
Wyoming's Integrated Oil & Gas Management Approach



EPA/States Oil and Gas Emissions Summit

November 4, 2014

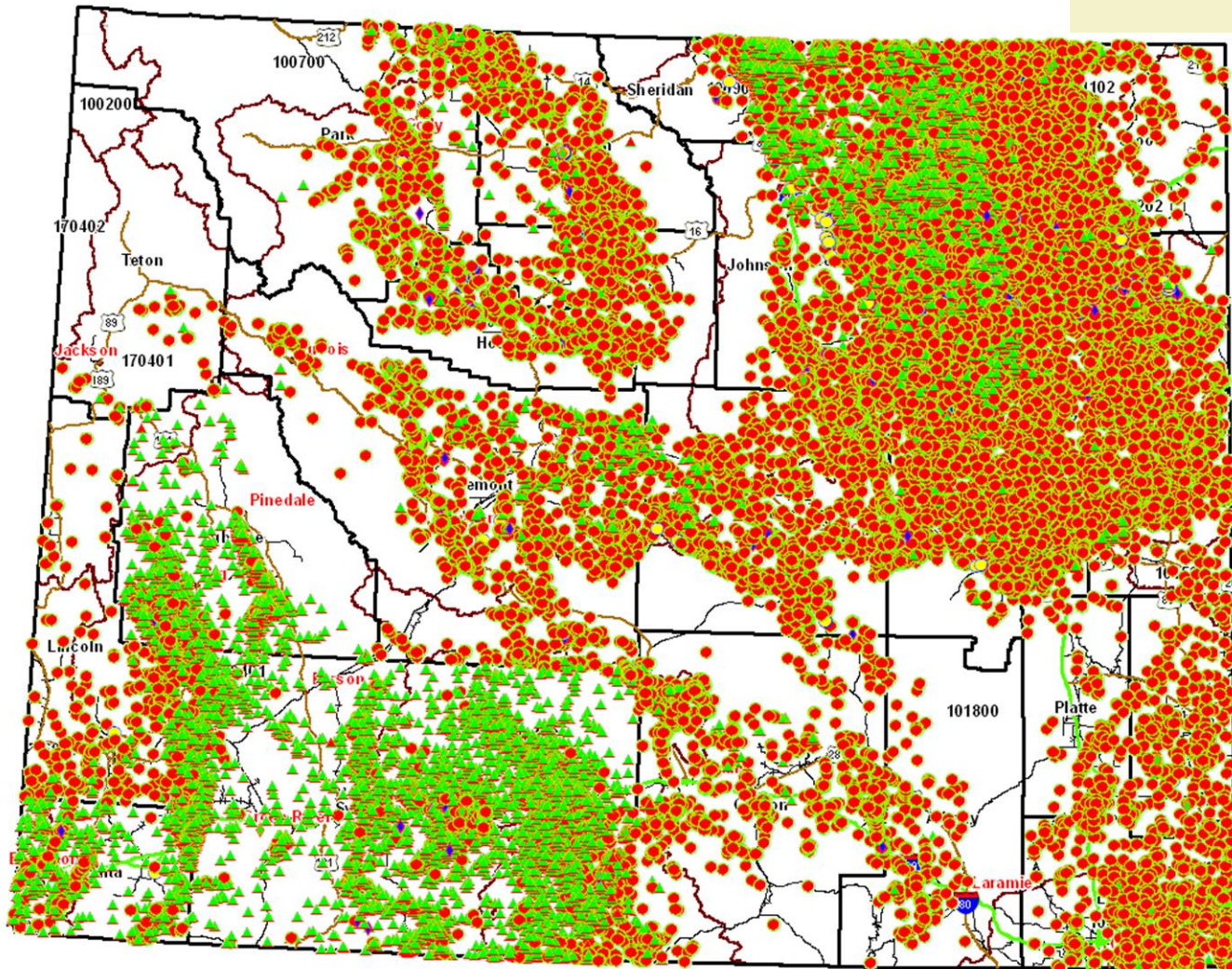
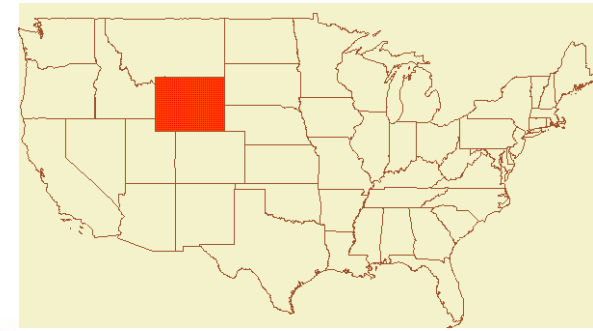
Darla Potter

