PRODUCED WATER HANDLING:

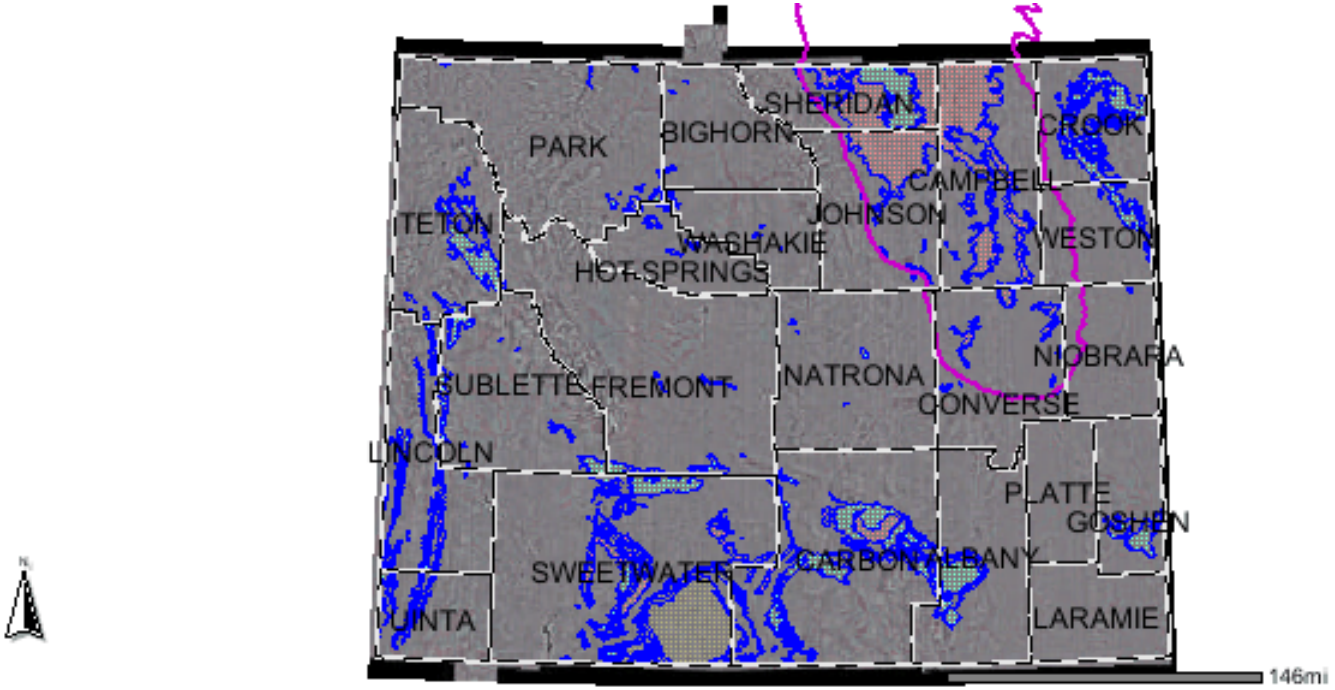
The Federal Environmental Regime

Rebecca W. Watson, Partner

HOGAN & HARTSON

Coalbed Natural Gas: a Critical Western Resource

HOGAN & HARTSON



Wyoming coal fields and PBR in pink
(WY Coalbed Methane clearinghouse; wygisc.uwyo.edu)

