BLM Forum: Hydraulic Fracturing

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April 25, 2011

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Halliburton Overview: 2010

Contributions to the state of Colorado

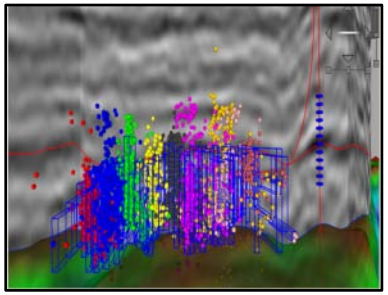
- $96 million paid in wages
- $3.7 million paid in payroll tax
- $642,000 paid in property tax
- $111 million spent with local suppliers
- 25% of that spend with small and diverse suppliers
- Nearly $100,000 in Company charitable contributions

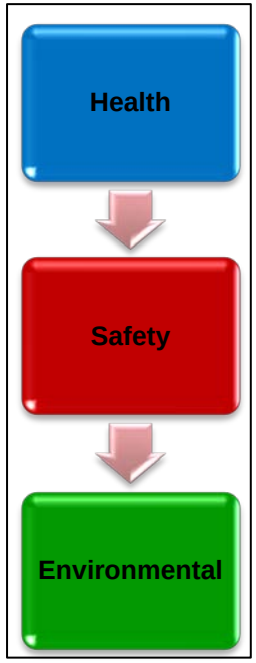
CO 2010 FAST FACTS

Operations Began	Employees	Operations/ Facilities	Regional Office
1935	1,500	25	Denver

