

OKLAHOMA GEOLOGICAL SURVEY

Robert H. Dott, Director

Mineral Report No. 13

MINERAL PRODUCTION OF OKLAHOMA 1885-1940

Compiled  
By

J. O. Beach

Norman

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# MINERAL PRODUCTION OF OKLAHOMA 1885-1940

## INTRODUCTION

Earliest utilization of mineral resources in what is now Oklahoma probably began with the establishment of the first military posts and the early missions. Stone was used for buildings, some lime may have been burned, and salt works were established near Salina and at other places in the Indian Nations.

First commercial production of the present era of development was coal, probably as early as 1872, in the McAlester area, but figures on the amount of production are not available prior to 1880, and value of coal produced is not available prior to 1885.

Mineral production has been one of the leading industries of Oklahoma since the outbreak of war in 1914, and was an important factor in the development of the region, even before the country was opened to general settlement by the whites. Coal deposits in eastern Oklahoma were partly responsible for the location and building of some of the railroads through that area in the 1870's, and until 1891 coal and coke were the only items included in available statistical reports. In 1891, oil, lead, and manganese were reported. After that other items began to be produced. Petroleum has been the leading source of mineral wealth in Oklahoma for a number of years; and petroleum, coal, lead, and zinc now make up the greater part of income derived from mineral production in the state.

Production and value figures as given in the following tables were obtained by checking all available sources in the Library of the Oklahoma Geological Survey and library of the School of Geology of the University of Oklahoma. Chief sources of information were from statistical publications of the U. S. Geological Survey and the U. S. Bureau of Mines, published annually. These publications were as follows: Mineral Re-

sources of the United States, 1882 to 1931 - (From 1894 to 1899 included as a part of the 16th to 21st Annual Reports of the U. S. Geological Survey); and Minerals Yearbook, beginning with 1932-33 and continuing through the present.

Other sources include some of the earlier publications of the Oklahoma Geological Survey, particularly Bulletins 15 and 22 which contain statistical summaries and include some estimates on various items that are not given separately in the government publications.

Estimates on oil production for the years 1905 and 1906 for Oklahoma are those given in Petroleum in the United States and Possessions by Ralph Arnold and William J. Kemnitzer, 1931.

An attempt was made to assemble all available data on Oklahoma mineral production. In a few instances where figures were not available in the government publications cited above, unofficial estimates were used for the earlier years, when such estimates were available. Total value of mineral production by states is not available in the Mineral Resources prior to 1905, and the totals given here were obtained by adding the totals of each mineral for which figures could be found. For 1905 and 1906 corrections to the state total were made on the basis of estimates of petroleum production for Oklahoma, made by Arnold and Kemnitzer, as the government figures combined Oklahoma and Kansas petroleum production for those years.

Acknowledgments: Robert H. Dott, Director of the Oklahoma Geological Survey, contributed valuable suggestions and assisted in compiling parts of the report. Harry Rayl of the Survey staff assisted in arranging the tables, rechecked additions, and computed averages and percentages. Professor Findley Weaver, Director of the Bureau of Business Research, University of Oklahoma, furnished figures on agriculture, manufacturing, and the table on total income for Oklahoma. Neal Dilday of the Survey staff drew the graphs.

MINERAL PRODUCTION OF OKLAHOMA  
BY YEARS 1885 - 1940

Year	Value	Remarks
1885	\$ 762,902	Coal and coke*
1886	877,557	Coal and coke.
1887	1,320,127	Coal and coke.
1888	1,455,327	Coal and coke.
1889	1,341,764	Coal and coke.
1890	1,600,765	Coal and coke
1891	1,929,344	Coal, coke, oil, lead, manganese.
1892	2,056,861	Coal, coke, oil, lead.
1893	2,291,959	Coal, coke, oil, lead, zinc.
1894	1,591,113	Coal, coke, oil, lead, zinc, gypsum
1895	1,801,036	Coal, coke, gypsum.
1896	2,038,639	Coal, coke, gypsum, clay products.
1897	1,976,485	Coal, coke, gypsum, clay products.
1898	2,053,168	Same as 1897 and limestone
1899	2,570,527	Same as 1898 and limestone
1900	3,271,987	Same as 1899 and salt, granite.
1901	4,553,005	Same as 1900 and oil.
1902	5,110,784	Same as 1901 and Nat. gas, and sandstone.
1903	7,626,465	Same as 1902 and grahamite, rock asphalt.
1904	8,082,093	Same as 1903 and coal tar, lime
1905	10,632,679	MR 1904, and A&K oil estimated*
1906	15,459,686	MR 1906, and A&K oil estimated*
1907	26,908,968	
1908	26,536,751	
1909	29,008,138	
1910	32,988,865	
1911	42,678,446	
1912	53,614,130	

\* Prior to 1905, totals obtained by adding items listed. No state summaries available in "Mineral Resources". In 1905 and 1906, totals given in "Mineral Resources" do not include petroleum for Oklahoma. Estimates made by Arnold and Kemnitzer are here added to Bureau of Mines totals for Oklahoma



## MINERAL PRODUCTION BY YEARS (Continued)

Year	Value	Year	Value
1913	\$ 80,168,820	1928	\$486,634,347
1914	78,744,447	1929	516,685,232
1915	81,311,962	1930	390,170,991
1916	169,556,331	1931	181,904,857
1917	259,134,377	1932	185,120,909
1918	336,857,921	1933	172,560,924
1919	291,078,174	1934	237,208,583
1920	493,320,359	1935	251,700,898
1921	269,882,786	1936	305,191,649
1922	369,069,612	1937	367,444,222
1923	398,810,630	1938	272,860,078
1924	393,030,665	1939	236,176,614
1925	501,767,118	1940	<u>e236,000,000</u>
1926	569,518,693	Total	\$8,948,744,052
1927	524,594,732		e Estimated
Average for 56 years = \$159,799,001			

## PRODUCTION IN OKLAHOMA

Year	<u>ASPHALT</u>		Grahamite (a variety of solid asphalt)	
	Rock Asphalt Tons	Value	Tons	Value
1903	4,230	\$ 12,708	877	\$15,442
1904	5,457	12,516	1,000	25,000
1905	1,300	3,250	1,635	24,540
1906	738	2,029	1,952	16,432
1907	4,002	11,627	966	7,743
1908	None reported		2,286	20,340
1909	6,423	12,846	3,894	32,737
1910	11,959	65,244	None reported	
1911	19,747	80,056	5,000	15,000
1912	15,766	85,643		
1913	16,459	91,416		
1914	9,669	73,535	None reported, 1912 to 1921, inclusive.	
1915	16,907	118,351		
1916	15,431	112,555		
1917	5,793	34,344		
1918	Included in other states. (Continued next page).			

(Asphalt and Grahamite continued)

Year	Rock Asphalt		Grahamite	
	Tons	Value	Tons	Value
1919	4,323	\$ 18,187		
1920	7,522	45,898		
1921	25,573	87,587	41	\$ 533
1922	47,556	163,502		
1923	25,800	150,100		
1924	17,961	80,825		
1925	27,450	82,830		
1926	<u>37,010</u>	<u>121,830</u>		
Total	327,076	\$1,466,879	17,651	\$157,767

Averages for years included above are as follows:

14,867	\$66,676	1,961	\$17,530
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After 1926 included in other states.

Maltha, a term formerly applied to the softer, native, asphaltic pitch, was reported as follows:

1907	25 tons	\$ 500
1908	116 tons	3,480
1909	102 tons	2,547

#### CADMIUM

Cadmium is one of the important minor metals, used largely for coating other metals by electro-plating processes to resist corrosion, in bearings, in alloys other than bearings, and for pigments and chemicals. Most of the cadmium produced in the United States is obtained from zinc ores, and at least one of the zinc smelters in Oklahoma is recovering cadmium, but no figures are available on the amount produced. The amount of cadmium in zinc ores is usually very small, less than one percent.

CARBON BLACK

Carbon black is being produced in Oklahoma at four plants, located in Beckham, Pontotoc, Seminole, and Texas Counties, according to the latest issue of the Minerals Yearbook. The plant in Pontotoc County, near Stonewall, began production in 1940. Production figures for Oklahoma and Kansas are combined and are not available for Oklahoma alone. About 90 percent of the carbon black sold in the United States is used in the manufacture of rubber.

