WYOMING STATE GEOLOGICAL SURVEY
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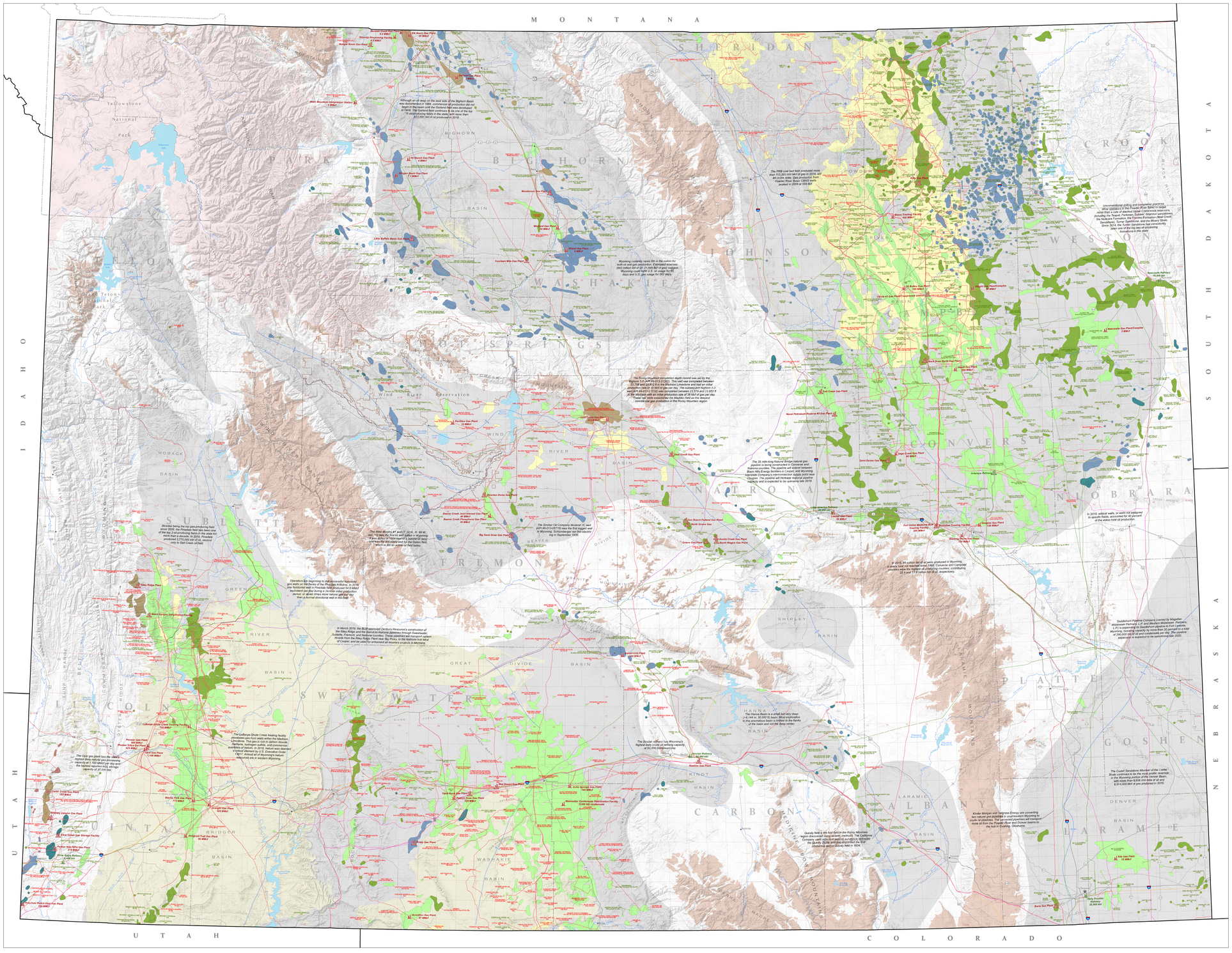
Interpreting the past, providing for the future

MAP SERIES 104
Oil and Gas Map of Wyoming


M O N T A N A
S O U T H D A K O T A
N E B R A S K A
C O L O R A D O
U T A H
I D A H O
W E S T
Yellowstone National Park
BIGHORN BASIN
POWDER RIVER BASIN
WIND RIVER BASIN
GREEN RIVER BASIN
SHIRLEY BASIN
HANNA BASIN
DENVER BASIN
SANDWICH
Sandwich Refinery
19,000 bbl
Newcastle Refinery
16,000 bbl
Antelope Refinery
Newcastle Gas Plant
2 MMcf
Kitty Gas Plant
Lost Cabin Gas Plant/Complex
9 MMcf
Hamilton Dome Gas Plant/Complex
2 MMcf
Worland Gas Plant
12 MMcf
Grass Creek Gas Plant
Frontier Gas Plant
Big Sand Draw Gas Plant
Muddy Gap Gas Plant
Bairoil Gas Plant
Table Rock Gas Plant
Pacific Creek Gas Plant
Big Piney Gas Plant
Opal Gas Plant
Granger Gas Plant
Church Buttes Gas Plant
Lincoln County Gas Plant
Shell Gas Plant
Casper Refinery
Casper Gas Plant/Complex
Douglas Gas Plant
Douglas Refinery
Glenrock Refinery
Glenrock Gas Plant
Lusk Gas Plant
Newcastle Gas Plant/Complex
Hilight Gas Plant
Bill Gas Plant
Rock Springs Refinery
Rock Springs Gas Plant
Red Desert Gas Plant
Wamsutter Compressor Maintenance Facility
Wamsutter Gas Plant
Creston Blackstone Gas Plant
Big Piney Refinery
Big Piney Gas Plant
Burk Gas Plant
Kinder Morgan and Targa Resources Energy are converting two natural gas pipelines from natural gas liquids to crude oil pipelines. The converted pipelines will transport crude oil from Cushing, OK to Midland, Texas, beginning in mid-2019.
