noble energy

Energizing the World, Bettering People's Lives

NEVADA EXPLORATION PROJECT

Legislative Committee on Public Lands June 12, 2014

Kevin Vorhaben, Rockies/Frontier Business Unit Manager

Forward-looking Statements and Non-GAAP Measures

This presentation contains certain “forward-looking statements” within the meaning of the federal securities law. Words such as “anticipates,” “believes,” “expects,” “intends,” “will,” “should,” “may,” and similar expressions may be used to identify forward-looking statements. Forward-looking statements are not statements of historical fact and reflect Noble Energy’s current views about future events. They include estimates of oil and natural gas reserves and resources, estimates of future production, assumptions regarding future oil and natural gas pricing, planned drilling activity, future results of operations, projected cash flow and liquidity, business strategy and other plans and objectives for future operations. No assurances can be given that the forward-looking statements contained in this presentation will occur as projected, and actual results may differ materially from those projected. Forward-looking statements are based on current expectations, estimates and assumptions that involve a number of risks and uncertainties that could cause actual results to differ materially from those projected. These risks include, without limitation, the volatility in commodity prices for crude oil and natural gas, the presence or recoverability of estimated reserves, the ability to replace reserves, environmental risks, drilling and operating risks, exploration and development risks, competition, government regulation or other actions, the ability of management to execute its plans to meet its goals and other risks inherent in Noble Energy’s business that are discussed in its most recent Form 10-K and in other reports on file with the Securities and Exchange Commission. These reports are also available from Noble Energy’s offices or website, http://www.nobleenergyinc.com. Forward-looking statements are based on the estimates and opinions of management at the time the statements are made. Noble Energy does not assume any obligation to update forward-looking statements should circumstances or management's estimates or opinions change.

This presentation also contains certain historical and forward-looking non-GAAP measures of financial performance that management believes are good tools for internal use and the investment community in evaluating Noble Energy’s overall financial performance. These non-GAAP measures are broadly used to value and compare companies in the crude oil and natural gas industry. Please also see Noble Energy’s website at http://www.nobleenergyinc.com under “Investors” for reconciliations of the differences between any historical non-GAAP measures used in this presentation and the most directly comparable GAAP financial measures. The GAAP measures most comparable to the forward-looking non-GAAP financial measures are not accessible on a forward-looking basis and reconciling information is not available without unreasonable effort.

The Securities and Exchange Commission requires oil and gas companies, in their filings with the SEC, to disclose proved reserves that a company has demonstrated by actual production or conclusive formation tests to be economically and legally producible under existing economic and operating conditions. The SEC permits the optional disclosure of probable and possible reserves, however, we have not disclosed our probable and possible reserves in our filings with the SEC. We use certain terms in this presentation, such as “net risked resources” and “gross mean resources.” These estimates are by their nature more speculative than estimates of proved, probable and possible reserves and accordingly are subject to substantially greater risk of being actually realized. The SEC guidelines strictly prohibit us from including these estimates in filings with the SEC. Investors are urged to consider closely the disclosures and risk factors in our most recent Form 10-K and in other reports on file with the SEC, available from Noble Energy’s offices or website, http://www.nobleenergyinc.com.

Meeting Objectives

- **Introduce Noble Energy**
- **Explain Noble Energy's Exploration Plans for Nevada**
- **Demonstrate How Noble Energy Safely and Responsibly Explores for Oil and Natural Gas Resources**

Energizing the World, Bettering People's Lives

5 core operating areas

1. Denver-Julesberg Basin
2. Marcellus Shale
3. Gulf of Mexico
4. West Africa
5. Eastern Mediterranean

4 new ventures

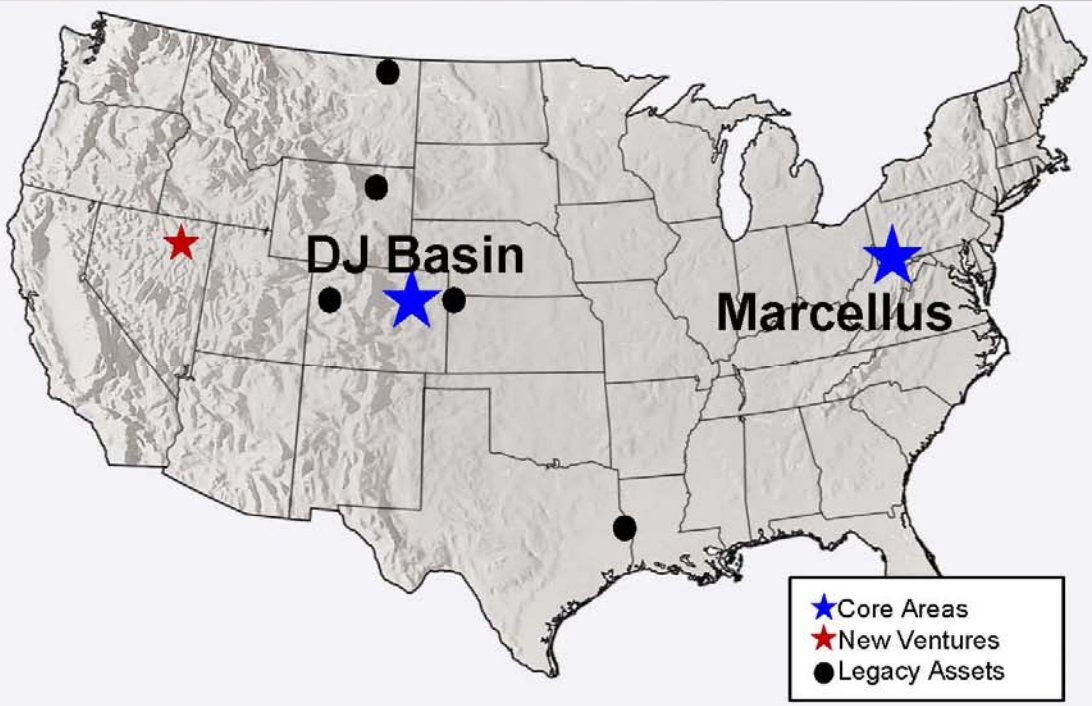
- a Nevada
- b Nicaragua
- c Falkland Islands
- d Sierra Leone

noble energy

U.S. Onshore

Overview

- **Built on Core Growth Assets and New Ventures**
  - DJ Basin
  - Marcellus
  - Nevada (Wilson)
  - Legacy assets



