

MONTANA



OIL^{and} GAS

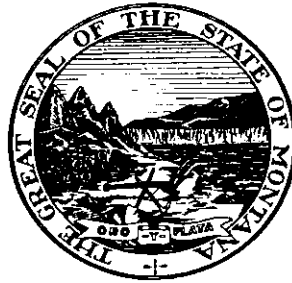
ANNUAL REVIEW 1989

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DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

Oil and Gas Conservation Division

Stan Stephens, Governor



ANNUAL REVIEW FOR THE YEAR 1989

Relating to

OIL AND GAS

Volume 33

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August, 1990

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Administrators for the Board of Oil and Gas Conservation of the State of Montana

THOMAS P. RICHMOND,
ADMINISTRATOR/PETROLEUM ENGINEER
2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102

DEE RICKMAN,
EXECUTIVE SECRETARY
1520 EAST SIXTH AVENUE
HELENA, MONTANA 59620

DONALD A. GARRITY,
ATTORNEY
1313 ELEVENTH AVENUE
HELENA, MONTANA 59601

JAMES W. HALVORSON,
GEOLOGIST
2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102

TIMOTHY C. FOX,
ENVIRONMENTAL COORDINATOR
2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102

FLOYD W. PODOLL,
FIELD SUPERVISOR
2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102

Administrative Office	1520 East Sixth Avenue, Helena, Montana 59620
Technical Office and Southern District Field Office	2535 St. Johns Avenue, Billings, Montana 59102
Northern District Field Office	218 Main Street, Shelby, Montana 59474

Annual Review for the Year 1989 Volume 33 ACTIVITY REVIEW—MONTANA 1989

Both the drilling activity and the oil production during 1989 in Montana continued the decline of the last several years. 242 wells were drilled in 1989. Oil production was slightly less than 21 million barrels, a 10 percent decrease from the 1988 total. Natural gas production decreased to 52.6 billion cubic feet (bcf) from the 53.0 bcf produced in 1988. Some 274 companies and individual owners operated wells in Montana in 1989.

A significant change in the manner of permitting new oil and gas wells in Montana was instituted by the Board of Oil and Gas Conservation during 1989. The traditional permitting process was challenged in district court and found to inadequately implement the public notice and participation processes under the Montana Constitution. Notice of application for a drilling permit for new wells, not located in exempted fields, must be published for public review and a brief public comment period allowed before action by the board's staff. The permit will be approved 10 days after the publication date if no objections are received under the new rules adopted by the board.

At the end of 1989, the board adopted a Programmatic Environmental Impact Statement (PEIS) covering its oil and gas permitting practices. This document was prepared as a

result of legislation passed by the 1987 Montana Legislature and extended by the 1989 Legislature. The PEIS includes a number of recommendations for changes to the current procedures to ensure that the permit process complies with the Montana Environmental Policy Act. The board will be reviewing its rules and regulations and intends to involve the regulated community as well as the general public in any decisions involving rule revision.

A new state depth record was achieved during 1989 at Union Oil Company of California's No. 1-B30 Federal in Lewis and Clark County, north of Helena. The well was completed, plugged and abandoned at a total depth of 17,818 feet in Mississippian age rocks. The previous state record was the Arco No. 1 Paul Gibbs in Flathead County at 17,774 feet, a dry hole drilled to the pre-Cambrian Belt group.

Other activities during 1989 include 196 Natural Gas Policy Act (NGPA) price determinations and the issuance of 69 Board Orders. Finally, the board's petroleum geologist and Oil and Gas Conservation Division Administrator, Charles G. Maio, retired in January 1990. Mr. Maio had been employed by the state for 14 years and was previously employed by Conoco and as an independent consultant.

1989

SUMMARY OF YEAR ACTIVITIES

OIL

	BBLs	BBLs/DAY
Oil Produced	20,969,292	57,450
Oil Imported From:		
Canada	25,479,890	
Wyoming	<u>16,674,921</u>	
Total	42,154,811	115,493
Oil Exported	16,200,000	44,384

GAS

	MCF	MCF/DAY
Gas Withdrawals:		
Natural	42,984,482	
Associated	<u>9,597,966</u>	
Total	52,582,448	144,062
Gas Imported From:		
Canada	10,316,276	
North Dakota	13,905,226	
Wyoming	<u>8,045,331</u>	
Total	32,266,833	88,402
Gas Exported To:		
Canada	82,212	
North Dakota	12,544,786	
South Dakota	9,001,368	
Wyoming	17,779,167	
Midwest	<u>10,616,145</u>	
Total	50,023,678	137,051

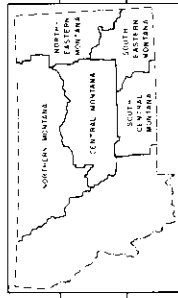
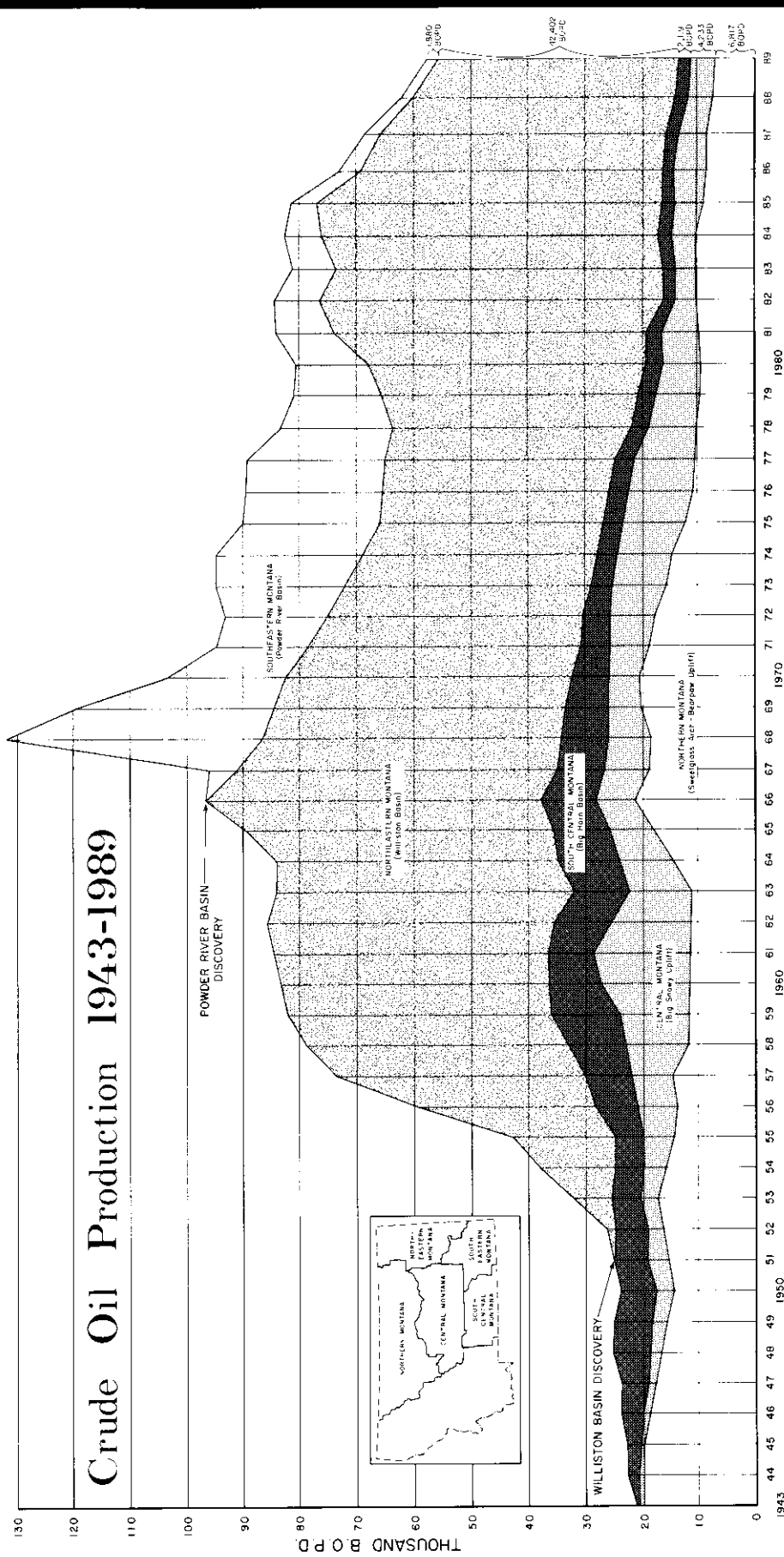
FIVE YEAR SUMMARY

	1985	1986	1987	1988	1989
OIL PRODUCTION IN BARRELS					
Northern Montana	3,419,300	3,220,769	3,040,941	2,779,524	2,488,169
South Central	838,817	722,118	827,229	884,954	773,372
Central	1,868,780	2,387,266	1,847,551	1,684,853	1,544,989
Williston Basin	21,979,087	19,520,103	18,319,149	17,089,238	15,476,534
Powder River Basin	<u>1,744,433</u>	<u>1,314,374</u>	<u>1,069,179</u>	<u>878,887</u>	<u>686,228</u>
TOTAL	29,850,417	27,164,630	25,104,049	23,317,456	20,969,292
NUMBER OF PRODUCING OIL WELLS					
Northern Montana	2,803	3,017	2,850	2,821	2,644
South Central	141	80	130	128	131
Central	417	453	363	355	331
Williston Basin	1,540	1,509	1,430	1,434	1,377
Powder River Basin	<u>216</u>	<u>184</u>	<u>112</u>	<u>103</u>	<u>112</u>
TOTAL	5,117	5,243	4,885	4,841	4,595
AVERAGE DAILY PRODUCTION/OIL WELL					
Northern Montana	3.3	2.9	2.9	2.7	2.6
South Central	16.3	24.7	17.4	18.9	16.2
Central	12.3	14.4	13.9	13.0	12.8
Williston Basin	39.1	35.4	35.1	32.6	30.8
Powder River Basin	<u>22.1</u>	<u>19.5</u>	<u>26.2</u>	<u>23.3</u>	<u>16.8</u>
STATE AVERAGE	16.0	14.2	14.1	13.2	12.5
DEVELOPMENT WELLS DRILLED					
Oil Wells	227	90	86	72	32
Gas Wells	84	81	75	54	115
Dry Holes	90	69	39	46	29
Service Wells	<u>18</u>	<u>4</u>	<u>21</u>	<u>12</u>	<u>8</u>
TOTAL	419	244	221	184	184
EXPLORATORY WELLS DRILLED					
Oil Wells	16	11	7	10	8
Gas Wells	2	10	9	19	12
Dry Holes	192	130	100	100	38
Temporary Abandoned	<u>11</u>	<u>10</u>	<u>11</u>	<u>9</u>	<u>0</u>
TOTAL	221	161	127	138	58
TOTAL WELLS DRILLED	640	405	348	322	242
TOTAL FOOTAGE DRILLED	3,076,290	1,648,519	1,526,389	1,301,884	720,785
AVERAGE FOOTAGE DRILLED	4,806	4,070	4,386	4,043	2,978

SUMMARY OF DRILLING BY COUNTIES—1989

County	Development		Wildcat		Service	Temp. Aband.	Total Wells	Footage Drilled	Average Depth
	Oil	Gas	Oil	Gas					
Big Horn	0	0	0	0	0	0	2	12,579	6,289
Blaine	0	19	1	4	0	0	33	56,320	1,706
Carbon	1	1	0	0	0	0	4	19,531	4,882
Chouteau	0	0	0	1	0	0	3	7,166	2,388
Fallon	2	0	0	0	1	0	3	27,345	9,115
Fergus	0	0	0	0	0	0	1	4,750	4,750
Garfield	0	0	1	0	0	0	3	13,590	4,530
Glacier	10	2	0	0	3	0	15	42,877	2,858
Hill	0	7	0	2	0	0	17	28,194	1,658
McCone	0	0	0	0	0	0	1	6,475	6,475
Musselshell	0	0	0	0	1	0	3	9,559	3,186
Petroleum	0	0	0	0	0	0	3	9,445	3,148
Phillips	0	54	0	0	0	0	54	80,743	1,495
Pondera	0	2	1	0	0	0	6	7,731	1,288
Richland	2	0	2	0	0	0	5	53,687	10,737
Roosevelt	0	0	1	0	0	0	5	38,335	7,667
Rosebud	1	0	0	0	2	0	8	43,683	5,460
Sheridan	3	0	1	0	0	0	13	119,143	9,164
Stillwater	0	1	0	0	0	0	1	1,339	1,339
Teton	0	0	1	0	0	0	2	9,041	4,520
Toole	9	29	0	5	1	0	54	93,839	1,738
Valley	1	0	0	0	0	0	1	5,940	5,940
Wibaux	0	0	0	0	0	0	2	21,329	10,664
Yellowstone	3	0	0	0	0	0	3	8,144	2,714
TOTALS	32	115	29	12	8	0	242	720,785	2,978

Crude Oil Production 1943-1989



GAS PRODUCTION DATA - 1989 NATURAL GAS

Field	County	Producing Formation	Produced MCF
Alma	Liberty	Bow Island, Blackleaf	7,677
Amanda	Toole	Swift, Bow Island, Sunburst	184,902
Arch Apex	Toole	Bow Island, Sunburst	355,193
Ashfield	Phillips	Carlile, Greenhorn	791,548
Badlands	Hill	Eagle	341,292
Battle Creek	Blaine	Eagle	2,833,634
Bears Den	Liberty	Bow Island, Swift	20,708
Big Coulee	Golden Valley, Stillwater	Morrison, Cat Creek	189,813
Big Rock	Glacier	Blackleaf, Bow Island, Colorado	529,519
Bills Coulee	Teton	Sunburst, Moulton, Kootenai, Dakota, Madison	48,937
Black Butte	Hill	Eagle	136,744
Black Coulee	Blaine	Eagle	288,969
Blackfoot	Glacier	Dakota, Sunburst	119,028
Blackjack	Liberty	Second White Specks, Sunburst, Blackleaf, Bow Island	102,458
Blackleaf Canyon	Teton	Sun River	212,531
Border	Toole	Sunburst	6,805
Bowdoin and Area	Phillips, Valley	Montana and Colorado Shale	1,940,688
Bowes	Blaine	Eagle	578,342
Bradley	Glacier	Dakota	1,430
Broadview	Golden Valley	Frontier	88,542
Browns Coulee, East	Hill	Eagle	47,595
Buffalo Flats	Chouteau	Bow Island, Roberts	13,921
Bullwacker and Area	Blaine, Chouteau	Eagle, Judith River	910,250
Camp Creek	Chouteau	Eagle	16,621
Canadian Coulee and Area	Hill	Sawtooth	406
Canadian Coulee, North	Hill, Liberty	Sawtooth	4,488
Cedar Creek	Fallon	Eagle	460,029
Chain Lakes	Hill	Eagle	1
Charlie Creek, North	Richland	Red River	10,244
Clarks Fork	Carbon	Greybull	21,890
Coal Coulee	Hill	Eagle	18,164
Coal Mine Coulee	Chouteau	Eagle	33,462
Cut Bank	Glacier, Toole	Cut Bank, Blackleaf, Moulton, Sunburst	
		Bow Island, Madison, Dakota, Kootenai	3,367,492
Devon	Toole	Bow Island	266,061
Devon, East	Toole	Bow Island	24,719
Devon, South	Toole	Bow Island	19,754
Dry Creek	Carbon	Frontier, Judith River, Virgelle	730,386
Dry Creek, Middle	Carbon	Frontier	30,777
Dry Creek (Shallow Gas)	Carbon	Virgelle	30,253
Dry Creek, West	Carbon	Greybull	45,380
Dry Fork	Pondera	Bow Island	34,909
Dunkirk	Toole	Dakota, Bow Island	184,600
Dunkirk, North	Toole	Bow Island, Dakota, Kootenai, Swift, Sunburst	282,321
Eagle Springs	Toole	Bow Island	22,232
Ethridge Area	Toole	Swift	42,199
Ethridge, North	Toole	Swift	2,726
Fitzpatrick Lake	Toole	Bow Island	99,404
Flat Coulee	Liberty	Sawtooth, Bow Island, Dakota, Swift	75,099
Fort Conrad	Toole, Pondera	Bow Island	61,056
Fred and George Creek	Toole	Bow Island	33,600
Fresno and Area	Hill	Eagle	44,746
Galata	Toole	Bow Island	218,817
Gold Butte	Toole	Bow Island	1,915
Golden Dome	Carbon	Greybull, Frontier, Eagle	123,958
Grandview	Liberty	Bow Island	33,776
Gypsy Basin	Pondera	Sunburst, Swift	1,521
Hardpan and Area	Pondera, Chouteau	Bow Island	93,972
Havre	Hill, Blaine	Eagle	61,646
Haystack Butte	Liberty	Bow Island	17,696
Haystack Butte, West	Liberty	Bow Island	53,179
Highline	Hill	Eagle	2,395
Keith Area	Liberty	Second White Specks, Sawtooth, Bow Island	44,505
Keith, East	Liberty	Second White Specks, Sawtooth, Bow Island	513,220
Kevin Area	Toole	Swift, Sunburst	18,831
Kevin, East Nisku	Toole	Nisku	90,353
Kevin, Southwest	Toole	Bow Island, Sunburst, Swift, Dakota, Sunburst	333,720
Kevin Sunburst	Toole	Dakota, Eagle, Madison, Swift,	
		Bow Island, Sunburst, Kootenai	950,984
Kevin Sunburst Nisku	Toole	Swift	38,776
Kicking Horse	Toole	Bow Island, Sunburst, Sawtooth	141,288
Kinyon Coulee Area	Toole	Bow Island	16,340

GAS PRODUCTION DATA - 1989
NATURAL GAS (CONTINUED)

Field	County	Producing Formation	Produced MCF
Kippen Area, East	Toole	Madison-Swift, Sawtooth	6,832
Lake Basin	Stillwater	Claggett, Eagle-Virgelle, Telegraph Creek, Frontier	137,836
Lake Basin, North	Stillwater	Eagle	3,922
Ledger	Pondera	Bow Island	248,558
Leroy	Blaine	Eagle	517,803
Liscom Creek	Custer	Shannon	69,353
Little Basin	Stillwater	Frontier	21,759
Little Creek Area	Chouteau	Eagle-Virgelle	48,707
Little Rock	Glacier	Bow Island-Blackleaf	48,943
Lohman and Area	Blaine	Eagle	213,993
Loring Unit	Phillips	Phillips-Bowdoin-Carlile-Greenhorn	962,510
Loring, East	Phillips	Phillips-Bowdoin-Carlile-Greenhorn	708,978
Loring, West	Phillips	Carlile	13,621
Marias River	Toole, Pondera	Bow Island	215,169
Middle Butte	Toole, Liberty	Bow Island, Second White Specks	37,239
Miners Coulee	Toole	Sunburst, Bow Island, Sawtooth, Swift	178,430
Mount Lily	Liberty	Swift, Bow Island	17,843
O'Briens Coulee	Liberty	Bow Island, Second White Specks, Blackleaf	204,494
Old Shelby	Toole	Bow Island, Sunburst-Swift	676,896
Park City	Stillwater	Virgelle	5,906
Phantom	Toole	Sunburst	17,429
Phantom, West	Toole	Sunburst	45,476
Police Coulee	Toole	Bow Island	42,265
Prairie Dell	Toole	Bow Island-Swift-Sunburst	855,835
Prairie Dell, West	Toole	Swift	22,002
Rapelje	Stillwater	Eagle-Virgelle-Claggett	32,551
Rattlesnake Coulee	Toole	Bow Island, Sunburst	17,904
Red Rock Area	Hill	Eagle, Judith River	320,613
Rocky Boy	Hill	Eagle, Judith River	85,224
Rudyard	Hill	Sawtooth, Eagle	33,141
Sage Creek	Liberty	Blackleaf, Second White Specks, Bow Island	138,660
Sawtooth Mountain	Blaine	Judith River, Eagle	780,572
Shelby Area	Toole	Sunburst	16,412
Sherard and Area	Blaine, Chouteau	Eagle, Judith River	1,040,344
Snoose Coulee	Liberty	Bow Island	13,529
Soberup Coulee	Pondera	Bow Island	821
Strawberry Creek	Toole	Bow Island, Burwash	1,602
Swanson Creek	Phillips, Valley	Phillips-Bowdoin-Greenhorn-Carlisle	447,112
Sweetgrass	Toole	Sunburst	17,172
Sweetgrass Area	Toole	Sunburst	267,989
Three Mile	Blaine	Eagle	217,422
Tiber and Area	Toole	Bow Island	171,810
Tiger Ridge and Area	Blaine, Hill	Eagle, Judith River	12,532,499
Tiger Ridge, North	Blaine	Eagle	1,499
Timber Creek	Toole	Sunburst	125,900
Trail Creek	Liberty, Toole	Bow Island, Sunburst, Swift	154,273
Utopia	Liberty	Sawtooth	92,198
Vandalia	Valley	Carlisle	35,505
West Butte	Toole	Bow Island, Blackleaf, Swift	32,371
West Butte Shallow Gas	Toole	Bow Island-Dakota	19,416
Whitewater	Phillips	Bowdoin-Phillips-Greenhorn Carlile	1,222,169
Whitewater, East	Phillips	Bowdoin-Phillips-Greenhorn Carlile	187,308
Whitlash	Liberty	Dakota, Swift, Bow Island, Madison	505,433
Whitlash, West	Toole	Sunburst, Bow Island, Swift	21,641
Williams	Pondera	Bow Island	138,966
Willow Ridge	Toole	Bow Island, Swift, Dakota, Sunburst	276,692
Willow Ridge, South	Toole	Sunburst	180,570
Willow Ridge, West	Toole	Bow Island	56,094
Wildcat	Hill	Eagle	6,834

SUBTOTAL NATURAL GAS

42,984,482

NATURAL GAS IMPORTED MMCF

Canada	10,316
North Dakota	8,045
Wyoming	<u>13,905</u>
	32,266

NATURAL GAS EXPORTED MMCF

Canada	82
North Dakota	12,545
South Dakota	9,001
Wyoming	17,779
Midwest	<u>10,616</u>
	50,023

**GAS PRODUCTION DATA - 1989
ASSOCIATED GAS**

Field	County	Producing Formation	Produced MCF
Anvil	Roosevelt	Nisku, Ratcliffe, Red River, Winnipegosis	218,787
Bainville	Roosevelt	Red River	26,722
Bainville, North	Roosevelt	Interlake, Ratcliffe, Red River, Winnipegosis	86,308
Bainville, West	Roosevelt	Red River	7,922
Bainville II	Roosevelt	Red River	33,331
Beanblossum	Garfield	Tyler	2,884
Bell Creek	Carter, Powder River	Muddy	7,306
Benrud Area	Roosevelt	Charles C	1,377
Benrud, East	Roosevelt	Nisku	12,142
Benrud, Northeast	Roosevelt	Nisku	2,410
Big Muddy Creek	Roosevelt	Mission Canyon, Red River	13,466
Black Diamond	Wibaux	Nisku, Madison	49,947
Blackfoot	Glacier	Dakota	1,445
Bloomfield	Dawson	Dawson Bay, Red River-Interlake	39,433
Box Canyon	Richland	Red River	9,635
Breed Creek	Rosebud	Tyler	1,113
Brorson	Richland	Madison, Red River	75,914
Brorson, South	Richland	Red River, Madison	51,340
Brush Lake	Sheridan	Red River	26,734
Cabin Creek	Fallon	Madison, Siluro-Ord, Red River	602,584
Canal	Richland	Madison, Red River	46,979
Cannon Ball	Fallon	Red River	2,509
Cattails	Richland	Ratcliffe	42,190
Charlie Creek	Richland	Red River	19,303
Charlie Creek, East	Richland	Red River, Duperow	36,166
Charlie Creek, North	Richland	Bakken	252
Clear Lake	Sheridan	Madison, Nisku, Red River	138,129
Clear Lake, South	Sheridan	Red River	6,910
Colored Canyon	Sheridan	Red River, Nisku	15,128
Comertown	Sheridan	Nisku, Ratcliffe, Red River	66,254
Comertown, South	Sheridan	Nisku, Red River	13,477
Cottonwood	Richland	Red River	12,376
Crane	Richland	Devonian, Siluro-Ord	148,251
Cupton	Fallon	Red River	34,976
Curlew	Sheridan	Red River	4,233
Cut Bank	Pondera, Glacier, Toole	Madison, Moulton	59,276
Dagmar	Sheridan	Red River	11,636
Deer Creek	Dawson	Interlake, Red River	1,250
Diamond Point	Roosevelt	Red River	25,688
Divide	Sheridan	Madison, Red River	73,998
Dooley	Sheridan	Ratcliffe	19,218
Dry Creek	Carbon	Greybull	90,036
Dutch John Coulee	Toole	Sunburst	121,190
Dwyer	Sheridan	Red River, Madison, Nisku	70,530
Eagle	Richland	Madison, Red River, Duperow, Interlake	100,118
Elk Basin	Carbon	Madison, Tensleep	411,818
Elk Basin, Northwest	Carbon	Madison, Frontier, Tensleep	76,615
Enid, North	Richland	Red River	11,834
Fairview	Richland	Madison, Red River	329,684
Fairview, East	Richland	Stonewall	13,540
Fairview, West	Richland	Madison	1,168
Fertile Prairie	Fallon	Red River	8,127
Fishhook	Sheridan	Red River	13,222
Flat Coulee (Swift SU)	Liberty	Swift	9,950
Flat Lake	Sheridan	Nisku, Madison	63,061
Flat Lake, South	Sheridan	Ratcliffe	2,361
Fort Gilbert	Richland	Madison, Red River	37,271
Four Mile Creek	Richland	Red River	9,109
Four Mile Creek, West	Richland	Red River	7,991
Fox Creek, North	Richland	Madison	26
Frannie	Carbon	Tensleep	24
Fred & George Creek	Toole	Sunburst	586
Frog Coulee	Richland	Red River	3,606
Froid, South	Roosevelt	Red River	3,745
Gas City	Dawson	Madison, Siluro-Ord	4,740
Girard	Richland	Red River	16,092
Glendive	Dawson	Siluro-Ord	18,750

**GAS PRODUCTION DATA - 1989
ASSOCIATED GAS (CONTINUED)**

Field	County	Producing Formation	Produced MCF
Golden Dome	Carbon	Greybull, Frontier	42,599
Goose Lake	Sheridan	Ratcliffe, Red River	41,091
Goose Lake, Southeast	Sheridan	Ratcliffe	7,555
Goose Lake, West	Sheridan	Red River	12,535
Gossett	Richland	Stoney Mountain, Red River, Madison	9,713
Gumbo Ridge	Rosebud	Tyler	13
Gunsight	Roosevelt	Madison	1,456
Hardscrable Creek	Richland	Red River	1,686
Hay Creek	Richland	Interlake, Mission Canyon, Red River	18,391
Hiawatha	Musselshell	Tyler, Stensvad	1,889
High Five	Rosebud	Tyler, Stensvad	7,652
Honker	Sheridan	Winnipegosis	2,723
Intake II	Richland	Red River, Ordovician	30,785
Jim Coulee	Musselshell	Tyler	3,934
Jim Coulee, North	Musselshell	Tyler, Stensvad	196
Katy Lake	Sheridan	Red River	13,871
Katy Lake, North	Sheridan	Red River, Madison, Nesson	167,262
Keg Coulee	Musselshell	Tyler	75
Kelley Unit	Musselshell	Tyler	506
Kevin-Sunburst	Toole	Madison, Sunburst	166,729
Kevin, East Nisku Oil	Toole	Nisku	21,663
Kincheloe Ranch, West	Rosebud	Tyler	6,697
Laird Creek	Liberty	Swift	588
Lambert	Richland	Red River	33,037
Landslide Butte	Glacier	Madison	26,116
Little Beaver	Fallon	Siluro-Ord	28,385
Little Beaver, East	Fallon	Siluro-Ord	26,002
Little Wall Creek	Musselshell	Tyler, Stensvad	16,368
Little Wall Creek, South	Musselshell	Tyler	12,264
Lobo	Sheridan, Roosevelt	Interlake, Red River, Gunton	27,518
Lone Butte	Richland	Red River, Mission Canyon	22,802
Lonetree Creek	Richland	Red River	113,430
Lookout Butte	Fallon	Siluro-Ord, Madison	88,495
Lookout Butte, East	Fallon	Red River, Lodgepole	30,631
Lowell	Sheridan	Red River	2,824
Lustre	Valley	Madison	105,050
McCabe	Roosevelt	Ratcliffe	4,483
McCabe, West	Roosevelt	Red River	330
McCoy Creek	Sheridan	Red River	3,090
Medicine Lake	Sheridan	Siluro-Ord, Duperow	171,653
Melstone	Musselshell	Tyler	14,583
Midfork	Valley	Charles C, Nisku	18,872
Missouri Breaks	Richland	Red River	11,281
Mon Dak, West	Richland	Madison, Siluro-Ord	327,150
Mona	Richland	Red River	5,349
Monarch	Fallon	Siluro-Ord	11,277
Mustang	Richland	Red River, Madison	44,328
Neisser Creek	Sheridan	Red River	11,213
Ninemile	Toole	Nisku	2,970
Nohly	Richland	Red River, Nisku, Ratcliffe	268,360
North Fork	Richland	Madison	14,385
Olje	Sheridan	Red River	3,024
Ollie	Fallon	Duperow, Red River	2,671
Otis Creek	Richland	Red River	12,205
Otis Creek, South	Richland	Red River	19,896
Outlook	Sheridan	Duperow, Winnipegosis, Nisku, Interlake	42,853
Outlook, South	Sheridan	Winnipegosis, Bakken	60
Oxbow	Roosevelt	Red River	18,685
Oxbow II	Roosevelt	Red River	12,907
Pelican	Sheridan	Red River	8,471
Pennel	Fallon	Siluro-Ord	616,272
Pine	Fallon, Wibaux	Red River, Stoney	267,592
Pipeline	Sheridan	Red River	2
Poplar, Northwest	Roosevelt	Charles	121,369
Pronghorn	Sheridan	Red River, Interlake	15,995
Putnam	Richland	Madison, Red River, Interlake	99,147
Ragged Point	Musselshell	Tyler	2,548

**GAS PRODUCTION DATA - 1989
ASSOCIATED GAS (CONTINUED)**

Field	County	Producing Formation	Produced MCF
Rainbow	Richland	Red River	16,627
Rattler Butte	Rosebud	Tyler	10,547
Rattlesnake Butte	Petroleum	Amsden, Cat Creek 1	3,586
Raymond	Sheridan	Mississippian, Red River, Winnipegosis,	349,140
Reagan	Glacier	Madison	305,566
Red Bank	Roosevelt	Red River, Madison	30,094
Red Bank, South	Roosevelt	Red River	11,466
Red Creek Unit	Glacier	Cut Bank, Madison	4,841
Red Fox	Roosevelt	Nisku	342
Red Water, East	Richland	Red River	12,544
Refuge	Sheridan	Red River	15,184
Repeat	Carter	Red River	1,200
Reserve	Sheridan	Red River, Winnipegosis	19,453
Reserve II	Sheridan	Red River, Interlake	21,268
Richey, Southwest	McCone	Interlake	53
Ridgelawn	Richland	Red River, Mississippian, Devonian	723,866
RipRap Coulee	Roosevelt	Ratcliffe	10,850
River Bend	Richland	Red River	31,356
Rocky Point	Roosevelt	Red River	36,045
Rosebud	Rosebud	Tyler	836
Royals	Dawson	Dawson Bay	24,610
Rush Mountain	Sheridan	Winnipegosis	4,506
Salt Lake	Sheridan	Red River	3,243
Sand Creek	Dawson	Interlake	230
Saturn	Daniels	Ratcliffe	1,716
Second Creek	Richland	Red River	32,265
Shotgun Creek	Roosevelt	Ratcliffe	9,634
Sidney	Richland	Madison, Red River	75,974
Sidney, East	Richland	Madison	14,798
Singletree	Roosevelt	Winnipegosis	4,830
Sioux Pass	Richland	Red River, Interlake	83,105
Sioux Pass, Middle	Richland	Red River	54,394
Sioux Pass, North	Richland	Madison, Red River, Nisku	98,236
Sioux Pass, South	Richland	Red River	17,873
Snoose Coulee	Liberty	Bow Island	8,163
South Fork	Richland	Red River	17,326
Spring Lake	Richland	Bakken, Red River	41,084
Spring Lake, South	Richland	Red River	9,331
Spring Lake, West	Richland	Bakken	5,100
Stampede	Richland	Red River, Bakken	17,388
Studhorse	Garfield	Stensvad	282
Sumatra	Rosebud	Tyler	531
Sunny Hill, West	Sheridan	Red River	6,959
Three Buttes	Richland	Red River, Mission Canyon	23,616
Tinder Box	Musselshell	Tyler	322
Tippy Buttes	Musselshell	Tyler	364
Tule Creek	Roosevelt	Nisku, Devonian	15,116
Tule Creek, East	Roosevelt	Nisku	5,686
Two Waters	Richland	Bakken, Duperow	251,140
Vaux	Richland	Dawson Bay, Interlake, Madison, Red River	242,379
Wakea	Sheridan	Red River, Interlake,	69,110
Weed Creek	Yellowstone	Amsden	742
Whitlash	Liberty	Swift, Sunburst	66,133
Wills Creek, South	Fallon	Siluro-Ord	4,307
Windmill	Richland	Red River	4,610
Woodrow	Dawson	Charles, Interlake	4,320
Wrangler	Sheridan	Red River	35,543
Wrangler, North	Sheridan	Red River	4,289
Wildcat	Richland	Bakken	3,039
Wildcat	Roosevelt	Nisku	11,067

SUBTOTAL ASSOCIATED GAS PRODUCED **9,597,966**

SUBTOTAL NATURAL GAS PRODUCED **42,984,482**

TOTAL GAS **52,582,448**

REFINERS' ANNUAL REPORT—1989

COMPANY	BEGINNING STORAGE	MONTANA OIL	WYOMING OIL	CANADA OIL	REFINED	ENDING STORAGE
CENEX	80,555	2,234,110	3,970,530	7,169,680	13,324,309	130,566
Continental Oil Company	138,260	959,577	2,798,946	12,375,257	16,168,889	103,151
Exxon Company	231,609	566,575	9,905,445	4,335,188	14,810,163	228,654
Montana Refining Co.	12,314	714,959	-0-	1,599,765	2,311,679	15,359
TOTALS	462,738	4,475,221	16,674,921	25,479,890	46,615,040	477,730

