.5	0.5	1.4	12,000	Cement plants; Stop 2 Midcont. CBM Field Trip Oct. 2006
11 [hvb]	Phoenix Coal Co.	Lipe [4276]	Rogers NE 8-22N-16E	Iron Post	226,655	13.7	4.1	1.1	12,600	
Total	5	11	6	7	1,660,518	100.0	2.2	3.2	12,198	

- MINE NAMES**
1. Red Bank Creek
 2. Cavanal
 3. Rock Island
 4. Heavener East
 5. Liberty
 6. Lincoln Power
 7. Pollyanna 8
 8. Metropolis
 9. Alluwe 2
 10. Kelley Ranch
 11. Lipe

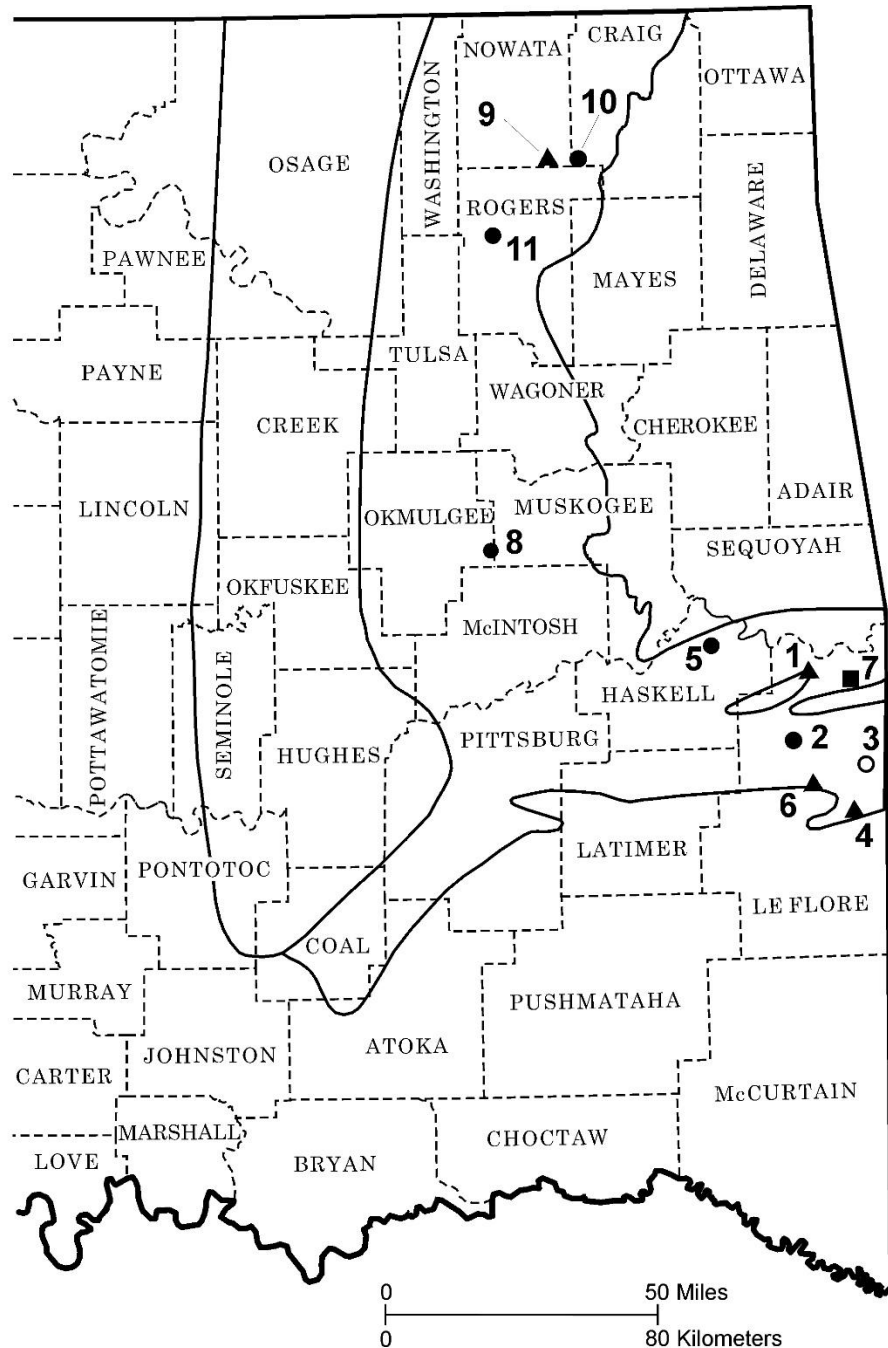


Figure 14. Map locating coal mines active in eastern Oklahoma in 2007. A solid square indicates an underground mine. Open circles indicate mines opened in 2007. Solid triangles indicate mines closed in 2007.

Table 13: 2008 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 [mvb]	Farrell-Cooper Mining Co.	Cavanal [4254F]	Le Flore SW & SE 10-7N-24E NW & NE 16-7N-24E	Secor	231,937	15.8	5.0	4.0	12,100	Overburden 90 ft; industrial plants
2 [lvb]	Farrell-Cooper Mining Co.	Rock Island [4262]	Le Flore SW & SE 7-8N-27E SW 8-8N-27E	Lower Hartshorne	191,416	13.0	1.0	3.5	12,500	New July 2007; overburden 120 ft; dip 11°
3 (1144) [mvb]	Farrell-Cooper Mining Co.	Heavener East No. 1 [4266F]	Le Flore NH NH 32-5N-26E (inventory coal)	Lower Hartshorne	4,369	0.3	1.1	5.0	12,100	Closed Dec. 2006; overburden of 100 ft; dip 17°
4 (1244) [mvb]	Farrell-Cooper Mining Co.	Liberty [4274]	Haskell NW, NE, SW 23-10N-21E	Stigler	169,336	11.5	0.8	2.2	13,800	Overburden 140 ft; Page dragline, 45 yd ³ bucket
5 (1131) [lvb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore NW SW 28; SW & S/2 NE 29; NE 31; N/2 32- 9N-26E	Hartshorne	442,338	30.1	1.5	5.0	11,562	underground mine; trucked to AES; depth of @600 ft; entry at NW33-9N-26E; wash plant
6 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	1,172	0.1	1.4	1.7	13,100	overburden of 15-50 ft; cement plant
7 (1184) [hvb]	Phoenix Coal Co.	Kelley Ranch [4270]	Craig SW 18-25N-18E Nowata Co. SE,SW 12-25N-17E SE, NE, NW 13-25N-17E	Croweburg	21,337 239,240	17.7	0.5	1.2	12,000	Cement plants; Stop 2 Midcont. CBM Field Trip Oct. 2006
8 [hvb]	Phoenix Coal Co.	Lipe [4276]	Rogers NE, NW, SW 8-22N-16E	Iron Post	168,484	11.5	4.1	1.1	12,600	
Total	4	8	6	7	1,469,629	100.0	2.0	3.2	12,226	

MINE NAMES

1. Cavanal
2. Rock Island
3. Heavener East
4. Liberty
5. Pollyanna 8
6. Metropolis
7. Kelley Ranch
8. Lipe

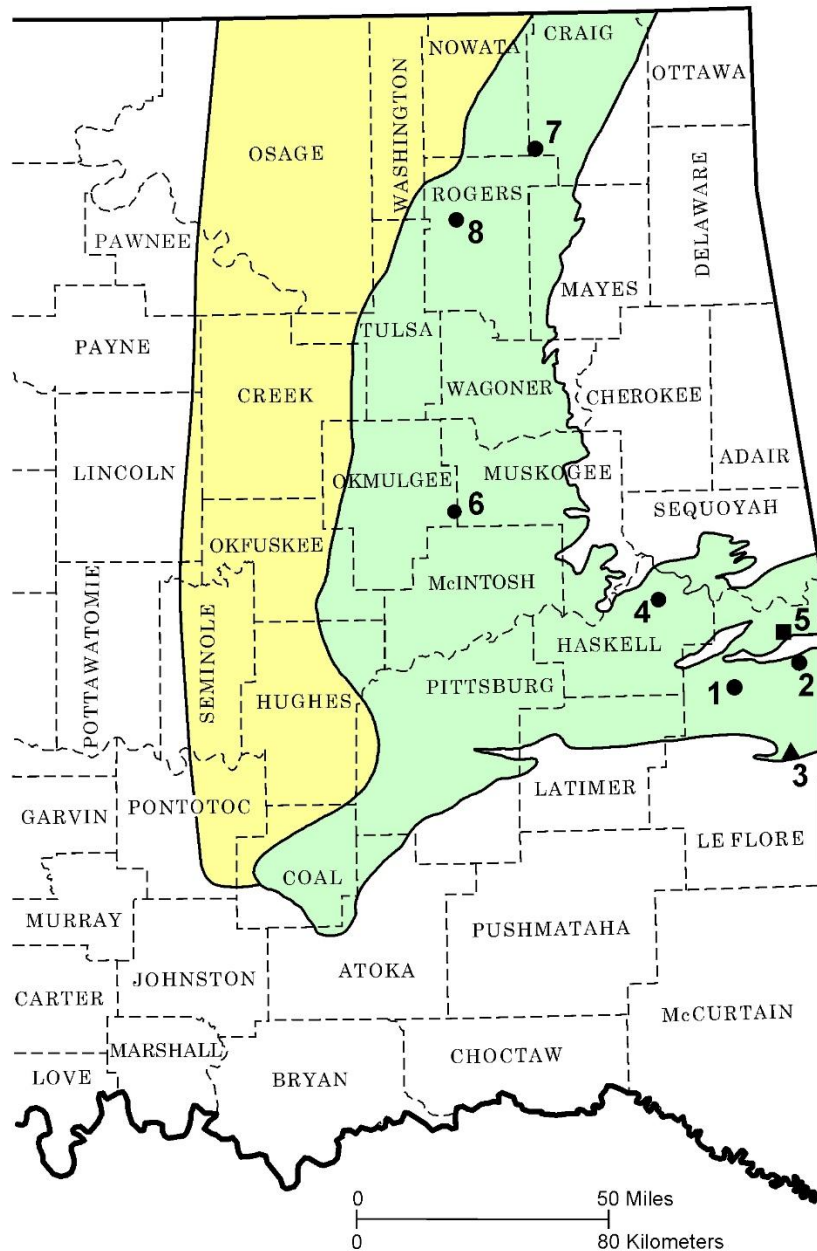


Figure 15. Map locating coal mines active in eastern Oklahoma in 2008. Numbers match those in Table 13. A solid square indicates an underground mine. Open circles indicate mines opened in 2008. Solid triangles indicate mines closed in 2008.

