

MONTANA



OIL and GAS

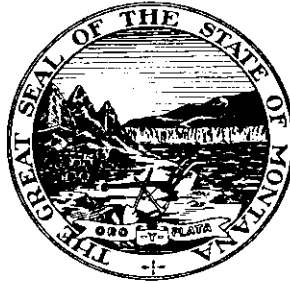
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DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

Oil and Gas Conservation Division

Stan Stephens, Governor



ANNUAL REVIEW FOR THE YEAR 1990

Relating to

OIL AND GAS

Volume 34

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August, 1991

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Annual Review for the Year 1990 Volume 34 ACTIVITY REVIEW—MONTANA 1990

Bolstered primarily by development drilling for natural gas, Montana's 1990 drilling activity increased 37 percent over the 1989 activity level. The average depth drilled per well declined to 2772 feet indicating that shallow prospects attracted the greatest interest in 1990. Both oil and natural gas production declined in 1990; oil production was down by about 5% and gas by about 2% from 1989 figures. More than 270 individuals and companies operated wells in 1990. There were eight geophysical contractors active during the year.

Several horizontal drilling projects were commenced during 1990. Horizontal wells testing the Bakken Shale in the Williston Basin met with limited success; however, horizontals drilled in the Jurassic Sawtooth formation in the Bowes Field of Montana's Sweetgrass Arch were encouraging and additional

horizontal wells in this area are anticipated. Some interest in coal bed methane was shown during 1990. A few test wells were drilled in southern Montana coal areas to obtain samples for analysis of methane production potential; however, no coal bed methane wells were completed in 1990. Federal tax incentives for natural gas production from tight formations revived some interest in the gas potential of tight Colorado Group reservoirs in north central Montana.

The Board of Oil and Gas conservation issued 52 orders for spacing, forced pooling, well exceptions, and similar matters in 1990. The Board's staff made 62 price category determinations under the Natural Gas Policy Act. In compliance with the Montana Environmental Policy Act, the Shelby and Billings offices prepared 269 environmental assessments of proposed drilling operations on private and State owned lands.

1990

SUMMARY OF YEAR ACTIVITIES

OIL

	BBLs	BBLs/DAY
Oil Produced	19,835,087	54,343
Oil Imported From:		
Canada	27,271,346	
Wyoming	<u>16,431,338</u>	
Total	43,702,684	119,733
Oil Exported	15,700,000	43,014

GAS

	MCF	MCF/DAY
Gas Withdrawals:		
Natural	42,432,850	
Associated	<u>9,104,325</u>	
Total	51,537,175	141,198
Gas Imported From:		
Canada	9,620,867	
North Dakota	19,302,130	
Wyoming	<u>9,040,999</u>	
Total	37,963,996	104,011
Gas Exported To:		
Canada	75,354	
North Dakota	6,539,118	
South Dakota	9,492,118	
Wyoming	13,726,218	
Midwest	<u>11,170,371</u>	
Total	41,003,179	112,338

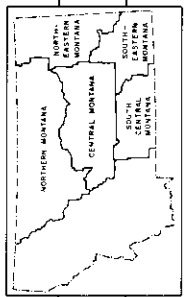
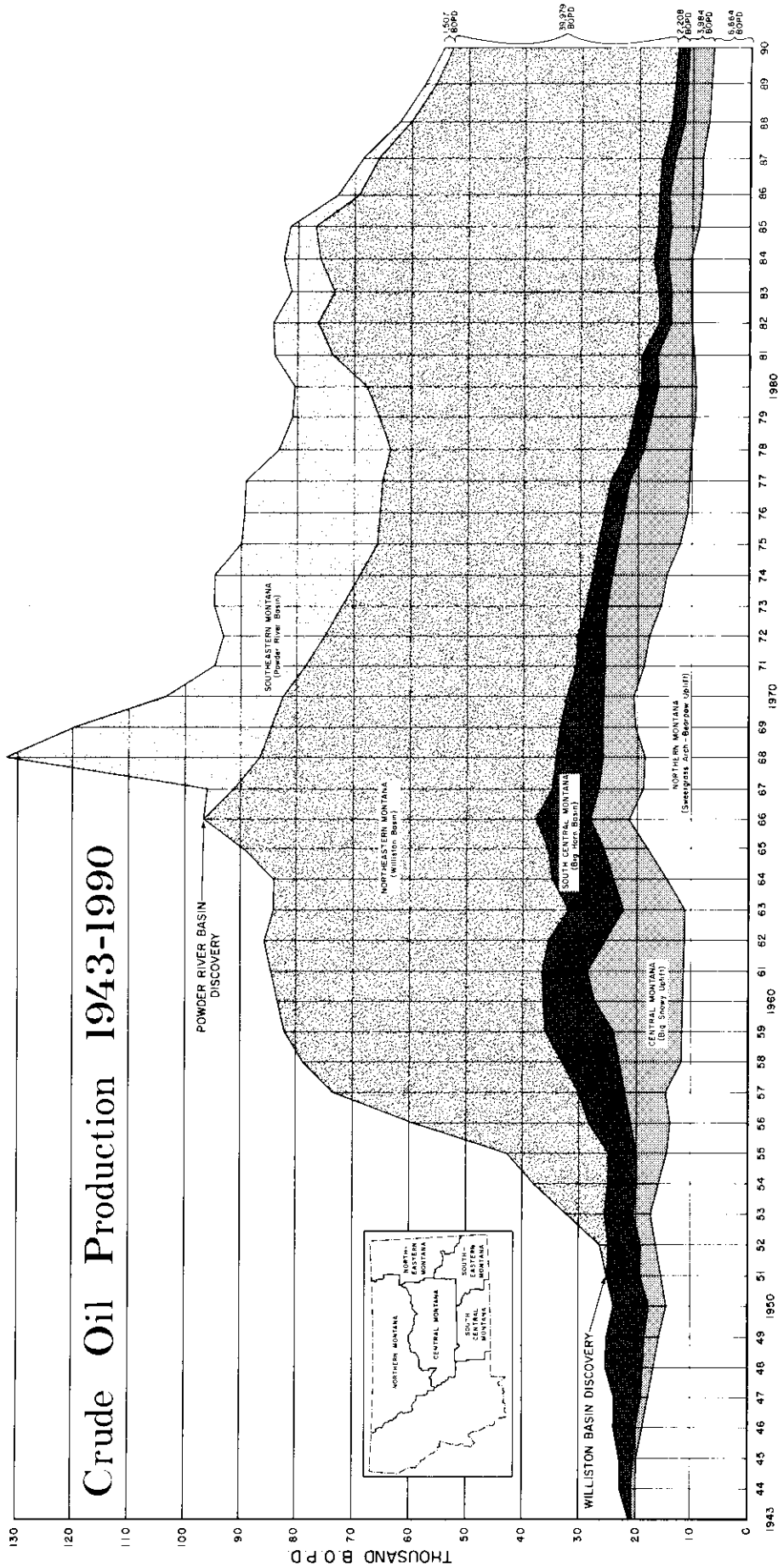
FIVE YEAR SUMMARY

	1986	1987	1988	1989	1990
OIL PRODUCTION IN BARRELS					
Northern Montana	3,220,769	3,040,941	2,779,524	2,488,169	2,432,506
South Central	722,118	827,229	884,954	773,372	805,807
Central	2,387,266	1,847,551	1,684,853	1,544,989	1,454,066
Williston Basin	19,520,103	18,319,149	17,089,238	15,476,534	14,592,497
Powder River Basin	1,314,374	1,069,179	878,887	686,228	550,211
TOTAL	27,164,630	25,104,049	23,317,456	20,969,292	19,835,087
NUMBER OF PRODUCING OIL WELLS					
Northern Montana	3,017	2,850	2,821	2,644	2,579
South Central	80	130	128	131	135
Central	453	363	355	331	323
Williston Basin	1,509	1,430	1,434	1,377	1,356
Powder River Basin	184	112	103	112	118
TOTAL	5,243	4,885	4,841	4,595	4,514
AVERAGE DAILY PRODUCTION/OIL WELL					
Northern Montana	2.9	2.9	2.7	2.6	2.6
South Central	24.7	17.4	18.9	16.2	16.4
Central	14.4	13.9	13.0	12.8	12.3
Williston Basin	35.4	35.1	32.6	30.8	29.5
Powder River Basin	19.5	26.2	23.3	16.8	12.8
STATE AVERAGE	14.2	14.1	13.2	12.5	12.0
DEVELOPMENT WELLS DRILLED					
Oil Wells	90	86	72	32	34
Gas Wells	81	75	54	115	180
Dry Holes	69	39	46	29	39
Service Wells	4	21	12	8	5
TOTAL	244	221	184	184	258
EXPLORATORY WELLS DRILLED					
Oil Wells	11	7	10	8	4
Gas Wells	10	9	19	12	12
Dry Holes	130	100	100	38	57
Temporary Abandoned	10	11	9	0	1
TOTAL	161	127	138	58	74
TOTAL WELLS DRILLED	405	348	322	242	332
TOTAL FOOTAGE DRILLED	1,648,519	1,526,389	1,301,884	720,785	920,283
AVERAGE FOOTAGE DRILLED	4,070	4,386	4,043	2,978	2,772

SUMMARY OF DRILLING BY COUNTIES—1990

County	Development		Wildcat		Service	Temp. Aband.	Total Wells	Footage Drilled	Average Depth
	Oil	Gas	Oil	Gas					
Blaine	2	17	8	1	0	1	35	73,157	2,090
Carbon	1	1	0	0	0	0	3	9,418	3,139
Chouteau	0	1	1	2	0	0	6	6,108	1,018
Daniels	0	0	0	0	0	0	1	7,680	7,680
Dawson	0	0	0	0	0	0	1	8,070	8,070
Fallon	7	0	0	0	0	0	7	62,793	8,970
Fergus	0	0	0	0	0	0	1	4,814	4,814
Flathead	0	0	0	0	0	0	1	9,000	9,000
Garfield	0	0	0	0	0	0	2	8,034	4,017
Glacier	4	4	2	0	3	0	13	35,261	2,712
Hill	0	11	11	1	0	0	27	44,096	1,633
Lewis and Clark	0	0	0	0	0	0	1	17,818	17,818
Liberty	0	0	2	0	2	0	5	13,349	2,669
McCone	0	0	0	0	0	0	1	7,400	7,400
Musselshell	1	1	1	0	0	0	8	31,706	3,963
Phillips	0	85	0	0	0	0	87	135,222	1,554
Pondera	0	1	1	3	0	0	5	10,938	2,187
Powder River	2	1	1	0	0	0	4	18,558	4,639
Prairie	1	0	0	0	0	0	1	9,164	9,164
Richland	8	0	0	0	0	0	11	119,297	10,845
Roosevelt	1	0	1	0	0	0	5	48,840	9,768
Rosebud	1	0	0	0	0	0	2	9,452	4,726
Sheridan	1	0	0	0	0	0	3	26,638	8,879
Stillwater	0	1	3	3	0	0	10	18,808	1,880
Sweet Grass	0	0	0	0	0	0	1	2,593	2,593
Teton	1	0	0	0	0	0	5	20,098	4,019
Toole	0	57	6	5	0	0	75	102,400	1,365
Valley	1	0	0	0	0	0	2	12,280	6,140
Wibaux	3	0	0	0	0	0	4	38,519	9,629
Yellowstone	0	0	2	0	0	0	5	8,772	1,754
TOTALS	34	180	39	12	4	1	332	920,283	2,772

Crude Oil Production 1943-1990



GAS PRODUCTION DATA - 1990 NATURAL GAS

Field	County	Producing Formation	Produced MCF
Alma	Liberty	Bow Island, Blackleaf	4,889
Amanda	Toole	Swift, Bow Island, Sunburst	248,912
Arch Apex	Toole	Bow Island, Sunburst-Swift	290,948
Ashfield	Phillips	Carlile, Greenhorn, Phillips, Bowdoin	819,801
Badlands	Hill	Eagle	311,428
Battle Creek	Blaine	Eagle	2,494,998
Bears Den	Liberty	Bow Island, Swift	20,571
Big Coulee	Golden Valley, Stillwater	Morrison, Cat Creek	215,709
Big Rock	Glacier	Blackleaf, Bow Island, Colorado	468,798
Bills Coulee	Teton	Sunburst, Moulton, Kootenai, Dakota, Madison	41,584
Black Butte	Hill	Eagle	87,899
Black Coulee	Blaine	Eagle	163,481
Blackfoot Shallow Gas	Glacier	Dakota	102,061
Blackjack	Liberty	Second White Specks, Sunburst, Blackleaf, Bow Island	94,948
Blackleaf Canyon	Teton	Sun River	185,267
Border	Toole	Sunburst, Moulton	26,405
Bowdoin and Area	Phillips, Valley	Montana and Colorado Shale	2,035,098
Bowes	Blaine	Eagle	385,278
Bradley	Glacier	Dakota	3,341
Broadview	Golden Valley	Frontier	37,188
Browns Coulee	Hill	Eagle	16,527
Browns Coulee, East	Hill	Eagle	29,980
Bullwacker and Area	Blaine, Chouteau	Eagle, Judith River, Virgelle	791,847
Camp Creek	Chouteau	Eagle	13,387
Canadian Coulee and Area	Hill	Sawtooth	354
Canadian Coulee, North	Hill, Liberty	Sawtooth	6,044
Cedar Creek	Fallon	Eagle	275,428
Charlie Creek, North	Richland	Red River	13,407
Clarks Fork	Carbon	Greybull	28,801
Coal Coulee	Hill	Eagle	28,994
Coal Mine Coulee	Chouteau	Eagle, Second White Specks	94,262
Cut Bank	Glacier, Toole	Cut Bank, Blackleaf, Moulton, Sunburst, Bow Island, Madison, Dakota, Kootenai	2,922,005
Devon	Toole	Bow Island	224,763
Devon, East	Toole	Bow Island	23,326
Devon, South	Toole	Bow Island	23,432
Dry Creek	Carbon	Frontier, Judith River, Virgelle-Eagle, Greybull	641,611
Dry Creek, Middle	Carbon	Frontier	47,707
Dry Creek (Shallow Gas)	Carbon	Virgelle	20,996
Dry Creek, West	Carbon	Greybull	29,019
Dry Fork	Pondera	Bow Island	29,160
Dunkirk	Toole	Dakota, Bow Island	116,262
Dunkirk, North	Toole	Bow Island, Swift, Sunburst	315,367
Eagle Springs	Toole	Bow Island, Sunburst-Swift	20,854
Ethridge Area	Toole	Swift	91,428
Fitzpatrick Lake	Toole	Bow Island-Sunburst	91,766
Flat Coulee	Liberty	Sawtooth, Bow Island, Dakota, Swift	58,220
Fort Conrad	Toole, Pondera	Bow Island	70,100
Fred and George Creek	Toole	Bow Island, Sunburst/Swift	35,588
Fresno and Area	Hill	Eagle	27,432
Galata	Toole	Bow Island	168,000
Gold Butte	Toole	Bow Island	1,692
Golden Dome	Carbon	Greybull, Frontier, Eagle	134,916
Grandview	Liberty	Bow Island, Sawtooth	25,626
Hardpan and Area	Pondera, Chouteau	Bow Island, Blackleaf	92,162
Havre	Hill, Blaine	Eagle	42,083
Haystack Butte	Liberty	Bow Island	5,503
Haystack Butte, West	Liberty	Bow Island	40,090
Keith, East and Area	Liberty	Second White Specks, Sawtooth, Bow Island, Niobrara	550,347
Kevin Area	Toole	Sunburst	19,595
Kevin, East Nisku Oil	Toole	Nisku	57,632
Kevin, Southwest	Toole	Bow Island, Sunburst, Swift, Dakota, Sunburst	359,557
Kevin Sunburst	Toole	Dakota, Eagle, Madison, Swift, Nisku, Sunburst, Bow Island, Kootenai	837,629
Kevin Sunburst (Dakota)	Toole	Dakota	24,847
Kevin Sunburst-Bow Island	Toole	Bow Island	12,354
Kevin Sunburst Nisku	Toole	Swift	133,885
Kicking Horse	Toole	Bow Island, Sunburst, Sawtooth	109,006
Kinyon Coulee Area	Toole	Bow Island	9,375
Lake Basin	Stillwater	Eagle-Virgelle, Telegraph Creek, Frontier	147,749
Lake Basin, North	Stillwater	Eagle	3,104
Ledger	Pondera	Bow Island	200,510

**GAS PRODUCTION DATA - 1990
NATURAL GAS (CONTINUED)**

Field	County	Producing Formation	Produced MCF
Leroy	Blaine	Eagle	476,960
Liscom Creek	Custer	Shannon	70,196
Little Basin	Stillwater	Frontier, Lakota	106,494
Little Creek Area	Chouteau	Eagle-Virgelle	40,180
Little Rock	Glacier	Bow Island-Blackleaf	84,674
Lohman and Area	Blaine	Eagle	224,295
Loring Unit	Phillips	Phillips-Bowdoin-Carlile-Greenhorn	1,085,083
Loring, East	Phillips	Phillips-Bowdoin-Carlile-Greenhorn	711,786
Loring, West	Phillips	Carlile	15,511
Marias River	Toole, Pondera	Bow Island	198,236
Middle Butte	Toole, Liberty	Bow Island, Second White Specks, Blackleaf	31,466
Miners Coulee	Toole	Sunburst/Swift, Bow Island, Sawtooth, Blackleaf	141,562
Mount Lily	Liberty	Swift, Bow Island	13,857
O'Briens Coulee	Liberty	Bow Island, Second White Specks, Blackleaf, Bow-Island Spike	212,655
Old Shelby	Toole	Bow Island, Sunburst-Swift	815,829
Park City	Stillwater	Virgelle	1,635
Phantom	Toole	Sunburst	29,005
Phantom, West	Toole	Sunburst	34,048
Police Coulee	Toole	Bow Island	45,341
Prairie Dell	Toole	Bow Island-Swift-Sunburst, Dakota	836,986
Prairie Dell, West	Toole	Swift, Bow Island-Dakota	54,818
Rapelje	Stillwater	Eagle-Virgelle-Claggett	35,541
Rattlesnake Coulee	Toole	Bow Island, Sunburst	24,765
Red Rock Area	Hill	Eagle, Judith River	305,995
Rocky Boy	Hill	Eagle, Judith River	65,768
Rudyard	Hill	Sawtooth, Eagle	11,559
Sage Creek	Liberty	Blackleaf, Second White Specks, Bow Island	107,923
Sandwich	Liberty	Swift	386
Sawtooth Mountain	Blaine	Judith River, Eagle	537,796
Shelby Area	Toole	Sunburst	11,894
Sherard and Area	Blaine, Chouteau	Eagle, Judith River	1,565,957
Snoose Coulee	Liberty	Bow Island	7,007
Soberup Coulee	Pondera	Bow Island	962
Strawberry Creek	Toole	Bow Island, Burwash	3,861
Swanson Creek	Phillips, Valley	Phillips-Bowdoin-Greenhorn-Carlile	404,503
Sweetgrass Area	Toole	Sunburst	225,518
Three Mile	Blaine	Eagle	127,939
Tiber	Toole	Bow Island	7,824
Tiber, East	Toole	Bow Island	136,203
Tiger Ridge and Area	Toole	Eagle, Judith River	13,462,533
Tiger Ridge, North	Blaine	Eagle	6
Timber Creek	Toole	Sunburst	57,309
Trail Creek	Liberty, Toole	Bow Island, Sunburst, Swift	126,827
Utopia	Liberty	Sawtooth, Bow Island	49,960
Valier	Pondera	Blackleaf	4,931
Vandalia	Valley	Carlile	44,539
West Butte	Toole	Bow Island, Sunburst	25,331
West Butte Shallow Gas	Toole	Bow Island-Dakota	14,965
Whitewater	Phillips	Bowdoin-Phillips-Greenhorn Carlile	1,612,021
Whitewater, East	Phillips	Bowdoin-Phillips-Greenhorn Carlile	165,805
Whitlash	Liberty	Dakota, Swift-Sunburst, Bow Island, Madison, Spike	396,647
Whitelash, West	Toole	Bow Island, Swift-Sunburst	12,785
Williams	Pondera	Bow Island	94,900
Willow Ridge	Toole	Bow Island, Swift, Dakota, Sunburst	243,002
Willow Ridge, South	Toole	Sunburst	154,893
Willow Ridge, West	Toole	Bow Island	29,174
Wildcat	Hill	Eagle	586
Wildcat	Toole	Bow Island	22,285

SUBTOTAL NATURAL GAS

42,432,850

NATURAL GAS IMPORTED MMCF

Canada	9,621
North Dakota	9,041
Wyoming	19,302
Total	37,964

NATURAL GAS EXPORTED MMCF

Canada	75
North Dakota	6,539
South Dakota	9,492
Wyoming	13,726
Midwest	11,170
Total	41,002

**GAS PRODUCTION DATA - 1990
ASSOCIATED GAS**

Field	County	Producing Formation	Produced MCF
Anvil	Roosevelt	Nisku, Ratcliffe, Red River, Winnipegosis	202,135
Bainville	Roosevelt	Red River, Ratcliffe	29,828
Bainville, North	Roosevelt	Interlake, Ratcliffe, Red River, Winnipegosis, Mission Canyon	87,105
Bainville, West	Roosevelt	Red River	8,100
Bainville II	Roosevelt	Red River	39,166
Beanblossum	Garfield	Tyler	2,820
Bell Creek	Carter, Powder River	Muddy	15,102
Benrud, East	Roosevelt	Nisku	17,108
Benrud, Northeast	Roosevelt	Nisku	2,201
Big Muddy Creek	Roosevelt	Mission Canyon, Red River	10,650
Black Diamond	Wibaux	Nisku, Madison	17,847
Blackfoot	Glacier	Dakota	10,296
Bloomfield	Dawson	Dawson Bay, Red River-Interlake	30,703
Box Canyon	Richland	Red River	7,059
Breed Creek	Rosebud	Tyler	783
Brorson	Richland	Madison, Red River	90,124
Brorson, South	Richland	Red River, Madison, Bakken	58,115
Brush Lake	Sheridan	Red River	26,520
Cabin Creek	Fallon	Madison, Siluro-Ord, Red River	634,163
Canal	Richland	Madison, Red River	47,754
Cannon Ball	Fallon	Red River	4,342
Cattails	Richland	Ratcliffe	71,521
Charlie Creek	Richland	Red River	19,188
Charlie Creek, East	Richland	Red River, Duperow	26,866
Clear Lake	Sheridan	Madison, Nesson, Nisku, Red River	130,040
Clear Lake, South	Sheridan	Red River	7,077
Colored Canyon	Sheridan	Red River, Nisku	11,024
Comertown	Sheridan	Nisku, Duperow, Ratcliffe, Red River, Bakken	50,304
Comertown, South	Sheridan	Nisku, Red River	12,518
Cottonwood	Richland	Red River	6,366
Cottonwood, East	Roosevelt	Ratcliffe	2,146
Crane	Richland	Devonian, Siluro-Ord	204,590
Cupton	Fallon	Red River	31,057
Curlew	Sheridan	Red River	174
Cut Bank	Pondera, Glacier, Toole	Madison, Moulton, Cut Bank	75,772
Dagmar	Sheridan	Red River	10,851
Deer Creek	Dawson	Charles, Red River	678
Diamond Point	Roosevelt	Red River	32,412
Divide	Sheridan	Madison, Red River	66,021
Dooley	Sheridan	Ratcliffe	21,685
Dry Creek	Carbon	Greybull	90,864
Dutch John Coulee	Toole	Sunburst	99,897
Dwyer	Sheridan	Winnipegosis, Madison	8,911
Dwyer-Nisku	Sheridan	Nisku	9,821
Dwyer Red River & Area	Sheridan	Red River	46,287
Eagle	Richland	Bakken, Duperow, Madison, Red River, Interlake	98,025
Elk Basin	Carbon	Madison, Tensleep	388,586
Elk Basin, Northwest	Carbon	Madison, Frontier, Tensleep	115,163
Enid, North	Richland	Red River	25,243
Fairview	Richland	Madison, Red River	306,866
Fairview, East	Richland	Red River, Stonewall, Winnipegosis	13,628
Fairview, West	Richland	Madison	362
Fertile Prairie	Fallon	Red River	7,152
Fishhook	Sheridan	Red River	18,626
Flat Coulee (Swift SU)	Liberty	Swift	9,517
Flat Lake	Sheridan	Nisku, Madison	50,285
Flat Lake, South	Sheridan	Ratcliffe	1,387
Fort Gilbert	Richland	Madison, Red River	38,994
Four Mile Creek	Richland	Red River	4,600
Four Mile Creek, West	Richland	Red River	7,224
Fox Creek, North	Richland	Madison, Bakken	2,111
Frannie	Carbon	Tensleep	22
Fred & George Creek	Toole	Sunburst	576
Frog Coulee	Richland	Red River	5,383
Froid, South	Roosevelt	Red River	5,406

