

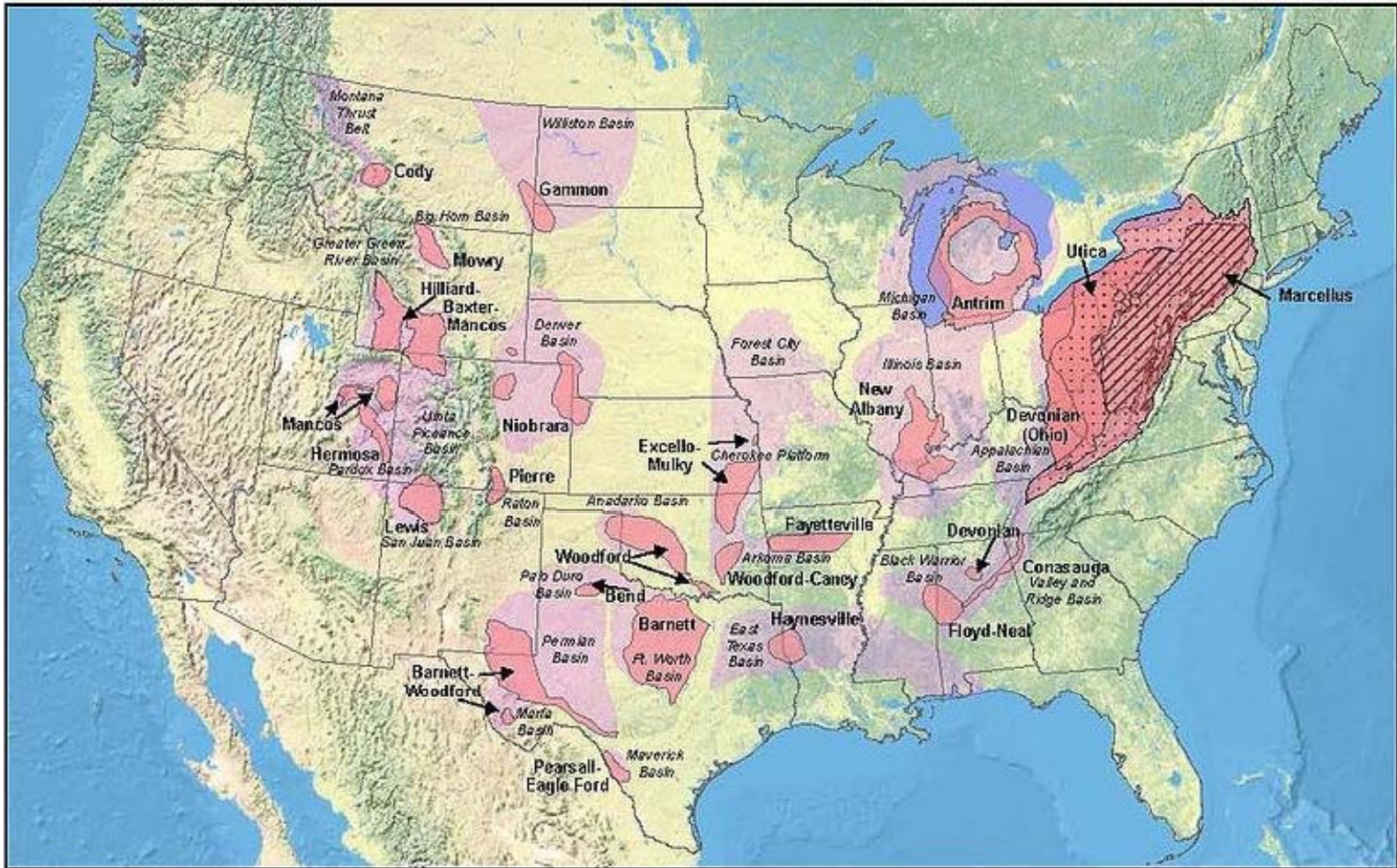


OIL AND GAS LEASING ISSUES AT AIRPORTS IN PENNSYLVANIA



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For: Pennsylvania Aviation Advisory Committee
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USGS MAP OF SHALE GAS BASINS IN NORTH AMERICA



