APPENDIX A

GRUY ENGINEERING CORPORATION'S
OIL WELLGROUPS BY STATE

APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
Alaska						
AKOIL 1	0-2	0- 60	4	3	12.43	1.33

APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
AKOIL 2	0-2	61- 100	2	2	31.33	0.17
AKOIL 3	0-2	201- 300	2	2	91.17	0.70
AKOIL 4	0-2	401- 500	1	1	42.80	14.27
AKOIL 5	0-2	601-1,000	1	1	54.17	17.53
AKOIL 6	0-2	1,0001- 2,000	6	4	610.07	187.30
AKOIL 7	0-2	2,001-5,000	23	7	2,233.33	2,142.23
AKOIL 8	0-2	5,001-over	67	10	176,855.57	37,691.77
AKOIL 9	2-6	1,001-2,000	1	1	100.50	50.27
AKOIL 10	2-6	5,001- Over	2	1	32,719.13	6,184.60
AKOIL 11	6-10	0- 60	1	1	2.20	0.27
AKOIL 12	6-10	61- 100	5	1	1.93	3.57
AKOIL 13	6-10	101- 200	2	2	3.33	4.97
AKOIL 14	6-10	201- 300	3	1	16.30	15.40
AKOIL 15	6-10	301- 400	1	1	14.10	8.90
AKOIL 16	6-10	401- 500	1	1	34.97	10.97
AKOIL 17	6-10	501- 600	2	3	60.73	29.93
AKOIL 18	6-10	601-1,000	5	3	160.77	94.03
AKOIL 19	6-10	1,001-2,000	14	5	546.37	463.40
AKOIL 20	6-10	2,001-5,000	27	6	2,778.30	2,250.57
AKOIL 21	6-10	5,001- Over	613	7	1,732,915.13	808,289.93
AKOIL 22	10+	61- 100	2	2	26.10	0.33
AKOIL 23	10+	101- 200	2	2	50.03	0.67
AKOIL 24	10+	301- 400	1	1	22.93	10.13
AKOIL 25	10+	501- 600	1	1	2.03	18.10
AKOIL 26	10+	601-1,000	6	6	161.20	57.43
AKOIL 27	10+	1,001-2,000	11	6	472.47	348.40
AKOIL 28	10+	2,001-5,000	31	9	5,214.00	2,726.60
AKOIL 29	10+	5,001- Over	704	10	2,990,463.67	1,039,351.67

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
Alabama						
ALOIL 1	0-2	0- 60	2	3	0.00	1.90
ALOIL 2	0-2	61- 100	4	3	5.13	7.73
ALOIL 3	0-2	101- 200	11	6	6.13	43.53
ALOIL 4	0-2	201- 300	443	4	324.13	3,587.97
ALOIL 5	0-2	301- 400	50	4	0.00	505.47
ALOIL 6	0-2	501- 600	54	3	188.63	762.30
ALOIL 7	0-2	601-1,000	36	5	138.47	665.37
ALOIL 8	0-2	1,001-2,000	8	3	107.40	362.10
ALOIL 9	0-2	2,001-5,000	20	6	2,093.50	1,755.03
ALOIL 10	0-2	5,001- Over	7	4	1,808.80	2,062.70
ALOIL 11	2-6	0- 60	18	6	3.07	6.20
ALOIL 12	2-6	61- 100	15	7	61.97	22.30
ALOIL 13	2-6	101- 200	49	11	148.47	185.97
ALOIL 14	2-6	201- 300	38	10	103.07	254.83
ALOIL 15	2-6	301- 400	23	7	124.03	191.57
ALOIL 16	2-6	401- 500	13	4	4.90	148.47
ALOIL 17	2-6	501- 600	11	7	214.97	129.83
ALOIL 18	2-6	601-1,000	8	4	19.50	138.43
ALOIL 19	2-6	1,001-2,000	4	4	156.30	57.00
ALOIL 20	2-6	2,001-5,000	1	1	162.50	57.20
ALOIL 21	6-10	0- 60	2	3	0.00	1.43
ALOIL 22	6-10	201- 300	1	1	0.00	9.00
ALOIL 23	6-10	401- 500	1	1	0.40	16.27
ALOIL 24	6-10	601-1,000	4	3	1.07	49.10
ALOIL 25	6-10	1,001-2,000	6	4	5.53	231.03
ALOIL 26	6-10	2,001-5,000	11	4	37.53	680.23
ALOIL 27	6-10	5,001- Over	1	1	13.03	202.33
ALOIL 28	10+	0- 60	7	1	0.10	2.03
ALOIL 29	10+	101- 200	1	1	0.00	5.53
ALOIL 30	10+	201- 300	2	3	0.17	10.17
ALOIL 31	10+	301- 400	7	4	31.53	66.90
ALOIL 32	10+	401- 500	2	3	6.30	30.17
ALOIL 33	10+	501- 600	2	3	8.33	28.90

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
ALOIL 34	10+	601-1,000	7	7	113.43	130.43
ALOIL 35	10+	1,001-2,000	12	10	382.23	381.27
ALOIL 36	10+	2,001-5,000	25	18	1,557.57	2,214.33
ALOIL 37	10+	5,001- Over	33	17	4,389.67	6,605.90
Arkansas						
AROIL 1	0-2	0- 60	1484	48	28.77	1,176.03
AROIL 2	0-2	61- 100	704	47	7.93	1,722.60
AROIL 3	0-2	101- 200	560	56	26.17	2,474.17
AROIL 4	0-2	201- 300	156	33	138.67	1,186.97
AROIL 5	0-2	301- 400	231	21	32.70	2,793.13
AROIL 6	0-2	401- 500	31	15	38.27	421.93
AROIL 7	0-2	501- 600	47	8	227.73	790.53
AROIL 8	0-2	601-1,000	41	13	3,222.50	871.00
AROIL 9	0-2	1,001-2,000	109	12	0.00	4,341.50
AROIL 10	0-2	2,001-5,000	4	4	178.27	339.43
AROIL 11	0-2	5,001- Over	5	6	912.30	1,529.90
AROIL 12	2-6	0- 60	694	51	1.97	672.57
AROIL 13	2-6	61- 100	320	60	9.87	798.87
AROIL 14	2-6	101- 200	399	98	46.00	1,883.33
AROIL 15	2-6	201- 300	148	55	119.83	1,150.90
AROIL 16	2-6	301- 400	69	41	11.33	782.20
AROIL 17	2-6	401- 500	31	24	70.40	435.47
AROIL 18	2-6	501- 600	16	14	3.70	272.23
AROIL 19	2-6	601-1,000	45	27	410.07	1,049.20
AROIL 20	2-6	1,001-2,000	26	19	106.53	1,022.90
AROIL 21	2-6	2,001-5,000	7	6	159.07	577.90
AROIL 22	6-10	0- 60	18	11	55.43	16.10
AROIL 23	6-10	61- 100	14	10	61.17	17.60
AROIL 24	6-10	101- 200	88	40	213.93	295.27
AROIL 25	6-10	201- 300	64	25	284.63	460.67
AROIL 26	6-10	301- 400	43	21	581.80	403.17
AROIL 27	6-10	401- 500	20	12	179.23	264.17
AROIL 28	6-10	501- 600	12	7	343.30	167.93
AROIL 29	6-10	601-1,000	50	20	1,652.83	1,033.10

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
AROIL 30	6-10	1,001-2,000	26	10	2,247.10	904.40
AROIL 31	6-10	2,001-5,000	10	8	3,947.77	561.43
AROIL 32	6-10	5,001- Over	1	1	1,600.67	70.67
AROIL 33	10+	0- 60	1	1	3.37	0.33
AROIL 34	10+	61- 100	1	1	8.30	1.57
AROIL 35	10+	201- 300	2	3	7.50	12.27
AROIL 36	10+	401- 500	1	1	94.53	7.17
AROIL 37	10+	501- 600	1	1	5.63	16.57
AROIL 38	10+	601-1,000	4	5	245.33	85.77
AROIL 39	10+	1,001-2,000	7	6	1,394.40	178.70
AROIL 40	10+	2,001-5,000	2	3	1,465.73	54.17
AROIL 41	10+	5,001- Over	2	2	2,320.40	135.63
Arizona						
AZOIL 1	0-2	101- 200	1	1	4.17	4.20
AZOIL 2	0-2	301- 400	1	1	7.83	9.47
AZOIL 3	0-2	401- 500	1	1	44.47	9.97
AZOIL 4	0-2	601-1,000	3	1	56.30	42.47
AZOIL 5	0-2	2,001-5,000	4	1	4.40	121.90
AZOIL 6	2-6	0- 60	1	1	0.00	0.83
AZOIL 7	2-6	101- 200	1	1	5.77	4.27
AZOIL 8	2-6	201- 300	5	1	94.73	31.37
AZOIL 9	2-6	301- 400	2	1	34.83	18.50
AZOIL 10	2-6	401- 500	1	1	0.00	16.20
AZOIL 11	2-6	501- 600	1	1	69.10	12.60
AZOIL 12	2-6	601-1,000	2	1	55.03	40.63
AZOIL 13	2-6	2,001-5,000	2	1	0.00	71.33
California-Coastal and Northern						
CACNOIL 1	0-2	0- 60	322	59	131.83	229.57
CACNOIL 2	0-2	61- 100	169	44	395.40	324.37
CACNOIL 3	0-2	101- 200	292	58	1,228.53	1,066.93
CACNOIL 4	0-2	201- 300	160	36	1,031.03	1,022.10
CACNOIL 5	0-2	301- 400	119	39	1,348.27	1,085.70
CACNOIL 6	0-2	401- 500	68	29	567.50	836.27
CACNOIL 7	0-2	501- 600	47	23	522.53	744.30

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
CACNOIL 8	0-2	601-1,000	113	27	2,038.60	2,436.70
CACNOIL 9	0-2	1,001-2,000	94	19	3,100.00	3,650.87
CACNOIL 10	0-2	2,001-5,000	31	6	1,615.53	2,699.20
CACNOIL 11	0-2	5,001- Over	8	5	2,942.90	792.70
CACNOIL 12	2-6	0- 60	279	50	443.53	156.53
CACNOIL 13	2-6	61- 100	221	38	900.30	418.27
CACNOIL 14	2-6	101- 200	569	52	4,091.27	2,135.80
CACNOIL 15	2-6	201- 300	357	47	3,096.80	2,382.10
CACNOIL 16	2-6	301- 400	234	36	3,086.40	2,245.27
CACNOIL 17	2-6	401- 500	204	36	2,938.60	2,612.60
CACNOIL 18	2-6	501- 600	115	34	2,217.93	1,808.53
CACNOIL 19	2-6	601-1,000	301	41	5,214.47	6,883.57
CACNOIL 20	2-6	1,001-2,000	141	33	3,367.53	5,908.23
CACNOIL 21	2-6	2,001-5,000	59	16	2,295.00	5,474.37
CACNOIL 22	2-6	5,001- Over	3	4	280.53	594.67
CACNOIL 23	6-10	0- 60	49	21	36.93	29.83
CACNOIL 24	6-10	61- 100	33	15	124.63	44.20
CACNOIL 25	6-10	101- 200	118	24	814.27	406.80
CACNOIL 26	6-10	201- 300	86	29	880.03	509.93
CACNOIL 27	6-10	301- 400	71	21	874.43	624.00
CACNOIL 28	6-10	401- 500	61	21	883.33	718.00
CACNOIL 29	6-10	501- 600	51	21	961.67	699.07
CACNOIL 30	6-10	601-1,000	106	24	3,073.13	2,277.73
CACNOIL 31	6-10	1,001-2,000	117	23	4,871.77	4,637.63
CACNOIL 32	6-10	2,001-5,000	67	17	7,494.27	5,325.87
CACNOIL 33	6-10	5,001- Over	13	7	2,657.97	1,990.10
CACNOIL 34	10+	0- 60	6	5	2.50	2.50
CACNOIL 35	10+	61- 100	8	4	16.20	13.77
CACNOIL 36	10+	101- 200	17	5	64.67	71.73
CACNOIL 37	10+	201- 300	23	8	111.93	156.40
CACNOIL 38	10+	301- 400	38	7	373.03	363.70
CACNOIL 39	10+	401- 500	31	8	643.10	357.33
CACNOIL 40	10+	501- 600	24	8	574.00	310.73
CACNOIL 41	10+	601-1,000	60	11	1,507.80	1,263.60

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
CACNOIL 42	10+	1,001-2,000	63	10	1,683.30	2,602.90
CACNOIL 43	10+	2,001-5,000	36	7	3,053.70	3,251.53
CACNOIL 44	10+	5,001- Over	3	1	350.20	565.37
California-Los Angeles Basin						
CALAOIL 1	0-2	0- 60	382	29	191.60	319.37
CALAOIL 2	0-2	61- 100	291	24	505.17	631.47
CALAOIL 3	0-2	101- 200	591	37	1,261.77	2,516.60
CALAOIL 4	0-2	201- 300	396	40	1,408.10	2,896.70
CALAOIL 5	0-2	301- 400	232	32	1,037.03	2,493.33
CALAOIL 6	0-2	401- 500	177	30	1,001.27	2,395.53
CALAOIL 7	0-2	501- 600	111	24	673.20	1,881.97
CALAOIL 8	0-2	601-1,000	273	37	2,385.63	6,438.13
CALAOIL 9	0-2	1,001-2,000	174	30	2,376.10	7,559.20
CALAOIL 10	0-2	2,001-5,000	48	20	1,258.47	4,424.30
CALAOIL 11	0-2	5,001- Over	1	1	15.00	192.43
CALAOIL 12	2-6	0- 60	189	30	124.23	128.73
CALAOIL 13	2-6	61- 100	176	30	195.30	377.67
CALAOIL 14	2-6	101- 200	493	39	1,136.43	2,154.20
CALAOIL 15	2-6	201- 300	415	38	1,342.37	3,011.63
CALAOIL 16	2-6	301- 400	282	37	1,398.13	2,921.70
CALAOIL 17	2-6	401- 500	230	34	1,290.00	3,135.20
CALAOIL 18	2-6	501- 600	176	29	954.37	3,027.90
CALAOIL 19	2-6	601-1,000	396	44	3,133.57	9,435.87
CALAOIL 20	2-6	1,001-2,000	239	32	3,014.03	9,753.57
CALAOIL 21	2-6	2,001-5,000	59	19	2,009.57	4,674.80
CALAOIL 22	2-6	5,001- Over	1	1	40.20	168.53
CALAOIL 23	6-10	0- 60	60	19	19.93	36.80
CALAOIL 24	6-10	61- 100	35	21	102.77	67.87
CALAOIL 25	6-10	101- 200	112	22	470.30	451.67
CALAOIL 26	6-10	201- 300	83	29	754.53	540.47
CALAOIL 27	6-10	301- 400	75	28	1,036.40	706.13
CALAOIL 28	6-10	401- 500	67	24	1,073.30	812.03
CALAOIL 29	6-10	501- 600	32	24	564.90	490.37
CALAOIL 30	6-10	601-1,000	86	29	1,894.23	1,951.50

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
CALAOIL 31	6-10	1,001-2,000	75	21	2,006.37	3,183.70
CALAOIL 32	6-10	2,001-5,000	46	11	2,038.97	4,551.50
CALAOIL 33	6-10	5,001- Over	10	5	449.97	1,982.90
CALAOIL 34	10+	0- 60	3	1	11.50	1.00
CALAOIL 35	10+	61- 100	1	1	2.40	2.40
CALAOIL 36	10+	101- 200	6	6	4.67	30.67
CALAOIL 37	10+	201- 300	4	4	9.43	22.40
CALAOIL 38	10+	301- 400	9	6	138.80	74.40
CALAOIL 39	10+	401- 500	5	5	111.77	62.10
CALAOIL 40	10+	501- 600	5	4	59.23	67.57
CALAOIL 41	10+	601-1,000	7	5	202.73	138.60
CALAOIL 42	10+	1,001-2,000	7	6	226.40	339.47
CALAOIL 43	10+	2,001-5,000	8	4	417.00	749.67
CALAOIL 44	10+	5,001- Over	1	1	255.63	225.73
California-San Jose Basin						
CASJOIL 1	0-2	0- 60	3812	77	520.23	2,968.03
CASJOIL 2	0-2	61- 100	2369	56	743.10	5,237.23
CASJOIL 3	0-2	101- 200	4493	54	1,963.40	19,634.90
CASJOIL 4	0-2	201- 300	3091	45	1,703.93	23,541.70
CASJOIL 5	0-2	301- 400	2474	32	1,770.13	26,934.10
CASJOIL 6	0-2	401- 500	2050	34	1,639.00	28,980.40
CASJOIL 7	0-2	501- 600	1541	24	1,715.33	26,846.50
CASJOIL 8	0-2	601-1,000	3920	31	4,760.87	96,300.23
CASJOIL 9	0-2	1,001-2,000	2971	24	9,799.00	127,933.63
CASJOIL 10	0-2	2,001-5,000	1137	20	21,738.57	102,768.57
CASJOIL 11	0-2	5,001- Over	266	9	110,704.47	61,404.97
CASJOIL 12	2-6	0- 60	1280	57	985.90	999.33
CASJOIL 13	2-6	61- 100	865	52	1,736.33	1,862.63
CASJOIL 14	2-6	101- 200	1400	55	7,310.10	5,482.23
CASJOIL 15	2-6	201- 300	830	53	8,410.87	5,453.63
CASJOIL 16	2-6	301- 400	447	40	6,593.17	4,038.97
CASJOIL 17	2-6	401- 500	303	31	6,641.60	3,468.57
CASJOIL 18	2-6	501- 600	254	26	6,752.80	3,595.77
CASJOIL 19	2-6	601-1,000	660	27	29,171.67	12,579.37

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
CASJOIL 20	2-6	1,001-2,000	520	24	35,959.97	16,932.00
CASJOIL 21	2-6	2,001-5,000	295	14	28,730.93	18,800.80
CASJOIL 22	2-6	5,001- Over	38	7	18,777.40	6,337.57
CASJOIL 23	6-10	0- 60	74	37	29.10	47.93
CASJOIL 24	6-10	61- 100	49	20	183.33	82.57
CASJOIL 25	6-10	101- 200	144	39	796.57	476.60
CASJOIL 26	6-10	201- 300	97	39	1,487.23	529.43
CASJOIL 27	6-10	301- 400	69	27	1,363.60	548.13
CASJOIL 28	6-10	401- 500	53	26	1,669.13	557.60
CASJOIL 29	6-10	501- 600	40	21	1,499.47	469.27
CASJOIL 30	6-10	601-1,000	112	18	9,722.03	1,802.73
CASJOIL 31	6-10	1,001-2,000	132	20	24,153.97	3,472.83
CASJOIL 32	6-10	2,001-5,000	143	17	71,093.53	8,207.40
CASJOIL 33	6-10	5,001- Over	147	6	195,646.73	46,313.93
CASJOIL 34	10+	0- 60	21	15	8.97	5.90
CASJOIL 35	10+	61- 100	10	10	21.43	16.10
CASJOIL 36	10+	101- 200	16	9	88.87	58.83
CASJOIL 37	10+	201- 300	29	15	317.80	160.43
CASJOIL 38	10+	301- 400	16	11	111.03	124.33
CASJOIL 39	10+	401- 500	10	9	367.57	84.97
CASJOIL 40	10+	501- 600	17	11	398.53	261.17
CASJOIL 41	10+	601-1,000	38	18	968.70	786.50
CASJOIL 42	10+	1,001-2,000	34	15	2,484.67	1,253.27
CASJOIL 43	10+	2,001-5,000	44	12	3,552.93	4,144.37
CASJOIL 44	10+	5,001- Over	36	5	7,009.67	17,150.97
Colorado						
COOIL 1	0-2	0- 60	129	16	27.93	84.53
COOIL 2	0-2	61- 100	22	13	42.17	49.13
COOIL 3	0-2	101- 200	81	23	53.87	356.40
COOIL 4	0-2	201- 300	27	14	68.73	190.63
COOIL 5	0-2	301- 400	28	4	17.73	333.57
COOIL 6	0-2	401- 500	16	7	103.70	206.53
COOIL 7	0-2	501- 600	7	1	0.07	114.30
COOIL 8	0-2	601-1,000	7	4	22.87	148.73