Dec. 2013

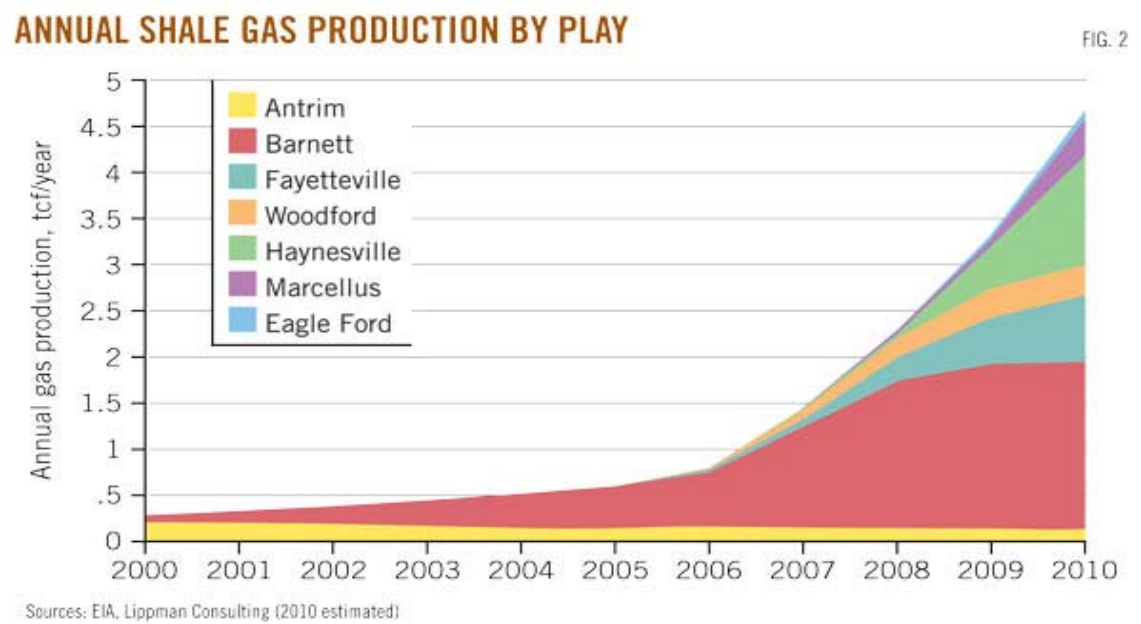
Area	Net Acreage	Net Production	Net Risked Resources	Operated Activity
DJ Basin	609,000	96 MBoe/d	2.6 BBoe	9 rigs
Marcellus	305,000	204 MMcfe/d	13 Tcfe	5 rigs
Other	~1.2 MM	12 MBoe/d	0.7 BBoe	1 rig
Total	**2.1 MM**	**142 MBoe/d**	**5.5 BBoe**	**15 rigs**

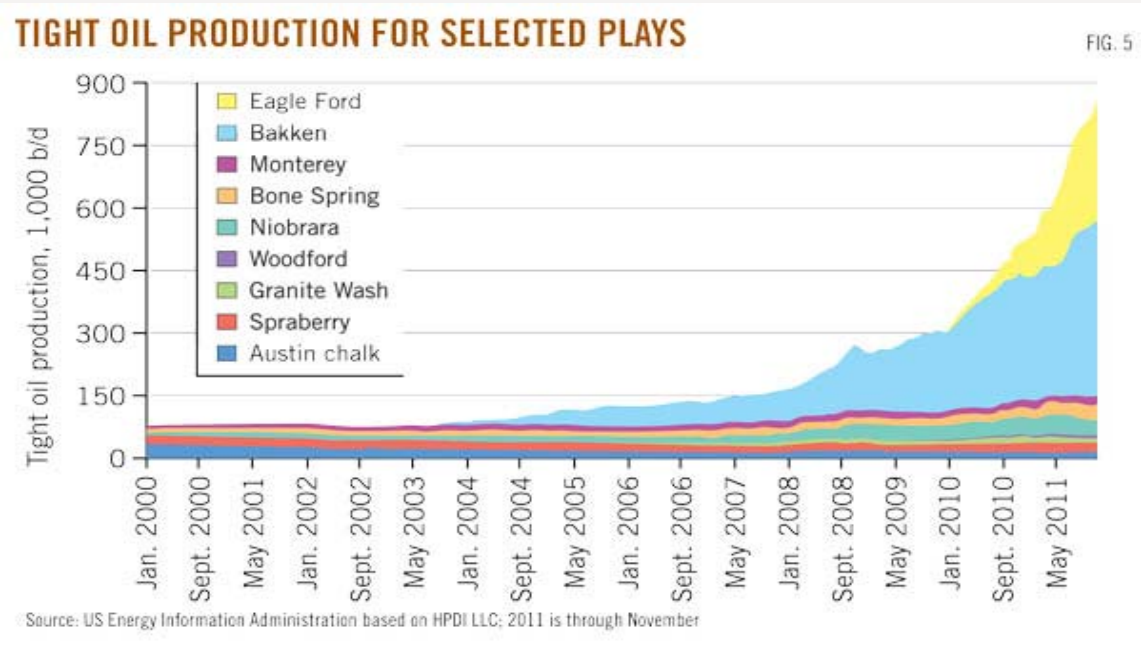
Nevada Tertiary Exploration Play

noble energy

A Game Changer

- **Improved Drilling Technology, Combined with Hydraulic Fracture Stimulation, Led to Discovery of Vast Quantities of Shale Gas and Tight Oil**
- **U.S. Oil and Natural Gas Production has Surged – Decreasing Prices for Consumers and Reducing Dependence on Foreign Oil**
- **Hydraulic Fracturing is Used to Safely and Responsibly Produce Economic Quantities of Oil and Natural Gas from 90% of U.S. Wells Today**