CBNG: a Critical Western Resource

HOGAN & HARTSON

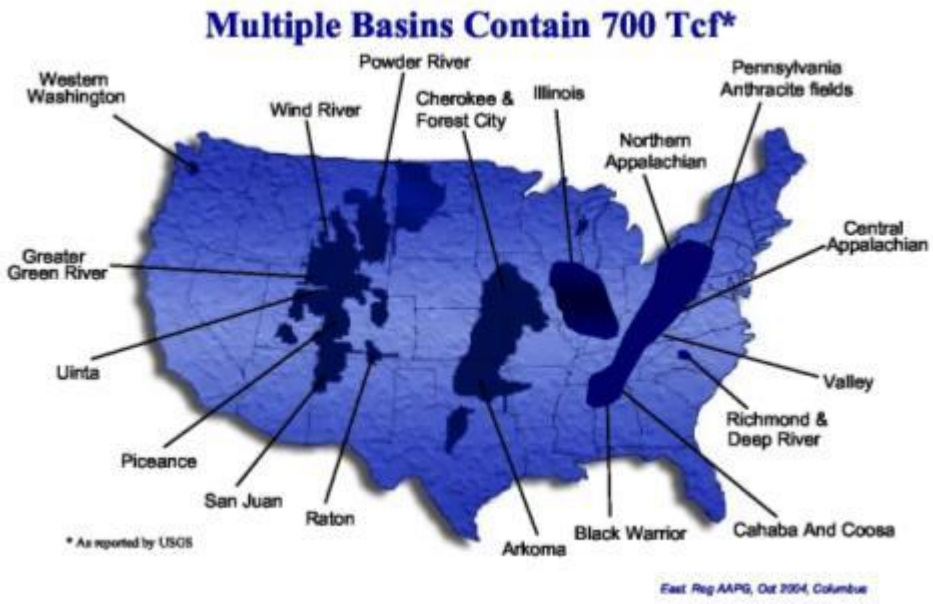
- Impacts to natural gas supply and price:
  - September 11th
  - Second Gulf War
  - Canada oil sands
  - New gas-fired electrical generation
  - Two back-to-back hurricanes in the Gulf of Mexico
    - **<u>Result</u>: Volatile gas prices moving from $2.50 mcf to $6 to $13-14 and back down.**

CBNG: a Critical Western Resource

HOGAN & HARTSON

The 2003 National Petroleum Council's Natural Gas Supply Study:

"We are running hard to stay in place."



CBNG Supplies (U.S. DOE NETL)

CBNG: a Critical Western Resource

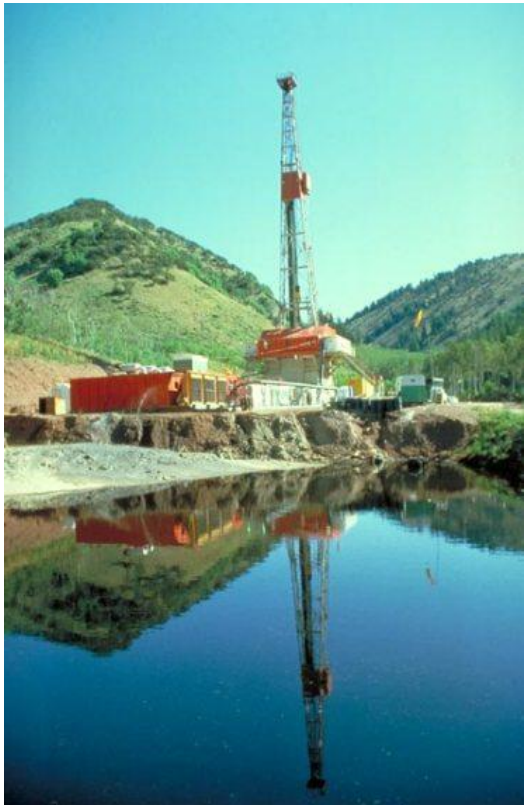
HOGAN & HARTSON

Grey Wolf #558 in Madden Field, Wyoming, WSGS

CBNG Water Production

HOGAN & HARTSON

- CBNG production produces significant quantities of water.



Wyo. rig
next to holding pond.
(U.S. BLM)

CBNG Water Production: Two Key Questions

HOGAN & HARTSON

- **CBNG water production raises two key questions:**

Question One: What should be done with the produced water?

Question Two: What is the impact of its withdrawal on other water users?