(continued)

APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
COOIL 9	0-2	1,001-2,000	4	3	36.73	184.17
COOIL 10	0-2	2,001-5,000	3	3	262.47	203.23
COOIL 11	2-6	0- 60	429	73	1,499.50	371.27
COOIL 12	2-6	61- 100	840	88	6,572.43	1,406.80
COOIL 13	2-6	101- 200	857	162	9,468.53	2,660.30
COOIL 14	2-6	201- 300	230	92	2,074.53	1,502.47
COOIL 15	2-6	301- 400	148	67	2,344.77	1,347.50
COOIL 16	2-6	401- 500	88	47	391.80	1,141.10
COOIL 17	2-6	501- 600	56	35	756.70	831.57
COOIL 18	2-6	601-1,000	121	52	3,415.87	2,443.47
COOIL 19	2-6	1,001-2,000	129	30	1,656.30	2,591.00
COOIL 20	2-6	2,001-5,000	127	17	5,416.67	10,206.50
COOIL 21	2-6	5,001- Over	39	6	8,031.40	6,169.97
COOIL 22	6-10	0- 60	270	93	919.70	170.40
COOIL 23	6-10	61- 100	407	89	3,349.77	649.10
COOIL 24	6-10	101- 200	975	129	18,818.13	2,432.77
COOIL 25	6-10	201- 300	418	85	14,182.10	1,634.30
COOIL 26	6-10	301- 400	146	51	6,468.87	852.53
COOIL 27	6-10	401- 500	101	39	5,963.23	761.77
COOIL 28	6-10	501- 600	44	25	2,357.63	388.53
COOIL 29	6-10	601-1,000	98	45	6,765.77	1,559.50
COOIL 30	6-10	1,001-2,000	76	23	7,984.73	2,289.20
COOIL 31	6-10	2,001-5,000	430	13	16,352.83	33,830.30
COOIL 32	6-10	5,001- Over	10	5	1,247.17	2,107.37
Florida						
FLOIL 1	0-2	601-1,000	1	1	3.07	25.43
FLOIL 2	0-2	1,001-2,000	1	2	65.40	58.17
FLOIL 3	0-2	2,001-5,000	1	1	9.80	103.03
FLOIL 4	0-2	5,001- Over	1	1	834.57	704.90
FLOIL 5	10+	61- 100	1	1	32.17	3.33
FLOIL 6	10+	101- 200	1	1	42.17	6.67
FLOIL 7	10+	201- 300	3	1	22.20	22.20
FLOIL 8	10+	301- 400	4	4	65.47	16.67
FLOIL 9	10+	501- 600	2	3	34.43	32.80

(continued)

APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
FLOIL 10	10+	601-1,000	7	4	107.20	89.23
FLOIL 11	10+	1,001-2,000	19	10	550.03	693.73
FLOIL 12	10+	2,001-5,000	39	13	1,984.73	3,422.67
FLOIL 13	10+	5,001- Over	44	8	20,896.33	15,087.57
Illinois						
ILOIL 1	0-2	0- 60	5424	132	0.00	937.07
ILOIL 2	0-2	61- 100	5421	250	0.00	2,275.20
ILOIL 3	0-2	101- 200	14865	433	0.00	12,122.03
ILOIL 4	0-2	201- 300	3006	217	0.00	6,760.17
ILOIL 5	0-2	301- 400	1146	127	0.00	3,960.70
ILOIL 6	0-2	401- 500	630	88	0.00	2,966.17
ILOIL 7	0-2	501- 600	426	59	0.00	2,504.30
ILOIL 8	0-2	601-1,000	708	91	0.00	5,807.33
ILOIL 9	0-2	1,001-2,000	462	57	0.00	6,916.80
ILOIL 10	0-2	2,001-5,000	210	25	0.00	6,499.63
ILOIL 11	0-2	5,001- Over	51	12	0.00	5,835.70
Indiana						
INOIL 1	0-2	0- 60	1205	70	0.00	202.17
INOIL 2	0-2	61- 100	1894	135	0.00	683.73
INOIL 3	0-2	101- 200	3062	188	0.00	2,394.47
INOIL 4	0-2	201- 300	677	88	0.00	1,402.87
INOIL 5	0-2	301- 400	274	45	0.00	851.43
INOIL 6	0-2	401- 500	155	31	0.00	658.17
INOIL 7	0-2	501- 600	73	16	0.00	387.33
INOIL 8	0-2	601-1,000	119	26	0.00	901.87
INOIL 9	0-2	1,001-2,000	66	14	0.00	874.80
INOIL 10	0-2	2,001-5,000	17	6	0.00	486.60
INOIL 11	0-2	5,001- Over	7	3	0.00	350.93
Kansas						
KSOIL 1	0-2	0- 60	11041	385	0.00	6,667.47
KSOIL 2	0-2	61- 100	2824	385	0.00	5,559.90
KSOIL 3	0-2	101- 200	2204	691	0.00	8,269.37
KSOIL 4	0-2	201- 300	833	249	0.00	5,269.77
KSOIL 5	0-2	301- 400	219	103	0.00	1,873.87

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
KSOIL 6	0-2	401- 500	125	67	0.00	1,430.70
KSOIL 7	0-2	501- 600	74	40	0.00	1,025.37
KSOIL 8	0-2	601-1,000	93	56	0.00	1,761.77
KSOIL 9	0-2	1,001-2,000	69	44	0.00	2,517.87
KSOIL 10	0-2	2,001-5,000	11	10	0.00	637.70
KSOIL 11	0-2	5,001- Over	4	3	0.00	1,053.67
KSOIL 12	2-6	0- 60	7001	565	0.00	7,051.93
KSOIL 13	2-6	61- 100	6754	989	0.00	13,896.93
KSOIL 14	2-6	101- 200	8015		0.00	29,623.00
KSOIL 15	2-6	201- 300	2524	893	0.00	15,720.63
KSOIL 16	2-6	301- 400	955	373	0.00	8,413.90
KSOIL 17	2-6	401- 500	508	206	0.00	5,930.70
KSOIL 18	2-6	501- 600	292	147	0.00	4,034.57
KSOIL 19	2-6	601-1,000	556	234	0.00	10,691.93
KSOIL 20	2-6	1,001-2,000	320	153	0.00	10,400.10
KSOIL 21	2-6	2,001-5,000	107	69	0.00	7,183.67
KSOIL 22	2-6	5,001- Over	21	12	0.00	4,623.77
KSOIL 23	6-10	0- 60	15	10	0.00	2.43
KSOIL 24	6-10	61- 100	10	8	0.00	4.97
KSOIL 25	6-10	101- 200	137	45	0.00	285.50
KSOIL 26	6-10	201- 300	66	30	0.00	327.23
KSOIL 27	6-10	301- 400	25	18	0.00	197.07
KSOIL 28	6-10	401- 500	15	11	0.00	175.30
KSOIL 29	6-10	501- 600	6	5	0.00	74.93
KSOIL 30	6-10	601-1,000	21	10	0.00	397.93
KSOIL 31	6-10	1,001-2,000	16	7	0.00	545.40
KSOIL 32	6-10	2,001-5,000	10	6	0.00	704.97
KSOIL 33	10+	61- 100	5	1	0.00	10.87
Kentucky						
KYOIL 1	0-2	0- 60	4495	95	0.00	328.67
KYOIL 2	0-2	61- 100	8494	243	0.00	1,605.87
KYOIL 3	0-2	101- 200	5828	227	0.00	3,071.80
KYOIL 4	0-2	201- 300	1181	83	0.00	1,592.67
KYOIL 5	0-2	301- 400	502	38	0.00	1,047.70

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
KYOIL 6	0-2	401- 500	185	20	0.00	512.77
KYOIL 7	0-2	501- 600	119	17	0.00	402.67
KYOIL 8	0-2	601-1,000	264	26	0.00	1,183.43
KYOIL 9	0-2	1,001-2,000	231	23	0.00	1,876.80
KYOIL 10	0-2	2,001-5,000	86	7	0.00	1,772.30
KYOIL 11	0-2	5,001- Over	33	3	0.00	1,646.60
Louisiana-North						
LANOIL 1	0-2	0- 60	9725	37	516.63	5,964.77
LANOIL 2	0-2	61- 100	531	23	115.93	1,310.47
LANOIL 3	0-2	101- 200	455	32	118.50	1,838.93
LANOIL 4	0-2	201- 300	101	15	13.77	646.73
LANOIL 5	0-2	301- 400	40	14	31.33	396.87
LANOIL 6	0-2	401- 500	14	8	0.87	159.30
LANOIL 7	0-2	501- 600	16	8	23.33	215.53
LANOIL 8	0-2	601-1,000	27	12	30.10	481.80
LANOIL 9	0-2	1,001-2,000	17	15	70.90	442.43
LANOIL 10	0-2	2,001-5,000	6	6	64.30	265.43
LANOIL 11	0-2	5,001- Over	3	4	888.80	699.23
LANOIL 12	2-6	0- 60	2117	90	537.87	1,542.00
LANOIL 13	2-6	61- 100	452	74	656.03	1,121.57
LANOIL 14	2-6	101- 200	588	111	2,103.80	2,486.03
LANOIL 15	2-6	201- 300	341	86	1,784.33	2,321.10
LANOIL 16	2-6	301- 400	231	66	1,837.90	2,469.70
LANOIL 17	2-6	401- 500	153	60	2,503.53	1,954.60
LANOIL 18	2-6	501- 600	116	41	1,327.70	1,885.20
LANOIL 19	2-6	601-1,000	267	59	4,715.50	5,932.00
LANOIL 20	2-6	1,001-2,000	234	54	5,698.23	9,625.67
LANOIL 21	2-6	2,001-5,000	81	25	4,699.90	6,000.83
LANOIL 22	2-6	5,001- Over	2	1	88.30	346.13
LANOIL 23	6-10	0- 60	66	40	45.07	38.07
LANOIL 24	6-10	61- 100	41	26	87.20	85.70
LANOIL 25	6-10	101- 200	117	50	634.50	446.53
LANOIL 26	6-10	201- 300	76	44	772.63	521.50
LANOIL 27	6-10	301- 400	60	43	580.60	584.83

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
LANOIL 28	6-10	401- 500	57	37	1,113.20	656.93
LANOIL 29	6-10	501- 600	30	21	1,476.00	376.60
LANOIL 30	6-10	601-1,000	55	33	1,860.83	1,192.63
LANOIL 31	6-10	1,001-2,000	69	40	4,107.27	2,346.67
LANOIL 32	6-10	2,001-5,000	31	14	7,121.90	2,093.67
LANOIL 33	6-10	5,001- Over	19	1	55,878.43	514.30
LANOIL 34	10+	0- 60	8	7	15.20	3.87
LANOIL 35	10+	61- 100	4	5	24.37	7.33
LANOIL 36	10+	101- 200	15	12	57.97	51.20
LANOIL 37	10+	201- 300	11	6	341.80	58.20
LANOIL 38	10+	301- 400	17	11	230.17	143.23
LANOIL 39	10+	401- 500	13	9	505.57	132.07
Louisiana-South						
LASOIL 1	0-2	0- 60	169	20	23.47	223.20
LASOIL 2	0-2	61- 100	90	20	1.47	197.10
LASOIL 3	0-2	101- 200	110	27	61.70	416.33
LASOIL 4	0-2	201- 300	44	18	100.60	270.30
LASOIL 5	0-2	301- 400	36	14	129.80	303.57
LASOIL 6	0-2	401- 500	37	14	114.00	393.67
LASOIL 7	0-2	501- 600	25	11	130.93	322.70
LASOIL 8	0-2	601-1,000	42	17	433.73	729.10
LASOIL 9	0-2	1,001-2,000	68	23	1,268.17	2,184.70
LASOIL 10	0-2	2,001-5,000	21	13	970.87	1,504.47
LASOIL 11	0-2	5,001- Over	12	11	1,562.90	1,753.50
LASOIL 12	2-6	0- 60	187	36	10.47	147.77
LASOIL 13	2-6	61- 100	121	35	74.13	240.20
LASOIL 14	2-6	101- 200	223	50	206.97	850.83
LASOIL 15	2-6	201- 300	164	47	412.33	1,029.73
LASOIL 16	2-6	301- 400	149	50	750.87	1,294.03
LASOIL 17	2-6	401- 500	107	42	714.43	1,339.40
LASOIL 18	2-6	501- 600	94	38	715.17	1,466.40
LASOIL 19	2-6	601-1,000	220	67	2,529.87	4,642.33
LASOIL 20	2-6	1,001-2,000	191	60	3,652.63	7,010.57
LASOIL 21	2-6	2,001-5,000	115	41	3,577.70	8,723.50

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
LASOIL 22	2-6	5,001- Over	26	16	1,775.90	3,741.90
LASOIL 23	6-10	0- 60	100	57	49.03	69.30
LASOIL 24	6-10	61- 100	60	42	76.13	96.33
LASOIL 25	6-10	101- 200	158	96	562.07	546.40
LASOIL 26	6-10	201- 300	186	106	1,023.73	1,140.93
LASOIL 27	6-10	301- 400	179	93	1,738.53	1,585.57
LASOIL 28	6-10	401- 500	176	92	2,176.73	2,056.20
LASOIL 29	6-10	501- 600	177	96	2,670.77	2,628.87
LASOIL 30	6-10	601-1,000	526	157	12,262.53	10,709.57
LASOIL 31	6-10	1,001-2,000	574	154	25,215.57	22,136.90
LASOIL 32	6-10	2,001-5,000	376	123	35,752.47	29,837.23
LASOIL 33	6-10	5,001- Over	122	55	26,934.57	23,851.47
LASOIL 34	10+	0- 60	52	37	22.57	21.20
LASOIL 35	10+	61- 100	21	18	65.30	32.27
LASOIL 36	10+	101- 200	98	60	503.93	335.57
LASOIL 37	10+	201- 300	84	51	892.90	546.63
LASOIL 38	10+	301- 400	85	57	1,173.73	711.20
LASOIL 39	10+	401- 500	66	47	1,135.70	673.80
LASOIL 40	10+	501- 600	72	48	1,707.90	1,101.23
LASOIL 41	10+	601-1,000	198	94	5,890.77	4,294.00
LASOIL 42	10+	1,001-2,000	294	121	18,507.50	11,376.27
LASOIL 43	10+	2,001-5,000	284	132	44,269.97	22,691.10
LASOIL 44	10+	5,001- Over	137	58	63,689.80	39,835.23
Michigan						
MIOIL 1	0-2	0- 60	5	1	33.33	22.77
MIOIL 2	0-2	101- 200	5	1	51.30	52.07
MIOIL 3	0-2	301- 400	6	2	50.00	28.93
MIOIL 4	0-2	401- 500	3	1	51.20	13.13
MIOIL 5	0-2	501- 600	3	1	129.37	8.70
MIOIL 6	0-2	601-1,000	17	7	462.50	106.93
MIOIL 7	0-2	1,001-2,000	6	3	603.33	30.63
MIOIL 8	0-2	2,001-5,000	3	2	200.00	123.43
MIOIL 9	2-6	0- 60	1763	21	9,849.33	337.93
MIOIL 10	2-6	61- 100	302	22	4,107.30	520.93

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
MIOIL 11	2-6	101- 200	411	35	8,838.43	2,433.10
MIOIL 12	2-6	201- 300	400	33	8,329.53	5,354.17
MIOIL 13	2-6	301- 400	203	32	2,121.93	747.43
MIOIL 14	2-6	401- 500	84	20	1,004.13	385.77
MIOIL 15	2-6	501- 600	122	19	2,047.67	632.13
MIOIL 16	2-6	601-1,000	238	38	7,649.03	1,712.43
MIOIL 17	2-6	1,001-2,000	377	38	26,107.70	4,454.93
MIOIL 18	2-6	2,001-5,000	418	34	47,635.77	13,091.47
MIOIL 19	2-6	5,001- Over	99	19	8,042.33	8,148.80
MIOIL 20	6-10	0- 60	31	4	115.80	13.83
MIOIL 21	6-10	61- 100	31	6	217.70	83.37
MIOIL 22	6-10	101- 200	99	15	1,838.03	563.63
MIOIL 23	6-10	201- 300	99	12	2,286.97	1,339.97
MIOIL 24	6-10	301- 400	81	18	1,229.37	235.00
MIOIL 25	6-10	401- 500	41	12	953.27	141.57
MIOIL 26	6-10	501- 600	26	10	524.90	138.07
MIOIL 27	6-10	601-1,000	128	24	5,591.67	745.27
MIOIL 28	6-10	1,001-2,000	305	24	23,546.63	3,598.10
MIOIL 29	6-10	2,001-5,000	229	21	34,071.67	6,265.53
MIOIL 30	6-10	5,001- Over	41	13	8,594.57	2,886.23
MIOIL 31	10+	2,001-5,000	3	2	666.67	173.77
MIOIL 32	10+	5,001- Over	6	2	871.00	356.00
Missouri						
MOOIL 1	0-2	0- 60	807	0	11.10	377.77
Mississippi						
MSOIL 1	0-2	0- 60	18	8	0.67	2.37
MSOIL 2	0-2	61- 100	14	9	24.80	8.87
MSOIL 3	0-2	101- 200	18	10	2.47	47.00
MSOIL 4	0-2	201- 300	46	18	18.30	217.37
MSOIL 5	0-2	301- 400	18	11	4.73	121.07
MSOIL 6	0-2	401- 500	37	13	145.27	279.60
MSOIL 7	0-2	501- 600	27	12	57.40	237.07
MSOIL 8	0-2	601-1,000	50	18	505.67	705.60
MSOIL 9	0-2	1,001-2,000	73	22	1,933.57	1,847.80

(continued)

APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
MSOIL 10	0-2	2,001-5,000	38	12	1,888.70	2,209.67
MSOIL 11	0-2	5,001- Over	5	3	0.00	549.00
MSOIL 12	2-6	0- 60	66	19	9.67	19.13
MSOIL 13	2-6	61- 100	55	22	32.37	57.27
MSOIL 14	2-6	101- 200	146	47	77.83	359.63
MSOIL 15	2-6	201- 300	142	40	118.77	663.40
MSOIL 16	2-6	301- 400	111	32	185.40	792.13
MSOIL 17	2-6	401- 500	98	24	333.20	845.27
MSOIL 18	2-6	501- 600	62	22	36.03	701.63
MSOIL 19	2-6	601-1,000	157	44	947.90	2,389.70
MSOIL 20	2-6	1,001-2,000	131	34	873.07	3,681.27
MSOIL 21	2-6	2,001-5,000	50	9	731.87	3,069.73
MSOIL 22	6-10	0- 60	47	30	1.70	11.60
MSOIL 23	6-10	61- 100	35	18	18.80	32.17
MSOIL 24	6-10	101- 200	128	58	40.33	308.53
MSOIL 25	6-10	201- 300	117	53	107.23	531.87
MSOIL 26	6-10	301- 400	120	46	222.80	780.57
MSOIL 27	6-10	401- 500	93	31	323.60	811.40
MSOIL 28	6-10	501- 600	72	28	306.10	780.20
MSOIL 29	6-10	601-1,000	250	53	1,555.03	3,823.10
MSOIL 30	6-10	1,001-2,000	181	42	1,844.03	4,905.97
MSOIL 31	6-10	2,001-5,000	133	25	3,086.10	7,858.73
MSOIL 32	6-10	5,001- Over	6	3	232.97	523.00
MSOIL 33	10+	0- 60	58	27	5.87	15.23
MSOIL 34	10+	61- 100	18	13	12.13	16.53
MSOIL 35	10+	101- 200	43	24	46.93	100.63
MSOIL 36	10+	201- 300	49	26	73.70	187.67
MSOIL 37	10+	301- 400	67	34	146.30	373.13
MSOIL 38	10+	401- 500	76	42	377.77	608.43
MSOIL 39	10+	501- 600	61	33	139.87	651.90
MSOIL 40	10+	601-1,000	175	65	1,139.97	2,591.03
MSOIL 41	10+	1,001-2,000	198	60	2,805.10	5,534.23
MSOIL 42	10+	2,001-5,000	194	56	11,177.97	11,524.77
MSOIL 43	10+	5,001- Over	105	34	12,424.30	14,861.27

(continued)

APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
Montana						
MTOIL 1	0-2	0- 60	1070	17	89.67	740.17
MTOIL 2	0-2	61- 100	227	14	72.40	462.83
MTOIL 3	0-2	101- 200	142	16	235.43	496.00
MTOIL 4	0-2	201- 300	28	9	87.10	131.97
MTOIL 5	0-2	301- 400	8	5	116.83	78.70
MTOIL 6	0-2	501- 600	1	1	0.00	17.93
MTOIL 7	0-2	601-1,000	5	4	82.73	105.17
MTOIL 8	0-2	1,001-2,000	2	3	207.57	56.33
MTOIL 9	0-2	2,001-5,000	1	1	76.73	108.00
MTOIL 10	2-6	0- 60	550	53	41.13	488.37
MTOIL 11	2-6	61- 100	281	36	34.93	639.40
MTOIL 12	2-6	101- 200	364	61	355.47	1,496.57
MTOIL 13	2-6	201- 300	174	46	404.77	1,262.20
MTOIL 14	2-6	301- 400	87	28	155.80	922.97
MTOIL 15	2-6	401- 500	72	26	292.87	1,015.67
MTOIL 16	2-6	501- 600	39	20	74.37	686.73
MTOIL 17	2-6	601-1,000	89	29	531.53	2,236.70
MTOIL 18	2-6	1,001-2,000	58	21	395.07	2,538.87
MTOIL 19	2-6	2,001-5,000	25	12	616.93	2,341.37
MTOIL 20	2-6	5,001- Over	1	1	68.77	164.90
MTOIL 21	6-10	0- 60	19	15	1.60	6.23
MTOIL 22	6-10	61- 100	19	16	11.27	32.67
MTOIL 23	6-10	101- 200	70	35	86.47	260.13
MTOIL 24	6-10	201- 300	85	44	212.27	609.87
MTOIL 25	6-10	301- 400	104	41	534.00	1,106.80
MTOIL 26	6-10	401- 500	71	39	294.97	1,003.30
MTOIL 27	6-10	501- 600	70	40	426.33	1,203.27
MTOIL 28	6-10	601-1,000	209	54	2,031.60	5,159.87
MTOIL 29	6-10	1,001-2,000	222	38	3,230.10	9,870.70
MTOIL 30	6-10	2,001-5,000	88	23	2,631.17	7,623.70
MTOIL 31	6-10	5,001- Over	7	6	293.17	1,284.30
MTOIL 32	10+	0- 60	9	10	1.13	4.63
MTOIL 33	10+	61- 100	3	3	6.87	4.37

(continued)

APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
MTOIL 34	10+	101- 200	12	12	21.73	46.00
MTOIL 35	10+	201- 300	14	15	40.23	95.47
MTOIL 36	10+	301- 400	18	18	98.13	173.70
MTOIL 37	10+	401- 500	30	27	293.27	376.60
MTOIL 38	10+	501- 600	24	22	331.50	399.70
MTOIL 39	10+	601-1,000	76	46	1,745.60	1,815.37
MTOIL 40	10+	1,001-2,000	106	66	3,837.77	4,466.73
MTOIL 41	10+	2,001-5,000	50	32	3,428.10	4,451.70
MTOIL 42	10+	5,001- Over	14	10	3,231.80	2,217.27
North Dakota						
NDOIL 1	0-2	0- 60	2	2	0.00	0.37
NDOIL 2	0-2	101- 200	4	4	2.10	10.93
NDOIL 3	0-2	201- 300	9	5	117.07	62.27
NDOIL 4	0-2	301- 400	2	1	3.60	22.93
NDOIL 5	0-2	401- 500	2	2	38.57	18.83
NDOIL 6	0-2	501- 600	2	2	22.97	16.60
NDOIL 7	0-2	601-1,000	3	2	11.43	60.67
NDOIL 8	0-2	1,001-2,000	5	6	20.30	66.33
NDOIL 9	0-2	2,001-5,000	6	6	196.10	520.43
NDOIL 10	0-2	5,001- Over	6	6	640.97	995.60
NDOIL 11	2-6	0- 60	84	46	44.27	78.13
NDOIL 12	2-6	61- 100	103	43	74.23	241.23
NDOIL 13	2-6	101- 200	289	65	436.33	1,299.13
NDOIL 14	2-6	201- 300	207	55	705.17	1,566.60
NDOIL 15	2-6	301- 400	95	32	354.37	1,056.33
NDOIL 16	2-6	401- 500	54	24	113.10	759.73
NDOIL 17	2-6	501- 600	53	23	310.57	916.17
NDOIL 18	2-6	601-1,000	72	24	255.67	1,692.87
NDOIL 19	2-6	1,001-2,000	46	15	109.10	1,992.97
NDOIL 20	2-6	2,001-5,000	19	9	314.10	1,657.00
NDOIL 21	2-6	5,001- Over	6	5	184.33	1,108.50
NDOIL 22	6-10	0- 60	73	37	39.97	23.00
NDOIL 23	6-10	61- 100	51	25	202.33	59.63
NDOIL 24	6-10	101- 200	133	51	1,221.03	409.23

(continued)

APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
NDOIL 25	6-10	201- 300	194	73	2,323.43	1,253.23
NDOIL 26	6-10	301- 400	177	75	2,444.53	1,643.23
NDOIL 27	6-10	401- 500	136	70	2,133.83	1,743.80
NDOIL 28	6-10	501- 600	115	65	2,069.53	1,839.37
NDOIL 29	6-10	601-1,000	322	98	8,519.37	7,351.93
NDOIL 30	6-10	1,001-2,000	321	81	14,738.37	13,123.53
NDOIL 31	6-10	2,001-5,000	163	50	15,897.07	14,098.87
NDOIL 32	6-10	5,001- Over	46	18	20,293.10	9,926.43
NDOIL 33	10+	0- 60	30	24	30.53	7.00
NDOIL 34	10+	61- 100	12	13	27.70	17.20
NDOIL 35	10+	101- 200	34	28	163.93	113.83
NDOIL 36	10+	201- 300	33	26	234.57	193.37
NDOIL 37	10+	301- 400	38	32	518.90	349.50
NDOIL 38	10+	401- 500	42	36	695.93	500.90
NDOIL 39	10+	501- 600	36	32	923.30	499.33
NDOIL 40	10+	601-1,000	115	67	4,398.97	2,523.60
NDOIL 41	10+	1,001-2,000	193	83	13,360.37	7,596.97
NDOIL 42	10+	2,001-5,000	156	58	21,523.03	12,330.33
NDOIL 43	10+	5,001- Over	69	29	46,475.90	11,876.00
Nebraska						
NEOIL 1	0-2	0- 60	25	12	0.50	32.13
NEOIL 2	0-2	61- 100	49	14	6.30	134.93
NEOIL 3	0-2	101- 200	84	28	165.90	364.97
NEOIL 4	0-2	201- 300	13	7	13.93	104.47
NEOIL 5	0-2	301- 400	10	4	0.00	116.57
NEOIL 6	0-2	501- 600	3	4	0.00	39.63
NEOIL 7	0-2	601-1,000	57	1	0.00	1,843.13
NEOIL 8	0-2	2,001-5,000	1	2	39.67	145.13
NEOIL 9	2-6	0- 60	104	67	24.77	131.30
NEOIL 10	2-6	61- 100	180	77	76.43	486.47
NEOIL 11	2-6	101- 200	380	135	381.53	1,903.60
NEOIL 12	2-6	201- 300	286	74	193.17	2,310.43
NEOIL 13	2-6	301- 400	121	36	361.10	1,281.07
NEOIL 14	2-6	401- 500	25	16	84.60	357.93

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
NEOIL 15	2-6	501- 600	54	12	68.87	1,020.33
NEOIL 16	2-6	601-1,000	23	16	48.60	572.77
NEOIL 17	2-6	1,001-2,000	77	12	65.23	3,384.70
NEOIL 18	2-6	2,001-5,000	5	4	0.00	318.83
NEOIL 19	6-10	0- 60	35	26	10.77	50.43
NEOIL 20	6-10	61- 100	45	29	23.10	117.37
NEOIL 21	6-10	101- 200	97	67	45.17	454.63
NEOIL 22	6-10	201- 300	38	31	88.50	303.37
NEOIL 23	6-10	301- 400	15	14	60.00	162.27
NEOIL 24	6-10	401- 500	9	9	6.87	118.20
NEOIL 25	6-10	501- 600	9	9	5.27	159.90
NEOIL 26	6-10	601-1,000	10	11	49.77	243.00
NEOIL 27	6-10	1,001-2,000	7	7	51.20	273.40
NEOIL 28	6-10	2,001-5,000	8	4	189.77	736.47
NEOIL 29	6-10	5,001- Over	1	1	72.80	221.67
New Mexico						
NMOIL 1	0-2	0- 60	881	93	778.37	594.57
NMOIL 2	0-2	61- 100	240	52	605.93	513.63
NMOIL 3	0-2	101- 200	276	52	1,065.80	1,144.77
NMOIL 4	0-2	201- 300	102	34	305.63	734.53
NMOIL 5	0-2	301- 400	52	24	274.10	518.43
NMOIL 6	0-2	401- 500	35	24	739.93	395.40
NMOIL 7	0-2	501- 600	14	13	565.67	146.40
NMOIL 8	0-2	601-1,000	24	22	965.97	301.53
NMOIL 9	0-2	1,001-2,000	13	13	702.10	209.93
NMOIL 10	0-2	2,001-5,000	11	12	693.97	655.70
NMOIL 11	0-2	5,001- Over	2	2	1,138.83	192.80
NMOIL 12	2-6	0- 60	2424	186	4,115.77	1,877.23
NMOIL 13	2-6	61- 100	1550	173	8,030.80	3,055.83
NMOIL 14	2-6	101- 200	2409	179	27,423.43	8,415.50
NMOIL 15	2-6	201- 300	1256	145	26,772.07	7,168.60
NMOIL 16	2-6	301- 400	729	117	22,602.07	5,874.97
NMOIL 17	2-6	401- 500	456	101	18,856.53	4,615.13
NMOIL 18	2-6	501- 600	302	68	15,637.30	3,662.23

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
NMOIL 19	2-6	601-1,000	655	98	42,880.60	11,097.90
NMOIL 20	2-6	1,001-2,000	417	67	39,434.20	14,102.07
NMOIL 21	2-6	2,001-5,000	213	34	20,413.93	17,644.83
NMOIL 22	2-6	5,001- Over	51	3	5,310.07	11,350.73
NMOIL 23	6-10	0- 60	479	113	1,945.70	221.73
NMOIL 24	6-10	61- 100	321	87	3,058.47	479.63
NMOIL 25	6-10	101- 200	845	120	14,319.67	2,556.23
NMOIL 26	6-10	201- 300	631	111	21,075.57	2,863.57
NMOIL 27	6-10	301- 400	487	98	21,493.30	3,276.43
NMOIL 28	6-10	401- 500	342	88	18,712.67	2,998.77
NMOIL 29	6-10	501- 600	222	72	13,888.27	2,526.53
NMOIL 30	6-10	601-1,000	510	95	47,243.90	7,780.37
NMOIL 31	6-10	1,001-2,000	382	83	46,788.27	12,054.23
NMOIL 32	6-10	2,001-5,000	231	59	38,694.57	16,448.33
NMOIL 33	6-10	5,001- Over	73	17	20,120.20	13,884.27
NMOIL 34	10+	0- 60	76	49	151.23	39.47
NMOIL 35	10+	61- 100	46	31	264.43	79.50
NMOIL 36	10+	101- 200	109	61	1,048.77	364.03
NMOIL 37	10+	201- 300	117	51	2,157.83	666.10
NMOIL 38	10+	301- 400	89	49	2,121.67	756.00
NMOIL 39	10+	401- 500	53	30	1,079.30	626.93
NMOIL 40	10+	501- 600	59	41	1,895.20	798.20
NMOIL 41	10+	601-1,000	138	64	6,001.57	2,738.20
NMOIL 42	10+	1,001-2,000	118	50	6,715.53	4,376.93
NMOIL 43	10+	2,001-5,000	60	33	8,737.60	4,465.53
NMOIL 44	10+	5,001- Over	30	11	8,444.53	6,760.47
Nevada						
NVOIL 1	2-6	101- 200	2	3	0.00	4.57
NVOIL 2	2-6	201- 300	4	3	0.00	33.87
NVOIL 3	2-6	301- 400	6	4	0.00	60.63
NVOIL 4	2-6	401- 500	3	1	0.00	26.07
NVOIL 5	2-6	501- 600	1	1	0.00	19.43
NVOIL 6	2-6	601-1,000	6	3	0.00	155.27
NVOIL 7	2-6	1,001-2,000	5	4	0.00	235.40

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
NVOIL 8	2-6	2,001-5,000	11	4	0.00	1,135.23
NVOIL 9	2-6	5,001- Over	9	5	0.00	7,267.77
New York						
NYOIL 1	0-2	0- 60	3805	N/A	0.00	863.97
NYOIL 2	0-2	61- 100	70	N/A	0.00	146.13
NYOIL 3	0-2	101- 200	49	N/A	0.00	179.00
NYOIL 4	0-2	201- 300	20	N/A	0.00	162.17
NYOIL 5	0-2	601-1,000	6	N/A	0.00	145.03
Ohio						
OHOIL 1	0-2	0- 60	27356	N/A	0.00	11,722.67
OHOIL 2	2-6	61- 100	1424	N/A	0.00	3,511.13
OHOIL 3	2-6	101- 200	841	N/A	0.00	3,929.10
OHOIL 4	2-6	201- 300	374	N/A	0.00	3,395.77
OHOIL 5	2-6	501- 600	154	N/A	0.00	3,076.20
OHOIL 6	2-6	1,001-2,000	45	N/A	0.00	2,751.20
Oklahoma						
OKOIL 1	0-2	0- 60	28981	514	6,130.10	14,132.57
OKOIL 2	0-2	61- 100	5990	453	7,604.33	8,905.77
OKOIL 3	0-2	101- 200	6742	694	15,807.97	18,709.37
OKOIL 4	0-2	201- 300	2612	271	27,232.40	10,845.10
OKOIL 5	0-2	301- 400	928	157	10,788.30	5,708.53
OKOIL 6	0-2	401- 500	356	104	6,913.07	2,696.67
OKOIL 7	0-2	501- 600	215	63	5,101.77	1,984.67
OKOIL 8	0-2	601-1,000	401	80	14,083.57	5,176.33
OKOIL 9	0-2	1,001-2,000	171	43	8,669.53	3,734.70
OKOIL 10	0-2	2,001-5,000	65	17	8,480.77	3,967.63
OKOIL 11	2-6	0- 60	7618	480	7,213.00	4,620.70
OKOIL 12	2-6	61- 100	5631	529	10,941.07	8,228.37
OKOIL 13	2-6	101- 200	7341	884	27,160.73	19,611.37
OKOIL 14	2-6	201- 300	2763	461	21,579.57	12,102.60
OKOIL 15	2-6	301- 400	2058	265	13,968.10	13,669.33
OKOIL 16	2-6	401- 500	2179	173	9,767.73	20,633.57
OKOIL 17	2-6	501- 600	401	109	6,176.83	3,962.33
OKOIL 18	2-6	601-1,000	1135	151	25,833.57	15,867.40

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
OKOIL 19	2-6	1,001-2,000	411	110	13,864.33	10,290.30
OKOIL 20	2-6	2,001-5,000	151	45	19,590.67	7,389.10
OKOIL 21	2-6	5,001- Over	34	13	4,423.87	3,720.73
OKOIL 22	6-10	0- 60	1744	147	7,406.00	551.53
OKOIL 23	6-10	61- 100	1978	153	18,072.63	1,541.33
OKOIL 24	6-10	101- 200	5442	352	84,083.67	8,815.57
OKOIL 25	6-10	201- 300	3076	267	83,240.47	7,986.80
OKOIL 26	6-10	301- 400	1756	181	61,732.17	6,832.63
OKOIL 27	6-10	401- 500	1045	138	45,540.30	5,628.17
OKOIL 28	6-10	501- 600	704	109	39,961.50	4,238.90
OKOIL 29	6-10	601-1,000	1330	149	90,218.90	12,456.63
OKOIL 30	6-10	1,001-2,000	934	91	84,621.93	17,596.13
OKOIL 31	6-10	2,001-5,000	294	57	58,906.73	9,896.50
OKOIL 32	6-10	5,001- Over	50	16	21,552.97	5,527.10
OKOIL 33	10+	0- 60	47	25	215.63	9.87
OKOIL 34	10+	61- 100	87	31	616.90	62.17
OKOIL 35	10+	101- 200	355	90	3,088.33	524.63
OKOIL 36	10+	201- 300	247	75	4,626.53	759.97
OKOIL 37	10+	301- 400	196	54	5,262.33	932.07
OKOIL 38	10+	401- 500	145	39	5,375.67	823.00
OKOIL 39	10+	501- 600	113	34	6,301.57	697.07
OKOIL 40	10+	601-1,000	282	56	18,881.97	2,791.87
OKOIL 41	10+	1,001-2,000	271	44	21,834.70	5,614.13
OKOIL 42	10+	2,001-5,000	79	24	19,129.67	2,313.10
OKOIL 43	10+	5,001- Over	44	12	35,422.70	4,368.17
Pennsylvania						
PAOIL 1	0-2	0- 60	26702	N/A	0.00	5,066.90
PAOIL 2	0-2	61- 100	337	N/A	0.00	897.87
PAOIL 3	0-2	101- 200	139	N/A	0.00	813.37
PAOIL 4	0-2	501- 600	40	N/A	0.00	727.43
South Dakota						
SDOIL 1	0-2	101- 200	2	1	0.00	8.73
SDOIL 2	0-2	201- 300	2	1	0.00	14.90
SDOIL 3	0-2	1,001-2,000	2	2	0.00	44.50

