ALABAMA

Administration

1. Official name of agency regulating oil/gas exploration & production: State Oil and Gas Board, 420 Hackberry Lane, P.O. Box 869999, Tuscaloosa, AL 35486-6999. Phone (205) 349-2852; Fax (205) 349-2861. Staff e-mail addresses are: *@ogb.state.al.us (*Insert staff person's first initial and last name or insert "info" for general information).

2. Contact for regulatory updates: Marvin Rogers

3. Docketing procedure: Regular Board hearings are generally held every 4 to 6 weeks. For a hearing schedule check our Web site. Meetings are held in the Board Room of the State Oil and Gas Board building located on the campus of the University of Alabama in Tuscaloosa, unless otherwise specified in the Board's Notice of Meeting. The petitioner shall file a proposed notice for publication with the Board accompanied by a written request for approval to publish the notice for hearing on a specific scheduled hearing date of the Board not less than twenty three (23) days prior to the meeting at which the petition shall be heard. The Supervisor will review the notice and provide petitioner an approved notice for publication including the newspaper(s) in which the notice should be published. Petitioner shall publish the notice in the newspaper at least 10 days prior to the hearing. When a petition pertains to specific land, notice of such petition shall be published once in the newspaper with the largest circulation in the county or counties where the affected land lies. When a petition pertains to a matter or statewide application, notice of such petition shall be published in the newspaper with the largest circulation in Jefferson and Mobile Counties. Upon filing a notice petitioner shall submit a $150 filing fee. Five copies of all exhibits to be presented as evidence must be submitted to the Board at least 14 days prior to the hearing. Affidavits and petitions must be filed at least 14 days prior to the hearing. One filing fee may be submitted for all notices filed by the same petitioner that relate to the same subject matter.

    a. Emergency orders: Emergency action may be taken by the Board without a public hearing. The emergency order will remain in force until relief is granted after notice and hearing, except that such emergency order will not remain in force longer than 45 days.

    b. Notice: Additionally, the petitioner must give notice by first class mail when the petition involves an exceptional location, establishing a drilling or production unit, amending or reforming an established drilling or production unit, establishing or amending allowables, force pooling, or compulsory unitization, or when the Board determines that notice to certain parties is necessary because of the particular petition filed. The notice of the hearing is posted on the Web site of the Office of the Alabama Secretary of State.

4. Agency regulating air emissions: Alabama Department of Environmental Management

5. Agency regulating water quality: : Alabama Department of Environmental Management

License

1. License required: N/A

2. Conditions of license: N/A

Bond/Surety

1. Purpose of surety: Ensure compliance with rules and regulations.

2. Plugging and restoration: N/A

3. Compliance bond required:Rule 400-1-2-.03 (onshore), Rule 400-2-2-.03 (offshore), 400-3-2-.03 (coalbed), and 400-6-3-.01 (underground storage facility for a solution-mined cavity and storage well).

4. Types of surety accepted: N/A

5. Conditions of bond: Compliance with the Rules and Regulations, proper plugging, and restoration of location.

   a. Amount per well:

Onshore & Coalbed-	Depth (ft.)	Amount	Depth (ft.)	Amount
	0 - 5,000	$ 5,000	15,001-20,000	$30,000
	5,001 -10,000	$10,000	Greater than 20,000	$50,000
	10,001 -15,000	$15,000		

Offshore -	Depth (ft.)	Amount
	0 - 6,000	$100,000
	Greater than 6,000	$500,000

There is a $100,000 bond for an underground storage facility for a solution–mined cavity and storage well.

   b. Amount of blanket bond:

      Onshore & Coalbed- $100,000.

      Offshore- $1,000,000.

Land Leasing Information

1. Leasing method: Sealed competitive bids.

2. Notice method: Advertisement-Montgomery Advertiser and in a newspaper in the county in which the land is located - at least 25 days before the final date for submitting bids.

3. Minimum bidding $ (per acre): The minimum bid per acre depends on several criteria with no set formula. Within the past few years - No less than $125.

4. Qualification of the bidder: No pre-qualifying of bidders.

5. State statutes: AL ST

   §9-17-60
   §9-17-65
   §9-17-66
   §9-17-67

6. Maximum acres: One tract, 5,165 acres.

7. Royalty rates: N/A

8. Agency in control of leasing: Alabama Department of Conservation and Natural Resources Phone: (334) 242-3484 Fax: (334) 242-0999

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements: Rule 400-1-2-.02 (onshore); Rule 400-2-2-.02 (offshore) Rule 400-3-2-.02 (coalbed methane).

   a. Density:

   Onshore

   Oil wells- 40-acre units
   160-acre units (Supervisor may require written justification)

Gas wells- 40-acre units.
160-acre units (Supervisor may require written justification)
320-acre units (Fayette, Lamar, Pickens and Tuscaloosa Counties only)
640-acre units (Baldwin, Mobile, Escambia and Washington Counties only) (Supervisor may require written justification)

All well units shall consist of governmental sections or divisions; however, upon receipt of written justification units consisting of 40, 160, 320, and 640 contiguous acres other than a governmental section or division may be approved by the Supervisor or may be referred to the Board for notice and hearing.

Offshore (for offshore wells in an offshore tract)

Deeper than 6,000 feet- Entire offshore tract, ¾ tract, or ½ tract (where operator owns or controls 100% of working interest in entire offshore tract)

Deeper than 6,000 feet- Up to 1,400 acres (irregular offshore tracts)

6,000 feet or shallower- ½ offshore tract or ¼ tract (where operator owns or controls 100% of working interest in entire offshore tract)

6,000 feet or shallower- Quarter Quarter tract for regular tract and up to 360 acres for irregular tracts

For offshore wells not in an offshore tract- 40-acre units
160-acre units (Supervisor may require written justification)
640-acre units (Baldwin and Mobile Counties, only) (Supervisor may require written justification)

All well units shall consist of governmental sections or divisions; however, upon receipt of written justification units consisting of 40, 160, and 640 contiguous acres other than a governmental section or division may be approved by the Supervisor or may be referred to the Board for notice and hearing.

Coalbed gas- 40 acres

b. Lineal:

Onshore- 40 acre units - 330 feet from every exterior boundary
& 160 and 320 acre units - 660 feet from every exterior boundary

Coalbed	640 acre units - 1,320 feet from every exterior boundary
Offshore	Wells deeper than 6,000 feet – 1,320 feet from every exterior boundary and 500 feet from the State/Federal boundary Wells shallower than 6,000 feet – 660 feet from every exterior boundary and 500 feet from the State/Federal boundary

2. Exceptions: Rule 400-1-2-.02 (2) (g) (onshore), 400-2-2-.02(4) (offshore), 400-3-2-.02(2) (d) coalbed.

    a. Basis: If the well would be nonproductive or if topographical or other conditions make the drilling in compliance with the spacing requirements unduly burdensome. See Section 9-17-12(c) of the Code of Alabama (1975).

    b. Approval: After notice and hearing.

Pooling

1. Authority to establish voluntary: Yes.

2. Authority to establish compulsory: Yes.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

    a. Working interest: 66 2/3%

    b. Royalty interest: 66 2/3%

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: Yes.

    b. Seismic drilling: No.

    c. Recompletion: No, unless well has been plugged and abandoned.

    d. Plugging and abandoning: No.

2. Permit fee:

    a. Drilling: $300 (for a coalbed methane gas well an operator must file an additional $150 to be deposited in the Alabama Coalbed Methane Gas Well Plugging Fund).

    b. Seismic drilling: No.

    c. Recompletion: No, unless well has been plugged and abandoned.

    d. Plugging and abandoning: No.

3. Require filing report of work performed: Yes.

4. Sundry notices used: N/A

Vertical Deviation

1. Regulation requirement: Rule 400-1-4-.04 (onshore), 400-2-4-.04 (offshore), and Rule 400-3-4-.04 (coalbed).

    a. When is a directional survey necessary:

    Onshore-

    (1) when a well is directionally drilled, (2) when a well is drilled to a measured depth of 6,000 feet or greater, (3) when a well is expected to penetrate pore pressure gradients greater than 67 psi per hundred feet in depth, (4) when a well is expected to penetrate intervals containing hydrogen sulfide, and (5) when a well is an exceptional location and a directional survey is ordered by the Board.

    Offshore-

    All wells.

    Coalbed-

    (1) When a well is drilled and (2) when a well is an exceptional location and a directional survey is ordered by the board.

    b. Filing of survey required: Yes, one copy filed by the operator with the Supervisor within 30 days after completion of the well.

    c. Format of filing: N/A

Casing and Tubing

1. Minimum amount required:

    a. Surface casing: Varies depending on proposed total depth. See Rule 400-1-4-.09 (onshore), Rule 400-2-4-.09 (offshore), and Rule 400-1-4-.09 (coalbed).

    b. Production casing: Sufficient depth to adequately protect the oil and/or gas bearing stratum.

2. Minimum amount of cement required:

    a. Surface casing: Circulate to surface.

    b. Production casing: At least 500 feet above the top of the producing interval for an onshore or offshore well. For a coalbed methane gas well, at least 200 feet above the top of the producing interval.

    c. Setting time:

        Onshore- 12 hours for surface, intermediate or protective, and production casing.

        Offshore- 8 hours for conductor casing and 12 hours for all other strings of casing.

        Coalbed- 12 hours for surface and production casing.

3. Tubing requirements:

    a. Oil wells:

        Onshore & Offshore- All flowing wells must be produced through tubing anchored by a packer and equipped with a master valve and adequate chokes or beans to properly control the flow.

        Coalbed- None.

    b. Gas wells: same as (a) above.

Hydraulic Fracturing

The State Oil and Gas Board of Alabama has adopted detailed regulations addressing hydraulic fracturing of coalbeds.

The Board has no detailed regulations addressing hydraulic fracturing in conventional oil and gas wells. However, concerning conventional wells, Rule 400-1-4-

.07 requires approval of the Supervisor prior to conducting a hydraulic fracturing operation.

Rule 400-3-8-.03 of the *State Oil and Gas Board of Alabama Administrative Code* addresses hydraulic fracturing of coalbeds. In summary, Alabama's regulations (1) bar fracturing of coalbeds shallower than 300 feet; (2) require thorough evaluation of each fracturing proposal by well-qualified geologists and petroleum engineers; (3) require that each well be constructed with proper casing and cement; (4) include thorough reviews of well records to ensure that impervious strata overlie the coalbed being fractured; and (5) require a survey of water wells within a quarter mile of the well.

The well permit issued by the Board to an operator is separate from the approval of a request by an operator for approval of hydraulic fracturing.

1. Permitting:
    a. Before drilling: The approval for hydraulic fracturing must be after the well is drilled.
    b. Before fracing: Yes.
    c. How long before: No specific requirement.
2. Reporting Requirements: The reporting is to the Board on Form OGB-6. Also, the operator is required to maintain records associated with the hydraulic fracturing operation.
    a. Where reported: To board.
    b. When reported: The Form OGB-6 must be submitted within 30 days of the hydraulic fracturing operation.
3. Source water requirements: There is no specific requirement for the source water utilized in hydraulic fracturing. However, the hydraulic fracturing operation must not adversely affect any fresh water supply well or fresh water resources.
4. Mechanical Integrity:
    a. Cementing log required: Yes.
    b. Pressure testing: Yes.
    c. Pressure monitoring: Yes.
    d. Blowout preventer required: Not applicable for coalbeds.

5. Disposal of flowback fluids: The disposal of frac fluids is in conjunction with the disposal of produced water. Various methods are utilized to dispose of produced water.

    a. Retaining pits: No.

    b. Tanks: Possibly.

    c. Approved discharge to surface water: Yes.

    d. Underground injection: Possibly.

6. Chemical disclosure requirement: Alabama regulations require that each program for hydraulic fracturing be submitted to the Board. The Board reviews the overall hydraulic fracturing program. The chemical composition of the fracture fluid utilized in the fracture operation is considered by the Board in determining whether to approve the hydraulic fracturing program. The Alabama regulations specifically ban the use of diesel oil or fuel in any fluid mixture used in hydraulic fracturing of coalbeds. These and all records of the Board are available to the public.

    a. Mandatory: See above.

    b. Where disclosed: See above.

    c. When disclosed (pre-fracing, post-fracing, both): See above.

    d. Time limit to disclose: See above.

    e. Information required to be disclosed: See above.

    f. Trade secret protection: See above.

Underground Injection

1. Agencies that control the underground injection of fluid by well class: N/A

Completion

1. Completion report required: Yes. For Onshore see Rules 400-1-4-.03, 400-1-4-.08, 400-1-4-.15, and 400-1-5-.03. For Offshore see Rules 400-2-4-.03, 400-2-4-.08, 400-2-4-.12, and 400-2-5-.03. For Coalbed see Rules 400-3-4-.03, 400-3-4-.08, 400-3-4-.15, 400-3-5-.05. Reports are submitted on Forms OGB-6, OGB-7, OGB-8, OGB-9, and OGB-11.

    a. Time limit: File within thirty days except for Form OGB 9 related to well test which is fifteen days.

b. Where submitted: To the State Oil and Gas Board, 420 Hackberry Lane, P.O. Box 869999, Tuscaloosa, AL 35486-6999.

2. Well logs required to be filed: One copy of all logs.

   a. Time limit: Within 30 days after completion of the well.

   b. Where submitted: Same as (b) in question 1 above.

   c. Confidential time period: Six months from completion of well.

   d. Available for public use: All logs are available for public use after the six months confidential period, if such logs were requested to be held confidential; otherwise, available immediately.

   e. Log catalog available: No.

3. Multiple completion regulation: Rule 400-1-6-.05 (onshore) and Rule 400-2-6-.05 (offshore). None for Coalbed.

   a. Approval obtained: For Onshore and Offshore Supervisor approval required. For Coalbed no approval required.

4. Commingling in well bore: Rule 400-1-6-.02 (onshore), 400-2-6-.02 (offshore), 400-3-6-.04 (coalbed).

   a. Approval obtained: For Onshore and Offshore approval of the Board after notice and hearing. No approval required for Coalbed.

Oil Production

1. Definition of an oil well: Oil well shall mean a well capable of producing oil from an oil pool or oil pools.

2. Potential tests required: Yes, Rule 400-1-5-.03 (Onshore), 400-2-5-.03 (Offshore), and 400-3-5-.05 (Coalbed).

   a. Time interval: Verbal report to the Supervisor immediately, written report on Form OGB-9 within 15 days after completion of the test.

   b. Witness required: At the discretion of the Supervisor.

3. Maximum gas-oil ratio: Yes.

a. Provision for limiting gas-oil ratio: Rule 400-1-5-.08 (Onshore), Rule 400-2-5-.08 (Offshore), maximum gas limit of 2,000 cubic feet per barrel of oil allowable determined by the allocation formula.

b. Exception to limiting gas-oil ratio: Subject to Board action after notice and hearing.

4. Bottom-hole pressure test reports required: Yes, initially pursuant to Rule 400-1-6-.03 (Onshore) and 400-2-6-.03 (Offshore). Special field rules contain provisions for submission of subsequent bottom-hole pressure tests.

   a. Periodical bottom-hole pressure surveys: As specified in field rules.

5. Commingling oil in common facilities: The Board will consider commingling of production after notice and hearing.

6. Measurement involving meters: For Onshore Rule 400-1-5-.05 and 400-1-5-.06 and for Offshore Rule 400-2-5-.05 and 400-2-5-.06. In addition, certain special field rules contain rules pertaining to metering of production.

7. Production reports:

   a. By lease: No.

   b. By well: Monthly production reports.

   c. Time limit: By the 28th of the month following the month for which the production report covers.

Gas Production

1. Definition of a gas well: Gas well shall mean a well capable of producing gas from a gas pool or gas pools.

2. Pressure base 14.65 psia @ 60 degrees F.

3. Initial potential tests: Yes, Rule 400-1-5-.03 (Onshore), 400-2-5-.03 (Offshore), and 400-3-5-.05 (Coalbed).

   a. Time interval: Verbal report to the Supervisor immediately, written report on Form OGB-9 within 15 days after completion of the test. For initial capacity test, unless exempted by special field rules, multi-point back pressure test with results reported on Form OGB-10 within 15 days after a test has been completed. For annual capacity tests, unless otherwise exempted by special field rules, one-point back pressure with results reported on Form OGB-10A within 15 days after a test ahs been completed.

   b. Witness required: At the discretion of the Supervisor.

4. Bottom-hole pressure test reports required: Yes, initially pursuant to Rule 400-1-6-.03 (Onshore) and 400-2-6-.03 (Offshore). Special field rules contain provisions for submission of subsequent bottom-hole pressure tests.

    a. Periodical bottom-hole pressure surveys: As required by the field rules.

5. Commingling of gas in common facilities: The Board will consider commingling of production after notice and hearing.

6. Measurement involving meters: For Onshore Rule 400-1-5-.07, for Offshore Rule 400-2-5-.07, and for Coalbed Rule 400-3-5-.07. In addition, certain special field rules contain rules pertaining to metering of production.

7. Production reports:

    a. By lease: No.

    b. By well: Monthly production reports.

    c. Time limits: By the 28th day of the month following the month for which the production report covers.

ALASKA

Administration

1. Official name of agency regulating oil/gas exploration & production: Alaska Oil & Gas Conservation Commission, 333 W. 7th Ave., Anchorage, AK 99501. Phone (907) 279-1433. Fax: (907) 276-7542.

2. Contact for regulatory updates: Jody Colombie. Email: jody.colombie@alaska.gov . Phone (907) 793-1221. Fax (907) 276-7542.

3. Docketing procedure: On its own motion, or upon the petition of an interested person, the Commission will fix a date for the hearing and publish notice in an appropriate newspaper. The notice will provide the essential details of the matter and set out the place for the public hearing, the date, and the time for the public hearing. The Commission will set a hearing date that is at least 30 days after the date of publication.

   For an order affecting a single well or a single field, the Commission will publish notice in an appropriate newspaper that:

   - sets out the essential details of the requested order,
   - provides an opportunity for public comment,
   - tentatively specifies a place, time, and date for a public hearing, and
   - provides a telephone number that the public may use to learn if the commission will hold the tentative hearing.

   A person may submit a written protest or written comments during that 30-day period. In addition, a person may request that the tentatively scheduled hearing be held by filing a written request with the Commission within 15 days after the publication date of the notice. If the Commission receives a timely request for hearing, or if the Commission desires to hold a hearing, the Commission will hold a hearing on the date and time specified in the notice. If a request for hearing is not timely filed, the Commission will, in its discretion, issue an order without a hearing.

   a. Emergency orders: The commission will, in its discretion, issue a temporary emergency order without a hearing if necessary to protect against immediate harm to public health or safety. Before issuing a temporary emergency order, the commission will attempt to communicate with the operator about the circumstances and need for a temporary order.

      In support of a temporary emergency order, the commission will issue a written decision describing the factual and legal basis for the action,

including the necessity for acting on an emergency basis. The commission will provide the decision to the operator within 24 hours of the issuance of the order.

i. A temporary emergency order expires after 14 days unless

ii. an earlier expiration date is established in that order;

iii. the operator agrees to an extension; or

iv. within that time period the commission begins a hearing under (d) of this section, in which case that order remains in effect for an additional period not to exceed the shorter of 14 days after the date the hearing begins or three working days after the date the hearing ends; the commission will extend that period if necessary to protect against immediate harm to public health or safety.

v. The commission will, in its discretion, make the temporary emergency order permanent or modify or extend that order after a public hearing. If the temporary emergency order constitutes an enforcement action under 20 AAC 25.535(e) (1) or (2), the procedures under 20 AAC 25.535(b) (4), (c), and (d) do not apply to a commission action under this subsection unless the operator agrees to an extension sufficient to implement those procedures. If the operator does not agree to an extension, the commission's written decision under (b) of this section satisfies the requirements of 20 AAC 25.535(a) and (b)(1) - (3). The provisions of 20 AAC 25.540 apply to a public hearing under this subsection, except that

vi. the commission will provide notice of that hearing at least 10 days before the date of that hearing; and

vii. the requirement in 20 AAC 25.540 that a person request a public hearing does not apply.

b. Notice: The requirement in 20 AAC 25.540 that a person request a public hearing does not apply.

4. Agency regulating air emissions: Department of Environmental Conservation.

5. Agency regulating water quality: Department of Environmental Conservation.

License

1. License required: Regulated by Department of Natural Resources

2. Conditions of license: Regulated by Department of Natural Resources

Bond/Surety

1. Purpose of surety: To ensure that each well is drilled, operated, maintained, repaired, and abandoned and each location is cleared in accordance with the AOGCC regulations.

2. Plugging and restoration: Each well must be properly plugged, abandoned and a site clearance performed before a bond can be released to the operator.

3. Compliance bond required: Yes.

4. Types of surety accepted: A surety or personal bond.

5. Conditions of bond: The bond must be: 1) a surety bond by an insurer authorized to do business in Alaska, 2) a personal bond of the operator accompanied by either a certificate of deposit or an irrevocable letter of credit issued in sole favor of the Alaska Oil and Gas Conservation Commission from a bank authorized to do business in Alaska. A personal bond may also be accompanied by other forms of security the commission determines to be adequate to ensure payment. The bond must remain in effect until the abandonment of all wells covered by the bond and final clearance of well sites are approved by the Commission.

    a. Amount per well: Not less than $100,000, unless the operator demonstrates to the commission's satisfaction in the application for a Permit to Drill that the cost of abandonment and location clearance is less than $100,000. The bond amount will then be adjusted to the cost of abandonment and location clearance.

    b. Amount of blanket bond: Not less than $200,000.

Land Leasing Information

1. Leasing method: Conventional lease sales: Competitive; several leasing options - combinations of fixed and variable bonus bids, royalty shares and net profit shares. Generally, a cash bonus bid with a fixed royalty share. AS 38.05.180(f)

   Oil and gas exploration licensing: competitive bids upon an obligation to perform a specified work commitment expressed in dollars of direct exploration expenditures. AS 38.05.133

2. Notice method: Publication of a legal notice in newspapers of statewide circulation and general circulation in vicinity of the proposed action; publication

of display advertising form in the newspapers noted above; public service e announcement on electronic media serving the affected area; and posting in a conspicuous location in the vicinity of the action, notification of parties known to be affected, or other methods calculated to reach affected parties. AS 38.05.945(2)(A-D)

Advertisement examples - Alaska Administrative Journal, State of Alaska Online Public Notice website, DO&G website, mailing list, newspapers.

3. Minimum bidding $ (per acre): Based on 2011-12 lease sale terms and conditions

   Conventional lease sales: Generally, $5 to $25 per acre bonus bid plus annual rentals.

   Cook Inlet, North Slope, and Beaufort Sea Areawide Lease Sale

   - Minimum bonus bid of $25 per acre, lands adjacent to federal lands minimum of $10 per acre; Rental rates - $10 per acre years 1-7, $250 per acre years 8-10

   Alaska Peninsula and North Slope Foothills Areawide Lease Sale

   - Minimum bonus bid of $5 to $10 per acre; Rental rates: 1st year – $1.00/acre; 2nd year – $1.50/acre, 3rd year – $2.00/acre; 4th year - $2.50/acre; 5th and following years – $3.00/acre

   Oil and gas exploration licensing: competitive bid plus licensee's payment to the state of a non-refundable oil and gas exploration license fee of $1 for each acre of land or fraction of each acre that is subject to the exploration license. *AS 38.05.132(b)(6)*

4. Qualification of the bidder: Every individual, association or partnership, corporation, LLC or person who is authorized to act on behalf of another party must qualify with the Division of Oil and Gas prior to bidding for lease tracts. Qualification must also be obtained prior to applying for, obtaining, or transferring interest in a permit or lease issued under AS 38.05.135 - 38.05.184.

5. State Statutes: AS 38.05.180: Oil and Gas Leasing

   AS 38.05.131 – AS 38.05.134: Oil and Gas Exploration Licenses

6. Maximum acres: AS 38.05.140(c): Oil and Gas Leasing: an oil and gas lease may not exceed 5,760 acres. One lessee may not hold oil and gas leases totaling more than 750,000 acres onshore (500,000 north of the Umiat baseline) and 500,000 acres offshore at any one time.

   AS 38.05.132 (c)(2): Oil and gas exploration licensing: one exploration license may cover an area of not less than 10,000 acres and not more than 500,000 acres

that must be reasonably compact and contiguous; AS 38.05.131(e): licensee may not hold more than 2,000,000 acres at any one time.

7. Royalty rates: Based on 2011 – 2012 areawide lease sales

   Alaska Peninsula Areawide – All tracts have a fixed royalty rate of 12.5%

   Cook Inlet Areawide – All tracts have a fixed royalty rate of 12.5%

   North Slope Areawide - South sub-region and adjacent to federal land sub-regions – a fixed royalty rate of 12.5%. Northern sub-region – a fixed royalty rate of 16.67%.

   Beaufort Sea Areawide - Tracts adjacent to federal land in the OCS, NPR-A, and ANWR – a fixed royalty rate of twelve and one-half percent (12.5%). All other tracts – a fixed royalty rate of 16.67%.

   North Slope Foothills Areawide - All tracts have a fixed royalty rate of 12.5%.

   *All other lands offered with a fixed 12.5% royalty rate

8. Agency in control of leasing: State of Alaska's Department of Natural Resources, Division of Oil & Gas.

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? Nothing in our rules about well setbacks from private residences or other habitable structures.

2. Are there other sources of information on this matter that you could identify? We do require wells within 660 feet of private residences or other habitable structures to be equipped with fail-safe automatic surface-controlled subsurface safety valves capable of preventing an uncontrolled flow of fluid from the well's tubing. This can be found in our regulations at AAC 25.265(8)(d)(2)(A).

Spacing

1. Spacing requirements: Yes, in the absence of an order by the Commission establishing drilling units or prescribing a spacing pattern for a pool, the following statewide spacing requirements apply:

   a. Density: Governmental quarter section for an oil well; governmental section for a gas well.

b. Lineal: Lineal: An oil well may be open to test or regular production within 500 feet of a property line only if the owner is the same and the landowner is the same on both sides of the line, 1,000' minimum separation from any well drilling to, or capable of producing from, the same pool.

   A gas well may be open to test or regular production within 1,500 feet of a property line only if the owner is the same and the landowner is the same on both sides of the line; 3,000' minimum separation from any well drilling

2. Exceptions: Yes.

   a. Basis: Prevention of waste and protection of the correlative rights of lessees in a pool based on operating and technical data.

   b. Approval: Applicant must file for exception. The Alaska Oil and Gas Conservation Commission must publish notice and hold a hearing if protest is received.

Pooling

1. Authority to establish voluntary: Yes. Owners of oil and/or gas properties may voluntarily pool their separate interests to form a drilling unit.

2. Authority to establish compulsory: Yes, discretionary. If one or more persons owning oil and gas rights fail to voluntarily pool their interests, the Commission upon petition or its own motion and after notice and public hearing will, in its discretion, issue an order pooling the owners' interest for the development of their land as a drilling unit.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

   a. Working interest: No minimum required.

   b. Royalty interest: No minimum required.

Drilling Permit

1. Require permits for:

a. Drilling a producing or service well: Yes, before drilling, redrilling, re-entering or deepening of exploratory, development, service or stratigraphic test wells, or re-entering abandoned wells.

b. Seismic drilling: No. However, a Miscellaneous Land Use Permit is required from the Department of Natural Resources, Division of Oil and Gas.

c. Recompletion: Yes, if recompletion requires a drilling operation or re-entry of an abandoned portion of a wellbore. Other recompletion operations including re-entry of a suspended well require sundry approval.

d. Plugging and abandoning: Yes, by Sundry Approval.

2. Permit fee:

a. Drilling: None.

b. Seismic drilling: N/A.

c. Recompletion: None.

d. Plugging and abandoning: None.

3. Require filing report of work performed: Yes.

4. Sundry notices used: Yes

Vertical Deviation

1. Regulation requirement: Yes.

a. When is a directional survey necessary: When any portion of the well path is less than 500 feet of a property line where ownership is not identical on both sides of the line, or when any portion of the well path is less than 200 feet from any other vertical or deviated well. The survey must be taken at intervals not more than 100 feet apart, beginning within 100 feet of the surface. When a well is intentionally deviated and the above conditions do not apply, the well must be directionally surveyed at intervals not more than 500 feet apart on straight or tangent sections and at intervals not exceeding 100 feet in portions of the hole where intentional angle changes are performed.

b. Filing of survey required: Yes.

c. Format of filing: Printed and electronic.

Casing and Tubing

1. Minimum amount required: depends upon stratigraphic or performance criteria.

    a. Surface casing: Required. Surface casing must be set below the base of all strata known or reasonably expected to serve as a source of drinking water for human consumption and at a depth sufficient to provide a competent anchor for blow out prevention equipment.

    b. Production casing: Required. Production casing must be set and cemented through, into, or just above the production interval. If the production string is a liner, a minimum of 100 feet overlap is required.

2. Minimum amount of cement required:

    a. Surface casing: Fill annular space to the surface.

    b. Production casing: Fill annular space from the casing shoe to a minimum of 500 feet above the shoe, overpressured zones or significant hydrocarbon zones, whichever is higher. If the production string is a liner, the interval of overlap must be made pressure competent unless otherwise specifically approved, such as an open hole completion. All freshwater sands encountered below the shoe of the surface casing must be cemented in a manner that will ensure no movement of fluids into sources of freshwater.

    c. Setting time: No specific regulation.

3. Tubing requirements:

    a. Oil wells: Yes. Waivers with justification.

    b. Gas wells: Yes. Waivers with justification.

Hydraulic Fracturing

1. Permitting:

    a. Before drilling: Permit to Drill as per 20 AAC 25.005 should detail well operations including Fracing plans.

    b. Before fracing: An Application for Sundry Approvals Form 10-403 must be submitted and approved by the commission as per 20 AAC 25.280.

    c. How long before: As the commission has discretion to request a public hearing and proceed under 20 AAC 25.540, Operator is advised to engage AOGCC early with preliminary permit application discussions, and to apply early. Notice period, comment period, and hearing timeframes are 10, 15, 30 days followed by possible time for clarification, commission

deliberation and approval/non-approval following that. Applications are valid for 24 months after approval.

2. Reporting Requirements:

    a. Where reported: As per 20 AAC 25.280, a Form 10-404 or 10-407 is required for hydraulic fracturing reporting.

    b. When reported: Form 10-404 or 10-407 is required within 30 days after completion of workover operations as per 20 AAC 25.280.

3. Source water requirements: Regulated by Alaska Department of Environment Conservation, not regulated by AOGCC.

4. Mechanical Integrity:

    a. Cementing log required: As per 20 AAC 25.280 and 20 AAC 25.030, mechanical integrity and surface water protection must be proven by operator to the satisfaction of the commission.

    b. Pressure testing: Yes. As per 20 AAC 25.280 and 20 AAC 25.030, mechanical integrity and surface water protection must be proven by operator to the satisfaction of the commission. Treating pressure/surface pressure is basis. Surface lines are to be pressure tested and have pressure relief.

    c. Pressure monitoring: Yes

    d. Blowout preventer required: Yes, with the provision that upon request of the operator, the commission will, in its discretion, approve a variance from the requirements if the variance provides at least an equally effective means of well control.

5. Disposal of flowback fluids:

    a. Retaining pits: Regulated by Alaska Dept. Environmental Conservation (ADEC)

    b. Tanks: Regulated by ADEC

    c. Approved discharge to surface water: Regulated and approved by permit from ADEC (State law (AS 46.03.100, 18 AAC 60.200 – 265 and 18 AAC 72.01))

    d. Underground injection: AOGCC AS 31.05.030 (h). Flowback fluids classed as Class II fluids and regulated in the Underground Injection Control (UIC) under 20 AAC 25.252. Annular injection may be permissible under 20 AAC 25.080 9h) (3)

6. Chemical disclosure requirement:

    a. Mandatory: At the request and discretion of the commission as detailed in the Application for Sundry Approvals Form 10-403 conditional approval stipulations. Some Alaska operators are currently voluntarily submitting to FracFocus.org

    b. Where disclosed: At the request and discretion of the commission as detailed in the Application for Sundry Approvals Form 10-403 conditional approval stipulations. Fracfocus.org and on Form 10-404 or 10-407 as per 20 AAC 25.070.

    c. When disclosed (pre-fracing, post-fracing, both): At the request and discretion of the commission as detailed in the Application for Sundry Approvals Form 10-403 conditional approval stipulations. Can include both pre and post-fracing.

    d. Time limit to disclose: Form 10-404 or 10-407 is required within 30 days after completion of workover operations as per 20 AAC 25.280

    e. Information required to be disclosed: At the request and discretion of the commission as detailed in the Application for Sundry Approvals Form 10-403 conditional approval stipulations. Can include Chemical and treatment volumes, components, CAS numbers, concentrations, as per FracFocus.org disclosures as a guide.

    f. Trade secret protection: Trade secrets are protected as per AS 45.50.940 upon application and approval of the commission.

    g. Required disclosure to health/emergency personnel: As per Federal 29 Code of Federal Regulations §1910.1200(i).

Underground Injection

1. Agencies that control the underground injection of fluid by well class:

    a. AOGCC Class II,

    b. ADEC Class I,

    c. USEPA Class I, III, IV, V and VI

Completion

1. Completion report required: Yes.

    a. Time limit: Thirty (30) days after well completion, suspension or abandonment.

b. Where submitted: Alaska Oil and Gas Conservation Commission, 333 W. 7th Ave., Anchorage, AK 99501-3192.

2. Well logs required to be filed: Yes.

   a. Time limit: Thirty (30) days after well completion, abandonment or suspension.

   b. Where submitted: Alaska Oil and Gas Conservation Commission, 333 W. 7th Ave., Anchorage, AK 99501-3192.

   c. Confidential time period: Yes. Only exploratory and stratigraphic test well data are confidential for twenty-four (24) months following the 30-day filing period.

   d. Available for public use: Yes, after confidential time period has elapsed.

   e. Log catalog available: Yes.

3. Multiple completion regulation: Yes.

   a. Approval obtained: From Alaska Oil and Gas Conservation Commission as part of the Permit to Drill Application or through Sundry Application.

4. Commingling in well bore: Yes.

   a. Approval obtained: From Alaska Oil and Gas Conservation Commission following application and opportunity for public hearing.

Oil Production

1. Definition of an oil well: "Oil well" means a well that produces predominantly oil at a gas-oil ratio of 100,000 scf/stb or lower, unless on a pool-by-pool basis the Commission establishes another ratio.

2. Potential tests required: No. Operator shall obtain fluid samples from each new pool at the time of discovery or before regular production and determine crude composition assay, pressure, volume and temperature properties of the crude oil, and solution or non-associated gas composition assay. Sampling and determinations must be conducted and reported in accordance with accepted industry practice. Reports must be submitted to the Commission within 45 days following completion of determinations.

   a. Time interval: N/A.

   b. Witness required: N/A.

3. Maximum gas-oil ratio: Two times the original solution gas-oil ratio.

    a. Provision for limiting gas-oil ratio: An oil well may not be allowed to produce with a gas-oil ratio in excess of two times the original solution gas-oil ratio.

    b. Exception to limiting gas-oil ratio: Upon application to the Commission, the above limitation may be waived for approved additional recovery projects, re-injection of produced gas, or an acquisition of pool performance data needed to optimize reservoir management. Other conditions require hearing.

4. Bottom-hole pressure test reports required: Yes, on discovery wells, before significant production.

    a. Periodical bottom-hole pressure surveys: Yes, as designated by pool rules.

5. Commingling oil in common facilities: Yes, if individual well production is accurately determined monthly from each well.

6. Measurement involving meters: Yes, per API and Manual of Petroleum Measurement Standards.

7. Production reports:

    a. By lease: No.

    b. By well: Yes. Monthly production reports must be submitted to the Alaska Oil and Gas Conservation Commission indicating the oil, gas and water production from each well.

    c. Time limit: Monthly.

8. Gas Disposition at Production Facilities: Monthly gas disposition reports for each production facility must be submitted to the Alaska Oil and Gas Conservation Commission indicating the volumes of gas which were (1) sold, (2) reinjected, (3) flared or vented for less than 1 hour, (4) flared or vented for more than 1 hour, (5) pilot or purge, assist gas (6) used for lease operations, (7) NGL gas equivalent produced, (8) purchased, (9) transferred, or (10) used for other purposes.

Gas Production

1. Definition of a gas well: "Gas well" means a well that produces predominantly gas at a gas-oil ratio over 100,000 scf/stb, unless on a pool-by-pool basis the commission establishes another ratio.

2. Pressure base 14.65 psia @ 60 degrees F.

3. Initial potential tests: Yes, multi-point back pressure test or other method accepted by the Alaska Oil and Gas Conservation Commission.

    a. Time interval: Before significant production begins.

    b. Witness required: By Commission option.

4. Bottom-hole pressure test reports required: Yes, on discovery wells, before significant production.

    a. Periodical bottom-hole pressure surveys: Yes, by pool rules.

5. Commingling of gas in common facilities: Yes, if the production from each well is accurately determined at least once each month.

6. Measurement involving meters: Yes.

7. Production reports:

    a. By lease: No.

    b. By well: Yes. Monthly production reports must be submitted to the Alaska Oil and Gas Conservation Commission indicating the oil, gas and water production from each well.

    c. Time limits: Monthly.

8. Gas Disposition at Production Facilities: Monthly gas disposition reports for each production facility must be submitted to the Alaska Oil and Gas Conservation Commission indicating the volumes of gas which were (1) sold, (2) reinjected, (3) flared or vented, for less than 1 hour (4) flared or vented for more than 1 hour, (5) pilot or purge, assist gas (6) used for lease operations, (7) NGL gas equivalent produced, (8) purchased, (9) transferred, or (10) used for other purposes.

ARIZONA

Administration

1. Official name of agency regulating oil/gas exploration & production: Oil and Gas Conservation Commission.

2. Contact for regulatory updates: Steven L. Rauzi, Oil and Gas Administrator, Arizona Geological Survey, 416 W. Congress Street, Suite 100, Tucson AZ 85701. Phone (520) 770-3500.

3. Docketing procedure: The Arizona Oil and Gas Conservation Commission meets approximately every few months. Formal hearings as requested by any interested person or on motion by the Commission. A.R.S. §27-517.

    a. Emergency orders: Yes. The emergency order shall remain in force not to exceed 30 days from its effective date. A.R.S. §27-516(C).

    b. Notice: At least ten days prior to hearing date. A.R.S. §27-516(B).

4. Agency regulating air emissions: Arizona Department of Environmental Quality, Air Quality Division.

5. Agency regulating water quality: Arizona Department of Environmental Quality, Water Quality Division.

License

1. License required: A permit to drill is required from the Arizona Oil and Gas Conservation Commission. A.A.C. R12-7-104.

2. Conditions of license: Compliance with all applicable statutes and rules of the State of Arizona.

Bond/Surety

1. Purpose of surety: To ensure faithful performance by an operator of the duty to drill each well, plug each dry or abandoned well, repair each well causing waste or pollution, maintain and restore each well site and otherwise act in a manner that is consistent with A.R.S. Title 27 Chapter 4 and rules of the Commission.

2. Plugging and restoration: Yes. Conditioned upon the faithful performance by the operator of the duty to drill each well, plug each dry or abandoned well, repair each well causing waste or pollution, maintain and restore each well site.

3. Compliance bond required: Yes. A.A.C. R12-7-103.

4. Types of surety accepted: An operator shall provide a bond in the form of a surety bond, executed by the operator as principal and a corporate surety, authorized to do business in Arizona; a certified check; or a certificate of deposit at a federally insured bank, authorized to do business in Arizona.

5. Conditions of bond: Release of bond contingent upon operator's compliance with all rules and regulations of the Commission.

    a. Amount per well: $10,000 for well depth less than 10,000 feet and $20,000 for well depth greater than 10,000 feet.

    b. Amount of blanket bond: $25,000 for 10 or fewer wells; $50,000 for more than 10 but fewer than 50 wells; or $250,000 for 50 or more wells.

Land Leasing Information

1. Leasing method: Non-competitive, over the counter.

2. Notice method: No notice is required for noncompetitive leasing sale under A.R.S. §27-555. Notice is required if the Land Department designates a known geologic structure of producing oil or gas under A.R.S. §27-554. Leasing is by sealed bids under A.R.S. §27-556 within the designated area and notice must be published twice in a newspaper in the state not less than 15 days prior to the date fixed for opening the bids.

3. Minimum bidding $ (per acre): Rental payment for the first year - the leases shall provide for the payment in advance of an annual rental of $1.00/acre for each year of the primary term of the lease. All leases shall provide for a minimum rental of $40.00 per year.

4. Qualification of the bidder: Individuals must be at least 21 years of age.

5. State statutes: A.R.S. §27-554; A.R.S. §27-555; and A.R.S. §27-556.

6. Maximum acres: Generally not more than 2,560 acres of land confined to an area of six miles square shall be in any one lease.

7. Royalty rates:1/8 (12.5%)

8. Agency in control of leasing: Arizona State Land Department.

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? A.A.C. R12-7-143.

2. Are there other sources of information on this matter that you could identify? No.

Spacing

1. Spacing requirements: Yes. A.A.C. R12-7-107.

    a. Density: Minimum acreage for an oil well is 80 acres. Minimum acreage for a gas well is 640 acres.

    b. Lineal: No oil well shall be located closer than 330 feet from the boundary of drilling unit, nor closer than 330 feet to the shortest center line of drilling unit. Gas well no closer than 1,660 feet from section line.

2. Exceptions: Only after approval by Commission following notice and hearing. A.A.C. R12-7-107(F).

    a. Basis: Topographical or geological conditions, and in order to prevent waste.

    b. Approval: Request public hearing to present evidence of necessity, and to give all interested parties a chance to be heard.

Pooling

1. Authority to establish voluntary: Yes.

2. Authority to establish compulsory: Yes. A.A.C. R12-7-107(G); A.R.S. §27-505.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes. A.R.S. §27-531.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

    a. Working interest: 63% exclusive of royalty interest owned by lessees or subsidiaries of lessees.

    b. Royalty interest: 63% exclusive of royalty interest owned by lessees or subsidiaries of lessees.

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: Yes. A.A.C. R12-7-104.

b. Seismic drilling: No permit is required, but holes must be plugged in an approved manner and a report filed with the Commission. A.A.C. R12-7-127(J).

c. Recompletion: Yes. A.A.C. R12-7-122.

d. Plugging and abandoning: Yes. A.A.C. R12-7-126.

2. Permit fee:

a. Drilling: $25.

b. Seismic drilling: No.

c. Recompletion: No fee except re-entry of well previously plugged. A.A.C. R12-7-122.

d. Plugging and abandoning: No.

3. Require filing report of work performed: Yes. A.A.C. R12-7-121(A), A.A.C. R12-7-122(D), and A.A.C. R12-7-127.

4. Sundry notices used: Yes.

Vertical Deviation

1. Regulation requirement: A.A.C. R12-7-115. (Notice and hearing required).

a. When is a directional survey necessary: When a well is intentionally deviated from its normal course. A.A.C. R12-7-115.

b. Filing of survey required: Within 30 days of completion of the directionally drilled well. A.A.C. R12-7-115(E).

c. Format of filing: Paper copy attached to signed Sundry Notice, can be supplemented by electronic filing.

Casing and Tubing

1. Minimum amount required:

a. Surface casing: Below all known and reasonably estimated fresh water. A.A.C. R12-7-110(A).

b. Production casing: Yes. A.A.C. R12-7-111.

2. Minimum amount of cement required:

a. Surface casing: Circulate. A.A.C. R12-7-110(A).

b. Production casing: Yes. A.A.C. R12-7-111.

c. Setting time: Twelve hours minimum. A.A.C. R12-7-110 and R12-7-111.

3. Tubing requirements: Tubing set as close to bottom as practical and tubing perforations not more than 250 feet above top of pay. Wells may be completed with small diameter casing in lieu of tubing. A.A.C. R12-7-111.

   a. Oil wells: Yes. A.A.C. R12-7-111.

   b. Gas wells: Yes. A.A.C. R12-7-111.

Hydraulic Fracturing

1. Permitting:

   a. Before drilling: Yes. A.A.C. R12-7-104.

   b. Before fracing: No.

   c. How long before: Not applicable.

2. Reporting Requirements:

   a. Where reported: Oil and Gas Program Administrator, Arizona Geological Survey, 416 W. Congress, Suite 100, Tucson, AZ 85701. A.A.C. R12-7-117.

   b. When reported: Within 15 days of the stimulation. A.A.C. R12-7-117.

3. Source water requirements: None.

4. Mechanical Integrity:

   a. Cementing log required: No.

   b. Pressure testing: Yes. A.A.C. R12-7-117.

   c. Pressure monitoring: Yes. A.A.C. R12-7-117.

   d. Blowout preventer required: Yes. Where subsurface pressures are unknown or high pressures do are likely to exist. A.A.C. R12-7-113.

5. Disposal of flowback fluids:

   a. Retaining pits: Yes. A.A.C. R12-7-108.

   b. Tanks: Yes. A.A.C. R12-7-108.

c. Approved discharge to surface water: No. A.A.C. R12-7-140.

d. Underground injection: Yes. A.A.C. R12-7-175.

6. Chemical disclosure requirement:

a. Mandatory: No.

b. Where disclosed: Voluntary to FracFocus.org.

c. When disclosed (pre-fracing, post-fracing, both): Voluntary to FracFocus.org.

d. Time limit to disclose: Voluntary to FracFocus.org.

e. Information required to be disclosed: Voluntary to FracFocus.org.

f. Trade secret protection: Not applicable.

g. Required disclosure to health/emergency personnel: Not applicable.

Underground Injection

1. Agencies that control the underground injection of fluid by well class: Arizona is not a primacy state.

a. U.S. EPA Region 9 has primary jurisdiction over well classes I, II, III, IV, V, and VI.

b. Arizona Department of Environmental Quality over well classes I, III, IV, V, and VI.

c. Arizona Oil and Gas Conservation Commission over well class II.

Completion

1. Completion report required: Yes. A.A.C. R12-7-121.

a. Time limit: 30 days following completion. A.A.C. R12-7-121.

b. Where submitted: Oil and Gas Program Administrator, Arizona Geological Survey, 416 W. Congress, Suite 100, Tucson, AZ 85701.

2. Well logs required to be filed: Yes. A.A.C. R12-7-121.

a. Time limit: 30 days following completion. A.A.C. R12-7-121.

b. Where submitted: Oil and Gas Program Administrator, Arizona Geological Survey, 416 W. Congress, Suite 100, Tucson, AZ 85701.

c. Confidential time period: One year after drilling is completed. A.A.C. R12-7-121.

d. Available for public use: Yes, after confidentiality period.

e. Log catalog available: Yes.

3. Multiple completion regulation: Yes. A.A.C. R12-7-116.

   a. Approval obtained: Yes, after notice and hearing. Commission may administratively approve subsequent applications for multiple completions of same zones or reservoirs in a field. A.A.C. R12-7-116(C).

4. Commingling in well bore: Yes. A.A.C. R12-7-137.

   a. Approval obtained: May be authorized by Commission upon application and hearing. A.A.C. R12-7-137.

Oil Production

1. Definition of an oil well: Any well producing hydrocarbons in a liquid state that is not the result of condensation of gas, with a gas-oil ratio less than 50,000 to 1, or any well classed as an oil well by the Commission.

2. Potential tests required: Yes. A.A.C. R12-7-135(C).

   a. Time interval: Within 30 days following completion of well.

   b. Witness required: In some instances.

3. Maximum gas-oil ratio: None.

   a. Provision for limiting gas-oil ratio: Yes, in order to prevent waste. A.R.S. §27-516(A)(5).

   b. Exception to limiting gas-oil ratio: Yes, operation of wells with most efficient gas-oil ratio. A.R.S. §27-516(A)(5).

4. Bottom-hole pressure test reports required: Yes. A.A.C. R12-7-136.

   a. Periodical bottom-hole pressure surveys: When required by Commission.

5. Commingling oil in common facilities: Yes. When leases have same royalty owners with identical percentage values and oil produced from same reservoir. A.A.C. R12-7-137.

6. Measurement involving meters: Yes.

7. Production reports:

a. By lease: No.

b. By well: Yes. A.A.C. R12-7-161.

c. Time limit: 25 days following the month of production.

Gas Production

1. Definition of a gas well: Gas well means any well that produces with a gas-oil ratio in excess of 50,000 to 1, or any well classed as a gas well by the Commission.

2. Pressure base 14.73 psia @ 60 degrees F.

3. Initial potential tests: Yes. A.A.C. R12-7-150.

    a. Time interval: Within 30 days after completion.

    b. Witness required: In some instances.

4. Bottom-hole pressure test reports required: Yes. A.A.C. R12-7-136.

    a. Periodical bottom-hole pressure surveys: When required by Commission.

5. Commingling of gas in common facilities: No.

6. Measurement involving meters: Yes. A.A.C. R12-7-151.

7. Production reports:

    a. By lease: No.

    b. By well: Yes. A.A.C. R12-7-161.

    c. Time limits: 25 days following the month of production.

ARKANSAS

Administration

1. Official name of agency regulating oil/gas exploration & production: Arkansas Oil and Gas Commission, 301 Natural Resources Drive, Suite 102, Little Rock, AR 72205. Phone (501) 683-5814.

2. Contact for regulatory updates: Shane Khoury, Deputy Director / General Counsel.

3. Docketing procedure: Applications for hearings are required to be filed no less than 20 days prior to the date of the hearing. Hearings are typically scheduled for the fourth Tuesday of each month. Filing fee is $500.00 for all matters except for appeals of a Director's decision which is $250.

    a. Emergency orders: The Commission can issue an emergency order without notice of a hearing. Said order remains in force until the next regularly scheduled Commission hearing.

    b. Notice: Ten Days. Applicant supplies names and addresses of interested parties. Applicant mails notice to interested parties and provides to the Commission an affidavit of notice and a proof of publication in a newspaper of general circulation in the county(ies) containing the subject property or units.

4. Agency regulating air emissions: Arkansas Department of Environmental Quality.

5. Agency regulating water quality: Arkansas Department of Environmental Quality.

License

1. License required: No

2. Conditions of license:

Bond/Surety

1. Purpose of surety: Plugging, well repair, and restoration of well site.

2. Plugging and restoration: Yes

3. Compliance bond required: Not in addition to plugging and restoration bond.

4. Types of surety accepted: Surety bond, irrevocable letter of credit, certificate of deposit, cash

b. Amount of blanket

No. of Wells	Principal Sum
1-25	25,000.00
26-100	50,000.00
over 100	100,000.00

Land Leasing Information

1. Leasing Method: Sealed bids.

2. Notice Method: In a newspaper of general circulation in this state for no fewer than 3 consecutive days and in a newspaper of general circulation in the county in which the property is located for not less than 1 day, a notice that an application has been filed.

3. Minimum bidding $ (per acre): No statutory or set minimum bid amount. State looks at each application on a case by case basis and takes recommendations from the State Oil and Gas Commission staff.

4. Qualification of the bidder: Any person, firm, company, corporation or association.

5. State Statutes: §22-5-805
   §22-5-806
   §22-5-808

6. Maximum acres: 1,500 acres

7. Royalty rates: Minimum of 1/8th. State looks at each application on a case by case basis and takes recommendations from the Oil and Gas Commission, and other state agencies.

8. Agency in Control: Commissioner of State Lands Offices
   109 State Capitol
   Little Rock, AR 72201
   Main Number: 501-324-9222

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements:

   a. Density: No minimum for oil or gas wells in uncontrolled production areas. In

controlled production areas for oil, units are normally 10 to 160 acres with exceptions. In controlled production areas for gas, units are normally 640 acre governmental sections with exceptions.

b. Lineal: Oil well setbacks are variable as specified by field rule. Conventional gas well setbacks are 1320 or 1180 feet, with exceptions, from the unit line based on specific field rule. Unconventional (horizontal shale wells) are 560 feet from the unit line, with exceptions. A minimum of 280' from a governmental division line, lease line or property line for oil or gas wildcat wells and wells drilled in fields not covered by field rules.

2. Exceptions: Yes.

a. Basis: If a well drilled at a different location is likely to prevent waste or protect correlative rights of owners within the unit, or both.

b. Approval: A public hearing held and ruling granted by the Commission. Administrative exceptional locations can also be granted, with a notice given to the parties having the right to drill in the unit being encroached, if no objections are filed within 15 days of publication of notice in certain circumstances

Pooling

1. Authority to establish voluntary: Yes.

2. Authority to establish compulsory: Yes, Act 536 of 1963. Ark. Code Ann § 15-72-303.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

a. Working interest: 75%

b. Royalty interest: 75% of royalty and overriding interests

Drilling Permit

1. Require permits for:

a. Drilling a producing or service well: Yes

b. Seismic drilling: Yes

c. Recompletion: No

d. Plugging and abandoning: No

2. Permit fee:

    a. Drilling: $300

    b. Seismic drilling: minimum $250, maximum $500.

    c. Recompletion: None

    d. Plugging and abandoning: None

3. Require filing report of work performed: Yes

4. Sundry notices used: Yes. Available on webpage and sent to appropriate Regional Office.

Vertical Deviation

1. Regulation requirement:

    a. When is a directional survey necessary: When a wellbore is thought to have deviated in excess of 3 degrees from the vertical.

    b. Filing of survey required: (a) in all cases where the operator has proposed to deliberately drill a directional well from an exceptional surface location and/or to an exceptional bottom hole location; (b) prior to a permit being issued, if an off-set operator requests a directional survey and agrees in writing to pay all costs and expenses of such survey and to assume liability for all risks associated with the survey and further posts a bond in sufficient sum as determined by the Commission as security against all costs and risks associated with the survey or, (c) at any time, by order of the Commission, if the Commission is first presented with substantial evidence that it is likely that the well was drilled other than at the location permitted or that the well has deviated in the direction of a unit boundary to a bottom location which would necessitate an increased penalty upon the well's production allowable.

    c. Format of filing: Paper filing.

<u>Casing and Tubing</u>

1. Minimum amount required:

    a. Surface casing: Yes

    b. Production casing: Yes

2. Minimum amount of cement required:

    a. Surface casing: Yes

    b. Production casing: Yes

c. Setting time: minimum 24 hours unless accelerators are used.

3. Tubing requirements:

   a. Oil wells: Yes

   b. Gas wells: No

Hydraulic Fracturing

1. Permitting:

   a. Before drilling: Notification required at time of issuance of permit to drill.

   b. Before fracing: Yes.

   c. How long before: Prior to commencement of hydraulic fracturing operation.

2. Reporting Requirements:

   a. Where reported: Appropriate AOGC Regional Office

   b. When reported: Within 30 days of the original completion, recompletion or workover of the well and prior to commencement of production.

3. Source water requirements: Yes

4. Mechanical Integrity:

   a. Cementing log required: If requested by the Director.

   b. Pressure testing: No.

   c. Pressure monitoring: Yes.

   d. Blowout preventer required: Yes.

5. Disposal of flowback fluids:

   a. Retaining pits: Yes.

   b. Tanks: Yes.

   c. Approved discharge to surface water: No.

   d. Underground injection: Yes.

6. Chemical disclosure requirement:

   a. Mandatory: Yes.

b. Where disclosed: AOGC files and website.

c. When disclosed (both pre-fracturing and post-fracturing): Master list of companies performing hydraulic fracturing operations within Arkansas is disclosed. Post-fracturing report for specific well is also required.

d. Time limit to disclose: Master list of companies performing hydraulic fracturing operations within Arkansas is disclosed prior to use in Arkansas. Post-fracturing report for specific well is also required to be filed within 30 days of the completion of the well.

e. Information required to be disclosed: On a well specific basis, a list of all base fluids, a list of all additives (expressed as gallons per thousand gallons or pounds per thousand gallons, and as a total percentage of the entire hydraulic frac job), and a list of all chemical constituents and associated CAS numbers. Additionally, all base fluids, additives, and chemical constituents and CAS numbers are disclosed on master list of companies performing hydraulic fracturing operations.

f. Trade secret protection: Yes. (If approved, the chemical family name may be submitted as opposed to the chemical constituent and associated CAS number.

g. Required disclosure to health/emergency personnel: Yes.

Underground Injection

1. Agencies that control the underground injection of fluid by well class: Class II and Class V brine related wells – Arkansas Oil and Gas Commission and Arkansas Department of Environmental Quality work together. Oil and Gas Commission handles the underground disposal and Department of Environmental Quality handles surface disposal. Arkansas Department of Environmental Quality controls the remaining types.

Completion

1. Completion report required: Yes.

    a. Time limit: Within 30 days of completion date and prior to commencement of production.

    b. Where submitted: Appropriate Arkansas Oil and Gas Commission Regional Office.

2. Well logs required to be filed: Yes.

    a. Time limit: Within 30 days of completion date and prior to commencement of production.

    b. Where submitted: Appropriate Arkansas Oil and Gas Commission Regional Office.

    c. Confidential time period: Yes, maximum of 90 days from completion date.

    d. Available for public use: Yes.

e. Log catalog available: No.

3. Multiple completion regulation: Yes.

   a. Approval obtained: Wells may be completed as a multiple completion if the Commission staff is assured that the zones are separated in the wellbore by approved methods.

4. Commingling in well bore: Yes.

   a. Approval obtained: Gas wells – commingling authorized in certain circumstances by Rule. Oil wells -A field-wide hearing is held to consider the feasibility of commingling marginal zones. If it appears feasible, the Commission staff is authorized to review and approve or disapprove application for commingling on an individual well basis.

Oil Production

1. Definition of an oil well: any well capable of producing oil in paying quantities not a gas well. An oil well is considered to be a well completed in a reservoir containing liquid hydrocarbons at original reservoir conditions (pressure, temperature, etc.)

2. Potential tests required: Yes.

   a. Time interval: At commencement of production.

   b. Witness required: Initial tests are typically witnessed on high gas-oil ratio wells.

3. Maximum gas-oil ratio: Yes. The standard gas-oil ratio is 2000/1.

   a. Provision for limiting gas-oil ratio: Yes. Wells are penalized if the GOR exceeds the 2000/1 GOR limit (or the limiting GOR as set out in a specific Field Rule Order). The allowable is:

$$\text{Bbls/day} = \frac{\text{Bbls (Normal Oil Allowable) x 2000 (or limit in Field Rule Order)}}{\text{Actual Producing GOR}}.$$

   b. Exception to limiting gas-oil ratio: Yes. The Commission may approve a higher GOR limit for a pool after public hearing

4. Bottom-hole pressure test reports required: The initial BHP is listed on the Completion Report.

   a. Periodical bottom-hole pressure surveys: Only in pools that have volumetric formulas used in allowable computations.

5. Commingling oil in common facilities: Upon proof that production is produced from wells having common ownerships, unless specifically prohibited by Field Rule or Commission Order.

6. Measurement involving meters: Yes. Measurement of oil by meters must be approved by the Commission.

7. Production reports:

    a. By lease: Yes. Purchaser reports uncontrolled production by lease on a monthly basis.

    b. By well: Yes. Operator reports controlled production by well on a monthly basis with the exception of unitized pools.

    c. Time limit: On or before the 15th of the next succeeding month.

Gas Production

1. Definition of a gas well: (1) a well which produces natural gas only; (2) any well capable of producing gas in commercial quantities and also producing oil from the same common source of supply but not in commercial quantities; (3) any well classed as a gas well by the Arkansas Oil and Gas Commission for any reason; or (4) a well that contains no liquid hydrocarbons in the reservoir. A gas well is considered to be a well completed in a reservoir containing hydrocarbons in a gaseous state at original reservoir conditions.

2. Pressure base _14.65_ psia @ _60_ degrees F.

3. Initial potential tests: Yes.

    a. Time interval: Within 10 days after a new well has commenced production.

    b. Witness required: No

4. Bottom-hole test reports required: No, however, annual back pressure test is required.

    a. Periodical bottom-hole pressure surveys: No.

5. Commingling of gas in common facilities: Yes, with AOGC approval.

6. Measurement involving meters: Yes.

7. Production reports:

    a. By lease: No.

    b. By well: Yes.

    c. Time limit: Within 45 days following month of production.

CALIFORNIA

Administration

1. Official name of agency regulating oil/gas exploration & production:

   California Department of Conservation, Division of Oil, Gas, and Geothermal Resources; 801 K Street, MS 18-05, Sacramento, CA 95814-3530. Phone (916) 445-9686.

2. Contact for regulatory updates: Phone (916) 445-9686

3. Docketing procedure: Hearings as needed. Notice of hearing sent to all concerned and interested parties and published in at least one newspaper of general circulation.

   a. Emergency orders: Yes. When the State Oil and Gas Supervisor determines that an emergency exists. PRC 3226

      PRC 3226. Within 30 days after service of an order pursuant to Sections 3224 and 3225, or Section 3237, or if there has been an appeal from the order to the director, within 30 days after service of the decision of the director, or if a review has been taken of the order of the director, within 10 days after affirmance of the order, the owner or operator shall commence in good faith the work ordered and continue it until completion. If the work has not been commenced and continued to completion, the supervisor may appoint necessary agents to enter the premises and perform the work. An accurate account of the expenditures shall be kept. Any amount so expended shall constitute a lien against real or personal property of the operator pursuant to the provisions of Section 3423.

      Notwithstanding any other provisions of Section 3224, 3225, or 3237, if the supervisor determines that an emergency exists, the supervisor may order or undertake the actions he or she deems necessary to protect life, health, property, or natural resources.

   b. Notice: 20 days (may be as many as 30 days, depending on type of hearing). The Director of Conservation or the State Oil and Gas Supervisor is responsible to give notice, depending upon the type of order.

4. Agency regulating air emissions: The California Air Resources Board gathers air quality data for the State of California, ensures the quality of this data, designs and implements air models, and sets ambient air quality standards for the state.

   California's 35 local air districts are responsible for promulgating rules and regulations for stationary sources in their respective districts'.

5. Agency regulating water quality: The State Water Resources Control Board and nine Regional Boards regulate water quality and water rights.

License

1. License required: No

2. Conditions of license: NO

Bond/Surety

1. Purpose of surety: The principal named in the bond shall faithfully comply with all the provisions of this chapter, in drilling, redrilling, deepening, or permanently altering the casing in any well or wells covered by the bond, and shall secure the state against all losses, charges, and expenses incurred by it to obtain such compliance by the principal named in the bond. Excerpt from Public Resources Code (PRC) 3204

2. Plugging and restoration: Yes PRC 3270.4

   PRC 3270.4. (a) In addition to the bonding requirements under Article 4 (commencing with Section 3200), for an operator with a history of violating this chapter or that has outstanding liabilities to the state associated with a well or production facility, the supervisor may require a life-of-well or life-of-production facility bond in an amount adequate to ensure all of the following:

   (1) The proper plugging and abandonment of each well.
   (2) The safe decommissioning of each production facility.
   (3) The financing of spill response and incident cleanup.