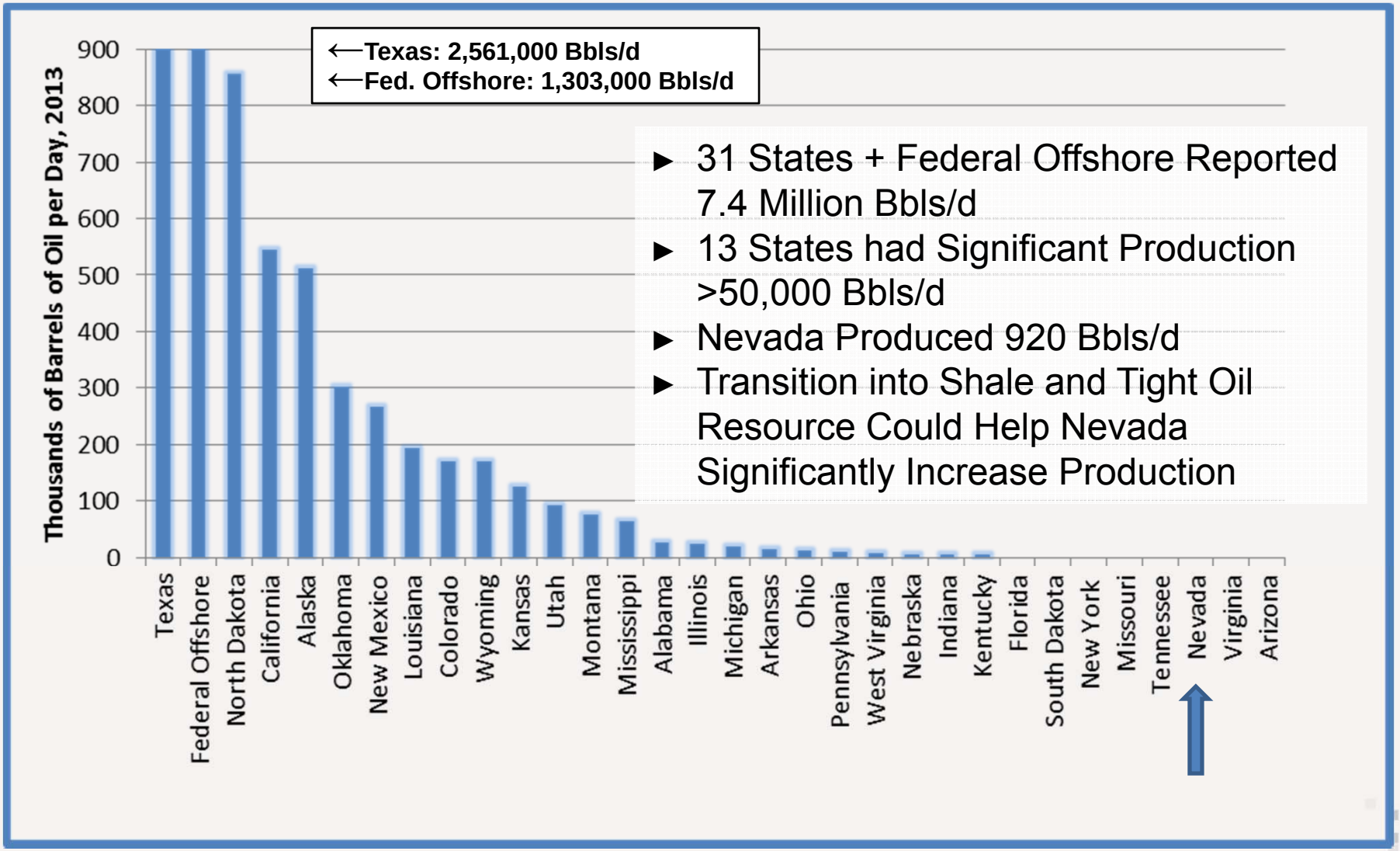




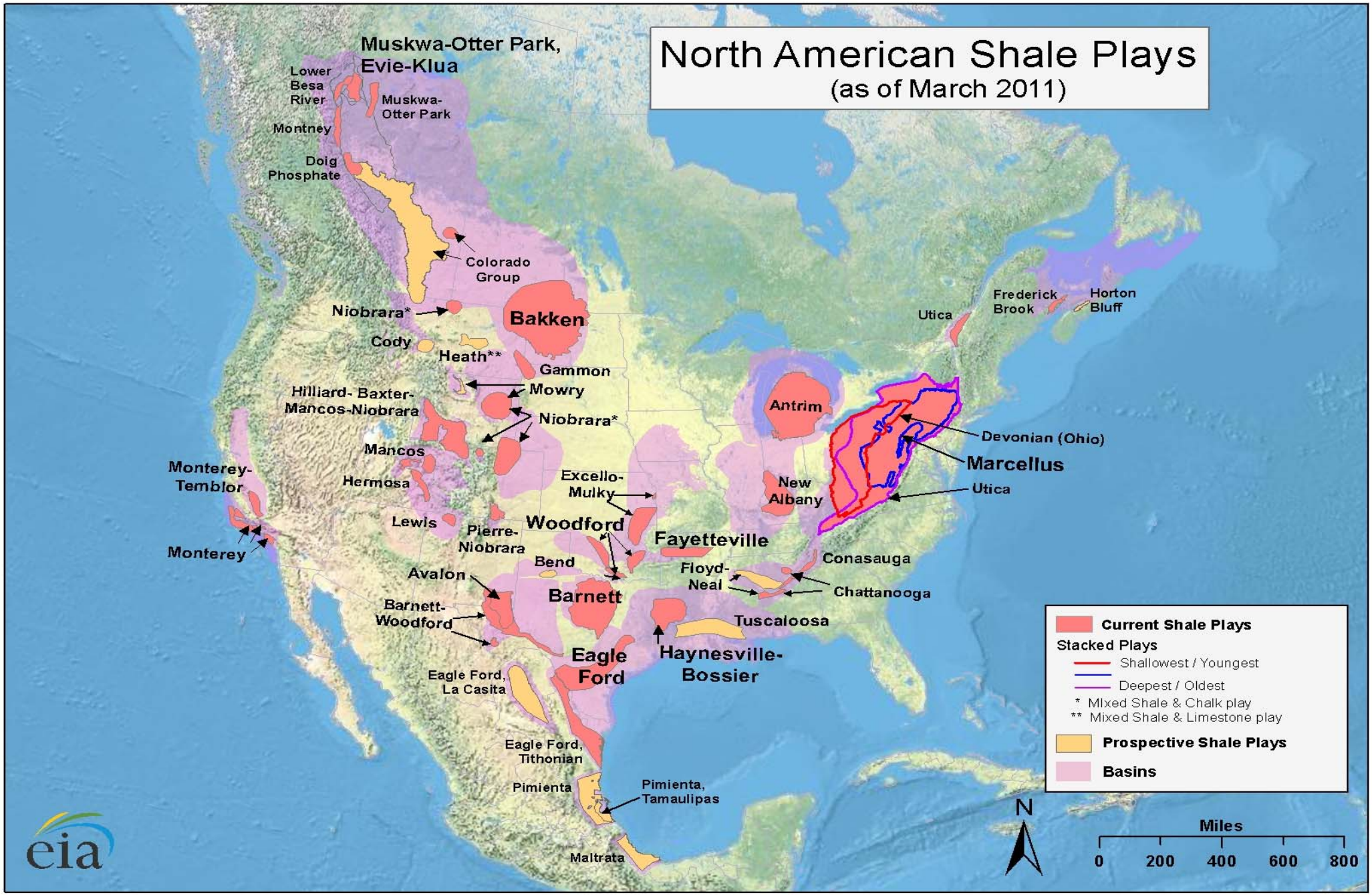
noble energy

2013 Production by State

Barrels per day (Bbls/d)