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
SDOIL 4	0-2	2,001-5,000	1	1	0.00	116.57
SDOIL 5	2-6	101- 200	3	4	16.27	14.30
SDOIL 6	2-6	201- 300	2	3	3.40	16.03
SDOIL 7	2-6	401- 500	2	3	22.20	28.93
SDOIL 8	2-6	501- 600	6	6	24.80	104.87
SDOIL 9	2-6	601-1,000	3	4	20.70	89.80
SDOIL 10	2-6	1,001-2,000	1	1	17.83	35.10
SDOIL 11	2-6	2,001-5,000	4	3	871.77	322.33
SDOIL 12	2-6	5,001- Over	1	1	226.63	175.07
SDOIL 13	6-10	0- 60	1	1	0.27	0.23
SDOIL 14	6-10	61- 100	1	1	0.00	2.50
SDOIL 15	6-10	101- 200	2	3	0.50	7.87
SDOIL 16	6-10	201- 300	16	7	10.03	124.50
SDOIL 17	6-10	301- 400	14	8	20.43	158.63
SDOIL 18	6-10	401- 500	4	3	0.00	59.30
SDOIL 19	6-10	501- 600	12	4	12.67	217.23
SDOIL 20	6-10	601-1,000	37	8	50.43	989.17
SDOIL 21	6-10	1,001-2,000	42	5	1.60	1,893.77
SDOIL 22	6-10	2,001-5,000	3	1	0.00	167.00
Tennessee						
TNOIL 1	0-2	0- 60	489	N/A	0.00	431.90
TNOIL 2	0-2	61- 100	57	N/A	0.00	178.37
TNOIL 3	0-2	101- 200	22	N/A	0.00	107.13
TNOIL 4	0-2	201- 300	18	N/A	0.00	135.87
TNOIL 5	0-2	301- 400	13	N/A	0.00	144.30
TNOIL 6	0-2	501- 600	9	N/A	0.00	176.77
TNOIL 7	0-2	1,001-2,000	4	N/A	0.00	160.13
TNOIL 8	0-2	2,001-5,000	1	N/A	0.00	143.23
Texas-Gulf Coast						
TXGCOIL 1	0-2	0- 60	14856	227	810.87	6,062.03
TXGCOIL 2	0-2	61- 100	839	101	657.50	2,147.73
TXGCOIL 3	0-2	101- 200	1328	83	2,008.73	6,604.17
TXGCOIL 4	0-2	201- 300	474	53	789.90	3,690.67
TXGCOIL 5	0-2	301- 400	165	27	644.27	1,910.50

(continued)

APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
TXGCOIL 6	0-2	401- 500	163	7	1,233.37	2,285.90
TXGCOIL 7	0-2	501- 600	837	11	4,776.50	15,001.83
TXGCOIL 8	0-2	601-1,000	609	18	4,698.57	13,453.53
TXGCOIL 9	0-2	1,001-2,000	17	11	404.37	635.57
TXGCOIL 10	0-2	2,001-5,000	1	1	373.03	77.30
TXGCOIL 11	2-6	0- 60	9344	571	6,719.93	7,805.00
TXGCOIL 12	2-6	61- 100	2451	358	6,473.43	6,073.80
TXGCOIL 13	2-6	101- 200	4857	569	15,404.20	22,642.10
TXGCOIL 14	2-6	201- 300	2319	416	16,282.30	18,119.00
TXGCOIL 15	2-6	301- 400	1487	300	14,038.17	16,581.17
TXGCOIL 16	2-6	401- 500	1326	205	16,091.33	18,698.47
TXGCOIL 17	2-6	501- 600	1330	142	15,457.40	23,455.53
TXGCOIL 18	2-6	601-1,000	2470	261	40,689.43	57,393.60
TXGCOIL 19	2-6	1,001-2,000	1991	182	233,150.53	78,840.43
TXGCOIL 20	2-6	2,001-5,000	379	64	134,278.20	27,913.43
TXGCOIL 21	2-6	5,001- Over	11	7	742.10	2,130.30
TXGCOIL 22	6-10	0- 60	920	336	1,149.20	711.90
TXGCOIL 23	6-10	61- 100	612	235	2,712.43	1,307.17
TXGCOIL 24	6-10	101- 200	1535	434	14,052.73	6,124.43
TXGCOIL 25	6-10	201- 300	1162	341	20,082.63	7,667.80
TXGCOIL 26	6-10	301- 400	946	308	22,867.23	9,031.33
TXGCOIL 27	6-10	401- 500	843	249	28,478.20	10,079.70
TXGCOIL 28	6-10	501- 600	617	191	26,189.63	9,045.90
TXGCOIL 29	6-10	601-1,000	1249	322	78,855.30	25,064.70
TXGCOIL 30	6-10	1,001-2,000	1080	264	116,647.70	37,938.33
TXGCOIL 31	6-10	2,001-5,000	492	145	139,729.73	34,415.50
TXGCOIL 32	6-10	5,001- Over	115	28	39,580.93	30,841.67
TXGCOIL 33	10+	0- 60	137	35	378.97	76.37
TXGCOIL 34	10+	61- 100	84	29	686.53	148.03
TXGCOIL 35	10+	101- 200	149	51	2,438.03	463.57
TXGCOIL 36	10+	201- 300	95	34	2,703.63	482.67
TXGCOIL 37	10+	301- 400	86	34	3,562.97	620.87
TXGCOIL 38	10+	401- 500	43	23	2,244.47	413.23
TXGCOIL 39	10+	501- 600	35	14	2,716.13	349.27

(continued)

APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
TXGCOIL 40	10+	601-1,000	115	34	11,308.83	1,889.13
TXGCOIL 41	10+	1,001-2,000	99	35	17,638.00	2,495.93
TXGCOIL 42	10+	2,001-5,000	44	18	14,699.93	2,330.40
TXGCOIL 43	10+	5,001- Over	5	5	4,752.83	333.73
Texas-North						
TXNOIL 1	0-2	0- 60	24154	324	8,155.87	14,697.57
TXNOIL 2	0-2	61- 100	2170	129	3,361.73	5,213.67
TXNOIL 3	0-2	101- 200	1406	119	3,867.60	6,088.77
TXNOIL 4	0-2	201- 300	474	57	3,124.40	3,125.57
TXNOIL 5	0-2	301- 400	93	31	125.13	996.13
TXNOIL 6	0-2	401- 500	39	15	330.57	516.03
TXNOIL 7	0-2	501- 600	15	8	134.07	252.17
TXNOIL 8	0-2	601-1,000	10	7	117.27	233.10
TXNOIL 9	0-2	1,001-2,000	2	3	3.87	72.27
TXNOIL 10	2-6	0- 60	11809		29,635.17	9,019.07
TXNOIL 11	2-6	61- 100	5331	913	35,910.47	10,659.43
TXNOIL 12	2-6	101- 200	5523		71,697.70	19,463.37
TXNOIL 13	2-6	201- 300	2233	559	41,825.13	14,511.50
TXNOIL 14	2-6	301- 400	901	313	28,284.77	7,728.80
TXNOIL 15	2-6	401- 500	593	207	17,502.63	7,173.20
TXNOIL 16	2-6	501- 600	436	149	15,842.00	6,238.23
TXNOIL 17	2-6	601-1,000	1057	266	19,382.53	24,238.00
TXNOIL 18	2-6	1,001-2,000	313	147	15,852.10	11,729.73
TXNOIL 19	2-6	2,001-5,000	125	24	10,560.43	9,402.20
TXNOIL 20	2-6	5,001- Over	6	5	856.03	1,463.87
TXNOIL 21	6-10	0- 60	661	211	1,349.63	527.43
TXNOIL 22	6-10	61- 100	520	195	3,892.13	981.37
TXNOIL 23	6-10	101- 200	955	265	16,088.27	2,969.90
TXNOIL 24	6-10	201- 300	583	187	14,460.37	3,401.93
TXNOIL 25	6-10	301- 400	280	114	9,370.90	2,259.77
TXNOIL 26	6-10	401- 500	250	78	8,494.97	2,868.47
TXNOIL 27	6-10	501- 600	152	56	7,490.80	2,010.53
TXNOIL 28	6-10	601-1,000	248	87	16,191.23	4,645.23
TXNOIL 29	6-10	1,001-2,000	168	60	8,557.73	6,135.67

(continued)

APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
TXNOIL 30	6-10	2,001-5,000	72	34	8,883.70	6,281.37
TXNOIL 31	6-10	5,001- Over	12	9	2,064.57	2,584.10
TXNOIL 32	10+	0- 60	10	8	13.27	4.53
TXNOIL 33	10+	61- 100	8	8	60.07	15.40
TXNOIL 34	10+	101- 200	23	14	468.20	55.37
TXNOIL 35	10+	201- 300	13	11	439.27	63.30
TXNOIL 36	10+	301- 400	11	11	604.30	64.73
TXNOIL 37	10+	401- 500	10	5	903.00	60.23
TXNOIL 38	10+	501- 600	4	4	530.90	22.07
TXNOIL 39	10+	601-1,000	26	9	3,824.97	261.87
TXNOIL 40	10+	1,001-2,000	9	8	2,029.30	142.53
TXNOIL 41	10+	2,001-5,000	11	6	5,321.30	308.77
TXNOIL 42	10+	5,001- Over	5	3	3,799.30	436.40
Texas-West						
TXWOIL 1	0-2	0- 60	3101	158	1,419.17	2,687.60
TXWOIL 2	0-2	61- 100	760	71	343.87	1,820.10
TXWOIL 3	0-2	101- 200	862	57	131.33	3,461.20
TXWOIL 4	0-2	201- 300	172	28	121.50	1,354.40
TXWOIL 5	0-2	301- 400	114	8	30.10	1,270.93
TXWOIL 6	0-2	401- 500	48	7	23.57	632.70
TXWOIL 7	0-2	501- 600	16	5	177.63	277.27
TXWOIL 8	0-2	601-1,000	40	8	159.97	869.87
TXWOIL 9	0-2	1,001-2,000	5	2	88.43	198.63
TXWOIL 10	0-2	2,001-5,000	1270	0	155,889.60	75,763.03
TXWOIL 11	2-6	0- 60	9224	709	24,699.93	8,859.80
TXWOIL 12	2-6	61- 100	5740	462	32,416.13	14,223.07
TXWOIL 13	2-6	101- 200	9670	575	73,291.37	44,562.07
TXWOIL 14	2-6	201- 300	5497	363	43,473.13	41,345.07
TXWOIL 15	2-6	301- 400	4518	251	34,413.57	49,462.13
TXWOIL 16	2-6	401- 500	4577	180	33,966.47	62,441.07
TXWOIL 17	2-6	501- 600	2114	130	35,221.13	35,724.10
TXWOIL 18	2-6	601-1,000	4219	180	58,625.27	104,599.53
TXWOIL 19	2-6	1,001-2,000	3829	120	304,490.43	163,734.80
TXWOIL 20	2-6	2,001-5,000	676	39	125,260.03	64,493.47

(continued)

APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
TXWOIL 21	2-6	5,001- Over	37	10	950.93	7,396.70
TXWOIL 22	6-10	0- 60	2295	391	44,810.03	2,599.13
TXWOIL 23	6-10	61- 100	2327	262	69,747.03	5,760.10
TXWOIL 24	6-10	101- 200	5183	413	144,652.73	23,487.93
TXWOIL 25	6-10	201- 300	2971	325	73,143.27	22,330.23
TXWOIL 26	6-10	301- 400	1704	237	55,556.17	18,207.17
TXWOIL 27	6-10	401- 500	1281	176	44,735.23	17,521.67
TXWOIL 28	6-10	501- 600	1150	153	33,130.67	19,941.33
TXWOIL 29	6-10	601-1,000	3356	239	103,708.00	86,184.10
TXWOIL 30	6-10	1,001-2,000	2540	173	457,137.57	106,421.63
TXWOIL 31	6-10	2,001-5,000	254	80	23,383.30	20,483.23
TXWOIL 32	6-10	5,001- Over	240	19	33,489.57	39,435.57
TXWOIL 33	10+	0- 60	222	121	5,372.10	169.10
TXWOIL 34	10+	61- 100	147	53	7,753.40	346.50
TXWOIL 35	10+	101- 200	324	120	20,292.60	1,449.77
TXWOIL 36	10+	201- 300	320	111	18,342.00	2,464.13
TXWOIL 37	10+	301- 400	180	81	13,626.33	1,996.57
TXWOIL 38	10+	401- 500	156	71	10,720.30	2,099.13
TXWOIL 39	10+	501- 600	131	64	4,706.33	2,127.53
TXWOIL 40	10+	601-1,000	362	112	20,884.23	8,595.03
TXWOIL 41	10+	1,001-2,000	342	104	52,246.17	14,177.37
TXWOIL 42	10+	2,001-5,000	144	68	8,611.00	12,583.97
TXWOIL 43	10+	5,001- Over	32	14	760.50	7,439.07
Utah						
UTOIL 1	0-2	0- 60	76	6	8.57	33.53
UTOIL 2	0-2	61- 100	6	1	4.47	13.80
UTOIL 3	0-2	101- 200	8	4	7.93	25.27
UTOIL 4	0-2	201- 300	3	3	21.63	25.90
UTOIL 5	0-2	301- 400	2	1	0.00	23.73
UTOIL 6	0-2	401- 500	1	2	36.63	12.67
UTOIL 7	0-2	501- 600	1	1	51.53	13.33
UTOIL 8	0-2	601-1,000	4	5	152.93	83.00
UTOIL 9	0-2	1,001-2,000	3	3	31.83	139.90
UTOIL 10	0-2	2,001-5,000	2	3	856.60	122.70

(continued)

APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
UTOIL 11	2-6	0- 60	45	23	38.93	18.90
UTOIL 12	2-6	61- 100	49	22	200.50	88.87
UTOIL 13	2-6	101- 200	130	27	860.10	483.90
UTOIL 14	2-6	201- 300	140	34	1,836.57	884.27
UTOIL 15	2-6	301- 400	127	26	1,956.00	1,217.83
UTOIL 16	2-6	401- 500	88	22	1,629.30	1,086.27
UTOIL 17	2-6	501- 600	94	20	2,320.70	1,369.40
UTOIL 18	2-6	601-1,000	228	31	6,241.50	5,098.07
UTOIL 19	2-6	1,001-2,000	213	22	7,149.07	8,791.70
UTOIL 20	2-6	2,001-5,000	76	12	4,250.83	6,305.30
UTOIL 21	2-6	5,001- Over	15	8	3,792.40	2,614.57
UTOIL 22	6-10	0- 60	7	7	0.83	3.47
UTOIL 23	6-10	61- 100	5	6	19.47	7.30
UTOIL 24	6-10	101- 200	20	13	130.77	80.20
UTOIL 25	6-10	201- 300	33	19	594.30	199.27
UTOIL 26	6-10	301- 400	21	12	466.60	151.20
UTOIL 27	6-10	401- 500	20	11	477.30	211.10
UTOIL 28	6-10	501- 600	13	10	387.30	193.13
UTOIL 29	6-10	601-1,000	45	17	1,936.40	934.83
UTOIL 30	6-10	1,001-2,000	38	18	3,565.70	1,251.67
UTOIL 31	6-10	2,001-5,000	22	12	4,507.50	1,680.30
UTOIL 32	6-10	5,001- Over	16	7	50,086.47	2,283.70
UTOIL 33	10+	0- 60	31	4	24.50	11.40
UTOIL 34	10+	61- 100	14	3	29.23	21.93
UTOIL 35	10+	101- 200	21	4	112.43	63.33
UTOIL 36	10+	201- 300	25	6	176.07	155.47
UTOIL 37	10+	301- 400	17	6	183.67	146.27
UTOIL 38	10+	401- 500	22	5	384.73	226.67
UTOIL 39	10+	501- 600	18	5	284.90	254.27
UTOIL 40	10+	601-1,000	73	6	2,551.87	1,522.87
UTOIL 41	10+	1,001-2,000	153	7	12,665.57	5,726.77
UTOIL 42	10+	2,001-5,000	95	6	16,031.90	6,857.97
UTOIL 43	10+	5,001- Over	17	6	18,867.27	3,842.27

(continued)

APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
Virginia						
VAOIL 1	0-2	0- 60	50	N/A	0.00	58.33
West Virginia						
WVOIL 1	0-3	0- 60	15356	N/A	0.00	3,597.67
WVOIL 2	0-3	61- 100	284	N/A	0.00	608.47
WVOIL 3	0-3	101- 200	197	N/A	0.00	745.33
WVOIL 4	0-3	201- 300	81	N/A	0.00	675.20
WVOIL 5	0-3	601-1,000	24	N/A	0.00	603.87
Wyoming						
WYOIL 1	0-2	0- 60	1340	79	22.63	973.87
WYOIL 2	0-2	61- 100	393	46	53.20	951.70
WYOIL 3	0-2	101- 200	556	62	559.63	2,515.70
WYOIL 4	0-2	201- 300	326	45	414.17	2,501.33
WYOIL 5	0-2	301- 400	230	38	376.90	2,512.87
WYOIL 6	0-2	401- 500	140	34	290.60	1,993.60
WYOIL 7	0-2	501- 600	90	27	651.97	1,488.63
WYOIL 8	0-2	601-1,000	185	33	1,302.50	4,203.27
WYOIL 9	0-2	1,001-2,000	92	31	2,266.40	3,379.23
WYOIL 10	0-2	2,001-5,000	27	20	2,092.27	2,075.90
WYOIL 11	0-2	5,001- Over	5	5	4,559.67	1,201.67
WYOIL 12	2-6	0- 60	475	94	183.53	385.07
WYOIL 13	2-6	61- 100	466	92	546.40	1,025.17
WYOIL 14	2-6	101- 200	905	126	2,781.33	3,772.33
WYOIL 15	2-6	201- 300	537	121	2,149.97	3,880.47
WYOIL 16	2-6	301- 400	350	86	1,518.33	3,697.97
WYOIL 17	2-6	401- 500	266	75	1,132.67	3,576.10
WYOIL 18	2-6	501- 600	230	79	1,623.37	3,746.03
WYOIL 19	2-6	601-1,000	591	81	4,498.17	14,127.73
WYOIL 20	2-6	1,001-2,000	621	71	7,025.33	26,723.37
WYOIL 21	2-6	2,001-5,000	330	37	9,170.40	29,795.47
WYOIL 22	2-6	5,001- Over	46	15	4,628.70	9,108.30
WYOIL 23	6-10	0- 60	192	93	296.03	120.90
WYOIL 24	6-10	61- 100	201	90	822.40	398.10
WYOIL 25	6-10	101- 200	622	158	6,137.53	2,263.97

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APPENDIX A: GRUY ENGINEERING CORPORATION'S OIL WELLGROUPS BY STATE (Continued)

