

**TABLE I: NOTICE AND PRE-FRACTURING CHEMICAL DISCLOSURE**

	Alabama	Arkansas	Colorado	Indiana	Louisiana	Michigan	Montana	New Mexico	North Dakota	Ohio	Oklahoma	Pennsylvania	Texas	West Virginia	Wyoming
Pre-fracturing disclosure of chemicals?	NO	Generalized notice <sup>1</sup>	NO	CBM wells only <sup>1</sup>	NO	NO	Principal components <sup>1</sup>	NO	NO	NO	NO	NO	NO	Only trade names and only if > 210,000 gallons withdrawn from state waters. <sup>1</sup>	YES <sup>1</sup>
Time requirement for pre-fracturing disclosure	N/A	N/A	N/A	Part of permit application	N/A	N/A	48 hours in advance	N/A	N/A	N/A	N/A	N/A	N/A	30 days in advance	Part of permit application
Notification to landowner of intent to perform hydraulic fracturing?	NO	NO <sup>2</sup>	YES <sup>1</sup>	NO <sup>2</sup>	NO <sup>1</sup>	NO <sup>1</sup>	NO <sup>2</sup>	NO <sup>1</sup>	NO <sup>1</sup>	NO <sup>1</sup>	NO <sup>1</sup>	NO <sup>1</sup>	NO <sup>1</sup>	YES <sup>2</sup>	NO <sup>2</sup>
Notification to owners of nearby water wells/springs?	NO	NO	NO <sup>2</sup>	NO	NO	NO	NO	NO	NO	NO <sup>2</sup>	NO	NO <sup>2</sup>	NO	YES <sup>2</sup>	NO
Notification to residents of nearby dwellings?	NO	NO	YES <sup>3</sup>	NO	NO <sup>1</sup>	NO	NO	NO	NO <sup>2</sup>	NO <sup>1</sup>	NO	NO	NO	NO <sup>3</sup>	NO

**NOTES ON NOTICE PROVISIONS:**

**Arkansas:** <sup>1</sup> Must specify intent to use HF in initial permit application. Because a master list of chemicals used by each operator in the state is available, general notice does exist of which additives might be used.  
<sup>2</sup> But resident surface owners are entitled to notice before the entry onto the land to explore or drill. See Ark. Code. Ann. § 15-72-203.

**Colorado:** <sup>1</sup> Must provide 30 days notice of well operations and 7 days notice of refracturing. See Commission Rule 305(e). But notice of initial well operations, including fracturing is provided at application stage, not based on when fracturing operations begin.  
<sup>2</sup> Notice to owners of wells/springs is not explicitly provided, but notice of HF is given to owners of the property on which the well is located and to property owners within 500 feet. (However, note that requirements may differ in Broomfield, Phillips, and Yuma counties. See Rules 318A and 318B)  
<sup>3</sup> Notified landowners (see above) shall notify tenants. Commission Rule 305(e)(3).

**Indiana:** <sup>1</sup> Proposed additives must be included in the permit application for coal bed methane wells. A member of the Oil and Gas Division staff noted that the current practice of operators is to list all compounds with MSDSs as "proposed" additives in order to have free use of them during fracturing. Note, however, that we found no requirement that actual additives be among those proposed.  
<sup>2</sup> No notice required for fracturing. But applicants for a permit to drill do have to notify surface owners of drilling permit application.

**Louisiana:** <sup>1</sup> Owner of any residential or commercial structure within 500 feet must be notified by Department of an application for drilling (but not of fracking or re-fracking). See La. Rev. Stat. § 30:28. No rule that residents, if other than the owner, be notified.

**Michigan:** <sup>1</sup> But surface owners are entitled to notice within 7 days that an application for permit to drill has been submitted.

**Montana:** <sup>1</sup> Montana requires the permittee to provide a description of the stimulation to be performed including the "trade name or generic name of the principle components or chemicals." (sic) However, there is no requirement to provide all chemicals.  
<sup>2</sup> But split estate surface owners are entitled to 20 days notice before drilling operations that disturb the land surface. Mont. Code § 82-10-503.

**New Mexico:** <sup>1</sup> But split estate surface owners are entitled to 30 days notice before "first entry" onto the land to conduct oil and gas operations. NM Stat. § 70-12-5.

**North Dakota:** <sup>1</sup> But split estate surface owners are entitled to 20 days notice prior to start of drilling operations. N.D. Cent. Code § 38-11.1-04.1.  
<sup>2</sup> Notice to owner of "permanently occupied dwellings" within 1,320 feet of drilling permit application. See ND Application for Permit to Drill. But no rule that residents, if other than the owner, be notified.

**Ohio:** <sup>1</sup> Notification only of permit to drill and only in "urbanized areas." Permit applicant must provide notice of application to property owners within 500 feet of proposed well, but no notice required concerning HF. Ohio Rev. Code 1509.06. The notice to property owners of a permit application shall contain notice that owners must notify residents of occupied dwellings on property. Id.  
<sup>2</sup> Drillers of horizontal wells must sample water wells (if allowed by owner) within 1500 feet prior to issuance of a drilling permit and drillers of vertical wells in "urbanized areas" must sample within 300 feet, giving well owners notice of drilling, but not necessarily fracking.

**Oklahoma:** <sup>1</sup> Surface owners are entitled to notice of the intent to drill and approximate date on which drilling will commence. Okla. Stat. Ann. tit. 52, § 318.3. But no notice required for fracturing or refracturing.

**Pennsylvania:** <sup>1</sup> No notice required for fracturing. But applicants for a permit to drill do have to notify surface owners and advise them of the advantages of taking their own predrilling survey. See HB 1950 § 3211 (b)(2).  
<sup>2</sup> Owners of water supplies within 1,000 feet (3,000 feet for unconventional wells) must be notified of application for permit to drill, but not of HF itself.

**Texas:** <sup>1</sup> But surface owner must be notified within 15 business days after a new permit to drill is issued. Tex. Nat. Res. Code § 91.753.

**West Virginia:** <sup>1</sup> For wells which require water withdrawals from state waters greater than 210,000 gallons in a 30-day period, must report "the anticipated additives that may be used." Note that there is no requirement that the actual additives be identical.  
<sup>2</sup> Surface owners and those known to have a water well within 1500 feet of proposed horizontal well must be notified of the filing of a permit application for any well work, which includes HF. See W. Va. Code. § 22-6A-10.  
<sup>3</sup> Surface owners must be notified. See above. But no rule that residents, if other than the owner, be notified.

**Wyoming:** <sup>1</sup> All proposed additives must be included in the permit application. However, note that there is no requirement that the actual additives not differ from the proposed additives.  
<sup>2</sup> The operator must provide notice to "sufficiently disclose the plan of ... operations to enable the surface owner to evaluate the effect of [] operations on the surface owner's use of the land." WY Stat. 30-5-402 (d) & (e). But no requirement assures notice of fracturing or refracturing.