CARBON DIOXIDE

Carbon dioxide is recovered at the plant of the Oklahoma Portland Cement Company, Ada. When limestone is calcined carbon dioxide gas, (CO<sub>2</sub>), is given off and may be recovered, purified and used for various purposes, such as carbon dioxide for carbonated beverages, and in the manufacture of dry ice. No figures are available for Oklahoma, but the 1939 value of dry ice and carbon dioxide produced in the United States was about \$10,000,000.

Year	Barrels*	<u>CEMENT</u>		Remarks
		Value		
1908		\$ 424,971 <sup>e</sup>		Mineral Resources, 1906, report that two plants were being built in 1906 in the Indian Territory.
1909	781,660	710,270		
1910	975,000	1,021,117		
1911	928,722	619,225		
1912	1,214,399	1,051,670		
1913		1,258,676 <sup>e</sup>		Production has been continuous since 1908, but figures are available for the years presented here only; other years being included with miscellaneous.
1916	1,712,116	2,188,325		
1917	1,736,761	2,633,479		
1918	1,218,841	2,203,041		
1919	1,366,884	2,657,339		
1920	1,484,698	3,284,412		
1921	<u>1,596,566</u>	<u>3,420,093</u>		
Totals				
	13,015,647	\$21,472,618		
Av.	1,301,565	\$1,789,385		

\* 1 bbl. weighs 376 lbs.  
(e) From O.G.S. Bull. 15, p. 42, estimated.

CHATS			CLAY PRODUCTS			
Year	Tons	Value	Year	Value	Year	Value
1924	161,000	\$ 23,900	1896	\$ 23,000	1919	2,190,129
1925	269,000	49,900	1897	44,352	1920	2,769,013
1926	410,000	81,000	1898	113,391	1921	1,796,666
1927	388,000	69,000	1899	185,627	1922	1,935,570
1928	264,000	40,000	1900	194,457	1923	1,870,436
1929	240,400	46,800	1901	322,284	1924	1,963,484
1930	330,000	82,500	1902	403,649	1925	1,813,425
1931	146,000	21,900	1903	534,977	1926	1,504,744
1932	110,000	16,500	1904	531,024	1927	1,693,669
1933	91,050	18,210	1905	596,299	1928	1,726,369
1934	131,000	20,560	1906	540,901	1929	1,892,919
1935	1,099,600	143,590	1907	664,512	1930	941,365
1936	1,134,500	181,000	1908	562,929	1931	
1937	3,991,700	410,675	1909	1,032,314	1932	79,835
1938	1,504,900	216,370	1910	920,921	1933	128,396
1939	1,663,100		1911	756,639	1934	196,046
Totals		\$1,421,905	1912	535,318	1935	266,185
	11,934,250		1913	573,371	1936	633,805
Av. Production		745,891	1914	786,314	1937	583,334
Av. Value		\$94,794	1915	996,451	1938	572,289
			1916	1,410,657	1939	720,587
			1917	1,857,546		\$41,362,189
			1918	1,496,490	Av.	\$961,911

COAL					
Year	Tons	Value	Year	Tons	Value
1880	120,947		1892	1,192,721	\$2,043,479
1881	150,000		1893	1,252,110	2,235,200
1882	200,000		1894	969,606	1,541,293
1883	196,000		1895	1,211,185	1,737,254
1884	448,000		1896	1,366,646	1,918,115
1885	500,000	\$ 750,000	1897	1,336,380	1,787,358
1886	534,580	855,328	1898	1,381,466	1,827,638
1887	685,911	1,286,692	1899	1,537,427	2,199,785
1888	761,986	1,432,072	1900	1,922,298	2,788,224
1889	752,832	1,323,807	1901	2,421,781	3,915,268
1890	869,229	1,579,188	1902	2,820,666	4,265,106
1891	1,091,032	1,897,037	1903	3,517,388	6,386,463

Coal (Continued)					
Year	Tons	Value	Year	Tons	Value
1904	3,046,539	\$5,532,066	1924	2,329,615	\$8,590,000
1905	2,924,427	5,145,358	1925	2,325,840	7,667,000
1906	2,860,200	5,482,366	1926	2,842,673	9,042,000
1907	3,642,658	7,433,914	1927	3,818,054	11,570,000
1908	2,948,116	5,976,504	1928	3,501,325	10,365,000
1909	3,119,377	6,253,367	1929	3,774,080	11,481,000
1910	2,646,226	5,867,947	1930	2,793,954	7,768,000
1911	3,074,242	6,291,494	1931	1,908,394	4,614,000
1912	3,675,418	7,867,331	1932	1,255,466	2,646,000
1913	4,165,770	8,542,748	1933	1,238,244	2,616,000
1914	3,988,613	8,204,015	1934	1,208,289	2,846,000
1915	3,693,580	7,435,906	1935	1,229,398	2,879,000
1916	3,608,011	7,525,427	1936	1,540,303	3,500,000
1917	4,386,844	12,335,413	1937	1,600,295	3,841,000
1918	4,813,447	17,508,884	1938	1,244,000	2,947,000
1919	3,802,113	14,544,901	1939	1,178,000	2,486,000
1920	4,849,228	23,294,000	1940		<sup>e</sup> 4,350,000
1921	3,362,623	15,546,000	Total Tons:	131,323,102	
1922	2,802,511	11,527,000	Total Value:	\$334,165,948	
1923	2,885,038	10,874,000	Average Tons:	2,188,718	
	<sup>e</sup> Estimated		Average Value:	\$5,967,249	

Year	COAL TAR	
	Gallons	Value
1904	13,570	\$ 768
1905	54,002	3,323
1907	<u>193,531</u>	<u>14,275</u>
Totals	261,103	\$18,366
Averages	87,034	\$ 6,122

COPPER

A little ore was reportedly shipped from near Byars in 1897-98; and 25 tons of ore in 1920 and 30 tons about 1931-34 were shipped to El Paso from southwestern Okfuskee County. None of these shipments proved profitable.

<u>COKE</u>					
Year	Tons	Value	Year	Tons	Value
1880	1,546	\$ 4,638	1884	1,912	\$5,736
1881	1,768	5,304	1885	3,584	12,902
1882	2,025	6,075	1886	6,351	22,229
1883	2,573	7,719	1887	10,060	33,435

COKE (Continued)					
Year	Tons	Value	Year	Tons	Value
1888	7,502	\$21,755	1900	38,141	\$152,204
1889	6,639	17,957	1901	37,374	154,834
1890	6,639	21,577	1902	49,441	202,921
1891	9,464	30,483	1903	49,818	227,542
1892	3,569	12,402	1904	44,808	209,165
1893	7,135	25,072	1905	54,781	199,424
1894	3,051	10,693	1906	49,782	204,205
1895	5,175	17,657	1907	19,089	82,447
1896	21,021	73,574	1908	2,944	13,437 <sup>e</sup>
1897	30,364	104,725	Totals	545,005	\$2,048,716
1898	34,110	96,639	Average	18,793	\$70,645
1899	34,339	71,965	(e) Estimated		

CRUSHED STONE					
Year	Tons	Value	Year	Tons	Value
1901		\$ 450	1924	1,230,210	\$1,293,757
1902		320	1925	1,359,700	1,398,502
1903			1926	1,418,320	1,240,148
1904		66,114	1927	1,639,770	1,303,034
1905	269,762	139,732	1928	1,902,240	1,521,898
1906	285,800	149,225	1929	2,017,310	1,497,416
1907	274,072	167,152	1930	1,921,800	1,487,464
1908	414,594	241,675	1931	1,512,960	1,156,239
1909	711,930	445,393	1932	746,990	518,349
1910	665,023	341,807	1933	708,730	477,453
1911	948,030	547,037	1934	909,280	576,024
1912	614,029	350,737	1935	682,640	436,166
1913	334,508	180,220	1936	1,084,230	905,112
1914	316,298	168,702	1937	1,087,740	939,570
1915	713,790	368,761	1938	1,099,664	1,059,853
1916	870,600	498,921	1939	1,906,450	1,629,010
1917	925,094	590,081	1940	1,306,460	1,038,130
1918	655,189	577,727	Total Tons:	35,128,573	
1919	580,010	604,075	Total Value:	\$28,264,598	
1920	850,590	956,994	Average Tons:	975,794	
1921	848,540	931,347	Average Value:	\$724,733	
1922	1,105,980	1,179,485			
1923	1,210,240	1,280,518			