State/ wellgroup	Depth range (Mft)	BOE range (BOE/mo)	Number of wells	Number of fields	Gas rate per well (Mcfd)	Oil rate per well (Bd)
WYOIL 26	6-10	201- 300	587	158	9,181.17	3,611.30
WYOIL 27	6-10	301- 400	457	133	9,092.83	4,035.30
WYOIL 28	6-10	401- 500	247	118	6,283.80	2,891.83
WYOIL 29	6-10	501- 600	175	93	4,791.50	2,550.97
WYOIL 30	6-10	601-1,000	416	166	10,529.70	9,063.23
WYOIL 31	6-10	1,001-2,000	348	147	10,470.40	14,483.13
WYOIL 32	6-10	2,001-5,000	300	125	23,030.37	27,171.90
WYOIL 33	6-10	5,001- Over	174	54	146,148.00	38,210.57
WYOIL 34	10+	0- 60	20	19	25.57	11.00
WYOIL 35	10+	61- 100	27	22	136.23	35.03
WYOIL 36	10+	101- 200	55	35	532.17	179.33
WYOIL 37	10+	201- 300	73	32	997.00	475.10
WYOIL 38	10+	301- 400	59	36	1,009.13	536.90
WYOIL 39	10+	401- 500	38	20	462.60	486.70
WYOIL 40	10+	501- 600	44	32	1,500.23	611.80
WYOIL 41	10+	601-1,000	117	53	5,375.20	2,355.20
WYOIL 42	10+	1,001-2,000	121	58	13,329.90	4,241.20
WYOIL 43	10+	2,001-5,000	95	49	21,076.03	6,666.07
WYOIL 44	10+	5,001- Over	103	26	223,460.00	34,896.93

APPENDIX B

GRUY ENGINEERING CORPORATION'S
GAS WELLGROUPS BY STATE

APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy		Revised 1993		1993 Total gas production (Mcdf)
					Number of wells	Number of fields	Number of wells	Number of fields	
Alaska									
AKGAS1	0-4	34	67	40.07	1	1	1	1	40.07
AKGAS2	0-4	100	133	121.90	2	3	3	5	365.70
AKGAS3	0-4	167	200	182.55	2	3	3	5	547.65
AKGAS4	0-4	200	333	224.61	5	4	7	6	1,572.29
AKGAS5	0-4	334	667	335.07	3	1	4	1	1,340.27
AKGAS6	0-4	667	1,667	902.83	1	1	1	1	902.83
AKGAS7	0-4	1,667		4,719.79	4	3	5	4	23,598.96
AKGAS8	4-10	134	167	68.23	2	3	3	5	204.70
AKGAS9	4-10	200	333	299.97	1	1	1	1	299.97
AKGAS10	4-10	334	667	229.31	3	3	4	4	917.24
AKGAS11	4-10	667	1,667	1,031.92	7	4	9	5	9,287.27
AKGAS12	4-10	1,667	0	5,981.88	72	8	95	11	568,278.30
AKGAS13	10+	334	667	494.77	2	3	3	5	1,484.30
AKGAS14	10+	667	1,667	1,568.63	1	1	1	1	1,468.63
AKGAS15	10+	1,667		6,108.00	13	5	17	7	103,836.04
Alabama									
ALGAS 1	0-4	0.0	20	5.16	203	31	452	69	2,333.70
ALGAS 2	0-4	20	33	18.12	148	30	329	67	5,962.46
ALGAS 3	0-4	34	67	34.87	275	37	611	82	21,304.13
ALGAS 4	0-4	67	100	74.30	191	40	425	89	31,578.46

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
ALGAS 5	0-4	100	133	94.52	95	37	211	82	19,943.42
ALGAS 6	0-4	134	167	141.98	95	31	211	69	29,957.19
ALGAS 7	0-4	167	200	174.39	42	23	93	51	16,218.68
ALGAS 8	0-4	200	333	256.60	115	32	259	71	66,458.72
ALGAS 9	0-4	334	667	444.45	79	27	174	60	77,333.60
ALGAS 10	0-4	667	1,667	740.36	20	15	37	33	27,393.26
ALGAS 11	0-4	1,667	0.00	2,231.05	60	9	126	20	281,112.23
ALGAS 12	4-10	0.0	20	0.93	4	5	26	11	24.27
ALGAS 13	4-10	20	33	13.23	5	6	11	13	145.57
ALGAS 14	4-10	34	67	42.09	9	7	20	16	841.70
ALGAS 15	4-10	67	100	71.10	14	9	31	20	2,204.10
ALGAS 16	4-10	100	133	99.15	12	11	27	25	2,677.13
ALGAS 17	4-10	134	167	136.09	11	9	24	20	3,266.11
ALGAS 18	4-10	167	200	170.26	6	5	13	11	2,213.39
ALGAS 19	4-10	200	333	233.31	25	13	56	29	13,065.10
ALGAS 20	4-10	334	667	456.88	27	13	60	29	27,412.52
ALGAS 21	4-10	667	1,667	847.83	19	12	42	27	35,608.71
ALGAS 22	4-10	1,667	0.00	1,799.49	5	5	11	11	19,794.35
ALGAS 23	10+	34	67	45.43	1	1	2	2	90.87
ALGAS 24	10+	134	167	17.90	1	2	2	4	35.80
ALGAS 25	10+	200	333	74.53	4	5	9	11	670.73

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
ALGAS 26	10+	334	667	176.07	1	1	2	2	352.13
ALGAS 27	10+	667	1,667	644.75	15	8	33	18	21,276.64
ALGAS 28	10+	1,667	0.00	3,677.65	44	10	98	22	360,410.00
Arkansas									
ARGAS 1	0-4	0.0	20	6.95	276	61	311	69	2,161.64
ARGAS 2	0-4	20	33	22.19	100	48	113	54	2,507.66
ARGAS 3	0-4	34	67	42.24	209	56	237	64	10,011.72
ARGAS 4	0-4	67	100	69.96	146	47	165	53	11,542.80
ARGAS 5	0-4	100	133	94.19	76	33	86	37	8,100.71
ARGAS 6	0-4	134	167	131.45	57	30	65	34	8,544.08
ARGAS 7	0-4	167	200	143.00	30	18	34	20	4,862.00
ARGAS 8	0-4	200	333	226.13	87	35	98	39	22,160.54
ARGAS 9	0-4	334	667	390.89	79	29	89	33	34,788.97
ARGAS 10	0-4	667	1,667	745.22	36	17	41	19	30,554.07
ARGAS 11	0-4	1,667	0.00	1,359.01	3	4	3	4	4,077.03
ARGAS 12	4-10	0.0	20	7.95	157	35	178	40	1,415.57
ARGAS 13	4-10	20	33	21.71	111	35	126	40	2,734.92
ARGAS 14	4-10	34	67	41.86	251	43	284	49	11,887.19
ARGAS 15	4-10	67	100	73.96	164	38	186	43	13,756.40
ARGAS 16	4-10	100	133	105.05	150	39	170	44	17,858.58
ARGAS 17	4-10	134	167	132.60	91	31	103	35	13,657.50

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
ARGAS 18	4-10	167	200	156.60	83	31	94	35	14,720.29
ARGAS 19	4-10	200	333	231.68	189	36	214	41	49,580.37
ARGAS 20	4-10	334	667	422.80	167	32	189	36	79,909.61
ARGAS 21	4-10	667	1,667	756.84	95	26	108	30	81,738.57
ARGAS 22	4-10	1,667	0.00	2,018.26	17	12	19	13	38,347.03
ARGAS 23	10+	200	333	293.80	1	1	1	1	293.80
Arizona									
AZGAS 1	0-4	34	67	30.83	1	1	1	1	30.83
AZGAS 2	4-10	0.0	20	20.00	1	1	2	1	40.00
AZGAS 3	4-10	67	100	30.00	1	1	1	1	30.00
AZGAS 4	4-10	667	1,667	1,025.23	1	2	1	2	1,025.23
AZGAS 5	4-10	1,667	0.00	2,641.68	2	1	2	1	5,283.37
California-Northern & Coastal									
CACNGAS 1	0-4	0.0	20	5.41	28	15	16	11	86.59
CACNGAS 2	0-4	20	33	21.77	18	13	14	10	304.79
CACNGAS 3	0-4	34	67	43.91	41	21	31	16	1,361.28
CACNGAS 4	0-4	67	100	75.29	26	13	20	10	1,505.72
CACNGAS 5	0-4	100	133	90.36	27	15	20	11	1,807.14
CACNGAS 6	0-4	134	167	144.56	14	11	11	9	1,590.13
CACNGAS 7	0-4	167	200	160.62	6	6	5	5	803.08
CACNGAS 8	0-4	200	333	230.68	17	10	13	8	2,998.87

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
CACNGAS 9	0-4	334	667	339.98	23	13	17	10	5,779.61
CACNGAS 10	0-4	667	1,667	617.42	5	6	6	5	3,704.52
CACNGAS 11	0-4	1,667	0.00	2,313.29	3	4	2	3	4,626.58
CACNGAS 12	4-10	0.0	20	5.52	107	33	73	25	402.61
CACNGAS 13	4-10	20	33	21.40	53	26	38	20	813.32
CACNGAS 14	4-10	34	67	43.83	115	36	87	27	3,813.30
CACNGAS 15	4-10	67	100	72.94	108	36	82	27	5,981.04
CACNGAS 16	4-10	100	133	101.83	89	28	70	21	7,128.10
CACNGAS 17	4-10	134	167	138.36	72	27	55	21	7,609.99
CACNGAS 18	4-10	167	200	168.00	61	24	46	18	7,728.13
CACNGAS 19	4-10	200	333	240.27	166	43	126	33	30,274.51
CACNGAS 20	4-10	334	667	436.98	172	37	130	28	56,808.01
CACNGAS 21	4-10	667	1,667	870.10	61	27	46	20	40,024.73
CACNGAS 22	4-10	1,667	0.00	2,380.39	20	14	17	11	40,466.69
CACNGAS 23	10+	0.0	20	10.10	1	1	1	1	10.10
CACNGAS 24	10+	20	33	16.11	3	3	2	2	32.22
CACNGAS 25	10+	34	67	25.08	3	4	2	3	50.16
CACNGAS 26	10+	67	100	93.67	1	1	1	1	93.67
CACNGAS 27	10+	100	133	89.73	6	5	5	4	448.67
CACNGAS 28	10+	134	167	106.83	2	1	2	1	213.67
CACNGAS 29	10+	167	200	152.22	2	1	2	1	304.43

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
CACNGAS 30	10+	200	333	249.37	8	3	6	2	1,496.23
CACNGAS 31	10+	334	667	457.30	5	1	4	1	1,829.20
CACNGAS 32	10+	667	1,667	965.03	8	1	6	1	5,790.20
CACNGAS 33	10+	1,667	0.00	3,921.66	6	3	5	3	19,608.28
California- Los Angeles Basin									
CALAGAS 1	0-4	0.0	20	10.23	1	1	1	1	10.23
CALAGAS 2	0-4	34	67	47.57	1	1	1	1	47.57
CALAGAS 3	0-4	67	100	92.40	1	1	1	1	92.40
California-San Jose Basin									
CASJGAS 1	0-4	0.0	20	6.99	33	9	25	7	174.72
CASJGAS 2	0-4	20	33	22.57	12	6	9	5	203.15
CASJGAS 3	0-4	34	67	49.74	14	5	11	4	547.15
CASJGAS 4	0-4	67	100	85.02	6	5	5	4	425.08
CASJGAS 5	0-4	134	167	137.03	1	1	1	1	137.03
CASJGAS 6	0-4	167	200	181.07	1	1	1	1	181.07
CASJGAS 7	0-4	200	333	250.08	4	1	3	1	750.25
CASJGAS 8	0-4	334	667	457.42	7	1	5	1	2,287.12
CASJGAS 9	0-4	667	1,667	842.90	11	1	8	1	6,743.18
CASJGAS 10	0-4	1,667	0.00	2,751.10	1	1	1	1	2,751.10
CASJGAS 11	4-10	0.0	20	4.46	8	6	6	5	26.75
CASJGAS 12	4-10	20	33	25.58	2	1	2	1	51.17

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
CASJGAS 13	4-10	34	67	42.17	1	1	1	1	42.17
CASJGAS 14	4-10	67	100	86.92	2	3	2	3	173.83
CASJGAS 15	4-10	100	133	119.60	2	3	2	3	239.20
CASJGAS 16	4-10	134	167	135.67	1	1	1	1	135.67
CASJGAS 17	4-10	167	200	172.10	1	2	1	2	172.10
CASJGAS 18	4-10	200	333	170.60	3	4	2	3	341.20
CASJGAS 19	4-10	334	667	425.40	1	2	1	2	425.40
CASJGAS 20	4-10	667	1,667	1,037.45	5	5	4	4	4,149.81
CASJGAS 21	4-10	1,667	0.00	1,008.98	2	2	2	2	2,017.97
CASJGAS 22	10+	0.0	20	19.13	1	1	1	1	19.13
CASJGAS 23	10+	20	33	10.80	1	1	1	1	10.80
CASJGAS 24	10+	34	67	13.19	6	1	5	1	65.94
CASJGAS 25	10+	67	100	23.05	2	1	2	1	46.10
CASJGAS 26	10+	100	133	27.58	2	1	2	1	55.17
CASJGAS 27	10+	134	167	73.40	1	1	1	1	73.40
CASJGAS 28	10+	167	200	39.83	4	1	3	1	119.50
Colorado									
COGAS 1	0-4	0.0	20	8.52	345	64	384	66	3,270.46
COGAS 2	0-4	20	33	25.49	210	56	217	58	5,530.95
COGAS 3	0-4	34	67	46.25	410	65	424	67	19,609.83
COGAS 4	0-4	67	100	78.33	257	45	266	47	20,836.32

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
COGAS 5	0-4	100	133	104.46	118	34	122	35	12,744.42
COGAS 6	0-4	134	167	143.59	186	24	192	25	27,568.69
COGAS 7	0-4	167	200	148.79	34	15	30	15	4,463.62
COGAS 8	0-4	200	333	230.25	161	21	166	22	38,221.04
COGAS 9	0-4	334	667	351.41	70	18	72	19	25,301.86
COGAS 10	0-4	667	1,667	514.47	11	6	14	6	7,202.62
COGAS 11	4-10	0.0	20	8.88	444	89	459	92	4,074.28
COGAS 12	4-10	20	33	22.01	411	76	425	79	9,354.24
COGAS 13	4-10	34	67	37.65	1,271	109	1292	113	48,638.40
COGAS 14	4-10	67	100	63.93	771	69	797	71	50,953.35
COGAS 15	4-10	100	133	92.17	437	43	452	44	41,662.78
COGAS 16	4-10	134	167	110.05	243	32	251	33	27,621.95
COGAS 17	4-10	167	200	125.16	198	36	205	37	25,656.79
COGAS 18	4-10	200	333	179.37	349	49	361	51	64,753.57
COGAS 19	4-10	334	667	360.27	161	41	166	42	59,804.44
COGAS 20	4-10	667	1,667	622.57	54	17	56	18	34,863.73
COGAS 21	4-10	1,667	0.00	1,489.77	4	5	4	5	5,959.07
COGAS 22	10+	0.0	20	8.18	4	4	4	4	32.70
COGAS 23	10+	20	33	17.40	2	3	2	3	34.80
COGAS 24	10+	34	67	38.07	2	3	2	3	76.13
COGAS 25	10+	100	133	130.97	1	1	1	1	130.97

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
COGAS 26	10+	134	167	164.23	1	1	1	1	164.23
COGAS 27	10+	167	200	187.07	1	1	1	1	187.07
COGAS 28	10+	200	333	92.77	1	1	1	1	92.77
COGAS 29	10+	334	667	448.20	1	1	1	1	448.20
COGAS 30	10+	667	1,667	684.12	2	3	2	3	1,368.23
COGAS 31	10+	1,667	0.00	2,910.87	2	1	2	1	5,821.73
Illinois									
ILGAS 1	0-2	0.0	20	5.39	263	N/A	341		1,836.60
ILGAS 2	0-2	20	33	27.76	16	N/A	21		582.88
ILGAS 3	0-2	0	67	53.29	10	N/A	13		692.77
ILGAS 4	0-2	100	133	110.86	4	N/A	5		554.29
ILGAS 5	0-2	200	333	208.35	2	N/A	3		625.05
ILGAS 6	0-2	667	1,667	374.13	1	N/A	1		374.13
Indiana									
INGAS 1	0-2	0.0	20	0.89	1,291	N/A	1323		1,172.05
INGAS 2	0-2	20	33	22.20	3	N/A	3		66.60
INGAS 3	0-2	34	80	48.03	1	N/A	1		48.03
Kansas									
KSGAS 1	0-4	0.0	20	7.72	1,424	290	1549	317	11,956.02
KSGAS 2	0-4	20	33	23.03	718	180	784	197	18,056.97
KSGAS 3	0-4	34	67	42.86	1,480	189	1617	206	69,311.32

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
KSGAS 4	0-4	67	100	71.56	1,071	110	1170	120	83,725.06
KSGAS 5	0-4	100	133	97.09	901	66	984	72	95,534.71
KSGAS 6	0-4	134	167	119.36	790	48	863	52	103,004.26
KSGAS 7	0-4	167	200	148.06	663	39	724	43	107,196.88
KSGAS 8	0-4	200	333	214.87	1,595	50	1749	55	375,806.08
KSGAS 9	0-4	334	667	392.16	1,082	30	1182	33	463,528.76
KSGAS 10	0-4	667	1,667	786.22	165	14	180	15	141,519.31
KSGAS 11	0-4	1,667	0.00	2,016.29	4	5	4	5	8,065.17
KSGAS 12	4-10	0.0	20	9.27	791	241	864	263	8,007.42
KSGAS 13	4-10	20	33	24.32	493	184	539	201	13,109.33
KSGAS 14	4-10	34	67	43.85	707	240	772	262	33,853.89
KSGAS 15	4-10	67	100	73.45	323	137	353	150	25,926.12
KSGAS 16	4-10	100	133	105.39	223	112	245	123	25,821.17
KSGAS 17	4-10	134	167	134.83	109	67	119	73	16,044.95
KSGAS 18	4-10	167	200	169.37	71	56	78	62	13,210.60
KSGAS 19	4-10	200	333	217.99	180	92	197	101	42,943.63
KSGAS 20	4-10	334	667	394.59	124	67	135	73	53,270.20
KSGAS 21	4-10	667	1,667	807.93	70	35	76	38	61,402.72
KSGAS 22	4-10	1,667	0.00	1,808.96	15	12	16	13	28,943.32

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
Kentucky									
KYGAS 1	0-2	0.0	20	7.09	9,884	N/A	11294		80,089.36
KYGAS 2	0-2	34	67	41.82	884	N/A	1024		42,820.42
KYGAS 3	0-2	67	100	80.61	159	N/A	150		12,091.23
KYGAS 4	0-2	100	133	119.20	139	N/A	159		18,952.46
KYGAS 5	0-2	200	333	217.15	121	N/A	139		30,184.52
KYGAS 6	0-2	334	667	551.40	45	N/A	51		28,121.25
KYGAS 7	0-2	667	1,667	1,356.05	17	N/A	19		25,764.97
Louisiana-North									
LANGAS 1	0-4	0.0	20	5.88	8,290	50	7576	46	44,537.38
LANGAS 2	0-4	20	33	23.26	408	34	373	31	8,675.78
LANGAS 3	0-4	34	67	36.80	257	56	235	51	8,649.13
LANGAS 4	0-4	67	100	55.91	114	44	104	40	5,814.69
LANGAS 5	0-4	100	133	84.01	65	32	59	29	4,956.51
LANGAS 6	0-4	134	167	101.67	36	24	33	22	3,354.97
LANGAS 7	0-4	167	200	118.77	36	23	33	21	3,919.27
LANGAS 8	0-4	200	333	208.80	56	27	51	25	10,648.56
LANGAS 9	0-4	334	667	346.10	24	15	22	14	7,614.29
LANGAS 10	0-4	667	1,667	528.84	21	16	19	14	10,047.98
LANGAS 11	0-4	1,667	0.00	1,222.75	2	3	2	3	2,445.50
LANGAS 12	4-10	0.0	20	7.48	222	66	203	60	1,518.69