**TABLE II: GEOLOGICAL AND ENVIRONMENTAL CONTEXT OF WELL**

	Alabama	Arkansas	Colorado	Indiana	Louisiana	Michigan	Montana	New Mexico	North Dakota	Ohio	Oklahoma	Pennsylvania	Texas	West Virginia	Wyoming
Character, depth, and thickness of geological formations the well traverses	NO	NO	NO <sup>1</sup>	NO	NO <sup>1</sup>	NO	YES <sup>1</sup>	YES <sup>1</sup>	YES <sup>1</sup> Ltd. availability <sup>2</sup>	YES	YES <sup>1</sup>	NO	NO	YES <sup>1</sup> Ltd. availability <sup>2</sup>	NO
Gasses and fluids associated with formations the well encounters	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO <sup>1</sup>	NO	NO	NO
Estimated TVD to bottom of potential fresh water	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	Unclear <sup>1</sup>
Distance from well to aquifers	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO <sup>2</sup>	NO	NO	YES <sup>1</sup>
Distance from well to surface waters	NO	NO	YES <sup>2</sup>	NO	NO	YES <sup>1</sup>	NO	NO	NO	Streams only <sup>1</sup>	NO	NO <sup>2</sup>	NO	NO	NO
Distance from well to drains	NO	NO	YES <sup>3</sup>	NO	NO	YES <sup>1</sup>	NO	NO	NO	NO	NO	NO	NO	NO	NO
Identification of nearby water wells	Only CBM wells <600ft deep <sup>1</sup>	NO	YES <sup>3</sup>	CBM wells only <sup>1</sup>	NO	YES <sup>2</sup>	YES <sup>2</sup>	NO	NO	Only for wells in urbanized areas and horizontal wells before drilling <sup>2</sup>	NO	NO <sup>2</sup>	NO	NO <sup>3</sup>	YES <sup>2</sup>
Identification of nearby domestic springs	NO	NO	YES <sup>3</sup>	NO	NO	NO	NO	NO	NO	NO	NO	NO <sup>2</sup>	NO	NO <sup>3</sup>	YES <sup>2</sup>
Identification of nearby abandoned oil and gas wells	NO	YES <sup>1</sup>	YES <sup>3</sup>	CBM wells only <sup>1</sup>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Baseline water quality analysis	NO	NO	NO <sup>4</sup>	NO	NO	NO	NO	NO	NO	Pre-drilling only, and only for wells in urbanized areas and horizontal wells <sup>2</sup>	NO	NO	NO	NO	NO

Notes appear on following page

**NOTES ON WELL CONTEXT:**

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- Alabama:** <sup>1</sup> Operators of coal bed methane wells which will be fractured in a depth interval from 400-600' deep must inventory fresh water wells within 1/4 mile. See Rule 400-3-8-.03. (Fracturing of coal beds at less than 400' is prohibited)
- Arkansas:** <sup>1</sup> Must report all unplugged wells within lease or unit on plat. See [Form 2](#) instructions.
- Colorado:** <sup>1</sup> Drilling completion report requires formations encountered, but no other information.  
<sup>2</sup> Must report distance to all surface waters within 400 feet. See Rule 303(d)(3)(C). If greater than 400 feet, must report distance to nearest surface water, and whether well falls within 1/2 mile of a "Surface Water Supply Area"  
<sup>3</sup> Within 400 feet. See Rule 303(d)(3)(C).  
<sup>4</sup> But the Colorado Oil & Gas Association has implemented a voluntary baseline sampling program.
- Indiana:** <sup>1</sup> Within the greater of 500 feet or the estimated fracture half length.
- Louisiana:** <sup>1</sup> Well History Report (Form WH-1) requires formations encountered, but no other information.
- Michigan:** <sup>1</sup> Within 1,320 ft (1/4 mi). See form EQP 7200-2 & Mich. Admin Code R. 324.201.  
<sup>2</sup> Within 600 ft. (800, or 2000 feet for public water supply wells, depending on type). See form EQP 7200-2 & Mich. Admin Code R. 324.201.
- Montana:** <sup>1</sup> Thicknesses not explicitly required.  
<sup>2</sup> Within 2,640 feet (1/2 mile). See Form 22 Instructions.
- New Mexico:** <sup>1</sup> Completion report requires formations encountered and depths, but thicknesses are not explicitly required.
- North Dakota:** <sup>1</sup> Completion report requires reporting of "geological markers," but not thicknesses.  
<sup>2</sup> This information is not available on fracfocus and copies of well files are only available online with a paid subscription, or by physical inspection at state offices.
- Ohio:** <sup>1</sup> Within 200 feet. Ohio Admin. Code 1501:9-1-02.  
<sup>2</sup> As part of the drilling permit application, operators of vertical wells within an "urbanized area" must sample water wells within 300 feet (if allowed by the owner) and identify wells where sampling was not allowed. The same requirement applies to horizontal wells, except that sampling must be attempted within 1500 feet. Note that sampling is not required before fracking or refracking after the well has been drilled.
- Oklahoma:** <sup>1</sup> Completion report requires formation names and tops. Character and thickness not required.
- Pennsylvania:** <sup>1</sup> Completion report requires only whether methane was encountered in other than the target formation.  
<sup>2</sup> But plat accompanying application must state names of landowners or water purveyors whose water supplies are within 1,000 feet (3,000 ft for unconventional wells).
- West Virginia:** <sup>1</sup> See W. Va. Code § 22-6-22.  
<sup>2</sup> This information is not available on state disclosure website and copies of well files are only available for a fee or by physical inspection at state offices.  
<sup>3</sup> No public disclosure. But surface owners and those known to have a water well within 1500 feet of proposed horizontal well must be notified of the filing of a permit application for any well work, which includes HF. See W. Va. Code. § 22-6A-10.
- Wyoming:** <sup>1</sup> Must disclose "depth, geological and hydrological detail from public records, published or otherwise known information of useable groundwater" underlying the unit. Rules, Ch. 3, § 8.  
<sup>2</sup> Within 1,320 feet (1/4 mile) of the unit on which the well is located. Rules, Ch. 3, § 8.