Approx. data as of Dec. 31, 2010

Environmental Technology Evolution
CleanSuite™ System of Advancements



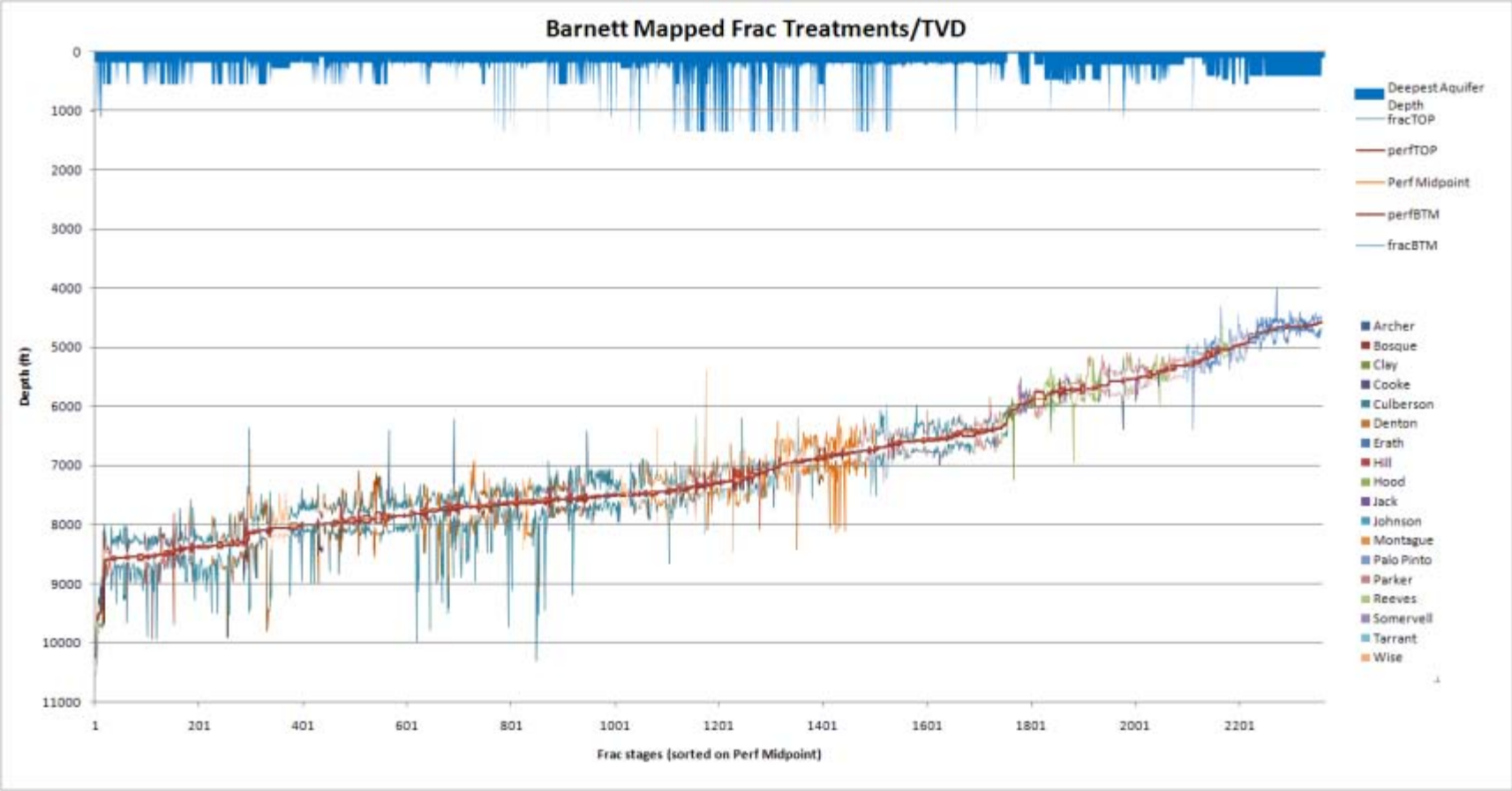


Fluid Technology

Mechanical Solutions

Fracture Optimization

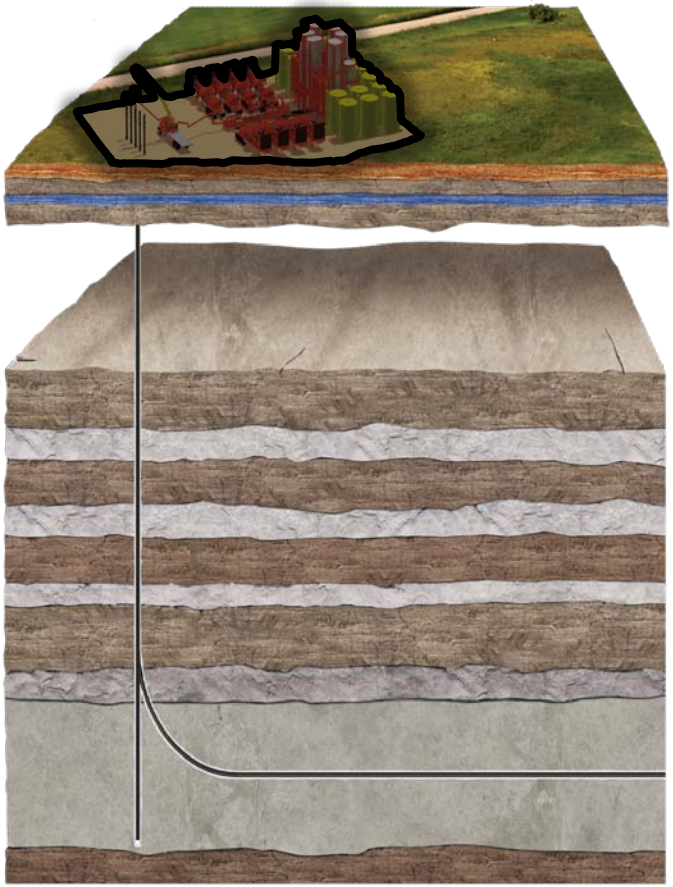
Fracture Height Determination
Barnett

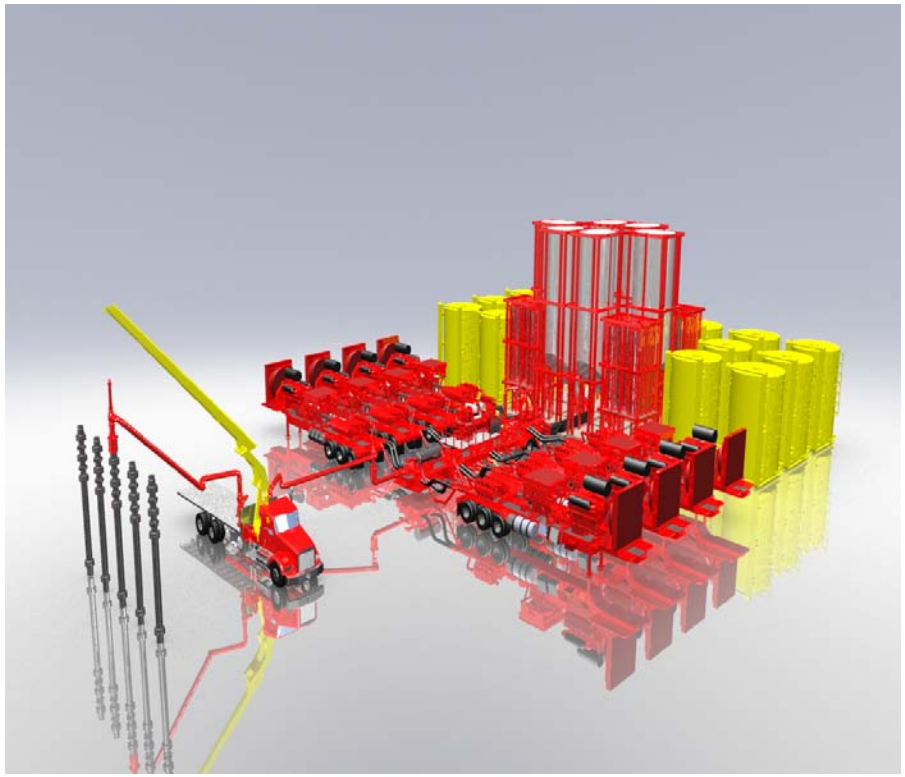


Kevin Fisher, "Data Confirm Safety of Well Fracturing"
The American Oil & Gas Reporter – July 2010

Water Management

Footprint
Reinventing Delivery Mechanisms





Public Access to Well-Specific Chemical Data

- New U.S. online database offering standard reporting format for all operators to disclose hydraulic fracturing chemicals used on a well-specific basis
- Public access with search options
- Educational material
- Halliburton fully supports and participates in this registry
- http://fracfocus.org/

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	1/26/2011
State:	Texas
County:	Wheeler
API Number:	42-483-33102
Operator Name:	Apache Corp