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
LANGAS 13	4-10	20	33	20.86	127	53	116	48	2,419.22
LANGAS 14	4-10	34	67	38.99	250	70	228	64	8,888.78
LANGAS 15	4-10	67	100	68.10	207	60	189	55	12,871.23
LANGAS 16	4-10	100	133	98.36	136	56	124	51	12,196.62
LANGAS 17	4-10	134	167	124.53	116	49	106	45	13,200.62
LANGAS 18	4-10	167	200	153.83	100	46	91	42	13,998.17
LANGAS 19	4-10	200	333	212.52	274	67	250	61	53,129.01
LANGAS 20	4-10	334	667	403.91	275	64	251	58	101,380.79
LANGAS 21	4-10	667	1,667	779.52	188	52	172	48	134,077.29
LANGAS 22	4-10	1,667	0.00	2,860.46	89	24	81	22	231,697.47
LANGAS 23	10+	0.0	20	6.45	29	17	27	16	174.17
LANGAS 24	10+	20	33	14.52	10	9	9	8	130.65
LANGAS 25	10+	34	67	28.44	26	18	24	17	682.68
LANGAS 26	10+	67	100	49.59	26	19	24	18	1,190.12
LANGAS 27	10+	100	133	92.79	13	11	12	10	1,113.54
LANGAS 28	10+	134	167	107.70	24	16	22	15	2,369.49
LANGAS 29	10+	167	200	114.10	11	10	10	9	1,141.00
LANGAS 30	10+	200	333	184.16	63	24	58	22	10,681.39
LANGAS 31	10+	334	667	330.93	51	27	47	25	15,553.77
LANGAS 32	10+	667	1,667	846.97	59	21	54	19	45,736.44
LANGAS 33	10+	1,667	0.00	2,135.84	40	15	37	14	79,026.11

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
Louisiana-South									
LASGAS 1	0-4	0.0	20	4.94	11	12	10	11	49.39
LASGAS 2	0-4	20	33	16.82	7	7	6	6	100.91
LASGAS 3	0-4	34	67	33.49	13	8	12	7	401.94
LASGAS 4	0-4	67	100	66.55	9	9	8	8	532.39
LASGAS 5	0-4	100	133	81.85	11	10	10	9	818.55
LASGAS 6	0-4	134	167	96.09	5	6	5	6	480.47
LASGAS 7	0-4	167	200	120.69	10	10	9	9	1,086.21
LASGAS 8	0-4	200	333	185.65	14	13	13	12	2,413.45
LASGAS 9	0-4	334	667	344.10	24	19	22	17	7,570.26
LASGAS 10	0-4	667	1,667	743.76	30	16	27	14	20,081.40
LASGAS 11	0-4	1,667	0.00	1,246.82	13	13	12	12	14,961.88
LASGAS 12	4-10	0.0	20	2.96	40	34	37	31	109.40
LASGAS 13	4-10	20	33	14.59	23	23	21	21	306.33
LASGAS 14	4-10	34	67	30.62	42	35	38	32	1,163.73
LASGAS 15	4-10	67	100	40.61	62	47	57	43	2,314.66
LASGAS 16	4-10	100	133	62.59	39	34	36	31	2,253.08
LASGAS 17	4-10	134	167	90.21	36	32	33	29	2,977.06
LASGAS 18	4-10	167	200	112.42	28	24	26	22	2,922.93
LASGAS 19	4-10	200	333	169.85	100	76	91	69	15,456.35
LASGAS 20	4-10	334	667	303.26	157	114	143	104	43,365.71

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
LASGAS 21	4-10	667	1,667	692.16	167	112	153	103	105,899.88
LASGAS 22	4-10	1,667	0.00	1,918.26	67	48	61	44	117,014.15
LASGAS 23	10+	0.0	20	2.55	75	60	69	55	175.78
LASGAS 24	10+	20	33	12.22	21	20	19	18	232.25
LASGAS 25	10+	34	67	21.88	71	63	65	58	1,422.13
LASGAS 26	10+	67	100	50.37	58	54	53	49	2,669.52
LASGAS 27	10+	100	133	71.77	52	47	48	43	3,444.83
LASGAS 28	10+	134	167	96.13	59	54	54	49	5,191.20
LASGAS 29	10+	167	200	112.88	44	40	40	36	4,515.18
LASGAS 30	10+	200	333	164.12	177	123	162	113	26,586.70
LASGAS 31	10+	334	667	342.46	325	186	297	170	101,709.58
LASGAS 32	10+	667	1,667	781.98	486	205	444	187	347,197.71
LASGAS 33	10+	1,667	0.00	3,612.62	538	195	508	178	1,835,212.51
Michigan									
MIGAS 1	0-4	0.0	20	4.77	89	21	287	68	1,367.71
MIGAS 2	0-4	20	33	11.73	69	21	222	68	2,605.12
MIGAS 3	0-4	34	67	24.47	89	24	287	77	7,024.08
MIGAS 4	0-4	67	100	47.46	77	18	248	58	11,769.37
MIGAS 5	0-4	100	133	67.71	62	20	200	65	13,541.83
MIGAS 6	0-4	134	167	85.20	42	15	135	48	11,501.79
MIGAS 7	0-4	167	200	102.70	47	13	151	42	15,507.06

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
MIGAS 8	0-4	200	333	144.50	109	25	351	81	50,720.79
MIGAS 9	0-4	334	667	279.71	91	29	293	93	81,955.86
MIGAS 10	0-4	667	1,667	586.05	146	36	470	116	275,441.35
MIGAS 11	0-4	1,667	0.00	1,773.05	94	24	306	77	542,554.82
MIGAS 12	4-10	0.0	20	21.49	5	3	16	10	343.89
MIGAS 13	4-10	34	67	69.85	2	2	6	6	419.10
MIGAS 14	4-10	67	100	68.88	2	2	6	6	413.30
MIGAS 15	4-10	200	333	10.89	7	4	23	13	250.48
MIGAS 16	4-10	334	667	250.68	12	4	39	13	9,776.33
MIGAS 17	4-10	667	1,667	244.70	10	5	32	16	7,830.29
MIGAS 18	4-10	1,667	0.00	1,196.94	12	4	39	13	46,680.73
MIGAS 19	10+	34	67	53.73	2	2	6	6	322.40
MIGAS 20	10+	67	100	77.92	2	2	6	6	467.50
MIGAS 21	10+	167	200	116.78	2	2	6	6	700.70
MIGAS 22	10+	334	667	77.92	2	2	6	6	467.50
MIGAS 23	10+	667	1,667	618.42	5	3	16	10	9,894.72
MIGAS 24	10+	1,667	0.00	2,190.33	7	4	23	13	50,377.67
Mississippi									
MSGAS 1	0-4	0.0	20	5.64	19	10	16	7	90.22
MSGAS 2	0-4	20	33	19.13	15	12	11	9	210.44
MSGAS 3	0-4	34	67	35.05	10	8	7	6	245.37

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
MSGAS 4	0-4	67	100	68.19	22	11	16	8	1,091.10
MSGAS 5	0-4	100	133	88.60	23	13	17	10	1,506.22
MSGAS 6	0-4	134	167	108.64	16	13	12	10	1,303.68
MSGAS 7	0-4	167	200	151.49	6	6	4	4	605.96
MSGAS 8	0-4	200	333	187.72	32	15	24	11	4,505.23
MSGAS 9	0-4	334	667	317.41	30	15	22	11	6,983.07
MSGAS 10	0-4	667	1,667	629.15	23	12	17	9	10,695.49
MSGAS 11	0-4	1,667	0.00	2,446.34	6	4	4	3	9,785.38
MSGAS 12	4-10	0.0	20	6.11	25	11	19	8	116.18
MSGAS 13	4-10	20	33	18.59	11	6	8	4	148.73
MSGAS 14	4-10	34	67	40.37	32	14	24	11	968.98
MSGAS 15	4-10	67	100	58.71	23	10	17	7	998.12
MSGAS 16	4-10	100	133	85.98	22	9	16	7	1,375.61
MSGAS 17	4-10	134	167	100.36	18	12	13	9	1,304.74
MSGAS 18	4-10	167	200	136.24	10	8	7	6	953.68
MSGAS 19	4-10	200	333	189.30	18	8	13	6	2,460.95
MSGAS 20	4-10	334	667	337.94	23	8	17	6	5,745.06
MSGAS 21	4-10	667	1,667	631.51	11	9	8	7	5,052.05
MSGAS 22	4-10	1,667	0.00	977.54	7	2	5	1	4,887.69
MSGAS 23	10+	0.0	20	3.18	21	11	16	8	50.90
MSGAS 24	10+	20	33	6.76	9	9	10	7	67.63

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
MSGAS 25	10+	34	67	21.81	10	10	7	7	152.69
MSGAS 26	10+	67	100	40.88	9	7	7	5	286.14
MSGAS 27	10+	100	133	81.20	11	7	8	5	649.58
MSGAS 28	10+	134	167	97.27	13	11	10	8	972.74
MSGAS 29	10+	167	200	127.61	9	7	7	5	893.28
MSGAS 30	10+	200	333	180.58	39	22	29	16	5,236.78
MSGAS 31	10+	334	667	341.98	51	30	38	22	12,995.06
MSGAS 32	10+	667	1,667	788.39	77	32	57	24	44,938.45
MSGAS 33	10+	1,667	0.00	3,862.31	89	36	66	27	254,912.17
Montana									
MTGAS 1	0-4	0.0	20	9.11	1,184	95	1243	100	11,328.52
MTGAS 2	0-4	20	33	22.90	585	72	614	76	14,059.17
MTGAS 3	0-4	34	67	40.04	520	77	546	81	21,864.19
MTGAS 4	0-4	67	100	73.20	169	43	177	45	12,956.05
MTGAS 5	0-4	100	133	107.99	82	29	86	30	9,286.95
MTGAS 6	0-4	134	167	133.07	49	23	51	24	6,786.43
MTGAS 7	0-4	167	200	164.55	40	16	42	17	6,911.14
MTGAS 8	0-4	200	333	214.61	48	17	50	18	10,730.59
MTGAS 9	0-4	334	667	400.44	36	14	38	15	15,216.75
MTGAS 10	0-4	667	1,667	727.03	13	4	14	4	10,178.43
MTGAS 11	0-4	1,667	0.00	874.56	4	3	4	3	3,498.23

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
MTGAS 12	4-10	0.0	20	4.53	4	4	4	4	18.13
MTGAS 13	4-10	20	33	23.98	2	3	2	3	47.97
MTGAS 14	4-10	34	67	45.78	9	3	9	3	412.00
MTGAS 15	4-10	67	100	68.29	3	3	3	3	204.87
MTGAS 16	4-10	100	133	106.33	5	3	7	3	744.33
MTGAS 17	4-10	134	167	135.10	3	3	3	3	405.30
MTGAS 18	4-10	167	200	163.45	2	1	2	1	326.90
MTGAS 19	4-10	200	333	143.48	2	3	2	3	286.97
MTGAS 20	4-10	334	667	579.03	1	1	1	1	579.03
MTGAS 21	10+	0.0	20	10.83	1	1	1	1	10.83
MTGAS 22	10+	34	67	37.93	1	1	1	1	37.93
North Dakota									
NDGAS 1	0-4	0.0	20	7.95	54	3	77	4	611.77
NDGAS 2	0-4	20	33	25.59	5	1	7	1	179.11
NDGAS 3	0-4	34	67	42.90	2	1	3	2	128.70
NDGAS 4	0-4	67	100	69.43	1	1	1	1	69.43
NDGAS 5	10+	0.0	20	3.16	3	4	4	5	12.62
NDGAS 6	10+	200	333	48.33	1	1	3	1	145.00
NDGAS 7	10+	334	667	146.81	3	4	4	5	587.24
NDGAS 8	10+	667	1,667	478.33	1	2	1	2	478.33
NDGAS 9	10+	1,667	0.00	2,250.43	3	4	4	5	9,001.73

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
Nebraska									
NEGAS 1	4-10	20	33	13.99	6	4	30	20	419.83
NEGAS 2	4-10	34	67	40.93	4	3	20	15	818.67
NEGAS 3	4-10	67	100	37.93	2	3	10	15	379.33
New Mexico									
NMGAS 1	0-4	0.0	20	7.82	2,306	64	3694	103	28,885.87
NMGAS 2	0-4	20	33	22.10	1,126	43	1804	69	39,867.17
NMGAS 3	0-4	34	67	38.97	1,486	43	2380	69	92,744.99
NMGAS 4	0-4	67	100	65.54	635	38	1017	61	66,656.42
NMGAS 5	0-4	100	133	95.90	355	37	569	59	54,566.51
NMGAS 6	0-4	134	167	121.20	241	29	386	46	46,781.54
NMGAS 7	0-4	167	200	150.13	138	25	221	40	33,178.35
NMGAS 8	0-4	200	333	214.76	289	30	463	48	99,435.26
NMGAS 9	0-4	334	667	358.24	155	22	248	35	88,842.61
NMGAS 10	0-4	667	1,667	740.49	59	14	95	23	70,346.91
NMGAS 11	0-4	1,667	0.00	2,844.17	38	4	61	6	173,494.49
NMGAS 12	4-10	0.0	20	6.76	1,151	93	1844	149	12,471.91
NMGAS 13	4-10	20	33	20.21	796	60	1275	96	25,766.53
NMGAS 14	4-10	34	67	39.24	1,908	82	3056	131	119,918.32
NMGAS 15	4-10	67	100	65.70	1,531	61	2449	98	160,888.64
NMGAS 16	4-10	100	133	89.94	1,206	55	1932	88	173,764.07

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
NMGAS 17	4-10	134	167	113.46	842	37	1349	59	153,051.05
NMGAS 18	4-10	167	200	135.86	561	41	899	66	122,134.41
NMGAS 19	4-10	200	333	182.92	953	59	1526	94	279,137.16
NMGAS 20	4-10	334	667	318.43	395	43	633	69	201,565.31
NMGAS 21	4-10	667	1,667	750.05	99	33	159	53	119,257.76
NMGAS 22	4-10	1,667	0.00	2,735.30	52	11	83	18	227,030.01
NMGAS 23	10+	0.0	20	5.21	122	71	195	113	1,015.17
NMGAS 24	10+	20	33	20.37	56	42	90	68	1,833.70
NMGAS 25	10+	34	67	41.01	109	54	175	87	7,176.07
NMGAS 26	10+	67	100	68.94	98	60	157	96	10,823.60
NMGAS 27	10+	100	133	96.16	67	46	107	73	10,289.03
NMGAS 28	10+	134	167	116.06	60	44	96	70	11,141.49
NMGAS 29	10+	167	200	152.41	51	35	82	56	12,497.44
NMGAS 30	10+	200	333	220.45	129	67	207	108	45,633.12
NMGAS 31	10+	334	667	395.22	172	81	276	130	109,080.60
NMGAS 32	10+	667	1,667	863.73	132	63	211	101	182,246.19
NMGAS 33	10+	1,667	0.00	2,245.17	58	30	93	48	208,800.45
New York									
NYGAS 1	0-3	0.0	20	6.00	4,850	N/A	5391		32,334.25
NYGAS 2	0-3	20	33	30.40	168	N/A	187		5,684.73
NYGAS 3	0-3	34	67	46.60	139	N/A	155		7,222.41

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
NYGAS 4	0-3	67	100	72.41	95	N/A	106		7,675.29
NYGAS 5	0-3	100	133	127.67	66	N/A	73		9,320.18
NYGAS 6	0-3	200	333	282.72	27	N/A	30		8,481.67
NYGAS 7	0-3	667	1,667	853.38	8	N/A	9		7,680.41
Ohio									
OHGAS 1	0-4	0.0	20	4.78	28,300	N/A	28587		136,735.83
OHGAS 2	0-4	20	33	23.62	3,789	N/A	3827		90,383.96
OHGAS 3	0-4	34	67	48.01	887	N/A	896		43,018.74
OHGAS 4	0-4	67	100	74.27	609	N/A	615		45,675.18
OHGAS 5	0-4	100	133	130.67	424	N/A	428		55,928.56
OHGAS 6	0-4	200	333	288.46	174	N/A	176		50,768.82
OHGAS 7	0-4	667	1,667	880.18	51	N/A	52		45,769.41
Oklahoma									
OKGAS 1	0-4	0.0	20	5.39	2,959	466	3114	492	16,772.70
OKGAS 2	0-4	20	33	16.35	1,169	301	1236	318	20,207.56
OKGAS 3	0-4	34	67	30.36	1,537	329	1624	348	49,305.89
OKGAS 4	0-4	67	100	52.65	895	220	946	233	49,806.14
OKGAS 5	0-4	100	133	78.12	523	129	553	136	43,200.93
OKGAS 6	0-4	134	167	100.10	371	87	392	92	39,239.24
OKGAS 7	0-4	167	200	126.05	249	56	263	59	33,151.38
OKGAS 8	0-4	200	333	172.67	520	106	550	112	94,968.89

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
OKGAS 9	0-4	334	667	306.66	356	78	376	82	115,305.26
OKGAS 10	0-4	667	1,667	597.25	100	23	106	24	63,308.57
OKGAS 11	0-4	1,667	0.00	1,373.57	11	7	12	8	16,482.87
OKGAS 12	4-10	0.0	20	6.33	1,394	285	1473	301	9,320.09
OKGAS 13	4-10	20	33	16.17	1,113	250	1176	264	19,011.26
OKGAS 14	4-10	34	67	30.46	2,363	337	2497	356	76,051.91
OKGAS 15	4-10	67	100	52.75	1,818	284	1921	300	101,333.91
OKGAS 16	4-10	100	133	73.20	1,293	233	1367	246	100,064.44
OKGAS 17	4-10	134	167	96.28	870	180	920	190	88,578.20
OKGAS 18	4-10	167	200	120.39	698	162	738	171	88,850.30
OKGAS 19	4-10	200	333	165.91	1,629	240	1725	254	286,193.81
OKGAS 20	4-10	334	667	297.53	1,295	211	1369	223	407,322.50
OKGAS 21	4-10	667	1,667	610.86	829	141	876	149	535,113.28
OKGAS 22	4-10	1,667	0.00	1,832.28	210	47	222	50	406,767.22
OKGAS 23	10+	0.0	20	4.75	245	88	259	93	1,231.15
OKGAS 24	10+	20	33	13.87	247	84	261	89	3,619.45
OKGAS 25	10+	34	67	27.03	536	135	566	143	15,300.55
OKGAS 26	10+	67	100	47.30	428	117	452	124	21,378.93
OKGAS 27	10+	100	133	68.39	323	90	341	95	23,321.44
OKGAS 28	10+	134	167	91.81	279	91	295	96	27,084.81
OKGAS 29	10+	167	200	112.17	247	83	261	88	29,275.96