Wyoming DEQ – Air Quality Division

Air Quality Resource Management

Program Manager

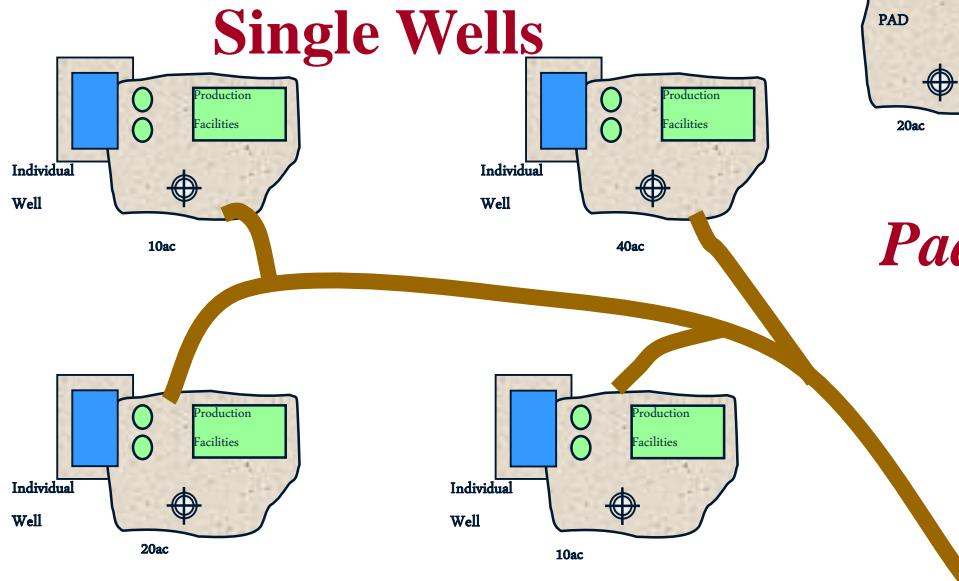
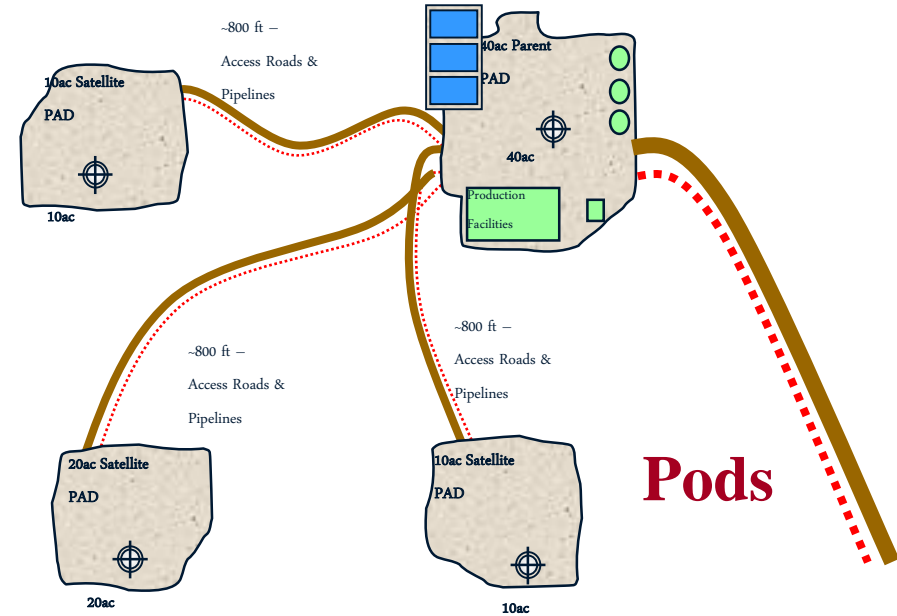
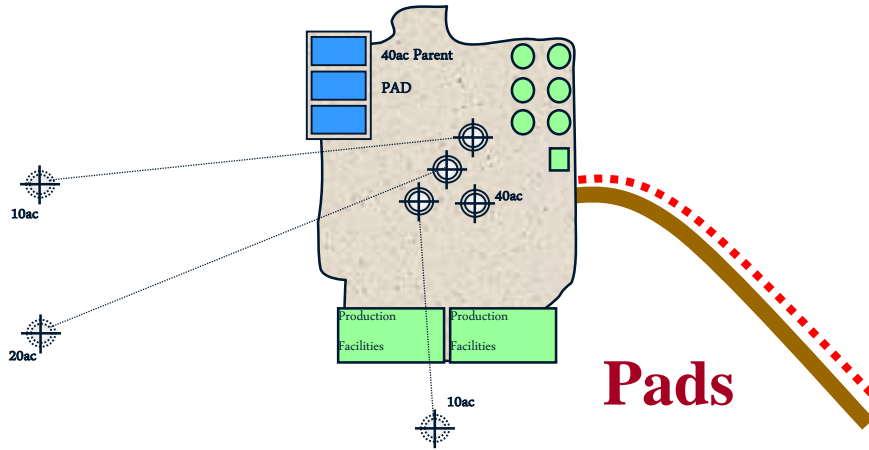
Producing Well Sites