   (b) Upon the failure of an operator to properly plug and abandon a well, decommission a production facility, or perform the appropriate spill response and incident cleanup, the supervisor may levy on the bond to obtain money to pay the cost of the work.
   (c) The supervisor may release a life-of-production facility bond upon the satisfactory decommissioning of a production facility, or when an operator has provided another valid life-of-production facility bond.
   (d) The supervisor may release a life-of-well bond upon the satisfactory plugging and abandonment of all wells covered by the bond or when an operator has provided another valid life-of-well bond.
   (e) Whenever an operator sells, assigns, transfers, conveys, exchanges, or otherwise disposes to another operator a well or production facility that is covered by a life-of-well bond or a life-of-production facility bond, the new operator shall replace the life-of-well or life-of-production bond, as applicable, and maintain the new bond for five years before it may be released by the supervisor.
   (f) In lieu of the indemnity bond required by this section, the supervisor may accept a deposit given pursuant to Article 7 (commencing with Section 995.710)

of Chapter 2 of Title 14 of Part 2 of the Code of Civil Procedure, excluding a deposit of money, bearer bonds, or bearer notes.

(g) The supervisor shall adopt regulations specifying the content, including the conditions, of the bond or other security instrument required by this section.

3. Compliance bond required: Yes. PRC 3204-3209.

3204. Any operator who, on or after January 1, 1999, engages in the drilling, redrilling, deepening, or in any operation permanently altering the casing, of any well shall file with the supervisor an individual indemnity bond in the specified sum for each well so drilled, redrilled, deepened, or permanently altered. This sum shall be fifteen thousand dollars ($15,000) for each well less than 5,000 feet deep, twenty thousand dollars ($20,000) for each well at least 5,000 feet but less than 10,000 feet deep, and thirty thousand dollars ($30,000) for each well 10,000 or more feet deep. The bond shall be filed with the supervisor at the time of the filing of the notice of intention to perform work o the well, as provided in Section 3203. The bond shall be executed by the operator, as principal, and by an authorized surety company, as surety, conditioned that the principal named in the bond shall faithfully comply with all the provisions of this chapter, in drilling, redrilling, deepening, or permanently altering the casing in any well or wells covered by the bond, and shall secure the state against all losses, charges, and expenses incurred by it to obtain such compliance by the principal named in the bond.

The conditions of the bond shall be stated in substantially the following language: "If the ____, the above bounden principal, shall well and truly comply with all the provisions of Division 3 (commencing with Section 3000) of the Public Resources Code and shall obey all lawful orders of the State Oil and Gas Supervisor or the district deputy or deputies, subject to subsequent appeal as provided in that division, and shall pay all charges, costs, and expenses incurred by the supervisor or the district deputy or deputies in respect of the well or wells or the property or properties of the principal, or assessed against the well or wells or the property or properties of the principal, in pursuance of the provisions of that division, then this obligation shall be void; otherwise, it shall remain in full force and effect."

3205. Any operator who engages in the drilling, redrilling, deepening, or in any operation permanently altering the casing, of one or more wells at any time, may file with the supervisor one blanket indemnity bond to cover all the operations in any of its wells in the state in lieu of an individual indemnity bond for each operation as required by Section 3204. The bond shall be executed by the operator, as principal, and by an authorized surety company, as surety, and shall be in substantially the same language and upon the same conditions as provided in Section 3204, except as to the difference in the amount. The bond shall be provided in one of the following amounts, as applicable:

(a) The sum of two hundred fifty thousand dollars ($250,000), which does not include the bond or fee required in Section 3206. A blanket surety bond provided prior to January 1, 1999, shall be increased to comply with this subdivision on or before January 1, 2001. A blanket cash bond provided prior

to January 1, 1999, shall be increased by a minimum of thirty thousand dollars ($30,000) per year, initially payable January 1, 2000, and yearly on January 1, thereafter, until the amount on deposit is sufficient to comply with this subdivision.

(b) The sum of one hundred thousand dollars ($100,000), which does not include the bond or fee required in Section 3206, for any operator having 50 or fewer wells in the state, exclusive of properly abandoned wells.

(c) The sum of one million dollars ($1,000,000), which does include the bond or fee required in Section 3206.

3205.1. (a) Notwithstanding Sections 3204 and 3205, any person who engages in the drilling, redrilling, deepening, or in any operation permanently altering the casing, of one or more wells located on submerged lands under ocean waters within the jurisdiction of this state, shall file with the supervisor a blanket indemnity bond for two hundred fifty thousand dollars ($250,000) to cover all his or her operations in drilling, redrilling, deepening, or permanently altering the casing in any of his or her wells located on those submerged lands. The bond shall be executed by the person, as principal, and by an authorized surety company, as surety, and the conditions of the bond shall be the same as the conditions stated in section 3204, except for the difference in the amount.

(b) In addition to providing the bond required by subdivision (a), any person who operates one or more wells that are located on tide or submerged lands within the jurisdiction of this state shall provide an additional amount of security acceptable to the supervisor, covering the full costs of plugging and abandoning all of the operator's wells. The supervisor shall determine the amount of the security required of each operator, based on his or her determination of the reasonable costs of that plugging and abandonment. The supervisor may not adjust the amount of security required of each operator more frequently than once every three years, to reflect changes in those costs. An operator may self-insure this security obligation if the supervisor, at his or her discretion, determines that the operator has sufficient financial resources to plug and abandon the wells for which the operator is responsible. The security shall remain in effect until all wells are plugged and abandoned in accordance with Section 3208, but the supervisor shall reduce the amount of the security required of an operator to reflect reduced obligations as wells are plugged and abandoned.

(c) If the state lease or other agreement that sets forth obligations or performance requirements under the lease provides security that is equal to, or greater than, the total of the additional security required pursuant to subdivision (b), plus all other liabilities under the lease or other agreement, the supervisor shall not require the additional security.

3205.2. (a) Notwithstanding Section 3204, any person who engages in the operation of a class II commercial wastewater disposal well, as defined in subdivision (d), shall fi le an indemnity bond with the supervisor for fifty thousand dollars ($50,000) for each well so used. The bond shall cover all operations of drilling, redrilling, deepening, altering

casing, maintaining, or abandoning the well and attendant facilities. The bond shall be executed by the person as the principal, and by an authorized surety company as the surety, and, except for differences in the amount, shall be in substantially the same language and upon the sameconditions as provided in Section 3204.

(b) A blanket bond submitted under subdivision (a) or (c) of Section 3205 may be used in lieu of the bond required in subdivision (a), except that the termination and cancellation shall be in accordance with subdivision (c) of this section.

(c) Notwithstanding Section 3207, any bond issued in compliance with this section may be terminated and canceled and the surety relieved of all obligations thereunder when the well is properly abandoned or another valid bond has been substituted therefor.

(d) A class II commercial wastewater disposal well is a well that is used to dispose of oilfield wastewater for a fee and that is regulated by the division pursuant to this chapter and Subpart F (commencing with Section 147.250) of Part 147 of Title 40 of the Code of Federal Regulations.

3205.5. In lieu of the indemnity bond required by Sections 3204, 3205, 3205.1, 3205.2, and 3206, a deposit may, with the written approval of the supervisor, be given pursuant to Article 7 (commencing with Section 995.710) of Chapter 2 of Title 14 of Part 2 of the Code of Civil Procedure, other than a deposit of money or bearer bonds or bearer notes.

3206. (a) The operator of any idle well not covered by an indemnity bond provided under Section 3204, subdivision (c) of Section 3205, or subdivision (a) of Section 3205.2 shall do one of the following:

(1) File with the supervisor an annual fee for each idle well equal to the sum of the following amounts:

(A) One hundred dollars ($100) for each idle well that has been idle for less than 10 years.

(B) Two hundred fifty dollars ($250) for each idle well that has been idle for 10 years or longer, but less than 15 years.

(C) Five hundred dollars ($500) for each idle well that has been idle for 15 years or longer.

(2) Provide an escrow account in a federally insured bank that does business in, and has an office in, the State of California, by depositing the amount of five thousand dollars ($5,000) for each idle well, in the following manner:

(A) The escrow account shall be accessible only by the supervisor and the money shall be retained in the escrow account exclusively for use by the supervisor for plugging and abandoning the operator's idle wells that become deserted pursuant to Section 3237.

(B) The money in the escrow account may be released only by the supervisor and only in amounts covering any idle well that has properly been plugged and abandoned, returned to production or injection or converted to an active observation well, if that money remaining in the escrow account is sufficient to fully fund the required deposits for all of the operator's remaining idle wells.

(C) The required deposit for each idle well shall be funded completely within 10 years of the date the well becomes idle, or 10 years from January 1, 1999, for any well that is idle as of January 1, 1999.

(D) The operator shall fund the escrow account at the rate of at least five hundred dollars ($500) per well per year.

(E) Failure of an operator in any year to provide the minimum funding for any idle well shall result in the institution of the annual fees required by paragraph (1) for that idle well, and all money already on deposit for that idle well shall be treated as previously paid annual fees and shall be deposited into the Hazardous and Idle-Deserted Well Abatement Fund specified in subdivision (b) for expenditure pursuant to that subdivision.

(3) File with the supervisor an indemnity bond that provides the sum of five thousand dollars ($5,000) for each idle well. The bond shall be subject to the conditions provided in Section 3204.

(4) On or before July 1, 1999, file a plan with the supervisor to provide for the management and elimination of all long-term idle wells not covered under paragraph (1), (2), or (3).

(A) For the purposes of the plan required by this paragraph, elimination of an idle well shall be accomplished when the well meets the requirements of Section 3208.

(B) A plan filed pursuant to this paragraph shall meet all of the following requirements and conditions:

(i) The plan shall cover a time period of no more than 10 years and may be renewed annually thereafter, subject to approval by the supervisor.

(ii) The plan shall be reviewed for performance annually by the supervisor, and be subject to amendment with the approval of the supervisor.

(iii) The required rate of long-term idle well elimination shall be based upon the number of idle wells under the control of an operator on January 1 of each year, as specified in clause IV. The supervisor may require additional well testing requirements as part of the plan.

(iv) The plan shall require that operators with 10 or fewer idle wells eliminate at least one long-term idle well every two years; operators with 11 to 20, inclusive, idle wells eliminate at least one long-term idle well each year; operators with 21 to 50, inclusive, idle wells eliminate at least two long-term idle wells each year; operators with 51 to 100, inclusive, idle wells eliminate at least five long-term idle wells each year; operators with 101 to 250, inclusive, idle wells eliminate at least 10 long-term wells each year; and operators with more than 250 idle wells eliminate at least 4 percent of their long-term idle wells each year.

(v) An operator who complies with the plan is exempt from any increased idle well bond or fee requirements.

(vi) An operator who fails to comply with the plan, as determined by the supervisor after the annual performance review, is not eligible to use the requirements of this paragraph, for purposes of compliance with this section, for any of its idle wells. That operator shall immediately

provide one of the alternatives in paragraph (1), (2), or (3) for its idle wells and may not propose a new idle well plan for the next fi ve years. An operator may appeal to the director pursuant to Article 6 (commencing with Section 3350) regarding the supervisor's rejection of a plan and plan amendments and the supervisor's determinations of the operator's failure to comply with a plan.

(b) All fees received under this section shall be deposited in the Hazardous and Idle-Deserted Well Abatement Fund, which is hereby created in the State Treasury. Notwithstanding Section 13340 of the Government Code, the monies in the Hazardous and Idle-Deserted Well Abatement Fund are hereby continuously appropriated to the department for expenditure without regard to fiscal year, to mitigate a hazardous or potentially hazardous condition by well plugging and abandonment.

(c) Failure to file, for any well, the bond or fee required under this section shall be conclusive evidence of desertion of the well, permitting the supervisor to order the well abandoned.

(d) Nothing in this section prohibits a local agency from collecting a fee for regulation of wells.

3206.5.(a) Any city or county may request from the supervisor a list of those wells within its jurisdiction which have not continuously produced oil or natural gas, or have not been utilized continuously for injection purposes for a six-month period during any consecutive 10-year period prior to or after January 1, 1991.

(b) After receiving the list from the supervisor, the city or county may identify idle wells within its jurisdiction which it has determined, based on a competent, professional evaluation, have no reasonable expectation of being reactivated, and formally request the supervisor to make a determination whether the wells should be plugged and abandoned.

(c) Upon receiving the written request of a city or county, as specified in subdivision (b):

(1) The supervisor may, within 60 days of receiving a written request from a city or county, require the operator or operators to fi le a statement for each well outlining those reasons why the wells should not be plugged and abandoned.

(2) The supervisor shall, within 120 days of receiving a written request, make a determination as to whether any of these wells should be plugged and abandoned, pursuant to the criteria contained in this chapter.

(d) Failure of the operator to file, for any well, the statement required under this section shall be conclusive evidence of desertion of the well, thereby permitting the supervisor to order the well abandoned.

3207. Any individual or blanket indemnity bond issued in compliance with this chapter may be terminated and canceled and the surety be relieved of all obligations thereunder when the well or wells covered by such bond have been properly completed or abandoned or another valid bond has been substituted therefor. Should the person who has filed a blanket bond properly complete or abandon a portion of his wells covered by

the bond, the bond may be terminated and canceled and the surety be relieved of all obligations thereunder upon the filing by such person of an individual bond for each well which is still not producing or which he is still engaged in drilling, redrilling, deepening, or permanently altering the casing. Liability as to individual wells that have been completed or drilled and abandoned under a blanket bond may also be terminated.

3208. For the purposes of Section 3207, a well is properly completed when it has been shown, to the satisfaction of the supervisor, that the manner of producing oil or gas or injecting fl uids into the well is satisfactory and that the well has maintained production of oil or gas or injection for a continuous six-month period. A well is properly abandoned when it has been shown, to the satisfaction of the supervisor, that all proper steps have been taken to isolate all oil-bearing or gas-bearing strata encountered in the well, and to protect underground or surface water suitable for irrigation or farm or domestic purposes from the infiltration or addition of any detrimental substance and to prevent subsequent damage to life, health, property, and other resources.

3208.1. (a) To prevent, as far as possible, damage to life, health, and property, the supervisor or district deputy may order the reabandonment of any previously abandoned well if the supervisor or the district deputy has reason to question the integrity of the previous abandonment. The operator responsible for plugging and abandoning deserted wells under Section 3237 shall be responsible for the reabandonment except in the following situations:

(1) The supervisor finds that the operator plugged and abandoned the well in conformity with the requirements of this division in effect at the time of the plugging and abandonment and that the well in its current condition presents no immediate danger to life, health, and property but requires additional work solely because the owner of the property on which the well is located proposes construction on the property that would prevent or impede access to the well for purposes of remedying a currently perceived future problem. In this situation, the owner of the property on which the well is located shall be responsible for the reabandonment.

(2) The supervisor finds that the operator plugged and abandoned the well in conformity with the requirements of this division in effect at the time of the plugging and abandonment and that construction over or near the well preventing or impeding access to it was begun on or after January 1, 1988, and the property owner, developer, or local agency permitting the construction failed either to obtain an opinion from the supervisor or district deputy as to whether the previously abandoned well is required to be reabandoned or to follow the advice of the supervisor or district deputy not to undertake the construction. In this situation, the owner of the property on which the well is located shall be responsible for the reabandonment.

(3) The supervisor finds that the operator plugged and abandoned the well in conformity with the requirements of this division in effect at the time of the plugging and abandonment and after that time someone other than the operator or an affi liate of the operator disturbed the integrity of the abandonment in the course of developing the property, and the supervisor is

able to determine based on credible evidence, including circumstantial evidence, the party or parties responsible for disturbing the integrity of the abandonment. In this situation, the party or parties responsible for disturbing the integrity of the abandonment shall be responsible for the reabandonment.

(b) Except for the situations listed in paragraphs (1), (2), and (3) of subdivision (a), nothing in this section precludes the application of Article 4.2 (commencing with Section 3250) when its application would be appropriate.

3209. The provisions of Section 3207 as to termination and cancellation shall also apply to all bonds which have been heretofore fi led with the supervisor as then provided by law.

4. Types of surety accepted: Cash and indemnity bond. PRC 3205.5

5. Conditions of bond: Required when an operator is about to drill, redrill, deepen or permanently alter a well; operate a commercial Class II disposal well; acquire an idle well; or maintain an idle well - (Idle is defined as five or more years.)
    a. Amount per well: The sum of one hundred thousand dollars ($100,000), which does not include the bond or fee required in Section 3206, for any operator having 50 or fewer wells in the state, exclusive of properly abandoned wells.PRC 3204

Amount of blanket bond: The sum of one million dollars ($1,000,000), which does include the bond or fee required in Section 3206. PRC 3204

Land Leasing Information

The State Lands Commission controls leasing of oil and gas production on State Lands. Information is attached.

1. Leasing method:
2. Notice method:
3. Minimum bidding $ (per acre):
4. Qualification of the bidder:
5. State statutes:
6. Maximum acres:
7. Royalty rates:
8. Agency in control of leasing: State Lands Commission

California State Lands Commission Leasing information

For Oil and Gas Lease

All leases issued by the State Lands Commission for oil and gas development are subject to the provisions of the Public Resources Code (P.R.C.) sections 6801 to 6879 (enclosed). These statutes require that all leases for oil and gas development be issued by competitive bidding unless the criteria of P.R.C. section 6815 are met. The information provided by the applicant in this application for an oil and gas lease will be used to determine whether such lease is in the public interest and whether the lands sought for development are suitable for competitive bid or negotiated leasing. Should it be determined that the lands are available for competitive bid leasing, the staff will request that the applicant nominate the lands for competitive leasing. However, if the applicant does not nominate the

lands, then the staff will recommend to the Commission that the application be denied. A nomination of public lands for competitive bidding is not considered an "application" for the purposes of sections 65920 et seq. of the Government Code. A detailed description of the competitive bidding process will be sent to the nominator as soon as a determination has been made. The nominator (applicant) will be required to pay all environmental, special studies and other costs incurred before the lands will be placed for bidding. If the nominator is not the successful bidder, these costs will be reimbursed from the lease sale. Applications for oil and gas leases shall include the following:

1. Copies of all geological and geophysical data (e.g., well logs, histories, surveys, test data and other related data) covering the area. This information should be of sufficient detail to enable the staff to determine the extent of State ownership and/or participation and to support a recommendation to the Commission for such leasing.
2. On the Project Location maps (Part II, Section A of the Application Form) include:
    a. Location(s) of drillsite(s) and proposed bottom hole location(s).
    b. Size of drillsite(s).
    c. Anticipated minimum and maximum development (if known).
    d. Proposed access route(s) to the drillsite(s).
3. Statement of proposed drilling program including anticipated timetable or schedule.
4. Description of type (electric or diesel) of drilling rig(s) and structure(s) to be used. Include a discussion of types and amounts of air emissions expected to be produced (if known).
5. Method for obtaining utilities (e.g., fresh water, electricity, gas, fuel).
6. Discussion of associated development projects (e.g., storage and treating facilities, pipelines).
7. Contingency plan for controlling oil spills.

When specifically requested by the staff, data for the preparation of a plan for the control of subsidence and the prevention of pollution which might occur as a result of the proposed oil and gas operation.

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements: Yes. PRC 3600-3609

PRC CHAPTER 3. SPACING OF WELLS AND COMMUNITY LEASES

3600. Except as otherwise provided in this chapter, any well hereafter drilled for oil or gas, or hereafter drilled and permitted to produce oil or gas, which is located within 100 feet of an outer boundary of the parcel of land on which the well is situated, or within 100 feet of a public street or road or highway dedicated prior to the commencement of drilling of the well, or within 150 feet of either a well being drilled or a well theretofore drilled which is producing oil or gas or a well which has been drilled and is not producing but which is capable of producing oil or gas, is a public nuisance.

3601. Where several contiguous parcels of land in one or different ownerships are operated as a single oil or gas lease or operating unit, the term “outer boundary line” means the outer boundary line of the lands included in the lease or unit. In determining the contiguity of any such parcels of land, no street, road or alley lying within the lease or unit shall be deemed to interrupt such contiguity.

3602. Where a parcel of land contains one acre or more, but is less than 250 feet in width, there may be drilled on the parcel of land not more than one well to each acre of the area if the surface location of any well or wells is so placed as to be as far from the lateral boundary lines of the parcel of land as the configuration of the surface and the existing improvements thereon will permit.

3602.1. Where a parcel of land contains one acre or more and the hydrocarbons to be developed are too heavy or viscous to produce by normal means, and the supervisor so determines, the supervisor may approve proposals to drill wells at whatever locations he deems advisable for the purpose of the proper development of such hydrocarbons by the application of pressure, heat or other means for the reduction of oil viscosity, and such wells shall not be classed as public nuisances after approval by the supervisor.

3602.2. In determining the area of parcels of land for the purposes of this chapter, the area of the oil and gas mineral estate shall be used exclusively.
3603. For the purposes of this chapter, an alley which intersects or lies within any block or other subdivision unit is not a public street or road.

3604. Each day in which the drilling of any well is carried on, or on which it is permitted to produce oil or gas in violation of this chapter is a separate nuisance.

3605. The provisions of this chapter do not apply to any field producing oil or gas on August 14, 1931.

3606. Notwithstanding any other provisions of this chapter, where a parcel of land contains one acre or more and where all or substantially all of the surface of such parcel of land is unavailable for the surface location of oil or gas wells, there may be drilled or produced not more than one well into each acre of such parcel of land, and the surface location of such well may be located upon property which may or may not contain one acre or more of surface area, and the property upon the surface of which the surface location of such well may be located may or may not be contiguous to such parcel of land; provided:

1. No operator shall construct or maintain any derrick within 150 feet of any other derrick, then standing, of such operator unless approved in advance by the supervisor who may, in granting such approval, attach such conditions as are reasonably necessary to carry out the purposes of this chapter.
2. The surface location of such well, as measured from the center of the hole, shall be not less than 25 feet from an outer boundary of the surface of the property upon which such well is located, and shall be not less than 25 feet from any dedicated public street, road or highway which is so dedicated and in such public use at the time of the commencement of drilling of such well.
3. The producing interval of such well shall be not less than 75 feet from an outer boundary of the parcel of land into which such producing interval is drilled, and the producing interval of such well shall be not less than 150 feet, as measured horizontally in the same zone, from the producing interval of any other well which is producing or capable of producing oil or gas. If the parcel of land qualifi ed to be drilled under this section is less than 150 feet in width, the producing interval of such well shall be as far from the lateral boundary lines of the property as is practicable.

To enforce the provisions of this section, the supervisor may require, at the time supervisor gives approval of notice of intention to drill, redrill or deepen, that a subsurface directional survey be made for such well, and that a plat of said directional survey be filed with the supervisor within fifteen (15) days of completion.

3606.1. The 150-foot restriction in Sections 3600 and elsewhere in this chapter shall apply only to wells drilled and producing from the same zone or pool; provided, however, that the well density shall not exceed one well per acre unless the supervisor shall determine that more than one zone or pool underlies the property and that it is not practical to produce from all of such zones or pools from a single well per acre and that such other zones or pools are being drained by offset wells. In such cases only, a maximum density of two wells per acre may be approved. These exceptions to the general spacing rule shall apply also to properties qualifying under Sections 3602 and 3606.

3607. The prohibition set forth in Section 3600 against drilling within 100 feet of any public street or highway shall not apply in the case of any street or highway which is opened through a field in which drilling was commenced prior to the opening of the street or highway.

3608. Where land aggregating less than one acre is surrounded by other lands, which other lands are subject to an oil and gas lease aggregating one acre or more, and if, under the provisions of Sections 3600 to 3607, inclusive, of the Public Resources Code, the drilling or producing of a well on said land is declared to be a public nuisance, said land shall, for oil and gas development purposes and to prevent waste and to protect the oil and gas rights of landowners, be deemed included in said oil and gas lease on said other lands, and shall be subject to all the terms and provisions thereof, when the State Oil and Gas Supervisor has caused to be recorded with the county recorder of the county in which said land aggregating less than one acre is located a declaration as hereinafter provided. A request for inclusion of surrounded land aggregating less than one acre may be filed with the supervisor at any time by either the lessee of such other lands or by the owner or lessee of such surrounded land or the supervisor may act upon his own motion. Before fi ling such request the lessee of such other lands shall make a reasonable effort to include each parcel of surrounded land, within the oil and gas lease upon such other lands.

There shall be attached to such request a statement which shall set forth the name or names of the record owner or record owners of said land aggregating less than one acre which is to be included in said oil and gas lease on said other lands, the legal description of said land aggregating less than one acre, name of the lessee of the oil and gas lease in which such land is to be included, and a reference to the book and page of the offi cial records of the county recorder where such oil and gas lease is recorded or a reference o the document number and date of recordation of such oil and gas lease. Within 20 days following receipt of such request and attached statement, the supervisor shall cause to be recorded with the county recorder of the county in which said land aggregating less than one acre is located, a declaration, signed by him or his assistant or deputy, that said land is deemed by the provisions of this section to be included in said oil and gas lease on said other lands. Such declaration shall set forth the same information required to be set forth in the statement attached to the request, and a copy thereof shall be mailed or otherwise delivered by the supervisor to the lessee. The county recorder shall accept such declaration for recordation and shall index such declaration in the names of all persons or corporations mentioned therein. From the time of recording thereof in the office of the county recorder such notice shall impart constructive notice of the contents thereof to all persons dealing with the land therein described.

The owners of the oil and gas mineral rights in said land so deemed included in said oil and gas lease on said other lands, as herein provided, shall thereafter receive in money, based upon the production of oil and gas from the leasehold including said land or land unitized or pooled therewith, a pro rata share of the landowners' royalty determined in accordance with the provisions of said oil and gas lease in the proportion that the area of said land bears to the aggregate of the total area covered by said oil and gas lease including the area of said land or as otherwise provided in said lease; provided further, that said owners of said oil and gas mineral rights in said land shall in no case receive less than their pro rata share determined, as herein provided, of the value of one-eighth part of the oil and gas produced, saved and sold from or

allocated to the operating unit comprising said leasehold on said other lands and said land, computed in accordance with the provisions of said oil and gas lease with respect to the computation of landowners' royalty; provided further that upon recordation of the statement by the supervisor, the owners of such oil and gas mineral rights in such land shall also receive a pro rata share of any other benefits thereafter accruing to the owners of the oil and gas mineral rights under the terms of the oil and gas lease on such other lands; and provided further, that without the consent of said owners of said land the lessee or operator of said oil and gas leasehold shall have no right to use the surface of said land nor to use the subsurface thereof down to a depth of 200 feet below the surface thereof.

Where said land aggregating less than one acre is surrounded by lands which are not subject to a single oil and gas lease but is surrounded by lands which are subject to two or more separate oil and gas leases, one or more of which oil or gas leases aggregates one acre or more, then in such event the said land aggregating less than one acre shall, as herein provided, be included within and be joined to that oil and gas lease aggregating one acre or more as to which said parcel of land aggregating less than one acre has the longest common boundary. If there is no longest common boundary, the request shall designate the lease, aggregating one acre or more, into which the parcel aggregating less than one acre shall be included by the declaration of the supervisor; otherwise the supervisor shall make such designation.

In determining the contiguity of any parcels of land for the purposes hereof, no road, street or alley shall be deemed to interrupt such contiguity.

3608.1. The owner or operator of any leasehold, into which land has been included under the provisions of Section 3608, shall cause to be recorded an appropriate quitclaim to such land in the proper county recorder's office when such leasehold has been terminated.

3609. Notwithstanding any other provisions of this chapter, if the supervisor determines, pursuant to rules and regulations and after a public hearing, that the development of a pool discovered after the effective date of this section for the production of oil and gas, or either, requires the adoption of a well-spacing pattern other than that specified in Sections 3600 to 3608.1, inclusive, in order to prevent waste and to increase the ultimate economic recovery of oil or gas, he may adopt a well-spacing plan to apply to the surface and subsurface of a designated pool. Such plan shall be applicable to all wells thereafter drilled or redrilled into such pool. Such plan may include a requirement that, as a prerequisite to approval to drill or redrill a well, all or certain specified parcels of land shall be included in a pooling or unit agreement. The supervisor may provide in the rules and regulations for mandatory pooling agreements in connection with the well-spacing order.

a. Density: One well per acre for fields producing after August 14, 1931, or as approved or ordered by the Supervisor for pools discovered after Jan. 1, 1974. PRC 3602, 3605

b. Lineal: See PRC 3600-3606.1 does not apply to fields producing on August 14, 1931. Applies to both oil and gas wells.

2. Exceptions

   a. Basis: For drilling islands and developing heavy hydrocarbons that necessitate closer well spacing. PRC 3602.1

   b. Approval: Through appeal to the State Oil and Gas Supervisor. PRC 3602.1

Pooling

1. Authority to establish voluntary: Yes

2. Authority to establish compulsory: Under certain conditions (following petition to adopt a well-spacing plan other than that stated in PRC 3600-3608.1).

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes, provisions as described in PRC 3630-3659. (For areas located in fields that have been producing for more than 20 years only.)

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

   a. Working interest: 75%.

   b. Royalty interest: 75%.

Drilling Permit

1. Require permits for:
   a. Drilling a producing or service well: Yes. PRC 3203

      3203. (a) The operator of any well, before commencing the work of drilling the well, shall file with the supervisor or the district deputy a written notice of intention to commence drilling. Drilling shall not commence until approval is given by the supervisor or the district deputy. If the supervisor or the district deputy fails to give the operator written response to the notice within 10 working days from the date of receipt, that failure shall be considered as an approval of the notice and the notice, for the purposes and intents of this chapter, shall be deemed a written report of the supervisor. If operations have not commenced within one year of receipt of the notice, the notice shall be deemed canceled. The notice shall contain the pertinent data the supervisor requires on printed

forms supplied by the division or on other forms acceptable to the supervisor. The supervisor may require other pertinent information to supplement the notice.
(b) After the completion of any well, this section also applies as far as may be, to the deepening or redrilling of the well, any operation involving the plugging of the well, or any operations permanently altering in any manner the casing of the well. The number or designation of any well, and the number or designation specified for any well in a notice filed as required by this section, shall not be changed without first obtaining a written consent of the supervisor.
(c) If an operator has failed to comply with an order of the supervisor, the supervisor may deny approval of proposed well operations until the operator brings its existing well operations into compliance with the order. If an operator has failed to pay a civil penalty, remedy a violation that it is required to remedy to the satisfaction of the supervisor pursuant to an order issued under Section 3236.5, or to pay any charges assessed under Article 7 (commencing with Section 3400), the supervisor may deny approval to the operator's proposed well operations until the operator pays the civil penalty, remedies the violation to the satisfaction of the supervisor, or pays the charges assessed under Article 7 (commencing with Section 3400).

b. Seismic drilling: No. (Permitting may be required by local agencies.)

c. Recompletion: Yes. PRC 3203

d. Plugging and abandoning: Yes. PRC 3229

PRC 3229. Before commencing any work to abandon any well, the owner or operator shall file with the supervisor or the district deputy a written notice of intention to abandon the well. Abandonment shall not proceed until approval is given by the supervisor or the district deputy. If the supervisor or the district deputy does not give the owner or operator a written response to the notice of intention within 10 working days, the proposed abandonment shall be deemed to have been approved and the notice of intention shall for the purposes of this chapter be deemed a written report of the supervisor.

If abandonment operations have not commenced within one year of receipt of the notice of intention, the notice of intention shall be deemed canceled.

2. Permit fee: None

a. Drilling: None

b. Seismic drilling: None

c. Recompletion: None

d. Plugging and abandoning: None

3. Require filing report of work performed: Yes. PRC 3215 & 3232

PRC 3215. Within 60 days after the date of cessation of drilling, rework, or abandonment operations, or the date of suspension of operations, true copies of the log, core record, and history of work performed, and, if made, true and reproducible copies of all electrical, physical, or chemical logs, tests, or surveys in such form as the supervisor may approve shall be filed with the district deputy. Upon a showing of hardship, the supervisor may extend the time within which to comply with the provisions of this section for a period not to exceed 60 additional days.

PRC 3232. The supervisor or the district deputy shall, within 10 days after the receipt of a written report of abandonment, furnish the owner or operator with a written final approval of abandonment, or a written disapproval of abandonment, setting forth the conditions upon which the disapproval is based.

Failure to abandon in accordance with the approved method of abandonment, or failure to notify the supervisor or the district deputy of any test required by the final approval of abandonment to be witnessed by the supervisor, the district deputy, or his or her inspector, or failure to furnish the supervisor or the district deputy, at his or her request, with any information regarding the condition of the well, shall constitute sufficient grounds for disapproval of the abandonment.

4. Sundry notices used: Yes. Notice of Intention to Drill New Well - Oil and Gas; Notice of Intention to Rework / Redrill Well; Notice of Intention to Abandon Well - Oil and Gas

Vertical Deviation

1. Regulation requirement: Yes

a. When is a directional survey necessary: Yes. (PRC 3606)

b. Filing of survey required: For all wells drilled directionally

c. Format of filing: Yes. (PRC 3215).

Casing and Tubing

1. Minimum amount required:

    a. Surface casing: Yes. (See California Code of Regulations).

    b. Production casing: Yes, when required. (Barefoot completions are still permitted.)

2. Minimum amount of cement required:

    a. Surface casing: Yes. Fill annular space from shoe to the surface.

    b. Production casing: Yes. At least 500 feet fill above oil and gas zones and anomalous pressure intervals, and to at least 100 feet above the base of freshwater zone.

    c. Setting time: No.

3. Tubing requirements:

    a. Oil wells: No.

    b. Gas wells:No.

<u>Hydraulic Fracturing</u>

1. Permitting: There are no laws specifically covering the practice of hydraulic fracturing. The Division is working to produce draft regulations for hydraulic fracturing.

    a. Before drilling: None.

    b. Before fracing: None.

    c. How long before: None.

2. Reporting Requirements: None.

    a. Where reported: None.

    b. When reported: None.

3. Source water requirements: None.

4. Mechanical Integrity: None.

    a. Cementing log required: None.

    b. Pressure testing: None.

c. Pressure monitoring: None.

d. Blowout preventer required: None.

5. Disposal of flowback fluids: None.

   a. Retaining pits: None.

   b. Tanks: None.

   c. Approved discharge to surface water: None.

   d. Underground injection: None.

6. Chemical disclosure requirement: None.

   a. Mandatory: None.

   b. Where disclosed: None.

   c. When disclosed (pre-fracing, post-fracing, both):

   d. Time limit to disclose: None.

   e. Information required to be disclosed: None.

   f. Trade secret protection: None.

   g. Required disclosure to health/emergency personnel: None.

Underground Injection

1. Agencies that control the underground injection of fluid by well class:
   The Division of Oil, Gas, and Geothermal Resources is the lead agency for the regulation of Class II injection wells. The U.S. Environmental Protection Agency delegated federal authority to the Division in 1983. The State's Regional Water Quality Control Boards regulate surface disposal.

   Class 2: California Division of Oil, Gas & Geothermal Resources
   Class 6: US EPA

Completion

1. Completion report required: Yes. (PRC 3215)

   a. Time limit: Within 60 days after completion.

b. Where submitted: To the appropriate district office of the Division of Oil, Gas, and Geothermal Resources.

2. Well logs required to be filed: Yes. (PRC 3215)

a. Time limit: Within 60 days after such completion.

b. Where submitted: To the appropriate district office of the Division of Oil, Gas, and Geothermal Resources.

c. Confidential time period: If requested. (PRC 3234). Not to exceed two years for onshore exploratory wells and not to exceed five years for offshore exploratory wells. Period may be extended for exploratory and offshore wells upon a showing of extenuating circumstances. Development wells may be granted confidential status if the Supervisor determines there are extenuating circumstances.

PRC 3234 (a) (1) Except as otherwise provided in this section, all the well records, including production reports, of any owner or operator which are fi led pursuant to this chapter are public records for purposes of the California Public Records Act (Chapter 3.5 (commencing with Section 6250) of Division 7 of Title 1 of the Government Code).

(2) Those records are public records when filed with the division unless the owner or operator requests, in writing, that the division maintain the well records of onshore exploratory wells or offshore exploratory wells as confidential information. The records of other wells may be maintained as confidential information if, based upon information in a written request of the owner or operator, the supervisor determines there are extenuating circumstances. For onshore wells, the confidential period shall not exceed two years from the cessation of drilling operations as defined in subdivision (e).
For offshore wells, the confidential period shall not exceed five years from the cessation of drilling operations as specified in subdivision (e).
(3) Well records maintained as confidential information by the division shall be open to inspection by those persons who are authorized by the owner or operator in writing. Confidential status shall not apply to state officers charged with regulating well operations, the director, or as provided in subdivision (c).
(4) On receipt by the supervisor of a written request documenting extenuating circumstances relating to a particular well, including a well on an expired or terminated lease, the supervisor may extend the period of confidentiality for six months. For onshore wells, the total period of confidentiality, including all extensions, shall not exceed four years from the cessation of drilling operations as specified in subdivision (e), and for offshore wells the total period of confidentiality, including all extensions, shall not exceed seven years

from the cessation of drilling operations as specified in subdivision (e), unless the director approves a longer period after a 30-day public notice and comment period. The director shall initiate and conduct a public hearing on receipt of a written complaint.

(b) Notwithstanding the provisions of subdivision (a) regarding the period of confidentiality, the well records for onshore and offshore wells shall become public records when the supervisor is notified that the lease has expired or terminated.

(c) Production reports filed pursuant to Section 3227 shall be open to inspection by the State Board of Equalization or its duly appointed representatives when making a survey pursuant to Section 1815 of the Revenue and Taxation Code or when valuing state-assessed property pursuant to Section 755 of the Revenue and Taxation Code, and by the assessor of the county in which a well referred to in Section 3227 is located.

(d) For the purposes of this section, "well records" does not include either experimental logs and tests or interpretive data not generally available to all operators, as defined by the supervisor by regulation.

d. Available for public use: Yes

e. Log catalog available: Yes

3. Multiple completion regulation: No

   a. Approval obtained: N/A

4. Commingling in well bore: Yes

   a. Approval obtained: Commingled production could be stopped if it is proven that such practices are detrimental to the pools.

Oil Production

1. Definition of an oil well: PRC 3008

   PRC 3008. (a) "Well" means any oil or gas well or well for the discovery of oil or gas; any well on lands producing or reasonably presumed to contain oil or gas; any well drilled for the purpose of injecting fluids or gas for stimulating oil or gas recovery, repressuring or pressure maintenance of oil or gas reservoirs, or disposing of waste fl uids from an oil or gas field; any well used to inject or withdraw gas from an underground storage facility; or any well drilled within or adjacent to an oil or gas pool for the purpose of obtaining water to be used in production stimulation or repressuring operations.

   (b) "Prospect well" or "exploratory well" means any well drilled to extend a field or explore a new, potentially productive reservoir.

   (c) "Active observation well" means a well being used for the sole purpose of gathering reservoir data, such as pressure or temperature in a reservoir being

currently produced or injected by the operator, and the data is gathered at least once every three years.
(d) "Idle well" means any well that has not produced oil or natural gas or has not been used for injection for six consecutive months of continuous operation during the last five or more years. An idle well does not include an active observation well.
(e) "Long-term idle well" means any well that has not produced oil or natural gas or has not been used for injection for six consecutive months of continuous operation during the last 10 or more years. A long-term idle well does not include an active observation well.

2. Potential tests required:

    a. Time interval: No

    b. Witness required: No

3. Maximum gas-oil ratio: Yes. Field rules are established.

    a. Provision for limiting gas-oil ratio: Yes. (PRC 3307). Such production that may be considered unreasonable waste of natural gas. (PRC 3300-3314).

    b. Exception to limiting gas-oil ratio: Yes, unusual circumstances.

4. Bottom-hole pressure test reports required: Yes, if BHP recordings are made.

    a. Periodical bottom-hole pressure surveys: Same as above.

5. Commingling oil in common facilities: Yes

6. Measurement involving meters: Yes

7. Production reports:

    a. By lease: No

    b. By well: Yes. PRC 3227

    c. Time limit: Within 30 days of end of reporting month.

Gas Production

1. Definition of a gas well: A well producing nonassociated gas.

2. Pressure base 14.73 psia @ 60 degrees F.

3. Initial potential tests: No
    a. Time interval: N/A
    b. Witness required: N/A
4. Bottom-hole pressure test reports required: Yes, if BHP recordings are made.
    a. Periodical bottom-hole pressure surveys: Same as above
5. Commingling of gas in common facilities: Yes
6. Measurement involving meters: Yes
7. Production reports:
    a. By lease: No
    b. By well: Yes. PRC 3227
    c.
    d. Time limits: Within 30 days of end of reporting month.

FLORIDA

Administration

1. Official name of agency regulating oil/gas exploration & production: Oil & Gas Section, Bureau of Mining & Minerals Regulation, 2051 E. Paul Dirac Drive, Tallahassee, FL 32310. Phone (850) 488-8217.

2. Contact for regulatory updates: Dave Taylor, david.m.taylor@dep.state.fl.us

3. Docketing procedure: Hearings held on Department initiative by petition of a party of interest and after notice and publication (at least three weeks). Hearings held in office of Department unless otherwise designated. (F.S. 377.31)

    a. Emergency orders: Yes. Order effective for 90 days only or until public hearing on the issue.

    b. Notice: Department must give minimum of three weeks public notice.

4. Agency regulating air emissions: Division of Air Resource Management, Florida Department of Environmental Protection, 850.717.9000

5. Agency regulating water quality: Bureau of Water Facilities Regulation, Dept of Environmental Protection, 850-245-8600

License

1. License required:

2. Conditions of license:

Bond/Surety

1. Purpose of surety: Plugging/Site Clean-up if operator goes bankrupt

2. Plugging and restoration: Yes

3. Compliance bond required: Yes

4. Types of surety accepted: Bond, Letter of Credit, Cash or Asset Deposit, and Participation in Minerals Trust Fund (requires annual payments).

5. Conditions of bond:

    a. Amount per well: $50K for 0-9000 ft. $100K for ≥9001 ft. Double these amounts if well is successful and will be retained under an operating permit.

b. Amount of blanket bond: $1,000,000 (10 well limit).

Land Leasing Information

1. Leasing method:
2. Notice method:
3. Minimum bidding $ (per acre):
4. Qualification of the bidder:
5. State statutes:
6. Maximum acres:
7. Royalty rates:
8. Agency in control of leasing: Not regulated other than county filings.

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements

    a. Density: 40 ac (≤7000 ft) and 160 acres (>7000 ft) for oil wells and 640 ac for gas wells.

    b. Lineal: Longest diagonal (of other than a square unit) may not exceed length of diagonal of a square of same size unit by more than 25% for both oil and gas wells.

2. Exceptions

    a. Basis: 10% of size of unit designated.

    b. Approval: Director, Division of Water Resource Management, Florida Department of Environmental Protection.

Pooling

1. Authority to establish voluntary: Yes
2. Authority to establish compulsory: Yes

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes
2. Minimum percentage of voluntary agreement before approval of compulsory unitization:
    a. Working interest: 75%.
    b. Royalty interest: 75%.

Drilling Permit

1. Require permits for:
    a. Drilling a producing or service well: Yes
    b. Seismic drilling: Yes. Permitting also required for Vibe, Gravity, and Magnetic surveys.
    c. Recompletion: No, provided bhl meets original condition of permit.
    d. Plugging and abandoning: Yes, prior approval is required, but no written permit is issued.
2. Permit fee:
    a. Drilling: $2000
    b. Seismic drilling: $500
    c. Recompletion: None, provided bbl meets permit requirements. Drilling a new BHL outside of original drilling unit would require a new permit.
    d. Plugging and abandoning: None.
3. Require filing report of work performed: Yes.
4. Sundry notices used:

Vertical Deviation

1. Regulation requirement:

a. When is a directional survey necessary: Intentional deviations in well or if sum of vertical surveys suggests a non- routine location (see 62c-26.004), or if H_2S is expected.

b. Filing of survey required: Yes.

c. Format of filing: Directional report including coordinates per depth, well trace, and cross section.

Casing and Tubing

1. Minimum amount required:

   a. Surface casing: Set below deepest underground source of drinking water.

   b. Production casing: N/A

2. Minimum amount of cement required:

   a. Surface casing: Cemented to surface.

   b. Production casing: Sufficient quantity of cement to fill the annular space at least 1,500 feet above the uppermost producible hydrocarbon zone.

   c. Setting time: After cementing, drilling shall be discontinued for 12 hours if float valves are used; 24 hours if such valves are not used or do not hold pressure.

3. Tubing requirements:

   a. Oil wells: Yes.

   b. Gas wells: Yes.

Hydraulic Fracturing

1. Permitting: Not in current regulations. Reviewed on case by case basis. Fracing generally not practiced in Florida. All commercial oil/gas reservoirs are in limestone/dolomite.

   a. Before drilling:

   b. Before fracing:

   c. How long before:

2. Reporting Requirements:

   a. Where reported:

b. When reported:

3. Source water requirements:

4. Mechanical Integrity:

   a. Cementing log required:

   b. Pressure testing:

   c. Pressure monitoring:

   d. Blowout preventer required:

5. Disposal of flowback fluids:

   a. Retaining pits:

   b. Tanks:

   c. Approved discharge to surface water:

   d. Underground injection:

6. Chemical disclosure requirement:

   a. Mandatory:

   b. Where disclosed:

   c. When disclosed (pre-fracing, post-fracing, both):

   d. Time limit to disclose:

   e. Information required to be disclosed:

   f. Trade secret protection:

   g. Required disclosure to health/emergency personnel:

<u>Underground Injection</u>

1. Agencies that control the underground injection of fluid by well class:

   a. Class II: Regulated by both EPA Atlanta and Florida Department of Environmental Protection, Oil & Gas Section.

   b. Other Classes: Regulated by UIC Section, Florida Department of Environmental Protection, 850-245-8655.

Completion

1. Completion report required:
    a. Time limit: 30 days.
    b. Where submitted: Oil & Gas Section Office in Tallahassee.
2. Well logs required to be filed
    a. Time limit: 30 days.
    b. Where submitted: Oil & Gas Section Office in Tallahassee.
    c. Confidential time period: 1 year.
    d. Available for public use: After 1 year.
    e. Log catalog available: Yes, and most logs are also available digitally.
3. Multiple completion regulation: Yes. One permit per surface hole.
    a. Approval obtained: As part of drilling permit. Bottom hole targets can be changed with approval of Department field inspectors.
4. Commingling in well bore: No
    a. Approval obtained: N/A

Oil Production

1. Definition of an oil well: None.
    a. Potential tests required: MIT, BOP
    b. Time interval: BOP: Weekly. MIT: 5yr (production wells), 2 yr (Class II wells)
    c. Witness required: Not required, but encouraged.
2. Maximum gas-oil ratio: 2,000 cubic feet of gas to 1 Bbl of oil.
    a. Provision for limiting gas-oil ratio: Yes. Any well producing more than 2,000 GOR reduced to daily oil allowable x 2,000 divided by GOR.
    b. Exception to limiting gas-oil ratio: No.
3. Bottom-hole pressure test reports required: Yes.

a. Periodical bottom-hole pressure surveys: Yes.

4. Commingling oil in common facilities: Yes, if field is unitized or meters are utilized prior to commingling.

5. Measurement involving meters: Yes.

6. Production reports:

   a. By lease: No.

   b. By well: Yes.

   c. Time limit: 30 days.

Gas Production

1. Definition of a gas well: None

2. Pressure base 14.65 psia @ 60 degrees F.

3. Initial potential tests: Yes. (No gas wells in Florida.)

   a. Time interval: Five days.

   b. Witness required: They may be witnessed.

4. Bottom-hole pressure test reports required: Yes.

   a. Periodical bottom-hole pressure surveys: Yes.

5. Commingling of gas in common facilities: Yes, if field is unitized or meters are utilized prior to commingling.

6. Measurement involving meters: Yes.

7. Production reports:

   a. By lease: No.

   b. By well: Yes.

   c. Time limits: 30 days.

GEORGIA

Note: Georgia did not submit updated information for 2012. Below is the information from the 2007 survey.

Administration

1. Official name of agency regulating oil/gas exploration & production: Environmental Protection Division, Department of Natural Resources, Geologic Survey Branch, Room 400, 19 Martin Luther King Jr. Dr., S. W., Atlanta, GA 30334-9004. Phone (404) 656-3214. (Rules and Regulations are available from the above).

2. Contact for regulatory updates: N/A

3. Docketing procedure: None; permits are issued or denied within 4 weeks of properly completed applications.

    a. Emergency orders: The Director of the Environmental Protection Division may issue emergency orders for safety purposes or to protect ground and/or surface water.

    b. Notice: N/A

4. Agency regulating air emissions: N/A

5. Agency regulating water quality: N/A

License

1. License required: N/A

2. Conditions of license: N/A

Bond/Surety

1. Purpose of surety: N/A

2. Plugging and restoration: N/A

3. Compliance bond required: Yes.

4. Types of surety accepted: N/A

5. Conditions of bond: Well must be plugged according to agreed upon specifications. All information developed from the well must be submitted to the Geologic Survey.

    a. Amount per well: Flexible; up to $50,000.

    b. Amount of blanket bond: $50,000 and adequate documentation of financial resources to plug wells.

Land Leasing Information

1. Leasing method: Sealed competitive bids.

2. Notice method: Once a week for 2 consecutive weeks in the legal organ and in one or more newspapers in the county or counties.

3. Minimum bidding $ (per acre): N/A

4. Qualification of the bidder: N/A

5. State statutes: §50-16-43

6. Maximum acres: N/A

7. Royalty rates: N/A

8. Agency in control of leasing: N/A

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements: Flexible; to insure public safety at well or to maximize production; refer to Rules and Regulations.

    a. Density: Flexible.

    b. Lineal: Flexible.

2. Exceptions: Yes.

a. Basis: Adequate technical justification.

b. Approval: By the Director of the Environmental Protection Division.

Pooling

1. Authority to establish voluntary: Yes.

2. Authority to establish compulsory: Yes.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: N/A at present; but rules and regulations provide for compulsory unitization.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

    a. Working interest: N/A.

    b. Royalty interest: N/A.

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: Yes.

    b. Seismic drilling: Yes, from Department of Transportation with concurrence from Geologic Survey.

    c. Recompletion: Yes.

    d. Plugging and abandoning: Yes.

2. Permit fee:

    a. Drilling: Yes, $25.

    b. Seismic drilling: No.

    c. Recompletion: N/A.

    d. Plugging and abandoning: N/A.

3. Require filing report of work performed: Yes, well completion report.

4. Sundry notices used: N/A

Vertical Deviation

1. Regulation requirement: Flexible; refer to Rules and Regulations.
    a. When is a directional survey necessary: Flexible.
    b. Filing of survey required: Yes.
    c. Format of filing: N/A

Casing and Tubing

1. Minimum amount required:
    a. Surface casing: Yes, to bottom of all fresh water zones.
    b. Production casing: N/A.
2. Minimum amount of cement required:
    a. Surface casing: Yes, entire annular space.
    b. Production casing: N/A.
    c. Setting time: Not specified.
3. Tubing requirements:
    a. Oil wells: Not specified.
    b. Gas wells: Not specified.

Hydraulic Fracturing

1. Permitting: N/A
    a. Before drilling: N/A
    b. Before fracing: N/A
    c. How long before: N/A
2. Reporting Requirements: N/A
    a. Where reported: N/A
    b. When reported: N/A
3. Source water requirements: N/A

4. Mechanical Integrity: N/A
    a. Cementing log required: N/A
    b. Pressure testing: N/A
    c. Pressure monitoring: N/A
    d. Blowout preventer required: N/A
5. Disposal of flowback fluids: N/A
    a. Retaining pits: N/A
    b. Tanks: N/A
    c. Approved discharge to surface water: N/A
    d. Underground injection: N/A
6. Chemical disclosure requirement: N/A
    a. Mandatory: N/A
    b. Where disclosed: N/A
    c. When disclosed (pre-fracing, post-fracing, both): N/A
    d. Time limit to disclose: N/A
    e. Information required to be disclosed: N/A
    f. Trade secret protection: N/A
    g. Required disclosure to health/emergency personnel: N/A

Underground Injection

1. Agencies that control the underground injection of fluid by well class: N/A

Completion

1. Completion report required: Yes.
    a. Time limit: 45 days after completion.
    b. Where submitted: State Geologist, Georgia Geologic Survey, Room 400, 19 Martin Luther King Dr., S. W., Atlanta, GA 30334.
2. Well logs required to be filed: Yes.

a. Time limit: 45 days after well completion.

b. Where submitted: State Geologist, Georgia Geologic Survey, Room 400, 19 Martin Luther King Dr., S. W., Atlanta, GA 30334.

c. Confidential time period: Yes. Six months or longer.

d. Available for public use: Yes, after confidential period expires.

e. Log catalog available: Yes.

3. Multiple completion regulation: Yes.

   a. Approval obtained: Yes.

4. Commingling in well bore: Yes.

   a. Approval obtained: Yes.

Oil Production

1. Definition of an oil well: Georgia has no production as yet, so has not legally defined the term "oil well." To qualify for the oil well production bonus, the law requires at least 100 barrels of oil per day production.

2. Potential tests required: N/A.

   a. Time interval: N/A.

   b. Witness required: N/A.

3. Maximum gas-oil ratio: N/A.

   a. Provision for limiting gas-oil ratio: N/A.

   b. Exception to limiting gas-oil ratio: N/A.

4. Bottom-hole pressure test reports required: N/A.

   a. Periodical bottom-hole pressure surveys: N/A.

5. Commingling oil in common facilities: N/A.

6. Measurement involving meters: N/A.

7. Production reports: N/A.

   a. By lease: N/A.

b. By well: N/A.

c. Time limit: N/A.

Gas Production

1. Definition of a gas well: Georgia has no production as yet, so has not legally defined the term "gas well".

2. Pressure base ____ N/A_ psia @ _____degrees F.

3. Initial potential tests: N/A.

   a. Time interval: N/A.

   b. Witness required: N/A.

4. Bottom-hole pressure test reports required: N/A.

   a. Periodical bottom-hole pressure surveys: N/A.

5. Commingling of gas in common facilities: N/A.

6. Measurement involving meters: N/A.

7. Production reports: N/A.

   a. By lease: N/A.

   b. By well: N/A.

   c. Time limits: N/A.

IDAHO

Administration

1. Official name of agency regulating oil/gas exploration & production: Idaho Department of Lands

2. Contact for regulatory updates: Eric Wilson, Minerals Program Manager, Idaho Department of Lands, 300 N. 6th St., Suite 103, Boise, Idaho

3. Docketing procedure: File six (6) copies of a verified application or complaint to the Director of IDL as secretary of the Conservation Commission, and pay a filing fee of fifty dollars ($50).

    a. Emergency orders: Idaho Administrative Procedures Act, Title 67, Chapter 52, Idaho Code.

    b. Notice: Idaho Administrative Procedures Act, Title 67, Chapter 52, Idaho Code.

4. Agency regulating air emissions: Idaho Department of Environmental Quality

5. Agency regulating water quality: Idaho Department of Environmental Quality

License

1. License required: N/A

2. Conditions of license: N/A

Bond/Surety

1. Purpose of surety: Well plugging, surface reclamation, protection of surface estate if separate from mineral estate.

2. Plugging and restoration: Both are required by rule, IDAPA 20.07.02

3. Compliance bond required: Yes

4. Types of surety accepted: Cash or surety bond.

5. Conditions of bond:

    a. Amount per well: $10,000 plus $1 per foot

    b. Amount of blanket bond:

Up to ten (10) wells, fifty thousand dollars ($50,000);
Eleven (11) to thirty (30) wells, one hundred thousand dollars ($100,000);
More than thirty (30) wells, one hundred fifty thousand dollars ($150,000).

Land Leasing Information

1. Leasing method: Cash bonus bidding at oral auction required.

2. Notice method: No less than 30 days prior to the date of the auction in 2 newspapers of general circulation in Idaho and in one or more major trade journals of the department's choice.

3. Minimum bidding $ (per acre): $0.25/acre bonus

4. Qualification of the bidder: Any person as defined under IDAPA 20.03.16.010.15

5. State statutes: Title 47, Chapter 8, Idaho Code

6. Maximum acres: 640 or one Section

7. Royalty rates: minimum of 12.5%

8. Agency in control of leasing: Idaho Department of Lands

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements

    a. Density: Oil well default spacing is one well per 40 acres. Gas well default spacing is one well per 640 acres.

    b. Lineal: Oil well is 920 foot minimum. Gas well has not analogous minimum linear distance.

2. Exceptions

a. Basis: Discretion of the Commission based on presentation of good cause by applicant.

b. Approval: Application to be filed with Commission. Must show reason for exception request, and show consent by the owners of all drilling units (established or projected) directly or diagonally offsetting the drilling unit involved with the exception.

Pooling

1. Authority to establish voluntary: Title 47, Chapter 3, Idaho Code, Section 47-322.

2. Authority to establish compulsory: Title 47, Chapter 3, Idaho Code, Section 47-322.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Title 47, Chapter 3, Idaho Code, Section 47-322.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

    a. Working interest: N/A

    b. Royalty interest: N/A

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: Yes

    b. Seismic drilling: Yes

    c. Recompletion: Yes

    d. Plugging and abandoning: Yes

2. Permit fee:

    a. Drilling: $2,000

    b. Seismic drilling: $800 to $2,500

    c. Recompletion: $500 to deepen, $1,100 to treat or fracture

    d. Plugging and abandoning: $500

3. Require filing report of work performed: Yes

4. Sundry notices used: Yes

Vertical Deviation

1. Regulation requirement:

    a. When is a directional survey necessary: If well deviates from vertical. Bottom hole survey required for all holes.

    b. Filing of survey required: Yes.

    c. Format of filing: Digital and paper. If logs were run in color, then the submitted copies shall also be in color. Digital formats must be Tiff and LAS 2.0 or higher.

Casing and Tubing

1. Minimum amount required:

    a. Surface casing: 10% of total depth. 200 feet if formations are unknown, otherwise must be set down to first low permeable and competent unit.

    b. Production casing: At least 100 feet of overlap in next larger casing required.

2. Minimum amount of cement required:

    a. Surface casing: Cement to surface.

    b. Production casing: Depends on conditions and casing program design, API SPEC 5CT must be followed.

    c. Setting time: API SPEC 10A must be followed.

3. Tubing requirements:

    a. Oil wells: API SPEC 5CT must be followed.

    b. Gas wells: API SPEC 5CT must be followed.

Hydraulic Fracturing

1. Permitting:

    a. Before drilling: Submit a plan as per IDAPA 20.07.02.055 and 056 if fracturing is anticipated.

b. Before fracing: Submit a plan as per IDAPA 20.07.02.055 and 056.

c. How long before: No time limit for permit review, so a few weeks is recommended.

2. Reporting Requirements: Post treatment reporting is required, with volumes and chemicals used identified, and other information as stated in IDAPA 20.07.02.055.06.

   a. Where reported: To IDL

   b. When reported: Within 30 days of well treatment

3. Source water requirements: Source must be identified, or type of base fluid.

4. Mechanical Integrity:

   a. Cementing log required: Yes

   b. Pressure testing: Yes

   c. Pressure monitoring: Yes

   d. Blowout preventer required: Yes

5. Disposal of flowback fluids:

   a. Retaining pits: Method and timeline for fluid disposal must be in application, and post-treatment reporting requires verification of disposal. Temporary storage or evaporation is allowed, but fluids in a pit must be disposed of within 6 months.

   b. Tanks: Method and timeline for fluid disposal must be in application, and post-treatment reporting requires verification of disposal. Temporary storage or evaporation is allowed.

   c. Approved discharge to surface water: No, unless it meets surface water quality standards.

   d. Underground injction: No, Class II injection wells are currently not allowed in Idaho. A rulemaking is currently underway to allow them.

6. Chemical disclosure requirement:

   a. Mandatory: Yes

   b. Where disclosed: In application

   c. When disclosed (pre-fracing, post-fracing, both): both

d. Time limit to disclose: 30 days after treatment

e. Information required to be disclosed: For well treatments generally: Additives, meaning any substance or any combination of substances including proppant, having a specified purpose that is combined with base treatment fluid by trade name, if available, and MSDS for each additive; Type of proppant(s); Anticipated percentages by volume and total volumes of base treatment fluid, individual additives, and proppant(s);

For hydraulic fracturing specifically:

Detailed information on the base stimulation fluid source. For each stage of the well stimulation program, provide the chemical additives and proppants and concentrations or rates proposed to be mixed and injected, including:

i. Stimulation fluid identified by additive type (such as but not limited to acid, biocide, breaker, brine, corrosion inhibitor, crosslinker, demulsifier, friction reducer, gel, iron control, oxygen scavenger, pH adjusting agent, proppant, scale inhibitor, surfactant);

ii. The chemical compound name and Chemical Abstracts Service (CAS) number as found on the previously submitted MSDS shall be identified (such as the additive biocide is glutaraldehyde, or the additive breaker is ammonium persulfate, or the proppant is silica or quartz sand, and so on for each additive used);

iii. The proposed rate or concentration for each additive and the total volume of each shall be provided (such as gel as pounds per thousand gallons, or biocide at gallons per thousand gallons, or proppant at pounds per gallon, or expressed as percent by weight or percent by volume, or parts per million, or parts per billion); and

iv. The formulary disclosure of the chemical compounds used in the well stimulation(s) for the purpose of protecting public health and safety.

f. Trade secret protection: Yes

g. Required disclosure to health/emergency personnel: Yes

Underground Injection

1. Agencies that control the underground injection of fluid by well class: Idaho Department of Water Resources.

Completion

1. Completion report required:

a. Time limit: 30 days after completion.

b. Where submitted: Any IDL office

2. Well logs required to be filed

a. Time limit: 30 days after being run.

b. Where submitted: Any IDL office

c. Confidential time period: One year from date of filing the logs.

d. Available for public use: After the one year.

e. Log catalog available: Not currently. Idaho Geological Survey has all logs prior to the year 2005 (inactive permits).

3. Multiple completion regulation:

a. Approval obtained: Yes, under IDAPA 20.07.02.220.

4. Commingling in well bore:

a. Approval obtained: Yes, upon approval by the Commission under IDAPA 20.07.02.210.

