Crude Oil Pipelines in the Rockies: An historical review, June 2010
Presentation Outline

• WPA background
• Infrastructure build out/production growth/consumer economic impact
• Corporate history of pipeline ownership
• The next decade
How an ‘instrumentality of the state’ interacts with industry and government

Wyoming Pipeline Authority

Industry

Executive Government – policy and planning

Legislative Government

Public
What have we done (for you lately)?

• Initial REX anchor shipper
• Expansion advocate: Cheyenne Plains and Bison
• Facilitator/match maker
• FERC intervention
  Natural Gas
  Crude oil

Ground breaking ceremonies, Cheyenne Plains Pipeline, 36 inch diameter pipe. Governor of Wyoming and former Executive Director, WPA.
“people take an interest in history when they have a vested interest in the future” - JL
Current Crude Oil Pipeline Infrastructure (schematic), June 2010
Colorado, first drilling boom, Florence Oil Field, 1880
Utah, discovers oil north of SLC, Farmington Bay area in 1891
Wyoming, Marathon begins commercial production in 1912
Preceding and through the 1930’s

Rockies Crude Oil Production by Year

Millions of Barrels

ND
WY
CO
UT
MT
Total

Pipeline to Ft. Washakie, (late 1920), Kinder Morgan Collection, Casper College Western History Center
Preceding and through the 1930’s

Averaged nominal cost in 1930’s for a gallon of gasoline = $19

Averaged real cost (adjusted for inflation)* = $290

Source: EIA, * June 2010

Red Butte

Rocky Mtn Operations or “SLC Core”

Guernsey, WY to Commerce City, CO
Pipe fitter gang. 1940? ca. BP (Amoco) Collection, Casper College Western History Center
The 1940’s

1. “Y” Crude System later to be renamed “Big Horn”

2. Casper, WY to Freeman, KS

3. 246% increase in pipeline capacity vs. previous decade

n¢22
r¢253
The 1950’s

Casper Gas Appliance Co, Incorporated. 1950’s? ca. Kinder Morgan Collection, Casper College Western History Center
The 1950's

- Platte
- Poplar
- Butte
- Belle Fourche
- Sinclair's Casper to Cheyenne
- Rangely, CO to SLC (late 1940?)

90% n¢29 r¢234
The 1960’s

Sa_s____16 inch line to Casper. (1968). Kinder Morgan Collection, Casper College Western History Center
Husky Oil adds major ‘product’ pipelines to the region, notably:
- Cody to Billings
- Billings to Washington State
- Cheyenne, eastbound

The 1960’s

8%

$32

r¢216

North Dakota System

Little Missouri
The 1970’s

Pipeline Control Panel, Bear Creek, Slater. Amoco or WYCO (1977). BP (Amoco)
Collection, Casper College Western History Center
The 1970’s

Obviously nothing got done . . . but at least we got some color pictures for the slide show!
The 1970’s, the real answer

Belle Fourche, ND

2%
The 1980’s

1980? ca. Kinder Morgan Collection, Casper College Western History Center
The 1990’s

Stock photo courtesy of Questar Corporation. Undated.
The 1990’s

Central Wyoming System segment is converted to natural gas and renamed “Pony Express”, new pipe added from Casper to Wind River Basin

Completed the “Western Corridor” = Glacier + Bear Tooth + Big Horn

Express

Bear Tooth

16% n¢115 r¢165
Production vs. Refining Capacity (throughput)
The 2000’s

White Cliffs Pipeline, 12 inch, courtesy of SemGroup.
The 2000’s

- Reverses flow, adds addtn’l pumps and pipeline
- Continued expansions via new pipe and pumping

34%
nc 216
rc 237
The 2010’s

- Crowded?
- Watch production
- Alternative export methods
- Consider regional refining capacity

Wahsatch Pipeline, 16inch, courtesy of SLC Pipeline LLC (JV between Plains Pipeline and Holly Corp).
The 2010’s

EOG Rail System

Keystone

Hess Rail System

17%
Who’s in charge and who decided to buy/sell what?

Pipe gang. No date. BP (Amoco) Collection, Casper College Western History Center
Ohio Oil Company, name change to Marathon Oil Company, 1962

North Ridge?

Terrasen

Kinder Morgan
“Rocky Mountain Pipeline System”

Continental Oil and Transportation Company, 1875 (Ogden, UT)

Standard Oil Company takes control of Continental, 1885(9) – incorporates into existing “Rocky Mtn Operations”

Standard Oil Company (1889), name change to Amoco, 1985

Pacific Energy Partners, 2002

Plains All American, 2006

Plains Pipeline L.P.
“Guernsey to Cheyenne/Commerce City”
“Poplar, Butte, Little Missouri”
"Rangely to SLC"

Standard Oil of California, name change to SoCal

Chevron
“Mandan Delivery System”

Standard Oil Company (1889), name change to Amoco, 1985
Standard Oil Company takes control of Continental, 1885(9) – incorporates into existing “Rocky Mtn Operations”

Standard Oil Company (1889), name change to Amoco, 1985

Kinder Morgan, 1996

Central Wyoming System or “Rocky Mtn Operations” segment is converted to natural gas and renamed “Pony Express”, new pipe added from Casper to Wind River Basin

“Pony Express”
“Keystone”

TransCanada
“Red Butte”

Ohio Oil Company, name change to Marathon Oil Company, 1962

Marathon Oil Company
Observations

- Majority of crude oil infrastructure in the Rockies (by % increase) was built in the 1940’s and 50’s
- Nothing got done in the late 1960’s through the 70’s (more true than false)
- Incremental expansions take place as needed with a resurgence in late 1990’s – production driven
- Watch for developments emerging in SCentral and SE Wyoming and the continued expansion in the Bakken
- If regional refining capacity remains capped, consider the growing supplies of crude oil and price scenarios
- In the context of CO2 EOR opportunities: consider Wyoming first based on historic production
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Kay Waller, Denver Earth Resources Library
Paul Oldaker, Consulting Hydrogeologist
I can’t believe these guys work for me!@#@"

I’m a land man, this ain’t my problem

Should have stuck with farming

It’ll fit, it’ll fit, just give it a nudge with the . . .