

BLM HYDRAULIC FRACTURING RULE



Adrienne Brumley

June 2015

- History of the rule
- Purpose of the rule
- Regulation Changes
- Overview of the HF rule sections
- Implementation and impacts of the rule

Purpose of the Rule

- Confirmed wellbore integrity for the isolation and protection of usable water
 - Extension of Onshore Order No. 2
- Public disclosure of:
 - Water volume
 - Water source
 - Chemicals
- Management of recovered fluids

History of the Rule

- November 2010 - Public Forums
- May 11, 2012 - Proposed Rule
- May 24, 2013 - Supplemental Notice of Proposed Rule
- March 26, 2015 - Final Rule
- March 30, 2015 – Correction Notice
 - 1.5 Million Comments

Regulation Changes

- § 3160.0.5 - Definitions
 - New definitions added
- § 3162.3-2 – Subsequent Well Operations
 - Eliminates the language referring to routine and nonroutine fracturing jobs
- § 3162.3-3 - Revised to read as follows:
 - § 3162.3-3 Subsequent well operations; Hydraulic fracturing.
- § 3162.5-2 Control of wells
 - Eliminates the reference to usable water containing 5,000 ppm or less of dissolved solids

Definitions - 3160.0-5

- Annulus
- Bradenhead
- Cement Evaluation Log (CEL)
- Confining zone
- Hydraulic fracturing
- Hydraulic fracturing fluid

Definitions

- Isolating or to isolate
- Master hydraulic fracturing plan
- Proppant
- Usable water

The Rule: Overview

3162.3-3

- (a) Activities to which this section applies.
- (b) Isolation of usable water to prevent contamination.
- (c) How an operator must submit a request for approval of hydraulic fracturing.



The Rule: Overview

(d) What a request for approval of hydraulic fracturing must include.

(e) Monitoring and verification of cementing operations prior to hydraulic fracturing.

(f) Mechanical integrity testing prior to hydraulic fracturing.



The Rule: Overview

(g) Monitoring and recording during hydraulic fracturing.

(h) Management of Recovered Fluids.

(i) Information that must be provided to the authorized officer after hydraulic fracturing is completed.



The Rule: Overview

(j) Identifying information claimed to be exempt from public disclosure.

(k) Requesting a variance from the requirements of this section.