Oil Production

1. Definition of an oil well: Any well capable of primarily producing oil in paying quantities, but not a gas well (IDAPA 20.07.02.10.31).

2. Potential tests required:

a. Time interval: Prior to production.

b. Witness required: No.

3. Maximum gas-oil ratio:

a. Provision for limiting gas-oil ratio: Inefficient ratios that lead to waste are prohibited, but the ratio is not defined.

b. Exception to limiting gas-oil ratio: Hearing process as per IDAPA 20.07.02.280.

4. Bottom-hole pressure test reports required:

a. Periodical bottom-hole pressure surveys: N/A

5. Commingling oil in common facilities: Each well must be metered separately for royalty interest determination, then commingling may occur.

6. Measurement involving meters: Yes, or by tank levels. Corrections for impurities, temperature, and specific gravity are required.

7. Production reports:

    a. By lease: Yes, monthly for state leases.

    b. By well: Yes, required by the Commission for severance tax auditing.

    c. Time limit: For Commission purposes, on or before the twentieth (20th) of the next month following the preceding quarter in which the tax accrued.

<u>Gas Production</u>

1. Definition of a gas well:

    a. A well which produces primarily natural gas;

    b. Any well capable of producing gas in commercial quantities and also producing oil from the same common source of supply but not in commercial quantities; or

    c. Any well classed as a gas well by the Commission for any reason.

2. Pressure base _14.73_____ psia @ __60_____degrees F.

3. Initial potential tests:

    a. Time interval: Prior to production.

    b. Witness required: No.

4. Bottom-hole pressure test reports required:

    a. Periodical bottom-hole pressure surveys: N/A

5. Commingling of gas in common facilities: Each well must be metered separately for royalty interest determination, then commingling may occur.

6. Measurement involving meters: Yes.

7. Production reports:

    a. By lease: Yes, monthly for state leases.

    b. By well: Yes, required by the Commission for severance tax auditing.

c. Time limits: For Commission purposes, on or before the twentieth (20th) of the next month following the preceding quarter in which the tax accrued.

ILLINOIS

Administration

1. Official name of agency regulating oil/gas exploration & production:

   Department of Natural Resources, Office of Mines and Minerals, Division of Oil and Gas, One Natural Resources Way, Springfield, IL 62702-1271. Phone (217) 782-7756.

2. Contact for regulatory updates: Doug Shutt 217 782-7556, doug.shutt@illinois.gov

3. Docketing procedure: Upon receipt of proper application, the Department shall promptly fix a date for hearing and cause notice of the hearing to be given.

   a. Emergency orders: Yes, for a period of 30 days or until a hearing is held.

   b. Notice: Notice of hearings will be published at least ten days prior to date of hearing by the Department.

4. Agency regulating air emissions: Illinois EPA

5. Agency regulating water quality: Illinois EPA

License

1. License required: NA

2. Conditions of license: NA

Bond/Surety

1. Purpose of surety: Penalty

2. Plugging and restoration: Yes, Funded by ½ of the annual well fees and salvage of the well equipment.

3. Compliance bond required: Only for operators on record with the Department for less than two years. No bond required after that period.

4. Types of surety accepted: Surety, Letter of Credit, and Certificate of Deposit.

5. Conditions of bond: Must be carried until two consecutive years of annual fees are paid or until the well or wells is/are plugged or transferred.

a. Amount per well: Amount per well: $1,500 less than 2,000 feet. $3,000 over 2,000 feet

b. Amount of blanket bond:

0 - 25 wells	$25,000
26 - 50 wells	$ 50,000
51 or more wells	$100,0000

Land Leasing Information

1. Leasing Method: Sealed competitive bids on lands designated by state. State may reject all bids. Drilling on lands owned by Department of Natural Resources is prohibited.

2. Notice Method: Public notice by publication in newspaper or other publications with statewide distribution and notice given to persons on department maintained lease notice list.

3. Minimum bidding $ (per acre): Minimum acceptable royalty rate – no less than 12 ½ %. Minimum bonuses in addition to the set royalty provision established at time of bid solicitation.

4. Qualification of bidder: Post bond and have no outstanding violations of Oil and Gas Act.

5. State Statutes: Oil and Gas Wells on Public Lands Act 5 ILCS 615/1 et. seq.

6. Maximum acres: Variable, to be determined at time of bid solicitation.

7. Royalty rates: A minimum of 12 ½ %.

8. Agency in control of leasing: IDNR or Illinois Department of Transportation.

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements

    a. Density: Oil - 10 acres for an oil well in a sandstone, 20 acres for an oil well in limestone, 40 acres for an oil well deeper than 4,000 feet. Gas - 10 acres for a gas well in a sandstone, 20 acres for a gas well in a limestone, 40 acres over 2,000 feet but less than 5,000 feet, 160 acres over 5,000 feet for discovery well, offset well spacing set by hearing.

    b. Lineal: For an oil or gas well not less than 330 feet from the nearest external boundary lines of the drilling unit.

2. Exceptions

    a. Basis: Topographical conditions, irregular section, secondary recovery operations, location over mine, or geological conditions.

    b. Approval: Administratively after verification of submitted information or by hearing depending on basis stated above.

Pooling

1. Authority to establish voluntary: Yes

2. Authority to establish compulsory: No

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: No

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

    a. Working interest: 51%

    b. Royalty interest: 51%

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: Yes

    b. Seismic drilling: No

c. Recompletion: Yes, if well drilled deeper or converted for use other than originally permitted.

d. Plugging and abandoning: No

2. Permit fee:

a. Drilling: $100

b. Seismic drilling: NA

c. Recompletion: 100, if well drilled deeper or converted for use other than originally permitted.

d. Plugging and abandoning: No

3. Require filing report of work performed: Yes

4. Sundry notices used: Yes

Vertical Deviation

1. Regulation requirement:

a. When is a directional survey necessary: A proposed vertical deviation filed with permit application with actual survey required to be filed after well drilled.

b. Filing of survey required: yes

c. Format of filing: paper

Casing and Tubing

1. Minimum amount required:

Surface casing: Yes, depth based on local conditions.

Production casing: Yes, set no higher than 50 feet above the top of the uppermost producing interval.

2. Minimum amount of cement required:

a. Surface casing: Circulated to surface.

b. Production casing: yes, minimum of 250 feet above producing interval.

c. Setting time: yes, minimum of four hours for surface casing before commencing drilling. No requirements for production casing.

3. Tubing requirements:

    a. Oil wells: No

    b. Gas wells: No

Hydraulic Fracturing

1. Permitting: Legislation is pending in various formats. Nothing has been adopted as of the date of this survey.

    a. Before drilling: NA

    b. Before fracing: NA

    c. How long before: NA

2. Reporting Requirements: NA

    a. Where reported: NA

    b. When reported: NA

3. Source water requirements: NA

4. Mechanical Integrity: NA

    a. Cementing log required: NA

    b. Pressure testing: NA

    c. Pressure monitoring: NA

    d. Blowout preventer required: NA

5. Disposal of flowback fluids: NA

    a. Retaining pits: NA

    b. Tanks: NA

c. Approved discharge to surface water: NA

d. Underground injection: NA

6. Chemical disclosure requirement: NA

a. Mandatory: NA

b. Where disclosed: NA

c. When disclosed (pre-fracing, post-fracing, both): NA

d. Time limit to disclose: NA

e. Information required to be disclosed: NA

f. Trade secret protection: NA

g. Required disclosure to health/emergency personnel: NA

Underground Injection

1. Agencies that control the underground injection of fluid by well class: IDNR for Class II, IEPA for Class I, IV, and V, USEPA for VI.

Completion

1. Completion report required: Yes

a. Time limit: Within 30 days of the completion of the well.

b. Where submitted: Department of Natural Resources, Office of Mines and Minerals, Division of Oil and Gas, One Natural Resources Way, Springfield, IL 62702-1271.

2. Well logs required to be filed: Yes

a. Time limit: Within 90 days after drilling ceases.

b. Where submitted: State Geological Survey, Geological Records Unit, 615 East Peabody Drive, Champaign, IL 61820.

c. Confidential time period: Yes, if requested. Two years from date of permit.

d. Available for public use: Yes

e. Log catalog available: Unknown

3. Multiple completion regulation: No, unless well spacing is affected by multiple zones

    a. Approval obtained: Authorization obtained during permit process.

4. Commingling in well bore: Yes

    a. Approval obtained: Not Required

Oil Production

Definition of an oil well: "Oil Well" shall mean any well drilled for the production of oil.

1. Potential tests required: NO

    a. Time interval: NA

    b. Witness required: NA

2. Maximum gas-oil ratio: No

    a. Provision for limiting gas-oil ratio: NA

    b. Exception to limiting gas-oil ratio: NA

3. Bottom-hole pressure test reports required: No

    a. Periodical bottom-hole pressure surveys: No

4. Commingling oil in common facilities: No

5. Measurement involving meters: No

6. Production reports:

    a. By lease: NA

    b. By well: NA

    c. Time limit: NA

Gas Production

Definition of a gas well: "Gas Well" means a well with a gas to oil production ratio equal to or greater than 10,000 cubic feet of gas to one barrel of oil.

1. Pressure base 14.73 psia @ 60 degrees F.

2. Initial potential tests: No
    a. Time interval: NA
    b. Witness required: NA
3. Bottom-hole pressure test reports required: NA
    a. Periodical bottom-hole pressure surveys: NA
4. Commingling of gas in common facilities:
5. Measurement involving meters: NA
6. Production reports: NA
    a. By lease: NA
    b. By well: NA
    c. Time limits: NA

INDIANA

Administration

1. Official name of agency regulating oil/gas exploration & production: Division of Oil and Gas, 402 West Washington Street, Room W293, Indianapolis, IN 46204. Phone (317) 32-4055.

2. Contact for regulatory updates: Herschel McDivitt

3. Docketing procedure: Upon receipt of a petition concerning a matter within the jurisdiction of the Department, the hearing date will be fixed and notice will be given.

    a. Emergency orders: There is authority under the law to issue an emergency order, by the Director of the Department of Natural Resources.

    b. Notice: 15 days by the Department

4. Agency regulating air emissions: Indiana Department of Environmental Management (IDEM)

5. Agency regulating water quality: Indiana Department of Environmental Management (IDEM)

License

1. License required: No, but corporations and LLC's must be registered with Indiana Secretary of State and in good standing.

2. Conditions of license: See previous.

Bond/Surety

1. Purpose of surety: Ensure plugging and abandonment of wells

2. Plugging and restoration: Yes

3. Compliance bond required: Yes. Except for exemption provided for by statute. Qualified Operators may submit annual well fee in lieu of bond.

4. Types of surety accepted: Surety bond, certificate of deposit, cash

5. Conditions of bond: Restoration of surface to its former condition and plugging of well.

    a. Amount per well: $2,500

b. Amount of blanket bond: $45,000

Land Leasing Information

1. Leasing method: Sealed bids, but may offer competitive public bidding.

2. Notice method: N/A

3. Minimum bidding $ (per acre): Set a minimum acceptable royalty rate, which may not be less than 12 1/2% and call for competitive offers by prospective lessees for cash bonuses in addition to the set royalty provision.

4. Qualification of the bidder: N/A

5. State statutes: IC 14-38-1-11

   IC 14-38-1-12

   IC 14-38-1-14

   IC 14-38-1-16

6. Maximum acres: 3 sections or an equivalent area

7. Royalty rates: N/A

8. Agency in control of leasing: Contact: Herschel McDivitt, Director Phone: (317) 232-4058 E-mail: hmcdivitt@dnrin.gov

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? In Indiana, oil and gas conservation law does not impose any setback requirements with respect to well locations. However, Indiana property statutes which govern the establishment of oil and gas estates in land do specify that any grant of oil and gas rights shall not authorize the "location of a well for oil and gas to be nearer than two hundred (200) feet to an existing house, barn, or other structure (except fences) without the express consent of the owner of the structure". IC 32-23-7-6(3).

2. Are there other sources of information on this matter that you could identify? No.

Spacing

1. Spacing requirements: Yes

    a. Density: Oil well - 10 acres for sandstone and 20 acres for all other reservoirs except wells in the established Trenton formation which allow 5 acre spacing. Gas well - above 1,000 feet same as above; below 1,000 feet, 40 acres. Coal bed methane well – 40 acres.

    b. Lineal: Oil wells and Coal bed methane wells - 330 feet from a property or unit line; 660 feet from another well producing from the same formation. Gas well - above 1,000 feet same as oil; below 1,000 feet, 330 feet from a property or unit line and 1,320 feet from another well. Non Commercial Gas well - no spacing or unit requirements. Established Trenton field wells 165 feet from property or unit line.

2. Exceptions: Yes

    a. Basis: When geological and pool conditions justify.

    b. Approval: By hearing.

Pooling

1. Authority to establish voluntary: Yes

2. Authority to establish compulsory: Yes

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes

2. Minimum percentage of voluntary agreement before approval of compulsory unitization: None

    a. Working interest:

    b. Royalty interest:

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: Yes

    b. Seismic drilling: Yes if deeper than 200 feet.

    c. Recompletion: Yes

d. Plugging and abandoning: No, but a plan for plugging must be submitted and approved.

2. Permit fee:

   a. Drilling: $250 + $500 for expedited processing (if requested).

   b. Seismic drilling: N/A

   c. Recompletion: None

   d. Plugging and abandoning: None.

   e. Annual fee for each Class II well: None.

   f. Annual fee for existing permitted wells: Yes.

Number of Wells	Amount
1 well	$150
2-5 wells	$300
6-25 wells	$750
26-100 wells	$1,500
>100 wells	$1,500 plus $15 for each well over 100

NOTE: The Division of Oil and Gas will send a notice to operators before December 1 of each year listing the wells permitted to the operator as of November 1 of that year.

3. Require filing report of work performed: Yes

4. Sundry notices used: No.

Vertical Deviation

1. Regulation requirement: No

   a. When is a directional survey necessary: When the operator drills a directional hole.

   b. Filing of survey required: Yes.

   c. Format of filing: Surveyed well plat

Casing and Tubing

1. Minimum amount required:

   a. Surface casing: Yes - below all fresh water, except where production casing cemented to surface.

b. Production casing: Yes, to top of last stratum drilled.

2. Minimum amount of cement required:

   a. Surface casing: To surface, except as noted in 1. above

   b. Production casing: Yes, to bottom of last string run and/or cemented to surface.

   c. Setting time: Upon completion of drilling.

3. Tubing requirements:

   a. Oil wells: No

   b. Gas wells: No

   c. Class II wells: Yes

Hydraulic Fracturing

1. Permitting:

   a. Before drilling: Only for coal bed methane (CBM) wells

   b. Before fracing: Only for CBM wells

   c. How long before: Before permit is issued to drill

2. Reporting Requirements:

   a. Where reported: Indiana Division of Oil and Gas

   b. When reported: 30 days after completion of well

3. Source water requirements: Operator must describe and identify the location of source regardless of volume. In addition, operator must provide registration information if the source is a "significant water withdrawal facility" which is registered under Indiana Water Resource Management Act.

4. Mechanical Integrity:

   a. Cementing log required: No

   b. Pressure testing: No

   c. Pressure monitoring: No

   d. Blowout preventer required: No.

5. Disposal of flowback fluids:

    a. Retaining pits: Only for temporary storage, same as drilling and completion pits

    b. Tanks: Only for temporary storage

    c. Approved discharge to surface water: Only through authorized NPDES permitted facility

    d. Underground injection: Only into approved Class II well

6. Chemical disclosure requirement:

    a. Mandatory: Yes for CBM wells since July 1, 2011. Yes for all other well types since July 1, 2012.

    b. Where disclosed: Indiana Division of Oil and Gas

    c. When disclosed (pre-fracing, post-fracing, both): Both for CBM wells. Post-fracing for all other well types.

    d. Time limit to disclose: Within 30 days of completion of well

    e. Information required to be disclosed:

        i. Volume and source of base fluid

        ii. Type and amount of proppant used

        iii. Description of each additive product used including each of the following:

            1. Trade name of the product as identified on manufacturer MSDS

            2. Description of the type of, or purpose for, each additive product used

            3. Copy of MSDS for each product used

            4. Maximum volume of each additive product expressed either as % by mass or % by volume of total fracturing fluid

            5. Maximum surface pressure and injection pressure

            6. Other information required by Division of Oil and Gas

f. Trade secret protection: Yes, if manufacturer of product chooses to identify specific components as "proprietary".

g. Required disclosure to health/emergency personnel: Oil and Gas Act does not require this disclosure although MSDS information will be downloadable from Division of Oil and Gas website.

Underground Injection

1. Agencies that control the underground injection of fluid by well class:

    a. Class II – Indiana Department of Natural Resources, Division of Oil and Gas

    b. All other Classes: U.S. Environmental Protection Agency

Completion

1. Completion report required: Yes

    a. Time limit: Within 30 days of completion of the well.

    b. Where submitted: Division of Oil and Gas, 402 West Washington Street, Room 293, Indianapolis, IN 46204.

    c. Confidential time period: Yes. If requested, one year from date of completion.

2. Well logs required to be filed: Yes, if run. Three copies of each log run.

    a. Time limit: Within 30 days of date run.

    b. Where submitted: Division of Oil and Gas, 402 West Washington Street, Room 293, Indianapolis, IN 46204.

    c. Confidential time period: Yes. If requested, one year from date of completion.

    d. Available for public use: Yes

    e. Log catalog available: No

3. Multiple completion regulation: No

    a. Approval obtained:

4. Commingling in well bore: No

    a. Approval obtained:

Oil Production

1. Definition of an oil well: Statutes or regulations do not define oil well. (However, "oil" means all liquid petroleum produced at a well.)

2. Potential tests required: No

    a. Time interval:

    b. Witness required:

3. Maximum gas-oil ratio: No

    a. Provision for limiting gas-oil ratio: No

    b. Exception to limiting gas-oil ratio: No

4. Bottom-hole pressure test reports required: No

    a. Periodical bottom-hole pressure surveys: No

5. Commingling oil in common facilities: No

6. Measurement involving meters: No

7. Production reports:

    a. By lease: No

    b. By well: No

    c. Time limit:

Gas Production

1. Definition of a gas well: Statutes or regulations do not define a gas well. ("Gas" means natural gas.)

2. Pressure base _____ psia @ _____degrees F.

3. Initial potential tests: No

    a. Time interval:

    b. Witness required:

4. Bottom-hole pressure test reports required: No

    a. Periodical bottom-hole pressure surveys: No

5. Commingling of gas in common facilities: No
6. Measurement involving meters: No
7. Production reports:
    a. By lease: No
    b. By well: No
    c. Time limits:

KANSAS

Administration

1. Official name of agency regulating oil/gas exploration & production: State Corporation Commission, Conservation Division, Finney State Office Building, 130 S. Market, Room 2078, Wichita, KS 67202. Phone (316) 337-6200.

2. Contact for regulatory updates: State Corporation Commission, Conservation Division, Finney State Office Building, 130 S. Market, Room 2078, Wichita, KS 67202. Phone (316) 337-6200.

3. Docketing procedure:

    a. Emergency orders: Yes, emergency action may be taken by the Commission without notice and hearing, such action to remain in force no longer than 30 days from the effective date. K.S.A. 55-605.

    b. Notice At least 10 days prior to hearing. Kansas Corporation Commission, Conservation Division. K.S.A. 55-605 and K.A.R. 82-3-135.

4. Agency regulating air emissions: Department of Health and Environment, Division of Environment, Bureau of Air. 1000 SW Jackson, Suite 310, Topeka, KS 66612. Phone (785) 296-1500.

5. Agency regulating water quality: Department of Health and Environment, Division of Environment, Bureau of Water. 1000 SW Jackson, Suite 420, Topeka, KS 66612. Phone (785) 296-1500.

License

1. License required: Yes, for every operator or contractor. K.S.A. 55-150, 55-155 and K.A.R. 82-3-120.

2. Conditions of license: Filing of a verified application, certificate of good standing from Secretary of State if applicable, payment of proper fees, financial assurance. Must display ID tag on each rig at all times. K.S.A. 55-155 and K.A.R. 82-3-120.

Bond/Surety

1. Purpose of surety: Required by statute for an operator to receive a license. K.S.A. 55-155.

2. Plugging and restoration: No extra bond/surety required.

3. Compliance bond required: No, so long as the operator has an acceptable three-year past record of compliance with rules, regulations, and orders, or can provide other means of financial assurance. K.S.A. 55-155 and K.A.R. 82-3-120.

4. Types of surety accepted: Performance bond, letter of credit, fee, state lien on tangible personal property, other. K.S.A. 55-155.

5. Conditions of bond:

    a. Amount per well: 75¢ times the aggregate depth for all wells drilled or operated.

    b. Amount of blanket bond: Ranges from $7,500 to $45,000 depending on the number of wells and depth.

Land Leasing Information

1. Leasing method: Please read the general summary.

2. Notice method:

3. Minimum bidding $ (per acre):

4. Qualification of the bidder:

5. State statutes:

6. Maximum acres:

7. Royalty rates:

8. Agency in control of leasing: Department of Administration, Office of Facilities and Property Management. 1000 SW Jackson, Suite 500, Topeka, KS 66612. Phone (785) 296-6060.

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? We don't have any regulations regarding setbacks from homes, etc. These type of provisions are usually addressed in the Lease Agreement.

2. Are there other sources of information on this matter that you could identify? No.

Spacing

1. Spacing requirements

a. Density: 10 acres for oil and gas wells. K.A.R. 82-3-207 and 82-3-312.

b. Lineal: Gas and oil wells shall be located 330' or more from any lease or unit boundary line to qualify for a full allowable. K.A.R. 82-3-108, 82-3-207 and 82-3-312.

2. Exceptions

a. Basis: Oil wells drilled to a depth of less than 2,000 feet in certain counties in eastern Kansas have a lineal distance requirement of 165 feet from the nearest lease or unit boundary line. K.A.R. 82-3-108. Other exceptions to spacing requirements maybe granted by Commission order after notice of the application and possible hearing. K.A.R. 82-3-108.

b. Approval: Commission order. Hearing if needed after notice. K.A.R. 82-3-108.

Pooling

1. Authority to establish voluntary: Yes. Terms of contract (lease).

2. Authority to establish compulsory: No.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes, upon application of working interest owner, notice, and hearing. K.S.A. 55-1304.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

a. Working interest: 63%

b. Royalty interest: 75%; 63% for secondary recovery units

Drilling Permit

1. Require permits for:

a. Drilling a producing or service well: Yes. K.S.A. 55-151, K.A.R 82-3-103.

b. Seismic drilling: Yes. K.S.A. 55-151, K.A.R. 82-3-103, 82-3-115a.

c. Recompletion: No. K.A.R. 82-3-103. Must notify conservation division or district office at least 48 hours prior to reentering an abandoned or plugged well. K.A.R. 82-3-132. Completion report (ACO-1 Form) is required. K.A.R. 82-3-107 and 82-3-130.

d. Plugging and abandoning: Yes. K.A.R. 82-3-113.

2. Permit fee:

   a. Drilling: No.

   b. Seismic drilling: No.

   c. Recompletion: No.

   d. Plugging and abandoning: Yes. $.0325 per foot of well depth. Minimum $35. K.A.R. 82-3-118. For plugging seismic holes, minimum fee $5. K.A.R. 82-3-115b(k).

3. Require filing report of work performed: Yes. Must be filed within 120 days of commencement of drilling operations. K.A.R. 82-3-130.

4. Sundry notices used: No "sundry notice" form. CP-111 for temporary abandonment; CP-1 for well plugging; various other forms.

Vertical Deviation

1. Regulation requirement: Yes. K.A.R. 82-3-103a.

   a. When is a directional survey necessary: Only for horizontal wells in Mississippi formation. 12-CONS-117-CEXC. Rule pending to always require directional survey for deviated or horizontal wells.

   b. Filing of survey required: Yes, with the well completion report.

   c. Format of filing: No specific format required.

Casing and Tubing

1. Minimum amount required:

   a. Surface casing: Varies by county and region. K.A.R. 82-3-106. Cathodic borehole surface casing must comply with K.A.R. 82-3-702.

   b. Production casing: Casing must seal off and isolate producing and water-bearing zones by being cemented in place. K.A.R. 82-3-105.

2. Minimum amount of cement required:

   a. Surface casing: Varies. Table I used to determine the required depth of surface casing and cementing requirements. K.A.R. 82-3-106.

b. Production casing: Varies. Casing must seal off and isolate producing formations and usable water formations by being cemented in place. K.A.R. 82-3-105.

c. Setting time: Eight hours and a compressive strength of 300 psi. K.A.R. 82-3-106(d)(4). For cathodic boreholes, 24 hours or time recommended by grout manufacturer's instructions. K.A.R. 82-3-702(b)(8).

3. Tubing requirements:

a. Oil wells: No.

b. Gas wells: No, except for certain gas storage wells.

Hydraulic Fracturing

1. Permitting: No permit necessary for fracing.

a. Before drilling: Drilling a producing well requires a permit. K.S.A. 55-151, K.A.R 82-3-103.

b. Before fracing: No.

c. How long before: Approved drilling permits expire one year from date of approval. K.A.R. 82-3-103(f).

2. Reporting Requirements: A completion report must be filed for any well within 120 days of spud date or date of commencement of recompletion. K.A.R. 82-3-107 and 82-3-130.

a. Where reported: Conservation Division. K.A.R. 82-3-107 and 82-3-130.

b. When reported: Within 120 days of spud date. K.A.R. 82-3-107 and 82-3-130.

3. Source water requirements: Regulated by Department of Agriculture, Division of Water Resources.

4. Mechanical Integrity: No fracing-specific rules.

a. Cementing log required: No fracing-specific rules.

b. Pressure testing: No fracing-specific rules.

c. Pressure monitoring: No fracing-specific rules.

d. Blowout preventer required: No fracing-specific rules.

5. Disposal of flowback fluids: No fracing-specific rules. Would typically be done by underground injection.

    a. Retaining pits: No fracing-specific rules. Regulated by Conservation Division.

    b. Tanks: No fracing-specific rules. Regulated by Conservation Division.

    c. Approved discharge to surface water: No fracing-specific rules. Regulated by Kansas Department of Health and Environment.

    d. Underground injection: No fracing-specific rules. Regulated by Conservation Division under the Class II program.

6. Chemical disclosure requirement: None.

    a. Mandatory: No.

    b. Where disclosed: N/A.

    c. When disclosed (pre-fracing, post-fracing, both): N/A.

    d. Time limit to disclose: N/A.

    e. Information required to be disclosed: N/A.

    f. Trade secret protection: N/A.

    g. Required disclosure to health/emergency personnel: federal regulations, if applicable.

Underground Injection

1. Agencies that control the underground injection of fluid by well class:

    Class I - Kansas Department of Health and Environment

    Class II - Kansas Corporation Commission, Conservation Division

    Class III - Kansas Department of Health and Environment

    Class IV - Kansas Department of Health and Environment

    Class V - Kansas Department of Health and Environment

    Class VI - Kansas Corporation Commission, Conservation Division, subject to EPA primacy approval.

Completion

1. Completion report required: Yes, ACO-1 Form.

    a. Time limit: Within 120 days of spud date. K.A.R. 82-3-130.

    b. Where submitted: Conservation Division

2. Well logs required to be filed

    a. Time limit: Within 120 days of spud date. K.A.R. 82-3-130.

    b. Where submitted: Conservation Division

    c. Confidential time period: Within 120 days of spud date by letter request. One year from date of letter request. May be extended an additional year. K.A.R. 82-3-107(e).

    d. Available for public use: Yes, available through Kansas Geological Survey.

    e. Log catalog available: Yes, available through Kansas Geological Survey.

3. Multiple completion regulation: K.A.R. 82-3-124.

    a. Approval obtained: By application. Hearing if needed after notice. K.A.R. 82-3-124.

4. Commingling in well bore:

    a. Approval obtained: By application. Hearing if needed after notice. K.A.R. 82-3-123a.

Oil Production

1. Definition of an oil well: "Oil well" means a well that produced one stock tank barrel or more of crude oil to each 15,000 standard cubic feet of gas, as measured by the gas-oil ratio test prescribed by and reported on the form prescribed and furnished by the Commission. K.A.R. 101(a)(81)(I).

2. Potential tests required: Yes, only in prorated pools. K.A.R. 82-3-202.

    a. Time interval: In prorated pools, productivity tests within 30 days of filing (ACO-1) completion report. K.A.R. 82-3-202.

    b. Witness required: Yes. K.A.R. 82-3-202.

3. Maximum gas-oil ratio: 15,000 standard cubic feet to 1 stock tank barrel of oil

    a. Provision for limiting gas-oil ratio: Special individual field rules provide for limiting oil production from high GOR wells.

b. Exception to limiting gas-oil ratio: Petition of interested party. K.S.A. 55-605.

4. Bottom-hole pressure test reports required: Not required unless by special order. Drill stem pressure tests are reported per ACO-1. K.A.R. 82-3-130, 82-3-107.

   a. Periodical bottom-hole pressure surveys: No.

5. Commingling oil in common facilities: Yes. The production from one or more common source of supply may be commingled before delivery to a purchaser. K.A.R. 82-3-125.

6. Measurement involving meters: Yes, including electronic measurement devices.

7. Production reports: Yes, only in prorated pools. K.A.R. 82-3-204.

   a. By lease: Yes.

   b. By well: Yes.

   c. Time limit: By 15th of succeeding month to the Conservation Division. K.A.R. 82-3-204.

Gas Production

1. Definition of a gas well

   "Gas well" means a well that:

   (a) Produces gas not associated with oil at the time of production from that reservoir; or
   (b) Produces more than 15,000 standard cubic feet of gas to each stock tank barrel of oil from the same common source of supply, as measured by the gas-oil ratio test prescribed by and reported on the form prescribed and furnished by the Commission.

   K.A.R. 82-3-101(a)(81)(E).

2. Pressure base 14.65 psia @ 60 degrees F.

3. Initial potential tests: Yes. K.A.R. 82-3-303 and 82-3-304.

   a. Time interval: 30 days for multi-point tests; 30 days for initial one-point stabilized flow tests. Must be submitted to Corporation Commission within 30 days of test. Test may not be required for wells producing less than 250 mcf per day by “minimum well” exemption. For such “minimum wells” an annual shut-in pressure must be submitted wit h the request for testing exemption. K.A.R. 82-3-303 and 82-3-304.

b. Witness required: Yes, if requested by Corporation Commission, or representative of any producer, purchaser, or transporter in the gas field from which the well produces. K.A.R. 82-3-304.

c. Bottom-hole pressure test reports required: No.

d. Periodical bottom-hole pressure surveys: No.

4. Commingling of gas in common facilities: Yes. K.A.R. 82-3-125. But production from each individual well must be metered.

5. Measurement involving meters: Yes. K.A.R. 82-3-305 is the general rule, electronic gas measurement and measurement with a turbine meter is allowed and can be used in deliverability testing in certain prorated fields.

6. Production reports: K.A.R. 82-3-306http://www.kcc.state.ks.us/conservation/cons_rr_010711.pdf..

   a. By lease: Yes.

   b. By well: Yes.

   c. Time limits: By 20th of succeeding month to Conservation Division. K.A.R. 82-3-306.

KENTUCKY

Administration

1. Official name of agency regulating oil/gas exploration & production: Division of Oil and Gas, P. O. Box 2244, Frankfort, KY 40602. Phone (502) 573-0147

2. Contact for regulatory updates: Kimberly S. Collings, Director

3. Docketing procedure: Any party to a property may request a hearing and said hearing will be set.

    a. Emergency orders: Upon Application by an operator

    b. Notice: 20 days in advance of the date set for the hearing

4. Agency regulating air emissions: Department for Environmental Protection, Division of Air Quality

5. Agency regulating water quality: Department for Environmental Protection, Division of Water

License

KRS 353.500
805 KAR 1:190(3)

1. License required: license required to operate gathering/flowlines

2. Conditions of license: $100.00 license renewable each year

Bond/Surety

KRS 353.590
805 KAR 1:050

1. Purpose of surety: for compliance purposes

2. Plugging and restoration: for plugging only

3. Compliance bond required: Yes

4. Types of surety accepted: Cash, Letter of Credit, Surety & Certificates of Deposit

5. Conditions of bond: all records must be filed and well properly plugged

   a. Amount per well:

0 - 500 feet	$ 500
501 - 1,000 feet	1,000
1,001 - 1,500 feet	1,500
1,501 - 2,000 feet	2,000
2,001 - 2,500 feet	2,500
2,501 - 3,000 feet	3,000
3,001 - 3,500 feet	3,500
3,501 - 4,000 feet	4,000
over 4,000 feet	5,000 or an amount set by the Kentucky Oil and Gas Conservation Commission

   b. Amount of blanket bond:

   $10,000 – 1- 25 wells
   $25,000 - 25 - 100 wells
   $50,000 – 100 – 500 wells
   $100,000 – over 500 wells for "qualified" operators that had an existing blanket bond on file with the Division as of 7-12-06.

   For "non-qualified" operators or new operators, blanket bonds are as follows:
   $50,000 – 1-100 wells
   $100,000 – over 100 wells.

Land Leasing Information

No regulations at this time

1. Leasing method:

2. Notice method:

3. Minimum bidding $ (per acre):

4. Qualification of the bidder:

5. State statutes:

6. Maximum acres:

7. Royalty rates:

8. Agency in control of leasing:

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? Kentucky requires wells to be 150 feet from any structure unless the operator receives a waiver from the structure owner.

2. Are there other sources of information on this matter that you could identify? N/A

Spacing

KRS 353.610

1. Spacing requirements

   a. Density:

   2.88 acres for shallow oil wells in non coal area
   7.85 acres for shallow oil wells in coal area
   18.03 acres for shallow gas well spacing

   Deep Wells: As established by Kentucky Oil and Gas Conservation Commission, or in lieu of approved spacing as follows:
   70 acres for oil wells between 4,000-7,000 feet
   281 acres for gas wells between 4,000-7,000 feet
   143 acres for oil wells deeper than 7,000 feet
   574 acres for gas wells deeper than 7,000 feet

   b. Lineal:

   Oil well (non-coal area & less than 2000 feet) - 400 feet between wells and 200 feet from mineral boundary. Oil well (coal areas and wells in non-coal area between 2000 feet and 4000 feet) - 660 feet between wells and 330 feet from mineral boundary.
   Gas well - 1,000 feet between wells and 500 feet from mineral boundary for gas wells less than 4,000 feet deep. Varies with depth and geographic area.

2. Exceptions: Yes, KRS 353.620

   a. Basis: For tracts that are so situated that they have no drillable site.

   b. Approval: by notice and hearing.

Pooling

KRS 353.630

1. Authority to establish voluntary: Yes
2. Authority to establish compulsory: Yes

Unitization

KRS 353.630

1. Compulsory unitization of all or part of a pool or common source of supply: Yes
2. Minimum percentage of voluntary agreement before approval of compulsory unitization:
    a. Working interest: 51%
    b. Royalty interest: 51%

Drilling Permit

KRS 353.570
KRS 353.580
KRS 353.590

1. Require permits for:
    a. Drilling a producing or service well: Yes, by statute
    b. Seismic drilling: No
    c. Recompletion: No restriction so long as it complies with spacing requirements and meets bonding requirements
    d. Plugging and abandoning: No
2. Permit fee:
    a. Drilling: $350.00
    b. Seismic drilling: none
    c. Recompletion: none
    d. Plugging and abandoning: none

3. Require filing report of work performed: Yes, KRS 353.660

4. Sundry notices used: No

Vertical Deviation

KRS 353.739
805 KAR 1:200
805 KAR 1:140

1. Regulation requirement: Yes

    a. When is a directional survey necessary: For directional and horizontal wells and all wells drilled in areas of active coal mining.

    b. Filing of survey required: Yes

    c. Format of filing: electronic or paper

Casing and Tubing

KRS 353.080
KRS 353.100
KRS 353.550
805 KAR 1:020

1. Minimum amount required:

    a. Surface casing: Yes, at least 30' below deepest fresh water

    b. Production casing: No

2. Minimum amount of cement required:

    a. Surface casing: Yes, circulated to surface, 30' below fresh water depth

    b. Production casing: No, except for injection wells circulated to surface

    c. Setting time: No

3. Tubing requirements:

    a. Oil wells: No

    b. Gas wells: No

Hydraulic Fracturing

The Division of Oil & Gas has no requirements other than reporting the treatment on the Completion Report form. EPA Region 4 has primacy over injection/disposal wells. The Kentucky Department of Environmental Protection may have rules regarding flowback waste water, tanks & surface discharge

1. Permitting: No requirements
    a. Before drilling:
    b. Before fracing:
    c. How long before:
2. Reporting Requirements: KRS 353.660
    a. Where reported: all completion methods are reported on the Affidavit of Well Log and Completion Report
    b. When reported: Well Log and Completion Report due 90 days after reaching total depth
3. Source water requirements:
4. Mechanical Integrity:
    a. Cementing log required:
    b. Pressure testing:
    c. Pressure monitoring:
    d. Blowout preventer required:
5. Disposal of flowback fluids:
    a. Retaining pits:
    b. Tanks:
    c. Approved discharge to surface water:
    d. Underground injection: EPA Region 4 has primacy for injection wells
6. Chemical disclosure requirement: No requirements
    a. Mandatory:

b. Where disclosed:

c. When disclosed (pre-fracing, post-fracing, both):

d. Time limit to disclose:

e. Information required to be disclosed:

f. Trade secret protection:

g. Required disclosure to health/emergency personnel:

Underground Injection

KRS 353.592
805 KAR 1:110

1. Agencies that control the underground injection of fluid by well class: EPA Region 4 has primacy of UIC wells

Completion

KRS 353.660

1. Completion report required: Yes

   a. Time limit: 90 days after completion of drilling

   b. Where submitted: Division of Oil and Gas, P. O. Box 2244, Frankfort, KY 40602

2. Well logs required to be filed

   a. Time limit: 90 days

   b. Where submitted: Division of Oil and Gas, P. O. Box 2244, Frankfort, KY 40602

   c. Confidential time period: Yes, upon request for one year maximum

   d. Available for public use: Yes

   e. Log catalog available: Yes, at the Kentucky Geological Survey

3. Multiple completion regulation: No authorization required

   a. Approval obtained:

4. Commingling in well bore: No requirements

    a. Approval obtained:

Oil Production

KRS 353.010

1. Definition of an oil well: any well which produces one (1) barrel or more of oil to each ten thousand (10,000) cubic feet of natural gas.

2. Potential tests required: No

    a. Time interval:

    b. Witness required:

3. Maximum gas-oil ratio: 10,000 cubic feet to 1 barrel crude oil

    a. Provision for limiting gas-oil ratio: No

    b. Exception to limiting gas-oil ratio:

4. Bottom-hole pressure test reports required: Only if such test is run by the operator

    a. Periodical bottom-hole pressure surveys: No

5. Commingling oil in common facilities: No requirements

6. Measurement involving meters: No requirements

7. Production reports: 805 KAR 1:180

    a. By lease: Yes

    b. By well: No

    c. Time limit: By February 28 of following year to the Department of Revenue. By April 15 of following year to the Division of Oil and Gas.

Gas Production

KRS 353.010

1. Definition of a gas well: Gas Well - means any well which:

    (a) Produces natural gas not associated or blended with crude petroleum oil any

time during production; or

(b) Produces more than ten thousand (10,000) cubic feet of natural gas to each barrel of crude petroleum oil from the same producing horizon.

1. Pressure base __14.73_____ psia @ _60_____degrees F.

2. Initial potential tests: No requirement

   a. Time interval:

   b. Witness required:

3. Bottom-hole pressure test reports required: Only if run by operator

   a. Periodical bottom-hole pressure surveys: No

4. Commingling of gas in common facilities: No requirement

5. Measurement involving meters: No requirement

6. Production reports: 805 KAR 1:180

   a. By lease: Yes

   b. By well: Yes, to the Division of Oil and Gas

   c. Time limits: By February 28 of following year to the Department of Revenue. By April 15 of following year to the Division of Oil and Gas.

LOUISIANA

Administration

1. Official name of agency regulating oil/gas exploration & production: Office of Conservation

2. Contact for regulatory updates: P. O. Box 94275, Capitol Station, Baton Rouge, LA 70804-9275. Phone (225) 342-5540.

3. Docketing procedure: LSA-RS-30:6(F) - Any interested person has the right to have the Commissioner call a hearing for the purpose of taking action in respect to a matter within the jurisdiction of the Commissioner by making a request therefore in writing. Upon receiving the request the Commissioner shall promptly call a hearing. After the hearing, and with all convenient speed and in any event within thirty days after the conclusion of the hearing, the Commissioner shall take whatever action he deems appropriate with regard to the subject matter. In the event of failure or refusal of the Commissioner to issue an order within the period of thirty days, he may be compelled to do so by mandamus at the suit of any interested person. LSA-RS-30:4(C) - The Commissioner has authority to make after notice and hearing as provided in this Chapter, any reasonable rules, regulations, and orders that are necessary from time to time in the proper administration and enforcement of this Chapter, including rules, regulations, or orders. Based on the above cited authority, the Commissioner of Conservation adopted "Rules of Procedure for Conducting Hearings before the Commissioner of Conservation of the State of Louisiana," effective April 1, 1964, and last revised effective October 11, 1983.

    a. Emergency orders: LSA-RS-30: 6C - If the Commissioner finds an existing emergency which in his judgment requires the making, changing, renewal, or extension of a rule, regulation, or order without first having a hearing, the emergency rule, regulation, or order shall have the same validity as if a hearing had been held after due notice. The emergency rule, regulation, or order shall remain in force no longer than fifteen days from its effective date. In any event, it shall expire when the rule, regulation, or order made after notice and hearing with respect to the same subject matter becomes effective.

    b. Notice: LSA-RS-30: 6B - No rules, regulation, order, or change, renewal, or extension thereof, shall, in the absence of an emergency, be made by the Commissioner under the provisions of this Chapter except after a public hearing upon at least ten days' notice given in the manner and form prescribed by the Commissioner. This hearing shall be held at a time and place and in the manner prescribed by the Commissioner. The Commissioner, in his discretion, may designate a member of his staff to conduct public hearings on his behalf. Any person having an interest in the subject matter of the hearing shall be entitled to

be heard. Provided, however, that whenever any application shall be made to the Commissioner of Conservation for creation, revision or modification of any unit or units for production of oil or gas, or for adoption of any plan for spacing of wells or for cycling of gas, pressure maintenance or restoration, or other plan of secondary recovery, the applicant shall be required to file with the application two copies of a map of such unit or units or well spacing pattern or two explanations of such plan of cycling, pressure maintenance or restoration, or other secondary recovery program and at least thirty (30) days' notice shall be given of the hearing to be held thereon, in the manner prescribed by the Commissioner of Conservation, and a copy of such plat or explanation of program shall remain on file in the Office of Conservation in Baton Rouge, and in the Office of the District Manager of the Conservation District in which the property is located, and be open for public inspection, at least thirty (30) days prior to such hearing.

4. Agency regulating air emissions: Louisiana Department of Environmental Quality

5. Agency regulating water quality: Louisiana Department of Environmental Quality

License

1. License required: None.

2. Conditions of license: N/A

Bond/Surety

1. Purpose of surety: To ensure well plugging and abandonment and associated site restoration.

2. Plugging and restoration: Yes

3. Compliance bond required: May be required.

4. Types of surety accepted: Certificate of Deposit, Performance Bond, Letter of Credit

5. Conditions of Financial Security: Statewide Order No. 29-B (LAC 43: XIX.104)

    a. Amount per well:

Land:	Depth (ft.)	Amount
	<3,000	$1.00 per foot

	3,001 - 10,000	$2.00 per foot
	>10,001	$3.00 per foot
Inland Water:	Any	$8.00 per foot
Water:	Any	$12.00 per foot

b. Amount of blanket bond

Wells	Amount – Land	Amount – Inland Water	Amount - Water
<10	$ 25,000.00	$125,000.00	$250,000.00
11-99	$125,000.00	$625,000.00	$1,250,000.00
>100	$250,000.00	$1,250,000.00	$2,500,000.00

Land Leasing

1. Leasing Method: Sealed, public bid opened at monthly Mineral Lease Sale held on second Wednesday of every month.
2. Notice Method: Publication of tract description up for lease in the official journal of the state and in the official journal of the parish where the lands are located - must appear in these journals not more than 60 days prior to the date for the opening bids for that tract.
3. Minimum bidding $ (per acre): Royalty bid cannot be less than 1/8 of all oil or gas produced and saved or utilized (LSA- R.S. 30:127).
4. Qualification of the bidder: Any person or entity authorized to do business in the state of Louisiana and registered with DNR - Office of Mineral Resources as a prospective leaseholder can submit bids.
5. State Statutes: LSA-R.S. 30:124-127
6. Maximum acres: 2,500 acres by State Mineral Board Policy.
7. Royalty rates: May be specified in certain cases.
8. Contact: Rick Heck, Director of Petroleum Lands, Petroleum Lands Division, Office of Mineral Resources, P. O. Box 2827, Baton Rouge, LA 70821-2827. Phone: (225) 342-6122.

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? RS 30:28 requires a 500' setback, on wells drilled below 10,000', from residential or commercial structures not owned by the applicant, his lessor, or other predecessor in interest. There are other setbacks covered in Order U-HS but they are only for Haynesville wells in urban areas.

   RS 38:225 provides that no person shall, drill, drive, jet, or otherwise sink oil, gas, or deep water wells within two hundred fifty feet of the levees

2. Are there other sources of information on this matter that you could identify? None that I know of.

Spacing

1. Spacing requirements:

   a. Density: No minimum acreage requirements for oil or gas wells.

   b. Lineal: Statewide Order No. 29-E (LAC 43:XIX.1901) applies and states that wells drilled in search of gas shall not be located closer than 330 feet to any property line nor closer than 2,000 feet to any other well completed in, drilling to, or for which a permit shall have been granted to drill to, the same pool.

2. Where Statewide Order No. 29-E (LAC 43:XIX.1901) is applicable, no spacing shall be required for oil wells drilled in search of oil to depths less than 3,000 feet subsea. Wells drilled in search of oil to depths below 3,000 feet subsea shall not be located closer than 330 feet from any property line nor closer than 900 feet from any other well completed in, drilling to, or for which a permit shall have been granted to drill to, the same pool.

3. Statewide Order No. 29-H, applicable to "new" pools, has been terminated by Statewide Order No. 29-H-1. Spacing previously developed under Statewide Order No. 29-H will be regulated by Statewide Order No. 29-E. Any special order which adopted the spacing requirements of Statewide Order No. 29-H has been amended requiring the spacing provisions of Statewide Order 29-E (LAC 43:XIX.1901).

4. Exceptions: Yes.

   a. Basis: Refer to Statewide Order No. 29-E (LAC 43:XIX.1901).

b. Approval: By letter setting forth all pertinent facts and reasons why granting the exception is necessary.

Pooling

1. Authority to establish voluntary: No.
2. Authority to establish compulsory: Yes.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes.
2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

   a. Working interest: None, however, 75% - if the unit is created under the provisions of LSA-RS-30:5C (multi-well or enhanced recovery).

   b. Royalty interest: None, however, 75% - if the unit is created under the provisions of LSA-RS-30:5C (multi-well or enhanced recovery).

Drilling Permit

1. Require permits for:

   a. Drilling a producing or service well: Yes, Statewide Order No. 29-B, Section II (LAC 43:XIX.103).

   b. Seismic drilling: No.

   c. Recompletion: Yes, Statewide Order No. 29-B, Section III (LAC 43:XIX.105).

   d. Plugging and abandoning: Yes, Statewide Order NO. 29-B, Section III (LAC 43:XIX.105).

2. Permit fee:

   a. Drilling: Fee schedule subject to change annually. Please refer to the Office of Conservations Web site at www.dnr.state.la.us for a complete current fee schedule.

Depth (ft.)	Amount (6 month)	Amount (1 year)

0 - 3,000	$ 126	$252
3,001 -10,000	$ 631	$1262
10,001 - Plus	$1,264	$2528

b. Seismic drilling: None.

c. Recompletion: None.

d. Plugging and abandoning: None.

3. Require filing report of work performed: Yes, Statewide Order No. 29-B, Section IV (LAC 43:XIX.107).

4. Sundry notices used: No

Vertical Deviation

1. Regulation requirement: Yes, Statewide Order No. 29-B, Section XVIII (LAC 43:XIX.135).

   a. When is directional survey necessary? When the well is directionally controlled and is thereby intentionally deflected from the vertical, or the surface location is less than 330 feet from the nearest property line, and the well is drilled below a depth of 3,786 feet, or the resultant lateral deviation as calculated from Inclination Survey data is a distance greater than the distance from the center of the surface location of the well bore to the nearest property line, or the well bore deviates laterally a resultant distance greater than that determined by a five degree angle from a vertical line passing through the center of the surface location of the well bore.

   b. Filing of survey required? Yes.

   c. Format of filing: Three (3) certified copies are required.

Casing and Tubing

1. Minimum amount required:

   a. Surface casing: Yes, Statewide Order No. 29-B, Section V-B (LAC 43:XIX.109.B).

b. Production casing: Yes, Statewide Order No. 29-B, Section V-D (LAC 43:XIX.109.D).

2. Minimum amount of cement required:

   a. Surface casing: Yes, Statewide Order No. 29-B, Section V-B (LAC 43:XIX.109.B).

   b. Production casing: Yes, Statewide Order No. 29-B, Section V-D (LAC 43:XIX.109.D).

   c. Setting time: Yes. Surface - "under pressure" for 12 hours. Production - "under pressure" for 12 hours, minimum total of 24 hours before initiating test or drilling plug.

3. Tubing requirements: None.

   a. Oil wells: N/A

   b. Gas wells: N/A

Hydraulic Fracturing

1. Permitting:

   a. Before drilling: No

   b. Before fracing: Yes

   c. How long before: At least 12 hours prior to beginning operations.

2. Reporting Requirements:

   a. Where reported: Well History and Work Resumé Report (Form WH-1) including supplemental page 3 must be submitted to the appropriate District Office.

   b. When reported: Within 20 days after completion.

3. Source water requirements:

   The use of surface water is encouraged. Cooperative Endeavor Agreements (CEA) may be created through DNR – Office of Mineral Resources (OMR) for the use of running surface water. (Act 955 of 2010). Notice must be provided to the Office of Conservation – Environmental Division prior to installation of new water wells and prior to a change in

use of existing water wells. Certain E&P Wastes may also be used as a frac fluid component in limited cases.

Water sources and volumes must be reported for wells that are hydraulically fractured. Reporting is accomplished by filing Supplemental Page 3 of the Well History and Work Resumé Report (Form WH-1) within 20 days following well completion.

4. Mechanical Integrity:

    a. Cementing log required: No.

    b. Pressure testing: Yes.

    c. Pressure monitoring: No

    d. Blowout preventer required: Yes

5. Disposal of flowback fluids:

    a. Retaining pits: E&P Wastes may be disposed of on-site in accordance with the requirements of LAC 43:XIX Chapter 3 or offsite in accordance with the requirements of LAC 43:XIX Chapter 5.

    b. Tanks: E&P Wastes may be disposed of on-site in accordance with the requirements of LAC 43:XIX Chapter 3 or offsite in accordance with the requirements of LAC 43:XIX Chapter 5.

    c. Approved discharge to surface water: Discharge is allowed only in conformance with any applicable state or federal discharge program.

    d. Underground injection: Yes, in accordance with the requirements of LAC 43:XIX Chapter 4

6. Chemical disclosure requirement:

    a. Mandatory: Yes

    b. Where disclosed: Supplemental Page 3 of Well History and Work Resumé Report (Form WH-1), or Frac Focus website, or service company documentation.

    c. When disclosed: Post fracing.

    d. Time limit to disclose: Within 20 days after completion.

    e. Information required to be disclosed: Types and volumes of base fluid; purpose, trade-name and supplier of all additives; chemical ingredients, CAS numbers and

maximum concentrations of additives that are subject to the requirements of 29 CFR Section 1910.1200(g)(2).

f. Trade secret protection: Trade secret information is not required to be disclosed.

g. Required disclosure to health/emergency personnel: Where required by state or federal law.

Underground Injection

1. Agencies that control the underground injection of fluid by well class: Class I through V - Office of Conservation, Injection and Mining Division. Class VI – The Office of Conservation is currently drafting rules for promulgation. Once promulgated, the state will seek EPA approval for primacy.

Completion

1. Completion report required: Yes, Statewide Order No. 29-B, Section X (LAC 43:XIX.119).

   a. Time limit: Within 24 hours from time of completion. Notice may be made by telephone or telegram to the district manager if supplemented by written notice on proper form within three days from the completion date.

   b. Where submitted: Appropriate District Office of the Office of Conservation.

2. Well logs required to be filed: Yes, Statewide Order No. 29-B, Section IV (LAC 43:XIX.107).

   a. Time limit: Within 10 days after completion.

   b. Where submitted: Appropriate District Office of the Office of Conservation.

   c. Confidential time period: Yes, upon written request; (Act 4 of the Extraordinary Session of 1973) wells shallower than 15,000 feet--one year with a one-year extension; wells deeper than 15,000 feet--two years with a two-year extension; Act 691 of the Regular Session of 1979--offshore logs, upon written request--two years with a two-year extension.

   d. Available for public use: Yes.

   e. Log catalog available: Yes.

3. Multiple completion regulation: Yes, Statewide Order Nos. 29-C-4 (LAC 43:XIX.1301).

    a. Approval obtained: By administrative application.

4. Commingling in well bore: No, except in certain circumstances we use the same procedures as selective completion equipment as outlined in Statewide Order No. 29-C-4 (LAC 43:XIX.1305(G)).

    a. Approval obtained: By public hearing and administratively.

Oil Production

1. Definition of an oil well: No specific definition. In the event of uncertainty, a PVT analysis is required to be conducted by the operator.

2. Potential tests required: Yes, Statewide Order No. 29-B, Section X (LAC 43:XIX.119).

    a. Time interval: Within five days of completion.

    b. Witness required: Yes, by inspectors of the Office of Conservation.

3. Maximum gas-oil ratio: Yes, Statewide Order No. 45-I-A (LAC 43:XIX.3501). 2,000 cubic feet of gas per barrel of oil.

    a. Provision for limiting gas-oil ratio. Yes. Allowed to produce quantity of oil determined by multiplying base allowable by base GOR and dividing by GOR of well.

    b. Exception to limiting gas-oil ratio: Yes. Refer to Statewide Order 45-I-A (LAC 43:XIX.3501).

4. Bottom-hole pressure test reports required: Bottom hole pressure is requested on Form DM-1-R which is filed on or before the first day of May and November. Bottom hole pressure may also be required by special field order.

    a. Periodical bottom-hole pressure surveys: As answered above.

5. Commingling oil in common facilities: Yes, Statewide Order No. 29-D-1 (LAC 43:XIX.1501).

6. Measurement involving meters: Yes, Statewide Order No. 29-G-1 (LAC 43:XIX.2301).

7. Production reports:

    a. By lease: Yes.

b. By well: No.

c. Time limit: On or before the first day of the third calendar month following the month covered by the report or within 60 days.

Gas Production

1. Definition of a gas well: No specific definition. In the event of uncertainty, a PVT analysis is required to be conducted by the operator.

2. Pressure base 15.025 psia @ 60 degrees F.

3. Initial potential tests: Yes, Statewide Order No. 29-B, Section X (LAC 43:XIX.119).

   a. Time interval: Within five days of completion.

   b. Witness required: Yes.

4. Bottom-hole pressure test reports required: Bottom-hole pressure is requested on Form DT-1 which is filed on or before the first day of May and November. Bottom-hole pressure may also be required by special field orders.

   a. Periodical bottom-hole pressure surveys: As answered above.

5. Commingling of gas in common facilities: Yes, Statewide Order No. 29-D (LAC 43:XIX.1501).

6. Measurement involving meters: Yes, LSA-RS-30:44 (required by statutes).

7. Production reports: Gas production is reported by lease or unit.

   a. By lease: Yes.

   b. By well: No.

   c. Time limit: On or before the first day of the third calendar month following the month covered by report or within 60 days.

MARYLAND

Administration

1. Official name of agency regulating oil/gas exploration & production: Maryland Department of the Environment, Land Management Administration, Minerals, Oil and Gas Division, 1800 Washington Blvd., Baltimore, MD 21230.

2. Contact for regulatory updates: Ed Larrimore, Mining Program Manager. Phone: (410) 537-3557. Email: elarrimore@mde.state.md.us

3. Docketing procedure: The Department may act either upon its own motion or the petition of any interested person and shall promptly fix a date for a hearing and cause notice of the hearing to be given. The public hearing shall be held at the time and place described by the Department. Any interested person is entitled to be heard by the Department. Section 14-114(a) and (d), Annotated Code of the Public General Laws of Maryland (PLM).

    a. Emergency orders: The Department is authorized to issue an emergency order without notice or hearing. An emergency order may not remain effective for more than 15 days. Section 14-114(b),PLM.

    b. Notice Except for an emergency, a rule, regulation, order or amendment may not be made by the Department without a public hearing upon at least 10 days notice. The Department of the Environment is responsible to give notice. Section 14-114(a), PLM.

4. Agency regulating air emissions: Air Quality Administration (Maryland Department Environment)

5. Agency regulating water quality: Water Management Administration (Maryland Department of Environment)

License

1. License required: None.

2. Conditions of license: N/A

Bond/Surety

1. Purpose of surety: Site restoration.

2. Plugging and restoration: Included in the site restoration bond.

3. Compliance bond required: Yes.

4. Types of surety accepted: Surety bonds, Cash, Letters of Credit, or Certificates of Deposit

5. Conditions of bond: A bond is required on the form obtained from the Department of the Environment with regard to drilling, plugging and abandoning wells drilled for oil and gas. Said bond will not be released until all of the permit holder's obligations under the laws have been fulfilled to the satisfaction of the Department. Section 14-111(a)(5),(d)(1), PLM, 26.19.01.06(c)(5) and 26.19.01.13 CMR.

    a. Amount per well: No minimum.

       $100,000 maximum. Section 14-111(a)(5), PLM; 26.19.01.06(C)(5)(a) CMR.

    b. Amount of blanket bond: No minimum.

       $500,000 maximum. Section 14-111(a)(5), PLM; 26.19.01.06(C)(5)(a) CMR.

Land Leasing Information

1. Leasing method: Statute was revised at Environment Article 15-1201 to include Maryland Dormant Minerals Interests Act. The creation of the Act was to make uniform the law governing dormant mineral interests among the states.

2. Notice method:

3. Minimum bidding $ (per acre):

4. Qualification of the bidder:

5. State statutes:

6. Maximum acres:

7. Royalty rates:

8. Agency in control of leasing:

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? 1,000 ft. from occupied dwelling, school, church or well head protection area unless written permission from owners

2. Are there other sources of information on this matter that you could identify? No But regulations are currently under review.

Spacing

1. Spacing requirements: Yes.

    a. Density: No proration units formed in Maryland for oil -- only voluntary units for gas.

    b. Lineal: 2,000 ft. from existing gas well, 1,320 ft. from existing oil well, 1,000 ft. from property line, 1,000 ft. from any occupied house, school, church, public building or place of public meeting for both oil and gas wells,

    26.19.01.09 (C,D,E,F & G) and 26.19.08.06, Code of Maryland Regulations (CMR) and Section 14-112(a),(b)(c), PLM. Drilling prohibited in the Chesapeake Bay or its tributaries 26.19.01.09(A).

2. Exceptions: Yes. 26.19.01.09 (C, D, E, F & G), CMR.

    a. Basis: No permit will be issued to drill a well within 1,000 ft. of the boundary of a tract of land or the boundary of tracts of land included in a pooling agreement or within 1,000 ft. from any occupied dwelling house, school, church, public building or place of public meeting unless the permit holder has made a satisfactory written agreement with the oil and gas owner and lessee of such adjacent land or building. The Department may issue a permit to drill a well within 1,000 ft. of a boundary of a tract of land if it is impossible to locate a well 1,000 ft. or more from the boundaries of the tract.

    b. Approval: Following notice and hearing by the Department.

Pooling

1. Authority to establish voluntary: Yes. Section 14-113, PLM.

2. Authority to establish compulsory: No.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: No.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

    a. Working interest: N/A.

b. Royalty interest: N/A.

Drilling Permit

1. Require permits for:

   a. Drilling a producing or service well: Yes. Section 14-104, PLM, and 26.19.01.06(A), CMR. Conversion from exploration to production well requires permit modification, 26.19.01.09(K), CMR.

   b. Seismic drilling: Yes. Road access permit necessary from State Highway Administration if on state/federal roads. 26.19.01.03, CMR.

   c. Recompletion: Requires permit modification. 26.19.01.14(A)(1 & 2).

   d. Plugging and abandoning: No. Requires Departmental notification and affidavit of work performed, within Departmental guidelines, by operator. 26.19.01.12, CMR.

2. Permit fee:

   a. Drilling: None.

   b. Seismic drilling: None.

   c. Recompletion: None.

   d. Plugging and abandoning: No fee for filing completion report.

3. Require filing report of work performed: Yes. Completion report. 26.19.01.10(V), CMR.

4. Sundry notices used: None.

Vertical Deviation

1. Regulation requirement: Yes. No more than 3° from vertical, 26.19.01.11, CMR.

   a. When is a directional survey necessary: When correlative rights are in dispute, the Department may require directional and deviational surveys at the operators' expense, 26.19.01.11(D), CMR.

   b. Filing of survey required: No.

   c. Format of filing: Must state in the initial application. Otherwise limited to 3 degrees.

Casing and Tubing

1. Minimum amount required:

    a. Surface casing: Yes. Surface casing to extend at least 100 ft. below the deepest known fresh water aquifer, or the deepest known workable coal seam, whichever is deeper. 26.19.01.10(O)(4), CMR.

    b. Production casing: Yes. The casing should be of a type and weight sufficient for the depth and formation pressures anticipated. 26.19.01.10(S).

2. Minimum amount of cement required:

    a. Surface casing: Yes. Annular surface return. 26.19.01.10(P).

    b. Production casing: Yes. 26.19.01.10(S).

    c. Setting time: Yes. 12 hours. 26.19.01.10(P)(3) and 26.19.01.10(S)(4).

3. Tubing requirements:

    a. Oil wells: No.

    b. Gas wells: No.

Hydraulic Fracturing-- Currently Under Review.