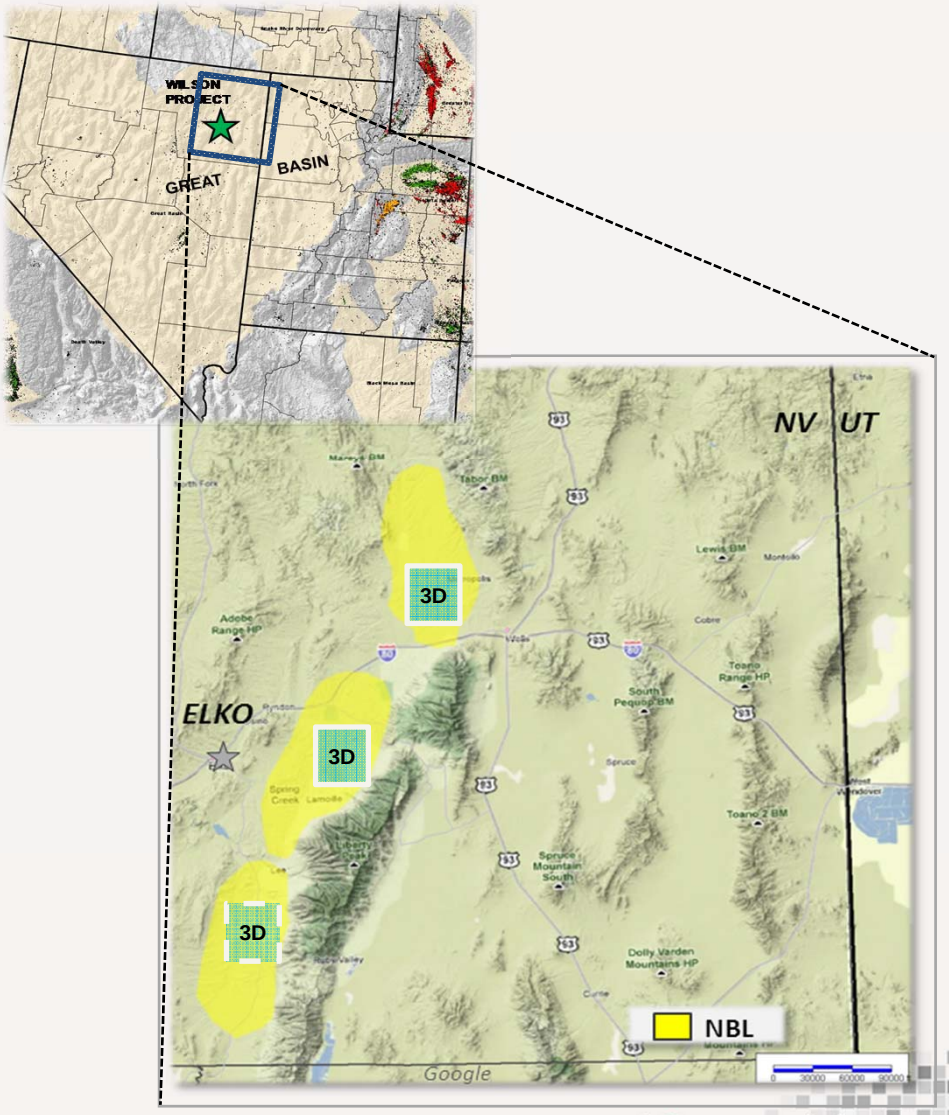
Source: U.S. Energy Administration (EIA)



Source: Energy Information Administration based on data from various published studies.
Updated: March 21, 2011

Noble Energy in Nevada

- **Tight Oil Play**
  - Hydraulic Fracture Stimulation Required
  - Evaluating Potential for Horizontal Drilling
- **372,000 Net Acres Located in N.E. Nevada**
  - 66% fee acreage, 34% federal
- **Phased Pilot Test Program to Determine Viability**
  - Acquire 3D Seismic Surveys (Completed)
  - 5-8 wells (began September 2013)
  - Target Depth Range of 6,000 ft. – 12,000 ft.



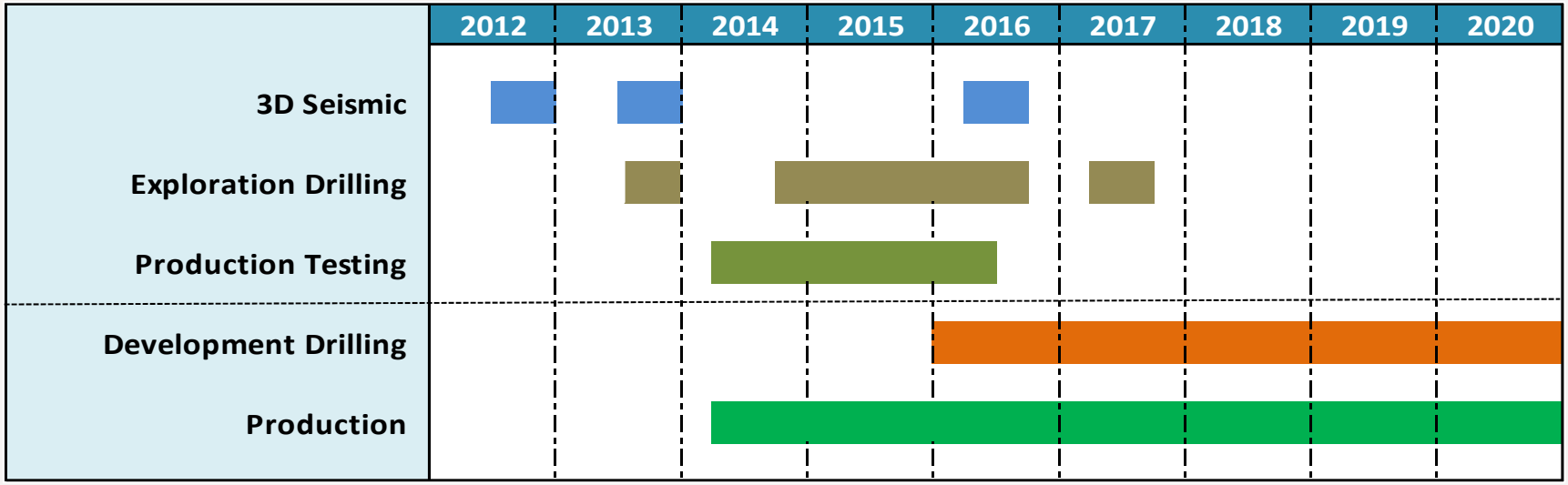
Initial Drilling Results

- Drilled 2 Exploration Wells in Humboldt Area in 2013
- Encountered Elko Formation
  - Focused on organic-rich mudstones
  - Strong oil shows during drilling
- Encouraging Observations
  - Hydrocarbon saturation present
  - Total Organic Content (TOC) present
- Completed the wells utilizing the hydraulic fracture stimulation process
  - NDOM on location to witness both wells
- Next Steps
  - Complete installation of surface equipment to begin long term flow tests
  - Evaluate horizontal vs. vertical approach
  - Finish Environmental Assessments and obtain all required permits
  - Initiate exploration program later this year