Table 14: 2009 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 [m vb]	Farrell-Cooper Mining Co.	Cavanal [4254F]	Le Flore NW 16-7N-24E	Secor	34,937	3.4	5.0	4.0	12,100	Closed August 2009; overburden 90 ft; industrial plants
2 [l vb]	Farrell-Cooper Mining Co.	Rock Island [4262]	Le Flore SE 7-8N-27E SW 8-8N-27E	Lower Hartshorne	62,699	6.0	1.0	3.5	12,500	Closed July 2009; overburden 120 ft; dip 11°
3 (1244) [m vb]	Farrell-Cooper Mining Co.	Liberty [4274]	Haskell NE 23-10N-21E	Stigler	24,340	2.3	0.8	2.2	13,800	Closed May 2009
4 [m vb]	Farrell-Cooper Mining Co.	Liberty #6 [4279]	Haskell W/H 27-10N-21E NW 34-10N-21E	Stigler	99,427	9.6	0.6	2.0	13,800	New April 2009; overburden 140 ft; Page dragline, 45 yd ³ bucket
5 [m vb]	Farrell-Cooper Mining Co.	Bull Hill [4275]	LeFlore SE 34-6N-24E	Upper Hartshorne	52,568	5.1	1.0	4.0	13,500	New August 2009; overburden 100 ft; dip 35°
6 (1131) [l vb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore NW SW 28; SW & S/2 NE 29; NE 31; N/2 32-9N-26E	Hartshorne	487,063	47.0	1.5	5.0	11,562	underground mine; trucked to AES; depth of @600 ft; entry at NW33-9N-26E; wash plant
7 (1142) [h vb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	644	0.1	1.4	1.7	13,100	overburden of 15-50 ft; cement plant
8 (1184) [h vb]	Phoenix Coal Co.	Kelley Ranch [4270]	Nowata Co. SE,SW 12-25N-17E SE, NE, NW 13-25N-17E	Croweburg	226,044	21.8	0.5	1.2	12,000	Cement plants
9 [h vb]	Phoenix Coal Co.	Lipe [4276]	Rogers NE, NW, SW 8-22N-16E	Iron Post	17,510	1.7	4.1	1.1	12,600	Closed June 2009
10 [h vb]	Phoenix Coal Co.	Bradshaw [4278]	Rogers 34-23N-16E	Iron Post	30,792	3.0	3.8	1.1	12,500	New April 2009
Total	4	10	5	7	1,036,024	100.0	1.4 wa	3.5 wa	12,145 wa	wa = weighted average

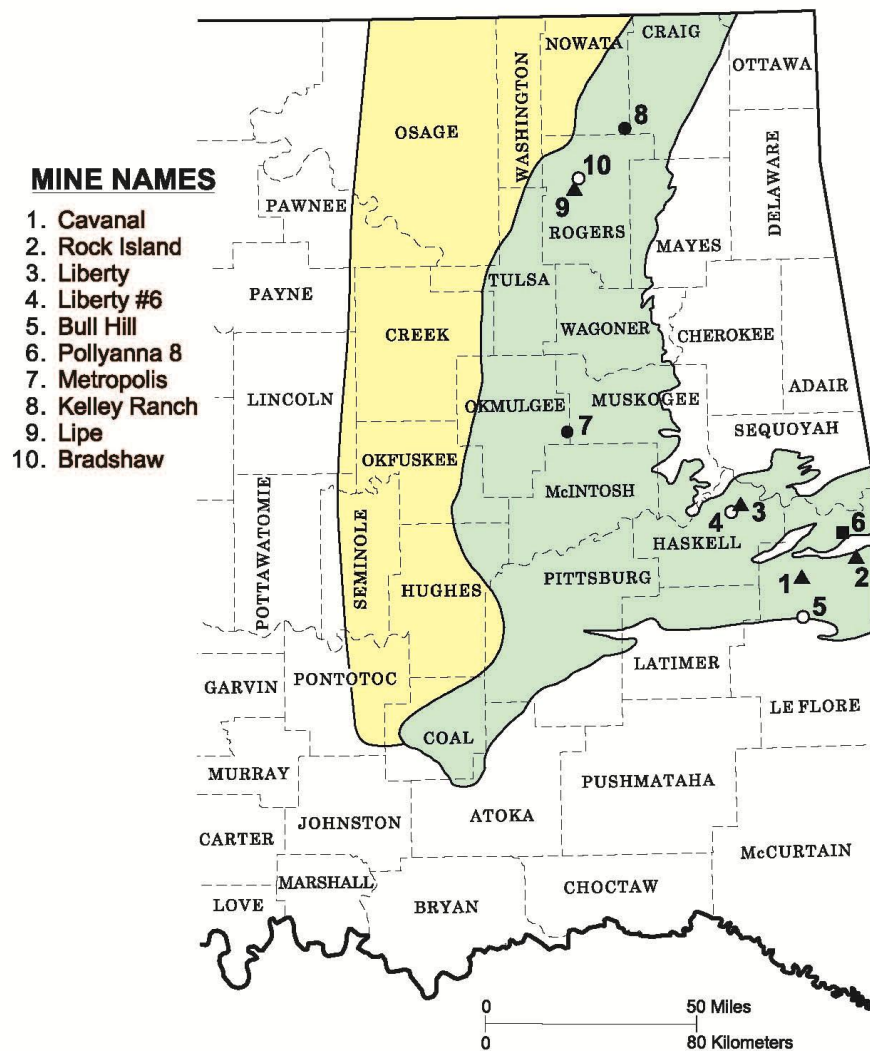


Figure 16. Map locating coal mines active in eastern Oklahoma in 2009. Numbers match those in Table 14. A solid square indicates an underground mine. Open circles indicate mines opened in 2009. Solid triangles indicate mines closed in 2009.

Table 15: 2010 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick-ness (ft)	Btu/lb	Production Notes
1 [mvb]	Farrell-Cooper Mining Co.	Liberty #6 [4279]	Haskell W/H 27-10N-21E NW 34-10N-21E	Stigler	129,257	13.2	0.6	2.0	13,800	Closed November 2010
2 [mvb]	Farrell-Cooper Mining Co.	Taloka Creek (Liberty #7) [4280]	Haskell SE 33-10N-21E	Stigler	11,435	1.2	0.6	2.0	13,800	New November 2010 Page dragline, 45 yd ³ bucket
3 (1384) [mvb]	Farrell-Cooper Mining Co.	Bull Hill [4275]	LeFlore SE 34-6N-24E SW 34-6N-24E SE 33-6N-24E SE 31-6N-24E SE 31-6N-24E	Upper Hartshorne Lower Hartshorne	185,752 [206,391] 20,639	21.1	1.0 1.0	4.0 4.0	13,500 13,500	Overburden 100 ft; dip 35°
4 (1131) [lvb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore NW SW 28; SW & S/2 NE 29; NE 31; N/2 32-9N-26E	Hartshorne	408,913	41.8	1.5	5.0	11,562	Underground mine; trucked to AES; depth of @600 ft; entry at NW33-9N-26E; wash plant
5 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	1,974	0.2	1.4	1.7	13,100	Overburden of 15-50 ft; cement plant
6 (1184) [hvb]	Phoenix Coal Co.	Kelley Ranch [4270]	Nowata SE,SW 12-25N-17E SE, NE, NW 13-25N-17E	Croweburg	3,242	0.3	0.5	1.2	12,000	Closed March 2010
7 [hvb]	Phoenix Coal Co.	Bradshaw [4278]	Rogers 34-23N-16E	Iron Post	12,741	1.3	3.8	1.1	12,500	
8 (1391) [hvb]	Phoenix Coal Co.	Culver [4283]	Craig SE 20-25N-18E	Croweburg	43,695	4.4	0.5	1.3	12,000	New April 2010
9 [hvb]	Phoenix Coal Co.	H&H [4282]	Nowata 1,2,11,12-25N-17E	Croweburg	161,193	16.5	0.5	1.2	12,000	New April 2010
Total	4	9	6	7	978,841	100.0	1.1 wa	3.5 wa	12,401 wa	wa = weighted average