1. Permitting:

    a. Before drilling:

    b. Before fracing:

    c. How long before:

2. Reporting Requirements:

    a. Where reported:

    b. When reported:

3. Source water requirements: Must be obtained from approved site. May require separate permit.

4. Mechanical Integrity: Will be required.

    a. Cementing log required:

    b. Pressure testing:

c. Pressure monitoring:

d. Blowout preventer required:

5. Disposal of flowback fluids: Under review.

a. Retaining pits:

b. Tanks:

c. Approved discharge to surface water:

d. Underground injection:

6. Chemical disclosure requirement: Under review.

a. Mandatory:

b. Where disclosed:

c. When disclosed (pre-fracing, post-fracing, both):

d. Time limit to disclose:

e. Information required to be disclosed:

f. Trade secret protection:

g. Required disclosure to health/emergency personnel:

Underground Injection

1. Agencies that control the underground injection of fluid by well class: Underground injection is not authorized.

Completion

1. Completion report required: Yes. Section 14-111(a)(1), PLM and 26.19.01.10(V).

a. Time limit: Within 30 days after completion of the well.

b. Where submitted: Maryland Department of the Environment, Water Management Administration, Minerals, Oil & Gas Division, 2500 Broening Highway, Baltimore, MD 21224.

2. Well logs required to be filed: Yes. 26.19.01.10(V)(10), CMR.

a. Time limit: Within 30 days after completion of the well.

b. Where submitted: Maryland Department of the Environment, Water Management Administration, Minerals, Oil & Gas Division, 2500 Broening Highway, Baltimore, MD 21224.

c. Confidential time period: Yes. All information is held confidential until the operator releases such information.

d. Available for public use: Yes, after operator releases confidential information.

e. Log catalog available: Yes.

3. Multiple completion regulation: Yes.

   a. Approval obtained: Requires permit modification. 26.19.01.14(A)(1), CMR

4. Commingling in well bore: Yes.

   a. Approval obtained: Requires permit modification. 26.19.01.14(A)(2), CMR.

Oil Production

1. Definition of an oil well: "Oil" means crude petroleum oil and other hydrocarbons regardless of gravity, which are produced at the wellhead in liquid form, except liquid hydrocarbons known as distillate or condensate recovered or extracted from gas. An oil well would be the drilled hole through which oil is produced. Section 14-102(f), PLM, and 26.19.01.01(B)(32), CMR.

2. Potential tests required: Yes. 26.19.01.10(V)(8), CMR.

   a. Time interval: Within 30 days after completion of the well.

   b. Witness required: No.

3. Maximum gas-oil ratio: No.

   a. Provision for limiting gas-oil ratio: N/A

   b. Exception to limiting gas-oil ratio: N/A

4. Bottom-hole pressure test reports required: Yes. Initially. 26.19.01.10(V)(8), CMR.

   a. Periodical bottom-hole pressure surveys: No.

5. Commingling oil in common facilities: Yes.

6. Measurement involving meters: Yes. The operator must verify the accuracy of oil meters. 26.19.01.10(N), CMR

7. Production reports:

    a. By lease: No.

    b. By well: Yes. 26.19.01.10(Y), CMR.

    c. Time limit: The operator must file a monthly production report quarterly to the Maryland Department of the Environment, Minerals, Oil & Gas Division.

Gas Production

1. Definition of a gas well: "Gas" means all natural gas and other fluid hydrocarbons, not defined as oil, which are produced from a natural reservoir. A gas well would be the drilled hole through which gas is produced. Section 14-102(e), PLM, and 26.19.01.01(B)(20), CMR.

2. Pressure base: None statewide. Garrett County is _14.73_ psia @ _60_ degrees F. Public Local Law of Garrett County, Sec. 27-2(j) 1971 Edition, as amended in 1978.

3. Initial potential tests: Yes. 26.19.01.10(V)(8), CMR

    a. Time interval: 30 days after completion of the well.

    b. Witness required: No.

4. Bottom-hole pressure test reports required: Yes, initially. 26.19.01.10(V)(8), CMR.

    a. Periodical bottom-hole pressure surveys: No.

5. Commingling of gas in common facilities: Yes.

6. Measurement involving meters: Yes. Section 14-119(a), PLM. A person who is the owner or operator of any gas well may not willfully take gas from the well unless the gas is metered by a standard metering system. Also 26.19.01.10(N), CMR.

7. Production reports:

    a. By lease: No.

    b. By well: Yes. 26.19.01.10(Y), CMR.

c. Time limits: The operator must file a monthly production report quarterly to the Maryland Department of the Environment, Minerals, Oil & Gas Division.

MICHIGAN

Administration

1. Official name of agency regulating oil/gas exploration & production: Office of Oil, Gas, and Minerals, Department of Environmental Quality, P.O. Box 30256, Lansing, Michigan 48909-7756. Phone (517) 241-1548. (Supervisor of Wells - same address).

2. Contact for regulatory updates: Office of Oil, Gas, and Minerals, Department of Environmental Quality, P.O. Box 30256, Lansing, Michigan 48909-7756. Phone (517) 241-1548.

3. Docketing procedure: Petition for matters to be heard before the Supervisor of Wells. Section 61516, Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); Administrative Rules R 324.1201 through R 324.1212.

    a. Emergency orders: Yes. By the Supervisor of Wells set forth in Section 61516 of NREPA. Remains in full force and effect no more than 21 days. A hearing may be held in the interim and a permanent order is issued pursuant thereto.

    b. Notice: Twenty-one days prior to date of hearing (R 324.1204). The petitioner must furnish proof of publication and affidavits of proof of mailing by first class mail or personal service.

4. Agency regulating air emissions: Air Quality Division, Department of Environmental Quality, P.O. Box 30260, Lansing, MI 48909-7760. Phone (517) 373-7023.

5. Agency regulating water quality: Water Resources Division, Department of Environmental Quality, P.O. Box 30258, Lansing, MI 48909-7958. Phone (517) 373-1170.

License

1. License required: NA

2. Conditions of license: NA

Bond/Surety

1. Purpose of surety: To ensure compliance and provide mechanism for well plugging and restoration.

2. Plugging and restoration: NA

3. Compliance bond required: Yes. R 324.210, R 324.211.

4. Types of surety accepted: Conformance Bond, Letter Of Credit, Cash, Certificate of Deposit.

5. Conditions of bond: Remaining in full force and effect until such time the well or wells are properly plugged and abandoned or sold and transferred to the new owner and released by the Supervisor of Wells. R 324.213, R 324.214, R 324.215, and R 324.216.

    a. Amount per well: Dependent on well depth, $10,000 - $30,000. R 324.212.

    b. Amount of blanket bond: Dependent on well depth, $100,000 - $250,000. R 324.212.

Land Leasing Information

1. Leasing method: Leasing method: Primarily competitive public auction with possible direct leasing.

2. Notice method: At least once in a newspaper where the lands are situated not less than 10 days before the sale, with additional notifications provided in the Department Calendar and Natural Resource Commission agenda (for auctions).

3. Minimum bidding $ (per acre): $10 per acre for the next four scheduled auctions through May 2014. Thereafter, subject to bi-annual review for the subsequent four auctions.

4. Qualification of the bidder: An individual of age of majority, legal age in Michigan is 18 years old, or a partnership, corporation, or other legal entity qualified to do business in the state of Michigan.

5. State statutes: Section 324.502 of the NREPA; Administrative Rules R 299.8102 – 299.8107, definitions under R 299.8101.

6. Maximum acres: Within one governmental quarter section per lease, typically 160 acres.

7. Royalty rates: Competitive auctions – 1/6th. Direct leases – negotiated with minimum of 3/16th.

8. Agency in control of leasing: Michigan Department of Natural Resources, Minerals Management Section Manager position, currently vacant, (517) 335-3251. In the interim, the Acting Manager contacts are: Thomas Hoane, HOANET@michigan.gov Phone: (517) 241-3769 or Mary Uptigrove, uptigrovem@michigan.gov (517) 373-0576.

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? The Wells and non-H2S production facilities: 300 feet from water wells and from structures used for public or private occupancy. H2S production facilities: 600 feet from water wells, structures used for public or private occupancy, areas maintained for public recreation, or the edge of interstate, United States, or state highway.

2. Are there other sources of information on this matter that you could identify?

Spacing

1. Spacing requirements: Minimum 40-acre drilling unit conforming to governmental surveyed quarter-quarter section of land. Wells located approximately 1,320 feet apart. R 324.301.

    a. Density: Oil well - 40 acres. Gas well - 40 acres. R 324.301.

    b. Lineal: Oil well - 1,320 feet. Gas well - 1,320 feet. R 324.301(b).

2. Exceptions: Yes. R 324.301(2) and R 324.303.

    a. Basis: Evidence and testimony.

    b. Approval: By order of the Supervisor of Wells pursuant to a public hearing, or pursuant to the voluntary pooling provisions of R 324.303.

Pooling

1. Authority to establish voluntary: Yes. R 324.303.

2. Authority to establish compulsory: Yes. A public hearing is necessary. R 324.304.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes. Part 617, Unitization, of NREPA.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization: (Section 61706 of the NREPA.).

    a. Persons liable for 75 percent of costs and owners of 75 percent of royalty production.

    b. Persons entitled to 75 percent of all production proceeds and owners of 50 percent of royalty production.

    c. Persons entitled to 90 percent of all production (Section 61706 of the NREPA.).

Drilling Permit

1. Require permits for: Yes. R 324.418(a).

    a. Drilling a producing or service well: Yes. R 324.201.

    b. Seismic drilling: Yes. for holes 50 feet or deeper and penetrating bedrock. Part 625, Mineral Wells of NREPA.

c. Recompletion: Yes. Deepening R 324.206 and R 324.420; Rework R 324.511.

d. Plugging and abandoning: Yes. R 324.901.

2. Permit fee:

a. Drilling: $300. Section 61525 of NREPA.

b. Seismic drilling: $500.00 for individual test wells. Blanket test permits (50 feet – 250 feet) follow a permit fee schedule.

c. Recompletion: None.

d. Plugging and abandoning: None.

3. Require filing report of work performed: Yes. R 324.418, R 324.419, R 324.421, R 324.511, and R 324.902(10).

4. Sundry notices used: NA

Vertical Deviation

1. Regulation requirement: Yes.

a. When is a directional survey necessary: When the hole is intentionally directionally drilled. R 324.421.

b. Filing of survey required: When the hole is intentionally directionally drilled. R 324.421.

c. Format of filing: Paper copy, submit on original Directional Driller company letterhead/format.

Casing and Tubing

1. Minimum amount required:

a. Surface casing: Yes. R 324.408.

b. Production casing: Yes. R 324.410.

2. Minimum amount of cement required:

a. Surface casing: Circulate to surface. R 324.408.

b. Production casing: Varies on formation and depth. R 324.411, R 324.413.

c. Setting time: 12-hour minimum. R 324.411.

3. Tubing requirements:

    a. Oil wells: Yes. R 324.507.

    b. Gas wells: Yes. Gas storage wells are exempt. R 324.507.

Hydraulic Fracturing

1. Permitting: Per Supervisor of Wells Instruction 1-2011.

    a. Before drilling: Disclosure of potential completion type required.

    b. Before hydraulic fracturing: Yes, Pursuant to Part 615 of the NREPA, R 324.402 and R 324.511(1).

    c. How long before: Not less than 48 hours.

2. Reporting Requirements: Per Part 615 of the NREPA, R 324.511(2).

    a. Where reported: Completion Report within 60 days.

    b. When reported: 60 days.

3. Source Water requirements: Per Supervisor of Wells Instruction 1-2011. If on-site withdrawal is considered a high volume withdrawal (greater than 100,000 gallons/day/30 days) then the Department of Environmental Quality water withdrawal assessment tool is required.

    a. Mechanical integrity: Per Supervisor of Wells Instruction 1-2011.

    b. Cementing log required: Case by Case.

    c. Pressure testing: Yes.

    d. Pressure monitoring: Yes.

    e. Blowout preventer required: Yes.

4. Disposal of flowback fluids: Per Part 615 of the NREPA, R 324.503(1).

    a. Retaining pits: Not Allowed

    b. Tanks: Required.

    c. Approved discharge to surface water: Not Allowed.

    d. Underground injection: Required into approved disposal wells.

5. Chemical disclosure requirement: Per Supervisor of Wells Instruction 1-2011.

    a. Mandatory: Required for high volume hydraulic fracture completions.

    b. Where disclosed: Separate disclosure filed with the Department of Environmental Quality's Office of Oil, Gas, and Minerals.

    c. When disclosed (pre-fracturing, post-fracturing, both): Both.

    d. Time limit to disclose: 60 days after well completion operations.

    e. Information required to be disclosed: MSDS sheets for the chemical additives are required. Service company fracturing records, annulus pressures, and volume data is required within the Record of Well Completion.

    f. Trade secret protection: Yes. While the Office of Oil, Gas, and Minerals asks for the chemicals involved, State does not require the exact chemical make-up.

    g. Required disclosure to health/emergency personnel: Yes, pursuant to Part 615 of the NREPA Rule R 324.1008, Reporting of losses, spills and releases and the materials involved must be reported within 8 hours.

Underground Injection

1. Agencies that control the underground injection of fluid by well class:

    US Environmental Protection Agency, Underground Injection Control Program, required for all classes. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, Illinois 60604-3507; Phone: (312) 353-2000 Toll free within Region 5: (800) 621-8431

    Michigan DEQ Office of Oil, Gas, and Minerals – Oil/Gas Waste/brine disposal wells (Class 2), and enhanced oil recovery operations regulated under Part 615 of the NREPA, other classes regulated under Part 625 Mineral Wells of the NREPA (hazardous waste disposal, gas storage, solution mining).

Completion

1. Completion report required: Yes. R 324.418(a).

    a. Time limit: Within 60 days after completion of drilling. R 324.418(a).

    b. Where submitted: Supervisor of Wells, Office of Oil, Gas, and Minerals, Department of Environmental Quality, P. O. Box 30256, Lansing MI 48909-7756.

2. Well logs required to be filed: Yes. R 324.419.

    a. Time limit: Within 30 days after conducting the logging run. R 324.419.

    b. Where submitted: Supervisor of Wells, address above.

c. Confidential time period: If requested by letter. R 324.416 provides for 90 days after drilling completion.

d. Available for public use: Yes.

e. Log catalog available: No.

3. Multiple completion regulation: Yes. R 324.508.

   a. Approval obtained: Upon written application and approval of Supervisor of Wells.

4. Commingling in well bore: Yes. R 324.509.

   a. Approval obtained: Upon written application and approval of Supervisor of Wells.

Oil Production

1. Definition of an oil well: A well that produces economic quantities of liquid hydrocarbon that is in the liquid state in the reservoir.

2. Potential tests required: Yes. R 324.606.

   a. Time interval: Commenced within 10 days after completion.

   b. Witness required: Rarely but representative of the Supervisor of Wells may if he wishes.

3. Maximum gas-oil ratio: The Supervisor of Wells may establish efficient gas-oil ratios if required to prevent waste and after a public hearing. Section 61506 of NREPA; R 324.601.

   a. Provision for limiting gas-oil ratio: Yes. The Supervisor of Wells may set oil or gas allowables on basis of gas- oil ratio for specific fields, after public hearing. Section 61506, 61512, 61513 of NREPA; R 324.601.

   b. Exception to limiting gas-oil ratio: NA

4. Bottom-hole pressure test reports required: Supervisor of Wells may require for specific reservoir. R 324.609.

   a. Periodical bottom-hole pressure surveys: Yes, for specified reservoirs.

5. Commingling oil in common facilities: Yes, with approval of Supervisor of Wells. Requires facility details and schematic drawing. Each well's production must be individually measured and compared to and balanced with actual sales. All details are to be reported on forms provided. R 324.510.

6. Measurement involving meters: Yes.

7. Production reports:

    a. By lease: Yes, if pooled or unitized.

    b. By well: Yes.

    c. Time limit: 45 days following production month.

Gas Production

1. Definition of a gas well: A well that produces economic quantities of hydrocarbons that are in the gaseous state in the reservoir.

2. Pressure base 14.73 psia @ 60 degrees F.

3. Initial potential tests: Yes. AOF test (1 or 4 point).

    a. Time interval: Before pipeline connection permit is permanently issued.

    b. Witness required: Rarely.

4. Statewide allowable: Yes. 17 ½ percent of AOF for single well reservoirs.

5. Pool allowable: Yes. When transmission lines are running at capacity and curtailment is required.

6. Well allowable: Yes. Proration allowable (when more than one well is in reservoir) is based on amount of pay under the drilling unit (90 percent generally) and absolute open flow test (10 percent generally).

7. Exempt allowable: Yes. Low potential wells have a minimum allowable.

8. Bottom-hole pressure test reports required: Yes.

    a. Periodical bottom-hole pressure surveys: Yes.

9. Commingling of gas in common facilities: Yes, with approval of Supervisor of Wells. Require facility details and schematic drawing. Each well's production must be

individually measured and compared to and balanced with actual sales. All details are to be reported on forms provided. R 324.510.

10. Measurement involving meters: Yes.

11. Production reports:

    a. By lease: Yes, if pooled or unitized.

    b. By well: Yes.

    c. Time limits: 45 days following production month.

MISSOURI

Administration

1. Official name of agency regulating oil/gas exploration & production: State Oil and Gas Council administered through the Geological Survey Program, P. O. Box 250, Rolla, MO 65402. Phone (573) 368-2143

2. Contact for regulatory updates: State Geologist, P. O. Box 250, Rolla, MO 65402. Phone (573) 368-2100

3. Docketing procedure: Public hearing held at such time and place as may be prescribed by the Council

    a. Emergency orders: By Chapter 259.140 RSMo. Council is authorized to issue an emergency order without hearing which shall be effective upon promulgation. Effective for no more than 15 days.

    b. Notice: 10 days. State Oil and Gas Council. Chapter 259.140 RSMo.

4. Agency regulating air emissions: Missouri Department of Natural Resources, Division of Environmental Quality, Air Quality Program, P.O. Box 176, Jefferson City, MO 65102, phone 1-800-361-4827

5. Agency regulating water quality: Missouri Department of Natural Resources, Division of Environmental Quality, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102, phone 1-800-361-4827

License

1. License required: No

2. Conditions of license: No

Bond/Surety

1. Purpose of surety: To ensure proper plugging for abandonment of wells

2. Plugging and restoration: Yes

3. Compliance bond required: No

4. Types of surety accepted: Surety Bond, Personal Bond, Letter of Credit

5. Conditions of bond: Form OGC-2. Bond is the obligation of the owner of producing well or wells or proposals to drill for oil or gas or for stratigraphic purposes.

a. Amount per well: 10 CSR 50-2.020.

Depth (ft.)	Amount	Depth (ft.)	Amount
0- 500	$1,000	2,001-5,000	$4,000
501-1,000	2,000	5,001----	4,000
1,001-2,000	3,000		Plus $1/ft. beyond 5,001

b. Amount of blanket bond: 10 CSR 50-2.020.

Depth (ft.)	Number of Unplugged Amount	Wells/Bond
0- 800	$20,000	50
801-1,200	30,000	15

Land Leasing Information

NOTE - No regulations at this time

1. Leasing method: Not required
2. Notice method: Not required
3. Minimum bidding $ (per acre): Not required
4. Qualification of the bidder: Not required
5. State statutes: Not required
6. Maximum acres: Not required
7. Royalty rates: Not required
8. Agency in control of leasing: Not required

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements: Yes

    a. Density: 10 CSR 50-2.070

    Oil - 2.5 acre may be exempted for special projects

    Gas – 640 acres may be excepted if less than 1500 feet deep to producing formation.

    b. Lineal: 10 CSR 50-2.070

    Oil well - 165 feet from lease boundary or property line.

    Gas well - 234 feet from lease boundary or property line.

    Noncommercial gas well – 165 from lease line

2. Exceptions: Yes. 10 CSR 50-2.070.

    a. Basis: To protect against offset drainage from wells drilled prior to enactment of Chapter 259 RSMo. and special project development.

    b. Approval: Upon application to the State Geologist who is administrator. 10 CSR 50-2.070.

Water Disposal

1. State agencies that control disposal of produced salt water: 10 CSR 50-2.090. State Oil and Gas Council.

Taxation

1. There is no state tax levied on oil and gas production in Missouri. Chapter 259.220 RSMo.

Pooling

1. Authority to establish voluntary: 10 CSR 50-2.040

2. Authority to establish compulsory: 10 CSR 50-5.010

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes. 10 CSR 50-5.010

2. Minimum percentage of voluntary agreement before approval of compulsory unitization: Chapter 259.120 RSMo.

    a. Working interest: 75%

    b. Royalty interest: 75%

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: Yes. 10 CSR 50-2.030.

    b. Seismic drilling: Not specifically stated under oil and gas law, may be required under water well regulations, 10CSR 23-6.010.

    c. Recompletion: Yes

    d. Plugging and abandoning: Yes. 10 CSR 50-2.060

2. Permit fee:

    a. Drilling: None

    b. Seismic drilling: Not under oil and gas law, but may be required under water well regulations, 10 CSR 23-6.010.

    c. Recompletion: None

    d. Plugging and abandoning: None

3. Require filing report of work performed: Yes. 10 CSR 50-2.050. OGC-5 Drilling Report.

4. Sundry notices used: No

Vertical Deviation

1. Regulation requirement: No

    a. When is a directional survey necessary: Never

    b. Filing of survey required: If taken by operator. 10 CSR 50-2.050.

    c. Format of filing: None

Casing and Tubing

1. Minimum amount required: 10 CSR 50-2.040

a. Surface casing: Yes

b. Production casing: No

2. Minimum amount of cement required:

a. Surface casing: Yes to surface

b. Production casing: As necessary to protect all water, oil or gas bearing strata, etc

c. Setting time: Yes. Minimum 6 hours, maximum 24 hours depending on amount of CaCl2.

3. Tubing requirements:

a. Oil wells: No

b. Gas wells: No

Hydraulic Fracturing

1. Permitting: No

a. Before drilling: No

b. Before fracing: Yes (included on well construction permit)

c. How long before: n/a

2. Reporting Requirements: No

a. Where reported: n/a

b. When reported: n/a

3. Source water requirements: n/a

4. Mechanical Integrity: No

a. Cementing log required: No

b. Pressure testing: No

c. Pressure monitoring: No

d. Blowout preventer required: No

5. Disposal of flowback fluids: No

a. Retaining pits: No

b. Tanks: No

c. Approved discharge to surface water: No

d. Underground injection: No

6. Chemical disclosure requirement: No

a. Mandatory: No

b. Where disclosed: n/a

c. When disclosed (pre-fracing, post-fracing, both): n/a

d. Time limit to disclose: n/a

e. Information required to be disclosed: No

f. Trade secret protection: n/a

g. Required disclosure to health/emergency personnel: n/a

Underground Injection

1. Agencies that control the underground injection of fluid by well class: Geological Survey Program, P. O. Box 250, Rolla, MO 65402. Phone (573) 368-2143

Completion

1. Completion report required: Yes, 10 CSR 50-2.050

a. Time limit: 30 days

b. Where submitted: To the State Geologist, P.O. Box 250, Rolla, MO 65402.

2. Well logs required to be filed: Yes, 10 CSR 50-2.050

a. Time limit: 30 days

b. Where submitted: To the State Geologist, P.O. Box 250, Rolla, MO 65402.

c. Confidential time period: Yes, One year if requested

d. Available for public use: Yes

e. Log catalog available: no

3. Multiple completion regulation: No

   a. Approval obtained: No

4. Commingling in well bore: No

   a. Approval obtained: No

Oil Production

1. Definition of an oil well: Crude petroleum oil and other hydrocarbons regardless of gravity which are produced at the wellhead in liquid form and the liquid hydrocarbons known as distillate or condensate recovered or extracted from gas other than gas produced in association with oil and commonly known as casinghead gas. 10 CSR 50-1.030.

2. Potential tests required: No

   a. Time interval: No

   b. Witness required: No

3. Maximum gas-oil ratio: No

   a. Provision for limiting gas-oil ratio: Yes. Chapter 259.70 RSMo.

   b. Exception to limiting gas-oil ratio: No

4. Bottom-hole pressure test reports required: No

   a. Periodical bottom-hole pressure surveys: No

5. Commingling oil in common facilities: No

6. Measurement involving meters: No

7. Production reports: 10 CSR 50-2.080

   a. By lease: Yes

   b. By well: Yes if requested

   c. Time limit: 30 days

Gas Production

1. Definition of a gas well: All natural gas and all other fluid hydrocarbons, which are produced at the wellhead and not defined as oil. 10 CSR 50-1.030.

2. Pressure base __Not Stated_____ psia @ _____degrees F.

3. Initial potential tests: No

    a. Time interval: No

    b. Witness required: No

4. Bottom-hole pressure test reports required: No

    a. Periodical bottom-hole pressure surveys: No

5. Commingling of gas in common facilities: No

6. Measurement involving meters: No

7. Production reports: 10 CSR 50-2.080.

    a. By lease: Yes

    b. By well: Yes, if requested

    c. Time limits: 30 days

NEBRASKA

Administration

1. Official name of agency regulating oil/gas exploration & production:

   Nebraska Oil and Gas Conservation Commission, P.O. Box 399, Sidney, NE 69162. Phone (308) 254-6919. Web site http://www.nogcc.ne.gov

2. Contacts for regulatory updates: Bill Sydow, Director; Stan Belieu, Deputy Director.

3. Docketing procedure: Hearings held on fourth Tuesday of each month. Application must be received 21 days prior to hearing date. Original and six copies must be filed.

   a. Emergency orders: Yes. Order is effective upon promulgation but shall remain effective until heard at next scheduled Commission hearing.

   b. Notice: Fifteen (15) calendar days prior to hearing. Applicant is responsible to notice parties by certified mail and the Commission publishes its notice in the legal newspaper published or read in the county.

4. Agency regulating air emissions: Nebraska Department of Environmental Quality, P.O. Box 98922, Lincoln, NE, 68509-8922.

5. Agency regulating water quality: Nebraska Department of Environmental Quality, P.O. Box 98922, Lincoln, NE, 68509-8922.

License

1. License required: Not applicable.

2. Conditions of license: Not applicable.

Bond/Surety

1. Purpose of surety: To ensure each well is plugged and abandoned and the location is returned to former use.

2. Plugging and restoration: Required before bond is released.

3. Compliance bond required: Yes.

4. Types of surety accepted: Insurance or Certificate of Deposit

5. Conditions of bond:

    a. Amount per well: Currently $5,000 but will increase to $10,000

    b. Amount of blanket bond: Currently $25,000 but will increase to $100,000

State Land Leasing Information

1. Leasing method: Nominated by interested parties prior to sale and then oral bids at public auction.

2. Notice method: Noticed by mailing to parties and public notice for two consecutive weeks in legal newspapers which are either published or generally read in the county where the land to be leased is situated.

3. Minimum bidding $ (per acre): If the land is located in a county and there is no oil and gas production, the minimum bid is $1 per net mineral acre and a 1/8 royalty; if the land is located in a county and there is oil and gas production, the minimum bid is $2 per net mineral acre and 1/6 royalty.

4. Qualification of the bidder: Must post bond prior to award of lease

5. State statutes: Nebraska Revised Statutes 23-3109; 23-3110; and 57-220.

6. Maximum acres: 640 acres

7. Royalty rates: Variable by county. 1/8 to 1/6

8. Agency in control of leasing: Board of Educational Lands and Funds, 555 North Cotner Blvd., Lincoln, NE 68505-2353. Telephone: (402) 471-2014. Ms. Laura Bahr-Frew, Minerals Administrator.

Setbacks

In Nebraska, we do not have any rules pertaining to set backs from any structures. The reality is that you probably wouldn't get closer than 200' because of the size of a location doesn't really allow for it. We do take a look at the surrounds of a well and do ask that an operator be considerate of neighbors. I have seen set backs addressed in oil and gas leases.

Spacing

1. Spacing requirements

    a. Density: 40-acres per well statewide

b. Lineal: No closer than 500 feet to 40-acre legal subdivision line for oil or gas wells deeper than 2,500'. No closer than 300 feet to 40-acre legal subdivision for wells less than 2,500'.

2. Exceptions

   a. Basis: Topographical, irregular sections, geological or geophysical considerations.

   b. Approval: Administrative if all owners within 500 feet of proposed well approve, or by public hearing. Production may be limited to protect correlative rights.

Pooling

1. Authority to establish voluntary: Yes.

2. Authority to establish compulsory: Yes

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

   a. Working interest: 65%

   b. Royalty interest: 75%

Drilling Permit

1. Require permits for:

   a. Drilling a producing or service well: Yes. Rule 3.003.

   b. Seismic drilling: Yes. Rule 3.002

   c. Recompletion: No, but new Form 5, Well Completion, required.

   d. Plugging and abandoning: Yes.

2. Permit fee:

   a. Drilling: $200. No fee for injection wells.

   b. Seismic drilling: None.

   c. Recompletion: None.

d. Plugging and abandoning: $100 for cased wells. None for dry holes. Rule 3.028.

3. Require filing report of work performed: Yes. Rules 3.006 and 007.

4. Sundry notices used: Notice of Intent to Plug and Abandon, Form 4.

Vertical Deviation

1. Regulation requirement: Yes. Rule 3.014.

    a. When is a directional survey necessary: Required when any well is intentionally deviated from vertical. Directional plan required for initial approval of well and final directional survey required upon completion of well.

    b. Filing of survey required: Yes, thirty (30) days after work is performed.

    c. Format of filing: Accurate and complete copy of the directional survey as approved by Director.

Casing and Tubing

1. Minimum amount required:

    a. Surface casing: Through potable fresh-water aquifers; variable by location of well.

    b. Production casing: No.

2. Minimum amount of cement required:

    a. Surface casing: Cement to surface.

    b. Production casing: No.

    c. Setting time: Yes. Five hundred (500) psi compressive strength.

3. Tubing requirements:

    a. Oil wells: No.

    b. Gas wells: No.

Hydraulic Fracturing

1. Permitting:

a. Before drilling: No.

b. Before fracing: No.

c. How long before: Not Applicable.

2. Reporting Requirements: Yes.

   a. Where reported: Form 5, Well Completion or Re-completion Report, and also will be posted to the FracFocus Chemical Disclosure Registry.

   b. When reported: Within 60 days after stimulation performed.

3. Source water requirements: None.

4. Mechanical Integrity:

   a. Cementing log required: No.

   b. Pressure testing: Yes. Prior to stimulation.

   c. Pressure monitoring: Yes. Two annular spaces if applicable.

   d. Blowout preventer required: No.

5. Disposal of flowback fluids:

   a. Retaining pits: Yes.

   b. Tanks: Yes.

   c. Approved discharge to surface water: No.

   d. Underground injection: Yes.

6. Chemical disclosure requirement:

   a. Mandatory: Yes. New proposed Rule 3.043

   b. Where disclosed: FracFocus Chemical Disclosure Registry.

   c. When disclosed (pre-fracing, post-fracing, both): Post-stimulation.

   d. Time limit to disclose: Sixty (60) days after stimulation.

   e. Information required to be disclosed: All elements of stimulation fluid.

   f. Trade secret protection: Yes. Proposed Rule 3.044.

g. Required disclosure to health/emergency personnel: Yes. Proposed Rule 3.044.

Underground Injection

1. Agencies that control the underground injection of fluid by well class: Nebraska Oil and Gas Conservation Commission, Class II. Nebraska Department of Environmental Quality, Classes I, III, IV, and V. No primacy granted for proposed Class VI wells as of September 2012.

Completion

1. Completion report required: Yes. Rule 3.006.

    a. Time limit: Thirty (30) days after completion or re-completion.

    b. Where submitted: Commission Headquarters Office, Sidney, NE.

2. Well logs required to be filed: Yes. Rule 3.031

    a. Time limit: Thirty (30) days from logging date.

    b. Where submitted: Commission Headquarters Office, Sidney, NE.

    c. Confidential time period: Yes. Not more than 12 months.

    d. Available for public use: Yes.

    e. Log catalog available: No.

3. Multiple completion regulation: Yes. Rule 3.017.

    a. Approval obtained: Application and public hearing.

4. Commingling in well bore: Yes. Rule 3.016.

    a. Approval obtained: Application and public hearing.

Oil Production

1. Definition of an oil well: A well from which the principal production at the wellhead is oil as defined by the Act. Rule 1.009.

2. Potential tests required: Yes.

    a. Time interval: Thirty (30) days or in accordance with special field rules.

    b. Witness required: No.

3. Maximum gas-oil ratio: Yes, to prevent waste only.

    a. Provision for limiting gas-oil ratio: Yes, to prevent waste.

    b. Exception to limiting gas-oil ratio: Yes.

4. Bottom-hole pressure test reports required: When required by special field rules.

    a. Periodical bottom-hole pressure surveys: As required by special field rules.

5. Commingling oil in common facilities: Yes, providing production is metered or measured separately.

6. Measurement involving meters: To the extent that production is accurately measured.

7. Production reports: Yes.

    a. By lease: Yes.

    b. By well: Only by specific order

    c. Time limit: Twenty-fifth (25th) day of month following production.

Gas Production

1. Definition of a gas well? The principal production of which at the wellhead is gas as defined in the Act. Rule 1.010.

2. Pressure base: 14.73 psia at 60 degrees F.

3. Initial potential tests: Yes.

    a. Time interval: 30 days.

    b. Witness required: No.

4. Bottom-hole pressure test reports required: Yes.

    a. Periodical bottom-hole pressure surveys: When required by special field rules.

5. Commingling of gas in common facilities: Yes, after application and public hearing.

6. Measurement involving meters: Yes.

7. Production reports: Yes.

a. By lease: Yes.

b. By well: When required by special filed rules.

c. Time limits: Twenty-fifth (25th) day of month following production.

NEVADA

Administration

1. Official name of agency regulating oil/gas exploration & production: Nevada Commission on Mineral Resources, Division of Minerals, 400 W. King St., Suite 106, Carson City, NV 89703-4212. Phone (775) 684-7040, FAX (775) 684-7052.

2. Contact for regulatory updates: Lowell Price, Oil, Gas, and Geothermal Program Manager, Nevada Commission on Mineral Resources, Nevada Division of Minerals. 400 West King Street, Suite 106 Carson City, NV 89703-4212. Phone: 775-684-7045. Lprice@govmail.state.nv.us

3. Docketing procedure: The Division may act upon its own motion or upon the petition of any interested person concerning any matter within the jurisdiction to set a date for hearing without undue delay. The Division shall enter its order within 30 days after the hearing.

    a. Emergency orders: Yes. The Division may issue emergency orders without notice and hearing. Emergency rule, regulation or order shall remain in force no longer than 15 days from its effective date.

    b. Notice: No less than 10 days prior to the date of the hearing. The Administrator of the Division of Minerals is responsible to give notice.

4. Agency regulating air emissions: Nevada Division of Environmental Protection

5. Agency regulating water quality: Nevada Division of Water Resources

License

1. License required: Driller must be licensed through the Nevada State Engineer.

2. Conditions of license: NAC 534.282 Qualifications of applicant; denial of application. (NRS 534.020, 534.110, 534.140)
    a. An applicant for a well-drilling license must:
        i. Be at least 18 years of age;
        ii. Be a citizen of the United States, or be lawfully entitled to remain and work in the United States;
        iii. Submit an application and the fee pursuant to NAC 534.280;
        iv. Demonstrate a good working knowledge of:
            1. Standard drilling practice;
            2. The regulations of the State Engineer and applicable laws relating to well drilling; and
            3. The method by which land is described by public land survey;

v. Have at least 2 years of experience as a well driller determined to be appropriate by the State Engineer for the license for which the applicant applies;
vi. Have at least four references determined to be satisfactory by the State Engineer for the license for which the applicant applies; and
vii. Pass an examination, consisting of the following three sections:
    1. A written examination on which the applicant must obtain a score of at least 70 percent;
    2. A section which requires the applicant to use a map to provide the land survey description of the location of a well; and
    3. An oral examination conducted by the Board.

b. The State Engineer may deny an applicant a license if the applicant:
    i. Fails to notify the Division that he cannot appear for the examination as instructed by a notice to appear before the State Engineer or the Board or 12-06 534-8
    ii. Fails to pass all three sections of the examination described in paragraph (vii) of subsection (a) within the period for which the application is valid pursuant to NAC 534.280.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06,6-1-2006)

Bond/Surety

1. Purpose of surety: Plug and Abandonment

2. Plugging and restoration: Plugging and abandonment only

3. Compliance bond required: Yes, a bond of not less than $10,000 for individual well bonds and not less than $50,000 for statewide drilling bond is required for all drilling in Nevada. The Division will accept a federal bond in a form and amount equivalent to the form and amount approved by the Division.

4. Types of surety accepted: Corporate surety licensed to do business in Nevada.

5. Conditions of bond: Sufficient surety conditioned for the performance of the duty to plug each dry or abandoned well or the repair of wells causing waste.

    a. Amount per well: $10,000

    b. Amount of blanket bond: $50,000

Land Leasing Information

1. No regulations at this time.

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals?

   NAC 522.235 Location of wells. (NRS 522.040) In a proven oil and gas field the spacing of wells will be governed by special rules for each particular field, to be adopted by the division after notice and hearing. In the absence of a special order of the division establishing drilling units or authorizing different densities of wells or patterns of location
   for particular pools or parts of pools, the following requirements apply: 1. Each well drilled for oil with a projected depth of 5,000 feet or less must be located not less than 330 feet from the outside boundary of a government quarter-quarter section, or of a lot, tract or combination of lots or tracts substantially equivalent to a quarter-quarter section as shown by the most recent government survey. Unless the administrator, in his discretion, determines otherwise, only one well may be issued a permit to produce oil from the same reservoir within the same quarter-quarter section.
   2. Each well drilled for oil with a projected depth of greater than 5,000 feet must be located not less than 330 feet from the outside boundary of a government quarter section, or of a lot, tract or combination of lots or tracts substantially equivalent to a quarter section as shown by the most recent government survey. Unless the administrator,
   in his discretion, determines otherwise, only one well may be issued a permit to produce oil from the same reservoir within the same quarter section.
   3. Each well drilled for gas with a projected depth of 5,000 feet or less must be located not less than 660 feet from the outside boundary of a government quarter section, or of a lot, tract or combination of lots or tracts substantially equivalent to a quarter section as shown by the most recent government survey. Unless the administrator, in his
   discretion, determines otherwise, only one well may be issued a permit to produce gas from the same reservoir within the same quarter section.
   4. Each well drilled for gas with a projected depth of greater than 5,000 feet must be located not less than 990 feet from the outside boundary of a government section, or of a lot, tract or combination of lots or tracts substantially equivalent to a section as shown by the most recent government survey. Unless the administrator, in his discretion,
   determines otherwise, only one well may be issued a permit to produce gas from the same reservoir within the same section.
   5. The requirements of this section for the location of a well do not apply to:
   (a) Federal units.
   (b) Wells drilled pursuant to a working interest agreement.
   (c) Areas subject to existing orders for drilling and spacing.
   6. The administrator will determine the pattern for the location of wells which are adjacent to an area in which the spacing of wells is prescribed by the division or under application for spacing, where there is sufficient evidence to indicate that

the pool or reservoir for which the spacing of wells is or will be prescribed by the division may extend beyond the boundary of the spacing order or application, and the uniformity of the pattern of spacing is necessary to ensure an orderly development of the pool.
7. As used in this section, the term "working interest agreement" means a written agreement entered into by the persons who are responsible for paying the cost of drilling one or more wells and that specifies the location of the well or wells.
[Div. of Mineral Res., § 201, eff. 12-20-79]—(NAC A by Dep't of Minerals, 7-22-87; A by Div. of Minerals by R156-98, 12-18-98)
NAC 522.240 Exceptions to location of wells and well spacing orders.
1. Upon proper application, the administrator may approve an exception to NAC 522.235 or to any order of the division establishing the spacing of wells for a pool.
2. An application for an exception must state fully the reasons the exception is necessary or desirable and must be accompanied by a plat showing:
(a) The locations at which an oil or gas well could be drilled in compliance with NAC 522.235 or the applicable order;
(b) The location at which the applicant requests permission to drill; and
(c) The locations at which oil or gas wells have been or could be drilled in accordance with NAC 522.235 or the applicable order:
(1) In a quarter section, for any oil well, regardless of depth, or any gas well of 5,000 feet or less; or
(2) In a section, for any gas well greater than 5,000 feet, directly or diagonally adjoining the quarter section or section for which the proposed exception is sought.
3. An exception approved by the administrator does not affect the rights of owners of directly or diagonally adjoining tracts to drill for oil or gas. [Div. of Mineral Res., § 202, eff. 12-20-79]—(NAC A by Dep't of Minerals, 7-22-87)
NAC 522.245 Change of location of well. If, before drilling a well, the person to whom the permit was originally issued desires to change the location, he must submit a letter so stating and another application properly filled out showing the new location. No additional fee is payable if the location change is within the same quarter-quarter
section, but drilling must not be started until the new location has been approved. [Div. of Mineral Res., § 207, eff. 12-20-79]

2. Are there other sources of information on this matter that you could identify?
No. I checked with the BLM, and they do not have any setback regulations related to surface locations such as private residences and/or other habitable structures for use by humans or animals.

Spacing

1. Spacing requirements: Yes

    a. *Density:

Oil well - 5,000' or less: 40 acres - not less than 330' from boundary of quarter-quarter section. Oil well - more than 5,000': 160 acres - not less than 330' from boundary of quarter section. Gas well - 5,000' or less: 160 acres - not less than 660' from boundary of quarter section.

Gas well - more than 5,000': 640 acres - not less than 990' from boundary of section.

b. Lineal: Determined after hearing.

*The spacing requirements do not apply to federal units, working interest agreements, and areas subject to existing orders.

2. Exceptions: Yes

   a. Basis: Protection of correlative rights of lessees, location may be nonproductive, or topographical conditions.

   b. Approval: By hearing after proper notice and order issued by the Division.

Pooling

1. Authority to establish voluntary: Yes

2. Authority to establish compulsory: Yes

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

   a. Working interest: 62.5%

   b. Royalty interest: 62.5%

Drilling Permit

1. Require permits for:

a. Drilling a producing or service well: Yes, Application for Permit to Drill an Oil or Gas Well.

b. Seismic drilling: No

c. Recompletion: Yes

d. Plugging and abandoning: Yes, Sundry Notice and Report on Wells

2. Permit fee:

a. Drilling: $200.00.

b. Seismic drilling: None.

c. Recompletion: None.

d. Plugging and abandoning: Plugging and Abandonment program by Sundry Notice , Division approval required

3. Require filing report of work performed: Oil and Gas Completion Report, Oil, Gas and Geothermal Well Plugging Report.

4. Sundry notices used: Yes.

Vertical Deviation

1. Regulation requirement: Yes

a. When is a directional survey necessary: Due to spacing requirements, directional surveys may be required during drilling operations. Upon well completion, bottom hole surveys are required.

b. Filing of survey required: Yes

c. Format of filing: Hard copy or digital

Casing and Tubing

1. Minimum amount required:

a. Surface casing: Must be set into impervious formation. Not less than 500 ft. required on all wells or 10 percent of projected total depth if greater than 5,000 ft.

b. Production casing: No provision.

2. Minimum amount of cement required:

a. Surface casing: Circulate cement to surface.

b. Production casing: 500 feet above bottom of casing.

c. Setting time: Yes - minimum compressive strength of 300 psi at bottom-hole conditions must be attained.

3. Tubing requirements:

a. Oil wells: No

b. Gas wells: No

Hydraulic Fracturing

1. Permitting: Nevada has not had any hydraulic fracturing to date. Specific regulations pertaining to hydraulic fracturing will be developed by the Nevada Division of Minerals, Nevada Division of Environmental Protection, and Nevada Division of Water Resources in the near future.

a. Before drilling:

b. Before fracing:

c. How long before:

2. Reporting Requirements:

a. Where reported:

b. When reported:

3. Source water requirements:

4. Mechanical Integrity:

a. Cementing log required:

b. Pressure testing:

c. Pressure monitoring:

d. Blowout preventer required:

5. Disposal of flowback fluids:

a. Retaining pits:

b. Tanks:

c. Approved discharge to surface water:

d. Underground injection:

6. Chemical disclosure requirement:

a. Mandatory:

b. Where disclosed:

c. When disclosed (pre-fracing, post-fracing, both):

d. Time limit to disclose:

e. Information required to be disclosed:

f. Trade secret protection:

g. Required disclosure to health/emergency personnel:

Underground Injection

1. Agencies that control the underground injection of fluid by well class: Underground Injection Control (UIC) at the Nevada Division of Environmental Protection.

Completion

1. Completion report required: Yes – Oil and Gas Completion Report.

a. Time limit: 30 days

b. Where submitted: Division of Minerals

2. Well logs required to be filed: Yes – 2 copies

a. Time limit: 30 days after completion

b. Where submitted: Division of Minerals

c. Confidential time period: Yes – 6 months. May be extended for series of wells.

d. Available for public use: Yes.

e. Log catalog available: No.

3. Multiple completion regulation: Yes.

a. Approval obtained: May be approved administratively.

4. Commingling in well bore: Yes.

    a. Approval obtained: Production from one pool shall not be commingled with that from another pool in the same field before gauging.

Oil Production

1. Definition of an oil well: "Oil well" means any well which is not a gas well and which is capable of producing oil or condensate.

2. Potential tests required: No provision.

    a. Time interval: No provision.

    b. Witness required: No provision.

3. Maximum gas-oil ratio: No.

    a. Provision for limiting gas-oil ratio: Yes. No well shall be permitted to produce gas in excess of the maximum ratio determined by the Division for a pool after notice and hearing.

    b. Exception to limiting gas-oil ratio: Yes. If excess is returned to the pool from which produced.

4. Bottom-hole pressure test reports required: No provision.

    a. Periodical bottom-hole pressure surveys: No.

5. Commingling oil in common facilities: Yes. Common tankage may be used to receive the production from any number of wells, provided adequate tankage and other equipment is installed so that production for each well can be accurately determined at reasonable intervals.

6. Measurement involving meters: No provision.

7. Production reports:

    a. By lease: No.

    b. By well: Yes – Oil and Gas Producers Monthly Report.

    c. Time limit: 30 days.

Gas Production

1. Definition of a gas well: "Gas well" means a well which produces primarily natural gas or any well classified as a gas well by the Division.

2. Pressure base 14.73 psia @ 60 degrees F.

3. Initial potential tests: Each gas well must be tested initially by the multipoint back pressure method at a time prescribed by the Division.

    a. Time interval: No provision.

    b. Witness required: No provision.

4. Bottom-hole pressure test reports required: No provision.

    a. Periodical bottom-hole pressure surveys: No provision.

5. Commingling of gas in common facilities: Yes. Common tankage may be used to receive the production from any number of wells, provided adequate tankage and other equipment is installed so that production for each well can be accurately determined at reasonable intervals.

6. Measurement involving meters: Yes.

7. Production reports:

    a. By lease: No.

    b. By well: Yes.

    c. Time limits: 30 days.

NEW MEXICO

Administration

1. Official name of agency regulating oil/gas exploration & production: New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division, 1220 S. St. Francis Drive, Santa Fe, NM 87505. Phone (505) 476-3440, FAX (505) 476-3462, Website http://emnrd.state.nm.us/ocd.

2. Contact for regulatory updates: Sonny Swazo, Assistant General Counsel, Oil Conservation Division. Phone: 505-476-3463. Email: sonny.swazo@state.nm.us

3. Docketing procedure: Upon receipt of a proper application, the Division will hold a public hearing at such time and place as it prescribes, not less than 30 days after filing of the application. The Division Director may appoint members of the staff as Examiners to conduct public hearings.

    a. Emergency orders and rules: Action by the Division without a hearing. Orders issued without hearing remain in force no longer than 15 days. Emergency hearings may be called with shortened notice. Rule 19.15.2.11 NMAC.

    b. Notice: Dependent on type of proceeding. Minimum of 20 days, except in emergency. By applicant. Rule 19.15.4.12 NMAC.

4. Agency regulating air emissions: New Mexico Environment Department, Air Quality Bureau.

5. Agency regulating water quality: The Oil Conservation Division regulates water quality as it relates to oil and natural gas drilling, processing and transportation.

License

1. License required: No.

2. Conditions of license: Not applicable.

Bond/Surety

1. Purpose of surety: To ensure that wells are plugged and abandoned and locations are restored and remediated in compliance with OCD rules. NMSA 1978, § 70-2-14, Rule 19.15.8 NMAC.

2. Plugging and restoration: Yes.

3. Compliance bond required: No.

4. Types of surety accepted: Surety shall be issued by a reputable corporate surety authorized to do business in New Mexico. Rule 19.15.8.10.A NMAC.

5. Conditions of bond:

    a. Amount per well: Depends on well's depth and location. $5,000 plus $1 per foot of depth in major producing counties. $10,000 plus $1 per foot of depth elsewhere. Rule 19.15.8.10.D(2) NMAC.

    b. Amount of blanket bond: $50,000. NMSA 1978, § 70-2-14, Rule 19.15.8.9.D(1) NMAC. Single well bond may be required in addition to blanket bond for wells inactive for more than 2 years. NMSA § 70-2-14, Rule 19.15.8 NMAC.

6. Waste Management Facilities: Rule 19.15.36 NMAC.

    a. Commercial facilities: Greater of (i) $25,000 or (ii) closure and post closure cost estimate (Note: Existing facilities capped at $250,000 per facility, except in event of a major modification).

    b. Centralized facilities: $25,000 per facility or $50,000 statewide blanket bond.

Land Leasing Information

1. Leasing method: A monthly two part competitive sale, with the first part of the sale being sealed bids that have been received by the Accounting Division of the State Land Office prior to 9:30 am of sale day. Part two is additional tracts by oral auction as listed in the sale notice.

2. Notice method: A lease sale notice is published on the State Land Office website at least three weeks prior to the lease sale and a hard copy is also mailed approximately three weeks prior to the sale to all industry operators that have been placed at their request on the mailing list. An un-official copy of the sale notice is available through baervan@nmt.edu.

3. Minimum bidding $ (per acre): Called a "minimum bonus bid" and set at $10,000.00 for a standard 640-acre section (a 320 acre tract would be $5,000.00), in the restricted (producing) areas. Minimum bonus in the non-restricted (frontier) areas is set at $1.00 per acre.

4. Qualification of the bidder: No pre-qualifying of bidders except for the assignment of a computer identification number called an OGRID Number.

5. State statutes: NMSA 1978, § 19-7-1, NMSA 1978, § 19-10-17, NMSA 1978, § 19-10-70.

6. Maximum acres: Tracts offered in both restricted and non-restricted areas are limited to a maximum of one full section (approximately 640 acres).

7. Agency in control of leasing: New Mexico State Land Office.

8. Contact: Dan Fuqua. Phone: (505) 827-5748. Email: dfuqua@slo.state.nm.us

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements: Yes. Rule 19.15.15 NMAC, or special pool rules, unless otherwise specified by special pool rules.

    a. Density: 40 acres for an oil well. SE gas: 160 acres to Top Wolfcamp and 320 acres (with 2 wells allowed per 320-acre unit) Wolfcamp and older. NW gas: 160 acres to base of the Dakota and 640 acres below the Dakota. All other areas 160- acre gas.

    b. Lineal: Oil: 330 feet from spacing unit boundary. Gas: 660 feet from spacing unit boundary 10 feet from any quarter/quarter line in a 160 acre or 320 acre unit; NW gas: 1200 feet from unit boundary, 130 feet from any quarter line and 10 feet from any quarter/quarter line in a 640-acre unit.

2. Exceptions: Yes

    a. Basis: When necessary to prevent waste or protect correlative rights. Rule 19.15.15.13 N M A C . Water floods and pressure maintenance. Rule 19.15.26.8 NMAC.

    b. Approval: District Offices for waterfloods and pressure maintenance; Administrative for other reasons. Any application may be set for hearing.

Pooling

1. Authority to establish voluntary: Yes.

2. Authority to establish compulsory: Yes for separate tracts or undivided interests within a spacing unit. NMSA 1978, § 70-2-17 and 70-2-18, Rule 19.15.13 NMAC.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: For secondary recovery and pressure maintenance only. NMSA 1978, § 70-7-1 through 70-7-21.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

    a. Working interest: 75%.

    b. Royalty interest: 75%.

Drilling Permit

1. Require permits for: All lands.

    a. Drilling a producing or service well: Rule 19.15.14 NMAC. Permitting on federal lands coordinated with BLM. Rule 19.15.7.37 NMAC.

    b. Seismic drilling: No.

    c. Recompletion: Yes. Rule 19.15.14 NMAC. Permitting on federal lands coordinated with BLM. Rule 19.15.7.37 NMAC.

    d. Plugging and abandoning: Yes. Rule 19.15.7.14 NMAC.

2. Permit fee:

    a. Drilling: None.

    b. Seismic drilling: None.

    c. Recompletion: None.

    d. Plugging and abandoning: None.

3. Require filing report of work performed: Yes. Rule 19.15.7.14 NMAC.

4. Sundry notices used: Yes.

Vertical Deviation

1. Regulation requirement: Yes. Rule 19.15.16.7 NMAC, Rule 19.15.16.14 NMAC

    a. When is a directional survey necessary: When a wellbore deviates more than five degrees in any 500-foot interval and where there exists the possibility that such excessive deviated wellbore exceeds the distance to the nearest outer boundary line of that well's spacing unit.

b. Filing of survey required: Yes.

c. Format of filing: The operator shall file directional surveys run on a well with the division upon the well's completion.

Casing and Tubing

1. Minimum amount required: Rule 19.15.16.10 NMAC.

   a. Surface casing: Through all usable water zones.

   b. Production casing: To sufficient depth to ensure protection of all oil and gas bearing strata, including the one(s) being produced.

   c. Specific requirements in certain areas.

2. Minimum amount of cement required: Rule 19.15.16.10.B - I NMAC

   a. Surface casing: Yes, circulate to surface.

   b. Production casing: Yes, to ensure protection of all oil and gas bearing strata encountered in the well, including the oar(s) being produced.

   c. Setting time: 18 hours in some areas; in other areas where cement has reached a comprehensive strength of 500 psi – see Rule 19.15.16.10.G NMAC.

3. Tubing requirements: Rule 19.15.16.10.J NMAC.

   a. Oil wells: Yes, if casing larger than 2 7/8 inches.

   b. Gas wells: Yes, if casing larger than 3 1/2 inches.

   c. All flowing oil wells and gas wells: set tubing as near the bottom as practical with tubing perforations not more than 250 feet above top of pay.

Hydraulic Fracturing

1. Permitting:

   a. Before drilling: No.

   b. Before fracing: No.

   c. How long before: Not applicable.

2. Reporting Requirements: Yes.

a. Where reported: Form C-103 subsequent (Rule 19.15.7.14.B NMAC), Form C-105 (Rule 19.15.16.19.A NMAC), Division's Hydraulic Fracturing Disclosure Form (Rule 19.15.16.19.B NMAC).

b. When reported: Form C-103 (30 days following remedial work); Form C-105 (20 days following completion or recompletion); Division's Hydraulic Fracturing Disclosure (45 days following completion).

3. Source water requirements: No.

4. Mechanical Integrity:

   a. Cementing log required: Yes, if well was completed or recompleted.

   b. Pressure testing: No.

   c. Pressure monitoring: No.

   d. Blowout preventer required: Yes, in high pressure areas, areas with unknown pressures, or if operations are within the corporate limits of a city, town or village, or within 1320 feet of habitation, a school or a church. Rule 19.15.16.12 NMAC.

5. Disposal of flowback fluids:

   a. Retaining pits: No.

   b. Tanks: Yes.

   c. Approved discharge to surface water: No.

   d. Underground injection: Yes.

6. Chemical disclosure requirement:

   a. Mandatory: Yes but not if not proprietary, trade secret or confidential business information. Rule 19.15.16.19 NMAC.

   b. Where disclosed: Division's Hydraulic Fracturing Disclosure Form.

   c. When disclosed (pre-fracing, post-fracing, both): Post-fracing.

   d. Time limit to disclose: 45 days following completion.

   e. Information required to be disclosed: A description of the hydraulic fluid composition and concentration listing each ingredient.

   f. Trade secret protection: Yes.

g. Required disclosure to health/emergency personnel: Does not require the reporting of information beyond the material safety data sheet data as described in 29 C.F.R. 1910.1200.

Underground Injection

1. Agencies that control the underground injection of fluid by well class:

   The Oil Conservation Division regulates Class I Non-Exempt, Non-Hazardous Oilfield Waste Wells; Class II Wells, Class III Brine Wells, and Class V Wells.

   The New Mexico Environment Department regulates the Underground Injection Control class of injection wells not related to oil and gas operations, and geothermal wells with bottom hole temperatures less than 250 degrees Fahrenheit.

Completion

1. Completion report required: Yes. Rule 19.15.16.19 NMAC and Rule 19.15.7.16 NMAC.

   a. Time limit: Within 20 days following completion.

   b. Where submitted: Appropriate district office.

2. Well logs required to be filed: Yes. Rule 19.15.7.16 NMAC.

   a. Time limit: 20 days.

   b. Where submitted: District office.

   c. Confidential time period: Yes. 90 days if requested in writing.

   d. Available for public use: Yes.

   e. Log catalog available: No, but all logs are currently available on the Division's internet web site.

3. Multiple completion regulation: Rule 19.15.16.16 NMAC.

   a. Approval obtained: By District approval of Form C-101 and/or C-103.

4. Commingling in well bore:

   a. Approval obtained: Administrative in most cases; appropriate cases set for hearing. Rule 19.15.12.11 NMAC.

Oil Production

1. Definition of an oil well: Any well that produces less than 100,000 cubic feet of gas per barrel of oil from a pool classified as an oil pool. Rule 19.15.2.7.G(6) and Rule 19.15.2.7.O(4) NMAC. In an associated oil and gas pool it is a well that produces less than 30,000 cubic feet per barrel. Rules of the "General Rules and Regulation for the Associated Oil and Gas Pacts of NW and SE New Mexico" as promulgated by R-5353, as amended.

2. Potential tests required: No.

    a. Time interval: None specified. Not applicable.

    b. Witness required: No. Not applicable.

3. Maximum gas-oil ratio: 2,000:1.

    a. Provision for limiting gas-oil ratio: Yes. Top pool allowable times limiting gas-oil ratio for that pool.

    b. Exception to limiting gas-oil ratio: Yes. After notice and hearing, pool gas-oil ratio could be increased.

4. Bottom-hole pressure test reports required: In some pools.

    a. Periodical bottom-hole pressure surveys: In some pools.

5. Commingling oil in common facilities: Yes. Rule 19.15.12.10 NMAC. Administrative approval provided that production is accurately measured prior to commingling. Application may be set for hearing if there is diverse ownership and an owner objects, or otherwise at the direction of the Director.

6. Measurement involving meters: In Automatic Custody Transfer and where there is diversified ownership in commingling.

7. Production reports:

    a. By lease: No.

    b. By well: Rule 19.15.7.24 NMAC.

    c. Time limit: 15th day of second month following the month of production.

Gas Production

1. Definition of a gas well: Any well that produces from a pool classified as a "gas pool" or produces with a gas-oil ratio of 100,000 cubic feet per barrel or more. In associated pool, it is a well which produces with a gas-oil ratio of 30,000 cubic feet per barrel or more.

2. Pressure base 15.025 psia @ 60 degrees F.

3. Initial potential tests: Yes.

    a. Time interval: 30 days after Christmas tree – unconnected wells. 60 days after connection to gas transportation system.

    b. Witness required: No.

4. Bottom-hole pressure test reports required: No.

    a. Periodical bottom-hole pressure surveys: No.

5. Commingling of gas in common facilities: Yes.

6. Measurement involving meters: All gas must be accounted for by metering or other method approved by the Division. Rule 19.15.19.9.A NMAC.

7. Production reports:

    a. By lease: No.

    b. By well: Yes. Rule 19.15.7.24 NMAC.

    c. Time limits: 15th day of second month following the month of production. Note: gas transporter must file a report of gas taken by the 15th day of the second month following the month the gas was taken.

New York

Note: New York did not submit updated information for 2012. Below is the information from the 2007 survey.

Administration

1. Official name of agency regulating oil/gas exploration & production: Department of Environmental Conservation, Division of Mineral Resources

2. Contact for regulatory updates: Department of Environmental Conservation, Division of Mineral Resources, 625 Broadway, 3rd Fl., Albany, NY 12233-6500. Phone (518) 402-8056. Region 9 Office, 182 E. Union St., Allegany, NY 14706-1328. Phone (716) 372-0645. Region 8 Office, 6274 East Avon-Lima Road, Avon, NY 14414. Phone (585) 226-2466.

3. Docketing procedure: Compulsory integration hearings will be held on a regular schedule to address recently permitted wells where the Department determines integration is necessary in accordance with new statutory provisions which took effect in August 2005. Other public hearings are held upon the Department's own motion or upon application of any interested party. The Department shall promptly fix a date for a hearing thereon. The hearings shall be held without undue delay after the filing of the petition. The Department shall make its order within sixty days after the close of the hearing record.

    a. Emergency orders: The Department may make an emergency order without notice or hearing, which shall be effective when made. No emergency order shall be effective for more than fifteen days.

    b. Notice: compulsory integration hearings: The well operator is responsible to provide notice to uncontrolled interests in spacing units and by publication at least 30 days prior to an integration hearing.

    c. Notice: other matters: At least ten days notice, exclusive of the date of service. The Department is responsible to give notice.

4. Agency regulating air emissions: N/A

5. Agency regulating water quality: N/A

License

1. License required: N/A

2. Conditions of license: N/A

Bond/Surety

1. Purpose of surety: N/A

2. Plugging and restoration: N/A

3. Compliance bond required: Yes, but only for post-regulatory (10/1/63) wells, and only with respect to plugging and abandonment.

4. Types of surety accepted: N/A

5. Conditions of bond: That the well be properly plugged and abandoned, all notices and reports be filed with the Department and the surface be restored to a condition similar to the adjacent terrain.

   a. Amount per well:

      (1) For wells less than 2,500 feet in depth:
      a. 1 to 25 wells: $2,500 per well, up to $25,000.
      b. 26 to 50 wells: $25,000 plus $2,500 per well in excess of 25, up to a total of $40,000. c. 51 to 100 wells: $40,000 plus $2,500 per well in excess of 50, up to a total of $70,000. d. Over 100 wells: $70,000 plus $2,500 per well in excess of 100, up to $100,000.