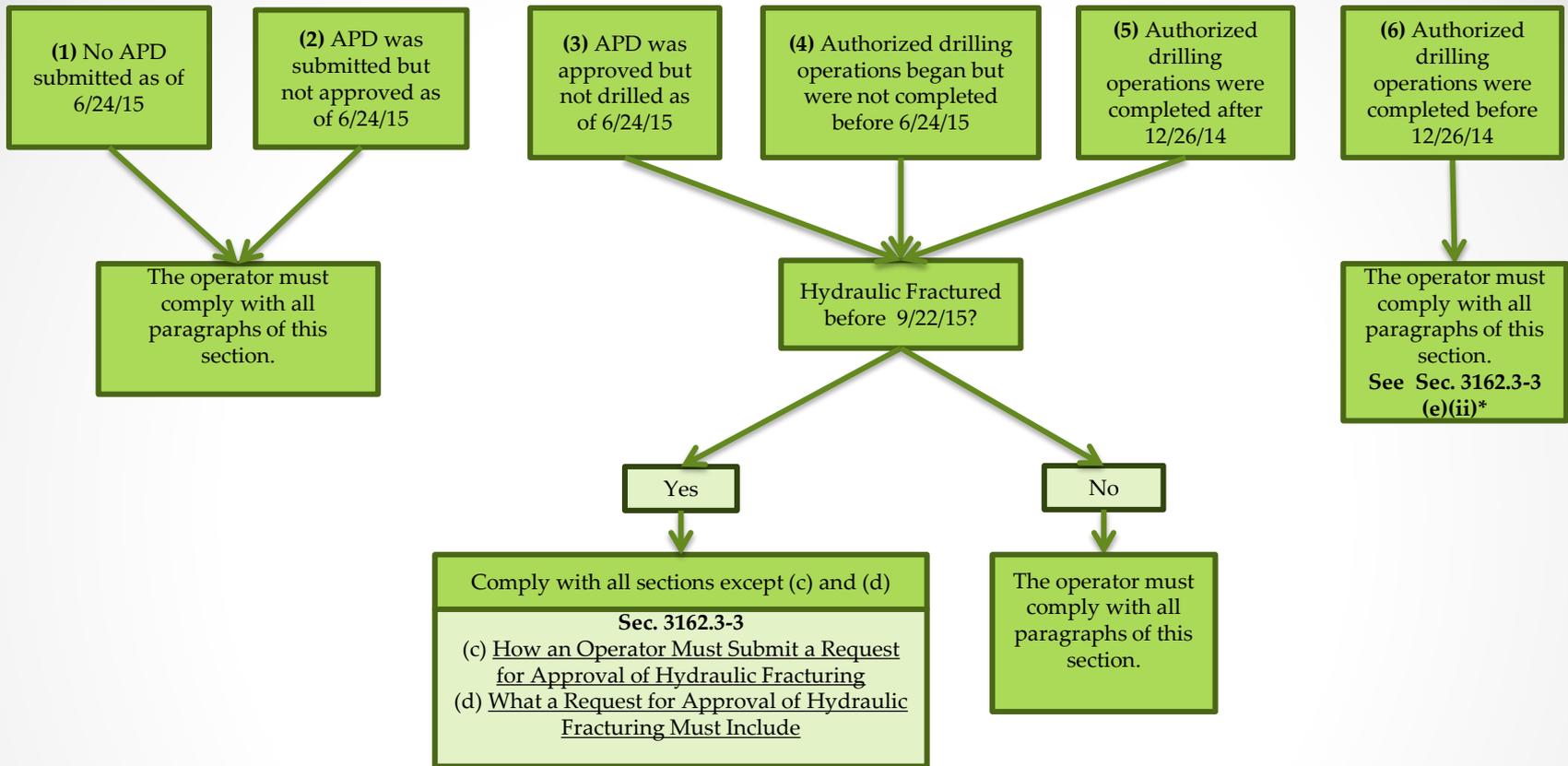
The Rule: Section-by-section

3162.3-3(a)

The phase-in of the rule allows for some exemptions for specific timeframes.

- Table in §3162.3-3(a)

IF	THEN
(1) No APD was submitted as of June 24, 2015	The operator must comply with all paragraphs.
(2) An APD was submitted but not approved as of June 24, 2015	
(3) An APD or APD extension was approved before June 24, 2015, but the authorized drilling operations did not begin until after June 24, 2015	To conduct hydraulic fracturing within 90 days after the effective date of this rule, the operator must comply with all paragraphs of this section, except (c) and (d)
(4) Authorized drilling operations began, but were not completed before June 24, 2015	
(5) Authorized drilling operations were completed after December 26, 2014	
(6) Authorized drilling activities were completed before December 26, 2014	The operator must comply with all paragraphs of this section. [for old wells, see (e)(ii)]



*** Sec. 3162.3-3 (e)(ii)**

For any well completed pursuant to an APD that did not authorize hydraulic fracturing operations, the operator must submit documentation to demonstrate that adequate cementing was achieved for all casing strings designed to isolate and protect usable water. The operator must submit the documentation with its request for approval of hydraulic fracturing operations, or no less than 48 hours prior to conducting hydraulic fracturing operations if no prior approval is required, pursuant to paragraph (a) of this section. The authorized officer may approve the hydraulic fracturing of the well only if the documentation provides assurance that the cementing was sufficient to isolate and to protect usable water, and may require such additional tests, verifications, cementing or other protection or isolation operations, as the authorized officer deems necessary.

3162.3-3(a)

This phase-in period only applies for 90 days after the effective date of the rule. For any wells that an operator proposes to hydraulically fracture after September 22, 2015, the operator must comply with the entire regulation.