**GAS PRODUCTION DATA - 1990
ASSOCIATED GAS (CONTINUED)**

Field	County	Producing Formation	Produced MCF
Gas City	Dawson	Madison, Siluro-Ord	7,334
Girard	Richland	Red River	15,867
Glendive	Dawson	Siluro-Ord	29,527
Golden Dome	Carbon	Greybull	39,906
Goose Lake	Sheridan	Ratcliffe, Red River	27,876
Goose Lake, Southeast	Sheridan	Ratcliffe	6,061
Goose Lake, West	Sheridan	Red River	9,685
Gossett	Richland	Stoney Mountain, Red River, Madison	6,826
Gumbo Ridge	Rosebud	Tyler	5
Gunsight	Roosevelt	Madison	1,440
Hardscrable Creek	Richland	Red River	1,055
Hay Creek	Richland	Madison, Mission Canyon, Red River	16,421
Hiawatha	Musselshell	Tyler, Stensvad	1,775
High Five	Rosebud	Tyler, Stensvad	7,644
Honker	Sheridan	Red River, Winnipegosis	1,014
Intake II	Richland	Madison, Ordovician	31,844
Jim Coulee	Musselshell	Tyler	3,821
Jim Coulee, North	Musselshell	Tyler, Stensvad	123
Katy Lake	Sheridan	Red River	20,955
Katy Lake, North	Sheridan	Red River, Madison, Nesson	155,363
Keg Coulee	Musselshell	Tyler	15
Kevin-Sunburst	Toole	Madison, Sunburst	123,692
Kevin, East Nisku Oil	Toole	Nisku	12,785
Kincheloe Ranch, West	Rosebud	Tyler	11,715
Laird Creek	Liberty	Swift	483
Lambert	Richland	Red River	39,514
Landslide Butte	Glacier	Madison	29,209
Leary	Powder River	Muddy	300
Little Beaver	Fallon	Siluro-Ord	28,844
Little Beaver, East	Fallon	Siluro-Ord	18,371
Little Wall Creek	Musselshell	Tyler, Stensvad	13,931
Little Wall Creek, South	Musselshell	Tyler	10,926
Lobo	Sheridan, Roosevelt	Interlake, Gunton	23,733
Lone Butte	Richland	Red River	21,665
Lonetree Creek	Richland	Red River, Gunton	116,877
Lookout Butte	Fallon	Siluro-Ord, Madison	85,949
Lookout Butte, East	Fallon	Red River, Lodgepole	29,256
Lowell	Sheridan	Red River	2,896
Lustre	Valley	Madison	90,530
McCabe	Roosevelt	Ratcliffe	4,666
McCoy Creek	Sheridan	Red River	2,640
Medicine Lake	Sheridan	Siluro-Ord, Duperow, Winnipegosis, Mission Canyon	178,535
Melstone	Musselshell	Tyler	19,330
Midfork	Valley	Charles C, Nisku	16,557
Missouri Breaks	Richland	Red River	9,204
Mon Dak, West	Richland	Madison, Siluro-Ord, Devonian	348,079
Mona	Richland	Red River	33,394
Monarch	Fallon	Siluro-Ord	22,301
Mustang	Richland	Red River, Madison	39,161
Neiser Creek	Sheridan	Red River	15,359
Ninemile	Toole	Nisku	1,500
Nohly	Richland	Red River, Nisku, Ratcliffe	229,352
North Fork	Richland	Madison	13,311
Olje	Sheridan	Red River	2,058
Ollie	Fallon	Red River	2,137
Otis Creek	Richland	Red River	10,714
Otis Creek, South	Richland	Red River	11,195
Outlook	Sheridan	Duperow, Winnipegosis, Nisku, Interlake	35,022
Oxbow	Roosevelt	Red River	18,064
Oxbow II	Roosevelt	Red River	11,135
Palomino	Roosevelt	Nisku	750
Pennel	Fallon	Siluro-Ord	594,749
Pine	Fallon, Wibaux	Silurian-Ordovician	305,440
Pondera	Pondera	Madison	155
Poplar, Northwest	Roosevelt	Charles	112,394
Pronghorn	Sheridan	Red River, Interlake	9,084

**GAS PRODUCTION DATA - 1990
ASSOCIATED GAS (CONTINUED)**

Field	County	Producing Formation	Produced MCF
Putnam	Richland	Madison, Red River, Interlake	70,263
Ragged Point	Musselshell	Tyler	2,526
Rainbow	Richland	Red River	13,884
Rattler Butte	Rosebud	Tyler	7,303
Rattlesnake Butte	Petroleum	Cat Creek 1	3,980
Raymond	Sheridan	Mississippian, Red River, Winnipegosis, Nisku, Duperow	317,273
Reagan	Glacier	Madison	250,169
Red Bank	Roosevelt	Red River, Madison	21,022
Red Bank, South	Roosevelt	Red River	13,098
Red Creek Unit	Glacier	Cut Bank, Madison	4,216
Red Fox	Roosevelt	Nisku	167
Red Water, East	Richland	Red River	8,405
Refuge	Sheridan	Red River	10,889
Repeat	Carter	Red River	400
Reserve	Sheridan	Red River, Winnipegosis	18,873
Reserve II	Sheridan	Red River, Interlake	11,020
Richey, Southwest	McCone	Interlake	8
Ridgelawn	Richland	Duperow, Madison, Red River	322,822
RipRap Coulee	Roosevelt	Ratcliffe	10,580
River Bend	Richland	Red River	27,670
Rocky Point	Roosevelt	Red River	26,004
Rosebud	Rosebud	Tyler	678
Royals	Dawson	Dawson Bay	15,355
Rush Mountain	Sheridan	Winnipegosis	5,219
Salt Lake	Sheridan	Red River	1,297
Saturn	Daniels	Ratcliffe	3,906
Second Creek	Richland	Red River	32,535
Shotgun Creek	Roosevelt	Ratcliffe	6,413
Sidney	Richland	Madison, Red River	65,966
Sidney, East	Richland	Madison	14,630
Singletree	Roosevelt	Red River, Winnipegosis	11,208
Sioux Pass	Richland	Red River, Interlake	92,367
Sioux Pass, Middle	Richland	Red River	60,933
Sioux Pass, North	Richland	Madison, Red River, Nisku	108,025
Sioux Pass, South	Richland	Red River	18,984
Snoose Coulee	Liberty	Bow Island	2,005
South Fork	Richland	Red River	12,377
Spring Lake	Richland	Bakken, Red River	39,778
Spring Lake, West	Richland	Bakken	5,235
Stampede	Richland	Red River, Bakken	19,205
Studhorse	Garfield	Stensvad	83
Sumatra	Rosebud	Tyler	693
Sunny Hill, West	Sheridan	Red River	6,282
Three Buttes	Richland	Red River, Mission Canyon	20,578
Tippy Buttes	Musselshell	Tyler	334
Tule Creek	Roosevelt	Nisku, Devonian, Judith River	14,462
Tule Creek, East	Roosevelt	Nisku	6,550
Two Waters	Richland	Bakken, Duperow	411,006
Vaux	Richland	Bakken, Dawson Bay, Interlake, Madison, Midale, Red River	233,597
Wakea	Sheridan	Red River, Interlake, Winnipegosis, Nisku	69,811
Weed Creek	Yellowstone	Amsden	749
Whitlash	Liberty	Swift, Sunburst	68,371
Wills Creek, South	Fallon	Siluro-Ord	4,242
Windmill	Richland	Red River	280
Woodrow	Dawson	Charles, Interlake	4,320
Wrangler	Sheridan	Red River	34,526
Wrangler, North	Sheridan	Red River	1,396
Wildcat	Richland	Bakken	1,691
SUBTOTAL ASSOCIATED GAS PRODUCED			9,104,325
SUBTOTAL NATURAL GAS PRODUCED			42,432,850
TOTAL GAS			51,537,175

REFINERS' ANNUAL REPORT—1990

COMPANY	BEGINNING STORAGE	MONTANA OIL	WYOMING OIL	CANADA OIL	REFINED	ENDING STORAGE
Genex	130,566	2,183,974	4,558,390	6,988,232	13,612,898	248,264
Conoco	103,151	909,022	2,256,856	13,932,997	17,007,320	194,706
Exxon Corp.	228,654	360,962	9,616,092	4,621,339	14,566,776	260,271
Montana Refining Co.	15,359	602,921	-0-	1,728,778	2,330,806	16,252
TOTALS	477,730	4,056,879	16,431,338	27,271,346	47,517,800	719,493

PERCENTAGE OF CRUDE OIL RECEIVED

YEAR	MONTANA	CANADA	WYOMING
1986	14.13	53.48	32.39
1987	11.57	56.54	31.89
1988	10.51	55.47	34.02
1989	9.60	54.64	35.76
1990	8.49	57.10	34.41

AVERAGE BARRELS PER DAY

YEAR	MONTANA	CANADA	WYOMING	TOTAL
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
1990	11,115	74,716	45,017	130,848

REFINING FIVE YEAR COMPARISON

1986	1987	1988	1989	1990
42,652,657	42,987,742	43,992,177	46,615,040	47,517,800

STATEMENT OF CRUDE OIL PRODUCTION AND VALUATION - ALL MONTANA FIELDS

FIELD	COUNTY	PRODUCTION YEAR 1990			CUMULATIVE TO DECEMBER 31, 1990	
		BARRELS	VALUE	AVERAGE PRICE*	BARRELS	VALUE
Anvil	Roosevelt	230,303	5,144,969	22.34	3,709,626	86,917,026
Ash Creek	Big Horn	5,752	130,513	22.69	837,454	3,559,020
Bainville	Roosevelt	51,561	1,203,949	23.35	717,034	9,804,466
Bainville II	Roosevelt	45,667	1,032,531	22.61	580,721	12,218,595
Bainville, North	Roosevelt	108,465	2,454,563	22.63	1,539,237	39,647,378
Bainville, West	Roosevelt	7,187	164,654	22.91	214,788	5,923,236
Bannatyne	Teton	8,969	184,761	20.60	367,995	3,816,450
Beanblossom	Garfield	34,088	720,620	21.14	434,564	7,482,342
Bear's Den	Liberty	6,679	146,671	21.96	523,543	3,670,461
Bell Creek	Powder River	529,270	12,130,868	22.92	130,710,413	1,200,066,527
Benrud, East	Roosevelt	34,187	775,703	22.69	2,807,425	19,412,426
Benrud, Northeast	Roosevelt	6,856	153,437	22.38	989,843	4,740,795
Berthelote	Toole	569	14,054	24.70	93,336	560,738
Big Gully	Musselshell	2,487	52,326	21.04	106,531	1,595,922
Big Gully, North	Musselshell	1,391	28,404	20.42	28,413	609,464
Big Muddy Creek	Roosevelt	18,429	414,468	22.49	1,282,876	21,613,839
Big Wall	Musselshell	84,417	1,803,991	21.37	7,766,603	39,136,645
Black Diamond	Wibaux	28,586	580,868	20.32	565,354	10,634,912
Blackfoot	Glacier	33,287	713,340	21.43	1,533,933	13,466,460
Blackleaf Canyon	Teton	205	3,792	18.50	32,922	806,319
Bloomfield	Dawson	32,540	723,690	22.24	469,912	9,407,746
Blue Mountain	Wibaux	4,051	81,911	20.22	60,205	1,315,599
Border	Toole	9,628	201,995	20.98	1,430,026	5,393,940
Bowes	Blaine	119,686	2,369,783	19.80	9,817,855	45,133,231
Box Canyon	Richland	5,695	136,851	24.03	221,312	6,462,691
Bradley	Glacier	2,673	53,620	20.06	254,943	1,712,813
Brady	Pondera	8,030	175,696	21.88	187,315	3,518,705
Breed Creek	Rosebud	78,056	1,707,865	21.88	1,323,108	26,423,267
Brorson-Madison	Richland	83,532	1,870,281	22.39	1,233,566	20,201,949
Brorson-Red River	Richland	47,220	1,057,256	22.39	2,309,409	16,902,118
Brorson, South	Richland	57,429	1,326,036	23.09	1,696,327	19,132,663
Brush Lake	Sheridan	57,607	1,275,419	22.14	2,647,559	26,494,809
Burget, East	Roosevelt	17,048	384,603	22.56	209,818	4,804,906
Burns Creek	Dawson, Richland	3,777	83,207	22.03	249,694	3,058,113
Cabaret Coulee	Daniels	112,910	2,840,816	25.16	112,910	2,840,816
Cabin Creek	Fallon	1,271,616	26,246,154	20.64	92,772,691	586,804,574
Canal	Richland	32,479	730,453	22.49	1,101,984	17,165,918
Cannonball	Fallon	3,323	73,305	22.06	66,004	1,998,862
Carlyle	Wibaux	8,267	189,397	22.91	292,363	6,665,318
Cat Creek	Petroleum, Garfield	49,451	1,126,517	22.78	23,603,840	71,324,929
Cattails	Richland	154,195	3,750,022	24.32	335,008	6,657,558
Charlie Creek	Richland	11,584	251,025	21.67	707,312	12,408,827
Charlie Creek, East	Richland	30,327	678,415	22.37	484,199	11,996,401
Charlie Creek, North	Richland	329	4,343	13.20	43,874	1,184,876
Chelsea Creek	Roosevelt	5,878	129,904	22.10	104,153	1,771,800
Clark's Fork	Carbon	696	15,298	21.98	90,891	431,743
Clear Lake	Sheridan	175,879	3,883,408	22.08	2,809,486	62,001,449
Clear Lake, South	Sheridan	12,268	277,870	22.65	155,685	3,226,524
Colored Canyon	Sheridan	19,917	462,074	23.20	832,406	20,717,194
Comertown	Sheridan	124,708	2,812,165	22.55	2,187,406	56,741,990
Comertown, South	Sheridan	31,963	702,520	21.98	287,213	5,749,080
Conrad, South	Pondera	1,819	63,610	34.97	153,783	1,088,965
Cottonwood	Richland	9,746	200,573	20.58	172,716	3,603,120
Cottonwood, East	Roosevelt	6,121	181,120	29.59	6,121	181,120
Cow Creek, East	McCone	39,519	806,583	20.41	2,448,585	28,633,920
Crane	Richland	191,000	4,253,570	22.27	1,974,974	48,882,520
Crocker Springs, East	Pondera	766	17,764	23.19	2,701	67,885
Crooked Creek	Yellowstone	480	12,264	25.55	27,202	515,200
Cupton	Fallon	61,607	1,394,685	22.64	2,288,059	30,796,747
Curlew	Sheridan	223	4,496	20.16	5,468	94,972
Cut Bank	Glacier, Toole, Pondera	828,035	18,283,013	22.08	162,931,528	736,249,786
Dagmar	Sheridan	10,690	256,026	23.95	554,076	12,287,855
Deer Creek	Dawson	2,887	61,724	21.38	2,316,045	6,713,672
Delphia	Musselshell	2,323	37,981	16.35	332,049	1,635,756
Devil's Basin	Musselshell	4,716	108,374	22.98	116,719	1,834,170

STATEMENT OF CRUDE OIL PRODUCTION AND VALUATION - ALL MONTANA FIELDS

PRODUCTION YEAR 1990

CUMULATIVE TO DECEMBER 31, 1990

FIELD	COUNTY	BARRELS	VALUE	AVERAGE PRICE*	BARRELS	VALUE
Devil's Pocket	Golden Valley	2,797	56,807	20.31	49,957	938,083
Diamond Point	Roosevelt	41,201	894,474	21.71	781,807	16,921,306
Divide	Sheridan	153,971	3,011,673	19.56	2,051,944	48,477,954
Dooley	Sheridan	44,404	855,221	19.26	157,212	2,386,502
Dry Creek	Carbon	3,552	78,712	22.16	4,151,455	10,111,510
Dry Creek, Middle	Carbon	156	4,861	31.16	1,254	26,819
Dry Creek, West	Carbon	1,227	25,154	20.50	9,593	221,674
Dutch John Coulee	Toole	12,350	279,357	22.62	195,765	3,593,838
Dwyer	Sheridan	167,534	3,685,748	22.00	8,236,776	68,711,903
Eagle	Richland	91,163	2,073,047	22.74	1,772,906	41,117,949
Elk Basin	Carbon	594,080	12,273,693	20.66	83,010,102	363,323,233
Elk Basin, Northwest	Carbon	114,405	2,432,250	21.26	1,748,916	14,170,582
Enid, North	Richland	28,757	649,621	22.59	313,655	8,000,383
Fairview	Richland	152,551	3,394,260	22.25	8,543,771	86,629,741
Fairview, East	Richland	12,205	302,928	24.82	381,137	10,993,208
Fairview, West	Richland	9,358	193,243	20.65	199,472	4,958,810
Fertile Prairie	Fallon	19,060	443,717	23.28	704,874	7,737,739
Fishhook	Sheridan	25,455	576,556	22.65	1,010,843	27,733,522
Flat Coulee	Liberty	101,465	2,264,699	22.32	4,810,515	53,002,730
Flat Lake	Sheridan	207,268	4,093,543	19.75	15,458,892	130,738,260
Flat Lake, East	Sheridan	11,755	269,072	22.89	61,923	1,142,933
Flat Lake, South	Sheridan	15,262	297,609	19.50	1,200,024	13,553,729
Fort Gilbert	Richland	59,534	1,354,398	22.75	2,155,302	31,523,941
Four Mile Creek	Richland	8,792	196,501	22.35	370,437	6,958,270
Four Mile Creek, West	Richland	9,154	212,739	23.24	275,676	6,100,439
Fox Creek, North	Richland	1,129	28,541	25.28	72,733	1,834,874
Frannie	Carbon	2,671	52,485	19.65	770,719	2,940,138
Fred & George Creek	Toole	64,137	1,289,131	20.10	13,108,496	84,415,202
Frog Coulee	Richland	8,826	197,702	22.40	187,655	5,069,643
Froid, South	Roosevelt	6,766	155,144	22.93	233,246	2,484,497
Gage	Musselshell	2,865	63,030	22.00	643,678	3,320,613
Gas City	Dawson	68,051	1,515,496	22.27	10,092,288	56,446,715
Girard	Richland	22,145	481,211	21.73	416,563	4,826,562
Glendive	Dawson	151,729	3,463,973	22.83	12,913,121	71,192,827
Golden Dome	Carbon	14,270	343,336	24.06	92,245	1,422,140
Goose Lake	Sheridan	135,199	2,864,867	21.19	8,938,090	68,100,514
Goose Lake, Southeast	Sheridan	8,325	183,650	22.06	26,671	478,074
Goose Lake, West	Sheridan	23,462	524,610	22.36	506,366	12,688,650
Gossett	Richland	22,794	520,159	22.82	290,035	6,605,104
Graben Coulee	Glacier	56,629	1,201,101	21.21	2,123,104	25,992,710
Grandview, East	Liberty	2,391	51,789	21.66	47,552	1,122,354
Green Coulee	Sheridan	9,214	206,854	22.45	174,895	4,462,778
Gumbo Ridge	Rosebud	2,409	63,477	26.35	583,242	11,224,305
Gunsight	Roosevelt	18,028	399,320	22.15	226,768	5,149,133
Gypsy Basin	Pondera	10,524	217,215	20.64	484,208	7,746,270
Hardpan	Pondera	140	1,763	12.59	2,646	59,097
Hardscrabble Creek	Richland	5,860	133,256	22.74	121,014	2,902,208
Hawk Creek	Musselshell	480	10,382	21.63	11,802	148,038
Hay Creek	Richland	27,748	634,874	22.88	1,340,264	11,965,011
Hiawatha	Musselshell	18,610	404,023	21.71	1,575,004	10,325,290
Hibbard	Rosebud	1,783	34,501	19.35	217,687	2,013,066
High Five	Rosebud	78,626	1,726,627	21.96	2,333,827	49,122,691
Highview	Pondera	5,232	107,832	20.61	81,896	1,776,263
Honker	Sheridan	3,277	60,428	18.44	117,078	3,134,727
Horse Creek	Liberty	300	8,397	27.99	11,757	229,146
Howard Coulee	Musselshell	9,590	203,404	21.21	152,945	2,358,434
Injun Creek	Rosebud	745	17,694	23.75	123,790	2,999,132
Intake II	Richland	18,292	409,375	22.38	714,171	19,401,152
Ivanhoe	Musselshell	9,994	211,673	21.18	4,519,470	14,672,803
Jim Coulee	Musselshell	49,224	1,031,847	20.96	4,273,046	44,588,508
Katy Lake	Sheridan	9,428	185,543	19.68	142,458	2,493,130
Katy Lake, North	Sheridan	258,650	5,863,596	22.67	4,151,904	107,401,392
Keg Coulee	Musselshell	29,271	634,303	21.67	5,579,336	35,665,457
Kelley	Musselshell	5,998	129,137	21.53	1,007,790	6,266,882
Kevin Nisku Oil, East	Toole	39,416	882,130	22.38	337,095	6,326,588

STATEMENT OF CRUDE OIL PRODUCTION AND VALUATION - ALL MONTANA FIELDS

PRODUCTION YEAR 1990

CUMULATIVE TO DECEMBER 31, 1990

FIELD	COUNTY	BARRELS	VALUE	AVERAGE PRICE*	BARRELS	VALUE
Kevin-Sunburst	Toole	387,274	8,325,673	21.50	78,814,386	290,731,282
Kincheloe Ranch, West	Rosebud	42,160	1,018,586	24.16	606,958	16,267,929
Laird Creek	Liberty	4,609	101,905	22.11	585,875	4,867,406
Lambert	Richland	26,562	595,520	22.42	418,565	11,582,516
Lamesteer Creek	Wibaux	2,841	62,417	21.97	31,845	658,685
Landslide Butte	Glacier	31,066	721,974	23.24	328,375	6,109,076
Leary	Powder River	11,104	234,628	21.13	616,348	9,187,495
Little Beaver	Fallon	346,744	6,903,673	19.91	13,045,738	118,525,248
Little Beaver, East	Fallon	109,417	2,204,753	20.15	5,737,784	41,525,913
Little Phantom	Toole	982	20,219	20.59	53,460	1,110,839
Little Wall Creek	Musselshell	202,765	4,407,261	21.74	4,075,214	74,065,660
Lobo	Sheridan, Roosevelt	36,257	991,992	27.36	230,829	3,926,645
Lodge Grass	Big Horn	6,661	126,626	19.01	310,697	1,931,862
Lone Butte	Richland	27,861	644,425	23.13	627,150	10,617,463
Lonetree Creek	Richland	92,409	2,098,608	22.71	3,526,775	43,667,118
Long Creek	Roosevelt	2,694	60,292	22.38	70,291	1,375,883
Long Creek, West	Roosevelt	32,248	733,642	22.75	645,141	13,845,766
Lookout Butte	Fallon	458,142	9,512,366	20.76	24,333,045	180,099,887
Lookout Butte, East	Fallon	83,177	1,837,380	22.09	355,997	6,249,109
Lowell	Sheridan	10,855	247,168	22.77	238,613	6,713,798
Lustre	Valley	281,569	5,558,401	19.74	4,285,216	88,576,203
Lustre, North	Valley	9,548	192,010	20.11	149,522	2,950,043
Mason Lake	Musselshell	9,583	226,446	23.63	955,390	23,523,602
McCabe	Roosevelt	5,731	132,042	23.04	232,810	5,893,670
McCoy Creek	Sheridan	4,008	91,743	22.89	45,901	900,630
Meander	Pondera	398	10,308	25.90	4,961	121,632
Medicine Lake	Sheridan	155,477	3,529,328	22.70	3,183,405	87,981,936
Melstone	Musselshell	61,464	1,336,842	21.75	3,644,385	47,653,740
Midfork	Valley	23,217	468,983	20.20	169,196	2,572,237
Mineral Bench	Roosevelt	1,042	20,288	19.47	186,656	1,393,790
Missouri Breaks	Richland	11,400	273,600	24.00	307,721	8,072,238
Mon Dak, West	Richland	406,749	9,054,233	22.26	8,782,732	203,341,740
Mona	Richland	17,136	366,539	21.39	90,761	2,430,796
Monarch	Fallon	138,441	2,896,186	20.92	5,772,207	48,776,948
Mosser Dome	Yellowstone	7,692	158,071	20.55	384,350	3,070,503
Musselshell	Musselshell	1,623	33,418	20.59	36,083	510,334
Mustang	Richland	33,510	745,933	22.26	541,706	14,924,628
Neiser Creek	Sheridan	19,776	464,538	23.49	236,492	5,252,944
Ninemile	Toole	3,873	81,062	20.93	40,409	723,803
Nohly	Richland	367,360	8,333,209	22.68	4,399,377	76,217,595
North Fork	Richland	20,256	448,873	22.16	484,475	10,088,768
Olje	Sheridan	7,009	157,422	22.46	151,611	2,699,116
Ollie	Fallon	5,383	116,488	21.64	225,041	6,927,154
Otis Creek	Richland	10,303	227,696	22.10	835,471	11,313,109
Otis Creek, South	Richland	10,103	204,283	20.22	239,615	5,616,993
Outlook	Sheridan	67,363	1,547,328	22.97	8,765,799	63,658,049
Outlook, West	Sheridan	25,803	577,729	22.39	764,905	6,974,507
Oxbow	Roosevelt	19,548	436,507	22.33	389,125	8,352,877
Oxbow II	Roosevelt	5,948	133,711	22.48	52,996	1,092,142
Palomino	Roosevelt	165,088	3,664,954	22.20	1,672,923	41,305,485
Pennel	Fallon	2,777,570	57,653,834	20.76	77,843,772	968,425,507
Pete Creek	Toole	698	13,381	19.17	20,844	434,005
Pine	Dawson, Fallon, Prairie, Wibaux	1,258,511	25,799,476	20.50	107,655,512	667,659,786
Pondera	Pondera, Teton	320,824	6,891,300	21.48	25,524,643	162,064,388
Pondera Coulee	Teton	5,236	108,542	20.73	72,119	1,068,840
Poplar, East	Roosevelt	162,912	3,686,699	22.63	45,471,393	182,185,526
Poplar, Northwest	Roosevelt	159,090	3,571,254	22.45	3,427,823	60,167,271
Prairie Dell	Toole	146	2,270	15.55	827	16,014
Prairie Elk	McCone	3,596	75,768	21.07	97,980	1,540,064
Prichard Creek	Toole	489	10,269	21.00	163,395	2,479,535
Pronghorn	Sheridan	14,808	332,292	22.44	410,103	10,232,420
Putnam	Richland	166,485	3,684,313	22.13	4,720,889	99,199,961
Rabbit Hills	Blaine	64,117	1,254,904	19.57	1,162,966	18,189,340
Ragged Point	Musselshell	14,237	301,540	21.18	3,828,910	32,597,090

