WYOMING STATE GEOLOGICAL SURVEY
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Geology — Interpreting the past to provide for the future

MAP SERIES 52
Greater Green River Basin and Overthrust Belt oil and gas map

MS-52

EXPLANATION

PREDOMINANT AGE OF RESERVOIR ROCKS

- TERTIARY
- UPPER CRETACEOUS
- LOWER CRETACEOUS
- JURASSIC-TRIASSIC
- PERMIAN-PENNSYLVANIAN
- MISSISSIPPIAN-DEVONIAN-ORDOVICIAN-CAMBRIAN-PRECAMBRIAN

FIELDS

New fields are spotted through December, 2006. Field boundaries are approximate.

BURLEY KJ

JEFFERSON KJ

Names in green denote fields that primarily produce oil. These fields may produce significant associated natural gas along with the oil in the primary reservoir or nonassociated natural gas from secondary reservoirs.

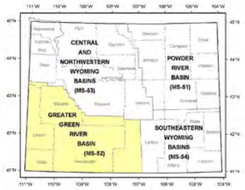
Names in red denote fields that primarily produce natural gas. These fields may produce significant condensate along with the natural gas in the primary reservoir or oil from secondary reservoirs.

FIELD DESIGNATIONS

(A)	Abandoned field
(CM)	Coalbed natural gas
(D)	Produced water disposal project
(G)	Gas injection project
(H)	Hydrothermal (steam) injection project
(HO)	Horizontal drilling project
(HO)	Heavy oil-less than 20°API gravity
(HG)	Hydrogen sulfide
(S)	Gas or LPG storage
(SI)	Shut-in field
(T)	Tertiary recovery project
(W)	Waterflood project

Note: These designations appear after the oil or gas field name:

INDEX TO OIL AND GAS FIELD MAPS OF WYOMING



LIST OF OIL AND GAS PRODUCING GROUPS, FORMATIONS, AND MEMBERS

Both abandoned and currently producing formations are shown for each field. On the map, formations from which heavy oil is produced are enclosed in parentheses, e.g. (Kf); formations from which significant hydrogen sulfide is produced are enclosed in brackets, e.g. [Mm].

TERTIARY		**JURASSIC-TRIASSIC**	
Tw	Wasatch Formation	JTn	Nugget Sandstone
Tgr	Green River Formation		
Tfk	Knight Formation[1]	**TRIASSIC**	
Tfu	Fort Union Formation	Ta	Ankareh Formation
Te	Almy Formation[1]	Tt	Thaynes Limestone
		Tc	Chugwater Group
UPPER CRETACEOUS		Tcr	Red Peak Formation
Kl	Lance Formation	Tw	Woodside Shale
Kfs	Fox Hills Sandstone	Td	Dinwoody Formation
Kle	Lewis Shale		
Kmv	Mesaverde Group	**PERMIAN**	
Kal	Almond Formation	Pp	Phosphoria Formation
Ke	Ericson Sandstone		
Kad	Adaville Formation	**PENNSYLVANIAN**	
Krs	Rock Springs Formations	PPm	Morgan Formation
Kbl	Blair Formation	PPw	Weber Sandstone
Kh	Hilliard Shale	PPt	Tensleep Sandstone
Kba	Baxter Shale		
Kc	Cody Shale	**PENNSYLVANIAN-MISSISSIPPIAN**	
Ks	Steele Shale	PMs	Amsden Formation
Ksh	Shannon Sandstone		
Kss	Sussex Sandstone	**MISSISSIPPIAN**	
Kn	Niobrara Formation	Mt	Darwin Sandstone
Kf	Frontier Formation	Mm	Madison Limestone
Ka	Aspen Shale		
Kmr	Mowry Shale	**DEVONIAN**	
		Dd	Darby Formation
LOWER CRETACEOUS			
Kmd	Muddy Sandstone	**ORDOVICIAN**	
Kbr	Bear River Formation	Obh	Bighorn Dolomite
Kcv	Cloverly Formation		
Kd	Dakota Sandstone[1]	**CAMBRIAN**	
Kla	Lakota Formation	Cf	Flathead Sandstone
CRETACEOUS-JURASSIC		**PRECAMBRIAN**	
KJg	Gannett Group	pC	Archean and Proterozoic rocks undivided
JURASSIC			
Jm	Morrison Formation		
Jtc	Twin Creek Limestone		
Js	Sundance Formation		

[1]Formation name extended from neighboring states; not formally recognized in Wyoming, or not commonly used in Wyoming.