<u>GLASS SAND</u>					
Year	Tons	Value	Year	Tons	Value
1920	31,804	\$74,494	1927	30,107	\$57,787
1921	14,200	28,400	1928	With Miscellaneous	
1922	16,864	27,296	1929	22,872	40,026
1923	32,619	55,055	1930	19,216	30,746
1924	28,871	50,523	Total	196,553	\$364,327
1925	With Miscellaneous		Average	24,569	\$45,541
1926					

<u>GRANITE</u>			
Year	Value	Year	Value
1900	\$30,000	1926	\$164,248
1901	48,530	1927	143,228
1902	11,970	1928	156,354
1903	9,030	1929	174,650
1904	32,080	1930	121,652
1905	20,720	1931	74,390
1906	18,847	1932	42,805
1907	24,550	1933	81,579
1908	23,239	1934	142,223
1909	67,584	1935	200,698
1910	102,566	1936	179,070
1911	20,244	1937	201,125
1912	14,460	1938	282,455
1913	30,678	1939	180,731
1914	24,695	1940	177,085
1915	29,141		
1916	80,597		
1917	37,071	Total	\$3,824,318
1918	116,231	Average Value	\$93,276
1919	64,363	Quantity produced not reported until 1940.	
1920	70,407		
1921	53,486		
1922	121,478		
1923	96,983		
1924	159,070		
1925	194,005		

<u>GYPSUM</u>					
Year	Tons	Value	Year	Tons	Value
1894	1,300	\$ 7,500	1921	209,201	\$1,289,226
1895	13,100	46,125	1922	242,932	1,651,837
1896	8,000	24,000	1923	290,121	2,248,895
1897	10,734	40,050	1924	316,134	2,600,081
1898	3,150	12,000	1925	320,931	2,599,463
1899	23,526	62,600	1926	324,021	2,301,049
1900	24,937	75,380	1927	271,484	2,073,944
1901	15,930	66,031	1928	397,752	2,021,635
1902	34,156	111,215	1929	369,433	2,255,374
1903	69,158	234,261	1930		
1904	53,523	190,245	1931		
1905		*191,000	1932		
1906		*356,000	1933	97,008	
1907		*404,000	1934	105,620	
1908		*288,000	1935	125,177	
1909		*370,000	1936	156,545	
1910	162,788	*451,000	1937	159,639	266,091
1911	108,653	287,591	1938	141,341	231,910
1912	135,074	268,618	1939	161,748	207,503
1913	147,876	330,416	1940	176,166	227,534
1914	113,103	312,856	Total	5,596,529	\$27,552,849
1915	110,790	294,230			
1916	161,661	429,350			
1917	158,017	562,767			
1918	126,208	637,644			
1919	114,313	708,560			
1920	135,279	816,768			
			Average Tons: 143,501		
			Average Value: \$688,821		
			*Oklahoma Geological Survey Bulletin 15, Estimated.		

### IRON ORE

There was some production in 1939 and 1940, but no figures are available.

1940 iron content was 45.02 percent.

Brown ore - used in making special cement and in foundries. No production figures available.



<u>LEAD</u>					
Year	Tons	Value	Year	Tons	Value
1891		\$ 500	1923	66,904	\$ 9,366,560
1892		500	1924	71,358	11,417,280
1893-1894	1,363	59,982	1925	79,946	13,910,604
1895-1906	Due to lack of transportation, production was small and not reported.		1926	69,704	11,152,640
1907	404	42,824	1927	51,680	6,511,680
1908	1,409	118,356	1928	43,687	5,067,692
1909	2,268	195,048	1929	46,513	5,860,638
1910	1,805	158,840	1930	23,052	2,305,200
1911	1,925	172,250	1931	13,210	977,540
1912	2,501	225,090	1932	10,634	638,040
1913	3,388	304,920	1933	18,038	1,334,812
1914	7,556	589,368	1934	16,747	1,239,278
1915	7,306	686,764	1935	23,405	1,872,400
1916	12,115	1,671,870	1936	25,427	2,339,284
1917	26,358	4,533,576	1937	29,840	3,521,120
1918	56,097	7,965,774	1938	21,004	1,932,368
1919	53,872	5,710,432	1939	27,720	2,605,680
1920	65,394	10,463,040	1940	21,240	2,124,000
1921	41,552	3,739,680	Total Tons:	1,008,278	
1922	62,856	6,914,160	Total Value:	\$127,729,790	
			Average Tons:	28,008	
			Average Value:	\$3,361,310	

<u>LIME</u>					
Year	Tons	Value	Year	Tons	Value
1902		\$ 25	1914	2,293	\$11,130
1903		4,800	1915	3,033	23,414
1904	330	3,194	1916	4,351	35,900
1905	500	4,650	1917-1925	Included with Miscellaneous	
1906	630	4,850	1926	257	2,185
1907		5,000	1927-1930	Included with Miscellaneous	
1908		5,500	1931-1940	Not listed*	
1909		6,000	Totals	22,297	\$156,649
1910	2,140	9,700	Average	2,027	\$9,791
1911	3,472	14,603	*3 plants operating in 1940		
1912	2,651	13,538			
1913	2,640	12,160			

Year	<u>LIMESTONE*</u>		Value
	Value	Year	
1898	\$ 3,000	1921	\$ 970,028
1899	50,550	1922	1,197,082
1900	25,586	1923	1,326,266
1901	32,497	1924	1,334,647
1902	50,541	1925	1,414,241
1903	56,140	1926	1,321,188
1904	101,516	1927	1,371,310
1905	168,924	1928	1,570,824
1906	171,983	1929	1,552,178
1907	189,563	1930	1,505,716
1908	257,066	1931	1,203,166
1909	450,055	1932	536,666
1910	509,344	1933	486,427
1911	594,664	1934	562,974
1912	409,994	1935	419,878
1913	246,912	1936	922,102
1914	237,044	1937	897,400
1915	398,636	1938	1,002,776
1916	516,230	1939	1,580,621
1917	575,165	1940	979,286
1918	574,795	Total	\$29,409,778
1919	656,843	Average	\$683,948
1920	977,949		

\* Most Oklahoma limestone is crushed. Tons and value of crushed limestone is also included under crushed stone.

#### MANGANESE

206 long tons were produced in 1891 from Arbuckle Mountain area, value \$1174. During 1916 one car load, probably 10-20 tons, from Ouachita Mountain area. During 1923 some ore was produced. A small amount was mined during 1941.

#### MARBLE

Marble valued at \$16,805 was produced during 1907.

Year	Gallons	MINERAL WATERS		Gallons	Value
		Value	Year		
1905		\$ 5,000	1916	1,353,513	\$40,189
1906		7,744	1917	852,381	26,997
1907	69,725	7,345	1918	1,166,485	20,249
1908	534,114	52,779	1919	1,368,375	41,825
1909	563,475	35,194	1920	1,437,810	49,287
1910	115,000	4,950	1921	1,319,895	45,078
1911	497,074	14,290	1922	1,434,885	46,047
1912	1,015,512	32,971	1923	996,564	34,562
1913	502,439	26,231	Total	14,922,314	\$541,649
1914	804,675	26,906	Average	877,783	\$28,508
1915	890,392	24,005	No figures after 1923.		