Well Name and Number:	Stiles 16 #1016H
Longitude:	-100.090508
Latitude:	35.459572
Long/Lat Projection:	NAD27
Production Type:	Gas
True Vertical Depth (TVD):	13,651
Total Water Volume* (gal):	6,224,064

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	BHI	Carrier	Water	7732-18-5	100.00%	93.89335%	
Prime Plus	BHI	Proppant	Quartz (SiO2)	14808-60-7	100.00%	5.33749%	
Mineral Oil	BHI	Solvent	Mineral Oil	8042-47-5	100.00%	0.01149%	
GBW-5	BHI	Breaker	Ammonium Persulfate	7727-54-0	100.00%	0.00918%	
Alpha 1427	BHI	Biocide	Glutaraldehyde	111-30-8	30.00%	0.00469%	
			Quaternary Ammonium Chloride	7173-51-5	10.00%	0.00156%	
			Alkyl Dimethyl Benzyl Ammonium Chloride (C12-16)	68424-85-1	7.00%	0.00109%	
			Ethanol	64-17-5	5.00%	0.00078%	
			Water	7732-18-5	60.00%	0.00937%	
ClayCare	BHI	Clay Control	Choline Chloride	67-48-1	75.00%	0.07684%	
			Water	7732-18-5	30.00%	0.03073%	
FRW-20	BHI	Friction Reducer	Hydrotreated Light Distillate	64742-47-8	30.00%	0.03527%	
NE-900	BHI	Non-emulsifier	Methanol	67-56-1	30.00%	0.01406%	