STATEMENT OF CRUDE OIL PRODUCTION AND VALUATION - ALL MONTANA FIELDS

PRODUCTION YEAR 1990

CUMULATIVE TO DECEMBER 31, 1990

FIELD	COUNTY	BARRELS	VALUE	AVERAGE PRICE*	BARRELS	VALUE
Ragged Point, Southwest	Musselshell	64,455	1,378,692	21.39	233,864	4,159,115
Rainbow	Richland	8,667	200,034	23.08	141,345	3,589,124
Rattler Butte	Rosebud	24,548	533,183	21.72	929,005	24,348,796
Rattlesnake Butte	Petroleum	34,862	728,267	20.89	465,715	8,483,522
Raymond	Sheridan	125,102	2,809,791	22.46	4,620,115	82,562,496
Raymond, North	Sheridan	100	1,861	18.61	119,990	3,116,174
Reagan	Glacier	146,927	3,314,673	22.56	8,797,238	86,695,686
Red Bank	Roosevelt	79,840	1,697,398	21.26	1,739,941	46,047,804
Red Bank, South	Roosevelt	11,050	248,736	22.51	319,621	8,559,926
Red Creek	Glacier	61,558	1,291,487	20.98	6,195,960	35,359,934
Red Fox	Roosevelt	1,011	22,030	21.79	379,834	1,675,711
Red Water, East	Richland	11,524	273,925	23.77	216,973	5,150,397
Refuge	Sheridan	11,124	246,842	22.19	192,259	5,294,386
Repeat	Carter	1,593	27,320	17.15	547,054	3,304,614
Reserve	Sheridan	25,125	627,622	24.98	1,652,879	15,278,730
Reserve II	Sheridan	18,660	431,606	23.13	160,314	2,889,369
Richey	Dawson, McCone	8,399	185,982	22.14	2,012,336	7,422,188
Richey, Southwest	McCone	67	1,407	21.00	1,902,380	6,391,444
Ridgelawn	Richland	211,227	4,780,067	22.63	5,365,179	130,219,709
RipRap Coulee	Roosevelt	32,507	739,534	22.75	564,038	11,789,619
River Bend	Richland	16,036	362,414	22.60	220,673	5,314,420
Rocky Point	Roosevelt	12,056	273,912	22.72	468,144	11,770,973
Rosebud	Rosebud	7,510	162,967	21.70	463,129	7,264,797
Royals	Dawson	13,571	303,176	22.34	290,963	7,750,734
Runaway	Teton	95	1,324	13.94	4,412	119,273
Rush Mountain	Sheridan	12,008	278,586	23.20	581,199	6,339,442
Salt Lake	Sheridan	54,724	1,252,632	22.89	656,160	8,851,562
Saturn	Daniels	4,787	111,489	23.29	31,144	630,397
Second Creek	Richland	29,156	659,217	22.61	1,218,555	19,792,346
Shotgun Creek	Roosevelt	26,315	601,561	22.86	394,884	6,998,756
Sidney	Richland	79,527	1,821,168	22.90	3,094,397	61,409,256
Sidney, East	Richland	19,000	441,180	23.22	553,698	15,958,909
Singletree	Roosevelt	14,566	305,158	20.95	301,191	6,518,385
Sioux Pass	Richland	100,796	2,326,372	23.08	3,348,326	55,656,733
Sioux Pass, East	Richland	2,266	49,965	22.05	88,327	1,621,565
Sioux Pass, Middle	Richland	48,937	1,098,636	22.45	1,418,613	32,264,824
Sioux Pass, North	Richland	138,462	3,215,088	23.22	3,681,105	84,050,065
Sioux Pass, South	Richland	16,174	341,433	21.11	236,113	5,723,962
Snyder	Big Horn	2,532	49,020	19.36	463,885	1,870,761
Soap Creek	Big Horn	42,615	730,847	17.15	2,638,210	18,264,818
Soap Creek, East	Big Horn	9,498	156,717	16.50	147,439	2,571,797
South Fork	Richland	27,872	623,218	22.36	956,706	18,933,676
Spring Lake	Richland	39,245	872,024	22.22	991,496	8,917,415
Spring Lake, South	Richland	83	2,075	25.00	110,660	2,910,139
Spring Lake, West	Richland	5,019	116,591	23.23	40,407	713,562
Stampede	Richland	19,923	457,831	22.98	276,653	7,106,835
Stensvad	Musselshell, Rosebud	9,642	210,003	21.78	10,152,277	28,625,430
Studhorse	Garfield	6,141	137,988	22.47	178,908	3,917,852
Sumatra	Rosebud	420,169	9,163,886	21.81	43,831,147	325,226,111
Sunnyhill	Sheridan	9,120	193,800	21.25	235,184	5,762,015
Sunnyhill, West	Sheridan	7,369	162,781	22.09	132,021	2,859,831
Target	Roosevelt	33,075	766,348	23.17	625,271	15,945,989
Thirty Mile	Blaine	2,527	44,172	17.48	9,531	173,876
Three Buttes	Richland	16,472	367,655	22.32	367,760	9,458,881
Tinder Box	Musselshell	1,784	34,467	19.32	7,651	122,278
Tippy Buttes	Musselshell	1,180	24,756	20.98	125,795	3,611,748
Tule Creek	Roosevelt	42,701	976,999	22.88	8,121,015	42,821,800
Tule Creek, East	Roosevelt	4,616	99,890	21.64	2,022,036	7,330,309
Tule Creek, South	Roosevelt	12,824	282,641	22.04	904,796	7,334,518
Two Waters	Richland	72,564	1,502,800	20.71	274,510	6,518,172
Utopia	Liberty	31,135	688,706	22.12	614,035	13,132,234
Vaux	Richland	244,022	5,419,729	22.21	3,803,171	83,550,974
Volt	Roosevelt	88,502	1,975,365	22.32	3,150,555	28,763,843
Wakea	Sheridan	149,824	3,489,401	23.29	2,006,903	40,330,738
Weed Creek	Yellowstone	1,588	33,967	21.39	606,219	2,633,281

STATEMENT OF CRUDE OIL PRODUCTION AND VALUATION - ALL MONTANA FIELDS

FIELD	COUNTY	PRODUCTION YEAR 1990			CUMULATIVE TO DECEMBER 31, 1990	
		BARRELS	VALUE	AVERAGE PRICE*	BARRELS	VALUE
West Butte	Toole	4,309	84,672	19.65	300,022	3,152,327
Whitlash	Liberty, Toole	45,092	888,763	19.71	5,316,321	49,315,285
Whitlash, West	Toole	3,491	67,097	19.22	123,354	1,838,942
Willow Creek, North	Musselshell	3,882	80,396	20.71	355,892	3,612,815
Willow Ridge	Toole	1,838	41,447	22.55	48,446	1,127,995
Wills Creek, South	Fallon	21,414	435,775	20.35	1,115,239	9,520,691
Windmill	Richland	2,338	47,485	20.31	28,964	560,575
Winnett Junction	Musselshell	22,195	476,971	21.49	912,227	16,790,315
Wolf Springs	Yellowstone	31,713	663,840	20.93	4,719,595	15,323,137
Wolf Springs, South	Yellowstone	25,173	529,136	21.02	804,471	15,864,552
Woodrow	Dawson	17,099	391,567	22.90	1,188,752	6,810,065
Wrangler	Sheridan	34,120	774,865	22.71	516,949	13,364,357
Wrangler, North	Sheridan	4,869	108,092	22.20	114,864	3,408,888
Wright Creek	Powder River	8,244	193,487	23.47	296,250	3,608,263
Yates	Wibaux	4,707	93,999	19.97	68,726	1,723,421
Wildcat	Richland	1,656	35,687	21.55	341,512	853,786
Wildcat	Teton	2,892	65,301	22.58	15,174	138,748
Miscellaneous Inactive Fields					18,349,133	133,482,915
TOTALS		19,835,087	428,024,036	21.58	1,315,774,682	10,710,883,936

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

MISCELLANEOUS INACTIVE FIELDS AS OF DECEMBER 31, 1990

FIELD	BARRELS	VALUE	FIELD	BARRELS	VALUE
Ace High	3,686	45,448	McCabe, East	6,805	205,642
Agawan	79	2,259	McCabe, West	69,988	1,514,214
Alkali Coulee	19,546	635,465	McCabe, South	6,599	208,261
Andes	21,175	646,333	Midby	70,172	2,300,577
Antelope, North	2,484	85,522	Miners Coulee	152,708	1,137,078
Anvil, North	9,446	330,277	Nohly, South	125,082	3,504,089
Autumn	35,546	1,125,986	Otter Creek	28,492	959,881
Bascom	27,830	65,674	Outlook, South	693,151	2,882,883
Belfry	101,245	503,603	Pasture	2,869	90,868
Benrud	289,695	2,436,618	Pasture Creek	1,914	62,789
Big Rock	10,764	262,921	Pelican	191,494	5,298,958
Big Wall, North	7,218	116,302	Phantom	43,585	757,070
Blackfoot, East	810	1,730	Pine, East	19,349	233,378
Blue Hill	162,251	3,110,843	Pipeline	16,424	229,075
Boulder	156,754	2,530,800	Plentywood	22,830	711,421
Bredette	232,121	2,062,125	Pole Creek	169,726	277,956
Bredette, North	488,554	1,160,009	Police Coulee	14	189
Buffalo Flats	603	15,037	Poplar, Southeast	162,546	1,093,017
Buffalo Lake	936	26,493	Rattlesnake Coulee	91,024	693,093
Burget	6,504	228,647	Raymond, Northeast	120,687	1,721,719
Burns Creek, South	79,958	2,279,384	Red Water	52,023	1,521,507
Butchers Creek	579	20,259	Redstone	468,178	2,212,903
Bynum	5,971	15,320	Reserve, South	33,899	544,081
Cadmus	1,173	3,381	Richey, East	10,386	333,467
Canadian Coulee	1,595	33,402	Richey Area, West	11,062	403,670
Clark Fork, North	1,024,608	2,895,208	Roscoe Dome	15,556	348,482
Clark Fork, South	80,553	634,021	Rough Creek	3,599	10,583
Coal Ridge	22,582	795,495	Royals, South	3,082	101,400
Corner Pocket	14,483	353,729	Rudyard	16,632	329,064
Cow Creek	127,813	1,304,283	Sand Creek	2,349,120	11,812,804
Culbertson	175,652	1,134,101	Sheepherder	76,942	1,278,743
Dagmar, North	55,342	1,652,908	Scobey	3,916	145,674
Deadman's Coulee	264,528	8,048,112	Shotgun Creek, North	89,647	1,564,569
Dean Dome	92,597	1,537,193	Smoke Creek	100,305	221,361
Dugout Coulee	66,740	2,205,099	Snoose Coulee	2,983	55,449
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
Homestead	303	8,726	Wildcat, Carbon County	6,368	13,559
Jack Creek	1,310	3,275	Wildcat, Daniels County	3,508	7,787
Keg Coulee, North	438,488	4,827,464	Wildcat, Dawson County	1,489	42,127
Kicking Horse	1,526	48,566	Wildcat, Fallon County	10,683	29,485
Kippon, East	150	4,815	Wildcat, Garfield County	468	13,166
Krug Creek	15,288	538,314	Wildcat, Glacier County	48,412	127,430
Lake Basin	473,639	661,111	Wildcat, Hill County	405	8,831
Lakeside	487	18,489	Wildcat, Liberty County	3,254	19,148
Lambert, North	36,552	1,221,300	Wildcat, McCone County	12,575	41,467
Lariat	3,599	123,587	Wildcat, Musselshell	925	1,841
Laurel	1,017	36,458	Wildcat, Pondera	469	7,407
Ledger	275	7,948	Wildcat, Powder River County	27,445	65,594
Line Coulee	57,789	138,495	Wildcat, Roosevelt County	86,968	259,956
Lisk Creek	1,939	70,297	Wildcat, Sheridan County	52,561	571,834
Lone Rider	5,903	194,397	Wildcat, Stillwater County	11,283	13,365
Lonetree Creek, West	33,029	1,020,547	Wildcat, Toole County	36,379	128,683
Lost Creek	1,534	42,905	Wildcat, Valley County	447	6,034
Mackay Dome	77,334	1,538,558	Wildcat, Wibaux County	8,388	25,416
Malcolm Creek	11,450	353,129			
Mason Lake, North	17,923	442,087			
			TOTALS	18,349,133	133,482,915

1990 WELL COMPLETIONS

OPERATOR	LOCATION	WELL NAME	STATUS		FIELD	PRODUCING FORMATION	DATE COMPLETED	TOTAL DEPTH	INITIAL POTENTIAL	
			CODE	API NO.					OIL B/D	GAS MCF/D
005 Blaine										
Brown, J. Burns Operating Co.	SWSW 24 32N 18E	Marsh 24-32-18	2	22523	Black Coulee	Eagle	08/22/90	1404		
Brown, J. Burns Operating Co.	SESE 24 32N 18E	Federal 24-32-18	3	22533	Black Coulee		09/05/90	1344		
Brown, J. Burns Operating Co.	SWSW 22 32N 18E	Lux 22-32-18	2	22542	Tiger Ridge		10/24/90	1400		
Brown, J. Burns Operating Co.	SWSE 25 35N 19E	Holeman 25-35-19	6	22504	Wildcat		03/17/90	4295		
Brown, J. Burns Operating Co.	NENE 28 32N 21E	Venus 28-32-21 ***	5	22506	Wildcat	Eagle	04/07/90	1186		
Brown, J. Burns Operating Co.	SESE 18 32N 18E	Evey 18-32-18	6	22521	Wildcat		08/24/90	1500		
Brown, J. Burns Operating Co.	NENE 20 32N 18E	Klabzuba 20-32-18	6	22522	Wildcat		08/30/90	1500		
Montana Power Company	NENW 15 31N 19E	Sias 3-15	2	22505	Bowes	Eagle	04/04/90	1280		1200
Montana Power Company	NWSW 15 31N 19E	Sias 12-15	3	22527	Bowes		08/09/90	1540		
Norfolk Energy, Inc.	SWNE 27 31N 19E	Marlowe 27-7	3	22514	River Bend		07/25/90	1250		
Norfolk Energy, Inc.	NWNW 8 26N 19E	Williamson 8-4	3	22515	Sherard		07/29/90	2253		
Norfolk Energy, Inc.	NESW 17 26N 18E	Sivertsen 17-11	3	22516	Sherard		06/01/90	2200		
Norfolk Energy, Inc.	NESW 7 25N 18E	Federal 7-11	2	22520	Sherard Unit	Eagle	08/03/90	1800		800
Norfolk Energy, Inc.	SWSE 27 26N 19E	U.S. 27-15	2	22538	Sherard Unit	Eagle	10/18/90	1900		425
Norfolk Energy, Inc.	SWSW 4 30N 18E	Kane 4-13	2	22507	Tiger Ridge	Eagle	06/20/90	1550		414
Norfolk Energy, Inc.	NWNW 11 30N 18E	Hofeldt 11-4	2	22508	Tiger Ridge	Eagle	06/21/90	1350		30
Norfolk Energy, Inc.	NWNW 6 31N 18E	Davey 6-4	2	22509	Tiger Ridge	Eagle	06/18/90	1550		967
Norfolk Energy, Inc.	SWNW 21 31N 18E	Shankle 21-5	2	22510	Tiger Ridge	Eagle	06/19/90	1500		346
Norfolk Energy, Inc.	SWSE 25 32N 17E	Davey 25-15	3	22511	Tiger Ridge		06/06/90	1500		
Norfolk Energy, Inc.	NWSW 11 30N 17E	Blackwood 11-11	2	22512	Tiger Ridge	Eagle	06/18/90	1650		38
Norfolk Energy, Inc.	SWSW 1 30N 17E	Blackwood 1-13	2	22513	Tiger Ridge	Eagle	06/19/90	1401		604
Norfolk Energy, Inc.	NENE 27 32N 18E	Lux 27-1	2	22518	Tiger Ridge	Eagle	07/21/90	1500		1700
Norfolk Energy, Inc.	NWSW 1 31N 18E	Sweet 1-12	3	22519	Tiger Ridge		07/23/90	1400		
Norfolk Energy, Inc.	SESE 33 31N 19E	Roberts 33-16	2	22525	Tiger Ridge	Eagle	08/05/90	1300		1500
Norfolk Energy, Inc.	NENE 23 32N 18E	Lux 23-1	6	22539	Wildcat		10/21/90	1500		
Norfolk Energy, Inc.	SWSE 34 31N 19E	Roberts 34-15	3	22541	Wildcat		10/17/90	1300		
Texaco Inc., a Delaware Corp.	SESW 6 31N 20E	Bowes STU D806	1	22528	Bowes	Sawtooth	11/02/90	5200		83
Texaco Inc., a Delaware Corp.	NWSW 2 31N 19E	Bowes STU 502	1	22529	Bowes	Sawtooth	10/09/90	5620		127
Union Oil Company of Calif.	NENE 14 35N 21E	White Marsh Fed 14-1	8	22534	Wildcat		11/15/90	4800		
Union Texas Petroleum Corp.	NESE 33 32N 21E	Gardiner 33-1	6	22537	Wildcat		12/04/90	5500		
Xeno, Inc.	SWSW 8 36N 19E	Battle 13-8	2	22517	Battle Creek	Eagle	10/10/90	1925		438
Xeno, Inc.	NWNW 8 36N 19E	Battle 4-8	2	22526	Battle Creek	Eagle	10/10/90	1959		82
Xeno, Inc.	NWNE 32 36N 19E	Battle 2-32	2	22531	Battle Creek	Eagle	10/12/90	1900		250
Xeno, Inc.	SWSE 8 36N 19E	Battle 15-8	2	22532	Battle Creek	Eagle	10/11/90	1950		390
Xeno, Inc.	SENE 7 36N 19E	Battle 8-7	6	22540	Wildcat		10/12/90	1950		
009 Carbon										
Amoco Production Company	SENE 33 9S 23E	FEDERAL 334	1	21224	Elk Basin	Tensleep	12/28/90	5896	141	0
Basso, Lindberg, Westwood, Wol	SENE 8 4S 24E	Brandy #1	6	21230	Wildcat		09/04/88	1012		
Luff Exploration Company	NESE 10 7S 21E	Souders 1-10	2	21235	Dry Fork	Judith River	10/30/89	2510		285
015 Chouteau										
Exxon Corporation	SWNE 16 27N 3E	Montana State B 1 **	5	21656	Hardpan	Blackleaf	11/03/89	955		97
Exxon Corporation	NWSE 1 27N 3E	Inga Aabak 1 **	5	21657	Wildcat	Bow Island	11/06/89	760		643
Exxon Corporation	CNW 12 27N 3E	Gollehon Grain Co. 1	6	21659	Wildcat		04/24/90	813		
Exxon Corporation	W2SE 2 27N 3E	Hollandsworth 1	6	21660	Wildcat		04/22/90	959		
Montana Power Company	SENE 6 28N 14E	Genereux 8-6	2	21658	Coal Mine Coulee	Eagle	01/28/90	1321		212
Montana Power Company	SWNE 7 28N 14E	Welly 7-7	3	21661	Coal Mine Coulee		09/26/90	1300		
019 Daniels										
Nerdlihc Company, Inc.	NWNW 30 34N 48E	Fugere #1 ***	4	21084	Cabarett Coulee	Mission Canyon	04/11/90	7680	1440	
021 Dawson										
Nerdlihc Company, Inc.	SESE 16 21N 52E	State 44-16	6	21118	Wildcat		12/25/90	8070		
025 Fallon										
Shell Western E&P Inc.	NESE 33 10N 58E	Unit 43X-33	1	21477	Cabin Creek	Interlake/Stoney Mountain	02/13/90	9065	85	73
Shell Western E&P Inc.	SWSE 20 10N 58E	Unit 34-20R	1	21484	Cabin Creek	Silurian/Ordovician	10/31/90	8968	239	98
Shell Western E&P Inc.	NESW 17 10N 58E	Unit 23X-17A	1	21485	Cabin Creek	Red River/Stoney Mountain	09/13/90	8957	50	
Shell Western E&P Inc.	NWSE 18 10N 58E	Unit 33X-18	1	21486	Cabin Creek	Silurian/Ordovician	10/17/90	9114	190	156
Shell Western E&P Inc.	NWSW 15 8N 59E	Pennel Unit 13-15	1	21468	Pennel	Red River/Stoney Mountain	04/09/90	8853	282	109
Shell Western E&P Inc.	SESW 14 8N 59E	Unit 24X-14	1	21487	Pennel	Red River	12/31/90	8913	50	5
Shell Western E&P Inc.	SENE 15 8N 59E	Unit 42X-15	1	21488	Pennel	Red River	12/26/90	8923	28	4
027 Fergus										
Broschat Engineering	NESW 36 17N 23E	Dunlap State 1	6	21225	Wildcat		11/24/90	4814		
029 Flathead										
Canex	NWNW 13 34N 21W	Landenburg 4-13	6	21005	Wildcat		10/31/89	9000		
033 Garfield										
Grynborg, Jack J.	SESE 26 15N 30E	Federal #2 **	4	21138	Cat Creek, Mosby Dome	Amsden	06/14/89	2525	15	
Mobil Oil Corporation	NWSE 8 15N 33E	Gasser 8-33	6	21140	Wildcat		02/23/90	5509		
035 Glacier										
Gypsy Highview Gathering System	NWSW 14 37N 5W	Kruger "B" 14-5	1	21820	Cut Bank	Cut Bank	07/15/90	2642	14	
Gypsy Highview Gathering System	SESE 15 37N 5W	Kruger B 15-8	1	21826	Cut Bank	Madison	07/10/90	2729	20	
Gypsy Highview Gathering System	SESE 15 37N 5W	Kruger 'B' 15-9	1	21833	Cut Bank	Cut Bank	07/20/90	2794	18	
Montana Power Company	NENE 11 36N 5W	Judson 1-11	7	21821	Cut Bank	Moulton	03/03/90	2711		
Montana Power Company	SWSE 11 36N 5W	Hanto 15-11	7	21822	Cut Bank	Moulton	04/24/90	2599		
Montana Power Company	SWNW 33 35N 5W	Clapper 6-33	3	21831	Cut Bank		06/12/90	2741		
Montana Power Company	SWSW 1 33N 5W	Johnston 13-1	2	21832	Cut Bank	Cut Bank	06/23/90	2659		320

1990 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
083 Richland										
American Hunter Exploration	SESW 13 23N 56E	Nevins 1 **	4	21784	Three Buttes	Bakken	08/10/90	13456		40
Cenex	SESE 7 23N 58E	Dynneson 16-7 *	1	21022	Brorson, South	Bakken	06/25/90	10550	113	
Cenex	SWNW 7 23N 58E	Dynneson 5-7	1	21785	Brorson, South	Madison	07/05/90	10475	103	
Cenex	NENW 30 23N 59E	Pederson 3-30	1	21788	Sidney	Madison	11/30/90	9445	10	
Conquest Exploration Company	SESW 34 26N 59E	Kittleson 22-34	6	21783	Wildcat		01/02/90	10850		
Luff Exploration Company	NESE 1 26N 57E	G. Martin 1-1R	1	21789	Sioux Pass, North	Red River	08/18/90	12550	102	93
Slawson, Donald C., Oil Prod.	NWNE 8 25N 59E	Rose Main 2-8	1	21786	Cattails	Ratcliffe	05/25/90	9050	55	
Slawson, Donald C., Oil Prod.	SWNE 32 26N 59E	Dahl 2-32	1	21790	Cattails	Ratcliffe	08/30/90	9163	68	
Slawson, Donald C., Oil Prod.	SWSE 4 25N 55E	Georges 1-4	6	21765	Charlie Creek, East		09/24/89	11940		
Slawson, Donald C., Oil Prod.	NWNW 4 25N 59E	Ochs 1-4	1	21787	Wildcat	Ratcliffe	06/23/90	9210	85	
Wyoming Resources Corp.	NESW 32 25N 57E	LaBonte 32-23 **	1	21748	Lonetree Creek	Red River	02/03/90	12608	60	60
085 Roosevelt										
Nicor Exploration Company	SWSE 18 31N 48E	Tribal 1-18-31-48	6	21571	Wildcat		11/02/90	7900		
Pennzoil Company	SWSW 1 27N 58E	Larsen Farms 1-14	3	21569	Bainville II		09/14/90	11550		
Slawson, Donald C., Oil Prod.	SESW 10 26N 59E	Berry 1-10 ***	4	21568	Cottonwood, East	Ratcliffe	10/02/90	8920	60	
Sun Exploration and Production	SESW 27 31N 48E	Hawbaker #1	6	21566	Wildcat		01/13/90	7850		
Torch Energy Corporation	SWNW 19 30N 59E	Picard 1-19R	1	21565	Anvil	Red River	03/01/90	12620	172	214
087 Rosebud										
Nerdlihc Company, Inc.	NESW 26 13N 34E	Galt 23-26	6	21623	Wildcat		11/06/90	4577		
Texaco Inc., a Delaware Corp.	SESE 10 11N 32E	CSTSU D410Y	1	21622	Sumatra	Tyler	11/29/90	4875	33	
091 Sheridan										
Conoco Inc.	NWNE 24 32N 58E	State 1502 *	1	21662	Dwyer	Charles	11/17/90	7885	30	
Nielco, Inc.	NWSE 24 34N 58E	Anderson 33-24	6	21655	Wildcat		05/02/89	7410		
Petroleum, Inc.	NESE 1 32N 55E	Seidensticker #1	6	21661	Wildcat		04/14/90	11343		
095 Stillwater										
Balcron Oil Company	NESW 26 3N 21E	Marsh Federal 23A-26	3	21234	Little Basin		07/13/90	2503		
Balcron Oil Company	SWNW 26 3N 21E	Marsh Federal 12-26	3	21235	Little Basin		07/21/90	1482		
Balcron Oil Company	SESE 26 3N 21E	Bradbrook Fed. 44-26	2	21236	Little Basin	Mowry	06/29/90	1406		940
Balcron Oil Company	SESE 36 3N 21E	State 44-36	6	21237	Wildcat		08/20/90	1914		
Balcron Oil Company	SESW 31 3N 22E	Hageman 22-31	6	21239	Wildcat		09/02/90	2905		
Balcron Oil Company	NWNE 11 3N 20E	Boston 31-11 ***	5	21240	Wildcat	Big Elk	10/16/90	938		580
Macum Energy, Inc.	NWSW 29 1S 22E	Lackman #2	6	21241	Wildcat		09/09/90	3650		
Sands Oil Company	NWSW 29 2N 20E	Gee 13-29 **	5	21229	Rapelje	Eagle	11/22/89	1441		30
Sands Oil Company	NENE 31 2N 20E	Zindler 31-41 **	5	21233	Rapelje	Eagle	12/06/90	1604		30
West Gas, Inc.	NESW 9 2N 20E	Miller 11A-9	3	21230	Rapelje		07/31/89	965		
097 Sweet Grass										
Montana Power Company	SWNE 26 1S 17E	Bronson 7-26	6	21043	Wildcat		09/12/89	2593		
099 Teton										
EPS Resources Co.	NWSW 23 25N 8W	Govt. Rutter 23-1	6	21283	Wildcat		11/23/89	5877		
Hawley Hydrocarbons	SENE 21 27N 4W	Christensen 4	1	21267	Pondera	Madison	06/15/87	2161	15	
Vaughey and Vaughey	NENW 4 27N 7W	Stokes Ranch 1	6	21284	Wildcat		07/21/90	4056		
Vaughey and Vaughey	NENE 23 27N 7W	Jenson 1	6	21285	Wildcat		07/10/90	3754		
Vaughey and Vaughey	NWNE 6 27N 7W	Stott Ranch 1	6	21286	Wildcat		08/01/90	4250		
101 Toole										
Balcron Oil Company	NWNW 9 32N 3E	Schreck 11-9 **	5	23377	Devon, East	Bow Island	05/09/90	832		195
Balcron Oil Company	NWNE 11 31N 2E	Hannah 31-11 **	5	23378	Devon, East	Bow Island	08/12/90	663		50
Balcron Oil Company	NENW 23 30N 2E	Knutson 21-23	6	23382	Wildcat		05/11/90	1000		
Balcron Oil Company	SWNW 13 30N 2E	Peterson 12-13	5	23396	Wildcat	Bow Island	08/10/90	849		97
Balcron Oil Company	NESW 4 32N 3E	Childers 23-4	6	23397	Wildcat		08/13/90	904		
Balcron Oil Company	NWNE 17 32N 3E	Lack 31-17	6	23398	Wildcat		08/14/90	383		
Branch, Jerry L.	NESE 32 33N 2W	Cannon 9-32	2	23369	Old Shelby	Sunburst	01/22/90	1445		189
Brown, J. Burns Operating Co.	SESE 8 32N 1W	Welker 8-32N-1	2	23429	Old Shelby	Sunburst	11/02/90	1371		
Brown, J. Burns Operating Co.	SESW 9 32N 1W	Nelson 9-32-1	2	23447	Old Shelby	Bow Island	12/07/90	491		
Brown, J. Burns Operating Co.	SWSE 27 33N 2W	MDU 8-27-B	2	23430	Prairie Dell	Sunburst	11/24/90	1515		177
Brown, J. Burns Operating Co.	NENE 26 33N 2W	Nesbo 26-33-2	2	23431	Prairie Dell	Morrison	11/20/90	1453		31
Brown, J. Burns Operating Co.	NENW 29 32N 1W	Billmaier 29-32-1	2	23438	Shelby, East	Sunburst	12/05/90	1475		937
Brown, J. Burns Operating Co.	NENE 30 32N 1W	Welker 30-32-1	2	23439	Shelby, East	Sunburst	12/02/90	1591		
Brown, J. Burns Operating Co.	NESE 19 32N 1W	Billmaier 19-32-1	2	23442	Shelby, East	Sunburst	12/10/90	1565		116
Cavalier Petroleum	SWSW 18 32N 1W	Alank 13-18	2	23337	Old Shelby	Sunburst	11/10/89	1557		157
Cavalier Petroleum	CSE 18 32N 1W	Alank 15-18	3	23341	Old Shelby		10/07/89	1520		
Cavalier Petroleum	SENE 18 32N 1W	Alank 8-18	3	23342	Old Shelby		12/09/89	1612		
Cavalier Petroleum	SESW 5 33N 1W	Benjamin 14-5	2	23417	Prairie Dell	Bow Island/Dakota	10/11/90	1264		81
Cavalier Petroleum	NENE 5 33N 1W	Benjamin 1-5	2	23427	Prairie Dell	Bow Island/Dakota/Sunburst	10/20/90	1264		175
Cavalier Petroleum	NWNW 5 33N 1W	Benjamin 4-5	2	23436	Prairie Dell	Bow Island/Dakota	11/06/90	1292		53
Coolidge, G. B., Inc.	NWNW 20 34N 1E	Montex Petroleum 1	3	23375	Kevin Sunburst		04/17/90	1565		
Coolidge, G. B., Inc.	NENE 11 37N 2W	Danbrook 1	6	23394	Wildcat		08/05/90	2225		
Crescent Oil & Gas Corporation	NENE 2 32N 2W	Welker 1-2	2	23410	Old Shelby	Sunburst	09/14/90	1625		700
Croft Petroleum Company	SESE 3 34N 1E	State 13-3	3	23405	Kevin, East Nisku Oil		11/17/90	3035		
Iverson, C. J.	NENW 21 34N 1E	Montex 3-21	6	23393	Wildcat		08/10/90	3096		
KeeSun Partners	NWNE 35 36N 4W	Stemmer 2-35	2	23376	Kevin Sunburst	Bow Island	08/08/90	1774		300
KeeSun Partners	NESW 14 35N 1W	Aime-Carlson 11-14	2	23425	Kevin Sunburst	Bow Island	11/05/90	785		70
KeeSun Partners	NESE 14 35N 1W	Aime-Johnson 9-14	2	23426	Kevin Sunburst	Bow Island	11/04/90	783		150
KeeSun Partners	SWSE 11 35N 1W	Aime-Johnson 15-11	2	23441	Kevin Sunburst	Bow Island	12/11/90	783		86
KeeSun Partners	SWNE 32 33N 1W	Parker et al 7A-32	2	23368	Old Shelby	Sunburst	01/17/90	1245		550

