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Session #1: Major Issues Facing The Energy Industry

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Energy – Sources & Consumption





Natural Gas in the Future



The Technology Revolution – 1. Onshore

Two components:

1) horizontal drilling

2) Formation fracturing

The issues they pose Paradigm shift in regulatory assumptions – it is as though you have many well bores, simply lacking vertical holes. Plus limited extent of drainage, so multi-well units become the norm.

Water demands, chemicals, recovery or disposal of same

Somewhat different surface use.

Trespass –

correlative rights issues

Costs very high – risk penalty issues esp. multi-well units

Fracking – Horizontal/Vertical



Fracking – Another Diagram



Fracking - Oil



Fracking + Horizontal like Multiple Vertical Wells



Devon Beech Grove 68-1 Fracking the well





Devon Beech Grove 68-1



Devon Beech Grove 68-1 After Fracking









The Eagle Ford - Texas





The Bakken – North Dakota



The Tuscaloosa Marine Shale



The Tuscaloosa Marine Shale







Tuscaloosa TrendScout Report

Recent Discoveries

- Encana Weyerhaeuser 73H-1: 784 bopd, 309 mcfgd (837 boepd)
- Indigo Bentley Lumber 34H-1: 324 bopd, 154 mcfd (351 boepd)
- Devon Energy Beech Grove 68H-1: 101 bopd, 100 mcfd (118 boepd)
- Devon Energy Soterra 6H-1: 176 bopd (176 boepd)
- Encana Horseshoe Hill 10H-1: 732 bopd, 483 mcfd (815 boepd)
- Devon Energy Richland Farms 74H-1: 259 bopd, 151 mcfd (285 boepd

A Louisiana TMS Unit



A Mississippi TMS Unit



The Colorado Wattenberg



Anadarko on Monday said that results from 11 recent wells in the Wattenberg field have given it confidence that it can drill between 1,200 and 2,700 wells in northeast Colorado. It plans to drill about 160 wells next year. Wall Street Journal - 11/15/2011.

A single unit well would cause waste



Longer lateral - fewer pockets of non-production



Shorter laterals – more pockets of non-production, more surface use.



Increasingly Longer Laterals

Haynesville Resource Play Hub Long Lateral

Encana Leading the Way

- 1st Cross Unit permits granted in the State of Louisiana
- encana.
- 1st Cross Unit well drilled

Enhancement to RPH Efficiencies

- Successfully drilled two long laterals (6,879 & 8,003 feet)
- Lower supply cost with fewer vertical parent wellbores
- 13% additional recovery
- Future plans for 10,000 feet laterals

Significant Positive EHS Impact

- Reduced footprint
- Reduced development traffic



The Technology Revolution – 2. Offshore

OCS drilling –

Deep waters

5,000 to 10,000 feet

Subsea completions

Submersible ROVs

4 Types – MODU [mobile offshore drilling unit]



Administration Energy Policy

Environmental enforcement Keystone pipeline Gulf of Mexico - OCS Gas exports Tax plans Coal Alternative Energy



Environmental enforcement

- The Administration sued seven oil companies for the deaths of 28 birds in North Dakota. The maximum penalty per dead bird is a \$15,000 fine and six months in jail. Meanwhile, the Administration is in the process of fasttracking wind energy development across the United States and providing legal protection to wind operators that kill an estimated 440,000 birds a year.
- North Dakota Federal judge Daniel Hovland dismissed the complaint saying "To be consistent, the government would have to criminalize driving, construction, airplane flights, farming, electricity and wind turbines ... and many other every day, lawful activities."
- According to the U.S. Fish & Wildlife Service, here's how many birds die from human activity each year. Birds crashing into
 - Windows: 100 million killed
 - Communication towers: 5 million to 50 million killed
 - Power lines: 10,000 to 174 million
 - Cars: 60 million
 - Wisconsin alone figures that within its borders cats kill 39 million birds a year.
- Not Just Oil & Gas *See under* Gibson Guitar Raids over allegedly illegal imports of wood,