Year	M. Cu. Ft.	NATURAL GAS		M. Cu. Ft.	Value
		Value	Year		
1902		\$ 360	1924	214,452,000	31,045,700
1903		1,000	1925	249,285,000	36,121,000
1904		49,665	1926	286,421,000	42,140,000
1905		130,137	1927	326,864,000	41,391,000
1906	3,520,396	259,862	1928	320,861,000	47,476,000
1907	4,867,031	417,221	1929	357,893,000	53,528,000
1908	11,924,574	860,159	1930	348,116,000	47,632,000
1909	28,036,976	1,806,193	1931	263,685,000	32,593,000
1910	50,429,646	3,490,704	1932	255,487,000	28,108,000
1911	67,275,608	6,731,770	1933	245,759,000	23,760,000
1912	73,799,319	7,406,528	1934	254,457,000	23,744,000
1913	75,017,668	7,436,389	1935	274,313,000	26,541,000
1914	78,167,414	8,050,039	1936	280,481,000	28,847,000
1915	87,516,753	9,195,804	1937	296,260,000	32,039,000
1916	123,517,385	11,983,774	1938	263,164,000	27,391,000
1917	137,617,101	13,984,656	1939	250,875,000	28,103,000
1918	124,317,179	15,805,135	1940		31,603,000
1919	163,649,000	23,650,000	Total M. Cu. Ft.	6,140,267,250	
1920	154,467,200	25,805,000	Total Value:	\$807,245,896	
1921	124,058,000	23,429,000	Average M. Cu. Ft.	180,596,096	
1922	140,631,000	33,475,800	Average Value:	\$20,698,613	
1923	203,082,000	31,214,000			

CASINGHEAD GASOLINE					
Year	Gallons	Value	Year	Gallons	Value
1911	388,058	\$ 20,975	1928	619,691,000	40,959,000
1912	1,575,644	99,626	1929	676,030,000	42,766,000
1913	6,462,968	577,942	1930	591,194,000	29,148,000
1914	17,277,555	1,113,059	1931	454,886,000	12,619,000
1915	31,665,991	2,361,029	1932	378,584,000	8,803,000
1916	48,359,602	5,865,145	1933	360,488,000	12,177,000
1917	115,123,424	21,541,905	1934	355,438,000	10,728,000
1918	163,700,550	28,389,045	1935	379,913,000	14,593,000
1919	189,995,038	32,564,532	1936	418,591,000	17,516,000
1920	178,856,929	31,334,493	1937	492,290,000	20,272,000
1921	185,340,742	22,066,014	1938	468,499,000	14,373,000
1922	189,403,670	24,914,048	1939	436,123,000	15,502,000
1923	270,249,000	23,012,000	1940		8,926,000
1924	301,062,000	23,333,000	Total Gals:	8,745,874,171	
1925	390,861,000	40,973,000	Total Value:	\$577,099,813	
1926	475,716,000	41,433,000	Average Gals:	301,581,868	
1927	548,109,000	29,114,000	Average Value:	\$19,236,660	

OCHRE

Some production reported "with other states" in 1904.

Year	PETROLEUM	
	Barrels	Value
1891	30	\$ 150
1892	80	480
1893	10	60
1894	130	
1895	37	
1896	170	
1897	625	
1898	1,020	
1899	2,230	
1900	6,472	7,125
1901	10,000	32,940
1902	37,100	142,402
1903	138,911	

Year	PETROLEUM (Continued)	
	Barrels	Value
1904	1,366,748	\$ 1,325,745
1905	* 3,264,000	*4,296,000
1906	*18,091,000	*8,247,000
1907	43,524,128	17,513,542
1908	45,798,765	17,694,843
1909	47,859,218	17,428,990
1910	52,028,718	19,922,660
1911	56,069,637	26,451,767
1912	51,427,071	34,672,604
1913	63,579,384	59,581,948
1914	73,631,724	57,253,187
1915	97,915,243	56,706,133
1916	107,071,715	128,463,805
1917	107,507,471	181,646,981
1918	103,347,070	231,136,205
1919	86,911,000	184,100,000
1920	106,206,000	356,439,000
1921	114,634,000	183,185,000
1922	149,571,000	258,160,000
1923	160,929,000	279,700,000
1924	173,538,000	272,450,000
1925	176,768,000	348,230,000
1926	179,195,000	413,900,000
1927	277,775,000	397,200,000
1928	249,857,000	347,600,000
1929	255,004,000	364,650,000
1930	216,486,000	279,250,000
1931	180,574,000	119,200,000
1932	153,244,000	137,920,000
1933	182,251,000	120,800,000
1934	180,107,000	183,700,000
1935	185,288,000	189,000,000
1936	206,555,000	232,100,000
1937	228,839,000	283,500,000
1938	174,994,000	209,500,000
1939	159,913,000	166,300,000
1940		162,500,000
Totals	<u>4,676,317,707</u>	<u>\$6,351,908,567</u>
Averages	95,435,055	\$147,718,804

\* Figures by Arnold and Kemnitzer, p. 389.

PYRITES

Pyrite is widely scattered in Oklahoma, but usually not in large deposits. The only production credited to Oklahoma of which a record was found was in 1911 when 124 tons valued at \$448.00 was reported. Near the close of the last war an 87-foot shaft is reported to have been sunk to a 9-foot bed of pyrite near the granite outcrops at Spavinaw, but no production is reported.

<u>SALT</u>					
Year	Barrels	Value	Year	Barrels	Value
1900	5,861	\$6,136	1913		\$ 259
1901	7,506	5,986			
1902	7,102	7,562	1928	5,500	49,850
1903		*2,070	Totals	39,726	\$85,281
1904		*1,961	Averages	4,966	\$5,685
1905		*2,145			
1906	9,893	4,965	1914-1918	Included with	
1907	800	910		Miscellaneous.	
1908		* 900	1927-1940	Included with	
1909		* 900		Miscellaneous, except	
1910	2,564	381		for 1928.	
1911	500	431			
1912		325			
				* Estimated	

<u>SAND AND GRAVEL</u>					
Year	Tons	Value	Year	Tons	Value
1907	108,560	\$22,506	1919	467,482	\$304,029
1908	119,940	35,971	1920	875,677	626,099
1909	681,785	185,812	1921	881,849	686,507
1910	630,236	186,977	1922	1,357,272	903,043
1911	291,424	97,539	1923	1,404,185	973,461
1912	492,858	163,298	1924	1,846,268	894,455
1913	157,628	39,457	1925	1,626,758	958,657
1914	1,477,618	713,117	1926	1,556,175	978,590
1915	With Miscellaneous		1927	2,074,963	1,331,222
1916	574,844	196,206	1928	2,827,810	1,426,258
1917	463,233	244,432	1929	2,904,897	1,612,755
1918	383,747	215,862	1930	2,553,070	1,446,137

SAND AND GRAVEL (Continued)					
Year	Tons	Value	Year	Tons	Value
1931	937,746	\$529,851	1937	934,499	\$ 414,495
1932	616,250	306,415	1938	823,814	354,486
1933	1,220,425	361,425	1939	859,060	400,478
1934	703,789	343,704	1940	1,030,435	284,010
1935	1,178,262	335,373	Total	35,400,921	\$18,086,997
1936	1,338,362	514,370	Average	1,072,755	\$548,091

SANDSTONE*			
Year	Value	Year	Value
1902	\$24,200	1922	\$ 8,810
1903	6,500	1923	4,671
1904	2,995	1924	5,580
1905	15,112	1925	5,190
1906	40,846	1926-1930	Included with Miscellaneous
1907	43,403	1931	133,226
1908	57,124	1932	7,650
1909	59,855	1933	Not Listed
1910	19,801	1934	78
1911	90,971	1935-1936	Included with Miscellaneous
1912	5,334	1937	34,518
1913	1,010	1938	14,774
1914	1,934	1939	40,954
1915	2,525	1940	47,579
1916	24,229	Total	\$703,965
1917	5,096	Average	\$26,073
1918 and 1920	Concealed		
1919	None reported		

\* Much sandstone is crushed. Tons and value of crushed sandstone also included under crushed stone (p. 11).

Year	SILVER Ounces	Value
1913	1,300	\$ 785
1914	6,187	3,421
1916	606	399
Total	8,093	\$4,605

None reported for 1915 or 1917.

SULFURIC ACID

Sulfuric acid has been made in Oklahoma since 1928, from Gulf Coast sulfur, and as a by-product of zinc smelting. No statistics available on quantity or value.