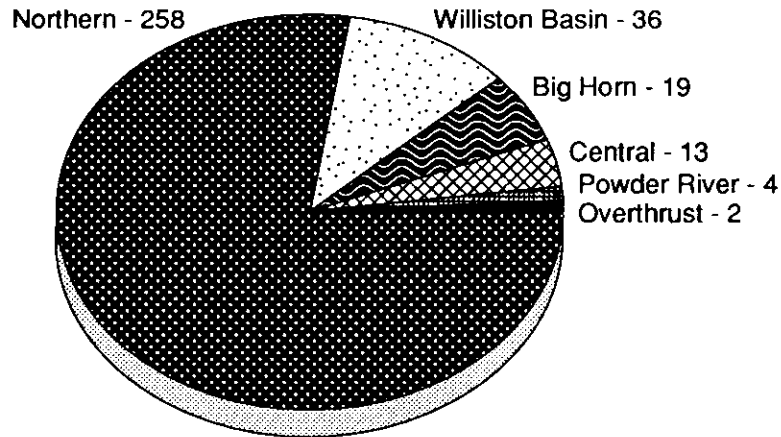
1990 WELL COMPLETIONS (CONTINUED)

OPERATOR	LOCATION	WELL NAME	STATUS		FIELD	PRODUCING FORMATION	DATE COMPLETED	TOTAL DEPTH	INITIAL POTENTIAL	
			CODE	API NO.					OIL B/D	GAS MCF/D
KeeSun Partners	SESE 26 33N 2W	Nesbo 1-26	2	23386	Prairie Dell	Sunburst	06/04/90	1500		500
McCarthy, Lawrence J.	SWNW 22 35N 3E	Henry 1-22	6	23340	Wildcat		10/19/90	2611		
Natural Gas Processing Co.	SESE 33 37N 4W	Markham 44-33	2	23424	Cut Bank	Cut Bank	11/01/90	1895		6
Northland Royalty Operating Co	NWNW 4 33N 2W	Lundin 5-4	2	23232	Prairie Dell	Swift	04/12/90	1565		369
Northland Royalty Operating Co	NESW 34 34N 2W	Wall 11-34	2	23235	Prairie Dell	Bow Island	07/07/90	1444		59
Northland Royalty Operating Co	NWNE 21 34N 2W	State 2-21	2	23236	Prairie Dell	Bow Island/Dakota/Sunburst/ Swift	07/10/90	1354		230
Northland Royalty Operating Co	W2SE 16 34N 2W	State 10-16	2	23239	Prairie Dell	Bow Island/Sunburst	04/13/90	1340		648
Northland Royalty Operating Co	E2SW 11 33N 2W	Flesch 11-11	2	23240	Prairie Dell	Bow Island/Dakota	05/25/90	1430		133
Northland Royalty Operating Co	SESW 5 33N 2W	Lundin 14-5	2	23248	Prairie Dell	Dakota/Swift/Sunburst	04/15/90	1525		274
Northland Royalty Operating Co	NWNW 2 33N 2W	Johnson 4-2	2	23372	Prairie Dell	Bow Island/Sunburst	05/17/90	1414		286
Northland Royalty Operating Co	SWSW 33 34N 2W	Curren 13-33	2	23373	Prairie Dell	Bow Island/Sunburst/ Swift	04/30/90	1525		390
Northland Royalty Operating Co	SESW 28 34N 2W	State 14-28	2	23374	Prairie Dell	Bow Island/Sunburst	04/12/90	1450		150
Northland Royalty Operating Co	SESE 11 33N 2W	Johnson 16-11	2	23379	Prairie Dell	Bow Island	05/25/90	1444		139
Northland Royalty Operating Co	SENE 27 34N 2W	Fowler 8-27	2	23383	Prairie Dell	Bow Island/Dakota/ Swift	07/06/90	1340		235
Northland Royalty Operating Co	NWNE 15 33N 2W	Flesch 2-15	2	23392	Prairie Dell	Bow Island/Dakota/Sunburst/ Swift	08/06/90	1474		244
Northland Royalty Operating Co	SENW 5 33N 2W	Lundin 6-5	2	23380	Prairie Dell, West	Bow Island/Sunburst/ Swift	05/25/90	1564		729
Northland Royalty Operating Co	NWSE 5 33N 2W	Lundin 10-5	2	23381	Prairie Dell, West	Bow Island/Dakota/Kootenai/ Sunburst	05/23/90	1580	0	218
Northland Royalty Operating Co	SESW 3 33N 2W	Flesch 14-3	2	23384	Prairie Dell, West	Bow Island/Dakota	07/07/90	1473		50
Ranck Oil Company, Inc.	NWSW 29 34N 3E	Mildred Hajek 1	6	23387	Wildcat		08/12/90	2089		
SoMont Oil Company, Inc.	NWNE 4 34N 4W	West Moe 1	3	23365	Cut Bank		07/21/90	2200		
SoMont Oil Company, Inc.	NENE 27 36N 4W	State 27-1	2	23385	Kevin Sunburst-Bow Island	Bow Island	07/20/90	1895		147
SoMont Oil Company, Inc.	NESW 22 36N 4W	Federal 22-11	2	23389	Kevin Sunburst-Bow Island	Bow Island	07/18/90	1935		288
SoMont Oil Company, Inc.	W2NE 26 36N 4W	Gillespie 2	2	23390	Kevin Sunburst-Bow Island	Dakota	07/24/90	2048		814
SoMont Oil Company, Inc.	NENW 26 36N 4W	Gillespie 3	2	23391	Kevin Sunburst-Bow Island	Bow Island	07/26/90	1814		400
Spectrum Energy, Inc.	SWNE 17 33N 3E	Buechler 2	**	5	23323	Antelope Coulee	06/29/89	1937		3
Spectrum Energy, Inc.	SWNE 17 33N 3E	Buechler 3	**	5	23328	Antelope Coulee	08/14/89	720		120
Spectrum Energy, Inc.	CSE 35 33N 1W	Hurley 5-35	2	23411	Dunkirk, North	Bow Island	09/20/90	790		353
Spectrum Energy, Inc.	ECNE 26 33N 1W	State 4-26	2	23412	Dunkirk, North	Bow Island	09/24/90	663		283
Spectrum Energy, Inc.	SESE 3 32N 1W	Rogers 3-3	2	23413	Dunkirk, North	Bow Island	09/24/90	795		301
Spectrum Energy, Inc.	NWSE 13 33N 1W	Potlatch 2-13	2	23414	Dunkirk, North	Bow Island	09/26/90	837		353
Spectrum Energy, Inc.	NWNE 13 33N 1W	Batts 2-13	2	23415	Dunkirk, North	Bow Island	09/22/90	860		283
Spectrum Energy, Inc.	SENW 13 33N 1W	Batts 1-13	2	23416	Dunkirk, North	Bow Island	09/25/90	827		353
Sunburst Exploration, Inc.	SESE 36 33N 1W	State 36-1	2	23399	Dunkirk, North	Bow Island	08/30/90	794		211
Sunburst Exploration, Inc.	NENE 1 32N 1W	Toole County 1-2	2	23400	Dunkirk, North	Bow Island	08/02/90	792		248
Sunburst Exploration, Inc.	SESE 1 32N 1W	Bronken 1-1	3	23401	Dunkirk, North		08/24/90	1431		
Sunburst Exploration, Inc.	SESE 14 32N 1W	Fransen 14-1	2	23404	Dunkirk, North	Bow Island	08/23/90	1474		248
Sunburst Exploration, Inc.	CSW 25 33N 1W	Bronken 25-2	2	23406	Dunkirk, North	Bow Island	11/30/90	790		31
Sunburst Exploration, Inc.	CNW 24 33N 1W	Blumberg 24-1	2	23407	Dunkirk, North	Bow Island	11/12/90	827		
Sunburst Exploration, Inc.	CNE 2 32N 1W	Peoples Bank 2-1	2	23408	Dunkirk, North	Bow Island	11/09/90	797		542
Sunburst Exploration, Inc.	CNW 11 32N 1W	Good Shepherd 11-1	2	23409	Dunkirk, North	Bow Island	11/10/90	800		
Texaco Inc., a Delaware Corp.	SWSE 25 34N 2W	Theonnes 4	2	23360	Kevin Sunburst	Bow Island/Sunburst/ Swift	10/10/90	1270		290
Texaco Inc., a Delaware Corp.	SWSW 19 34N 1W	GE Moffatt 3	2	23362	Kevin Sunburst	Bow Island/Sunburst/ Swift	10/10/90	1250		144
Texaco Inc., a Delaware Corp.	NE 32 34N 1W	Hasquet 2	2	23358	Prairie Dell	Bow Island/Sunburst/ Swift	10/17/90	1250		188
Texaco Inc., a Delaware Corp.	LT04 30 34N 1W	Cecelia Moxley 1	2	23359	Prairie Dell	Bow Island/Sunburst/ Swift	10/05/90	1272		408
Walls, Adrian G.	SWNE 18 33N 1W	Steiger 1-18	2	23370	Old Shelby	Bow Island/Sunburst/ Swift	01/30/90	1353		254
105 Valley										
Continental Trend Resources	E2NW 16 30N 45E	Dahl 1-16	1	21413	Midfork	Nisku	11/21/90	7304	43	12
Worldwide Energy Corporation	NESW 18 30N 45E	Dahl #1	6	21412	Wildcat		10/02/89	4976		
109 Wibaux										
Shell Western E&P Inc.	NWSE 14 11N 57E	Unit 33-14A	1	21069	Pine	Silurian/Ordovician	12/27/90	9335	33	8
Shell Western E&P Inc.	SWNW 3 11N 57E	Unit 12X-3A	1	21070	Pine	Interlake	11/05/90	9075	265	19
Shell Western E&P Inc.	SWNE 11 11N 57E	Unit 32X-11A	1	21071	Pine	Red River	12/13/90	9095	29	2
Slawson, Donald C., Oil Prod.	NESW 13 12N 60E	Bruski 1-13	6	21072	Wildcat		10/24/90	11014		
111 Yellowstone										
Bacon, J. R. Drilling, Inc.	NESW 15 6N 33E	Engesser 1-15	6	21221	Wildcat		03/10/89	6005		
Basso, Lindberg, Westwood, Wol	SESE 26 3S 24E	Spaeth #2	3	21215	Mosser Dome		02/23/88	695		
Basso, Lindberg, Westwood, Wol	SESE 26 3S 24E	Hedco, Inc. #4	3	21218	Mosser Dome		06/27/88	700		
Basso, Lindberg, Westwood, Wol	SWSW 25 3S 24E	Hedco, Inc. #1	6	21214	Wildcat		10/23/87	685		
Basso, Lindberg, Westwood, Wol	SWSW 25 3S 24E	Basal #1	6	21220	Wildcat		08/12/88	687		

Status codes:

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

Wells Completed in 1990 (332 Wells - by Region)



1990 SUMMARY OF SECONDARY RECOVERY PROJECTS

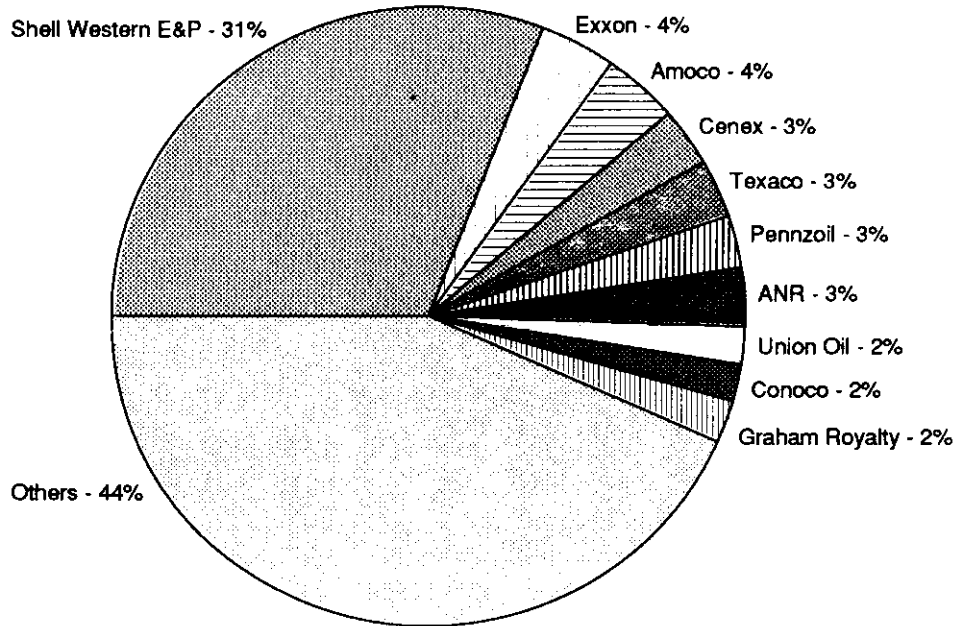
Field	Formation	Operator	Type of Project	Injection Pattern	Date Injection Completed	1990 Cumulative Injections MBBLs or MMCF	Avg. Daily Injection Rate BBLs or MMCF	No. of Injection Wells	Source of Injection Media and Remarks
Ash Creek Crow Tribe	Shannon	Mobil	Waterflood	Peripheral	10/64	256	-	-	Idle
Ash Creek SU (Mont)	Shannon	Bearcat Petroleum	Waterflood	Peripheral	10/64	1331	-	-	Idle
Bears Den	Liberty	J.R. Bacon, Inc.	Waterflood	Random	11/90	30	496	3	WSW/Produced
Bell Creek Tertiary	Muddy	Exxon Corporation	Waterflood	5 Spot	12/80	69305	7756	13	Produced
Bell Creek A	Muddy	Exxon Corporation	Waterflood	Peripheral	4/70	214560*	11802	22	Produced
Bell Creek B	Muddy	Exxon Corporation	Waterflood	Peripheral	10/70	60417	4863	10	Produced
Bell Creek C	Muddy	Exxon Corporation	Waterflood	Peripheral	9/71	40106	534	1	Produced
Bell Creek D	Muddy	Exxon Corporation	Waterflood	Peripheral	1/72	37759*	1523	3	Produced
Bell Creek E	Muddy	Exxon Corporation	Waterflood	Peripheral	1/72	34127	586	1	Produced
Bell Creek Ranch Cr.	Muddy	Exxon Corporation	Waterflood	Peripheral	3/71	45387	562	1	Produced
Big Wall BWUTSU	Upper Tyler	Texaco	Waterflood	Random	8/66	38684	2642	1	Produced
Big Wall BWLTSU	Lower Tyler	Texaco	Waterflood	Random	10/84	19019	6808	3	Produced
Blackfoot	Cut Bank	Croft Petroleum	Waterflood	Random	7/76	3503	674	4	Madison
Border, New	Cut Bank	P&M Petroleum	Waterflood	Random	1/82	-	-	-	Idle
Border, Old	Cut Bank	Gypsy Highview	Waterflood	Random	6/73	1551*	202	1	Madison
Cabin Creek	Siluro-Ord.	Shell	Waterflood	Semi-Perip	6/59	331816*	15476	28	Produced
Cat Creek East Dome	Ellis Sand	Robert Hoss	Waterflood	Semi-Perip	7/70	1389	111	3	Third Cat Creek
Cat Creek Mosby Dome	Swift	Cenex	Waterflood	Random	7/67	6541*	178	2	Third Cat Creek
Cat Creek Mosby	Amsden	Cenex	Waterflood	Random	6/71	313	-	-	Idle
Cat Creek Unit 1	1st Cat	Cenex	Waterflood	Semi-Perip	10/62	7854	458	1	Third Cat Creek
Cat Creek Unit 1	2nd Cat	Cenex	Waterflood	Semi-Perip	10/62	11401	1235	2	Third Cat Creek
Cat Creek Unit 2	1st Cat	Cenex	Waterflood	Semi-Perip	12/59	9828	131	2	Third Cat Creek
Cat Creek Unit 2	2nd Cat	Cenex	Waterflood	Semi-Perip	12/59	13095	923	3	Third Cat Creek
Cut Bank Dahlquist	Cut Bank	Bluejay Resources	Waterflood	Random	11/79	345	197	1	Madison
Cut Bank Lander A	Lander Sand	Grey Wolf Production	Waterflood	Random	4/65	2115	148	1	Madison (2 mo.)
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	5638	55	5	Madison
Cut Bank No. East	Cut Bank	J and G Operating	Waterflood	5 Spot	6/63	13409	-	-	Idle
Cut Bank No. West	Cut Bank	J and G Operating	Waterflood	5 Spot	1/62	18868	11	2	Madison (1 mo.)
Cut Bank So. Central	Cut Bank	Union Oil	Waterflood	5 Spot	5/63	63539	9698	58	Madison
Cut Bank So. West	Cut Bank	J.R. Bacon Drilling	Waterflood	5 Spot	9/62	134338	8340	35	Madison/Recycle
Cut Bank Tesoro	Cut Bank	City Oil Co.	Waterflood	5 Spot	9/71	6759	64	5	Madison/Recycle
Cut Bank Tweedy	Cut Bank	Gypsy Highview	Waterflood	5 Spot	6/72	962*	27	1	Cut Bank
Cut Bank 2 Medicine	Madison	Montana Mill Oper.	Waterflood	Random	12/67	58499*	-	-	Idle
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
Dwyer	Charles	Conoco	Waterflood	Peripheral	10/68	1475*	235	3	Dwyer Charles

1990 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 MMBLS or MMCF			
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	108617*	15475	13	Produced
Elk Basin NW	Madison	Amoco	Waterflood	Semi-Perip	12/88	1044	1858	4	Produced
Elk Basin NW	Tensleep	Amoco	Waterflood	Semi-Perip	1/67	5918	-	-	Idle
Fairview	Red River	Mepna, Inc.	Pressure M	Random	5/70	4186	-	-	Idle
Flat Coulee	Swift	Breck Operating Corp	Waterflood	Peripheral	2/72	14470	3142	12	Eagle
Flat Lake Unit	Ratcliffe	Graham Royalty, Ltd.	Pressure M	Random	6/71	41024	3395	15	Produced
Flat Lake West	Ratcliffe	Chevron USA	Pressure M	Random	11/74	7940	574	2	Produced
Frannie	Tensleep	Conoco	Waterflood	Random	11/70	456035*	88331	45	Produced
Frannie	Tensleep	Conoco	LPG Inj	Random	11/70	23131*	-	-	Idle
Fred & George Creek	Sunburst	William M. Fulton	Waterflood	Random	7/76	54301	5619	2	Madison/Eagle
Gas City	Red River	Shell	Waterflood	Semi-Perip	10/69	16699	586	3	Mission Canyon
Goose Lake	Ratcliffe	Apache Corporation	Waterflood	Semi-Perip	1/73	25922	2539	2	Produced
Graben Coulee	Cut Bank	Monte Grande Explor.	Waterflood	Random	7/83	410*	230	2	Madison
Gumbo Ridge	Tyler B	Cline Production Co.	Waterflood	Semi-Perip	6/80	2783	186	1	Produced 4 mos.
Highview	Madison	Mountain States Res.	Co2 Inj.	Random	7/82	600	-	-	Idle
Ivanhoe	Tyler	Tomahawk Oil Co.	Pressure M	Random	5/64	225	189	1	Produced
Jim Coulee	Tyler	Beartooth Oil & Gas	Waterflood	Semi-Perip	7/72	23038*	3226	4	Produced Cat Cr
Keg Coulee Unit	Tyler	Buttes Resources	Waterflood	Semi-Perip	8/66	6157	675	1	Produced
Keg Coulee Tyler SU	Tyler	Cline Production Co.	Waterflood	Semi-Perip	12/69	3609	-	-	Idle
Keg Coulee NW Unit	Tyler	N. Central Oil Co.	Waterflood	Semi-Perip	1/70	6118*	98	1	Madison
Kelley	Tyler B	E. C. Yegen	Waterflood	Random	7/69	3665	138	1	Produced
Kevin Sunburst SU	Sunburst	Texaco	Waterflood	Random	8/64	13089	353	4	Produced
Kevin Homestake SU	Sunburst	Petro Production Inc	Waterflood	Random	8/64	7420*	363	7	Madison
Kincheloe Ranch	Tyler A	E. Doyle Huckabay	Waterflood	Random	11/89	328	809	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	52445*	4477	13	Produced
Little Beaver East	Red River	Shell Oil	Waterflood	Semi-Perip	4/65	22080*	3831	7	Produced
Little Wall Creek	Tyler	Texaco Producing	Waterflood	Random	7/84	505	216	1	Produced
Little Wall South	Tyler	Beartooth Oil & Gas	Waterflood	Random	10/83	11352	6088	5	Produced
Little Wall South	Gundersen	Beartooth Oil & Gas	Waterflood	Random	10/87	561	339	1	Produced
Lookout Butte Coral	Red River	Shell Oil	Waterflood	Semi-Perip	4/67	56435*	4857	10	Minnelusa
Lookout Butte East	Red River B	Meridian Oil Inc.	Waterflood	Pilot	7/88	77	66	1	Produced
Mason Lake	1st Cat Creek	Nielco, Inc.	Waterflood	Unknown	11/88	472	550	1	Amsden
Melstone North	Tyler	True Oil Co.	Waterflood	Unknown	1/83	5341	1439	4	3rd Cat Creek
Monarch	Siluro/Ord	Shell Oil	Waterflood	Unknown	12/73	6830	277	2	Unknown
Pennel	Siluro/Ord	Shell Oil	Waterflood	Random	8/69	202798*	46054	83	Dakota/Produced
Pine A	Siluro/Ord	Shell Oil	Waterflood	Semi-Perip	3/59	170636	19341	23	Fox Hills/Prod.
Pine C & D	Red River	Shell Oil	Waterflood	Semi-Perip	3/68	23208*	1059	3	Lodgepole
Prichard Creek	Sunburst	Fulton Producing	Waterflood	Random	4/73	1184	-	-	Idle
Ragged Point Tyler A	Tyler	Buttes Resources	Waterflood	Semi-Perip	12/66	11367	615	1	Cat Creek
Ragged Point SW	Tyler	Graham Royalty Ltd.	Waterflood	Random	10/82	6289	2782	4	Produced
Raymond	Nisku	Santa Fe Energy	CO2 Inj.	Unknown	8/83	1509	598	1	Duperow
Regan Dome	Madison	Union Oil	Waterflood	Random	7/73	6763	1468	5	Produced
Red Creek	Cut Bank	Exxon	Waterflood	5 Spot	6/65	1793*	-	-	Idle
Ridgelawn	Duperow	Conoco Inc.	Secondary	UK	7/90	435	2390	2	Dakota
Roscoe Dome	Lakota	E. Am. Energy	Steam Inj.	UK	5/82	5	-	-	Idle
Shepherd	Judith River	Summit Resources	Secondary	Random	11/84	95	-	-	Idle
Stensvad	Tyler	Tomahawk Oil Co.	Waterflood	Semi-Perip	12/63	28437*	696	3	Produced
Sumatra Central	Tyler	Texaco	Waterflood	Semi-Perip	9/69	173051	21567	16	Madison & Prod_
Sumatra No. East	Tyler	Texaco	Waterflood	Semi-Perip	9/69	11349*	1790	5	Produced
Sumatra Sawyer	Tyler	Buttes Resources	Waterflood	Semi-Perip	6/80	1161	106	1	Madison
Sumatra So. East	Tyler	Buttes Resources	Waterflood	Semi-Perip	12/69	27761	3831	4	Produced
Sumatra West	Tyler	Conoco	Waterflood	Semi-Perip	10/68	59387	5500	5	Produced
Sumatra W. Kincheloe	Tyler	Apache Corp.	Waterflood	Semi-Perip	5/82	16712	6918	6	Madison
Tippy Buttes	Tyler	True Oil	Waterflood	Random	5/82	262	-	-	Idle
Winnett Junction	Tyler	TGX Corporation	Waterflood	Random	10/77	8039	1325	2	Produced & WSW

