

Annual OIL, GAS, and HELIUM* production in Arizona

1954 - 2010

Compiled by

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ARIZONA GEOLOGICAL SURVEY

Oil and Gas Publication OG-2

*The symbol **He** in text indicates helium-bearing gas produced 1961-76 that averaged 8% helium.

STATE PERMIT NO.	WELL NAME	LOCATION
ID 1-72	Kerr-McGee 1 State	SW SW 34-20N-26E
10	Colgrove 2 Macie-Hortenstine	SW SE 33-20N-26E
18	Shell 1 Navajo	SE SE 6-41N-29E
22	Shell 2 Navajo	SE NW 3-41N-28E
28	Humble 1 Navajo	NE SE 4-41N-28E
32	Franco Western Oil 1 Navajo	SW NW 22-41N-28E
35	El Paso 1 Bita Peak-Navajo	SW SW 19-41N-31E
36	Apache Oil & Helium 3 Macie State	NW SE 34-20N-26E
37	Kerr-McGee 3 State	NW SE 4-19N-26E
38	Kerr-McGee 4 State	SW NE 32-20N-26E
39	Kerr-McGee 2 Fee	N2 NW 35-20N-26E
46	Superior Oil 2 Navajo-H	SW SW 16-41N-30E
58	Humble Oil 1 Navajo-E	SW NE 10-41N-28E
69	Shell 23-11 Navajo	NE SW 11-41N-28E
77	Texas Pacific Coal & Oil 1 Navajo-138	NE NE 11-40N-28E
80	Eastern 1-10 State	NE NE 10-19N-26E
81	Eastern 1-2 State	NE SW 2-19N-26E
88	Eastern 1-28 State	SE SE 28-20N-26E
106	Texas Pacific Coal & Oil 2 Navajo-138	SW NW 12-40N-28E
113	Texaco 1 Navajo-Z	NW SW 36-41N-30E
115	Texas Pacific Coal & Oil 3 Navajo-138	SW SE 2-40N-28E
146	Atlantic 7-1 Navajo	SE SE 7-40N-29E
179	Pan American 1 Navajo-F	NW SW 6-40N-28E
194	Eastern 13 Santa Fe	NE SW 31-20N-27E
206	Eastern 14 Santa Fe	SE NW 5-19N-27E
213	Pure Oil (Dry Mesa Corp) 5 Navajo-138	SW SW 1-40N-28E
226	Texaco 1 Navajo-AG	NW SE 16-41N-25E
232	Pan American 1 Navajo-O	SE SW 23-41N-30E
234	Apache Drilling 21 Ancon-Santa Fe	SE NW 31-20N-28E
236	Eastern 17 Santa Fe	W2 W2 4-19N-27E
238	Kerr-McGee 1 Barfoot-State	NE SW 32-20N-27E
263	Eastern 35 Santa Fe	NE SW 27-20N-27E
349	Kerr-McGee 3A State	NE NE 4-19N-26E
377	Kerr-McGee 1 Navajo	SE SW 32-36N-30E
378	Kerr-McGee 4A State	NE SE 32-20N-26E
379	Kerr-McGee 2 Navajo	SE NW 32-36N-30E
384	Kerr-McGee 4 Navajo	SE NE 32-36N-30E
385	Kerr-McGee 2 Navajo-B	SE NE 5-35N-30E
386	Kerr-McGee 3X Navajo	SE SE 32-36N-30E
388	Humble 1 Navajo-138	SE NE 6-35N-30E
389	Kerr-McGee 7 Navajo	SE SW 29-36N-30E
390	Kerr-McGee 6 Navajo	SE NE 31-36N-30E
396	Kerr-McGee 9 Navajo	SE SE 30-36N-30E
416	Kerr-McGee 14 Navajo	SE NW 31-36N-30E
417	Kerr-McGee 15 Navajo	SE SW 30-36N-30E
419	Kerr-McGee 16 Navajo	SE NW 30-36N-30E
420	Kerr-McGee 13 Navajo	SE SW 31-36N-30E
421	Humble 1 Navajo-88	SE SE 25-36N-29E
427	Kerr-McGee 1 Navajo-F	SE SE 24-36N-29E
431	Humble 2 Navajo-88	SE NE 25-36N-29E
434	Champlin 1 Navajo-335	NE SE 4-41N-29E
443	Humble 3 Navajo-88	SE NE 36-36N-29E
444	AAA Fishing Tool 2 Navajo-E	SW NE 9-41N-28E
445	Kerr-McGee 1X Navajo-B	NW NW 5-35N-30E
446	Kerr-McGee 10 Navajo	SE NE 30-36N-30E
471	Crest Oil-Arizona Helium 1 Santa Fe	SE SE 25-20N-27E
481	Consolidated 2-13 Navajo	SW SW 2-41N-28E
483	Globe Minerals 3 Navajo-E	NE NE 9-41N-28E

