IOGCC/GWPC Chemical Disclosure Registry for Hydraulic Fracturing

John Baza, Director
Utah Division of Oil, Gas and Mining

Crude Oil Quality Association
Salt Lake City, UT

June 9, 2011
Utah Department of Natural Resources

- Forestry, Fire and Sovereign Lands
- Geological Survey
- Oil, Gas and Mining
- Parks and Recreation
- Water Resources
- Water Rights
- Wildlife Resources

Michael R. Styler
Executive Director
Utah Division of Oil, Gas, and Mining

Oil and Gas

Coal

John R. Baza
Director

Minerals

Abandoned Mine Reclamation

Board of Oil, Gas and Mining

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Carl F. Kendell
Kelly L. Payne
Jean Semborski
Interstate Oil & Gas Compact Commission
IOGCC Vision

The Interstate Oil and Gas Compact Commission will be viewed as the authority on domestic oil and gas issues. The programming and services of the Commission will be developed around emerging issues, so that the IOGCC is a leader and a driver of national oil and gas policy.
Member States
What We Do

The Commission serves as the collective voice of member governors on oil and gas issues and advocates states' rights to govern petroleum resources within their borders.
Contact Information

Interstate Oil and Gas Compact Commission

Headquarters Address:
PO Box 53127
Oklahoma City, OK 73152
Phone: (405) 525-3556
Website: http://www.iogcc.state.ok.us/
"The Ground Water Protection Council is a national association of state ground water and underground injection control agencies whose mission is to promote the protection and conservation of ground water resources for all beneficial uses, recognizing ground water as a critical component of the ecosystem."

“The Ground Water Protection Council provides a forum for stakeholder communication and research in order to improve governments’ role in the protection and conservation of ground water.”

Address:
13308 N. MacArthur Blvd.
Oklahoma City, OK 73142
Phone: (405) 516-4972
Website: http://www.gwpc.org
Hydraulic Fracturing – Why the Fuss?

- Hydraulic fracturing technology first introduced in 1949
- Some form of fracturing technique for oil wells has existed since the 1860s
- The global fracturing market doubled between 2004 and 2007 – growing to over $12.8 billion
- Recent shale gas development around the U.S. has highlighted the importance and impact of this technology
- In 2010, both government and media attention increased
JPT December 2010

- “Hydraulic Fracturing Seeps into Public Awareness”
- EPA Study
- Congressional hearings
- September 2010 – Wyoming is first state to require public disclosure of fracturing chemicals
- New York places moratorium on new gas drilling
- Four documentary films produced
- Numerous newspaper and magazine articles
U.S. EPA and hydraulic fracturing

- In FY 2010, U.S. House of Representatives approved budgetary appropriation and directed EPA to assess the potential of risks to drinking water posed by hydraulic fracturing
- EPA began study in March 2010
- In February 2011, EPA submitted its draft study plan to the agency’s Science Advisory Board for review
- [http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/index.cfm](http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/index.cfm)
So what is it?

- Domestic Energy Producers Alliance video
- http://www.depausa.org/
What is it?

- Oklahoma Energy Resources Board animation
- http://www.oerb.com/
3 Zone Frac Process

Completed Well Total Depth 13,285'
IOGCC and GWPC Unveil Website

- Joint press release on April 11, 2011
- New web-based national registry disclosing chemical additives used in hydraulic fracturing
- Funding support from U.S. DOE
- www.FracFocus.org
- Participating companies voluntarily upload information
- As of launch date, 24 companies are participating
### Find a Well

**SEARCH OPTIONS**

- **STATE:** Utah
- **COUNTY:** Uintah
- **WELLS IN COUNTY:** Choose a Well Name
- **OPERATOR:** Anadarko Petroleum Corporation
- **API WELL NUMBER:**
- **WELL NAME:**

**LATEST WELLS**

- **API Number:** 300.358319
  - **Well Name:** P61 852.SLMS 17 FERDIAL 1H
  - **Operator:** Chesapeake Operating, Inc.

- **API Number:** 0512308812
  - **Well Name:** STATE 8-01-36-1H
  - **Operator:** Chesapeake Operating, Inc.

- **API Number:** 0512303638
  - **Well Name:** STATE 10-67 26-9H
  - **Operator:** Chesapeake Operating, Inc.

