The Helium Stewardship Act and Changes to the Federal Helium Program

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Introduction

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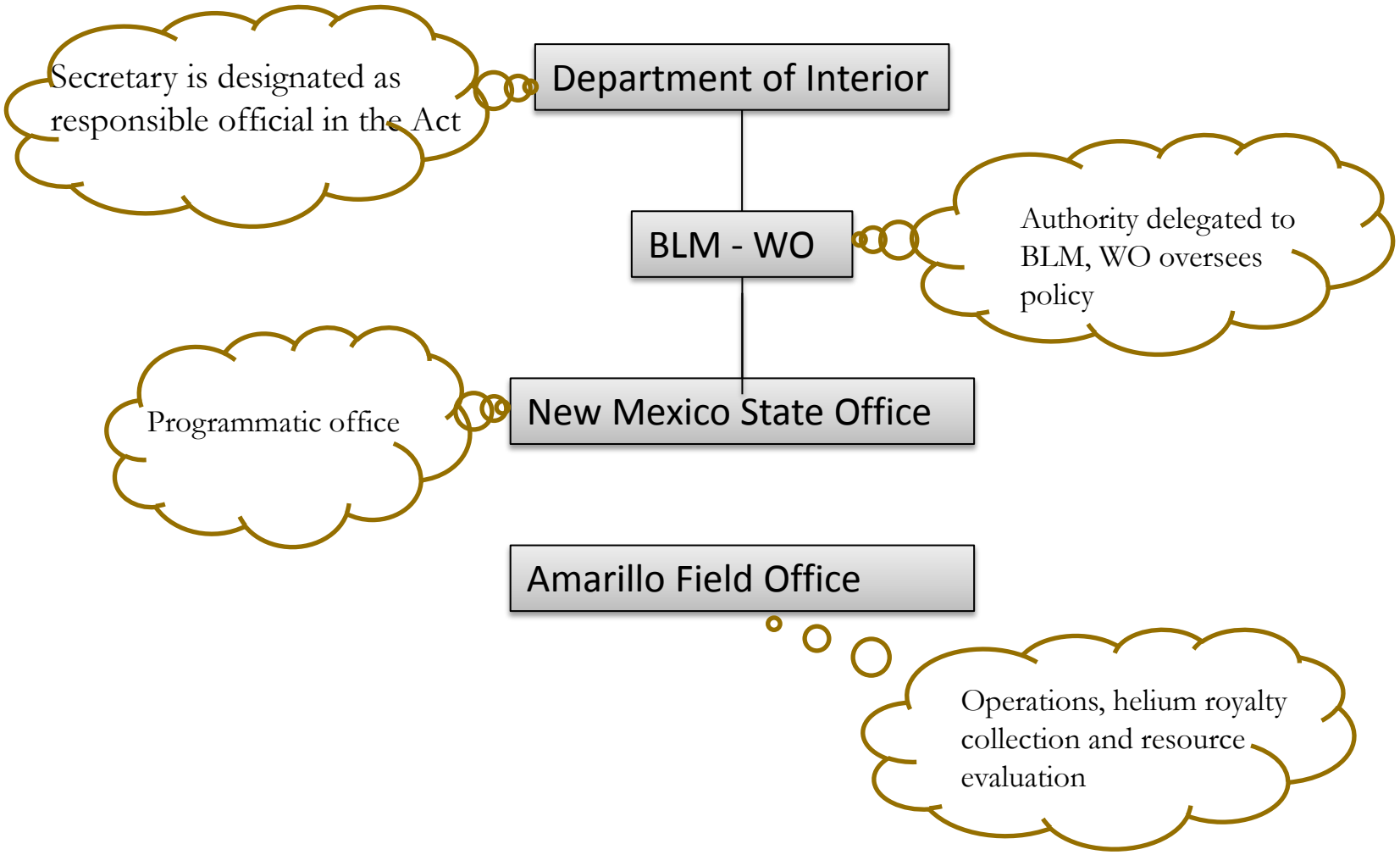
In This Presentation:

- Organization
- The Components of the Federal Helium System
- Helium Program Milestones
- The Helium Stewardship Act of 2013 (enabling legislation)
- US and World Production and Resources
- Comments and Questions