TRIPOLI

Tripoli was discovered in 1912, and production has been continuous since 1914. The only production figures available are as follows:

<u>Year</u>	<u>Tons</u>	<u>Value</u>
1926	6,799	\$111,054
1927	7,872	124,069

VOLCANIC ASH

<u>Year</u>	<u>Tons</u>	<u>Value</u>	<u>Remarks</u>
1930	1,000	\$8,000	Included with miscellaneous from 1932 to 1940.
1931	812	6,500	
Total	1,812	\$14,500	

ZINC

<u>Year</u>	<u>Tons</u>	<u>Value</u>	<u>Year</u>	<u>Tons</u>	<u>Value</u>
1894		3,272	1916	28,754	\$ 7,706,272
1895-1904	Not available		1917	85,835	17,510,340
1905	2,670	103,480	1918	161,401	29,374,982
1906	3,242	124,528	1919	178,410	26,047,860
1907	719	84,842	1920	219,727	35,595,774
1908	2,235	210,090	1921	121,372	12,137,200
1909	3,008	324,864	1922	209,682	23,903,748
1910	2,297	243,076	1923	242,421	32,969,256
1911	5,150	587,100	1924	269,137	34,987,810
1912	5,769	769,122	1925	283,371	43,072,392
1913	11,664	1,306,368	1926	272,567	40,835,050
1914	13,992	1,427,184	1927	206,611	26,446,208
1915	14,314	3,549,872	1928	180,252	21,990,744



<u>ZINC (Continued)</u>					
Year	Tons	Value	Year	Tons	Value
1929	192,042	\$25,349,544	1937	135,696	\$17,640,480
1930	136,153	13,070,688	1938	112,924	10,840,704
1931	78,132	5,938,032	1939	140,379	14,599,416
1932	63,437	3,806,220	1940	162,935	20,529,810
1933	91,065	7,649,460	Total Tons:	4,004,073	
1934	107,772	9,268,392	Total Value:	\$514,395,824	
1935	129,763	11,419,144	Average Tons:	111,224	
1936	129,175	12,917,500	Average Value:	\$13,902,590	

### ZIRCON

Zircon crystals are known to occur near Mountain Park in the Wichita Mountains, but no reports of commercial production of this mineral have been found. However, an old 1911 list of producers furnished by the U. S. Geological Survey lists one operator in the Wichita Mountains.

### MISCELLANEOUS\*

Year	Value	Year	Value
1905	\$202,023	1920	\$ 571,929
1906	380,955	1921	161,375
1907	426,274	1922	4,283,343
1908	713,871	1923	5,160,576
1909	1,120,732	1924	4,139,833
1910	1,489,954	1925	4,675,411
1911	801,324	1926	4,380,115
1912	1,123,094	1927	5,555,402
1913	1,264,462	1928	6,454,240
1914	1,029,702	1929	5,929,317
1915	1,874,144	1930	7,363,290
1916	1,380,722	1931	4,407,955
1917	1,721,273	1932	2,492,555
1918	537,211	1933	3,493,169
1919	656,989	1934	4,881,601

Year	MISCELLANEOUS (Continued)		Value
	Value	Year	
1935	\$4,502,982	1939	\$3,945,534
1936	5,943,983		
1937	4,338,213	Total	\$101,039,566
1938	3,636,013	Average	\$2,886,845

\* The figures for miscellaneous production are those given by the U. S. Geological Survey and the U. S. Bureau of Mines for each year, and includes those items not reported separately, for the particular year. Some duplication is involved because in a few instances estimates from various sources are given in this report for certain minerals for which official figures were not available, but the official figures for miscellaneous items are given in this table.

\* \* \* \* \*

#### Fuel Reserves

Estimates of the Mineral fuels resources available in Oklahoma have been for coal and oil. These are given here, together with the approximate average rate of production during the past few years.

Coal: (January 1, 1937) 54,755,853,000 tons. Estimate by National Resources Committee (now National Resources Planning Board), 1939. Production 1935-1939, approximately 1,340,000 tons per year.

Petroleum: January 1, 1941, 1,002,000,000 barrels. Estimate by Committee on Petroleum Reserves, American Petroleum Institute. Production, 1935-1939, about 190,000,000 barrels per year. Estimates are based on known reserves, and do not take into account possible new discoveries.

In addition, production of natural gas in Oklahoma 1935-1939 has averaged about 270,000,000 thousand cubic feet per year.

Value of Oklahoma Mineral Production by Groups - 1885--1939

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Year	Oil and Gas <sup>1</sup>		Lead & Zinc		Coke & Coal		Other		Total
	Value	%	Value	%	Value	%	Value	%	
1885					762,902	100			762,902
1886					877,557	100			877,557
1887					1,320,127	100			1,320,127
1888					1,453,827	100			1,453,827
1889					1,341,764	100			1,341,764
1890					1,600,765	100			1,600,765
1891	\$ 150		\$ 500*		1,927,520	99.9	1,174		1,929,344
1892	480		500*		2,055,881	99.9			2,056,861
1893	60		31,627*	1.4	2,260,272	98.6			2,291,959
1894			31,627*	2.0	1,551,986	97.5	7,500		1,591,113
1895					1,754,911	97.4	46,125		1,801,036
1896					1,991,689	97.7	47,000		2,038,689
1897					1,892,083	95.7	84,402		1,976,485
1898					1,924,277	93.7	128,891		2,053,168
1899					2,271,750	88.4	298,777		2,570,527

<sup>1</sup> Includes - Oil, Natural Gas, and Natural Gasoline.

\* Estimated.

24

1900					2,940,428	90.0	331,559	10.0	3,271,987
1901	7,125 .2			4,070,102	89.4	475,778	10.4	4,553,005	
1902	33,300 .7			4,468,027	87.4	609,457	11.9	5,110,784	
1903	143,402	1.9		6,614,005	86.7	869,058	11.4	7,626,465	
1904	1,375,410	17.0		5,741,231	71.0	965,452	12.0	8,082,093	
1905	4,426,137	41.4	103,480	5,344,782	50.0	808,280	7.6	10,682,679	
1906	8,506,862	55.0		5,686,571	36.8	1,141,725	7.4	15,459,686	
1907	17,930,763	66.6	124,528	7,516,361	27.9	1,334,178	5.0	26,908,968	
1908	18,555,002	69.8	328,446	5,989,941	22.5	1,713,362	6.5	26,586,751	
1909	19,235,183	66.3	519,912	6,253,367	21.6	2,999,676	10.3	29,008,138	
1910	23,413,364	71.0	406,916	5,867,947	17.8	3,300,638	10.0	32,938,865	
1911	33,204,512	77.8	759,350	6,291,494	14.7	2,423,090	5.7	42,678,446	
1912	42,178,758	78.7	994,212	7,867,331	14.7	2,573,829	4.8	53,614,130	
1913	65,596,279	84.3	1,611,288	8,542,748	10.7	2,418,505	3.0	80,168,820	
1914	66,416,285	84.3	2,016,552	8,204,015	10.4	2,107,595	2.7	78,744,447	
1915	68,262,966	84.0	4,236,636	7,435,906	9.1	1,376,454	1.7	81,311,962	
1916	146,312,724	86.3	9,378,142	7,525,427	4.4	6,340,038	3.7	169,556,331	
1917	217,173,542	83.8	22,043,916	12,335,413	4.8	7,531,506	2.9	259,134,377	
1918	275,330,385	81.7	37,340,756	17,508,884	5.2	6,677,896	2.0	336,857,921	
1919	240,314,532	82.6	31,758,292	14,544,901	5.0	4,460,449	1.5	291,078,174	
1920	413,578,493	83.8	46,058,814	23,294,000	4.7	10,389,052	2.1	493,320,359	

(Continued)

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Year	Oil and Gas <sup>1</sup>		Lead & Zinc		Coke & Coal		Other		Total
	Value	%	Value	%	Value	%	Value	%	
1921	228,680,014	84.7	15,876,880	5.9	15,546,000	5.8	9,779,892	3.6	269,882,786
1922	316,549,848	85.8	30,817,908	8.3	11,527,000	3.1	10,174,856	2.8	369,069,612
1923	333,926,000	83.7	42,335,816	10.6	10,874,000	2.7	11,674,814	2.9	398,810,630
1924	326,833,700	83.2	46,405,090	11.8	8,590,000	2.2	11,201,875	2.8	393,030,665
1925	425,324,000	84.8	56,982,996	11.4	7,667,000	1.5	11,793,122	2.3	501,767,118
1926	497,473,000	87.3	52,037,690	9.1	9,042,000	1.6	10,966,003	1.9	569,518,693
1927	467,705,000	89.1	32,957,888	6.3	11,570,000	2.2	12,361,844	2.4	524,594,732
1928	436,035,000	89.6	27,058,436	5.6	10,365,000	2.1	13,175,911	2.7	486,634,347
1929	460,944,000	89.2	31,210,182	6.0	11,481,000	2.2	13,050,050	2.5	516,685,232
1930	356,030,000	91.3	15,375,888	3.9	7,768,000	2.0	10,997,103	2.8	390,170,991
1931	164,412,000	90.4	6,915,572	3.8	4,614,000	2.5	5,963,285	3.3	181,904,857
1932	174,831,000	94.4	4,444,260	2.4	2,646,000	1.5	3,199,649	1.7	185,120,909
1933	156,737,000	90.8	8,984,272	5.2	2,616,000	1.5	4,223,652	2.5	172,560,924
1934	218,172,000	92.0	10,507,670	4.4	2,846,000	1.2	5,682,913	2.4	237,208,583
1935	230,134,000	91.4	13,291,544	5.3	2,879,000	1.1	5,396,354	2.2	251,700,898
1936	278,463,000	91.2	15,256,784	5.0	3,500,000	1.2	7,971,865	2.6	305,191,649
1937	335,811,000	91.4	21,161,600	5.8	3,841,000	1.0	6,630,622	1.8	367,444,222
1938	251,264,000	92.1	12,773,072	4.7	2,947,000	1.1	5,876,006	2.1	272,860,078
1939	209,905,000	88.9	17,205,096	7.3	2,486,000	1.0	6,580,513	2.8	236,176,614