PERCENTAGE OF CRUDE OIL RECEIVED

YEAR	MONTANA	CANADA	N. DAKOTA	WYOMING
1985	18.97	39.06	0.03	41.94
1986	14.13	53.48	0.00	32.39
1987	11.57	56.54	0.00	31.89
1988	10.51	55.47	0.00	34.02
1989	9.60	54.64	0.00	35.76

AVERAGE BARRELS PER DAY

YEAR	MONTANA	CANADA	N. DAKOTA	WYOMING	TOTAL
1985	21,382	44,043	28	47,283	112,736
1986	16,492	62,405	--	37,795	116,692
1987	13,680	66,840	--	37,692	118,212
1988	12,589	66,409	--	40,730	119,728
1989	12,261	69,808	--	45,685	127,754

REFINING FIVE YEAR COMPARISON

1985	1986	1987	1988	1989
41,296,085	42,652,657	42,987,742	43,992,177	46,615,040

STATEMENT OF CRUDE OIL PRODUCTION AND VALUATION - ALL MONTANA FIELDS

PRODUCTION YEAR 1989

CUMULATIVE TO DECEMBER 31, 1989

FIELD	COUNTY	BARRELS	VALUE	AVERAGE PRICE*	BARRELS	VALUE
Anvil	Roosevelt	253,278	4,477,955	17.68	3,479,323	81,772,057
Ash Creek	Big Horn	5,173	93,062	17.99	831,702	3,428,507
Bainville	Roosevelt	47,553	837,408	17.61	665,473	8,600,517
Bainville II	Roosevelt	49,337	870,798	17.65	535,054	11,186,064
Bainville, North	Roosevelt	113,198	2,013,792	17.79	1,430,772	37,192,815
Bainville, West	Roosevelt	6,977	124,888	17.90	207,601	5,758,582
Bannatyne	Teton	8,990	144,200	16.04	359,026	3,631,689
Beanblossom	Garfield	49,401	833,889	16.88	400,476	6,761,722
Bear's Den	Liberty	6,555	115,761	17.66	516,864	3,523,790
Bell Creek	Powder River	666,813	12,109,324	18.16	130,181,143	1,187,935,659
Benrud	Roosevelt	683	12,185	17.84	289,695	2,436,618
Benrud, East	Roosevelt	33,366	580,568	17.40	2,773,238	18,636,723
Benrud, Northeast	Roosevelt	6,688	119,581	17.88	982,987	4,587,358
Berthelote	Toole	974	16,227	16.66	92,767	546,684
Big Gully	Musselshell	2,405	38,769	16.12	104,044	1,543,596
Big Gully, North	Musselshell	1,307	21,069	16.12	27,022	581,060
Big Muddy Creek	Roosevelt	20,968	364,214	17.37	1,264,447	21,199,371
Big Wall	Musselshell	89,390	1,449,906	16.22	7,682,186	37,332,654
Black Diamond	Wibaux	81,094	1,450,772	17.89	536,768	10,054,044
Blackfoot	Glacier	30,552	516,940	16.92	1,500,646	12,753,120
Blackleaf Canyon	Teton	352	5,998	17.04	32,717	802,527
Bloomfield	Dawson	38,799	685,966	17.68	437,372	8,684,056
Blue Mountain	Wibaux	4,077	72,774	17.85	56,154	1,233,688
Border	Toole	8,482	143,176	16.88	1,420,398	5,191,945
Bowes	Blaine	106,588	1,494,364	14.02	9,698,169	42,763,448
Box Canyon	Richland	6,904	124,962	18.10	215,617	6,325,840
Bradley	Glacier	1,927	30,504	15.83	252,270	1,659,193
Brady	Pondera	9,027	160,049	17.73	179,285	3,343,009
Breed Creek	Rosebud	69,095	1,179,452	17.07	1,245,052	24,715,402
Brorson-Madison	Richland	91,166	1,597,228	17.52	1,150,034	18,331,668
Brorson-Red River	Richland	40,218	704,619	17.52	2,262,189	15,844,862
Brorson, South	Richland	32,784	573,720	17.50	1,638,898	17,806,627
Brush Lake	Sheridan	63,583	1,119,697	17.61	2,589,952	25,219,390
Burget, East	Roosevelt	15,571	274,672	17.64	192,770	4,420,303
Burns Creek	Dawson, Richland	2,933	52,677	17.96	245,917	2,974,906
Cabin Creek	Fallon	1,339,427	22,234,488	16.60	91,501,075	560,558,420
Canadian Coulee	Hill	10	157	15.66	1,595	33,402
Canal	Richland	35,314	619,054	17.53	1,069,505	16,435,465
Cannonball	Fallon	2,016	36,086	17.90	62,681	1,925,557
Carlyle	Wibaux	7,870	142,211	18.07	284,096	6,475,921
Cat Creek	Petroleum, Garfield	65,808	1,195,092	18.16	23,553,728	70,186,977
Cattails	Richland	101,341	1,797,789	17.74	180,813	2,907,536
Charlie Creek	Richland	15,548	270,380	17.39	695,728	12,157,802
Charlie Creek, East	Richland	42,058	731,389	17.39	453,872	11,317,986
Charlie Creek, North	Richland	586	10,050	17.15	43,545	1,180,533
Chelsea Creek	Roosevelt	7,039	127,758	18.15	98,275	1,641,896
Clark's Fork	Carbon	633	10,786	17.04	90,195	416,445
Clear Lake	Sheridan	205,725	3,622,817	17.61	2,633,607	58,118,041
Clear Lake, South	Sheridan	13,071	215,541	16.49	143,417	2,948,654
Colored Canyon	Sheridan	25,565	457,358	17.89	812,489	20,255,120
Comertown	Sheridan	149,431	2,613,548	17.49	2,062,698	53,929,825
Comertown, South	Sheridan	36,292	654,764	18.04	255,250	5,046,560
Conrad, South	Pondera	1,740	31,459	18.08	151,964	1,025,355
Cottonwood	Richland	14,372	247,773	17.24	162,970	3,402,547
Cow Creek, East	McCone	36,425	568,230	15.60	2,409,066	27,827,337
Crane	Richland	171,350	3,022,614	17.64	1,783,974	44,628,950
Crocker Springs, East	Pondera	377	7,122	18.89	1,935	50,121
Crooked Creek	Yellowstone	2,733	46,543	17.03	26,722	502,936
Cuption	Fallon	64,475	1,133,471	17.58	2,226,452	29,402,062
Curlew	Sheridan	5,245	90,476	17.25	5,245	90,476
Cut Bank	Glacier, Toole	816,527	14,272,892	17.48	162,103,493	717,966,773
Dagmar	Sheridan	9,029	160,265	17.75	543,386	12,031,829
Dean Dome	Stillwater	69	1,176	17.04	92,597	1,537,193
Deer Creek	Dawson	1,974	33,755	17.10	2,313,158	6,651,948
Delphia	Musselshell	3,598	62,389	17.34	329,726	1,597,775
Devil's Basin	Musselshell	1,568	24,994	15.94	112,003	1,725,796

STATEMENT OF CRUDE OIL PRODUCTION AND VALUATION - ALL MONTANA FIELDS

PRODUCTION YEAR 1989

CUMULATIVE TO DECEMBER 31, 1989

FIELD	COUNTY	BARRELS	VALUE	AVERAGE PRICE*	BARRELS	VALUE
Devil's Pocket	Golden Valley	3,790	61,284	16.17	47,160	881,276
Diamond Point	Roosevelt	42,621	742,458	17.42	740,606	18,026,832
Divide	Sheridan	181,690	2,943,378	16.20	1,897,973	45,466,281
Dooley	Sheridan	56,478	847,170	15.00	112,808	1,531,281
Dry Creek	Carbon	4,230	74,152	17.53	4,147,903	10,032,798
Dry Creek, Middle	Carbon	152	2,678	17.62	1,098	21,958
Dry Creek, West	Carbon	1,508	22,032	14.61	8,366	196,520
Dutch John Coulee	Toole	17,440	318,280	18.25	183,415	3,314,481
Dwyer	Sheridan	175,548	2,994,849	17.06	8,069,242	65,026,155
Eagle	Richland	97,577	1,720,283	17.63	1,681,743	39,044,902
Elk Basin	Carbon	573,566	9,372,068	16.34	82,416,022	351,049,540
Elk Basin, Northwest	Carbon	112,368	1,912,503	17.02	1,634,511	11,738,332
Enid, North	Richland	15,423	268,823	17.43	284,898	7,350,762
Fairview	Richland	178,010	3,115,175	17.50	8,391,220	83,235,481
Fairview, East	Richland	10,726	189,421	17.66	368,932	10,690,280
Fairview, West	Richland	9,969	175,753	17.63	190,114	4,765,567
Fertile Prairie	Fallon	19,645	338,876	17.25	685,814	7,294,022
Fishhook	Sheridan	24,038	418,021	17.39	985,388	27,156,966
Flat Coulee	Liberty	104,907	1,870,492	17.83	4,709,050	50,738,031
Flat Lake	Sheridan	242,612	3,690,129	15.21	15,251,624	126,644,717
Flat Lake, East	Sheridan	11,526	202,858	17.60	50,168	873,861
Flat Lake, South	Sheridan	16,642	249,630	15.00	1,184,762	13,256,120
Fort Gilbert	Richland	53,647	935,604	17.44	2,095,768	30,169,543
Four Mile Creek	Richland	14,045	247,332	17.61	361,645	6,761,769
Four Mile Creek, West	Richland	9,974	175,642	17.61	266,522	5,887,700
Fox Creek, North	Richland	207	3,502	16.92	70,492	1,787,818
Frannie	Carbon	3,009	47,061	15.64	768,048	2,887,653
Fred & George Creek	Toole	72,622	1,313,806	18.09	13,044,359	83,126,071
Frog Coulee	Richland	11,126	197,486	17.75	178,829	4,871,941
Froid, South	Roosevelt	5,035	89,422	17.76	226,480	2,329,353
Gage	Musselshell	3,262	56,955	17.46	640,813	3,257,583
Gas City	Dawson	76,574	1,357,657	17.73	10,024,237	54,931,219
Girard	Richland	24,444	424,103	17.35	394,418	4,345,351
Glendive	Dawson	162,366	2,870,631	17.68	12,761,392	67,728,854
Golden Dome	Carbon	3,569	66,098	18.52	77,975	1,078,804
Goose Lake	Sheridan	179,890	2,969,984	16.51	8,802,891	65,235,647
Goose Lake, Southeast	Sheridan	12,589	214,517	17.04	18,346	294,424
Goose Lake, West	Sheridan	26,565	472,060	17.77	482,904	12,164,040
Gossett	Richland	23,838	425,270	17.84	267,241	6,084,945
Graben Coulee	Glacier	59,163	984,472	16.64	2,066,475	24,791,609
Grandview, East	Liberty	2,725	49,077	18.01	45,161	1,070,565
Green Coulee	Sheridan	10,493	186,985	17.82	165,681	4,255,924
Gumbo Ridge	Rosebud	176	2,999	17.04	580,833	11,160,828
Gunsight	Roosevelt	17,973	303,564	16.89	208,740	4,749,813
Gypsy Basin	Pondera	12,654	221,192	17.48	473,684	7,529,055
Hardpan	Pondera	546	8,823	16.16	2,506	57,334
Hardscrabble Creek	Richland	6,631	117,833	17.77	115,154	2,768,952
Hawk Creek	Musselshell	491	9,054	18.44	11,322	137,656
Hay Creek	Richland	26,533	470,165	17.72	1,312,516	11,330,137
Hiawatha	Musselshell	20,258	348,438	17.20	1,556,394	9,921,267
High Five	Rosebud	75,332	1,297,970	17.23	2,255,201	47,396,064
Highview	Pondera	5,154	86,484	16.78	76,664	1,668,431
Honker	Sheridan	16,548	292,072	17.65	113,801	3,074,299
Horse Creek	Liberty	581	9,796	16.86	11,457	220,749
Howard Coulee	Musselshell	10,080	170,856	16.95	143,355	2,155,030
Injun Creek	Rosebud	2,213	38,329	17.32	123,045	2,981,438
Intake II	Richland	24,214	424,229	17.52	695,879	18,991,777
Ivanhoe	Musselshell	7,167	123,487	17.23	4,509,466	14,460,965
Jim Coulee	Musselshell	51,550	869,582	16.87	4,223,822	43,556,661
Katy Lake	Sheridan	11,123	197,544	17.76	133,030	2,307,587
Katy Lake, North	Sheridan	294,138	5,109,177	17.37	3,893,254	101,537,796
Keg Coulee	Musselshell	31,860	545,125	17.11	5,550,065	35,031,154
Kelley	Musselshell	7,304	123,438	16.90	1,001,792	6,137,745
Kevin Nisku Oil, East	Toole	41,189	734,812	17.84	297,679	5,444,458
Kevin-Sunburst	Toole	403,736	6,908,166	17.11	78,427,112	282,405,609
Kincheloe Ranch, West	Rosebud	23,784	404,328	17.00	564,798	15,249,343

STATEMENT OF CRUDE OIL PRODUCTION AND VALUATION - ALL MONTANA FIELDS

PRODUCTION YEAR 1989

CUMULATIVE TO DECEMBER 31, 1989

FIELD	COUNTY	BARRELS	VALUE	AVERAGE PRICE*	BARRELS	VALUE
Laird Creek	Liberty	5,063	89,970	17.77	581,266	4,765,501
Lambert	Richland	21,022	373,981	17.79	392,003	10,986,996
Lamesteer Creek	Wibaux	3,346	59,124	17.67	29,004	596,268
Landslide Butte	Glacier	27,453	505,410	18.41	297,309	5,387,102
Leary	Powder River	5,969	108,039	18.10	605,244	8,952,867
Little Beaver	Fallon	352,574	5,665,864	16.07	12,698,994	111,621,575
Little Beaver, East	Fallon	114,351	1,838,764	16.08	5,628,367	39,321,160
Little Phantom	Toole	1,284	20,043	15.61	52,478	1,090,620
Little Wall Creek	Musselshell	196,070	3,337,261	17.02	3,872,449	69,658,399
Lobo	Sheridan, Roosevelt	23,655	417,511	17.65	194,572	2,934,653
Lodge Grass	Big Horn	6,371	94,163	14.78	304,036	1,805,236
Lone Butte	Richland	32,843	575,409	17.52	599,289	9,973,038
Lonetree Creek	Richland	88,507	1,555,068	17.57	3,434,366	41,568,510
Long Creek	Roosevelt	2,870	50,885	17.73	67,597	1,315,591
Long Creek, West	Roosevelt	32,726	588,086	17.97	612,893	13,112,124
Lookout Butte	Fallon	482,412	8,075,296	16.74	23,874,903	170,587,521
Lookout Butte, East	Fallon	95,410	1,653,455	17.33	272,820	4,411,729
Lowell	Sheridan	10,844	189,770	17.50	227,758	6,466,630
Lustre	Valley	348,692	5,454,903	15.64	4,003,647	83,017,802
Lustre, North	Valley	10,005	156,978	15.69	139,974	2,758,033
Mason Lake	Musselshell	6,060	107,686	17.77	945,807	23,297,156
McCabe	Roosevelt	6,016	108,950	18.11	227,079	5,761,628
McCabe, West	Roosevelt	213	3,600	16.90	69,988	1,514,214
McCoy Creek	Sheridan	4,674	82,403	17.63	41,893	808,887
Meander	Pondera	403	7,149	17.74	4,563	111,324
Medicine Lake	Sheridan	157,749	2,893,117	18.34	3,027,928	84,452,608
Melstone	Musselshell	92,475	1,584,097	17.13	3,582,921	46,316,898
Midfork	Valley	24,988	389,813	15.60	145,979	2,103,254
Mineral Bench	Roosevelt	2,862	42,987	15.02	185,614	1,373,502
Missouri Breaks	Richland	12,433	219,318	17.64	296,321	7,798,638
Mon Dak, West	Richland	400,045	7,048,793	17.62	8,375,983	194,287,507
Mona	Richland	2,688	42,927	15.97	73,625	2,064,257
Monarch	Fallon	150,665	2,482,959	16.48	5,633,766	45,880,762
Mosser Dome	Yellowstone	9,043	141,523	15.65	376,658	2,912,432
Musselshell	Musselshell	1,865	31,649	16.97	34,460	476,916
Mustang	Richland	36,870	642,644	17.43	508,196	14,178,695
Neiser Creek	Sheridan	23,016	407,153	17.69	216,716	4,788,406
Ninemile	Toole	5,351	96,372	18.01	36,536	642,741
Nohly	Richland	425,742	7,470,310	17.55	4,032,017	67,884,386
North Fork	Richland	20,207	361,099	17.87	464,219	9,639,895
Olje	Sheridan	15,319	272,678	17.80	144,602	2,541,694
Ollie	Fallon	6,720	118,474	17.63	219,658	6,810,666
Otis Creek	Richland	12,037	210,407	17.48	825,168	11,085,413
Otis Creek, South	Richland	14,380	251,650	17.50	229,512	5,412,710
Outlook	Sheridan	100,209	1,795,745	17.92	8,698,436	62,110,721
Outlook, South	Sheridan	189	3,221	17.04	693,151	2,882,883
Outlook, West	Sheridan	16,734	299,037	17.87	739,102	6,396,778
Oxbow	Roosevelt	20,251	359,658	17.76	369,577	7,916,370
Oxbow II	Roosevelt	6,471	113,566	17.55	47,048	958,431
Palomino	Roosevelt	116,769	2,079,656	17.81	1,437,811	36,340,886
Pelican	Sheridan	7,619	136,685	17.94	191,494	5,298,958
Pennel	Fallon	2,882,033	47,948,663	16.64	75,066,202	910,771,673
Pete Creek	Toole	890	15,121	16.99	20,146	420,624
Pine	Dawson, Fallon, Prairie, Wibaux	1,223,259	20,465,123	16.73	106,397,001	641,860,310
Pipeline	Sheridan	8	136	17.04	16,424	229,075
Pondera	Pondera, Teton	335,942	5,811,797	17.30	25,203,819	155,173,088
Pondera Coulee	Teton	5,369	89,555	16.68	66,883	960,298
Poplar, East	Roosevelt	168,976	2,999,324	17.75	45,308,481	178,498,827
Poplar, Northwest	Roosevelt	176,463	3,129,249	17.73	3,268,733	56,596,017
Prairie Dell	Toole	104	1,928	18.54	681	13,744
Prairie Elk	McCone	3,252	53,951	16.59	94,384	1,464,296
Prichard Creek	Toole	1,650	29,914	18.13	162,906	2,469,266
Pronghorn	Sheridan	18,850	333,834	17.71	395,295	9,900,128
Putnam	Richland	218,922	3,853,027	17.60	4,554,404	95,515,648
Rabbit Hills	Blaine	67,728	1,037,230	15.31	1,098,849	16,934,436

STATEMENT OF CRUDE OIL PRODUCTION AND VALUATION - ALL MONTANA FIELDS

PRODUCTION YEAR 1989

CUMULATIVE TO DECEMBER 31, 1989

FIELD	COUNTY	BARRELS	VALUE	AVERAGE PRICE*	BARRELS	VALUE
Ragged Point	Musselshell	17,507	298,144	17.03	3,814,673	32,295,550
Ragged Point, Southwest	Musselshell	86,919	1,499,353	17.25	169,409	2,780,423
Rainbow	Richland	9,055	163,171	18.02	132,678	3,389,090
Rattler Butte	Rosebud	33,084	572,022	17.29	904,457	23,815,613
Rattlesnake Butte	Petroleum	37,470	622,751	16.62	430,853	7,755,255
Raymond	Sheridan	142,703	2,531,551	17.74	4,495,013	79,752,705
Raymond, North	Sheridan	2,766	48,792	17.64	119,890	3,114,313
Reagan	Glacier	152,809	2,759,731	18.06	8,650,311	83,381,013
Red Bank	Roosevelt	86,858	1,442,711	16.61	1,660,101	44,350,406
Red Bank, South	Roosevelt	12,165	211,549	17.39	308,571	8,311,190
Red Creek	Glacier	69,049	1,129,642	16.36	6,134,402	34,068,447
Red Fox	Roosevelt	3,119	56,080	17.98	378,823	1,653,681
Red Water, East	Richland	11,924	216,778	18.18	205,449	4,876,472
Refuge	Sheridan	12,234	218,255	17.84	181,135	5,047,544
Repeat	Carter	6,713	100,225	14.93	545,461	3,277,294
Reserve	Sheridan	17,337	311,893	17.99	1,627,754	14,651,108
Reserve II	Sheridan	77,124	1,423,709	18.46	141,654	2,457,763
Reserve, South	Sheridan	13	245	18.86	33,899	544,081
Richey	Dawson, McCone	4,868	87,753	18.03	2,003,937	7,236,206
Richey, Southwest	McCone	146	2,635	18.05	1,902,313	6,390,037
Ridgelawn	Richland	274,647	4,798,083	17.47	5,153,952	125,439,642
RipRap Coulee	Roosevelt	37,134	646,132	17.40	531,531	11,050,085
River Bend	Richland	16,372	286,019	17.47	204,637	4,952,006
Rocky Point	Roosevelt	16,945	301,790	17.81	456,088	11,497,061
Rosebud	Rosebud	8,026	138,127	17.21	455,619	7,101,830
Royals	Dawson	17,064	304,080	17.82	277,392	7,447,558
Rudyard	Hill	628	9,238	14.71	16,632	329,064
Runaway	Teton	238	3,594	15.10	4,317	117,949
Rush Mountain	Sheridan	12,744	230,921	18.12	569,191	6,060,856
Salt Lake	Sheridan	60,580	1,069,237	17.65	601,436	7,598,930
Sand Creek	Dawson	263	4,539	17.26	2,349,120	11,812,804
Saturn	Daniels	2,948	52,032	17.65	26,357	518,908
Second Creek	Richland	29,780	528,893	17.76	1,189,399	19,133,129
Sheepherder	Musselshell	4	68	17.04	76,942	1,278,743
Shotgun Creek	Roosevelt	31,110	541,936	17.42	368,569	6,397,195
Sidney	Richland	87,878	1,523,805	17.34	3,014,870	59,588,088
Sidney, East	Richland	21,332	380,350	17.83	534,698	15,517,729
Singletree	Roosevelt	6,007	97,253	16.19	286,625	6,213,227
Sioux Pass	Richland	107,301	1,889,571	17.61	3,247,530	53,330,361
Sioux Pass, East	Richland	2,617	45,902	17.54	86,061	1,571,600
Sioux Pass, Middle	Richland	51,523	908,350	17.63	1,369,676	31,166,188
Sioux Pass, North	Richland	142,595	2,518,228	17.66	3,542,643	80,834,977
Sioux Pass, South	Richland	14,867	256,307	17.24	219,939	5,382,529
Snoose Coulee	Liberty	935	15,325	16.39	2,983	55,449
Snyder	Big Horn	2,148	28,697	13.36	461,353	1,821,741
Soap Creek	Big Horn	41,762	525,784	12.59	2,595,595	17,533,971
Soap Creek, East	Big Horn	9,771	120,770	12.36	137,941	2,415,080
South Fork	Richland	27,836	493,254	17.72	928,834	18,310,458
Spring Lake	Richland	42,295	737,202	17.43	952,251	8,045,391
Spring Lake, South	Richland	3,975	69,165	17.40	110,577	2,908,064
Spring Lake, West	Richland	5,710	101,181	17.72	35,388	596,971
Stampede	Richland	18,887	333,167	17.64	256,730	6,649,004
Stensvad	Musselshell, Rosebud	11,572	200,311	17.31	10,142,635	28,415,427
Studhorse	Garfield	6,287	104,553	16.63	172,767	3,779,864
Sumatra	Rosebud	450,797	7,812,312	17.33	43,410,978	316,062,225
Sunnyhill	Sheridan	10,320	180,806	17.52	226,064	5,568,215
Sunnyhill, West	Sheridan	7,825	138,816	17.74	124,652	2,697,050
Target	Roosevelt	33,669	589,881	17.52	592,196	15,179,641
Thirty Mile	Blaine	1,605	24,412	15.21	7,004	129,704
Three Buttes	Richland	21,104	373,963	17.72	351,288	9,091,226
Tinder Box	Musselshell	2,018	34,387	17.04	5,867	87,811
Tippy Buttes	Musselshell	2,183	36,915	16.91	124,615	3,586,992
Tule Creek	Roosevelt	46,221	829,205	17.94	8,078,314	41,844,801
Tule Creek, East	Roosevelt	4,686	83,879	17.90	2,017,420	7,230,419
Tule Creek, South	Roosevelt	14,477	255,809	17.67	891,972	7,051,877
Two Waters	Richland	40,770	666,997	16.36	201,946	5,015,372

STATEMENT OF CRUDE OIL PRODUCTION AND VALUATION - ALL MONTANA FIELDS

FIELD	COUNTY	PRODUCTION YEAR 1989			CUMULATIVE TO DECEMBER 31, 1989	
		BARRELS	VALUE	AVERAGE PRICE*	BARRELS	VALUE
Utopia	Liberty	32,581	559,090	17.16	582,900	12,443,528
Vaux	Richland	291,280	5,082,836	17.45	3,559,149	78,131,245
Volt	Roosevelt	87,673	1,554,442	17.73	3,062,053	26,788,478
Wakea	Sheridan	164,054	2,954,613	18.01	1,857,079	36,841,337
Weed Creek	Yellowstone	1,684	29,554	17.55	604,631	2,599,314
West Butte	Toole	4,754	85,620	18.01	295,713	3,067,655
Whitlash	Liberty, Toole	51,339	919,481	17.91	5,271,229	48,426,522
Whitlash, West	Toole	5,017	87,246	17.39	119,863	1,771,845
Willow Creek, North	Musselshell	6,038	100,835	16.70	352,010	3,532,419
Willow Ridge	Toole	2,204	39,914	18.11	46,608	1,086,548
Wills Creek, South	Fallon	20,913	340,882	16.30	1,093,825	9,084,916
Windmill	Richland	3,937	67,283	17.09	26,626	513,090
Winnett Junction	Musselshell	22,831	380,364	16.66	890,032	16,313,344
Wolf Springs	Yellowstone	13,218	220,293	16.67	4,687,882	14,659,297
Wolf Springs, South	Yellowstone	25,814	429,803	16.65	779,298	15,335,416
Woodrow	Dawson	18,944	333,036	17.58	1,171,653	6,418,498
Wrangler	Sheridan	37,691	679,192	18.02	482,829	12,589,492
Wrangler, North	Sheridan	4,961	86,569	17.45	109,995	3,300,796
Wright Creek	Powder River	6,733	120,319	17.87	288,006	3,414,776
Yates	Wibaux	4,301	76,945	17.89	64,019	1,629,422
Wildcat	Garfield	661	11,435	17.30	1,129	24,601
Wildcat	Musselshell	10	165	16.50	935	2,006
Wildcat	Pondera	248	4,209	16.97	427	6,694
Wildcat	Richland	1,112	18,515	16.65	340,968	836,614
Wildcat	Roosevelt	70,024	1,299,645	18.56	156,992	1,559,601
Wildcat	Teton	2,707	50,296	18.58	12,282	73,447
Miscellaneous Inactive Fields					14,641,687	107,226,626
TOTALS		20,969,292	358,194,009	17.08	1,295,939,553	10,282,859,187

*Average price calculated from data provided by the Montana Department of Revenue.

MISCELLANEOUS INACTIVE FIELDS AS OF DECEMBER 31, 1989

FIELD	BARRELS	VALUE	FIELD	BARRELS	VALUE
Ace High	3,686	45,448	Lone Rider	5,903	194,397
Agawan	79	2,259	Lonetree Creek, West	33,029	1,020,547
Alkali Coulee	19,546	635,465	Lost Creek	1,534	42,905
Andes	21,175	646,333	Mackay Dome	77,334	1,538,558
Antelope, North	2,484	85,522	Malcolm Creek	11,450	353,129
Anvil, North	9,446	330,277	Mason Lake, North	17,923	442,087
Autumn	35,546	1,125,986	McCabe, East	6,805	205,642
Bascom	27,830	65,674	McCabe, South	6,599	208,261
Belfry	101,245	503,603	Midby	70,172	2,300,577
Big Rock	10,764	262,921	Miners Coulee	152,708	1,137,078
Big Wall, North	7,218	116,302	Nohly, South	125,082	3,504,089
Blackfoot, East	810	1,730	Otter Creek	28,492	959,881
Blue Hill	162,251	3,110,843	Pasture	2,869	90,868
Boulder	156,754	2,530,800	Pasture Creek	1,914	62,789
Bredette	232,121	2,062,125	Phantom	43,585	757,070
Bredette, North	488,554	1,160,009	Pine, East	19,349	233,378
Buffalo Flats	603	15,037	Plentywood	22,830	711,421
Buffalo Lake	936	26,493	Pole Creek	169,726	277,956
Burget	6,504	228,647	Police Coulee	14	189
Burns Creek, South	79,958	2,279,384	Poplar, Southeast	162,546	1,093,017
Butchers Creek	579	20,259	Rattlesnake Coulee	91,024	693,093
Bynum	5,971	15,320	Raymond, Northeast	120,687	1,721,719
Cadmus	1,173	3,381	Red Water	52,023	1,521,507
Clark Fork, North	1,024,608	2,895,208	Redstone	468,178	2,212,903
Clark Fork, South	80,553	634,021	Richey, East	10,386	333,467
Coal Ridge	22,582	795,495	Richey Area, West	11,062	403,670
Corner Pocket	14,483	353,729	Roscoe Dome	15,556	348,482
Cow Creek	127,813	1,304,283	Rough Creek	3,599	10,583
Culbertson	175,652	1,134,101	Royals, South	3,082	101,400
Dagmar, North	55,342	1,652,908	Scobey	3,916	145,674
Deadman's Coulee	284,528	8,048,112	Shotgun Creek, North	89,647	1,564,569
Dugout Coulee	66,740	2,205,099	Smoke Creek	100,305	221,361
Dunkirk, North	19	498	Snowden	1,938	70,607
East Glacier	21,083	655,449	Stampede, North	4,566	136,865
Epworth	55,142	1,909,226	Two Medicine Creek	10,249	370,951
Fiddler Creek	2,574	50,224	Vida	264,988	1,192,054
Flaxville	56,283	1,392,485	Viking	160	1,957
Four Buttes	41,067	122,184	Wagon Box	32,379	575,263
Fox Creek	200,464	4,640,130	Wagon Trail	43,321	1,297,560
Gage, Southwest	16,289	37,397	Weldon	7,050,531	20,454,760
Gettysburg	304	11,987	West Fork	6,671	229,773
Glendive, South	68,936	2,009,079	Wibaux	23,580	42,945
Goose Lake, East	4,522	168,087	Willow Ridge, South	3,267	102,156
Grandview	9,784	196,936	Wolf Creek	1,979	2,275
Green Coulee, East	62,942	1,741,899	Woman's Pocket	3,526	7,461
Hawk Haven	7,392	236,689	Yellowstone	39,405	72,518
Hibbard	215,904	1,978,565	Wildcat, Carbon County	6,368	13,559
Homestead	303	8,726	Wildcat, Daniels County	3,508	7,787
Jack Creek	1,310	3,275	Wildcat, Dawson County	1,489	42,127
Keg Coulee, North	438,488	4,827,464	Wildcat, Fallon County	10,683	29,485
Kicking Horse	1,526	48,566	Wildcat, Glacier County	48,412	127,430
Kippen, East	150	4,815	Wildcat, Hill County	405	8,831
Krug Creek	15,288	538,314	Wildcat, Liberty County	3,254	19,148
Lake Basin	473,639	661,111	Wildcat, McCone County	12,575	41,467
Lakeside	487	18,489	Wildcat, Powder River County	27,445	65,594
Lambert, North	36,552	1,221,300	Wildcat, Sheridan County	52,561	571,834
Lariat	3,599	123,587	Wildcat, Stillwater County	11,283	13,365
Laurel	1,017	36,458	Wildcat, Toole County	36,379	128,683
Ledger	275	7,948	Wildcat, Valley County	447	6,034
Line Coulee	57,789	138,495	Wildcat, Wibaux County	8,388	25,416
Lisk Creek	1,939	70,297			
			TOTALS	14,641,687	107,226,626