Organization



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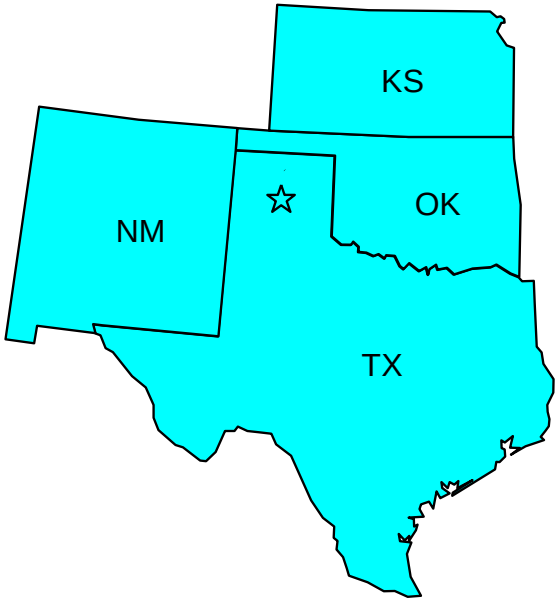
BLM – Amarillo Field Office

- 4 Main Helium-related Functions
  - Storage & Transmission
  - Crude Helium Sales
  - Resource Evaluation & Gas Analysis
  - Helium Production on Federal Lands



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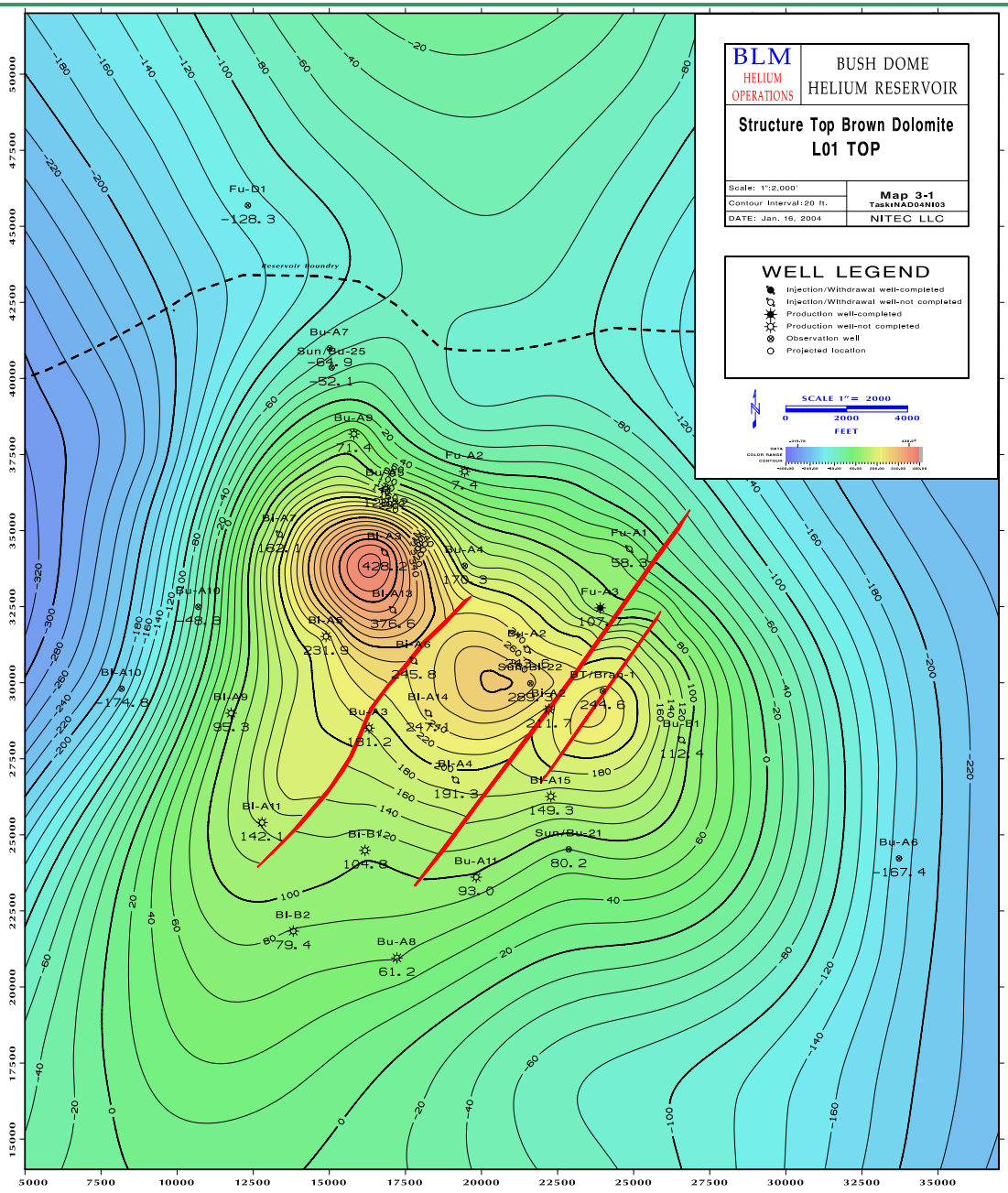