- **API Number:** 0512300866

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All Find a Well site information is voluntarily provided by participating oil and natural gas operators. Wells hydraulically fractured after January 1, 2011 will be added to the database over time.

See the full list of participating production companies.
### Find a Well

#### Back To Search

<table>
<thead>
<tr>
<th>APCI No.</th>
<th>Job Date</th>
<th>State</th>
<th>County</th>
<th>Operator</th>
<th>Well Name</th>
<th>Well Type</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Datum</th>
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<td>Anadarko Petroleum Corp.</td>
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Hydraulic Fracturing Fluid Product Component Information Disclosure

Hydraulic Fracturing Fluid Composition:

<table>
<thead>
<tr>
<th>Trade Name</th>
<th>Supplier</th>
<th>Purpose</th>
<th>Ingredients</th>
<th>Chemical Abstract Service Number (CAS #)</th>
<th>Maximum Ingredient Concentration in Additive (% by mass)**</th>
<th>Maximum Ingredient Concentration in HF Fluid (% by mass)**</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Water</td>
<td>Carrier / Base Fluid</td>
<td></td>
<td></td>
<td></td>
<td>100.00%</td>
<td>90.346692%</td>
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<tr>
<td>Sand (Proppant)</td>
<td>Proppant</td>
<td></td>
<td>Quartz</td>
<td>14609-86-7</td>
<td>99.00%</td>
<td>0.067855%</td>
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<tr>
<td>OAH 25W</td>
<td>SWS</td>
<td>Friction Reducer</td>
<td>Polyacrylamide Polymer (pAM)</td>
<td>00203-06-9</td>
<td>70.00%</td>
<td>0.031670%</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Ethanolated alcohol blend</td>
<td>proprietary</td>
<td>5.00%</td>
<td>0.002253%</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Hydroxyalkyl paraffin solvent</td>
<td>64742-47-8</td>
<td>30.00%</td>
<td>0.019376%</td>
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<td>Clay Treat LT</td>
<td>SWS</td>
<td>Clay Control Additives</td>
<td>Proprietary</td>
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<td>67-49-1</td>
<td>60.00%</td>
<td>0.07516%</td>
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<td>Super 100NC</td>
<td>SWS</td>
<td>Surfactant &amp; Foamer</td>
<td>Isopropyl Alcohol</td>
<td>87-68-5</td>
<td>30.00%</td>
<td>0.029791%</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Rayon Silfers</td>
<td>111-76-2</td>
<td>7.00%</td>
<td>0.006576%</td>
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<tr>
<td>HCl Acid (12.5%-18%)</td>
<td>SWS</td>
<td>Bulk Acid</td>
<td>Hydrogen Chloride</td>
<td>7547-01-0</td>
<td>16.00%</td>
<td>0.154763%</td>
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<tr>
<td>Acid Inhibitor 3</td>
<td>SWS</td>
<td>Acid Corrosion Inhibitor</td>
<td>Alcohol Blend</td>
<td>nd</td>
<td>20.00%</td>
<td>0.000301%</td>
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<tr>
<td>RO3952A</td>
<td>Nalco</td>
<td>Scale Inhibitor</td>
<td>Hethylene Glycol</td>
<td>107-21-1</td>
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<td>0.206424%</td>
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<tr>
<td>EC526A</td>
<td>Nalco</td>
<td>Bioicide</td>
<td>Tetrakis(hydroxymethyl)phosphonium</td>
<td>55566-30-0</td>
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<td>Iron Control IC-102L</td>
<td>SWS</td>
<td>Iron Control</td>
<td>Citric Acid</td>
<td>77-92-9</td>
<td>100.00%</td>
<td>0.006869%</td>
<td></td>
</tr>
</tbody>
</table>

* Total Water Volume sources may include fresh water, produced water, and/or recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%

All component information listed was obtained from the supplier’s Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information.
Summary

- As more unconventional hydrocarbon resources are developed, hydraulic fracturing will continue to play a significant role.
- The process includes steps to protect against environmental impact.
- Water and sand make up 98 to 99.5 percent of the fluid used in hydraulic fracturing with various chemical additives comprising the balance.
Thank You

Utah Division of Oil, Gas & Mining

http://ogm.utah.gov

801-538-5340