MINE NAMES

1. Liberty #6
2. Taloka Creek
3. Bull Hill
4. Pollyanna 8
5. Metropolis
6. Kelley Ranch
7. Bradshaw
8. Culver
9. H & H

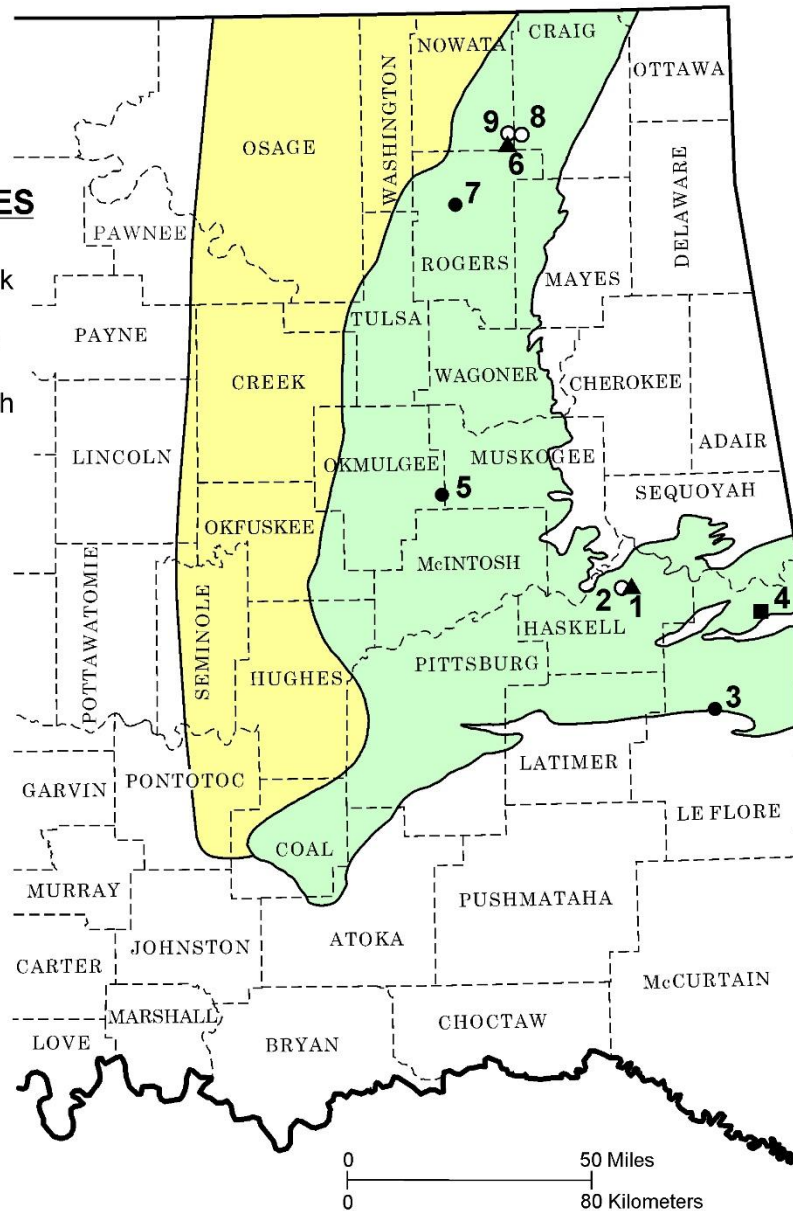


Figure 17. Map locating coal mines active in eastern Oklahoma in 2010. Numbers match those in Table 15 A solid square indicates an underground mine. Open circles indicate mines opened in 2010. Solid triangles indicate mines closed in 2010.

Table 16: 2011 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 (1384) [m vb]	Farrell- Cooper Mining Co.	Bull Hill [4275]	LeFlore SH 31-6N-24E	Upper Hartshorne	84,340	17.1	1.0	4.0	13,500	Overburden 200 ft; dip 38°
				Lower Hartshorne	116,211		1.0	4.0	13,500	
2 [m vb]	Farrell- Cooper Mining Co.	Liberty #6 [4279]	Haskell W/H 27-10N-21E NW 34-10N-21E	Stigler	3,604	0.3	0.6	2.0	13,800	Closed November 2010 Coal pad clean-up
3 [m vb]	Farrell- Cooper Mining Co.	Taloka Creek (Liberty #7) [4280]	Haskell SE 33-10N-21E	Stigler	200,002	17.0	0.6	2.0	13,800	Page dragline, 45 yd ³ bucket
4 (1131) [l vb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore NW SW 28; SW & S/2 NE 29; NE 31; N/2 32- 9N-26E	Hartshorne	438,266	37.3	1.5	5.0	11,562	Underground mine; trucked to AES; depth of @600 ft; entry at SE SW NW 27-9N-26E; wash plant
5 (1142) [h vb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	2,988	0.3	1.4	1.7	13,100	Overburden of 15-50 ft; cement plant
6 (1184) [h vb]	Phoenix Coal Co.	Kelley Ranch [4270]	Nowata SE,SW 12-25N-17E SE, NE, NW 13-25N-17E	Croweburg	451	0.04	0.5	1.2	12,000	Closed March 2010 Coal pad clean-up
7 [h vb]	Phoenix Coal Co.	H&H [4282]	Nowata 1,2,11,12-25N-17E	Croweburg	194,648	16.6	0.5	1.2	12,000	Closed October 2011
8 (1391) [h vb]	Phoenix Coal Co.	Culver [4283]	Craig SE 20-25N-18E	Croweburg	75,074	6.4	0.5	1.3	12,000	
9 [h vb]	Phoenix Coal Co.	H&H [4286]	Craig SE 5,6-25N-18E	Croweburg	58,988	5.0	0.5	1.2	12,000	New October 2011
Total	4	9	5	6	1,174,572	100.0	1.0 wa	3.2 wa	12,413 wa	wa = weighted average

MINE NAMES

1. Bull Hill
2. Liberty #6
3. Taloka Creek
4. Pollyanna 8
5. Metropolis
6. Kelley Ranch
7. H & H
8. Culver
9. H & H

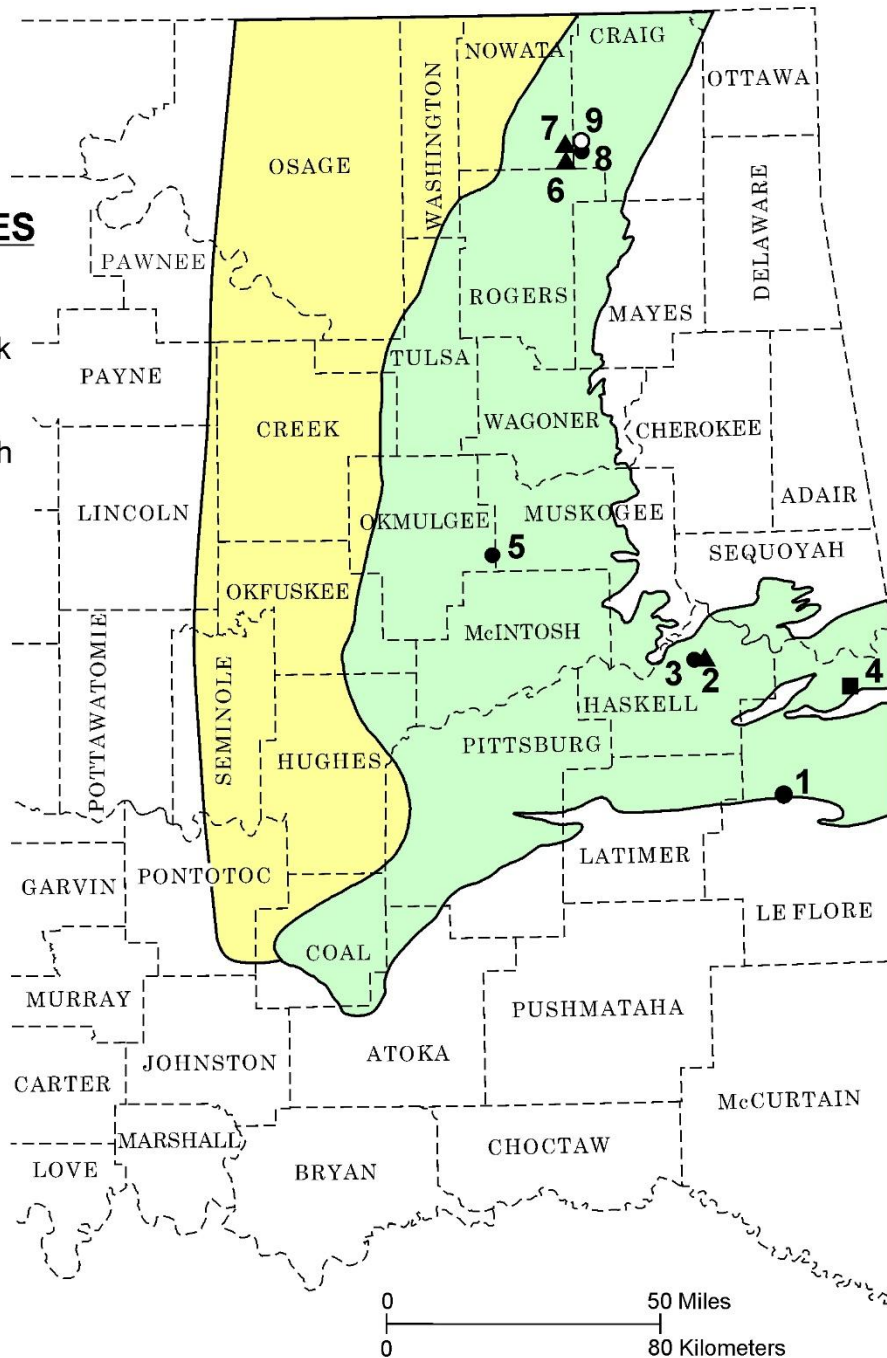


Figure 18. Map locating coal mines active in eastern Oklahoma in 2011. Numbers match those in Table 16. A solid square indicates an underground mine. Open circles indicate mines opened in 2011. Solid triangles indicate mines closed in 2011.