CURRENT SHALE FIELDS

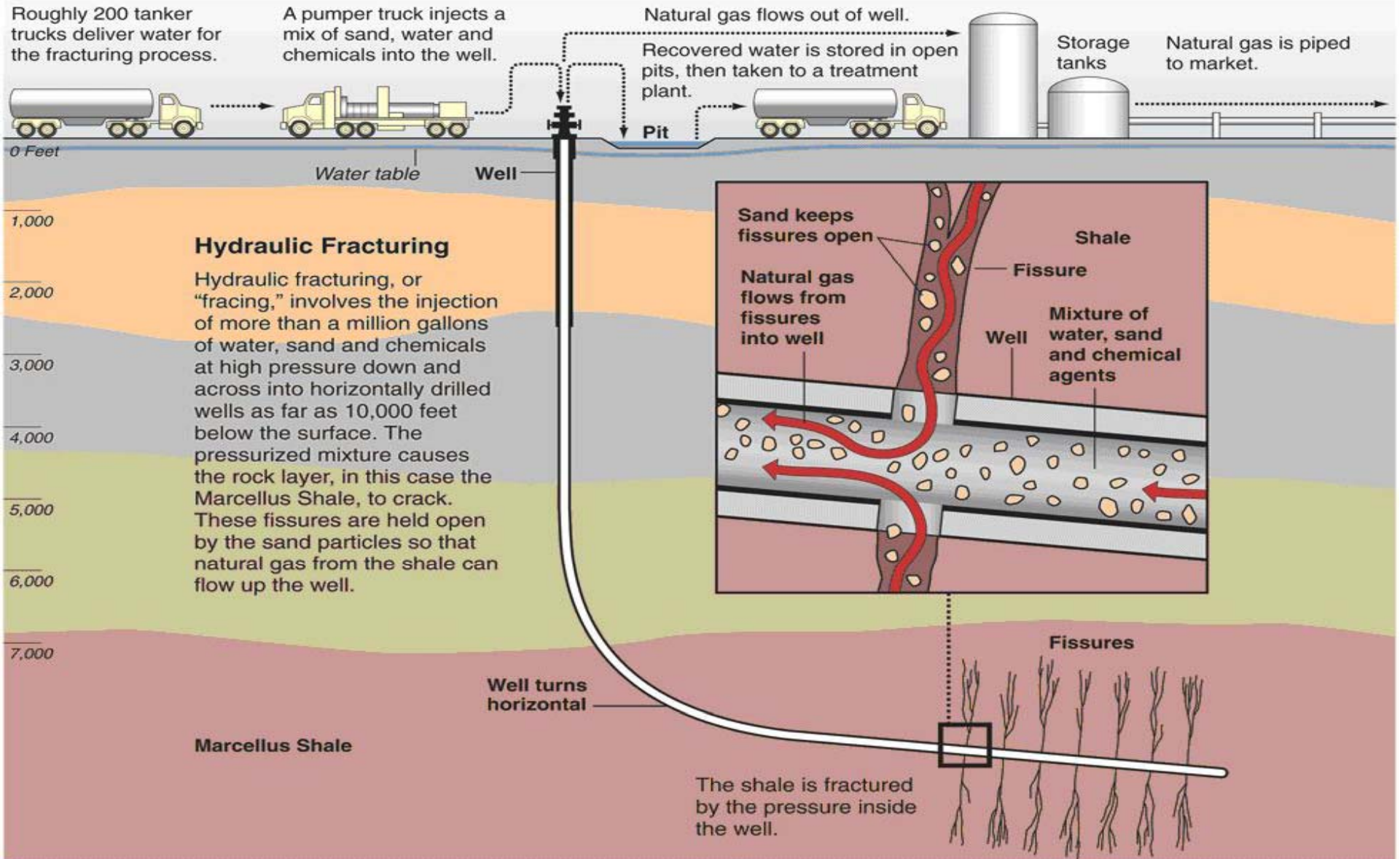
The Marcellus Shale, Barnett Shale and Haynesville Shale fields represent the largest potential for natural gas resources in a generation.

IMPACT OF NATURAL GAS ON AIRFIELD LEASE VALUE

DFW - \$10,000/acres + 25% royalty

Shreveport, LA - \$1/acre

HYDRAULIC FRACTURING



CERTAIN CHEMICALS IN FRACK FLUID

Acid: Hydrochloric acid or muriatic acid. Helps dissolve minerals and initiate cracks in the rock. Used as a swimming pool chemical and cleaner.

Antibacterial agent: Glutaraldehyde. Eliminates bacteria in the water that produces corrosive by-products. Household used: Disinfectant.

Iron control. Citric acid. Prevents precipitation of metal oxides. Common uses: food and beverages, (lemon juice is seven percent citric acid).

Breaker. Ammonium persulfate Allows a delayed break down of the frac gel. Uses: Hair coloring, disinfectant, manufacture of common household plastics.

CERTAIN CHEMICALS IN FRACK FLUID, cont.

Corrosion inhibitor. n,n-dimethyl formamide. Prevents corrosion of pipe. Uses: pharmaceuticals, acrylic fibers and plastics.