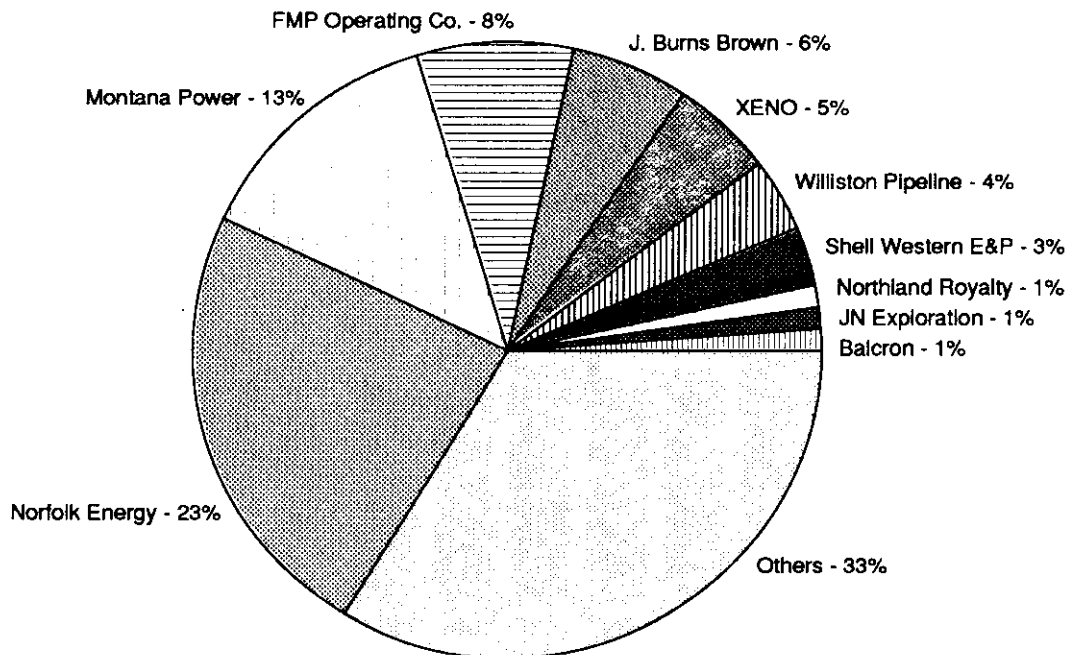
* Cumulative figures adjusted by operator