There are two different requirements that the operator must meet in order to comply with the new regulations during the phase-in period.

- The operator must comply with all paragraphs of this section; or
- The operator must comply with all paragraphs of this section except (c) and (d).

Which requirements apply depends on the status of the permit or the well.



3162.3-3(a)

When the Operator must comply with all sections

- The operator doesn't submit an APD before June 24, 2015 [“if” statement (1) in the table].
- The operator has submitted an APD, but the BLM will **not** approve the APD before June 24, 2015 [“if” statement (2) in the table].
- Any well where drilling operations were finished before December 26, 2014. [“if” statement (6) in the table].

3162.3-3(a)

For wells already drilled:

- “If” statement (6) applies to “old” wells. For the purposes of this rule, an “old” well means any well that the operator finished drilling before December 26, 2014.

3162.3-3(a)

When the Operator must comply with all paragraphs of this section except (c) and (d).

- The operator has an approved APD but doesn't begin drilling until after June 24, 2015 [“if” statement (3) in the table].
- The operator began but didn't finish drilling the well before June 24, 2015 [“if” statement (4) in the table].
- The operator recently drilled the well and drilling operations finished after December 26, 2014. [“if” statement (5) in the table].

3162.3-3(a)

These are the APDs or wells that are “grandfathered” in.

- The “grandfathering” only applies if the operator will conduct hydraulic fracturing operations before September 22, 2015.

HOWEVER:

- The operator must comply with all other sections of the rule including all monitoring, testing, management of recovered fluids, and reporting requirements.

Submitting an Application

3162.3-3(c) - How an operator must submit a request for approval of hydraulic fracturing:

- (1) With an Application for Permit to Drill (APD)
- (2) With a Sundry Notice and Report on Wells (Form 3160-5) as a notice of intent (NOI)
- (3) For approval of a group of wells or geologically similar area the operator may submit a master hydraulic fracturing plan

Submitting an Application

3162.3-3(d) - What a request for approval of hydraulic fracturing must include:

(1) Information regarding wellbore geology

- Confining zone(s)
- Usable water zone(s)
- Zone(s) to be hydraulically fractured

(2) Faulting and fracture maps

(3) Water supply source map



Submitting an Application

(4) A plan for the proposed hydraulic fracturing

- Maximum anticipated surface pressure that will be applied during the hydraulic fracturing process;
- Estimated direction and length of the fractures
- Existing wellbore trajectories within one-half mile (horizontal distance) of any portion of the wellbore

(5) Method of handling recovered fluids

Submitting an Application

(6) If the operator submits a request for approval of hydraulic fracturing with an NOI (Form 3160-5)

- Surface use plan of operations
- Documentation demonstrating that the casing and cement have isolated usable water zones

(7) The authorized officer may request additional information prior to the approval of the NOI (Form 3160-5) or APD.

3162.3-3(e)-(f)

(e) Monitoring and verification of cementing operations prior to hydraulic fracturing.

- Operator must submit the cement monitoring report 48 hours prior to commencing HF operations
- Operator must submit documentation to demonstrate that adequate cementing was achieved for all casing strings designed to isolate and protect usable water
- Cementing requirements
- Inadequate cement requirements

(f) Mechanical integrity testing prior to hydraulic fracturing.

- Through casing
- Through fracturing string

3162.3-3(g)-(h)

(g) Monitoring and recording during hydraulic fracturing.

- Monitor annular pressure
- Take corrective action and notify BLM if pressure increase of more than 500 psi

(h) Management of Recovered Fluids.