**TABLE III: HYDRAULIC FRACTURE TREATMENT DISCLOSURE**

	Alabama	Arkansas	Colorado	Indiana	Louisiana	Michigan	Montana	New Mexico	North Dakota	Ohio	Oklahoma	Pennsylvania	Texas	West Virginia	Wyoming
Maximum injection pressure	YES <sup>1</sup>	YES	NO	YES	NO	YES	YES Ltd. availability <sup>1</sup>	NO	YES Ltd. availability <sup>1</sup>	YES <sup>1</sup>	NO	YES Ltd. availability <sup>1</sup>	NO	NO	YES
Annulus pressure if not cemented to surface	NO	NO <sup>1</sup>	NO	NO <sup>1</sup>	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	YES Ltd. availability <sup>1</sup>
Estimated fracture length	NO	YES	NO	NO <sup>2</sup>	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES Ltd. availability <sup>1</sup>
Estimated true vertical depth (TVD) to top of fractures	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Actual interval(s) fractured	YES	YES	NO	CBM wells only Ltd. Availability <sup>3</sup>	NO	NO	YES Ltd. availability <sup>1</sup>	YES	YES Ltd. availability <sup>1</sup>	NO	YES	NO	NO	NO	NO
Base fluid volume used	YES <sup>1</sup>	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	Only if > 210,000 gallons withdrawn from state waters. <sup>1</sup> Ltd. Availability <sup>2</sup>	YES
Base fluid type (e.g. water, recycled water, other)	NO	YES	YES	CBM wells only Ltd. Availability <sup>4</sup>	YES	NO	YES Ltd. availability <sup>1</sup>	YES	NO	YES <sup>1</sup>	YES <sup>1</sup>	NO <sup>2</sup>	YES <sup>1</sup>	NO	NO
Source of base fluid	NO	NO	NO	YES	YES	NO	NO	NO	NO	Estimate only <sup>2</sup>	NO <sup>2</sup>	YES Ltd. availability <sup>1</sup>	NO	Only if > 210,000 gallons withdrawn from state waters. <sup>1</sup> Ltd. Availability <sup>2</sup>	YES Ltd. Availability <sup>2</sup>
Contents of any recycled water used in treatment	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Master list of chemicals & fluids to be used in state	NO	YES	NO	NO	NO	NO	NO	NO	NO	Only chemicals with an MSDS	NO	NO	NO	NO	NO
Contents of proppant	NO	YES	YES	To same extent as additives*	To same extent as additives*	Unclear <sup>1</sup>	YES	Unclear <sup>1</sup>	Unclear <sup>2</sup>	YES	YES	YES Ltd. Availability <sup>3</sup>	To same extent as additives*	Unclear <sup>3</sup>	YES <sup>3</sup>

Notes appear after conclusion of table

**TABLE III: HYDRAULIC FRACTURE TREATMENT DISCLOSURE (Continued)**

	Alabama	Arkansas	Colorado	Indiana	Louisiana	Michigan	Montana	New Mexico	North Dakota	Ohio	Oklahoma	Pennsylvania	Texas	West Virginia	Wyoming
Product class / function	NO <sup>2</sup>	YES	YES	YES	YES	NO	YES	YES	Only "hazardous" substances <sup>3</sup>	YES	YES	YES Ltd. Availability <sup>3</sup>	YES	NO	YES
Product vendor	NO	YES	YES	CBM wells only Ltd. Availability <sup>4</sup>	YES	NO	NO <sup>2</sup>	YES	Only "hazardous" substances <sup>3</sup>	YES	YES	YES Ltd. Availability <sup>3</sup>	YES	NO	NO
Product trade name	NO	YES	YES	YES	YES	NO	NO <sup>2</sup>	YES	Only "hazardous" substances <sup>3</sup>	YES	YES	YES Ltd. Availability <sup>3</sup>	YES	Only if > 210,000 gallons withdrawn from state waters. <sup>1</sup> Ltd. Availability <sup>2</sup>	YES
Material Safety Data Sheet (MSDS) for additive	NO	NO	NO <sup>1</sup>	YES	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES Ltd. Availability <sup>2</sup>	NO
Additive Chemical Abstract Service number (CAS #)	NO	YES	YES <sup>2</sup>	NO	Only "hazardous" substances <sup>1</sup>	NO	YES	Only "hazardous" substances <sup>2</sup>	Only "hazardous" substances <sup>3</sup>	YES	YES	YES Ltd. Availability <sup>3</sup>	YES	NO	YES <sup>3</sup>
Volume of product	NO <sup>2</sup>	NO	NO	Maximum volume or concentration	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
Volume by MSDS	NO	NO	NO	Maximum volume or concentration	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Volume by CAS #	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Concentration of product	NO <sup>2</sup>	YES	NO	Maximum volume or concentration	NO	NO	NO	Maximum concentration, and only for "hazardous" substances <sup>2,3</sup>	Unclear <sup>4</sup>	Maximum concentration	NO	NO	NO <sup>2</sup>	NO	YES
Concentration by MSDS	NO	NO	NO	Maximum volume or concentration	NO	NO <sup>2</sup>	NO	NO	NO	NO	NO	NO	NO	NO	NO
Concentration by CAS #	NO	NO	Maximum concentration <sup>2,3</sup>	NO	Only "hazardous" substances <sup>1</sup>	NO	YES <sup>3</sup>	Maximum concentration, and only for "hazardous" substances <sup>2,3</sup>	Unclear <sup>4</sup>	Maximum concentration	Maximum concentration <sup>3</sup>	Maximum Concentration Ltd. Availability <sup>3</sup>	Maximum concentration, and only for "hazardous" substances <sup>3</sup>	NO	YES <sup>3</sup>