1989 WELL COMPLETIONS

OPERATOR	LOCATION	WELL NAME	STATUS CODE	API NO.	FIELD	PRODUCING FORMATION	DATE COMPLETED	TOTAL DEPTH	INITIAL POTENTIAL	
									OIL B/D	GAS MCF/D
003 Big Horn										
PIC Production, Inc.	SWNE 20 6S 36E	Westwood\Allot 2-20	3	21199	Lodge Grass		02/05/89	6460		
PIC Production, Inc.	NESW 18 6S 36E	Westwood 1-18	3	21200	Lodge Grass		10/27/89	6119		
005 Blaine										
Brown, J. Burns Operating Co.	SENE 8 34N 21E	Federal 8-8 **	4	22493	Thirty Mile	Sawtooth	11/20/89	4227		
Brown, J. Burns Operating Co.	SESE 15 32N 18E	Bennett 15-32-18	2	22495	Tiger Ridge	Eagle	10/29/89	1500		
Brown, J. Burns Operating Co.	SESE 22 32N 18E	Henkes 22-32-18	2	22491	Wildcat	Eagle	10/14/89	1450		
Brown, J. Burns Operating Co.	NESW 15 32N 19E	Bowes 15-32-19	5	22494	Wildcat	Eagle	10/29/89	1250		
Brown, J. Burns Operating Co.	NWNW 26 32N 18E	Montgomery 26-32-18	2	22496	Wildcat	Eagle	10/17/89	1450		
Brown, J. Burns Operating Co.	NWSW 3 30N 19E	Gordon 3-30-19	6	22497	Wildcat		10/26/89	1300		
LYTM Company, Inc.	SENE 31 33N 18E	Brady 31-6	3	22476	Lohman		05/27/89	1168		
LYTM Company, Inc.	SWNW 33 33N 18E	State 33-33-18C	3	22492	Lohman		10/11/89	1300		
Norfolk Energy, Inc.	NENW 13 26N 18E	Sivertsen 13-3	2	22477	Sherard	Eagle	08/14/89	2200		1100
Norfolk Energy, Inc.	NESW 18 26N 19E	Williamson 18-11	3	22478	Sherard		07/22/89	2200		
Norfolk Energy, Inc.	NESW 9 26N 19E	U.S. 9-11	3	22479	Sherard		08/01/89	2225		
Norfolk Energy, Inc.	NESE 23 26N 18E	Aarstad 23-9	3	22480	Sherard		07/20/89	2200		
Norfolk Energy, Inc.	SENE 36 32N 17E	State 36-8	2	22471	Tiger Ridge	Eagle	06/21/89	1600		850
Norfolk Energy, Inc.	NENE 23 31N 17E	Vercruyssen 23-1	2	22472	Tiger Ridge	Eagle	06/22/89	1600		1600
Norfolk Energy, Inc.	NWSE 12 30N 17E	Dehnbom 12-10	3	22473	Tiger Ridge		06/08/89	1600		
Norfolk Energy, Inc.	SESE 12 30N 18E	Hofeldt 12-16	2	22474	Tiger Ridge	Eagle	08/14/89	1300		125
Norfolk Energy, Inc.	SWSW 28 31N 19E	U.S. 28-13	3	22483	Tiger Ridge		08/05/89	1250		
Norfolk Energy, Inc.	NENE 1 31N 18E	Loney 1-1	2	22484	Tiger Ridge	Eagle	08/15/89	1400		1290
Norfolk Energy, Inc.	NENW 35 32N 18E	Marsh 35-3	2	22485	Tiger Ridge	Eagle	08/17/89	1445		2000
Norfolk Energy, Inc.	NENW 2 31N 18E	Finch 2-3	2	22486	Tiger Ridge	Eagle	08/15/89	1600		3311
Norfolk Energy, Inc.	SWNE 3 31N 18E	Hiller 3-7	2	22487	Tiger Ridge	Eagle	08/17/89	1447		2300
Norfolk Energy, Inc.	NENE 10 31N 18E	Hiller 10-1	2	22490	Tiger Ridge	Eagle	08/18/89	1500		1400
Norfolk Energy, Inc.	NENE 27 31N 19E	S-B Ranch 27-1	6	22481	Wildcat		08/10/89	1250		
Norfolk Energy, Inc.	S2SW 27 31N 19E	Roberts 27-14	5	22482	Wildcat	Eagle	08/15/89	1300		106
Norfolk Energy, Inc.	CSW 23 32N 18E	Lux 23-13	5	22488	Wildcat	Eagle	08/21/89	1500		4000
Norfolk Energy, Inc.	CSE 23 32N 18E	Marsh 23-16	5	22489	Wildcat	Eagle	08/18/89	1500		7600
Xeno, Inc.	SWNE 1 35N 19E	Chouteau 7-1	2	22429	Battle Creek	Eagle	12/03/89	2026		66
Xeno, Inc.	SENE 17 36N 19E	Battle 6-17	2	22498	Battle Creek	Eagle	11/30/89	1916		668
Xeno, Inc.	SENE 17 36N 19E	Battle 8-17	2	22499	Battle Creek	Eagle	11/30/89	1897		238
Xeno, Inc.	NENW 20 36N 19E	Battle 3-20	2	22500	Battle Creek	Eagle	11/30/89	1890		536
Xeno, Inc.	SWNW 26 36N 19E	Battle 5-26	2	22501	Battle Creek	Eagle	12/03/89	1988		25
Xeno, Inc.	SESE 34 36N 19E	Battle 16-34	2	22502	Battle Creek	Eagle	12/02/89	1931		107
Xeno, Inc.	SESE 20 36N 19E	Battle 16A-20	2	22503	Battle Creek	Eagle	12/03/89	1910		289
009 Carbon										
Amoco Production Company	SWNE 29 9S 23E	Helen #6	1	21229	Elk Basin, NW	Frontier	01/05/89	5198	138	1306
Molen Drilling Co., Inc.	NENE 16 6S 18E	State 1-16	6	21233	Wildcat		08/31/89	6130		
Montana Power Company	NWSW 4 7S 21E	Federal 12-4	3	05189	Dry Creek			5450		
Montana Power Company	SWNE 14 7S 22E	Kuchinski 7X-14	2	21231	Golden Dome	Eagle	10/02/88	2753		75
015 Chouteau										
Meridian Oil Production Inc.	SWNE 22 25N 4E	Onstad 32-22	6	21655	Wildcat		04/25/89	3820		
Montana Power Company	SWSE 21 28N 14E	State 15-21 **	5	21654	Gorman Coulee	Virgelle	08/24/88	1687		
Montana Power Company	NESW 20 28N 14E	Welty 11-20	6	21653	Wildcat		08/22/88	1659		
025 Fallon										
Shell Western E&P Inc.	SESW 5 10N 58E	Unit 24-5	1	21475	Cabin Creek	Red River	10/27/89	9194	35	44
Shell Western E&P Inc.	SENE 8 10N 58E	Unit 22-8R	1	21476	Cabin Creek	Silurian/Ordov.	11/09/89	9199	190	58
Shell Western E&P Inc.	SESE 10 6N 60E	Unit 44-10R	7	21446	Lookout Butte		01/30/89	8952		
027 Fergus										
H. G. O. Petroleum Company	SWNE 2 16N 23E	Flehart #1	6	21224	Wildcat		01/11/89	4750		
033 Garfield										
Phillips Petroleum Company	NWNW 36 15N 30E	Jackson Coulee 1 ***	4	21136	Wildcat	Amsden	01/14/89	4570	288	
Phillips Petroleum Company	SENE 12 13N 33E	Sauilu Federal A-1	6	21137	Wildcat		01/11/89	4590		
Phillips Petroleum Company	NWSW 21 13N 34E	Fee 1-21	6	21139	Wildcat		08/09/89	4430		
035 Glacier										
Croft Petroleum Company	SESW 28 36N 5W	Johnson 14-28	2	21815	Cut Bank	Moulton/Sunburst	10/27/89	2829		63
Gypsy Highview Gathering System	NESE 15 37N 5W	Kruger B 15-4	1	21796	Cut Bank	Madison	09/02/88	2770		6
Gypsy Highview Gathering System	NESE 15 37N 5W	Kruger B 15-5	1	21797	Cut Bank	Cut Bank	08/21/88	2705		16

1989 WELL COMPLETIONS (CONTINUED)

OPERATOR	LOCATION	WELL NAME	STATUS CODE	API NO.	FIELD	PRODUCING FORMATION	DATE COMPLETED	TOTAL DEPTH	INITIAL POTENTIAL	
									OIL B/D	GAS MCF/D
Gypsy Highview Gathering System	NESE 15 37N 5W	Kruger B 15-6	1	21798	Cut Bank	Cut Bank	08/26/88	2695		19
Gypsy Highview Gathering System	SWNE 26 34N 6W	NCCBSU 50-4	1	21801	Cut Bank	Cut Bank	08/26/89	2966		13
Gypsy Highview Gathering System	NWNE 23 34N 6W	NCCBSU 35-5	7	21805	Cut Bank		08/14/89	2970		
Gypsy Highview Gathering System	SESE 11 34N 6W	NCCBSU 8-8	7	21807	Cut Bank	Cut Bank	08/17/88	2890		
Gypsy Highview Gathering System	NWSE 11 34N 6W	NCCBSU 8-9	7	21808	Cut Bank		08/23/88	2875		
Gypsy Highview Gathering System	SESE 15 37N 5W	Kruger "B" 15-7	1	21812	Cut Bank	Cut Bank	09/10/88	2665		22
Gypsy Highview Gathering System	NWSE 26 34N 6W	NCCBSU 49-5	1	21813	Cut Bank	Cut Bank	09/01/88	2970		18
Gypsy Highview Gathering System	NENE 15 37N 5W	Cobb 16	1	21795	Graben Coulee	Cut Bank	08/14/89	2710		5
Montana Power Company	NWSW 25 35N 5W	Mather Unit #4	2	21814	Cut Bank	Cut Bank	06/15/89	2635		200
Union Oil Company of Calif.	NENW 19 33N 5W	SCCBSU 49-13	1	21816	Cut Bank	Cut Bank	08/14/89	3035		4
Union Oil Company of Calif.	NENE 24 33N 6W	SCCBSU 56-8	1	21817	Cut Bank	Cut Bank	08/10/89	3079		
Union Oil Company of Calif.	NESW 18 33N 5W	SCCBSU 38-12	1	21818	Cut Bank	Cut Bank	08/16/89	3083		
041 Hill										
Brown, J. Burns Operating Co.	NENW 7 34N 17E	Thiel 7-34-17	6	22413	Wildcat		05/25/89	1360		
Brown, J. Burns Operating Co.	SWNW 8 34N 17E	Schnittgen 8-34-17	6	22414	Wildcat		06/30/89	1483		
Brown, J. Burns Operating Co.	SWSE 11 34N 16E	Wentz 11-34-16	5	22415	Wildcat	Eagle	07/06/89	1435		
LYTM Company, Inc.	SENE 2 32N 13E	Lois Dees 2-6	6	22404	Wildcat		03/08/89	1248		
LYTM Company, Inc.	SESW 12 34N 15E	James 12-14	6	22405	Wildcat		03/10/89	1465		
LYTM Company, Inc.	SWNW 31 34N 17E	Walter Paulsen 31-6	6	22406	Wildcat		03/12/89	1465		
LYTM Company, Inc.	NWNE 12 34N 16E	Davis 12-34-16	6	22418	Wildcat		07/13/89	1475		
Norfolk Energy, Inc.	SESW 21 30N 15E	Boyce 21-14	2	22407	Tiger Ridge	Eagle	06/11/89	1800		2371
Norfolk Energy, Inc.	NENE 23 30N 15E	Boyce 23-1	2	22408	Tiger Ridge	Eagle	06/11/89	1922		1332
Norfolk Energy, Inc.	SESE 20 31N 16E	Tautges 20-16	3	22409	Tiger Ridge		05/10/89	1600		
Norfolk Energy, Inc.	SESW 1 31N 17E	Clark 1-14	2	22410	Tiger Ridge	Judith River	06/22/89	1950		1200
Norfolk Energy, Inc.	SWSW 5 30N 15E	State 5-13	2	22411	Tiger Ridge	Eagle	06/11/89	1400		961
Norfolk Energy, Inc.	NESW 27 30N 15E	Boyce 27-11	3	22412	Tiger Ridge		05/23/89	1891		
Norfolk Energy, Inc.	NWSW 19 31N 17E	Solomon 19-12	2	22416	Tiger Ridge	Eagle	08/21/89	2000		2380
Norfolk Energy, Inc.	SWNE 27 32N 17E	Davey 27-7	2	22417	Tiger Ridge	Eagle	08/21/89	1450		514
Norfolk Energy, Inc.	NWNW 35 30N 15E	Boyce 35-4	2	22419	Tiger Ridge	Eagle	09/22/89	2150		570
Norfolk Energy, Inc.	NWNW 36 30N 15E	State 36-4	5	22420	Wildcat	Eagle	10/04/89	2100		
055 McCone										
Balcon Oil Company	SWSE 4 23N 47E	McCullough 34-4	6	21185	Wildcat		09/01/89	6475		
065 Musselshell										
Beery Oil Inc.	NWNE 18 11N 25E	Anderson 1-18	6	21791	Wildcat		04/28/89	2164		
Texaco Inc., a Delaware Corp.	S2W2 19 10N 27E	NP 'B' NCT-1 (SWD)	7	21777	Big Wall		05/12/88	4765		
West Gas, Inc.	SESE 6 11N 25E	Eliasson 16-6	3	21790	Winnett Junction		11/01/88	2630		
069 Petroleum										
CSX Oil & Gas Corporation	SESE 16 13N 26E	State 16-1	6	21146	Wildcat		12/13/88	2700		
CSX Oil & Gas Corporation	SWSW 15 13N 27E	State 15-1	6	21147	Wildcat		12/06/88	3410		
CSX Oil & Gas Corporation	CSE 15 13N 27E	State 15-2	6	21148	Wildcat		11/28/88	3335		
071 Phillips										
FMP Operating Company	SENE 7 36N 31E	0761 #3	2	21945	Loring	Bowdoin/ Greenhorn/Phillips	07/12/89	1760		514
FMP Operating Company	NWNE 8 36N 31E	0861 #3	2	21946	Loring	Bowdoin/ Greenhorn/Phillips	07/15/89	1830		492
FMP Operating Company	SESE 29 37N 30E	2970 #2	2	21947	Loring	Bowdoin	07/22/89	1780		357
FMP Operating Company	SESE 20 37N 30E	2070 #2	2	21948	Loring	Bowdoin	07/24/89	1805		123
FMP Operating Company	NWSE 16 37N 30E	1670 #3	2	21949	Loring	Bowdoin/Greenhorn	07/26/89	1915		216
FMP Operating Company	SWSW 35 37N 30E	3570 #3	2	21950	Loring	Bowdoin	07/17/89	1765		418
FMP Operating Company	SWSW 35 35N 31E	3551 #3	2	21951	Loring	Greenhorn/Phillips	07/28/89	1340		257
FMP Operating Company	SESE 32 35N 32E	3252 #2	2	21952	Loring	Greenhorn/Phillips	07/31/89	1505		280
FMP Operating Company	SESE 31 37N 30E	170 #2	2	21953	Loring	Bowdoin	07/20/89	1615		192
FMP Operating Company	SESW 36 37N 30E	3670 #3	2	21954	Loring	Bowdoin/ Greenhorn/Phillips	07/16/89	1830		552
FMP Operating Company	SESW 36 35N 31E	3651 #3	2	21955	Loring	Greenhorn/Phillips	07/30/89	1290		219
FMP Operating Company	NESE 30 37N 30E	3070 #2	2	21956	Loring	Bowdoin/ Greenhorn/Phillips	07/20/89	1745		242
FMP Operating Company	SESE 17 37N 30E	1770 #2	2	21958	Loring	Bowdoin	07/23/89	1900		213
FMP Operating Company	NENE 15 36N 30E	1560 #3	2	21959	Loring	Bowdoin/ Greenhorn/Phillips	07/11/89	1570		479
FMP Operating Company	SENE 14 36N 30E	1460 #3	2	21960	Loring	Bowdoin/ Greenhorn/Phillips	07/09/89	1660		506
FMP Operating Company	SESW 11 36N 30E	1160 #3	2	21961	Loring	Bowdoin/ Greenhorn/Phillips	07/20/89	1680		583

1989 WELL COMPLETIONS (CONTINUED)

OPERATOR	LOCATION	WELL NAME	STATUS CODE	API NO.	FIELD	PRODUCING FORMATION	DATE COMPLETED	TOTAL DEPTH	INITIAL POTENTIAL	
									OIL B/D	GAS MCF/D
FMP Operating Company	SESE 8 37N 30E	0870 #2	2	21963	Loring	Bowdoin/ Greenhorn/Phillips	07/27/89	1970		91
FMP Operating Company	NWSW 2 37N 30E	0570 #2	2	21964	Loring	Bowdoin/ Greenhorn/Phillips	07/26/89	2005		57
FMP Operating Company	SWSW 26 34N 31E	2641 #3	2	21935	Whitewater	Greenhorn/Phillips	07/07/89	1395		296
FMP Operating Company	NESW 23 34N 31E	2341 #3	2	21936	Whitewater	Greenhorn/Phillips	07/28/89	1400		235
FMP Operating Company	SWSW 24 34N 31E	2441 #3	2	21937	Whitewater	Greenhorn/Phillips	07/11/89	1335		339
FMP Operating Company	SENE 32 34N 32E	3242 #3	2	21938	Whitewater	Greenhorn/Phillips	07/27/89	1240		408
FMP Operating Company	NENE 27 35N 31E	2751 #3	2	21939	Whitewater	Greenhorn/Phillips	07/30/89	1350		201
FMP Operating Company	SWNE 22 35N 31E	2251 #3	2	21940	Whitewater	Greenhorn/Phillips	07/30/89	1420		481
FMP Operating Company	SWSW 26 35N 31E	2651 #3	2	21941	Whitewater	Greenhorn/Phillips	07/29/89	1360		241
FMP Operating Company	SWSW 2 34N 31E	0241 #3	2	21942	Whitewater	Greenhorn/Phillips	07/29/89	1340		333
FMP Operating Company	SWSW 31 35N 32E	3152 #3	2	21943	Whitewater	Greenhorn/Phillips	07/31/89	1400		135
FMP Operating Company	NENE 6 34N 32E	0642 #3	2	21944	Whitewater	Greenhorn/Phillips	07/31/89	1455		338
FMP Operating Company	SWSW 25 35N 31E	2551 #3	2	21957	Whitewater	Greenhorn/Phillips	07/30/89	1405		192
Meridian Oil Production Inc.	SENE 5 35N 31E	MOI 0551-2	2	21973	Loring	Greenhorn/Phillips	09/26/89	1474		116
Meridian Oil Production Inc.	NWSE 5 35N 31E	MOI 0551-3	2	21974	Loring	Greenhorn/Phillips	09/22/89	1420		119
Meridian Oil Production Inc.	NESW 5 35N 31E	MOI 0551-4	2	21975	Loring	Greenhorn/Phillips	09/22/89	1465		134
Meridian Oil Production Inc.	NESW 1 33N 31E	MOI 0131-4	2	21965	Whitewater	Greenhorn/Phillips	09/22/89	1408		313
Meridian Oil Production Inc.	NWSE 1 33N 31E	MOI 0131-3	2	21966	Whitewater	Greenhorn/Phillips	08/12/89	1408		210
Meridian Oil Production Inc.	NENE 1 33N 31E	MOI 0131-2	2	21967	Whitewater	Greenhorn/Phillips	09/22/89	1393		317
Meridian Oil Production Inc.	NWNE 2 33N 31E	MOI 0231-2	2	21968	Whitewater	Greenhorn/Phillips	09/28/89	1395		273
Meridian Oil Production Inc.	NESE 2 33N 31E	MOI 0231-3	2	21969	Whitewater	Greenhorn/Phillips	09/28/89	1444		246
Meridian Oil Production Inc.	SESE 5 33N 32E	MOI 0532-2	2	21970	Whitewater	Greenhorn/Phillips	09/12/89	1215		340
Meridian Oil Production Inc.	SENE 5 33N 32E	MOI 0532-3	2	21971	Whitewater	Greenhorn/Phillips	09/13/89	1230		366
Meridian Oil Production Inc.	NWSW 5 33N 32E	MOI 0532-4	2	21972	Whitewater	Greenhorn/Phillips	09/12/89	1311		341
Meridian Oil Production Inc.	SENE 6 33N 32E	NOI 0632-2	2	21976	Whitewater	Greenhorn/Phillips	09/11/89	1340		312
Meridian Oil Production Inc.	SESE 6 33N 32E	MOI 0632-3	2	21977	Whitewater	Greenhorn/Phillips	09/11/89	1349		357
Meridian Oil Production Inc.	SWSW 6 33N 32E	MOI 0632-4	2	21978	Whitewater	Greenhorn/Phillips	09/11/89	1349		357
Meridian Oil Production Inc.	NWSW 18 33N 32E	MOI 1832-2	2	21979	Whitewater	Greenhorn/Phillips	09/11/89	1457		266
Meridian Oil Production Inc.	NWSE 18 33N 32E	MOI 1832-3	2	21980	Whitewater	Greenhorn/Phillips	08/23/89	1412		187
Meridian Oil Production Inc.	SWNE 18 33N 2E	MOI 1832-4	2	21981	Whitewater	Greenhorn/Phillips	09/09/89	1423		194
Meridian Oil Production Inc.	NWNW 20 33N 32E	MOI 2032-2	2	21982	Whitewater	Greenhorn/Phillips	09/09/89	1460		9
Meridian Oil Production Inc.	NWSW 2 33 32E	MOI 2032-3	2	21983	Whitewater	Greenhorn/Phillips	09/12/89	1407		45
Meridian Oil Production Inc.	SENE 20 33N 32E	MOI 2032-4	2	21984	Whitewater	Greenhorn/Phillips	09/09/89	1230		426
Meridian Oil Production Inc.	SWSE 23 35N 31E	MOI 2351-2	2	21985	Whitewater	Greenhorn/Phillips	09/15/89	1466		379
Meridian Oil Production Inc.	SWSW 23 35N 31E	MOI 2351-3	2	21986	Whitewater	Greenhorn/Phillips	09/16/89	1372		361
Meridian Oil Production Inc.	NENE 23 35N 31E	MOI 2351-4	2	21987	Whitewater	Greenhorn/Phillips	09/16/89	1449		639
Meridian Oil Production Inc.	NENW 27 33N 33E	MOI 2733-4	2	21988	Whitewater	Greenhorn/Phillips	09/28/89	1400		267
Meridian Oil Production Inc.	SESE 27 33N 33E	MOI 2733-3	2	21989	Whitewater	Greenhorn/Phillips	09/29/89	1401		517
073 Pondera										
Bacon, J. R. Drilling, Inc.	SESW 34 29N 6W	Field 14-34	4	21740	Wildcat	Madison	03/03/89	3415	20	
Balcon Oil Company	NWSW 13 29N 2W	McCracken 20A-13	2	21738	Ledger	Bow Island	09/26/89	644		57
Balcon Oil Company	SWNE 7 29N 1W	McCracken 21A-7	3	21741	Ledger		10/01/89	815		
Balcon Oil Company	NESW 11 29N 2W	Denzer 3-11	2	21742	Ledger	Bow Island	10/03/89	835		200
Balcon Oil Company	SE16 29N 2W	State 4A-16	3	21743	Ledger		10/06/89	1170		
Balcon Oil Company	SENE 14 29N 2W	Denzer 2-14	3	21744	Ledger		10/13/89	852		
083 Richland										
Comdisco Exploration	SENE 7 22N 59E	Anne #1	6	21781	Wildcat		10/05/89	12371		
Balcon Oil Company	SESE 24 24N 54E	Vaira 44-24 ***	4	21775	Wildcat	Duperow	02/14/89	10316	83	61
Meridian Oil, Inc.	SENE 32 22N 58E	Lorenz-MOI 22-32H **	4	21778	Wildcat	Bakken	10/13/89	12800	24	9
Slawson, Donald C., Oil Prod.	NESE 5 25N 59E	Trust 2-5	1	21774	Cattails	atcliffe	01/28/89	9100	145	
Slawson, Donald C., Oil Prod.	SWSE 32 26N 59E	Elfie Owens 1-32	1	21780	Cattails	Ratcliffe	09/16/89	9100	156	65
085 Roosevelt										
Balcon Oil Company	NWNW 25 31N 47E	Box Elder 11-25	3	21559	Benrud, East		01/07/89	7729		
Balcon Oil Company	NENE 29 31N 47E	Mahlum 41-29	6	21564	Wildcat		10/23/89	7760		
Sinclair Oil Corporation	SWSW 30 31N 47E	Stolen Ranch 20-30	6	21558	Wildcat		10/20/88	7600		
Sinclair Oil Corporation	NWNE 27 30N 47E	Rusche 2-27	6	21560	Wildcat		11/16/88	7560		
Sun Exploration and Production	SESW 11 29N 48E	Sun Stensland #1	4	21561	Wildcat	Nisku	04/20/89	7686	227	18
087 Rosebud										
Balcon Oil Company	SE33 12N 33E	BOC Meridian 46-33	6	21615	Wildcat		05/03/89	5800		
Caza Exploration Co.	SESE 24 12N 32E	Ping #1	6	21617	Wildcat		07/15/89	5454		
Caza Exploration Co.	SWSW 19 12N 33E	Meridian #1	6	21620	Wildcat		12/08/89	5477		
Huckabay, E. Doyle Ltd.	SWSE 32 12N 32E	Kincheloe 1-32 WSW	7	21417	Kincheloe Ranch		08/29/89	4705		

1989 WELL COMPLETIONS (CONTINUED)

OPERATOR	LOCATION	WELL NAME	STATUS CODE	API NO.	FIELD	PRODUCING FORMATION	DATE COMPLETED	TOTAL DEPTH	INITIAL POTENTIAL	
									OIL B/D	GAS MCF/D
Huckabay, E. Doyle Ltd.	LT 5 4 11N 32E	State 4-4	3	21618	Kincheloe Ranch		07/29/89	5575		
Huckabay, E. Doyle Ltd.	SESW 33 12N 32E	Grebe 3-33	7	21619	Kincheloe Ranch Tyler		09/01/89	5482		
Lindenmuth & Associates	NWSW 30 12N 33E	Mesa Federal 30-12R	1	21612	Rattler Butte Tyler		01/26/89	5640	105	
Phillips Petroleum Company	NE5 11N 32E	Grebe A-9 #9	3	21616	Kincheloe Ranch		07/01/89	5550		
091 Sheridan										
Apache Corporation	SWNE 32 36N 58E	Goose Lake Deep 7-32	1	21647	Goose Lake	Red River	01/01/89	10950	369	87
Apache Corporation	SWNW 32 36N 58E	Goose Lake Deep 5-32	1	21648	Goose Lake	Red River	07/21/89	10975	92	61
Apache Corporation	SWNW 33 36N 58E	Goose Lake Deep 5-33	3	21651	Goose Lake		05/09/89	10870		
Apache Corporation	SWSW 29 36N 58E	Goose Lake 13-29	3	21653	Goose Lake		06/18/89	10998		
Apache Corporation	NWNE 16 35N 58E	Goose Lake Deep 2-16	3	21658	Wildcat		08/01/89	10948		
Balcon Oil Company	SESE 22 35N 56E	Aakhus 44-22	6	21650	Wildcat		06/13/89	11250		
Conex	NESW 8 37N 56E	Kavon 11-8	6	21646	Wildcat		02/20/89	8120		
Conex	SWNE 30 34N 58E	Ottenbreit 7-30	6	21656	Wildcat		05/31/89	7425		
Slawson, Donald C., Oil Prod.	SENE 20 32N 55E	Epidote 1-20 ***	4	21649	Curlew	Red River	05/06/89	11100	311	
Union Texas Exploration Corp.	NESE 25 37N 55E	Neste Farms 25-1	6	21636	Wildcat		09/03/88	6800		
Union Texas Exploration Corp.	SENE 14 37N 56E	Neste Meyer FLB 14-1	6	21641	Wildcat		11/02/88	6672		
Union Texas Petroleum Corp.	NENE 8 37N 55E	Neste Huffman 8 #1	1	21657	Dooley	Ratcliffe	07/07/89	6500	83	6
Union Texas Petroleum Corp.	SENE 6 37N 55E	Neste Darvis 6-1	6	21628	Wildcat		01/23/88	6535		
095 Stillwater										
Balcon Oil Company	NESW 26 3N 21E	Marsh/Federal 23-26	2	21231	Little Basin	Frontier	11/12/89	1339		1200
099 Teton										
Croft Petroleum Company	SENE 11 26N 7W	Campbell 8-11 ***	4	21277	Wildcat	Madison	03/27/89	3051	9	
Texaco Inc., a Delaware Corp.	SWNE 17 22N 8W	Montana "O" #1	6	21278	Wildcat		08/25/88	5990		
101 Toole										
Avalon Corporation	NE35 34N 2W	Flesch Farms 2	2	23356	Prarie Dell	Bow Island/ Dakota/Sunburst	12/04/89	1324		110
Avalon Corporation	CSE 36 34N 2W	State Tower 3	2	23357	Prarie Dell	Bow Island/Dakota	12/04/89	1281		86
Avalon Corporation	SWNE 33 34N 3W	Norbert Flesch 2	5	23335	Wildcat	Sunburst	10/26/89	1400		383
Bacon, J. R. Drilling, Inc.	NWSW 25 35N 4W	Aronow 25-7	3	23283	Kevin Sunburst		01/05/89	2053		
Beartooth Oil & Gas Company	NENW 14 37N 2E	Continental 14-3	3	23347	Fred & George		10/13/89	2728		
Branch, Jerry L.	NW35 34N 3W	State 4-35	2	23351	Black Diamond	Sunburst	09/24/89	1354		400
Branch, Jerry L.	SESE 24 34N 3W	Pride 16-24	2	23350	Kevin Sunburst	Bow Island/Dakota	09/23/89	1463		57
Branch, Jerry L.	NENE 17 34N 3W	Yanglin 1-17	3	23353	Kevin Sunburst		09/30/89	1434		
Branch, Jerry L.	SW30 33N 3W	Gallagher 12-30	5	23364	Wildcat	Swift	12/29/89	2060		250
Brown, J. Burns Operating Co.	N2NE 34 34N 3W	Potter 34-34-3B	2	23352	Kevin Southwest	Dakota	10/05/89	1355	0	51
Brown, J. Burns Operating Co.	CNE 28 33N 2W	Smith 28-33-2	2	23309	Prarie Dell	Sunburst	03/17/89	1562		288
Brown, J. Burns Operating Co.	E2NE 28 33N 2W	Smith 28-33-2B	2	23354	Prarie Dell	Sunburst	11/14/89	1520		130
Coolidge, G. B., Inc.	SWNE 13 34N 1W	Steiger 1	2	23307	Kevin,	Sunburst	01/25/89	1254		385
Coolidge, G. B., Inc.	SWSW 12 34N 1W	Wilcox 1	2	23327	Kevin,	Bow Island/Sunburst	08/07/89	1354		480
Crescent Oil & Gas Corporation	NWNW 6 32N 1W	Sherman 1-6	2	23308	Old Shelby	Sunburst	02/08/89	1375		370
Crescent Oil & Gas Corporation	E2NW 11 33N 1W	Carpenter 1-11	2	23339	Old Shelby	Bow Island/Sunburst	11/18/89	1350		243
Croft Petroleum Company	SESE 21 35N 2E	Gunderson 6-21	1	23343	Dutch John	Sunburst	10/04/89	2050		
Fulton Fuel Co.	SENE 33 36N 3W	Federal 22-33	3	23270	Kevin Sunburst		08/24/88	1101		
General Well Service, Inc.	NWNE 28 36N 1W	Pace 1	6	23325	Wildcat		08/07/89	2102		
Keesun Partners	NESE 25 36N 4W	Nelson 9-25	2	23314	Amanda	Sunburst	05/21/89	2530		300
Keesun Partners	NESE 11 35N 1W	Johnson 9-11	2	23349	Kevin Sunburst	Bow Island	09/18/89	1804		50
Keesun Partners	NWNE 5 32N 1W	Ansay 2-5	2	23319	Old Shelby	Sunburst	07/09/89	1444		120
Keesun Partners	NWNW 4 32N 1W	Ansay A4	2	23332	Old Shelby	Bow Island	10/20/89	830		200
Keesun Partners	SENE 5 32N 1W	Tweedy A8	2	23333	Old Shelby	Sunburst	10/19/89	1298		350
Keesun Partners	SWNE 32 33N 1W	Parker Bailey 7-32	3	23334	Old Shelby		11/04/89	1323		
Keesun Partners	NWNW 4 32N 1W	Ansay/Gronik 4-4	5	23306	Wildcat	Sunburst	06/21/89	1333		200
Montana Power Company	NWNE 16 37N 4W	State 429 #18	7	21857	Cut Bank	Moulton		2722		
Montana Power Company	SWSW 31 36N 4W	Berger Unit #4	2	23315	Cut Bank	Cut Bank	05/25/89	2818		175
Montana Power Company	NWSW 18 35N 4W	Thomas Unit #8	2	23316	Cut Bank	Bow Island	06/07/89	2110		180
Natural Gas Processing Co.	SWSW 23 32N 2E	Hellinger 14-23	2	23331	Devon	Bow Island	10/27/89	700		166
Natural Gas Processing Co.	NESW 13 37N 2W	Holtz 11-13	6	23366	Wildcat		12/20/89	2305		
Petrotec Production, Inc.	SWSE 26 36N 2W	Stone 4	1	23321	Kevin Sunburst	Sunburst	07/29/89	1694	14	
Petrotec Production, Inc.	SESE 26 36N 2W	Shaw 12	1	23322	Kevin Sunburst	Sunburst	07/29/89	1615	15	
Petrotec Production, Inc.	NWSE 26 36N 2W	Stone 5	1	23326	Kevin Sunburst	Sunburst	07/29/89	1700	5	
Ranck Oil Company, Inc.	NWNW 1 35N 3W	Engle W4	3	23367	Kevin Sunburst		12/29/89	1700		
Rimrock Oil Company	SWSW 7 34N 2W	State 13	1	23330	Kevin Sunburst	Madison	10/10/89	1525		

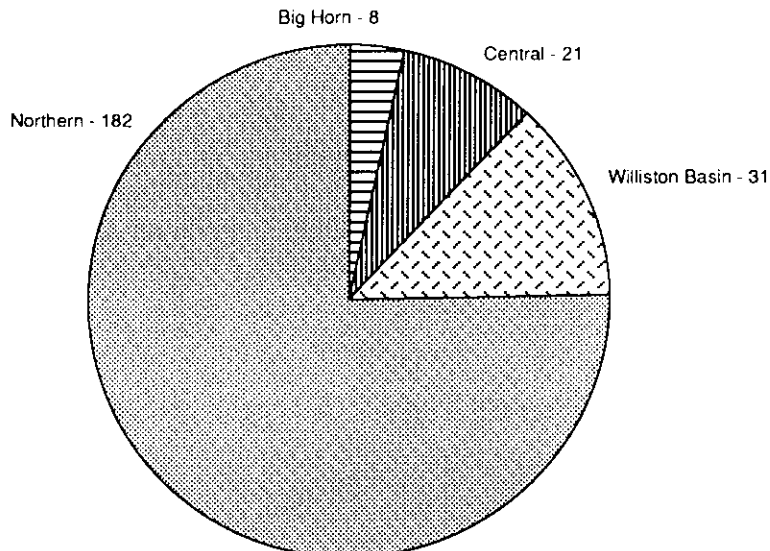
1989 WELL COMPLETIONS (CONTINUED)