- All fluids recovered between the commencement of HF and the AO's approval of a produced water disposal plan must be stored in rigid enclosed, covered, or netted and screened above-ground tanks (500 bbl)
- May approve an application to use lined pits only if the applicant demonstrates that use of a tank is infeasible for environmental, public health or safety reasons

Lined Pits

Lined pits may be applied for and approved under the following criteria:

- Distance from the pit to intermittent or ephemeral streams is at least 300 feet
- Distance from the pit to perennial streams, fresh water sources or wetlands is at least 500 feet
- No usable ground water is present within 50 feet of the surface
- Distance from the pit to any occupied residence, school, park, school bus stop, place of business, or other areas where the public could reasonably be expected to frequent is greater than 300 feet
- The pit is not constructed in fill or an unstable areas
- The construction of the lined pit would not adversely impact the hydrologic functions of a 100-year floodplain
- The pit's use and construction complies with all other applicable law
- The pit is constructed with a durable, leak proof synthetic material and equipped with a leak detection system
- The pit is routinely inspected and maintained

3162.3-3(i)

(i) Information that must be provided to the authorized officer after hydraulic fracturing is completed.

- Subsequent report due 30 days after completion of HF operations
- Chemical disclosure – FracFocus
- “Actual” information that parallels approved application
- Certification statement
- Results of the mechanical integrity test
- Annulus monitoring data

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/7/2015
Job End Date:	5/9/2015
State:	New Mexico
County:	Eddy
API Number:	30-015-42763-00-00
Operator Name:	Apache Corporation
Well Name and Number:	Crow Federal 41H
Longitude:	-103.86557900
Latitude:	32.86231000
Datum:	NAD27
Federal/Tribal Well:	YES
True Vertical Depth:	9,842
Total Base Water Volume (gal):	3,381,378
Total Base Non Water Volume:	0



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	Customer	Carrier/Base Fluid	Water	7732-18-5	100.00000	87.05387	None
Sand (Proppant)	US Silica	Proppant	Silica Substrate	14808-60-7	100.00000	6.96694	None
RCS (Proppant)	Momentive	Proppant	Silica Substrate	14808-60-7	100.00000	2.35843	None
Hydrochloric Acid (15%)	CNR	Addizing	Hydrochloric Acid	7647-01-0	38.80000	1.29459	None
Plexsick 953	Chemplex	Friction Reducer	Polyacrylamide-co-Acrylic Acid	9003-06-9	31.00000	0.02846	None
			Hydrotreated Petroleum Distillate	64742-47-8	30.00000	0.02754	None
			Alcohol Ethoxylate Surfactants	Proprietary	8.00000	0.00734	None
Plexsurf 240 E	Chemplex	Surfactant	Alcohol Alkoxylate	Proprietary	50.00000	0.04276	None
			Methyl Alcohol	67-56-1	10.00000	0.00855	None
Greenhib 679	Chemplex	Scale Inhibitor	Glycerine	56-81-5	35.00000	0.01737	None
			Proprietary	Proprietary	35.00000	0.01737	None

Certification Statement

OPERATOR CERTIFICATION: I hereby certify that **OPERATOR NAME** has complied with requirements of Sec. 3162.3-3 Subsequent well operations; Hydraulic fracturing: parts (b), (e), (f), (g), and (h); and that the hydraulic fracturing fluid constituents, once they arrived on the lease, complied with all applicable permitting and notice requirements as well as all applicable Federal, State, and local laws, rules, and regulations.

Executed this ___ day of _____, _____

Print Name

Signature

Disclosure Exemption

(j) Identifying information claimed to be exempt from public disclosure.

- A signed affidavit with all required information
- Affidavit from third party
- BLM may require any operator to submit any withheld information
- If the BLM determines that the information is not exempt from disclosure, the BLM will make the information available to the public after providing the operator and owner of the information with no fewer than 10 business days' notice
- Operator must maintain records of the withheld information until the later of the BLM's approval of a final abandonment notice, or 6 years after completion of hydraulic fracturing operations on Indian lands, or 7 years after completion of hydraulic fracturing operations on Federal lands.