Notes appear on following page

## NOTES ON TREATMENT PROVISIONS:

<b>ALL:</b>	* The contents of proppants must be disclosed only to the extent that other chemicals are required to be disclosed by state. (e.g. if only trade names (and not CAS numbers) are required unless substances are defined as hazardous, the same rules would apply to contents of the proppant)
<b>Alabama:</b>	<sup>1</sup> The rule is extremely vague, requiring the operator to report "in detail the method used in treating the well." While this information is not explicitly required by rule or the reporting form, all reports we reviewed contained this information. <sup>2</sup> This information is often reported for some additives. However, it is not required for all additives, and comparison with reports voluntarily added to FracFocus.org by operators indicates that official reports generally do not include all additive information.
<b>Arkansas:</b>	<sup>1</sup> Rules require monitoring the annulus pressure and providing written notice if "any change in surface casing annulus pressure ... would indicate movement of fluids into the annulus" or if "pressure ... exceeds the rated minimum internal yield pressure on any casing string in communication with the Hydraulic Fracturing Treatment" but the annulus pressure is not normally reported and it is unclear if this written notice would be included in the public well file. <sup>2</sup> Concentrations by product only. Cannot determine amounts or concentrations of each chemical constituent by CAS Number.
<b>Colorado:</b>	<sup>1</sup> But MSDS must be stored at wellsite for Non-HF Chemicals kept at site. <sup>2</sup> An operator is not required to disclose chemicals that are not disclosed to it by the manufacturer, vendor, or service provider <sup>3</sup> Rule requires disclosure of the "maximum concentration" of each chemical, but the actual concentration could be different.
<b>Indiana:</b>	<sup>1</sup> The temporary rule requires reporting "pressure recording charts" generated during fracking, but it does not require monitoring of annulus pressures, so disclosure of annulus pressures is only required if an operator voluntarily monitors them. <sup>2</sup> The temporary rule requires reporting logs or surveys used to calculate fracture length, but does not require that they be made. And there is a space for entering the information on the stimulation plan form for CBM wells, but it states "if known," indicating it is not required. <sup>3</sup> This information may not be available until one year after fracking due to Indiana's confidentiality rules, which allow operators to automatically keep reports confidential for one year. <sup>4</sup> This information is estimated on the well stimulation plan but the actual information may not be available for 1 year, due to Indiana's confidentiality provisions. Changes in this information only necessitate review if they involve a change to: 1) type of base fluid to something other than water or produced water, 2) a 50% increase in the base fluid, or 3) a 25% increase in the maximum pressure. Temporary Rule § 9(e).
<b>Louisiana:</b>	<sup>1</sup> Only for those additives that are classified as hazardous substances by the Occupational Health and Safety Administration (OSHA) under 29 CFR § 1910.1200.
<b>Michigan:</b>	<sup>1</sup> Requires provision of MSDSs for all "chemical additives." No definition to determine whether this term includes proppant. <sup>2</sup> MSDSs disclose a range of concentrations, but not the concentration of the substance actually used.
<b>Montana:</b>	<sup>1</sup> Because this information is not included on Fracfocus reports, it is only available to public through physical inspection of records at state agency offices. <sup>2</sup> Not required explicitly by MT Rule, but fracfocus disclosures generally include this information. The Montana rule does require the trade name in pre-disclosures, but only of the "principle components" of the fracturing fluid, and there is no requirement to report the actual components used (rather than the components anticipated). <sup>3</sup> While MT rule requires concentration information, reports on fracfocus including only concentration ranges appear to have been approved as sufficient.
<b>New Mexico:</b>	<sup>1</sup> Rule states that the operator must disclose "the hydraulic fluid composition and concentration listing each ingredient." Unclear if NM defines proppant as an "ingredient" in the hydraulic fracturing fluid. If NM requires disclosure of proppant, it would only be to same extent as any other chemical. <sup>2</sup> Only for those additives that are classified as hazardous substances by the Occupational Health and Safety Administration (OSHA) under 29 CFR § 1910.1200. <sup>3</sup> Rule requires reporting the "maximum ingredient concentration," not necessarily the actual concentration.
<b>North Dakota:</b>	<sup>1</sup> Because this information is not included on Fracfocus reports, it is only available to public through physical inspection of records at state agency offices or online with a paid subscription. <sup>2</sup> Rule requires disclosure of "all elements made viewable by the FracFocus website." FracFocus simply provides columns to report "Hydraulic Fracturing Fluid Composition." While most operators on FracFocus appear to report proppant, it is unclear whether reporting of proppant is required by the rule. <sup>3</sup> FracFocus.org requires reporting only of "chemicals that would appear on a Material Safety Data Sheet," which includes those additives that are classified as hazardous substances by the Occupational Health and Safety Administration (OSHA) under 29 CFR § 1910.1200. See FracFocus.org/faq. While the ND rule could be interpreted as requiring information for all chemicals, it appears to have been interpreted to require information only for "hazardous" substances as defined by OSHA, which would require an MSDS. Disclosures we reviewed confirm that this is how the rule has been implemented. <sup>4</sup> Fracfocus requires a listing of concentration, but companies routinely report ranges, rather than actual concentrations.
<b>Ohio:</b>	<sup>1</sup> Note that this information is not available on FracFocus. Must be found in completion reports online. <sup>2</sup> On a fracking completion report, the operator must report the volume of recycled water used. Other sources are not listed. However, when applying for a <u>drilling</u> permit, an operator must estimate the sources groundwater and surface waters it anticipates using. This estimate is provided only at the drilling stage, and is not updated if a well is later refracked.
<b>Oklahoma:</b>	<sup>1</sup> While this information is required by the rule to be reported on Fracfocus.org, there is no clear place on the form for disclosure of fluid type, and the form states that water volumes may include produced and recycled water. <sup>2</sup> But certain water withdrawals from state waters do require a permit application, and may provide this information indirectly. <sup>3</sup> Rule requires disclosure of the "maximum concentration" of each chemical, but the actual concentration could be different.
<b>Pennsylvania:</b>	<sup>1</sup> Because this information is not included on Fracfocus reports, it is only available to public through physical inspection of records at state agency offices. <sup>2</sup> But completion report requires volume of recycled water used. (Note that because volume of recycled water is not included on Fracfocus reports, that information is only available to public through physical inspection of records at state agency offices). <sup>3</sup> This information is only posted to FracFocus for unconventional wells. (See appendix for definition of "unconventional well.") The information is disclosed in completion reports for all other wells. But completion reports are only available via physical inspection at agency offices or via a public records request. (Due to the fact that FracFocus.org states that it requires only "chemicals that would appear on a Material Safety Data Sheet," -- i.e. those classified as hazardous substances by the Occupational Health and Safety Administration (OSHA) under 29 CFR § 1910.1200, it is possible that some information for non-"hazardous" chemicals may also only be available through inspection of completion reports, even for unconventional wells. See FracFocus.org/faq. )
<b>Texas:</b>	<sup>1</sup> While this information is required by the rule to be reported on Fracfocus.org, there is no clear place on the form for disclosure of fluid type, and the form states that water volumes may include produced and recycled water. <sup>2</sup> Not required explicitly by TX Rule, but fracfocus disclosures generally include this information. <sup>3</sup> May report the "actual or maximum ingredient concentration," not necessarily the actual concentration. Reporting is only required for those additives that are classified as hazardous substances by the Occupational Health and Safety Administration (OSHA) under 29 CFR § 1910.1200.
<b>West Virginia:</b>	<sup>1</sup> This information is required to be included in a water management plan. However, WMP's are required only if withdrawals for the well are required from state waters of greater than 210,000 gallons in a 30 day period. <sup>2</sup> This information is not available on state disclosure website and copies of well files are only available for a fee or by physical inspection at state offices. <sup>3</sup> Requires disclosure of all "chemical additives." No definition to determine whether this term includes proppant. If WV requires disclosure of proppant, it would only be to same extent as any other chemical (i.e. chemical name only, and only if > 210,000 gallons withdrawn from state waters in 30-day period).
<b>Wyoming:</b>	<sup>1</sup> While required by rule, a substantial portion of reports we reviewed did not contain this information. <sup>2</sup> While required by rule, no report we reviewed contained this information. <sup>3</sup> This information must be disclosed in pre-fracturing report for proposed additives. Post-fracturing reports do not clearly require this information (CAS #s are not mentioned specifically, as they are for the pre-fracturing report). However, since Wyoming appears to interpret the rule to require CAS #s and concentration by CAS # and our review of reprotos showed no evidence that this apparent loophole in the language is being used to avoid reporting this information, we list this as a "YES."