Quealy field is the first field in the Rocky Mountain region discovered using seismic methods. The California Company used reflection seismic surveys to delineate the Quealy Dome anticline and drilled the first productive well in Quealy field in 1924.
The Rocky Mountain penetration depth record was set by the Bogan 1-5 (API 49-23-21212). This well was completed between 23,738 and 23,902.5 ft in the Madison Limestone and had an initial production rate of 1.5 million cubic feet of gas per day. Two other wells (49-45-21153-0100 and 49-45-21153-0102) were completed between 23,574 and 23,852 ft in the Madison with an initial production rate of 38 Mcf of gas per day. These two wells established the Madison field as the deepest commercial gas production in the Rocky Mountain region.
The 35 mile-long Natural Bridge natural gas pipeline is being constructed in Converse and Natrona counties. The pipeline will transport production Black Hills Energy facilities in Casper and Wyoming supersede Company's interconnection supply point near Douglas. The pipeline will increase regional plants capacity and is expected to be operating late 2019.
The Shell Gas Plant (20 MMcf) is the largest natural gas processing plant in Wyoming. Shell began operations at the plant in September 1, 2019.
The Sinclair Oil Company Museum (C) was established in 1976 in the Old Town Hall Sinclair, Wyoming. Sinclair began operations in the area by building a refinery in September 1930.
Although an oil seep on the east side of the Bighorn Basin was documented in 1884, commercial oil production did not begin in the basin until the Garland field was developed. In 1916, the Oregon Basin field became the site of the top 15 producing fields in the basin, with more than 873,000 bbl of oil produced in 2018.
Wyoming currently ranks 6th in the nation for both oil and gas production. Estimated reserves (943 million bbl of oil, 2,549 Bbl of gas) augment Wyoming's 50 and 14 year supply for oil and gas, respectively, based on 2018 sales volumes.
The PRB coal bed field produced more than 113,263,000 bbl of gas in 2018, and on a gross basis, gas production from the Powder River Basin has been the largest in 2009 at 159 Bbl.
Unconventional drilling and completion practices have made the Niobrara Shale (Powder River Basin) to target strike than a suite of stacked Upper Cretaceous reservoirs, including the Teapot, Parkman, Sussex, Shannon sandstones, Turner Sandstone, and the Frontier Formation. In fact, the Niobrara is a prime Sandstone, and the Muddy Shale, Sussex, and the Turner Sandstone had consistently deep one of the top two oil-producing formations in the state.
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Operators are beginning to use extensive horizontal completions in the Bakken and Three Forks plays. In 2018 one horizontal well in Powder River produced 54.5 Mbbl of oil and 1,000 Mcf of gas per day. The well's production performance at times more resembled a gas well than a normal directional well in this field.
In March 2019, the BLM approved Denbury Resource's construction of the Riley Ridge and the Bairoil-to-Natrona pipelines through Sweetwater, Fremont, Natrona, and Carbon counties. The pipelines transport carbon dioxide from the Riley Ridge Plant near Big Piney, to the Bairoil area of Casper, and be used for enhanced oil recovery projects in Wyoming.
Wyoming's 1st commercial oil shale operation produced 1,000 barrels of shale oil in 1982. Operations ceased in 1989 due to low oil prices.
The Grass Creek field was discovered in 1917 and is one of the top 15 producing fields in the state, with more than 873,000 bbl of oil produced in 2018.
The Lost Cabin Gas Plant is the largest natural gas processing plant in the Powder River Basin, with a capacity of 500 MMcf per day.
The Madison Limestone is the state's deepest oil and gas reservoir, at 15,000 feet in the Worland field.
The Tensleep Sandstone is the state's most prolific oil and gas producing formation, with over 1.5 billion barrels of oil and 1.5 Tcf of associated gas produced since 1944.
The Muddy Sandstone is the state's most prolific oil and gas producing formation, with over 1.5 billion barrels of oil and 1.5 Tcf of associated gas produced since 1944.
The Cloverly Formation is the state's most prolific oil and gas producing formation, with over 1.5 billion barrels of oil and 1.5 Tcf of associated gas produced since 1944.
The Frontier Formation is the state's most prolific oil and gas producing formation, with over 1.5 billion barrels of oil and 1.5 Tcf of associated gas produced since 1944.
The Dakota Sandstone is the state's most prolific oil and gas producing formation, with over 1.5 billion barrels of oil and 1.5 Tcf of associated gas produced since 1944.
The Madison Limestone is the state's most prolific oil and gas producing formation, with over 1.5 billion barrels of oil and 1.5 Tcf of associated gas produced since 1944.
The Bighorn Dolomite is the state's most prolific oil and gas producing formation, with over 1.5 billion barrels of oil and 1.5 Tcf of associated gas produced since 1944