Affidavit Requirements (j)

- Identifies the owner of the withheld information and provides the name, address and contact information for a corporate officer, managing partner, or sole proprietor of the owner of the information
- Identifies the Federal statute or regulation that would prohibit the BLM from publicly disclosing the information if it were in the BLM's possession;
- Affirms that the operator has been provided the withheld information from the owner of the information and is maintaining records of the withheld information, or that the operator has access and will maintain access to the withheld information held by the owner of the information;
- Affirms that the information is not publicly available;
- Affirms that the information is not required to be publicly disclosed under any applicable local, State or Federal law (on Federal lands), or tribal or Federal law (on Indian lands);
- Affirms that the owner of the information is in actual competition and identifies competitors or others that could use the withheld information to cause the owner of the information substantial competitive harm;
- Affirms that the release of the information would likely cause substantial competitive harm to the owner of the information and provides the factual basis for that affirmation; and
- Affirms that the information is not readily apparent through reverse engineering with publicly available information.

Variance

- (k) Requesting a variance from the requirements of this section
- Individual variance
 - State or Tribal variance
 - Approval only if the BLM determines that the proposed alternative meets or exceeds the objectives of the regulation for which the variance is being requested
 - Variance is not subject to SDR or appeal

Inspection and Enforcement

- No explicit requirements for I&E, but:
 - May need to increase witnessing of cementing
 - May need to inspect management of recovered fluids
 - Do not need to witness the actual HF operations

Public Information

Reporting Application - Windows Internet Explorer

http://www.blm.gov/landandresourcesreports/rptapp/menu.cf Reporting Application x

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Wells Being Drilled

Recently Completed Wells

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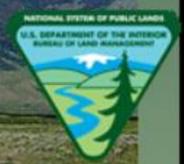
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<input type="button" value="Set"/> Received Date
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<input type="button" value="Close"/>	Office
	Select Office <input type="text" value="Select here to clear values"/> Anchorage Bakersfield Buffalo Canon City Carlsbad Casper Craig
<input type="button" value="Set"/>	Operator
<input type="button" value="Set"/>	State
<input type="button" value="Set"/>	County
<input type="button" value="Set"/>	Township
<input type="button" value="Set"/>	Range
<input type="button" value="Set"/>	Surface Management Entity