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Federal Helium System

- Bush Dome underground storage reservoir
- Crude Helium Enrichment Unit (CHEU)
- 450-mile Crude Helium Pipeline System

Storage & Transmission

- Helium Storage Contracts
  - *Storage Services*
  - *Compression Services*
  - *Helium Enrichment Services*
  - *Natural gas sales*

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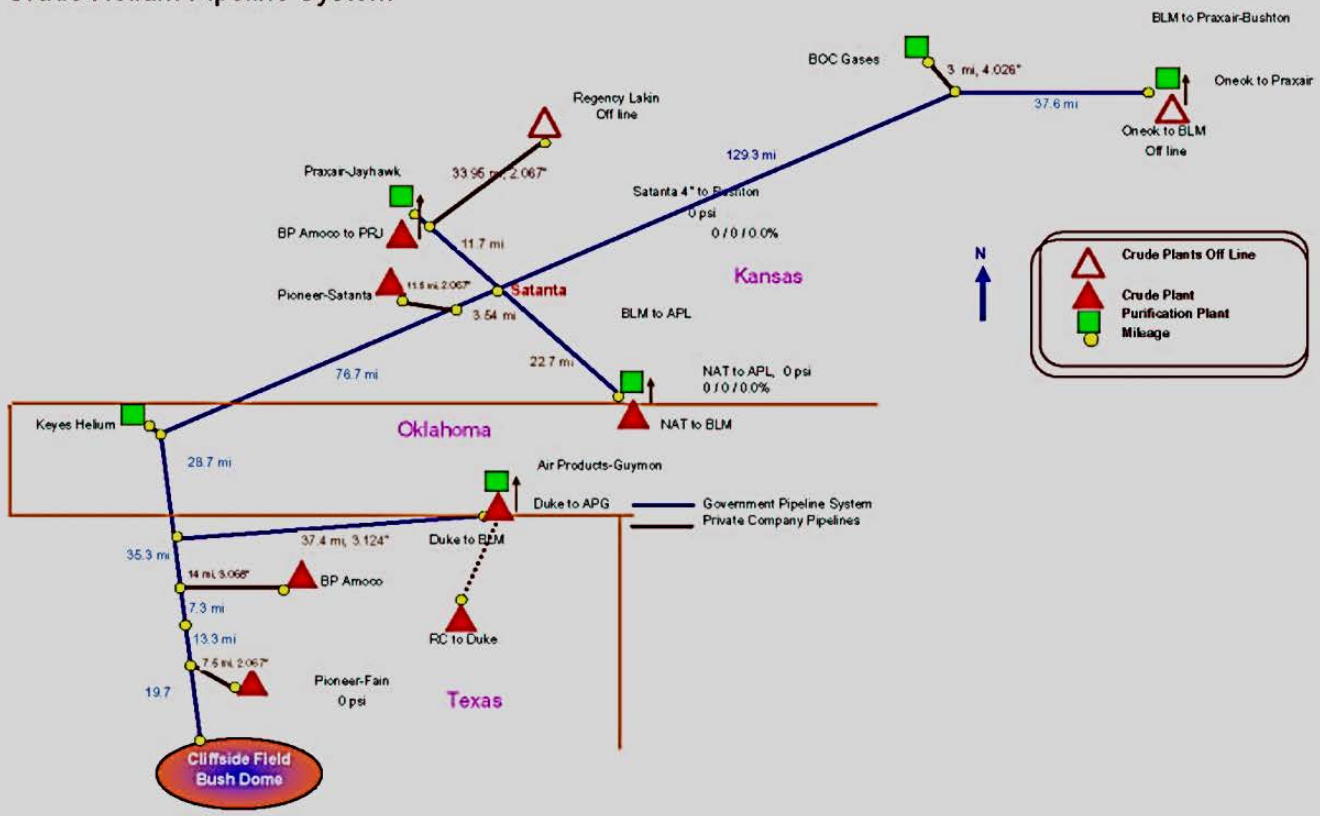
Bureau of Land Management
Crude Helium Pipeline System