Keystone pipeline

- The Keystone Pipeline System is a pipeline system to transport synthetic crude oil and diluted bitumen from the Athabasca Oil Sands in northeastern Alberta, Canada to multiple destinations in the United States.
- On July 21, 2010, the Environmental Protection Agency said the draft environmental impact study for Keystone XL was inadequate and should be revised, indicating that the State Department's original report was "unduly narrow" because it did not fully look at oil spill response plans, safety issues and greenhouse gas concerns.
- Environmental groups, such as the Natural Resources Defense Council (NRDC), oppose the project due to usage of crude from oil sands and emissions of greenhouse gases. In its March 2010 report, the NRDC stated that "the Keystone XL Pipeline undermines the U.S. commitment to a clean energy economy," instead "delivering dirty fuel at high costs". On June 23, 2010, 50 Democrats in Congress in their letter to Secretary of State Hillary Clinton warned that "building this pipeline has the potential to undermine America's clean energy future and international leadership on climate change.
- In December 2011, Congress voted to give the Obama Administration a 60-day deadline to make a decision on TransCanada's application for the construction of the Keystone XL Pipeline. On January 18, 2012, President Obama confirmed his rejection of the application stating that the deadline for the decision had "prevented a full assessment of the pipeline's impact."

{source: wikipedia}.





Gulf of Mexico - OCS

- President Obama's Plan, covering 2012-2017, reinstates an Atlantic and Pacific OCS moratorium, restricting lease sales to areas with existing leases and exploration, and cuts half of the lease sales included in the previous plan.
- The administration enacted a six-month moratorium on all deepwater oil and gas permitting in 2010, followed by a "permitorium" as new permits were delayed by additional bureaucracy.
- Federal revenue from offshore lease sales dropped from \$9.5 billion in 2008 to \$36 million in 2011--down 99.6% in three years.

Offshore Areas Open for New Exploration When Obama Took Office



Offshore Areas Blocked from New Exploration Under Obama's Plan



Natural Gas Exports

• Several U.S. companies, including Sempra Energy and Dominion Resources Inc., have sought permits from the Department of Energy to export gas to countries that lack free-trade agreements with the U.S. Exxon Mobil Corp. Chief Executive Rex Tillerson said his company was looking at exporting from the U.S. Gulf Coast and Canada.

• The Obama administration is telling Japan and other allied countries they will have to wait before moving forward on plans to buy American natural gas, people involved in the talks said. [WSJ - May 30, 2012]

• Congressman Edward Markey and Senator Ron Wyden said in a letter to the president that he needs to use his authority to limit exports of natural gas, as well as coal and petroleum products, and lay out a framework for assessing whether such exports are in the national interest. Markey & Wyden said the President crack down on energy exports from the United States to protect consumers and manufacturers from price spikes. (Reuters)
Tax Plans

• Eliminate oil and gas tax preferences. The tax code currently subsidizes oil and gas production through tax expenditures that provide preferences for these industries over others. The Framework would repeal tax preferences available for fossil fuels. This includes, for instance, repealing the expensing of intangible drilling costs, a provision that allows oil companies to immediately write-off these costs rather than recovering the cost over time as for most capital investments in other industries. This also includes repealing percentage depletion for oil and natural gas wells, which allows certain oil producers and royalty owners to recover the cost of oil and gas wells based on a percentage of the income they earn from selling oil and gas from the property rather than on the exhaustion of the property. Percentage depletion allows deductions that can exceed the cost of the property.

• Extend, consolidate, and enhance key tax incentives to encourage investment in clean energy. The President's Framework would make permanent the tax credit for the production of renewable electricity, in order to provide a strong, consistent incentive to encourage investments in renewable energy technologies like wind and solar. As with the R&E Tax Credit, the United States has to date provided only a temporary production tax credit for renewable electricity generation. This approach has created an uncertain investment climate, undermined the effectiveness of our tax expenditures, and hindered the development of a clean energy sector in the United States. In addition, the structure of renewable production and investment tax credits has required many firms to invest in inefficient tax planning through tax equity structures so that they can benefit even when they do not have tax liability in a given year because of a lack of taxable income. The President's Framework would address this issue by making the permanent production tax credit refundable.