STATE PERMIT NO.	WELL NAME	LOCATION
484	Kerr-McGee 1 Navajo-C	NW SW 33-36N-30E
490	Consolidated 3-4 Navajo	NE SW 3-41N-28E
506	Kerr-McGee 11 Navajo	NW SE 32-36N-30E
511	AAA Fishing Tool 1 Navajo-E	NW NE 9-41N-28E
514	Consolidated 3-3 Navajo	SW SW 3-41N-28E
515	Humble 3 Navajo	SW SE 4-41N-28E
518	Consolidated 2-11 Navajo	SW NW 11-41N-28E
537	Eastern 21-1A Santa Fe	NW NW 31-20N-28E
553	Western Helium & Connelly 1 KM State	NE NE 36-30N-27E
559	Cities Service 1 Monsanto/Navajo-A	SE NE 21-40N-29E
581	Cities Service 1 Monsanto/Navajo-C	SE NW 16-40N-29E
582	Pan American 2 Navajo-O	NW SE 23-41N-30E
592	Eastern 1 Merde	SW SW 30-20N-28E
608	American Fuels 1 Navajo-B	SE SW 9-40N-29E
615	American Fuels 1 Navajo-AC	NE NE 17-40N-29E
618	Kerr-McGee 17 Navajo	NW SE 31-36N-30E
640	Clinton(Energy Reserves) 3 Navajo-O	SW SW 23-41N-30E
663	Energy Reserves 4 Navajo-O	SW SE 23-41N-30E
678	Energy Reserves 5 Navajo-O	NE NE 26-41N-30E
683	Energy Reserves 6 Navajo-O	SW NW 25-41N-30E
690	Kerr-McGee 18 Navajo	NW NE 32-36N-30E
691	Kerr-McGee 19 Navajo	NW NE 31-36N-30E
692	Kerr-McGee 22 Navajo	NW SW 30-36N-30E
693	Kerr-McGee 21 Navajo	NW SE 30-36N-30E
694	Kerr-McGee 23 Navajo	NW SW 29-36N-30E
695	Kerr-McGee 24 Navajo	NW NW 32-36N-30E
696	Kerr-McGee 20 Navajo	NW NW 31-36N-30E
717	Kenai Oil & Gas 34-7 Navajo	SW SE 7-40N-29E
719	Kerr-McGee 25 Navajo	NE NW 31-36N-30E
720	Kerr-McGee 26 Navajo	NW SW 31-36N-30E
721	Kerr-McGee 27 Navajo	NE SE 31-36N-30E
722	Kerr-McGee 6 Navajo-88	NW SE 25-36N-29E
723	Kerr-McGee 3 Navajo-138	NW NE 6-35N-30E
801	Mountain States Resources 12 Navajo-O	SE NE 22-41N-30E
834	Mountain States Resources 16 Navajo-O	SE SE 22-41N-30E
852	Monsanto Oil Company 6 Navajo	NE SW 2-40N-28E
868	Chuska Energy Company 5 Black Rock	SW SW 16-40N-29E
871	Chuska Energy Company 8 Black Rock	NE NE 18-40N-29E
875	Chuska Energy Company 12 Black Rock	NW SW 7-40N-29E
882	Harken Southwest Corp 20 Black Rock	SE SE 7-40N-29E
896	Ridgeway Arizona Oil Corp 10-22 State	SW SW 22-10N-30E
907	Coleman Oil & Gas 10 Dry Mesa	NW SE 12-40N-28E

STATE
PERMIT
NO.
18
22
28
ANNUAL
TOTAL

1954
OIL (Bbl) GAS (Mcf)
0 497
38 28,350
38 28,847

1955
OIL (Bbl) GAS (Mcf)
0 0
749 68,676
749 68,676

1956
OIL (Bbl) GAS (Mcf)
0 0
0 0
0 0

STATE
PERMIT
NO.
22
28
58
69
77
ANNUAL
TOTAL

1957
OIL (Bbl) GAS (Mcf)
0 0
0 0
0 0
0 0
0 0

1958
OIL (Bbl) GAS (Mcf)
0 0
0 0
11,794 15,277
11,794 15,277

1959
OIL (Bbl) GAS (Mcf)
0 0
0 0
0 0
1,450 6,482
1,179 7,020
24,981 4,546
27,610 18,048

STATE
PERMIT
NO.
10
22
28
35
36
37
38
39
58
69
77
80
81
88
106
113
115
146
179
1-72
ANNUAL
TOTAL

1960
OIL (Bbl) GAS (Mcf)
0 5,209
0 0
0 0
0 0
0 0
0 0
0 0
0 0
2,714 1,976
129 2,163
48,324 8,795
0 0
0 0
0 0
3,831 1,044
622 77
18,433 4,999
74,053 24,263

1961
OIL (Bbl) GAS (Mcf)
He 3,763
0 0
0 0
He 8,587
He 164
He 1,840
He 6,833
8,402 269,651
0 0
23,066 4,212
3,735 680
142 251
34,523 9,351
3,763 4,884
He 9,171
73,631 289,029
He 30,358

1962
OIL (Bbl) GAS (Mcf)
He 63,282
0 20,748
0 0
83,659
He 121,401
He 2,405
He 16,829
He 54,491
984 27,499
1,386 44,548
11,709 880
He 6,620
He 22,905
He 55,074
0 0
29,685 3,856
2,410 3,224
2,751 12,934
He 28,144
48,925 197,348
He 371,151

STATE
PERMIT

NO.	1963		1964		1965	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
10		He 85,319		He 92,987		He 73,524
22	0	76,353	0	109,212	624	192,996
28	1,144	247,364	1,609	342,463	2,492	302,679
32	77	198,428	180	292,872	32	73,046
35	946	65,545	1,128	130,297	3,949	488,883
36		He 138,743		He 185,046		He 214,937
37		He 1,928		He 1,133		He 513
38		He 18,793		He 7,329		He 2,719
39		He 64,361		He 76,068		He 99,029
46	28	5,118	524	144,389	47	33,953
58	1,973	104,581	979	53,820	37,124	30,719
69	4,576	262,710	2,281	169,789	3,374	341,440
77	7,894	595	6,555	486	5,902	441
80		He 7,254		He 7,546		He 9,968
81		He 24,106		He 35,795		He 40,028
88		He 58,225		He 72,601		He 89,074
115	28,614	3,715	28,540	3,703	21,804	2,230
179	2,984	5,524	1,165	3,218		
194						He 62,957
226	20,170	0	21,008	0	19,430	0
232			1,005	163,357	7,043	323,371
238				He 22,606		He 50,131
1-72		He 38,689		He 52,559		He 61,354
ANNUAL	68,406	969,933	64,974	1,413,606	101,821	1,789,758
TOTAL		He 437,418		He 553,670		He 704,234