### Explanation of Charts

Fig. 1, p. 28: Values of various mineral products of Oklahoma by years. Lines represent actual values of the various minerals, and show the value of each as compared to any other mineral.

Fig. 2, p. 29: Cumulative and total value of Oklahoma mineral production by years. Differs from figure 1 in that the values are cumulative for each year, and spaces between lines represents the values for various minerals as designated, and the value of each mineral in proportion to the total for the state. Top line represents the total value of Oklahoma mineral production.

Fig. 3, p. 30: Percentage graph of Oklahoma mineral production from 1900 to 1940: shows percentage relation of important mineral groups to the total production for each period. Total value for each period is represented as 100 percent. In this graph, oil, natural gas, and natural gasoline are included in petroleum.

Fig. 4, p. 32: Value of mineral production, marketed farm products, and value added by manufacturing by two-year periods, 1925 - 1939. Value of farm products is based on products sold for cash, and does not include products consumed on the farm or the government payments made to farmers beginning with 1934. For manufacturing, only the value added in the manufacturing process is included, and does not represent the total value of the products, such as cost of raw materials.

Fig. 5, p. 33: Cumulative value of mineral and farm products, and value added by manufacturing. Differs from figure 4 in that each group is shown in relation to the total instead of their relations to each other, and the top line represents the total value of all three in Oklahoma.

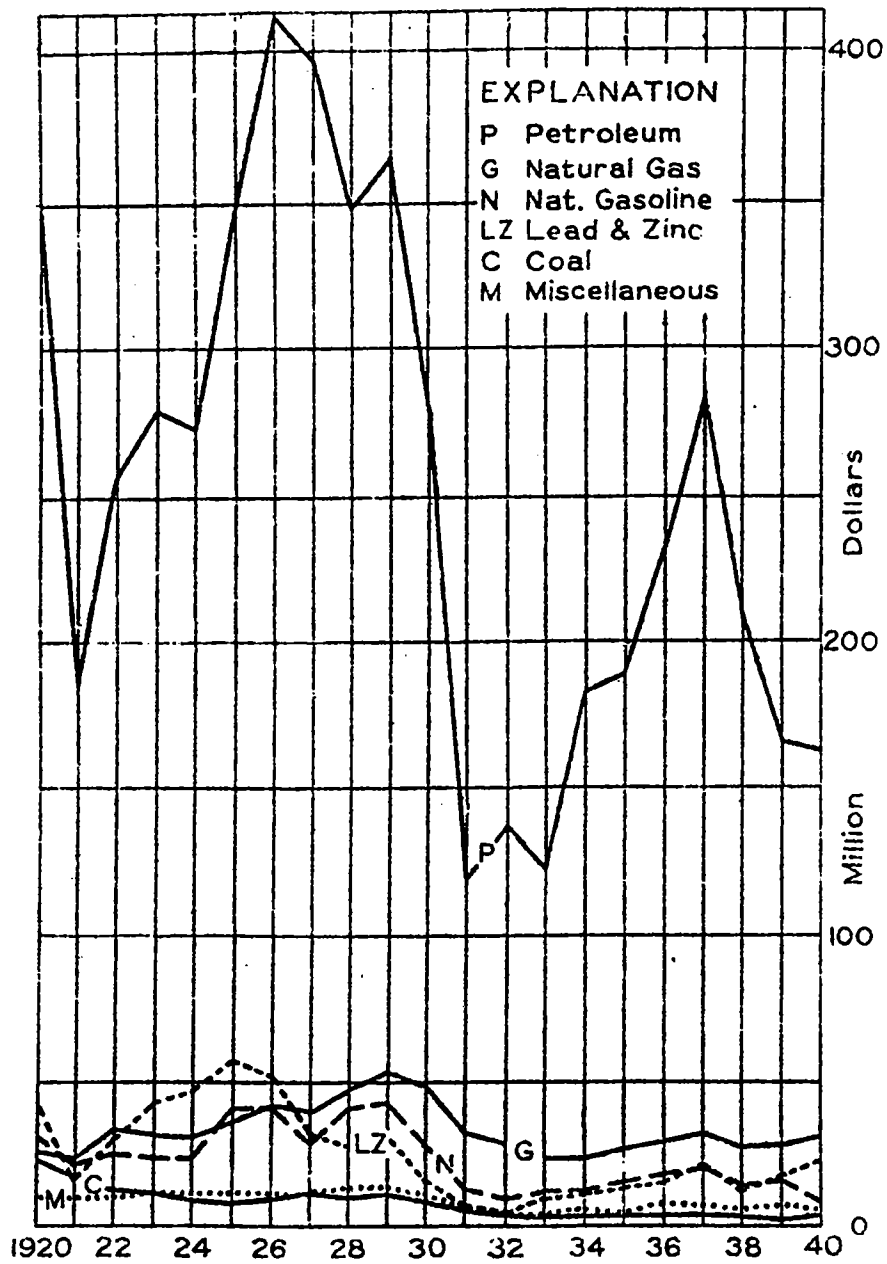


Fig. 1. Value of minerals produced in Oklahoma, shown separately. (See note, page 27)

