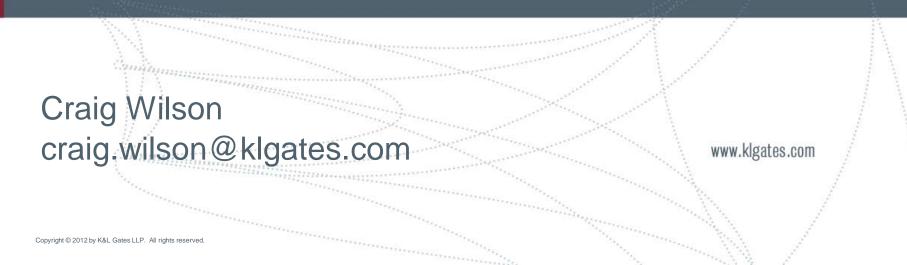


Craig Wilson Partner K & L Gates

Shale Oil & Gas The Lower 48 Experience – Will It Translate to Alaska ?

Presented at Meet Alaska, January 2013





Louisiana W. Cutler

Partner



F 907.865.2475 louisiana.cutler@klgates.com

OVERVIEW

Louisiana ("Louann") Cutler advises clients in Alaska on a variety of legal matters, including oil and gas issues; taxation; legislation and ordinance drafting; elections; administrative proceedings; constitutional law questions; contracts and other legal document drafting. She has more than 20 years of experience with complex litigation with an emphasis on environmental issues and oil and gas taxation and royalties. She has litigated such matters in Alaska trial and appellate courts, as well as administrative hearings and arbitrations. Louann became a partner in January 1997.



Craig P. Wilson

Partner

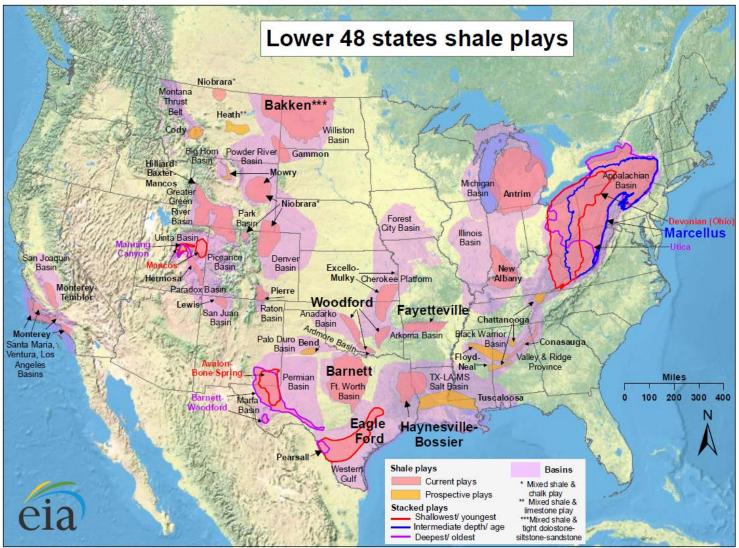
Harrisburg T 717.231.4509 F 717.231.4501 craig.wilson@klgates.com

OVERVIEW

Craig Wilson is a partner in the firm's Harrisburg office. Mr. Wilson concentrates his practice in the areas of energy, environment and natural resources, and has counseled clients who are exploring for, producing and transporting natural gas, clients who are developing and operating energy projects and other commercial and industrial projects, clients who are seeking environmental permits and zoning and land development approvals from government agencies, and clients who are parties to business transactions or litigation involving potential environmental liabilities.