1995 - 2013 Gas and Oil Production



Development Options

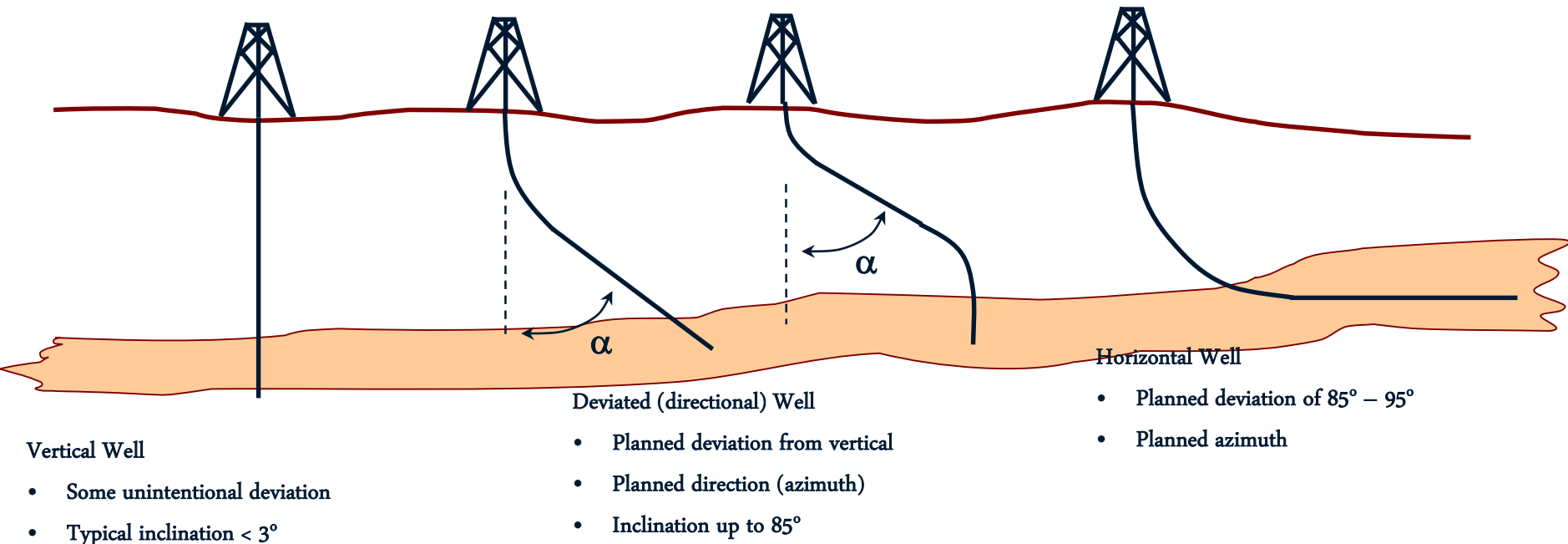


Pads; Pods; or Single Wells...