OPERATOR	LOCATION	WELL NAME	STATUS CODE	API NO.	FIELD	PRODUCING FORMATION	DATE COMPLETED	TOTAL DEPTH	INITIAL POTENTIAL	
									OIL B/D	GAS MCF/D
S & W Petroleum Consultants	LT3 31 37N 3W	McAlpine C 931	2	23313	Amanda	Sunburst	06/07/89	2544		248
Sands Oil Company	NWSW 7 36N 3E	Christian 13-7	3	23304	Arch Apex		12/31/88	2249		
Sands Oil Company	SENE 15 36N 2E	McHale Schlitz 22-15	2	23298	Miners Coulee	Bow Island	04/20/89	1939		
Sands Oil Company	SESE 24 36N 2E	Christian 44-24	2	23300	Miners Coulee	Bow Island	04/21/89	1915		243
Sands Oil Company	SWSE 20 36N 2E	Berchelote #34-20	5	23297	Wildcat	Bow Island	04/29/89	1291		94
SoMont Oil Company, Inc.	NWNE 32 35N 4W	Bailey 32-2	2	23336	Cut Bank	Sunburst	11/11/89	2048		594
SoMont Oil Company, Inc.	SWNE 25 35N 4W	Clapper 1	1	23311	Kevin Sunburst	Madison	04/24/89	1996	3	
SoMont Oil Company, Inc.	SWSE 26 35N 4W	Hagemeister 1	2	23312	Kevin Sunburst	Bow Island	04/21/89	2054		31
SoMont Oil Company, Inc.	SWNW 11 34N 4W	McNamer 1A	1	23318	Kevin Sunburst	Madison	05/25/89	2087		50
SoMont Oil Company, Inc.	NENE 36 36N 4W	State 1	2	23361	Kevin Sunburst	Dakota	12/01/89	2600		194
SoMont Oil Company, Inc.	NWSE 26 36N 4W	Gillespie 1	2	23355	Kevin Sunburst	Bow Island	11/30/89	1753		473
SoMont Oil Company, Inc.	SWNW 30 36N 3W	Haeh 1	5	23324	Wildcat	Sunburst	12/05/89	2516		134
Spectrum Energy, Inc.	NESE 31N 3W	Zell 3-9	2	23329	Marias River	Bow Island	08/18/89	1300		219
Spectrum Energy, Inc.	SWSE 8 33N 3E	Fredrickson 4	6	23344	Wildcat		10/28/89	1923		
Walls, Adrian G.	SWSW 18 34N 2W	Me 4	1	23282	Kevin Sunburst	Madison	01/01/89	1546	2	
Walls, Adrian G.	NESW 25 33N 2W	Bierhall 1-25	2	23338	Old Shelby	Bow Island/ Sunburst/Swift	12/14/89	1473		1029
Walls, Adrian G.	SESW 10 33N 2W	Coonrad 1-10	2	23310	Prarie Dell	Bow Island/Sunburst	09/21/89	1474		144
Walls, Adrian G.	NWSE 18 34N 2W	Lonesome 4	1	23284	Shepherder	Madison	01/05/89	1560	2	
105 Valley										
Exxon Corporation	NESE 29 31N 44E	Olfert C #4	1	21411	Lustre		06/25/89	5940		
109 Wibaux										
Exxon Corporation	NWNW 31 14N 60E	Meridian Fee #1	6	21068	Wildcat		03/29/89	10160		
Mueller, C. Lee	NESW 7 12N 61E	Safstrom 1-7	6	21043	Wildcat			11169		
111 Yellowstone										
Hondo Oil & Gas	SWSE 20 7N 32E	CR Horton 20-1	1	21222	Wolf Springs Area	Amsden	12/23/89	6155		60
R & J Production, Inc.	SWNE 26 3S 24E	Mosser #16	1	21217	Mosser Dome	Mosser Sand	06/12/88	995		6
R & J Production, Inc.	SWNE 26 3S 24E	Mosser 15	1	21219	Mosser Dome	Mosser Sand	08/10/88	994		8

Status codes:

- 1 - development oil well
 - 2 - development gas well
 - 3 - development dry hole
 - 4 - exploratory oil well
 - 5 - exploratory gas well
 - 6 - exploratory dry hole
 - 7 - service well
 - 8 - other (usually temp. aband.)
- * new pay zones
 - ** extensions
 - *** new discovery

Wells Completed in 1989 (242 Wells - by Region)



1989 SUMMARY OF SECONDARY RECOVERY PROJECTS

Field	Formation	Operator	Type of Project	Injection Pattern	Date Injection Completed	1989	Avg. Daily Injection Rate BBLs or MMCF	No. of Injection Wells	Source of Injection Media and Remarks
						Cumulative Injections MMBLS or MMCF			
Ash Creek Crow Tribe	Shannon	Mobil	Waterflood	Peripheral	10/64	256	-	-	Idle
Ash Creek SU (Mont)	Shannon	Bearcat Petroleum	Waterflood	Peripheral	10/64	1331	51	2	WSW/Prod
Bell Creek Tertiary	Muddy	Exxon Corporation	Waterflood	5 Spot	12/80	66474	9907	16	Produced
Bell Creek A	Muddy	Exxon Corporation	Waterflood	Peripheral	4/70	210248*	16101	29	Produced
Bell Creek B	Muddy	Exxon Corporation	Waterflood	Peripheral	10/70	58642	4440	9	Produced
Bell Creek C	Muddy	Exxon Corporation	Waterflood	Peripheral	9/71	39911	2226	3	Produced
Bell Creek D	Muddy	Exxon Corporation	Waterflood	Peripheral	1/72	37203*	1704	4	Produced
Bell Creek E	Muddy	Exxon Corporation	Waterflood	Peripheral	1/72	33913	1556	9	Produced
Bell Creek Ranch Cr.	Muddy	Exxon Corporation	Waterflood	Peripheral	3/71	44986	514	1	Produced
Big Wall BWUTSU	Upper Tyler	Texaco	Waterflood	Random	8/66	37720	2350	1	Produced
Big Wall BWLTSU	Lower Tyler	Texaco	Waterflood	Random	10/84	16534	6444	3	Produced
Blackfoot	Cut Bank	Croft Petroleum	Waterflood	Random	7/76	3256	688	4	Madison
Border, New	Cut Bank	P&M Petroleum	Waterflood	Random	1/82	-	-	-	Idle
Border, Old	Cut Bank	Gypsy Highview	Waterflood	Random	6/73	1478*	205	1	Madison
Cabin Creek	Siluro-Ord.	Shell	Waterflood	Semi-Perip	6/59	326167*	20756	28	Produced
Cat Creek East Dome	Ellis Sand	Robert Hoss	Waterflood	Semi-Perip	7/70	1348	131	3	Third Cat Creek
Cat Creek Mosby Dome	Swift	Cenex	Waterflood	Random	7/67	6519*	-	-	Idle
Cat Creek Mosby	Amsden	Cenex	Waterflood	Random	6/71	313	-	-	Idle
Cat Creek Unit 1	1st Cat	Cenex	Waterflood	Semi-Perip	10/62	7687	411	1	Third Cat Creek
Cat Creek Unit 1	2nd Cat	Cenex	Waterflood	Semi-Perip	10/62	10950	1134	2	Third Cat Creek
Cat Creek Unit 2	1st Cat	Cenex	Waterflood	Semi-Perip	12/59	9780	66	1	Third Cat Creek
Cat Creek Unit 2	2nd Cat	Cenex	Waterflood	Semi-Perip	12/59	12758	877	3	Third Cat Creek
Cut Bank Dahlquist	Cut Bank	Bluejay Resources	Waterflood	Random	11/79	273	251	1	Madison
Cut Bank Lander A	Lander Sand	Grey Wolf Production	Waterflood	Random	4/65	2105	154	1	Madison
Cut Bank Marina	Cut Bank	P&M Petroleum	Waterflood	5 Spot	6/72	2075	-	-	Idle
Cut Bank No. Central	Cut Bank	Gypsy Highview	Waterflood	5 Spot	5/78	5619	418	6	Madison
Cut Bank No. East	Cut Bank	J and G Operating	Waterflood	5 Spot	6/63	13409	-	-	-
Cut Bank No. West	Cut Bank	J and G Operating	Waterflood	5 Spot	1/62	18868	23	2	Madison
Cut Bank So. Central	Cut Bank	Union Oil	Waterflood	5 Spot	5/63	59999	9501	69	Madison
Cut Bank So. West	Cut Bank	J.R. Bacon Drilling	Waterflood	5 Spot	9/62	131294	7948	34	Madison/Recycle
Cut Bank Tesoro	Cut Bank	City Oil Co.	Waterflood	5 Spot	9/71	6759	115	5	Madison/Recycle
Cut Bank Tweedy	Cut Bank	Gypsy Highview	Waterflood	5 Spot	6/72	956*	-	-	Idle
Cut Bank 2 Medicine	Madison	Montana Mill Oper.	Waterflood	Random	12/67	1985*	1282	2	Produced
Darling	Cut Bank	Buttes Resources	Waterflood	Random	2/67	-	-	-	Idle
Darling North Unit	Moulton	Buttes Resources	Waterflood	Random	2/68	2472	-	-	Idle
Darling South Unit	Moulton	Buttes Resources	Waterflood	Random	2/67	7548	-	-	Idle
Dean Dome	Greybull	Eastern American	Steam Inj	Cyclic	8/81	29	-	-	Idle
Dwyer	Charles	Conoco	Waterflood	Peripheral	10/68	1381*	247	3	Dwyer Charles
Elk Basin	Frontier	Amoco	Waterflood	Crestal	12/72	6039	-	-	Idle
Elk Basin Unit	Tensleep	Amoco	Waterflood	Semi-Perip	4/67	2431	-	-	Idle
Elk Basin	Madison	Amoco	Waterflood	Semi-Perip	8/61	240381	17917	13	Produced
Elk Basin NW	Madison	Amoco	Waterflood	Semi-Perip	12/88	365	1000	4	Produced
Elk Basin NW	Tensleep	Amoco	Waterflood	Semi-Perip	1/67	5918	-	-	Idle
Fairview	Red River	Mopna, Inc.	Pressure M	Random	5/70	4186	-	-	Idle
Fiat Coulee	Swift	Breck Operating Corp	Waterflood	Peripheral	2/72	13323	2323	12	Eagle
Fiat Lake Unit	Ratcliffe	Chevron USA	Pressure M	Random	6/71	39785	5469	15	Produced
Fiat Lake West	Ratcliffe	Chevron USA	Pressure M	Random	11/74	7767	635	2	Produced
Frannie	Tensleep	Conoco	Waterflood	Random	11/70	423794*	101975	50	Produced
Frannie	Tensleep	Conoco	LPG Inj	Random	11/70	23131*	-	-	Idle
Fred & George Creek	Sunburst	William M. Fulton	Waterflood	Random	7/76	52250	5926	2	Madison/Eagle
Gas City	Red River	Shell	Waterflood	Semi-Perip	10/69	16485	956	3	Mission Canyon
Goose Lake	Ratcliffe	Apache Corporation	Waterflood	Semi-Perip	1/73	24995	3504	2	Produced
Graben Coulee	Cut Bank	Monte Grande Explor.	Waterflood	Random	7/83	326*	204	2	Madison
Gumbo Ridge	Tyler B	Meridian Oil Inc.	Waterflood	Semi-Perip	6/80	2760	-	-	Idle
Highview	Madison	Mountain States Res.	Co2 Inj.	Random	7/82	600	-	-	Idle
Ivanhoe	Tyler	Tomahawk Oil Co.	Pressure M	Random	5/64	156	113	1	Produced
Jim Coulee	Tyler	Union Texas Petrol.	Waterflood	Semi-Perip	7/72	21678*	3837	4	Produced Cat Cr
Keg Coulee Unit	Tyler	Buttes Resources	Waterflood	Semi-Perip	8/66	5910	670	2	Produced
Keg Coulee Tyler SU	Tyler	Damson Oil Corp.	Waterflood	Semi-Perip	12/69	3609	-	-	Idle
Keg Coulee NW Unit	Tyler	N. Central Oil Co.	Waterflood	Semi-Perip	1/70	6082*	68	1	Madison
Kelley	Tyler B	Thermal Exploration	Waterflood	Random	7/69	3615	875	1	Produced
Kevin Sunburst SU	Sunburst	Texaco	Waterflood	Random	8/64	12960	287	4	Produced
Kevin Homestake SU	Sunburst	Petro Production Inc	Waterflood	Random	8/64	7288*	728	8	Madison

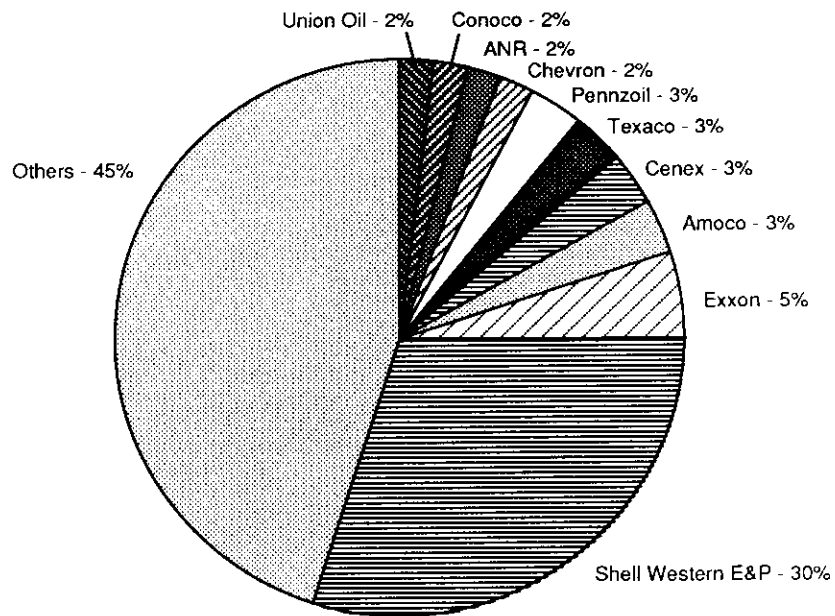
1989 SUMMARY OF SECONDARY RECOVERY PROJECTS (CONTINUED)

Field	Formation	Operator	Type of Project	Injection Pattern	Date Injection Completed	1989	Avg. Daily Injection Rate BBLs or MMCF	No. of Injection Wells	Source of Injection Media and Remarks
						Cumulative Injections MBBLs or MMCF			
Kincheloe Ranch	Tyler A	E. Doyle Huckabay	Waterflood	Random	11/89	31	515	1	Third Cat Creek
Laird Creek	Swift	Meridian Oil Inc.	Waterflood	Semi-Perip	2/77	807	-	-	Idle
Little Beaver	Red River	Shell Oil	Waterflood	Semi-Perip	8/66	50810*	3649	12	Produced
Little Beaver East	Red River	Shell Oil	Waterflood	Semi-Perip	4/65	20682*	3821	8	Produced
Little Wall Creek	Tyler	Texaco Producing	Waterflood	Random	/84	426	413	1	Produced
Little Wall South	Tyler	Union Texas	Waterflood	Random	10/83	9131	6068	5	Unit Wells
Little Wall South	Gunderson	Beartooth Oil & Gas	Waterflood	Random	10/87	437	449	1	Produced
Lookout Butte Coral	Red River	Shell Oil	Waterflood	Semi-Perip	4/67	54662*	4072	10	Minnelusa
Lookout Butte East	Red River B	Meridian Oil Inc.	Waterflood	Pilot	7/88	53	75	1	Produced
Mason Lake	1st Cat Creek	Nielco, Inc.	Waterflood	Unknown	11/88	272	615	1	Amsden
Melstone North	Tyler	True Oil Co.	Waterflood	Unknown	1/83	4816	1976	4	3rd Cat Creek
Monarch	Siluro/Ord	Shell Oil	Waterflood	Unknown	12/73	6730	338	2	Unknown
Pennel	Siluro/Ord	Shell Oil	Waterflood	Random	8/69	185988*	46245	84	Dakota/Produced
Pine A	Siluro/Ord	Shell Oil	Waterflood	Semi-Perip	3/59	163576	19473	25	Fox Hills/Prod.
Pine C & D	Red River	Shell Oil	Waterflood	Semi-Perip	3/68	22821*	1008	4	Lodgepole
Prichard Creek	Sunburst	Fulton Producing	Waterflood	Random	4/73	1184	-	-	Idle
Ragged Point Tyler A	Tyler	Buttes Resources	Waterflood	Semi-Perip	12/66	11142	732	1	Cat Creek
Ragged Point SW	Tyler	Graham Royalty Ltd.	Waterflood	Random	10/82	5273	2670	4	Produced
Raymond	Nisku	Santa Fe Energy	CO2 Inj.	Unknown	8/83	1291	487	1	Duperow
Regan Dome	Madison	Union Oil	Waterflood	Random	7/73	6227	1154	4	Produced
Red Creek	Cut Bank	Exxon	Waterflood	5 Spot	6/65	1793*	-	-	Idle
Roscoe Dome	Lakota	E.Am.Energy	Steam Inj.	UK	5/82	5	-	-	Idle
Sheepherder	Judith River	Summit Resources	Secondary	Random	11/84	95	-	-	Idle
Stensvad	Tyler	Tomahawk Oil	Waterflood	Semi-Perip	12/63	28183*	371	2	Produced
Sumatra Central	Tyler	Texaco	Waterflood	Semi-Perip	9/69	165179	6202	16	Madison & Prod
Sumatra Grebe	Tyler	Cenex	Waterflood	Random	6/75	716	-	-	Madison & Prod
Sumatra No. East	Tyler	Texaco	Waterflood	Semi-Perip	9/69	10696*	1320	5	Produced
Sumatra Sawyer	Tyler	Buttes Resources	Waterflood	Semi-Perip	6/80	1122	118	1	Madison
Sumatra So. East	Tyler	Buttes Resources	Waterflood	Semi-Perip	12/69	26363	3612	4	Produced
Sumatra West	Tyler	Conoco	Waterflood	Semi-Perip	10/68	57379	4868	4	Produced
Sumatra W. Kincheloe	Tyler	Apache Corp.	Waterflood	Semi-Perip	5/82	14187	6734	6	Madison
Tippy Buttes	Tyler	True Oil	Waterflood	Random	5/82	262	91	1	Dakota
Winnett Junction	Tyler	TGX Corporation	Waterflood	Random	10/77	7555	1274	2	Produced & WSW

* Cumulative figures adjusted by operator

Top Producing Oil Companies - 1989

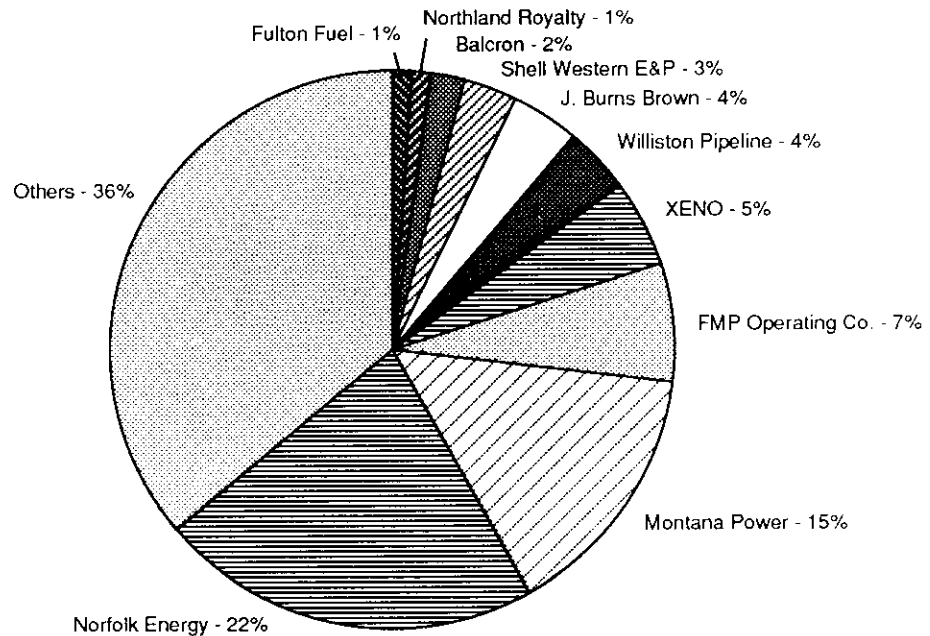
20,969,292 Barrels



274 Active Oil Producers

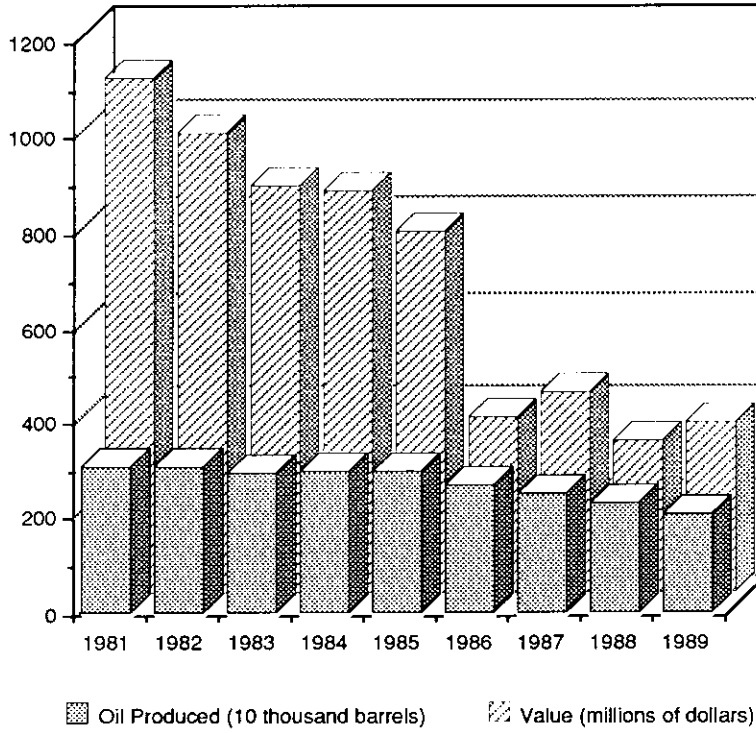
Top Producing Gas Companies - 1989

52,582,448 MCF

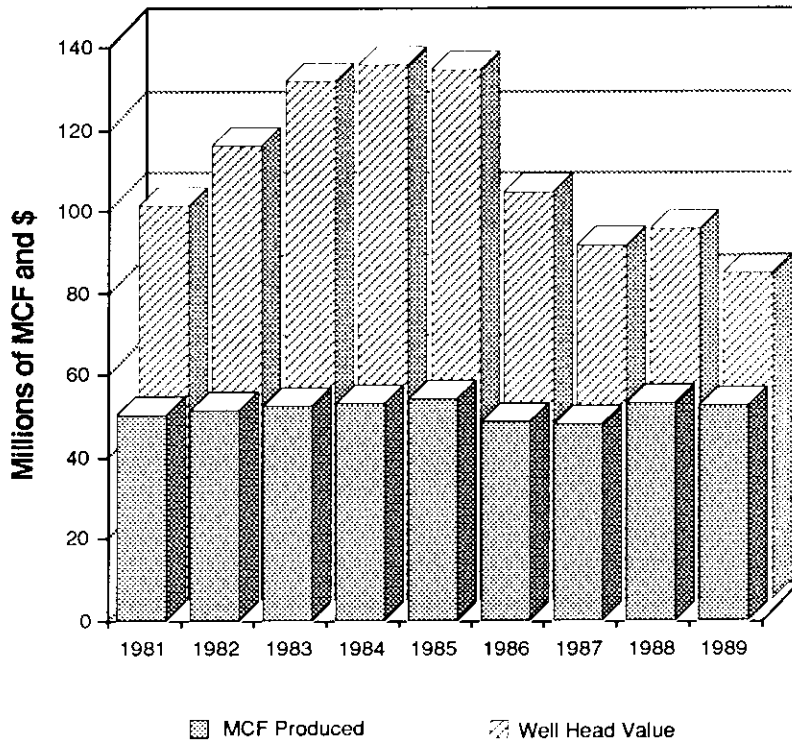


208 Active Gas Producers

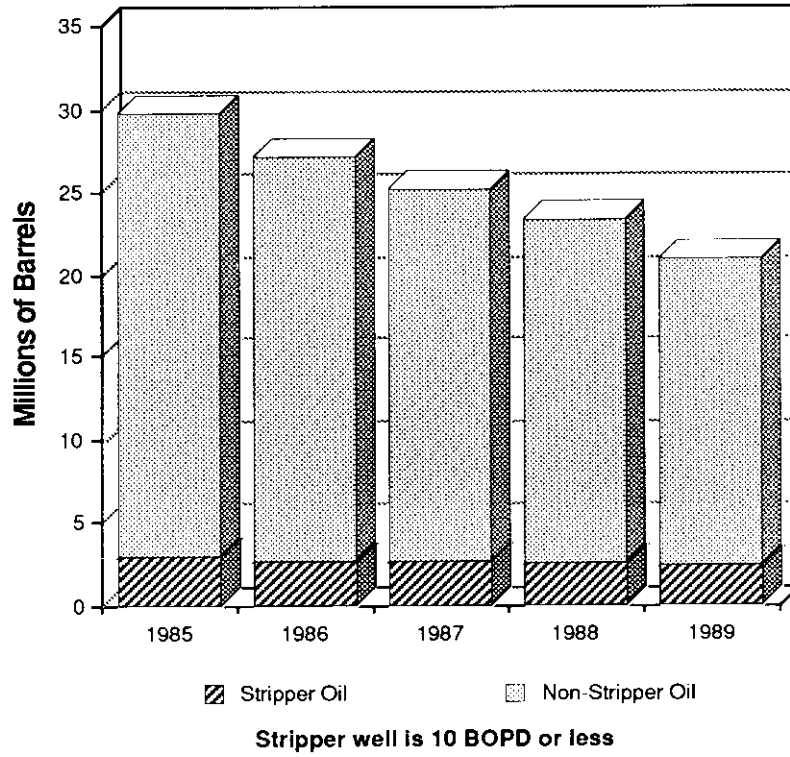
Oil Produced and Oil Value



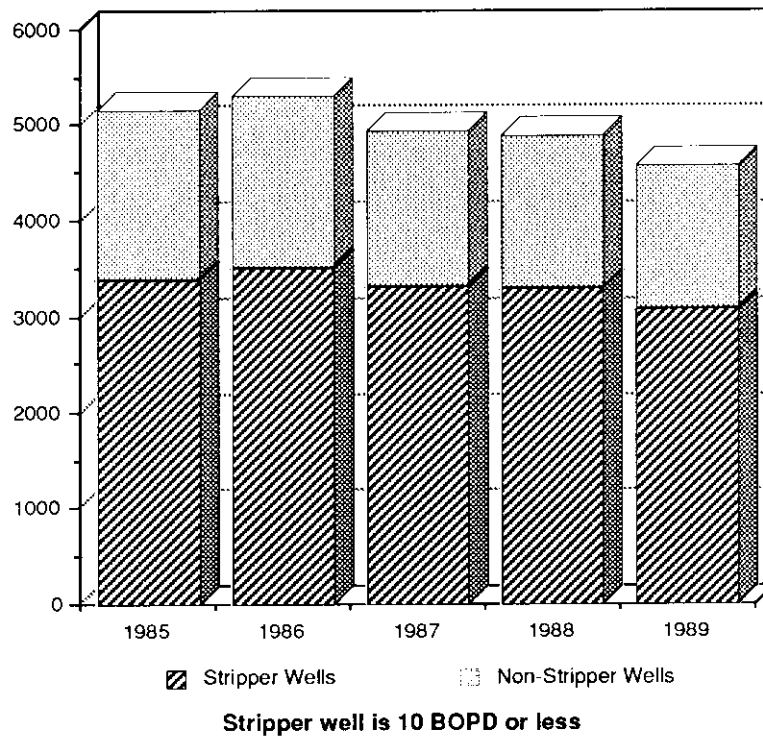
Gas Produced and Gas Value Natural and Associated Gas



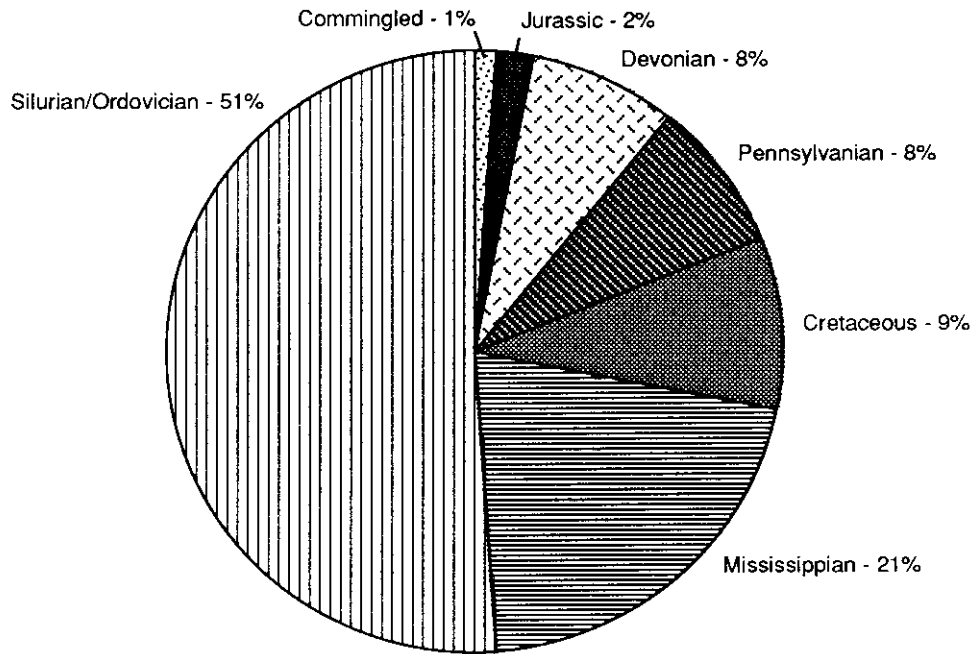
Stripper and Non-Stripper Oil Production