**TABLE IV: WASTEWATER GENERATION AND DISPOSAL**

	Alabama	Arkansas	Colorado	Indiana	Louisiana	Michigan	Montana	New Mexico	North Dakota	Ohio	Oklahoma	Pennsylvania	Texas	West Virginia	Wyoming
Volume of flowback	NO	NO	NO	CBM wells only <sup>1</sup>	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	YES
Method(s) of onsite wastewater storage	NO	NO	NO	NO	NO	NO	NO	YES <sup>1</sup>	NO	YES <sup>1</sup>	NO	Unconventional wells only <sup>1</sup> Ltd. availability <sup>2</sup>	NO	NO	NO
Contents of wastewater	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Method(s) of wastewater disposal	NO	NO	NO	CBM wells only <sup>1</sup>	NO	NO	NO	YES	NO	YES <sup>2</sup>	NO	NO	NO	Only if > 210,000 gallons withdrawn from state waters. <sup>1</sup> Ltd. availability <sup>2</sup>	YES

**NOTES:**

**Indiana:** <sup>1</sup> This information is estimated on the well stimulation plan. However, the actual information may not be available until one year after fracturing, due to Indiana's automatic confidentiality provisions. A change in this information from the proposal in the application is not considered a substantial change requiring approval. See Temporary Rule § 9(e).

**New Mexico:** <sup>1</sup> Reported on form C-144.

**Ohio:** <sup>1</sup> Information included on completion report (Form 8) includes only whether the water will be stored in a pit or tank. No information on secondary containment, etc.

<sup>2</sup> Part of permit application. Ohio Admin. Code 1501:9-1-02

**Pennsylvania:** <sup>1</sup> Must submit containment plan for unconventional wells.

<sup>2</sup> This information is not available on fracfocus and copies of well files are only available by physical inspection at state offices.

**West Virginia:** <sup>1</sup> This information is required to be included in a water management plan. However, WMP's are required only if withdrawals are required from state waters of greater than 210,000 gallons in a 30-day period.

<sup>2</sup> This information is not available on state disclosure website and copies of well files are only available for a fee or by physical inspection at state offices.

**TABLE V: TRADE SECRET EXEMPTIONS**

	Alabama	Arkansas	Colorado	Indiana	Louisiana	Michigan	Montana	New Mexico	North Dakota	Ohio	Oklahoma	Pennsylvania	Texas	West Virginia	Wyoming
Any submission required to claim Trade Secret (TS)?	NO	YES	YES	NO	NO	NO	NO	NO	NO	YES	NO <sup>1</sup>	YES	NO	Unclear <sup>1</sup>	YES
Factual justification required in submission?	N/A	YES	NO <sup>1</sup>	N/A	N/A	N/A	N/A	N/A	N/A	NO <sup>1</sup>	N/A	NO	N/A	NO <sup>2</sup>	YES
Information claimed as a TS disclosed to regulators?	NO	Unclear <sup>1</sup>	NO <sup>2</sup>	NO	NO	NO	NO <sup>1</sup>	NO	NO	NO	NO	YES	NO	Unclear <sup>1</sup>	YES
Obligation to provide TS information from suppliers and manufacturers who claim protection?	N/A	YES	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	YES	N/A	Unclear <sup>1</sup>	YES
TS's disclosed to health care professionals?	NO*	YES	YES <sup>3</sup>	NO*	NO*	NO*	YES <sup>2</sup>	NO*	NO*	YES <sup>2</sup>	NO*	YES <sup>1</sup>	YES <sup>1</sup>	NO*	NO*
Health care professionals can obtain TS information from:	N/A	Company only	Company only	N/A	N/A	N/A	Company only	N/A	N/A	Company only	N/A	Company only	Company only	N/A	N/A
Chemical family of TS additives disclosed?	NO	YES	YES	NO	YES	NO	NO	NO	NO	NO	YES	YES	YES	NO	NO
Process for evaluating trade secret claim	None	None specified	None specified	None	None	None	None	None	None	None specified	None	None specified	None	None specified	Defined <sup>1</sup>
Public protest/review process	NO	NO	YES <sup>4</sup>	NO	NO	NO	NO	NO	NO	YES <sup>3</sup>	NO	YES <sup>2</sup>	Private only <sup>2</sup>	NO	NO <sup>2</sup>
Standards for showing TS protection is justified (See below for standards)	None	EPCRA	EPCRA	None	None	None	None	None	None	None	None <sup>1</sup>	None	Hyde	None specified	Unclear <sup>3</sup>
Documentation required to claim TS	None†	<a href="#">Form 37</a> <sup>2</sup>	<a href="#">Form 41</a>	None†	None†	None†	None†	None†	None†	"Form" <sup>1</sup>	None† <sup>1</sup>	Signed written statement <sup>3</sup>	None†	Written Request <sup>1,2</sup>	Written Request <sup>4</sup>

**STANDARDS FOR SHOWING TRADE SECRET PROTECTION IS JUSTIFIED:**

**EPCRA:** Standard borrowed from the Emergency Planning And Community Right to Know Act (EPCRA), [42 U.S.C. § 11042 \(a\)\(2\)](#). May withhold information only if permit holder affirms that each of the following is true and "submit[s] specific information regarding": (1) Such person has not disclosed the information to any other person, other than a member of a local emergency planning committee, an officer or employee of the United States or a State or local government, an employee of such person, or a person who is bound by a confidentiality agreement, and such person has taken reasonable measures to protect the confidentiality of such information and intends to continue to take such measures. (2) The information is not required to be disclosed, or otherwise made available, to the public under any other Federal or State law. (3) Disclosure of the information is likely to cause substantial harm to the competitive position of such person. (4) The chemical identity is not readily discoverable through reverse engineering.

**Hyde:** Note that the Hyde test is only used in evaluating a challenge to a claim of TS exemption. (See "Public protest/review process" under Texas.) Balancing of six factors as discussed in *Hyde Corp. v. Huffines*, 314 S.W.2d 763, 776 (Tex. 1958): A - the extent to which the information is known outside of the company; B - the extent to which it is known by employees and other involved in the company's business; C- the extent of measures taken by the company to guard the secrecy of the information; D - the value of the information to the company and its competitors; E - the amount of effort or money expended by the company in developing the information; and F - the ease or difficulty with which the information could be properly acquired or duplicated by others.