CBNG Water Production: Implications

HOGAN & HARTSON

- Question 1 – CBNG water handling can impact the volume of economically-producible coalbed natural gas:

CBNG water discharge into holding pond. (MT DEQ)

CBNG Water Production: Implications

HOGAN & HARTSON

- Second Question: CBNG water withdrawals and discharges don't fit with water rights law.
- How can this water be extracted and not require a "water right"?
  - A water right is more than a regulatory permit; it is a property right for the beneficial use of a quantity of water.
- A water right is not required, and can't be issued, if the water use is not a "beneficial use" under state law.
- Most states exclude mineral development dewatering from "water waste" laws.

Water Quality

HOGAN & HARTSON

Three Topics

- Clean Water Act ("CWA") law and policy developments impacting surface discharge of produced water
- Safe Drinking Water Act ("SDWA") regulation of produced water injection/reinjection
- Other Water handling options

Surface Discharge

HOGAN & HARTSON

- CBNG Produced Water Surface Discharge – efficient, cost effective
- Surface Discharge-implicates the federal CWA

Surface Discharge

HOGAN & HARTSON

CBNG water discharge
in PRB (USGS)

CBNG reservoir (ens-newswire)

CBNG water discharge
into Tongue R. (MT DEQ)

Surface Discharge

HOGAN & HARTSON

- CWA NPDES permit regulates amount of pollution permitted in particular surface water bodies.
- CWA prohibits the **"discharge of any pollutant, from a point source, to navigable water"** without a permit.
  - Is natural/unaltered groundwater a "pollutant"?
  - Is a dry channel or arroyo "navigable water"?

Surface Discharge

HOGAN & HARTSON

- **Discharge** = an "addition" but does not have to be something new.
  - *Sierra Club v. El Paso*, (10th Cir. 2005): point source owners can be liable for a discharge on their land whether or not they caused discharge.
  - *South Fla. Water Management v. Miccosukee Tribe of Indians*, (Sup. Ct. 2004): issue of whether a transfer of water between two water bodies was an addition.
  - *Catskills Mountain Chapter of Trout Unlimited v. New York City Department of Environmental Protection* (2nd Cir. 2006): rejected EPA's 2006 water transfer theory.

Surface Discharge

HOGAN & HARTSON

- **Pollutant** = Broadly defined
  - *U.S. PIRG v. Atlantic Salmon of Maine* (1st Cir. 2003) – Fish food, feces and escaped fish
  - *N. Plains Res. Council v. Fidelity* (9th Cir. 2003) Is unaltered groundwater a pollutant? CBNG produced water an "industrial waste."
- **Point Source** = a "discrete conveyance."
  - *United States v. Earth Sciences* (10th Cir. 2004) – 1 each system capable of overflowing sumps and ditches.
  - The Supreme Court in *Miccosukee*: mere conveyance of pollution triggers the Act.

Surface Discharge

HOGAN & HARTSON

- **<u>Navigable Waters</u>** = all "waters of the United States."
- Battleground: wetlands – where does land end and water begin? CWA §404 – U.S. Army Corps of Engineers and EPA.
  - *U.S. v. Riverside Bayview* (Sup. Ct. 1985): CWA jurisdiction extends to wetlands abutting traditional navigable waters.
  - *Solid Waste Agency of N. Cook County v. U.S. Army Corps of Eng'rs* ("SWANCC") (Sup. Ct. 2001): "Significant nexus" between a wetland and navigable water is required – "glancing ducks" not enough.

Surface Discharge

HOGAN & HARTSON

- Navigable Waters
  - Courts prior to *SWANCC* found non-navigability not a hindrance:
    - *Quivira Mining Co. v. U.S. EPA* (10th Cir. 1998): discharge into a dry arroyo was into "waters of the United States."
  - Courts after *SWANCC* continued to use broad jurisdiction test:
    - *U.S. v. Hubenka* (10th Cir. 2006): a discharge into a non-navigable tributary was jurisdictional.
  - 2003, EPA proposed rule and guidance to narrow the scope of "waters of the U.S." Withdrawn.