Stripper and Non-Stripper Number of Producing Wells



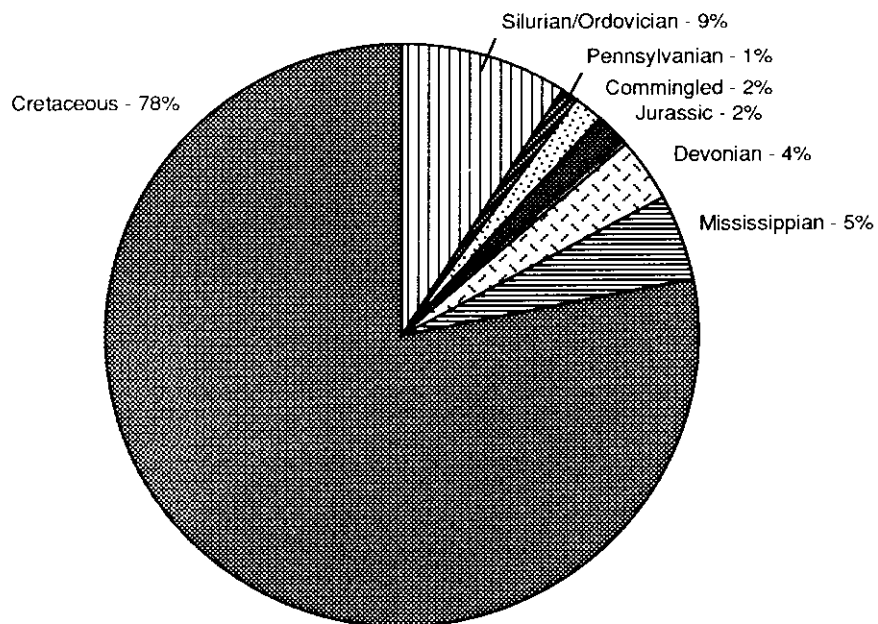
Oil Production By Geologic Period



20,969,292 Bbls Produced

Gas Production By Geologic Period

Natural & Associated Gas



52,582,448 Mcf Produced

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
ACE HIGH Tyler	0	0	1	Statewide.
ALMA Bow Island/Blackleaf	0	3	0	640-acre spacing units. Location to be no closer than 990' from spacing unit boundary. (Order 19-77)
AMANDA Bow Island Swift-Sunburst	0 0	9 5	0 0	320-acre spacing units for gas with one well per horizon from the base of the Swift to the surface to be located no closer than 660' from unit boundary. Spacing unit to consist of two contiguous quarter sections lying within one or two governmental sections. (Order 76-79) Field enlargement. (Orders 25-83, 1-85, 25-88, 42-88 and 2-89).
ANVIL Nisku Ratcliffe Red River Winnipegosis	1 2 7 1	0 0 0 0	0 1 0 0	320-acre spacing units for Red River "B" and "C" with one well per zone no closer than 660' to unit boundary; commingling approved for one well only per spacing unit. (Order 75-85) Produced water disposed into the Dakota formation. (Order 12-A-82)
ARCH APEX Bow Island Swift-Sunburst	0 2	39 1	4 3	330' from legal subdivision; 2,400' from any other drilling or producible gas well producing from the same reservoir; 75' topographic tolerance. (Order 4-60) Sometimes called Colorado Blackleaf pool. (Swift) Statewide.
ASH CREEK Shannon	2	0	4	Spacing waived within unitized portion of field except no well may be drilled closer than 660' from unit boundary. (Order 4-65) Waterflood started October 1964. (Orders 22-64, 15-66)
ASHFIELD Bowdoin-Greenhorn-Phillips Carlile Carlile/Greenhorn	0 0	74 4	1 0	640-acre spacing units with two wells per formation (Orders 41-82 and 16-89). Amend to allow 4 wells per formation per 640-acre spacing unit located no closer than 660' to the spacing unit boundary, 1,320' between wells producing from the same formation with 150' of tolerance for geologic or topographic reasons. (Order 17-89).
BADLANDS Eagle	0	8	4	Drilling and spacing units allow one well per governmental section to be located anywhere within a section but no closer than 990' to a section line. (Order 22-78)
BAINVILLE Red River Red River-Gunton Ratcliffe	2 1 1	0 0 0	1 0 0	Statewide. Single 320-acre spacing unit for Winnipegosis formation. (Order 117-84) Single 330-acre spacing unit for Red River and Winnipegosis formations. (Order 18-88)
BAINVILLE II Red River	3	0	0	320-acre spacing units; no well closer than 660' to the unit boundaries. (Order 36-82) Field reduction. (Order 16-85) Single spacing unit. (Order 69-85)
BAINVILLE, NORTH Ratcliffe Red River Winnipegosis Interlake	1 3 3 1	0 0 0 0	0 0 0 0	320-acre spacing units to consist of two governmental quarter sections located in either one or two governmental sections. Wells to be located no closer than 660' to unit boundary and no closer than 1,650' to any well producing from the same formation. (Order 84-79) Board Order 84-79 is amended to permit a tolerance of 150' from the well location requirements of said order for topographic purposes. (Order 39-80)
BAINVILLE, WEST Red River	1	0	0	320-acre spacing units to consist of two governmental quarter sections that may be in either one or two governmental sections. Location to be no closer than 660' to the unit boundary or closer than 1,650' to another producing well within the field. (Orders 19-78, 42-79) 320-acre spacing units aligned in east-west direction with permitted well to be no closer than 660' to unit boundary. (Order 57-80)
BANNATYNE Swift Madison	16 9	0 0	0 0	Center of 10-acre tracts, 50' topographic tolerance. Commingling permitted. (Order 20-58) Pilot waterflood of Swift suspended in 1963.
BATTLE CREEK Eagle	0	47	1	Production of gas from all formations from surface to top of Virgelle formation. One well per producing horizon per section no closer than 990' to section line but allowing additional wells in each section no closer than 1,320' to wells producing from same horizon. (Order 40-86)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
BEANBLOSSOM Tyler B	2	0	0	Three spacing units with one well per lot. (Order 23-86) SWD approved EPA-87, 88.
BEARS DEN Bow Island Swift	0 9	1 2	0 0	Statewide. Enhanced recovery approved EPA-89.
BELFRY Kootenai	0	0	1	Statewide.
BELL CREEK Muddy	105	0	205	Originally 40-acre spacing units with location 660' from unit boundary with 150' tolerance for topographic reasons only. (Orders 37-67, 39-67, 50-67, 1-69, 17-70) Field now unitized. Tertiary program. (Order 25-80) Six areas unitized (Unit "A," "B," Ranch Creek, "C," "D," and "E"). Floods used Madison water. (Orders 7-70, 23-70, 8-71, 26-71, 35-71, 36-71) Tertiary enhanced recovery authorized for Units "A," "B," "D," (Orders 82-84, 111-84, 112-84). Ranch Creek enhanced recovery approved EPA-85.
BELL CREEK, SOUTHEAST Muddy	0	0	1	160-acre spacing units, wells 660' from spacing unit boundary. (Order 31-71)
BENRUD Charles	1	0	0	160-acre spacing units with permitted location within a 1,320' square in center of quarter section. (Order 6-65) Field boundaries reduced. (Order 66-84) Water disposal into Judith River formation. (Order 64-62)
BENRUD, EAST Nisku	3	0	1	Same as Benrud Field. (Order 6-65) Single spacing unit. (Orders 108-84 and 7-85) Water disposal into Judith River formation. (Orders 64-62, 32-66, 4-A-73) SWD approved EPA-87.
BENRUD, NORTHEAST Nisku	1	0	0	Same as Benrud Field. (Order 6-65) Water disposal into Judith River formation. (Order 32-66)
BERTHELOTE Sunburst	3	0	0	Wells located 330' from lease lines; 660' between wells with no more than one well per governmental quarter-quarter section. (Order 18-66)
BIG COULEE Cat Creek 3 Lakota Morrison	0 0 0	5 0 2	1 1 0	Statewide. Single spacing unit: Sec. 29, T4N R20E for production of gas from Morrison formation. (Order 25-86)
BIG GULLY Tyler	2	0	0	Statewide.
BIG GULLY, NORTH Tyler	1	0	0	Statewide.
BIG MUDDY CREEK Mission Canyon Red River	3 1	0 0	1 0	One well per 320-acre spacing unit with well no closer than 660' from boundary of four east-west units. (Order 4-75)
BIG ROCK GAS FIELD Blackleaf Bow Island Madison Colorado	0 0 0 0	26 10 0 5	0 4 2 0	640-acre spacing units for Blackleaf "A" formation. Location to be no closer than 990' to any governmental section line. (Order 31-78) Amended to allow 2 wells per section in 5 sections. (Order 64-85)
BIG WALL Amsden Tyler	5 10	0 0	0 16	Spaced by old statewide spacing; 330' from lease or property line, 990' between wells in same reservoir. (Order 12-54) Previous disposal into Tyler "A" stopped in 1961. Waterflood of Tyler "B" sand started August 1966. (Order 22-66) Another Tyler "B" waterflood authorized by Order 96-83. Excess produced water disposed into the Tyler "B" formation. (Order 13-A-77) Enhanced recovery approved EPA-86. SWD approved EPA-88.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
BILLS COULEE				
Kootenai	0	3	0	Field without restrictions except that no well may be drilled closer than 330' from the exterior boundary of the field. (Order 22-80)
Dakota	0	1	0	
Moulton	0	2	0	
Sunburst	0	1	0	
Madison	0	1	0	
BLACK BUTTE				
Eagle	0	1	1	320-acre spacing units consisting of either the N/2 and S/2 or E/2 and W/2 of the section with well location to be no closer than 990' from a section line nor closer than 660' to the interior boundary. (Order 134-80)
BLACK COULEE				
Eagle	0	8	2	320-acre spacing units; well to be located no closer than 990' from unit boundary. (Order 6-73) Well location to be no closer than 660' to eastern boundary of Black Coulee Field. (Order 37-79) Field extension. (Order 71-79)
BLACK DIAMOND				
Nisku/Madison	2	0	0	320-acre spacing units for Duperow, Red River and Nisku formations; well location no closer than 660' from unit boundary. (Orders 147-81 and 51-86) Field enlarged. (Order 15-87) Field delineated for Ratcliffe formation. (Order 32-89)
BLACKFOOT				
Cut Bank-Madison	8	0	0	One well only per 40-acre spacing unit; 300' tolerance from center of spacing unit. Dual completion in Cut Bank and Madison with administrative approval. (Order 3-57) Waterflood started November 1976. (Order 34-76) Enhanced recovery approved EPA-88.
Nisku	1	0	0	
BLACKFOOT, EAST				
Cut Bank	0	0	2	Statewide.
BLACKFOOT SHALLOW GAS				
Sunburst-Dakota	0	9	0	640-acre spacing units; one well per section per producing horizon above the Kootenai with location to be no closer than 990' to unit boundaries. (Order 121-80)
BLACKJACK				
Blackleaf	0	2	0	One gas well per 160 acres, no closer than 660' from boundary of each unit. (Order 3-69) Statewide spacing. Order 3-67 amended to include Blackleaf in spacing and field rules for gas. (Order 4-74). Blackleaf gas pooled. (Order 3-75)
Bow Island	0	1	0	
Second White Specks	0	1	0	
Sunburst	0	11	0	
BLACKLEAF UNIT				
Sun River	0	3	2	Well spacing requirements set forth in 82-11-201 MCA and Board Rule 36.22.702 are suspended provided no well drilled to be closer than 990' from unit boundary. (Order 47-81). Two 280-acre spacing units. (Order 25-85)
BLOOMFIELD				
Dawson Bay	2	0	0	320-acre spacing units consisting of two contiguous governmental quarter sections which need not be in the same section; wells located no closer than 660' spacing unit boundaries. (Order 38-83) Dawson Bay formation added and commingling of Dawson Bay, Interlake, and Red River formations authorized. (Order 16-84) Enlarged. (Orders 32-84 and 26-89)
Red River-Interlake	4	0	0	
BLUE MOUNTAIN				
Red River	1	0	0	Statewide.
BORDER				
Cut Bank	13	0	5	Oil: Unitized into New and Old Border fields. Unitized 6-1-73. (Orders 8-73, 9-73) Gas: 330' from boundary of legal subdivision. 2,400' between wells in same formation on same lease. 75' topographic tolerance. (Order 7-54) Waterflood approved. (Orders 8-73, 9-73, 28-73)
Moulton	0	1	0	
Sunburst	0	1	0	
BOWDOIN & AREA				
Montana & Colorado Shale	0	379	27	One well per quarter section not less than 1,000' from lease boundary or less than 2,000' from any gas well in same horizon. (Order 29-55) Unitized 1958. Delineated: (Order 3-72) One additional well in each 640-acre spacing unit no closer than 990' to spacing unit boundary in Whitewater and Ashfield Units. (Order 41-82) Produced water injected into Phillips Sand-Ashfield unit. (Order 10-A-77)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
BOWES				
Eagle	0	37	5	660' from boundary of legal subdivision. 1,320' from other wells in same formation. 75' topographic tolerance. (Order 23-54) Order 23-54 amended by establishing 160-acre Eagle spacing units in Sec. 5, 6, 7, 8, 17, 18 31N-19E. (Order 44-75) 330' from lease or property line, 990' between wells in the same formation. (Order 13-54) Vacuum pumps authorized for Sawtooth formation wells. (Order 74-83) Pilot waterflood initiated in 1961 and expanded to fieldwide waterflood in 1965. (Order 6-61) Water from Madison.
Sawtooth	54	0	42	
BOX CANYON				
Red River	2	0	0	Statewide.
BRADLEY				
Dakota	0	1	0	One well per formation per section for production of gas from all horizons above the top of the Kootenai formation. (Order 91-84)
Madison	1	0	0	
Sunburst	0	0	2	
BRADY				
Morrison	5	0	5	10-acre spacing units with 75' topographic tolerance from center of spacing unit. (Orders 34-62, 55-62) Field enlargement. Operators may commingle production from Burwash and Sunburst formations in Section 16. (Order 86-81) SWD approved EPA-89. Produced water disposed into Sunburst formation. (Order 62-A-84)
Sunburst	8	0	5	
Burwash	2	0	1	
BREED CREEK				
Tyler	10	0	4	Statewide.
BROADVIEW				
Frontier	0	1	0	Single 640-acre spacing unit comprised of Sec. 35, T5N R22E. (Order 8-86)
BRORSON				
Madison	11	0	0	One well per 160-acre unit, no closer than 660' from unit boundary (Mission Canyon and Red River). (Order 5-69) Field enlargement. (Order 25-82) Gas to Brorson Field Plant. Produced water injected into Dakota formation. (Order 129-A-81) SWD approved EPA-86.
Red River	3	0	0	
BRORSON, SOUTH				
Madison	2	0	0	One well per 160-acre unit, no closer than 660' from unit boundary. (Order 26-68) Gas to Brorson Field Plant. Reduced Field Area. (Order 26-77)
Red River	3	0	0	
BROWN'S COULEE				
Eagle	0	1	0	One well per 160-acre unit, no closer than 660' to unit boundary. Commingling allowed with administrative approval. (Order 7-74)
BROWN'S COULEE, EAST				
Eagle	0	2	1	Statewide.
Judith River	0	0	1	
BRUSH LAKE				
Red River	5	0	0	320-acre spacing unit with initial nine spacing units described in Order 15-71 corrected.
BUFFALO FLAT				
Bow Island	0	4	3	Statewide.
Duperow	0	0	1	
BUFFALO LAKE				
Madison	0	0	1	Statewide.
BULLWACKER				
Eagle	0	41	2	One well per 320-acre spacing unit with well location no closer than 660' from unit boundary and 990' from field boundary. (Order 26-74) Field enlarged. (Order 63-85)
Judith River	0	2	0	
Virgelle	0	1	0	
BURGET, EAST				
Madison	3	0	0	Statewide.
Red River	1	0	0	
BURNS CREEK				
Red River	1	0	0	Statewide.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
BURNS CREEK, SOUTH Red River	0	0	1	320-acre spacing units; well location to be no closer than 660' from unit boundary. (Order 2-82)
CABIN CREEK Madison Silurian-Ordovician	4 89	0 0	14 5	Spacing waived and General Rules for (Deviation), (Commingling), and (Dual Completion) are suspended until present Unit Agreement becomes inoperative. (Order 36-62) Many wells produce from both Interlake and Red River by dual completions. Gas through extraction plant. Field boundaries amended and spacing units designated. (Order 118-84) Waterflood of Siluro-Ordovician (Orders 5-59, 15-60, and 30-63). Produced water injected into the Mission Canyon (Order 60-62). SWD approved EPA-84, 85, 88. Enhanced Recovery approved EPA-87, 88, 89.
CAMP CREEK Eagle	0	1	0	Statewide.
CANADIAN COULEE & AREA Sawtooth Firemoon	0 1	1 0	0 0	320-acre spacing units with well location no closer than 660' from unit boundary, and 990' from field exterior boundaries. (Order 18-76)
CANADIAN COULEE, NORTH Sawtooth	0	1	0	640-acre spacing units. Location to be no closer than 1,650' to section line. (Order 15-74)
CANAL Madison Red River	4 1	0 0	0 0	320-acre Red River spacing units consisting of E 1/2 and W 1/2 of governmental section. (Order 34-70) 160-acre Madison spacing units. Wells located no closer than 660' to unit boundary with 150' topographic tolerance. (Order 58-85)
CANNON BALL Red River	1	0	0	Statewide.
CARLYLE Red River	1	0	0	320-acre spacing units; to consist of either the N/2 and S/2 or E/2 and W/2 of section or lots corresponding thereto. Well location to be no closer than 660' to unit boundary nor closer than 1,650' to any well drilling or producing from the same pool. (Order 39-79) E 1/2 of 18-11N-61E designated as a spacing unit for Nisku formation with permission to commingle production with Red River. (Order 29-87) Produced water disposed into Dakota formation. (Order 126-A-81)
CAT CREEK, EAST DOME Ellis	9	0	4	220' from lease or property line, 440' from every other well in same formation. (Order 17-55) Three separate producing areas. East, Mosby, and West Domes. Field enlargement upper and lower Brindley wells in S1 T15N R28E are to be no closer than 350' from other Morrison wells in said section. (Order 101-82) Three Kootenai, two Ellis, and one Amsden waterflood in progress. Orders 17-56, 18-59, 13-62, 8-68, 38-70, 11-71) Water from Third Cat Creek sand. Waterflood modified. (Order 29-74) Enhanced recovery approved EPA-89.
CAT CREEK, MOSBY DOME Amsden Cat Creek 2 & 3 Ellis Rierdon	1 2 3 1	0 0 0 0	0 7 5 0	
CAT CREEK, WEST DOME Cat Creek 1 & 2 Ellis Morrison Mowry	32 1 3 2	0 0 0 0	6 0 0 0	
CATTAILS Ratcliffe	5	0	0	160-acre spacing units; wells no closer than 660' to unit boundaries. (Order 31-88)
CEDAR CREEK Eagle	0	87	3	Order 33-54, original field rules, vacated by Order 32-86. 320-acre spacing units, wells in center of NW 1/4 and SE 1/4 of each section with 200' topographic tolerance. (Order 1-61) Delineation amendments. (Order 23-76 and 32-86)
CHAIN LAKES Eagle	0	1	1	Statewide.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
CHARLIE CREEK Red River	1	0	0	320-acre spacing units, either east-west or north-south at option of operator, located no closer than 660' from spacing unit boundary and no closer than 1,650' from another producing well. Spacing units may not cross section lines. (Order 66-76)
CHARLIE CREEK, EAST Red River	2	0	0	Two 160-acre spacing units for Duperow formation. (Order 47-87) Two 160-acre spacing units for Red River formation. (Order 38-88)
Duperow	1	0	0	
CHARLIE CREEK, NORTH Bakken	1	0	0	Single spacing unit. (Order 37-82) Statewide.
Red River	0	1	0	
CHELSEA CREEK Nisku	1	0	0	Statewide.
CHINOOK, EAST Eagle	0	0	1	Statewide.
Sawtooth	0	0	2	
CHIP CREEK Eagle	0	0	3	160-acre spacing units. Location no closer than 660' from spacing unit boundary. (Order 89-76)
CLARKS FORK Greybull	0	1	0	330' from quarter-quarter section line. 1,320' between wells with 75' topographic tolerance. (Order 17-54)
CLARKS FORK, SOUTH Greybull	0	0	1	160-acre spacing; location no closer than 330' from quarter section line or 1,320' from any other well.
CLEAR LAKE Madison	5	0	0	Statewide. Produced water disposed into Dakota, Muddy, Lakota, and Swift formation. (Orders 41-A-80, 60-A-80, 91-A-80, 116-A-81, 123-A-81) SWD approved EPA-87.
Nesson	1	0	0	
Nisku	1	0	0	
Red River	7	0	0	
CLEAR LAKE, SOUTH Red River	1	0	0	Statewide.
COAL COULEE Eagle	0	1	2	One well per governmental section, to be located no closer than 990' from section line and only one well permitted per formation. (Order 25-78) Amendment to (Order 25-78) provides 320-acre spacing units within certain sections to be designated by the operator. Well to be located no closer than 990' to unit boundary. (Order 36-79)
COAL MINE COULEE Eagle	0	4	0	Statewide.
Second White Specks	0	1	0	
COAL RIDGE Mission Canyon	0	0	1	Statewide. Produced water injected into the Dakota formation. (Order 81-A-79) SWD approved EPA-89.
COLORED CANYON Red River	3	0	0	Statewide. Single spacing unit comprised of N 1/2 Sec 7, T32N, R57E. (Order 28-84)
Nisku	1	0	0	
COMERTOWN Nisku	3	0	1	320-acre spacing units; permitted well to be no closer than 660' to unit boundary. (Order 35-80) Field enlargement. (Orders 9-81 and 150-81)
Ratcliffe	3	0	0	
Red River	4	0	1	
COMERTOWN, SOUTH AND AREA Nisku	1	0	0	320-acre spacing units consisting of N1/2 and S1/2 of Sec 21 and W1/2 of Sec 22, T36N, R57E, wells located no closer than 660' to unit boundary. (Order 96-84) Enlarged. (Order 20-85)
Red River	2	0	0	
CONRAD, SOUTH Dakota	3	0	1	10-acre spacing units. Wells in center of each unit with 75' topographic tolerance. (Orders 34-62, 31-63)
Sunburst	3	0	2	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
COTTONWOOD Red River	1	0	0	Single spacing unit. (Order 85-84)
COW CREEK Charles	0	0	1	80-acre spacing units, direction at option of operator but wells to be in SW 1/4 and NE 1/4 of each quarter section. (Order 11-69)
COW CREEK, EAST Kibbey	10	0	0	40-acre spacing units consisting of quarter-quarter section with permitted well to be at center with 150' topographic tolerance. (Order 35-74) Produced water disposed into Dakota formation. (Order 30-A-75 and 61-A-76)
CRANE Devonian	3	0	0	320-acre spacing units consisting of one half of a governmental section with well location to be no closer than 660' from unit boundary and no closer than 1,650' to any well drilling or producing from the same pool. (Order 40-79) SWD approved EPA-87, 88.
Silurian-Ordovician	2	0	0	
CROCKER SPRINGS, EAST Mississippian	1	0	1	Statewide. (Order 68-82 which established 80-acre spacing units was vacated by Order 37-87.)
CROOKED CREEK Dakota	3	0	0	Statewide.
CUPTON Red River	6	0	2	160-acre quarter section spacing units. Location no closer than 660' from spacing unit boundary. (Order 4-72) Produced water disposed into Red River formation. (Order 1-A-80) SWD approved EPA-85, 86.
CUPTON AREA Red River	1	0	1	Single spacing unit. (Order 14-85)
CURLEW Red River	1	0	0	Statewide.
CUT BANK Blackleaf	0	2	0	(Kootenai formation includes Moulton, Sunburst, and Cut Bank sands.) Oil: 330' from legal subdivision line, 650' between wells in same formation 5-spot on 40-acre tract permitted. 75' topographic tolerance. (Order 10-54) Gas: 330' from legal subdivision, 2,400' between wells in same formation. 75' topographic tolerance. (Order 10-54) Sec. 20, 29, and 32 of T36N, R4W spaced 320-acres (N 1/2 and S 1/2). (Order 26-70) 320-acre spacing units for gas (Cut Bank) units; (E 1/2 and W 1/2) wells to be located no closer than 330' from legal subdivision line nor less than 2,400' from drilling or producible well producing from same reservoir. (Orders 82-76, 6-77) Field extension. (Order 3-79) Board Orders No. 10-54, 26-70, 6-77, 82-76, and 3-79 amended to include all formations from surface to base of Madison Lime Formation. (Order 45-80) Field enlarged. (Orders 68-83 and 13-85) There are 17 waterfloods in progress. Water from Eagle and Madison, or produced. Produced water disposed into Madison formation. (Orders 51-65, 52-65, 22-A-74, 80-A-76, 55-A-77, 60-A-80, 91-A-80, 123-A-81, 39-A-82, 20-A-84) SCCBSU enhanced recovery approved EPA-84, 85, 87 and Order 88-85. SWD approved EPA-86, 89. Two Medicine enhanced recovery approved EPA-88.
Bow Island	0	16	2	
Cut Bank	497	191	383	
Cut Bank-Madison	2	0	0	
Kootenai	3	1	1	
Madison	46	1	20	
Moulton	36	1	35	
Sunburst	4	7	4	
Swift	0	1	0	
Dakota	0	1	0	
DAGMAR Red River	2	0	1	Statewide.
DEAN DOME Greybull	1	0	6	Statewide. Oil ring below gas cap.
DEER CREEK Interlake/Red River	1	0	5	80-acre spacing units consisting of any two adjacent quarter-quarter sections. Well location in NE1/4 and SW 1/4 of each quarter section with 75' topographic tolerance. (Orders 23-55 and 14-59) Well location amendment. (Order 10-86) Commingling of production permitted upon approval of Board Petroleum Engineer. (Order 18-63) Excess produced water is disposed into Dakota and Lakota, Morrison and Swift formations. (Orders 6-56, 3-58 and 53-A-83)
DELPHIA Amsden	2	0	0	Statewide.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
DEVILS BASIN				
Heath	3	0	6	10-acre spacing units; well location to be in the center of each spacing unit with a 75' tolerance permitted for topographic or geologic reasons. (Order 114-80) Produced water disposed into Heath formation. (Order 59-A-84)
Tyler	1	0	0	
DEVILS POCKET				
Heath	2	0	0	40-acre spacing units; wells no closer than 165' to spacing unit boundary. (Order 34-85)
DEVON				
Bow Island	0	28	2	160-acre spacing units for production of gas from all formations from surface to top of Kootenai formation; wells located no closer than 330' to any quarter section line and 660' to exterior boundaries of field, excepting existing wells. (Order 32-83) Field enlarged and amended to provide 320-acre spacing units for Bow Island formation; wells located no closer than 660' to interior spacing unit line and 990' to section lines. (Order 50-86) Field enlargement. (Order 5-88)
DEVON, EAST				
Bow Island	0	2	1	320-acre spacing units consisting of any two contiguous quarter sections; wells located no closer than 660' to spacing unit boundaries. (Order 42-86) Field enlarged. (Order 26-87)
DEVON, SOUTH UNIT				
Bow Island	0	1	0	Drilled on statewide spacing. Unitized for primary production. (Order 28-71, corrected) 320-acre spacing units; wells located no closer than 660' to unit boundaries. (Order 24-84) Field enlarged. (Order 11-87)
DIAMOND POINT				
Red River	2	0	0	320-acre spacing unit allowing two wells to produce from the Red River or from commercial production at any depth shallower. (Order 20-80) SWD approved EPA-85.
DIVIDE AND AREA				
Madison	9	0	0	Statewide. Produced water disposed into Dakota formation. (Order 42-A-80, 130-A-81)
Red River	3	0	0	
DOOLEY				
Ratcliffe	4	0	0	Statewide.
DRY CREEK				
Frontier	0	15	1	Statewide. Field redelineated. (Order 8-70) Six additional gas storage wells, west end of structure.
Greybull	0	2	0	
Judith River	0	2	0	
Virgelle/Eagle	0	4	0	
DRY CREEK, MIDDLE				
Frontier	1	2	0	320-acre spacing units consisting of two adjacent governmental quarter sections lying north-south or east-west at operator's option with permitted well no closer than 660' from spacing boundary. (Order 25-75)
DRY CREEK, SHALLOW GAS				
Virgelle	0	1	0	Statewide
DRY CREEK, SOUTHWEST				
Frontier	0	0	1	320-acre spacing units consisting of E 1/2 and W 1/2 of Sec. 5, T7S, R21E; wells located no closer than 990' to spacing unit boundaries. (Order 47-86)
DRY CREEK, WEST				
Greybull	0	1	0	160-acre spacing units; well location anywhere in spacing unit but no closer than 660' from unit boundary. (Order 43-78) Order 43-78 amended to include Frontier formation. (Order 65-82) Field enlargement. (Order 86-82)
DRY FORK				
Bow Island	0	6	1	Statewide
DUNKIRK				
Bow Island	0	3	0	Only one well may produce from each producing zone, formation, or horizon, but no closer than 990' from section lines. (Order 58-81) Field enlargements. (Orders 104-81 and 66-82)
Dakota	0	16	0	
Sunburst	0	1	0	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
DUNKIRK, NORTH				
Bow Island	0	16	3	Only one well may produce from each producing zone, formation, or horizon, but no closer than 990' from section lines. (Order 58-81) Field enlargements. (Orders 104-81 and 66-82)
Dakota-Kootenai	0	1	0	
Sunburst	0	1	0	
Swift	0	1	0	
DUTCH JOHN COULEE				
Sunburst	4	0	4	Statewide. Sunburst sand unitization and gas repressuring project approved. (Order 27-88)
DWYER				
Madison	9	0	7	160-acre spacing units; well location in center of SE 1/4 of spacing units with 175' topographic tolerance. (Orders 25-60, 29-61) Field reduction. (Order 30-85) Produced water disposed into Dakota formation. (Order 26-63) Waterflood. (Order 20-68) Enhanced recovery approved EPA-86.
Duperow	0	0	1	
DWYER-NISKU				
Nisku	1	0	0	Single 320-acre spacing unit. (Order 30-87)
DWYER RED RIVER & AREA				
Red River	4	0	0	Single spacing unit with 2 wells. (Order 97-83)
EAGLE				
Bakken	1	0	0	Statewide.
Duperow	1	0	0	
Madison	17	0	2	
Red River/Interlake	2	0	0	
EAGLE SPRINGS				
Bow Island-Sunburst-Swift	0	4	6	One well per governmental section per zone, located anywhere but no closer than 990' from section line for all gas zones above the top of the Kootenai. (Order 4-78) Commingling of Swift and Sunburst permissible. (Order 19-79)
ELK BASIN				
Big Horn	0	0	1	Statewide spacing is waived within unit areas. (Order 10-61) Gas to Elk Basin gasoline plant. Frontier: Water injection. (Order 1-72) Embar-Tensleep pressure maintenance by crestal gas injection. Waterflood approved in 1966. (Order 5-66) Madison: Water injection. (Order 17-61) Enhanced recovery approved EPA-86.
Frontier	10	0	14	
Madison	13	0	16	
Embar-Tensleep	17	0	13	
ELK BASIN, NORTHWEST				
Frontier	3	0	9	Spacing waived within unitized portion except that bottom of hole be no closer than 330' from unit boundary and there be at least 1,320' surface distance between wells in same formation; 75' topographic tolerance. (Orders 43-63, 28-64) Gas to Elk Basin gasoline plant. Frontier: Waterflood in progress. Embar-Tensleep: Waterflood. (Order 3-67, 6-74) Madison, produced water. Enhanced recovery approved EPA-88.
Madison	7	0	3	
Tensleep	1	0	1	
ENID, NORTH				
Bakken	1	0	0	Spaced for one well field, NE 1/4 of Section 10 and NW 1/4 of Section 11, T23N, R54E. (Order 45-79)
Red River	2	0	1	
ETHRIDGE				
Swift	0	6	0	Statewide, except two wells. (Order 28-65)
ETHRIDGE, NORTH				
Swift	0	1	0	320-acre spacing units; well location to be no closer than 660' from unit boundaries. Section 2, T33N, R4W is a 640-acre spacing unit. (Order 98-81)
FAIRVIEW				
Winnipegosis	0	0	1	160-acre spacing units. Well location anywhere in spacing unit but no closer than 660' from unit boundary. (Orders 48-65, 1-67, 43-67, 44-67, 38-84) Gas to Fairview plant. Field area reduced. (Order 119-84) Field enlarged. (Order 16-87) Northwest part of field unitized for gas injection. Gas from Fairview and Bronson fields. (Order 11-70) Salt water disposal into Dakota. (Orders 9-A-71, 24-A-71)
Madison	7	0	0	
Red River	11	0	2	
FAIRVIEW, EAST				
Red River	0	0	1	320-acre spacing units; designated well in the N 1/2 of Section 28 may be located no closer than 660' from the unit boundary or 1,650' from any well producing from the same pool. (Order 76-81) SWD approved EPA-88.
Stonewall	1	0	0	
Winnipegosis	0	0	1	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
FAIRVIEW, WEST Madison	1	0	0	Statewide.
FERTILE PRAIRIE Red River	4	0	1	80-acre spacing units consisting of north-south rectangular units. Well location in NW 1/4 and SE 1/4 of quarter section with 75' topographic tolerance. (Orders 3-56, 7-62) Board Orders 3-56 and 7-62 amended to provide well locations for each 80-acre spacing unit to be the center of the SW or NE quarter quarter section of each quarter section with 75' tolerance for surface obstructions. (Order 65-80)
FIDDLER CREEK Greybull	0	0	2	Statewide.
FISHHOOK Madison Red River	1 2	0 0	0 1	Statewide.
FITZPATRICK LAKE Bow Island-Sunburst	0	7	2	One well per governmental section located no closer than 990' from section line for all gas zones above the top of the Kootenai. (Order 31-79) Field enlarged. (Order 113-84)
FLAT COULEE Bow Island Dakota Sawtooth Swift	0 0 0 21	3 1 1 3	0 0 0 1	Bow Island Gas: 330' from boundary of legal subdivision and 1,320' from other wells in same reservoir. (Order 16-55) Swift Oil: 40-acre spacing units. Well in center of spacing unit with 150' topographic tolerance. (Orders 16-62, 19-63) Dakota Gas: Statewide. Waterflood unit and redelineation approved for Swift sandstone. (Orders 13-71, 17-A-71, 22-71)
FLAT LAKE Madison Nisku	39 1	0 0	36 0	160-acre spacing units; well location in center of NE 1/4 of quarter section with 200' topographic tolerance. Wells no closer than 961' to North Dakota state line and no closer than 1,600' to Canadian line. (Orders 10-65, amended; 43-65, 23-66, 33-66) Excess salt water disposed into Muddy, Dakota, or Lakota formations (Orders 39-64, 39-66, 125-A-81) and into Ratcliffe formation (Order 122-A-81). Unit operation for eastern part of field. (Order 7-71) Unit operation for western part of field. (Order 32-74)
FLAT LAKE, EAST Madison	1	0	0	Single 160-acre spacing unit. (Order 103-84) SWD approved EPA-88.
FLAT LAKE, SOUTH Ratcliffe	4	0	0	160-acre spacing units established by (Order 2-67) then modified to provide that the permitted well may be located anywhere within the unit but no closer than 660' to any unit boundary. (Order 49-80) Excess salt water disposed into Muddy, Dakota, or Lakota. (Order 19-67)
FLAXVILLE Mission Canyon	0	0	2	160-acre spacing units; permitted well to be no closer than 660' from the exterior boundaries of the unit. (Order 105-82) Order 105-82 amended to provide 150' tolerance for topographic reasons. (Order 124-82) SWD approved EPA-85.
FORT CONRAD Bow Island	0	16	0	640-acre spacing units; well location to be no closer than 990' from the section line. (Order 19-81) Field enlargement. (Order 118-82)
FORT GILBERT Madison Red River	9 2	0 0	2 0	160-acre spacing units; well location no closer than 660' from unit boundary with 150' topographic tolerance. (Order 94-81) Excess produced associated gas reinjected into Duperow formation. (Order 78-81)
FOUR MILE CREEK Red River	1	0	0	320-acre spacing units. (Order 43-75) Field boundary reduction. (Order 10-83)
FOUR MILE CREEK, WEST Red River	1	0	0	Statewide.
FOX CREEK Stonewall	0	0	1	Statewide.
FOX CREEK, NORTH Madison	1	0	0	160-acre spacing units for Madison formation; wells located no closer than 660' to the unit boundary with 150' topographic tolerance. (Order 13-84)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
FRANNIE Tensleep	1	0	1	10-acre spacing units; well location in center of each unit with 100' topographic tolerance. (Order 35-63) Unitized for waterflood of Phosphoria-Tensleep formations using produced fluids. (Order 21-70) EOR approved. (Order 62-85)
FRED & GEORGE CREEK Bow Island Sunburst/Swift	0 26	2 1	0 29	Sunburst Oil: 40-acre spacing units; well location in center of unit with 250' topographic tolerance. (Orders 29-63, 1-65, amended by Order 48-77) Sunburst Gas: same as Arch Apex. (Order 4-60) Statewide for other formations. Sunburst waterflood initiated July 1970, using water from Madison (Order 13-70) and Eagle. (Order 27-71) (Order 40-80)
FRESNO & AREA Eagle	0	5	2	640-acre spacing units; wells located no closer than 990' from unit boundary. One well may be drilled within each spacing unit for each producing horizon within the spacing unit. (Order 14-76) Field enlargement and modification of field rules within certain areas. (Order 52-80)
FROG COULEE Red River	1	0	0	320-acre spacing units; wells to be located no closer than 660' from the unit boundary. (Order 55-79)
FROID, SOUTH Red River	1	0	0	Statewide.
GAGE Amsden	2	0	1	40-acre spacing units; well location to be in center of each unit with a permitted tolerance of 150' for topographical or geological reasons. (Order 120-80) Field enlargement. (Order 44-81)
GALATA Bow Island	0	6	1	One well per governmental section located no closer than 990' to section lines. (Order 21-84) Two wells from same formation per section no closer than 1,320' to each other. (Order 28-84) Field enlarged. (Orders 41-85 and 76-85)
GAS CITY Silurian-Ordovician Madison	8 1	0 0	3 0	80-acre spacing units consisting of E 1/2 and W 1/2 of quarter sections; well location in NW 1/4 and SE 1/4 of quarter section; 150' topographic tolerance. Spacing waived and statewide rules for (Deviation), (Commingling), and (Dual Completion) are waived in unitized portion of field. (Order 29-62) Excess produced water disposed into Judith River formation. (Orders 32-61, 20-64) Waterflood using produced water and Madison water. (Order 16-69) Produced water disposed into Charles "B" formation. (Order 90-A-79)
GIRARD Bakken Red River	1 1	0 0	0 0	Statewide.
GLENDIVE Silurian-Ordovician	13	0	7	80-acre spacing units consisting of any two adjacent quarter-quarter sections; wells located in center of NE 1/4 and SW 1/4 of each quarter section with 75' topographic tolerance. (Orders 27-55, 19-62, 58-62, 20-66) 80-acre spacing units as set forth by Order 95-84. Commingling of Red River and Madison formations. (Order 95-84) Excess produced water disposed into Swift, Dakota, and Judith River formations. (Orders 16-56, 16-63, 40-A-70, 7-A-72, 8-A-82) SWD approved EPA-86, 88.
GOLD BUTTE Bow Island	0	1	0	640-acre spacing, well location any quarter-quarter section cornering on center of section. (Order 26-59) Amended field boundary. (Order 43-77)
GOLDEN DOME Frontier Greybull Eagle	1 0 0	5 3 1	0 0 0	160-acre spacing; 660' from spacing unit boundary. (Order 15-72) Single spacing unit for Greybull formation. (Order 17-82) Field enlargement and inclusion of Frontier and Greybull formations. (Order 135-82) SWD approved EPA-89.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
GOOSE LAKE Ratcliffe	20	0	17	160-acre spacing units for Ratcliffe formation. (Order 42-63) Field enlarged. (Orders 40-66, 47-67, 16-68) Refer to said orders for authorized well locations. Field size reduced. (Order 29-77) Single spacing unit for Red River. (Order 1-82) North Goose Lake Unit waterflood. (Order 17-72) Unit production curtailment. (Order 45-77) Excess produced water disposed into Mission Canyon and Dakota formations. (Orders 12-64, 14-66, 12-68) Produced water disposed into Ratcliffe formation (Order 138-A-80) Produced water disposed into Dakota formation. (Order 117-A-81) Enhanced recovery approved EPA-86. SWD approved EPA-87.
Red River	2	0	0	
GOOSE LAKE, SOUTHEAST Ratcliffe	1	0	0	Statewide
GOOSE LAKE, WEST Red River	2	0	0	Statewide.
GOSSETT Madison	1	0	1	Statewide.
Red River	1	0	0	
Stoney Mountain	1	0	0	
GRABEN COULEE Cut Bank	65	0	15	40-acre spacing units; well location no closer than 330' from legal subdivision. (Cut Bank and Madison) Oil: 330' from boundary of legal subdivision and 650' from any other well in same reservoir and on same lease. 75' topographic tolerance. (Order 73-62) Excess produced water disposed into Cut Bank formation. (Order 45-A-75 and 63-A-84) Waterflood of Cut Bank sands. (Order 61-83) SWD approved EPA-86, 87, 88, 89.
Madison	0	0	1	
Sunburst	10	0	4	
GRANDVIEW Bow Island	0	6	1	320-acre spacing units aligned in a north-south direction; well location no closer than 660' to a spacing unit boundary. (Order 49-67) Dual completion with Bow Island.
GRANDVIEW, EAST Swift	4	0	1	Statewide.
GREEN COULEE Red River	1	0	0	160-acre spacing units for Ratcliffe formation. Well location to be no closer than 660' to unit boundaries with 150' tolerance allowed for topographic or geologic reasons. 320-acre spacing units for the Red River formation with well location to be no closer than 660' to the unit boundary nor closer than 1,650' from any well producing from the Red River. (Order 56-81)
GUMBO RIDGE Tyler	1	0	3	Statewide. Third Cat Creek water for waterflood. (Order 54-79)
GUNSIGHT Madison	3	0	0	Statewide.
GYPSY BASIN Sawtooth, Sunburst, Swift Madison, Nisku	18	2	30	330' from lease lines and 660' between wells in same formation. Only two wells per quarter-quarter section. (Order 7-66) (Sawtooth-Madison) Oil: 40-acre spacing units; wells no closer than 330' from lease line. (Order 7-66) (Sawtooth-Madison) Gas: 160-acre spacing units; well locations in center of any quarter-quarter section in each 160-acre unit, 2,340' between gas wells. 150' topographic tolerance. (Order 13-59) Injection of excessive gas produced with oil into Sunburst gas cap. (Order 6-64)
HAMMOND Muddy	0	0	9	320-acre spacing units; each unit shall consist of a regular half of a governmental section with well location to be no closer than 660' to a unit boundary nor closer than 990' to the exterior boundaries of the field. (Order 97-80)
HARDIN Frontier	0	0	4	Statewide.
HARDPAN Bow Island	0	9	3	Spacing one well per section. Well location no closer than 990' from the section boundary. (Order 145-81) Field enlargement. (Order 131-82)
Swift	1	0	0	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-in	Spacing Regulations, Field Rules, and Remarks
HARDSCRABBLE CREEK Red River	1	0	0	Statewide.
HAVRE Eagle	0	1	1	Single spacing unit for production of gas.
HAWK CREEK Amsden	1	0	0	Statewide.
HAY CREEK Interlake	1	0	0	Statewide. 320-acre spacing, any two adjacent quarter sections, direction to be determined by operator. Location no closer than 660' from unit boundary. (Orders 15-69, 27-73) Gas to Brorson plant. Water disposal into Red River. (Order 20-A-70) Produced water disposed into Dakota formation. (Order 90-A-80, 129-A-81)
Mission Canyon	2	0	0	
Red River	1	0	0	
HAYSTACK BUTTE Bow Island	0	6	2	640-acre spacing units; one well per each producing horizon above Kootenai. Location no closer than 990' from spacing unit boundary. (Order 85-76) Amended field boundary. (Order 37-77)
HAYSTACK BUTTE, WEST Bow Island	0	3	0	320-acre spacing units; wells located no closer than 660' to the unit boundaries; commingling of production authorized as specified. (Order 6-88)
HIAWATHA Tyler	3	0	1	Statewide.
HIGH FIVE Stensvad	8	0	1	Statewide. Water disposed into Dakota and Stensvad formations. (Orders 33-A-77, 70-A-78) Unitized & Polymer-Waterflood authorized. (Order 110-80) Enhanced recovery approved EPA-88.
Tyler	5	0	0	
HIGHLINE Eagle	0	1	1	Single 640-acre spacing unit. (Order 35-88)
HIGHVIEW Madison	9	0	9	160-acre spacing units, located no closer than 660' from spacing unit boundary. 150' topographic tolerance. (Order 84-76) Orders 32-76, 84-76 and 63-82 are amended to provide as follows: 1. Permitted wells to the Moulton, Sunburst, Morrison, and Swift formations shall be no closer than 330' from the lease line nor closer than 660' to a permitted well in the same formation with only two such wells per quarter quarter section with a 150' topographic tolerance. 2. Madison: (Gas) 160-acre spacing units with well location to be no closer than 660' from quarter section lines. 3. Madison: (Oil) 40-acre spacing units with permitted location to be no closer than 330' from the lease line with a 150' topographic tolerance. 4. Sawtooth: (Oil and Gas) 40-acre spacing units with permitted location to be no closer than 330' from the lease line with a 150' topographic tolerance. (Order 136-82)
Devonian	1	0	0	
Swift	0	0	1	
Sawtooth	1	0	0	
HONKER Winnipegosis	1	0	0	320-acre specified spacing units; permitted well not to be closer than 660' from the unit boundary. (Order 105-80)
HORSE CREEK Swift	1	0	0	Statewide.
HOWARD COULEE Tyler	1	0	0	Statewide. Produced water injected into the Piper formation. (Order 69-A-78)
INJUN CREEK Tyler	1	0	0	Statewide.
Stensvad	1	0	0	
INTAKE II & AREA Madison	0	0	1	320-acre spacing units; permitted well to be located no closer than 660' from the unit boundary. (Order 99-81) Produced water disposed into Dakota formation. (Order 60-A-84) SWD approved EPA-85.
Red River	3	0	0	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
IVANHOE				
Amsden	1	0	0	40-acre spacing unit for production from any one common formation; well location in center of unit with 200' topographic tolerance. (Order 7-60 and 13-56) Field size reduced. (Orders 27-89 and 29-89)
Morrison	1	0	0	
Tyler	3	0	2	
Cat Creek Two	1	0	0	
JIM COULEE				
Tyler	13	0	2	Unitized. (Order 18-72) No well closer than 330' from unit boundary. Waterflood project approved in Tyler Sands. (Order 18-72)
JIM COULEE, NORTH				
Tyler-Stensvad	2	0	0	Statewide.
KATY LAKE				
Red River	1	0	1	Statewide.
KATY LAKE, NORTH				
Madison	5	0	0	Statewide except for single 320-acre Red River spacing unit (Order 88-84) and single 160-acre Mission Canyon spacing unit. (Order 89-84)
Nesson	1	0	0	
Red River	5	0	0	
				Produced water disposed into the Dakota formation. (Order 15-A-82) SWD approved EPA-89.
KEG COULEE				
Stensvad	1	0	2	40-acre spacing in southwest portion of field except that spacing is waived in unitized portion. (Orders 3-64, 4-64, 23-64) 80-acre spacing in remainder of field with variable pattern. (Orders 11-60, 28-62) 40-acre spacing: W 1/2 E 1/2 and W 1/2 Sec. 35-11N-30E; NW 1/4 Sec. 35-11N-30E; NW 1/4 Sec. 2-10N-30E. (Order 23-72) Topographic tolerance varies from 100' to 250'. (Order 11-60, 4-64, 23-64) Buffer zone waived. (Order 16-65) Field reduction. (Order 2-76) Orders 11-60, 4-64, and 2-76 amended by Order 58-76. Three waterflood units. (Orders 3-64, 28-66, 10-69, 14-69) Madison water injected.