noble energy

N.E. Nevada Exploration Plan

Potential success case



- **Significant Exploration Investment Over Four Years (2011 – 2015)**
  - Leases, seismic, and wells
- **Initial Production in 2014**
  - First well completed, almost ready for production testing
  - Second well completed, surface equipment required

Project Timing:

- Critical path is building infrastructure to support operations

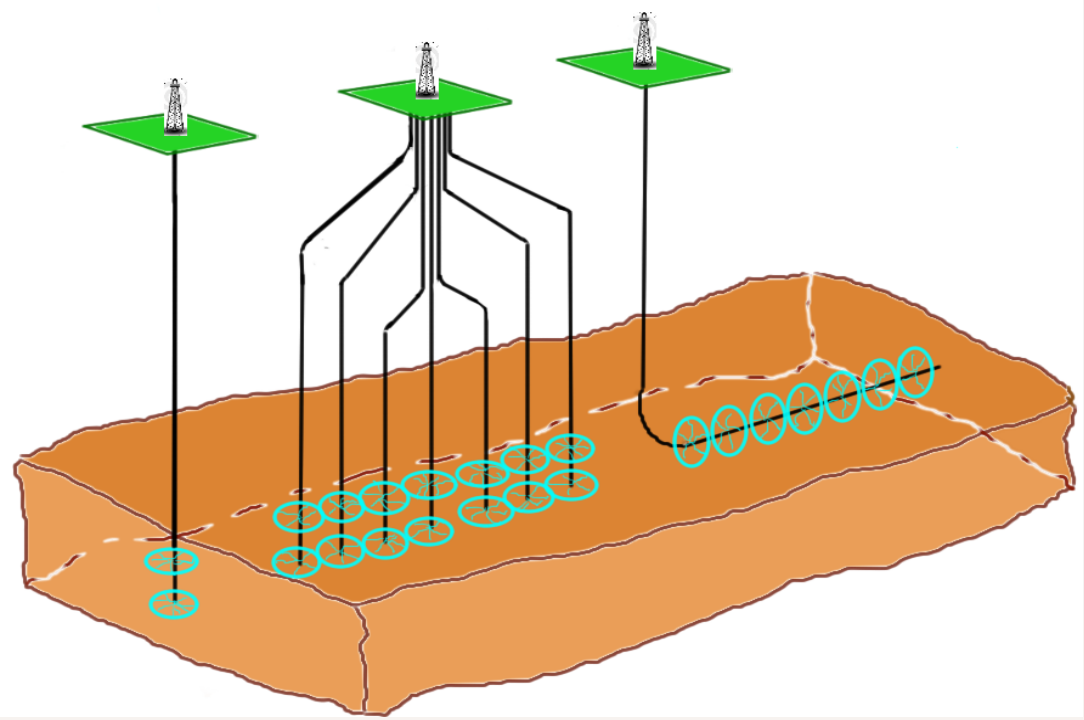
noble energy

Responsible Onshore Development

noble energy

Reducing Our Footprint

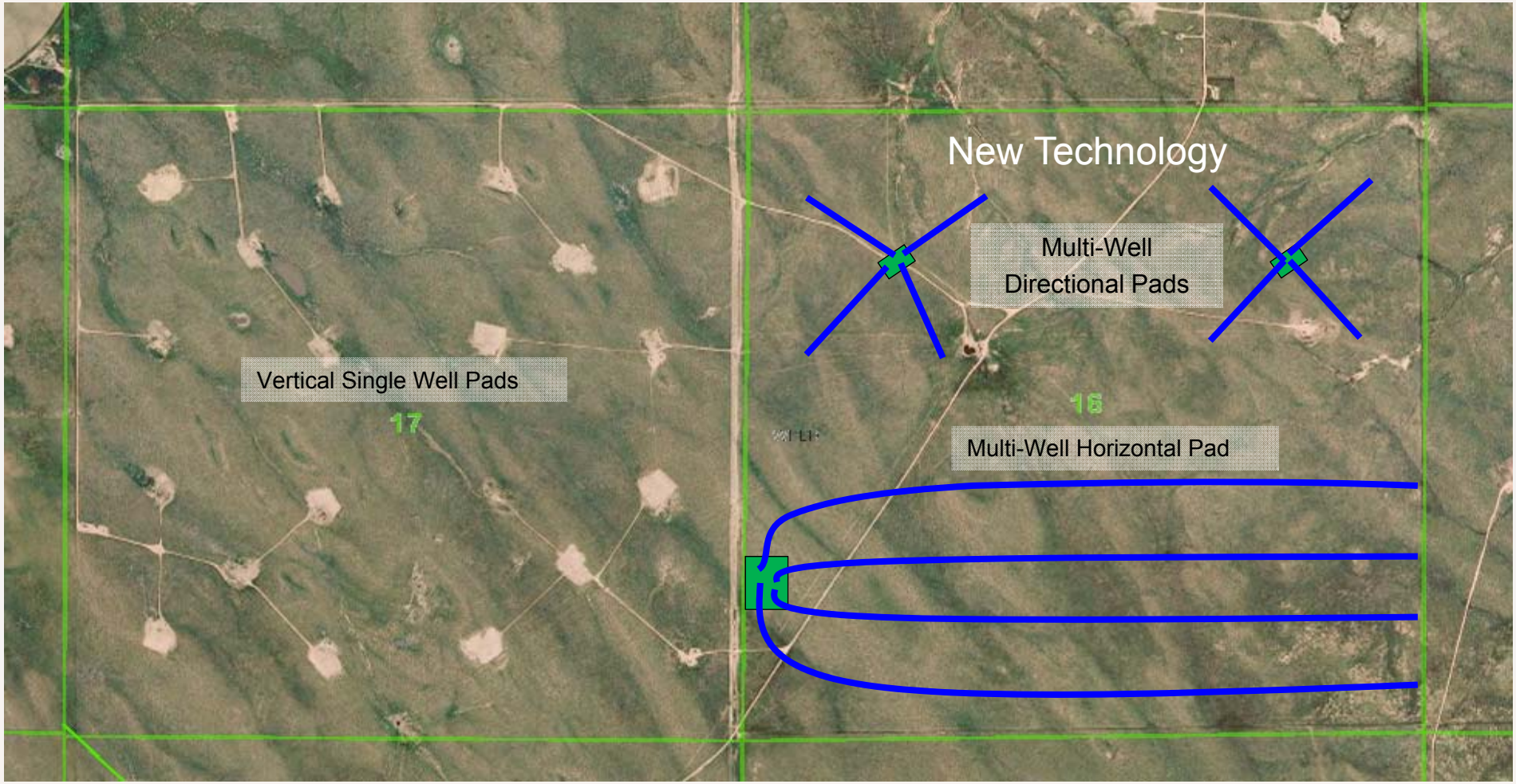
- **Single Well Vertical Pad**
  - Access multiple pay zones vertically at single point
- **Multi-Well Directional Pad**
  - Access multiple pay zones vertically
  - Cover broad aerial extent from single surface location
- **Horizontal Pad**
  - Equivalent to several vertical wells in one zone only