Table 17: 2012 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 (1435, 1436) [mvp]	Farrell- Cooper Mining Co.	Bull Hill [4275]	LeFlore N/2 SW/4 31-6N-24E N/2 SE/4 36-6N-23E	Upper Hartshorne	84,293	16.7	1.0	4.4	13,500	Overburden 200 ft; dip 38°
				Lower Hartshorne	95,820		1.0	4.7	13,500	
2 (1437) [mvp]	Farrell- Cooper Mining Co.	Taloka Creek (Liberty #7) [4280]	Haskell N/2 SE/4, S/2 NE/4 33-10N-21E	Stigler	219,046	20.4	0.6	1.9	13,800	Page dragline, 45 yd ³ bucket
3 (1131) [lvb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore NW SW 28; SW & S/2 NE 29; NE 31; N/2 32- 9N-26E	Hartshorne	368,374	34.3	1.2	4.0	10,500 (@25% ash)	Underground mine; trucked to AES; depth of @900 ft; entry at SE SW NW 27-9N-26E; wash plant
4 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	3,228	0.3	1.4	1.7	13,100	Overburden of 15-50 ft; cement plant
5 [hvb]	Phoenix Coal Co.	No. 3 [4194]	Craig 19,20-27N-19E	Croweburg	43,697	4.1	0.5	1.2	12,000	New April 2012
6 [hvb]	Phoenix Coal Co.	H&H [4282]	Nowata 1,2,11,12-25N-17E	Croweburg	45,501	4.2	0.5	1.2	12,000	Mined out Dec. 2012
7 (1391) [hvb]	Phoenix Coal Co.	Culver [4283]	Craig SE 20-25N-18E	Croweburg	6,982	0.6	0.5	1.3	12,000	Mined out April 2012
8 [hvb]	Phoenix Coal Co.	H&H [4286]	Craig SE 5,6-25N-18E	Croweburg	208,129	19.4	0.5	1.2	12,000	
Total	4	8	5	6	1,075,070	100.0	0.8 wa	2.9 wa	12,106 wa	wa = weighted average

MINE NAMES

1. Bull Hill
2. Taloka Creek
3. Pollyanna 8
4. Metropolis
5. No. 3
6. H & H
7. Culver
8. H & H

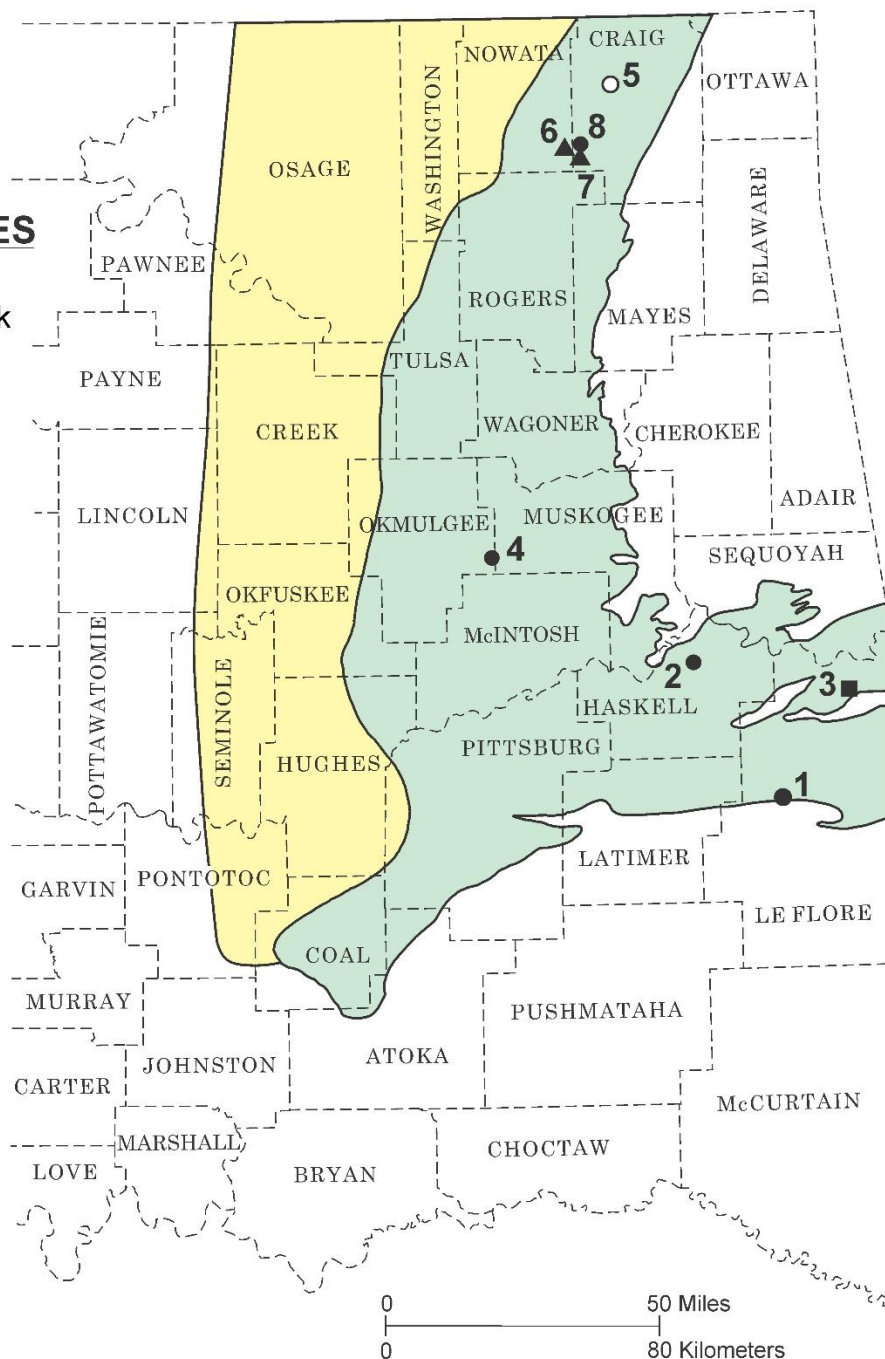


Figure 19. Map locating coal mines active in eastern Oklahoma in 2012. Numbers match those in Table 17. A solid square indicates an underground mine. Open circles indicate mines opened in 2012. Solid triangles indicate mines closed in 2012.

Table 18: 2013 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 (1435, 1436) [m vb]	Farrell- Cooper Mining Co.	Bull Hill [4275]	LeFlore S/2 36-6N-23E	Upper Hartshorne Lower Hartshorne	99,034 115,375	18.4	1.0 1.0	3.9 4.0	13,500 13,500	Overburden 200 ft; dip 38°
2 (1437) [m vb]	Farrell- Cooper Mining Co.	Taloka Creek (Liberty #7) [4280]	Haskell W/2 SW/4 34-10N-21E	Stigler	170,645	14.6	0.6	1.9	13,800	Page dragline, 45 yd ³ bucket
3 [m vb]	Farrell- Cooper Mining Co.	Liberty #6 [4279]	Haskell SW/4 NW/4 34-10N-21E SE/4 NW/4, NE/4 SW/4 27-10N-21E	Stigler	16,675	1.4	0.6	1.9	13,800	Re-opened March 2013 Auger operation
4 (1131) [l vb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore NW SW 28; SW & S/2 NE 29; NE 31; N/2 32- 9N-26E	Hartshorne	494,341	42.4	1.2	4.0	10,500 (@25% ash)	Underground mine; trucked to AES; depth of @900 ft; entry at SE SW NW 27-9N-26E; wash plant
5 (1142) [h vb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	2,558	0.2	1.4	1.7	13,100	Overburden of 15-50 ft; cement plant
6 [h vb]	Phoenix Coal Co.	No. 3 [4194]	Craig 19,20-27N-19E	Croweburg	28,440	2.4	0.5	1.2	12,000	New April 2012 Closed August 2013
7 [h vb]	Phoenix Coal Co.	Kelley Ranch [4270]	Nowata 11-25N-17E	Croweburg	27,217	2.3	0.8	1.2	11,700	New November 2013 Finished Jan. 2014
8 [h vb]	Phoenix Coal Co.	H&H [4282]	Nowata 1,2,11,12-25N-17E	Croweburg	26,552	2.3	0.5	1.2	12,000	Mined out in 2013
9 [h vb]	Phoenix Coal Co.	H&H [4286]	Craig SE 5,6-25N-18E	Croweburg	186,371	16.0	0.5	1.2	12,000	Mined out in 2013
Total	4	9	5	6	1,167,208	100.0	0.9 wa	3.0 wa	11,923 wa	wa = weighted average