Tyler	6	0	12	
KEITH, EAST				
Bow Island	0	6	0	Statewide, except unitized portions spaced by Order 22-62. Pooling. (Order 19-66)
Niobrara	0	1	0	
Sawtooth	0	2	0	
Second White Specks	0	11	1	
KELLEY				
Tyler	3	0	1	Statewide. 250' topographic tolerance. (Order 15-67) Waterflood using Third Cat Creek water. (Orders 8-69, 51-76)
KEVIN, EAST GAS FIELD				
Sunburst	0	2	0	320-acre spacing units consisting of E 1/2 and W 1/2 of 6-34N-1E, all horizons above base of Rierdon formation, commingling approved. (Order 23-85) Field enlarged. (Orders 29-86 and 10-87)
KEVIN, EAST NISKU OIL				
Nisku	12	1	0	80-acre spacing units consisting of E 1/2 or W 1/2 of governmental quarter section; wells located in center of SW 1/4 or NE 1/4 of each quarter section with 200' geologic or topographic tolerance. (Order 46-84) Field enlarged. (Order 9-86) Single spacing unit authorized to produce gas from the gas cap. (Order 24-88)
KEVIN-SOUTHWEST				
Bow Island-Dakota				320-acre one-half section spacing units lying north-south or east-west at operator's option. Location to be no closer than 660' from unit boundary for Sunburst-Swift formations and all formations above the top of the Kootenai. (Orders 26-78, 47-78, 48-78) Field enlargement. (Orders 96-79, 47-80, 163-81 and 41-89)
Sunburst-Swift	0	28	1	
KEVIN SUNBURST				
Madison	919	33	565	Oil: 9 Wells per 40-acre tract; only 3 wells on any side of tract with set back at least 220' from line. Single spacing unit. (Order 61-85) Gas: Well to be no closer than 330' from the boundaries of any legal subdivision line, nor less than 2,400' from every other drilling or producible well on the same lease or units. (Orders 8-54, 28-55) Field enlarged. (Order 54-87) 160-acre Bow Island spacing units established. (Orders 2-88, 17-88, and 60-88) There are three waterfloods in operation using Madison water. (Orders 9-64, 17-64, 30-64, 36-65) Sunburst water disposed into Madison (Order 50-76 and 11-A-84). H ₂ S, CO ₂ and produced water disposed into Madison. (Order 156-81) EPA-87. SWD approved EPA-84, 85, 86, 87, 88. Enhanced recovery approved EPA-88.
Burwash	9	0	0	
Cut Bank	2	0	7	
Bow Island, Kootenai, Swift				
Eagle, Dakota	1	45	0	
Ellis	46	0	14	
Swift	26	8	3	
Nisku	2	1	2	
Sawtooth	1	0	0	
Sunburst	93	48	43	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
KEVIN SUNBURST, NISKU & AREA Swift	0	1	0	Gas: 640-acre spacing units; location no closer than 990' from spacing unit boundary. (Order 83-76) Oil: 80-acre spacing units; location no closer than 330' from spacing unit boundary. (Order 7-86)
KICKING HORSE Bow Island	0	11	0	320-acre spacing with location permitted no closer than 660' from unit boundary and 990' from field boundary. (Order 17-74) Board Order 17-74 is amended to include certain additional lands into field and provide that 320-acre spacing units may be either the N/2 & S/2 or E/2 & W/2 of section. (Order 53-80)
Sawtooth	0	1	0	
Sunburst	0	4	1	
KINCHELOE RANCH, WEST Tyler	5	0	0	Statewide. Enhanced recovery approved. EPA-88 and Order 46-88.
KINYON COULEE AREA Bow Island	0	3	0	Statewide.
KINYON COULEE, SOUTH Bow Island	0	0	1	Only one well permitted. Well location no closer than 990' from section line. (Order 31-81)
KIPPEN AREA, EAST Madison-Swift	0	1	0	Statewide.
Sawtooth	0	0	1	
LAIRD CREEK (LAIRD CREEK U) Swift	7	0	2	Statewide. Unitized and waterflood authorized in Swift for oil. (Order 25-74) Commenced 2-25-77.
LAKE BASIN Claggett	0	3	0	160-acre spacing units to base of Virgelle; wells no closer than 660' from unit boundary and 990' from field boundary. Commingling permitted after administrative approval. (Order 9-74) Gas from Telegraph Creek pooled. (Order 29-75)
Eagle-Virgelle	0	14	6	
Frontier	0	1	0	
Telegraph Creek	0	3	0	
LAKE BASIN, NORTH Eagle	0	1	1	640-acre spacing units consisting of one section. Locations 990' from section line. (Order 3-74) 160-acre spacing units located no closer than 660' from quarter section lines within restricted sections. (Order 63-76)
Frontier	0	0	1	
LAMBERT Red River	4	0	0	320-acre spacing units consisting of the E 1/2 and W 1/2 of section. (Order 3-83) Statewide.
LAME STEER CREEK Red River	1	0	0	Single spacing unit. (Order 101-84)
LANDSLIDE BUTTE Madison	10	0	6	Statewide. Reinject gas into Madison formation. (Order 84-84) SWD approved EPA-86.
Sun River	2	0	1	
LAREDO Eagle	0	0	2	320-acre spacing with unit consisting of one-half section lying north-south or east-west at operator's option after administrative approval. Well no closer than 990' from unit boundary. (Order 8-74)
LEARY Muddy	2	0	1	40-acre spacing units; wells located no closer than 330' to spacing unit boundary with 75' topographic tolerance. (Order 115-84 which amended original 80-acre spacing established by Orders 12-69, 19-70, and 68-76)
LEDGER Bow Island	0	52	11	640-acre spacing; one well per section per sand to be located no closer than 990' from section line. Permissible to commingle two or more sands, subject to administrative approval by the Petroleum Engineer. (Order 53-77) Field enlargement and amendment to allow two wells per sand per section. (Order 1-87)
Sawtooth	0	0	1	
LEROY Eagle	0	28	8	320-acre spacing with unit consisting of one-half section lying north-south or east-west at operator's option after administrative approval. Wells no closer than 660' from unit boundary and 990' from field boundary. (Order 19-75) Board Order 19-75 amended that a tolerance of 330' for permitted well be allowed for topographic reasons. (Order 72-80) Field enlargement. (Order 31-87)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
LISCOM CREEK Shannon	0	8	0	Spacing, one well per 640 acres, with location no closer than 990' from section boundary. (Order 20-72)
LITTLE BASIN Frontier	0	3	1	640-acre spacing units; one well per section located no closer than 990' from spacing unit boundary. (Order 27-86)
LITTLE BEAVER Silurian-Ordovician	35	0	7	Spacing waived and General Rules for (Deviation), (Commingling), and (Dual Completion) are suspended until present Unit Agreement becomes inoperative. (Order 41-62) Waterflood of the Red River was commenced in August 1967. (Order 3-66) Minnelusa water. Enhanced recovery approved EPA-88.
LITTLE BEAVER, EAST Silurian-Ordovician	9	0	2	Same as for Little Beaver. (Order 42-62) Waterflood of the Red River was commenced in April 1965. (Order 33-64)
LITTLE CREEK Eagle-Virgelle	0	3	1	Statewide.
LITTLE PHANTOM Sunburst	1	0	0	10-acre spacing units; well location to be located anywhere within the spacing unit but no closer than 220' from the exterior boundary lines of the field nor closer than 440' to any well capable of or producing from the Sunburst Sands. (Order 46-81)
LITTLE ROCK Bow Island-Blackleaf	0	11	0	320-acre N 1/2 and S 1/2 spacing units. Well location no closer than 990' from west line of Section 14 and 660' from the remaining unit boundary lines. (Order 40-78) Field enlargement. (Orders 94-79 and 34-80)
LITTLE WALL CREEK Stensvad	1	0	0	Statewide. Produced water injected into Tyler formation. (Orders 54-A-77, 63-A-78, 1-A-81) Little Wall Creek, Tyler Sand Unit. (Order 40-84) Enhanced recovery approved EPA-84, 86.
Tyler	3	0	0	
Tyler-Stensvad	4	0	0	
LITTLE WALL, SOUTH AND UNITS Tyler	18	0	1	Statewide. South Little Wall Creek Unit waterflood. (Order 85-83) Gunderson Tyler Sand Unit (Enhanced recovery approved EPA-87 and Order 39-87).
LOBO Interlake	1	0	0	Statewide
Red River	1	0	0	
LODGE GRASS Minnelusa	1	0	0	Statewide.
Tensleep	1	0	0	
LOHMAN Eagle	0	3	4	640-acre spacing; one well per section to be located no closer than 990' from section line. (Order 23-78)
LONE BUTTE Red River	2	0	0	Single 320-acre spacing unit for Red River and Interlake formations; 160-acre spacing units for Madison with well location no closer than 660' from unit boundary with 150' tolerance for topographic or geologic reasons. (Order 83-85)
Mission Canyon	1	0	0	
LONETREE CREEK Red River	8	0	1	320-acre spacing, wells 660' from spacing boundary, 2,000' between wells. (Order 29-72) Field reduction. (Orders 162-81 and 84-85)
LONETREE CREEK, WEST Red River	0	0	1	Spacing units shall be S 1/2 and N 1/2 of Section 12, T24N, R56E. No well closer than 660' from boundary or 1,320' from existing well. (Order 73-82)
LONG CREEK Charles C	1	0	0	Statewide.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
LONG CREEK, WEST Nisku	2	0	0	80-acre spacing units comprised of two contiguous quarter quarter sections which may lie in either one or two governmental sections aligned either north-south or east-west with location to be no closer than 330' from unit boundary nor less than 1,000' from any other producing well. (Order 27-77) Field enlarged. (Order 71-83) SWD approved EPA-86.
LOOKOUT BUTTE Madison Silurian-Ordovician	3 43	0 0	6 5	160-acre spacing; well location in center of SE 1/4 of each quarter section with 150 topographic tolerance. (Order 21-62) Coral Creek Unit not subject to spacing rules. Redelineated. (Order 7-63) Field reductions. (Orders 57-85 and 6-87) Water disposal into Madison. (Order 68-62) Waterflood of Silurian-Ordovician approved in 1966. (Order 35-66) Water from Minnelusa. Enhanced recovery approved EPA-87. SWD approved EPA-88.
LOOKOUT BUTTE, EAST Red River	8	0	0	22 delineated spacing units with wells located no closer than 660' to the unit boundary with 175' topographic tolerance. (Order 87-85) Field enlargement. (Order 6-87) Enhanced recovery approved EPA-87. Pilot Red River "B" waterflood approved. (Orders 19-88 and 21-89)
LORING FIELD Greenhorn-Phillips-Carlile	0	123	4	640-acre spacing units with 2 wells per formation. (Order 79-82 and 12-89) Amend to allow 4 wells per formation per spacing unit, no closer than 660' to section boundaries, 1,320' between wells producing from same formation with 150' tolerance for geologic and topographic reasons. (Order 13-89)
LORING, EAST Bowdoin-Greenhorn-Phillips- Carlile	0	80	1	160-acre spacing units; where discrete gas formations (Bowdoin, Greenhorn and Phillips) exist, a well may be drilled to each discrete formation and may be located no closer than 660' from the unit boundaries. (Order 60-82)
LORING, WEST	0	2	0	Spacing units comprised of 1 full section with 4 wells permitted to each formation in each spacing unit located no closer than 660' to the exterior boundary of the section and no closer than 1,320' to a well in the same formation. (Order 7-87)
LOWELL Red River	2	0	1	320-acre spacing units consisting of two contiguous governmental quarter sections which may lie in either one or two governmental sections. Wells to be located no closer than 660' from unit boundary or closer than 1,650' to well producing from the same horizon. (Order 104-79) SWD approved EPA-89.
LUSTRE AND AREA Madison	48	0	18	80-acre spacing units consisting of 1/2 of a regular governmental quarter section. Either E 1/2 and W 1/2 or N 1/2 and S 1/2. Well to be located in either NE 1/4 or SW 1/4 with 200' tolerance. (Order 19-83) Field enlargement. (Order 43-84) Produced water disposed into Dakota-Swift formation. (Order 39-A-83 and 58-A-84) SWD approved EPA-85, 86, 87.
LUSTRE, NORTH Ratcliffe	1	0	0	80-acre spacing units consisting of E 1/2 or W 1/2 of a governmental quarter section; wells located no closer than 660' to spacing unit boundary with 200' topographic or geologic tolerance. (Order 39-84)
MACKAY DOME Greybull	0	0	4	Statewide.
MARIAS RIVER Bow Island	0	18	2	One well per section per horizon above the top of the Kootenai. Location to be no closer than 990' from section line. (Order 18-78) Field enlargement. (Order 12-83)
MASON LAKE Amsden Cat Creek	1 7	0 0	3 7	80-acre spacing units consisting of one half of a quarter section lying in either east-west or north-south direction; well location in center of the NE and SW quarter-quarter sections of each quarter section with 75' topographic tolerance. (Order 35-78) Amending Order 35-78 for certain lots designated as spacing units. (Order 66-78) Field enlargement. (Order 16-79) Produced water disposed into Muddy formation. (Order 3-A-80) And into Mowry formation. (Order 29-A-84) SWD approved EPA-85. Enhanced recovery approved EPA-88. (Order 37-88 and extended by 67-89)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
McCABE Ratcliffe	1	0	0	160-acre spacing units; permitted well to be no closer than 660' from spacing unit boundary. (Order 100-80) 150' tolerance allowed for topographic reasons. (Order 3-81) Board Order No. 100-80 amended to eliminate the requirement of 1,650' between wells producing from the Madison Group. (Order 37-81)
McCABE, WEST Red River	1	0	0	Single spacing unit. (Order 49-84)
McCOY CREEK Red River	1	0	0	Statewide.
MEANDER Sunburst	2	0	0	Statewide.
MEDICINE LAKE Silurian-Ordovician	7	0	0	320-acre spacing units comprised of any two contiguous governmental quarter sections in either one or two governmental sections. Well to be located no closer than 660' from unit boundary nor closer than 1,650' to any well producing from the same formation. (Order 50-79) Produced water disposed into Muddy, Kibby and Dakota formations. (Orders 133-A-81, 111-A-82) SWD approved EPA-86.
Duperow	1	0	0	
Winnipegosis	1	0	0	
Mission Canyon	1	0	0	
MELSTONE Tyler	10	0	3	Statewide. Enhanced recovery approved EPA-86.
MIDDLE BUTTE Bow Island	0	2	0	Orders 3-60, 21-75 amended to delineate field extension and 320-acre spacing units consisting of the E 1/2 and W 1/2 of each section; well location no closer than 990' from the section line and 660' from the interior boundary. (Order 47-77)
Blackleaf	0	1	0	
Second White Specks	0	1	0	
MIDFORK Charles C	2	0	0	Statewide. SWD approved EPA-86.
MINERAL BENCH Charles C	1	0	0	Statewide. Water disposal into Dakota-Lakota per (Order 18-65). Produced water injected into Judith River. (Order 110-A-82) SWD approved EPA-86
MINERS COULEE Bow Island	0	13	2	Oil: 40-acre units consisting of quarter-quarter sections; well location no closer than 330' from lease or property line and 660' from any other well. (Order 9-66) Order 9-66 amended to comply with Order 5-74. Gas: 160-acre spacing with wells 990' from boundary. (Order 5-74) Sawtooth gas spacing unit. (Order 43-76) Field redelineation. (Order 44-77) Field enlargement. (Order 4-80)
Sawtooth	0	1	0	
Blackleaf	0	1	0	
Sunburst	0	3	9	
MISSOURI BREAKS Red River	1	0	0	320-acre spacing units as specified by Order 97-82.
MONA Red River	1	0	0	Statewide.
MONARCH Madison	0	0	2	80-acre spacing units consisting of E1/2 and W 1/2 of quarter section. Well location in SW 1/4 and NE 1/4 of quarter section. Location within 660' square at center of quarter section. (Order 18-61) 160-acre spacing units consisting of a quarter section; well location in center of SW 1/4 of each quarter section with 175' topographic tolerance. (Orders 12-59, 4-63) Produced water is disposed into the salt water disposal system for the Pennel Field. Waterflood initiated 12-1-73. (Order 23-73) Produced water disposed into the Silurian and Charles formation. (Orders 52-A-83 and 55-A-83)
Silurian-Ordovician	16	0	6	
MONDAK, WEST Devonian	0	0	1	320-acre spacing units for Silurian and Ordovician pools. Units to consist of either N 1/2 and S 1/2, or E 1/2 and W 1/2. Well location to be no closer than 660' to unit boundary or closer than 1,650' to any well drilling or producing from same pool. (Order 42-77) 320-acre spacing units for Madison and Devonian formations. Units to consist of either N 1/2 and S 1/2, or E 1/2 and W 1/2. Well location to be no closer than 660' from a quarter section line or section line and no closer than 1,650' to any well drilling or producing from same pool. (Orders 23-77, 33-78, 51-79) Order 51-79 amended to enlarge Madison formation delineation. (Order 95-83) Produced water injected into Dakota-Lakota. (Order 49-A-78 and 111-A-80) SWD approved EPA-86.
Madison	25	0	3	
Silurian-Ordovician	12	0	0	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
MOSSER DOME Mosser Sand	24	0	0	Spacing waived. Future development requires administrative approval of the Board. (Order 27-62)
MT. LILLY Bow Island Madison Swift	0 0 0	1 0 1	0 2 0	640-acre spacing, well location in approximate center of any of the four quarter-quarter sections adjoining center of section; 250' topographic tolerance. (Order 37-63)
MUSSELSHELL Tyler	1	0	1	Statewide.
MUSTANG Red River Madison	2 1	0 0	0 0	Statewide.
NEISER CREEK Red River	1	0	0	Single spacing unit. (Order 78-82)
NINEMILE Nisku	2	0	0	Statewide.
NOHLY Nisku Ratcliffe Red River	5 4 3	0 0 0	0 0 0	Single Red River spacing unit. (Order 77-83) Field enlarged for 320-acre Red River spacing units (Order 54-84) and 160-acre Nisku spacing units. (Order 55-84)
NORTH FORK Madison	5	0	1	Statewide.
O'BRIENS COULEE Blackleaf Bow Island Bow Island-Spike Second White Specks	0 0 0 0	2 15 1 1	1 1 0 0	Statewide.
OLD SHELBY AND AREA Bow Island Swift-Sunburst	0 0	5 40	0 3	320-acre spacing units to be comprised of either E 1/2, W 1/2, N 1/2, or S 1/2 of a section for Swift, Kootenai, Dakota, and Sunburst gas. Well location to be no closer than 660' to the unit boundary. Original spacing Order 85-81 plus field enlargement and amendment orders were superseded by Order 90-83 and subsequently by Order 15-88. Field extensions (Orders 40-88, 47-88, 8-89 and 53-89)
OLJE Red River	1	0	0	Single 160-acre spacing unit. (Order 35-85)
OLLIE Duperow Red River	0 1	0 0	1 0	320-acre specified spacing units for the Red River and Duperow formations. The permitted well for each spacing unit to be located no closer than 660' from the spacing unit boundary. (Order 73-80) Produced water disposed into the Dakota formation. (Order 11-A-82)
OTIS CREEK Red River	2	0	0	Statewide.
OTIS CREEK, SOUTH Red River Duperow	1 1	0 0	1 0	320-acre spacing units; well to be located no closer than 660' to unit boundary. (Order 39-72) Extended field boundary. (Orders 56-76, 67-76) Orders 39-72 and 56-76 amended to eliminate spacing units. New spacing units are quarter sections. Well location no closer than 660' from unit boundary or 1,650' from producing well with 150' tolerance. Operator may designate contiguous quarter sections as spacing units. (Order 73-81)
OUTLOOK Duperow Interlake Nisku Winnipegosis	1 2 1 5	0 0 0 0	0 0 0 1	160-acre spacing units; well location in center of either SW 1/4 or NE 1/4 of each quarter section; 175' topographic tolerance. (Order 19-59A) Produced water is disposed into Dakota and Siluro-Devonian formations (Orders 16-59, 17-65, 36-66, 9-A-77) into Madison formation (Order 59-A-78) and into Dakota and Muddy formations. (Order 61-A-84) SWD approved EPA-86, 88.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
OUTLOOK, SOUTH Bakken	1	0	0	160-acre spacing; permitted wells in either SW 1/4 or NE 1/4 of quarter section; 175' topographic tolerance. (Orders 19-59A) Commingling permitted. (Order 45-64) Produced water disposed into Muddy and Dakota formations. (Order 17-65).
OUTLOOK, WEST Winnipegosis	1	0	1	160-acre spacing units consisting of quarter sections; permitted wells in either SW 1/4 or NE 1/4 with a tolerance of 175'. (Order 7-67) Produced water disposed into Dakota formations. (Order 42-66)
OXBOW Red River	1	0	0	320-acre spacing units consisting of two contiguous governmental quarter sections which may be in one or two governmental sections lying east-west or north-south at operator's option. Location to be no closer than 660' to the unit boundary or closer than 1,650' to a well producing from same pool. (Order 7-78) Field enlargement. (Order 137-80)
OXBOW II Red River	1	0	0	320-acre spacing units consisting of two contiguous quarter sections which may cross section lines; wells located no closer than 660' to spacing unit boundaries. (Order 50-84)
PALAMINO Nisku	4	0	0	Statewide. Produced water disposed into the Dakota formation. (Order 6-A-82, 58-A-82) SWD approved EPA-86.
PARK CITY Virgelle	0	1	0	Statewide
PELICAN Red River	1	0	0	320-acre spacing units; wells to be located no closer than 660' to any governmental section or quarter section line boundary. (Order 21-79)
PENNEL Silurian-Ordovician	172	0	29	80-acre spacing units consisting of E and W 1/2 of quarter section; wells located in center of SE 1/4 and NW 1/4 of quarter sections with 150' topographic tolerance. (Order 15-61) 80-acre spacing units on west side and 160-acre spacing units on east side of pool. Wells to be located in SE 1/4 and NW 1/4 of each quarter section (80 acres) and in SE 1/4 of each quarter section on 160-acre spacing. (Orders 1-56, 8-56, 15-61, 20-62, 4-63, 7-63) Commingling approved. (Order 59-62) Produced water is being injected into Dakota, Siluro-Ordovician and Madison formations. (Orders 16-60, 46-62, 68-62, 36-63, 13-64) Waterflood for Siluro-Ordovician approved November 1968. (Order 24-68) Enhanced recovery approved EPA-86. SWD approved EPA-87.
PETE CREEK Sunburst	1	0	0	Statewide.
PHANTOM Sunburst	0	2	4	Gas: wells permitted anywhere within the unit but no closer than 990' to the unit boundary. Oil: Projected depths greater than 6,000' to be located no closer than 660' to the unit boundary. Project depths less than 6,000' to be located no closer than 330' to the unit boundary. (Order 48-77)
PHANTOM, WEST Sunburst	0	1	0	One well per spacing unit to be located no closer than 660' to the exterior boundaries of three certain spacing units. (Order 65-78)
PINE Madison Silurian-Ordovician	0 98	0 0	3 28	Statewide spacing rules are waived within the Pine Unit. 80-acre spacing units outside of unit area; well location in NW 1/4 and SE 1/4 of quarter section; 150' topographic tolerance. (Order 37-62) Gas through extraction plant. A waterflood program for the south area was started in 1959. A waterflood of the north area was approved in 1967. (Orders 13-68, 1-60, 8-62, 32-67) Produced water injected into Mission Canyon. (Order 10-A-74) Brine and CO ₂ injection test. (Order 70-83) Enhanced recovery approved EPA-85.
PIPELINE Red River	1	0	0	Statewide
POLICE COULEE Bow Island	0	7	2	320-acre spacing units; location no closer than 990' from section line and 660' from half section lines. Spacing units to consist of N 1/2 or S 1/2, E 1/2 or W 1/2 at discretion of operator. (Order 53-76) Extended field boundaries. (Order 24-77) Field enlargements. (Orders 20-79 and 46-79)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
PONDERA				
Madison	368	0	53	Oil: 220' from legal subdivision, 430' from other wells in same reservoir on same lease; 75' topographic tolerance. Porter Bench Extension: 330' from legal subdivision line; 650' from other wells in same reservoir on same lease or unit; 75' topographic tolerance. (Order 9-54) Gas: Well to be located no closer than 1,320' from the boundaries of any quarter section line, nor less than 3,700' from every other drilling or producible well on the same lease or unit. (Order 9-54 corrected) Amend Order 9-54 to designate 160-acre spacing units for gas with wells to be located no closer than 660' from unit boundaries. (Order 26-83) Produced water injected into lower Madison. (Orders 11-56, 15-56, 4-65, 4-66, 20-A-71, 57-A-78, 58-A-78, 62-A-78, 71-A-78, 29-A-79, 62-A-79, 63-A-79, 64-A-79, 65-A-79, 14-A-80, 15-A-80, 16-A-80, 17-A-80, 127-A-81, 108-A-82, 7-A-82, 1-A-83, 30-A-84) SWD approved EPA-86, 87, 88, and 89.
Sun River	14	0	0	
PONDERA COULEE				
Madison	2	0	1	330' from legal subdivision lines or upon a 10-acre spacing pattern; 75' topographic tolerance. (Order 5-62)
Sun River	5	0	0	
POPLAR, EAST				
Heath	1	0	1	Statewide spacing; field delineated by Order 7-55. Redelineation of field. (Order 25-76) Unitized in 1955. (Order 7-55) Excess produced water has been injected into the Dakota, Judith River, and Mission Canyon formations. (Orders 1-55, 5-57, 7-57, 14-61, 21-61, 34-61, 10-62, 51-67, 10-A-73, 127-A-80, and 121-A-81) SWD approved EPA-86, 87.
Madison	46	0	19	
Nisku	0	0	1	
POPLAR, NORTHWEST AND AREA				
Charles	31	0	4	80-acre spacing units consisting of E 1/2 and W 1/2 of each quarter section; permitted wells to be located in the center of NW 1/4 or SE 1/4 of each quarter section with 75' tolerance allowed in any direction for surface hazards and obstructions. (Order 18-55) 80-acre specifically designated spacing units with well location to be located in the center of the NW 1/4 or SE 1/4 of each quarter section with a tolerance of 150' in any direction for topographic or geologic reasons. (Order 26-76) 80-acre spacing units to be N 1/2 and S 1/2 or E 1/2 and W 1/2 of each quarter section; permitted well to be located in center of each NE 1/4 or SW 1/4 of each quarter section with 150' tolerance for topographic or geologic reasons. (Orders 124-80, 97-84 and 6-85) 80-acre spacing units for test wells to the Charles formation; spacing units to be N 1/2 and S 1/2 or E 1/2 and W 1/2 of each quarter section with location to be in center of each NE 1/4 or SW 1/4 of each quarter section with 150' tolerance for archeological reasons only. (Order 161-81) Field enlargement with 80-acre spacing units consisting of N 1/2 and S 1/2 of each quarter section with wells to be located in center of the NE or SW quarter of each quarter section with 150' topographic or geologic tolerance. (Order 42-83) Produced water disposed into Dakota. (Order 61-A-78, 128-A-82, 62-A-83) Produced water disposed into the Judith River formation. (Orders 13-A-82 and 14-A-82) SWD approved EPA-85, 86.
PRAIRIE DELL				
Bow Island-Dakota-Sunburst-Swift	0	72	1	320-acre spacing units with well location no closer than 660' to spacing unit boundary. (Order 10-76) Field enlargement by Orders 28-78, 24-79, 132-80, 40-81, 54-81, 142-81, 56-83, 9-85, 60-86 and 12-87). Two wells per spacing unit approved for a portion of the field, well locations no closer than 1,320' to a producing well. (Order 21-88) Two 160-acre spacing units. (Order 3-89)
PRAIRIE DELL, WEST				
Swift	0	1	0	640-acre spacing unit for Swift formation with well no closer than 990' to spacing unit boundary. (Order 16-78) Amended to include all horizons above the Rierdon formation. (Order 54-78) Field enlarged. (Order 55-78)
PRAIRIE ELK				
Charles C	1	0	0	Statewide.
PRICHARD CREEK				
Bow Island	0	0	2	Well locations subject to administrative approval. Unitized as to Sunburst for water injection. (Order 7-73)
Sunburst	1	0	5	
Swift	1	0	0	
PRONGHORN				
Red River-Interlake	5	0	0	160-acre spacing units; wells located no closer than 660' from unit boundary with 150' topographic or geologic tolerance. (Orders 75-84 and 110-84)
PUTNAM				
Interlake	4	0	0	Statewide, except for single spacing unit consisting of portions of Sections 15 and 16, T23N, R57E for production from all formations between 6,000 to 11,000 feet. (Order 2-84 amended by Order 11-85)
Madison	6	0	0	
Red River	5	0	0	
Bakken	1	0	0	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
RABBIT HILLS Sawtooth	2	0	0	Statewide
RABBIT HILLS, NORTHEAST Sawtooth	5	0	0	Statewide.
RABBIT HILLS, SOUTHWEST Sawtooth	1	0	0	Statewide.
RAGGED POINT Tyler	5	0	6	40-acre spacing units; 75' topographic tolerance. (Order 8-59) Spacing waived for Tyler "A" sand reservoir within Tyler "A" Sand Unit except no well can be closer than 660' to unit boundary. (Order 35-65) A waterflood project on the Tyler "A" sand was commenced in February 1966, using Third Cat Creek water. (Order 35-65)
RAGGED POINT, SOUTHWEST Tyler	8	0	4	Applicants may drill and produce wells to the Tyler "A" formation anywhere within the unit but not closer than 330' to the unit boundaries. (Order 83-82) Tyler "A" waterflood unit agreement approval effective August 1, 1982. (Order 83-82)
RAINBOW Red River	1	0	0	Single spacing unit. (Order 69-82)
RAPELJE Eagle-Virgelle-Clagget	0	10	4	160-acre spacing. Wells no closer than 990' to unit boundary. Commingling after administrative approval. (Order 29-73)
RATTLER BUTTE Tyler	5	0	1	Statewide.
RATTLESNAKE BUTTE Amsden Cat Creek	4 2	0 0	3 0	Statewide. SWD approved EPA 86, 87.
RATTLESNAKE COULEE Bow Island Sunburst	0 0	2 1	0 0	Statewide.
RAYMOND Duperow Mississippian Nisku Red River Winnipegosis	0 5 2 2 2	1 0 0 0 0	0 4 0 0 0	320-acre spacing units for Red River, Winnipegosis, Duperow, and Nisku formations. Wells 660' from spacing unit boundary. (Order 38-72) Gas Storage. (Order 50-78 and amended by Order 60-79) Mississippian pool delineation with 40-acre spacing units, wells no closer than 330' to spacing unit boundary. (Order 35-79) Field enlargement for Mississippian pool. (Orders 31-80 and 128-80) Field reduction for Nisku pool. (Order 135-81) Produced water injected into Dakota formation. (Order 38-A-74) Produced water injected into Mission Canyon. (Order 105-A-79 and 113-A-80) Produced water injected into Ratcliffe formation. (Order 131-A-81) Authorization to inject gas into the Nisku formation. (Order 135-81)
RAYMOND, NORTH Red River	1	0	0	Single spacing unit. (Order 94-82)
REAGAN Madison	53	4	13	Statewide. (Order 17-54) A pressure maintenance project utilizing gas injection was started in 1961. (Order 21-60) Waterflood. (Order 27-72)
RED BANK Madison Red River	9 3	0 0	1 0	Statewide. Produced water disposed into the Dakota formation. (Order 10-A-82)
RED BANK, SOUTH Red River	1	0	0	Statewide.
RED CREEK Cut Bank-Madison	18	0	1	40-acre spacing units; wells in center of spacing unit with 75' topographic or obstruction tolerance; spacing and field rules waived for unitized portion. (Orders 16-58, 73-62, 31-64, 5-70) Excess produced water injected into Bow Island and Madison. (Orders 22-63, 37-64, 40-A-83, and 19-A-84) A waterflood project in the Cut Bank sand was initiated in June 1965, using Madison water. Enhanced recovery approved EPA-86, 87.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
RED FOX Nisku	1	0	0	Field consists of one 160-acre spacing unit which straddles the section line. (Order 20-67)
RED ROCK Eagle Judith River	0 0	8 1	1 2	Spacing units shall consist of the N 1/2 and S 1/2 of section with permitted well to be no closer than 990' from exterior section line nor closer than 660' to half section line. (Order 89-79)
RED WATER Duperow	0	0	1	Statewide.
RED WATER, EAST Red River	1	0	0	320-acre spacing units consisting of 2 contiguous quarter sections with permitted well to be no closer than 660' to exterior boundaries of spacing unit. (Order 31-83)
REFUGE Red River	1	0	0	Statewide.
REPEAT Red River	1	0	0	Statewide.
RESERVE Red River	3	0	0	160-acre spacing units; permitted well within 1,320' square in center of quarter section. Commingling of Red River and Interlake production permitted on individual well basis. (Orders 34-66, 27-67) Field reduction. (Order 68-85) Excess water injected into Dakota sand. (Order 23-A-67) SWD approved EPA-85.
RESERVE II Red River	1	0	0	Single 160-acre spacing unit. (Order 44-87)
Interlake	1	0	0	Single 160-acre spacing unit. (Order 55-88)
RESERVE, SOUTH Red River	1	0	0	Single spacing unit. (Order 33-86)
RICHEY AND AREA Charles	4	0	0	Statewide. Original 80-acre spacing revoked. (Order 11-73)
RICHEY, SOUTHWEST Interlake	2	0	4	160-acre spacing units; wells no closer than 900' from boundary of spacing unit. (Order 25-62) A waterflood project in the Interlake and Dawson Bay was started in 1965. (Order 34-65)
RIDGELAWN Duperow	6	0	1	160-acre spacing units; wells no closer than 660' to unit boundary with 150' topographic tolerance. (Order 18-89)
Madison	22	1	0	
Red River	3	0	0	Ridgelawn Duperow Unit approved for secondary recovery. (Order 49-89) SWD approved EPA 86.
RIPRAP COULEE Ratcliffe	5	0	0	160-acre spacing units; wells located no closer than 660' from spacing unit boundary with 150' topographic and geologic tolerance. (Order 93-84)
RIVER BEND Red River	1	0	0	Statewide.
ROCKY BOY AREA Eagle Judith River	0 0	6 1	0 0	Statewide.
ROCKY POINT Red River	1	0	0	320-acre spacing unit; well to be located no closer than 660' from exterior boundary. (Order 22-79)
ROSCOE DOME Lakota	0	0	3	Statewide. Steam injection into Greybull and Lakota formations. (Order 40-82)
ROSEBUD Tyler	4	0	1	Statewide.
ROYALS Dawson Bay	1	0	0	Statewide.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
RUDYARD				
Eagle	0	2	0	640-acre spacing units consisting of one section; well location in center of NW 1/4 of section with 75' topographic tolerance. (Order 2-58) Field boundaries reduced. (Order 39-76)
Sawtooth	0	5	0	
RUNAWAY				
Madison	1	0	0	Statewide.
RUSH MOUNTAIN				
Winnepegosis	1	0	0	Statewide. Dual zone completion in discovery well. Commingling approved. (Order 17-85) Excess water injected into Dakota Sand. (Order 5-A-71) SWD approved EPA-87.
Red River	0	0	1	
SAGE CREEK				
Blackleaf	0	2	0	640-acre spacing, one producing well per section per formation above the Kootenai to be located no closer than 990' from section line. (Order 38-77) Amended field boundary. (Order 86-79) Field enlargement. (Order 33-81, 65-83 and 36-84)
Bow Island	0	1	0	
Second White Specks	0	14	3	
SALT LAKE				
Nisku	2	0	1	Statewide. Produced water disposed into Nesson (Madison) formation. (Order 61-A-80) SWD approved EPA-88. 160-acre spacing units for Red River formation with production allocation by stipulated agreement. (Order 48-89)
Ratcliffe	1	0	0	
Red River	3	0	0	
SAND CREEK				
Interlake	4	0	0	80-acre spacing units consisting of any two adjacent quarter-quarter sections. Wells located in center of NW 1/4 and SE 1/4 of each quarter section. (Order 16-59) Commingling of production from Interlake and Red River authorized. (Order 49-62) Excess produced water is injected into the Swift formation. (Order 9-61) SWD approved EPA-86.
SANDWICH				
Swift	0	0	1	320-acre spacing unit. Well located no closer than 990' to spacing unit boundaries. (Order 17-77)
SATURN				
Ratcliffe	1	0	0	Statewide. SWD approved EPA-88.
SAWTOOTH MOUNTAIN & AREA				
Eagle	0	31	4	640-acre spacing units, one well per section per formation, location to be not less than 990' from governmental section line. (Order 45-76) Amended to allow one well per formation per quarter section in six sections. Wells no closer than 660' to quarter section lines and 990' to section lines. (Order 65-85) Amended to allow 4 wells per formation per section for 3 additional sections. (Ordered 62-89)
Judith River	0	3	3	
SECOND CREEK				
Duperow	0	0	1	303.1-acre Red River spacing unit. (Order 34-78) (Order 127-A-82) 160-acre Duperow spacing units; well locations for each unit to be as specified by Order 119-80. Produced water injected into Dakota/Lakota formations.
Red River	3	0	0	
Mission Canyon	1	0	0	
SHEEPHERDER				
Tyler	1	0	0	Statewide. Waterflood of Tyler "A" authorized May 1984. (Order 33-84) Amended. (Order 107-84)
SHELBY AREA				
Sunburst	0	1	0	Statewide.
SHERARD				
Eagle	0	45	28	640-acre spacing units; 990' from section line. (Order 1-74) 160-acre spacing units; (Eagle) 990' from section line, 660' from quarter section line. (Order 7-77) Enlarged field boundary with well locations no closer than 660' from quarter section line in enlarged area. (Order 4-83) 320-acre Eagle gas spacing units for Sections 19 and 30, T26N, R17E; wells located no closer than 990' to unit boundaries. (Order 24-87)
Judith River	0	2	3	
SHOTGUN CREEK				
Ratcliffe	3	0	0	Statewide.
SIDNEY				
Madison	16	0	7	160-acre spacing units for Madison Group. One well per spacing unit to be located no closer than 660' from unit boundary and no closer than 1,650' to well producing from the same formation. (Order 5-79) Field enlargement. (Order 99-80) Excess water injected into Dakota formation. (Order 41-A-78) SWD approved EPA-86.
Red River	2	0	0	
SIDNEY, EAST				
Madison	9	0	0	Statewide.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
SINGLETREE Winnipegosis	1	0	0	Single spacing unit. (Order 78-84) Produced water disposed into Dakota formation. (Order 59-A-80)
SIOUX PASS Red River Interlake	7 1	0 0	0 0	320-acre spacing units consisting of two adjacent governmental quarter sections lying north-south or east-west at operator's option. Permitted well no closer than 660' from unit boundary. (Interlake and Red River) 160-acre spacing unit (Mission Canyon) with well no closer than 660' from unit boundary. Commingling of Interlake and Red River production authorized. (Order 10-75) Amended field boundary. (Order 15-77) Field reduction. (Order 89-81) Excess water injected into Dakota formation (Order 15-A-75) SWD approved EPA-86.
SIOUX PASS, EAST Red River	1	0	0	Statewide.
SIOUX PASS, MIDDLE Red River	6	0	0	320-acre spacing units to consist of two contiguous governmental quarter sections at operator's option. Location to be no closer than 660' from exterior boundary of unit and no closer than 1,650' from well producing from same formation. Commingling permissible with Administrative approval. (Order 55-76) An exception to Order 55-76 by (Order 39-81).
SIOUX PASS, NORTH Madison Ratcliffe Red River Red River/Nisku	4 1 11 1	0 0 0 0	0 0 1 0	320-acre spacing units with well locations at least 660' from unit boundary. (Order 12-75) Commingling approved. (Order 17-76) Field amendments. (Order 8-79, 10-81, and 13-86) Field extensions. (Orders 12-77, 13-79 and 48-81) Produced water injected in Dakota-Lakota formations. (Order 34-A-75) Two 320-acre spacing units. (Orders 107-80, 74-82)
SIOUX PASS, SOUTH Red River	2	0	0	Statewide.
SNOOSE COULEE Bow Island	1	4	4	640-acre spacing units; location no closer than 990' from spacing unit boundary. Bow Island and shallower formations. (Order 18-77) 320-acre Sunburst gas spacing unit approved. (Order 58-88)
SNYDER Tensleep	3	0	1	10-acre spacing units with center 5-spot permitted; 150' topographic tolerance. (Order 45-62)
SOAP CREEK Madison-Amsden Tensleep	21 9	0 0	3 2	One well per 10-acre spacing unit per producing formation; well location in center of spacing unit with 100' topographic tolerance. (Order 26-60)
SOAP CREEK, EAST Tensleep	3	0	0	Statewide.
SOBERUP COULEE Bow Island	0	1	0	Statewide.
SOUTH FORK Mission Canyon Red River	1 2	0 0	0 0	Statewide. SWD approved EPA-87.
SPRING LAKE Bakken Red River	2 2	0 0	0 0	One well per 160-acre spacing unit. Well location anywhere within 840' square in center of spacing unit. (Order 6-63) Field redelineation. (Orders 30-76, 49-76)
SPRING LAKE, SOUTH Red River	1	0	0	Single spacing unit. (Order 81-81)
SPRING LAKE, WEST Bakken	1	0	0	Single spacing unit. (Order 42-82)
STAMPEDE Bakken Red River	1 1	0 0	0 0	320-acre specified spacing units for the Red River formation. 160-acre spacing units for the Duperow formation with well location to be no closer than 660' from a spacing unit boundary line. (Order 19-82)
STENSVAD Tyler	8	0	9	40-acre spacing units; well location in center of spacing unit with 200' tolerance. (Orders 2-59 and 7-60) Wells may be drilled anywhere within waterflood unit boundary, no closer than 660' from unit boundary. (Order 5-65, amended) SWD approved EPA-86.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
STRAWBERRY CREEK AREA				
Bow Island	0	1	0	Statewide.
Burwash	0	1	0	
STUDHORSE				
Stensvad	2	0	3	Statewide.
Tyler	0	0	1	
SUMATRA				
Amsden-Tyler	70	0	80	40-acre spacing units; well located in center of unit with 75' tolerance. (Order 14-58) Field redelineated. (Order 14-75) Vacuum pumps permitted on certain wells. (Orders 99-79 and 32-80) Seven waterflood units using Madison water. (Orders 48-67, 6-69, 19-69, 23-69, 5-75, 21-78, and 43-80) Produced water disposed into Madison formation. (Order 7-A-76) Convert CTSU, SESTSU and Kincheloe Sumatra Unit to tertiary recovery projects. (Orders 99-84, 100-84 and 29-85) CTSU enhanced recovery approved EPA-88. SWD approved EPA-89.
Heath	1	0	0	
Madison	0	0	1	
SUNNYHILL				
Madison	2	0	0	320-acre spacing units; location to be no closer than 660' to the section or quarter section line which is the exterior boundary of the unit nor closer than 1,650' to any well producing from same formation. (Order 39-78) Field boundaries reduced. (Order 79-84) Produced water disposed into Dakota formation (Order 27-A-80)
Red River	1	0	0	
SUNNYHILL, WEST				
Red River	1	0	0	Statewide. SWD approved EPA-85.
SWANSON CREEK				
Bowdoin-Greenhorn-Phillips	0	59	0	320-acre spacing units; (Order 36-75) amended to enlarge field and provide that spacing units may run north-south or east-west with permitted wells to be no closer than 990' to section or quarter section lines. (Order 11-78) Field boundaries extended by Orders 32-78, 92-79, 66-80 and 55-81. All previous Swanson Creek orders are amended to allow one additional well in each existing 320-acre spacing unit that shall be drilled in a manner that there be no more than one well per quarter section and located no closer than 660' to the quarter section boundaries. (Order 28-82)
SWEETGRASS				
Sunburst	0	2	0	Single spacing unit. (Order 121-82)
TARGET				
Madison	8	0	4	Single spacing unit for Mission Canyon/Ratcliffe formations. (Order 18-82) Amendment to Order 18-82 for field enlargement and establishing 160-acre spacing units with permitted well locations to be no closer than 660' from the unit boundaries. 150' tolerance for topographic reasons. (Order 35-82) Field enlargement. (Order 23-84) SWD approved EPA-86.
THIRTY MILE				
Sawtooth	1	0	0	Statewide.
THREE BUTTES				
Red River-Gunton	1	0	0	160-acre spacing units, well location no closer than 660' from governmental quarter section line or unit boundary. (Order 11-81).
Mission Canyon	1	0	0	
THREE MILE				
Eagle	0	3	3	Statewide.
TIBER				
Bow Island	0	3	0	Spacing allows one well for each gas producing horizon to be located anywhere within the section but no closer than 990' to the section line. (Order 143-81) Enlarged. (Order 21-84) Two wells for each formation per section no closer than 1,320' to each other in each section. (Order 28-85).
TIBER, EAST				
Bow Island	0	7	0	One well per governmental section located no closer than 990' to section lines. (Order 21-84) Two wells for each formation per section no closer than 1,320' to each other in each section. (Order 28-85).
TIGER RIDGE & AREA				
Eagle	0	272	65	Field delineation and redelineations. (Orders 17-67, 23-68, 10-70, 13-75, 46-78, 48-79, 26-80 and 30-89) Statewide spacing for field area not unitized. Spacing rule amendments. (Orders 11-72, 41-72, 32-73, 37-75, 51-77, 52-77, 79-79, 26-80, 50-80, 51-80, 54-80, 26-82, 27-82, 14-84, 26-85, 48-85, 49-85, 56-85, 23-89, 24-89 and 25-89) Excess produced water injected into Eagle formation. (Orders 19-A-73, 46-A-75) (Order 19-A-73) Amended by Order 60-A-78. SWD approved EPA-87.
Judith River	0	1	2	

