Revitalizing the Giant Oil Fields of the LA Basin: New Opportunities / New Challenges

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Outline

• California demand vs. supply

• Oil and the LA Basin: history and remaining resource potential of the giant fields

• Opportunities and challenges
California Fuel Demand: >1.6 million bbl/day

California Crude Production: <600,000 bbl/day
California is an “oil supply island”
U.S. crude-by-rail reaches 800,000 b/d in 2014 – will California come aboard?

North Dakota Oil Production
Barrels per day

Up to 200,000 b/d

Bakersfield set to become rail-to-pipeline ‘oil hub’
Oil and the LA Basin

Ref. Dr. Donald Gautier / USGS
Oil and the LA Basin

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Oil and the LA Basin – the beginning
Los Angeles Oil Field - circa1895

Ref. Dr. Donald Clarke / AAPG
Oil and the LA Basin – the early days

“An Oil Well in Every Yard”

1890 - 1910
Oil and the LA Basin

Signal Hill, Long Beach  1923
259,000 bbl / day
Example: Long Beach Oil Field

Map from CDOGGR
The Long Beach Oil Field

- Productive Area: 1725 acres
- Original oil in place: 3 to 3.6 billion barrels
- Oil per acre: 1.7 to 2.1 million barrels
- Cumulative production + reserves ~ 1 Billion bbl
- Current recovery efficiency: 26% to 32%
- Remaining oil: 2.05 to 2.65 billion barrels
- Additional oil recoverable with today’s technology: 200 to 660 Million barrels

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Photo: Long Beach Historical Society
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Photo: Long Beach Historical Society
Ten giant LA Basin Fields:
An additional recoverable potential of 1.4 to 5.6 billion barrels using current technology

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• Message #3: The LA Basin has successful examples of co-existing with urban oil development
Long Beach production islands
Opportunities / Challenges: key messages

• Message #1: California is a “supply island” and a major oil importer
• Message #2: The LA Basin has the geological potential for multi-billion barrel reserve additions by applying modern production technology to existing fields
• Message #3: The LA Basin has successful examples of co-existing with urban oil development
• Message #4: There is the potential to mobilize technological and engineering capabilities to develop these resources by establishing a new benchmark for minimizing environmental and societal impacts
Thank you

Ref. AAPG Explorer