[Source: The President's Framework for Business Tax Reform, A Joint Report by The White House and the Department of the Treasury, February 2012]

Coal - EPA

- Utility MACT EPA finalized the Utility Maximum Achievable Control Technology rule—more commonly known as "Utility MACT"— on December 16, 2011. (EPA refers to the rule as Mercury and Air Toxics Standards, or MATS.) The final rule is similar to the proposed rule. EPA estimates the annual cost at \$9.6 billion in 2015. The total cost of the rule is estimated to be almost \$90 billion. MACT will require the installation of emission controls by 2015.
- **Cross-State Air Pollution Rule** CSAPR was finalized by EPA in mid-2011. The rule requires reductions in SO2 and NOx emissions in mostly eastern states by January 1, 2012 (phase 1) and January 1, 2014 (phase 2). CSAPR was stayed by the D.C. Circuit on December 30, 2011, pending the court's decision (expected sometime in 2012) on the lawsuits filed over the rule.
- **Best Available Control Technology for GHGs** In late 2010, EPA issued guidance for determining BACT and, starting January 2011, began requiring new power plants and existing power plants that increase CO2 emissions by 75,000 tons per year to undergo Clean Air Act permitting and comply with BACT requirements for GHGs.

[Source: American Coalition for Clean Coal Electricity (ACCCE)]

Alternative Energy



Water: Uses and Hazards

- Transportation
- Drinking
- Industrial Use
 - Processing (Chemicals, Refining, Power Generation)
 - Oil and Gas Operations (Waterflooding, fracking)
- Agriculture
- Flooding (Drainage large & small)
- Public Health

Texas Water Law

- *Edwards Aquifer Authority v. Day*, 2012 WL 592729 (Tex.), 2012 Tex. LEXIS 161; 55 Tex. Sup. J. 343.
- PROCEDURAL POSTURE: The Court of Appeals for the Fourth District of Texas agreed with petitioner aquifer authority that groundwater from the well became state surface water in the lake and could not be considered in determining the amount of respondent landowners' initial regular permit (IRP). It found, however, that the landowners' takings claim should not have been dismissed. The authority, petitioner State, and landowners petitioned for review.
- OVERVIEW: The supreme court noted that there was substantial evidence to support the authority's finding that the groundwater became state water in the lake; thus, the authority's decision to issue an IRP for 14 acre-feet had to be affirmed. A landowner had a right to exclude others from groundwater beneath his property, but one that could not be used to prevent ordinary drainage. Where there were some differences in the rules governing groundwater and hydrocarbons, at heart both were governed by the same fundamental principle: each represented a shared resource that had to be conserved under the Constitution. There was no reason to conclude that the common law allowed ownership of oil and gas in place but not groundwater. Neither the authority nor the State suggested a reason why the Edwards Aquifer Authority Act (Act) had to be more restrictive in permitting groundwater use than Tex. Water Code Ann. ch. 36, nor did the Act suggest any justification. The State had a legitimate interest in discouraging suits against groundwater districts to protect them from costs and burdens associated with such suits, and a cost-shifting statute was rationally related to advancing that interest. {Quoted from LexisNexis.com}

Louisiana Water Law A Tale of Three Regimes

Interconnected and Conflicting

1. Surface

Civil Code Ownership/Use Issues Drainage/runoff Issues

2. Subterranean

Mineral Code Ownership Issues Rule of Capture/Correlative Rights

3. Police Power/Environment

Federal/State Issues State/State Issues State/Local Issues

Public Surface Waters

 "Public things are owned by the state or its political subdivisions in their capacity as public persons. Public things that belong to the state are such as running waters, the waters and bottoms of natural navigable water bodies, the territorial sea, and the seashore." <u>La. C.C. 450</u>.