Directional Drilling

At the basic level:

- A deviated (or directional) well is a well that has been intentionally deviated from vertical. The deviation (or inclination) is measured from the vertical.
- A horizontal well is a deviated well with an inclination at or near 90°



Integrated “Toolbox”

Regulations

Guidance

NEPA
Coordination

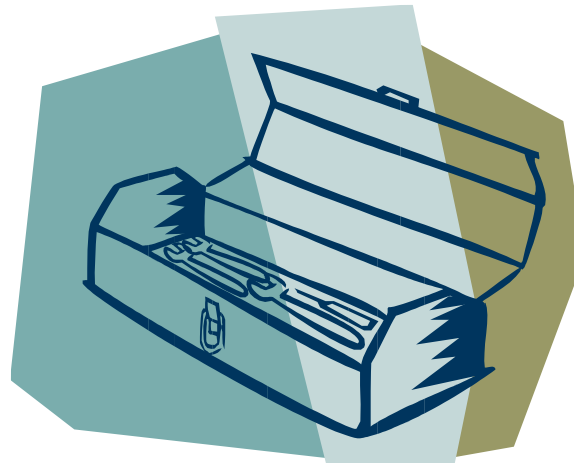
Permitting

Modeling

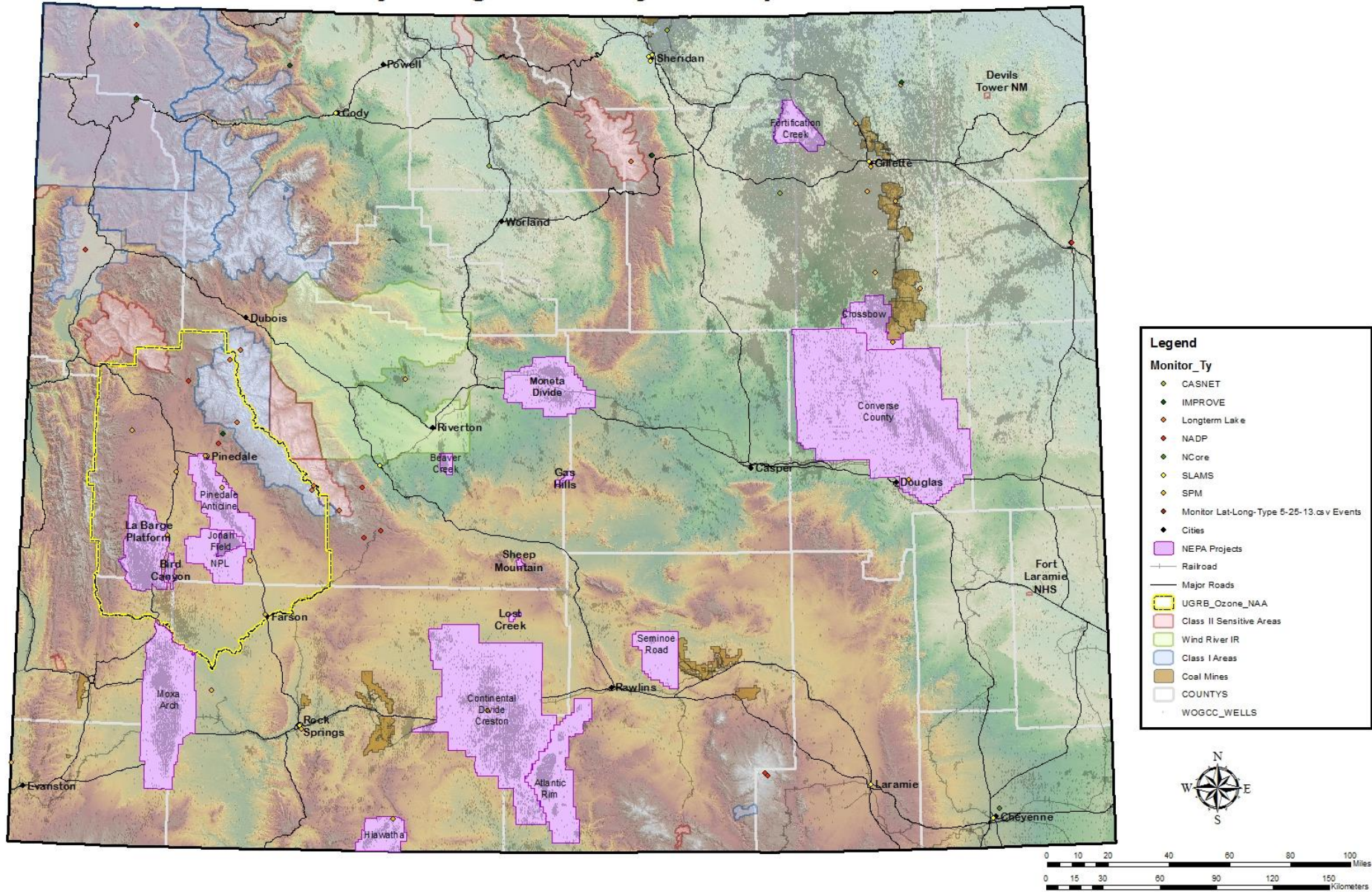
Monitoring

Compliance

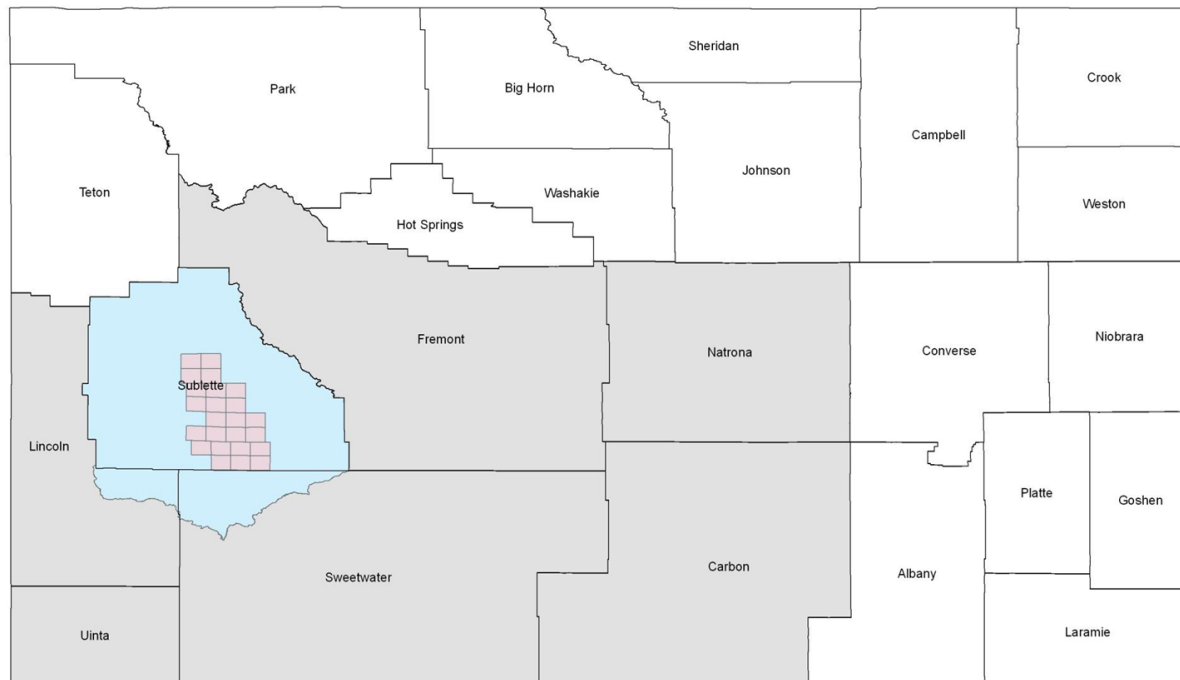
Inventory



Wyoming NEPA Projects Map



O&G Production Facilities Permitting Guidance



Legend

JPAD/NPL UGRB CDA Statewide

- ◆ June 1997
- ◆ November 1998 rev
- ◆ January 2000 rev
- ◆ August 2001 rev
- ◆ July 2004 rev
- ◆ August 2007 rev
- ◆ March 2010 rev
- ◆ September 2013 rev

O&G Emissions Inventory Development

- ◆ Inventories began in 2004
 - Annual, Production Facilities
 - Jonah and Pinedale Anticline Development area
 - 8 Emission Sources, 7 Pollutants
- ◆ Winter Inventories began in 2007
 - Upper Green River Basin
- ◆ Inventory evolution circa 2008
 - Annual, Production Facilities & Midstream Facilities
 - Upper Green River Basin & Statewide
 - 14 Emission Sources, 25 Pollutants


O&G Emissions Inventory Level of Effort

- ◆ O&G Production and Midstream Facilities
 - Annual Inventories Collected
 - 1,305 from 2004 – 2013
 - Includes 2008 & 2011 Statewide Inventories
 - UGRB Winter Inventories Collected
 - 635 from 2007 – 2014
 - Each inventory can contain information for one to several thousand individual production facilities