STATE PERMIT NO.	1966		1967		1968	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
10		He 44,374		He 65,702		He 0
22	928	192,447	1,003	200,384	967	215,559
28	10,563	131,238	12,212	126,162	13,204	89,007
32	0	60,582	0	59,473	0	91,523
35	4,524	1,050,287	1,767	508,114	214	49,822
36		He 146,752		He 207,069		He 85,697
37		He 41				
38		He 712		He 22		
39		He 100,829		He 90,872		
46	20	15,359	3	3,144		
58	56,205	25,966	22,881	7,760	15,999	5,375
69	3,076	294,279	3,517	300,931	5,687	406,596
77	5,591	445	9,915	703	7,120	493
80		He 7,268		He 4,731		
81		He 40,221		He 55,683		He 174,122
88		He 84,235		He 94,796		He 136,091
113						He 174,275
115	28,173	1,820	35,939	2,222	26,235	1,824
194		He 191,107		He 165,738		He 92,975
226	16,724	0	11,462	0	6,503	0
232	6,238	42,953	10,657	40,993	13,449	33,707
238		He 56,144		He 31,304		He 45,108
349		He 28,064		He 94,420		He 0
377			221,558	17,432	175,697	13,974
378				He 266		
379			646,219	45,057	470,103	45,851
384			425,178	21,353	678,725	32,208
386			556,289	38,367	385,413	54,115
388			196,929	67,987	217,814	52,312
389			274,867	23,365	196,490	12,478
390			24,304	4,616	29,988	5,656
396			381,517	29,901	323,904	30,486
416			20,574	14,396	46,993	18,209
417			14,954	2,340	18,251	3,652
419			16,803	2,622	16,553	2,585
420			1,378	1,291	698	188
431			34,599	2,318	229,497	19,475
434			479	2,107	84	455
443					38,545	68,200
444					577	4,255
445					401,603	27,025
446					49,289	3,876
1-72		He 66,961		He 89,180		He 269,948
ANNUAL	132,042	1,815,376	2,925,004	1,523,038	3,369,602	1,288,906
TOTAL		He 766,708		He 899,783		He 978,216

STATE PERMIT NO.	1969		1970		1971	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
10		He 19,334		He 34,246		He 23,500
22	1,107	193,856	1,003	108,953	897	84,799
28	250	248,940	0	127,392	0	57,770
32	0	80,737	0	40,982	0	12,918
35	0	341				
36		He 54,348		He 136,654		He 80,979
58	27,415	121,189	15,995	106,751	8,703	50,052
69	8,755	527,542	10,244	513,862	18,610	489,767
77	6,363	444	7,008	492	5,084	356
81		He 153,303		He 131,502		He 79,593
88		He 92,914		He 72,489		He 39,142
106	0	0	0	0	0	3,556
113		He 211,499				
115	22,932	1,624	17,042	1,193	13,497	944
194		He 86,576		He 155,207		He 205,293
206				He 7,281		He 6,299
226	3,134	0				
232	15,488	40,092	12,970	45,495	11,350	37,281
234		He 5,445		He 7,873		He 5,540
236				He 2,570		He 14,254
238		He 22,228		He 14,457		He 17,393
263		He 6,169		He 701		He 3,148
349		He 29,179		He 38,446		He 10,082
377	186,942	15,258	144,199	7,444	66,403	5,769
379	274,394	21,383	112,103	24,363	53,035	16,703
384	438,700	14,649	248,702	3,833	225,267	2,939
386	420,870	66,429	187,815	48,470	83,856	32,770
388	135,034	36,963	89,900	13,027	68,564	11,898
389	67,470	6,623	27,887	6,207	15,746	5,213
390	17,068	4,182	15,538	3,823	13,762	3,703
396	223,523	23,896	136,366	17,413	107,221	15,822
416	26,631	10,851	19,162	8,854	14,899	5,778
417	12,984	2,707	8,908	1,929	7,351	866
419	11,053	1,747	7,969	1,194	6,411	645
421	0	878	1,100	1,440	4,126	1,440
427	109	1,395				
431	103,207	12,835	63,532	13,365	38,568	7,518
443	19,101	25,916	18,188	17,468	14,347	14,119
445	243,252	22,243	207,734	16,213	180,760	11,489
446	15,155	3,439	8,885	2,029	8,533	2,154
471		He 7,600		He 0		He 862
481	1,182	384				
483	29,900	36,620	25,157	47,312	14,993	25,489
484	1,114	306	321	528	179	340
490	4,072	1,692	2,457	1,488		
506	83,803	19,563	302,291	62,206	197,353	45,895
509	11,086	23,452	18,050	16,451	16,661	21,660
511	4,426	0	18,502	73,364	13,898	61,150
514	10,792	22,717	11,249	88,691	2,463	45,155
515	4,163	8,093	18,124	131,553	15,451	63,409
518	1,850	8,840	17,019	55,940	8,442	53,501
537				He 2,492		He 2,569
1-72		He 186,300		He 172,348		He 265,419
ANNUAL	2,433,325	1,607,826	1,775,420	1,609,725	1,236,430	1,192,868
TOTAL		He 874,895		He 776,266		He 754,073