      (2) For wells between 2,500 feet and 6,000 feet in depth:
      a. 1 to 25 wells: $5,000 per well, up to $40,000.
      b. 26 to 50 wells: $40,000 plus $5,000 per well in excess of 25, up to a total of $60,000.
      c. 51 to 100 wells: $60,000 plus $5,000 per well in excess of 50, up to a total of $100,000.
      d. Over 100 wells: $100,000 plus $5,000 per well in excess of 100, up to a total of $150,000.

      (3) For wells over 6,000 feet in depth: Amount set by the Department based upon the anticipated cost to plug the well. Not to exceed $250,000 per well, up to a total of $2,000,000.

      (4) If the operator has wells described in (1) and others in (2), instead of providing bonding to satisfy the provisions of each category, he/she may provide an amount as if all the wells were between 2,500 feet and
      6,000 feet in depth.

   b. Amount of blanket bond: No bond required in excess of (a).

Land Leasing Information

1. Leasing method: Sealed bids. Negotiated lease option for small tracts. Negotiated noncompetitive lease option for split minerals interests and small tracts necessary to consolidate production units.

2. Notice method: Published in the official newspaper or newspapers or otherwise in a newspaper designated for such purposes.

3. Minimum bidding $ (per acre): $500.00 for each nominated area + $1 per acre, if the tract is 125 acres or less, then min. $5 per acre. Minimum bid is $15.00 per acre.

4. Qualification of the bidder: Any person in compliance with the Law and Regulations.

5. State statutes: New York State Environmental Conservation Law § 23-1101

6. Maximum acres: No established maximum.

7. Royalty rates: N/A

8. Agency in control of leasing: Charles Gilchrist Phone: (518) 402-8056 E-mail: crgilchr@gw.dec.state.ny.us

Setbacks

1. What rules/regulations/policies does your jurisdiction have in regard to well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A

2. Are there other sources of information on this matter that you could identify? N/A

Spacing

1. Spacing requirements: Yes.

    a. Density:

    Density, gas wells outside of pre-1995 fields which are not being extended:

    (1) Medina or shale, any depth: 40 acres +/- 10%.

    (2) Onondaga reef or Oriskany, any depth: 160 acres +/- 10%.

    (3) Fault-bounded Trenton and/or Black River hydrothermal dolomite, 4000 -

8000 feet deep: 320 acres +/- 10%.

(4) Fault-bounded Trenton and/or Black River hydrothermal dolomite, deeper than 8000 feet: 640 acres +/- 5%.

(5) All other pools, less than 4000 feet deep: 80 acres +/- 10%.

(6) All other pools, 4000 - 6000 feet deep: 160 acres +/- 10%.

(7) All other pools, 6000 - 8000 feet deep: 320 acres +/- 10%.

(8) All other pools, deeper than 8000 feet: 640 acres +/- 5%.

b. Density, all other non-exempt fields, pools or wells: 40 acres or in the center of a circle of radius 660 feet, subject to change under provision of a spacing order.

c. Lineal, gas wells outside of pre-1995 fields which are not being extended:

(1) Medina or shale, any depth: 660 feet from any unit boundary.

(2) Onondaga reef or Oriskany, any depth: 660 feet from any unit boundary.

(3) Fault-bounded Trenton and/or Black River hydrothermal dolomite, 4000 - 8000 feet deep: one-half mile from any other well in another unit in the same pool and no less than 1000 feet from any unit boundary that is not defined by a field-bounding fault and in no even less than 660 feet from any unit boundary.

(4) Fault-bounded Trenton and/or Black River hydrothermal dolomite, deeper than 8000 feet: one mile from any other well in another unit in the same pool and no less than 1500 feet from any unit boundary that is not defined by a field-bounding fault and in no even less than 660 feet from any unit boundary.

(5) All other pools, less than 4000 feet deep: 660 feet from any unit boundary.

(6) All other pools, 4000 - 6000 feet deep: 660 feet from any unit boundary.

(7) All other pools, 6000 - 8000 feet deep: 1000 feet from any unit boundary.

(8) All other pools, deeper than 8000 feet: 1500 feet from any unit boundary.

d. Lineal, all other non-exempt fields, pools, or wells: 660 feet from the

boundary line of any lease or unit and 1,320 feet from any other producing well completed or being drilled to the same pool.

e. Wells along the NY/PA state border have a reduced minimum setback distance of 330 feet.

f. A spacing order promulgated after notice and a comment period supersedes statewide spacing provisions.

2. Exceptions: Yes

a. Basis: Reasonable exceptions to protect correlative rights and prevent waste.

b. Approval, gas wells outside of pre-1995 fields which are not being extended: A spacing order is required before the well permit may be issued. The Order may be issued after notice and a comment period, without a hearing, if no substantive and significant issues are raised. A hearing will be scheduled if the Department determines that a substantive and significant issue has been raised in a timely manner.

c. Approval, all other non-exempt fields, pools or wells: May be granted administratively after proper notice and if no objections are filed. A public hearing is required if a substantive and significant dispute exists.

d. Oil fields or pools discovered, developed and operated prior to 1/1/81 are exempt from spacing requirements.

e. Underground gas storage wells, solution salt mining wells, brine disposal wells, stratigraphic wells and geothermal wells are exempt from spacing requirements.

Pooling

1. Authority to establish voluntary: Yes.

2. Authority to establish compulsory: Yes.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

a. Working interest: 60%

b. Royalty interest: 60%

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: Yes.

    b. Seismic drilling: No.

    c. Recompletion: Yes.

    d. Plugging and abandoning: Yes.

    e. Stratigraphic test well: Yes, if greater than 500 feet deep.

    f. Geothermal well: Yes, if greater than 500 feet deep.

    g. Brine disposal well: Yes, if greater than 500 feet deep.

2. Permit fee:

    a. Drilling: $100 plus $190 for each 500 feet of depth or portion thereof.

    b. Seismic drilling: No permit required.

    c. Recompletion: If recompletion includes deepening the well to a lower zone, a permit fee is required; in other cases no fee is required.

    d. Plugging and abandoning: None.

3. Require filing report of work performed: Yes.

4. Sundry notices used: N/A.

Vertical Deviation

1. Regulation requirement: Yes.

    a. When is a directional survey necessary: Upon Department request and/or as a condition of permit to drill an intentionally deviated well.

    b. Filing of survey required: Yes.

    c. Format of filing: N/A.

Casing and Tubing

1. Minimum amount required:

a. Surface casing: Minimum of 75 feet below deepest fresh water formation or 75 feet into bedrock, whichever is greater.

b. Production casing: Prevent migration between zones and commingling.

2. Minimum amount of cement required:

a. Surface casing: Cement to surface.

b. Production casing: To a height sufficient to prevent any movement of oil, gas or water outside of the casing. In principal or primary aquifer areas, production casing must be cemented to the surface.

c. Setting time: Yes. Prudent current industry practices, according to casing and cementing guidelines issued by our office.

3. Tubing requirements:

a. Oil wells: No.

b. Gas wells: No.

Hydraulic Fracturing—No Answers Provided

1. Permitting:

a. Before drilling:

b. Before fracing:

c. How long before:

2. Reporting Requirements:

a. Where reported:

b. When reported:

3. Source water requirements:

4. Mechanical Integrity:

a. Cementing log required:

b. Pressure testing:

c. Pressure monitoring:

d. Blowout preventer required:

5. Disposal of flowback fluids:

    a. Retaining pits:

    b. Tanks:

    c. Approved discharge to surface water:

    d. Underground injection:

6. Chemical disclosure requirement:

    a. Mandatory:

    b. Where disclosed:

    c. When disclosed (pre-fracing, post-fracing, both):

    d. Time limit to disclose:

    e. Information required to be disclosed:

    f. Trade secret protection:

    g. Required disclosure to health/emergency personnel:

Underground Injection

1. Agencies that control the underground injection of fluid by well class: N/A.

Completion

1. Completion report required: Yes.

    a. Time limit: Within 30 days after completion of any well.

    b. Where submitted: NYS Department of Environmental Conservation, Division of Mineral Resources for region where well is located.

2. Well logs required to be filed: Yes.

    a. Time limit: Within 30 days after completion of any well.

    b. Where submitted: NYS Department of Environmental Conservation, Division of Mineral Resources for region where well is located.

    c. Confidential time period: Department will hold well logs and completion data confidential for six months from spud date. This period may be extended an additional six months if drilling has been continuous

throughout the first six month period. An operator may request a maximum of two years confidentiality pursuant to Section 23-0313 of the New York State Oil, Gas and Solution Mining Law.

d. Available for public use: Yes. Access is available after the applicable six month or two-year confidentiality period expires.

e. Log catalog available: No.

3. Multiple completion regulation: Yes. 6NYCRR 554.6.

   a. Approval obtained: Prior permission is required for a multiple completion.

4. Commingling in well bore: Yes, with permission of the Department.

   a. Approval obtained: By application. Approval may be granted on an administrative basis or after public hearing at the Department's discretion.

Oil Production

1. Definition of an oil well: No definition.

2. Potential tests required: If pertinent (not on stripper wells).

   a. Time interval: At operator's discretion.

   b. Witness required: No.

3. Maximum gas-oil ratio: 2,000 cu. ft./bbl. but can be changed by application and public hearing.

   a. Provision for limiting gas-oil ratio: Yes.

   b. Exception to limiting gas-oil ratio: Only on a pool basis. By application and public hearing.

4. Bottom-hole pressure test reports required: Only in specific instances.

   a. Periodical bottom-hole pressure surveys:Only in specific instances.

5. Commingling oil in common facilities: Yes, upon application to and with prior approval of the Department.

6. Measurement involving meters: No.

7. Production reports:

   a. By lease: Yes, annually.

b. By well: Yes, annually.

c. Time limit: Three months after close of calendar year to which report pertains. "Bass Island" well production is reported on a quarterly basis, filed within 60 days after the close of the quarter concerned.

Gas Production

1. Definition of a gas well: No definition.

2. Pressure base 14.73 psia @ 60 degrees F.

3. Initial potential tests: Yes.

   a. Time interval: At operator's discretion.

   b. Witness required: No.

4. Bottom-hole pressure test reports required:

   a. Periodical bottom-hole pressure surveys:

5. Commingling of gas in common facilities: Yes, upon application to and with prior approval of the Department.

6. Measurement involving meters: Yes.

7. Production reports:

   a. By lease: No.

   b. By well: Yes, if available.

   c. Time limits: Three months after close of calendar year to which report pertains. "Bass Island" well production is reported on a quarterly basis, filed within 60 days after the close of the quarter concerned.

NORTH DAKOTA

Administration

1. Official name of agency regulating oil/gas exploration & production: North Dakota Industrial Commission, Dept. of Mineral Resources, Oil and Gas Division, 600 East Boulevard Ave., Dept. 405, Bismarck, ND 58505-0840. Phone (701) 328-8020.

2. Contact for regulatory updates: Lynn Helms, Director

   701-328-8020, lhelms@nd.gov

3. Docketing procedure: North Dakota Century Code (NDCC) Section 38-08-11. Upon application or motion of the Commission, a hearing before the Commission is set at which time as will permit 15 days notice.

   a. Emergency orders: Emergency orders may be issued by the Commission, and shall remain in force until a proper order can be issued, after notice and hearing, but not more than 40 days.

   b. Notice: Fifteen days notice is required for all hearings except hearings involving a complaint which requires 45 days notice. The Commission is responsible for giving notice either by personal service or by one publication in a newspaper of general circulation in the State Capitol and in a newspaper of general circulation in the county where the affected property is situated.

4. Agency regulating air emissions: North Dakota Department of Health

5. Agency regulating water quality: North Dakota Department of Health

License

1. License required: a permit from the industrial commission under such rules as may be prescribed by the commission

2. Conditions of license: The director may impose such terms and conditions on the permits issued under this section as the director deems necessary

Bond/Surety

1. Purpose of surety: Purpose of surety: drilling and plugging bond

2. Plugging and restoration: If the principal does not satisfy the bond's conditions, then the surety shall satisfy the conditions or forfeit to the commission the face value of the bond.

3. Compliance bond required: North Dakota Administrative Code (NDAC) Section 43-02-03-15. Surety or Cash Bond.

4. Types of surety accepted: collateral bond, self-bond, cash, or any alternative form of security approved by the commission, or combination thereof

5. Conditions of bond: Full compliance with the statutes, rules and regulations of the Commission.

    a. Amount per well: $50,000, except that wells drilled to a total depth of 2,000 feet or less may be bonded in a lesser amount upon administrative approval.

    b. Amount of blanket bond: More than 1 well, $100,000. The $100,000 blanket bond is limited in its coverage to contain no more than six unplugged dry holes, plugged wells with site not reclaimed, and/or abandoned wells

    c. Commercial disposal wells are not allowed on blanket bonds. Each such well is bonded at the $50,000 single well rate.

    d. Secondary recovery projects require a unit bond in the appropriate amount as listed in paragraphs (a) and (b) above.

Mineral Leasing Information

1. Leasing method: Oral bidding; but could be done with sealed bids. Sales are generally held the first Tuesday of February, May, August and November.

2. Notice method: Sale list that is sent out to approximately 300 companies and individuals that have asked to receive the list. Also, the sale is advertised in various county newspapers.

3. Minimum bidding $ (per acre): Minimum of $1.00/acre. The sale list is generated by an interested individual or company nominating a tract for the next available sale. By the nomination, the nominee is agreeing to pay the minimum bid.

4. Qualification of the bidder: No specific qualification. However, any bid can be rejected.

5. State statutes: NDCC 15-05 and 38-09

6. Maximum acres: 160 acres.

7. Royalty rates: The lease for any tract within three miles of existing production will be issued with a 1/6 royalty provision. Leases outside the three miles will be issued with a 1/8 royalty.

8. Agency in control of leasing: North Dakota Department of Trust Lands

Drew Combs; Phone: (701) 328-2800; Email: drew.combs@nd.gov

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals?
38-08-05. DRILLING PERMIT REQUIRED. It is unlawful to commence operations for the drilling of a well for oil or gas without first obtaining a permit from the industrial commission under such rules as may be prescribed by the commission and paying to the commission a fee for each such well in an amount to be prescribed by the commission. The applicant shall provide notice to the owner of any permanently occupied dwelling located within one-quarter mile [402.34 meters] of the proposed oil or gas well. Unless waived by the owner or if the commission determines that the well location is reasonably necessary to prevent waste or to protect correlative rights, the commission may not issue a drilling permit for an oil or gas well that will be located within five hundred feet [152.4 meters] of an occupied dwelling. If the commission issues a drilling permit for a location within five hundred feet [152.4 meters] of an (I-9) 08/2011 occupied dwelling, the commission may impose such conditions on the permit as the commission determines reasonably necessary to minimize impact to the owner of the dwelling.

2. Are there other sources of information on this matter that you could identify?

Spacing

1. Spacing requirements: NDAC Section 43-02-03-18. Within 30 days after oil or gas is discovered in a pool not covered by an order of the Commission, a spacing hearing is docketed. In the absence of an order of the Commission, the general spacing regulations are as follows:

    a. Density (vertical or directional oil well): 40 acres for vertical or directional oil wells drilled and projected no deeper than the Mission Canyon Formation; 160 acres for vertical or directional oil wells drilled or projected deeper than the Mission Canyon Formation; 160 acres for gas wells.

    b. Lineal (vertical or directional oil well): Not less than 500 feet from the 40-acre drilling unit boundary for vertical or directional oil wells no deeper

than the Mission Canyon Formation and not less than 660 feet from the 160-acre drilling unit boundary for vertical or directional oil wells deeper than the Mission Canyon Formation. Not less than 500 feet to any 160-acre drilling unit boundary for gas wells projected no deeper than the Mission Canyon Formation and not less 660 feet to any 160-acre drilling unit boundary for gas wells projected deeper than the Mission Canyon Formation.

c. Density (horizontal oil wells): 320 and 640 acres for horizontal oil wells.

d. Lineal (horizontal oil wells): Not less than 500 feet from the 320 or 640-acre drilling unit boundary for horizontal oil wells.

e. Density (gas wells): 160 acres for gas wells.

f. Lineal (gas wells): Not less than 500 feet from the 160-acre drilling unit boundary for gas wells drilled or projected no deeper than the Mission Canyon Formation; not less than 660 feet from the 160-acre drilling unit boundary for gas wells drilled or projected deeper than the Mission Canyon Formation.

2. Exceptions: Yes—NDAC Section 43-02-03-18.1.

   a. Basis: Surface conditions require or well at proper location would not produce in paying quantities, also, in order to protect correlative rights, prevent waste, or effect greater ultimate recovery of oil and gas.

   b. Approval: By order of the Commission after notice and hearing

Pooling

1. Authority to establish voluntary: Yes—NDCC Section 38-08-08 and NDAC Section 43-02-03-16.3.

2. Authority to establish compulsory: Yes—Section 38-08-08 and NDAC Section 43-02-03-16.3.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes—NDCC Section 38-08-09.1.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization: NDCC Section 38-08-09.5.

   a. Working interest: 60%

   b. Royalty interest: 60%

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: Yes—NDAC Section 43-02-03-16.

    b. Seismic drilling: Exploration permit required—NDAC Section 43-02-12-04.

    c. Recompletion: Yes—NDAC Section 43-02-03-16.

    d. Plugging and abandoning: Yes—NDAC Section 43-02-03-33. (Includes site reclamation).

2. Permit fee:

    a. Drilling: $100.

    b. Seismic drilling: $100. Regulated by the Industrial Commission, Oil and Gas Division.

    c. Recompletion: $50.

    d. Plugging and abandoning: No.

    e. Saltwater disposal well to be drilled: $100.

    f. Injection well to be drilled: $100.

3. Require filing report of work performed: Yes—NDAC Section 43-02-03-31.

4. Sundry notices used: for re-entry: N/A

Vertical Deviation

1. Regulation requirement: Yes—NDAC Section 43-02-03-25.

    a. When is a directional survey necessary: On all directionally and horizontally drilled holes. On any well when the location of the bottom of the hole is in doubt.

    b. Filing of survey required: Yes, the survey contractor must file a certified copy.

2. Format of filing: one certified electronic copy of all surveys, in a form approved by the director, within thirty days of attaining total depth

Casing and Tubing

1. Minimum amount required:

    a. Surface casing: Yes, 50' below Fox Hills Fm—NDAC Section 43-02-03-21

    b. Production casing: Yes—Per field order. Must be set and cemented from a point no higher than the top of the producing formation to above the uppermost sand of the Dakota group.

2. Minimum amount of cement required:

    a. Surface casing: Yes. Must cement to surface.

    b. Production casing: Yes.

    c. Setting time: Yes. 12 hours surface casing. Production casing until tail cement reaches a compressive strength of 500 psi.

3. Tubing requirements:

    a. Oil wells: Yes—NDAC Section 43-02-03-21. All wells must be equipped with tubing set as near bottom as practicable. Flowing wells to be equipped with packer. Can request waiver.

    b. Gas wells: Yes—NDAC Section 43-02-03-21. All wells must be equipped with tubing and packer set as near the bottom as practicable.

    c. Saltwater disposal wells: Yes—NDAC Section 43-02-05-06. All wells must be equipped with tubing and packer set immediately above the injection zone.

    d. Enhanced recovery: Yes—NDAC Section 43-02-05-06. All wells must be equipped with tubing and packer set immediately above the injection zone.

Hydraulic Fracturing

1. Permitting:

    a. Before drilling: no

    b. Before fracing: no

    c. How long before: no

2. Reporting Requirements:

    a. Where reported: Form 6 – completion report

    b. When reported: within 30 days of completing the well

3. Source water requirements: permitted by North Dakota State Water Commission

4. Mechanical Integrity:
    a. Cementing log required: yes
    b. Pressure testing: yes
    c. Pressure monitoring: yes
    d. Blowout preventer required: yes
5. Disposal of flowback fluids:
    a. Retaining pits: in emergency 72 hour maximum
    b. Tanks: required
    c. Approved discharge to surface water: not allowed
    d. Underground injection: required
6. Chemical disclosure requirement:
    a. Mandatory: yes
    b. Where disclosed: frac focus
    c. When disclosed (pre-fracing, post-fracing, both): post-fracing
    d. Time limit to disclose: within 60 days of completing fracture treatment
    e. Information required to be disclosed: all elements made viewable by the fracfocus website
    f. Trade secret protection: no
    g. Required disclosure to health/emergency personnel: if the director deems it necessary to protect the public's health, safety, and welfare.

Underground Injection

1. Agencies that control the underground injection of fluid by well class:

   Class 1 – North Dakota Department of Health
   Class 2 – North Dakota Industrial Commission – Department of Mineral Resources – Oil & Gas Division

Class 3 - North Dakota Industrial Commission – Department of Mineral Resources – Geological Survey
Class 4 – North Dakota Department of Health
Class 5 – North Dakota Department of Health
Class 6 – North Dakota Industrial Commission – Department of Mineral Resources – Oil & Gas Division

Completion

1. Completion report required: Yes—NDAC Section 43-02-03-31.

    a. Time limit: 30 days except completion reports for discovery wells must be submitted immediately.

    b. Where submitted: North Dakota Industrial Commission, Oil and Gas Division.

2. Well logs required to be filed: Yes—NDAC Section 43-02-03-31.

    a. Time limit: 30 days.

    b. Where submitted: North Dakota Industrial Commission, Oil and Gas Division.

    c. Confidential time period: If requested. 6 months.

    d. Available for public use: Yes.

    e. Log catalog available: Yes.

3. Multiple completion regulation: Yes—NDAC Section 43-02-03-26.

    a. Approval obtained: Multiple completions can be approved by the Director.

4. Commingling in well bore: Yes—NDAC Section 43-02-03-42.

    a. Approval obtained: Order of the Commission or the Director, after notice and hearing.

Oil Production

1. Definition of an oil well: NDAC Section 43-02-03-01. Any well capable of producing oil and which is not defined as a gas well.

2. Potential tests required: Yes.

    a. Time interval: First 24 hours after completion. Requested info under Completion Report—Form 6.

b. Witness required: No.

3. Maximum gas-oil ratio: 2,000/1. NDAC Section 43-02-03-39.

   a. Provision for limiting gas-oil ratio: Yes. Commission may, after notice and hearing, restrict production from well if deemed necessary to conserve reservoir energy.

   b. Exception to limiting gas-oil ratio: Yes. Commission may, after notice and hearing, waive restrictions.

4. Bottom-hole pressure test reports required: Yes—NDAC Section 43-02-03-41.

   a. Periodical bottom-hole pressure surveys: Yes. Per field order.

5. Commingling oil in common facilities: Yes—NDAC Section 43-02-03-48.1. Provided the volume is determined in barrels of oil through meter measurements or tank measurements, and the production from each well can be accurately determined at reasonable intervals. Commingling of production in a central production facility from two or more wells having diverse ownership that is not metered prior to commingling may only be approved by the Commission after notice and hearing.

6. Measurement involving meters: Yes—NDAC Section 43-02-03-48.2. Custody transfer meters and allocation meters allowed with calibration requirements.

7. Production reports: Yes—NDAC Section 43-02-03-52.

   a. By lease: No.

   b. By well: Yes.

   c. Time limit: First day of second month following production.

Gas Production

1. Definition of a gas well: NDAC Section 43-02-03-01. A well producing gas or natural gas from a common source of gas supply as determined by the Commission.

2. Pressure base 14.73 psia @ 60 degrees F.

3. Initial potential tests: Yes.

   a. Time interval: First 24 hours after completion.

   b. Witness required: No.

4. Bottom-hole pressure test reports required: Yes—NDAC Section 43-02-03-41.

a. Periodical bottom-hole pressure surveys: Yes, determined by order of the Commission.

5. Commingling of gas in common facilities: NDAC Section 43-02-03-48.1. Only by order of the Commission after notice and hearing.

6. Measurement involving meters: Yes—NDAC Section 43-02-03-14.2. Sales meters and allocation meters allowed with calibration requirements.

7. Production reports: NDAC Section 43-02-03-52.1.

    a. By lease: No.

    b. By well: Yes.

    c. Time limits: Fifth day of second month following production.

OKLAHOMA

Administration

1. Official name of agency regulating oil/gas exploration & production: Oklahoma Corporation Commission (Commission), Oil and Gas Conservation Division, Jim Thorpe Office Building, 2101 North Lincoln Boulevard, Oklahoma City, OK 73105. The mailing address is P.O. Box 52000, Oklahoma City, OK 73152-2000. Telephone: (405) 521-2302. Fax: (405) 521-3099. The Commission's Oil and Gas Conservation Rules are contained in OAC (Oklahoma Administrative Code) 165:10-1-1, et seq., and its Rules of Practice appear in OAC 165:5-1-1, et seq.

2. Contact for regulatory updates: Susan Dennehy Conrad, Deputy General Counsel, Oklahoma Corporation Commission, P.O. Box 52000, Oklahoma City, OK 73152-2000. Telephone: (405) 521-3939. E-mail: s.conrad@occemail.com. Fax: (405) 521-4150.

3. Docketing procedure: Ordinarily 80 to 100 unprotested cases per day are set on the administrative law judges' dockets for hearings on Monday and Tuesday and on Fridays during times of increased Conservation Docket activity. Protested cases are set for hearing on Wednesday through Friday which encompass 10 to 30 cases per week. The Pollution and Enforcement Docket is held on Wednesday and Friday with approximately 20 cases per week. Emergency and motion dockets are held on Monday, Tuesday and Friday with approximately 5 to 10 emergency applications and 10 to 20 motions set on these dockets. Matters set for hearing in the Commission's Tulsa office correspond to the foregoing docket dates for its Oklahoma City office, with the exception of the Pollution and Enforcement docket, which occurs on Tuesday in the Commission's Tulsa office. The Commission's Tulsa office is located at 440 South Houston, Suite 114, Tulsa, OK, 74127. Telephone: (918) 581-2296. Fax: (918) 581-2597.

    a. Emergency orders: Emergency applications are addressed in OAC 165:5-9-3. No application for emergency relief shall be accepted for filing by the Court Clerk without a base application being previously filed. The Commission will not accept an application for an emergency order approving a commercial facility that requires a permit under OAC 165:10-5-5, OAC 165:10-9-1, OAC 165:10-9-2 or OAC 165:10-9-4. The general form and procedures for Commission orders are addressed in OAC 165:5-15-1, and emergency orders are addressed in OAC 165:5-15-7. An order granting emergency relief relating to a Conservation Docket proceeding shall be effective for a period not to exceed ninety (90) days.

    b. Notice: Fifteen days notice is required for many hearings on applications. OAC 165:5-7-1. Five business days notice is required for motion and emergency hearings. OAC 165:5-9-2 and OAC 165:5-9-3. "Business day" is defined in OAC 165:5-1-3 as "a day that is not a Saturday, Sunday, or legal holiday."

4. Agency regulating air emissions: Oklahoma Department of Environmental Quality, 707 North Robinson, Oklahoma City, OK 73102. Mailing address: P.O. Box 1677, Oklahoma City, OK 73101-1677. Telephone: (405) 702-0100. Fax: (405) 702-1001. Okla. Stat. Tit. 27A § 1-3-101.

5. Agency regulating water quality: Oil and gas activities-Oklahoma Corporation Commission. Other agencies regulating water quality include the Oklahoma Department of Environmental Quality; Oklahoma Water Resources Board; Oklahoma Department of Agriculture, Food and Forestry; Oklahoma Conservation Commission; Oklahoma Department of Mines, and the Oklahoma Department of Wildlife Conservation. See Okla. Stat. Tit. 27A § 1-3-101 for agency jurisdictional areas of water quality responsibilities.

License

1. License required: A license must be obtained from the Commission before any person can contract to pull casing or plug oil, gas, injection, disposal, or other service wells, or contract to or purchase wells for the purpose of salvaging casing from such wells. OAC 165:10-11-1, OAC 165:5-7-38.

2. Conditions of license: A license for pulling casing or plugging wells is not transferable and may at any time be suspended or revoked by the Commission for good cause upon application, notice and hearing. OAC 165:10-11-1, OAC 165:5-7-38. Operating requirements for licensees appear in OAC 165:10-11-2.

Bond/Surety

1. Purpose of surety: That all wells will be drilled, operated and plugged in accordance with Oklahoma law and Commission rules. Okla. Stat. Tit. 52 § 318.1, OAC 165:10-1-10.

2. Plugging and restoration: If the Commission determines, after notice and hearing, that a person has neglected, failed or refused to plug or replug any well, to close any surface impoundment or to remove trash and equipment as required by Oklahoma law and Commission rules, then the person's surety can be forfeited in an amount equal to the cost of plugging or replugging the well, closing surface impoundments or removing trash and equipment. Okla. Stat. Tit. 52 § 318.1, OAC 165:10-1-10.

3. Compliance bond required: Surety, or evidence of financial ability, is required of any person who drills or operates any well for the exploration, development or production of oil or gas, or as an injection or disposal well, in the State of Oklahoma. Okla. Stat. Tit. 52 § 318.1, OAC 165:10-1-10. A performance bond in the amount of $50,000.00, or other form of surety in an amount approved by the Conservation Division, is required for seismic operations, and a financial surety guarantee in compliance with OAC 165:10-1-10 is required in connection with stratigraphic test hole operations. OAC 165:10-7-31.

4. Types of surety accepted: Category A: Financial Statement showing net worth in Oklahoma of not less than $50,000.00; Category B: Corporate Surety Bond, Irrevocable Commercial Letter of Credit, Bank Joint Custody Receipt, Certificate of Deposit,

Cashier's Check, Cash, or other negotiable instrument in the minimum amount of $25,000.00. The amount of Category B surety may be set higher at the discretion of the Director of the Conservation Division. The Commission is authorized to establish Category B surety in an amount greater than $25,000.00 based upon the past performance of the operator and its insiders and affiliates regarding compliance with the laws of Oklahoma, and compliance with any rules promulgated thereto including, but not limited to, the drilling, operation and plugging of wells, closure of surface impoundments or removal of trash and equipment. For good cause shown concerning pollution or improper plugging of wells by an operator posting either Category A or Category B surety or by an insider or affiliate of such operator, the Commission, upon application of the Director of the Conservation Division after notice and hearing, may require the filing of additional Category B surety in an amount greater than $25,000.00 but not to exceed $100,000.00. Okla. Stat. Tit. 52 § 318.1, OAC 165:10-1-10, et seq.

5. Conditions of bond: Financial statements must be updated annually. Letters of Credit must be valid for at least one year and updated annually. Certificates of Deposit must be valid for at least a minimum of one year. An operator's agreement must accompany any form of Surety submitted and updated annually. Surety is used for plugging wells, closure of surface impoundments and removal of trash and equipment.

    a. Amount per well: If statewide plugging liability is less than $25,000.00, Category B surety can be submitted based on estimated cost of plugging for each well operated. The estimated cost of plugging and abandonment shall not include any salvage value as to recoverable casing, tubing or wellhead equipment. Surety shall be increased as additional wells are added to the responsibility of the operator and may be decreased as included wells are properly plugged and abandoned.

    b. Amount of blanket bond: Corporate Surety Bond amount: $25,000.00. Irrevocable Commercial Letter of Credit amount: $25,000.00. Financial Statement minimum net worth amount: $50,000.00. Bank Joint Custody Receipt, Certificate of Deposit or cash amount: $25,000.00.

Land Leasing

1. Leasing Method: Public sealed competitive bids. Also have auctions where 5 year lease contracts are sold, these auctions are done every October.

2. Notice Method: Notice of such sale to be published for 30 days in a newspaper of general circulation in the county where such lands are situated and in a newspaper of general circulation in the State of Oklahoma.

3. Minimum bidding $ (per acre): No less than $5.00 per acre, except in a special lease sale. Sometimes land is appraised at a higher fair market value, in these instances the minimum bidding may be higher.

4. Qualification of the bidder: Responsible bidder

5. State Statutes: OK ST Title 64
   §92
   §281
   §285
   Rules and Reg.
   385:15-1-3~12

6. Maximum acres: 160 acres

7. Royalty Rates: N/A
8. Agency in Control of Leasing: Commissioners of the Land Office

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements: Not mandatory. If desired, upon application, notice (to each person or governmental entity having the right to participate in production from the proposed drilling and spacing unit or the existing drilling and spacing unit and publication notice in a newspaper of general circulation published in Oklahoma County and in each county in which lands embraced in the application are located) and hearing. See Okla. Stat. Tit. 52 § 87.1 and OAC 165:5-7-6. Standard square drilling and spacing units: 10, 40, 160, or 640 acres. Standard rectangular drilling and spacing units: 20, 80 or 320 acres. See OAC 165:10-1-22. Drilling additional well(s) into a drilling and spacing unit is permitted only after notice and hearing. The Commission may establish drilling and spacing units not to exceed 640 acres in size regarding reservoir dewatering to extract oil from reservoirs having initial water saturations at or above 50%. Okla. Stat. Tit. 52 § 87.1. See OAC 165:10-15-18 regarding production tests and reports for reservoir dewatering oil spacing units.

   a. Density: Permitted well locations-the center of the unit for any standard square drilling and spacing unit. The permitted well locations within standard rectangular drilling and spacing units shall be the centers of alternate square tracts constituting the units (alternate halves of the units). Well will be deemed drilled at the permitted location if drilled within the following tolerance areas: (i) Not less than 165 feet from the boundary of any standard 10-acre drilling and spacing unit or the proper square 10-acre tract within any standard 20-acre drilling and spacing unit. (ii) Not less than 330 feet from the boundary of any standard 40-

acre drilling and spacing unit or the proper square 40-acre tract within any standard 80-acre drilling and spacing unit. (iii) Not less than 660 feet from the boundary of any standard 160-acre drilling and spacing unit or the proper square 160-acre tract within any standard 320-acre drilling and spacing unit. (iv) Not less than 1320 feet from the boundary of any standard 640-acre drilling and spacing unit. See OAC 165:10-1-21, OAC 165:10-1-24, OAC 165:10-1-26, OAC 165:5-7-9, OAC 165:5-15-4 and OAC 165:5-15-6 regarding permitted well locations and well location exceptions, and OAC 165:10-1-27, OAC 165:5-7-10 and OAC 165:5-15-5 pertaining to increased density wells.

b. Lineal: A horizontal well is a well drilled, completed, or recompleted with one or more laterals in a common source of supply in a manner in which, for at least one lateral, the horizontal component of the completion interval in the common source of supply exceeds the vertical component thereof and the horizontal component extends a minimum of 150 feet in the formation. For information concerning horizontal well units, horizontal well unitizations, multiunit horizontal wells, well location requirements, determination of unit size and allowable, horizontal well spacing requirements, etc. refer to OAC 165:10-3-28, OAC 165:10-5-5, OAC 165:5-7-6, OAC 165:5-7-6.1, OAC 165:5-7-6.2, OAC 165:5-7-27 and OAC 165:5-15-3. See also the 2011 Shale Reservoir Development Act in Okla. Stat. Tit. 52 §§ 87.6 through 87.9.

2. Exceptions

a. Basis: To prevent waste, protect correlative rights, to encounter the edge of a known producing reservoir, or because of surface obstructions.

b. Approval: Upon application, notice (including written notice to offset operators and working interest owners toward whom the location is to be moved) and hearing. An allowable penalty may be imposed.

Pooling

1. Authority to establish voluntary: Yes, by private contract.

2. Authority to establish compulsory: Yes, for owners of the right to drill who cannot agree as to how the unit should be developed. Spacing is a prerequisite. Okla. Stat. Tit. 52 § 87.1(e). See OAC 165:5-7-7, OAC 165:5-15-3 and OAC 165:10-25-1, et seq.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: For enhanced recovery, see Okla. Stat. Tit. 52 § 287.1 et seq., OAC 165:5-7-20 and OAC 165:5-15-2. Regarding horizontal well unitization for a shale reservoir, see Okla. Stat. Tit. 52 § 87.6 et seq., OAC 165:10-3-28 and OAC 165:5-7-6.1.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization.

For enhanced recovery:

a. Working interest: Not less than 63% by lessees of record of the unit area affected thereby.

b. Royalty interest: Not less than 63% by owners of record (exclusive of royalty interests owned by lessees or by subsidiaries of any lessee) of the normal 1/8 royalty interest in and to the unit area.

For horizontal well unitizations for a shale reservoir:

a. Working interest: Not less than 63% by lessees of record in the shale reservoir in the area to be included in the unit.

b. Royalty interest: Not less than 63% by owners of record, exclusive of royalty interests owned by lessees or by subsidiaries of any lessee, of the 1/8 royalty interest in the shale reservoir in the area to be included in the unit.

3. Unitized management of a common source of supply-brine and associated gas. See OAC 165:5-7-21.

Drilling Permit

1. Require permits for: (See Commission's website for instructions on electronic submissions of permits to drill)

a. Drilling a producing or service well: Yes. See OAC 165:10-3-1.

b. Seismic exploration activities and stratigraphic test hole operations: Yes. See OAC 165:10-7-31 and Okla. Stat. Tit. 52 § 318.21, et seq.

c. Recompletion: Yes. See OAC 165:10-3-1.

d. Plugging and abandoning: Filing of Notification of Intention to Plug required. See OAC 165:10-11-4.

2. Permit fee:

a. Drilling: $175.00 fee for standard processing. $500.00 fee if processed on a walk through basis. See OAC 165:5-3-1.

b. Seismic exploration activities: No. Stratigraphic test hole operations: $175.00 fee for standard processing. $500.00 fee if processed on a walk through basis. See OAC 165:5-3-1 and OAC 165:10-7-31.

c. Recompletion: $175.00 fee for standard processing. $500.00 fee if processed on a walk through basis. See OAC 165:5-3-1.

d. Plugging and abandoning: No.

3. Require filing report of work performed: Yes. Notice of Spudding of New Well (OAC 165:10-3-2 and OAC 165:10-7-31); Written notice of commencement of seismic operations (OAC 165:10-7-31); Completion Report (must be filed within 30 days after completion of operations regardless of whether or not the well was completed as a dry hole, producer, injection, disposal or service well) and Amended Completion Report (must be filed within 30 days after completion of operations to reenter, recomplete or convert to injection or disposal well regardless of whether or not the well was completed as a dry hole, producer, injection, disposal or service well) (OAC 165:10-3-25); Cementing Report (OAC 165:10-3-4); Certification of plugging of seismic shot holes and a post-plat or acceptable form of survey showing actual location of all seismic shot holes (OAC 165:10-7-31); Plugging Record (OAC 165:10-11-7 and OAC 165:10-7-31).

4. Sundry notices used: See OAC 165:10-1-7 Prescribed forms and OAC 165:10 Oil and Gas Conservation rules.

Vertical Deviation

1. Regulation requirement:

    a. When is a directional survey necessary:

        i. Within 30 days after completion of a horizontal well, the operator shall show that the location of the completion interval complies with the applicable general rule, location exception order, or other order of the Commission by submitting to the Commission's Technical Services Department a directional survey run in the horizontal well and a plat constructed from the results of the directional survey showing the completion interval. OAC 165:10-3-28.

        ii. If a directionally drilled or horizontal well is drilled and completed in compliance with an interim order approving a location exception, and no party of record has requested a hearing, the Commission may issue a final order approving the location exception, without further hearing, based on an administrative review by the Commission's Technical Services Department of the following documents, which the applicant must file with the Court Clerk for the record: the directional survey, a final plat showing the actual location of the lateral, and the well completion report. The applicant must also submit a proposed final order to the Commission's Technical Services Department in any cause handled through the administrative review process. In the event the directional survey shows that a directionally drilled or horizontal well was not drilled and completed in compliance with the interim location exception order, the applicant shall notify the Commission and all of the parties entitled to notice in the original hearing establishing the interim order by filing an amended application in the cause setting forth the actual subsurface locations of the well and by giving proper notice thereof. The actual subsurface locations of the well will be considered at a hearing conducted

on the date specified in the interim location exception order, or on such date to which the hearing is continued. OAC 165:5-7-9.

iii. For good cause, the Commission may order an operator to run directional and/or bottom hole surveys for a common source of supply in a well upon application, notice and hearing, or in any case involving the location of a well, upon motion of an affected party or upon the Commission's own motion. OAC 165:10-3-27.

b. Filing of survey required: Yes.

c. Format of filing: Directional surveys are filed in paper form with the Commission.

Casing and Tubing

(OAC 165:10-3-4)

1. Minimum amount required:

a. Surface casing: Unless an alternate casing program is authorized by the Conservation Division or by an order of the Commission, suitable and sufficient surface casing shall be run and cemented from bottom to top with a minimum setting depth which is the greater of ninety feet below the surface, or fifty feet below the base of treatable water.

b. Production casing: If additional casing other than surface casing is run, except for temporary purposes, it shall be run, set, and cemented with a calculated volume of cement sufficient to fill the annular space behind the casing string from the base of the casing string to a minimum height which is the greater of 5% of the depth to which the casing string is set, or a height of 200 feet. Any well approved for horizontal completion shall be cemented with a calculated volume of cement sufficient to fill the annular space behind the production casing string to isolate the producing formation. The Conservation Division may grant a variance to this requirement for a horizontal well upon request.

c. Wells which penetrate unitized common sources of supply: Each newly drilled or reentered well which penetrates a common source of supply in which enhanced recovery operations are being conducted shall be properly cased and cemented from not less than 100 feet below to not less than 100 feet above each unitized common source of supply to prevent migration of formation fluids and contain formation pressure. In the event the well is to be plugged without being cased, the well shall be properly cemented over the aforementioned interval(s) during plugging procedures.

2. Minimum amount of cement required:

a. Surface casing: Unless an alternate casing program is authorized by the Conservation Division or by an order of the Commission, suitable and

sufficient surface casing shall be run and cemented from bottom to top with a minimum setting depth which is the greater of ninety feet below the surface, or fifty feet below the base of treatable water.

If no conductor string is set and the cement did not circulate to the surface or falls back more than five feet, the operator shall determine the top of the cement using a method approved by the District Manager or Field Inspector Supervisor. If the top of cement is found less than 200 feet from the surface, the operator may circulate cement to surface using small tubulars. If a conductor string has been set and the cement has been found to be ten feet or more above the base of the conductor string, no corrective action is required. If no conductor string has been set and the top of the cement is greater than 200 feet from the surface, the operator shall perform a corrective cementing operation by circulating cement to the surface from a point 50 feet below the base of treatable water or from the determined top of the cement, whichever is shallower.

b. Production casing: If additional casing other than surface casing is run, except for temporary purposes, it shall be run, set, and cemented with a calculated volume of cement sufficient to fill the annular space behind the casing string from the base of the casing string to a minimum height which is the greater of 5% of the depth to which the casing string is set, or a height of 200 feet. Any well approved for horizontal completion shall be cemented with a calculated volume of cement sufficient to fill the annular space behind the production casing string to isolate the producing formation. The Conservation Division may grant a variance to this requirement for a horizontal well upon request.

c. Setting time: The cement behind the surface casing shall set at least eight hours before further drilling.

3. Tubing requirements:

a. Oil wells: No.

b. Gas wells: No.

c. Enhanced recovery and disposal operations: See OAC 165:10-5-5 and OAC 165:10-5-6.

Hydraulic Fracturing

(OAC 165:10-3-10)

1. Permitting:

a. Before drilling: Yes. See OAC 165:10-3-1.

b. Before fracing: Yes. See OAC 165:10-3-1.

c. How long before: An operator is required to obtain a Permit to Drill approved by the Conservation Division before spudding a well for the exploration for and production of oil or gas; spudding a well for use as an injection or disposal well; reentry into a plugged well; recompletion of a well or deepening an existing well.

2. Reporting Requirements:

   a. Where reported: Notice of hydraulic fracturing operations-Operators are required to notify the appropriate Conservation Division District Office or Field Inspector concerning the time when hydraulic fracturing operations will begin. OAC 165:10-3-4(e). Operators are also required to file well Completion Reports with the Commission which contain, among other things, information about fracture treatments. OAC 165:10-3-25. Upon request of the Conservation Division, service companies or other persons shall furnish and file reports and records showing gun perforating, hydraulic fracturing, cementing, shooting, chemical treatment and all other service operations on any well. OAC 165:10-1-6(g).

   b. When reported: Notice of hydraulic fracturing operations: At least 24 hours before hydraulic fracturing operations begin. OAC 165:10-3-4(e). Operators are required to file well Completion Reports with the Commission within 30 days after completion of operations, regardless of whether or not the well was completed as a dry hole, producer, injection, disposal or service well, or within 30 days after completion of operations to reenter, recomplete or convert to injection or disposal well regardless of whether or not the well was completed as a dry hole, producer, injection, disposal or service well. OAC 165:10-3-25.

3. Source water requirements: Temporary storage in noncommercial pits of flowback water that is to be reused for hydraulic fracturing of wells is addressed in OAC 165:10-7-16. Requirements for commercial facilities which recycle flowback water appear in OAC 165:10-9-4.

4. Mechanical Integrity:

   a. Cementing log required: A bond log covering the interval from 100 feet below the base of the treatable water to the surface is required if a well is completed using an alternate casing and cementing procedure. OAC 165:10-3-4(d)(4)(C).

   b. Pressure testing: The Conservation Division has the right at all times to go upon and inspect any oil and gas properties for the purpose of making any investigations or tests to ascertain whether Commission rules and orders are being complied with. The Conservation Division may require the testing or retesting of any oil, gas, injection or disposal well. Until the test is completed or excused, no allowable will be assigned the well and the purchaser or taker of oil or gas from such well shall not run oil or gas until authorized by the Conservation Division. OAC 165:10-1-6.

Before drilling the cement plug in a casing string, an operator is required to pressure test the installed casing for 30 minutes at a minimum pressure which is the lesser of the surface gauge pressure equal in pounds per square inch to 0.2 of the length of the casing in feet or 1500 psig. During the 30 minute test, if the surface pressure drops ten percent or more, the operator is required to repair and retest the casing until requirements have been met, or plug the well. OAC 165:10-3-4(h). Also see OAC 165:10-5-6 (testing and monitoring requirements for enhanced recovery injection wells and disposal wells) and OAC 165:10-5-7 (monitoring and reporting requirements for wells covered by OAC 165:10-5-1, which include enhanced recovery and injection wells).

c. Pressure monitoring: See OAC 165:10-5-6 (testing and monitoring requirements for enhanced recovery injection wells and disposal wells) and OAC 165:10-5-7 (monitoring and reporting requirements for wells covered by OAC 165:10-5-1, which include enhanced recovery and injection wells).

d. Blowout preventer required: Yes. See OAC 165:10-3-4(i).

5. Disposal of flowback fluids:

a. Retaining pits: See OAC 165:10-9-1 (use of commercial pits) and OAC 165:10-9-4 (commercial recycling facilities).

b. Tanks: No.

c. Approved discharge to surface water: Discharge of deleterious substances to streams or other surface waters is prohibited except by order of the Commission, unless permitted by a valid National Pollutant Discharge Elimination System Permit issued by the United States Environmental Protection Agency. OAC 165:10-7-18.

d. Underground injection: See OAC 165:10-5-1, et seq. underground injection control.

6. Chemical disclosure requirement: [See OAC 165:10-3-10(b)]

a. Mandatory: Information on chemicals used in hydraulic fracturing operations on oil, gas, injection, disposal or service wells must be submitted for horizontal wells that are hydraulically fractured on or after January 1, 2013, and other wells that are hydraulically fractured on or after January 1, 2014.

b. Where disclosed: Information on chemicals used in hydraulic fracturing operations can be submitted to the FracFocus Chemical Disclosure Registry or, alternatively, directly to the Commission. If the chemical disclosure information is submitted directly to the Commission, the Commission will post such information on the FracFocus Chemical Disclosure Registry.

c. When disclosed (pre-fracing, post-fracing, both): Within 60 days after the conclusion of hydraulic fracturing operations on oil, gas, injection, disposal or service wells.

d. Time limit to disclose: Within 60 days after the conclusion of hydraulic fracturing operations on oil, gas, injection, disposal or service wells.

e. Information required to be disclosed: See OAC 165:10-3-10(b). Also, nothing in OAC 165:10-3-10(b) restricts the Commission's ability to obtain chemical information under the provisions of OAC 165:10-1-6 or other applicable Commission rules.

f. Trade secret protection: If certain chemical information, such as the chemical identity, Chemical Abstract Number, and/or maximum concentration of an ingredient, is claimed in good faith to be entitled to protection as a trade secret under the Uniform Trade Secrets Act (Okla. Stat. Tit. 78 §§ 85-94), the submission to the FracFocus Chemical Disclosure Registry may note the proprietary nature of that chemical information instead of disclosing the protected information to the Registry. The submission must include certain information, and the Commission or the Director of the Oil and Gas Conservation Division may require the claimant to file with the Commission a written explanation in support of the claim. See OAC 165:10-3-10(b)(4).

g. Required disclosure to health/emergency personnel: The Conservation Division shall have access to all well records, wherever located, and upon request of the Conservation Division, service companies or other persons shall furnish and file reports and records showing gun perforating, hydraulic fracturing, cementing, shooting, chemical treatment and all other service operations on any well. OAC 165:10-1-6. In the case of an emergency, first responders will have access to information regarding the chemicals used in hydraulic fracturing operations, through coordinated state emergency planning procedures.

Underground Injection

1. Agencies that control the underground injection of fluid by well class:

The Commission has jurisdiction over Class II injection wells; Class V injection wells utilized in the remediation of groundwater associated with underground or aboveground storage tanks regulated by the Commission; those wells used for the recovery, injection or disposal of mineral brines as defined in the Oklahoma Brine Development Act (Okla. Stat. Tit. 17 § 500, et seq.) regulated by the Commission, and any aspect of any CO2 sequestration facility, including any associated CO2 injection well, over which the Commission is given jurisdiction pursuant to the Oklahoma Carbon Capture and Geologic Sequestration Act (Okla. Stat. Tit. 27A § 3-5-101, et seq.).

The Oklahoma Department of Environmental Quality has jurisdiction over underground injection control pursuant to the Federal Safe Drinking Water Act and 40 CFR Parts 144 through 148 except as noted above. Okla. Stat. Tit. 27A §§ 1-3-101(B)(7) and (E).

Completion

1. Completion report required: Yes, Form 1002A Completion Report.

    a. Time limit: A Completion Report must be filed within 30 days after completion of operations regardless of whether or not the well was completed as a dry hole, producer, injection, disposal or service well, and an Amended Completion Report must be filed within 30 days after completion of operations to reenter, recomplete or convert to injection or disposal well regardless of whether or not the well was completed as a dry hole, producer, injection, disposal or service well. The Conservation Division shall not assign an allowable to a well without a current Completion Report being on file with the Conservation Division. OAC 165:10-3-25. The operator of the well shall also submit, along with its Form 1002A Completion Report, Form 1002C Cementing Report(s) describing all cementing operations on surface, intermediate and production casing strings, including multistage cementing jobs. OAC 165:10-3-4(j).

    b. Where submitted: Completion Reports, Amended Completion Reports and Cementing Reports are submitted to the Technical Services Department of the Commission's Oil and Gas Conservation Division, Oklahoma City office.

2. Well logs required to be filed: If an operator runs wireline surveys, the operator is required to submit to the Commission resistivity type wireline logs and porosity type wireline logs, if available. Resistivity and porosity type wireline logs include, but are not limited to, spontaneous potential, induction, laterolog, density and gamma ray neutron logs. Dipmeter, velocity and radioactive tracer logs, if available, shall be submitted to the Technical Services Department upon Commission order or special request of the Conservation Division. OAC 165:10-3-26. See also OAC 165:10-3-4(d)(4)(C) (bond log required-alternate casing and cementing procedure); OAC 165:10-3-5 (certain logs required in connection with underground gas storage facilities); OAC 165:10-3-31 (electric well log, if available, to be submitted in connection with application for a permit to use a vacuum at the well head); OAC 165:10-5-5 and OAC 165:5-7-27 (certain logs required to be submitted in conjunction with applications for approval of injection, disposal or commercial disposal wells), and OAC 165:10-5-13 and OAC 165:5-7-31 (certain logs to be submitted in connection with application for permit for one time injection of reserve pit fluids).

    a. Time limit: Within 60 days from the earlier of the date of completion of the well or the date that the last formation evaluation type wireline log was run. OAC 165:10-3-26(a).

    b. Where submitted: Commission's Oil and Gas Conservation Division, Oklahoma City Office.

    c. Confidential time period: Yes, if requested and Form 1002B timely filed. Held confidential for one year from the date the last log was run on the well. Upon

written request, the Conservation Division may administratively extend the period of confidentiality for six months. OAC 165:10-3-26(e).

d. Available for public use: Yes, unless confidential, then only after expiration of confidential time period.

e. Log catalog available: No.

3. Multiple completion regulation:

a. Approval obtained: Approval of multiple zone completion required. See OAC 165:10-3-35 through OAC 165:10-3-38. Also see OAC 165:10-13-2(d) (classification of wells for allowable purposes).

4. Commingling in well bore:

a. Approval obtained: Permit required to commingle production from a well from separate common sources of supply. See OAC 165:10-3-35 and OAC 165:10-3-39. Also see OAC 165:10-13-2(e) (classification of wells for allowable purposes).

Oil Production

1. Definition of an oil well: GOR (Gas-Oil Ratio) of less than 15,000 to one. Classification is for allowable purposes. OAC 165:10-13-2. GOR means the ratio of the gas produced in standard cubic feet to one barrel of oil produced during any stated period. Condensate and load oil excepted under OAC 165:10-13-6 shall not be considered as oil for purposes of determining GOR. OAC 165:10-1-2.

2. Potential tests required: Yes. See OAC 165:10-13-3, OAC 165:10-15-6 (discovery oil pools), OAC 165:10-15-10 (allocated oil wells), OAC 165:10-15-13 (unallocated oil wells), OAC 165:10-15-15 (enhanced oil recovery projects), OAC 165:10-15-17 (excessive water exempt oil projects) and OAC 165:10-15-18 (reservoir dewatering oil spacing units).

a. Time interval: 30 days after completion of the well (discovery oil pool); 30 days after the earlier of making the election, completion of the well, or recompletion of the well (unallocated oil wells); 30 days after completion of the well (oil well in a reservoir dewatering oil spacing unit).

b. Witness required: Operator shall give 24 hour notice of the opportunity to witness the initial test to the Conservation Division and the offset operator(s) producing from the same pool.

3. Maximum gas-oil ratio: GOR (Gas-Oil Ratio) of less than 15,000 to one. Classification is for allowable purposes. OAC 165:10-13-2.

a. Provision for limiting gas-oil ratio: No.

b. Exception to limiting gas-oil ratio: No.

4. Bottom-hole pressure test reports required:

   a. Periodical bottom-hole pressure surveys: Form 1027-Operators shall perform bottom hole pressure tests in the manner and during periods prescribed by special pool rules, by order of the Commission. OAC 165:10-13-3 and OAC 165:10-13-4.

5. Commingling oil in common facilities: No.

6. Measurement involving meters: No.

7. Production reports: Yes.

   a. By lease: See OAC 165:10-1-46 (reports of purchasers and/or transporters) and OAC 165:10-13-7 (production from different pools).

   b. By well: See OAC 165:10-1-46 (reports of purchasers and/or transporters) and OAC 165:10-13-7 (production from different pools).

   c. Time limit: See OAC 165:10-1-46 (reports of purchasers and/or transporters) and OAC 165:10-13-7 (production from different pools).

Gas Production

1. Definition of a gas well: GOR (Gas-Oil Ratio) of 15,000 to one or more. Classification is for allowable purposes. OAC 165:10-13-2.

2. Pressure base 14.65 psia @ sixty (60) degrees F. See Okla. Stat. Tit. 52 § 472.

3. Initial potential tests: Yes, Form 1016. OAC 165:10-17-6. Also see OAC 165:10-17-7 and OAC 165:10-17-9 for additional information regarding well tests.

   a. Time interval: The initial test for all gas wells shall be run into the pipeline within 30 days and test results filed within 45 days after the date of first sales of gas. OAC 165:10-17-6.

   b. Witness required: Regarding initial tests for special allocated gas wells, the operator of the well shall provide 24 hours notice to the Conservation Division of its intent to run an initial test in order to give the Conservation Division the opportunity to witness said test, but in no case shall the operator be precluded from performing said test and filing the results as provided above. Initial tests for special allocated gas wells need not be witnessed, nor signatures obtained, if witnessed, in order for the Conservation Division to assign an allowable to said well. Initial tests for unallocated gas wells with calculated open flow of less than two million cubic feet per day are exempt from witnessing by Conservation Division personnel. OAC 165:10-17-6.

4. Bottom-hole pressure test reports required:

    a. Periodical bottom-hole pressure surveys: Form 1027-Operators shall perform bottom hole pressure tests in the manner and during periods prescribed by special pool rules, by order of the Commission. OAC 165:10-13-3 and OAC 165:10-13-4.

5. Commingling of gas in common facilities: No.

6. Measurement involving meters: See OAC 165:10-1-47 (gas volume reports to Conservation Division) and OAC 165:10-17-5 (meters and recorders).

7. Production reports: Yes.

    a. By lease: See OAC 165:10-1-47 (gas volume reports to Conservation Division).

    b. By well: See OAC 165:10-1-47 (gas volume reports to Conservation Division).

    c. Time limits: See OAC 165:10-1-47 (gas volume reports to Conservation Division).

OREGON

Note: Oregon did not submit updated information for 2012. Below is the information from the 2007 survey.

Administration

NOTE: The Oregon Legislature passed House Bill 3188 and upon the Governor's signature, became effective June 27, 2007. The bill will likely cause numbering changes, and as a result, references to Oregon Revised Statutes and Oregon Administrative Rules will likely change. The main provisions of the bill are:

-Permit fees increase.
-Improve environmental protection by the requirement of a detailed reclamation plan to be submitted with the application.
-Upgrading language to be consistent with the APA.
-Interagency coordination.
-Clarification of technical terms.

The updated statutes are anticipated to be available around January 2008. The updated administrative rules will likely be available in February or March 2008. The Enrolled House Bill 3188 may be viewed online at:

http://www.leg.state.or.us/07reg/measpdf/hb3100.dir/hb3188.en.pdf

1. Official name of agency regulating oil/gas exploration & production: Department of Geology and Mineral Industries (DOGAMI), 229 Broadalbin Street SW, Albany OR 97321. Phone (541) 967-2080. FAX: (541) 967-2075.

2. Contact for regulatory updates: N/A

3. Docketing procedure: Hearings according to Oregon Administrative Law ORS 183, notice period 10 days, published in newspaper of general circulation. Hearings to be held for promulgating rules or orders. ORS 520.105 and ORS 520.115.

    a. Emergency orders: Yes, for a limited period of time.

    b. Notice: 30 days - by the Department issuing the rule or order.

4. Agency regulating air emissions: N/A

5. Agency regulating water quality: N/A

License

1. License required: N/A

2. Conditions of license: N/A

Bond/Surety

1. Purpose of surety: N/A

2. Plugging and restoration: N/A

3. Compliance bond required: Yes.

4. Types of surety accepted: N/A

5. Conditions of bond: Compliance with rules and regulations of the department.

    a. Amount per well: $10,000, less than 2000'; $15,000, well 2,000' to 5,000'; $25,000 more than 5000'.

    b. Amount of blanket bond: $100,000 minimum and must equal the individual well bond amounts.

    c. Amount per seismic drilling program: $50,000. This may be waived if operator has blanket bond.

Land Leasing Information

1. Leasing method: Sealed bids or oral bid auction.

2. Notice method: At least one public notice of each auction by publication in a newspaper of general circulation in the county in which the lands are located at least 30 days prior to the auction date.

3. Minimum bidding $ (per acre): The minimum starting bid amount per acre will be set forth in the notice by the Director.

4. Qualification of the bidder: A citizen of the U.S. of legal age or partnership or a corporation registered with the State Corporation Division, or a domestic governmental body.

5. State statutes:

Oregon Admin. Rules
§141-010-0010
§141-010-0020
§141-070-0020
§141-070-0050

§141-070-0060
§141-070-0080
§141-070-0090
§141-070-0100
§141-071-0535 ~
§141-071-0595

6. Maximum acres: 640 acres.

7. Royalty rates: N/A

8. Agency in control of leasing: contact: Steve Purchase, Assistant Director, Field Operations. Phone: (503) 378-3895, Extension 279. 775 Summer Street, N.E. Salem, OR 97310-1337

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements: Yes. Rules 632-10-156 and 632-10-157.

    a. Density: N/A

    b. Lineal: N/A

2. Exceptions:

    a. Basis: Special rules for fields will be adopted by the Board, if a hearing is required.

    b. Approval: By the State Geologist if no hearing is required. By the Governing Board of the department if a hearing is required.

Pooling

1. Authority to establish voluntary: Yes. ORS 520.240.

2. Authority to establish compulsory: Yes. Rule 632-10-161, ORS 520.220. Compulsory unitization - small tracts.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes. ORS 520.290.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization: ORS 520.290.

    a. Working interest: 75%

    b. Royalty interest: 75%

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: Yes. Rule 632-10-010, ORS 520.025.

    b. Seismic drilling: Yes. Rule 632-15-015, ORS 520.095.

    c. Recompletion: Yes. Rule 632-10-010.

    d. Plugging and abandoning: Yes. Rule 632-10-198.

2. Permit fee:

    a. The application fee for a permit to drill a well is $2,000.

    b. The fee for a request to extend the period for completion of drilling is $500.

    c. The fee to modify operations at a well is $1,500.

    d. The fee to sidetrack a well is $500.

    e. The fee to plug and abandon a well is $1,000.

    f. The annual renewal fee for operation and maintenance of a well is $1,500 the first renewal year and $500 for each subsequent year.

    g. The application fee for a permit to drill an information hole is to be determined by the department based on the estimated cost of review and approval, and the number and location of holes to be drilled. The fee may not exceed $1,000 per information hole.

    h. The fee for approval of a seismic program shall be determined by the department based on the estimated cost of review and approval, but may not exceed $1,000.

i. The governing board of DOGAMI by rule may specify a schedule of fees for costs incurred by the department for activities related to field designation.

3. Require filing report of work performed: Yes. Rule 632-10-016.

4. Sundry notices used: N/A

Vertical Deviation

1. Regulation requirement: Rule 632-10-142.

    a. When is a directional survey necessary: If intentionally deviated.

    b. Filing of survey required: Yes. Rule 632-10-142.

    c. Format of filing: N/A

Casing and Tubing

1. Minimum amount required:

    a. Surface casing: Rule 632-10-014 - General control.

    b. Production casing: Rule 632-10-014 - General control.