O&G Emissions Inventory Data Management

- ◆ OGER (Oil & Gas Emissions Reporting)
Data System
 - Access to data from Wyoming Oil & Gas Conservation Commission
 - Store emissions data
 - Nonpoint data flow to EPA EIS
- ◆ Query Wizard (<http://qrywiz.wyo.gov/>)
 - Quality assured actual emissions inventory data
 - Public access without formal information request

www.WyVisNet.com

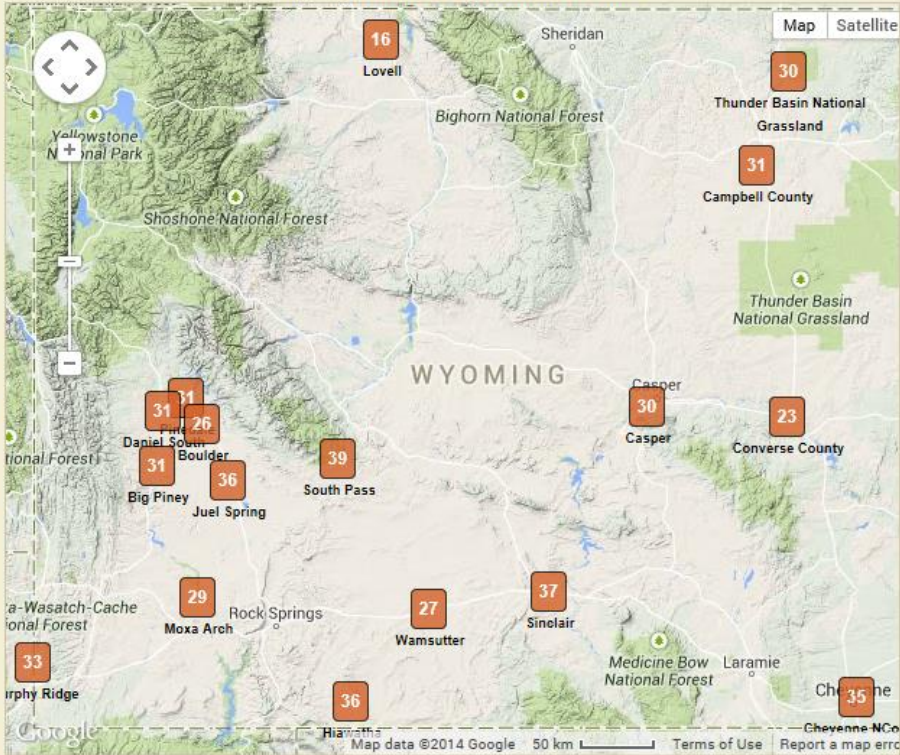


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Wyoming Air Quality Monitoring Network

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Air Quality Data and Image Monitor Locations




Map data ©2014 Google 50 km



Visit our new
Lovell Monitoring Site



VIEW 2014 NETWORK PLAN



1 Hr O ₃ (ppb)	8-Hr Avg O ₃ (ppb)	1-Hr NO ₂ (ppb)	24-Hr Avg PM ₁₀ (µg/m ³)	24-Hr Avg PM _{2.5} (µg/m ³)	1-Hr Wind Speed (mph)
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[Choose a monitoring site](#)

Studies

- ◆ Upper Green Winter Ozone Study
 - Monitoring to aid in the understanding of ozone formation
- ◆ EPA Office of Research & Development
 - Mobile monitoring studies and diffusion tube monitoring studies
- ◆ Extended Hydrocarbon Analyses
 - Generate emissions factor groups by similar field and formation
- ◆ Produced Water Tank Study
 - Field sampling to research and quantify emissions
- ◆ Emissions Inventory Study
 - Field sampling to assess combustor control effectiveness and quantify emissions from fugitive sources
- ◆ Produced Water Pond Study
 - Field sampling to research and quantify emissions

Websites/Links/Contact

- ◆ Inventory Web Page: <http://deq.state.wy.us/aqd/ei.asp>
- ◆ Actual Emissions Web Page:
<http://deq.state.wy.us/aqd/Actual%20Emissions.asp>
- ◆ Oil & Gas Production Facilities Guidance Document (September 2013):
http://deq.state.wy.us/aqd/Resources-New%20Source%20Review/Guidance%20Documents/September%202013%20FINAL_Oil%20and%20Gas%20Revision_UGRB.pdf
- ◆ Darla Potter darla.potter@wyo.gov