STATE PERMIT NO.	1972		1973		1974	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
10		He 16,640		He 5,893		He 1,272
22	0	37,996	0	41,330	0	18,267
28	0	59,603	0	35,094	0	1,439
32	0	2,567	0	1,470	0	742
36		He 37,601		He 8,260		He 4,862
39				He 21,163		
58	22,942	65,191	14,175	53,822	17,847	14,849
69	19,943	321,696	6,500	72,614		
77	5,829	401	5,102	356	4,763	332
81		He 146,902		He 114,739		He 64,219
88		He 10,320				
106	0	6,044	0	3,839	0	3,364
115	13,853	959	12,980	909	11,392	797
194		He 219,372		He 223,352		He 207,760
206		He 21,251		He 12,763		
232	12,184	29,830	15,346	17,491	16,076	12,759
234		He 3,199				
236		He 31,765		He 38,359		
238		He 9,533		He 2,692		He 2,609
263		He 8,759		He 6,782		
349		He 6,480		He 11,718		He 19,662
377	50,675	4,639	38,621	3,690	35,336	5,029
379	28,632	8,375	127,250	16,070	75,416	14,222
384	192,536	936	121,364	1,512	106,286	2,059
386	38,598	19,069	38,948	16,452	41,320	21,009
388	52,145	2,050	34,790	6,474	50,329	33,322
389	23,227	2,049	15,889	2,721	9,658	3,641
390	11,621	3,456	11,007	2,542	23,399	6,091
396	101,144	9,795	78,721	9,918	68,429	12,277
416	16,273	3,410	15,608	3,182	20,148	7,739
417	6,369	779	5,993	713	5,316	0
419	5,055	392	3,659	722	4,200	65
421	3,661	1,440	261	97	241	858
431	26,177	5,166	30,728	2,492	52,425	6,914
443	15,914	2,242	10,004	1,084	13,146	6,878
445	139,542	15,123	130,533	12,468	109,880	17,022
446	9,717	1,817	10,092	3,226	7,675	2,009
471		He 15,333		He 18,278		
483	7,503	12,757	4,207	7,152	2,137	3,633
484	105	0	72	0	56	0
506	147,043	31,399	48,703	11,256	45,716	15,672
509	8,078	10,117	4,610	5,992	959	1,247
511	16,485	25,089	11,222	14,590	689	895
514	1,650	13,434				
515	10,602	59,911	2,508	17,453	515	12,148
518	5,607	38,880	4,575	18,309	2,877	7,787
537		He 3,238				
553		He 11,321		He 12,016		
592		He 365		He 626		
608	0	0	534	9,227	795	5,460
618	0	0	0	0	13,017	6,087
1-72		He 268,543		He 184,948		He 84,912
ANNUAL	993,110	796,612	804,002	394,267	740,043	244,613
TOTAL		He 810,622		He 661,589		He 385,296

STATE PERMIT NO.	1975		1976*		1977	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
10		He 758		He 98		
22	308	246	142	124	149	121
36		He 9,569		He 644		
58	6,493	8,194	975	1,830	1,492	1,984
77	5,748	401	5,735	402	5,174	362
81		He 16,546		He 589		
106	0	4,363	0	2,737	0	3,080
115	12,320	875	11,532	806	10,333	724
194		He 158,813		He 14,918		
232	19,775	18,184	16,881	39,462	10,263	41,128
238		He 2,174		He 433		
349		He 24,695		He 3,381		
377	41,452	6,732	27,970	5,144	20,428	4,908
379	56,682	13,826	37,402	17,067	27,005	16,679
384	86,191	277	109,448	1,945	86,689	922
386	26,386	21,604	19,324	26,089	11,584	23,057
388	55,305	36,794	44,998	54,104	25,548	42,409
389	7,107	4,068	5,486	5,541	3,608	8,309
390	25,664	7,077	20,172	6,203	11,568	9,525
396	57,792	13,676	43,042	22,973	50,547	29,964
416	19,620	9,718	14,076	8,494	12,103	8,220
417	4,576	0	6,493	2,317	3,491	3,221
419	3,363	0	3,488	824	2,420	0
421	233	788	339	81	360	0
431	46,206	9,154	28,517	7,233	20,945	9,300
443	9,291	6,875	9,068	9,370	6,250	14,212
445	79,093	16,037	61,648	11,395	46,625	14,760
446	5,589	2,102	860	317		
484	58	0	50	0	67	0
506	42,603	12,889	22,205	16,753	14,673	43,595
515	186	8,370	524	9,448	1,602	8,485
518	1,102	8,421	205	615	619	1,857
582	4,122	14,025	1,166	2,097		
618	8,103	3,124	8,061	5,970	3,926	11,462
640	9,301	20,470	19,080	28,514	17,187	13,477
663					31,217	22,726
678					1,407	1,894
683					50	0
1-72		He 899		He 5		
ANNUAL	634,669	248,290	518,887	287,855	427,330	336,381
TOTAL		He 213,454		He 20,068		

* LAST YEAR OF HELIUM PRODUCTION IN HOLBROOK BASIN

STATE PERMIT NO.	1978		1979		1980	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
22	84	65	404	46,714	731	43,889
28	0	0	1,884	5,566	12,036	21,556
58	371	484	929	273	1,663	0
77	5,416	380	5,199	364	4,418	309
106	0	3,176	0	3,039	0	2,308
115	9,295	651	8,206	575	7,814	548
232	6,896	41,736	5,056	41,846	2,884	44,688
377	15,336	1,999	11,989	2,102	7,897	1,957
379	16,276	18,142	1,171	2,974		
384	95,073	1,521	62,036	961	62,332	783
386	8,201	35,102	5,471	12,253	5,610	2,062
388	18,992	33,644	12,631	14,869	12,201	27,650
389	8,193	24,161	2,421	3,775		
390	13,107	7,347	12,467	3,881	7,478	3,714
396	39,367	7,504	23,942	12,207	10,696	19,824
416	23,247	15,139	14,461	3,940	11,016	6,974
417	3,353	3,015	2,376	3,422	2,722	1,504
419	3,054	532	3,784	2,050	2,076	1,510
420	0	0	257	0	1,643	5,824
421	0	0	21	0		
431	18,786	7,448	22,962	4,680	12,593	2,351
443	7,226	3,448	5,884	2,497	4,226	2,330
445	29,745	7,772	25,257	5,995	23,459	2,906
484	70	0	63	0	118	0
506	4,097	14,494	1,688	58,011	1,895	39,465
515	1,051	5,576	790	16,404	1,841	18,117
518	219	657	125	1,816	320	1,742
618	2,744	4,816	2,638	3,029	3,004	1,626
640	19,072	11,910	15,627	15,780	16,561	14,878
663	20,043	12,397	16,502	14,537	12,258	11,220
678	6,485	12,235	3,973	11,149	4,591	13,345
683	60	0				
690	3,001	826	37,282	6,949	17,992	1,515
691	18,215	1,467	88,770	11,779	55,444	25,176
692	5,485	2,772	6,182	3,572	5,521	2,346
693	8,199	1,415	4,833	5,401	6,156	1,388
694	560	0	841	103		
695	5,888	3,884	36,762	19,621	20,277	11,598
696	400	0	26,952	6,146	66,470	22,338
ANNUAL TOTAL	417,607	285,715	471,836	348,280	405,943	357,441