2. Minimum amount of cement required:

    a. Surface casing: Bottom to top. Rule 632-10-014.

    b. Production casing: Based on fluid zones. Rule 632-10-014.

    c. Setting time: 12 hours. Rule 632-10-014.

3. Tubing requirements:

    a. Oil wells: General. Rule 632-10-132. Bottom of tubing on flowing wells not higher than 100 feet above the producing formation.

    b. Gas wells: General. Rule 632-10-132. Bottom of tubing on flowing wells not higher than 100 feet above the producing formation.

Hydraulic Fracturing

1. Permitting: N/A

    a. Before drilling: N/A

    b. Before fracing: N/A

   c. How long before: N/A

2. Reporting Requirements: N/A
   a. Where reported: N/A
   b. When reported: N/A
3. Source water requirements: N/A
4. Mechanical Integrity: N/A
   a. Cementing log required: N/A
   b. Pressure testing: N/A
   c. Pressure monitoring: N/A
   d. Blowout preventer required: N/A
5. Disposal of flowback fluids: N/A
   a. Retaining pits: N/A
   b. Tanks: N/A
   c. Approved discharge to surface water: N/A
   d. Underground injection: N/A
6. Chemical disclosure requirement: N/A
   a. Mandatory: N/A
   b. Where disclosed: N/A
   c. When disclosed (pre-fracing, post-fracing, both): N/A
   d. Time limit to disclose: N/A
   e. Information required to be disclosed: N/A
   f. Trade secret protection: N/A
   g. Required disclosure to health/emergency personnel: N/A

<u>Underground Injection</u>

1. Agencies that control the underground injection of fluid by well class: N/A

Completion

1. Completion report required: Yes. ORS 520.095(2) and Rule 632-10-016.
    a. Time limit: Within 20 days of completion or abandonment.
    b. Where submitted: To the Department.
2. Well logs required to be filed: Yes. ORS 520-095 (2) and Rule 632-10-016.
    a. Time limit: Within 20 days of completion or abandonment, or suspension.
    b. Where submitted: To the Department.
    c. Confidential time period: Yes, two years.
    d. Available for public use: Yes. ORS 520.095(2) and Rule 632-10-016.
    e. Log catalog available: Yes.
3. Multiple completion regulation: Yes. Rule 632-10-152.
    a. Approval obtained: Through the State Geologist.
4. Commingling in well bore: No. Rule 632-10-152.
    a. Approval obtained: N/A

Oil Production

1. Definition of an oil well: "Oil Well" shall mean any well not a gas well capable of producing oil or condensate in paying quantities. Rule 632-10-008.
2. Potential tests required: Yes, by order of Board. Rule 632-10-170.
    a. Time interval: Not specified.
    b. Witness required: Yes. Rule 632-10-170.
3. Maximum gas-oil ratio: Determined by Board. Rule 632-10-186.
    a. Provision for limiting gas-oil ratio: Yes. Maximum ratio set by Board for pool.
    b. Exception to limiting gas-oil ratio: Yes, if excess is returned to the production formation.
4. Bottom-hole pressure test reports required: Yes, by order of Board. Rule 632-10-170.

a. Periodical bottom-hole pressure surveys: Yes. Rule 632-10-170.

5. Commingling oil in common facilities: No. Rule 632-10-164.

6. Measurement involving meters: No.

7. Production reports:

   a. By lease: Yes.

   b. By well: Yes.

   c. Time limit: Last day of each month succeeding the month in which the purchasing of taking occurs. Rule 632-10-166.

Gas Production

1. Definition of a gas well: Well producing natural gas (does not include oil or condensate). Rule 632-10-008.

2. Pressure base _____ psia @ _____degrees F.-- Not specified.

3. Initial potential tests: Yes. Rules 632-10-174, 176, 178.

   a. Time interval: Time necessary to effect accurate determination.

   b. Witness required: Yes.

4. Bottom-hole pressure test reports required: Yes, by order of Board. Rule 632-10-170.

   a. Periodical bottom-hole pressure surveys: Yes. Rule 632-10-170.

5. Commingling of gas in common facilities: Yes, if ratable take can be maintained. Rule 632-10-182.

6. Measurement involving meters: Yes. Rule 632-10-182.

7. Production reports:

   a. By lease: Yes.

   b. By well: Yes.

   c. Time limits: Last day of each month succeeding the month in which the purchasing or taking occurs.

PENNSYLVANIA

Administration

(NOTE: Oil and gas activities in Pennsylvania are regulated under several statutes and regulations, including but not limited to the following: Title 58 of the Pennsylvania Consolidated Statutes, 58 Pa.C.S. §§ 2301-3504 (Act 13), ; the Coal and Gas Resource Coordination Act, Act of December 18, 1984, No. 214, 58 P.S. §§501-518 (RCA); and the Oil and Gas Conservation Law, Act of July 25, 1961, P.L. 825, 58 P.S. §401-407 (OGCL.).

Regulations promulgated under these statutes are found at Title 25 PA Code Chapters 78 & 79.

1. Official name of agency regulating oil/gas exploration & production: Pennsylvania Department of Environmental Protection, Office of Oil and Gas Management, P. O. Box 8765, Harrisburg, PA 17105-8765. Phone (717) 772-2199.

   Southwest District Office: 400 Waterfront Drive, Pittsburgh, PA 15222-4745. Phone (412) 442-4015.

   Northwest District Office: 230 Chestnut Street, Meadville, PA 16335. Phone (814) 332-6860.

   Northcentral District Office: 208 West Third Street, Williamsport, PA 17701-6448.

2. Contact for regulatory updates: Elizabeth A. Nolan, Assistant Counsel
   Department of Environmental Protection, Bureau of Regulatory Counsel
   Rachel Carson State Office Building 400 Market Street Harrisburg, PA 17101
   Phone: 717.783.7468 Fax: 717.783.7911

3. Docketing procedure: Act 13: For well permits issued under 58 Pa.C.S. § 3211(a), certain parties (surface landowners and coal operators) may file objections. 58 Pa.C.S. § 3212. . Any person having a direct interest in any matter subject to 58 Pa.C.S. §§ 3201-3274, may request that a conference be held. 58 Pa.C.S. § 2351. The parties may appeal final actions of the Department to the Environmental Hearing Board. RCA: For a proposed gas well located above an active coal mine, the owner of the coal mine may file objections and any differences between the operator and coal owner must be submitted to a panel. which makes recommendations to the Department. Section 12. Final actions may be appealed to the Environmental Hearing Board. OGCL: For applications for a well spacing or drilling unit, the Department must hold a public hearing.

   a. Emergency orders:Act 13: Yes. Emergency action can be taken by the Department without a prior hearing if authorized by the secretary of

designee. Final actions are appealable to the Environmental Hearing Board. 58 Pa.C.S. § 3253(d)

b. Notice: Act 13: Well permit applicants must provide notice of the proposed well location to (1) the surface landowner, (2) the municipality in which the tract of land upon which the well to be drilled is located, (3) each municipality within 3,000 feet of the proposed unconventional well bore, (4) the municipalities adjacent to the well, (5) all surface landowners and water purveyors whose water supplies are within 1,000 of the proposed well or, in the case of an unconventional well, within 3,000 feet of the proposed unconventional vertical well bore, (6) storage operators within 3,000 of the proposed unconventional vertical well bore, (7) the owner or leasee of any coal seams, and (8) each coal operator required to be identified on the plat. 58 Pa.C.S. § 3211(b)(2). Well permit applicants must submit proof of notification with the well permit application. 58 Pa.C.S. § 3211(b.1). Operators must give the Department 24 hours' notice prior to the commencement of drilling of a well. This notification must be provided electronically. 58 Pa.C.S. § 3211(f)(1). Additionally, operators must provide 24 hours' notice prior to cementing all casing strings, conducting pressure tests of the production casing, stimulation and abandoning or plugging an unconventional well. 58 Pa.C.S. § 3211(2). Operators of unconventional wells must provide notice to the landowner or water purveyor of water supplies indicating that the presumption of liability for contaminated water supplies established under 58 Pa.C.S. § 3218(c) may be void if the landowner or water purveyor refused to allow the operator access to conduct a predrilling or prealteration survey. 58 Pa.C.S. § 3218(e.1). Prior to suspending or revoking a well permit based on an operator's non-compliance, the Department must give the operator written notice. 58 Pa.C.S. § 3253(c).

OGCL: Notice of spacing and integration orders must be provided in accordance with Sections 7, 8, and 10 of the Act.
RCA: Notice is issued by the Department in regard to conflicting permit applications (Section 6), objections to drilling (Section 12), and by the well operator in regard to plugging (Section 13).

4. Agency regulating air emissions: PADEP

5. Agency regulating water quality: PADEP

License

1. License required: N/A for well drilling

2. Conditions of license: N/A

Bond/Surety

1. Purpose of surety: Bonding requirements are provided in 58 Pa.C.S. § 3225. This section outlines required bonding amounts based on an operators' number of wells and total well bore length.

2. Plugging and restoration: Each oil and gas well owner or operator shall restore the land surface within the area disturbed in siting, drilling, completing and producing the well. See 58 Pa.C.S. § 3216. Upon abandoning a well, the owner or operator shall plug it in the manner prescribed in regulations of the department to stop vertical flow of fluids or gas within the well bore. See 58 Pa.C.S. § 3220.

3. Compliance bond required: For unconventional wells, the bond amounts depends on the operator's number of operating wells and the total well bore length of those wells. 58 Pa.C.S. § 3225. For example, an operator operating more than 150 wells with a total well bore length of at least 6,000 feet must submit a bond for $600,000. 58 Pa.C.S. § 3225(1)(i)(D). For conventional wells drilled after April 18, 1985, operators must submit a bond in the amount of $2,500 per well, or a blanket bond of $25,000 for all wells. 72 P.S. § 1606-E.

4. Types of surety accepted: See 58 Pa.C.S. § 3225.

5. Conditions of bond: Conditioned on the operator's faithful performance of the drilling, restoration, water supply replacement, and plugging requirements of 58 Pa.C.S. 3201-3274. .

    a. Amount per well: N/A

    b. Amount of blanket bond: N/A

Land Leasing Information

1. Leasing method: Department of Conservation and Natural Resources receives nominations for lease sale on an open basis. Once critical mass is achieved from the continuous nominations process a competitive lease sale may be held, typically utilizing sealed bids. Leases are usually offered and awarded on highest bonus bid, but there are also royalty type sales called for from time to time.

2. Notice method: Advertisement and mailing to all interested parties as well as to the parties on their prospective bidder list for notification.

3. Minimum bidding $ (10.00 per acre): Annual Rentals at $5.00 per acre.

4. Qualification of the bidder: Any person - corporation must be registered to do business within Pennsylvania and be in good standing with the Department of State's Corporation Bureau to participate in the bid process.

5. State statutes: Act # 1995-18

6. Maximum acres:Variable, but average size of lease tracts has historically been around 2,000 acres per lease tract.

7. Royalty rates: N/A

8. Agency in control of leasing: Department of Conservation & Natural Resources

   Teddy W. Borawski, Jr.
   Phone: (717) 772-0269

NOTE: Lease sales held on a variable schedule depending on the number of nominations and the general industry interest level. On average, lease sales have occurred approximately once a year, but less frequently in the last five years.

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements: Act 13: None. 58 Pa.C.S. § 3215 contains well location restrictions, including a setback from certain water wells, structure, and water bodies. RCA:: Gas wells which penetrate a workable coal seam, except those permitted under the OGCL penetrating the Onondaga formation, must be at least 1,000 feet from any other well. "No permit for a gas well covered by this act which is intended to be part of a well cluster shall be issued unless the well cluster is located not less than 2,000 feet from the nearest well cluster as measured from the center of the well bore of the nearest well . . .." Section 7. Well cluster is defined as an area within a well pad intended to host multiple OGCL: An operator may apply for a spacing order pursuant to Section 7 of the Act. A conservation well must be at least 330 feet from the boundary of the tract or unit.

   a. Density: N/A

   b. Lineal: N/A

2. Exceptions: RCA: Yes.

   a. Basis: Written consent between the well permit applicant and the owner of the workable coal seam.

b. Approval: By the Department of Environmental Protection.

3. Exceptions: OGCL: Yes, if the well would not be likely to produce in paying quantities, if there are adverse surface conditions, or if coal operators have objected and a well is prohibited in a certain area. Section 7.

   a. Approval: By the Department of Environmental Protection.

Pooling

1. Authority to establish voluntary: Yes.

2. Authority to establish compulsory: Yes. OGCL, Section 8 for conservation wells.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes, for certain wells outlines in the OGCL, upon application for an integration order by an operator having an interest in the spacing unit.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

   a. Working interest: No provision.

   b. Royalty interest: No provision.

Drilling Permit

1. Require permits for:

   a. Drilling a producing or service well: Yes. 58 Pa.C.S. § 3211(a).

   b. Seismic drilling: No.

   c. Recompletion: Yes, a new permit is required if it constitutes redrilling, alteration, deepening or drilling.

   d. Plugging and abandoning: Act 13: Well operator or owner must notify Department and coal operator, lessee or owner of his intent to plug and abandon a well. 58 Pa.C.S. § 3220. RCA: Any person may apply for authorization to clean out, plug or replug a nonproducing well. Section 13.

2. Permit fee:

a. Drilling: The permit application fee is based on a schedule and determined by the type of well (vertical, nonvertical or Marcellus) and total well bore length. 25 Pa.Code § 78.19.

b. Seismic drilling: None.

c. Recompletion: If it constitutes redrilling, alteration, deepening or drilling, a permit application fee is required.

d. Plugging and abandoning: None.

e. Registration: $15 per well, or $250 for blanket registration of wells that are submitted simultaneously.

3. Require filing report of work performed:

a. Annual production report for conventional wells. Semiannual reports for unconventional wells. 58 Pa.C.S. § 3222.

b. Records of drilling or altering a well within 30 days of cessation of drilling. 58 Pa.C.S. § 3222(b)(2)

c. Completion report within 30 days. 58 Pa.C.S. § 3222(b)(3).

d. I Upon request of the department, the well operator shall, within 90 days of completion or recompletion of drilling, submit a copy of any electrical, radioactive or other standard industry logs that have been run. Upon request of the department, the operator shall file a copy of drill stem test charts, formation water analysis, porosity, permability or fluid staturation measurements, core analysis and lithologic log information or sample description or other similar data as compiled.

e. Well operator must submit certificate of plugging. OGA, Section 210; RCA, Section 13, and 25 Pa. Code §79.17, promulgated pursuant to the OGCL.

4. Sundry notices used: N/A

Vertical Deviation

1. Regulation requirement:

a. When is a directional survey necessary: Act 13: 58 Pa.C.S. § 3211 requires the well operator to designate the proposed angle and direction of the well, if the well is to be deviated substantially from a vertical course. This information must be stated on the plat submitted with the permit application. OGCL: A complete angular deviation and directional survey must be submitted upon completion of an intentionally deviated well. 25 Pa. Code §79.16.

b. Filing of survey required: OGA: Information on the angle and direction of well, as described above, is required to be filed with the permit application. OGCL: Yes.

c. Format of filing: 58 Pa.C.S. § 3211 requires the well operator to designate the proposed angle and direction of the well, if the well is to be deviated substantially from a vertical course. This information must be stated on the plat submitted with the permit application. OGCL:A complete angular deviation and directional survey must be submitted upon completion of an intentionally deviated well. 25 Pa. Code §79.16.

Casing and Tubing

1. Minimum amount required:

   a. Surface casing: 58 Pa.C.S. provides: "To prevent migration of gas or fluids into sources of fresh groundwater and pollution or diminution of fresh groundwater, a string or strings of casing shall be and permantly cemented in each well drilled through the fresh water-bearing strata to a depth and manner prescribed by regulation by the department." 25 Pa.Code § 78.83(c) provides: "The operator shall drill to approximately 50 feet below the deepest fresh groundwater or at least 50 feet into consolidated rock, whichever is deeper, and immediately set and permanently cement a string of surface casing to that depth. Except as provided in subsection (f), the surface casing may not be set more than 200 feet below the deepest fresh groundwater except if necessary to set the casing in consolidated rock. The surface hole shall be drilled using air, freshwater, or freshwater-based drilling fluid. Prior to cementing, the wellbore shall be conditioned to ensure an adequate cement bond between the casing and the formation. The surface casing seat shall be set in consolidated rock. When drilling a new well or redrilling an existing well, the operator shall install at least one centralizer within 50 feet of the casing seat and then install a centralizer in intervals no greater than every 150 feet above the first centralizer".

   b. Through coal seams: Wells must be cased to prevent the migration of gas or fluids into a seam from which coal has been removed. Where the coal seam has not been removed, the well must be drilled to such a depth and size to permit the placing of casing in the well, so that all gas or fluids will be excluded from the coal seam. 58 Pa.C.S. § 3217. Casing and cementing requirements defined by 25 Pa. Code §§78.71-86, promulgated pursuant to 58 Pa.C.S. §§ 3201-3274.

   c. Production casing: Production casing requirements are provided in 25 Pa. Code §§ 78.71-87.

2. Minimum amount of cement required:

a. Surface casing: Well construction and design requirements are provided in 25 Pa. Code §§ 78.71-87.

b. Production casing: Well construction and design requirements are provided in 25 Pa. Code §§ 78.71-87.

c. Setting time: These requirements are provided in 25 Pa. Code § 78.85(c).

3. Tubing requirements:

a. Oil wells: No provision.

b. Gas wells: No provision.

Hydraulic Fracturing

1. Permitting:

a. Before drilling: Pursuant to 58 Pa.C.S. § 3211(a) no person may drill or alter a well without having first obtained a well permit from the department. If drilling is commenced within one year of permit issuance and drilling is pursued with due diligence, the well permit remains in force intil the well is plugged in accordance with Section 3220 or the permit is revoked. Accordingly, completion activities are authorized by the well permit.

b. Before fracing: N/A

c. How long before: N/A

2. Reporting Requirements: Reporting requirements related to hydraulic fracturing is outlined in 58 Pa.C.S. § 3222-3222.1.

a. Where reported: Completion reports are required to be submitted to the Department 30 days after completion of the well under Section 3222(b)(3). Section 3222(b.1) provides the information to be included in this report, including the operator's stimulation record. Within 60 days following the conclusion of hydraulic fracturing, the operator of the well shall complete the chemical disclosure registry form and post the form on the chemical disclosure registry. Section 3202 defined "chemical disclosure registry" as Internet website developed by the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission or their successor organizations.

b. When reported: Completion reports are required to be submitted to the Department 30 days after completion of the well under Section 3222(b)(3). The information submitted to the chemical disclosure registry

must be submitted 60 days after hydraulic fracturing activities are completed.

3. Source water requirements: Section 3211(m) requires person withdrawing water or using water from sources within the Commonwealth for the drilling or hydraulic fracture stimulation of any natural gas well completed in an unconventional formation to obtain an approved water management plan. The plan requirements are outlined in Section 3211(m)(2).

4. Mechanical Integrity:

    a. Cementing log required: Yes, pursuant to 25 Pa.Code § 78.85 a copy of the cement job log shall be available at the well site for inspection for the department during drilling operations and must include the mix water temperature and pH, type of cement with listing and quantity of additive types, the volume, yield and density in pounds per gallon of the cement and the amount of cement returned to the surface, if any. Cementing procedural information must include a description of the pumping rates in barrels per minute, pressures in pounds per square inch, time in minutes and sequence of events during the cementing operation. The cement job log shall be maintained by the operator after drilling operations for at least 5 years and be made available to the Department upon request.

    b. Pressure testing: Pressure testing requirements are outlined in 25 Pa.Code § 78.83-84, 88.

    c. Pressure monitoring: 25 Pa. Code § 78.88 requires quarterly inspections which may include pressure tests to demonstrate the integrity of the well.

    d. Blowout preventer required: Yes. Blow-out prevention requirements are outlined in 25 Pa.Code § 78.71-72.

5. Disposal of flowback fluids:

    a. Retaining pits: Yes. 25 Pa.Code § 55-63 addresses waste management on the well site.

    b. Tanks: 25 Pa. Code § 78.56 contains requirements for temporary containment of flowback in tanks.

    c. Approved discharge to surface water: 25 Pa. Code § 95 specifies that new and expanding treated discharges of wastewater resulting from fracturing, production, field exploration, drilling or well completion of natural gas wells may be authorized provided that certain requirements are met, including certain effluent limitations (PA Safe Drinking Water Act standards).

d. Underground injection: Before DEP issues a permit for a disposal well, the operator must obtain a permit from EPA's Underground Injection Control (UIC) program, see 25 Pa. Code § 78.18. Under the federal Safe Drinking Water Act (SDWA), EPA is required to develop minimum federal requirements to prevent injection wells from contaminating underground sources of drinking water, including well permitting and well construction, operation and monitoring requirements. States may apply to EPA for primacy to implement a state UIC program – Pennsylvania, however, has not adopted primacy for a UIC program. Instead, EPA directly implements the UIC program for the Commonwealth.

6. Chemical disclosure requirement:

   a. Mandatory: Yes,

   b. Where disclosed: To PADEP and the internet website developed by the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission.

   c. When disclosed (pre-fracing, post-fracing, both): Completion reports are to be submitted to the department 30 days after completion of a well. 60 days after the conclusion of hydraulic fracturing, the operator must complete the chemical dhisclosure registry and post on the internet website developed by the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission.

   d. Time limit to disclose: See above.

   e. Information required to be disclosed: Completion reports requirements are outlined in 58 Pa.C.S. § 3222(b.1).

   f. Trade secret protection: 58 Pa.C.S. specifies that "When an operator submits its stimulation record under (b.1), the operator must designate specific portions of the stimulation record as containing a trade secret of confidential proprietary information. The department shall prevent disclosure of a designated trade secret or confidential proprietary information to the extent permitted by the act of February 14, 2008 (P.L. 6, No.3), known as the Right-To-Know-Law or other applicable state law."

   g. Required disclosure to health/emergency personnel: Yes, requirements provides in 58 Pa.C.S. § 3222.1.

Underground Injection

1. Agencies that control the underground injection of fluid by well class: EPA

Completion

1. Completion report required: Yes.

    a. Time limit: A completion report containing the information required by 58 Pa.C.S. § 3222 and 25 Pa. Code § 78.122 must be filed within 30 days after completion of the well, when the well is capable of production. 58 Pa.C.S. § 3222(b)(2).

    b. Where submitted: To the Department of Environmental Protection.

2. Well logs required to be filed: Yes.

    a. Time limit: Well records must be filed within 30 days of cessation of drilling. 58 Pa.C.S. 3222(b)(1). Upon request of the department, the well operator shall, within 90 days of completion or recompletion of drilling, submit a copy of any electrical, radioactive or other standard industry logs which have been run. 58 Pa.C.S. § 3222(b)(4). Upon request by the department within one year, the well operator shall file a copy of drill stem test charts, formation water analysis, porosity, permeability or fluid saturation measurements, core analysis and lithologic log or sample description or other similar data as compiled. No information shall be required unless the well operator had it compiled in the ordinary course of business, and interpretation of data under this paragraph is not required to be filed. 58 Pa.C.S. § 3222(b)(5).

    b. Where submitted: To the Department of Environmental Protection.

    c. Confidential time period: None.

    d. Available for public use: Yes.

    e. Log catalog available: N/A

3. Multiple completion regulation: Not applicable.

    a. Approval obtained: Not applicable.

4. Commingling in well bore: Not applicable.

    a. Approval obtained: Not applicable.

Oil Production

1. Definition of an oil well: “Oil Well” is not a defined term. “Well” and “oil” are defined at 58 Pa.C.S. § 3203.

2. Potential tests required: None.

a. Time interval: Not applicable.

b. Witness required: Not applicable.

3. Maximum gas-oil ratio: No regulation.

   a. Provision for limiting gas-oil ratio: No.

   b. Exception to limiting gas-oil ratio: No.

4. Bottom-hole pressure test reports required: Provision to include in well record, if taken.

   a. Periodical bottom-hole pressure surveys: No.

5. Commingling oil in common facilities: No.

6. Measurement involving meters: No.

7. Production reports: 58 Pa.C.S. § 3222(a)-(a.1).

   a. By lease: No.

   b. By well: Annual production report is required on an individual well basis.

   c. Time limit: Annual for conventional wells and semi-annual for unconventional wells.

Gas Production

1. Definition of a gas well: ”Gas well” is not a defined term. Both “Gas” and “Well” are defined in 58 Pa.C.S. § 3203

2. Pressure base _14.7_ psia @ _60_ degrees F.Initial potential tests:

   a. Time interval: Not applicable.

   b. Witness required: Not applicable.

3. Bottom-hole pressure test reports required: Provision to include in well record, if taken.

   a. Periodical bottom-hole pressure surveys: No.

4. Commingling of gas in common facilities: No.

5. Measurement involving meters: No

6. Production reports: 58 Pa.C.S. § 3222(a)-(a.1).

a. By lease: No.

b. By well: Annual production report is required on an individual well basis.

c. Time limits: Annual for conventional wells and semi-annually for unconventional wells. 58 Pa.C.S. .

SOUTH DAKOTA

Administration

1. Official name of agency regulating oil/gas exploration & production: Department of Environment and Natural Resources, Minerals and Mining Program 2050 W. Main Ste #1, Rapid City, SD 57702 Phone (605)773-4201, Fax (605)394-5317.

2. Contact for regulatory updates: Department at above address or phone number.

3. Docketing procedure: Make application to above address. Department will review for completeness and will set hearing date. Exception location, underground injection, commingling, directional drilling, horizontal drilling, spacing, forced pooling, unitization orders will be issued administratively unless contested. (Note: if objection is filed within 20 days of the public notice publication date, a hearing will be scheduled). Hearings are held by the South Dakota Board of Minerals and Environment

    a. Emergency orders: Law allows issuance of emergency orders by the Board without notice and hearing that are effective for 15 days.

    b. Notice: Notice of public hearing must be published at least 20 days in advance of hearing. Department will give notice.

4. Agency regulating air emissions: Department of Environment and Natural Resources, Air Quality Program Joe Foss Bldg, 523 E. Capitol Ave. Pierre, SD 57501, Phone (605)773-3151

5. Agency regulating water quality: Department of Environment and Natural Resources, Ground Water Quality (605-773-3296) and Surface Water Quality (605-773-3351) Programs. Joe Foss Bldg, 523 E. Capitol Ave. Pierre, SD 57501.

License

1. License required: NA

2. Conditions of license: NA

Bond/Surety

1. Purpose of surety: Ensure proper plugging and surface restoration

2. Plugging and restoration: Yes.

3. Compliance bond required: A “Plugging and Performance Bond” (Form 3) and a “Surface Restoration bond” (Form 10) are required. Surface restoration bond required when surface and mineral estates are severed.

4. Types of surety accepted: Corporate surety bond, certificate of deposit, letter of credit.

5. Conditions of bond: Conditions are to plug each abandoned well, restore premises, and to fulfill requirements set out in paragraph 45-9-5 to 45-9-18, South Dakota Codified Law (SDCL).

    a. Amount per well: $5,000 for plugging and performance; $2,000 for surface restoration

    b. Amount of blanket bond: $20,000 for plugging and performance; $10,000 for surface restoration

Land Leasing Information

1. Leasing method: Public auction.

2. Notice method: The notice shall be published once each week for at least 2 consecutive weeks in the official newspapers of the county where the land is located

3. Minimum bidding $ (per acre): No less than $2.00 per acre in counties west of the Missouri River and $0.50 in counties east of the Missouri River.

4. Qualification of the bidder: None required.

5. State statutes: SDCL 5-7

6. Maximum acres: 640 acres per tract

7. Royalty rates: Per state law (SDCL 5-7-24), minimum rate of 12.5%

8. Agency in control of leasing: Office of School and Public Lands, State Capitol, 500 E. Capitol Pierre, SD 57501. Phone (605)773-3303, Fax (605)773-5520

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements: Rule 74:12:02:04, 74:12:02:05, and 74:12:02:06

    a. Density: Oil- 40 acres, Gas- 640 acres

    b. Lineal: Oil- 500 feet from quarter-quarter boundary and 1,000 feet between wells. Gas- 500 feet from section line and 3,750 feet between wells.

2. Exceptions: Yes. Address request to Department at above address

    a. Basis: Topographic reasons, well at prescribed location could not produce economically or other good cause shown (Rule 74:12:02:08).

    b. Approval: Administratively by the Department. Applicant must provide evidence of "good cause," must provide affidavit of service by certified mail to "any person whose property may be affected by the hearing." The Department publishes a Notice of Recommendation on the matter in the official county newspaper. Upon 20 days notice if no objections are filed, the application may be approved. If objections are made, a hearing is required.

Pooling

1. Authority to establish voluntary: Yes SDCL 45-9-30 to 45-9-36

2. Authority to establish compulsory: Yes SDCL 45-9-31 et seq. Board has the authority to assess a penalty for risk on the non-participating owner in a spacing unit; (Rules 74:12:10:01 to 74:12:10:06.)

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes. If "1.) Such operation is reasonably necessary to increase substantially the ultimate recovery of oil or gas; and the values of the estimated additional recovery of oil or gas exceeds the estimated additional cost incident to conducting such operations." (SDCL 45-9-37, 45-9-38) Risk compensation is allowed up to 200% of a working interest owner's share and 100% of an unleased mineral owner's share of the reasonable actual unit expenses, exclusive of one-eight royalty , to be recovered out of production from the unit (Rules 74:12:10:01 to 74:12:10:06).

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

    a. Working interest: 60%

b. Royalty interest: 60%

Drilling Permit

1. Require permits for:

   a. Drilling a producing or service well: Yes. Permit is good for one year. The minimum requirements for obtaining a permit are the filing of the following: organization report, application for permit to drill, certified plat map, $100 permit fee, plugging and performance bond, surface restoration bond, certificate of negotiation with surface owner or lessee, bonding company information sheet, plans and specifications showing the construction details for any proposed site, certification of applicant form, permission to inspect form, and the source of the applicant's legal right to enter and initiate drilling on the affected land (Rule 74:12:02:01). An application for pit liner variance (Rule 74:12:02:10) may be made to the Department. The Department may attach conditions to both the application for permit to drill and to the application for pit liner variance.

      Applications for horizontal wells must meet the minimum requirements for obtaining a permit to drill in addition to the following information: size, weight, and amount of all casing strings; top of cement behind each casing string; mud program; coordinates of the casing shoe; coordinates of the terminus; depth of kick-off point; azimuth of the horizontal segment; down-hole survey frequency; name and address of surveying contractor; and location of cementing tool. (Rule 74:12:02)

   b. Seismic drilling: Yes. Contact Minerals and Mining Program, Department of Environment and Natural Resources, Joe Foss Bldg, 523 E. Capitol Ave. Pierre, SD 57501. Phone (605)773-4201

   c. Recompletion: Yes, if recompletions involve deepening or new laterals.. Rule 74:12:02:17. Other work to be submitted on a Sundry Notice.

   d. Plugging and abandoning: No, but Department must be contacted for approval of plugging program before plugging begins. A well may be saved for conversion to a water well upon notification of Department (Rule 74:12:03:02(4))

2. Permit fee:

   a. Drilling: $100 per well

   b. Seismic drilling: $250 per exploration notice of intent (SDCL 45-6C-17)

   c. Recompletion: $100 per well

d. Plugging and abandoning: No fee; require subsequent plugging report (Form 7) within 30 days.

3. Require filing report of work performed: Yes. Completion report (Form 4), Plugging report (Form 7), Sundry Notice (Form 6). Require two copies each of the following: geologic report, drill-stem test reports, all geophysical logs, all downhole surveys, core report and analyses, water analyses, and 10-foot sample cuttings.

4. (Rule 74:12:02:17)Sundry notices used: To request approval from the secretary for the following: proposed cementing, proposed plugging, temporary abandonment, testing casing, drilling without a blowout preventer, extending term of permit beyond 12 months, using open burning as a soil remediation method, using produced water on roads for dust suppression, atmospherically discharging water produced from a gas well, completing surface restoration, constructing produced water handling facilities or converting a mud pit to an evaporation pit, dissolving abandoned oil or gas fields, the method of annual gas well test to determine daily open flow volume, the method of determining production from separate pools prior to commingling fluids from separate pools, confidentiality of technical data, and the method of checking tank metering equipment.

   To report the following information: spills, spudding, change of operator, change of elevation, change to dry hole marker, change of location, fracing, acidizing, perforating, working over, repairing, venting or flaring of gas, drilling program, drilling mud program, blowout preventer program, geologic and hydrologic conditions, gas-oil ratio, shut-in pressures, working fluid level, casing program, directions to a well site, casing test results, fire, releases, breaks, leaks and blowouts pursuant to 74:12:04:11, commencement and discontinuance of injection operations, mechanical problems, well failures , or malfunctions of injection system, tank battery meter tests.

Vertical Deviation

1. Regulation requirement:

   a. When is a directional survey necessary: Required for all directional and horizontal wells; secretary may require deviation test if necessary; if spacing order does not specifically allow for directional drilling, then approval must be obtained utilizing Notice of Recommendation for directional drilling (Rule 74:12:02:02).

   b. Filing of survey required: Yes required on all directional and horizontal holes

   c. Format of filing:

Casing and Tubing (Rule 74:12:02:12)

1. Minimum amount required:

    a. Surface casing: Enough to protect freshwater resources as determined by the secretary, not less than 100 feet.

    b. Production casing: All freshwater zones are to be sealed or separated by casing and cement. Cement bond log is required on all completed wells.

2. Minimum amount of cement required:

    a. Surface casing: Require cementing by pump and plug method until cement returns to the surface.

    b. Production casing: Cement to seal or separate all freshwater zones not covered by the surface casing.

    c. Setting time:

3. Tubing requirements:

    a. Oil wells:

    b. Gas wells:

Hydraulic Fracturing

South Dakota does not currently have specific rules for hydraulic fracturing, although it must be reported when used by rule. However, the Department of Environment and Natural Resources is aware of the issue and has been following developments both nationally and regionally. At this time, rules for hydraulic fracturing have not been adopted for the following reasons:

- There is currently no high volume, multi-stage hydraulic fracturing going on in South Dakota.
- Developing rules at this time is premature because EPA is conducting studies to determine if hydraulic fracturing warrants regulation under the federal Safe Drinking Water Act through the Underground Injection Control (UIC) program.
- South Dakota's UIC program is delegated to the state by the EPA under the authority of the Safe Drinking Water Act. South Dakota Codified Law 1-40-4.1 does not allow a delegated state program to be more stringent than the comparable federal program. The federal UIC program does not currently regulate hydraulic fracturing. If the federal UIC program develops hydraulic fracturing regulations, the state would need to adopt similar rules in order to maintain EPA delegation.

1. Permitting: NA

    a. Before drilling:

    b. Before fracing:

c. How long before:

2. Reporting Requirements:

   a. Where reported: Reported on Sundry Notice (Form 6) to Department at above address.

   b. When reported: Varies, see ARSD 74:12:02:17

3. Source water requirements: NA

4. Mechanical Integrity: NA

   a. Cementing log required:

   b. Pressure testing:

   c. Pressure monitoring:

   d. Blowout preventer required: Blowout preventers are required on all wells per ARSD 74:12:02:14. Permission to drill without a blowout preventer may be granted through the Notice of Recommendation Procedure.

5. Disposal of flowback fluids: All water produced with oil and gas shall be disposed of by injection in a permitted disposal or enhanced recovery well, by evaporation in an approved pit, or by discharge into a surface water source through an outfall permitted under chapter 74:52:01 (Rule 74:12:04:15).

   a. Retaining pits:

   b. Tanks:

   c. Approved discharge to surface water:

   d. Underground injection:

6. Chemical disclosure requirement: NA

   a. Mandatory:

   b. Where disclosed:

   c. When disclosed (pre-fracing, post-fracing, both):

   d. Time limit to disclose:

   e. Information required to be disclosed:

   f. Trade secret protection:

g. Required disclosure to health/emergency personnel:

Underground Injection

1. Agencies that control the underground injection of fluid by well class: Class II, wells are regulated by the Department of Environment and Natural Resources, Ground Water Quality Program, Joe Foss Bldg, 523 E. Capitol Ave. Pierre, SD 57501, Phone (605)773-3296, Fax (605)773-6035

Completion

1. Completion report required: Yes. Well Completion or Recompletion Report and Log (Form 4).

    a. Time limit: 30 Days

    b. Where submitted: Department of Environment and Natural Resources, 2050 W. Main Ste #1, Rapid City, SD 57702

2. Well logs required to be filed: Yes. All electrical and geophysical logs, downhole surveys, geologic reports, water analyses, DST reports, core analyses, and any other geological or engineering data.

    a. Time limit: 30 Days.

    b. Where submitted: Department, at above address

    c. Confidential time period: 6 months, if requested in writing.

    d. Available for public use: Yes, after confidential period is over.

    e. Log catalog available: No.

3. Multiple completion regulation: Yes. Approval may be granted administratively by the Department utilizing the Notice of Recommendation procedure (Rule 74:12:04:04).

    a. Approval obtained: Applicant must provide an affidavit of service by certified mail to "any person whose property may be affected by the hearing." The Department publishes a Notice of Recommendation on the matter in required newspaper. Upon 20 days notice, if no material objections are filed, the application is approved. If objections are made a hearing is required.

4. Commingling in well bore:

    a. Approval obtained: Approval may be granted administratively by the Department. Applicant must provide an affidavit of service by certified mail to "any person whose property may be affected by the hearing." The

Department publishes a Notice of Recommendation on the matter in required newspaper. Upon 20 days notice, if no material objections are filed, the application is approved. If objections are made a hearing is required.

Oil Production

1. Definition of an oil well: "A well capable of producing oil." (Rule 74:12:01:01(12))

2. Potential tests required: Yes. Results should be reported on completion or recompletion report and log (Form 4). (Rule 74:12:04:02).

    a. Time interval: 30 Days

    b. Witness required: May be at discretion of Department

3. Maximum gas-oil ratio: The Board may require "that wells not be operated with inefficient gas-oil or water-oil ratios." In addition, the Board may fix their ratios and limit production from wells with inefficient gas-oil or water-oil ratios. SDCL 45-9-10.

    a. Provision for limiting gas-oil ratio: Yes, found in SDCL 45-9-10

    b. Exception to limiting gas-oil ratio: Yes. Exception may be granted administratively if no objections are received by the Department, through use of the Notice of Recommendation procedure (Rule 74:12:04:01).

4. Bottom-hole pressure test reports required: No.

    a. Periodical bottom-hole pressure surveys: NA

5. Commingling oil in common facilities: Yes, production from different pools may commingled provided the amount of production from each pool is determined by a method approved by the Department (Rule 74:12:04:03).

6. Measurement involving meters: The use of calibrated meter measurements or tank measurements is allowed (Rule 74:12:04:07).

7. Production reports:

    a. By lease: No.

b. By well: Yes. The operator must report oil, gas, and water produced on Form 5. Forms should be submitted to the Department at the above address (Rule 74:12:04:14).

c. Time limit: Production shall be reported by the 25th day of the month following production (Rule 74:12:04:14).

Gas Production

1. Definition of a gas well: "A well capable of producing gas from a common source of gas supply as determined by the Board, excluding gas that cannot be sold for use" (Rule 74:12:01:01(13))

2. Pressure base. 65 psia @ 60 degrees F.

3. Initial potential tests: Required to report on Form 4.

   a. Time interval: 30 Days.

   b. Witness required: At discretion of Department

4. Bottom-hole pressure test reports required: No.

   a. Periodical bottom-hole pressure surveys: NA

5. Commingling of gas in common facilities:

6. Measurement involving meters: Gas must be metered. Produced gas must be reported by the operator whether or not delivered to a gas transportation facility. The operator is required to report all produced gas to the Department (Rule 74:12:05:03).

7. Production reports:

   a. By lease: No.

   b. By well: Yes. The operator must report oil, gas, and water produced on Form 5. Forms should be submitted to the Department at the above address (Rule 74:12:05:03).

   c. Time limits: Production shall be reported by the 25th day of the month following production (Rule 74:12:04:14).

TENNESSEE

Administration

1. Official name of agency regulating oil/gas exploration & production: Division of Water Pollution and Control; Tennessee Oil and Gas Program 401 Church Street, 6th Floor Annex, Nashville TN 37243

2. Contact for regulatory updates: Supervisor; Michael K. Burton (615) 532 0166; Fax 615 532 0686

1. Docketing procedure: Upon request of a concerned party or as called by the Oil and Gas Board. TCA 60-1-204;1040-6-1-.01 of Rules and Regulations

2. Emergency orders: Can be issued by order of the Oil and Gas Board. TCA 60-1-204(c).

3. Notice: Ten (10) days notice. By the State Oil and Gas Board Supervisor

4. Agency regulating air emissions: Air Pollution Control; TDEC

5. Agency regulating water quality: Water Pollution Control; TDEC

License

1. License required: NO

2. Conditions of license: NO

Bond/Surety

1. Purpose of surety: For the State to plug and reclaim well sites when any operator has fail to comply with the regulations

2. Plugging and restoration: Compliance with laws and Rules and Regulations - filing with the Supervisor all records required by the Board - plugging of well (or wells) in accordance with the law and Rules and Regulations. Reclamation - Separate reclamation bond for restoration of well site and access roads, with minimum established ground cover of at least 90 percent after plantings have survived two growing seasons. 1040-2-1 of Rules and Regulations.

3. Compliance bond required: Yes, may be in the form of cash, a certified check, corporate surety, irrevocable standby letter of credit or joint custody certificate of deposit. 1040-2-1 of Rules and Regulations.

4. Types of surety accepted: Letter of Credit, Surety Bond, Cash, Certificate of Deposit.

5. Conditions of bond:

    a. Amount per well: $2000 for plugging from 0 – 2500'; $3000 for 2501'-5000'; $1.00 per foot for any well drilled deeper than 5000'

    b. Amount of blanket bond: $20,000 for 10 wells drill from 0 – 5000'; $30,000 for 10 wells from 5001' – 10,000'; No blanket bonds for wells deeper than 10,000'

Land Leasing Information

1. Leasing method: NA

2. Notice method: NA

3. Minimum bidding $ (per acre): NA

4. Qualification of the bidder: NA

5. State statutes:60-1-202(a)(3) the Board has the authority to check leases

6. Maximum acres: NA

7. Royalty rates: NA

8. Agency in control of leasing: NA

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements

    a. Density: Density: Oil wells - 0-1,000 feet, 10 acres; 1,001-2,000 feet or to the base of the Devonian Chattanooga Shale, whichever is deeper, 20 acres; more than 2,000 feet or below the base of the Devonian Chattanooga Shale, whichever is deeper, 40 acres. No density requirement for horizontal wells.

Gas Wells - 0-1,000 feet, 10 acres; 1,001-2,000 feet or to the base of the Devonian Chattanooga Shale, whichever is deeper; 20 acres; more than 2,000 feet deep or below the base of the Devonian Chattanooga Shale, whichever is deeper - 5,000 feet or to the top of the Cambrian Conasauga Group, whichever is deeper, 40 acres; more than 5,000 feet deep or below the top of the Cambrian Conasauga Group, whichever is deeper, 160 acres. No density requirement for horizontal wells.

b. Lineal: Oil wells - 330 feet or more from any property (lease) or unit line, and 660 feet or more from any other well completed in, drilling to, or for which a permit shall have been granted to drill to the same pool. No specific well-to-well distance requirement for horizontal wells.

c. Gas wells - 0-5,000 feet or to the top of the Cambrian Conasauga Group, whichever is deeper, 330 feet or more from any property (lease) or unit line, and 660 feet or more from any other well completed in, drilling to, or for which a permit shall have been granted to drill to the same pool; more than 5,000 feet deep or below the top of the Cambrian Conasauga Group, whichever is deeper, 660 feet or more from any property (lease) or unit line, and 1,320 feet or more from any other well completed in, drilling to, or which a permit shall have been granted to drill to the same pool. No specific well-to-well distance requirement for horizontal wells

2. Exceptions

a. Basis: Yes

b. Approval: Administratively by Supervisor, 1040-2-4-.01(k), or by Oil and Gas Board after public hearing. 1040-2-4-.01(k6). Existing wells may be deepened and produced for oil or gas from whatever zone(s) production may be obtained on the existing permitted unit size.

c. Spacing of oil and gas wells - Referendum TCA 60-1-106. Oil or gas wells in Overton County: 0-2, 500 feet, 200 feet or more from any property line, and 400 feet or more from any other well completed in, drilling to, or for which a permit shall have been granted to drill to the same pool. Oil and gas wells in Clay and Pickett Counties: 200 feet or more from any property line, and 400 feet or more from any other well completed in, drilling to, or for which a permit shall have been granted to drill to the same pool.

Pooling

1. Authority to establish voluntary: Yes; TCA 60-1-202; 1040-2-2-.02(8) of Rules and Regulations.

2. Authority to establish compulsory: Yes; TCA 60-1-202(4)(M).

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes; 1040-05-01-.01

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

    a. Working interest: Board Approval

    b. Royalty interest: Board Approval

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: Yes

    b. Seismic drilling: No

    c. Recompletion: No

    d. Plugging and abandoning:

2. Permit fee:

    a. Drilling: $500

    b. Seismic drilling: None

    c. Recompletion: None

    d. Plugging and abandoning: None

    e. Change of Operator Fee: $100

    f. Amendment Well Fee: $100

3. Require filing report of work performed:

4. Sundry notices used:

Vertical Deviation

1. Regulation requirement:

    a. When is a directional survey necessary: None

b. Filing of survey required: When well bore deviates laterally greater than 5 degrees from vertical.1040-2-8-.01(a).

c. Format of filing: 1040-2-10-.01(a).

Casing and Tubing

1. Minimum amount required:

   a. Surface casing: Yes, not less than 50 feet below all fresh water strata encountered in the well. 1040-2-7-.02.

   b. Production casing: Yes; set by policy in certain geologic settings.

2. Minimum amount of cement required:

   a. Surface casing: Yes, circulate to fill annular space to the surface. 1040-2-7-.02

   b. Production casing: Yes; set by policy in certain area of the state.

   c. Setting time: No

3. Tubing requirements:

   a. Oil wells: Yes, if flowing, unless otherwise allowed by the supervisor upon application.

   b. Gas wells: Yes

Hydraulic Fracturing

1. Permitting:

   a. Before drilling: Rules to be promulgated

   b. Before fracing: Rules to be promulgated

   c. How long before: Rules to be promulgated

2. Reporting Requirements:

   a. Where reported: Rules to be promulgated

   b. When reported: Rules to be promulgated

3. Source water requirements: Rules to be promulgated

4. Mechanical Integrity: Upon request of the Supervisor

a. Cementing log required: By UIC Rules

b. Pressure testing: By UIC Rules

c. Pressure monitoring: By UIC Rules

d. Blowout preventer required: Yes

5. Disposal of flowback fluids:

a. Retaining pits: Yes

b. Tanks: Yes

c. Approved discharge to surface water: NPDES Permit through Water Pollution Control

d. Underground injection: UIC Program; EPA has primacy.

6. Chemical disclosure requirement:

a. Mandatory: Rules to be Promulgated

b. Where disclosed: Rules to be Promulgated

c. When disclosed (pre-fracing, post-fracing, both): Rules to be Promulgated

d. Time limit to disclose: Rules to be Promulgated

e. Information required to be disclosed: Rules to be Promulgated

f. Trade secret protection: Rules to be Promulgated

g. Required disclosure to health/emergency personnel: None to be Promulgated

Underground Injection

1. Agencies that control the underground injection of fluid by well class: Division of Water Supply UIC Program; EPA has Primacy.

Completion

1. Completion report required:

a. Time limit: Yes. 1040-2-10-.02(b)

b. Where submitted: Supervisor, State Oil and Gas Board Office. 1040-2-10-.01 of Rules and Regulations.

2. Well logs required to be filed

    a. Time limit: Yes, if run. 90 days 1040-2-10-.02(a).

    b. Where submitted: Supervisor, State Oil and Gas Board Office. 1040-2-10-.01 of Rules and Regulations

    c. Confidential time period: 6 months

    d. Available for public use: Yes

    e. Log catalog available: No

3. Multiple completion regulation: Yes 1040-3-1-.07

    a. Approval obtained: By application for multiple completion to Supervisor. 1040-3-1-.07(1).

4. Commingling in well bore: Yes

    a. Approval obtained: By order of Oil and Gas Board after public hearing. 1040-6-1-.01.

Oil Production

1. Definition of an oil well: None

2. Potential tests required: Yes. 1040-3-1-.04(1) of Rules and Regulations

    a. Time interval: When Requested by the Supervisor

    b. Witness required: Yes

3. Maximum gas-oil ratio:

    a. Provision for limiting gas-oil ratio: Yes. 2,000:1. 1040-4-7-.01.

    b. Exception to limiting gas-oil ratio: Yes. Not specifically stated in Rules and Regulations

4. Bottom-hole pressure test reports required: Yes, upon request by Supervisor. 1040-3-1-.07.

    a. Periodical bottom-hole pressure surveys: No

5. Commingling oil in common facilities: Yes. (1) Submission of diagram of installation; (2) Producer certifies accurate measurement and method will not create inequities; (3) List of all affected parties. 1040-4-5-.01.

6. Measurement involving meters: No

7. Production reports:

    a. By lease: Yes 1040-4-3-.05.

    b. By well: Yes

    c. Time limit: By the 15th day of April every year

Gas Production

1. Definition of a gas well

2. Pressure base 14.73 psia @ 60 degrees F.

3. Initial potential tests: Yes. 1040-3-1-.04(1)

    a. Time interval: 15 days after completion

    b. Witness required: Yes

4. Bottom-hole pressure test reports required: Yes upon request by the Supervisor

    a. Periodical bottom-hole pressure surveys: No

5. Commingling of gas in common facilities: Yes. Same requirements as for oil production. 1040-4-5-.01.

6. Measurement involving meters: No, except for testing.

7. Production reports: 1040-4-3-.11

    a. By lease: Yes

    b. By well: No

    c. Time limits: 25th day of succeeding month.

TEXAS

Administration

1. Official name of agency regulating oil/gas exploration & production: Railroad Commission of Texas (RRC)

2. Contact for regulatory updates: Leslie Savage at leslie.savage@rrc.state.tx.us

3. Docketing procedure:

    a. Emergency orders: See 16 TAC Chapter 1, relating to Practice and Procedure at . http://www.rrc.state.tx.us/rules/rule.php

    b. Notice: See 16 TAC Chapter 1, relating to Practice and Procedure at . http://www.rrc.state.tx.us/rules/rule.php

4. Agency regulating air emissions: Texas Commission on Environmental Quality (TCEQ)

5. Agency regulating water quality: Both TECQ and RRC

License

1. License required: Operators required to file and maintain an approved Organization Report. See 16 Texas Administrative Code (TAC) §3.1, relating to Organization Report; Retention of Records; Notice Requirements.

2. Conditions of license: Must renew annually. Financial security. All entities who perform operations within RRC jurisdiction must keep books showing accurate records of the drilling, redrilling, or deepening of wells, the volumes of crude oil on hand at the end of each month, the volumes of oil, gas, and geothermal resources produced and disposed of, together with records of such information on leases or property sold or transferred, and other information as required by RRC rules and regulations in connection with the performance of such operations. Operators must make books available for inspection of the RRC and must report such information as required by the RRC. Each organization that files for federal bankruptcy protection must provide written notice to the RRC of that action not later than the 30th day after the date the organization or the affiliate files for bankruptcy protection. If an operator uses or reports use of a well for production, injection, or disposal for which the operator's certificate of compliance has been canceled, the RRC may refuse to renew the operator's organization report, until the operator pays the required fee and the RRC issues the certificate of compliance required for that well.

Bond/Surety

1. Purpose of surety: Proper plugging of wells under RRC's jurisdiction; closure of pits and cleanup of leases and other facilities.

2. Plugging and restoration: Yes

3. Compliance bond required: Yes

4. Types of surety accepted: Individual performance bond; blanket performance bond; or a letter of credit or cash deposit; or individual well plugging insurance policy.

5. Conditions of bond:

   a. Amount per well:

   A person operating one or more wells may file an individual performance bond, letter of credit, or cash deposit in an amount equal to the sum of $2.00 for each foot of total well depth for each well operated, excluding any well bore included in a well-specific plugging insurance policy.

   A person operating one or more wells may file a blanket bond, letter of credit, or cash deposit to cover all wells for which a bond, letter of credit, or cash deposit is required in an amount equal to the sum of the base amount determined by the total number of wells operated excluding any well bores and/or permits issued to drill, recomplete, or reenter wells included in a well-specific plugging insurance policy. A person performing multiple operations shall be required to file only one blanket bond, letter of credit, or cash deposit unless the person is operating a commercial facility, in which case the person also shall comply with the financial security requirements of subsection (l) of this section. The financial security amount shall be at least the base amount determined by the total number of wells operated or $25,000, whichever is greater. After excluding any well bores and/or permits issued to drill, recomplete or reenter wells included in a well-specific plugging insurance policy, the base amount is determined as follows: (i) The base amount for a person operating 10 or fewer wells or performs other operations shall be $25,000. (ii) The base amount for a person operating more than 10 but fewer than 100 wells shall be $50,000. (iii) The base amount for a person operating 100 or more wells shall be $250,000.

   Additional financial security for bay wells. (A) All operators of bay wells shall file additional financial security of no less than $60,000 in addition to any other financial security that is required under this section for any other RRC-regulated activities. (B) For each bay well that is not currently producing oil or gas and has not produced oil or gas within the past 12 months, including injection and disposal wells, the operator shall file additional financial security of $60,000, unless the well bore is included in a

well-specific plugging insurance policy that provides benefits of at least $60,000. An operator shall not be required to file additional financial security in addition to the $60,000 amount set under subparagraph (A) if the operator operates only a single inactive bay well. (C) In the case of a bay well that has been inactive for 12 consecutive months or longer and that is not used for disposal or injection, the well shall remain subject to the provisions of subparagraph (B), regardless of any minimal activity, until the well has reported production of at least 10 barrels of oil for oil wells or 100 mcf of gas for gas wells each month for at least three consecutive months.

Additional financial security for offshore wells. (A) All operators of offshore wells and operators of both bay wells and offshore wells shall file additional financial security of no less than $100,000 in addition to any other financial security that is required under this section for any other RRC regulated activities. (B) For each offshore well that is not currently producing oil or gas and has not produced oil or gas within the past 12 months, including injection and disposal wells, the operator shall file an additional amount of financial security of $100,000, unless the well bore is included in a well-specific plugging insurance policy that provides benefits of at least $100,000. An operator shall not be required to file additional financial security in addition to the $100,000 amount set under subparagraph (A) of this paragraph if the operator operates only a single inactive offshore well. (C) In the case of an offshore well that has been inactive for 12 consecutive months or longer and that is not used for disposal or injection, the well shall remain classified as inactive for purposes of this section, regardless of any minimal activity, until the well has reported production of at least 10 barrels of oil for oil wells or 100 mcf of gas for gas wells each month for at least three consecutive months.

Reduction of the additional financial security that is required for bay and/or offshore wells. An operator may request a reduction of either the additional $60,000 in financial security required for all operators of bay wells, or the additional $100,000 in financial security required for all operators of offshore wells and operators of both bay wells and offshore wells. (A) The director may administratively approve the reduction if the operator provides documentation that it currently has acceptable financial assurance in place to satisfy any financial assurance requirements established by local authorities. The operator must show that the bond or other form of financial assurance can be called on by or assigned to the RRC under the following circumstances: (i) a well is likely to pollute or is polluting any ground or surface water or is allowing the uncontrolled escape of formation fluids from the strata in which they were originally located; or (ii) a well is not being maintained in compliance with RRC rules or state law relating to plugging or the prevention or control of pollution; or (iii) the operator has failed to renew and maintain an organization report filing. (B) If the director administratively denies a requested reduction, the operator may request a hearing to determine whether the reduction should be granted.

RRC rules also include provisions and procedures for a reduction in additional financial security required for bay and/or offshore wells that are not actively producing oil and natural gas.

Financial security conditions. Any bond, letter of credit, or cash deposit required under this section is subject to the conditions that the operator will plug and abandon all wells and control, abate, and clean up pollution associated with the oil and gas operations and activities covered under the required financial security in accordance with applicable state law and permits, rules, and orders of RRC. This section does not apply to a well-specific plugging insurance policy.

Conditions for cash deposits and escrow funds. Operators must tender cash deposits and escrow funds in United States currency or certified cashiers check only. RRC or its delegate will place all cash deposits and escrow funds in a special account within the Oil and Gas Regulation and Cleanup Fund account. RRC will deposit any interest accruing on cash deposits and escrow funds into the Oil and Gas Regulation and Cleanup Fund pursuant to Texas Natural Resources Code, §81.067. The RRC may not refund a cash deposit until either financial security is accepted by the RRC as provided for under this section or an operator ceases all activity. The RRC may release escrow funds to the current operator of the well only if the well for which the operator tendered the escrow funds is either restored to active status or plugged in accordance with RRC rules. In the event that the well is plugged through the use of state funds, the RRC may collect from the escrow account in the amount necessary to reimburse the state for any expenditure.

(m) Effect of outstanding violations.

(1) Except as provided in paragraph (2), the RRC shall not accept an organization report or an application for a permit or approve a certificate of compliance for an oil lease or gas well submitted by an organization if: (A) the organization has outstanding violations; or (B) an officer or owner of the organization, as defined in subsection (a) of this section, was, within seven years preceding the filing of the report, application, or certificate, an officer or owner of an organization and during that period, the organization committed a violation that remains an outstanding violation.

(2) The RRC shall accept a report or application or approve a certificate filed by an organization covered by paragraph (1) if: (A) the conditions that constituted the violation have been corrected or are being corrected in accordance with a schedule agreed to by the organization and the RRC; (B) all administrative, civil, and criminal penalties, and all plugging and cleanup costs incurred by the state relating to those conditions have been paid or are being paid in accordance with a schedule agreed to by the organization and the RRC; and (C) the report, application or certificate is in compliance with all other requirements of law and RRC rules.

(3) All fees tendered in connection with a report or application that is rejected under this subsection are nonrefundable.

Financial security for commercial facilities. The RRC also requires financial security for commercial facilities. Such an applicant must submit: (i) a written estimate of the maximum dollar amount necessary to close the facility; (ii) a copy of the form of the bond or letter of credit that will be filed with RRC; and (iii) information concerning the issuer of the bond or letter of credit including the issuer's name and address and evidence of authority to issue bonds or LOCs in Texas.

Amount. The amount of financial security required to be filed under this subsection shall be an amount based on a written estimate approved by the RRC as being equal to or greater than the maximum amount necessary to close the commercial facility, exclusive of plugging costs for any well or wells at the facility, at any time during the permit term in accordance with all applicable state laws, RRC rules and orders, and the permit, but shall in no event be less than $10,000. The operator of one or more commercial facilities may reduce the amount of financial security required under this subsection for one such facility by the amount, if any, it already filed as financial security. Notwithstanding the fact that the maximum amount necessary to close the commercial facility as determined under this paragraph is exclusive of plugging costs, the proceeds of financial security filed under this subsection may be used by the RRC to pay the costs of plugging any well or wells at the facility if the financial security for plugging costs filed with the RRC is insufficient to pay for the plugging of such well or wells.

Issuer and form:

Bond. The issuer of any commercial facility bond filed in satisfaction of the requirements of this subsection shall be a corporate surety authorized to do business in Texas. The form of bond filed under this subsection shall provide that the bond be renewed and continued in effect until the conditions of the bond have been met or its release is authorized by RRC.

Letter of credit. Any letter of credit filed in satisfaction of the requirements of this subsection shall be issued by and drawn on a bank authorized under state or federal law to operate in Texas. The letter of credit shall be an irrevocable, standby letter of credit subject to the requirements of Texas Business and Commerce Code, §§5.101-5.118. The letter of credit shall provide that it will be renewed and continued in effect until the conditions of the letter of credit have been met or its release is authorized by the RRC.

b. Amount of blanket bond: See above

Land Leasing Information

1. Leasing method:

The Lands and Minerals Division of the Texas General Land Office (TGLO) holds lease sales for oil and gas on State lands. TGLO manages Texas State resources for the benefit of public education. TGLO holds sales quarterly in January, April, July, and October. Because of holidays, sales are usually held on the first Tuesday of the month in January and July. Nominations for a sale are due 2 weeks after the previous sale date (e.g., nominations for the July sale would be due 2 weeks following the date of the April sale).

The TGLO developed the Energy Land and Lease Inventory System (TGLO, 2010) as an Internet mapping application that provides the public with land and lease information about State-owned submerged lands. Because Energy Land and Lease Inventory System is a tool and not the formal notification, prospective bidders should refer to the Notice for Bids and addenda to obtain the marginal number and minimum bid of the tract that they wish to bid upon for an upcoming oil and gas lease sale because the Notice for Bids and addenda are controlling. The TGLO Mineral Leasing Division uses a sealed bid process for the leasing of State lands.

The most recent oil and gas lease sale occurred on April 21, 2010. Two hundred and sixty-one (261) parcels, containing 102,426 ac (41,450 ha), of State lands were offered for oil and gas leasing by Texas State University Lands (Digital Petrodata, 2010). The number of acres offshore was unspecified.

TGLO uses sealed bid sales. During a sealed bid sale, GLO allows an oil or gas company to make a cash offer for the right to explore and produce hydrocarbons on a particular piece of state property. The company offering the highest up-front payment, or bonus, wins the lease. GLO also receives a percentage of any production from the lease, called a royalty. Lease sales are held in January, April, July and October. Sales are usually held on the first Tuesday of the month.

Oil and gas underlying state lands are leased in the following ways, depending on the type of land.

(1) Permanent School Fund uplands, submerged lands, riverbeds and channels. PSF uplands submerged lands, riverbeds and channels are leased by the SLB under sealed bid procedures. For SLB sealed bid procedures see TNRC, Chapter 32, Subchapters D and E, Chapter 52, Subchapter B, §9.22(1) of this title, (relating to Leasing Procedures), and Chapter 151 of this title, (relating to General Rules of Practice and Procedure). For only riverbeds and channels, also see Texas Natural Resources Code, Chapter 52, Subchapter C.

(2) PSF oil and gas interests owned with associated mineral leasing rights. Generally, whenever the PSF owns mineral interests coupled with leasing rights, oil and gas leases are issued by the SLB under the sealed bid procedures of

paragraph (1) of this subsection. (For examples of these types of PSF mineral interests, see Texas Natural Resources Code, §51.054(a), §32.061 (see especially historical legislative note), §33.001(g), or §51.052(h).)