General Background



Source: Energy Information Administration based on data from various published studies. Updated: May 9, 2011



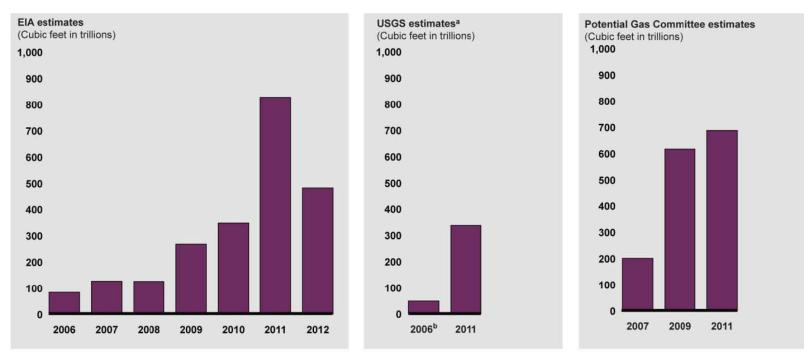


September 2012

OIL AND GAS

Information on Shale Resources, Development, and Environmental and Public Health Risks

Figure 6: Estimates of Technically Recoverable Shale Gas from EIA, USGS, and the Potential Gas Committee (2006 through 2012)



Sources: GAO analysis of EIA, Potential Gas Commitee, and USGS estimates.





September 2012

OIL AND GAS

Information on Shale Resources, Development, and Environmental and Public Health Risks

Table 1: USGS and EIA Estimates of Total Remaining Technically Recoverable U.S. Oil Resources

Barrels of oil in billions				
	USGS		EIA	
	2006	2011	2011	2012
Estimated technically recoverable shale oil and tight sandstone resources	2	7	32	33
Estimated technically recoverable oil resources other than shale ^a	142	133	187	201

Source: GAO analysis of EIA and USGS data.

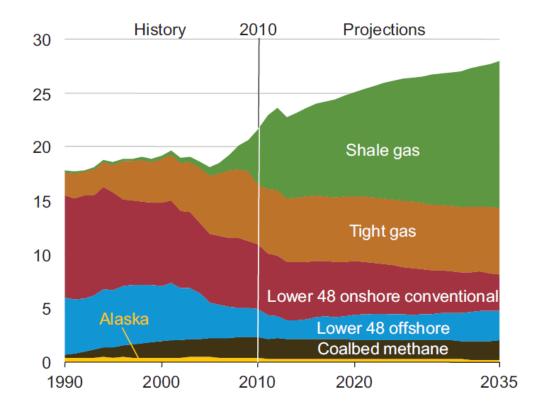
DOE/EIA-0383(2012) | June 2012

Annual Energy Outlook 2012

with Projections to 2035

Shale gas provides largest source of growth in U.S. natural gas supply

Figure 107. Natural gas production by source, 1990-2035 (trillion cubic feet)



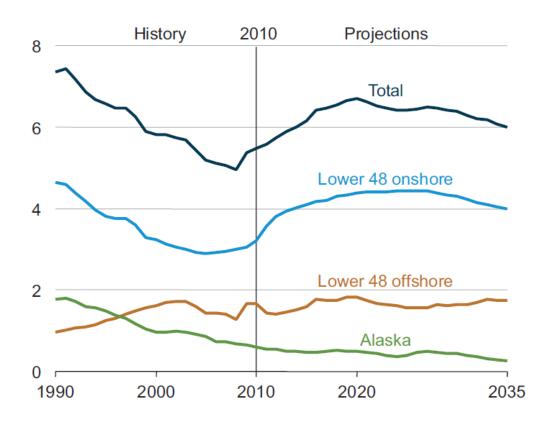
DOE/EIA-0383(2012) | June 2012

U.S. crude oil production increases, led by lower 48 onshore production

Figure 112. Domestic crude oil production by source, 1990-2035 (million barrels per day)

Annual Energy Outlook 2012

with Projections to 2035



North Slope Compared to Other Basins

•Shale Oil – Estimates of undiscovered, technically recoverable oil

 Bakken 	3,645 MMBO
North Slope	940 MMBO
Utica	940 MMBO
Eagle Ford	853 MMBO
Woodford	393 MMBO
Niobrara	227 MMBO