noble energy

Reducing Our Footprint

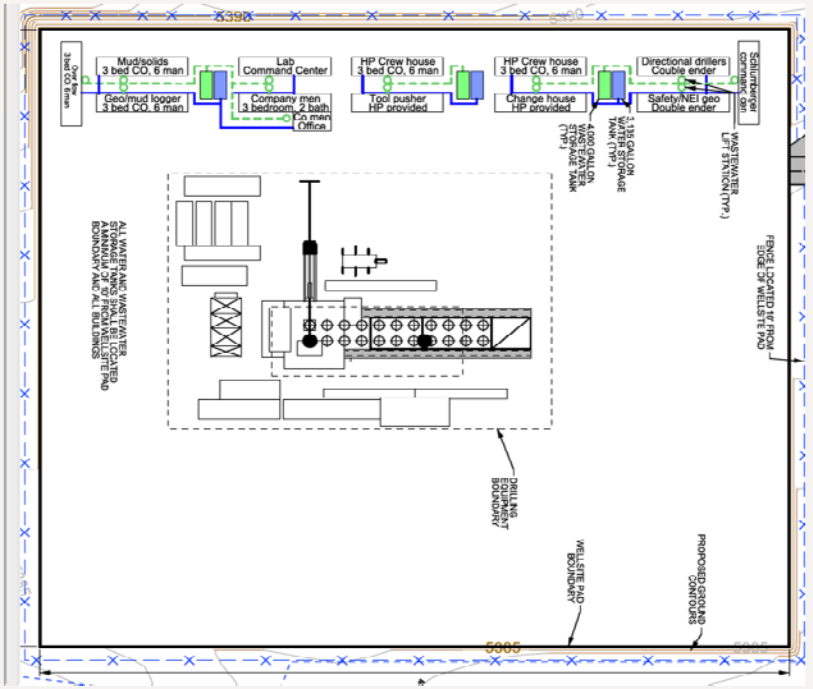
Multi-well pad drilling practices



We Respect Our Environment

Best management practices

Low Profile Production Equipment



Drilling Phase to Production Phase

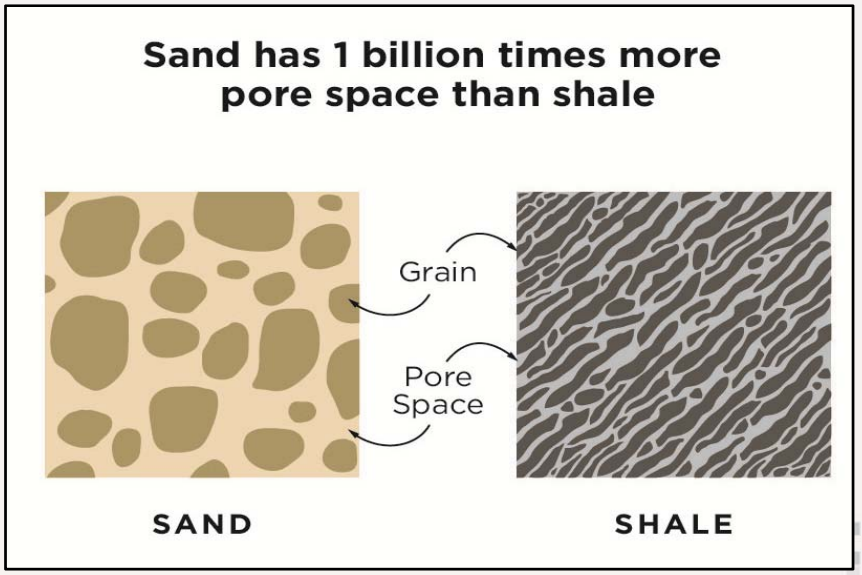
Reclaim pad site from 6 acres to approximately 2 acres

Hydraulic Fracturing

Increasing production

- **Geologic conditions, such as porosity and permeability, may trap oil and natural gas in underground rock formations.**
  - **Porosity is the percentage of the rock's volume that is open space, or pores, that can hold oil and natural gas.**
  - **Permeability is the flow rate at which water, oil or natural gas can pass through these pore spaces. Smaller pore spaces are more difficult for liquids or gases to pass through, resulting in lower permeability.**

- ✓ Hydraulic fracturing is used to create a connection between the small pore spaces – enabling trapped oil and natural gas to flow into well bores.
- ✓ The process enables recovery of oil and natural gas that would not otherwise be accessible.



noble energy

Hydraulic Fracturing

A safe and responsible completion process

- Fracking is typically a 2 to 3 day process that occurs after drilling but before the well begins producing oil and/or natural gas
- Fracking has been done safely and responsibly more than 60 years
- More than 90% of U.S. wells are fracked thousands of feet down and below water tables
- Sand, water and chemicals are no secret – log on to fracfocus.org and see
- Layers of cement and steel
- Dramatically increases production per well and decreases number of wells
- Reduces dependence on foreign oil in turbulent world