Top Producing Oil Companies - 1990
19,835,087 Barrels



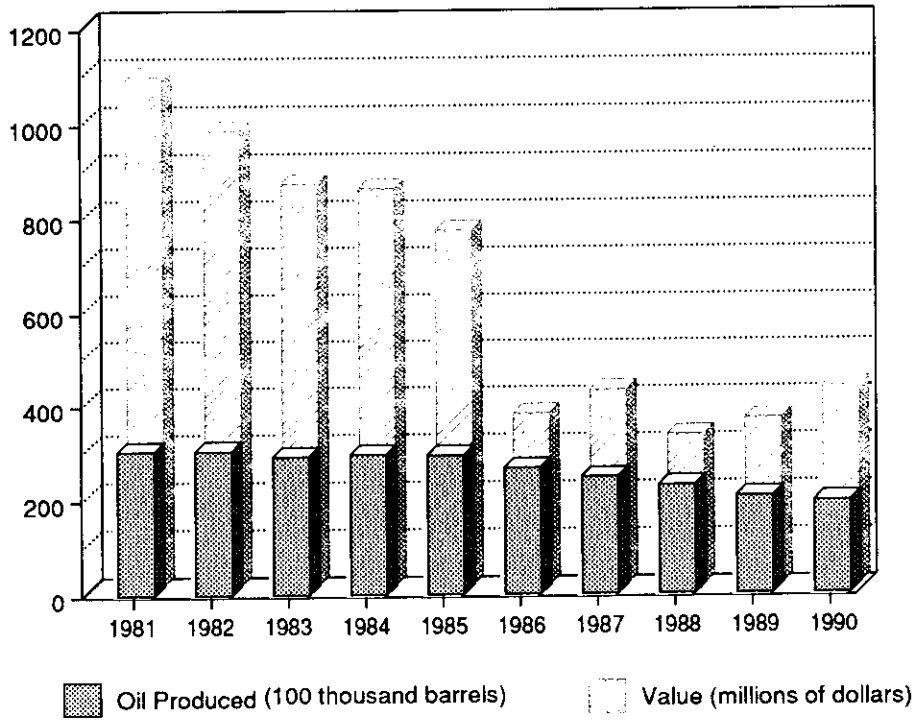
270 Active Oil Producers

Top Producing Gas Companies - 1990
51,538,504 Mcf

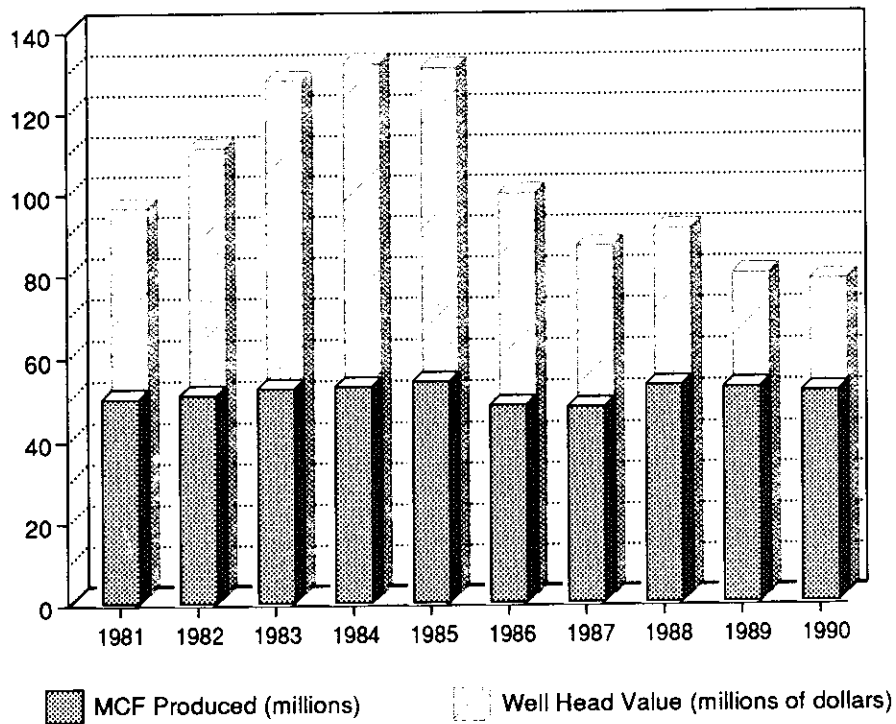


195 Active Gas Producers

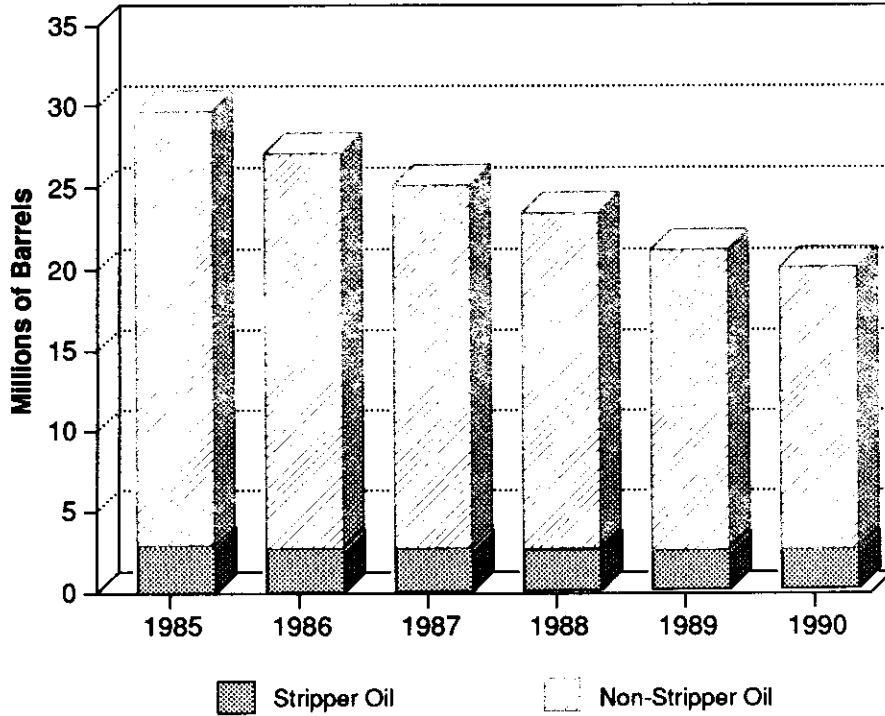
Oil Produced and Oil Value



Gas Produced and Gas Value Natural and Associated Gas

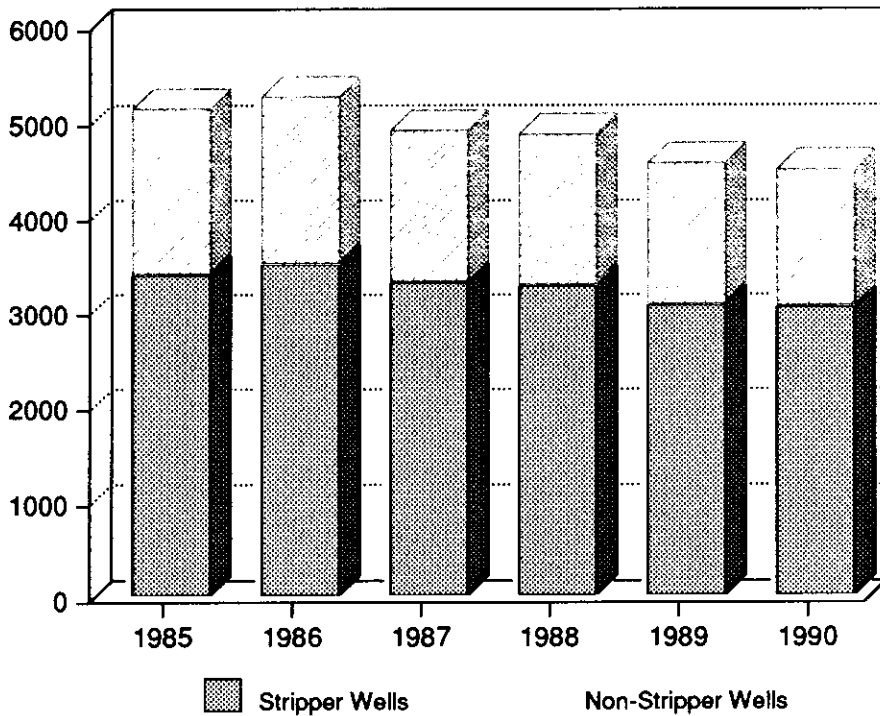


Stripper and Non-Stripper Oil Production



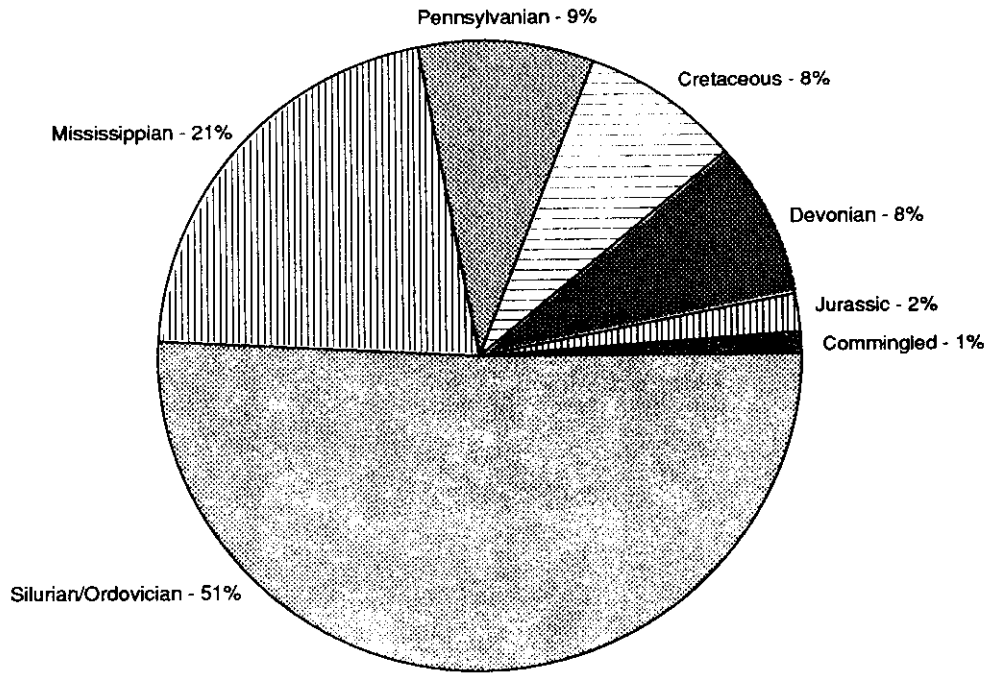
Stripper Well Is 10 BOPD or less

Stripper and Non-Stripper Number of Producing Wells



Stripper well is 10 BOPD or less

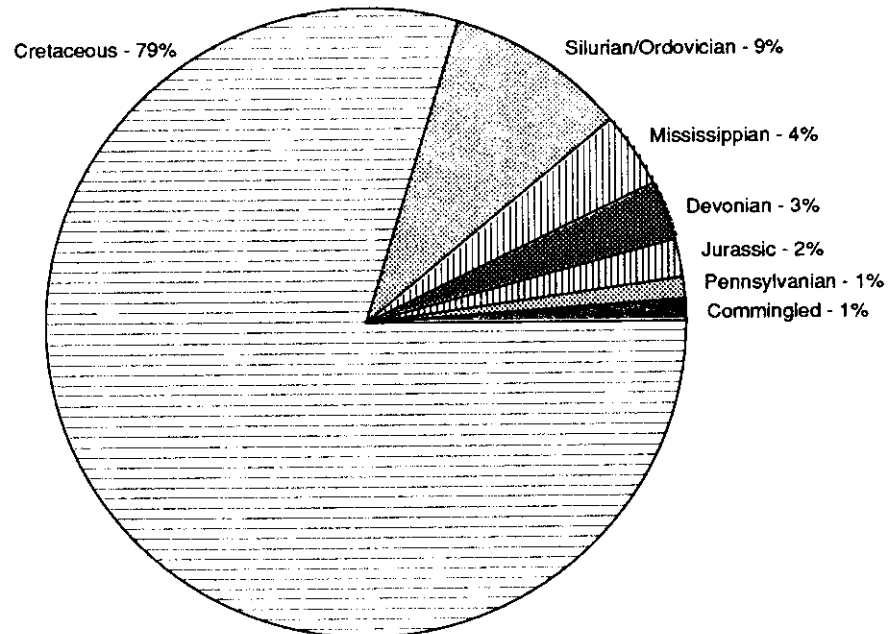
Oil Production By Geologic Period



19,835,087 Bbls Produced

Gas Production By Geologic Period

Natural & Associated Gas



51,538,504 Mcf Produced

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
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	0	9	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).
Swift-Sunburst	0	7	0	
ANVIL				
Nisku	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)
Ratcliffe	2	0	1	
Red River	8	0	0	
Winnipegosis	1	0	0	
ARCH APEX				
Bow Island	0	38	5	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.
Swift-Sunburst	2	0	4	
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	0	5	1	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).
Carlile	0	74	1	
Carlile/Greenhorn	0	4	0	
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	2	0	0	Statewide. Single 320-acre spacing unit for Winnipegosis formation. (Order 117-84) Single spacing unit for Red River and Winnipegosis formations. (Order 18-88) SWD approved EPA-90.
Red River-Gunton	1	0	0	
Ratcliffe	1	0	0	
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	1	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)
Red River	3	0	0	
Winnipegosis	2	0	0	
Interlake	1	0	0	
Mission Canyon	1	0	0	
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	17	0	0	Center of 10-acre tracts, 50' topographic tolerance. Commingling permitted. (Order 20-58) Pilot waterflood of Swift suspended in 1963.
Madison	7	0	1	
BATTLE CREEK				
Eagle	0	54	2	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)
BEANBLOSSOM				
Tyler B	2	0	0	Three spacing units with one well per lot. (Order 23-86) SWD approved EPA-87, 88.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
BEARS DEN				Statewide. Enhanced Recovery approved EPA-89.
Bow Island	0	1	0	
Swift	9	1	1	
BELFRY				
Kootenai	0	0	1	Statewide.
BELL CREEK				
Muddy	110	0	185	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) Seven areas unitized (Unit "A," "B," Ranch Creek, "C," "D," "E" and South Muddy Unit). Floods used Madison water. (Orders 7-70, 23-70, 8-71, 26-71, 35-71, 36-71 and 24-90) 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 South enhanced recovery approved EPA-90.
BELL CREEK, SOUTHEAST				
Muddy	0	0	1	160-acre spacing units, wells 660' from spacing unit boundary. (Order 31-71)
BENRUD				
Charles	0	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	0	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	0	5	1	Statewide. Single spacing unit: Sec. 29, T4N R20E for production of gas from Morrison formation. (Order 25-86)
Lakota	0	0	1	
Morrison	0	2	0	
BIG GULLY				
Tyler	2	0	0	Statewide.
BIG GULLY, NORTH				
Tyler	1	0	0	Statewide.
BIG MUDDY CREEK				
Mission Canyon	2	0	2	One well per 320-acre spacing unit with well no closer than 660' from boundary of four east-west units. (Order 4-75)
Red River	1	0	0	
BIG ROCK GAS FIELD				
Blackleaf	0	26	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)
Bow Island	0	10	4	
Madison	0	0	2	
Colorado	0	5	0	
BIG WALL				
Amsden	5	0	0	Spaced by old statewide spacing; 330' from lease or property line, 990' between wells in same reservoir. (Order 12-54)
Tyler	10	0	0	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	5	5	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.
Dakota-Sunburst	0	1	0	
BLACKFOOT SHALLOW GAS				
Dakota	0	8	1	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) SWD approved EPA-90.
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	12	0	4	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	378	28	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	38	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)
Sawtooth	56	0	34	
				Pilot waterflood initiated in 1961 and expanded to fieldwide waterflood in 1965. (Order 6-61) Water from Madison.
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	1	0	1	
BRADY				
Morrison	4	0	7	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)
Sunburst	8	0	4	
Burwash	1	0	2	
				SWD approved EPA-89. Produced water disposed into Sunburst formation. (Order 62-A-84)
BREED CREEK				
Tyler	9	0	5	Statewide. Enhanced recovery approved EPA-90.
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	3	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	
Bakken	1	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. SWD approved EPA-90.
BUFFALO FLAT				
Bow Island/Roberts	0	0	6	Statewide.
BUFFALO LAKE				
Madison	0	0	1	Statewide.
BULLWACKER				
Eagle	0	42	1	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	0	0	1	
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	0	320-acre spacing units; well location to be no closer than 660' from unit boundary. (Order 2-82)
CABARETT COULEE Madison	2	0	0	Statewide.
CABIN CREEK Madison Silurian-Ordovician	4 93	0 0	15 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, 90.
CAMP CREEK Eagle	0	1	0	Statewide.
CANADIAN COULEE & AREA Sawtooth Firemoon	0 0	1 0	0 1	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 2 1	0 0 0 0	1 7 6 0	
CAT CREEK, WEST DOME Cat Creek 1 & 2 Ellis Morrison Mowry	30 1 2 2	0 0 0 0	7 0 0 0	
CATTAILS Ratcliffe	8	0	0	160-acre spacing units; wells no closer than 660' to unit boundaries. (Order 31-88)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
CEDAR CREEK Eagle	0	86	4	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	0	2	Statewide.
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 Duperow	2 1	0 0	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)
CHARLIE CREEK, NORTH Red River	0	1	0	Single spacing unit. (Order 37-82) Statewide.
CHELSEA CREEK Nisku	1	0	0	Statewide.
CHINOOK, EAST Eagle Sawtooth	0 0	0 0	1 2	Statewide.
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. (Order 21-69)
CLEAR LAKE Madison Nesson Nisku Red River	5 1 1 7	0 0 0 0	0 0 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.
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 Second White Specks	0 0	4 1	0 0	4 wells per 640-acre spacing unit per formation with permitted well no closer than 990' to the exterior boundaries of the field and no closer than 660' to spacing unit boundaries with 150' topographic tolerance. (Order 1-90)
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 Nisku	3 1	0 0	0 0	Statewide, plus. Single Red River spacing unit comprised of N 1/2 Sec 7, T32N, R57E. (Order 28-84) Single Nisku spacing unit. (Order 86-85)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
COMERTOWN				
Nisku/Duperow	2	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) Produced water injected into the Dakota formation. (Order 107-A-82)
Ratcliffe	3	0	0	
Red River	4	0	1	
Bakken	1	0	0	
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	
COTTONWOOD				
Red River	1	0	0	Single spacing unit. (Order 85-84)
COTTONWOOD, EAST				
Ratcliffe	1	0	0	
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	0	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	5	0	3	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 SOUTH & AREA				
Red River	1	0	0	Statewide plus. Single Red River spacing unit. (Order 14-85)
CURLEW				
Red River	1	0	0	Statewide.
CUT BANK				
Blackleaf	0	1	1	(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, 90 and Order 88-85. SWD approved EPA-86, 89. Two Medicine enhanced recovery approved EPA-88.
Bow Island	0	18	2	
Cut Bank	506	181	338	
Cut Bank-Madison	2	0	0	
Kootenai	3	1	1	
Madison	44	1	21	
Moulton	37	2	25	
Sunburst	4	6	4	
Dakota	0	1	0	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
DAGMAR Red River	2	0	1	Statewide.
DEAN DOME Greybull	0	0	7	Statewide. Oil ring below gas cap.
DEER CREEK Red River	0	0	1	80-acre spacing units consisting of any two adjacent quarter-quarter sections. Well location in NE 1/4 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)
Charles	1	0	0	
DEER CREEK, NORTH Tyler	0	0	1	Single spacing unit, S 1/2 Sec. 14 and N 1/2 Sec. 23, T18N, R53E. (Order 26-84)
DELPHIA Amsden	2	0	0	Statewide.
DEVILS BASIN Heath	9	0	0	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) SWD approved EPA-90. 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	27	3	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	Ratcliffe and Mission Canyon 160-acre spacing units, no closer than 660' from spacing unit boundaries and 1600' between wells; 150' topographic tolerance excluding boundary setback (Order 7-81) Remainder Statewide. Produced water disposed into Dakota formation. (Order 42-A-80, 130-A-81) SWD approved EPA 90.
Red River	3	0	0	
DOOLEY Ratcliffe	4	0	0	Statewide.
DRY CREEK Frontier	0	15	1	Statewide. Field delineated. For frontier gas production with E 1/2 or W 1/2 of sections as spacing units. (Order 8-70) West Dome gas storage project approved (Order 31-66). Order 8-70 modified to allow N 1/2 or S 1/2 of section as spacing units. (Order 31-76)
Greybull	0	2	0	
Judith River	0	3	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	160-acre spacing units with 1 well per productive horizon per spacing unit and location no closer than 660' to spacing unit boundaries for all horizons above Cody. (Order 54-76) additional wells. (Order 13-90)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
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	1	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	
DUNKIRK, NORTH Bow Island	0	29	3	One well per governmental section per zone or horizon. Each producing well to be located anywhere within section but no closer than 990' from section line. (Order 25-77) Field amended to allow 4 wells per section located no closer than 1,320' to another well producing from the same horizon. (Order 7-89) Field enlargements. (Orders 64-78, 157-81 and 6-89)
Sunburst	0	1	0	
Swift	0	1	0	
DUTCH JOHN COULEE Sunburst	3	1	4	Statewide. Sunburst sand unitization and gas repressuring project approved. (Order 27-88)
DWYER Madison	9	0	5	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.
Winnepogosis	1	0	0	
DWYER-NISKU Nisku	2	0	0	Single 320-acre spacing unit. (Order 30-87)
DWYER RED RIVER & AREA Red River	3	0	0	Single spacing unit with 2 wells. (Order 97-83)
EAGLE Bakken	1	0	0	Statewide.
Duperow	1	0	0	
Madison	14	0	2	
Red River\Interlake	2	0	0	
EAGLE SPRINGS Bow Island-Sunburst-Swift	0	5	5	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	13	0	12	
Madison	14	0	15	
Embar-Tensleep	19	1	13	
ELK BASIN, NORTHWEST Frontier	3	2	7	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	6	0	4	
Tensleep	1	0	1	
ENID, NORTH Bakken	0	0	1	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	7	0	320-acre spacing units; well locations no closer than 660' to unit boundaries, for Swift formation. (Order 4-90)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
ETHRIDGE, NORTH Swift	0	0	1	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 Brorson 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	1	0	0	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	
FAIRVIEW, WEST Madison	1	0	1	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	1	0	0	Statewide.
Red River	2	0	0	
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	0	3	0	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)
Dakota	0	3	0	
Sawtooth	0	1	0	
Swift	21	1	1	
FLAT LAKE Madison	38	0	29	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)
Nisku	1	0	0	
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)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
FORT GILBERT				
Madison	9	0	2	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)
Red River	2	0	0	
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, 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)
Bakken	1	0	0	
FRANNIE				
Tensleep	1	0	0	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	0	2	0	Sunburst Oil: 40-acre spacing units; well location in center of unit with 250' topographic tolerance. (Orders 29-63, 1-65, amended by Order 27-65) 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)
Sunburst/Swift	25	1	30	
FRESNO & AREA				
Eagle	0	4	3	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. SWD approved EPA-90.
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 28-85) Field enlarged. (Orders 41-85 and 76-85)
GAS CITY				
Silurian-Ordovician	8	0	3	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. (Order 32-61) Disposal into Red River. (Order 20-64) Waterflood using produced water and Madison water. (Order 16-69) Produced water disposed into Charles "B" formation. (Order 90-A-79)
Madison	1	0	0	
GILFORD, NORTH				
Sawtooth	0	0	1	
GIRARD				
Bakken	1	0	0	Statewide.
Red River	1	0	0	
GLENDDIVE				
Silurian-Ordovician	13	0	4	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.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
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	2	4	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.
Greybull	0	3	0	
Eagle	0	1	0	
GOOSE LAKE				
Ratcliffe	17	0	15	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)
Red River	1	0	1	
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.				
GOOSE LAKE, SOUTHEAST				
Ratcliffe	1	0	0	Statewide.
GOOSE LAKE, WEST				
Red River	2	0	0	Statewide.
GOSSETT				
Ratcliffe	2	0	0	Statewide.
Red River	1	0	0	
GRABEN COULEE				
Cut Bank	69	0	11	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)
Sunburst	10	0	4	
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.				
GRANDVIEW				
Bow Island	0	5	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.
Sawtooth	0	1	0	
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	4	0	2	Statewide. Third Cat Creek water for waterflood. (Order 54-79)
GUNSIGHT				
Madison	3	0	0	Statewide.
GYPSY BASIN				
Sawtooth, Sunburst, Swift Madison, Nisku	19	0	31	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)
HARDPAN				
Bow Island	0	9	3	Spacing one well per section for Kootenai and above. Well location no closer than 990' from the section boundary. (Order 145-81) Field enlargement. (Order 131-82)
Blackleaf	0	1	0	
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 from Eagle. (Order 48-82)
HAWK CREEK Amsden	1	0	0	Statewide.
HAY CREEK Interlake	0	0	1	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. SWD approved EPA-90. 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	5	3	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	0	Statewide.
HIBBARD Amsden	1	0	0	Statewide.
HIGH FIVE Stensvad	9	0	0	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	0	2	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 Red River	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 Stensvad	2	0	0	Statewide.
INTAKE II & AREA Madison/Ordovician	1	0	0	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	2	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	2	0	0	
Tyler	5	0	0	
Cat Creek Two	1	0	0	
				Waterflood of Tyler B and C sands discontinued. Water disposal into Tyler A. (Order 8-A-78, 10-A-84)
JIM COULEE				
Tyler	14	0	4	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	0	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	16	
KEITH, EAST & AREA				
Bow Island	0	6	0	Statewide, except unitized portions spaced by Order 22-62. Pooling. (Order 19-66)
Niobrara	0	1	0	
Sawtooth	0	4	0	
Second White Specks	0	14	1	
KELLEY				
Tyler	3	0	1	40-acre spacing units with well at center of spacing unit with a 250' topographic tolerance. (Order 15-67) Waterflood using Third Cat Creek water. (Orders 8-69, 51-76)
KEVIN, EAST GAS FIELD				
Sunburst	0	1	0	320-acre spacing units for all horizons above base of Rierdon formation, commingling approved. (Order 23-85) Field enlarged. (Orders 29-86, 10-87 and 8-90)
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	0	
KEVIN SUNBURST				
Madison	876	31	634	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/Madison	2	0	7	
Bow Island, Kootenai, Swift				
Eagle, Dakota	0	47	2	
Ellis	42	0	16	
Swift	26	8	3	
Nisku	3	1	2	
Sawtooth	1	0	0	
Sunburst	91	52	43	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
KEVIN SUNBURST, BOW ISLAND Bow Island	0	2	0	Statewide.
KEVIN SUNBURST (DAKOTA) Dakota	0	1	0	Single spacing unit for production from Dakota interval. (Order 45-90)
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 Tyler	3	0	0	Enhanced recovery approved. EPA-88 and Order 46-88. Kincheloe Ranch Tyler "A" Unit.
KINCHELOE RANCH, WEST Tyler	2	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	0	1	Statewide.
Sawtooth	0	0	1	
LAIRD CREEK (LAIRD CREEK U) Swift	7	0	2	Statewide. Unitized and waterflood authorized in Swift for oil production. (Order 25-74) Commenced 2-25-77.
LAKE BASIN Eagle-Virgelle	0	13	7	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)
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	3	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	9	0	9	Statewide. Reinject gas into Madison formation. (Order 84-84) SWD approved EPA-86.
Sun River	1	0	0	
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	3	0	0	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)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
LEDGER				
Bow Island	0	51	9	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	26	10	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)
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	0	640-acre spacing units; one well per section located no closer than 990' from spacing unit boundary. (Order 27-86)
Lakota	0	1	0	
LITTLE BEAVER				
Silurian-Ordovician	35	0	7	Spacing waived and General Rules for (Deviation), (Commingle), 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) Allow two wells within each spacing unit no closer than 1,320' to each other and no closer than 660' to unit boundaries. (Order 12-90)
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. SWD approved EPA-90.
Tyler	3	0	0	
Tyler-Stensvad	4	0	0	
LITTLE WALL, SOUTH AND UNITS				
Tyler	18	0	0	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	2	0	0	Statewide
LODGE GRASS				
Morrison	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	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
LONETREE CREEK Red River	8	0	2	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.
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	4 42	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, 21-89 and 49-90)
LORING FIELD Greenhorn-Phillips-Carlile	0	151	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	3	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	51	0	11	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. (Order 18-78) Field enlargement. (Order 12-83) Field amended to allow 2 wells per zone in each spacing unit located no closer than 1,320' to each other and no closer than 990' to spacing unit boundaries. (Order 26-90)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
MASON LAKE				
Amsden	1	0	3	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, 67-89 and 52-90)
Cat Creek	6	0	9	
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	40-acre spacing units for Sunburst with wells not closer than 330' to spacing unit boundaries. (Order 30-82)
MEDICINE LAKE				
Silurian-Ordovician	6	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	2	0	0	
Mission Canyon	0	0	1	
MELSTONE				
Tyler	9	0	4	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.
Nisku	1	0	0	
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) Field enlargement. (Order 77-76) 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/Swift	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 E 1/2 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	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
MONDAK, WEST				
Devonian	1	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)
Madison	27	0	2	
Silurian-Ordovician	9	0	0	
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.				
MOSSER DOME				
Mosser Sand	23	0	1	Spacing waived. Future development requires administrative approval of the Board. (Order 27-62) SWD approved EPA-90.
MT. LILLY				
Bow Island	0	1	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)
Madison	0	0	2	
Swift	0	1	0	
MUSSELSHELL				
Tyler	1	0	1	Statewide.
MUSTANG				
Red River	2	0	0	Statewide.
Madison	1	0	0	
NEISER CREEK				
Red River	1	0	0	Single spacing unit. (Order 78-82)
NINEMILE				
Nisku	2	0	0	Statewide.
NOHLY				
Nisku	5	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)
Ratcliffe	4	0	0	
Red River	3	0	0	
NORTH FORK				
Madison	5	0	0	Statewide.
O'BRIENS COULEE				
Blackleaf	0	1	1	Statewide.
Bow Island	0	15	1	
Bow Island-Spike	0	1	0	
Second White Specks	0	1	0	
OLD SHELBY AND AREA				
Bow Island	0	1	0	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) Amended to allow two wells per zone in each spacing unit in designated sections. (Order 39-90)
Swift-Sunburst	0	51	3	
OLJE				
Red River	1	0	0	Single 160-acre spacing unit. (Order 35-85)
OLLIE				
Red River	1	0	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.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
OTIS CREEK, SOUTH				
Red River	1	0	1	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)
Duperow	0	0	1	
OUTLOOK				
Duperow	1	0	0	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.
Interlake	2	0	0	
Nisku	1	0	0	
Winnipegosis	4	0	2	
Gunton	1	0	0	
OUTLOOK, SOUTH				
Bakken	0	0	1	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	2	0	0	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	5	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	0	0	1	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	174	0	28	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)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
PINE				
Madison	0	0	3	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 CO2 injection test. (Order 70-83) Enhanced recovery approved EPA-85, 90.
Silurian-Ordovician	98	0	31	
POLICE COULEE				
Bow Island	0	8	1	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)
PONDERA				
Madison	369	0	50	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, 89, and 90.
Sun River	14	0	0	
PONDERA COULEE				
Madison	3	0	0	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, 15-70-A, 10-A-73, 33-A-75, 127-A-80, and 121-A-81) SWD approved EPA-86, 87.)
Madison	45	0	20	
Nisku	0	0	1	
POPLAR, NORTHWEST AND AREA				
Charles	29	0	6	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, 83-83, 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, 8-A-75, 127-A-80 and 14-A-82) SWD approved EPA-85, 86.
PRAIRIE DELL				
Bow Island-Dakota-Sunburst-Swift	0	88	2	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) Field enlarged and amended to allow 4 wells per spacing unit no closer than 1,320' to each other and no closer than 660' to the unit boundaries. (Order 22-90)
Bow Island-Dakota	0	3	0	
PRAIRIE ELK				
Charles C	1	0	0	Statewide.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
PRICHARD CREEK				
Bow Island	0	0	2	Well locations subject to administrative approval. Unitized as to Sunburst for water injection. (Order 7-73)
Sunburst	0	0	6	
Swift	1	0	0	
PRONGHORN				
Red River-Interlake	3	0	2	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) SWD approved EPA-90.
Madison	6	0	0	
Red River	5	0	0	
Bakken	1	0	0	
RABBIT HILLS				
Sawtooth	2	0	0	Statewide. Disposal of produced water into Eagle formation. (Order 49-A-75)
RABBIT HILLS, NORTHEAST				
Sawtooth	5	0	0	160-acre (quarter section) spacing units for Sawtooth, FM wells not less than 660' from spacing unit boundaries. (Order 33-76, referring to Order 34-74) Field reduction (Order 98-83)
RABBIT HILLS, SOUTHWEST				
Sawtooth	1	0	0	160-acre (quarter section) spacing units for Sawtooth FM, with wells not less than 660' from spacing unit boundaries. (Order 33-76, referring to order 34-74)
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	3	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	2	160-acre spacing. Wells no closer than 990' to unit boundary. Commingling after administrative approval. (Order 29-73)
RATTLER BUTTE				
Tyler	3	0	3	Statewide.
RATTLESNAKE BUTTE				
Amsden	4	0	3	Statewide. SWD approved EPA 86, 87.
Cat Creek	2	0	0	
RATTLESNAKE COULEE				
Bow Island	0	2	0	Statewide.
Sunburst	0	1	0	
RAYMOND				
Duperow	0	1	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) Nisku formation rules suspended for unit except for 660' setback distance from external unit boundaries. (Order 3-86) 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)
Mississippian	4	0	3	
Nisku	2	0	0	
Red River	2	0	0	
Winnipegosis	2	0	0	
RAYMOND, NORTH				
Red River	1	0	0	Single spacing unit. (Order 94-82)

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
REAGAN Madison	56	2	12	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	10 1	0 1	1 0	Statewide. Produced water disposed into the Dakota formation. (Order 10-A-82) SWD approved EPA-90.
RED BANK, SOUTH Red River	1	0	0	Statewide.
RED CREEK Cut Bank-Madison	14	0	5	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, 31-64, 5-70) Field enlarged. (Order 9-62), redelineated. (Order 73-62) 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, 90.
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	7 0	3 3	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. Excess produced water to be injected into Spearfish or Charles. (Order 39-A-70)
RESERVE Red River Winnepogosis	1 1	0 0	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 Interlake	1 1	0 0	0 0	Single 160-acre spacing unit. (Order 44-87) Single 160-acre spacing unit. (Order 55-88)
RICHEY AND AREA Charles	4	0	0	Statewide. Original 80-acre spacing revoked. (Order 11-73) Excess produced water injected into Second and Third Cat Creek sands. (Order 10-58)
RICHEY, SOUTHWEST Interlake	1	0	0	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 Madison Red River	4 18 3	1 1 0	3 2 0	160-acre spacing units; wells no closer than 660' to unit boundary with 150' topographic tolerance. (Order 18-89) Ridgelawn Duperow Unit approved for secondary recovery. (Orders 49-89, 55-89 and 11-90) Unit EPA approved-90. 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.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
ROCKY BOY AREA				
Eagle	0	5	1	Statewide.
Judith River	0	0	1	
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	3	0	2	Statewide.
ROYALS				
Dawson Bay	1	0	0	Statewide.
RUDYARD				
Eagle	0	1	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	1	
RUNAWAY				
Madison	1	0	0	Statewide.
RUSH MOUNTAIN				
Winnipegosis	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.
Gunton	1	0	0	
Red River	2	0	0	160-acre spacing units for Red River formation with production allocation by stipulated agreement. (Order 48-89)
Bakken	0	0	1	
SAND CREEK				
Interlake	0	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, with 150' topographic tolerance on administrative approval. (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. Field enlargement. (Order 20-66)
SANDWICH				
Swift	0	1	0	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	2	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. (Order 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	
SHELBY AREA				
Sunburst	0	1	0	Statewide.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
SHERARD				
Eagle	0	42	27	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	4	
SHOTGUN CREEK				
Ratcliffe	3	0	0	Statewide.
SIDNEY				
Madison	17	0	5	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	8	0	0	Statewide.
SINGLETREE				
Red River	1	0	0	Single spacing unit. (Order 78-84) Produced water disposed into Dakota formation. (Order 59-A-80)
SIOUX PASS				
Red River	7	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.
Interlake	1	0	0	
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	3	0	0	320-acre spacing units with well locations at least 660' from unit boundary. (Order 12-75) Ratcliffe 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) SWD approved EPA-90.
Ratcliffe	1	0	0	
Red River	10	0	0	
Red River/Nisku	1	0	0	
SIOUX PASS, SOUTH				
Red River	2	0	0	Statewide.
SNOOSE COULEE				
Bow Island	1	7	2	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	21	0	3	One well per 10-acre spacing unit per producing formation; well location in center of spacing unit with 100' topographic tolerance. (Order 26-60)
Tensleep	9	0	2	
SOAP CREEK, EAST				
Tensleep	3	0	0	Statewide.
SOBERUP COULEE				
Bow Island	0	1	0	320-acre 2nd Bow Island Sandstone spacing units, consisting of E 1/2 and W 1/2 of delineated section with locations no closer than 660' to spacing unit boundaries. (Order 25-79)
SOUTH FORK				
Mission Canyon	1	0	0	Statewide. SWD approved EPA-87.
Red River	2	0	0	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
SPRING COULEE				
Sawtooth	0	0	2	Statewide.
2nd White Specks	0	0	1	
SPRING LAKE				
Bakken	2	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)
Red River	2	0	0	
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	1	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)
Red River	1	0	0	
STENSVAD				
Tyler	6	0	11	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. Field enlarged. (Order 22-59) Produced water injected into Madison. (Order 38-62) Waterflood area enlarged. (Order 9-67)
STRAWBERRY CREEK AREA				
Bow Island	0	1	0	Statewide.
Burwash	0	1	0	
STUDHORSE				
Stensvad	0	0	1	Statewide.
Tyler	2	0	3	
SUMATRA				
Amsden-Tyler	70	0	72	40-acre spacing units; well located in center of unit with 75' tolerance. (Order 14-58) Field redelineated. (Orders 14-75 and 16-72) 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 CSTSU, SESTSU and Kincheloe Sumatra Unit to tertiary recovery projects. (Orders 99-84, 100-84 and 29-85) CSTSU enhanced recovery approved EPA-88. SWD approved EPA-89. Produced water into Amsden (Order 18-58) and Lower Tyler. (Order 47-A-75)
Heath	1	0	0	
Madison	0	0	1	
SUNNYHILL				
Madison	2	0	0	320-acre Red River & Duperow 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. 160-acre Madison spacing units consisting of regular quarter sections; location no closer than 660' to section or quarter section lines. (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.

OIL AND GAS FIELDS

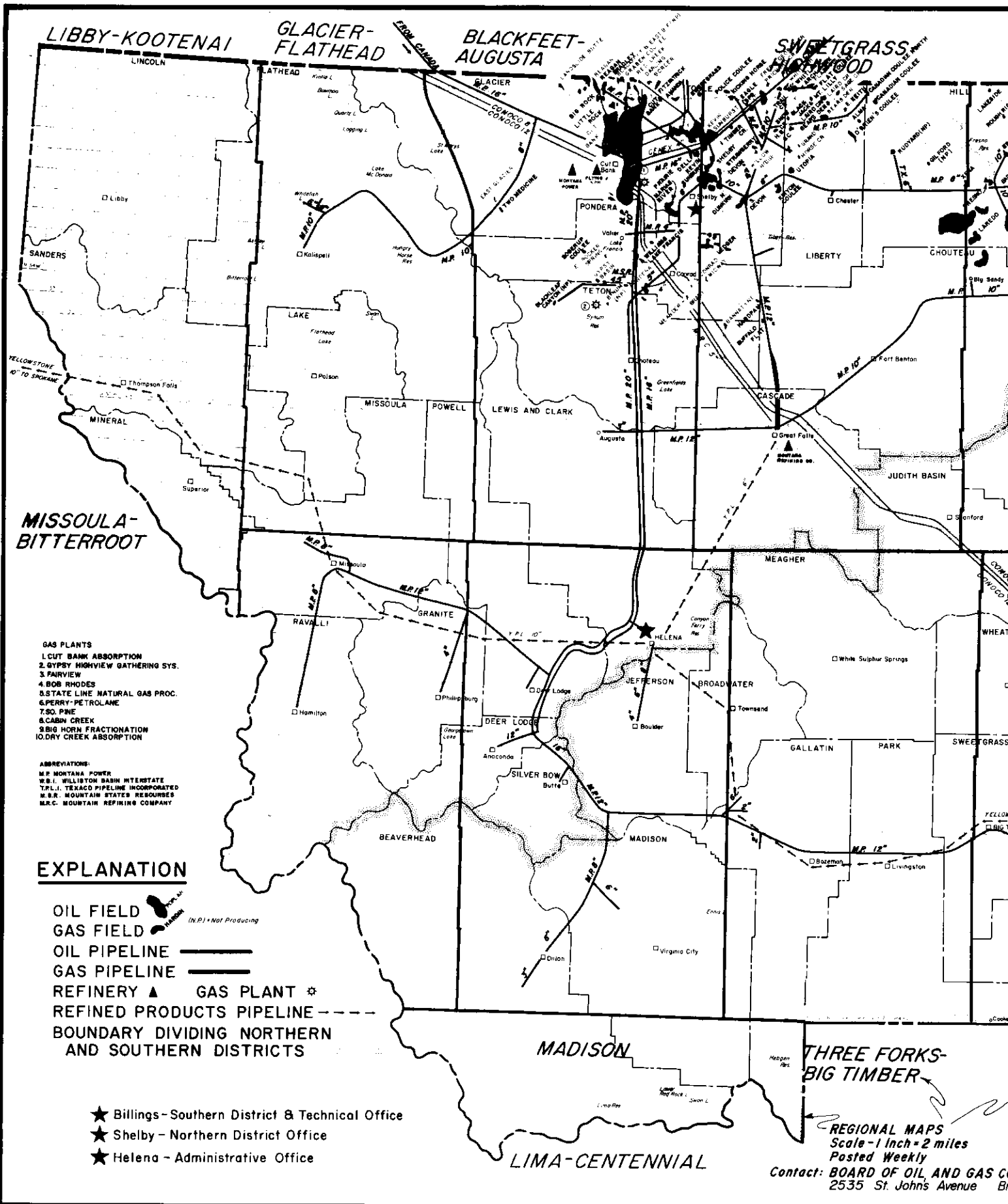
Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
THIRTY MILE Sawtooth	2	0	0	Statewide.
THREE BUTTES Red River-Gunton Mission Canyon	1 1	0 0	0 0	160-acre spacing units, well location no closer than 660' from governmental quarter section line or unit boundary. (Order 11-81).
THREE MILE Eagle	0	2	4	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 Judith River	0 0	276 3	74 1	Field delineation and redelineations. (Orders 17-67, 23-68, 10-70, 13-75, 46-78, 48-79, 26-80, 30-89 and 10-90) 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, 25-89 and 9-90) 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.
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	320-acre Sunburst Sandstone spacing units consisting of two contiguous quarter sections oriented either North-South or East West; locations no closer than 660' to internal spacing unit boundaries, or 990' to external boundaries.
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 Swift-Sunburst	0 0	5 3	0 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)
TULE CREEK Nisku Devonian	3 1	0 0	1 0	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 13-61, 12-66, 24-67, 8-A-76, 134-A-81) Produced water disposed into Dakota formation. (Order 38-A-82) SWD approved EPA 86.
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 Judith River	0 0	0 0	1 1	Statewide.

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
TWO WATERS				
Bakken	2	0	0	Statewide.
Duperow	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)
Sawtooth	0	2	0	
Swift	23	0	4	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, 38-89 and 33-90)
VALIER				
Blackleaf	0	2	0	Statewide.
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)
Madison	18	0	0	Single spacing unit for Mississippian Bakken formation. (Order 20-86)
Red River	4	0	0	160-acre spacing unit for Mission Canyon formation. (Order 25-87)
Dawson Bay	1	0	0	Produced water injected into the Dakota formation. (Order 44-A-79 and 109-A-82)
Midale	1	0	0	
Bakken	1	0	0	
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.
WAKEA				
Red River-Interlake	4	0	0	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.
WEST BUTTE				
Bow Island	0	3	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	3	0	3	
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)
WHITEWATER FIELD				
Greenhorn/Phillips	0	74	8	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	97	2	
Bowdoin	0	10	0	
Carlile/Greenhorn	0	19	0	
WHITEWATER, 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.
Madison	0	1	0	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)
Swift-Sunburst	55	8	26	

OIL AND GAS FIELDS

Field, Formation	Oil	Gas	Shut-In	Spacing Regulations, Field Rules, and Remarks
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	3	3	9	
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	2	0	3	Statewide. Pilotflood. (Order 19-72)
WILLOW RIDGE				
Bow Island	0	11	4	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-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	4	1	640-acre spacing units; wells to be located no closer than 990' to unit boundaries. (Order 3-88)
WILLS CREEK, SOUTH				
Silurian-Ordovician	2	0	1	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) Boundary changes. (Order 92-76 and 5-90)
WOLF SPRINGS, SOUTH				
Amsden	2	0	6	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	1	0	1	
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. (Order 27-69) 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

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. SD. 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.I. TEXACO PIPELINE INCORPORATED
 - M.S.R. MOUNTAIN STATES RESOURCES
 - M.R.C. MOUNTAIN REFINING COMPANY

EXPLANATION

- OIL FIELD
- GAS FIELD
- OIL PIPELINE
- GAS PIPELINE
- REFINERY
- GAS PLANT
- REFINED PRODUCTS PIPELINE
- BOUNDARY DIVIDING NORTHERN AND SOUTHERN DISTRICTS

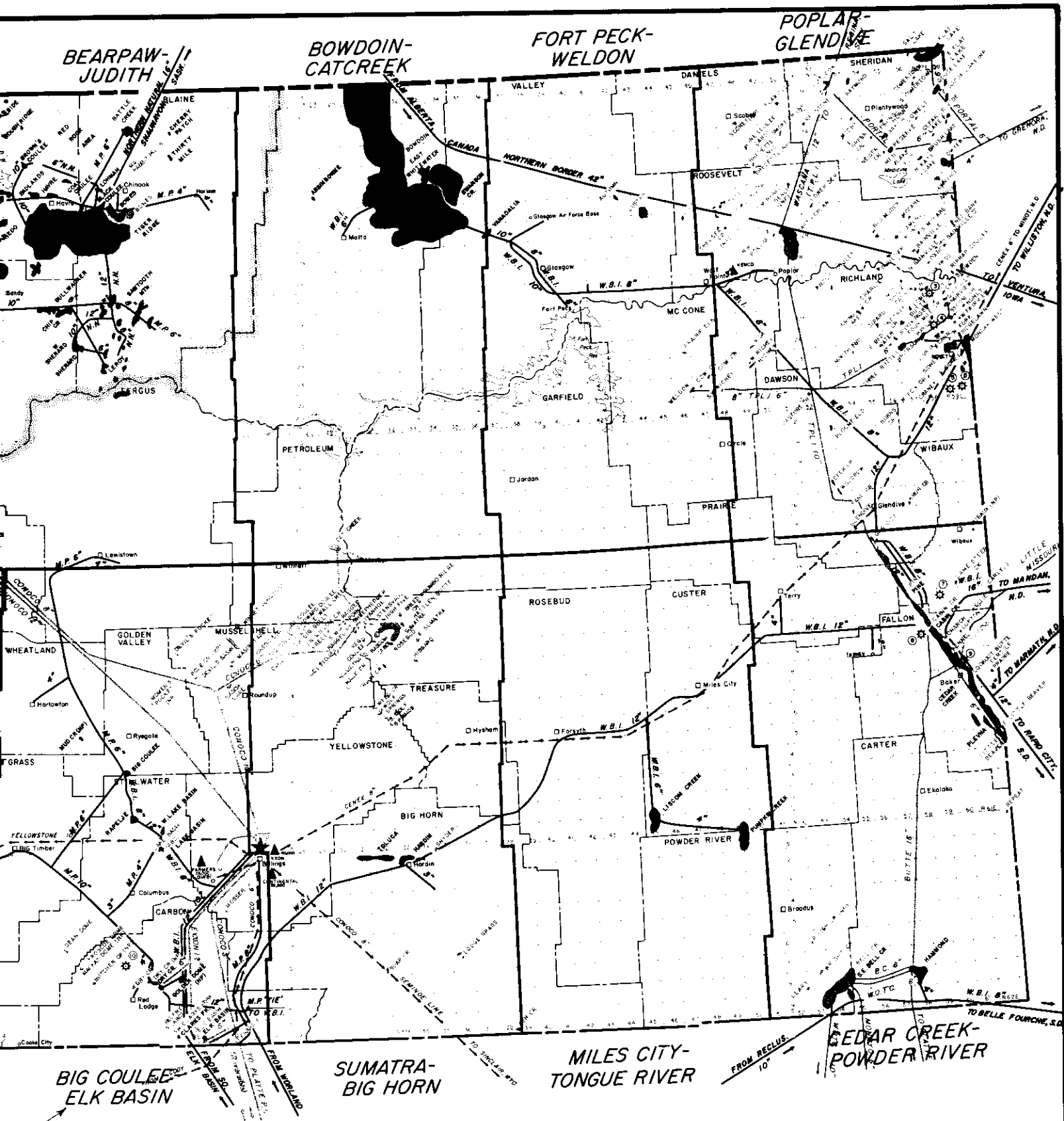
- ★ Billings - Southern District & Technical Office
- ★ Shelby - Northern District Office
- ★ Helena - Administrative Office