OIL AND GAS FIELDS

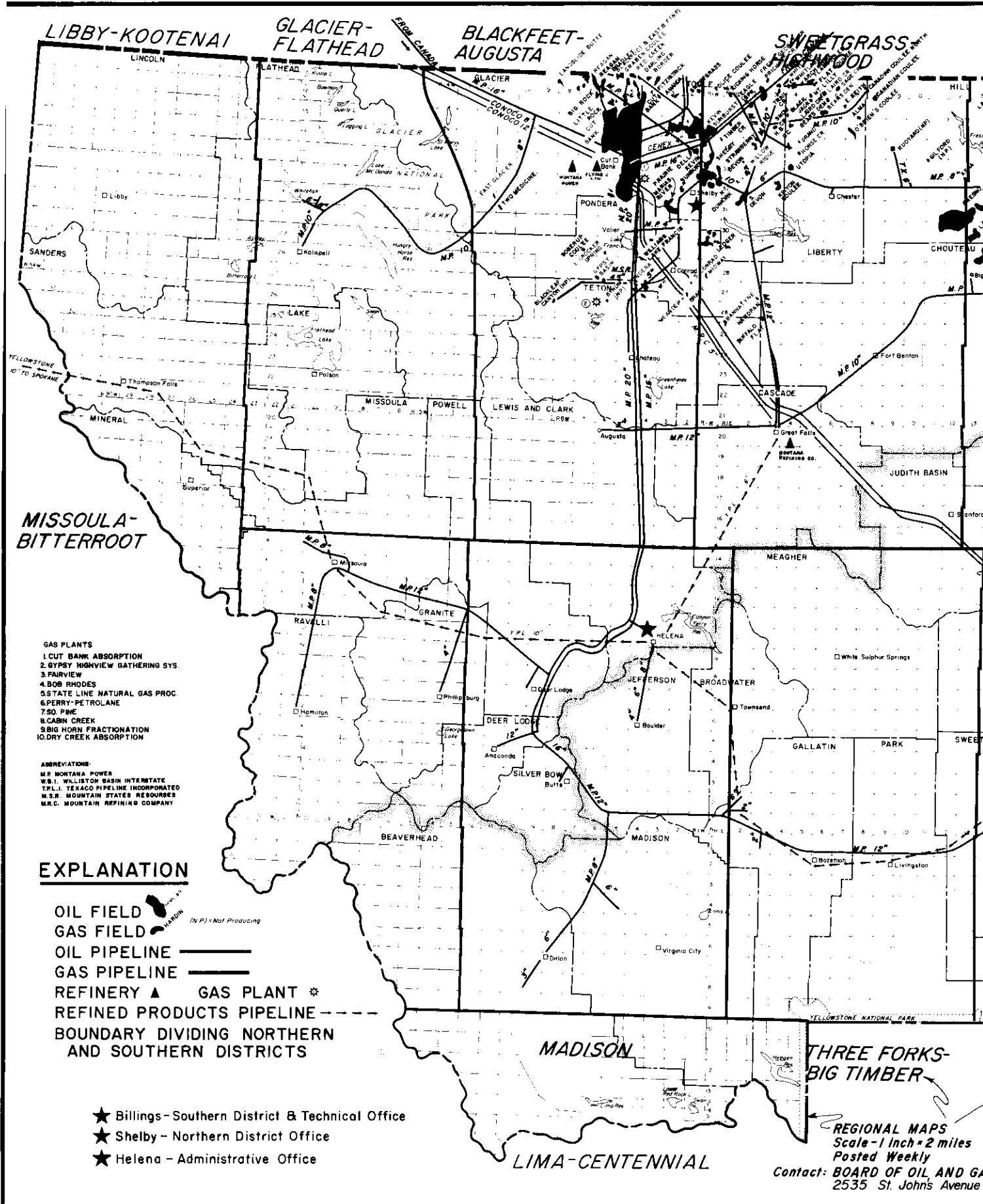
Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
TIGER RIDGE, NORTH Eagle	0	1	0	160-acre spacing units; one well per horizon per spacing unit from the Virgelle formation to the surface. Well to be no closer than 990' to the section line nor closer than 660' to the interior quarter section line. (Order 80-79)
TIMBER CREEK Sunburst	0	1	0	Statewide.
Bow Island	0	0	1	
TINDER BOX Tyler	1	0	0	Statewide.
TIPPY BUTTES Tyler	1	0	0	Statewide. Water injection into lower Tyler formation. (Order 57-82)
TRAIL CREEK Bow Island	0	5	0	One well per 320-acres consisting of S 1/2 and N 1/2 of each governmental section but not closer than 990' from spacing boundary. (Orders 33-70, 28-76) Field enlargements. (Order 135-80)
Swift-Sunburst	0	3	0	
TULE CREEK Nisku	3	0	1	160-acre spacing units with permitted well anywhere within 1,320' square in center of each unit. (Orders 26-62, 6-65, 11-67, 5-77, 52-86) Produced water injected into Dakota and Judith River formations. (Orders 12-66, 24-67, 8-A-76, 134-A-81) Produced water disposed into Dakota formation. (Order 38-A-82) SWD approved EPA 86.
Devonian	1	0	0	
TULE CREEK, EAST Nisku	1	0	0	160-acre spacing units with permitted well anywhere within 1,320' square in center of each unit. (Orders 40-64, 6-65, 4-86) Water injected into Judith River formation. (Order 13-68) Water injected into Nisku formation. (Order 28-A-79) SWD approved EPA-89.
TULE CREEK, SOUTH Nisku	1	0	1	160-acre spacing units with permitted well anywhere within a 1,320' square in center of each unit. (Orders 34-64, 6-65) Authority given to dispose of produced water into Dakota. (Order 44-64) Into Judith River formation. (Order 29-67)
TWO FORKS Eagle	0	0	1	Statewide.
Judith River	0	0	1	
TWO WATERS Bakken	2	0	0	Statewide.
Red River	1	0	0	
UTOPIA Bow Island	0	4	0	640-acre spacing units for Bow Island and Sawtooth; well location may be anywhere within the unit but no closer than 990' to any governmental section line. (Order 13-80) 40-acre spacing units for Swift formation; location to be in center of quarter-quarter section with no more than 100' topographic tolerance. (Order 9-78) Order 9-78 amended. Spacing units shall consist of 1 well per quarter-quarter section no closer than 330' from the section boundary. (Order 96-81) Utopia Swift Unit approved for secondary recovery. (Orders 11-89 and 38-89)
Sawtooth	0	2	0	
Swift	21	0	5	
VANDALIA Carlile	0	8	0	160-acre spacing units; where discrete gas formations (Bowdoin, Greenhorn, and Phillips) exist a well may be drilled to each discrete formation and to be located no closer than 660' to the unit boundaries. (Order 61-82)
Green Horn	0	0	1	
VAUX Interlake	2	0	0	Statewide. Single spacing unit with commingling approved for Madison group. (Order 63-83) Single spacing unit for Mississippian Bakken formation. (Order 20-86) Single 160-acre spacing unit for Mission Canyon formation. (Order 25-87)
Madison	19	0	1	
Red River	4	0	0	Produced water injected into the Dakota formation. (Order 44-A-79 and 109-A-82)
Dawson Bay	1	0	0	
Midale	1	0	0	
Bakken	1	0	0	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
VOLT				
Madison	1	0	0	160-acre spacing units with permitted well anywhere within a 1,320' square in center of each unit. (Orders 27-64, 6-65, 32-65) Statewide.
Nisku	5	0	0	
				Excess produced water is disposed into Judith River. (Orders 3-65, 37-A-74) SWD approved EPA-87.
WAGON BOX				
Tyler	0	0	2	Statewide.
WAKEA				
Red River-Interlake	3	0	1	Two 320-acre spacing units. (Order 84-83) Field enlarged. (Order 34-84) Wells located no closer than 660' to spacing unit boundaries.
Winnipegosis	2	0	0	
Nisku	2	0	0	
WEED CREEK				
Amsden	2	0	0	Statewide.
WELDON				
Kibbey	0	0	2	80-acre spacing unit; each quarter section divided into two separate units running in either a north-south or east-west direction; well location in center of NE 1/4 and SW 1/4 of quarter section with 200' topographic tolerance. (Order 9-65) Excess produced water is disposed into the Dakota, Lakota, Morrison, Charles, and Kibby formations. (Orders 31-65, 47-65, 37-66, 16-67, 51-A-81, 118-A-81, 128-A-81)
WEST BUTTE				
Bow Island	0	2	0	Statewide, except W 1/2 Section 16 is considered a single spacing unit. Sawtooth-Madison gas commingled, unitized. (Order 5-72) No well closer than 330' from unit boundary.
Sunburst	4	0	2	
Blackleaf/Swift	0	1	0	
WEST BUTTE SHALLOW GAS				
Bow Island-Dakota	0	2	0	160-acre spacing units; with one well to be permitted to produce from each individual gas producing formation above the top of the Kootenai to the surface within each 160-acre spacing unit. Well locations to be anywhere within the spacing unit but not closer than 990' from the spacing unit boundaries. (Order 39-77)
WHITWATER FIELD				
Greenhorn/Phillips	0	14	0	640-acre spacing units with 2 wells per formation. (Orders 41-82 and 14-89) Amend to allow 4 wells per formation per spacing unit no closer than 660' to spacing unit boundaries, 1,320' between wells producing from the same formation with 150' of tolerance for geologic or topographic reasons. (Order 15-89)
Carlile	0	103	1	
Bowdoin	0	1	0	
Carlile/Greenhorn	0	23	0	
WHITWATER, EAST				
Bowdoin-Greenhorn-Phillips	0	13	0	640-acre spacing units with two wells allowed per formation to be located anywhere within the spacing unit but not closer than 990' to spacing unit boundary. (Order 100-83) Amend to allow 4 wells per formation per spacing unit no closer than 1,320' to another well producing from the same formation with 150' tolerance for geologic or topographic reasons. (Order 65-89)
WHITLASH				
Bow Island-Dakota-Spike	2	29	9	Gas: 300' from legal subdivision line and 2,400' between wells, 75' topographic tolerance. Oil: 330' from legal subdivision line and 650' between wells; 5-spot location at center of 40-acre tract permitted; 75' topographic tolerance. (Orders 16-54, 27-70) Order 16-54 amended to include S 1/2 of Section 30, T37N, R4E. SW 1/4 of 30 is 1 spacing unit, SE 1/4 is the other. Well location no closer than 990' from spacing unit boundary. (Order 45-81)
Madison	0	1	0	
Swift-Sunburst	59	7	23	
WHITLASH, WEST				
Bow Island	0	1	0	Gas: 160-acre spacing units consisting of quarter sections; well location anywhere within a 660' square in center of spacing unit. Oil: 330' from legal subdivision line, 650' between wells in same reservoir on same lease; 5-spot location permitted. (Orders 61-62, 22-65 as amended) Orders 61-62 amended by Order 48-77. Field extension. (Order 18-79)
Swift-Sunburst	5	3	7	
WILLIAMS				
Bow Island	0	17	2	640-acre spacing unit; well to be located no closer than 990' to exterior boundary for all formations above the Kootenai. (Order 49-79) Amendment enlarging field boundary. (Order 102-79, 11-83)
WILLOW CREEK, NORTH				
Tyler	3	0	2	Statewide. Pilotflood. (Order 19-72)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
WILLOW RIDGE				
Bow Island	0	12	3	640-acre spacing units; location to be no closer than 990' to unit boundary for gas production from all formations to the top of the Kootenai. (Order 29-78) 40-acre spacing units with 5 wells permitted; well may be located in the center of each 10 acre quarter-quarter section and one in the center of each 40-acre subdivision with a 75' topographic tolerance allowed. (Order 30-78)
Burwash	4	0	0	
Dakota	0	1	0	
Sunburst	0	1	0	
Swift	0	1	0	
WILLOW RIDGE, SOUTH				
Sunburst	0	1	3	Statewide.
WILLOW RIDGE, WEST				
Bow Island	0	5	0	640-acre spacing units; wells to be located no closer than 990' to unit boundaries. (Order 3-88)
WILLS CREEK, SOUTH				
Silurian-Ordovician	3	0	0	160-acre spacing units. Well location in center of SE 1/4 of each unit with 175' topographic tolerance. (Orders 5-64, 30-66) Waterflood initiated 12-1-73. (Order 23-73)
WINDMILL				
Red River	1	0	0	Statewide.
WINNETT JUNCTION				
Tyler	3	0	1	20-acre spacing units. Units to be designated as W 1/2 and E 1/2 of quarter-quarter section, no closer than 120' to the boundary of a spacing unit. (Order 57-76) Certain lands bound by Order 57-76 vacated by Order 41-77. A waterflood operation commenced October 1, 1977 into Tyler formation. (Order 41-77)
WOLF SPRINGS				
Amsden	5	0	0	80-acre spacing units consisting of N 1/2 and S 1/2 of each quarter section. Well location in center of NW 1/4 and SE 1/4 of each quarter section with 75' topographic tolerance. (Orders 4-56, 9-59) Field area reduction. (Order 92-76)
WOLF SPRINGS, SOUTH				
Amsden	6	0	2	80-acre spacing units comprised of W 1/2 or E 1/2 of quarter section; wells located center of NW 1/4 or SE 1/4 of quarter section with 150' topographic tolerance. (Order 57-84) Field enlargement. (Order 8-85)
WOODROW				
Charles	1	0	0	80-acre spacing units consisting of any two adjacent quarter-quarter sections; well locations in center of NE 1/4 and SW 1/4 of each quarter section with 200' topographic tolerance. (Order 47-62) Produced water injected into Dakota. (Order 48-62)
Siluro-Ordovician	2	0	2	
WRANGLER				
Red River	2	0	0	320-acre spacing units consisting of W 1/2 and E 1/2 of S25 T34N R56E. (Order 44-85)
WRANGLER, NORTH				
Red River	1	0	0	Statewide.
WRIGHT CREEK				
Muddy	4	0	3	80-acre spacing units consisting of N 1/2 and S 1/2 of quarter section with locations in NW 1/4 and SE 1/4 of each quarter section with 200' tolerance. Field area reduction. (Order 69-76) Excess produced water is disposed of into the Muddy formation. (Order 8-A-77) SWD approved EPA-87, 89.
YATES				
Ratcliffe	1	0	0	320-acre spacing units; well locations as specified for the Duperow and Red River formations that may be dually completed. (Order 92-81) Single spacing unit for Ratcliffe/Mission Canyon formations. (Order 22-86)



LIBBY-KOOTENAI

GLACIER-FLATHEAD

BLACKFEET-AUGUSTA

SWEETGRASS-WOOD

MISSOULA-BITTERROOT

- GAS PLANTS**
- 1. CUT BANK ABSORPTION
 - 2. GYPSY HIGHVIEW GATHERING SYS.
 - 3. FAIRVIEW
 - 4. BOB RHODES
 - 5. STATE LINE NATURAL GAS PROC.
 - 6. PERRY-PETROLANE
 - 7. S.D. PINE
 - 8. CABIN CREEK
 - 9. BIG HORN FRACTIONATION
 - 10. DRY CREEK ABSORPTION