Notes appear on following page



## NOTES ON TRADE SECRET PROVISIONS

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<b>ALL:</b>	<p>* Unless specifically provided for by other state or federal law.</p> <p>† Chemical simply listed as proprietary in disclosure report or on Material Safety Data Sheet.</p>
<b>Arkansas:</b>	<p><sup>1</sup> Rule appears to indicate yes. But in phone conversation Commission staffer reported that no disclosure is made.</p> <p><sup>2</sup> Despite using the EPCRA standard, very little specific factual justification appears to be required by the Arkansas Oil &amp; Gas Commission to substantiate trade secret claims. While the submissions are more detailed than in many states, applications with only general claims about secrecy and investment in research and development appear to have been accepted as sufficient.</p>
<b>Colorado:</b>	<p><sup>1</sup> While Form 41 states that an operator must "submit specific information regarding" each of the affirmations on the Form, the instructions for Form 41 provide short, generalized affirmations with no specific factual justification that may be used to fulfill the requirement. No specific factual information related to the product or additive is required.</p> <p><sup>2</sup> Unless COGCC provides written notification that it is necessary to respond to a spill, release, or complaint.</p> <p><sup>3</sup> Health professional (HP) may obtain information only if: 1) In a medical emergency, HP determines trade secret constituents are necessary for treatment, and HP verbally agrees to maintain confidentiality and not use the information for other purposes, or 2) HP provides a written statement of need and signs a confidentiality agreement (Form 35). (For more information, see Rule 205A (b)(5)).</p> <p><sup>4</sup> Anyone "adversely affected" can request that the Commission challenge the protection. If the Commission fails to do so, the party may bring suit in state District Court to force disclosure. See <a href="#">Rule 205A</a> Final Modified Staff Proposal, page 15. However, note that there is virtually no information on Form 41 to provide the public with a basis for evaluating whether a challenge is justified.</p>
<b>Montana:</b>	<p><sup>1</sup> Only on request, if necessary to respond to a spill or release, and if Board or its agent signs a nondisclosure agreement</p> <p><sup>2</sup> Health professional (HP) may obtain information only if: 1) In a medical emergency, HP determines trade secret constituents are necessary for treatment, and HP verbally agrees to maintain confidentiality and not use the information for other purposes, or 2) HP provides a written statement of need and signs a confidentiality agreement. (For more information, see Mont. Admin. R. 36.22.1016).</p>
<b>Ohio:</b>	<p><sup>1</sup> The rule provides that a company may withhold the information it believes qualifies for trade secret protection and may "designate [the withholding] . . . on a form prescribed by the chief."</p> <p><sup>2</sup> Health professional (HP) may obtain information "in order to assist in the diagnosis or treatment of an individual who was affected by an incident associated with the production operations of a well." The HP may not disclose the information for any other purpose. However, the rule states that it shall not "preclude[] a medical professional from making any report required by law or professional ethical standards."</p> <p><sup>3</sup> A property owner or "any person or agency of [the] state having an interest that is or may be adversely affected" by a chemical may bring a civil suit in the Court of Common Pleas of Franklin County against the company for disclosure.</p>
<b>Oklahoma:</b>	<p><sup>1</sup> Rule allows operator to withhold claimed trade secret information with no justification and provides no clear process for review. However, the agency may require the claimant to file a written explanation. There is no clear process laid out for how the agency would proceed if it deemed a trade secret claim to be unjustified. The rule indicates that the standard for qualification as a trade secret is the Uniform Trade Secrets Act, 78 O.S. §§85-94.</p>
<b>Pennsylvania:</b>	<p><sup>1</sup> Health professional (HP) may obtain information only if: 1) In a medical emergency, HP determines trade secret constituents are necessary for treatment, and HP verbally agrees to maintain confidentiality and not use the information for other purposes, or 2) HP provides a written statement of need and signs a confidentiality agreement.</p> <p><sup>2</sup> Under Pennsylvania's Right to Know Law, a citizen may request the information and appeal a decision to withhold them to the Pennsylvania Office of Open Records. For further information, see the <a href="#">Office of Open Records Citizens' Guide</a>. However, note that because no substantiating information is required in the signed written request for trade secret protection, the public has no basis on which to evaluate whether a challenge is justified.</p> <p><sup>3</sup> Signed written statement that information is a trade secret or confidential and proprietary. However, no supporting information is required by the rule.</p>
<b>Texas:</b>	<p><sup>1</sup> Health professional (HP) may obtain information only if: 1) In a medical emergency, HP determines trade secret constituents are necessary for diagnostic, treatment, or other emergency response purposes, or 2) HP provides statement of need and confidentiality agreement. For more information see 16 Texas Admin. Code § 3.29(c)(4) and 29 CFR § 1910.1200(i).</p> <p><sup>2</sup> Landowners where well is located or that own adjacent land or a Texas state agency may challenge the trade secret claim within 2 years. If challenged, the Office of the Attorney General evaluates the challenged claim based on the Hyde test above. Form challenging TS status is available <a href="#">here</a>. Note however that because no submission justifying TS status is ever made, landowners have little basis on which to determine whether a claim of TS status is legitimate.</p>
<b>West Virginia:</b>	<p><sup>1</sup> No provision of the law directly addresses trade secret issue The only reference to confidential information in the WV law is in section <a href="#">22-6-22(d)</a>. This section states that any well completion report may be kept confidential, upon written request, if it would reveal trade secrets or confidential business information. The protection lasts for one year, and may be extended in annual increments up to a total of 3 years.</p> <p><sup>2</sup> No supporting information appears to be required. The rule indicates that all written requests to keep information confidential will be honored.</p>
<b>Wyoming:</b>	<p><sup>1</sup> Company must submit documentation, usually a separate letter, justifying claim of trade secret. Agency evaluates claim and approves or denies via letter. But note that very little specific factual justification appears to be required by the Wyoming Oil &amp; Gas Conservation Commission to substantiate trade secret claims. While the submissions are more detailed than in many states, applications with only general claims about secrecy and investment in research and development appear to have been approved as sufficient. This issue is the subject of a pending <a href="#">lawsuit</a>.</p> <p><sup>2</sup> Wyoming rule provides no clear or explicit process for challenging trade secret exemptions. However, certain groups have brought suit in state court seeking to challenge the grant of certain exemptions by the WOGCC. If the courts allow the challenge to go forward, this may provide a route for challenges to individual claims of exemption.</p> <p><sup>3</sup> Rule simply requires a submission "justifying and documenting the nature and extent of the proprietary information."</p> <p><sup>4</sup> May be submitted on Form 1, Form 3, Form 4, as part of a "Comprehensive plan," or in a separate letter.</p>

**TABLE VI: NOTICE AND PRE-FRACTURING CHEMICAL DISCLOSURE IN PROPOSED RULES**

	Illinois (Proposed)	New York (Proposed)	BLM (Proposed)
Pre-fracturing disclosure of chemicals?	NO	Only if greater than 300,000 gallons of water used <sup>1</sup>	NO
Time requirement for pre-fracturing disclosure	N/A	Part of permit application	N/A
Notification to landowner of intent to perform hydraulic fracturing?	NO	NO	NO <sup>1</sup>
Notification to owners of nearby water wells/springs?	NO	NO <sup>2</sup>	NO
Notification to residents of nearby dwellings?	NO	NO	NO

**NOTES:**

**New York:** <sup>1</sup> Applies only to "high volume" hydraulic fracturing. Proposed additives must be included in the permit application.  
<sup>2</sup> Water sampling must be done, before well spud, but not necessarily before fracking or re-fracking. Well sampling is performed, if permitted by property owners, for residential water wells within 1,000 feet of the wellpad. While not publicly disclosed, the company must provide a copy of results to the owner of the well.