Crosslinker. Borate salts. Maintains fluid viscosity. Uses: Laundry detergent, hand soap, cosmetics.

Surfactant. Isopropanol. Increases viscosity of the frac fluid. Uses: glass cleaner, antiperspirant, hair coloring.

Friction reducer. Petroleum distillate. Minimizes friction. Uses: Cosmetics including hair, makeup and skin care products.

CERTAIN CHEMICALS IN FRACK FLUID, cont.

Gel Guar gum. hydroxyethyl cellulose Helps suspend the sand in water. Uses: cosmetics, bread, ice cream, toothpaste, condiments.

Clay stabilizer. Potassium chloride. Brine carrier fluid. Uses: Table salt substitute, medicines and Intravenous fluids.

pH adjusting agent. Sodium or potassium carbonate. Uses: Laundry detergents, soap, water softeners and dishwashing detergent.

Scale inhibitor Ethylene glycol. Reduces scale deposits in pipe. Uses: Household cleansers, de-icers, paints, caulking.

RULE NUMBER 1

Whenever leasing airport land, ALWAYS except out subsurface oil, gas and mineral rights.

TITLE ISSUES

Before entering into any transaction involving sub-surface rights, the landowner must check title to ensure that the sub-surface rights have not previously been severed or leased.

- Normal title insurance searches usually are not sufficient as they only go back 50-70 years.
- Many of the properties, especially in the coal and oil regions, had their mineral rights severed between 1880 and 1920.
- To be safe, the landowner should ask for a full title search of the property as far back as the records go.

RULE NUMBER 2

Whenever entering into oil and gas leases or other leases for subsurface rights, be aware of laws relating to reasonable surface access and status of future access roads

RULE NUMBER 2 cont.

Texas - Mineral estate is “dominant”, owner of mineral estate has right to freely use the surface of land to extent reasonably necessary for the exploration, development and production of oil and gas under the property

Pennsylvania – Mineral estate has right to access and remove the mineral but must be exercised with due regard to the rights of the surface owner and only as reasonably necessary

ENVIRONMENTAL QUESTIONS

Currently, there remain environmental questions about hydraulic fracturing relating mostly to the use of chemicals in the process and the resultant contaminated water. The issues involve the treatment and disposal of the water, and the potential for a blowout of the well that will spread contaminated water and gas on the surface.

- 1) Dimock, Pennsylvania spill in September 2009
- 2) Clearfield, Pennsylvania spill in June 2010
- 3) Moundsville, West Virginia spill in June 2010

ENVIRONMENTAL QUESTIONS, cont.

March 2010 - Researchers at University of Texas and SMU determined there is a plausible link between injection wells drilled at DFW and North Texas earthquakes

REVENUE DIVERSION

49 U.S.C. § § 47107(b)(1), 47133

- **Grant Assurance # 25**
- **Policy—64 Fed. Reg. 7696**
 - **Revenue must be used for capital and operating costs of:**
 - The airport
 - The local airport system
 - Other facilities owned and operated by the sponsor that are directly related to the air transportation of passengers or property

AIP HANDBOOK §700(a)

The acquisition of any interest in land is eligible when it is necessary for airport purposes...

(2) The term "airport purposes", as used herein, refers to all aviation activities normally found on an airport.

REQUIREMENTS FOR ELIGIBILITY FOR ACQUISITION FUNDING

The approved Airport Layout Plan (ALP) serves as a primary basis for determining the areas of land necessary for the airport.

Land necessary for airport purposes includes the building areas, runways, taxiways, aprons, runway protection zones, approach areas, areas for noise compatibility, and offsite areas required for airport utilities and navigation aids.

REQUIREMENTS FOR ELIGIBILITY FOR ACQUISITION FUNDING, cont.

Acquisition of land for future (more than five years) airport development is eligible if there is an approved ALP, approval by FAA, airspace clearance and a valid aeronautical need.

Such factors as rising land costs, encroachment on available land by incompatible uses and development, and the probable unavailability of land for airport use in the future should be taken into consideration.

FAA POLICY

Policy and Procedures Concerning the Use of Airport Revenue

Federal Register – February 16, 1999

§2(c). Royalties From Mineral Extraction..."(M)ineral and water rights represent a part of the airport property and its value. Just as proceeds from the sale or lease of airport property constitute airport revenue, proceeds from the sale or lease of a partial interest in the property – i.e. water or mineral rights – should also be considered airport revenue."

RULE NUMBER 3

Whenever faced with an oil and gas situation, deal with a lawyer who understands:

- a. airport law;
- b. the basic technology;
- c. oil and gas law



THE END