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
OKGAS 30	10+	200	333	162.21	649	124	686	131	111,278.89
OKGAS 31	10+	334	667	300.85	833	131	880	138	264,747.52
OKGAS 32	10+	667	1,667	678.81	810	107	866	113	587,852.20
OKGAS 33	10+	1,667	0.00	2,394.68	547	86	579	91	1,386,517.36
Oregon									
ORGAS 1	0-4	20	33	28.20	1	1	1	1	28.20
ORGAS 2	0-4	34	67	65.90	1	1	2	1	131.80
ORGAS 3	0-4	100	133	116.82	2	1	2	1	233.63
ORGAS 4	0-4	134	167	162.73	1	1	1	1	162.73
ORGAS 5	0-4	200	333	213.22	5	1	6	1	1,279.32
ORGAS 6	0-4	334	667	392.94	4	1	4	1	1,571.77
ORGAS 7	0-4	667	1,667	996.68	4	1	4	1	3,986.73
ORGAS 8	4-10	67	100	95.07	1	1	1	1	95.07
Pennsylvania									
PAGAS 1	0-4	0.0	20	5.75	23,975	N/A	25709		147,934.68
PAGAS 2	0-4	20	33	24.76	2,301	N/A	2467		61,087.79
PAGAS 3	0-4	34	67	46.76	1,660	N/A	1780		83,238.16
PAGAS 4	0-4	67	100	89.33	516	N/A	553		49,401.62
PAGAS 5	0-4	134	167	157.29	359	N/A	386		60,714.43
PAGAS 6	0-4	200	333	345.63	148	N/A	159		54,955.66

(continued)

APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
PAGAS 7	0-4	667	1,667	1,063.94	43	N/A	46		48,941.25
South Dakota									
SDGAS 1	0-4	0.0	20	10.77	14	3	10	2	107.69
SDGAS 2	0-4	20	33	27.64	5	3	4	2	110.56
SDGAS 3	0-4	34	67	52.23	28	3	20	2	1,044.60
SDGAS 4	0-4	67	100	72.63	3	1	2	1	145.27
SDGAS 5	0-4	100	133	120.33	1	1	1	1	120.33
SDGAS 6	4-10	20	33	25.10	1	1	1	1	25.10
Tennessee									
TNGAS 1	0-2	0.0	20	3.94	560	N/A	582		2,292.87
TNGAS 2	0-2	20	33	27.86	15	N/A	16		445.72
TNGAS 3	0-2	34	67	40.35	11	N/A	11		443.80
TNGAS 4	0-2	67	100	77.66	7	N/A	7		543.63
TNGAS 5	0-2	134	167	164.16	3	N/A	3		492.47
TNGAS 6	0-2	334	667	440.47	1	N/A	1		440.47
Texas-Gulf Coast									
TXGCGAS 1	0-4	0.0	20	6.61	722	328	661	300	4,369.22
TXGCGAS 2	0-4	20	33	21.47	348	211	319	193	6,848.57
TXGCGAS 3	0-4	34	67	40.17	566	293	518	268	20,807.10
TXGCGAS 4	0-4	67	100	66.48	384	227	351	207	23,334.55
TXGCGAS 5	0-4	100	133	93.24	242	150	220	138	20,513.79

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
TXGCGAS 6	0-4	134	167	117.98	190	128	174	117	20,528.61
TXGCGAS 7	0-4	167	200	148.55	139	94	127	86	18,866.35
TXGCGAS 8	0-4	200	333	210.55	282	150	258	137	54,323.12
TXGCGAS 9	0-4	334	667	391.74	119	74	109	68	42,699.76
TXGCGAS 10	0-4	667	1,667	704.65	39	25	34	23	23,958.00
TXGCGAS 11	0-4	1,667	0.00	7,122.61	15	12	14	11	99,716.49
TXGCGAS 12	4-10	0.0	20	7.23	1,493	582	1367	533	9,885.28
TXGCGAS 13	4-10	20	33	20.99	884	386	809	353	16,982.14
TXGCGAS 14	4-10	34	67	40.10	1,810	648	1657	593	66,439.96
TXGCGAS 15	4-10	67	100	69.98	1,330	542	1217	496	85,165.84
TXGCGAS 16	4-10	100	133	95.90	963	480	881	439	84,486.31
TXGCGAS 17	4-10	134	167	124.85	853	436	783	399	97,754.72
TXGCGAS 18	4-10	167	200	155.43	721	351	660	321	102,586.06
TXGCGAS 19	4-10	200	333	217.77	1,837	692	1681	633	366,067.63
TXGCGAS 20	4-10	334	667	387.37	1,998	656	1829	601	708,494.06
TXGCGAS 21	4-10	667	1,667	804.99	1,558	492	1426	450	1,147,911.69
TXGCGAS 22	4-10	1,667	0.00	2,232.76	539	191	493	175	1,100,751.34
TXGCGAS 23	10+	0.0	20	6.73	206	149	189	137	1,271.77
TXGCGAS 24	10+	20	33	19.69	145	98	133	90	2,619.00
TXGCGAS 25	10+	34	67	40.21	381	225	351	206	14,114.56
TXGCGAS 26	10+	67	100	71.14	336	187	308	171	21,912.31

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
TXGCGAS 27	10+	100	133	99.40	325	159	297	145	29,522.10
TXGCGAS 28	10+	134	167	131.87	292	160	267	146	35,208.28
TXGCGAS 29	10+	167	200	159.80	243	130	222	119	35,476.27
TXGCGAS 30	10+	200	333	228.37	696	282	637	258	145,470.97
TXGCGAS 31	10+	334	667	411.79	884	291	809	266	333,137.29
TXGCGAS 32	10+	667	1,667	868.09	828	280	758	256	658,014.31
TXGCGAS 33	10+	1,667	0.00	3,066.41	514	170	470	155	1,441,213.61
Texas-North									
TXNGAS 1	0-4	0.0	20	8.21	4,337	596	4133	568	33,929.83
TXNGAS 2	0-4	20	33	24.27	1,512	342	1441	326	34,969.22
TXNGAS 3	0-4	34	67	44.49	1,776	351	1692	334	75,284.47
TXNGAS 4	0-4	67	100	78.28	951	179	906	171	70,917.48
TXNGAS 5	0-4	100	133	110.26	500	84	476	80	52,484.52
TXNGAS 6	0-4	134	167	143.11	373	59	355	56	50,804.43
TXNGAS 7	0-4	167	200	175.42	273	39	260	37	45,609.81
TXNGAS 8	0-4	200	333	245.36	613	51	584	49	143,290.86
TXNGAS 9	0-4	334	667	423.04	358	28	341	27	144,255.16
TXNGAS 10	0-4	667	1,667	835.42	78	10	74	9	61,820.90
TXNGAS 11	4-10	0.0	20	9.06	1,779	439	1695	418	15,364.73
TXNGAS 12	4-10	20	33	24.08	1,083	307	1032	293	24,850.20

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
TXNGAS 13	4-10	34	67	44.32	1,689	433	1609	412	71,318.36
TXNGAS 14	4-10	67	100	77.05	937	271	893	258	68,803.79
TXNGAS 15	4-10	100	133	106.43	509	159	485	152	51,618.71
TXNGAS 16	4-10	134	167	136.38	348	140	332	134	45,279.17
TXNGAS 17	4-10	167	200	169.82	270	91	257	87	43,643.84
TXNGAS 18	4-10	200	333	225.90	516	143	492	136	111,143.53
TXNGAS 19	4-10	334	667	389.43	334	102	318	97	123,839.80
TXNGAS 20	4-10	667	1,667	771.45	95	58	91	56	70,201.87
TXNGAS 21	4-10	1,667	0.00	1,765.23	13	11	12	10	21,182.71
TXNGAS 22	10+	0.0	20	8.67	78	43	74	41	641.40
TXNGAS 23	10+	20	33	22.45	55	31	52	29	1,167.45
TXNGAS 24	10+	34	67	40.45	119	43	113	41	4,571.40
TXNGAS 25	10+	67	100	68.77	122	48	116	46	7,976.77
TXNGAS 26	10+	100	133	94.23	74	34	71	33	6,690.47
TXNGAS 27	10+	134	167	127.38	70	29	67	28	8,534.20
TXNGAS 28	10+	167	200	162.23	53	24	51	23	8,273.48
TXNGAS 29	10+	200	333	221.84	168	57	160	54	35,494.03
TXNGAS 30	10+	334	667	410.15	173	52	165	50	67,675.47
TXNGAS 31	10+	667	1,667	883.81	148	43	141	41	124,617.32
TXNGAS 32	10+	1,667	0.00	2,623.55	64	25	63	25	165,283.49

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
Texas-West									
TXWGAS 1	0-4	0.0	20	6.75	603	157	619	161	4,180.32
TXWGAS 2	0-4	20	33	23.44	185	71	190	73	4,453.09
TXWGAS 3	0-4	34	67	43.86	300	97	308	100	13,507.96
TXWGAS 4	0-4	67	100	73.62	143	49	147	50	10,822.73
TXWGAS 5	0-4	100	133	101.61	101	36	104	37	10,567.40
TXWGAS 6	0-4	134	167	130.59	60	24	62	25	8,096.34
TXWGAS 7	0-4	167	200	171.70	49	18	50	18	8,585.00
TXWGAS 8	0-4	200	333	223.51	86	28	88	29	19,668.72
TXWGAS 9	0-4	334	667	411.73	75	21	77	22	31,703.06
TXWGAS 10	0-4	667	1,667	788.33	7	7	7	7	5,518.30
TXWGAS 11	0-4	1,667	0.00	171,517.88	2	3	2	3	343,035.77
TXWGAS 12	4-10	0.0	20	9.16	1,239	184	1268	189	11,616.24
TXWGAS 13	4-10	20	33	24.16	635	141	651	145	15,728.74
TXWGAS 14	4-10	34	67	45.12	1,231	181	1263	186	56,983.77
TXWGAS 15	4-10	67	100	78.01	724	129	743	132	57,964.74
TXWGAS 16	4-10	100	133	108.90	455	99	467	102	50,855.48
TXWGAS 17	4-10	134	167	139.86	324	80	332	82	46,434.88
TXWGAS 18	4-10	167	200	170.31	198	60	203	62	34,572.30
TXWGAS 19	4-10	200	333	225.65	442	106	453	109	102,218.12
TXWGAS 20	4-10	334	667	383.79	266	83	273	85	104,773.60

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy		Revised 1993		1993 Total gas production (Mcdf)
					Number of wells	Number of fields	Number of wells	Number of fields	
TXWGAS 21	4-10	667	1,667	767.62	103	44	106	45	81,367.42
TXWGAS 22	4-10	1,667	0.00	2,366.38	27	12	28	12	66,258.51
TXWGAS 23	10+	0.0	20	7.65	76	51	78	52	596.49
TXWGAS 24	10+	20	33	23.40	33	25	34	26	795.74
TXWGAS 25	10+	34	67	42.23	73	55	75	57	3,167.50
TXWGAS 26	10+	67	100	69.86	52	35	53	36	3,702.80
TXWGAS 27	10+	100	133	102.26	35	27	36	28	3,681.19
TXWGAS 28	10+	134	167	131.07	41	32	42	33	5,504.90
TXWGAS 29	10+	167	200	161.94	41	32	42	33	6,801.58
TXWGAS 30	10+	200	333	225.42	115	61	118	63	26,599.90
TXWGAS 31	10+	334	667	424.77	178	62	183	64	77,732.54
TXWGAS 32	10+	667	1,667	984.36	254	62	261	64	256,917.51
TXWGAS 33	10+	1,667	0.00	3,705.64	294	51	302	52	1,119,103.18
Utah									
UTGAS 1	0-4	0.0	20	5.74	42	10	57	14	327.39
UTGAS 2	0-4	20	33	18.60	21	8	29	11	539.26
UTGAS 3	0-4	34	67	38.23	26	10	35	13	1,338.03
UTGAS 4	0-4	67	100	64.59	20	7	27	9	1,744.02
UTGAS 5	0-4	100	133	95.18	16	9	22	12	2,093.94
UTGAS 6	0-4	134	167	130.15	11	6	15	8	1,952.23

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
UTGAS 7	0-4	167	200	141.58	5	6	7	8	991.06
UTGAS 8	0-4	200	333	167.92	9	5	12	7	2,015.07
UTGAS 9	0-4	334	667	427.94	3	4	4	5	1,711.78
UTGAS 10	0-4	667	1,667	749.47	2	3	3	5	2,248.40
UTGAS 11	4-10	0.0	20	8.67	38	12	55	16	476.86
UTGAS 12	4-10	20	33	17.72	29	13	39	17	691.20
UTGAS 13	4-10	34	67	37.79	110	18	149	24	5,630.76
UTGAS 14	4-10	67	100	58.23	92	15	125	20	7,278.85
UTGAS 15	4-10	100	133	90.71	79	13	107	18	9,705.62
UTGAS 16	4-10	134	167	114.97	73	15	99	20	11,382.06
UTGAS 17	4-10	167	200	138.45	42	12	57	16	7,891.92
UTGAS 18	4-10	200	333	196.51	86	17	117	23	22,992.13
UTGAS 19	4-10	334	667	341.48	79	17	107	23	36,537.88
UTGAS 20	4-10	667	1,667	644.98	25	10	34	14	21,929.37
UTGAS 21	4-10	1,667	0.00	10,117.78	9	7	12	9	121,413.38
UTGAS 22	10+	20	33	18.20	2	3	3	5	54.60
UTGAS 23	10+	34	67	66.67	1	1	1	1	66.67
UTGAS 24	10+	100	133	127.30	1	1	1	1	127.30
UTGAS 25	10+	200	333	113.83	2	1	3	2	341.50
UTGAS 26	10+	334	667	148.52	4	4	5	5	742.58
UTGAS 27	10+	667	1,667	699.65	2	3	3	5	2,098.95

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
UTGAS 28	10+	1,667	0.00	15,430.77	28	1	36	1	555,507.73
Virginia									
VAGAS 1	0-5	0.0	20	11.28	325	N/A	590		6,657.50
VAGAS 2	0-5	34	67	37.38	286	N/A	519		19,402.37
VAGAS 3	0-5	67	100	100.52	59	N/A	107		10,755.19
VAGAS 4	0-5	134	167	154.88	23	N/A	42		6,504.83
VAGAS 5	0-5	167	200	209.58	12	N/A	22		4,610.71
VAGAS 6	0-5	200	333	286.09	7	N/A	13		3,719.11
VAGAS 7	0-5	334	667	508.35	21	N/A	38		19,317.15
VAGAS 8	0-5	667	1,667	1,331.08	4	N/A	7		9,317.53
VAGAS 9	0-5	1,667	0.00	4,761.80	1	N/A	2		9,523.60
West Virginia									
WVGAS 1	0-4	0.0	20	5.37	29,959	N/A	31645		169,963.19
WVGAS 2	0-4	20	33	23.12	2,875	N/A	3037		70,200.86
WVGAS 3	0-4	34	67	43.66	2,074	N/A	2191		95,648.45
WVGAS 4	0-4	67	100	83.36	645	N/A	681		56,765.80
WVGAS 5	0-4	134	167	146.69	449	N/A	474		69,528.80
WVGAS 6	0-4	200	333	322.51	185	N/A	195		62,888.84
WVGAS 7	0-4	667	1,667	988.16	54	N/A	57		56,324.90

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)
Wyoming									
WYGAS 1	0-4	0.0	20	6.63	77	43	80	45	530.42
WYGAS 2	0-4	20	33	21.66	30	18	31	19	671.46
WYGAS 3	0-4	34	67	42.31	83	39	86	40	3,638.66
WYGAS 4	0-4	67	100	66.79	36	23	37	24	2,471.26
WYGAS 5	0-4	100	133	85.06	26	22	26	23	2,211.60
WYGAS 6	0-4	134	167	132.51	18	16	19	17	2,517.68
WYGAS 7	0-4	167	200	150.99	19	14	20	15	3,019.75
WYGAS 8	0-4	200	333	218.29	44	30	46	31	10,041.21
WYGAS 9	0-4	334	667	330.86	34	24	35	25	11,580.13
WYGAS 10	0-4	667	1,667	581.26	28	15	30	16	17,437.75
WYGAS 11	0-4	1,667	0.00	5,628.49	10	10	10	10	56,284.90
WYGAS 12	4-10	0.0	20	6.83	74	47	77	49	525.79
WYGAS 13	4-10	20	33	21.31	59	38	61	39	1,299.95
WYGAS 14	4-10	34	67	41.52	178	75	185	78	7,680.51
WYGAS 15	4-10	67	100	66.49	122	59	125	61	8,310.83
WYGAS 16	4-10	100	133	95.48	128	58	133	60	12,699.39
WYGAS 17	4-10	134	167	120.08	96	47	100	49	12,008.44
WYGAS 18	4-10	167	200	160.95	100	43	104	45	16,738.38
WYGAS 19	4-10	200	333	219.44	241	65	250	67	54,858.96
WYGAS 20	4-10	334	667	388.14	268	64	278	66	107,902.03

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APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)		Gas rate per well (Mcfd)	Gruy		Revised 1993		1993 Total gas production (Mcdf)
					Number of wells	Number of fields	Number of wells	Number of fields	
WYGAS 21	4-10	667	1,667	765.06	209	53	217	55	166,017.94
WYGAS 22	4-10	1,667	0.00	2,124.09	60	22	62	23	131,693.82
WYGAS 23	10+	0.0	20	4.60	51	37	53	38	243.83
WYGAS 24	10+	20	33	13.95	30	25	31	26	432.59
WYGAS 25	10+	34	67	30.37	88	56	91	58	2,763.99
WYGAS 26	10+	67	100	55.20	80	51	83	53	4,581.46
WYGAS 27	10+	100	133	75.65	57	36	59	37	4,463.06
WYGAS 28	10+	134	167	100.22	37	22	38	23	3,808.18
WYGAS 29	10+	167	200	128.87	40	31	42	33	5,412.40
WYGAS 30	10+	200	333	185.36	97	36	101	37	18,721.03
WYGAS 31	10+	334	667	370.15	145	48	150	50	55,521.76
WYGAS 32	10+	667	1,667	721.65	90	41	96	42	69,278.04
WYGAS 33	10+	1,667	0.00	9,085.16	120	33	124	34	1,126,560.05

APPENDIX B: GRUY ENGINEERING CORPORATION'S GAS WELLGROUPS BY STATE (CONTINUED)

State/wellgroup	Depth Range (Mft)	Range (Mcfd)	Gas rate per well (Mcfd)	Gruy Number of wells	Gruy Number of fields	Revised 1993 Number of wells	Revised 1993 Number of fields	1993 Total gas production (Mcdf)

(continued)

APPENDIX C

DERIVATION AND INTERPRETATION OF SUPPLY FUNCTION PARAMETER β

APPENDIX C
DERIVATION AND INTERPRETATION OF SUPPLY FUNCTION PARAMETER β

The generalized Leontief functional form that is used to project supply relations for each producing field is set out in Equation (4-1), repeated below for clarity:

$$q_j = \gamma_j + \frac{\beta}{2}\left[\frac{1}{r}\right]^{1/2} \qquad (4\text{-}1)$$

A closer look at the supply specification in Eq. (4-1) requires an interpretation of the β parameter. Although this parameter does not have an intuitively appealing interpretation, it is related to the producing field's supply elasticity for natural gas--a well-known model parameter. An individual field's supply elasticity for natural gas, ξ_j, can be expressed as:

$$\xi_j = \frac{\partial q_j / q_j}{\partial r / r} = \frac{\partial q_j / \partial r}{q_j / r} \qquad (C\text{-}1a)$$

or

$$\xi_j = \frac{\partial q_j}{\partial r} \cdot \frac{r}{q_j} \qquad (C\text{-}1b)$$

where $\partial q_j / \partial r$ is the derivative of quantity supplied by the field with respect to wellhead price (r).