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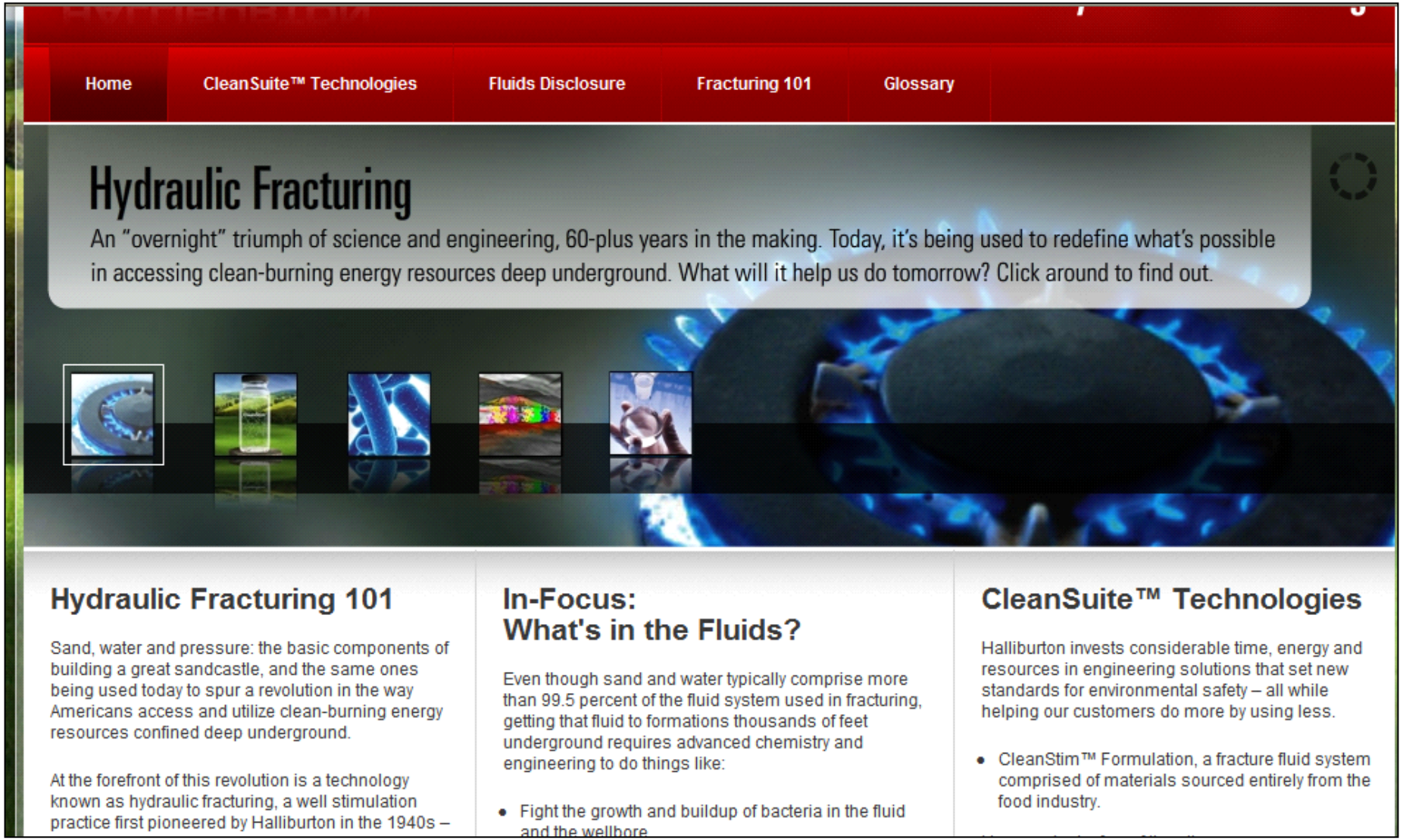
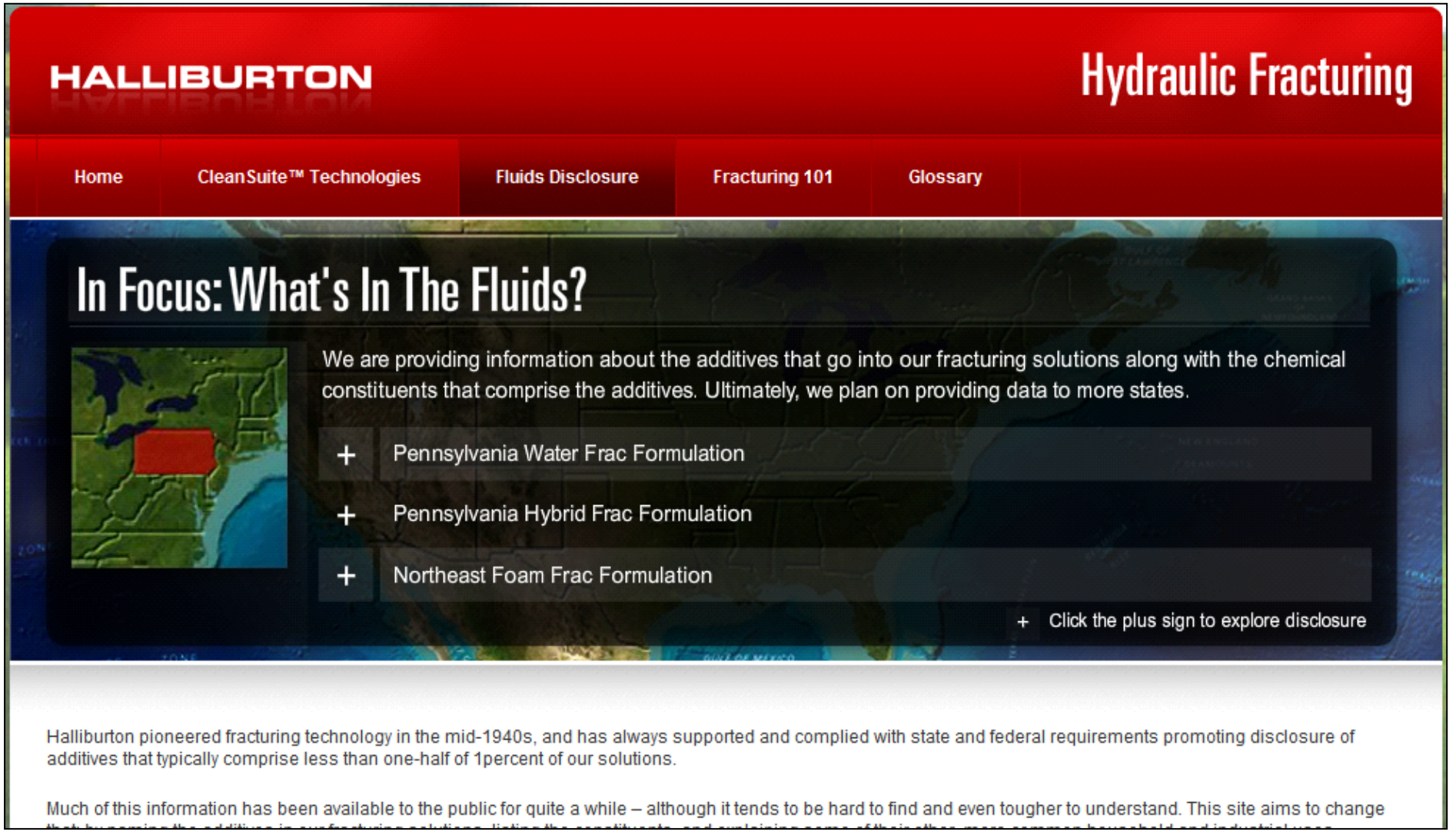
Hydraulic Fracturing Microsite



