The ABC’s (and X’s) of Scouting the Future for Oil Shale Development

Jason Hanson & Patty Limerick
Center of the American West
University of Colorado at Boulder

31st Oil Shale Symposium
Colorado School of Mines
October 19, 2011
What Every Westerner Should Know About Oil Shale
Patty Limerick & Jason Hanson

Oil Shale

Why Oil Shale?
Welcome to Shale Country
Brief History of Oil Shale
Engineering a Boom
We’ll Get it Right Next Time

Sustaining a Better Future

[The recent striking demand in industrial life for oil in its many forms, the failure of domestic wells to meet this demand in full, the rapid advance in the price of petroleum, the waning of geologists and government experts that the underground supply of oil cannot much longer be depended upon to supply the ever increasing demand, all unite in pointing unerringly to the one permanent supply of the raw material which we have—the deposits of oil shale. Whether we wish it to be so or not, we shall soon be forced to resort to the oil shales for our supply of oil. Regardless of the number and complexity of problems to be solved in establishing the oil shale industry on a commercial basis, yet they must be solved, and it remains for the American mining, engineer, chemist, and inventor to provide the solution...]

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(a + b + c) x = OS
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a = Volatile Oil Prices
\[(a + b + c) \times x = OS\]

\(a = \text{Volatile Oil Prices}\)

\(b = \text{National Security Anxieties}\) 😞
(a + b + c) x = OS

a = Volatile Oil Prices

b = National Security Anxieties 😞

c = Active Federal Encouragement
$(a + b + c) \times x = OS$

$a = \text{Volatile Oil Prices}$

$b = \text{National Security Anxieties}$

$c = \text{Active Federal Encouragement}$
C e n t e r  o f  t h e  A m e r i c a n  W e s t

T u r n i n g  H i n d s i g h t  I n t o  F o r e s i g h t  ™

U.S. Crude Oil First Purchase Price
Source: U.S. Energy Information Administration
The First Boom
1900-1930

U.S. Crude Oil First Purchase Price

Source: U.S. Energy Information Administration
In 1908, David T. Day, Director of the Petroleum Division of the USGS, predicted that domestic oil reserves would be exhausted by 1927.
The First Boom
1900-1930

World War I
(1914-1918)

Nov 11, 1918
Armistice Signed

April 1917
U.S. Enters War

U.S. Crude Oil First Purchase Price
Source: U.S. Energy Information Administration
The First Boom
1900-1930

World War I
(1914-1918)

U.S. Crude Oil First Purchase Price

Source: U.S. Energy Information Administration
The First Boom
1900-1930

World War I
(1914-1918)

Dollars per Barrel

U.S. Crude Oil First Purchase Price

Source: U.S. Energy Information Administration
“It is now possible to work selected deposits of shale in [economic] competition with the oil from oil wells, and that these oil-shale reserves can be considered of immediate importance to the oil industry and to the defense of the nation.” – Sec. of Interior Franklin K. Lane, 1917
Boom…
Boom...  ... and Bust
The Boom That Wasn’t
1930-1970

Volatile Oil Prices
National Security Anxieties
Active Federal Encouragement

Source: U.S. Energy Information Administration
The Boom That Wasn’t
1930-1970

U.S. Crude Oil First Purchase Price
Source: U.S. Energy Information Administration

Volatile Oil Prices
- World War II, Cold War, Korean War

Active Federal Encouragement

Source: U.S. Energy Information Administration
The Boom That Wasn’t
1930-1970

U.S. Crude Oil First Purchase Price

Source: U.S. Energy Information Administration

Volatile Oil Prices

- World War II, Cold War, Korean War

National Security Anxieties

Active Federal Encouragement

- Synthetic Fuels Act of 1944, Anvil Points research facility, Withdrawal lifted in 1952, 1968 Lease Sale
U.S. Oil Imports Since 1948

US Imports of Crude Oil, Including for Strategic Reserves

Thousands of Barrels

Year

The Second Boom
1970-1990

Source: U.S. Energy Information Administration

U.S. Crude Oil First Purchase Price
The Second Boom
1970-1990

U.S. Crude Oil First Purchase Price

Source: U.S. Energy Information Administration

Credit: Susan Elmer, Chronicle, 1974

1973-74
Arab Oil Embargo

Dollars per Barrel

Source: U.S. Energy Information Administration
The Second Boom
1970-1990

U.S. Crude Oil First Purchase Price

Source: U.S. Energy Information Administration

Credit: Susan Elmer, Chronicle, 1974

- 1973-74 Arab Oil Embargo
- April 1973 Fall of Saigon
- 1979 Iranian Revolution
- 1980 Iraq Invades Iran
The Second Boom
1970-1990

Source: U.S. Energy Information Administration

- 1974 Lease Sale
- 1977 Carter’s Fireside Energy Chats
- 1980 Energy Security Act; *Andrus v Shell*

U.S. Crude Oil First Purchase Price

*Center of the American West* Turning Hindsight Into Foresight™
Enduring Legacies
The Maybe Boom
1990-Present

U.S. Crude Oil First Purchase Price

Source: U.S. Energy Information Administration
The Maybe Boom
1990-Present

Volatile Oil Prices
National Security Anxieties
Active Federal Encouragement

Source: U.S. Energy Information Administration
The Maybe Boom
1990-Present

- Volatile Oil Prices
- National Security Anxieties
- Active Federal Encouragement
The Maybe Boom
1990-Present

- Volatile Oil Prices
- National Security Anxieties
  - Terrorist Attacks, War in Afghanistan, War in Iraq, Recession, Arab Spring...
- Active Federal Encouragement
  - 2005 Energy Policy Act, BLM’s RD&D Leasing Program

Source: U.S. Energy Information Administration
The X Factor

\[(a + b + c) \times \] = OS
http://oilshale.centerwest.org