- ABBREVIATIONS:**
- M.P. MONTANA POWER
 - W.B.I. WILLISTON BASIN INTERSTATE
 - T.P.L.I. TEXACO PIPELINE INCORPORATED
 - M.S.R. MOUNTAIN STATES RESOURCES
 - M.R.C. MOUNTAIN REFINING COMPANY

EXPLANATION

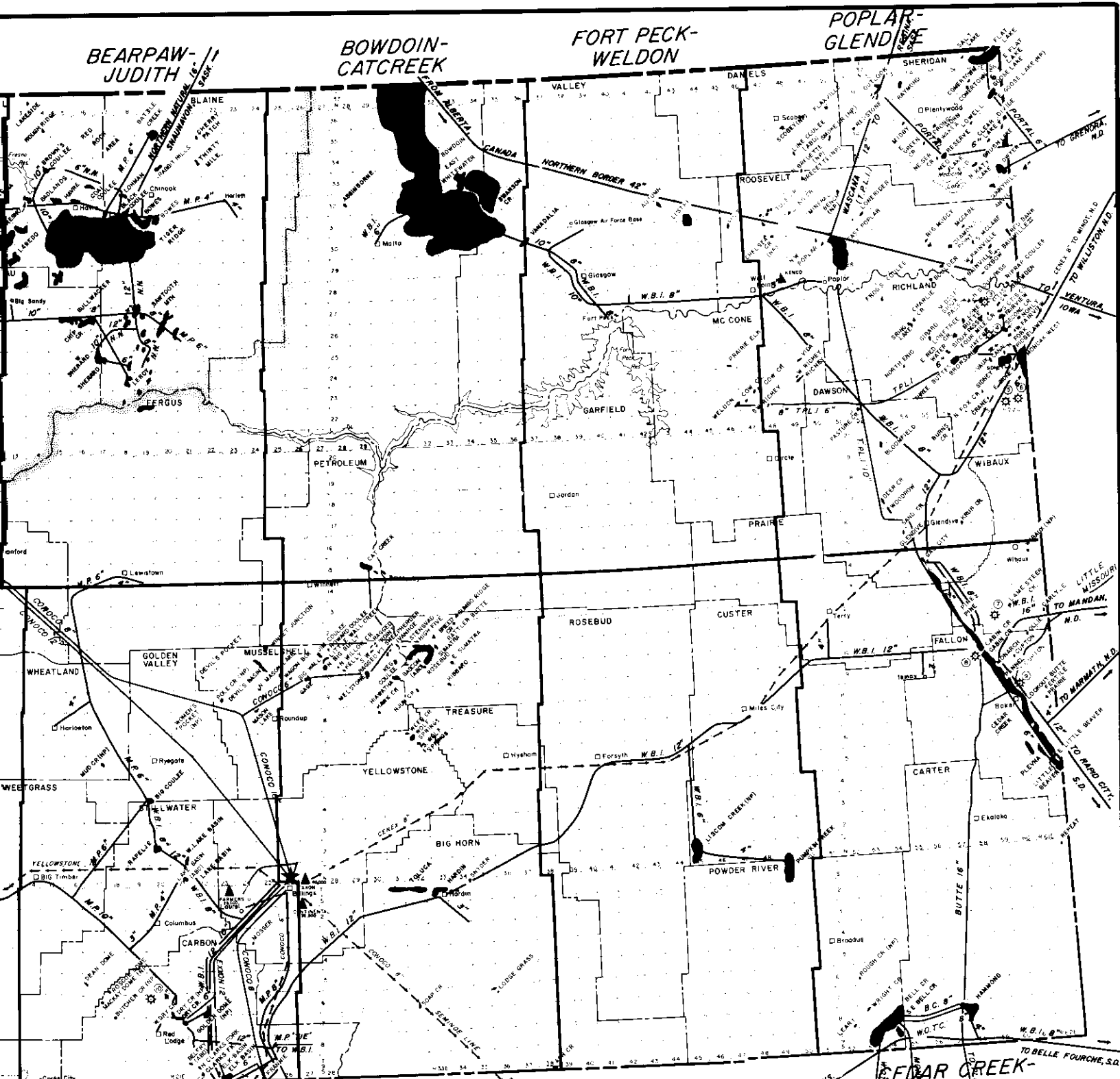
- OIL FIELD (N.P.) = Not Producing
- GAS FIELD
- OIL PIPELINE
- GAS PIPELINE
- REFINERY
- GAS PLANT
- REFINED PRODUCTS PIPELINE
- BOUNDARY DIVIDING NORTHERN AND SOUTHERN DISTRICTS

- ★ Billings - Southern District & Technical Office
- ★ Shelby - Northern District Office
- ★ Helena - Administrative Office

THREE FORKS-BIG TIMBER

REGIONAL MAPS
Scale - 1 inch = 2 miles
Posted Weekly
Contact: BOARD OF OIL AND GAS
2535 St. John's Avenue

LIMA-CENTENNIAL



BEARPAW-
JUDITH

BOWDOIN-
CATCREEK

FORT PECK-
WELDON

POPLAR-
GLENDEVE

BIG COULEE-
ELK BASIN

SUMATRA-
BIG HORN

MILES CITY-
TONGUE RIVER

CEEDAR CREEK-
POWDER RIVER

MONTANA
OIL AND GAS FIELDS, PIPELINES AND REFINERIES
1987

SUMMARY OF PRODUCING OIL FIELDS

LINE NO.	PRODUCING FIELD	FORMATION	COUNTY	YEAR OF DISCOVERY	DEPTH	GRAVITY * API	F.V.F.	NET PAY FT.	POROSITY (%)	% WATER	RECOVERY FACTOR %		PRO-DUCTIVE AREA ACRES
											PRIM.	SECND.	
1	Anvil	Nisku	Roosevelt	1981	10,900	40	1.50	14	17	34	82	0	160
2	Anvil	Ratcliffe	Roosevelt	1982	8,990	36	1.35	22	11	50	9	0	320
3	Anvil	Red River	Roosevelt	1978	12,600	47	1.63	26	14	32	12	0	2,560
4	Ash Creek	Shannon	Big Horn	1952	4,500	34	1.00	14	22	42	28	5	200
5	Bainville	Siluro/Ord.	Roosevelt	1969	12,402	44	-	-	-	-	-	-	1,920
6	Bainville II	Red River	Roosevelt	1981	12,700	42	1.20	40	10	35	4	0	960
7	Bainville, North	Ratcliffe	Roosevelt	1980	8,800	30	-	13	14	52	-	-	160
8	Bainville, North	Red River/Interlake	Roosevelt	1979	12,400	43	1.55	40	9	32	3	0	2,240
9	Bainville, North	Winnipegosis	Roosevelt	1979	11,400	44	1.60	35	7	20	13	0	960
10	Bainville, West	Red River	Roosevelt	1978	8,500	34	1.50	12	6	45	12	0	960
11	Bannatyne	Swift	Teton	1927	1,500	27	1.05	39	15	43	2	0	1,000
12	Beanblossom	Lower Tyler	Garfield	1985	4,562	-	-	-	-	-	-	-	480
13	Bears Den	Swift	Liberty	1924	2,300	39	1.08	20	9	35	21	0	360
14	Bell Creek	Muddy	Powder River	1967	4,400	36	1.11	10	26	23	56	28	8,240
15	Benrud, East	Nisku	Roosevelt	1962	7,500	46	1.37	22	15	30	39	0	640
16	Benrud, Northeast	Nisku	Roosevelt	1964	7,400	46	1.40	23	16	30	46	0	160
17	Big Gully	Tyler	Musselshell	1976	3,800	30	1.25	11	16	30	21	0	80
18	Big Gully, North	Tyler	Musselshell	1977	3,900	-	-	6	-	-	-	-	40
19	Big Muddy Creek	Madison	Roosevelt	1981	8,500	44	-	14	-	-	-	-	480
20	Big Muddy Creek	Red River	Roosevelt	1975	11,900	48	1.72	11	14	36	23	0	1,280
21	Big Wall	Amsden	Musselshell	1953	2,500	19	1.01	17	16	35	30	0	280
22	Big Wall	Lower Tyler Unit	Musselshell	1948	3,000	31	1.02	22	17	40	33	1	1,220
23	Big Wall	Upper Tyler Unit	Musselshell	1948	3,000	-	-	-	-	-	-	-	480
24	Black Diamond	Nisku	Wibaux	1981	11,310	27	1.31	4	40	10	12	0	640
25	Blackfoot	Devonian/Madison	Glacier	1957	3,500	30	1.10	15	15	35	15	22	360
26	Bloomfield	Dawson Bay	Dawson	1984	10,500	41	1.38	15	2	25	42	0	320
27	Bloomfield	Interlake/Red River	Dawson	1983	10,650	43	1.32	13	4	-	18	0	640
28	Blue Mountain	Red River	Wibaux	1984	11,949	31	1.25	20	18	15	1	0	320
29	Border Non Unit	Sunburst	Toole	1929	2,400	31	1.08	22	15	30	14	0	160
30	Border Old Unit	Sunburst	Toole	1929	2,400	31	1.08	22	15	30	12	2	480
31	Bowes Sawtooth Unit	Sawtooth	Blaine	1949	3,300	19	1.02	32	12	31	15	0	3,760
32	Box Canyon	Red River	Richland	1980	11,800	46	-	11	-	-	-	-	640
33	Bradley	Madison/Sunburst	Glacier	1959	3,500	26	1.25	6	11	49	52	0	240
34	Brady	Sunburst	Pondera	1942	1,500	34	1.01	10	12	30	5	0	680
35	Breed Creek	Tyler	Roosevelt	1976	4,900	32	1.15	20	15	37	31	0	440
36	Brorson	Madison	Richland	1954	9,600	32	1.40	40	5	40	16	0	1,760
37	Brorson	Red River	Richland	1968	12,600	48	1.70	20	10	35	44	0	960
38	Brorson, South	Madison	Richland	1978	9,000	42	-	52	-	-	-	-	320
39	Brorson, South	Red River	Richland	1968	12,600	48	1.70	20	12	30	6	0	960
40	Brush Lake	Red River	Sheridan	1969	11,400	40	1.50	30	14	35	12	0	2,240
41	Burget, East	Madison	Roosevelt	1981	9,000	-	-	36	-	-	-	-	640
42	Cabin Creek Unit 1	Siluro/Ord.	Fallon	1953	9,000	33	1.20	50	13	30	15	11	14,240
43	Cabin Creek Unit 2	Madison	Fallon	1956	7,300	33	1.13	25	11	30	51	0	2,260
44	Canal	Madison	Richland	1977	9,200	33	1.30	47	2	41	27	0	640
45	Canal	Red River	Richland	1970	12,700	47	2.07	58	8	40	22	0	320
46	Cannonball	Red River	Fallon	1980	10,300	34	2.00	14	11	34	14	0	160
47	Carlyle	Red River	Wibaux	1978	10,700	37	1.30	12	12	27	8	0	640
48	Cat Creek East Dome	Ellis	Petroleum	1920	1,200	52	1.10	6	22	40	33	8	880
49	Cat Creek Mosby	Ellis	Petroleum	1945	1,700	52	1.10	25	18	40	11	1	880
50	Cat Creek West Dome	1st and 2nd Cat	Petroleum	1920	1,100	52	1.10	51	21	19	17	5	1,480
51	Charlie Creek	Red River/Nisku	Richland	1976	9,900	42	1.60	12	6	35	52	0	640
52	Charlie Creek, East	Duperow	Richland	1987	10,475	-	-	-	-	-	-	-	320
53	Charlie Creek, East	Red River	Richland	1980	11,900	45	-	27	-	-	-	-	640
54	Chelsea Creek	Nisku	Roosevelt	1961	7,626	-	-	-	-	-	-	-	160
55	Clear Lake	Madison	Sheridan	1978	7,600	33	1.15	10	5	30	38	0	960
56	Clear Lake	Nisku	Sheridan	1979	9,000	43	1.53	31	11	27	3	0	320
57	Clear Lake	Red River	Sheridan	1977	11,200	42	1.65	32	18	35	8	0	2,240
58	Clear Lake, South	Red River	Sheridan	1984	11,500	38	1.39	10	23	21	4	0	640
59	Colored Canyon	Red River/Nisku	Sheridan	1978	11,300	40	1.40	18	13	28	5	0	1,920
60	Comertown	Nisku	Shendan	1983	10,672	36	1.30	13	17	39	10	0	640
61	Comertown	Ratcliffe	Sheridan	1981	6,807	30	1.20	16	26	-	2	0	480
62	Comertown	Red River	Sheridan	1980	10,500	30	1.30	19	10	38	37	0	800
63	Comertown, South	Red River/Nisku	Sheridan	1984	11,000	-	-	-	-	-	-	-	960
64	Cottonwood	Red River	Richland	1984	12,870	-	-	5	-	-	-	-	320
65	Cow Creek, East	Kibby	McCone	1971	6,300	35	1.05	15	15	-	10	0	1,600
66	Crane	Devonian	Richland	1979	11,900	47	1.65	20	12	35	19	0	960
67	Crane	Siluro/Ord.	Richland	1979	12,700	-	-	-	-	8	-	-	960
68	Cupton	Red River	Fallon	1955	9,600	38	1.25	40	12	16	5	0	2,240

SUMMARY OF PRODUCING OIL F

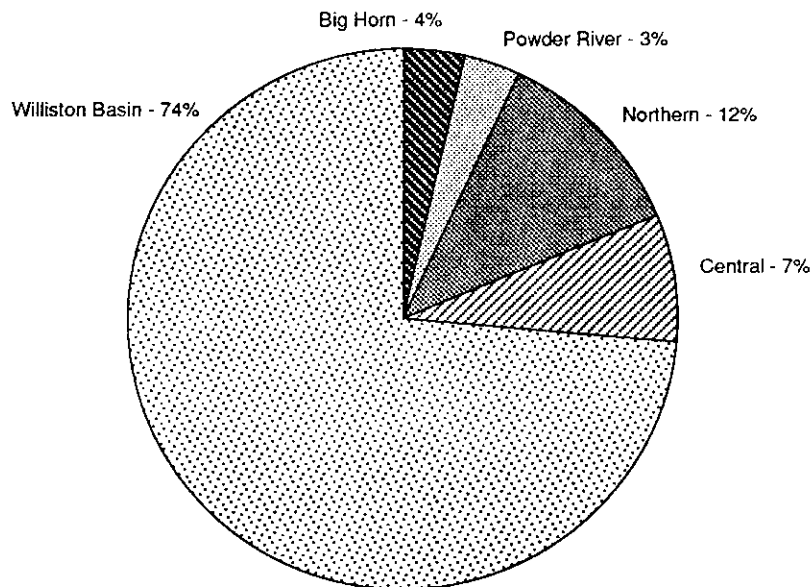
LINE NO.	PRODUCING FIELD	FORMATION	COUNTY	YEAR OF DISCOVERY	DEPTH	GRAVITY * API	F.V.F.	NET PAY FT.	PORO-SITY (%)	% WATER	RECOVERY FACTOR %		PRO-DUCTIV AREA ACRES
											PRIM.	SECND.	
69	Cut Bank	Cut Bank	Glacier/Toole	1932	2,900	31	1.09	18	15	35	40	6	27,360
70	Dagmar	Red River	Sheridan	1976	11,300	37	1.65	22	16	35	4	0	1,280
71	Dagmar, North	Madison	Sheridan	1983	7,952	-	-	24	-	-	-	-	160
72	Delphia	Amsden	Musselshell	1957	6,300	35	1.15	12	7	30	27	0	320
73	Devils Pocket	Heath	Musselshell	1920	2,030	-	-	-	-	-	-	-	320
74	Diamond Point	Red River	Roosevelt	1976	11,900	47	-	26	-	-	-	-	640
75	Divide	Red River	Sheridan	1987	11,398	-	-	-	-	-	-	-	960
76	Divide	Madison/Ratcliffe	Sheridan	1979	7,900	33	1.35	25	7	42	21	0	2,240
77	Dooley	Ratcliffe	Sheridan	1987	6,451	28	-	-	-	-	-	-	640
78	Dry Creek	Greybull	Carbon	1981	5,579	-	-	-	-	-	-	-	120
79	Dry Creek	Eagle/Virgelle	Carbon	1929	2,600	65	1.01	60	15	65	47	0	360
80	Dutch John Coulee	Sunburst	Toole	1985	2,040	-	-	-	-	-	-	-	200
81	Dwyer	Red River	Sheridan	1982	11,552	35	-	-	-	-	-	-	1,600
82	Dwyer	Nisku	Sheridan	1987	9,120	-	-	-	-	-	-	-	160
83	Dwyer Non Unit	Ratcliffe	Sheridan	1960	8,000	-	-	-	-	-	-	-	1,440
84	Dwyer Unit	Charles	Sheridan	1960	8,000	37	1.32	38	11	56	74	21	4,960
85	Eagle	Madison	Richland	1977	8,900	32	1.22	15	9	35	9	0	3,040
86	Eagle	Bakken/Duperow	Richland	1980	10,696	40	-	24	-	-	-	-	320
87	Eagle	Red River	Richland	1982	12,448	38	-	-	-	-	-	-	640
88	Elk Basin	Tensleep	Carbon	1942	5,000	29	1.16	124	11	10	24	0	1,400
89	Elk Basin	Madison	Carbon	1942	5,300	28	1.12	224	12	9	2	0	1,080
90	Elk Basin	Frontier	Carbon	1915	1,400	-	-	-	-	-	-	-	480
91	Enid, North	Red River	Richland	1979	11,800	47	1.75	8	7	34	27	0	960
92	Fairview	Madison	Richland	1981	9,520	34	1.60	45	4	51	21	0	960
93	Fairview Non Unit	Red River	Richland	1965	12,700	47	1.70	35	11	28	22	0	2,880
94	Fairview Unit, NW	Red River	Richland	1965	12,700	-	-	-	-	-	-	-	1,600
95	Fairview, East	Red River	Richland	1981	12,800	48	1.50	24	13	32	6	0	640
96	Fairview, est	Madison	Richland	1980	9,200	37	-	60	3	-	-	-	320
97	Fertile Praire	Red River	Fallon	1952	9,300	29	1.20	6	14	27	30	0	640
98	Fishhook	Red River	Sheridan	1980	11,200	41	1.28	10	10	31	16	0	1,280
99	Flat Coulee Non Unit	Swift	Liberty	1933	2,900	37	1.10	18	21	35	15	4	1,320
100	Flat Coulee Unit	Swift	Liberty	1933	2,900	37	1.10	18	21	35	18	0	640
101	Flat Lake	Madison/Nisku	Sheridan	1964	6,500	33	1.26	14	15	45	25	0	9,600
102	Flat Lake, East	Madison	Sheridan	1984	6,523	28	-	-	-	-	-	-	160
103	Flat Lake, South	Ratcliffe	Sheridan	1966	6,500	32	1.26	9	12	45	31	0	1,120
104	Fort Gilbert	Madison	Richland	1981	9,200	35	1.30	30	6	55	8	0	2,240
105	Fort Gilbert	Red River	Richland	1970	12,500	48	1.89	42	12	20	8	0	1,280
106	Four Mile Creek	Red River	Richland	1975	12,500	47	1.50	35	15	35	7	0	320
107	Four Mile Creek, W.	Red River	Richland	1976	12,500	45	1.30	15	13	40	7	0	640
108	Frannie	Tensleep	Carbon	1929	2,700	27	1.02	29	19	16	28	0	80
109	Fred & George Creek	Swift/Sunburst	Toole	1963	2,600	39	1.20	31	27	30	16	14	1,480
110	Frog Coulee	Red River	Richland	1979	11,000	49	1.42	15	18	35	10	0	320
111	Froid, South	Red River	Roosevelt	1970	12,100	48	1.55	12	17	25	11	0	320
112	Gas City	Red River/Madison	Dawson	1955	8,900	38	1.28	25	12	35	26	5	2,800
113	Girard	Bakken/Red River	Richland	1966	11,839	40	1.15	18	10	8	9	0	640
114	Glendive	Siluro/Ord.	Dawson	1952	8,900	38	1.24	147	8	35	13	0	2,240
115	Golden Dome	Greybull/Frontier	Carbon	1953	6,000	-	-	-	-	-	-	-	480
116	Goose Lake	Ratcliffe	Sheridan	1962	7,000	34	1.20	40	16	55	4	3	6,880
117	Goose Lake, West	Red River	Sheridan	1981	11,500	39	-	29	-	-	-	-	960
118	Gossett	Stoney Mountain	Richland	1983	12,331	-	-	11	-	-	-	-	640
119	Graben Coulee	Cut Bank/Sunburst	Glacier	1961	2,900	34	1.10	15	12	30	8	0	3,360
120	Grandview, East	Swift	Liberty	1978	2,500	30	-	8	17	55	-	-	200
121	Green Coulee	Red River	Sheridan	1981	11,100	32	1.40	18	15	56	5	0	640
122	Gunsight	Madison	Roosevelt	1980	9,550	36	-	-	-	-	-	-	480
123	Gypsy Basin	Madison/Ellis	Pondera/Teton	1979	3,250	36	-	10	-	-	-	-	720
124	Hardscrabble Creek	Red River	Richland	1981	12,550	46	1.36	7	15	30	5	0	640
125	Hay Creek	Mission Canyon	Richland	1969	9,600	39	1.15	40	5	-	9	0	320
126	Hay Creek	Siluro/Ord.	Richland	1969	12,600	46	1.90	53	12	30	7	0	960
127	Hiawatha	Tyler	Musselshell	1967	5,000	33	1.15	34	12	25	22	0	400
128	High Five	Tyler/Stensvad	Rosebud	1976	5,600	33	1.15	20	20	-	10	0	960
129	Highview	Madison	Pondera	1967	3,200	31	1.10	8	17	32	3	0	480
130	Howard Coulee	Tyler	Musselshell	1974	3,498	31	-	-	-	-	-	-	160
131	Intake II	Red River	Richland	1981	12,400	43	1.20	20	13	30	6	0	960
132	Ivanhoe	Tyler/Heath	Musselshell	1956	4,100	33	1.08	29	15	20	30	0	600
133	Ivanhoe	Morrison	Musselshell	1960	4,135	33	1.10	11	15	40	4	0	80
134	Jim Coulee Unit	Tyler	Musselshell	1971	3,700	33	1.10	37	15	33	3	13	1,920
135	Jim Coulee, North	Tyler	Musselshell	1972	3,748	32	1.60	37	15	33	21	0	80

SUMMARY OF PRODUCING OIL FIELDS

LINE NO.	PRODUCING FIELD	FORMATION	COUNTY	YEAR OF DISCOVERY	DEPTH	GRAVITY °API	F.V.F.	NET PAY FT.	POROSITY (%)	% WATER	RECOVERY FACTOR %		PRODUCTIVE AREA ACRES
											PRIM.	SECND.	
271	Two Waters	Bakken	Richland	1982	9,950	-	-	42	-	-	-	-	320
272	Two Waters	Red River	Richland	1980	11,500	43	1.40	16	8	30	14	0	320
273	Utopia	Swift	Liberty	1977	2,300	33	1.15	17	16	40	9	0	960
274	Vaux	Interlake/Stonewall	Richland	1981	12,100	45	-	-	-	25	-	-	640
275	Vaux	Madison	Richland	1977	8,800	34	1.20	40	4	43	13	0	3,360
276	Vaux	Red River	Richland	1976	12,400	48	1.60	24	14	45	9	0	2,240
277	Volt	Charles	Roosevelt	1965	6,000	-	-	-	-	67	-	-	160
278	Volt	Nisku	Roosevelt	1964	7,300	47	1.40	14	20	30	50	0	800
279	Wakea	Nisku	Sheridan	1988	9,906	-	-	14	-	-	-	-	320
280	Wakea	Red River	Sheridan	1983	11,133	42	1.57	6	14	31	40	0	960
281	Wakea	Winnipegosis	Sheridan	1985	10,179	44	1.42	12	14	30	43	0	320
282	Weed Creek	Amsden	Yellowstone	1966	6,200	35	1.07	12	8	23	14	0	800
283	West Butte	Sunburst	Toole	1968	2,300	40	1.10	10	24	23	17	0	160
284	Whitlash	Swift/Sunburst	Liberty	1927	2,600	38	1.13	15	16	20	14	0	3,120
285	Whitlash, West	Sunburst	Liberty	1980	2,906	-	-	-	-	-	-	-	200
286	Willow Ridge	Burwash	Toole	1975	1,400	40	1.20	8	16	40	8	0	160
287	Wills Creek, South	Red River	Fallon	1964	8,700	33	1.20	12	18	35	30	0	480
288	Windmill	Red River	Richland	1981	12,349	-	-	-	-	-	-	-	320
289	Winnett Junction	Tyler	Musselshell	1973	2,500	28	1.10	12	18	30	11	26	240
290	Wolf Springs	Amsden	Yellowstone	1955	6,200	30	1.07	11	6	23	61	0	2,080
291	Woodrow	Red River/Charles	Dawson	1952	9,600	42	1.30	25	14	35	17	0	560
292	Wrangler	Red River	Sheridan	1979	11,200	30	1.00	6	10	-	32	0	640
293	Wrangler, North	Red River	Sheridan	1979	10,000	41	1.40	18	16	45	5	0	320
294	Wright Creek	Muddy	Powder River	1969	4,800	35	1.10	5	26	48	18	0	400
295	Yates	Red River	Wibaux	1982	11,245	33	1.30	21	10	45	2	0	320
296	Miscellaneous Small Fields												
297	STATE TOTALS												

Note: Reservoir parameters and production figures are supplied by operators. Reserve estimates are extrapolated from computer generated decline curves. Pools with incalculable or small reserves are not printed.

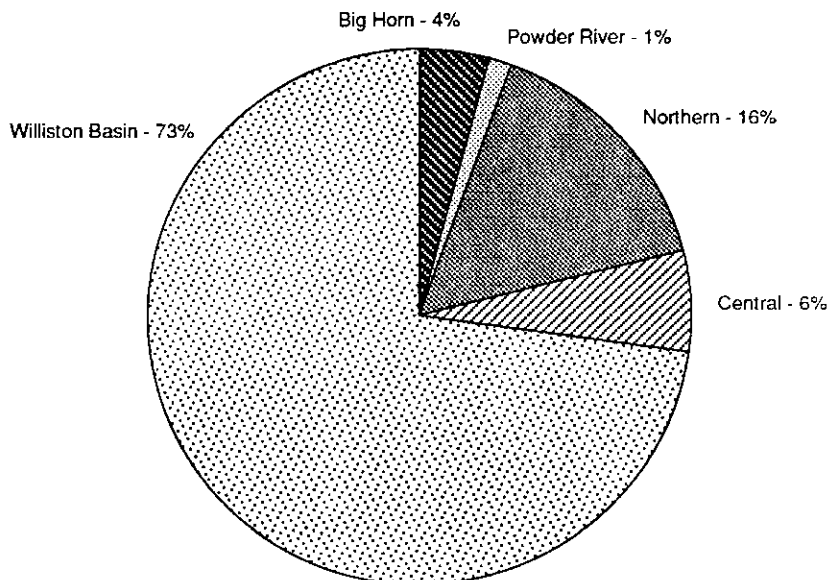
1989 Oil Production by Region 20,969,292 Barrels



RY OF PRODUCING OIL FIELDS—1989

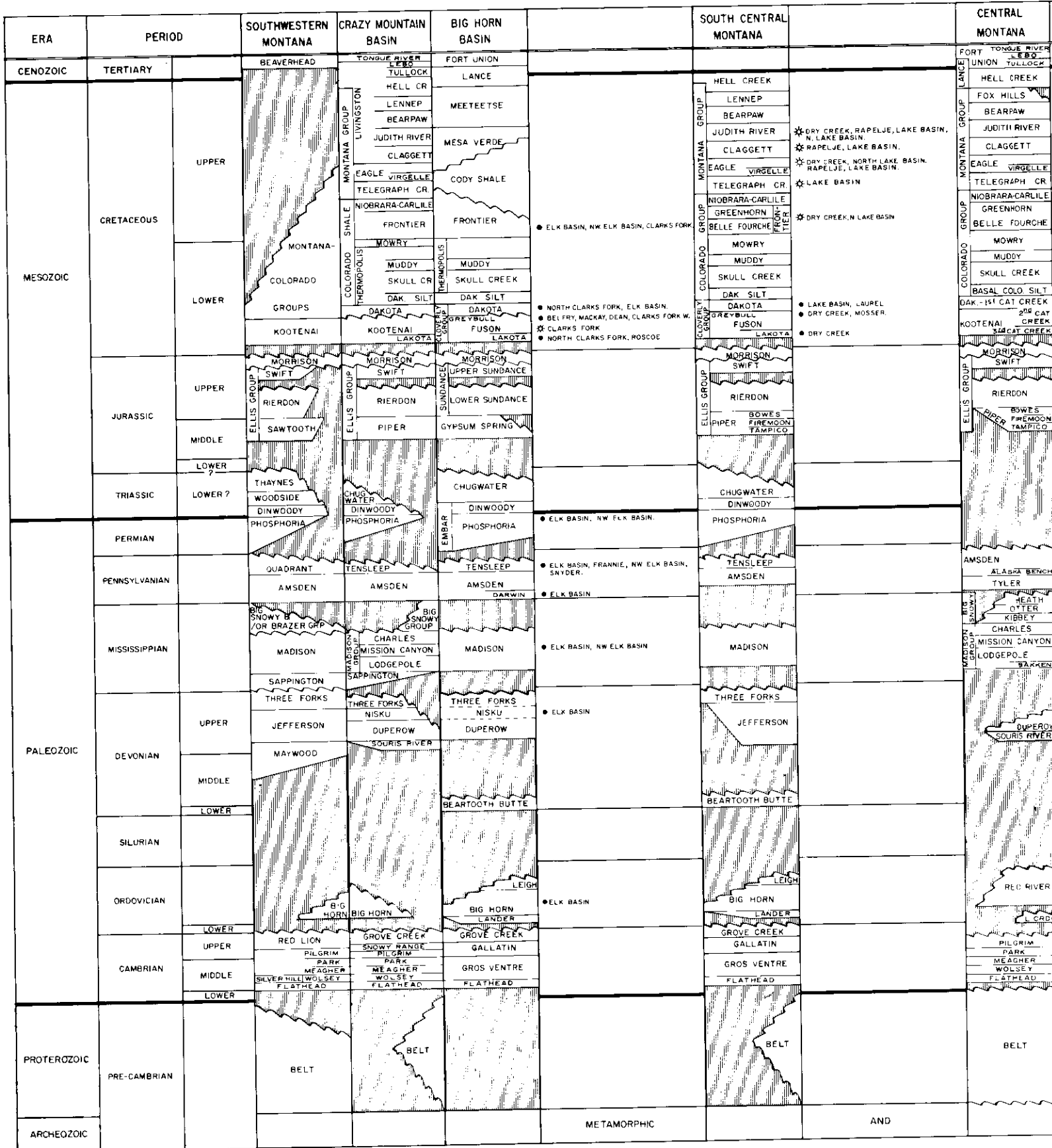
WELL ID	POROSITY (%)	% WATER	RECOVERY FACTOR %		PRO-DUCTIVE AREA ACRES	OOIP		ULTIMATE RECOVERY					1989 PRODUCTION		CUMUL. PROD. 1-90 (M BBLs)	RE-SERVES (M BBLs)	LINE NO.	
			PRIM.	SECND.		M BBLs	BBLs/AC.	PRIM. (M BBLs)	SECOND. (M BBLs)	TOTAL (M BBLs)	BBLs/ ACRE	BBLs/ ACRE FT.	BBLs	BOPD				
42	-	-	-	-	320	-	-	-	-	-	-	-	-	6,710	18	43	63	271
16	8	30	14	0	320	1,589	4,965	230	-	230	719	45	34,060	93	155	75	272	
17	16	40	9	0	960	10,569	11,009	920	-	920	958	56	32,581	89	582	338	273	
10	-	25	-	-	640	-	-	-	-	-	-	-	29,918	82	474	260	274	
4	4	43	13	0	3,360	19,811	5,896	2,530	-	2,530	753	19	192,599	528	1,504	1,026	275	
24	14	45	9	0	2,240	20,071	8,960	1,810	-	1,810	808	34	49,329	135	1,560	250	276	
1	-	67	-	-	160	-	-	-	-	-	-	-	1,751	5	19	11	277	
14	20	30	50	0	800	8,689	10,861	4,340	-	4,340	5,425	388	85,922	235	3,043	1,297	278	
14	-	-	-	-	320	-	-	-	-	-	-	-	31,337	86	72	83	279	
6	14	31	40	0	960	2,749	2,863	1,110	-	1,110	1,156	193	67,134	184	930	180	280	
2	14	30	43	0	320	2,056	6,425	880	-	880	2,750	229	65,583	180	847	33	281	
2	8	23	14	0	800	4,288	5,360	620	-	620	775	65	1,684	5	605	15	282	
0	24	23	17	0	160	2,085	13,031	350	-	350	2,188	219	4,754	13	295	55	283	
5	16	20	14	0	3,120	41,127	13,181	5,780	-	5,780	1,853	124	51,339	141	5,265	515	284	
-	-	-	-	-	200	-	-	-	-	-	-	-	5,017	14	119	29	285	
8	16	40	8	0	160	794	4,962	60	-	60	375	47	2,204	6	45	15	286	
2	18	35	30	0	480	4,357	9,077	1,290	-	1,290	2,688	224	20,913	57	1,094	196	287	
-	-	-	-	-	320	-	-	-	-	-	-	-	3,937	11	27	31	288	
2	18	30	11	26	240	2,559	10,662	280	670	950	3,958	330	22,831	63	842	108	289	
1	6	23	61	0	2,080	7,664	3,684	4,700	-	4,700	2,260	205	13,218	36	4,685	15	290	
25	14	35	17	0	560	7,603	13,576	1,290	-	1,290	2,304	92	18,944	52	1,175	115	291	
6	10	-	32	0	640	2,979	4,654	960	-	960	1,500	250	37,691	103	483	477	292	
8	16	45	5	0	320	2,809	8,778	150	-	150	469	26	4,961	14	110	40	293	
5	26	48	18	0	400	1,907	4,767	350	-	350	875	175	6,733	18	289	61	294	
21	10	45	2	0	320	2,206	6,893	50	-	50	156	7	4,301	12	38	12	295	
													523,000	1,433	35	296		
													20,969,292	57,450	177,604	297		

1989 Oil Reserves by Region 177 Million Barrels



GENERALIZED STRATIGRAPHY

SHOWING PROBABLY CORRELATIONS



STANDARDIZED STRATIGRAPHIC CORRELATION CHART

SHOWING PRODUCTIVE FORMATIONS IN MONTANA OIL AND GAS FIELDS *

● OIL ★ GAS