7 – 60 days

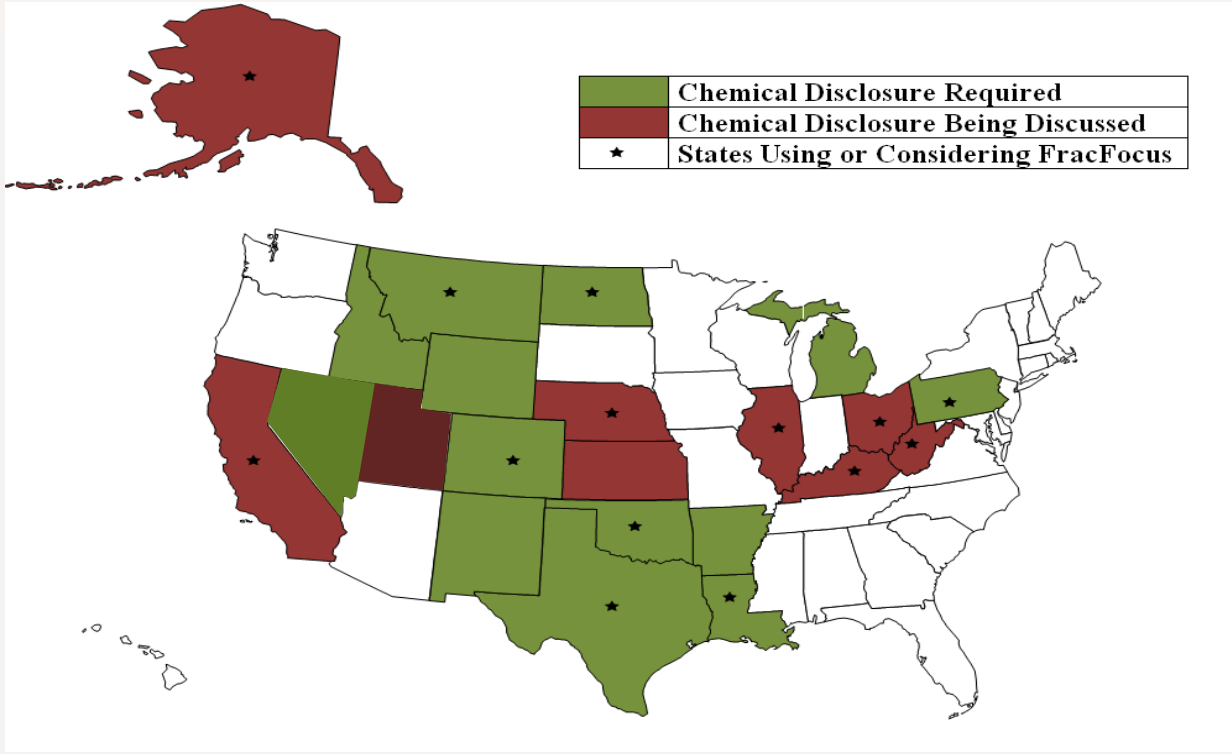
2-3 days

Life of Well

noble energy

Current State Disclosures and FracFocus Use Map

- **Provides Fact Based Information About Hydraulic Fracturing to the Public**
- **Provides Centralized Upload Area for Operators to Load Timely, Consistent Chemical Data**
- **Allows Users to Search for Fracturing Stimulation Records Using Multiple Criteria and Presents Them in a Standardized Format**



Source: fracfocus.org

noble energy

We Protect Water Resources

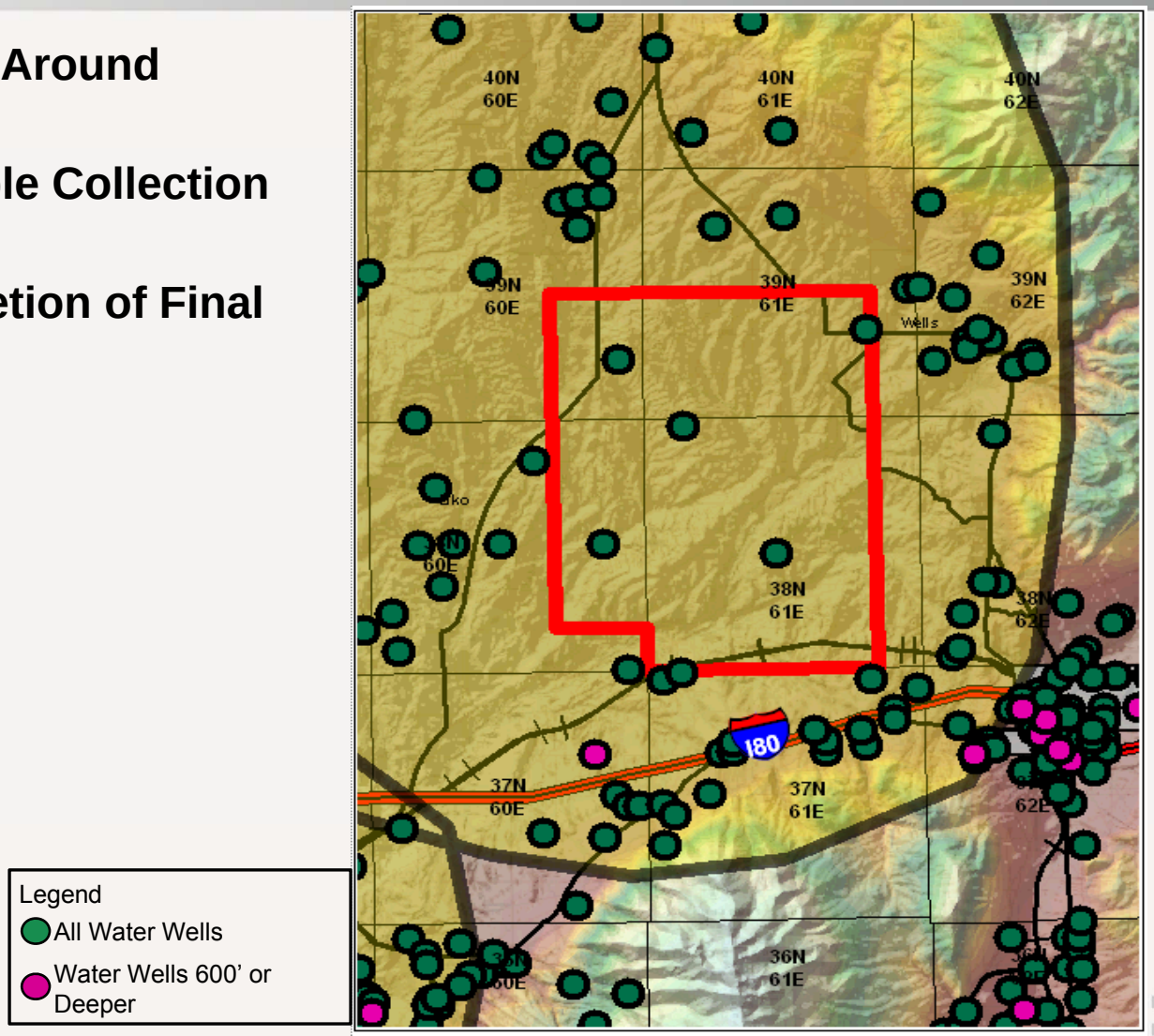
- **We Utilize the Best Available Technology to Protect Water and All Other Natural Resources**
  - Engineers design wellbore construction
  - We isolate our operations below surface through layers of steel casing and cement
  - Experts monitor every stimulation treatment
  - We conduct baseline water sampling before drilling and after completion to ensure water quality