STATE PERMIT NO.	1981		1982		1983	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
22	684	31,269	658	22,025	757	25,016
28	10,886	13,759	12,903	12,542	11,137	9,308
58	1,503	0	145	0		
77	4,195	294	4,976	348	4,441	306
106	0	2,797	0	9,006	0	10,223
115	6,131	430	6,734	456	9,311	653
232	2,992	46,353	2,043	13,247	2,415	10,981
377	8,485	2,361	7,750	2,337	8,231	2,155
384	52,156	522	58,484	1,724	49,283	1,528
386	8,145	38,420	6,459	22,892	3,702	17,701
388	10,418	9,149	10,081	18,857	7,981	14,635
390	6,324	4,546	4,961	1,545	3,488	801
396	4,743	2,254	3,107	717	2,013	584
416	8,147	5,697	3,662	2,796	2,751	1,425
417	2,132	1,985	1,574	3,179	1,177	1,276
419	3,300	807	2,975	816	279	169
420	1,412	8,896	624	4,131	403	1,635
431	8,570	2,030	9,739	2,177	9,729	1,876
443	2,504	3,131	3,113	3,259	410	1,600
445	24,734	3,067	24,916	4,842	17,591	2,201
484	168	0	689	0	827	0
506	699	8,761	960	13,462	841	23,881
515	1,816	7,654	301	3,075		
618	2,094	1,132	1,888	1,119	1,903	496
640	12,683	12,068	8,874	7,802	7,279	15,001
663	8,865	9,527	7,365	7,692	4,670	3,835
678	3,858	15,375	4,079	8,895	2,116	5,014
690	8,516	3,010	7,405	3,110	7,328	640
691	36,150	15,166	26,037	16,582	16,222	19,186
692	5,486	0	3,142	1,376	1,949	3,411
693	3,978	2,147	2,725	2,115	3,025	1,761
695	15,548	4,968	8,601	4,796	9,324	4,183
696	30,870	6,783	16,499	6,012	8,757	5,036
717	5,668	12,850	528	695	0	0
719	7,070	848	20,872	7,391	9,563	6,620
720	3,257	944	4,085	9,251	668	556
721	11,868	1,187	14,901	5,382	11,123	6,012
722	8,345	9,082	11,556	22,007	5,481	31,160
723	22,961	3,042	25,724	12,618	12,834	8,059
801			4,073	896	604	1,022
ANNUAL TOTAL	357,361	292,311	335,208	261,172	239,613	239,946

STATE PERMIT NO.	1984		1985		1986	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
22	237	5,392	1,197	9,419	715	6,046
28	11,106	5,222	9,039	9,627	7,032	3,408
77	4,162	292	4,467	64	821	0
106	0	9,739	0	12,753	0	2,077
115	7,704	539	7,245	116	4,345	0
232	2,337	7,660	1,206	6,002	1,083	4,700
377	7,825	2,812	4,949	2,681	4,260	2,576
384	61,622	1,942	38,064	1,879	40,528	1,893
386	4,522	18,966	3,657	17,034	3,851	13,373
388	6,990	18,822	6,638	18,255	7,543	18,313
390	3,676	979	3,568	1,010	3,789	975
416	3,289	1,620	2,725	1,584	2,617	1,504
417	2,799	1,953	2,644	1,995	1,356	1,050
431	9,008	2,496	7,647	2,058	7,065	2,166
445	15,912	2,834	12,228	2,680	11,680	2,695
484	409	0	639	0	458	0
506	946	33,359	964	33,413	1,244	32,049
618	2,935	642	2,342	618	2,304	710
640	7,489	8,212	4,970	817	2,747	0
663	2,288	663	1,380	138	476	0
678	1,816	2,997	887	1,330		
690	2,306	442	0	0		
691	11,385	21,880	11,413	22,510	9,880	22,860
692	2,509	2,427	3,514	2,521	2,399	2,461
693	3,582	1,843	3,093	1,910	2,931	1,941
695	1,099	649	0	0		
696	6,525	5,864	4,632	5,962	4,445	5,762
719	7,297	6,331	4,205	5,996	4,094	5,620
721	8,633	6,000	7,286	5,945	6,919	5,910
722	5,297	44,290	3,310	30,989	2,747	35,162
723	6,832	9,910	3,661	9,605	3,467	9,244
801	2,482	0	653	0	135	0
852			15,835	834	19,291	2,715
ANNUAL TOTAL	215,019	226,777	174,058	209,745	160,222	185,210

STATE PERMIT NO.	1987		1988		1989	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
22	929	9,739	824	8,301	748	11,824
28	5,479	4,381	4,161	2,355	3,208	2,606
115	2,201	0	1,988	0	5,351	0
232	895	2,610	467	0	13	0
377	4,477	2,802	3,728	2,774	3,406	2,817
384	47,347	2,020	38,448	1,990	43,882	1,584
386	5,547	19,390	4,328	18,854	3,587	16,007
388	7,880	19,252	6,579	18,686	6,499	17,294
390	3,607	1,001	3,343	874	2,511	796
416	2,725	1,511	2,081	1,449	1,387	1,372
431	6,487	2,116	7,562	2,123	7,743	2,316
445	10,964	2,853	8,489	2,743	8,786	2,977
484	283	0	193	0	229	0
506	2,067	34,133	3,447	32,846	4,540	24,875
559					493	355,487
581					516	92,271
615					1,930	858,497
618	606	225				
640	821	0				
691	8,471	22,517	8,427	22,500	6,889	17,501
692	2,869	2,432	2,398	2,494	1,539	2,081
693	3,002	1,872	2,865	1,909	3,235	1,648
696	3,035	5,827	3,527	5,353	3,194	4,134
719	2,096	4,827	2,477	3,959	2,372	5,192
721	3,977	4,218	3,837	5,889	2,389	4,675
722	1,730	31,597	1,682	33,675	789	21,796
723	3,221	9,602	2,306	9,822	3,470	8,407
801	12	2	5	0		
852			17	0	19,264	0
ANNUAL	130,728	184,927	113,179	178,596	137,970	1,456,157
TOTAL						