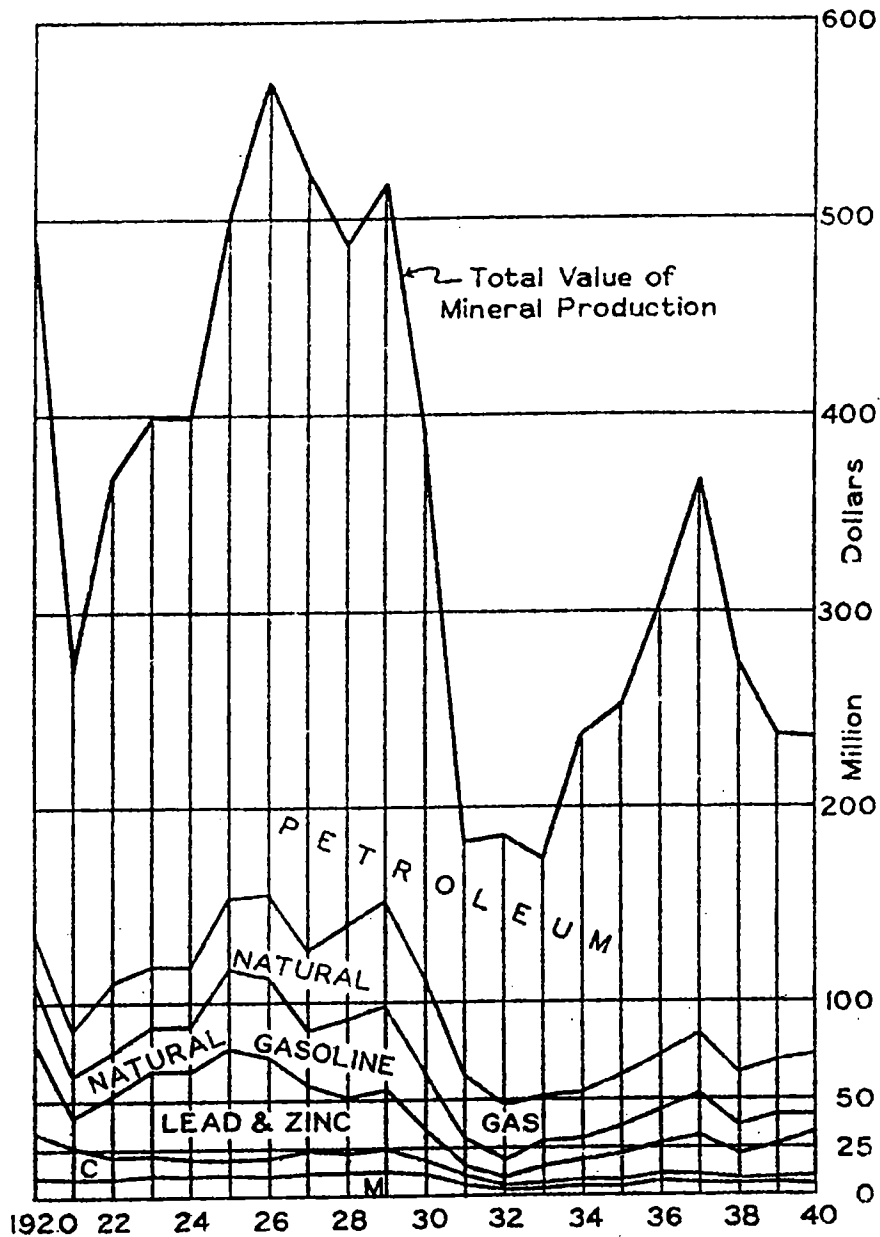


Fig. 2. Total value of mineral production in Oklahoma. (See explanation, page 27)



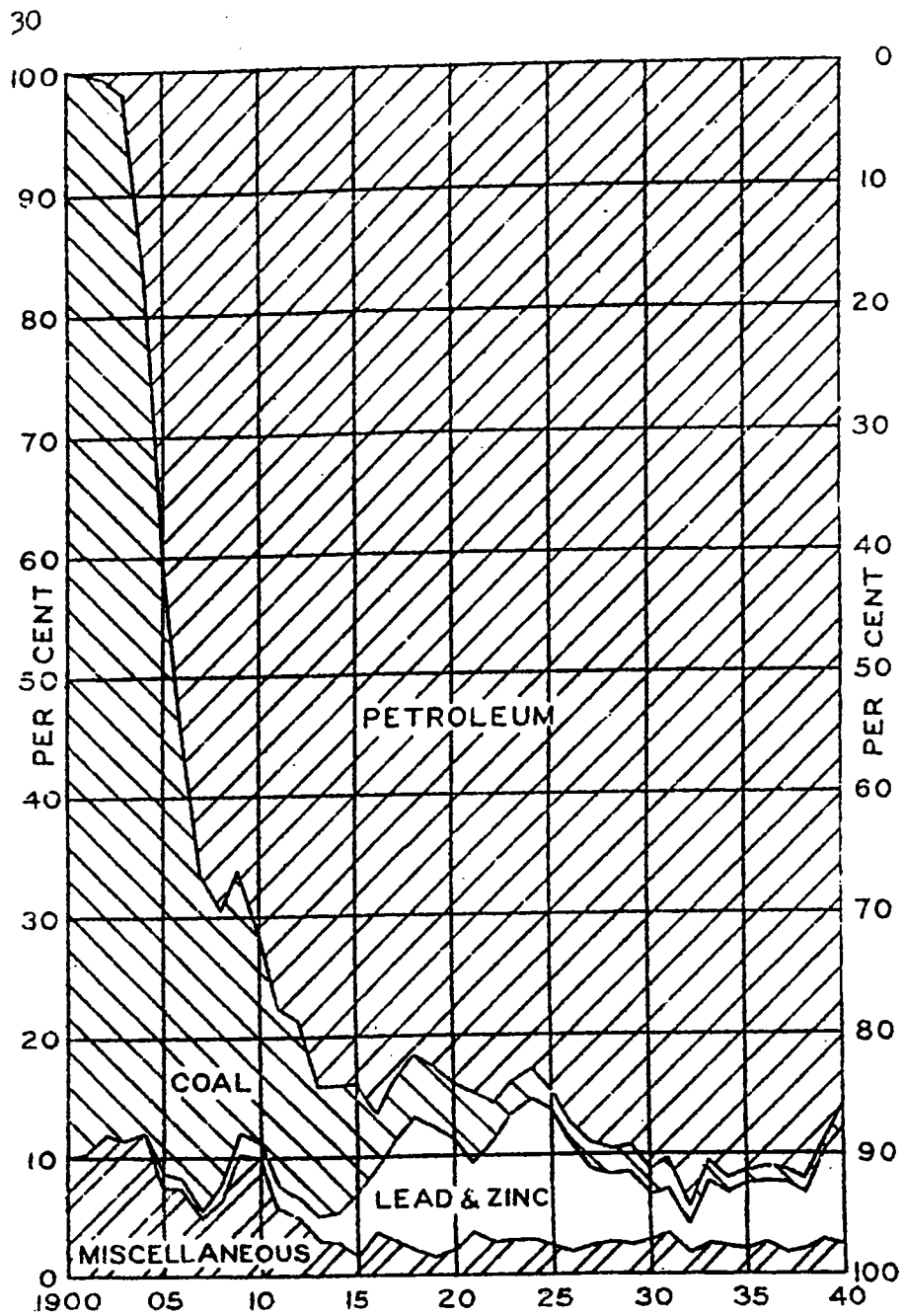


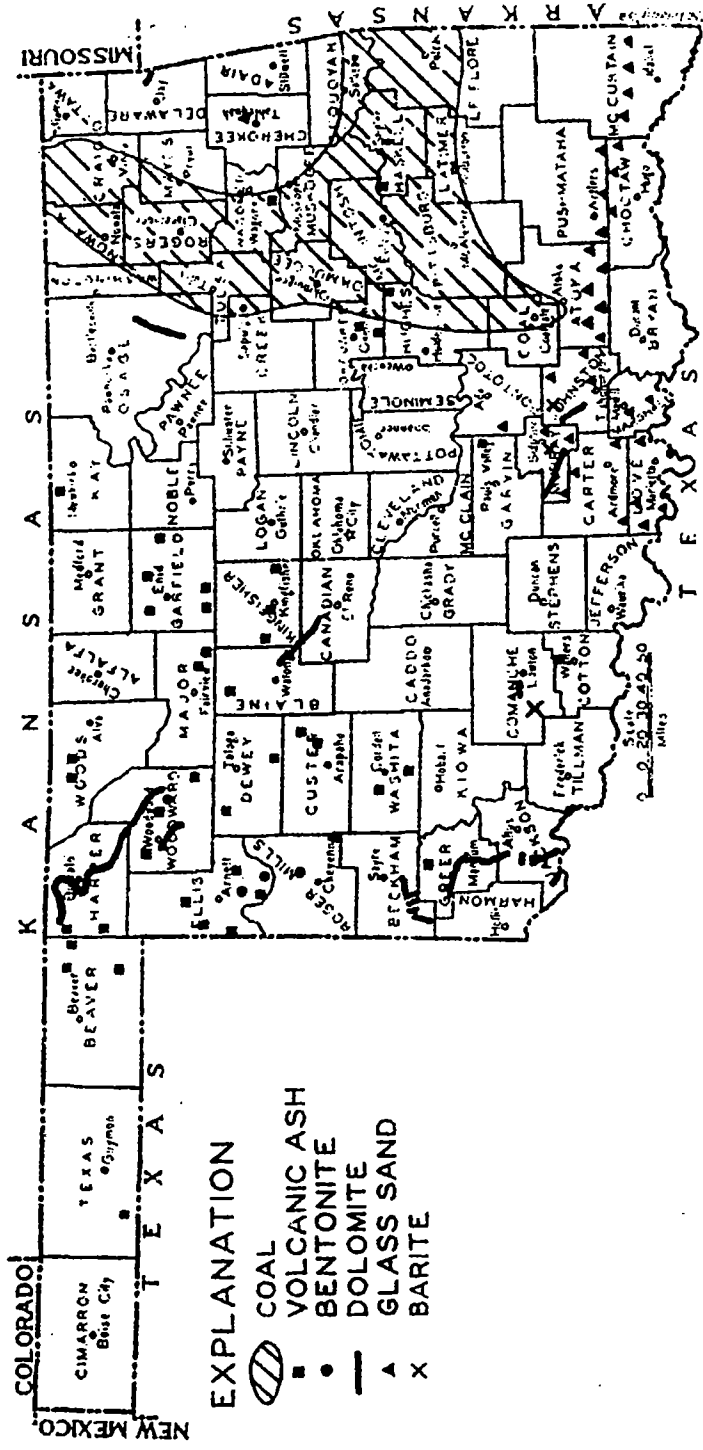
Fig. 3. Percentage value of important minerals produced in Oklahoma. (See note, page 27)