**BLM:** <sup>1</sup> BLM requires a lessee to contact surface owner before entry onto land and to engage in good faith efforts to secure a surface use agreement. But no requirement ensures a landowner would have notice of refracturing. Onshore Oil and Gas Order #1, Part VI.

**TABLE VII: GEOLOGICAL AND ENVIRONMENTAL CONTEXT OF WELL IN PROPOSED RULES**

	<b>Illinois (Proposed)</b>	<b>New York (Proposed)</b>	<b>BLM (Proposed)</b>
<b>Character, depth, and thickness of geological formations the well traverses</b>	<b>NO</b>	<b>Only if greater than 300,000 gallons of water used<sup>1</sup></b>	<b>YES</b>
<b>Gasses and fluids associated with formations the well encounters</b>	<b>NO</b>	<b>Fluids only<sup>2</sup></b>	<b>YES</b>
<b>Estimated TVD to bottom of potential fresh water</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>
<b>Distance from well to aquifers</b>	<b>NO</b>	<b>Only if greater than 300,000 gallons of water used<sup>3</sup></b>	<b>NO</b>
<b>Distance from well to surface waters</b>	<b>NO</b>	<b>Only if greater than 300,000 gallons of water used<sup>3</sup></b>	<b>NO</b>
<b>Distance from well to storm drains</b>	<b>NO</b>	<b>Only if greater than 300,000 gallons of water used<sup>3</sup></b>	<b>NO</b>
<b>Identification of nearby water wells</b>	<b>NO</b>	<b>Only if greater than 300,000 gallons of water used<sup>4</sup></b>	<b>NO</b>
<b>Identification of nearby domestic springs</b>	<b>NO</b>	<b>Only if greater than 300,000 gallons of water used<sup>4</sup></b>	<b>NO</b>
<b>Identification of nearby abandoned oil and gas wells</b>	<b>NO</b>	<b>Only if greater than 300,000 gallons of water used<sup>5</sup></b>	<b>NO</b>
<b>Baseline Water Quality Analysis</b>	<b>NO</b>	<b>NO<sup>6</sup></b>	<b>NO</b>

**NOTES:**

**New York:**

<sup>1</sup> Thickness is not explicitly required. Proposed 6 NYCRR § 560.6 (c)(22).

<sup>2</sup> Fluids and estimated flow rates are required. Proposed 6 NYCRR § 560.6 (c)(22). And only for wells which utilize "high volume hydraulic fracturing," i.e. those which utilize greater than 300,000 gallons of water.

<sup>3</sup> Within 660 feet (.125 mile)

<sup>4</sup> Within 2,640 feet (1/2 mile)

<sup>5</sup> Within one mile of well and within any proposed spacing unit

<sup>6</sup> Water sampling must be done, if permitted by property owners, for residential water wells within 1,000 feet of the wellpad. While not publicly disclosed, the company must provide a copy of results to the owner of the well.

**TABLE VIII: HYDRAULIC FRACTURE TREATMENT DISCLOSURE IN PROPOSED RULES**

	<b>Illinois (Proposed)</b>	<b>New York (Proposed)</b>	<b>BLM (Proposed)</b>
Maximum Injection Pressure	NO	NO <sup>1</sup>	YES
Annulus pressure if not cemented to surface	NO <sup>1</sup>	NO <sup>2</sup>	YES
Estimated fracture length	NO	NO	YES
Estimated true vertical depth (TVD) to top of fractures	NO	Only if greater than 300,000 gallons of water used	NO
Actual interval(s) fractured	NO <sup>2</sup>	NO	YES
Base Fluid Volume Used	Only if water <sup>3</sup>	NO <sup>1</sup>	YES
Base Fluid Type (e.g. water, recycled water, other)	NO	Unclear	Unclear <sup>1</sup>
Source of Base Fluids	NO	YES <sup>3</sup>	YES
Contents of any recycled water used in treatment	NO	NO	NO
Master list of chemicals & fluids to be used in state	NO	NO	NO
Contents of proppant	To same extent as additives*	NO	YES

Notes appear after conclusion of table

**TABLE VIII: HYDRAULIC FRACTURE TREATMENT DISCLOSURE IN PROPOSED RULES (Continued)**

	Illinois (Proposed)	New York (Proposed)	BLM (Proposed)
Product class / function	Unclear <sup>4</sup>	NO	YES
Product vendor	Unclear <sup>4</sup>	NO	NO
Product trade name	Unclear <sup>4</sup>	NO <sup>4</sup>	YES
Material Safety Data Sheet (MSDS) for Additive	NO	NO <sup>4</sup>	NO
Additive Chemical Abstract Service Number (CAS #)	Unclear <sup>4</sup>	NO	YES
Volume of product	NO	NO <sup>5</sup>	NO
Volume by MSDS	NO	NO <sup>5</sup>	NO
Volume by CAS #	NO	NO	NO
Concentration of product	Unclear <sup>4</sup>	NO <sup>5</sup>	NO
Concentration by MSDS	NO	NO <sup>5</sup>	NO
Concentration by CAS #	Unclear <sup>4</sup>	NO	YES

**NOTES:**

**ALL:** \* The contents of proppants must be disclosed only to the extent that other chemicals are required to be disclosed by state. (e.g. if only trade names (and not CAS numbers) are required unless substances are defined as hazardous, the same rules would apply to contents of the proppant)

**Illinois:** <sup>1</sup> SB 3280 (as passed by the Illinois Senate in April 2012) requires monitoring and recording of annulus pressures "using procedures that are established by administrative rule". The bill does not explicitly requires disclosure to the Department of Natural Resources, but DNR could require this information to be reported by rule.

<sup>2</sup> This information must be included on a completion report. However, completion reports can be kept confidential without justification for a period of two years. See Ill. Admin. Code tit. 62, § 240.650.

<sup>3</sup> SB 3280 requires that an operator report "the total volume of water used in the hydraulic fracturing treatment." The bill does not include reporting requirements for base fluids other than water.

<sup>4</sup> SB 3280 requires that an operator "complete the form" on FracFocus.org for additives that are classified as hazardous substances by the Occupational Health and Safety Administration (OSHA) under 29 CFR § 1910.1200 and provide a list of other additives. There is a column for entering this information on the FracFocus form, but the information is not explicitly required by the bill. It is unclear whether the law would be implemented to require disclosure of this information for any or all additives.

**New York:** <sup>1</sup> This information must be recorded and kept by the operator and made available to NYDEC on request, but disclosure is not required.

<sup>2</sup> This information must be recorded and kept by the operator and made available to NYDEC on request, but disclosure is not required. See Proposed 6 NYCRR § 560.6 (c)(26)(vi).