STATE PERMIT NO.	1990		1991		1992	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
22	695	8,363	991	13,399	817	13,995
28	1,072	1,521	989	2,402	30	57
106	0	0	623	364,207	82	250,714
115	6,509	0	2,197	84,347	11	26,696
213					0	6,489
377	3,184	2,492	3,754	2,527	2,250	2,659
384	30,473	325	36,712	340	31,993	454
386	4,221	9,772	3,652	9,828	3,819	9,825
388	6,273	11,764	5,345	11,934	4,326	12,263
390	2,409	329	2,072	338	1,451	363
416	1,423	1,340	1,027	1,428	415	1,452
431	6,489	2,212	7,933	2,415	5,570	2,424
445	8,123	2,848	7,694	2,880	7,840	2,915
484	266	247	228	236	340	364
490	0	0	1,492	32,043	329	260
506	3,365	4,928	4,953	4,998	10,725	5,096
559	313	346,628	0	92,412	64	72,080
581	1,149	171,371	398	60,207	110	50,454
615	1,372	670,759	265	68,969		
691	6,626	6,138	4,623	6,372	4,817	6,372
692	2,004	1,424	790	1,404	973	1,497
693	3,221	999	3,307	1,053	4,645	1,161
696	2,409	351	1,421	337	1,146	359
719	2,178	3,390	1,283	3,570	1,169	3,710
721	3,514	2,082	1,422	1,848	2,018	1,817
722	528	333	891	349	718	359
723	2,880	4,886	1,657	4,844	1,571	4,962
852	17,342	0	12,121	0	6,782	0
868	2,933	686,800	695	92,414	138	72,080
871	854	205,887	2,237	412,786	228	242,804
ANNUAL TOTAL	121,825	2,147,189	110,772	1,279,887	94,377	793,681

STATE PERMIT NO.	1993		1994		1995	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
22	1,522	15,103	688	8,591	129	841
28	0	0	195	77,006	921	7,896
106	3	49,295	0	807	0	0
115	0	0	0	0	0	0
213	0	9680	0	8,786	146	32,869
377	2,373	2,785	3,638	1,876	3,167	1,451
384	27,201	3,159	24,961	2,171	22,705	1,588
386	3,393	2,985	2,770	173	3,393	0
388	2,950	12,207	3,902	7,874	3,502	4,332
390	1,215	1,892	613	74	977	0
416	647	714	322	20	398	0
431	3,913	2,143	4,002	1,420	4,285	1,421
445	5,455	2,669	5,240	2,267	4,538	1,958
484	261	365	121	115	112	0
490	1,705	38,823	729	7,856	0	0
506	5,362	7,953	4,292	6,417	3,730	3,779
559	42	24,716	2	1,875	4	5,079
581	116	116,583	149	156,195	153	119,717
691	3,648	1,168	2,637	105	2,321	0
692	843	5,631	531	216	762	0
693	3,846	1,335	2,178	8	3,739	0
696	1,295	4,209	977	71	1,364	0
719	1,016	335	718	12	950	0
721	1,612	999	1,593	221	1,406	0
722	650	334	139	6	184	0
723	985	5,022	274	170	383	0
852	2,573	0	3,216	2,692	7,691	8,682
868	104	105,186	96	85,298	71	59,510
871	138	80,616	27	41,758	65	28,863
875	273	122,090	738	345,316	670	204,397
882					3,301	75,828
ANNUAL TOTAL	73,141	617,997	64,748	759,396	71,067	558,211

STATE PERMIT NO.	1996		1997		1998	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
22	440	11,971	642	19,300	354	7,447
28	3,652	7,202	3,773	13,489	1,533	6,298
106	0	0	449	50,112	1,662	95,244
115	0	0	192	0	254	24,847
213	162	40,852	42	32,457	0	329
377	3,109	1,375	3,030	1,342	3,056	1,958
384	23,811	742	16,532	263	17,143	474
386	3,442	2,874	3,214	2,048	3,398	1,966
388	3,146	2,830	3,387	1,686	2,342	1,514
389	0	0	91	0	115	0
390	940	0	891	0	955	0
396	0	0	194	0	333	0
416	395	0	374	0	399	0
417	0	0	0	0	108	0
419	0	0	0	0	174	0
431	4,274	1,186	3,582	479	3,044	210
445	3,947	1,674	3,625	266	4,264	0
484	156	0	153	0	86	0
490	9	7	315	1,311	0	0
506	3,364	2,649	3,524	1,936	3,713	1,702
559	3	3,764	2	3,884	1	3,848
581	272	123,004	140	118,532	107	103,813
618	2,120	626	1,342	0	1,791	0
691	2,359	0	2,120	0	2,246	0
692	628	0	1,543	0	1,283	0
693	3,677	0	3,467	0	2,888	0
695	9,888	1,357	14,740	2,550	8,726	2,172
696	1,369	0	1,181	0	1,183	0
719	958	1,118	918	1,612	956	1,460
720	0	0	0	0	7,418	0
721	1,612	579	1,609	750	1,629	636
722	183	0	206	0	145	0
723	348	1,178	349	0	353	0
852	7,363	9,417	8,189	7,675	3,870	2,640
868	118	56,170	56	50,519	38	36,433
871	11	8,573	0	380	0	0
875	417	72,848	315	36,888	944	78,200
882	1,874	111,646	1,898	105,170	1,598	85,988
ANNUAL TOTAL	84,047	463,642	82,085	452,649	78,109	457,179