Pending APDs and NOSs Go

Blm Admin State	Field Office	Lease Number	Operator	Well Name	Well Number	Api Number	State
New Mexico	Carlsbad	NMLC029395B	APACHE CORPORATIO	APACHE FEDERAL SWD	2		NM
New Mexico	Carlsbad	NMLC031844	APACHE CORPORATIO	HUMMINGBIRD FEDER	10H		NM
New Mexico	Carlsbad	NMLC031844	APACHE CORPORATIO	HUMMINGBIRD FEDER	11H		NM
New Mexico	Carlsbad	NMLC031844	APACHE CORPORATIO	HUMMINGBIRD FEDER	12H		NM
New Mexico	Carlsbad	NMLC031844	APACHE CORPORATIO	HUMMINGBIRD FEDER	7H		NM
New Mexico	Carlsbad	NMLC031844	APACHE CORPORATIO	HUMMINGBIRD FEDER	8H		NM
New Mexico	Carlsbad	NMLC031844	APACHE CORPORATIO	HUMMINGBIRD FEDER	9H		NM
New Mexico	Carlsbad	NMNM63011	APACHE CORPORATIO	LA BONITA 11 FEDERA	01H		NM
New Mexico	Carlsbad	NMNM63011	APACHE CORPORATIO	LA BONITA 11 FEDERA	02H		NM
New Mexico	Carlsbad	NMLC029395B	APACHE CORPORATIO	LEE FEDERAL	53		NM
New Mexico	Carlsbad	NMLC029435B	APACHE CORPORATIO	NFE FEDERAL	46H		NM
New Mexico	Carlsbad	NMLC029435B	APACHE CORPORATIO	NFE FEDERAL	48H		NM
New Mexico	Carlsbad	NMLC029435B	APACHE CORPORATIO	NFE FEDERAL	50H		NM
New Mexico	Carlsbad	NMLC029435B	APACHE CORPORATIO	NFE FEDERAL	58H		NM
New Mexico	Carlsbad	NMLC029435B	APACHE CORPORATIO	NFE FEDERAL	59H		NM
New Mexico	Carlsbad	NMLC029435B	APACHE CORPORATIO	NFE FEDERAL	60H		NM
New Mexico	Carlsbad	NMLC029435B	APACHE CORPORATIO	NFE FEDERAL	61H		NM
New Mexico	Carlsbad	NMLC029435A	APACHE CORPORATIO	RAVEN FEDERAL	22H		NM
New Mexico	Carlsbad	NMLC029435A	APACHE CORPORATIO	RAVEN FEDERAL	23H		NM
New Mexico	Carlsbad	NMLC029435A	APACHE CORPORATIO	RAVEN FEDERAL	24H		NM
New Mexico	Carlsbad	NMLC062376	BC OPERATING INCOR	BENSON 21 16 FEDERA	1H		NM
New Mexico	Carlsbad	NMLC062376	BC OPERATING INCOR	BENSON 21 16 FEDERA	2H		NM
New Mexico	Carlsbad	NMLC062376	BC OPERATING INCOR	BENSON 21 16 FEDERA	3H		NM
New Mexico	Carlsbad	NMLC062376	BC OPERATING INCOR	BENSON 21 16 FEDERA	4H		NM
New Mexico	Carlsbad	NMNM02500	BC OPERATING INCOR	LUNATIC FRINGE FEDEI	1H		NM
New Mexico	Carlsbad	NMLC059365	BOPCO LP	BIG EDDY UNIT	287H		NM
New Mexico	Carlsbad	NMLC069707	BOPCO LP	BIG EDDY UNIT	290H		NM
New Mexico	Carlsbad	NMLC069144	BOPCO LP	BIG EDDY UNIT 29 FEDI	1		NM
New Mexico	Carlsbad	NMLC068408	BOPCO LP	BIG EDDY UNIT D14	266H		NM
New Mexico	Carlsbad	NMLC065914A	BOPCO LP	BIG EDDY UNIT D15	24H		NM
New Mexico	Carlsbad	NMNM96819	BOPCO LP	BIG EDDY UNIT D110	340H		NM
New Mexico	Carlsbad	NMLC069705	BOPCO LP	BIG EDDY UNIT D12	323H		NM
New Mexico	Carlsbad	NMLC069705	BOPCO LP	BIG EDDY UNIT D12	324H		NM
New Mexico	Carlsbad	NMNM06748	BOPCO LP	BIG EDDY UNIT D128	279H		NM

BLM Website

- <http://www.blm.gov/nm/hf>



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DRAFT Hydraulic Fracturing Documents for Oil and Gas Operators

All of the linked documents are still in DRAFT form. They are not official BLM templates and examples, but they may be used to aid in preparing Applications for Permit to Drill and Sundry Notices (both Notices of Intent and Subsequent Reports).