Hydraulic Fracturing Microsite



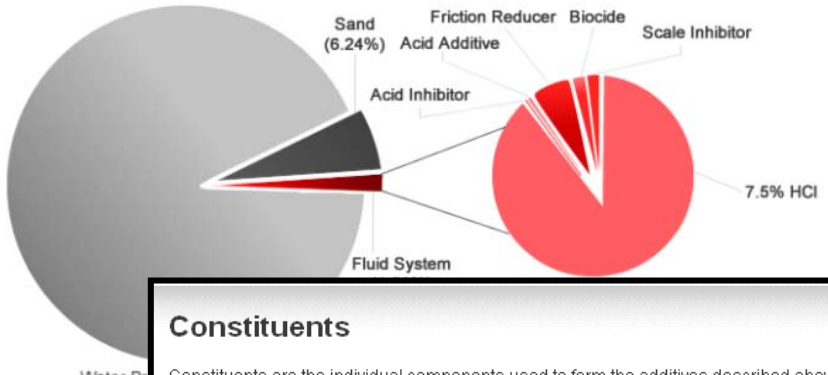
Hydraulic Fracturing Microsite

Additives

Additives | Overall Percentage | Constituents

Product Name	Additive	Purpose	Concentration	U.S. MSDS
BE-9	Biocide	Prevents or limits growth of bacteria that can cause formation of hydrogen sulfide and can physically plug flow of oil and gas into the well	0.3 gal/1000 gal	
FE-1A	Acid Additive			

Overall Percentage



Constituents

Additives | Overall Percentage | Constituents

Constituents are the individual components used to form the additives described above.

In the table below, we identify these associated components, disclose their specific Chemical Abstracts Service (CAS) identification numbers, and list several prominent common uses for each.

Constituent Name	Generic Name	CAS Number	Common Use	Hazardous as Appears on MSDS
Acetic Acid	Organic Acid	64-19-7	Processed Fruit, Cheese, Meat and Poultry	Yes
Acetic Anhydride	Anhydride	108-24-7	Agricultural Microbiocide Agent	Yes
Acetophenone, Thiourea, Formaldehyde Polymer	Modified Thiourea Polymer	68527-49-1	Industrial Acid Corrosion Inhibitor for Cooling Towers and Boilers	No
Alcohol, C14-C15 Ethoxylate	Polyoxyalkylene	68951-67-7	Liquid Detergent, Disinfectant Toilet Cleaner, Stain Remover	No

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