•Shale Gas – Estimates of undiscovered, technically recoverable gas

 Marcellus 	81,374 BCFG
 Haynesville 	60,734 BCFG
Eagle Ford	50,219 BCFG
North Slope	42,006 BCFG
Utica	37,273 BCFG
Woodford	15,105 BCFG

Source: USGS



Marcellus Shale / Utica Shale

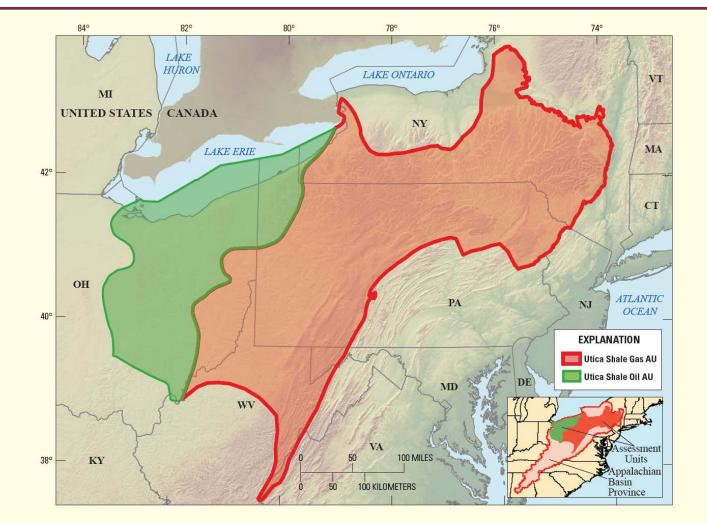
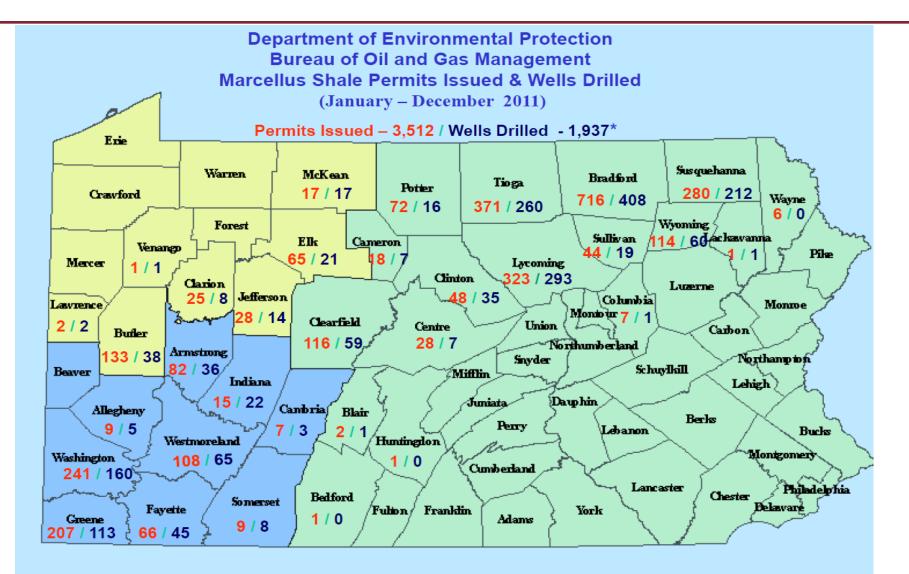


Figure 1. Location of the oil and gas assessment units (AU) for the Utica Shale in the Appalachian Basin Province.