(3) PSF oil and gas interests owned without associated mineral leasing rights. (A) Relinquishment Act lands. Leases are generally negotiated by surface owners as agents for the state. See Texas Natural Resources Code, Chapter 52, Subchapter F, and §9.22(2), and §9.22(3). Note: Relinquishment Act lands owned by a department, board, or agency of the state, including TDCJ land, TPWD land, and highway rights-of-way land, are leased under the sealed bid procedures of paragraph (1) of this subsection. See Texas Natural Resources Code, §32.002(d) and §34.002(b). (B) Free royalty lands. Leases are issued by the executive right holders as the state's agents. See §9.22(4).

2. Notice method: The Texas General Land Office (GLO) holds four oil and gas lease sales each year, in January, April, July and October, typically on the first or third Tuesday. In order to request that a state-owned tract be offered at a lease sale, the tract must be nominated. Nominations must be submitted in writing by the deadline set prior to each lease sale. A $100.00 Nomination Fee must be paid for each tract nominated. More than one tract may be included in the nomination letter.

3. Minimum bidding $ (per acre):

4. Qualification of the bidder:

5. State statutes: Title 31, Part 1, Chapter 9, relating to Exploration and Leasing of State Oil and Gas.

6. Maximum acres: Gulf of Mexico and bay tracts containing 640 acres (except shoreline tracts) have been divided into north and south halves for nomination and bidding purposes (northeast and southwest halves in the Galveston Bay and Corpus Christi Bay systems). Shoreline tracts are divided on a case-by-case basis. Gulf of Mexico tracts containing 5,760 acres have been divided into north and south halves of each quarter (720 acres) for nomination and bidding purposes.

7. Royalty rates: The Permanent School Fund gains revenue from a portion of the production, depending on the particular free royalty reservation, which is usually a 1/16 or 1/8th free royalty interest. Typically, the Land Office receives about 20 to 25 percent royalty from oil or gas produced from our leases on state land. The Land Office can take this royalty in cash or in actual oil and gas, which can be sold competitively to public entities as gas or electricity.

8. Agency in control of leasing: Texas General Land Office (Robert Hatter at (512)475-1542 or George Martin at (512)475-1512)

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements

   a. Density: §3.38 Well Densities

(1) No well may be drilled on substandard acreage except as hereinafter provided.

(2) Standard units.

(A) The standard drilling unit for all oil, gas, and geothermal resource fields wherein only spacing rules, either special, country regular, or statewide, are applicable is hereby prescribed to be the following.

Spacing Rule	Acreage Requirements
(1) 150 - 300	2
(2) 200 - 400	4
(3) 330 - 660	10
(4) 330 - 933	20
(5) 467 – 933	20
(6) 467 – 1200	40
(7) 550 – 1320	40

(B) The spacing rules listed above are not exclusive. Any spacing rule not listed above is brought to the attention of the RRC will be given an appropriate acreage assignment.

Development to final density. An application to drill a well for oil, gas, or geothermal resource on a drilling unit composed of surplus acreage, commonly referred to as the "tolerance well," may be granted as regular when the operator seeking such permit certifies to the RRC the necessary data to show that such

permit is needed to develop a lease, pooled unit, or unitized tract to final density, and only in the following circumstances:

(1) when the amount of surplus acreage equals or exceeds the maximum amount provided for tolerance acreage by special or county regular rules for the field, provided that this paragraph does not apply for a lease, pooled unit, or unitized tract that is completely developed with optional units and the special or county regular rules for the field do not have a tolerance provisions expressly made applicable to optional proration units;

(2) if the special or county regular rules for the field do not have a tolerance provision expressly made applicable to optional proration units, when the amount of surplus acreage equals or exceeds one-half of the smallest amount established for an optional drilling unit; or

(3) if the applicable rules for the field do not have a tolerance provision for the standard drilling or proration unit, when the amount of surplus acreage equals or exceeds one-half the amount prescribed for the standard unit.

(d) Applications involving the voluntary subdivision rule.

(1) Density exception not required. An exception to the minimum density provision is not required for the first well in a field on a lease, pooled unit, or unitized tract composed of substandard acreage, when the leases, or the drillsite tract of a pooled unit or unitized tract took its present size and shape prior to the date of attachment of the voluntary subdivision rule; or took its present size and shape after the date of attachment of the voluntary subdivision rule and was not composed of substandard acreage in the field according to the density rules in effect at the time it took its present size and shape.

(2) Density exception required. An exception to the density provision is required, and may be granted only to prevent waste, for a well on a lease, pooled unit, or unitized tract that is composed of substandard acreage and that took its present size and shape after the date of attachment of the voluntary subdivision rule; and was composed of substandard acreage in the field according to the density rules in effect at the time it took its present size and shape.

(3) Unit dissolution. If two or more separate tracts are joined to form a unit for oil or gas development, the unit is accepted by RRC, and the unit has produced hydrocarbons in the preceding 20 years, the unit may not thereafter be dissolved into the separate tracts with RRC rules applicable to each separate tract if the dissolution results in any tract composed of substandard acreage for the field from which the unit produced, unless RRC approves such dissolution. RRC may grant approval only after application, notice, and an opportunity for hearing. A RRC designee may grant administrative approval if the designee determines that granting the application will not result in the circumvention of the density restrictions of this section or other RRC rules, and if either written waivers are

filed by all affected persons; or no protest is filed within the time set forth in the notice of application.

An exception to the minimum density provision is not required for a well in a unitized area for which RRC has granted an entity for density order, if the sum of all applied for, permitted, or completed producing wells in the field within the unitized area, multiplied by the applicable density provision, does not exceed the total number of acres in the unitized area.

RRC, in order to prevent waste or, to prevent the confiscation of property, may grant exceptions to the density provisions set forth in this section. Such an exception may be granted only after notice and an opportunity for hearing.

(g) Filing requirements.

When filing an application for an exception to density requirements, in addition to the plat requirements in §3.5, the applicant must attach to each copy of the application a plat that: (A) depicts the lease, pooled unit, or unitized tract, showing thereon the acreage assigned to the drilling unit for the proposed well and the acreage assigned to all current applied for, permitted, or completed oil, gas, or oil and gas wells in the same field or reservoir which are located within the lease, pooled unit, or unitized tract; (B) on large leases, pooled units, or unitized tracts, if the established density is not exceeded as shown on the face of the application, outlines the acreage assigned to the well for which the permit is sought and the immediately adjacent wells on the lease, pooled unit, or unitized tract; (C) on leases, pooled units, or unitized tracts from which production is secured from more than one field, outlines the acreage assigned to the wells in each field that is the subject of the current application; (D) corresponds to the listing required under subsection (g)(1)(A). (E) is certified by a person acquainted with the facts pertinent to the application that the plat is accurately drawn to scale and correctly reflects all pertinent and required data.

(3) Substandard acreage. An application for a permit to drill on a lease, pooled unit, or unitized tract composed of substandard acreage must include a certification in a prescribed form indicating the date the lease, or the drillsite tract of a pooled unit or unitized tract, took its present size and shape.

(4) Surplus acreage. An application for permit to drill on surplus acreage must include a certification in a prescribed form indicating the date the lease, pooled unit, or unitized tract took its present size and shape.

(5) Certifications. Certifications required under paragraphs (3) and (4) must be filed on Form W-1A, Substandard Acreage Certification. (A) The operator must file the Form W-1A with the drilling permit application and shall indicate the purpose of filing. The operator shall accurately complete all information required on the form in accordance with instructions on the form. The operator must list the field or fields for which the substandard acreage

certification applies in the designated area on the form. If there are more than three fields for which the certification applies, the operator shall attach additional Forms W-1A and shall number the additional pages in sequence. The operator must file the original Form W-1A with RRC's Austin office and a copy with the appropriate district office, unless the operator files electronically. The operator must certify the information provided on the Form W-1A is true, complete, and correct by signing and dating the form, and listing the requested identification and contact information. Failure to timely file the required information on the appropriate form may result in the dismissal of the application.

(h) Procedure for obtaining exceptions to the density provisions.

(1) Filing requirements. If a permit to drill requires an exception to the applicable density provision, the operator must file, in addition to the items required by subsection (g): (A) a list of the names and addresses of all affected persons. For the purpose of giving notice of application, the RRC presumes that affected persons include the operators and unleased mineral interest owners of all adjacent offset tracts, and the operators and unleased mineral interest owners of all tracts nearer to the proposed well than the prescribed minimum lease-line spacing distance. RRC may determine that such a person is not affected only upon written request and a showing by the applicant that: competent, convincing geological or engineering data indicate that drainage of hydrocarbons from the particular tracts subject to the request will not occur due to production from the proposed well; and notice to the particular operators and unleased mineral interest owners would be unduly burdensome or expensive; (B) engineering and/or geological data, including a written explanation of each exhibit, showing that the drilling of a well on substandard acreage is necessary to prevent waste or to prevent the confiscation of property; (C) additional data requested by the RRC.

(2) Notice of application. Upon receipt of a complete application, the RRC will give notice of the application by mail to all affected persons for whom signed waivers have not been submitted.

(3) Approval without hearing. If RRC determines, based on the data submitted, that a permit requiring an exception to the applicable density provision is justified, RRC may issue the exception permit administratively if signed waivers from all affected persons were submitted with the application or proper notice of application was given and no protest was filed within 21 days of the notice or no person appeared to protest the application at a hearing.

(4) Hearing on the application. If a written protest is filed within 21 days after the notice of application is given, the application will be set for hearing. If the application is not protested and RRC determines that a permit requiring an exception to the applicable density provision is not justified, the operator may request a hearing to consider the application.

(i) Duration. A permit is issued as an exception to the applicable density provision expires 2 years from the effective date of the permit; unless drilling operations are commenced in good faith within the 2 year period.

b. Lineal: 16 TAC §3.37 Statewide Spacing Rule.

(a) Distance requirements.

(1) No well for oil, gas, or geothermal resource may be drilled nearer than 1,200 feet to any well completed in or drilling to the same horizon on the same tract or farm, and no well may be drilled nearer than 467 feet to any property line, lease line, or subdivision line; provided RRC, in order to prevent waste or to prevent the confiscation of property, may grant exceptions to permit drilling within shorter distances when RRC determines that such exceptions are necessary either to prevent waste or to prevent the confiscation of property. These distances are minimum distances to provide standard development on a pattern of one well to each 40 acres in areas where proration units have not been established.

(2) When an exception to this section is desired, application shall be made by filing the proper fee and the appropriate form according to the instructions on the form, accompanied by a plat described in subsection (c). A person acquainted with the facts pertinent to the application shall certify that all facts stated in it are true and within the knowledge of that person.

(A) When an exception to only the minimum lease-line spacing requirement is desired, the applicant shall file a list of the mailing addresses of all affected persons, who, for tracts closer to the well than the greater of one-half of the prescribed minimum between-well spacing distance or the minimum lease-line spacing distance, include: the designated operator; all lessees of record for tracts that have no designated operator; and all owners of record of unleased mineral interests.

(B) When an exception to the minimum between-well spacing requirement of this section is desired, the applicant is required to file the mailing addresses of those persons identified in subparagraph (A)(i)-(iii) for each adjacent tract and each tract nearer to the well than the greater of one-half the prescribed minimum between-well spacing distance or the minimum lease-line spacing.

(3) An exception may be granted pursuant to subsection (h)(2), or after a public hearing held after at least 10 days notice to all persons described in paragraph (2). At any such hearing, the burden shall be on the applicant to establish that an exception to this section is necessary either to prevent waste or to prevent the confiscation of property. For purposes of giving notice of an application for an exception, RRC presumes that every person described in paragraph (2) will be affected by the application.

(c) In filing an application for an exception to the distance requirements of this section, in addition to the plat requirements in §3.5 (Application to Drill, Deepen,

Reenter, or Plug Back), the applicant shall attach to each copy of the form a plat that: (1) shows to scale the property on which the exception is sought; all other applied for, permitted, and completed oil, gas, or oil and gas wells in the same field and reservoir on said property; and all adjoining surrounding properties and completed wells in the same field and reservoir within the prescribed minimum between-well spacing distance of the applicant's well; (2) shows the entire lease, pooled unit, or unitized tract indicating the names and offsetting properties of all affected offset operators; (3) corresponds to the listing required under subsection (a)(2); (4) is certified by a person acquainted with the facts pertinent to the application that the plat is accurately drawn to scale and correctly reflects all pertinent and required data.

(d) In the interest of protecting life and for the purpose of preventing waste and preventing the confiscation of property, the RRC reserves the right in particular oil, gas, and geothermal resource fields to enter special orders increasing or decreasing the minimum distances provided by this section.

(f) No operator shall commence the drilling of a well, either on a regular location or on a Rule 37 exception location, until first having been notified by RRC that the regular location has been approved, or that the Rule 37 exception location has been approved. Failure of an operator to comply with this subsection will cause such well to be closed in and the holding up of the allowable of such well.

(g) Subdivision of property.

(1) In applying the Statewide Spacing Rule and in applying every special rule with relation to spacing in every field in this state, no subdivision of property made subsequent to the adoption of the original spacing rule will be considered in determining whether or not any property is being confiscated within the terms of such spacing rule, and no subdivision of property will be regarded in applying such spacing rule or in determining the matter of confiscation if such subdivision took place subsequent to the promulgation and adoption of the original spacing rule.

(2) Any subdivision of property creating a tract of such size and shape that it is necessary to obtain an exception to the spacing rule before a well can be drilled thereon is a voluntary subdivision and not entitled to a permit to prevent confiscation of property if it were either segregated from a larger tract in contemplation of oil, gas, or geothermal resource development or segregated by fee title conveyance from a larger tract after the spacing rule became effective and the voluntary subdivision rule attached.

(3) The date of attachment of the voluntary subdivision rule is the date of discovery of oil, gas, or geothermal resource production in a certain continuous reservoir, regardless of the subsequent lateral extensions of such reservoir, provided that such rule does not attach in the case of a segregation of a small tract

by fee title conveyance which is not located in an oil, gas, or geothermal resource field having a discovery date prior to the date of such segregation.

(4) The date of attachment of the voluntary subdivision rule for multiple reservoir fields located in the same structural feature and separated vertically but not laterally, shall be the same date as that assigned to the earliest discovery well for such multiple reservoir structure.

(5) If a newly discovered reservoir is located outside the then productive limits of any previously discovered reservoirs and is classified by RRC as a newly discovered field, then the date of discovery of such newly found reservoir remains the date of attachment for the voluntary subdivision rule, even though subsequent development may result in the extension of such newly discovered reservoir until it overlies or underlies older reservoirs with prior discovery dates.

(6) The date of attachment of the voluntary subdivision rule for a reservoir that has been developed through expansion of separately recognized fields into a recognized single reservoir and is merged by RRC order is the earliest discovery date of production from such merged reservoir, and that date will be used subsequent to the date of merger of the fields into a single field.

(7) The date of attachment of the voluntary subdivision rule for a reservoir under any special circumstance which RRC deems sufficient to provide for an exception may be established other than as prescribed in this section, so that innocent parties may have their rights protected.

2. Exceptions

    a. Basis:

    b. Approval:

(h) Exceptions to Rule 37.

(1) An order granting exception to Rule 37 wherein protest is had shall carry as its last paragraph the following language: It is further ordered by RRC that this order shall not be final until 20 days after it is actually mailed to the parties by RRC; provided that if a motion for rehearing of the application is filed by any party at interest within such 20-day period, this order shall not become final until such motion is overruled, or if such motion is granted, this order shall be subject to further action by the RRC.

(2) The director of the OGD may issue an exception permit for drilling, deepening, or additional completion, recompletion, or reentry in an existing well bore if a notice of at least 10 days has been given, and no protest has been made to the application; or written waivers of objection are received from all persons to whom notice is required to be given.

(3) Applications filed for drilling, deepening, or additional completion, recompletion, or reentry will be processed and permit issued in accordance with this regulation, subject to RRC's discretion to set any application for hearing. If the director declines to grant an application, the operator may request a hearing.

(i) Rule 37 permits. Unless otherwise specified in a permit or in a final order granting an exception to this section, permits issued by RRC for completions requiring an exception to this section shall expire 2 years from the effective date of the permit unless drilling operations are commenced in good faith within the 2-year permit period. The permit period will not be extended. So long as a Rule 37 exception is in litigation, the 2-year permit period will not commence. On final adjudication and decree from the last court of appeal the two-year permit period will commence, beginning on the date of final decree.

(j) Once an application for a spacing exception has been denied, no new application can be entertained except on changed conditions. Changed conditions in RRC’s administration of Rule 37 and amendments thereto applicable to the various special fields and reservoirs of Texas and in passing upon applications for permits under said rule and amendments shall include, among other things, the following.

(1) Any material changes in the physical conditions of the producing reservoir under the tract under consideration or under the area surrounding said tract which would materially affect the recovery of oil, gas, or geothermal resource from the given tract.

(2) Any material changes in the distribution or allocation of allowable production in the area surrounding the tract under consideration which would materially affect or tend to affect the recovery of oil, gas, or geothermal resource from the given tract.

(3) Any additional permits granted by RRC for wells drilled in the area surrounding or on offset tracts to the tract under consideration which would materially affect or tend to affect the recovery of oil, gas, or geothermal resource from the given tract.

(4) Any additional facts or evidence thereof materially affecting or tending to affect the recovery of oil, gas, or geothermal resource from the applicant's tract, or the property rights of applicant, which were not known of and considered by RRC at any previous hearing or application thereon.

(k) Exceptions to Rule 37 apply to the total depth for which the permit is granted or if special field rules are applicable, an exception to the spacing rule shall be granted only for the reservoir or reservoirs or applicable depth to which the well is projected. Subsequent recompletion of the well to reservoirs other than that covered by the permit issued would be granted only after the filing and processing of a new application.

(l) Salt dome oil or gas fields. The provisions of this section shall not apply to certain approved salt dome oil or gas fields.

(m) Wells that were deviated, whether intentionally or otherwise, prior to April 1, 1949, and are bottomed on the lease where permitted, are legal wells. The RRC will develop the record in each reapplication for such deviated wells so that RRC can determine the condition of each such well. The following will be adduced from sworn testimony and authenticated data at each such hearing: (1) That the well was deviated before April 1, 1949; (2) that the well was completed on the lease where the surface location was permitted; (3) that the bottom hole location is one that either is not in direct violation of a condition or limitation placed in the permit to drill, or is not in violation of a specific RRC order; and (4) that the current operator of the well or his predecessor has not filed either a false inclination or a false directional survey with RRC. A well that is either bottomed off the lease, deviated after April 1, 1949, drilled in direct violation of a specific condition or limitation placed in the Rule 37 permit, or is in violation of a specific RRC order, is an illegal well and it shall not be permitted, and such well where permit is refused shall not be considered a replaceable well under RRC replacement-well regulation. However, this does not preclude an operator from applying for approval of the bottom hole location of a deviated well as a reasonable location under the rules and regulations now applicable, provided, that such bottom hole location shall not be approved unless the applicant proves that a vertical projection of the permitted surface location for such well is within the productive limits of the reservoir.

Pooling

1. Authority to establish voluntary:

   16 TAC §3.40, relating to Assignment of Acreage to Pooled Development and Proration Units.

   (a) An operator may pool acreage, in accordance with appropriate contractual authority and applicable field rules, for the purpose of creating a drilling unit or proration unit by filing an original certified plat delineating the pooled unit and a Certificate of Pooling Authority, Form P-12, according to the following requirements:

   (1) Each tract in the certified plat shall be identified with an outline and a tract identifier that corresponds to the tract identifier listed on the Form P-12.

   (2) The operator must provide information on the Certificate of Pooling Authority, Form P-12, accurately and according to the instructions on the form: separately list each tract committed to the pooled unit by authority granted to the operator; for each listed tract, shall state the number of acres contained within the tract; shall indicate if, within an individual tract, there exists a non-pooled and/or unleased interest; must state the total number of acres in the pooled unit; and must certify the information.

   The operator must file the Form P-12 and certified plat: (A) with the drilling permit application when two or more tracts are joined to form a pooled unit for

RRC purposes to obtain a drilling permit; (B) with completion paperwork when the pooled unit's acreage is being used or assigned for allowable purposes; (C) to designate a pooled unit formed after completion paperwork has been filed when the pooled unit's acreage is being used or assigned for allowable purposes; or (D) to designate a change in a pooled unit previously recognized by the RRC. The operator shall file any changes to a pooled unit in accordance with the requirements of §3.38(d)(3) (Well Densities).

If a tract to be pooled has an outstanding interest for which pooling authority does not exist, the tract may be assigned to a unit where authority exists in the remaining undivided interest, provided, that total gross acreage in the tract is included for allocation purposes, and the certificate filed with the RRC shows that a certain undivided interest is outstanding in the tract. The RRC will not allow an operator to assign only his undivided interest out of a basic tract, where a nonpooled interest exists.

The nonpooled undivided interest holder retains his development rights in his basic tract, and should such rights be exercised, authority to develop the basic tract be approved by RRC, and a well completed as a producer thereon, then the entire interest in the basic tract must be allocated to said well, and any interest insofar as it is pooled with another tract must be assigned to the well on the basic tract for allocation purposes. Splitting of undivided interest in a basic tract between two or more wells on two or more tracts is not acceptable.

Acreage assigned to a well for drilling and development, or for allocation of allowable, shall not be assigned to any other well or wells projected to or completed in the same reservoir; such duplicate assignment of acreage is not acceptable, provided, however, that this limitation shall not prevent the reformation of development or proration units so long as no duplicate assignment of acreage occurs, and further, that such reformation does not violate other conservation regulations.

2. Authority to establish compulsory:

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: No

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

    a. Working interest:

b. Royalty interest:

Drilling Permit

1. Require permits for:

   a. Drilling a producing or service well: Yes

   b. Seismic drilling: See 16 TAC §3.100 (Seismic Holes and Core Holes). A seismic hole or core hole that does not penetrate any protection depth does not require a drilling permit. A seismic hole or core hole that penetrates any protection depth requires a drilling permit to satisfy the requirements for exploratory wells described in §3.5(g) (Application To Drill, Deepen, Reenter, or Plug Back).

      On state-owned land, a permit from the Texas General Land Office to perform seismic work is required to ensure standards of safety and compliance are maintained. The fee is $100.00 per permit. All other applicable fees must be paid prior to issuance of a geophysical permit on state-owned lands. Additional fees may apply based on area, location and energy source: High velocity energy sources: $5.00 per acre in bays and other tideland areas; $2.00 per acre in the Gulf of Mexico; Low velocity energy sources: $2.50 per acre in bays and other tideland areas; $1.00 per acre in the Gulf of Mexico; and other exploration techniques- negotiable.

   c. Recompletion: Permit required if recompletion into a different formation/reservoir.

   d. Plugging and abandoning: No permit, but requires approval of plugging plan.

2. Permit fee:

   a. Drilling: 16 TAC §3.78(b) Filing fees. The following filing fees are required to be paid to the Railroad Commission.

(1) With each application or materially amended application for a permit to drill, deepen, plug back, or reenter a well, the applicant shall submit to RRC a nonrefundable fee of:

(A) $200 if the proposed total depth of the well is 2,000 feet or less;

(B) $225 if the proposed total depth of the well is greater than 2,000 feet but less than or equal to 4,000 feet;

(C) $250 if the proposed total depth of the well is greater than 4,000 feet but less than or equal to 9,000 feet; or

(D) $300 if the proposed total depth of the well is greater than 9,000 feet.

(3) An applicant shall submit an additional nonrefundable fee of $150 when requesting that RRC expedite the application for a permit to drill, deepen, plug back, or reenter a well.

	Current fee ($)	Surcharge ($)	Total fee ($)
Drilling permits less than 2,000 feet	200.00	300.00	500.00
Drilling permits 2,001 to 4,000 feet	225.00	337.50	562.50
Drilling permits 4,001 to 9,000 feet	250.00	3750.00	625.00
Drilling permits greater than 9,000 feet	300.00	450.00	750.00
Expedite fee	150.00	225.00	375.00

b. Seismic drilling: See above.

c. Recompletion: See above.

d. Plugging and abandoning: No fee

3. Require filing report of work performed: Yes

4. Sundry notices used: Various notices required for drilling, producing, plugging

<u>Vertical Deviation</u>

1. Regulation requirement:

    a. When is a directional survey necessary: When the maximum displacement indicated by an inclination survey is greater than the actual distance from the surface location to the nearest lease line or pooled unit boundary, it will be considered to be a violating well subject to plugging and penalty action. However, an operator may submit a directional survey, run at his own expense by a RRC-approved surveying company, to show the true bottom hole location of the well to be within the prescribed limits. When the directional survey shows the well to be bottomed within the confines of the lease, but nearer to a well or lease line or pooled unit boundary than allowed by applicable rules, or by the permit for the well if the well has been granted an exception to §3.37 (Statewide Spacing Rule), a new permit will be required if it is established that the bottom hole location or completion location is not a reasonable location.

    Directional surveys are required on each well drilled under the directional deviation provisions of this section. No oil, gas, or geothermal resource allowable shall be assigned any well on which a directional survey is required under any provision of this section until a directional survey has been filed with and accepted by RRC.

    Directional surveys must be run by competent surveying companies, approved by RRC, signed and certified by a person having actual knowledge of the facts, in the manner prescribed by RRC in accordance with §3.12 (Directional Survey Company Report). All directional surveys, unless otherwise specified by RRC, shall be either single shot surveys or multi-shot surveys with the shot points not more than 200 feet apart, beginning within 200 feet of the surface, and the bottom hole location must be oriented both to the surface location and to the lease lines (or unit lines in cases of pooling). If more than 200 feet of surface casing has been run, the operator may begin the directional survey immediately below the surface casing depth. However, if such method is used, the inclination drifts from the surface of the ground to the surface casing depth must be added cumulatively and reported on the appropriate form. This total shall be assumed to be in the direction least favorable to the operator, and such point shall be considered the starting point of the directional survey.

    Intentional deviation:

    Directional deviation is defined as the intentional deviation of a well from vertical in a predetermined compass direction. RRC may grant a permit for directionally deviating a well: (i) for the purpose of seeking to reach and control another well which is out of control or threatens to evade control; (ii) where conditions on the surface of the ground prevent or unduly complicate the drilling of a well at a regular location; (iii) where conditions are encountered underground which prevent or unduly hinder

the normal completion of the well; (iv) where it can be shown to be advantageous from the standpoint of mechanical operation to drill more than one well from the same surface location to reach the productive horizon at essentially the same positions as would be reached if the several wells were normally drilled from regular locations prescribed by the well spacing rules in effect; (v) for the purpose of drilling a horizontal drainhole; or (vi) for other reasons found by RRC to be sufficient after notice and hearing.

Random deviation is defined as the intentional deviation of a well without regard to compass direction to straighten a hole which has become crooked in the normal course of drilling or to sidetrack a portion of a hole because of mechanical difficulty in drilling. RRC may grant permission for the random deviation of a well whenever the necessity for such deviation is shown. If the necessity for random deviation arises unexpectedly after the drilling has begun, the operator must give written notice by letter of such necessity to the appropriate district office and to RRC office in Austin. Upon giving such notice, the operator may proceed with the random deviation, subject to compliance with the provisions of this section on inclination surveys.

(3) Applications for deviation.

(A) Applications for wells to be directionally deviated must specify on the application to drill both the surface location of the well and the projected bottom hole location of the well. On the plat, in addition to the plat requirements provided for in §3.5 (Application to Drill, Deepen, Reenter, or Plug Back) , the following shall be included: (i) two perpendicular lines providing the distance in feet from the projected bottomhole location, rather than the surface location, to the nearest points on the lease, pooled unit, or unitized tract line. If there is an unleased interest in a tract of the pooled unit or unitized tract that is nearer than the pooled unit or unitized tract line, the nearest point on that unleased tract boundary shall be used; (ii) a line providing the distance in feet from the projected bottomhole location to the nearest point on the lease line, pooled unit line, or unitized tract line. If there is an unleased interest in a tract of the pooled unit that is nearer than the pooled unit line, the nearest point on that unleased tract boundary shall be used; (iii) a line providing the distance in feet from the projected bottomhole location, rather than the surface location, to the nearest oil, gas, or oil and gas well, identified by number, applied for, permitted, or completed in the same lease, pooled unit, or unitized tract and in the same field and reservoir; and (iv) perpendicular lines providing the distance in feet from the two nearest non-parallel survey/section lines to the projected bottomhole location.

(B) If the necessity for directional deviation arises unexpectedly after drilling has begun, the operator shall give written notice of such necessity

to the appropriate district office and to the RRC office in Austin, and upon giving such notice, the operator may proceed with the directional deviation. If the operator proceeds with the drilling of a deviated well under such circumstances, he proceeds at his own risk. Before the RRC will assign any allowable to such well, the RRC must issue a permit for the subsurface location of each completion interval after the operator shows good and sufficient cause for such deviation.

RRC must determine whether a directional survey, an inclination survey, or any other type of survey for the purpose of determining bottom hole location of wells, at the request of any operator in a field. The complaining party must show probable cause to suspect that the well is not bottomed within its own lease lines and must agree to pay all costs and expenses of such survey, shall assume all liability, and post bond in a sufficient sum as security against all costs and risks associated with the survey. The complaining party and RRC must agree upon the surveying company to conduct the survey. The RRC must witness the survey. Any party, or his agent, who has an interest in the field may witness the survey.

b. Filing of survey required: Yes

c. Format of filing: See 16 TAC §3.12 (Directional Survey Company Report)

(a) For each well drilled for oil, gas, or geothermal resources for which a directional survey report is required by rule, regulation, or order, the surveying company must prepare and file the following information. The information must be certified by the person having personal knowledge of the facts, by execution and dating of the data compiled: (1) the name of the surveying company; (2) the name of the individual performing the survey for the surveying company; (3) the title or position the individual holds with the surveying company; (4) the date on which the individual performed the survey; (5) the type of survey conducted and whether the survey was multishot; (6) a complete identification of the well, including the name of the operator of the well; the fee owner; the RRC lease number, if assigned; the well number; the API number, and the drilling permit number, the land survey; the field name; and the county and state; and (7) a notation that the survey was conducted from a depth of ____ feet to ____ feet.

(b) Each directional survey, with its accompanying certification and a certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) shall be mailed by registered, certified, or overnight mail direct to the RRC in Austin by the surveying company making the survey.

Casing and Tubing

1. Minimum amount required:

Surface casing: 16 TAC §3.13(b) (2) Surface casing.

(i) An operator shall set and cement sufficient surface casing to protect all usable-quality water strata, as defined by RRC's Groundwater Advisory Unit (GAU). Before drilling any well in any field or area in which no field rules are in effect or in which surface casing requirements are not specified in the applicable field rules, an operator shall obtain a letter from the GAU stating the protection depth. In no case, however, is surface casing to be set deeper than 200' below the specified depth without prior approval from RRC.

(ii) Any well drilled to a total depth of 1,000' or less below the ground surface may be drilled without setting surface casing provided no shallow gas sands or abnormally high pressures are known to exist at depths shallower than 1,000' below the ground surface; and further, provided that production casing is cemented from the shoe to the ground surface by the pump and plug method.

Production casing: 16 TAC §3.13(b)

(3) Intermediate casing.

(A) Cementing method. Each intermediate string of casing shall be cemented from the shoe to a point at least 600' above the shoe. If any productive horizon is open to the wellbore above the casing shoe, the casing shall be cemented from the shoe up to a point at least 600' above the top of the shallowest productive horizon or to a point at least 200' above the shoe of the next shallower casing string that was set and cemented in the well.

(B) Alternate method. In the event the distance from the casing shoe to the top of the shallowest productive horizon make cementing, as specified above, impossible or impractical, the multi-stage process may be used to cement the casing in a manner that will effectively seal off all such possible productive horizons and prevent fluid migration to or from such strata within the wellbore.

(4) Production casing.

(A) Cementing method. The producing string of casing shall be cemented by the pump and plug method, or another method approved by the RRC, with sufficient cement to fill the annular space back of the casing to the surface or to a point at least 600' above the shoe. If any productive horizon is open to the wellbore above the casing shoe, the casing shall be cemented in a manner that effectively seals off all such possibly productive horizons by one of the methods specified for intermediate casing in (3) of this subsection.

(B) Isolation of associated gas zones. The position of the gas-oil contact shall be determined by coring, electric log, or testing. The producing string shall

be landed and cemented below the gas-oil contact, or set completely through and perforated in the oil-saturated portion of the reservoir below the gas-oil contact.

2. Minimum amount of cement required:

   a. Surface casing: See above

   b. Production casing:

      (A) Cementing method. The producing string of casing shall be cemented by the pump and plug method, or another method approved by the RRC, with sufficient cement to fill the annular space back of the casing to the surface or to a point at least 600' above the shoe. If any productive horizon is open to the wellbore above the casing shoe, the casing shall be cemented in a manner that effectively seals off all such possibly productive horizons by one of the methods specified for intermediate casing in (3) of this subsection.

      (B) Isolation of associated gas zones. The position of the gas-oil contact shall be determined by coring, electric log, or testing. The producing string shall be landed and cemented below the gas-oil contact, or set completely through and perforated in the oil-saturated portion of the reservoir below the gas-oil contact.

   c. Setting time: Eight (8) hours

   d. Tubing requirements:

      Oil wells: All flowing oil wells shall be equipped with and produced through tubing. When tubing is run inside casing in any flowing oil well, the bottom of the tubing shall be at a point not higher than 100 feet above the top of the producing interval nor more than 50 feet above the top of a line, if one is used. In a multiple zone structure, however, when an operator elects to equip a well in such a manner that small through-the-tubing type tools may be used to perforate, complete, plug back, or recomplete without the necessity of removing the installed tubing, the bottom of the tubing may be set at a distance up to , but not exceeding, 1,000 feet above the top of the perforated or open-hole interval actually open for production into the wellbore. In no case shall tubing be set at a depth of less than 70% of the distance from the surface of the ground to the top of the interval actually open to production.

      Gas wells:

Hydraulic Fracturing

1. Permitting:

a. Before drilling: No special permitting requirements for HF

b. Before fracing: No special permitting requirements before HF

c. How long before: N/A

2. Reporting Requirements:

a. Where reported: FracFocus

b. When reported: On or before the date the well completion report for a well on which hydraulic fracturing treatment(s) was/were conducted is submitted to the RRC. The operator of a well shall file with the RRC the appropriate completion report within 30 days after completion of the well or within 90 days after the date on which the drilling operation is completed, whichever is earlier.

3. Source water requirements: N/A

4. Mechanical Integrity:

a. Cementing log required: Only for alternative casing plans.

b. Pressure testing: All casing must be pressure tested with an applied pressure at least equal to the maximum pressure to which the pipe will be subjected in the well. For new pipe, the mill test pressure may be used to fulfill this requirement. When cementing any string of casing more than 200 feet long, before drilling the cement plug the operator shall test the casing at a pump pressure in pounds per square inch (psi) calculated by multiplying the length of the casing string by 0.2. The maximum test pressure required, however, unless otherwise ordered by the RRC, need not exceed 1,500 psi. If, at the end of 30 minutes, the pressure shows a drop of 10% or more from the original test pressure, the casing shall be condemned until the leak is corrected. A pressure test demonstrating less than a 10% pressure drop after 30 minutes is proof that the condition has been corrected.

c. Pressure monitoring: Not specifically required at this time, however, it is the intent of the rule that casing be securely anchored in the hole in order to effectively control the well at all times, all usable-quality water zones be isolated and sealed off to effectively prevent contamination or harm, and all potentially productive zones be isolated and sealed off to prevent vertical migration of fluids or gases behind the casing. When the rule does not detail specific methods to achieve these objectives, the responsible party shall make every effort to follow the intent of the section, using good engineering practices and the best currently available technology.

d. Blowout preventer required: Yes 16 TAC §3.13, relating to Casing, Cementing, Drilling, and Completion Requirements. A blowout preventer or control head and other connections to keep the well under control at all times shall be installed as soon as surface casing is set. This equipment shall be of such construction and capable of such operation as to satisfy any reasonable test which may be required by the RRC.

5. Disposal of flowback fluids:

   a. Retaining pits: Authorized (on-lease) or permitted (off-lease or centralized or commercial).

   b. Tanks: Yes

   c. Approved discharge to surface water: No

   d. Underground injection: Yes

6. Chemical disclosure requirement:

   a. Mandatory: Yes, see 16 TAC §3.29.

   b. Where disclosed: FracFocus.org or, if FracFocus is temporarily inoperable, the operator of a well on which hydraulic fracturing treatment(s) were performed must supply the RRC with the required information with the well completion report and must upload the information on the FracFocus Internet website when the website is again operable. If the Chemical Registry known as FracFocus is discontinued or becomes permanently inoperable, the information required by this rule must be filed as an attachment to the completion report for the well, which is posted, along with all attachments, on the RRC's Internet website, until the RRC amends this rule to specify another publicly accessible Internet website.

   c. When disclosed (pre-fracing, post-fracing, both): Post-fracing

   d. Time limit to disclose: On or before the date the completion report is required. Completion report required to be filed with the RRC within 30 days after completion of the well or within 90 days after the date on which the drilling operation is completed, whichever is earlier. (16 TAC §3.16)

   e. Information required to be disclosed:

      (i) the operator name;

      (ii) the date of completion of the hydraulic fracturing treatment(s);

      (iii) the county in which the well is located;

(iv) the API number for the well;

(v) the well name and number;

(vi) the longitude and latitude of the wellhead;

(vii) the total vertical depth of the well;

(viii) the total volume of water used in the hydraulic fracturing treatment(s) of the well or the type and total volume of the base fluid used in the hydraulic fracturing treatment(s), if something other than water;

(ix) each additive used in the hydraulic fracturing treatments and the trade name, supplier, and a brief description of the intended use or function of each additive in the hydraulic fracturing treatment(s);

(x) each chemical ingredient used in the hydraulic fracturing treatment(s) of the well that is subject to the requirements of 29 CFR §1910.1200(g)(2), as provided by the chemical supplier or service company or by the operator, if the operator provides its own chemical ingredients;

(xi) the actual or maximum concentration of each chemical ingredient listed under clause (x) of this subparagraph in percent by mass;

(xii) the CAS number for each chemical ingredient listed, if applicable; and

(xiii) a supplemental list of all chemicals and their respective CAS numbers, not subject to the requirements of 29 Code of Federal Regulations §1910.1200(g)(2), that were intentionally included in and used for the purpose of creating the hydraulic fracturing treatments for the well.

f. Trade secret protection: If the supplier, service company, or operator claim that the specific identity and/or CAS number or amount of any additive or chemical ingredient used in the hydraulic fracturing treatment(s) is entitled to protection as trade secret information pursuant to Texas Government Code, Chapter 552, the operator of the well must indicate on the Chemical Disclosure Registry form or the supplemental list that the additive or chemical ingredient is claimed to be entitled to trade secret protection. If a chemical ingredient name and/or CAS number is claimed to be entitled to trade secret protection, the chemical family or other similar description associated with such chemical ingredient must be provided. The operator of the well on which the hydraulic fracturing treatment(s) were performed must provide the contact information, including the name, authorized representative, mailing address, and phone number of the business organization claiming entitlement to trade secret

protection. Unless the information is entitled to protection as a trade secret under Texas Government Code, Chapter 552, information submitted to the RRC or uploaded on the Chemical Disclosure Registry is public information.

Required disclosure to health/emergency personnel: A supplier, service company or operator may not withhold information related to chemical ingredients used in a HF treatment, including information identified as a trade secret, from any health professional or emergency responder who needs the information for diagnostic, treatment or other emergency response purposes subject to procedures set forth in 29 CFR §1910.1200(i). A supplier, service company or operator must provide directly to a health professional or emergency responder, all information in the person's possession that is required by the health professional or emergency responder, whether or not the information may qualify for trade secret protection. The person disclosing information to a health professional or emergency responder must include with the disclosure, as soon as circumstances permit, a statement of the health professional's confidentiality obligation. In an emergency situation, the supplier, service company or operator must provide the information immediately upon request to the person who determines that the information is necessary for emergency response or treatment. The disclosures required by this subsection must be made in accordance with the procedures in 29 CFR §1910.1200(i) with respect to a written statement of need and confidentiality agreements, as applicable.

Underground Injection

1. Agencies that control the underground injection of fluid by well class:

   TCEQ: Class I, Class III (Uranium mining); Class IV, Class V, Class VI

   RRC: Class II, Class III (Brine mining); Class V; Class VI

Completion

1. Completion report required: See 16 TAC §3.16.

   a. Time limit: The operator of a well shall file with the RRC the appropriate completion report within 30 days after completion of the well or within 90 days after the date on which the drilling operation is completed, whichever is earlier.

   b. Where submitted: RRC headquarters in Austin (electronic filing available).

2. Well logs required to be filed: See 16 TAC §3.16.

    a. Time limit: Except as otherwise provided in this section, not later than the 90th day after the date a drilling operation is completed, the operator shall file with the RRC a legible and unaltered copy of a basic electric log, except that where a well is deepened, a legible and unaltered copy of a basic electric log shall be filed if such log is run over a deeper interval than the interval covered by a basic electric log for the well already on file with the RRC. In the event a basic electric log, as defined in this section, has not been run, subject to the RRC's approval, the operator shall file a lithology log or gamma ray log of the entire wellbore. In the event no log has been run over the entire wellbore, subject to the RRC's approval, the operator shall file the log which is the most nearly complete of the logs run.

    b. Where submitted: Electronically or to RRC Headquarters in Austin, Texas

    c. Confidential time period: Delayed filing based on confidentiality. Each log filed with the RRC shall be considered public information and shall be available to the public during normal business hours. If the operator of a well desires a log to be confidential, on or before the 90th day after the date a drilling operation is completed, the operator must submit a written request for a delayed filing of the log. When filing such a request, the operator must retain the log and may delay filing such log for one year beginning from the date the drilling operation was completed. The operator of such well may request an additional filing delay of two years, provided the written request is filed prior to the expiration date of the initial confidentiality period. If a well is drilled on land submerged in state water, the operator may request an additional filing delay of two years so that a possible total delay of five years may be obtained. A request for the additional two year filing delay period must be in writing and be filed with the RRC prior to the expiration of the first two year filing delay. Logs must be filed with the RRC within 30 days after the expiration of the final confidentiality period, except that an operator who fails to timely file with the RRC a written request under this subsection for an extension of the period of log confidentiality shall file the log with the RRC immediately after the conclusion of the period for filing the request.

    d. Available for public use: Yes after confidentiality period.

    e. Log catalog available: Available on-line for those received since July 2004. See http://www.rrc.state.tx.us/data/wells/wellrecords.php

3. Multiple completion regulation: 16 TAC §3.6, relating to Application for Multiple Completion

a. Approval obtained: Authority will be granted to multicomplete a well in separate reservoirs that are not in communication without the necessity of notice and hearing on each separate application; provided, that an application for multiple completion on the form prescribed and the required accompanying data, as hereafter listed, is filed with the Engineering unit of the RRC's Permitting and Production Section for its consideration and approval. If the proposed zones of completion are not presently recognized by the RRC as being acceptable for multicompletion approval, all data necessary to substantiate a conclusion by the RRC that the proposed zones of completion are feasible and reasonably susceptible of having multicompleted and producing wells drilled thereto and therein must be filed with the application.

If the additional data furnished with the application is not considered by the RRC to be sufficient to establish the proposed zones of completion as separate zones of production which are feasible and reasonably susceptible of having multicompleted and producing wells drilled thereto and therein, or if any party protests such an application, then, if an operator so elects, his application will be set for hearing.

Multiple completion authority for a well will not be granted unless the following required data have been filed with the Engineering unit of the RRC's Permitting and Production Section:

(1) application for multiple completion properly executed and attested;
(2) electrical log or portion of the electric log of the well or a type electric log or a portion of the type electric log showing clearly thereon the subsurface location of the separate reservoirs claimed. Any electric log filed will be considered public information pursuant to §3.16;
(3) packer setting report where applicable;
(4) packer leakage test or communication test;
(5) diagrammatic sketch of the mechanical installation;
(6) letters of waiver from offset operators, or evidence that notice of application to multicomplete was given to said operators.

4. Commingling in well bore:

   a. Approval obtained:

Oil Production

1. Definition of an oil well: Any well which produces one barrel or more crude petroleum oil to each 100,000 cubic feet of natural gas. (16 TAC §3.79, Definitions)

2. Potential tests required: 16 TAC §3.51, relating to Oil Potential Test Forms Required

a. Time interval: A potential test form with all information requested thereon filled in shall be filed in the district office not later than 10 days after the test is completed. If the operator fails to file a potential test in an acceptable form within the 10-day period, then the effective date of the allowable resulting from the test shall not extend back more than 10 days prior to the date that the test form, properly completed, is filed in the RRC district office. The 10-day provision shall govern regardless of whether the potential test is taken during the month in which it is received in the district office or any prior month.

b. Witness required: No

3. Maximum gas-oil ratio: See 16 TAC §3.49, relating to Gas-Oil Ratio.

a. Provision for limiting gas-oil ratio: Any oil well producing with a gas-oil ratio in excess of 2,000 cubic feet of gas per barrel of oil produced shall be allowed to produce daily only that volume of gas obtained by multiplying its maximum daily oil allowable, as determined by the allocation formula applicable to the well, by 2,000. The gas volume thus obtained shall be known as the daily gas limit of the well. The daily oil allowable of the well shall then be determined by dividing its daily gas limit, obtained as provided in this section, by its producing gas-oil ratio in cubic feet per barrel of oil produced.

Any gas well producing from the same reservoir in which oil wells are completed and producing shall be allowed to produce daily only that amount of gas which is the volumetric equivalent in reservoir displacement of the gas and oil produced from the oil well in the reservoir that withdraws the maximum amount of gas in the production of its daily oil allowable.

The following formula shall be used in the determination of the allowable of a gas well producing with a gas-oil ratio of 100,000 or more.

$$Q = A^{\frac{(r1 - r2 + 199.3\ PrB)}{TrZ}}$$

Where:

Q = Gas well allowable, cubic feet/ day at 14.65 PSIA and 60o F.

A = Top oil well allowable, barrels per day at 60o F.

r1 = Permissible gas-oil ratio applicable to reservoir, cubic feet at 14.65 PSIA and 60o F. per barrel at 60° F.

r2 = Cubic feet of gas dissolved in one (1) barrel of oil at average reservoir conditions, cubic feet at 14.65 PSIA and 60o F. per barrel at 60o F.

Pr = Average reservoir pressure at gas-oil contact, PSIA.

Tr = Average reservoir temperature at gas-oil contact, degrees Rankine.

B = Formation volume factor of reservoir oil at average reservoir conditions, dimensionless.

Z = Deviation factor of gas from ideal gas laws at average reservoir pressure and temperature, dimensionless.

The following formula shall be used in the determination of the allowable of a gas well producing with a gas-oil ratio of less than 100,000 under the provisions of the rule stated.

$$Q = \frac{A\,(r_1 - r_2 + 199.3\ PrB/TrZ)}{1 - r_2/r_3 + 199.3\ PrB/\ r3\ TrZ}$$

Where:

R3 = Gas-Oil ratio of gas well, cubic feet at 14.65 PSIA and 60ºF per barrel at 60 ºF. Other symbols are as above.

The allowable for an associated gas well as determined by this subsection shall be limited to the lesser of:
(A) the calculated gas well allowable;
(B) the well's capability as determined by §3.31(e) (Gas Reservoirs and Gas Well Allowable); or
(C) the highest monthly production during those months averaged to a daily amount for wells that reported production during any of the three most recently reported production months.

The necessary reservoir data shall be obtained from the file of the most recent MER hearing or shall be estimated by the RRC unless more recent information is submitted by the operators.

If the gas produced from an oil reservoir is returned to the same reservoir from which it was produced, only the volume of gas not returned to the reservoir shall be considered in applying the rule stated.

Associated gas wells. The formulas shall not be applicable to associated gas wells in reservoirs for which unlimited net gas-oil ratio authority has been granted for oil wells, where such net gas is defined as total gas produced less gas diverted to legal uses; however, this subsection does not apply to reservoirs where net gas is defined as total gas produced less gas returned to the reservoir from which it was produced, or where special field rules have been adopted for associated gas wells, or where a total gas volume limitation is placed upon the oil well producing under a net ratio, except that each associated gas well in such a reservoir shall be entitled to an additional gas voidage not to exceed the limitation placed upon the net ratio authority granted and the facts are shown on the current oil proration schedule for the field.

Allowables for associated gas wells producing from reservoirs that are subject to an unlimited net gas-oil ratio authority will be dropped from the associated gas well schedule, effective that date such an unlimited net gas-oil ratio is authorized for any oil well in such reservoir.

All gas-oil ratios determined by test or allocation shall be reported on the oil well status report form in accordance with instructions thereon and the provisions of §3.53(a) (Annual Well Tests and Well Status Reports Required).

Allowables. No well shall have its allowable curtailed below the allowable fixed by the applicable field rules and the general statewide market demand order, unless such well is incapable of producing this allowable on a calendar day basis. Any well that has a gas-oil ratio in excess of the prescribed ratio for the field in which it is located will have its schedule daily allowable penalized due to such ratio.

b. Exception to limiting gas-oil ratio:

4. Bottom-hole pressure test reports required:

   a. Periodical bottom-hole pressure surveys:

5. Commingling oil in common facilities: see 16 TAC §3.26, relating to Separating Devices, Tanks, and Surface Commingling of Oil.

   Where oil and gas are found in the same stratum and it is impossible to separate one from the other, or when a well has been classified as a gas well and such gas well is not connected to a cycling plant and such well is being produced on a lease and the gas is used under TNRC Code §§86.181 - 86.185, the operator shall install a separating device of approved type and sufficient capacity to separate the oil and liquid hydrocarbons from the gas. The separating device shall be kept in place as long as a necessity for it exists, and, after being installed, such device shall not be removed nor the use thereof discontinued without the consent of the RRC. All oil and any other liquid hydrocarbons as and when produced shall be adequately measured according to the pipeline rules and regulations of the RRC

before the same leaves the lease from which they are produced, except for gas wells where the full well stream is moved to a plant or central separation facility in accordance with §3.55 (Reports on Gas Wells Commingling Liquid Hydrocarbons before Metering) and the full well stream is measured, with each completion being separately measured, before the gas leaves the lease.

Sufficient tankage and separator capacity shall be provided by the producer to adequately take daily gauges of all oil and any other liquid hydrocarbons unless LACT equipment, installed and operated in accordance with the latest revision of API Manual of Petroleum Measurement Standards, Chapter 6.1 or another method approved by the RRC or its delegate, is being used to effect custody transfer.

In order to prevent waste, to promote conservation or to protect correlative rights, RRC may approve surface commingling of oil, gas, or oil and gas production from two or more tracts of land producing from the same RRC-designated reservoir or from one or more tracts of land producing from different RRC-designated reservoirs as follows:

(1) Administrative approval. Upon written application, the RRC may grant approval for surface commingling administratively when any one of the following conditions is met:
(A) The tracts or RRC-designated reservoirs have identical working interest and royalty interest ownership in identical percentages and therefore there is no commingling of separate interests;
(B) Production from each tract and each RRC-designated reservoir is separately measured and therefore there is no commingling of separate interests; or
(C) When the tracts or RRC-designated reservoirs do not have identical working interest and royalty interest ownership in identical percentages and the RRC has not received a protest to an application within 21 days of notice of the application being mailed by the applicant to all working and royalty interest owners or, if publication is required, within 21 days of the date of last publication and the applicant provides: a method of allocating production to ensure the protection of correlative rights and an affidavit or other evidence that all working interest and royalty interest owners have been notified of the application by certified mail or have provided applicant with waivers of notice requirements; or, in the event the applicant is unable, after due diligence, to provide notice by certified mail to all working interest and royalty interest owners, a publisher's affidavit or other evidence that the RRC's notice of application has been published once a week for four consecutive weeks in a newspaper of general circulation in the county or counties in which the tracts that are the subject of the application are located.

(2) Request for hearing. When the tracts or RRC-designated reservoirs do not have identical working interest and royalty interest ownership in identical percentages and a person entitled to notice of the application has filed a protest to the application, the applicant may request a hearing on the application. RRC must give notice of the hearing to all working interest and royalty interest owners. RRC may permit the commingling if the applicant demonstrates that the proposed

commingling will protect the rights of all interest owners and will prevent waste, promote conservation or protect correlative rights.

(3) Reasonable allocation required. The applicant must demonstrate that the proposed commingling of hydrocarbons will not harm the correlative rights of the working or royalty interest owners of any of the wells to be commingled. The method of allocation of production to individual interests must accurately attribute to each interest its fair share of aggregated production.

In the absence of contrary information, such as indications of material fluctuations in the monthly production volume of a well proposed for commingling, RRC will presume that allocation based on the daily production rate for each well as determined and reported to RRC by semi-annual well tests will accurately attribute to each interest its fair share of production without harm to correlative rights. As used in this section, "daily production rate" for a well means the 24 hour production rate determined by the most recent well test conducted and reported to the RRC in accordance with §§3.28, 3.52, 3.53, and 3.55 (Potential and Deliverability of Gas Wells To Be Ascertained and Reported, Oil Well Allowable Production, Annual Well Tests and Well Status Reports Required, and Reports on Gas Wells Commingling Liquid Hydrocarbons before Metering).

Operators may test commingled wells annually after approval by RRC of the operator's written request demonstrating that annual testing will not harm the correlative rights of the working or royalty interest owners of the commingled wells. Allocation of commingled production shall not be based on well tests conducted less frequently than annually.

Allocations may be based on a method other than periodic well tests if RRC determines that the alternative allocation method will insure a reasonable allocation of production as required by this paragraph.

An applicant for a surface commingling exception must give notice of the application to the operator of each tract adjacent to one or more of the tracts proposed for commingling that has one or more wells producing from the same RRC-designated reservoir as any well proposed for commingling if any one of the wells proposed for commingling produces from a RRC-designated reservoir for which special field rules have been adopted; or any one of the wells proposed for commingling produces from multiple RRC-designated reservoirs, unless an exception to §3.10 (Restriction of Production of Oil and Gas from Different Strata) has been obtained for production from the well; or the applicant continues to separately measure production from each different RRC-designated reservoir produced from the same wellbore.

If oil or any other liquid hydrocarbon is produced from a lease or other property covered by the coastal or inland waters of the state, the liquid produced may, at the option of the operator, be measured on a shore or at a point removed from the lease or other property on which it is produced.

Oil gravity tests and reports. If oil or any other liquid hydrocarbon is produced from a lease or other property covered by the coastal or inland waters of the state, the liquid produced may, at the option of the operator, be measured on a shore or at a point removed from the lease or other property on which it is produced.

(1) Where individual lease oil production, or authorized commingled oil production, separator, treating, and/or storage vessels, other than conventional emulsion breaking treaters, are connected to a gas gathering system so that heat or vacuum may be applied prior to oil measurement for RRC-required production reports, the operator may, at his option, apply heat or vacuum to the oil only to the extent the average gravity of the stock tank oil will not be reduced below a limiting gravity for each lease as established by an average oil gravity test conducted under the following conditions:

(A) the separator or separator system, which shall include any type vessel that is used to separate hydrocarbons, shall be operated at not less than atmospheric pressure;

(B) no heat shall be applied;

(C) the test interval shall be for a minimum of 24 hours, and the average oil gravity after weathering for not more than 24 hours shall then become the limiting gravity factor for applying heat or vacuum to unmeasured oil on the tested lease.

(2) Initial gravity tests shall be made by the operator when such separator, treating, and/or storage vessels are first used pursuant to this section. Subsequent tests shall be made at the request of either the RRC or any interested party; and such subsequent tests shall be witnessed by the requesting party. Any interested party may witness the tests.

(3) Each operator shall enter on the face of his required production report the gravity of the oil delivered to market from the lease reported, and it is provided that should a volume of oil delivered to market from such lease separation facilities not meet the gravity requirement established by the described test, adjustment shall be made by charging the allowable of the lease on the relationship of the volume and the gravity of the particular crude.

(4) Where a conventional heater treater is required and is used only to break oil from an emulsion prior to oil measurement, this section will not be applicable; provided, however, that by this limitation on the section, it is not intended that excessive heat may be used in conventional heater treater, and in circumstances where such heater treater is connected to a gas gathering system and it is found by RRC investigation made on its own volition or on complaint of any interested party that excessive heat is used, either the provisions of this section or special restrictive regulation may be made applicable.

6. Measurement involving meters:

7. Production reports:

a. By lease: Yes

b. By well: No

c. Time limit: Producers are required to file Form PR monthly for all crude oil, casinghead gas, gas well gas, and condensate produced. Form PR is filed for oil wells for any month there is production, whether the production was prior to or after initial completion, and/or for stock on hand. Form PR is filed for gas wells from the month of the completion date. For recompletions Form PR is filed from the recompletion date on both oil and gas wells. On reclassified wells, Form PR is due from the month of test as shown on Form G-1 and/or Form W-2. The original monthly Form PR must be filed with the RRC's Austin Office on or before the last day of the month following the month covered by the Form PR report.

Gas Production

1. Definition of a gas well:

   16 TAC §3.79(11) Gas well--Any well: (A) which produces natural gas not associated or blended with crude petroleum oil at the time of production; (B) which produces more than 100,000 cubic feet of natural gas to each barrel of crude petroleum oil from the same producing horizon; or (C) which produces natural gas from a formation or producing horizon productive of gas only encountered in a wellbore through which crude petroleum oil also is produced through the inside of another string of casing or tubing. A well which produces hydrocarbon liquids, a part of which is formed by a condensation from a gas phase and a part of which is crude petroleum oil, shall be classified as a gas well unless there is produced one barrel or more of crude petroleum oil per 100,000 CF of natural gas; and that the term "crude petroleum oil" shall not be construed to mean any liquid hydrocarbon mixture or portion thereof which is not in the liquid phase in the reservoir, removed from the reservoir in such liquid phase, and obtained at the surface as such.

2. Pressure base _____ psia @ _____degrees F.

3. Initial potential tests: See 16 TAC 3.28, relating to Potential and Deliverability of Gas Wells To Be Ascertained and Reported.

   a. Time interval:

   The information necessary to determine the absolute daily open flow potential of each producing associated or nonassociated gas well shall be ascertained, and a report shall be filed as required on the appropriate RRC form in the appropriate RRC office within 30 days of completion of the well. After conducting the test required by subsection (a) of this section each operator of a gas well shall conduct an initial deliverability test not later than ten days after the start of production for one or more legal purposes and shall report such initial deliverability test on the prescribed form. Unless applicable special field rules provide otherwise or the director of the oil and gas division or the director's delegate authorizes an alternate procedure due to a well's producing characteristics, deliverability tests shall be performed as follows. Deliverability tests shall be scheduled by the producer within the testing period designated by the RRC, and only the recorded data specified by the Form G-10 is required to be reported. All deliverability tests shall be performed by producing the subject well at stabilized rates for a minimum time period of 72 hours. A deliverability test shall be conducted under normal and usual operating conditions using the normal and usual operating equipment in place on the well being tested, and the well shall be produced against the normal and usual line pressure prevailing in the line into which the well produces. The average daily producing rate for each 24-hour period, the wellhead pressure before the commencement of the 72-hour test, and the flowing wellhead pressure at the beginning of each 24-hour period shall be recorded. In

addition, a 24-hour shut-in wellhead pressure shall be determined either within the six-month period prior to the commencement of the 72-hour deliverability test or immediately after the completion of the deliverability test. The shut-in wellhead pressure that was determined and the date on which the 24-hour test was commenced shall be recorded on Form G-10. The flow rate during each day of the first 48 hours of the test must be as close as possible to the flow rate during the final 24 hours of the test, but must equal at least 75% of such flow rate. The deliverability of the well during the last 24 hours of the flow test shall be used for allowable and allocation purposes. If pipeline conditions exist such that a producer believes a representative deliverability test cannot be performed, the producer with pipeline notification may request in writing that the RRC use either of the following as a representative deliverability: (1) the deliverability test performed during the previous testing period; or (2) the maximum daily production from any of the 12 months prior to the due date of the test as determined by dividing the highest monthly production by the number of days in that month.

(d) If the deliverability of a well changes after a test is reported to the RRC, the deliverability of record for a well will be decreased upon receipt of a written request from the operator to reduce the deliverability of record to a specified amount. If the deliverability of a well increases, a retest must be conducted in the manner specified in this section and must be reported on Form G-10 before the deliverability of record will be increased.

b. Witness required:

In the event that the first purchaser and the operator cannot agree upon the validity of the test results, then either party may request a retest of the well. The first purchaser upon request to the operator shall have the right to witness the retest. If either party requests a representative from the RRC to witness a retest of the well, the results of a RRC-witnessed test shall be conclusive for the purposes of this section until the next regularly scheduled test of the well. In the event a retest is witnessed by the RRC, the retest shall be signed by the representative of the RRC. In the event that downhole remedial work or other substantial production enhancement work is performed, or if a pumping unit, compressor, or other equipment is installed to increase deliverability of a well subject to the RRC-witnessed testing procedure described in this subsection, a new test may be requested and shall be performed according to the procedure outlined in this subsection.

4. Bottom-hole pressure test reports required:

    a. Periodical bottom-hole pressure surveys:

        16 TAC §3.41 Application for New Oil or Gas Field Designation and/or Allowable. Requires a bottom-hole pressure for oil wells before the RRC will assign a new field designation and/or discovery allowable. The bottom-hole pressure may be determined by a pressure build-up test, drill stem test, or wire- line formation tester. Calculations based on fluid level surveys or calculations made on flowing wells using shut-in wellhead pressures may be used if no test data is available.

5. Commingling of gas in common facilities: See 16 TAC §3.27 (Gas to be Measured and Surface Commingling of Gas.) All natural gas, except casinghead gas, produced from wells shall be measured, with each completion being measured separately, before the gas leaves the lease, and the producer must report the volume produced from each completion to RRC. Exceptions to this provision may be granted by RRC upon written application.

    All casinghead gas sold, processed for its gasoline content, used in a field other than that in which it is produced, or used in cycling or repressuring operations, must be measured before the gas leaves the lease, and the producer must report the volume produced to RRC. Exceptions to this provision may be granted by RRC upon written application. Other casinghead gas produced must be measured before the gas leaves the lease, is used as fuel, or is released into the air, based on its use or on periodic tests, and reported to RRC by the producer. The volume of casinghead gas produced by wells exempt from gas/oil ratio surveys must be estimated, based on general knowledge of the characteristics of the wells. Exceptions to this provision may be granted by RRC upon written application.