MINE NAMES

1. Bull Hill
2. Taloka Creek
3. Liberty 6
4. Pollyanna 8
5. Metropolis
6. No. 3
7. Kelley Ranch
8. H & H
9. H & H

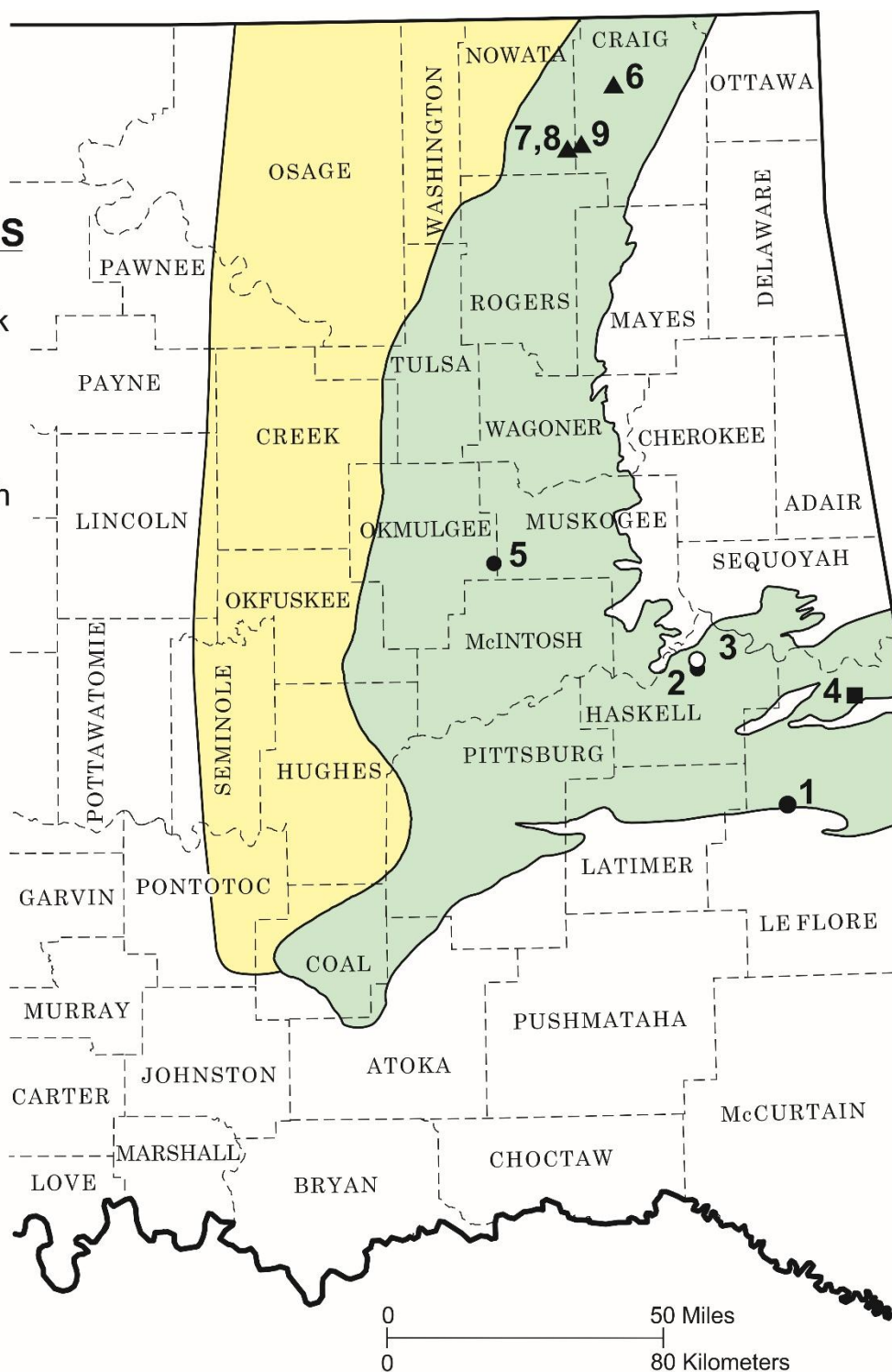


Figure 20. Map locating coal mines active in eastern Oklahoma in 2013. Numbers match those in Table 18. A solid square indicates an underground mine. Open circles indicate mines opened in 2013. Solid triangles indicate mines closed in 2013.

Table 19: 2014 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 (1435, 1436) [mvp]	Farrell- Cooper Mining Co.	Bull Hill [4275]	LeFlore S/2 36, S/2 35-6N-23E S/2 33-6N-24E	Upper Hartshorne	96,246	19.6	1.0	3.9	13,500	Overburden 200 ft; dip 38°
				Lower Hartshorne	85,419		1.0	4.0	13,500	
2 (1437) [mvp]	Farrell- Cooper Mining Co.	Taloka Creek (Liberty #7) [4280]	Haskell W/2 SW/4 34-10N-21E E/2 33-10N-21E	Stigler	64,505	6.9	0.6	1.9	13,800	Page dragline, 45 yd ³ bucket
3 [mvp]	Farrell- Cooper Mining Co.	Liberty #6 [4279]	Haskell SW/4 NW/4 34-10N-21E W/2 SW/4 27-10N-21E	Stigler	8,886	1.0	0.6	1.9	13,800	Idled May 2014 Auger operation
4 (1131) [lvb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore NW SW 28; SW & S/2 NE 29; NE 31; N/2 32- 9N-26E	Hartshorne	419,725	45.3	1.7	5.75	10,500 (@25% ash)	Underground mine; trucked to AES; depth of @900 ft; entry at SE SW NW 27-9N-26E; wash plant
5 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	1,959	0.2	1.4	1.7	13,100	Overburden of 15-50 ft; cement plant
6 [hvb]	Phoenix Coal Co.	Kelley Ranch [4270]	Nowata 11-25N-17E	Croweburg	11,061	1.2	0.8	1.2	11,700	New November 2013 Closed June 2014
7 [hvb]	Phoenix Coal Co.	Most [4287]	Nowata 23,25,27-25N-17E Craig 30,31-25N-18E	Croweburg	20,000 219,262	25.8	0.8	1.2	12,000	New January 2014
Total	4	7	5	6	927,063	100.0	1.2 wa	3.9 wa	11,755 wa	wa = weighted average

MINE NAMES

1. Bull Hill
2. Taloka Creek
3. Liberty 6
4. Pollyanna 8
5. Metropolis
6. Kelley Ranch
7. Most

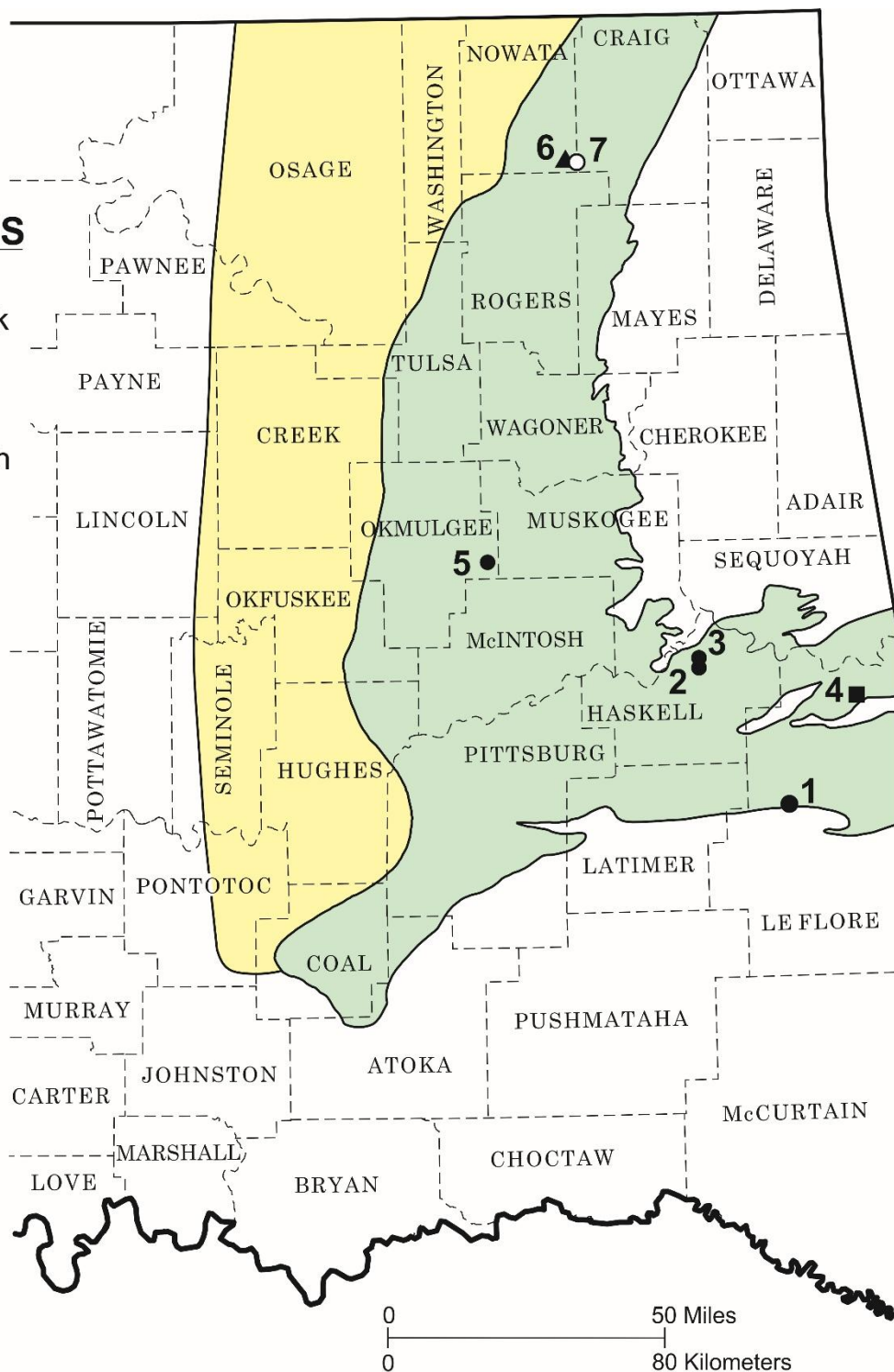


Figure 21. Map locating coal mines active in eastern Oklahoma in 2014. Numbers match those in Table 19. A solid square indicates an underground mine. Open circles indicate mines opened in 2014. Solid triangles indicate mines closed in 2014.