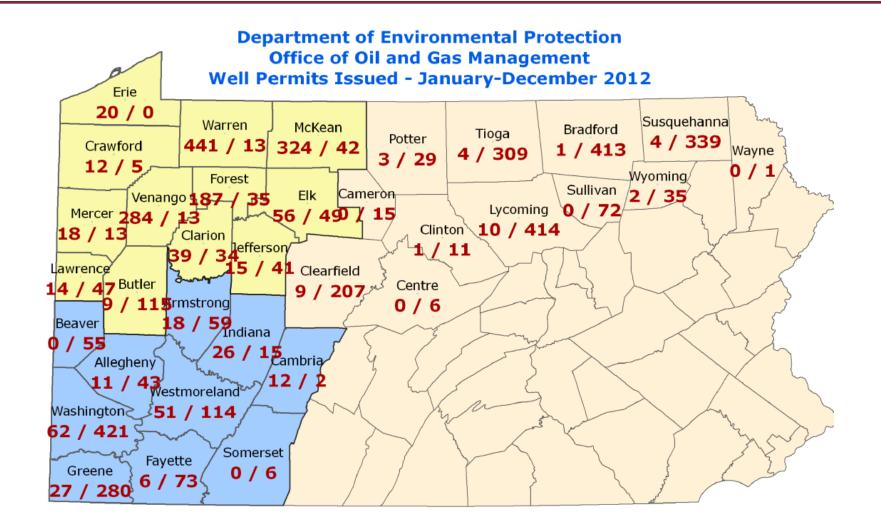
K&L Gates LLP

Fact Sheet 2012–3116 September 2012



Updated 1/12/2012

* As reported by Operators



Conventional - 1666 + Unconventional - 3326 = Total - 4992 Updated 01/04/2013

K&L Gates LLP

Public Engagement & Opposition At the Local Level











State Action

Key Issues

- Water Sources & Use
 - Alternative sources
- Water Disposal & Reuse
- E&S Control Wetlands Water Quality
- Roadway Maintenance
- Groundwater Protection
- Well Control Spill Protection
- Chemical Use & Storage
- Noise, Lighting, Traffic
- Taxes & Fees

Statutory & Regulatory Modernization

- Major recent legislative enactments
 - Ohio
 - Pennsylvania
 - West Virginia
 - Enactments address severance taxes and impact fees, uniformitypreemption, and modernization of standards for unconventional development and horizontal drilling, surface owner and groundwater protection, chemical disclosure, waste handling, etc.
- Regulatory updates on wide ranges of topics active state agencies, particularly in eastern plays
- Ongoing studies by New York State and Delaware River Basin Commission
 - Development on hold pending regulatory action



NGO Engagement: Federal Focus



NATURAL RESOURCES DEFENSE COUNCIL

September 8, 2010

By FedEx and e-mail

The Honorable Lisa Jackson Administrator United States Environmental Protection Agency Ariel Rios Building 1200 Pennsylvania Avenue, N.W. Washington, D.C. 20460

> Re: Petition for Rulemaking Pursuant to Section 6974(a) of the Resource Conservation and Recovery Act Concerning the Regulation of Wastes Associated with the Exploration, Development, or Production of Crude Oil or Natural Gas or Geothermal Energy.

Dear Administrator Jackson:





CHESAPEAKE BAY FOUNDATION Saving a National Treasure

April 4, 2011

The President The White House 1600 Pennsylvania Ave, NW Washington, DC 20500

RE: Natural Gas Extraction from Marcellus Shale and the Chesapeake Bay

Dear Mr. President:

CITIZEN PETITION REQUESTING THE COMPLETION OF A PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT AND REGULATIONS ADDRESSING THE CUMULATIVE IMPACTS OF DRILLING IN THE MARCELLUS SHALE FORMATION IN THE CHESAPEAKE BAY STATES

CHESAPEAKE BAY FOUNDATION, INC., NATIONAL PARKS CONSERVATION ASSOCIATION, APPALACHICAN CENTER FOR THE ECONOMY AND THE ENVIRONMENT, CHESAPEAKE CLIMATEACTION NETWORK, SHENANDOAH VALLEY NETWORK, THE FOUNDATION FOR PENNSYLVANIA WATERSHEDS, DAMASCUS CITIZENS FOR SUSTAINABILITY, and FRIENDS OF THE UPPER DELAWARE RIVER,