To establish the relationship between ξ_j and β we start by taking the derivative of the facility supply function

(Equation [4.1]) with respect to price, and multiply the expression by r/q_j resulting in the following expression for the supply elasticity:

$$\frac{\partial q_j}{\partial r} \cdot \frac{r}{q_j} = \xi_j = -\beta \frac{1}{4q_j} \left[\frac{1}{r}\right]^{1/2} \qquad \text{(C-2)}$$

Since economic theory dictates that the supply elasticity is positive (i.e., $\xi_j > 0$) and q_j and r are positive, Equation (C-2) above indicates that the parameter β is negative, i.e., $\beta < 0$. Finally, the solution for β from Equation (C-2) reveals the following expression:

$$\beta = -\xi 4q \left[\frac{1}{r}\right]^{-1/2} \qquad \text{(C-3)}$$

where

ξ = market supply elasticity, and

q = production-weighted average annual level of natural gas production per well.

This approach derives a single β value based on market-level data.

APPENDIX D

NATURAL GAS MARKET MODEL SUMMARY

APPENDIX D
NATURAL GAS MARKET MODEL SUMMARY

This appendix provides a complete list of the exogenous and endogenous variables, as well as the model equations.

D.1 EXOGENOUS VARIABLES

η_i^d	Demand elasticity for natural gas by end-user (i).
ξ^I	Import supply elasticity of foreign natural gas.
β, γ_j	Supply function parameters for natural gas by U.S. producing field (j).
A^I	Import supply function parameter for natural gas (Multiplicative constant).
B_i^d	Demand function parameters for natural gas by end-user (i) (Multiplicative constants).
c_j	Regulatory control costs (per Mcf of output) for producing field (j).

D.2 ENDOGENOUS VARIABLES

r	Wellhead price of natural gas ($/Mcf).
ρ_i	End-user price of natural gas where i represents residential, commercial, industrial, and utility consumers.
$q_j^S \cdot q^I \cdot Q^S$	Domestic (field-level) and foreign supply of natural gas ($q_j^S \cdot q^I$) and market supply of natural gas (Q^S).
$q_i^d \cdot Q^D$	Domestic end-user demand (q_i^d) and market demand for natural gas (Q^D).

D.3 MODEL EQUATIONS

Market Supply of Natural Gas:

$$Q^S = q^I + \sum_j q_j^S ,$$

where $q^I = A^I [r]^{\xi^I}$

and

$$\sum_j q_j^S = \sum_j \left\{ \gamma_j + \frac{\beta}{2} \left[\frac{1}{r} \right]^{1/2} \right\} \text{ without regulation}$$

or

$$\sum_j q_j^S = \sum_j \left\{ \gamma_j + \frac{\beta}{2} \left[\frac{1}{r - c_j} \right]^{1/2} \right\} \text{ with regulation}$$

Market Demand of Natural Gas:

$$Q^D = \sum_i q_i^d ,$$

where $q_i^d = B_i^d [p_i]^{\eta_i^d}$.

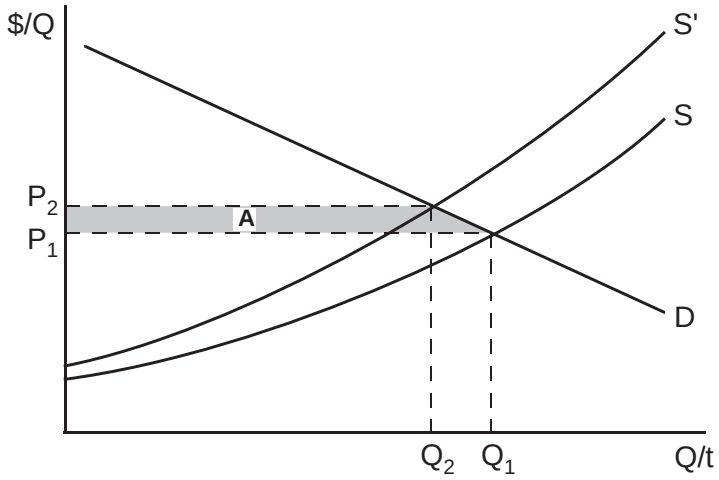
APPENDIX E

APPROACH TO ESTIMATING ECONOMIC WELFARE IMPACTS

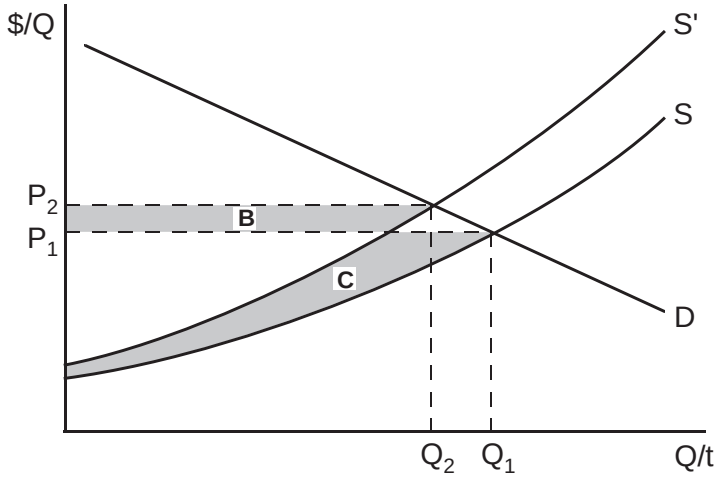
APPENDIX E
APPROACH TO ESTIMATING ECONOMIC WELFARE IMPACTS

The economic welfare implications of the market price and output changes of natural gas with the regulations can be examined using two slightly different tactics, each giving a somewhat different insight but the same implications: (1) changes in the net benefits of consumers and producers based on the price changes, and (2) changes in the total benefits and costs of natural gas based on the quantity changes. For this analysis, we focus on the first measure--the changes in the net benefits of consumers and producers. Figure E-l depicts the change in economic welfare by first measuring the change in consumer surplus and then the change in producer surplus. In essence the demand and supply curves previously used as predictive devices are now being used as a valuation tool.

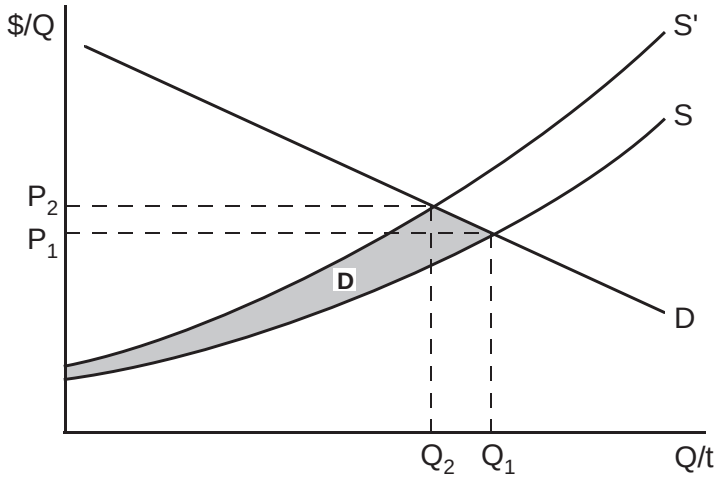
This method of estimating the change in economic welfare with the regulations decomposes society into consumers and producers. In a market environment, consumers and producers of the good or service derive welfare from a market transaction. The difference between the maximum price consumers are willing to pay for a good and the price they actually pay is referred to as consumer surplus. Consumer surplus is measured as the area under the demand curve and above the price of the product. Similarly, the difference between the minimum price producers are willing to accept for a good and the price they actually receive is referred to as producer surplus. Producer surplus is measured as the area above the supply curve to the price of the product. These areas may be thought of as consumers' net benefits of



(a) Change in Consumer Surplus with Regulation



(b) Change in Producer Surplus with Regulation



(c) Net Change in Economic Welfare with Regulation

Figure E-1. Economic welfare changes with regulation: consumer and producer surplus.

consumption and producers' net benefits of production respectively.

In Figure E-l, baseline equilibrium occurs at the intersection of the natural gas demand curve, D, and supply curve, S. Price is P_l with quantity Q_l. The increase cost of production with the regulations will cause the market supply curve to shift upward to S'. The new equilibrium price of paper is P_l. With a higher price for natural gas there is less consumer welfare, all else being unchanged. In Figure E-l(a), area A represents the dollar value of the annual net loss in consumers' benefits with the increased price of natural gas. The rectangular portion represents the loss in consumer surplus on the quantity still consumed, Q_2, while the triangular area represents the foregone surplus resulting from the reduced amount of natural gas consumed, Q_l-Q_2.

In addition to the changes in consumer welfare, there are also changes in producers welfare with the regulations. With the increase in natural gas price producers receive higher revenues on the quantity still purchased, Q_2. In Figure E-l(b), area B represents the increase in revenues due to this increase in price. The difference in the area under the supply curve up to the original market price, area C, measures the loss in producers' surplus, which includes the loss associated with the quantity no longer produced. The net change in producers' welfare is represented by area B-C.

The change in economic welfare attributable to the compliance costs of the regulations is the sum of consumer and producer surplus changes, that is, - (A) + (B-C). Figure E-l(c) shows the net (negative) change in economic welfare associated with the regulations as area D. However, this analysis does not include the benefits that occur outside the natural gas market--the value of the reduced levels of air

pollution with the regulations. Inclusion of this benefit may reduce the net cost of the regulations or even make them positive, that is, total benefits, private market benefits as estimated above plus the benefits in the quality of the environment, may exceed total costs.

APPENDIX F

DATA SUMMARY OF

COMPANIES INCLUDED IN

FIRM-LEVEL ANALYSIS: 1993

TABLE F-1. DATA SUMMARY OF COMPANIES INCLUDED IN FIRM-LEVEL ANALYSIS: 1993

Comp. ID	Company Name	SIC Code	Employment (#)	Sales ($000/yr)	Assets ($000)	Net Income ($000/yr)	Total Liquid Production (Bcf)	Total Natural Gas Production (Bcf)
1	Adams Resources & Energy Inc.	1311	291	695,445	50,295	1,452	0.54	0.885
2	Alamco, Inc.	1311	87	11,900	43,261	1,552	0.37	3.197
3	Alexander Energy Corp.	1311	46	14,207	54,158	1,245	2.02	3.692
4	Alfa Resources Corp.	1311	11	1,354	1,261	5	0.6	0.011
5	Alleghany & Western Energy Corp.	4924	565	185,534	195,680	3,746	0.05	1.518
6	Alta Energy Corp.	1311	31	16,926	58,467	(3,750)	4.92	1.665
7	Amber Resources Co.	1311	2	469	3,604	(10)	0.02	0.232
8	Amerada Hess Corp.	2911	10,100	5,872,741	8,641,546	(268,203)	260	183.000
9	American Exploration Co.	1311	297	59,088	185,598	(19,186)	11.89	11.790
10	American Natural Energy Corp.	1311	121	8,425	21,169	704	0.81	2.640
11	Amoco Corp.	2911	46,994	28,617,000	28,486,000	1,820,000	1000	867.000
12	Apache Corp.	1311	884	466,638	1,592,407	37,334	121	109.300
13	ARCO	2911	26,800	19,183,000	23,894,000	269,000	2210	332.000
14	Ashland Oil Inc.	2911	31,800	10,283,325	5,551,817	142,234	4	36.200
15	Barrett Resources Corp.	1311	60	42,686	90,740	5,756	0.75	7.214
16	Basic Earth Science Systems Inc.	1382	13	1,653	2,745	(23)	0.77	0.126
17	Basin Expl. Inc.	1311	123	37,968	131,520	5,150	8.44	13.330

(continued)

TABLE F-1. DATA SUMMARY OF COMPANIES INCLUDED IN FIRM-LEVEL ANALYSIS: 1993 (CONTINUED)

Comp. ID	Company Name	SIC Code	Employment (#)	Sales ($000/yr)	Assets ($000)	Net Income ($000/yr)	Total Liquid Production (Bcf)	Total Natural Gas Production (Bcf)
18	Belden & Blake Corp.	1311	292	77,718	135,174	3,220	4.53	7.373
19	Bellwether Exploration Co.	1311	6	3,655	12,480	41	0.49	0.483
20	Berry Petroleum Co.	1311	125	67,761	135,159	32	36.17	0.771
21	Black Dome Energy Corp.	1311	3	678	1,040	62	0.03	0.286
22	Black Hills Corp.	1311	449	139,373	352,853	22,946	3.27	0.777
23	Box Energy Corp.	1311	57	37,102	128,882	2,161	8.04	3.912
24	Western Gas Resources	4923	825	932,338	1,114,748	38,102	1.07	15.850
25	Louis Dreyfus Natural Gas Corp.	1311	556	95,181	481,488	2,260	21.06	30.540
26	Callon Consolidated Partners LP	1311	126	8,805	19,349	165	2.64	6.847
27	Castle Energy Corp.	1311	402	601,000	392,738	67,837	0.45	3.472
28	Chevron Corp.	2911	49,245	37,082,000	34,736,000	1,265,000	1440	751.000
29	Cliffs Drilling Co.	1381	352	66,396	133,523	3,626	0.44	1.651
30	Coastal Corp.	1311	16,570	10,136,100	10,277,100	115,800	49.4	122.000
31	Columbia Gas System	1311	10,172	3,398,500	6,957,900	152,200	36.03	71.500
32	Columbus Energy Corp.	1382	36	12,913	22,938	3,806	2.93	1.693
33	Comstock Resources Inc.	1311	27	22,453	74,095	2,324	2.78	7.274
34	Conoco Inc.	2911	25,782	15,771,000	11,938,000	812,000	400	305.000

(continued)

TABLE F-1. DATA SUMMARY OF COMPANIES INCLUDED IN FIRM-LEVEL ANALYSIS: 1993 (CONTINUED)

Comp. ID	Company Name	SIC Code	Employment (#)	Sales ($000/yr)	Assets ($000)	Net Income ($000/yr)	Total Liquid Production (Bcf)	Total Natural Gas Production (Bcf)
35	Consolidated Natural Gas Co.	4923	7,615	3,194,616	5,409,586	205,916	39.07	124.000
36	Crystal Oil Company	1311	92	35,940	117,334	1,040	11.06	7.551
37	Delta Natural Gas Co. Inc.	4923	177	31,221	55,130	2,621	0	0.270
38	Eagle Exploration Co.	1311	2	355	1,336	120	0.03	0.009
39	Edisto Resources Corp.	4923	192	175,069	168,243	5,600	3.53	11.160
40	Energy Development Corp.	1311	235	281,066	679,437	46,341	26.1	95.000
41	Enron Corp.	1382	7,780	8,003,939	11,504,315	332,522	25.2	240.000
42	Ensearch Corp.	1311	10,400	1,902,299	2,760,261	59,237	24.81	70.030
43	Equitable Resources Inc.	4923	2,454	1,094,794	1,946,907	73,455	21.12	53.550
44	Espero Energy Corp.	1311	8	6,050	9,383	116	1.26	1.891
45	Exxon Corp.	2911	95,000	111,211,000	84,145,000	5,280,000	2020	697.000
46	Forest Oil Corp.	1311	183	105,148	426,755	(21,213)	14.93	41.110
47	Great Northern Gas Co.	1311	4	667	1,469	177	0	0.384
48	Hallwood Energy Prtnr LP	1311	200	49,613	171,624	13,064	8.81	14.070
49	KN Energy Inc.	4923	1,600	493,349	731,269	24,275	1.51	5.100
50	Lomak Petroleum Inc.	1311	150	19,075	76,333	1,391	3.18	2.590
51	Louisiana Land & Exploration	1382	709	815,400	1,838,700	9,600	88	65.600

(continued)

TABLE F-1. DATA SUMMARY OF COMPANIES INCLUDED IN FIRM-LEVEL ANALYSIS: 1993 (CONTINUED)

Comp. ID	Company Name	SIC Code	Employment (#)	Sales ($000/yr)	Assets ($000)	Net Income ($000/yr)	Total Liquid Production (Bcf)	Total Natural Gas Production (Bcf)
52	Maxus Energy Corp.	1311	2,190	807,000	1,987,400	(49,400)	46	76.000
53	Meridian Oil Inc.	1311	1,700	1,246,502	4,375,165	303,138	153.1	336.000
54	Mesa Inc.	1311	382	232,908	1,533,382	(102,448)	57.88	79.820
55	Mitchell Energy & Development Corp.	1311	2,900	952,809	2,415,476	19,687	203	74.400
56	Mobil Corp.	2911	63,700	63,975,000	40,585,000	2,084,000	1110	558.000
57	Noble Affiliates Inc.	1311	503	286,583	1,067,996	12,625	60.64	71.310
58	Nuevo Energy Co.	1382	630	107,832	287,591	8,933	19.33	16.770
59	Occidental Petroleum Corp.	1311	23,600	8,544,000	17,123,000	283,000	210	219.000
60	ONEOK Inc.	4923	2,208	789,777	1,104,468	38,424	4.43	8.401
61	Oryx Energy Co.	1382	1,600	1,054,000	3,624,000	(100,000)	240	191.000
62	Pennzoil Co.	2911	9,901	2,782,397	4,886,203	141,856	240	220.000
63	Phillips Petroleum Co.	1311	21,400	12,545,000	10,868,000	243,000	470	345.000
64	Plains Petroleum Co.	1311	106	64,280	126,792	1,727	12.2	23.760
65	Pogo Producing Co.	1311	100	139,568	239,774	25,061	42.2	32.320
66	Presidio Oil CLA	1382	137	48,267	280,420	(7,233)	14.36	15.340
67	Questar Corp.	1311	2,659	664,062	1,417,687	81,692	20.56	67.810
68	Sage Energy Co.	1311	105	43,399	49,632	6,735	15.18	6.305
69	Samson Energy Co. LP	1311	176	22,374	41,805	4,329	2.51	7.641
70	Sante Fe Energy Resources	1311	839	446,000	1,076,900	(77,100)	219	60.300
71	Shell Oil Co.	2911	28,893	21,092,000	26,851,000	781,000	1470	539.000
72	Snyder Oil Corp.	1311	289	229,685	479,536	25,664	34.51	35.080

TABLE F-1. DATA SUMMARY OF COMPANIES INCLUDED IN FIRM-LEVEL ANALYSIS: 1993 (CONTINUED)

Comp. ID	Company Name	SIC Code	Employment (#)	Sales ($000/yr)	Assets ($000)	Net Income ($000/yr)	Total Liquid Production (Bcf)	Total Natural Gas Production (Bcf)
73	Sonat Inc.	4923	5,300	1,966,664	3,213,997	261,240	37.44	146.100
74	Sooner Energy Corp.	1311	2	392	352	219	0.02	0.077
75	Texaco Inc.	2911	38,000	34,071,000	26,626,000	1,068,000	1550	652.000
76	Tide West Oil Co.	1311	34	96,302	106,606	4,030	0.58	2.317
77	Unocal Corp.	2911	14,687	8,344,000	9,254,000	213,000	480	365.000
78	USX-Marathon Group	2911	44,872	11,962,000	10,806,000	(29,000)	410	193.000
79	Wainoco Oil Corp.	2911	434	366,556	296,811	2,504	7.47	2.504
80	Wolverine Exploration Co.	1311	4	7,061	10,763	4,953	1.12	1.467