Rapanos

HOGAN & HARTSON

In 2005-2006, the Supreme Court consolidated appeals from the Sixth Circuit – *Rapanos v. U.S.*

- *Rapanos* concerned a wetland 11 miles from the nearest navigable water and *Carabell*, a wetland separated from navigable water by a berm.

- On June 19th, the Court issued a splintered opinion (4-1-4) and remanded the cases to the Sixth Circuit without guidance.

Rapanos

HOGAN & HARTSON

Scalia

"In applying the definition to ‘ephemeral streams,’ ‘storm sewers and culverts’ and ‘dry arroyos in the middle of the desert,’ the Corps has stretched the term ‘waters of the United States’ beyond parody."

Rapanos

HOGAN & HARTSON

- **The Scalia plurality set up a <u>two-part test</u>:**
  - Covered wetlands are those adjacent to relatively permanent flowing water.
  - Wetlands with a continuous physical surface connection, not just a hydrologic connection, to that water.

Rapanos

HOGAN & HARTSON

- **Kennedy – Concurring**
  - Set out a different case-by-case "significant nexus" test.
  - Test: Does an individual wetland significantly affect traditionally navigable waters?

- **Stevens - Dissenting**
  - Would have deferred to the Corps, approved the broad regulatory "any connection" interpretation.

Post-*Rapanos*

HOGAN & HARTSON

After *Rapanos*, what's next?

- Legislation
- EPA/Corps guidance and rulemaking
- Pacific Legal Foundation petition to amend the regulatory definition of "waters of the U.S."

Post-*Rapanos*

HOGAN & HARTSON

- Cases stacked up in appellate and district courts. Post-SWANCC pattern may play out again, "You go your way and I'll go mine."
  - *U.S. v. Chevron* (Tx. 2006) chose to follow Fifth Circuit precedent and find dry channels and creek beds that seldom flow outside of CWA.
  - Supreme Court sent a case back to the Seventh Circuit in light of *Rapanos*, *Gerke Excavating Inc. v. United States.*

Post-*Rapanos*

HOGAN & HARTSON

- ***Gerke***
  - On September 22, 2006, the Seventh Circuit concluded that more fact-finding must take place in light of Justice Kennedy's concurring opinion in *Rapanos* and remanded it to the lower court.

Post-*Rapanos*

HOGAN & HARTSON

The jurisdictional reach of the CWA is broad and where it ends has not been settled.

CWA Water Quality Standards

HOGAN & HARTSON

- NPDES permit limits set by states to protect designated uses of water.
- CBNG produced water issues:
  - TDS (or its surrogate EC)
  - SAR
- States have begun to address CBNG-related water quality standards.
- In 2001, EPA attempted to develop a "best professional judgment" technical guidance for CBNG produced water.

CWA Water Quality Standards

HOGAN & HARTSON

WYOMING & MONTANA: WATER WAR

- In 2003, Montana adopted numeric water quality standards for EC and SAR on the Power and Tongue Rivers.
- Montana's adoption of those WQS started interstate war.

CWA Water Quality Standards

HOGAN & HARTSON

WYOMING & MONTANA: WATER WAR

- March 2006, Montana revised its **anti-degradation policy**, prohibiting discharges that exceed 10% of its numeric standards for EC and SAR.
- The Governor of Wyoming responded that these rules "could visit serious economic harm to Wyoming."

CWA Water Quality Standards

HOGAN & HARTSON

WYOMING & MONTANA: WATER WAR

- Montana developing CWA § 303(d) "total maximum daily load" allocations for the Tongue and Powder Rivers.
  - CWA §303(d) addresses non-point source pollution.
- TMDL allocation on the Tongue and Powder will further restrict CBNG surface discharge.