Petitioners,





ALASKA CALIFORNIA FLORIDA MID-PACIFIC NORTHEAST NORTHERN ROCHES NORTHWEST ROCKY MOUNTAIN WASHINGTON, DC. INTERNATIONAL

August 4, 2011

BY HAND DELIVERY



Lisa P. Jackson, Administrator Environmental Protection Agency Ariel Rios Building 1200 Pennsylvania Avenue, NW Washington, D.C. 20460

Re: Citizen Petition under Toxic Substances Control Act Regarding the Chemical Substances and Mixtures Used in Oil and Gas Exploration or Production

Dear Administrator Jackson:





1 Thomas Circle NW, Suite 900 Washington, DC 20005 main: 202-296-8800 fax: 202-296-8822 www.environmentalintegrity.org

October 24, 2012

Hon. Lisa Jackson, Administrator
U.S. Environmental Protection Agency Headquarters
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Mail Code: 1101A
Washington, D.C. 20460

Via Certified Mail, Return Receipt Requested, and electronic mail (jackson.lisa@epa.gov)

Re: Petition to Add the Oil and Gas Extraction Industry, Standard Industrial Classification Code 13, to the List of Facilities Required to Report under the Toxics Release Inventory

Dear Administrator Jackson:

Federal Agency Involvement



Chronology

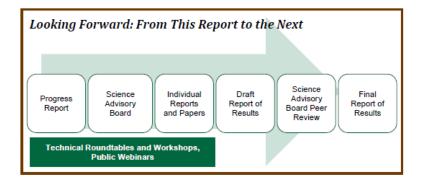
2010 Appropriations Committee Conference Report directed EPA to undertake study

November 2011 EPA issues final study plan

December 2012 EPA issues progress report

Research projects underway

Final report expected 2014



FEDERAL REGISTER

Vol. 77 Thursday, No. 159 August 16, 2012

Environmental Protection Agency

40 CFR Parts 60 and 63 Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews; Final Rule





EPA Initiates Rulemaking to Set Discharge Standards for Wastewater from Shale Gas Extraction

EPA plans to propose new standards for public comment in 2014.



United States Environmental Protection Agency

Permitting Guidance for Oil and Gas Hydraulic Fracturing Activities Using Diesel Fuels – Draft: Underground Injection Control Program Guidance #84

Office of Water (4606M) EPA 816-R-12-004 May 2012 http://water.epa.gov/drink Draft issued May 2012

Comment period extended through August 2012







MEMORANDUM	APR 1 3 2012
TO:	Assistant Secretaries, National Laboratories Department of Energy
	Assistant Secretaries, Bureau Directors Department of the Interior
	Assistant Administrators, Regional Administrators Environmental Protection Agency
FROM:	Arun Majumdar, Acting Under Secretary of Energy
	David J. Hayes, Deputy Secretary
	Bob Perciasepe, Deputy Administrator Molecture Protection Agency
SUBJECT:	Multi-Agency Collaboration on Unconventional Oil and Gas Research

Federal Register/Vol. 77, No. 92/Friday, May 11, 2012/Proposed Rules

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

43 CFR Part 3160

[WO-300-L13100000.FJ0000]

RIN 1004-AE26

Oil and Gas; Well Stimulation, Including Hydraulic Fracturing, on Federal and Indian Lands

AGENCY: Bureau of Land Management, Interior.

ACTION: Proposed rule.

SUMMARY: The Bureau of Land Management (BLM) is proposing a rule to regulate hydraulic fracturing on public land and Indian land. The rule would provide disclosure to the public of chemicals used in hydraulic fracturing on public land and Indian land, strengthen regulations related to well-bore integrity, and address issues related to flowback water. This rule is necessary to provide useful information to the public and to assure that hydraulic fracturing is conducted in a way that adequately protects the environment.

Closing Thoughts: Observations for Alaska

Closing thoughts

The debate is national – BUT most regulation is at the state level

Modernization of certain standards may be appropriate

Stakeholder engagement is valuable

Hysteria does not breed good science or policy



Questions

?

K&L Gates LLP