Table 20: 2015 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 (1435, 1436) [m vb]	Farrell- Cooper Mining Co.	Bull Hill [4275]	LeFlore S/2 32, 33-6N-24E	Upper Hartshorne	83,032	21.8	1.0	3.9	13,500	Overburden 200 ft; dip 38°
				Lower Hartshorne	90,960		1.0	4.0	13,500	
2 (1437) [m vb]	Farrell- Cooper Mining Co.	Taloka Creek (Liberty #7) [4280]	Haskell NE 33-10N-21E	Stigler	22,141	2.8	0.6	1.9	13,800	Idled September 2015 waiting on Federal coal permit Page dragline, 45 yd ³ bucket
3 [m vb]	Farrell- Cooper Mining Co.	Liberty #6 [4279]	Haskell	Stigler	210	0.03	0.6	1.9	13,800	Closed May 2014 Inventory sales
4 (1131) [l vb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore SE 30; NE 31- 9N-26E	Hartshorne	407,365	51.1	1.7	5.75	10,500 (@25% ash)	Underground mine; trucked to AES; depth of @900 ft; entry at SE SW NW 27-9N-26E; wash plant
5 (1142) [h vb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	2,242	0.3	1.4	1.7	13,100	Overburden of 15-50 ft; cement plant
6 [h vb]	Phoenix Coal Co.	Most [4287]	Nowata 25-25N-17E	Croweburg	190,909	24.0	0.7	1.2	12,100	
Total	4	6	4	6	796,859	100.0	1.3 wa	4.2 wa	11,638 wa	wa = weighted average

MINE NAMES

1. Bull Hill
2. Taloka Creek
3. Liberty 6
4. Pollyanna 8
5. Metropolis
6. Most

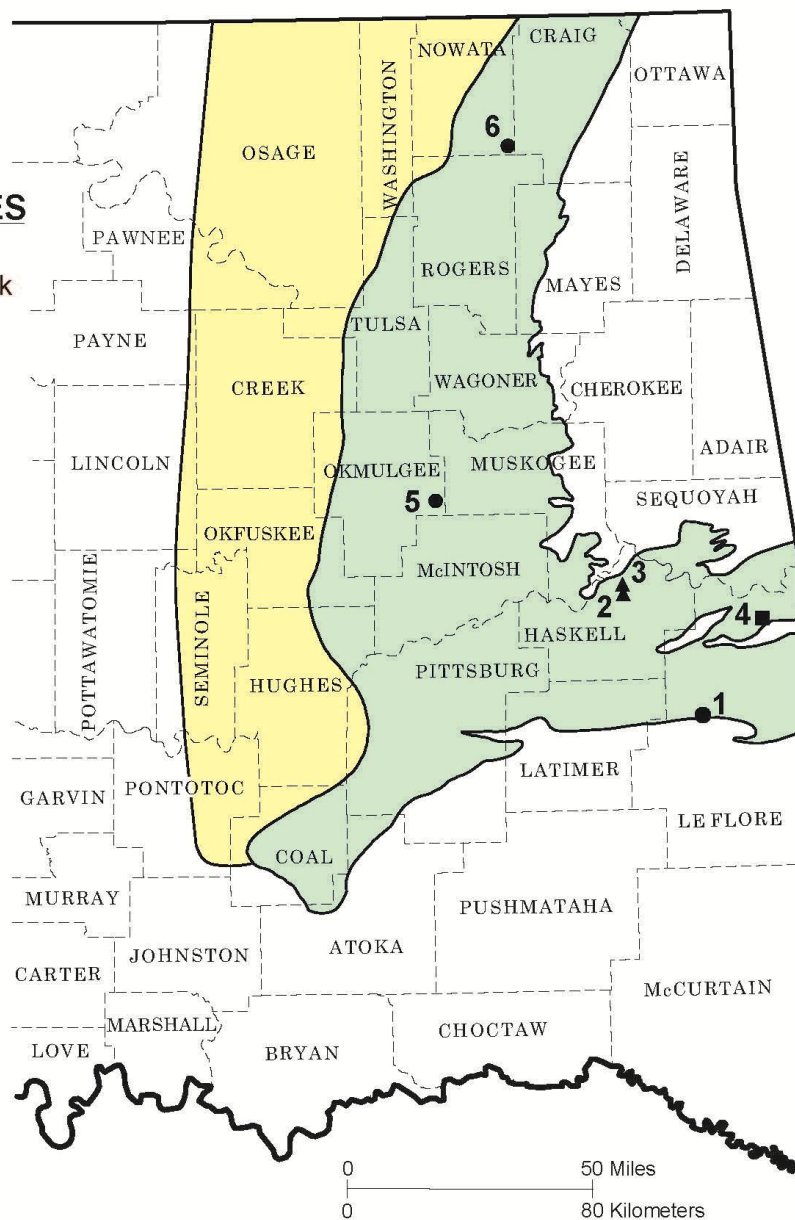


Figure 22. Map locating coal mines active in eastern Oklahoma in 2015. Numbers match those in Table 20. Solid circles indicate existing mines in 2015. A solid square indicates an underground mine. Solid triangles indicate mines closed in 2015.

Table 21: 2016 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 (1435, 1436) [mvb]	Farrell- Cooper Mining Co.	Bull Hill [4275]	LeFlore S/2 32-6N-24E SW SW 35-6N-23E SE SE 34-6N-23E	Upper Hartshorne	79,437	18.8	1.0	3.9	13,500	Overburden 200 ft; dip 38°
				Lower Hartshorne	46,883		1.0	4.0	13,500	
2 (1437) [mvb]	Farrell- Cooper Mining Co.	Taloka Creek (Liberty #7) [4280]	Haskell NE 33-10N-21E	Stigler	829	0.1	0.6	1.9	13,800	Idled September 2015 waiting on Federal coal permit Page dragline, 45 yd ³ bucket
3 (1131) [lvb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore SE 30; NE 31- 9N-26E	Hartshorne	398,800	59.5	1.7	5.75	10,500 (@25% ash)	Underground mine; trucked to AES; depth of @900 ft; entry at SE SW NW 27-9N-26E; wash plant
4 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	1,375	0.2	1.4	1.7	13,100	Overburden of 15-50 ft; cement plant
5 (1515) [hvb]	Phoenix Coal Co.	Most [4287]	Nowata 25-25N-17E 23-25N-17E	Croweburg	37,052 106,234	21.4	0.5	1.2	12,528	
Total	4	5	4	6	670,610	100.0	1.3 wa	4.4 wa	11,506 wa	wa = weighted average

MINE NAMES

1. Bull Hill
2. Taloka Creek
3. Pollyanna 8
4. Metropolis
5. Most

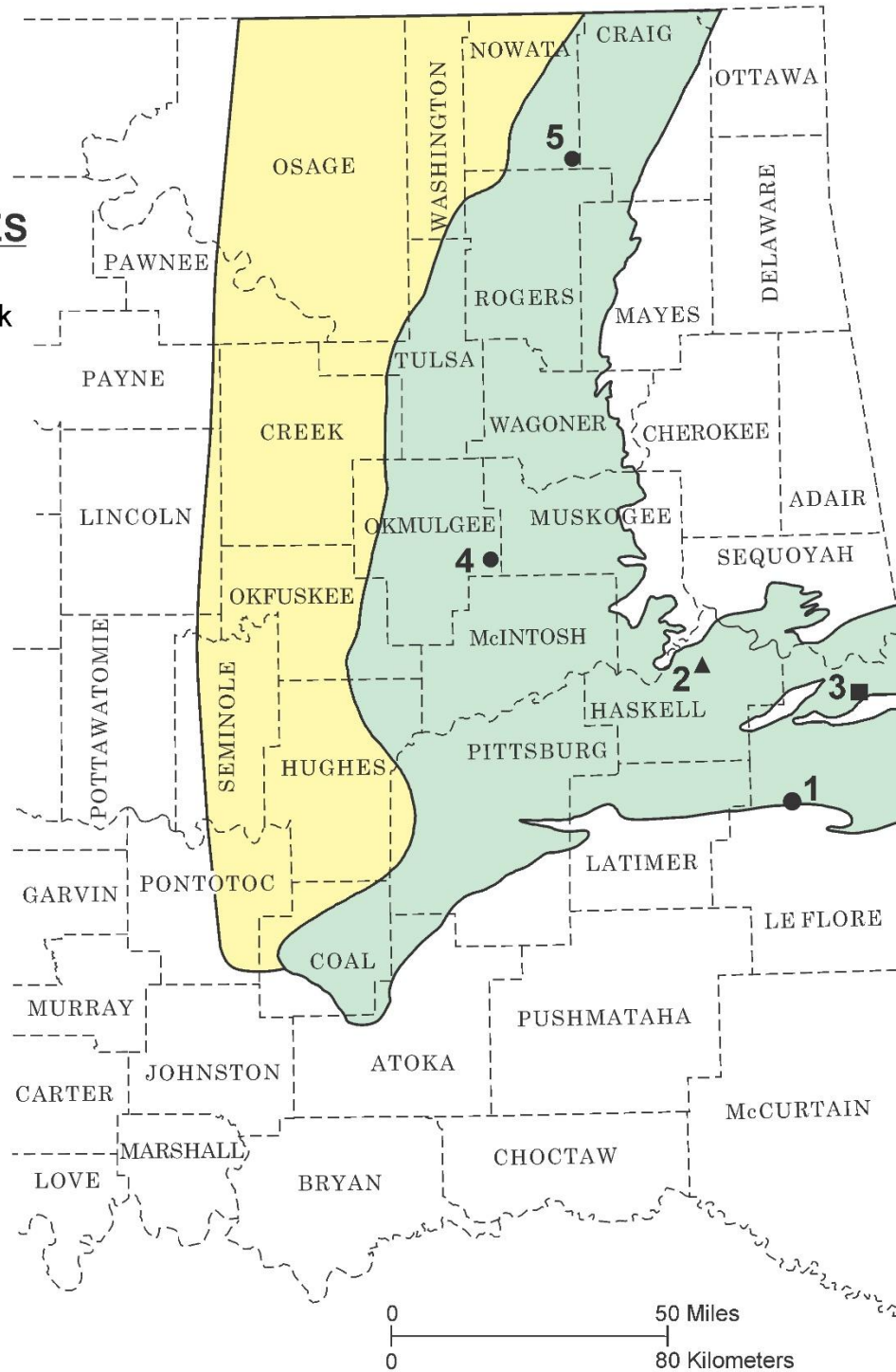


Figure 23. Map locating coal mines active in eastern Oklahoma in 2016. Numbers match those in Table 21. Solid circles indicate existing mines in 2016. A solid square indicates an underground mine. Solid triangles indicate mines closed in 2016.