- **Initial Exploration Wells Drilled From ~10,000 ft. to 12,000 ft. Below the Surface and Groundwater Tables**
  - Fresh water utilized by the public is located within a few hundred feet of the surface

noble energy

Groundwater Protection: Water Well Sampling

- One Mile Radius Review Around Each Drilled Well
- Predrill Water Well Sample Collection and Testing
- Retest Following Completion of Final Well on Pad



Water Sourcing for Hydraulic Fracture Stimulation

- **Sources**
  - **Local groundwater through approved state permits and landowner sources**
  - **Back-up – excess supplies through local conservancy districts**
- **Recycling**
  - **Noble Energy has developed a rigorous recycling and reuse program in other areas**
  - **Anticipate recycling in Nevada, pending success in drilling**
- **The Desert Research Institute is conducting a water aquifer study that will help guide our development plans.**

noble energy

Produced Water Management Options

- Treatment / Reuse
- Commercial Disposal Facilities
- Permitted Underground Injection
  - Class II well in compliance with State and Federal Regulations
- Surface Evaporation Ponds

noble energy

Air Quality

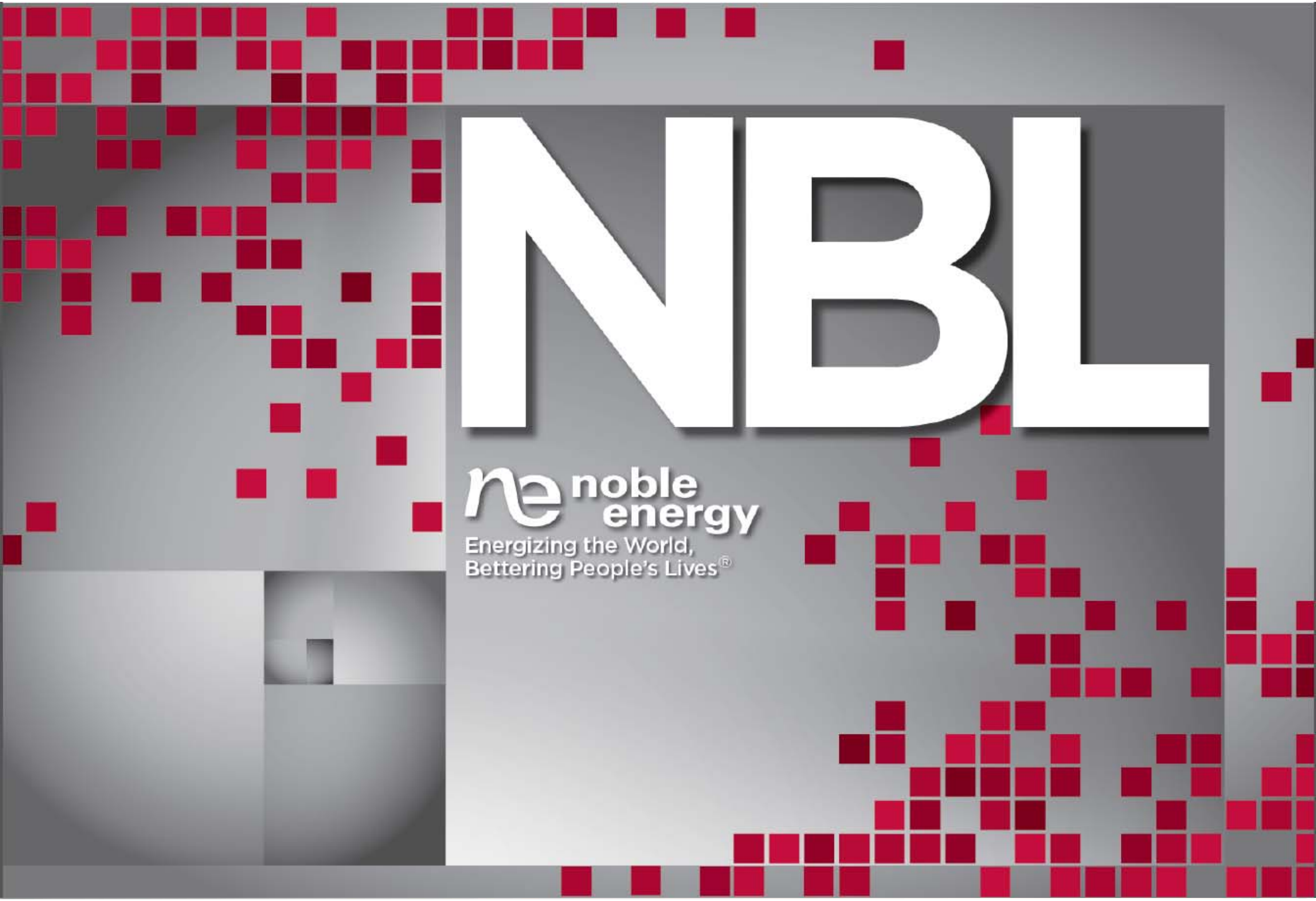
- Utilize Emission Controls to Prevent Elevated Ground Level Ozone Levels
- Utilize Produced Natural Gas to Power Equipment
- Take Measures to Reduce Truck Traffic Emissions
- Utilize Dust Suppression Best Management Practices, in Compliance With Department Of Environmental Protection
- Reduced Truck Speeds for Safety and Dust Suppression

noble energy

Wildlife Protective Measures and Adaptive Management

- Conducted Surveys to Locate Species and Habitat
- Operations Designed to Avoid or Reduce our Impact
- Implementing Sage Grouse Protective Measures
  - Third-party lek surveys in Spring 2012 and Spring 2013
  - Third-party winter-usage survey in 2013
  - No leks located in our project activity areas
  - Committed to fire-prevention best management practices (BMPs)
  - Applying BLM BMPs, created from western states' most stringent practices

noble energy


NBL
noble energy
Energizing the World,
Bettering People's Lives®