CWA Water Quality Standards

HOGAN & HARTSON

WYOMING & MONTANA: WATER WAR

- On August 17, 2006, EPA Region VIII approved the Northern Cheyenne Tribe's application for treatment as a state ("TAS") for CWA implementation.
- The Tribe's eastern border is the Tongue River.
- The Tribe has already drafted WQS that are more stringent than Montana's but they have not been approved yet, by EPA.

CWA Water Quality Standards

HOGAN & HARTSON

WYOMING & MONTANA: WATER WAR

Northern Cheyenne Tribe TAS . . .

- "EPA's strong preference is for the water quality standards to be implemented through a cooperative process that results in a comprehensive resolution of water quality standards issues with the input of all interested stakeholders."

CWA § 402: STORMWATER PERMITS

HOGAN & HARTSON

Gas-line construction (pinedaleonline.com)

In EPACT 2005, Congress addressed oil and gas construction site storm-water permits.

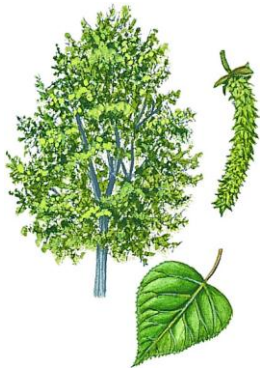
On June 12, 2006, EPA issued a final rule excluding small oil and gas construction sites from stormwater permit requirements.

Alternatives to Surface Discharge

HOGAN & HARTSON

So if you can't surface discharge, what are your alternatives?

- Numerous studies and experiments to find creative uses for CBNG water, develop cost-effective treatment options and surface storage of the water.



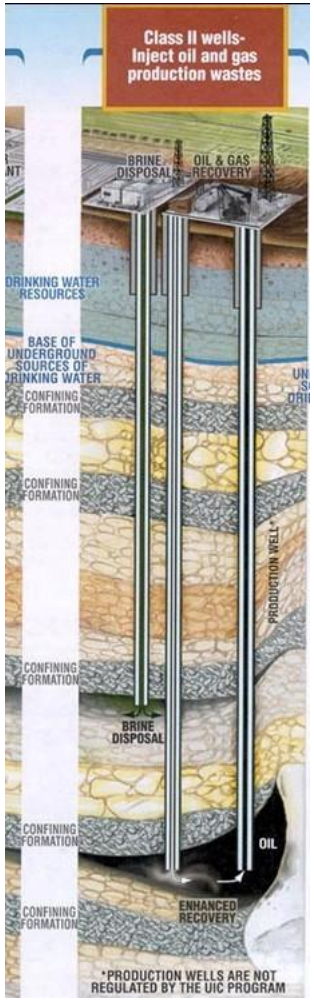
  - For example, poplars bred to soak up large quantities of water thrive when irrigated by CBNG water.

CBNG Water Production

HOGAN & HARTSON

(U.S. Department of Energy)

Alternatives to Surface Discharge



Reinjection

Reinjection is governed by Safe Drinking Water Act and issuance of Underground Injection Control (UIC) permits.

EPA and the states (typically oil and gas commissions) share implementation of the SDWA.

Class II well,
oil-and-gas reinjection
(U.S. EPA)

Alternatives to Surface Discharge

HOGAN & HARTSON

Frac'ing

- SDWA regulates CBNG use of frac'ing
  - The injection of substances to increase the flow of natural gas.
- EPA Study of Frac'ing. MOU prohibiting injection of diesel fuel results in EPA conclusion that CBNG frac'ing fluids pose little to no threat to drinking water.
- EPACT 2005 Congress agreed.

Conclusion

HOGAN & HARTSON

Industry Options

- Industry's answer to water handling: "We have a menu of options; let us pick the right one for the circumstances."
- Water handling costs can diminish amount of gas produced.
- Regulators and public continue to narrow the options for water handling.
- Given the politics of Western water, it is fairly clear that regulation of CBNG water will continue to get more challenging as more gas and more water are produced.