



National Clean Water Law Seminar:

***THE BASICS OF HYDRAULIC FRACKING FOR
WATER UTILITIES***

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Presented by:

LAUREN KALISEK

lkalisek@lglawfirm.com

(512) 322-5847

816 Congress Avenue
Suite 1900

Austin, Texas 78701

(512) 322-5800

(512) 472-0532 Fax

www.lglawfirm.com

OVERVIEW

- General Hydraulic Fracturing Process
- Waste in Hydraulic Fracturing Process
- Methods of Waste Disposal
- Regulation of Waste Disposal
- Responding to Requests for Disposal
- Sourcewater Protections

GENERAL FRACKING PROCESS

- “Fracking” a.k.a. Hydraulic Fracturing

DRILLING



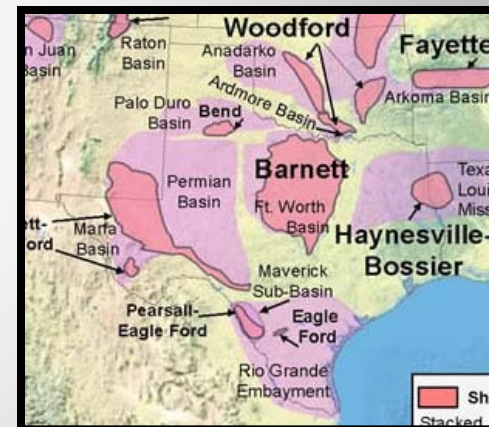
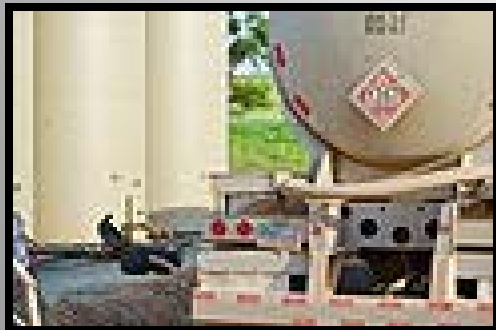
PERFINING



FRACKING



EXTRACTION



WASTE IN HYDRAULIC FRACTURING

- Hydraulic Fracturing Flowback Water (HFFW)
- Contains:
 - Chemicals
 - Water
 - Organic Compounds
 - Metals

METHODS OF WASTE DISPOSAL

- Five Most Common Methods of Disposal:
 - Recycling
 - Treatment and Discharge
 - Injection
 - Storage
 - Spreading



REGULATION OF WASTE DISPOSAL

- Injection Sites/SDWA
- Discharge to POTWs/NPDES
- Centralized Waste Treatment Facilities/NPDES



RESPONDING TO REQUEST FOR DISPOSAL



- Effluent Guidelines/ “No Direct Discharge”
- POTWs/ Permit Terms and Pretreatment Standards

POTW CONSIDERATIONS

- Follow permit conditions
- Notice to Permitting Authority of new or substantial change in pollutants
- Discharge characterization
- TDS, chlorides, sulfates, radionuclides, metals and others
- Pass through and interference

RESPONDING TO A REQUEST FOR DISPOSAL

- MS4s?



- HAZARDOUS WASTE?

FEDERAL SOURCEWATER PROTECTION

- SDWA UIC Program regulates subsurface injection of fluid
- Permit requirements designed to prevent violations of drinking water standards and protect public health
- Energy Policy Act of 2005 excludes injections for hydraulic fracking operations *other than diesel fuels*
- UIC Class II requirements apply

LOCAL SOURCEWATER PROTECTIONS



- Municipal Authority
 - Tex. Water Code § 26.171
 - Loc. Gov't Code 51.002(a)-(b)
- State Authority
 - Tex. Nat. Res. Code § 91.101
 - Tex. Water Code § 26.131

CONCLUSION



- Follow permit conditions when responding to request for disposal into utility system
- Be aware of impacts to effluent quality
- For sourcewater protection, be aware of local and state programs