OTHER SYMBOLS AND DESIGNATIONS

- Approximate location of major basin axis.
- Approximate location of anticlinal axis of the Moxa arch.
- Thrust fault(s) defining the eastern boundary of the Overthrust Belt and major thrust faults on northeastern edge of Green River Basin. Dashed where approximately located.
- Oil shale-bearing strata. The shaded area depicts the oil shale occurrence. Oil shale occurs in the Luman Tongue, Fontenelle Tongue, Tipton Shale Member, and Laney Shale Member of the Green River Formation (Bradley, 1964; Love and Christiansen, 1985).
- Major Wyoming sedimentary basins. Map shows approximate extent of latest Cretaceous and early Tertiary rocks.
- Undifferentiated Precambrian rocks exposed at the surface. Modified and adapted from Love and Christiansen (1985).
- Overthrust Belt.

SINCLAIR 54,000 B/D — Oil refinery. Notation includes operator and capacity in barrels of oil per day (B/D). Locations are approximate.

UNION PACIFIC RESOURCES 40 MMCF — Natural gas processing plant. Notation includes operator and capacity in millions of cubic feet (MMCF) per day. Locations are approximate.

PIPELINES

Notation includes operator (see abbreviations below) and pipe diameter in inches: proposed pipelines are dashed. Pipeline routes are plotted as accurately as possible and are only accurate within the scale of this map or maps of smaller scale. Most infield gathering systems are not shown.

- AMOCO 6" — Crude oil
- QUESTAR 10" — Natural gas
- ANADARKO CO2 — Carbon dioxide
- WyoPipe 12" — Refinery or natural gas processing plant products

LIST OF ABBREVIATIONS FOR PIPELINE OPERATORS

ADK	Anadarko	NPG	Northwest Pipeline Gas Gathering
CIG	Colorado Interstate Gas	QGM	Questar Gas Management
EPO	Enterprise Products Operating LP	QP	Questar Pipeline
JGG	Jonah Gas Gathering	RMPS	Rocky Mountain Pipeline System, LLC.
KR	Kern River Pipeline	WGG	Williams Gas Gathering
MFS	Mountain Fuel Supply	WIC	Wyoming Interstate Company
MGR	Mountain Gas Resources	WNG	Williams Natural Gas
NGC	Northwest Gas Company	WTC	Western Transmission Corporation

N

SCALE 1:350,000
1 inch equals about 5.5 miles

0 5 10 15 20 Miles
0 5 10 15 20 25 30 Kilometers

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Oil and gas coverages

Field locations and boundaries: De Bruin (1996); Wyoming State Geological Survey (2002) (unpublished), using production data from the Wyoming Oil and Gas Conservation Commission (2001).

Coalbed methane fields: Wyoming State Geological Survey (2002) (unpublished).

Oil, natural gas, and product pipelines; natural gas processing plants; refineries: Wyoming State Geological Survey (2002) (unpublished).

Geology coverages

Basin boundaries and Precambrian rocks: modified and adapted from Love and Christiansen (1985).

Oil shale outcrops: Bradley (1964) and Love and Christiansen (1985).

Basin axes and boundary thrust faults: De Bruin (1996).

Base map coverages

County boundaries: Spatial Data Visualization Center, University of Wyoming (1997).

City locations: Wyoming Water Resources Center GIS Lab, University of Wyoming (1994).

Federal boundaries: Spatial Data Visualization Center, University of Wyoming (1996).

Latitude, Longitude: Wyoming State Geological Survey (2002).

Public Land Survey System (PLSS): Wyoming Water Resources Center GIS Lab, University of Wyoming (1994).

Railroads: U.S. Census TIGER files (1995).

Highways and roads: Wyoming State Geological Survey (2002); U.S. Census TIGER files (1997).

State boundaries: Wyoming State Geological Survey (2002); Spatial Data Visualization Center, University of Wyoming (1993).

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A digital version of this map is also available on CD-ROM.

OIL AND GAS FIELDS MAP OF THE GREATER GREEN RIVER BASIN AND OVERTHRUST BELT, SOUTHWESTERN WYOMING

by
Rodney H. De Bruin

2007

Map projection: Lambert Conformal Conic.
Horizontal datum: North American Datum of 1983.
Ellipsoid: Geodetic Reference System 80.
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