THREE FORKS-BIG TIMBER

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

MADISON

LIMA-CENTENNIAL



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	M BBLs
											PRIM.	SECON.		
1	Anvil	Nisku/Winn	Roosevelt	1981	10,900	40	1.50	14	17	34	45	0	320	2,600
2	Anvil	Ratcliffe	Roosevelt	1982	8,990	36	1.35	22	11	50	11	0	320	2,225
3	Anvil	Red River	Roosevelt	1978	12,600	47	1.63	26	14	32	11	0	2,560	30,159
4	Ash Creek	Shannon	Big Horn	1952	4,500	34	1.00	14	22	42	25	5	200	2,772
5	Bainville	Ratcliffe/Nisku	Roosevelt	1988	8,630	38	-	16	-	-	-	-	160	-
6	Bainville	Siluro/Ord.	Roosevelt	1969	12,402	44	-	-	-	-	-	-	1,920	-
7	Bainville II	Red River	Roosevelt	1981	12,700	42	1.20	40	10	35	4	0	960	16,137
8	Bainville, North	Ratcliffe	Roosevelt	1980	8,800	30	-	13	14	52	-	-	320	-
9	Bainville, North	Red River/Interlake	Roosevelt	1979	12,400	43	1.55	40	9	32	3	0	2,240	27,446
10	Bainville, North	Winnipegosis	Roosevelt	1979	11,400	44	1.60	35	7	20	13	0	960	9,123
11	Bainville, West	Red River	Roosevelt	1978	8,500	34	1.50	12	6	45	14	0	960	1,966
12	Beanblossom	Lower Tyler	Garfield	1985	4,562	-	-	-	-	-	-	-	480	-
13	Bears Den	Swift	Liberty	1924	2,300	39	1.08	20	9	35	18	0	360	3,026
14	Bell Creek	Muddy	Powder River	1967	4,400	36	1.11	10	26	23	57	28	8,240	115,297
15	Benrud, East	Nisku	Roosevelt	1962	7,500	46	1.37	22	15	30	40	0	640	8,372
16	Benrud, Northeast	Nisku	Roosevelt	1964	7,400	46	1.40	23	16	30	45	0	160	2,284
17	Big Muddy Creek	Red River	Roosevelt	1975	11,900	48	1.72	11	14	36	23	0	1,280	5,690
18	Big Wall	Arnsden	Musselshell	1953	2,500	19	1.01	17	16	35	30	0	280	3,802
19	Big Wall	Lower Tyler Unit	Musselshell	1948	3,000	31	1.02	22	17	40	33	1	1,220	20,822
20	Big Wall	Upper Tyler Unit	Musselshell	1948	3,000	-	-	-	-	-	-	-	480	-
21	Black Diamond	Nisku/Madison	Wibaux	1981	11,310	27	1.31	4	40	10	11	0	640	5,458
22	Blackfoot	Devonian/Madison	Glacier	1957	3,500	30	1.10	15	15	35	17	22	360	3,713
23	Bloomfield	Dawson Bay	Dawson	1984	10,500	41	1.38	15	2	25	44	0	320	405
24	Bloomfield	Interlake/Red River	Dawson	1983	10,650	43	1.32	13	4	-	18	0	640	1,956
25	Border Non Unit	Sunburst	Toole	1929	2,400	31	1.08	22	15	30	14	0	160	2,655
26	Bowes Sawtooth Unit	Sawtooth	Blaine	1949	3,300	19	1.02	32	12	31	15	0	3,760	75,774
27	Box Canyon	Red River	Richland	1980	11,800	46	-	11	-	-	-	-	640	-
28	Bradley	Madison/Sunburst	Glacier	1959	3,500	26	1.25	6	11	49	54	0	240	501
29	Brady	Sunburst	Pondera	1942	1,500	34	1.01	10	12	30	5	0	680	4,387
30	Breed Creek	Tyler	Roosevelt	1976	4,900	32	1.15	20	15	37	33	0	440	5,610
31	Brorson	Madison	Richland	1954	9,600	32	1.40	40	5	40	15	0	1,760	11,703
32	Brorson	Red River	Richland	1968	12,600	48	1.70	20	10	35	46	0	960	5,695
33	Brorson, South	Madison	Richland	1978	9,000	42	-	52	-	-	-	-	480	-
34	Brorson, South	Red River	Richland	1968	12,600	48	1.70	20	12	30	7	0	960	7,360
35	Brush Lake	Red River	Sheridan	1969	11,400	40	1.50	30	14	35	11	0	2,240	31,628
36	Burget, East	Madison	Roosevelt	1981	9,000	-	-	36	-	-	-	-	640	-
37	Cabin Creek Unit 1	Siluro/Ord.	Fallon	1953	9,000	33	1.20	50	13	30	17	11	14,880	437,706
38	Cabin Creek Unit 2	Madison	Fallon	1956	7,300	33	1.13	25	11	30	51	0	2,260	29,868
39	Canal	Madison	Richland	1977	9,200	33	1.30	47	2	41	24	0	640	2,118
40	Canal	Red River	Richland	1970	12,700	47	2.07	58	8	40	20	0	320	3,339
41	Carlyle	Red River	Wibaux	1978	10,700	37	1.30	12	12	27	8	0	640	4,015
42	Cat Creek East Dome	Elis	Petroleum	1920	1,200	52	1.10	6	22	40	33	8	880	4,915
43	Cat Creek Mosby	Arnsden/Cat Creek	Petroleum	1967	2,000	52	1.10	10	8	30	81	13	400	1,580
44	Cat Creek Mosby	Elis	Petroleum	1945	1,700	52	1.10	25	18	40	11	1	880	16,757
45	Cat Creek West Dome	1st and 2nd Cat	Petroleum	1920	1,100	52	1.10	51	21	19	17	5	1,480	90,551
46	Charlie Creek	Red River/Nisku	Richland	1976	9,900	42	1.60	12	6	35	50	0	640	1,452
47	Charlie Creek, East	Red River	Richland	1980	11,900	45	-	27	-	-	-	-	960	-
48	Chelsea Creek	Nisku	Roosevelt	1961	7,626	-	-	-	-	-	-	-	160	-
49	Clear Lake	Madison	Sheridan	1978	7,600	33	1.15	10	5	30	40	0	960	2,267
50	Clear Lake	Nisku	Sheridan	1979	9,000	43	1.53	31	11	27	3	0	320	4,039
51	Clear Lake	Red River	Sheridan	1977	11,200	42	1.65	32	18	35	7	0	2,240	39,432
52	Clear Lake, South	Red River	Sheridan	1984	11,500	38	1.39	10	23	21	3	0	640	6,490
53	Colored Canyon	Red River	Sheridan	1978	11,300	40	1.40	18	13	28	5	0	1,920	17,926
54	Comertown	Nisku	Sheridan	1983	10,672	36	1.30	13	17	39	10	0	640	5,149
55	Comertown	Ratcliffe	Sheridan	1981	6,807	30	1.20	16	26	-	1	0	480	12,909
56	Comertown	Red River	Sheridan	1980	10,500	30	1.30	19	10	38	37	0	800	5,624
57	Comertown, South	Red River/Nisku	Sheridan	1984	11,000	-	-	-	-	-	-	-	960	-
58	Cottonwood	Red River	Richland	1984	12,870	-	-	5	-	-	-	-	320	-
59	Cow Creek, East	Kibby	McCone	1971	6,300	35	1.05	15	15	-	10	0	1,600	26,599
60	Crane	Devonian	Richland	1979	11,900	47	1.65	20	12	35	21	0	960	7,041
61	Crane	Siluro/Ord.	Richland	1979	12,700	-	-	-	-	8	-	-	960	-
62	Cupton	Red River	Fallon	1955	9,600	38	1.25	40	12	16	5	0	2,240	56,054
63	Curlew	Red River	Sheridan	1989	11,100	40	1.80	9	11	40	1	0	320	819
64	Cut Bank	Cut Bank	Glacier/Toole	1932	2,900	31	1.09	18	15	35	39	6	27,360	341,756
65	Dagmar	Red River	Sheridan	1976	11,300	37	1.65	22	16	35	4	0	1,280	13,770
66	Dagmar, North	Madison	Sheridan	1983	7,952	-	-	24	-	-	-	-	160	-

SUMMARY OF PRODUCING

LINE NO.	PRODUCING FIELD	FORMATION	COUNTY	YEAR OF DISCOVERY	DEPTH	GRAVITY *API	F.V.F.	NET PAY FT.	POROSITY (%)	% WATER	RECOVER FACTOR	
											PRIM.	S
67	Deadmans Coulee	Nisku	Roosevelt	1981	7,500	45	1.10	10	11	40	9	
68	Diamond Point	Red River	Roosevelt	1976	11,900	47	-	26	-	-	-	
69	Divide	Madison/Ratcliffe	Sheridan	1979	7,900	33	1.35	25	7	42	19	
70	Divide	Red River	Sheridan	1987	11,398	-	-	-	-	-	-	
71	Dooley	Ratcliffe	Sheridan	1987	6,451	28	-	-	-	-	-	
72	Dutch John Coulee	Sunburst	Toole	1985	2,040	-	-	-	-	-	-	
73	Dwyer	Nisku	Sheridan	1987	9,120	-	-	-	-	-	-	
74	Dwyer	Red River	Sheridan	1982	11,552	35	-	-	-	-	-	
75	Dwyer Non Unit	Ratcliffe	Sheridan	1960	8,000	-	-	-	-	-	-	
76	Dwyer Unit	Charles	Sheridan	1960	8,000	37	1.32	38	11	56	74	
77	Eagle	Bakken/Duperow	Richland	1980	10,696	40	-	24	-	-	-	
78	Eagle	Madison	Richland	1977	8,900	32	1.22	15	9	35	9	
79	Eagle	Red River	Richland	1982	12,448	38	-	-	-	-	-	
80	Elk Basin	Frontier	Carbon	1915	1,400	-	-	-	-	-	-	
81	Elk Basin	Madison	Carbon	1942	5,300	28	1.12	224	12	9	3	
82	Elk Basin	Tensleep	Carbon	1942	5,000	29	1.16	124	11	10	23	
83	Elk Basin, Northwest	Madison/Tensleep	Carbon	1964	6,000	37	1.15	27	12	22	5	
84	Enid, North	Red River	Richland	1979	11,800	47	1.75	8	7	34	27	
85	Fairview	Madison	Richland	1981	9,520	34	1.60	45	4	51	18	
86	Fairview Non Unit	Red River	Richland	1965	12,700	47	1.70	35	11	28	21	
87	Fairview, East	Red River	Richland	1981	12,800	48	1.50	24	13	32	6	
88	Fairview, NW Unit	Red River	Richland	1965	12,700	-	-	-	-	-	-	
89	Fairview, West	Madison	Richland	1980	9,200	37	-	60	3	-	-	
90	Fertile Praire	Red River	Fallon	1952	9,300	29	1.20	6	14	27	32	
91	Fishhook	Red River	Sheridan	1980	11,200	41	1.28	10	10	31	18	
92	Flat Coulee Non Unit	Swift	Liberty	1933	2,900	37	1.10	18	21	35	15	
93	Flat Coulee Unit	Swift	Liberty	1933	2,900	37	1.10	18	21	35	15	
94	Flat Lake	Madison/Nisku	Sheridan	1964	6,500	33	1.26	14	15	45	24	
95	Flat Lake, East	Madison	Sheridan	1984	6,523	28	-	-	-	-	-	
96	Flat Lake, South	Ratcliffe	Sheridan	1966	6,500	32	1.26	9	12	45	31	
97	Fort Gilbert	Madison	Richland	1981	9,200	35	1.30	30	6	55	8	
98	Fort Gilbert	Red River	Richland	1970	12,500	48	1.89	42	12	20	7	
99	Four Mile Creek	Red River	Richland	1975	12,500	47	1.50	35	15	35	7	
100	Four Mile Creek, West	Red River	Richland	1976	12,500	45	1.30	15	13	40	7	
101	Frannie	Tensleep	Carbon	1929	2,700	27	1.02	29	19	16	28	
102	Fred & George Creek	Swift/Sunburst	Field Total	1963	2,600	39	1.20	31	27	30	15	
103	Frog Coulee	Red River	Richland	1979	11,000	49	1.42	15	18	35	7	
104	Froid, South	Red River	Roosevelt	1970	12,100	48	1.55	12	17	25	10	
105	Gas City	Red River/Madison	Dawson	1955	8,900	38	1.28	25	12	35	26	
106	Girard	Bakken/Red River	Richland	1966	11,839	40	1.15	18	10	8	6	
107	Girard	Red River	Richland	1985	11,850	44	-	8	-	9	-	
108	Glendive	Siluro/Ord.	Richland	1952	8,900	38	1.24	147	8	35	13	
109	Goose Lake	Ratcliffe	Sheridan	1962	7,000	34	1.20	40	16	55	5	
110	Goose Lake	Red River	Sheridan	1980	11,063	-	-	-	-	-	-	
111	Goose Lake, Southeast	Ratcliffe	Sheridan	1988	7,028	29	1.07	20	12	70	-	
112	Goose Lake, West	Red River	Sheridan	1981	11,500	39	-	29	-	-	-	
113	Gossett	Madison	Richland	1979	9,550	31	-	-	-	-	-	
114	Gossett	Red River	Richland	1983	12,331	-	-	11	-	-	-	
115	Green Coulee	Red River	Sheridan	1981	11,100	32	1.40	18	15	56	5	
116	Gunsight	Madison	Roosevelt	1980	9,550	36	-	-	-	-	-	
117	Hardscrabble Creek	Red River	Richland	1981	12,550	46	1.36	7	15	30	5	
118	Hay Creek	Mission Canyon	Richland	1969	9,600	39	1.15	40	5	-	8	
119	Hay Creek	Siluro/Ord.	Richland	1969	12,600	46	1.90	53	12	30	7	
120	Hiawatha	Tyler	Musselshell	1967	5,000	33	1.15	34	12	25	22	
121	High Five	Tyler/Stensvad	Rosebud	1976	5,600	33	1.15	20	20	-	10	
122	Howard Coulee	Tyler	Musselshell	1974	3,498	31	-	-	-	-	-	
123	Intake II	Red River	Richland	1981	12,400	43	1.20	20	13	30	6	
124	Jim Coulee Unit	Tyler	Musselshell	1971	3,700	33	1.10	37	15	33	3	
125	Katy Lake	Red River	Sheridan	1984	11,523	-	-	11	-	-	-	
126	Katy Lake, North	Mission Canyon	Sheridan	1981	8,056	29	-	30	18	54	-	
127	Katy Lake, North	Nesson	Sheridan	1981	7,798	34	1.50	20	12	31	9	
128	Katy Lake, North	Red River	Sheridan	1979	11,300	46	1.42	19	15	30	22	
129	Keg Coulee Non Unit	Tyler/Stensvad	Musselshell	1960	4,650	-	-	-	-	-	-	
130	Keg Coulee Tyler SU	Tyler	Musselshell	1960	4,600	33	1.00	19	14	32	26	
131	Kevin, East Nisku Oil	Nisku	Toole	1984	3,000	39	1.10	7	9	30	28	
132	Kinchele Ranch	Tyler	Rosebud	1944	2,000	-	-	-	-	-	-	

SUMMARY OF PRODUCING

LINE NO.	PRODUCING FIELD	FORMATION	COUNTY	YEAR OF DISCOVERY	DEPTH	GRAVITY *API	F.V.F.	NET PAY FT.	POROSITY (%)	% WATER	RECOVER FACTOR
											PRIM.
199	Raymond	Mississippian	Sheridan	1972	6,800	32	1.09	10	10	-	11
200	Raymond	Nisku	Sheridan	1972	7,900	50	1.40	22	9	-	13
201	Raymond	Red River	Sheridan	1972	10,000	39	1.42	33	12	10	6
202	Raymond	Winnipegosis	Sheridan	1972	9,300	42	1.17	40	5	27	17
203	Reagan	Madison	Glacier	1947	3,700	38	1.10	11	12	30	44
204	Red Bank	Madison	Roosevelt	1980	13,000	31	2.00	16	14	11	5
205	Red Bank, South	Red River	Roosevelt	1981	13,000	47	-	20	17	29	-
206	Red Creek Unit	Cut Bank/Madison	Glacier	1958	2,600	31	1.08	20	19	30	11
207	Red Water, East	Red River	Richland	1983	12,025	47	1.40	20	11	40	8
208	Refuge	Red River	Sheridan	1979	11,300	44	1.69	13	5	30	37
209	Reserve	Red River	Sheridan	1966	11,100	39	1.30	18	6	30	23
210	Reserve II	Red River	Sheridan	1987	11,283	-	-	-	-	-	-
211	Richey	Charles	McCone	1951	7,000	39	1.20	25	8	30	15
212	Ridgelawn	Madison	Richland	1977	8,900	35	1.18	54	3	50	15
213	Ridgelawn	Red River	Richland	1980	12,500	49	1.90	15	12	35	36
214	Riprap Coulee	Ratcliffe	Roosevelt	1975	8,800	34	1.30	14	14	45	14
215	Riverbend	Red River	Richland	1981	12,000	44	1.42	12	12	30	19
216	Rocky Point	Red River	Roosevelt	1978	11,800	49	1.80	19	14	47	13
217	Roscoe Dome	Lakota	Carbon	1980	3,100	11	1.50	28	14	31	2
218	Rosebud	Tyler	Musselshell	1974	5,000	34	1.24	32	14	48	17
219	Royals	Dawson Bay	Dawson	1980	11,700	43	1.93	46	5	32	19
220	Rush Mountain	Winnipegosis	Sheridan	1968	12,000	39	1.62	14	10	33	45
221	Salt Lake	Madison	Sheridan	1970	7,900	43	1.50	23	11	35	9
222	Salt Lake	Red River	Sheridan	1987	10,554	35	1.30	13	10	25	15
223	Second Creek	Red River	Richland	1972	12,700	46	1.50	30	7	40	13
224	Shotgun Creek	Ratcliffe	Roosevelt	1984	9,234	-	-	20	-	-	-
225	Sidney	Madison	Richland	1976	9,000	34	1.30	60	4	50	6
226	Sidney	Red River	Richland	1981	12,500	41	1.70	30	11	45	7
227	Sidney, East	Madison	Richland	1980	9,300	37	1.40	274	5	75	2
228	Singletree	Winnipegosis	Roosevelt	1978	12,000	46	-	28	10	40	-
229	Sioux Pass	Madison	Richland	1982	9,182	36	-	-	-	-	-
230	Sioux Pass	Siluro/Ord.	Richland	1973	12,700	47	1.70	40	9	35	15
231	Sioux Pass, North	Madison	Richland	1974	12,000	45	1.60	44	12	40	2
232	Sioux Pass, North	Red River	Richland	1974	12,000	45	1.60	44	12	40	6
233	Sioux Pass, South	Red River	Richland	1982	12,700	46	-	30	-	-	-
234	Soap Creek	Tensleep/Madison	Big Horn	1952	1,900	20	1.05	20	15	35	16
235	Soap Creek, East	Tensleep	Big Horn	1977	3,400	17	1.02	15	15	35	17
236	South Fork	Mission Canyon	Richland	1986	9,100	-	-	16	-	59	-
237	South Fork	Red River	Richland	1976	12,400	46	1.00	41	11	-	1
238	Spring Lake	Bakken	Richland	1982	10,800	42	1.50	17	8	20	19
239	Spring Lake	Red River	Richland	1963	11,700	51	2.00	9	12	30	32
240	Spring Lake, West	Bakken	Richland	1980	11,660	-	-	-	-	-	-
241	Stampede	Red River	Richland	1980	11,800	45	1.31	40	8	40	5
242	Stensvad	Tyler	Musselshell	1958	5,500	33	1.17	25	14	20	40
243	Studhorse	Stensvad	Garfield	1984	4,805	32	1.05	15	16	50	4
244	Sumatra	Tyler	Rosebud	1949	4,500	32	1.16	30	19	35	29
245	Sunny Hill, West	Red River	Sheridan	1983	12,330	50	1.55	14	13	28	7
246	Target	Madison	Rosevelt	1981	10,500	32	-	50	11	55	-
247	Three Buttes	Red River/Gunton	Richland	1978	12,400	43	-	12	-	-	-
248	Tule Creek	Nisku	Roosevelt	1960	7,500	46	1.41	25	15	30	45
249	Tule Creek, East	Nisku	Roosevelt	1964	7,500	43	1.91	30	18	30	41
250	Tule Creek, South	Duperow/Nisku	Roosevelt	1964	7,600	43	1.40	8	12	30	48
251	Two Waters	Bakken	Richland	1982	9,950	-	-	42	-	-	-
252	Two Waters	Duperow	Richland	1989	11,420	-	-	-	-	-	-
253	Utopia	Swift	Liberty	1977	2,300	33	1.15	17	16	40	8
254	Vaux	Dawson Bay	Richland	1988	11,198	-	-	4	-	-	-
255	Vaux	Interlake/Stonewall	Richland	1981	12,100	45	-	-	-	25	-
256	Vaux	Madison	Richland	1977	8,800	34	1.20	40	4	43	12
257	Vaux	Red River	Richland	1976	12,400	48	1.60	24	14	45	9
258	Volt	Nisku	Roosevelt	1964	7,300	47	1.40	14	20	30	48
259	Wakea	Nisku	Sheridan	1988	9,906	-	-	14	-	-	-
260	Wakea	Red River	Sheridan	1983	11,133	42	1.57	6	14	31	51
261	Wakea	Winnipegosis	Shendan	1985	10,179	44	1.42	12	14	30	51
262	West Butte	Sunburst	Toole	1968	2,300	40	1.10	10	24	23	16
263	Whitlash	Swift/Sunburst	Liberty	1927	2,600	38	1.13	15	16	20	13
264	Wills Creek, South	Red River	Fallon	1964	8,700	33	1.20	12	18	35	29

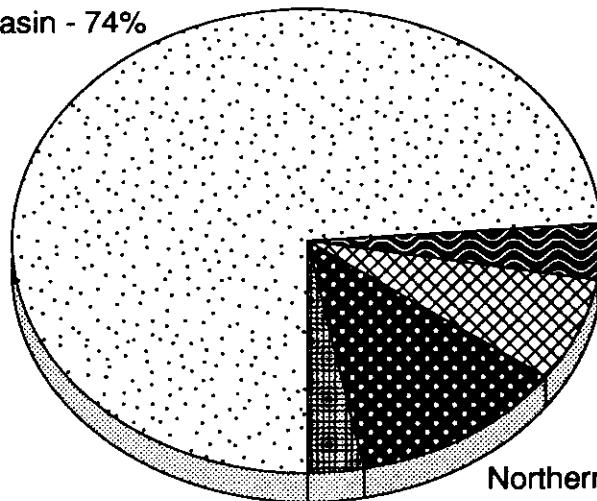
SUMMARY OF PRODUCING OIL FIELDS

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	M B
											PRIM.	SECND.		
265	Winnett Junction	Tyler	Musselshell	1973	2,500	28	1.10	12	18	30	13	26	240	2,3
266	Wolf Springs	Amsden	Yellowstone	1955	6,200	30	1.07	11	6	23	62	0	2,080	7,7
267	Woodrow	Red River/Charles	Dawson	1952	9,600	42	1.30	25	14	35	17	0	560	7,0
268	Wrangler	Red River	Sheridan	1979	11,200	30	1.00	6	10	-	26	0	640	2,3
269	Wrangler, North	Red River	Sheridan	1979	10,000	41	1.40	18	16	45	5	0	320	2,3
270	Wright Creek	Muddy	Powder River	1969	4,800	35	1.10	5	26	48	16	0	400	1,1
271	Yates	Red River	Wibaux	1982	11,245	33	1.30	21	10	45	2	0	320	2,3
272	MISCELLANEOUS SMALL FIELDS													
273	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.