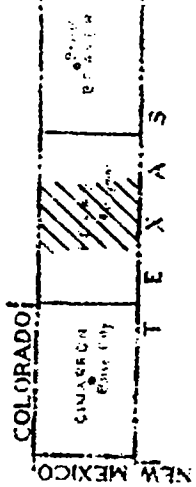
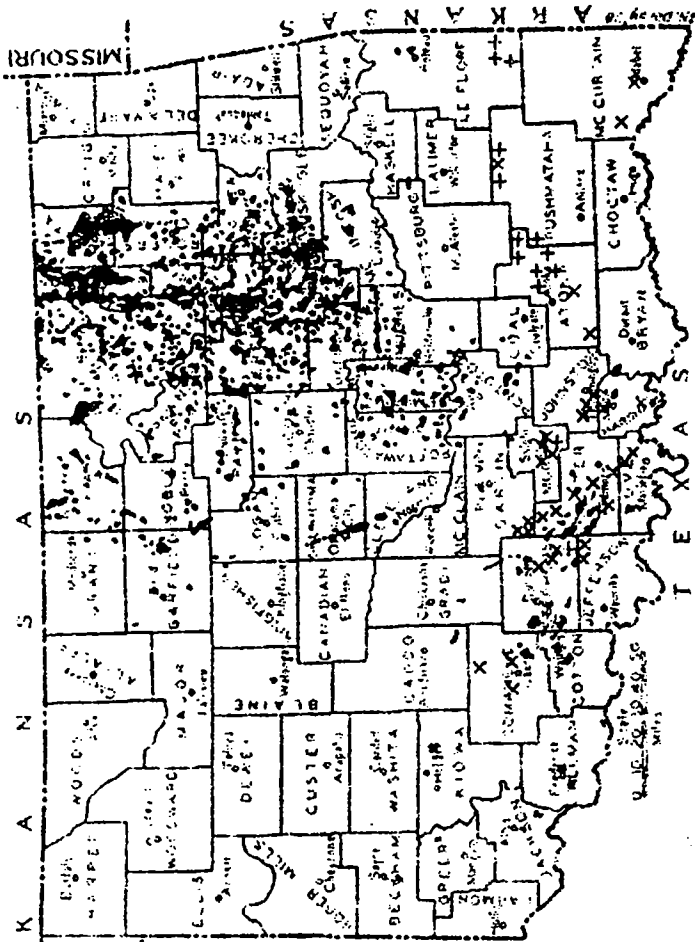
Value of Oklahoma Mineral, Agricultural and Manufactured Products - 1919-1940

Year	Minerals	Agriculture	Manufacturing			Total Income
			Cost of Materials	Value Added	Value of Products	
1919	\$291,078,174		\$312,605,829	\$ 88,757,040	\$401,362,869	NOTE: Total income includes all income payments including interest and dividend payments and services. \$ 1,068,000,000 858,000,000 720,000,000 531,000,000 548,000,000 613,000,000 681,000,000 768,000,000 844,000,000 778,000,000 794,000,000 828,000,000
1920	493,320,359		203,204,006	79,856,785	283,060,791	
1921	269,882,786		229,684,969	84,774,471	314,459,440	
1922	369,069,612		298,522,237	101,769,588	400,291,825	
1923	398,810,630		269,418,221	102,300,188	371,718,409	
1924	393,030,665	\$335,082,000	306,501,497	149,403,800	455,905,297	
1925	501,767,118	300,964,000	150,348,853	68,373,111	218,721,964	
1926	569,518,693	288,695,000	125,425,261	65,988,462	191,413,723	
1927	524,594,732	272,182,000	203,258,000	77,418,000	280,676,000	
1928	486,634,347	297,981,000	255,470,000	110,618,000	366,089,000	
1929	516,685,232	255,143,000	209,050,080	103,118,419	312,168,499	
1930	390,170,991	146,743,000				
1931	181,904,857	120,064,000				
1932	185,120,909	96,183,000				
1933	172,560,924	127,425,000				
1934	237,208,583	113,539,000				
1935	251,700,898	143,431,000				
1936	305,191,649	144,475,000				
1937	367,444,222	184,833,000				
1938	272,860,078	159,129,000				
1939	236,176,614	166,609,000				
1940		*175,048,000				

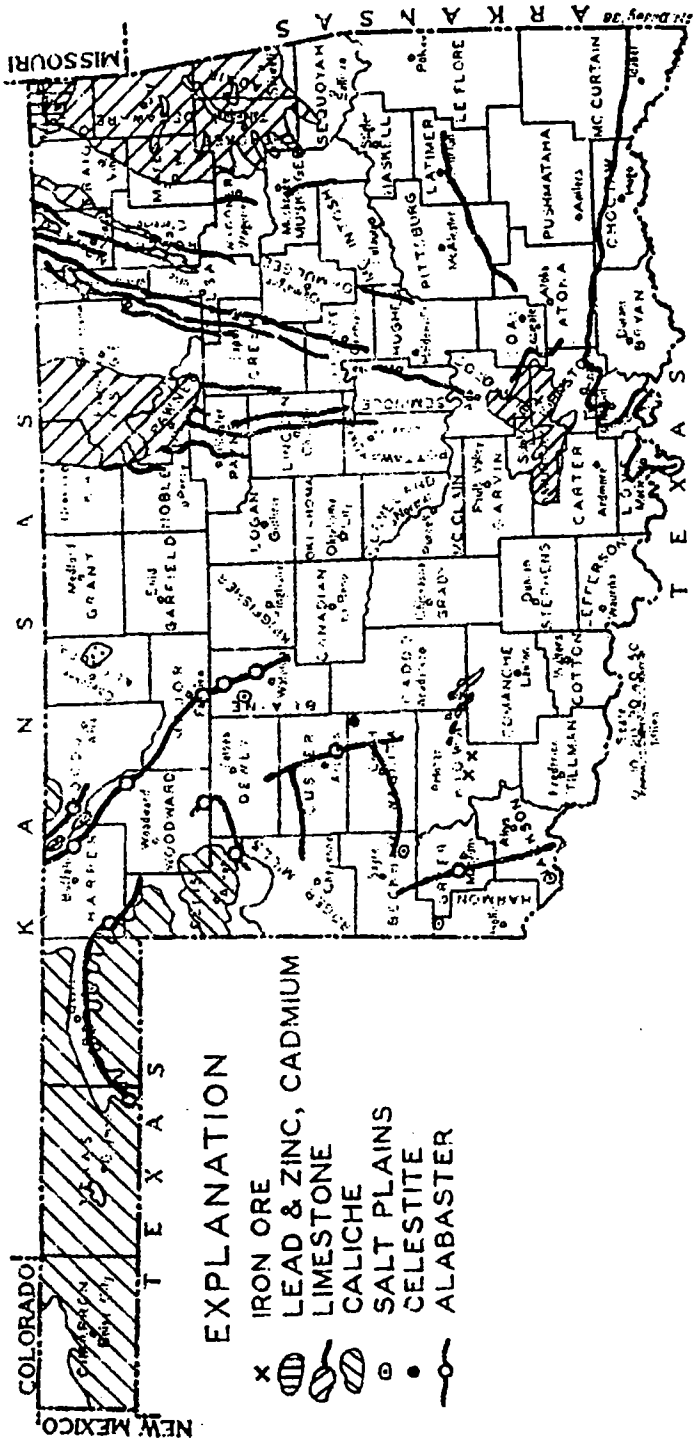
\*Estimated

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**EXPLANATION**  
 OIL & GAS FIELDS  
 GAS IN TEXAS COUNTY  
 ASPHALT  
 GRAHAMITE



**EXPLANATION**

- X IRON ORE
- LIMESTONE
- CALICHE
- SALT PLAINS
- CELESTITE
- ALABASTER

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