La.R.S. 9:1101

• Ownership of waters and beds of bayous, rivers, streams, lagoons, lakes and bays

The waters of and in all bayous, rivers, streams, lagoons, lakes and bays, and the beds thereof, not under the direct ownership of any person on August 12, 1910, are declared to be *the property* of the state. *There shall never be any charge assessed against any person for the use of the waters of the state for municipal, industrial, agricultural or domestic purposes.*

Surface Waters - Streams

- **Riparian doctrine**: The one who owns the land on the bank of a stream has rights to use the waters of the stream.
- **Civil Code Article 657**: the "owner of an estate bordering on running water may use it as it runs for the purpose of watering his estate or for other purposes."
- **Civil Code Article 658**: "the owner of an estate through which water runs, whether it originates there or passes from lands above, may make use of it while it runs over his lands. He cannot stop it or give it another direction and is bound to return it to its ordinary channel where it leaves his estate."

Yiannopoulos, Louisiana Civil Law Treatise, Predial Servitudes § 22 (2009)

 "A riparian owner may not exclude the public use of the running water or the use of water by other riparians. He may not exhaust the supply of the water, make the water unsuitable for the use of the public or other riparians, obstruct the flow, or take such quantities of water that other riparians are likely to sustain damages. If he does so, he is answerable to damages and injunction. In this respect courts enjoy much discretion for the resolution of disputes and accommodation of conflicting interests."

Subterranean Water

- La. Civ. Code art. 490 "Unless otherwise provided by law, the ownership of a tract of land carries with it the ownership of everything that is directly above or under it." (the *ad coelum* principle).
- La. Min. Code art. 4 "The provisions of this Code are applicable to all forms of minerals, including oil and gas. They are also applicable to rights to explore for or mine or remove from land the soil itself, gravel, shells, *subterranean water*, or other substances occurring naturally in or as a part of the soil or geological formations on or underlying the land."

Rule of Capture

La. Min. Code art. 8 – "A landowner may use and enjoy his property in the most unlimited manner for the purpose of discovering and producing minerals, provided it is not prohibited by law. He may reduce to possession and ownership all of the minerals occurring naturally in a liquid or gaseous state that can be obtained by operations on or beneath his land even though his operations may cause their migration from beneath the land of another."

Correlative Rights

 La. Min. Code art. 10 – "A person with rights in a common reservoir or deposit of minerals may not make works, operate, or otherwise use his rights so as to deprive another intentionally or negligently of the liberty of enjoying his rights, or that may intentionally or negligently cause damage to him."

Adams v. Grigsby

152 So. 2d 619 (La. App.), *writ refused*, 244 La. 662, 153 So. 2d 880 (1963).

Property owners who obtained fresh water for household use from wells to the Wilcox formation between 150 and 250 feet subsurface filed suit against the oil operator on adjacent lands. The defendant oil operator was producing water from the same fresh water formation for reinjection for secondary oil recovery. The plaintiffs asserted that the defendant's use was unreasonable and excessive and that the defendant could have produced salt water from a different formation that would have been suitable for the oil production purposes. The court of appeals rejected the claim, holding that water was governed by the same rule of capture as oil and gas.

Police Power/Environment

- Federal Water Pollution Control Act, as amended, 1972: The 1972 amendments changed the thrust of enforcement from water quality standards (the amount of pollutants in a given body of water) to effluent limitations, regulating the amount of pollutants being discharged from particular point sources.
- The Safe Drinking Water Act (SDWA): Originally passed by Congress in 1974, the SDWA allows EPA to set standards for drinking water quality and oversee the states, localities, and water suppliers who implement those standards. It was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells.
- For both Acts, Louisiana has attained "*primacy*" (assumed primary enforcement responsibility over its water supply systems, provided the program meets minimum national criteria).