1990 Oil Production by Region 19,835,087 Barrels

Williston Basin - 74%



Big Horn - 4%

Central - 7%

Northern - 12%

Powder River - 3%

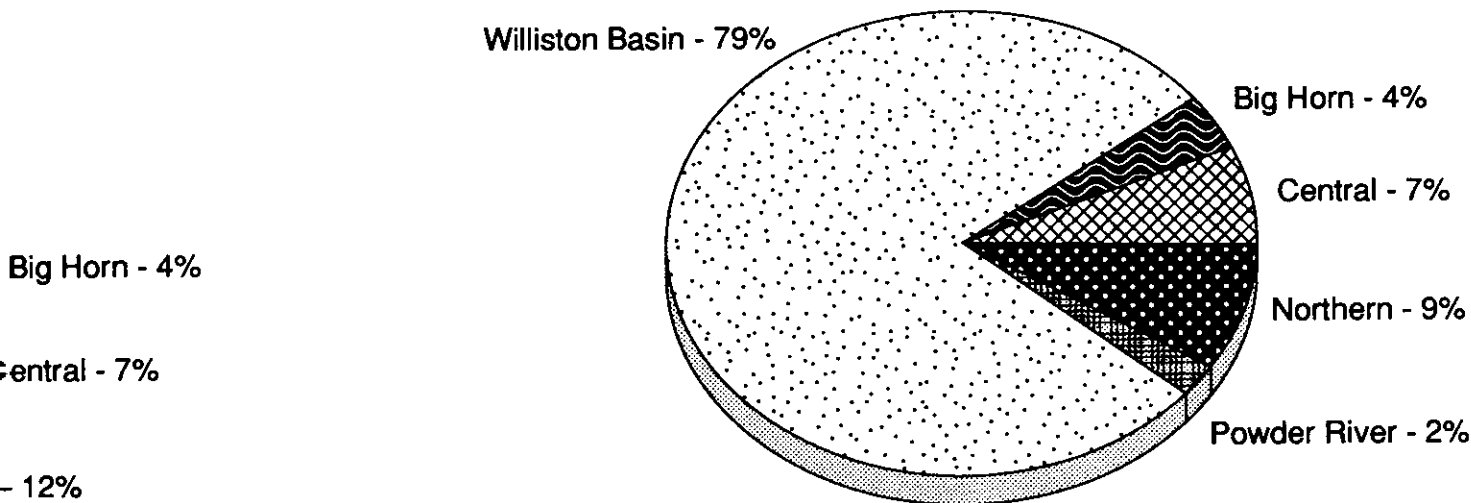
Willist

ARY OF PRODUCING OIL FIELDS—1990

NET PAY FT.	PORO- SITY (%)	% WATER	RECOVERY FACTOR %		PRO- DUCTIVE AREA ACRES	OOIP		ULTIMATE RECOVERY					1990 PRODUCTION		CUMUL. PROD. 1-91 (M BBLs)	RE- SERVES (M BBLs)	LINE NO.
			PRIM.	SECON.		M BBLs	BBLs/AC.	PRIM. (M BBLs)	SECON. (M BBLs)	TOTAL (M BBLs)	BBLs/ ACRE	BBLs/ ACRE FT.	BBLs	BOPD			
12	18	30	13	26	240	2,559	10,662	330	670	1,000	4,167	347	22,195	61	864	136	265
11	6	23	62	0	2,080	7,664	3,684	4,770	-	4,770	2,293	208	31,713	87	4,717	53	266
25	14	35	17	0	560	7,803	13,576	1,260	-	1,260	2,250	90	17,099	47	1,192	68	267
6	10	-	26	0	640	2,979	4,654	780	-	780	1,219	203	34,120	93	517	263	268
18	16	45	5	0	320	2,809	8,778	140	-	140	438	24	4,869	13	115	25	269
5	26	48	16	0	400	1,907	4,767	310	-	310	775	155	8,244	23	297	13	270
21	10	45	2	0	320	2,206	6,893	50	-	50	156	7	4,707	13	43	7	271
													1,044M	2,861		46	272
													19,804M	54,259		153,024	273

Computer


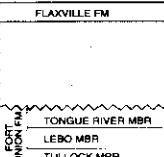
1990 Oil Reserves by Region
153 Million Barrels



ERA	PERIOD	SOUTHWEST MONTANA (GENERALIZED)	CRAZY MOUNTAINS BASIN	CENTRAL MONTANA		BIG HORN BASIN	
CENOZOIC	TERTIARY	BOZEMAN GP SIXMILE CREEK FM RENOVA FM	UNION FM TONGUE RIVER MBR LEBO MBR TULLOCK MBR			UNION FM TONGUE RIVER MBR LEBO MBR TULLOCK MBR	
		ELK MOUNTAINS UNDIVIDED BEAVERHEAD MONTANA GP UNDIVIDED	LIVINGSTON GP HELL CREEK FM LENNEP FM BEARPAW FM JUDITH RIVER FM CLAGGET FM	MONTANA GP HELL CREEK FM FOX HILLS FM BEARPAW FM JUDITH RIVER FM CLAGGET FM		FORST LENNEP FM MEETEETSE FM	
MESOZOIC	CRETACEOUS	EAGLE FM TELEGRAPH CK CODY SH FRONTIER FM MOWRY SH MUDDY SS THERMOPOLIS SH (RUSTY BED MBR) KOOTENAI FM	EAGLE FM (VIRGELLE MBR) TELEGRAPH CK FM NIOBRARA FM FRONTIER FM GREENHORN FM BELLE FOURCHE FM BIG ELK SS MOWRY FM MUDDY SS SKULL CK SH DAKOTA SILT DAKOTA FM KOOTENAI FM	EAGLE FM (VIRGELLE SS) TELEGRAPH CK FM NIOBRARA FM CARULE FM GREENHORN FM FRONTIER FM BIG ELK SS MOWRY FM MUDDY SS SKULL CK SH DAKOTA SILT DAKOTA FM KOOTENAI FM (1st CAT CREEK) KOOTENAI FM (2nd CAT CREEK) KOOTENAI FM (3rd CAT CREEK)	<ul style="list-style-type: none"> • BIG C., BROADVIEW, LITTLE BASIN • MUD CK • CAT CK, MASON L., RATTLESNAKE BUTTE • CAT CK, IVANHOE, RATTLESNAKE BUTTE • CAT CK, MASON L. • BIG CAT CREEK 	<ul style="list-style-type: none"> • S. CLARK'S FK, ELK BASIN & NW, LINE CK • TORCHLIGHT SS • PEAY SS • MOWRY FM • MUDDY SST • SKULL CK SH • DAKOTA SILT • DAKOTA FM • GREYBULL SS • KOOTENAI FM • LAKOTA FM 	<ul style="list-style-type: none"> • BELFRY, S. CLARK'S FK., DEAN DOME, NW ELK BASIN, JACK CK, MACKAY DOME • CLARK'S FORK • MACKAY DOME, ROSCOE DOME • N. CLARKS FORK
		JURASSIC	MORRISON FM SWIFT FM RIERDON FM SAWTOOTH FM	MORRISON FM SWIFT FM RIERDON FM PIPER FM	MORRISON FM SWIFT FM RIERDON FM PIPER FM	<ul style="list-style-type: none"> • CAT CK, IVANHOE • BIG C. • CAT CK • SUMATRA, WOLF SPRINGS 	MORRISON FM SUNDANCE FM GYPSUM SPRINGS FM
	TRIASSIC	THAYNES FM WOODSIDE FM DINWOODY FM SHEDDORN FM	CHUGWATER FM DINWOODY FM	CHUGWATER FM DINWOODY FM		CHUGWATER FM DINWOODY FM	
PALEOZOIC	PERMIAN	PHOSPHORIA FM PARK CITY MBR	PHOSPHORIA FM	PHOSPHORIA FM		PHOSPHORIA FM	• ELK BASIN
	PENNSYLVANIAN	AMSDEN GP BIG SNOWY GP	AMSDEN GP BIG SNOWY GP	AMSDEN GP (ALASKA BENCH) TYLER FM HEATH FM OTTER FM KIBBEY FM	<ul style="list-style-type: none"> • MUD CK • SIGNAL, CAT CK, DELPHIA, GAGE, HAWK CK • HIBBARD, IVANHOE, MASON LAKE, POLE CK, SUMATRA, WEED CK • ACE HIGH, BASCOM, BIG GULLY, BIG & LITTLE WALL, BREED CK, DEVILS BASIN, GREBE, GUMBO RIDGE, HEATH, DEVILS BASIN & POCKET SUMATRA • RAGGED POINT • HIAWATHA, HIGH FIVE, HOWARD C., INJUN CK, IVANHOE, JIM C., KEG C., KELLY, KINCHELOE, MELSTONE, MUSSELSHELL, RAGGED PT, RATTLER BUTTE, ROSEBUD, STENSVAAD, STUDHORSE, SUMATRA, TINDER BOX, TIPPY BUTTES, WAGON BOX, WINNETT JCT 	TENSLEEP FM AMSDEN FM DARWIN SS	<ul style="list-style-type: none"> • ELK BASIN, NW ELK BASIN, FRANNIE • ELK BASIN
	MISSISSIPPIAN	MISSION CANYON LS LODGEPOLE LS SAPPINGTON MBR THREE FORKS FM	CHARLES FM MISSION CANYON LS LODGEPOLE LS SAPPINGTON MBR	CHARLES FM MISSION CANYON LS LODGEPOLE LS BAKKEN FM		MADISON GROUP THREE FORKS FM	• ELK BASIN, NW ELK BASIN, FRANNIE
	DEVONIAN	JEFFERSON FM MAYWOOD FM	JEFFERSON FM MAYWOOD FM	JEFFERSON FM MAYWOOD FM		JEFFERSON FM MAYWOOD FM BEARTOOTH BUTTE FM	• ELK BASIN
	SILURIAN						
	ORDOVICIAN	BIG HORN FM	BIG HORN FM	RED RIVER FM WINNIPEG FM		LEIGH DOL BIG HORN FM LANDER MBR	• ELK BASIN
	CAMBRIAN	RED LION FM PILGRIM FM HASKARK FM SILVER HILL FM FLATHEAD SS	SNOWY RANGE FM PILGRIM FM PARK SH MEAGHER LS WOLSEY SH FLATHEAD SS	SNOWY RANGE FM PILGRIM FM PARK SH MEAGHER LS WOLSEY SH FLATHEAD SS		GROVE CK FM GALLATIN LS SNOWY RANGE PILGRIM FM GROS VENTRE GP FLATHEAD SS	
PRECAMBRIAN	PROTEROZOIC	BELT SUPERGROUP	BELT SUPERGROUP	BELT SUPERGROUP			
	ARCHEAN		PRE-BELT METAMORPHIC AND IGNEOUS ROCKS			PRE-BELT ROCKS	
		SOUTHWEST MONTANA (GENERALIZED)	CRAZY MOUNTAINS BASIN	CENTRAL MONTANA		BIG HORN BASIN	

GENERALIZED STRATIGRAPHIC CORRELATION

SHOWING PRODUCING FORMATIONS*

SOUTH CENTRAL MONTANA		NORTHERN POWDER RIVER BASIN		WILLISTON BASIN	
					
MONTANA GP		MONTANA GP		MONTANA GP	
HELL CREEK FM		HELL CREEK FM		HELL CREEK FM	
FOX HILLS FM		FOX HILLS FM		FOX HILLS FM	
BEARPAW FM		BEARPAW FM		BEARPAW FM	
JUDITH RIVER FM	✱ DRY CREEK, GOLDEN DOME, RAPELJE	JUDITH RIVER FM (PARKMAN SS)		JUDITH RIVER FM	✱ CEDAR CK, PLEVNA
CLAGGET FM	✱ LAKE BASIN & N., RAPELJE	CLAGGET FM		CLAGGET FM	
EAGLE FM (VIRGELLE SS)	✱ DRY CK, GOLDEN DOME, LAKE BASIN & N., RAPELJE ✱ PARK CITY	EAGLE FM (SHANNON SS)	✱ ASH CK ✱ LISCOM CK, PUMPKIN CK	EAGLE FM	✱ CEDAR CK, GASLIGHT, PLEVNA, THREE MILE
TELEGRAPH CK FM	✱ LAKE BASIN	TELEGRAPH CK FM		TELEGRAPH CK FM	
NIORRARA FM		NIORRARA FM		NIORRARA FM	
CARLILE FM	✱ DRY CK, GOLDEN DOME, LAKE BASIN & N.	CARLILE FM		CARLILE FM	
GREENHORN FM		GREENHORN FM		GREENHORN FM	
BELLE FOURCHE FM		BELLE FOURCHE FM		BELLE FOURCHE FM	
COLORADO GP		COLORADO GP		COLORADO GP	
MOWRY FM		MOWRY FM		MOWRY FM	
MUDDY SS		MUDDY SS	• BELL CK, LEARY, ROUGH CK, WRIGHT CK • SE BELL CK, HAMMOND	MUDDY SS	
SKULL CK SH		SKULL CK SH		SKULL CK SH	
DAKOTA SILT		DAKOTA SILT		DAKOTA SILT	
DAKOTA FM	• CROOKED CK, LAUREL, MOSSER	DAKOTA FM		DAKOTA FM	
GREYBULL SS	✱ DRY CK & W, GOLDEN DOME	FUSON FM		KOOTENAI FM (FUSON)	
KOOTENAI FM		LAKOTA FM		LAKOTA FM	
LAKOTA FM	• DRY CK				
ELLIS GP		ELLIS GP		ELLIS GP	
MORRISON FM		MORRISON FM		MORRISON FM	
SWIFT FM		UPPER MBR		SWIFT FM	
RIERDON FM		LOWER MBR		RIERDON FM	
PIPER FM		GYPSUM SPRINGS FM		PIPER FM	
CHUGWATER FM		SPEARFISH FM		SPEARFISH FM	
DINWOODY FM				PINE SALT	
PHOSPHORIA FM		PHOSPHORIA FM		MINNEKAHTA FM	
TENSLEEP FM		MINNEKAHTA FM		OPECHE FM	
AMSDEN FM		MINNELUSA FM	• LODGEGRASS, SOAP CK, E. SOAP CK, SNYDER	MINNELUSA FM	
		TENSLEEP FM	• SOAP CK	TYLER FM	
		AMSDEN FM		HEATH FM	• EAST POPLAR
				OTTER FM	• E. COW CK, WELDON
				KIBBEY FM	• ANVIL, BAINVILLE, BENRUD, BLACK DIAMOND, BRORSON, E. BURGET, CANAL, C. CLEAR, COMERTOWN, COW CK, DEER CK, DWIDE, DOOLEY, DWYER, EAGLE, F. FLAT L., FT. GILBERT, GOOSE L., GUNSLIGHT, LONG CK, LUSTRE, MIDFORK, MINNEKAHTA, MONDAK, NOHLY, POPLAR, PRAIRIE ELK, RICHEY, RIDGELAWN, RUPP, S. S. WOODROW
MADISON CO		MADISON CO		MADISON CO	
CHARLES FM		MADISON LS	• SOAP CK	CHARLES FM	• BIG MUDDY CK, BRORSON, BURGET, CABIN CK, CANAL, E. CROOKER SPGS., FAIRVIEW, FLAXVILLE, FT. GILBERT, GAS CITY, GUNSLIGHT, HAY CK, KATY L., LOOKOUT BUTTE, LUSTRE, MEDICINE L., MONARCH, W. MONDAK, NORTH FORK, PINE, PUTNAM, RED BANK, RIDGE LAWN, SECOND CK, SIDNEY, SIOUX PASS, S. SUNNY HILL, TARGET, THREE BUTTES, VAUX
MISSION CANYON LS				MISSION CANYON LS	• BRORSON, N. CHARLIE CK, COMERTOWN, EAGLE, N. END, GRARD, W. MONDAK, S. PUTNAM, SALT LAKE, SPRING LAKE, STAMPEDE, TWO WATERS, VAUX
LODGEPOLE LS				LODGEPOLE LS	• ANVIL, E. & NE, BENRUD, BLACK DIAMOND, CARLYLE, CHARLIE CK & N., CHELSEA, COLORED CANYON, COMERTOWN & S., DWYER FLAT L., W. LIONS CK, MINNEKAHTA, MONDAK, NOHLY, POPLAR, PRAIRIE ELK, RICHEY, RIDGELAWN, RUPP, S. S. WOODROW
THREE FORKS FM		THREE FORKS FM		THREE FORKS FM	• E. CHARLIE CK, COMERTOWN, CRANE, DWYER, EAGLE, FT. GILBERT, MEDICINE L., MONARCH, W. MONDAK, NORTH FORK, PINE, PUTNAM, RED BANK, RIDGE LAWN, SECOND CK, SIDNEY, SIOUX PASS, S. SUNNY HILL, TARGET, THREE BUTTES, VAUX
BIRDBEAR FM				BIRDBEAR (NISKU) FM	• BLOOMFIELD, LOST CK, SW RICHEY, ROYALS, VAUX
JEFFERSON FM		JEFFERSON FM		DUPEROW FM	• ANVIL, N. BAINVILLE, FAIRVIEW & E., HONKER, MEDICINE L., OTTER CK, OUTLOOK, RAYMOND, RESERVE, RUSH MOUNTAIN, SINGLETREE, N. SIOUX PASS, WAKEA
DUPEROW				SOURIS RIVER FM	• N. BAINVILLE, BIG MUDDY CK, BLOOMFIELD, CABIN CK, CRANE, DEER CK, EAGLE, HAY CK, LOST LOOKOUT BUTTE, MEDICINE L., W. MONDAK, OUTLOOK, PENNEL, PRONGHORN, PUTNAM, RESERVE A II, SW RICHEY, SAND CK, SIOUX PASS, WAKEA, WAKEA, WOODROW
BEARTOOTH BUTTE FM				PRAIRIE EVAPORITE	• BAINVILLE & N., BIG MUDDY CK, BRORSON, BRUSH L., BURNS CK, CABIN CK, CARLYLE, CHARLIE CK, CLEAR L. & S., COMERTOWN, CULBERTSON, CUPTON, FAIRVIEW, FERTILE P., FT. GILBERT, FOUR MILE CK, FOX CK, S. FROID, GAS CITY, GOOSE L., HAY CK, KATY L., KRUS CK, L. BEAVER, LOVE BUTTE, LONGTREE, LOOKOUT BUTTE, LUSTRE, MEDICINE L., MIDBY, MONARCH, W. MONDAK, MUSTANG, NEISER CK, N. OTTIS CK & S., OUTLOOK, OXBOW, PENNEL, PINE, PRONGHORN, PUTNAM, RAYMOND, RED BANK, RED WATER, REFUGEE, REPEAT, RESERVE, RIDGELAWN, ROCKY POINT, RUSH MOUNTAIN, SALT L., SAND CK, SECOND CK, SIDNEY, SIOUX PASS, SPRING L., STAMPEDE, SUNNY HILL, THREE BUTTES, TWO WATERS, VAUX, WINDMILL, WOODROW, WRANGLER, YATES
				ASHERN	
ELK MOUNT GP		ELK MOUNT GP		ELK MOUNT GP	
INTERLAKE FM		INTERLAKE FM		INTERLAKE FM	
STONEY MTN FM		STONEY MTN FM		STONEY MTN FM	
RED RIVER FM		RED RIVER FM		GUNTON MBR	
WINNIPEG FM		WINNIPEG FM		STOUGHTON MBR	
GROVE CK FM		GROVE CK FM		RED RIVER FM	
DEADWOOD FM		DEADWOOD FM		WINNIPEG FM	
GROS VENTRE GP		GROS VENTRE GP		DEADWOOD FM	
FLATHEAD SS		FLATHEAD SS			
PRE-BELT ROCKS		PRE-BELT ROCKS		PRE-BELT ROCKS	
PRE-BELT ROCKS		PRE-BELT ROCKS		PRE-BELT ROCKS	
SOUTH CENTRAL MONTANA		NORTHERN POWDER RIVER BASIN		WILLISTON BASIN	

*SOME FIELDS OMITTED DUE TO SPACE LIMITATIONS

LITHOLOGIC CORRELATION CHART

OF OIL PRODUCING FORMATIONS*

• OIL * GAS

WILLISTON BASIN	NORTH CENTRAL MONTANA	SWEETGRASS ARCH
FLAXVILLE FM	FLAXVILLE FM	
<p>PORT UNION GP</p> <p>TONGUE RIVER MBR</p> <p>LEBO MBR</p> <p>TULLOCK MBR</p>		
<p>MONTANA GP</p> <p>HELL CREEK FM</p> <p>FOX HILLS FM</p> <p>BEARPAW FM</p> <p>JUDITH RIVER FM</p> <p>CLAGGET FM</p> <p>EAGLE FM</p> <p>TELEGRAPH CK FM (1ST WHITE SPK)</p> <p>NIORARA FM</p> <p>CARLILE FM</p> <p>GREENHORN FM</p> <p>BELLE FOURCHE FM</p>	<p>MONTANA GP</p> <p>HELL CREEK FM</p> <p>FOX HILLS FM</p> <p>BEARPAW FM</p> <p>JUDITH RIVER FM</p> <p>CLAGGET FM</p> <p>EAGLE FM</p> <p>TELEGRAPH CK FM (1ST WHITE SPK)</p> <p>NIORARA FM</p> <p>CARLILE FM (BOWDOIN SS)</p> <p>GREENHORN FM (PHILIPS SS)</p> <p>BELLE FOURCHE FM (FISH SCALE SS)</p> <p>MOWRY FM</p> <p>MUDDY SS</p> <p>SKULL CK SH</p> <p>OKOTA SILT</p> <p>OKOTA FM</p> <p>KOOTENAI FM</p>	<p>WILLOW CK FM</p> <p>ST MARY RIVER</p> <p>HORSETHIEF SS</p> <p>BEARPAW FM</p> <p>JUDITH RIVER FM</p> <p>CLAGGET FM</p> <p>EAGLE FM</p> <p>VIRGELLE SS</p> <p>TELEGRAPH CK FM</p> <p>KEVIN SH MBR</p> <p>FERRIS MBR</p> <p>CONE (2ND WHITE SPK) (GREENHORN)</p> <p>FLOWEREE MBR</p> <p>(FISH SCALE SS)</p> <p>BLACKFOOT MBR</p> <p>BOOTLEGGER MBR</p> <p>(RED SPK)</p> <p>VALUHN</p> <p>BOW ISLAND</p> <p>TAFI HILL</p> <p>FLOOD (DAKOTA)</p> <p>(BURWASH)</p> <p>KOOTENAI FM (SUNBURST)</p> <p>(MOUTON)</p> <p>(LANDER)</p> <p>(CLUT BANK)</p>
<p>COLORADO GP</p> <p>MOWRY FM</p> <p>MUDDY SS</p> <p>SKULL CK SH</p> <p>OKOTA SILT</p> <p>OKOTA FM</p> <p>KOOTENAI FM (FUSON)</p> <p>LAKOTA FM</p>	<p>COLORADO GP</p> <p>MOWRY FM</p> <p>MUDDY SS</p> <p>SKULL CK SH</p> <p>OKOTA SILT</p> <p>OKOTA FM</p> <p>KOOTENAI FM</p>	<p>ALMA ANTELOPE C. BIG ROCK, LITTLE ROCK</p> <p>ALMA AMANDA ARCH APEX, BIG ROCK, BUTTE, DUNKIRK, FITZPATRICK L. FLAT C. FT COMPTON, HAYSTACK BUTTE, E. KEITH, KEVIN-SUNBURST, MARIAS RIVER, MINERS C., O'BRIENS C., SOBER UP C., TIBER, TRAIL CK, WHITLASH</p> <p>S. CONRAD</p> <p>BLACKFOOT, BRADLEY, CUT BANK, DUNKIRK, W. BUTTE, PRAIRIE DELL, W. BUTTE, WHITLASH, STRAWBERRY CK, WILLOW RIDGE</p> <p>BRADY, KEVIN-SUNBURST, STRAWBERRY CK, AMANDA ARCH APEX, BLACKFOOT, DUNKIRK, BERTHELOTE, BRADY, S. CONRAD, DUTCH BUTTE</p> <p>KEVIN-SUNBURST, PHANTOM & W. W. BUTTE</p> <p>BLACKFOOT & E. BORDER-RED C., CUT BANK</p>
<p>ELLIS GP</p> <p>MORRISON FM</p> <p>SWIFT FM</p> <p>RIERDON FM</p> <p>PIPER FM</p> <p>BOWES MBR</p> <p>FIREMOON MBR</p> <p>TAMINGO MBR</p> <p>NESSON FM</p> <p>POEMBER</p>	<p>ELLIS GP</p> <p>MORRISON FM</p> <p>SWIFT FM</p> <p>RIERDON FM</p> <p>PIPER FM</p> <p>BOWES MBR</p> <p>FIREMOON MBR</p> <p>TAMINGO MBR</p>	<p>MORRISON FM</p> <p>SWIFT FM</p> <p>RIERDON FM</p> <p>SAWTOOTH FM</p>
<p>SPEARFISH FM</p> <p>PINE SALT</p> <p>MINNEKAHTA FM</p> <p>OPECHE FM</p> <p>MINNELUSA FM</p> <p>TYLER FM</p>		
<p>HEATH FM</p> <p>OTTER FM</p> <p>KIBBEY FM</p>		
<p>MADISON GP</p> <p>CHARLES FM</p> <p>MISSION CANYON LS</p> <p>LOGGEPOLE LS</p> <p>BAKKEN FM</p>	<p>MADISON GP</p> <p>CHARLES FM</p> <p>MISSION CANYON LS</p> <p>LOGGEPOLE LS</p> <p>BAKKEN FM</p>	<p>SUN RIVER DOLOMITE</p> <p>MISSION CANYON LS</p> <p>LOGGEPOLE LS</p> <p>EXSHAW (BAKKEN) FM</p>
<p>THREE FORKS FM</p>	<p>THREE FORKS FM</p> <p>POTLATCH ANHY</p> <p>BIRDBEAR (NISKU) FM</p>	<p>THREE FORKS FM</p> <p>POTLATCH ANHY</p> <p>BIRDBEAR (NISKU) FM</p>
<p>BIROBEAR (NISKU) FM</p>	<p>BIROBEAR (NISKU) FM</p>	<p>BIROBEAR (NISKU) FM</p>
<p>JEFFERSON GP</p> <p>DUPEROW FM</p>	<p>JEFFERSON GP</p> <p>DUPEROW FM</p>	<p>DUPEROW FM</p>
<p>DAWSON BAY FM</p> <p>PRAIRIE EVAPORITE</p> <p>WINNIPEGOSIS FM</p> <p>ASHERN</p>	<p>DAWSON BAY FM</p> <p>WINNIPEGOSIS FM</p>	<p>SOURIS RIVER FM</p>
<p>INTERLAKE FM</p> <p>STONEWALL</p>		
<p>STONY MTN FM</p> <p>STOUGHTON MBR</p> <p>RED RIVER FM</p> <p>WINNIPEG FM</p>	<p>RED RIVER FM</p> <p>WINNIPEG FM</p>	<p>RED LION FM</p> <p>PILGRIM FM</p> <p>PARK SH</p> <p>MEAGHER SH</p> <p>WOLSEY SH</p> <p>FLATHEAD SS</p>
<p>DEADWOOD FM</p>	<p>EMERSON FM</p>	
<p>PRE-BELT ROCKS</p>	<p>PRE-BELT ROCKS</p>	<p>PRE-BELT ROCKS</p>
<p>WILLISTON BASIN</p>	<p>NORTH CENTRAL MONTANA</p>	<p>SWEETGRASS ARCH</p>

TRUNCATED DUE TO SPACE LIMITATIONS