Crude Enrichment Unit (CHEU)

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Crude Helium Enrichment Unit

- Cooperative Agreements with Private Industry
- Private design, purchase & installation
- BLM-operated
- Current operating conditions:
  - ~2,800 Mcf He, ~16,150 Mcf total gas
  - Gas composition from Field
    - 18.2 % (Helium)
    - 55.9 % (Hydrocarbons)
    - 25.0 % (N_2) 0.75 % (CO_2)
    - 0.15 % (H_2)

Crude Helium Sales

- In Kind Sales
  - *In Kind definition: Purchases of refined helium with priority pipeline access from persons who have entered into enforceable contracts to purchase an equivalent quantity of crude helium at the in kind price from the Secretary.*
- Conservation Helium Sales

Helium Program Milestones

- 1917 - US Bureau of Mines (BOM) began sampling gas wells for helium content
- MLLA of 1920
- Helium Act of 1925
- 1920's and 30's – Helium extraction from Petrolia Field, TX
- 1940's and 50's – WWII, Exell helium Plant.
- Helium Conservation Act of 1960
- 1960's – space race, conservation & storage, private industry develops.
- 1970's – helium purchase contracts cancelled, "flywheel" concept.

Helium Program Milestones (continued)

- 1980's –Space shuttle, inc. uses in defense, high-tech & medical.
- 1990's – "helium debt" issue.
- 1996–98 – Helium Privatization Act – Reserve sell off, BOM to cease refining helium, in-kind program.
- 2003 – Crude Helium Enrichment Unit operational.
- Year-end FY 2013 – "helium debt" paid.
- Legislation needed to continue program.

FHP Authorities

- Mineral Lands Leasing Act of 1920
  - 30 USC part 181
- Helium Act of 1925
- Helium Act of 1960
- Helium Privatization Act of 1996
- Helium Stewardship Act of 2013
  - 50 USC part 167
- 43 CFR Parts 16 & 3195
- Revolving Fund (multi-year funding)

Helium Stewardship Act of 2013

(Passed on October 2, 2013 just in time to prevent a shutdown of the helium program)

- FHP continues to year-end FY 2020 – All assets and rights to be sold.
- In-kind program continues.
- Revolving fund.
- Continue collecting royalties from Fed. Lands.
- Four phases for selling helium from the reserve. Sales = production capacity.
- Four sections requiring studies/evaluations by USGS, DOE, and BLM.

The Four Phases

Phase A, Allocation Transition:

- passage of the HSA to September 30, 2014.

Phase B, Auction Implementation:

- Began on October 1, 2014.
- Ends when Federal Helium Reserve (FHR) = 3 Bcf.
- Percent auctioned increases each year by 15%
- Auction percentages can be accelerated.

Phase C, Continued Access for Federal Users:

- Begins the FHR reaches 3.0 Bcf.
- Federal users only.
- Phase D projected to begin before this phase.

Phase D, Disposal of Assets:

- The Secretary to dispose of assets by no later than 9/30/2021.

Sections 16 - 19

Sec. 16 – Helium Gas Resource Assessment-

- USGS to identify and quantify he-4/he-3 resources.
- Do the same in coordination with international agencies.
- In coordination with EIA complete:
  - An assessment of global demand,
  - A 10-yr forecast,
  - An inventory of uses…
  - Complete by 10/1/2015

Sections 16 - 19

Sec. 17 – Low-Btu Gas separation and Helium Conservation

- Secretary of Energy to support R&D for research, development, commercial application, and conservation to:
  - expand domestic prd of low-Btu gas & he resources.
  - Separate and capture helium from natural gas streams.
  - Reduce venting of helium during gas exploration & development.