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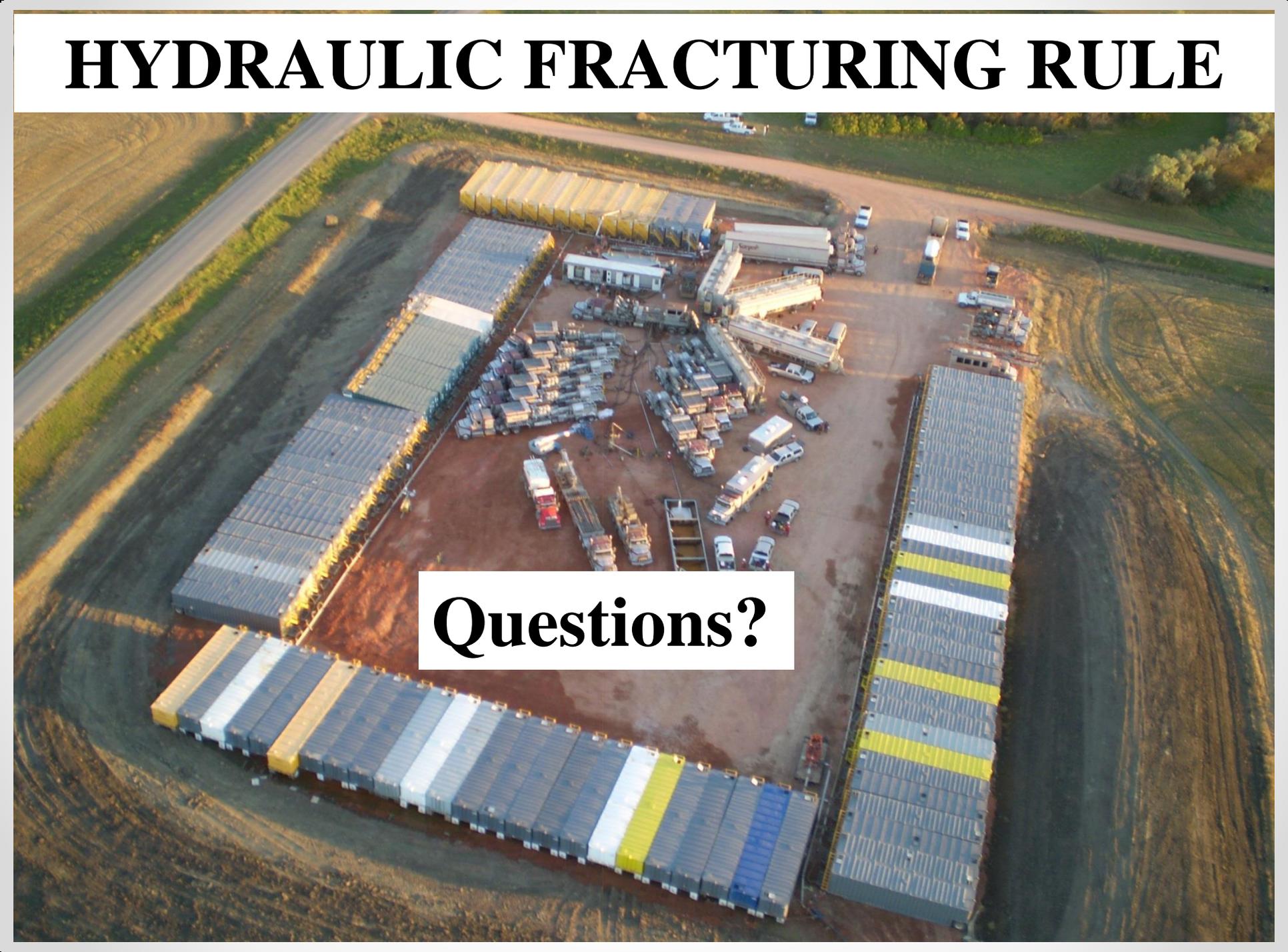
[Hydraulic Fracturing Reporting Example](#)

[Applicability of Hydraulic Fracturing Rule](#)

Authorized Officer List

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Walls, Chris	PE	Carlsbad FO	575-234-2234	575-706-2779	cwalls@blm.gov	620 E. Greene St., Carlsbad, NM 88220
Herrell, Dave	For general information	Carlsbad FO	575-234-2229	575-706-2783	dherrell@blm.gov	620 E. Greene St., Carlsbad, NM 88220

HYDRAULIC FRACTURING RULE

An aerial photograph of an industrial site, likely a hydraulic fracturing operation. The site is dominated by several large, long, rectangular storage tanks with corrugated metal roofs. The tanks are arranged in a U-shape, with some having yellow and white stripes on their roofs. In the center of the site, there is a large area of reddish-brown earth, possibly a staging area for equipment. Numerous pieces of heavy machinery, including trucks, trailers, and pumps, are scattered throughout the site. The site is surrounded by a dirt road and green fields. The lighting suggests it is either early morning or late afternoon, with long shadows cast across the ground.

Questions?