<sup>3</sup> Required in pre-HF report, and must also show permit approvals for these withdrawals.

<sup>4</sup> This information must be reported on the application for fracturing approval. While products not disclosed on application cannot be used, a complete and final list of actual additives used is never disclosed.

<sup>5</sup> The operator must provide NYDEC, on the application, it's estimate or plan of what this information will be. However, there is no clear requirement that the permittee ensure that no deviation from the application occurs or that NYDEC be notified if the actual information differs.

**BLM:** <sup>1</sup> Requires "the source ... of water used in the stimulation fluid or trade name of base fluid (if other than water). Not clear whether it requires reporting whether the base fluid is recycled water, e.g.

**TABLE IX: WASTEWATER GENERATION AND DISPOSAL IN PROPOSED RULES**

	<b>Illinois (Proposed)</b>	<b>New York (Proposed)</b>	<b>BLM (Proposed)</b>
<b>Volume of Flowback</b>	<b>YES</b>	<b>NO<sup>1</sup></b>	<b>YES</b>
<b>Method(s) of Onsite Wastewater Storage</b>	<b>YES</b>	<b>Only if greater than 300,000 gallons of water used</b>	<b>Unclear<sup>1</sup></b>
<b>Contents of Wastewater</b>	<b>NO</b>	<b>NO<sup>2</sup></b>	<b>NO</b>
<b>Method(s) of Wastewater Disposal</b>	<b>YES</b>	<b>Only if greater than 300,000 gallons of water used<sup>3</sup></b>	<b>YES</b>

**NOTES:**

**New York:** <sup>1</sup>This information must be recorded and kept by the operator and made available to NYDEC on request, but disclosure is not required. Proposed 6 NYCRR § 560.6 (c)(26)(viii).

<sup>2</sup> Post-fracture chemical analysis of wastewater is not required. However, in a well's Fluid Disposal Plan, the permittee must estimate the "concentrations of chemical constituents of the flowback and production brine over the life of the well, based upon additives used, well sampling, and data from similar wells." Proposed 6 NYCRR 750-3.12 (b)(3).

<sup>3</sup> Disclosed in Fluid Disposal Plan, see proposed 6 NYCRR 750-3.12 (b)

**BLM:** <sup>1</sup>Requires reporting the "methods of handling" of recovered fluids from fracturing.

**TABLE X: TRADE SECRET EXEMPTIONS IN PROPOSED RULES**

	Illinois (Proposed)	New York (Proposed)	BLM (Proposed)
Any submission required to claim Trade Secret (TS)?	TBD <sup>1</sup>	YES	YES
Factual justification required in submission?	TBD <sup>1</sup>	YES	YES
Information claimed as a TS disclosed to regulators?	NO	YES	YES? <sup>1</sup>
Obligation to provide TS information from suppliers and manufacturers who claim protection?	N/A	YES	YES? <sup>2</sup>
TS's disclosed to health care professionals?	YES <sup>2</sup>	NO*	NO*
Health care professionals can obtain TS information from:	Company only	N/A	N/A
Chemical family of TS additives disclosed?	TBD <sup>1</sup>	NO	NO
Process for evaluating trade secret claim	TBD <sup>1</sup>	Unclear <sup>1</sup>	None specified
Public protest/review process	Certain private parties only <sup>3</sup>	YES <sup>2</sup>	NO
Standards for showing TS protection is justified (See below for standards)	Ill. Freedom of Information Act	6 NYCRR 616.7	Other Law
Documentation required to claim TS	TBD <sup>1</sup>	Written Request	Identification of other law

**STANDARDS FOR SHOWING TRADE SECRET PROTECTION IS JUSTIFIED:**

**6 NYCRR 616.7:** The following factors are among those the Department may consider in making a determination to grant or continue an exception from disclosure: (a) the extent to which the information is known outside of the business of the person submitting the information; (b) the extent to which it is known by the person's employees and others involved in his business; (c) the extent of measures taken by the person to guard the secrecy of the information; (d) the value of the information to the person and to his competitors; (e) the amount of effort or money expended by the person in developing the information; and (f) the ease or difficulty with which the information could be properly acquired or duplicated by others.

**IL Freedom of Info. Act:** The statute provides little basis for determining what qualifies as a trade secret but exempts from disclosure "[t]rade secrets and commercial or financial information obtained from a person or business where the trade secrets or commercial or financial information are furnished under a claim that they are proprietary, privileged or confidential, and that disclosure of the trade secrets or commercial or financial information would cause competitive harm to the person or business, and only insofar as the claim directly applies to the records requested." 5 Ill. Comp. Stat. 140 / 7 (g).

**Other Law:** Must "identify the Federal statute or regulation that prohibits the public disclosure of each piece of particular information, and explain in detail why the information is subject to the prohibition of the identified Federal statute or regulation."

Notes appear on following page

**NOTES ON TRADE SECRET PROVISIONS IN PROPOSED RULES:**

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**ALL:** \* Unless specifically provided for by other state or federal law.  
† Chemical simply listed as proprietary in disclosure report or on Material Safety Data Sheet.

**Illinois:** <sup>1</sup> Illinois SB 3280 (as passed by the Senate in April 2012) would require the Department of Natural Resources to establish a process by rule whereby companies "may withhold and declare certain information as a trade secret, including, but not limited to, the Chemical Abstract Service Number and amount of the chemical ingredient used in the hydraulic fracturing treatment."

<sup>2</sup> SB 3280 provides that the Department of Natural Resources shall "prescribe a process, consistent with 29 C.F.R. 1910.1200, for an entity . . . to provide information, including information that is a trade secret . . . to a health professional or emergency responder who needs the information."

<sup>3</sup> SB 3280 limits challenges to trade secrecy claims to within two years after a well completion report is filed, and limits the persons who may pursue such challenges to "(A) a surface fee title owner or his or her agricultural farm tenant who has been directly and substantially affected or aggrieved by the hydraulic fracturing treatment; or (B) a department or agency of [the] State with jurisdiction over a matter to which the claimed trade secret is relevant."

**New York:** <sup>1</sup> 6 NYCRR 616.7 lists a set of factors that are "among those" the Department should consider in evaluating a trade secret claim. But the process is not further specified.

<sup>2</sup> Upon request of any person, the Department will: (i) inform the company which holds the exemption that it plans to re-evaluate whether the exception should be continued; (ii) allow the company 10 business days to submit a written statement of the necessity continuing the exception; and (iii) make a written determination of whether the trade secret exception shall be continued within seven business days after receiving the company's response (or its failure to respond). See 6 NYCRR 616.7 (c).

**BLM:** <sup>1</sup> Wording appears to indicate disclosure to BLM will occur, but is not unambiguous on this point.

<sup>2</sup> Wording appears to indicate that all TS information must be provided even if from supplier/manufacturer, but is not unambiguous.