Office of Conservation – DNR



- **Commissioner of Conservation** is charged with regulation of all phases of oil and gas development within the state.
- **Ground Water Resources Division of the Office of Conservation** is responsible for the regulation and management of ground water resources.
- Act 49 of the 2003 Regular Legislative Session requires the Office of Conservation to administer all matters related to the management of Louisiana's ground water resources to ensure sustainability of those resources. Monitor the ongoing use of aquifers in the state and to determine the effect of new wells on those aquifers
- **Ground Water Resources Commission** which was created and placed within the Office of Conservation by Act 49 of 2003. Review functions with respect to water well orders and to water rules and regulations of the Commissioner of Conservation. It is tasked with development, in cooperation with the Commissioner, of a statewide ground water resource management program.
- Act 225 of 2005, along with prior Louisiana groundwater law, authorizes the **Commissioner of Conservation to manage, protect, and conserve the State's groundwater resources**.
- Act 581 of 2008 provided the Commissioner of Conservation with new authority to issue **compliance orders and issue civil penalties** for violations of state laws and regulations governing groundwater compliance.

What Is Legacy Site Litigation?

- Claims of surface damage from oil and gas operations that may have occurred years ago.
- Plaintiffs are current landowners who may or may not own mineral rights.
 - Landowners without mineral rights are esp. hostile to oil and gas operators.
- Prime defendants are current and/or former lessees; possible defendants are mineral servitude owners and anyone who worked on prior cleanups.
- Plaintiffs seek damages calculated using Cost of Restoration/Remediation rather than Diminished Value of Property (difference before and after claimed wrongdoing)

Claims are based on:

- Tort: Civil Code Article 2315 (incl. punitive for a period under 2315.3); negligence, trespass, continuing trespass
- Nuisance/Property Ownership: Civil Code Article 667
- Contract: Express Lease Clause
- Implied Covenant: Mineral Code Article 122
- Strict Liability of Servitude Owner to landowner: Mineral Code Article 22
- Correlative Duties of Right Holder and Landowner: Mineral Code Article 11 (reasonable regard)
- Civil fruits (from storage of wastes)

Standard Defenses

Jurisdiction

- Should be in federal court
- Should be before agency first [Primary jurisdiction]

Prematurity of claim

- Lease still in effect
- Failure to make demand under lease or under mineral code [Art. 136].

Parties/Claims

- Wrong defendant
- Plaintiff not the injured party [Subsequent Purchaser Doctrine – claim belonged to prior owner]
- Improper Cumulation
- **Prescription** (time for bringing claim has run)

Act 312 of 2006

- Louisiana Legislature passed Act 312: it amended and reenacted La. Rev. Stat. §§ 30:82(6) (defining "producing oilfield site" or "exploration and production site"), 89.1 (providing for credits for judgments or compromises for the remediation of oilfield sites and exploration and production sites);
- and 2015.1(B), (C)(1), (2), and (4), (D), (E)(1), (F)(2), (H),
 (I), and (K) (provisions applicable to the remediation of usable ground water);
- and enacted La. Rev. Stat §§ 30:29 (providing procedures for the remediation of oilfield sites and exploration and production sites), 29.1 (providing for landowner notification of environmental testing), and 2015.1(L) (reiterating that the provisions for the remediation of usable ground water is inapplicable to oilfield sites or exploration and production sites).

Act 312 – cont.

- Act 312 of 2006 establishes procedures for judicial resolution of claims for environmental damage to property arising from activities subject to the jurisdiction of the Department of Natural Resources, Office of Conservation.
- A litigant alleging environmental damage must provide notice of the claims to the state of Louisiana through the commissioner of conservation of the Department of Natural Resources and the attorney general. Once it is determined that environmental damage exists, the legally responsible party is to submit a plan for remediation which is then reviewed by the Department and the parties.
- Once a plan is approved and adopted by the court, the court will order implementation of the plan and the court and the Department will have oversight to ensure compliance with the plan.
- The Act does not preclude an owner of land from pursuing a judicial remedy or receiving a judicial award for private claims suffered as a result of environmental damage, except as otherwise provided in the Act. Nor does it preclude a judgment ordering damages for or implementation of additional remediation in excess of the requirements of the plan adopted by the court as may be required in accordance with the terms of an express contractual provision.

Germany v. ConocoPhillips Co. (La.App. 3 Cir.)