Table 22: 2017 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick-ness (ft)	Btu/lb	Production Notes
1 (1435, 1436) [mvp]	Farrell-Cooper Mining Co.	Bull Hill [4275]	Le Flore S/2 32-6N-24E S/2 34-6N-23E	Upper Hartshorne	69,438	11.6	1.0	3.9	13,500	Closed December 2017 Overburden 200 ft; dip 38°
				Lower Hartshorne	4,242		1.0	4.0	13,500	
2 [hvb]	Farrell-Cooper Mining Co.	Bull Hill No. 2 [4293F]	Latimer SW SW 2-5N-21E SE SE 3-5N-21E NE NE 10-5N-21E NW NW 11-5N-21E	Lower Hartshorne	17,386	2.7	1.5	1.8	12,000	New September 2017; Replaced Bull Hill; overburden 50 ft, dip 24°
3 (1131) [lvb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore SE 30; NE 31-9N-26E	Hartshorne	374,972	59.1	1.7	5.75	10,500 (@25% ash)	Underground mine; trucked to AES; depth of @900 ft; entry at SE SW NW 27-9N-26E; wash plant
4 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	1,281	0.2	1.4	1.7	13,100	Overburden of 15-50 ft; cement plant
5 (1515) [hvb]	Phoenix Coal Co.	Most [4287]	Nowata 25-25N-17E 23-25N-17E	Croweburg	112,883	17.8	0.5	1.2	12,528	Closed October 2017
6 [hvb]	Phoenix Coal Co.	Spur [4290]	Craig 28-31-33 26N-18E	Croweburg	53,331	8.4	0.4	1.1	11,800	New September 2017
[hvb]	Phoenix Coal Co.	Kelley Ranch [4270]	Craig N/A	Croweburg	918	0.2	0.5	1.2	12,000	Cleaning pad August & September 2017
Total	4	7	5	5	634,451	100.0	1.3 wa	4.2 wa	11,367 wa	wa = weighted average

MINE NAMES

1. Bull Hill
2. Bull Hill 2
3. Pollyanna 8
4. Metropolis
5. Most
6. Spur

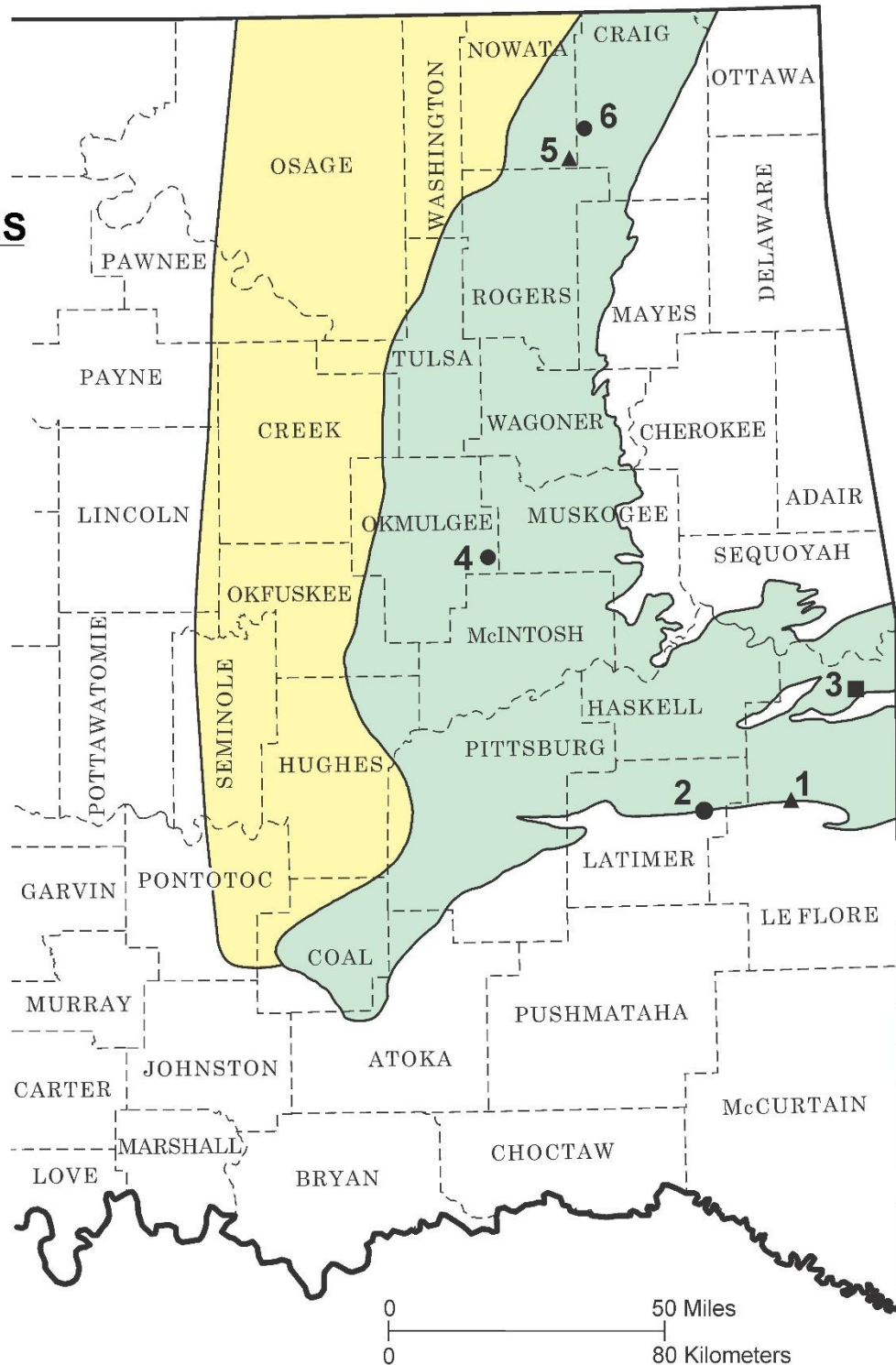


Figure 24. Map locating coal mines active in eastern Oklahoma in 2017. Numbers match those in Table 22. Solid circles indicate existing mines in 2017. A solid square indicates an underground mine. Solid triangles indicate mines closed in 2017.

Table 23: 2018 Oklahoma Coal Production

(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 [hvb]	Farrell- Cooper Mining Co.	Bull Hill No. 2 [4293F]	Latimer S/2 2-5N-21E SE SE 3-5N-21E NW NW 11-5N-21E	Lower Hartshorne	68,779	10.8	1.5	1.8	12,000	New September 2017; Replaced Bull Hill; overburden 50 ft, dip 24°
2 [m vb]	Farrell- Cooper Mining Co.	Cavanal West [4254F]	Le Flore S/2 NW, SW NE, N/2 SW 16-7N-24E	Secor	109,146	17.1	4.5	5.2	8,500	New March 2018 Closed Sept 2018 In seam partings were loaded with coal. AddCar Highwall Miner
3 (1131) [lvb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore SW 30; NW 31- 9N-26E	Hartshorne	235,469	36.8	1.5	5.75	10,100 (@27% ash)	Underground mine; trucked to AES; depth of @900 ft; entry at SE SW NW 27-9N-26E; wash plant
4 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	291	0.05	1.4	1.7	13,100	Overburden of 15-50 ft; cement plant
5 [hvb]	Phoenix Coal Co.	Spur [4290]	Craig 32-33 26N-18E	Croweburg	225,858	35.3	0.5	1.1	11,800	New September 2017
Total	4	5	4	5	639,543	100.0	1.7 wa	3.6 wa	10,632 wa	wa = weighted average