STATE PERMIT NO.	1999		2000		2001	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
22	0	0	0	0	0	0
28	0	0	0	0	0	0
106	930	53,340	364	47,230	17	47,296
115	440	48,357	330	72,027	10	58,638
213	210	2,801	0	0	0	0
377	1,605	0	2,411	0	2,913	0
384	14,027	487	8,270	0	3,690	0
386	2,393	595	2,560	0	2,530	0
388	1,474	0	3,307	0	3,833	0
389	50	0	50	0	31	0
390	927	0	623	0	1,129	0
396	99	0	50	0	56	0
416	321	0	274	0	284	0
417	125	0	12	0	21	0
419	97	0	11	0	30	0
431	2,746	183	2,448	51	3,473	0
445	3,773	0	3,549	0	4,202	0
484	61	0	56	0	33	0
490	0	0	0	0	0	0
506	4,411	0	4,392	0	5,183	585
559	5	4,237	7	4,069	0	2,611
581	165	93,805	191	95,835	222	88,762
618	1,335	0	1,178	0	1,074	0
691	2,261	0	1,555	0	2,832	0
692	857	0	1,195	0	661	0
693	1,717	0	2,295	0	2,738	0
695	10,311	0	8,440	0	11,595	0
696	1,173	0	1,016	0	1,359	0
719	897	985	773	666	1,037	638
720	7,458	0	8,405	0	7,634	0
721	1,114	464	811	69	1,349	0
722	220	0	207	0	224	0
723	341	0	251	0	335	0
852	412	84,184	279	8,483	0	8,125
868	43	28,462	43	21,367	39	1,640
871	0	0	0	13	0	118
875	860	49,484	736	40,368	595	34,922
882	2,442	100,453	1,208	72,267	1,168	63,241
907	1,183	5,977	186	6,005	0	0
ANNUAL TOTAL	66,483	473,814	57,483	368,450	60,297	306,576

STATE PERMIT NO.	2002		2003		2004	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
22	0	0	0	0	0	0
28	0	0	0	0	0	0
106	234	27,231	243	13,139	23	5,023
115	379	50,972	660	71,423	665	81,467
377	2,434	0	2,570	0	2,212	0
384	0	0	0	0	0	0
385	0	0	0	181,909	0	75,176
386	2,838	0	1,077	0	2,137	0
388	3,479	0	3,560	0	2,867	0
389	0	0	0	0	0	0
390	895	0	933	0	1,099	0
396	0	0	0	0	0	0
416	292	0	222	0	574	0
417	102	0	0	0	0	0
419	0	0	0	0	0	0
431	2,542	0	2,490	0	498	0
443	0	0	159	0	0	0
445	3,476	0	3,757	0	2,909	0
484	38	0	13	0	0	0
490	0	0	0	0	0	0
506	5,023	201	2,924	173	2,584	180
559	0	1,522	0	0	0	0
581	122	105,029	39	75,052	271	74,883
618	1,203	0	843	0	959	0
691	2,268	0	1,261	0	1,670	0
692	1,467	0	1,560	0	824	0
693	2,459	0	2,986	0	1,388	0
695	12,946	0	12,312	0	14,599	0
696	1,021	0	839	0	1,242	0
719	914	219	468	192	1,081	192
720	14,067	0	4,408	0	9,849	0
721	1,478	0	1,047	0	1,291	0
722	226	0	21	0	50	0
723	295	0	330	0	566	0
852	145	1,212	48	1,177	0	0
868	20	100	5	0	23	0
871	0	553	0	0	0	0
875	644	31,027	772	23,997	657	23,421
882	1,577	70,772	1,594	70,803	1,134	64,885
896	0	CO ₂ 216,897	0	CO ₂ 158,829	0	CO ₂ 2,168
907	833	15,465	148	5,569	169	5,964
ANNUAL	63,417	304,303	47,289	443,434	51,341	331,191
TOTAL		CO ₂ 216,897		CO ₂ 158,829		CO ₂ 2,168

STATE PERMIT NO.	2005		2006		2007	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
22	230	0	537	0	0	0
28	60	0	2,059	10,918	279	36
106	3	8,212	1	4,564	0	658
115	587	69,314	521	59,193	520	57,239
377	2,149	0	2,560	0	1,599	0
384	0	0	0	0	0	0
385	0	0	0	398,936	0	441,176
386	2,277	0	2,586	0	1,135	0
388	3,392	0	1,693	0	2,098	0
389	0	0	0	0	0	0
390	1,523	0	1,663	0	1,344	0
396	0	0	0	0	0	0
416	1,430	0	1,442	0	131	0
417	0	0	0	0	0	0
419	0	0	0	0	0	0
431	1,312	0	2,083	0	124	0
443	0	0	0	0	0	0
445	3,042	0	3,254	0	3,893	0
484	60	0	98	0	25	0
490	141	0	21	0	53	0
506	3,989	180	4,556	180	4,917	180
559	0	0				
581	2	66,214	27	48,089	14	75,366
618	827	0	959	0	662	0
691	2,447	0	2,144	0	1,614	0
692	1,077	0	1,187	0	0	0
693	1,289	0	1,435	0	390	0
695	11,656	0	13,449	0	13,119	0
696	1,355	0	1,530	0	1,017	0
719	1,697	192	1,927	192	1,283	144
720	4,349	0	3,911	0	2,865	0
721	1,741	0	1,081	0	1,908	0
722	489	0	925	0	0	0
723	1,336	0	1,285	0	1,526	0
852	11	158				
868	0	0				
871	0	0				
875	476	21,530	604	20,630	743	20,447
882	1,100	58,516	1,138	49,325	1,255	51,919
896	0	0	0	0	0	0
907	204	8,842	131	16,413	178	7,365
ANNUAL	50,251	233,158	54,807	608,440	42,692	654,530
TOTAL		CO ₂ 0		CO ₂ 0		CO ₂ 0