• Company argued for these Act 312 Procedures:

- Phase 1) -- The trial court or jury determines whether there is environmental damage and who is legally responsible for that damage.
- Phase 2) -- If the findings are affirmative, the trial court orders the matter to be turned over to the Louisiana Department of Natural Resources for remediation plan consideration and formulation.
- Phase 3) -- The trial court enters a judgment on the final remediation plan and determines whether the plaintifflandowners have any claims for damage beyond that which is being addressed by the final approved plan. Damage claims which exceed the provisions of the remediation plan are then tried by the trial court or a jury.



- Held: Act 312 Procedures:
 - Phase 1) -- The traditional procedure of a trial before the trial court or a jury which determines liability *and* damages.
 - Phase 2) -- The Louisiana Department of Natural Resources develops a remediation plan, which is submitted to the trial court for approval.

Legacy Litigation Legislation - 1

Act 754 HB 618

<u>Code Civ. Pro. Article 1552: Environmental management orders</u>

Upon the request of any party in any civil action alleging environmental damage pursuant to R.S. 30:29, or the DNR, the court shall direct the attorneys for the parties to appear before the court to develop an environmental management order. The environmental management order shall authorize all parties to access the property allegedly impacted to perform inspections and environmental testing. <u>Code of Civil Procedure Article 1563: Limited admission of liability</u>

in environmental damage lawsuits; effect

1. A party may elect to limit it admission of liability for environmental damage to responsibility for implementing the most feasible plan to remediate the contamination to applicable regulatory standards.

2. Court shall refer the matter to DNR to conduct a public hearing to structure the most feasible plan to evaluate or remediate the environmental damage under the applicable regulatory standards.

3. The limited admission, the plan approved by DNR, and all written comments provided by the agencies pursuant to R.S. 30:29(C)(3)(b) shall be admissible as evidence in any action.

Legacy Litigation Legislation – 2

Act 779 - SB 555

R.S. 30:29

- B. (5) discovery of DNR re: feasible plan after final feasible plan
- B. (6) good cause hearing for continuing as defendant; preliminary dismissal
- B. (7)(a) notice of intent to the DNR of intent to investigate.
- C. (1) Admission of liability regulatory standards
- C. (2)(a) public hearing (only one for same environmental damage)
- C. (2)(b) no ex parte DNR communication re: formation of the feasible plan
- C. (3)(b)(i) Role of Dept. of Agriculture & Forestry and DEQ
- C. (3)(b)(ii) Most feasible plan; compliance order
- L. waiver of the right to indemnification against punitive damages

Act 743 – Ultra-deep

Unit no greater than nine thousand acres for an ultra deep structure

Structure at a depth in excess of twenty-two thousand feet true vertical depth.

Presumed that a reasonable plan of development will include at least one well for each three thousand acres contained in the unit.

Initial allocation of unit production on a surface acreage basis

A Recent Legal Issue

Compulsory Pooling

Each of the producing states provides for voluntary pooling where the parties have agreed upon the sharing of the costs of development and proceeds of production. They also provide for the conservation agency to establish these where the parties are unable to agree upon a sharing. Louisiana provides for both voluntary pooling and forced pooling:

"Where two or more separately owned tracts of land are embraced within a drilling unit which has been established by the commissioner . . . the owners may validly agree to pool their interests and to develop their lands as a drilling unit. (1) Where the owners have not agreed to pool their interests, the commissioner shall require them to do so and to develop their lands as a **drilling unit**, if he finds it necessary to prevent waste or to avoid drilling unnecessary wells." La. R. S. 30: 10A.

A "drilling unit" is specified in Louisiana statute as follows:

"For the prevention of waste and to avoid the drilling of unnecessary wells, the commissioner shall establish a drilling unit or units for each pool, except for those pools which, prior to July 31, 1940, had been developed to an extent and where conditions exist making it impracticable or unreasonable to use a drilling unit at the present stage of development. *A drilling unit*, as contemplated herein, means the *maximum area which may be efficiently and economically drained by one well.* This unit shall constitute a developed area as long as a well is located thereon which is capable of producing oil or gas in paying quantities." La. R. S. 30: 9B.

The End