Sections 16 - 19

Sec. 17 – Low-Btu Gas separation and Helium Conservation (continued)

- Specific programs to include:
  - Membrane technology research
  - Helium separation technology
  - Industrial helium program
    - Develop low-cost technologies for recycling, reprocessing, reusing helium
    - Develop industrial gathering technologies to capture helium from other chemical processing –(including ammonia?)
  - $3M authorized but not appropriated.

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Sections 16 - 19

Sec. 18 – Helium-3 Separation

- Secretary to cooperate w/ Secretary of Energy on assessment or research relating to extraction of helium-3 from crude helium or other potential sources, including:
  - Gas analysis &
  - Infrastructure studies.
- Feasibility Study may be carried out to assess the feasibility of:
  - A facility to separate helium-3 from crude helium
  - Explore other potential sources of the helium-3.

Sections 16 - 19

Sec. 18 – Helium-3 Separation (continued)

- Per the Act, BLM must annually complete a report to Congress.
- The results of assessments of helium-3 supply and demand conducted by the DOE was included to satisfy the requirements of this section.
- $1M authorized to be appropriated.

Sections 16 - 19

Sec. 19 – Federal Agency Helium Acquisition Strategy

- Secretary, in consultation with Federal Agencies, and w/in two years shall complete and submit to Congress a report that provides for Federal users:
  - An assessment of the consumption and demand for helium.
  - 20-year Federal strategy for access to helium.
  - Determination of a date prior to 9/30/21 for beginning of Phase D.
  - Assessment of effects of increases in the price of refined helium and methods and policies to mitigate effects.
  - A process for prioritization of uses as helium availability decreases over time.

Helium Production in the US

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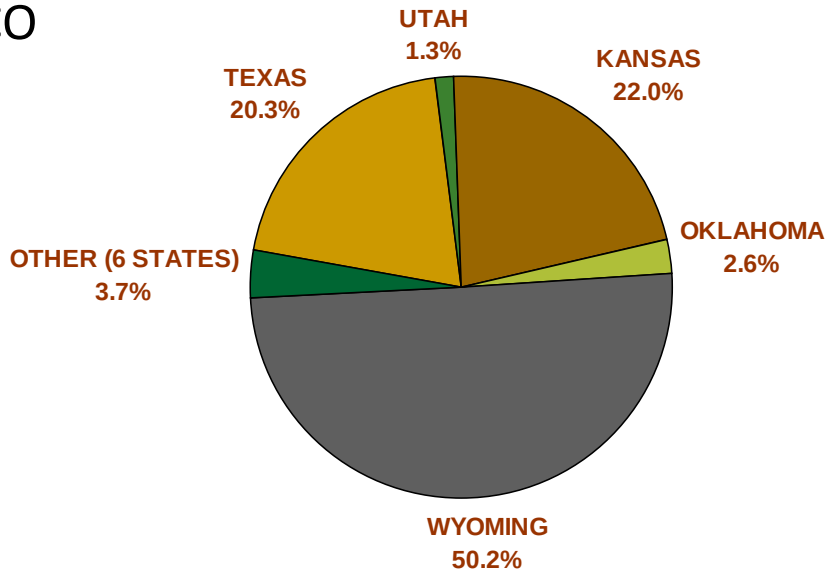
Helium Evaluation & Gas Analysis

- Helium Reserves
  - TX - OK - KS - WY - CO - UT
  - Helium Reserves – 131 Bcf
  - Helium Resources – 169 Bcf



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Global Helium Resources

(estimated as of January 2003)

United States	300 Bcf
Qatar	364 Bcf
Algeria	295 Bcf
Russia	245 Bcf
Canada	72 Bcf
Poland, China, & Others	152 Bcf

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Global Helium Production (Bcf)

Year	U.S. Domestic	U.S. Exports	Rest of the World	Total
2007	2.90	2.10	1.20	6.20
2008	2.37	2.40	1.60	6.37
2009	1.69	2.63	1.44	5.76
2010	1.89	2.64	1.47	6.00
2011	1.74	3.03	1.43	6.20

Thank You.
Questions and Comments

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