STATE PERMIT NO.	2008		2009		2010	
	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)	OIL (Bbl)	GAS (Mcf)
22	0	0	0	0	0	0
28	882	0	211	0	869	0
106	0	194				
115	911	62,680	810	55,609	762	60,316
377	2,680	0	2,376	0	480	0
384	0	0	0	0	0	0
385	0	314,970	0	540,990	0	362
386	531	0	927	0	594	0
388	2,794	0	3,037	0	241	0
389	0	0	0	0	0	0
390	1,900	0	1,799	0	1,357	0
396	0	0	214	0	0	0
416	1,321	0	1,312	0	1,325	0
417	0	0	0	0	0	0
419	0	0	0	0	0	0
431	1,909	0	1,846	0	3,029	0
443	0	0	0	0	0	0
445	4,084	0	3,443	0	1,755	0
484	27	0	0	0	0	0
490	0	0	0	0	0	0
506	5,110	180	3,806	180	1,925	0
581	69	72,668	68	53,425	11	52,189
618	982	0	927	0	973	0
691	2,315	0	2,002	0	1,002	0
692	101	0	805	0	841	0
693	0	0	894	0	1,600	0
695	12,697	0	13,108	0	12,896	0
696	1,036	0	783	0	929	0
719	1,957	176	1,113	144	1,402	0
720	4,377	0	809	0	2,961	0
721	1,874	0	1,796	0	1,470	0
722	704	0	761	0	1,412	0
723	1,501	0	1,871	0	425	0
875	617	16,336	471	16,563	600	22,527
882	1,058	53,251	904	41,997	1,157	47,180
896	0	0	0	0	0	0
907	138	2,675	100	2,879	121	718
ANNUAL	51,575	523,130	46,193	711,787	40,137	183,292
TOTAL		CO ₂ 0		CO ₂ 0		

CUMULATIVE PRODUCTION BY PERMIT THROUGH DECEMBER 31, 2010

PERMIT#	OIL (Bbl)	GAS (Mcf)	PERMIT#	OIL (Bbl)	GAS (Mcf)
ID 1-72		He 1,779,380	446	115,795	20,969
10		He 530,692	471		He 42,073
18		497	481	1,182	384
22	22,179	1,845,659	483	83,897	132,963
28	147,619	2,054,982	484	8,302	2,501
32	289	915,340	490	11,323	83,480
35	12,528	2,376,948	506	1,019,626	649,474
36		He 1,441,149	509	59,444	78,919
37		He 6,184	511	65,222	175,088
38		He 48,244	514	26,154	169,997
39		He 513,646	515	59,474	369,696
46	622	201,963	518	42,960	198,365
58	281,153	973,725	537		He 8,299
69	89,257	3,754,957	553		He 23,337
77	239,958	27,499	559	936	922,212
80		He 43,387	581	4,311	2,013,464
81		He 1,100,253	582	5,288	16,122
88		He 804,961	592		He 991
106	12,200	1,101,091	608	1,329	14,687
113	764	328	615	3,567	1,598,225
113		He 385,774	618	72,740	41,682
115	469,910	929,644	640	141,691	148,929
146	6,173	8,108	663	105,064	82,735
179	6,900	21,676	678	29,212	72,234
194		He 1,784,068	683	110	0
206		He 47,594	690	83,830	16,492
213	560	134,263	691	352,071	239,279
226	98,431	0	692	62,925	38,065
232	197,012	1,105,926	693	97,783	29,906
234		He 22,057	694	1,401	103
236		He 86,948	695	277,981	55,778
238		He 276,812	696	200,951	84,544
263		He 25,559	717	6,196	13,545
349		He 266,127	719	84,741	65,731
377	1,151,164	137,857	720	86,521	10,751
378		He 266	721	104,308	54,683
379	1,925,688	260,712	722	49,820	261,139
384	3,625,859	110,983	723	103,338	101,371
385		1,953,519	801	7,964	1,920
386	1,926,370	639,551	852	124,449	137,994
388	1,152,737	653,170	868	4,422	1,295,979
389	658,386	108,151	871	3,560	1,022,351
390	299,125	87,339	875	11,132	1,180,991
396	1,657,020	259,211	882	24,406	1,123,241
416	318,523	148,816	896		CO ₂ 377,894
417	115,187	37,903	907	3,391	77,572
419	96,754	16,680	TOTAL	21,032,745	33,058,455
420	6,415	21,965			He 9,237,801
421	10,342	7,022			CO ₂ 377,894
427	109	1,395			
431	869,884	143,751			
434	563	2,562			
443	177,376	182,629			
444	577	4,255			
445	1,906,294	224,817			

CUMULATIVE PRODUCTION BY FIELD THROUGH DECEMBER 31, 2010**OIL AND GAS FIELDS** (All production in Apache County)

	<u>Oil (Bbl)</u>	<u>GAS (Mcf)</u>
Bitu Peak (35)	12,528	2,376,948
Black Rock (146, 559, 581, 608, 615, 717, 868, 871, 875, 882)	66,032	9,192,803
Dineh-Bi-Keyah (377, 379, 384, 385, 386, 388, 389, 390, 396, 416, 417, 419, 420, 421, 427, 431, 443, 445, 446, 484, 506, 618, 690, 691, 692, 693, 694, 695, 696, 719, 720, 721, 722, 723)	18,619,366	6,667,939
Dry Mesa (77, 106, 115, 213, 852, 907)	850,468	2,408,063
East Boundary Butte (22, 28, 58, 69, 444, 481, 483, 490, 509, 511, 514, 515, 518)	890,441	9,842,470
North Toh-Atin (32)	289	915,340
Teec Nos Pos (232, 582, 640, 663, 678, 683, 801)	486,341	1,427,866
Tohache Wash (113)	764	328
Twin Falls Creek (46)	622	201,963
Walker Creek (226)	98,431	0
Undesignated (18, 179, 434)	7,463	24,735

HELIUM FIELDS (Last production was in 1976)

East Navajo Springs (234, 471, 537, 553, 592)	96,757
Navajo Springs (194, 206, 236, 238, 263)	2,220,981
Pinta Dome (10, 36, 37, 38, 39, 80, 81, 88, 349, 378, 1-72)	6,534,289
Tohache Wash (113)	385,774

CO₂ FIELD (First production was in 2002)

St. Johns (896)	377,894
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