MINE NAMES

1. Bull Hill 2
2. Cavanal West
3. Pollyanna 8
4. Metropolis
5. Spur

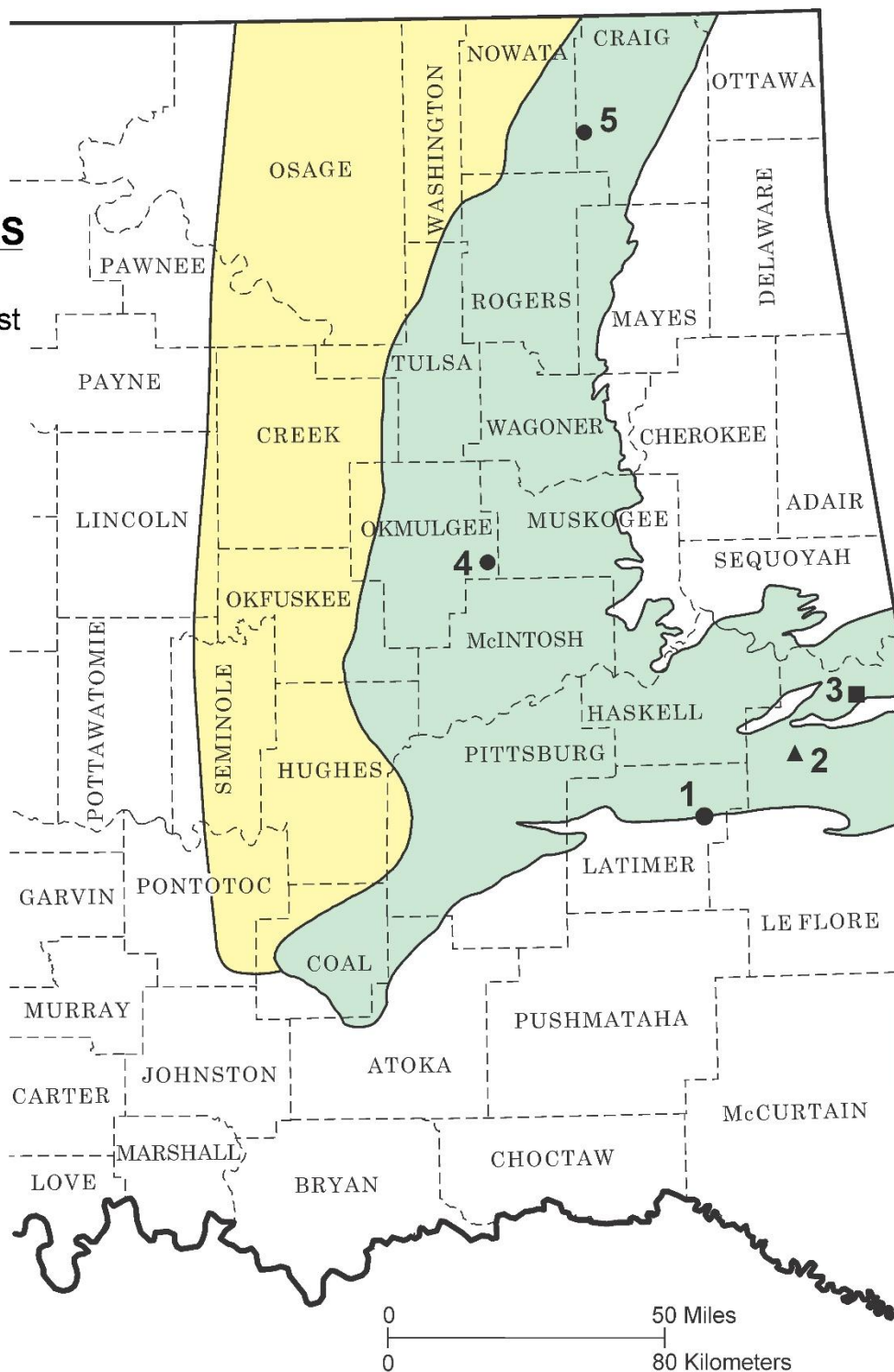


Figure 25. Map locating coal mines active in eastern Oklahoma in 2018. Numbers match those in Table 23. Solid circles indicate existing mines in 2018. A solid square indicates an underground mine. Solid triangles indicate mines closed in 2018.

Table 24: 2019 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 [hvb]	Farrell-Cooper Mining Co.	Bull Hill No. 2 [4293F]	Latimer S/2 2-5N-21E SE SE 3-5N-21E NW NW 11-5N-21E	Lower Hartshorne	48,633	16.5	1.5	1.8	12,000	overburden 50 ft, dip 24°; 2020 : mine is idle waiting on next federal lease
2 (1131) [lvb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore SW 30; NW 31-9N-26E	Hartshorne	67,034	22.8	1.5	5.75	10,100 (@27% ash)	Underground mine; trucked to AES; depth of @900 ft; entry at SE SW NW 27-9N-26E; wash plant 2020 : mine is idle due to equipment availability
3 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	628	0.2	1.4	1.7	13,100	Overburden of 15-50 ft; Cement plant
4 [hvb]	Phoenix Coal Co.	Spur [4290]	Craig 28&33-26N-18E	Croweburg	178,039	60.5	0.5	1.1	11,800	2020 : mine is idle waiting on next permit
Total	4	4	4	4	294,334	100.0	0.9 wa	2.3 wa	11,448 wa	wa = weighted average

MINE NAMES

1. Bull Hill 2
2. Pollyanna 8
3. Metropolis
4. Spur

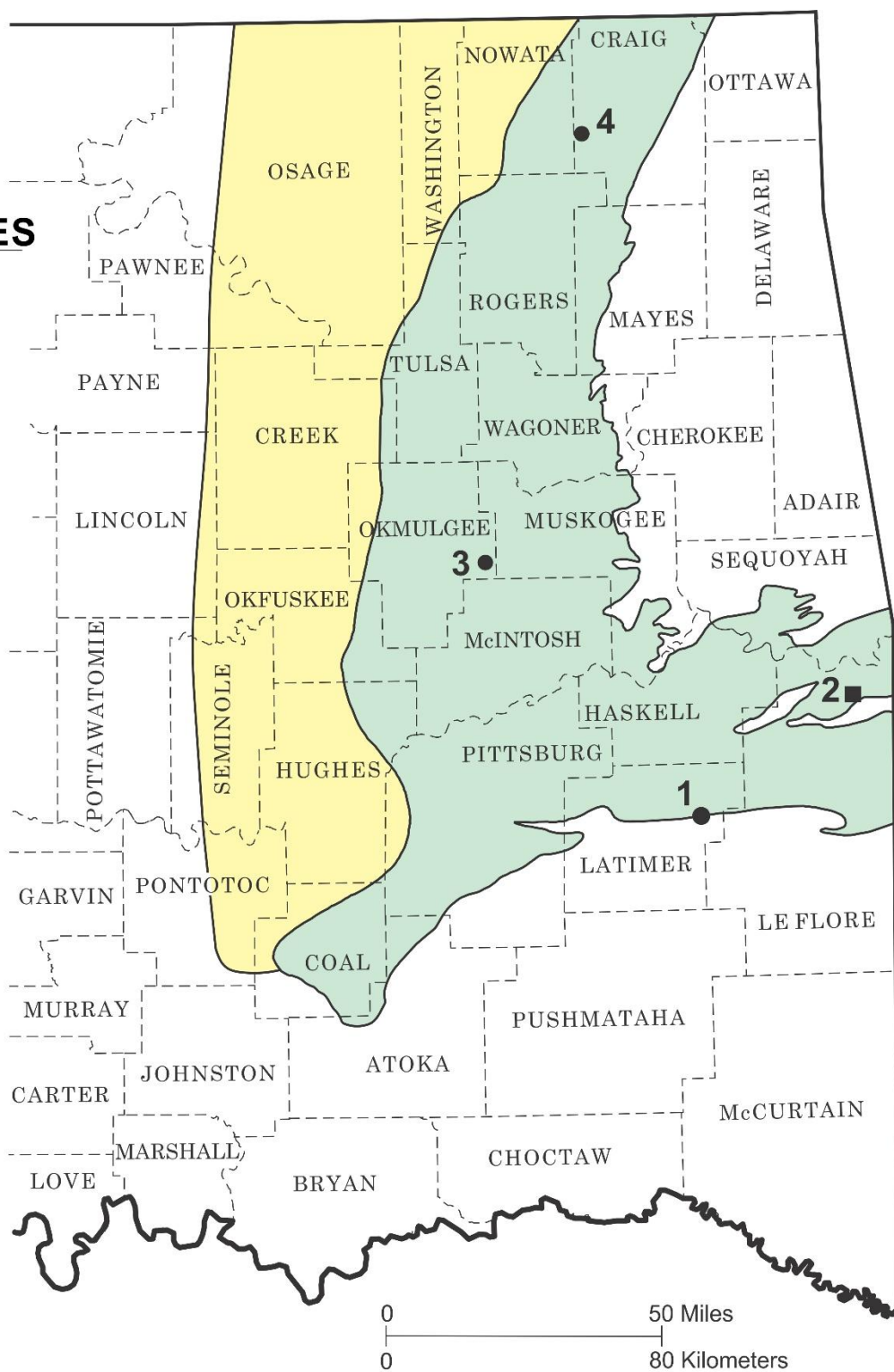


Figure 26. Map locating coal mines active in eastern Oklahoma in 2019. Numbers match those in Table 24 Solid circles indicate existing mines in 2019. A solid square indicates an underground mine.

Table 25: 2020 Oklahoma Coal Production
(Listed alphabetically by company. Production from Oklahoma Department of Mines' work sheets)

Map No. (OPL) [Rank]	Coal Company	Mine [permit]	County/ Location	Coal	Short Tons	% of Total Production	Sulfur (%)	Thick- ness (ft)	Btu/lb	Production Notes
1 [hvb]	Farrell-Cooper Mining Co.	Bull Hill No. 2 [4293F]	Latimer S/2 2-5N-21E SE SE 3-5N-21E NW NW 11-5N-21E	Lower Hartshorne	0		1.5	1.8	12,000	overburden 50 ft, dip 24°; 2020: mine is idle waiting on next federal lease COULD NOT OBTAIN FEDERAL LEASE BEGINNING IN 2014; MINE CLOSED & IN RECLAMATION; OUT OF COAL MINING
2 (1131) [lvb]	Georges Colliers (South Central Coal Co.)	Pollyanna No.8 (South Central) [4243F]	Le Flore SW 30; NW 31-9N-26E	Hartshorne	10,865	93.2	1.5	5.75	10,100 (@27% ash)	Underground mine; trucked to AES; depth of @900 ft; entry at SE SW NW 27-9N-26E; wash plant 2020: mine is idle due to equipment availability; MINE CLOSED, EQUIPMENT SOLD
3 (1142) [hvb]	Joshua Coal Co.	Metropolis [4238]	Okmulgee SW SE 1-13N-14E	Mineral	150	1.3	1.4	1.7	13,100	Overburden of 15-50 ft; Cement plant
4 [hvb]	Phoenix Coal Co.	Spur [4290]	Craig 28&33-26N-18E	Croweburg	645	5.5	0.5	1.1	11,800	2020: mine is idle waiting on next permit MINE CLOSED & IN RECLAMATION; OUT OF COAL MINING
Total	3	3	3	3	11,660	100.0				