    Releases and production of gas at a volume or daily flow rate ("too small to measure" (TSTM)), which, due to minute quantity, cannot be accurately determined or for which a determination of gas volume is not reasonably practical using routine oil and gas industry methods, practices, and techniques are exempt from compliance with this rule and are not required to be reported to RRC or charged against lease allowable production.

    In reporting gas well production, the full-well stream gas must be reported and charged against each gas well for allowable purposes. All gas produced, including all gas used on the lease or released into the air, must be reported regardless of its disposition.

    If gas is produced from a lease or other property covered by the coastal or inland waters of the state, the gas produced may, at the option of the operator, be measured on a shore or at a point removed from the lease or other property from which it was produced.

“Measured" means a determination of gas volume in accordance with this rule and other rules of RRC, including accurate estimates of unmetered gas volumes released into the air or used as fuel.

6. Measurement involving meters:

7. Production reports:

    a. By lease: No

    b. By well: Yes

    c. Time limits: 16 TAC §3.54 (Gas Reports Required) requires that, as soon after the first day of each month as practicable, and never later than the last day of the calendar month, subsequent to the period of the report, every operator producing natural gas from wells classified as either gas wells or oil wells by the RRC, except those expressly exempted by the RRC shall file a report on the required form.

VIRGINIA

Administration

1. Official name of agency regulating oil/gas exploration & production: Department of Mines, Minerals and Energy, Division of Gas and Oil

   P.O Drawer 159 Lebanon, VA 24266
   Phone (276) 415-9700
   Director : Rick Cooper

2. Contact for regulatory updates:

   Michael A. Skiffington, Program Support Manager
   Dept. of Mines, Minerals & Energy, Division of Administration
   Washington Building 8th Floor
   110 Bank Street
   Richmond, VA
   Phone 804.692.3212

3. Docketing procedure: Hearing an objection to permit applications held not less than 20 or more than 30 days from original filing of objection. Section 45.1-361.35, Virginia Gas and Oil Act.

   Hearing on application for pooling order/drilling units held at next monthly Virginia Gas and Oil Board meeting if application made 30 days in advance. Section 45.1-361.20, Virginia Gas and Oil Act, and Regulation 4 VAC 25-160-30.

   a. Emergency orders: Yes. The Gas and Oil Inspector may issue an emergency order for 30 days. Notice must be given and a hearing held to make emergency orders permanent. Section 45.1-361.27, Virginia Gas and Oil Act.

   b. Notice: The Gas and Oil Inspector must give notice ten days prior to a hearing on an objection to a permit application. Section 45.1-361.35, Virginia Gas and Oil Act.

      Applicants for a hearing before the Board must give notice to all gas, oil, coal or mineral owners on tracts subject to the hearing at least 30 days in advance. Section 45.1-361.19, Virginia Gas and Oil Act, and Regulation 4 VAC 25-160-30.

      The Board must publish notice of hearings at least 10 days in advance. Section 45.1-361.19, Virginia Gas and Oil Act.

4. Agency regulating air emissions: Virginia Department of Environmental Quality (DEQ)

5. Agency regulating water quality: Virginia Department of Environmental Quality (DEQ)

License

1. License required: Yes.

2. Conditions of license: 4 VAC 25-150-80.Application for a permit:

   Persons required in § 45.1-361.29 of the Code of Virginia to obtain a permit or permit modification shall apply to the division on the forms prescribed by the director. All lands on which gas, oil or geophysical operations are to be conducted shall be included in a permit application.

Bond/Surety

1. Purpose of surety: 45.1-361.31 Bonding and financial security required.

2. Plugging and restoration: Yes. § 45.1-361.32. Gas and Oil Plugging and Restoration Fund.

3. Compliance bond required: Yes. Section 45.1-361.31, Virginia Gas and Oil Act.

4. Types of surety accepted: 45.1-362.31. Certificate of Deposit (CD's), Cash, Surety Bonds acceptable by the Director

5. Conditions of bond: Bond shall remain in effect to insure compliance with all oil and gas laws and regulations. Plugging portion of bond held for life of well; stabilization portion can be released by Gas and Oil Inspector when area stabilized. Section 45.1-361.31, Virginia Gas and Oil Act.

   a. Amount per well: An amount sufficient to plug the well and restore the site, not less than $10,000 per well plus $2,000 per acre of disturbed land. Section 45.1-361.31, Virginia Gas and Oil Act.

   b. Amount of blanket bond: One to 15 wells, $25,000; 16 to 30 wells, $50,000; 31 to 50 wells, $75,000; 51 or more wells, $100,000. Section 45.1-361.31, Virginia Gas and Oil Act

Land Leasing Information

1. Leasing method: N/A

2. Notice method: N/A

3. Minimum bidding $ (per acre): N/A

4. Qualification of the bidder: N/A

5. State statutes: N/A

6. Maximum acres: N/A

7. Royalty rates: N/A

8. Agency in control of leasing: Leasing is the sole responsibility of the operators and/or citizens.

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals?

   4 VAC 25-150-520. Setback restrictions.

   No permit shall be issued for any well to be drilled closer than 200 feet from any inhabited building unless site conditions as approved by the director warrant the permission of a lesser distance and there exists a lease or agreement between the operator and the owner of the inhabited building.

2. Are there other sources of information on this matter that you could identify?

   (As Stated in Question #1)unless site conditions as approved by the director warrant the permission of a lesser distance and there exists a lease or agreement between the operator and the owner of the inhabited building.

Spacing

1. Spacing requirements: Yes. In the absence of field rules established by the Virginia Gas and Oil Board, statewide spacing, based on minimum distance between wells, is as follows:

   a. For oil: not within 1,250 ft. of another well completed in the same pool, and not within 625 ft. of the boundary of acreage supporting the well.

   b. For gas: not within 2,500 ft. of another well completed in the same pool, and not within 1,250 ft. of the boundary of acreage supporting the well.

   c. For coalbed methane gas wells: not within 1,000 ft. of another coalbed methane gas well, and not within 500 ft. of the boundary of acreage supporting the well.

d. For coalbed methane gas wells located in the gob: not within 500 ft. of another coalbed methane gas well completed in the gob and not within 250 ft. of the boundary of acreage supporting the well. Section 45.1-361.17, Virginia Gas and Oil Act.

2. Exceptions: Yes.

   a. Basis: The Virginia Gas and Oil Board hears unique testimony regarding each application for exception and renders a decision based on that testimony.

   b. Approval: All exceptions to statewide spacing must be approved by the Board and detailed in an order issued by the Board. Section 45.1-361.17, Virginia Gas and Oil Act, and Regulation 4 VAC 25-160-60.

Pooling

1. Authority to establish voluntary: Yes. Section 45.1-361.18, Virginia Gas and Oil Act.

2. Authority to establish compulsory: Yes. By authority of by Virginia Gas and Oil Board.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Upon order of the Virginia Gas and Oil Board. Sections 45.1-361.15, 45.1-361.20, 45.1-361.21 and 45.1-361.22, Virginia Gas and Oil Act and Regulation 4VAC 25-160-50.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

   a. Working interest: None set.

   b. Royalty interest: 25% interest of the unit on conventional wells and none set for coalbed methane wells.

Drilling Permit

1. Require permits for:

   a. Drilling a producing or service well: Yes. Section 45.1-361.29, Virginia Gas and Oil Act, and Regulation 4 VAC 25-150-10.

   b. Seismic drilling: Yes. Section 45.1-361.29, Virginia Gas and Oil Act, and Regulation 4 VAC 25-150-10. (c)

c. Recompletion: Yes. Section 45.1-361.29, Virginia Gas and Oil Act, and Regulation 4 VAC 25-150-10. (d)

d. Plugging and abandoning: Yes. Section 45.1-361.29, Virginia Gas and Oil Act.

e. Permit transfers: Yes. 4 VAC 25-150-120.

2. Permit fee:

a. Drilling: Drilling and gathering pipelines: $600 (Plus a $50.00 surcharge for the Orphaned Well Fund) Section 45.1-361.29, Virginia Gas and Oil Act.

b. Seismic drilling: Yes. $600. Section 45.1-361.29, Virginia Gas and Oil Act.

c. Recompletion: Yes. $300. Section 45.1-361.29, Virginia Gas and Oil Act.

d. Plugging and abandoning: Yes. Section 45.1-361.29, Virginia Gas and Oil Act.

3. Require filing report of work performed: Yes. Section 45.1-361.27, Virginia Gas and Oil Act, and Regulation 4 VAC 25-150-210, 4 VAC 25-150-220, 4 VAC 25-150-360, 4 VAC 25-150-380, 4 VAC 25-150-400, 4 VAC 25-150-420, 4 VAC 25-150-460 as applicable.

4. Sundry notices used: N/A

Vertical Deviation

1. Regulation requirement: Yes.

a. When is a directional survey necessary: For any well penetrating a mineable coal seam and having an inclination greater than 1° from true vertical. Regulation 4 VAC 25-150-280; when intentionally deviated, when deviated outside of a drilling unit boundary or on an exception location, Regulation 4 VAC 25-160-200.

b. Filing of survey required: Yes.

c. Format of filing: Yes. Regulation 4 VAC 25-150-360; Regulation 4 VAC 25-160-200.

Casing and Tubing

1. Minimum amount required:

a. Surface casing: Yes, casing is required by no definite depth is required.

b. Production casing: Yes, casing is require but no definite depth is required.

2. Minimum amount of cement required:

   a. Surface casing: Yes. A minimum of 300' or 50' feet below the lowest groundwater zone whichever is deeper. Exploratory well or gas well in Tidewater region: Virginia Code Section 62.1-195.1.

   b. Production casing: Yes for coalbed methane gas wells, Regulation 4 VAC 25-150-620.

   c. Setting time: Minimum of 8 hours and allow the cement to achieve a calculated compressive strength of 500 psi before drilling. Regulation 4 VAC 25-150-530 and 4 VAC 25-150-610

3. Tubing requirements:

   a. Oil wells: No.

   b. Gas wells: No.

Hydraulic Fracturing

1. Permitting: 4 VAC 25-150-80. Application for a permit

   a. Before drilling: Yes.

   b. Before fracing: Yes.

   c. How long before: Formations to be fractured are contained in the permit application. 4 VAC 25-150-230. Commencement of activity:

      A permittee shall notify the division at least two working days prior to commencing ground-disturbing activity, drilling a well or corehole, completing or recompleting a well or plugging a well or corehole. The permittee shall notify the division, either orally or in writing, of the permit number and the date and time that the work is scheduled to commence.

2. Reporting Requirements:

   a. Where reported: Virginia Division of Gas & Oil Regulation. 4 VAC 25-150-360

   b. When reported: Within 30 days of completion. Regulation 4 VAC 25-150-10.

3. Source water requirements: N/A

4. Mechanical Integrity: N/A

    a. Cementing log required: No.

    b. Pressure testing: Yes. 4 VAC 25-150-320 - 1. All pipe fittings, valves and unions placed on or connected with the well or corehole, as well as blowout prevention equipment, casing, casing head, drill pipe, or tubing, shall have a minimum working pressure rating of 110% of the maximum anticipated pressure that the material will be exposed to and shall be in good working condition.

    c. Pressure monitoring: Not to exceed 110% of maximum anticipated pressure.

    d. Blowout preventer required: Yes. 4 VAC 25-150-320.Blowout prevention.

    Applicability. All wells shall be equipped to control formation pressure during drilling and servicing as follows: Blowout prevention equipment is required when formation pressures of 1,000 pounds or greater are encountered or are expected to be encountered, or when drilling in an area where there is no prior knowledge of the formation pressures to be encountered.

5. Disposal of flowback fluids: Yes. 4 VAC 25-150-420.

    a. Retaining pits: Yes. 4 VAC 25-150-300.

    b. Tanks: Yes. 4 VAC 25-150-310.

    c. Approved discharge to surface water: Yes. 4 VAC 25-150-420.

    d. Underground injection: Yes. Division of Gas & Oil, 4 VAC 25-150-420. And Department of Environmental Quality. Both state and federal permits are required for a water disposal injection well.

6. Chemical disclosure requirement: N/A

    a. Mandatory: N/A

    b. Where disclosed: N/A

    c. When disclosed (pre-fracing, post-fracing, both): N/A

    d. Time limit to disclose: N/A

    e. Information required to be disclosed: N/A

    f. Trade secret protection: N/A

g. Required disclosure to health/emergency personnel: N/A

Underground Injection

1 . Agencies that control the underground injection of fluid by well class: Division of Gas and Oil, Regulation 4 VAC 25-150-420, and Department of Environmental Quality.

Completion

1. Completion report required: Yes. 4 VAC 25-150-360.

    a. Time limit: Within 30 days of completion. 4 VAC 25-150-10.

    b. Where submitted: Virginia Division of Gas & Oil.

2. Well logs required to be filed: Yes. 4 VAC 25-150-360.

    a. Time limit: Within 30 days of reaching total depth. Electric log within 2 years. 4 VAC 25-150-360.

    b. Where submitted: Virginia Division of Gas & Oil.

    c. Confidential time period: Yes - the earlier of 90 days after completion or 18 months after well reaches total depth automatic or 2 years after completion or 4 years after well reaches total depth if well is certified as exploratory. Section 45.1-361.6, Virginia Gas and Oil Act.

    d. Available for public use: Yes.

    e. Log catalog available: No. (Working on process to make available.)

3. Multiple completion regulation: No.

    a. Approval obtained: Yes.

4. Commingling in well bore: Yes.

    a. Approval obtained: None.

Oil Production

1. Definition of an oil well: Any well that produces or appears capable of producing a ratio of less than 6,000 cubic feet of gas to each barrel of oil on the basis of initial gas-oil ratio test. Regulation 4 VAC 25-150-10.

2. Potential tests required: Yes. 4 VAC 25-160-200.

    a. Time interval: None.

b. Witness required: No.

3. Maximum gas-oil ratio:

   a. Provision for limiting gas-oil ratio: Yes.

   b. Exception to limiting gas-oil ratio: Yes.

4. Bottom-hole pressure test reports required: No.

   a. Periodical bottom-hole pressure surveys: No.

5. Commingling oil in common facilities: Yes.

6. Measurement involving meters: 4 VAC 25-150-400.

7. Production reports: Yes. Section 45.1-361.38, Virginia Gas and Oil Act, and Regulation 4 VAC 25-150-210 and 4 VAC25-150-220.

   a. By lease: No.

   b. By well: Yes.

   c. Time limit: Monthly & Annually.

Gas Production

1. Definition of a gas well: Any well which produces or appears capable of producing a ratio of 6000 cubic feet (6 mcf) of gas or more to each barrel of oil on the basis of a gas-oil ratio test. Regulation 4 VAC 25-150-10.

2. Pressure base __14.73_ psia @ __60____degrees F.

3. Initial potential tests: Yes. 4 VAC 25-160-200.

   a. Time interval: None.

   b. Witness required: No.

4. Bottom-hole pressure test reports required: No.

   a. Periodical bottom-hole pressure surveys: No.

5. Commingling of gas in common facilities: Yes.

6. Measurement involving meters: Yes. 4 VAC 25-150-400.

7. Production reports: Yes. Section 45.1-361.38, Virginia Gas and Oil Act, and Regulation 4 VAC 25-150-210 and 4 VAC 25-150-220.

a. By lease: No.

b. By well: Yes.

c. Time limits: Monthly & Annually.

WASHINGTON

Note: Washington did not submit updated information for 2012. Below is the information from the 2007 survey.

Administration

1. Official name of agency regulating oil/gas exploration & production: Department of Natural Resources, Division of Geology and Earth Resources, Olympia, WA 98504-7007. Phone (360) 902-1450. Ron Teissere, Oil and Gas Supervisor

2. Contact for regulatory updates: N/A

3. Docketing procedure: Department issues notice of hearing to State Code Reviser's Office, interested parties, and gives public notice in a newspaper at least 20 days before the proposed hearing.

    a. Emergency orders: Yes. Department can promulgate them with no notice. They cannot be in effect more than 90 days.

    b. Notice: 20 days. The Department is responsible to give notice.

4. Agency regulating air emissions: N/A

5. Agency regulating water quality: N/A

License

1. License required: N/A

2. Conditions of license: N/A

Bond/Surety

1. Purpose of surety: N/A

2. Plugging and restoration: N/A

3. Compliance bond required: Yes.

4. Types of surety accepted: N/A

5. Conditions of bond: Bond is for proper abandonment of well and remains in force until that is accomplished and well site has been reclaimed.

    a. Amount per well: Not less than $50,000.

b. Amount of blanket bond: Not less than $250,000.

Land Leasing Information

1. Leasing method: Sealed-bid auction. No over the counter sales of state oil and gas leases.

2. Notice method: Advertised in the Olympia paper, and the official notice of Auction is distributed to oil and gas community mailing list.

3. Minimum bidding $ (per acre): The successful bidder will be determined by the highest bonus bid offered for each parcel. The starting bonus bid will be $2.00/acre. A $1.00/acre surcharge will also be assessed to the successful bidder to cover the costs of associated environmental reviews and lease processing.

4. Qualification of the bidder: Anyone can submit a sealed-bid.

5. State statutes:

   Chapter 79.14 Revised Code
   of Washington (RCW)
   Available at
   http://slc.leg.wa.gov
   Chapter 332.12 Washington
   Administrative Code (WAC)
   Available at http://slc.leg.wa.gov

6. Maximum acres: 640 acres or one government-surveyed section (some parcels in this category exceed 1,000 acres).

7. Royalty rates: N/A

8. Agency in control of leasing:

   Product Sales and
   Leasing Division
   Washington Department
   of Natural Resources
   P.O. Box 47016
   Olympia, WA 98504-47016
   Phone: 360.902.1642
   E-mail: bob.suda@wadnr.gov
   Web site: www.dnr.wa.gov

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals?

   None in oil and gas rules or laws. However, there could be a setback determined in the environmental review and permitting phase.

2. Are there other sources of information on this matter that you could identify? NO

Spacing

1. Spacing requirements: Yes. Not smaller than the maximum area that can be efficiently drained by one well. Because we have no production, specific limits have never been set.

   a. Density: Not greater than 160 acres for oil or 640 acres for gas.

   b. Lineal: Not closer than 500 feet to lease boundary line.

2. Exceptions

   a. Basis: Department rules that prescribed location would not produce in paying quantities or that surface conditions would add a burden or hazard.

   b. Approval: From the department.

Pooling

1. Authority to establish voluntary: Yes.

2. Authority to establish compulsory: Yes.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes, but only for secondary recovery.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

   a. Working interest: As determined by the Department.

   b. Royalty interest: As determined by the Department.

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: Yes.

    b. Seismic drilling: Yes. Blanket permit.

    c. Recompletion: Yes.

    d. Plugging and abandoning: Yes, part of drilling permit.

2. Permit fee:

    a. Drilling:

Depth (ft)	Amount	Depth (ft)	Amount
0- 3,500	$250	7,001 - 12,000	$ 750
3,501 - 7,000	500	12,001 or below	1,000

    b. Seismic drilling: $100.

    c. Recompletion: $100 under special conditions.

    d. Plugging and abandoning: No.

3. Require filing report of work performed: Yes.

4. Sundry notices used: N/A

Vertical Deviation

1. Regulation requirement: Yes.

    a. When is a directional survey necessary: Before beginning the deviation.

    b. Filing of survey required: Yes.

    c. Format of filing: N/A

Casing and Tubing

1. Minimum amount required: Yes. Depends on the situation. Each well is handled separately according to the conditions that exist.

    a. Surface casing: Yes.

    b. Production casing: Yes.

2. Minimum amount of cement required:

a. Surface casing: TD to surface.

b. Production casing: From the shoe into surface casing.

c. Setting time: Yes. Not less than 16 hours.

3. Tubing requirements:

a. Oil wells: Yes.

b. Gas wells: Yes.

Hydraulic Fracturing

1. Permitting: N/A

a. Before drilling: N/A

b. Before fracing: N/A

c. How long before: N/A

2. Reporting Requirements: N/A

a. Where reported: N/A

b. When reported: N/A

3. Source water requirements: N/A

4. Mechanical Integrity: N/A

a. Cementing log required: N/A

b. Pressure testing: N/A

c. Pressure monitoring: N/A

d. Blowout preventer required: N/A

5. Disposal of flowback fluids: N/A

a. Retaining pits: N/A

b. Tanks: N/A

c. Approved discharge to surface water: N/A

d. Underground injection: N/A

6. Chemical disclosure requirement: N/A

    a. Mandatory: N/A

    b. Where disclosed: N/A

    c. When disclosed (pre-fracing, post-fracing, both): N/A

    d. Time limit to disclose: N/A

    e. Information required to be disclosed: N/A

    f. Trade secret protection: N/A

    g. Required disclosure to health/emergency personnel: N/A

Underground Injection

1. Agencies that control the underground injection of fluid by well class: N/A

Completion

1. Completion report required: Yes.

    a. Time limit: 30 days.

    b. Where submitted: Department of Natural Resources, Division of Geology and Earth Resources, P O Box 47007, Olympia WA 98504-7007.

2. Well logs required to be filed: Yes.

    a. Time limit: Thirty days for descriptive logs, 6 months for downhole surveys.

    b. Where submitted: Division of Geology and Earth Resources.

    c. Confidential time period: Yes. Twelve months from day of filing.

    d. Available for public use: Yes.

    e. Log catalog available: No. Information Circular 75 indicates what well logs are available.

3. Multiple completion regulation: Yes.

    a. Approval obtained: Department action.

4. Commingling in well bore: Yes.

a. Approval obtained: Department action.

Oil Production

1. Definition of an oil well: No legal definition.
2. Potential tests required: No.
    a. Time interval: On a case by case basis.
    b. Witness required: Yes.
3. Maximum gas-oil ratio: Yes.
    a. Provision for limiting gas-oil ratio: Yes.
    b. Exception to limiting gas-oil ratio: Yes.
4. Bottom-hole pressure test reports required: No.
    a. Periodical bottom-hole pressure surveys: No.
5. Commingling oil in common facilities: Yes, with written permission from the Supervisor.
6. Measurement involving meters: No.
7. Production reports: Yes.
    a. By lease: N/A
    b. By well: Yes.
    c. Time limit: 30 days.

Gas Production

1. Definition of a gas well: No legal definition.
2. Pressure base _____ psia @ _____degrees F.
3. Initial potential tests: Yes.
    a. Time interval: 24 hours.
    b. Witness required: Yes.
4. Bottom-hole pressure test reports required: No.
    a. Periodical bottom-hole pressure surveys: No.

5. Commingling of gas in common facilities: Yes, with written permission from the Supervisor.

6. Measurement involving meters: Yes.

7. Production reports: Yes.

    a. By lease: Yes.

    b. By well: Yes.

    c. Time limits: 30 days.

WEST VIRGINIA

Administration

1. Official name of agency regulating oil/gas exploration & production:

   West Virginia Oil and Gas Conservation Commission and Department of Environmental Protection, Office of Oil and Gas, both located at 601 57th Street, SE, Charleston, WV 25304. Phone (304) 926-0450, Fax (304) 926-0452.

2. Contact for regulatory updates: James Martin

3. Docketing procedure: (a) Monthly meeting of Commission, (b) Hearing upon application not less than 20 days nor more than 45 days following receipt, time and location of hearing specified in notice; proposed order 30 days following hearing; opportunity to comment 15 days following proposed order; thereafter issue order as appropriate.

   a. Emergency orders: yes

   b. Notice: 10 days. Certified mail to well operators and pertinent coal operators, and regular mail to all parties requesting receipt of notice.

4. Agency regulating air emissions: WV Department of Environmental Protection Division of Air Quality

5. Agency regulating water quality: WV Department of Environmental Protection Division of Water and Waste Management

License

1. License required: N/A

2. Conditions of license: N/A

Bond/Surety

1. Purpose of surety: N/A

2. Plugging and restoration: N/A

3. Compliance bond required: Yes.

4. Types of surety accepted: N/A

5. Conditions of bond: Bond is for the life of the well through plugging and reclamation.

    a. Amount per well: $5,000 and $50,000 (wells under W.Va. Code § 22-6A)

    b. Amount of blanket bond: $50,000 and $250,00 (wells under W.Va. Code § 22-6A)

Land Leasing Information

1. Leasing method: N/A
2. Notice method: N/A
3. Minimum bidding $ (per acre): N/A
4. Qualification of the bidder: N/A
5. State statutes: N/A
6. Maximum acres: N/A
7. Royalty rates: N/A
8. Agency in control of leasing: WV Division of Natural Resources

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? 1.WV Code 22-6-21 (conventional wells); no oil or gas well shall be drilled nearer than 200' from an existing water well or dwelling.

   WV Code 22-6A-12 (horizontal well act); wells may not be drilled within 250' of an existing water well or developed spring; center of well pads may not be located within 625' of an occupied dwelling structure or a building 2500 sq. ft. or larger used to house or shelter dairy cattle or poultry husbandry; wells may not be drilled within 100' from a perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within 300' of a naturally reproducing trout stream; no well pad may be located within 1000' of a surface or ground water intake of a public water supply.

2. Are there other sources of information on this matter that you could identify? No.

Spacing

1. Spacing requirements

General rule: deep wells, 3,000' from wells producing from same formation and 400' from lease line; shallow wells, none; Coalbed methane wells, 1600' without consent from coal owner/operator between wells and 100' from lease line.

a. Density: Maximum - 640 acres for gas wells and 160 acres for oil wells in a unit.

b. Lineal: Deep wells only 3,000' from wells producing from the same formation except by special field rules; none for shallow wells for gas or oil.

2. Exceptions: Yes

a. Basis: Economic, geological or topographic or reservoir necessity.

b. Approval: By application, hearing and order.

Pooling

1. Authority to establish voluntary: Yes

2. Authority to establish compulsory: Yes, Oil and Gas Conservation Commission, Deep wells in primary production; all wells in enhanced recovery. CBM wells and the Coalbed Methane Review Board.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: N/A

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

a. Working interest: N/A

b. Royalty interest: N/A

Drilling Permit

1. Require permits for:

Drilling a producing or service well: Yes

a. Seismic drilling: No

b. Recompletion: Yes

c. Plugging and abandoning: Yes

2. Permit fee: (see below)

a. Drilling: $400.00

b. Seismic drilling: N/A

c. Recompletion: N/A

d. Plugging and abandoning:

A well work fee for shallow well work except plugging.	$400*
A fee for permit to construct a pit and/or dispose of well work wastes.	$100
A well fee to go into the reclamation fund.	$150

**For wells under W.Va. Code § 22-6A this fee is $10,000 for the first well on the pad and $5,000 for subsequent wells.*

3. Require filing report of work performed: Yes

4. Sundry notices used: N/A

Vertical Deviation

1. Regulation requirement: Yes

    a. When is a directional survey necessary: Deep wells.

    b. Filing of survey required: Yes, if performed (for instance, directional drilling).

    c. Format of filing: N/A

Casing and Tubing

1. Minimum amount required:

    a. Surface casing: below fresh water

    b. Production casing: No

2. Minimum amount of cement required:

    a. Surface casing: To surface

    b. Production casing: Adequate for separation of producing zones and high pressure zones.

    c. Setting time: Yes. Minimum of 8 hours and 500lb. compressive strength.

3. Tubing requirements:

a. Oil wells: No.

b. Gas wells: No.

Hydraulic Fracturing

1. Permitting: Covered in drilling permit

    a. Before drilling:

    b. Before fracing:

    c. How long before:

2. Reporting Requirements:

    a. Where reported: WVDEP Office of Oil and Gas

    b. When reported: within 90 days of completion of permitted well work

3. Source water requirements: Yes for wells under W.Va. Code § 22-6A

4. Mechanical Integrity:

    a. Cementing log required:

    b. Pressure testing:

    c. Pressure monitoring:

    d. Blowout preventer required: Yes

5. Disposal of flowback fluids:

    a. Retaining pits: Yes

    b. Tanks: Yes

    c. Approved discharge to surface water: No

    d. Underground injection: Yes

6. Chemical disclosure requirement:

    a. Mandatory: Yes for wells under W.Va. Code § 22-6A

    b. Where disclosed: Disclosed in the permit application and completion report.

    c. When disclosed (pre-fracing, post-fracing, both): Both

d. Time limit to disclose: 90 Days

e. Information required to be disclosed:

f. Trade secret protection:

g. Required disclosure to health/emergency personnel:

Underground Injection

1. Agencies that control the underground injection of fluid by well class: WVDEP Office of Oil and Gas (Class 2 and 3) WVDEP Division of Water and Waste Management (Class 1 and 5)

Completion

1. Completion report required: Yes.

    a. Time limit: 90 days.

    b. Where submitted: Department of Environmental Protection, Office of Oil and Gas.

2. Well logs required to be filed: Deep wells only.

    a. Time limit: 90 days.

    b. Where submitted: Oil and Gas Conservation Commission.

    c. Confidential time period: Yes. One year, additionally to three total years for good cause.

    d. Available for public use: Yes.

    e. Log catalog available: Yes.

3. Multiple completion regulation: Yes, deep wells.

    a. Approval obtained: Justification at hearing.

4. Commingling in well bore: Yes.

    a. Approval obtained: Justification at hearing.

Oil Production

1. Definition of an oil well: "Oil Well" shall mean any well which produces less than 6,000 cubic feet of gas to each barrel of oil on the basis of initial gas-oil ratio test, defining oil and gas as in the Statute.

2. Potential tests required: GOR.
    a. Time interval: 24 hour minimum
    b. Witness required: No.
3. Maximum gas-oil ratio: Less than 6,000 cubic feet of gas to one barrel of oil.
    a. Provision for limiting gas-oil ratio: No.
    b. Exception to limiting gas-oil ratio: No.
4. Bottom-hole pressure test reports required: No.
    a. Periodical bottom-hole pressure surveys: No.
5. Commingling oil in common facilities: No.
6. Measurement involving meters: No.
7. Production reports:
    a. By lease: Yes, for secondary recovery fields; otherwise, no.
    b. By well: Yes.
    c. Time limit: Annually before March 31 of following year.

<u>Gas Production</u>

1. Definition of a gas well: "Gas Well" shall mean any well which produces 6,000 cubic feet or more of gas to each barrel of oil on the basis of the initial gas-oil ratio test, defining oil and gas in the Statute.
2. Pressure base __14.73____ psia @ ___60_____degrees F.
3. Initial potential tests: Yes.
    a. Time interval: Not less than 24 hours.
    b. Witness required: No.
4. Bottom-hole pressure test reports required: No.
    a. Periodical bottom-hole pressure surveys: No.
5. Commingling of gas in common facilities: No.
6. Measurement involving meters: Yes.

7. Production reports:

    a. By lease: Yes, for secondary recovery fields; otherwise, no.

    b. By well: Yes, MCF.

    c. Time limits: Annually before March 31 of following year.

WYOMING

Administration

1. Official name of agency regulating oil/gas exploration & production: Wyoming Oil and Gas Conservation Commission, P. O. Box 2640, Casper, WY 82602. Phone (307) 234-7147.

2. Contact for regulatory updates: Supervisor

3. Docketing procedure: Oil and gas hearings are scheduled a year in advance, generally on the second Tuesday of each month. Applications are accepted and heard monthly and orders issued within 30 days. W.S. 30-5-103(c) and W.S. 30-5-105.

    a. Emergency orders: Emergency orders can be issued without notice and hearing. A regular hearing with notice must be held within 15 days. W.S. 30-5-111 (c).

    b. Notice: Notice of hearings given by the Commission at least 10 days prior to the date of the hearing; 30 days on rule changes and on applications for aquifer exemptions. Chapter 4, Section 12. The Commission gives notice in all applications. Occasionally the applicant duplicates the notice. W.S. 30-5-111(d).

4. Agency regulating air emissions: Wyoming Department of Environmental Quality

5. Agency regulating water quality: Wyoming Department of Environmental Quality

License

1. License required: Supervisor must be licensed

2. Conditions of license: Professional Petroleum Engineer or Petroleum Geologist W.S. 30-5-108.

Bond/Surety

1. Purpose of surety: Seismic Chapter 4, Section 6(h); Operating, Plug and Abandon, Idle Wells, Pits Chapter 3, Section 4; Split Estate W.S. 30-5-401 thru 410.

2. Plugging and restoration: Chapter 3, Section 4 Idle Well Bond $10.00/foot.
3. Compliance bond required: Yes
4. Types of surety accepted:

a. Owner's surety bond. Chapter 3, Section 4 - $10,000 or $20,000 as applicable.

b. Owner's blanket bond. Chapter 3, Section 4 - $75,000.

c. Letter of Credit. Chapter 3, Section 6.

d. Certificate of deposit. Chapter 3, Section 5.

e. Cash (cashier's check). Chapter 3, Section 5.

5. Conditions of bond:

   a. Amount per well: Owner's surety bond. Chapter 3, Section 4 - $10,000 or $20,000 as applicable.

   b. Amount of blanket bond: Owner's blanket bond. Chapter 3, Section 4 - $75,000.

Land Leasing Information

1. Leasing method: Public Auction - no sealed bids sale; open oral bid - if no bid is received - offer the lease over the counter at first come first served basis.

2. Notice method: Advertise the sale in the newspapers in the Rocky Mountain area.

3. Minimum bidding $ (per acre): $1.00/acre bonus.

4. Qualification of the bidder: A U.S. Citizen, 19 years of age minimum, and as a corporation, qualified by the Secretary of State to do business in Wyoming.

5. State statutes: W.S. 36-6-101 and General Chapter 6 Rules of the Board of Land Commissioners.

6. Maximum acres: 640 acres.

7. Royalty rates: No. State Land and Investments Office regulates.

8. Agency in control of leasing: State Land and Investments Office regulates.

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements: Yes

    a. Density: 40 acres for an oil well; 160 and 640 acres for a gas well; 40 and 80 acres for a coalbed methane well.

    b. Lineal: For an oil well, not closer than 460 feet to the exterior boundaries of a 40-acre subdivision. Same for a gas well or a coalbed methane well, center of NE/4 or SW/4 with 200 feet of tolerance on 40 acres, and the center of a 160-acre tract with 200 feet of tolerance. Chapter 3, Section 2.

2. Exceptions: Yes

    a. Basis: Geologic or topographic.

    b. Approval: Administratively in the absence of any objection; by Commission order should there be an objection. Chapter 3, Section 3 and Chapter 5, Section 16.

Pooling

1. Authority to establish voluntary: Yes. W.S. 30-5-109(c).

2. Authority to establish compulsory: Yes.

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: Yes.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

    a. Working interest: 80%

    b. Royalty interest: 80%

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: Yes. Chapter 3, Section 8.

b. Seismic drilling: Yes. Chapter 4, Section 6.

c. Recompletion: Yes. Chapter 3, Sections 1, 10 thru 12.

d. Plugging and abandoning: Yes. Chapter 3, Sections 14 thru 18.

2. Permit fee:

a. Drilling: $50.00 drilling permit; good for one year.

b. Seismic drilling: No fee

c. Recompletion: $50.00 if P&Ad. No fee if not P&Ad.

d. Plugging and abandoning: No fee

3. Require filing report of work performed: Yes. Form 4, for wells and pits; and Form 15A Seismic Completion Report for seismic projects.

4. Sundry notices used: Yes. Form 4. Chapter 3, Sections 10 thru 12 and 17.

Vertical Deviation

1. Regulation requirement: Yes. Chapter 3, Section 24 and 25.

2. When is a directional survey necessary: When doing controlled directional drilling, a plan shall be filed before drilling. Chapter 3, Section 25.

3. Filing of survey required: Yes. Chapter 3, Section 25.

4. Format of filing: Chapter 3, Section 25 with certification.

Casing and Tubing

1. Minimum amount required:

a. Surface casing: Yes. Chapter 3, Section 22.

b. Production casing: Yes. Chapter 3, Sections 26 and 27; Chapter 2, Section 7.

2. Minimum amount of cement required:

a. Surface casing: Yes. Chapter 3, Section 22.

b. Production casing: Yes

c. Setting time: Yes, eight hours.

3. Tubing requirements: Yes. Chapter 3, Section 22.

a. Oil wells: Yes

b. Gas wells: Yes

Hydraulic Fracturing

1. Permitting: Yes

a. Before drilling: Yes. Chapter 3, Section 45.

b. Before fracing: Yes. Chapter 3, Section 45.

c. How long before: Prior to initiation.

2. Reporting Requirements: Yes

a. Where reported: WOGCC, all treatments (Fee, State, Federal)

b. When reported: Within 30 days of completion.

3. Source water requirements: Approved by State Engineer's Office

4. Mechanical Integrity: Yes

a. Cementing log required: No

b. Pressure testing: All casing required to be properly tested.

c. Pressure monitoring: Yes

d. Blowout preventer required: Yes, if wellhead is not installed.

5. Disposal of flowback fluids:

a. Retaining pits: Yes, if lined.

b. Tanks: Yes

c. Approved discharge to surface water: Yes (NPDES)

d. Underground injection: Yes, if approved by UIC Program

6. Chemical disclosure requirement:

   a. Mandatory: Yes

   b. Where disclosed: WOGCC

   c. When disclosed (pre-fracing, post-fracing, both): both

   d. Time limit to disclose: pre-frac: prior to initiation; post-frac: within 30 days of completion.

   e. Information required to be disclosed: Fluid types, additives, chemical compound name and CAS, and concentrations.

   f. Trade secret protection: Yes

   g. Required disclosure to health/emergency personnel: No

Underground Injection

1. Agencies that control the underground injection of fluid by well class: WOGCC, Class II; DEQ, Class I, Class V, Class VI.

Completion

1. Completion report required: Yes, Form 3.

   a. Time limit: Within 30 days after completion.

   b. Where submitted: WOGCC

2. Well logs required to be filed: Yes

   a. Time limit: Within 30 days after logs are run or within 30 days after completion of any further operation on it; if such operations involve drilling or redrilling. If requested, a 30-day extension to the filing due date may be granted.

   b. Where submitted: WOGCC. Chapter 3, Section 21.

   c. Confidential time period: Yes. Six months if requested.

   d. Available for public use: Yes

e. Log catalog available: Yes

3. Multiple completion regulation: Yes. Chapter 3, Section 35.

    a. Approval obtained: Administratively, in the absence of any objection; otherwise by Commission order.

4. Commingling in well bore: Yes. Chapter 3, Section 35.

    a. Approval obtained: Administratively, in the absence of any objection; otherwise by Commission order.

Oil Production

1. Definition of an oil well: Oil well shall mean a well the principal production of which, at the mouth of the well, is oil, as defined by the Wyoming Conservation Law, Chapter 1, Section 2(ii).

2. Potential tests required: Yes. Form 3.

    a. Time interval: Within 30 days.

    b. Witness required: Yes, by the operator; occasionally by the Commission.

3. Maximum gas-oil ratio: No

    a. Provision for limiting gas-oil ratio: Occasionally. Only after notice and hearing in order to prevent subsurface waste and maintain the maximum reservoir pressure.

    b. Exception to limiting gas-oil ratio: Yes

4. Bottom-hole pressure test reports required: Yes

    a. Periodical bottom-hole pressure surveys: They can be, Chapter 3, Section 36.

5. Commingling oil in common facilities: Approved administratively on application. Adequate metering or measuring of oil must be assured.

6. Measurement involving meters: No

7. Production reports:

    a. By lease: No

b. By well: Yes

c. Time limit: 30 days after production.

Gas Production

1. Definition of a gas well: Gas well shall mean a well the principal production of which, at the mouth of the well, is gas, as defined by the Wyoming Conservation Law, Chapter 1, Section 2(u).

2. Pressure base 14.73 psia @ 60 degrees F.

3. Initial potential tests: Yes. Form 3, and Forms 10 through 13.

    a. Time interval: When necessary.

    b. Witness required: Supervisor's discretion.

4. Bottom-hole pressure test reports required: Yes

    a. Periodical bottom-hole pressure surveys: They can be.

5. Commingling of gas in common facilities: Considered administratively on application. Adequate measuring and testing must be assured.

6. Measurement involving meters: No

7. Production reports:

    a. By lease: No

    b. By well: Yes

    c. Time limits: 30 days after production.

British Columbia

Administration

1. Official name of agency regulating oil/gas exploration and production: Oil and Gas Commission
2. Contact for regulatory updates: http://bcogc.ca/
3. Docketing procedure: electronic submission to Oil and Gas Commission
    a. Agency regulating air emissions: Oil and Gas Commission
    b. Agency regulating water quality: Oil and Gas Commission

License

1. License required: oil and gas activity permit (geophysics, well, , pipeline, facility, LNG facility storage reservoir)
2. Conditions of license: reservoir conservation, engineering, forestry, environmental, social, cultural, water, land.

Bond/Surety

1. Purpose of surety: insure compliance, plugging and restoration
2. Plugging and Restoration: inclusive
3. Compliance bond required: inclusive
4. Types of surety accepted: cash, letter of credit
5. Conditions of bond: automatic renewal
    a. Amount per well: $100,000 – 200,00 per well
    b. Amount of blanket bond: n/a

Land Leasing Information

1. Leasing method: leases, exploration licences and permits disposed by sealed bid auction.
2. Notice method: by published sale notices.
3. Minimum bidding $ (per acre): based on the highest acceptable cash bonus. The right to reject bids is reserved.
4. Qualification of the bidder: may be individuals, corporations or their agent.

5. State statutes: Petroleum and Natural Gas Act, Oil and Gas Activities Act.
6. Maximum acres: leases may be one gas spacing area or greater than one gas spacing area, Exploration Licences may be up to 36 gas spacing areas.
7. Royalty rates: variable
8. Agency in control of leasing: Ministry of Energy and Mines

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements
    a. Density: gas - per section; oil – per ¼ section
    b. Lineal: n/a
2. Exceptions
    a. Basis: increase resource recovery, but not acceleration
    b. Approval: good engineering practice

Pooling

1. Authority to establish voluntary: Ministry of Energy and Mines
2. Authority to establish compulsory: Ministry of Energy and Mines

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: yes
2. Minimum percentage of voluntary agreement before approval of compulsory unitization: none
    a. Working interest: n/a
    b. Royalty interest: n/a

Drilling Permit

1. Require permits for:
    a. Drilling a producing or service well: OGAA S. 21. Well permits allow the drilling, completion, operation and abandonment of a well. A separate permit is not required for recompletion or abandonment.
    b. Seismic drilling: no
    c. Recompletion: See a. inclusive with drilling permit
    d. Plugging and abandoning: See a. inclusive with drilling permit
2. Permit fee:
    a. Drilling: Yes. In accordance with the Fee, Levy and Security regulation section 2. $18,300
    b. Seismic drilling: n/a
    c. Recompletion: There is no additional fee. inclusive with drilling permit
    d. Plugging and abandoning: There is no additional fee. inclusive with drilling permit
3. Require filing report of work performed: Yes. Drilling daily reports, completion reports, cores, surveys, fluid analysis and logs must be submitted in accordance with sections 29 – 36 of the Drilling and Production regulation.
4. Sundry notices used: Notice of wellsite construction, notice of drilling start, suspension and completion in accordance with section 8 of the Drilling and Production regulation. Notice of a completion, recompletion, maintenance or workover (section 24). Notice of an abandonment (section 26). Notice of flaring (section 43).

Vertical Deviation

1. Regulation requirement: yes
    a. When is a directional survey necessary: if deviation is greater than 5 degree per 150 m
    b. Filing of survey required: yes, 14 days
    c. Format of filing: electronic

Casing and Tubing

1. Minimum amount required:

a. Surface casing: In a competent formation, sufficient to provide a competent anchor for blowout prevention equipment and to ensure control of anticipated well pressures. D&PR section 18(3)(a).
b. Production casing: Not specified.

2. Minimum amount of cement required:
   a. Surface casing: To surface. D&PR section 18(3)(b).
   b. Production casing: To surface or at least 200 m above the shoe of the previous casing string. D&PR section 18(6)(a).
   c. Setting time: Until sufficient compressive strength to allow the safe conduct of drilling operations. D&PR sections 18(5) and 18(6)(b).
3. Tubing requirements:
   a. Oil wells: Required if the associated gas contains >5% H2S. D&PR section 16(1)(b).
   b. Gas wells: Required if the gas contains >5% H2S. D&PR section 16(1)(b).

Hydraulic Fracturing

1. Permitting: required if shallower than 600m.; otherwise notification
   a. Before drilling: n/a
   b. Before fracing: notification
   c. How long before: 24 hours
2. Reporting Requirements: yes
   a. Where reported: Oil and Gas Commission
   b. When reported: A completion report must be submitted within 30 days. D&PR sec 36(1).
3. Source water requirements: Yes
4. Mechanical Integrity:
   a. Cementing log required: If there is reason to suspect the integrity of cementing (i.e. did not get full returns during cementing operations). D&PR sec 18(7).
   b. Pressure testing: Yes. D&PR sec 10(1)(a)
   c. Pressure monitoring: Not a regulatory requirement, but standard practice.
   d. Blowout preventer required: Yes. D&PR sec 9(1)

5. Disposal of flowback fluids:
    a. Retaining pits: Information letter 2009-07. Pits must be lined and have leak detection.
    b. Tanks: Yes. Information letter 2009-07.
    c. Approved discharge to surface water: not allowed
    d. Underground injection: Through a permitted water disposal well only. Oil and gas Waste regulation Section 7(1). and special project approval s.70 OGAA
6. Chemical disclosure requirement:
    a. Mandatory: yes, s. 37 DPR
    b. Where disclosed: Oil and Gas Commission
    c. When disclosed (pre-fracing, post-fracing, both): post-fracing
    d. Time limit to disclose: 30 days
    e. Information required to be disclosed: all
    f. Trade secret protection: yes, HMIRC (Hazardous Materials Information Review Commission)
    g. Required disclosure to health/emergency personnel: yes

Underground Injection

1. Agencies that control the underground injection of fluid by well class: Oil and Gas Commission

Completion

1. Completion report required: yes
    a. Time limit: 30 days
    b. Where submitted: Oil and Gas Commission
2. Well logs required to be filed: gamma ray, neutron, resistivity and porosity logs
    a. Time limit:30 days
    b. Where submitted: Oil and Gas Commission
    c. Confidential time period: variable, 2 months to 21 years
    d. Available for public use: yes
    e. Log catalog available: yes

3. Multiple completion regulation: Drilling and Production Regulation
    a. Approval obtained: Not required. Permit holders must ensure that zones are segregated if commingling is not authorized. D&PR sec 36(3).
4. Commingling in a well bore: yes
    a. Approval obtained: Oil and Gas Commission; individual approvals; if area has been approved, wells only require notification

Oil Production

1. Definition of an oil well: no regulatory definition
2. Potential tests required: no
    a. Time interval: n/a
    b. Witness required: n/a
3. Maximum gas-oil ratio: yes
    a. Provision for limiting gas-oil ratio: 177.3 m^3/m^3
    b. Exception to limiting gas-oil ratio: yes
4. Bottom-hole pressure test reports required: yes
    a. Periodical bottom-hole pressure surveys: yes
5. Commingling oil in common facilities: no
6. Measurement involving meters: yes
7. Production reports: yes
    a. By lease: no
    b. By well: yes
    c. Time limit: yes

Gas Production

1. Definition of a gas well no regulatory definition
2. Pressure base _14.7_psia @_60_degrees F. / 101 kpa @ 15 degrees C.
3. Initial potential tests: yes
    a. Time interval: within 6 months
    b. Witness required: no
4. Bottom-hole pressure test reports required: yes

    a. Periodical bottom-hole pressure surveys: annual
5. Commingling of gas in common facilities: yes
6. Measurement involving meters: yes
7. Production reports: yes
    a. By lease: no
    b. By well: yes
    c. Time limits: month

NEWFOUNDLAND & LABRADOR
ONSHORE

Administration

1. Official name of agency regulating oil/gas exploration & production: Department of Natural Resources, Government of Newfoundland and Labrador, P. O. Box 8700, St. John's, Newfoundland, Canada A1B 4J6. Phone: (709) 729-2920; Fax (709) 729-0059.

2. Contact for regulatory updates: Fred Allen, Director, Regulatory Affairs. Phone: (709) 729-2778.

3. Docketing procedure:

    a. Emergency orders: *Petroleum Drilling Regulations*

    b. Notice: *Petroleum Drilling Regulations*

4. Agency regulating air emissions: Dept. of Environment and Conservation, Government of Newfoundland and Labrador

5. Agency regulating water quality: Dept. of Environment and Conservation, Government of Newfoundland and Labrador

License

1. License required: Exploration Permit

2. Conditions of license: *Petroleum Regulations*, Section 24

Bond/Surety

1. Purpose of surety: *Petroleum Drilling Regulations*, Section 14(a) and 14(b)

2. Plugging and restoration: *Petroleum Drilling Regulations*, Section 14(a) and 14(b)

3. Compliance bond required: *Petroleum Drilling Regulations*, Section 14(a) and 14(b)

4. Types of surety accepted: *Petroleum Drilling Regulations*, Section 14(a) and 14(b)

5. Conditions of bond:

a. Amount per well: Determined on well by well basis; irrevocable Letter of Credit or cash deposit.

b. Amount of blanket bond: Cdn. $10 million operators extra expense insurance

Land Leasing Information

1. Leasing method: Work commitment (or as noted by the Minister in Request for Bids)

2. Notice method: Request for Bids. Published in newspapers and by press release.

3. Minimum bidding $ (per acre): None (or as noted by the Minister in Request for Bids)

4. Qualification of the bidder: As noted in Request for Bids (Deposit of 20% of work commitment)

5. State statutes: *Petroleum and Natural Gas Act*, *Petroleum Regulations*

6. Maximum acres:40,000 ha

7. Royalty rates: *Royalty Regulations*

8. Agency in control of leasing: Department of Natural Resources, Petroleum Resource Development Division.

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements

    a. Density: Not applicable; based on approved development plan.

    b. Lineal: Not applicable; based on approved development plan.

2. Exceptions

    a. Basis: Under review.

    b. Approval: Under review.

Pooling

1. Authority to establish voluntary: *Petroleum Regulations.* As per approved development plan

2. Authority to establish compulsory: N/A

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: As per approved development plan.

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

    a. Working interest: As per approved development plan.

    b. Royalty interest: As per approved development plan.

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: *Petroleum Drilling Regulations* – Drilling Program approval; Authority to Drill a Well. *Petroleum Regulations* "Permittee has right to….drill and test for petroleum".

    b. Seismic drilling: *Exploration Survey Regulations*

    c. Recompletion: *Petroleum Drilling Regulations*

    d. Plugging and abandoning: *Petroleum Drilling Regulations*

2. Permit fee:

a. Drilling: $1000 issuance fee for Exploration Permit.

b. Seismic drilling: $100 per seismic exploration survey licence.

c. Recompletion: None.

d. Plugging and abandoning: None.

3. Require filing report of work performed: Yes.

4. Sundry notices used: N/A

Vertical Deviation

1. Regulation requirement:

    a. When is a directional survey necessary: During the drilling of a well at intervals not exceeding 150 m.

    b. Filing of survey required: Yes.

    c. Format of filing: Telex, telegram or by an equivalent means

Casing and Tubing

1. Minimum amount required:

    a. Surface casing: Not less than 150 m.

    b. Production casing: At least 25% of the hole is cased during all drilling operations.

2. Minimum amount of cement required:

    a. Surface casing: 30% greater than the estimated annular volume or if estimate is based on a reliable caliper log, at least 10% greater than estimated annular volume.

    b. Production casing: 30% greater than the estimated annular volume or if estimate is based on a reliable caliper log, at least 10% greater than estimated annular volume.

    c. Setting time: In no case less than 6 hours; 12 hours minimum unless acceptable testing shows compressive strength of at least 3500 kilopascals.

3. Tubing requirements:

a. Oil wells: Regulations being developed.

b. Gas wells: Regulations being developed.

Hydraulic Fracturing

Note: Production and Conservation Regulations for onshore production are being developed. Hydraulic fracturing would be reviewed on a case by case basis and be reviewed through an Environmental Assessment process. Prior approval is required to conduct hydraulic fracturing.

1. Permitting:

    a. Before drilling: See note above.

    b. Before fracing: See note above.

    c. How long before: See note above.

2. Reporting Requirements:

    a. Where reported: See note above.

    b. When reported: See note above.

    c. Source water requirements: See note above.

3. Mechanical Integrity:

    a. Cementing log required: See note above.

    b. Pressure testing: See note above.

    c. Pressure monitoring: See note above.

    d. Blowout preventer required: See note above.

4. Disposal of flowback fluids:

    a. Retaining pits: See note above.

    b. Tanks: See note above.

    c. Approved discharge to surface water: See note above.

    d. Underground injection: See note above.

5. Chemical disclosure requirement:

a. Mandatory: See note above.

b. Where disclosed: See note above.

c. When disclosed (pre-fracing, post-fracing, both): See note above.

d. Time limit to disclose: See note above.

e. Information required to be disclosed: See note above.

f. Trade secret protection: See note above.

g. Required disclosure to health/emergency personnel: See note above.

Underground Injection

1. Agencies that control the underground injection of fluid by well class: Department of Natural Resources.

Completion

1. Completion report required:

   a. Time limit: Well Termination Record is required within 21 days of the rig release. A detailed Final Well Report is due within 90 days of rig release for an exploratory well and within 45 days for a development well.

   b. Where submitted: Dept. of Natural Resources, Petroleum Resource Development Division.

2. Well logs required to be filed

   a. Time limit: Submit by the most rapid and practical means.

   b. Where submitted: Department of Natural Resources, Petroleum Resource Development Division.

   c. Confidential time period: years after rig release date in the case of an exploration well, or 60 days after rig release date in the case of a development well.

   d. Available for public use: As part of the Final Well Report.

   e. Log catalog available: List of final well reports.

3. Multiple completion regulation:

a. Approval obtained: Regulation being developed.

4. Commingling in well bore:

    a. Approval obtained: Regulation being developed.

Oil Production

Note: Production and Conservation Regulations for onshore production are being developed. In the interim, oil production is based on approved development plan as required in the *Petroleum Regulations*.

1. Definition of an oil well: See note above.
2. Potential tests required:

    a. Time interval: See note above.

    b. Witness required: See note above.

3. Maximum gas-oil ratio:

    a. Provision for limiting gas-oil ratio: See note above.

    b. Exception to limiting gas-oil ratio: See note above.

4. Bottom-hole pressure test reports required:

    a. Periodical bottom-hole pressure surveys: See note above.

5. Commingling oil in common facilities: See note above.
6. Measurement involving meters: See note above.
7. Production reports:

    a. By lease: See note above.

    b. By well: See note above.

    c. Time limit: See note above.

Gas Production

Note: Production and Conservation Regulations for onshore production are being developed. In the interim, gas production is based on approved development plan as required in the *Petroleum Regulations.*

1. Definition of a gas well See note above.
2. Pressure base _____ psia @ _____degrees F. See note above.
3. Initial potential tests:
    a. Time interval: See note above.
    b. Witness required: See note above.
4. Bottom-hole pressure test reports required:
    a. Periodical bottom-hole pressure surveys: See note above.
5. Commingling of gas in common facilities: See note above.
6. Measurement involving meters: See note above.
7. Production reports:
    a. By lease: See note above.
    b. By well: See note above.
    c. Time limits: See note above.

YUKON

Administration

1. Official name of agency regulating oil/gas exploration & production: Yukon Government – Oil and Gas Resources

2. Contact for regulatory updates: Ron Sumanik; A/Director; 867-667-5026; ron.sumanik@gov.yk.ca

3. Docketing procedure:

    a. Emergency orders:

    b. Notice

4. Agency regulating air emissions: Yukon Government – Department of Environment

5. Agency regulating water quality: Yukon Government – Department of Environment, Yukon Water Board

License

1. License required: Section 64 of the Yukon Oil and Gas Act states:

    (1) Subject to this Part and the regulations, no person shall, in the Yukon,

    (a) carry on any activity related to the exploration for oil or gas, otherwise than by the drilling of a well, unless the exploration is conducted under a program authorized by a geoscience exploration licence in effect when that activity is carried on;

    (b) carry on any activity related to the drilling, completion, operation, maintenance, suspension, shutting in, abandonment, or re-abandonment of a well unless a well licence in respect of that well is in effect when that activity is carried on;

    (c) carry on any activity related to the construction, operation, maintenance, relocation, alteration, suspension, or discontinuance of operation or abandonment of a pipeline, unless a pipeline licence in respect of that pipeline is in effect when that activity is carried on;

    (d) carry on any activity related to the construction, operation, maintenance, relocation, alteration, suspension, or discontinuance of operation or abandonment of a gas processing plant, unless a gas processing plant licence in respect of that plant is in effect when the activity is carried on;

(e) carry on any activity related to the construction, operation, maintenance, relocation, alteration, suspension, or discontinuance of operation or abandonment of a facility, other than a well, pipeline, or gas processing plant, if the facility is designated by the regulations under paragraph 65(1)(f) as an oil and gas facility for the purposes of this Act, unless a licence in respect of that facility is in effect when that activity is carried on;

(f) carry on any other activity not referred to in paragraphs (a) to (e) if the activity is designated by the regulations under paragraph 65(1)(g) as an oil and gas activity for the purposes of this Act, unless the appropriate licence authorizing that activity is in effect when that activity is carried on.

(2) Subject to this Part and the regulations, no person shall carry on the activity of exporting from the Yukon any oil or gas recovered in the Yukon or of any products obtained by processing that oil or gas, unless a licence in respect of that export is in effect at the time the export occurs.

2. Conditions of license: Terms and Conditions of each license is specific to and in response of the environmental and socio-economic review of each project and its technical details.

Bond/Surety

1. Purpose of surety: Insurance that a well can be abandoned properly if company disappears or goes out of business.

2. Plugging and restoration: Plugging and restoration are the primary activities the well deposit is meant to cover.

3. Compliance bond required: None

4. Types of surety accepted: Cash/Cheque held in account, Letter of Credit held in trust

5. Conditions of bond:

    a. Amount per well: Project specific

    b. Amount of blanket bond: Project specific

Land Leasing Information

1. Leasing method: Land is available twice per year through a disposition process. It’s a competitive bidding process.

2. Notice method: Advertising and website

3. Minimum bidding $ (per acre): Minimum bid is $400,000.00 per permit location. Minimum size of a permit location is 1 section to a maximum of 160 sections or 500 sq. km.

4. Qualification of the bidder: Name of the corporation is to be shown as the holder of the disposition and their specified undivided interests in the disposition.

   Name and official service address of the designated respresentative for the disposition.

   Bidder must also include a statement agreeing to the terms and conditions in the call for bids.

5. State statutes: Yukon *Oil and Gas Disposition* Regulations, Yukon *Oil and Gas* Act

6. Maximum acres: Maximum permit size is 500 sq km. There is no limit to the amount of permits a company can hold, they may hold multiple permits.

7. Royalty rates: Price sensitive and range from 10-25% with an initial rate of 2.5%. Select and reference prices are prescribed and are market dependent. Royalty allowances are prescribed and are proxies based on costs.

8. Agency in control of leasing: Yukon Government, Oil and Gas Resources

Setbacks

1. What rules/regulations/policies does your jurisdiction have regarding well setbacks from private residences and/or other habitable structures for use by humans or animals? N/A.

2. Are there other sources of information on this matter that you could identify? N/A.

Spacing

1. Spacing requirements

   a. Density:

      Oil Well – 4 wells per section

      Gas Well – 1 well per section

   b. Lineal: Project specific

2. Exceptions

   a. Basis: Project specific

b. Approval: Approval would be made by the Chief Operations Officer

Pooling

1. Authority to establish voluntary: Yes a working interest must apply to have a Pooling Order

2. Authority to establish compulsory: If the Pooling Order is passed by the Chief Operations Officer the effects are compulsory to all included in the order (even those working interests that may have been against it).

Unitization

1. Compulsory unitization of all or part of a pool or common source of supply: A mandatory Unitization Order can be made if it is proven through a hearing process that unitization would prevent waste

2. Minimum percentage of voluntary agreement before approval of compulsory unitization:

    a. Working interest: No minimum set

    b. Royalty interest: No minimum set

Drilling Permit

1. Require permits for:

    a. Drilling a producing or service well: Well Licence

    b. Seismic drilling: Geoscience Licence

    c. Recompletion: Well Operations Approval

    d. Plugging and abandoning: Well Operations Approval

2. Permit fee:

    a. Drilling: $500

    b. Seismic drilling: $500

    c. Recompletion: $500

    d. Plugging and abandoning: $500

3. Require filing report of work performed: Yes by way of either daily and/or summary reports depending on the operation

4. Sundry notices used: Yes by way of either daily and/or summary reports depending on the operation

Vertical Deviation

1. Regulation requirement:

    a. When is a directional survey necessary: Intervals less than 150 meters apart or sufficient for the well bore to be calculated within 15 meters (whichever is less or by instruction of the COO).

    b. Filing of survey required: Yes

    c. Format of filing: Electronic format capable of importing into Wellview software

Casing and Tubing

1. Minimum amount required:

    a. Surface casing: For a non-exploratory well: Not less than 150 meters and not more than four times the setting depth of the conductor pipe or 500 meters whichever is greater

    For an exploratory well: Not less than 100 meters and not more than 300 meters below the base of the permafrost

    b. Production casing: Project specific

2. Minimum amount of cement required:

    a. Surface casing: To surface or not less than 25 meters above the base of any previous casing string

    b. Production casing: Enough to isolate all formations containing oil, gas or water to a minimum of 60 meters above those formations and isolate any abnormally pressured intervals from normally pressured intervals.

    c. Setting time: Regulations state a minimum of 12 hour wait but in some cases we follow ERCB Directive 36 which states that WOC time will be however long it takes to reach 3.5 MPa compressive strength.

3. Tubing requirements:

    a. Oil wells: Must be designed to permit installation of artificial lift equipment or other equipment to maintain flow rates.

    b. Gas wells: If a sour well, must meet the requirements of sour service equipment

Hydraulic Fracturing

1. Permitting:
    a. Before drilling: No
    b. Before fracing: Yes
    c. How long before: No time limit
2. Reporting Requirements:
    a. Where reported: Fracfocus.ca
    b. When reported: Daily or as often as can be negotiated with Fracfocus.ca
3. Source water requirements: May require a Water Licence from the Water Board. We encourage the use of non-potable water where possible.
4. Mechanical Integrity:
    a. Cementing log required: Yes
    b. Pressure testing: Yes
    c. Pressure monitoring: Yes
    d. Blowout preventer required: No
5. Disposal of flowback fluids:
    a. Retaining pits: No
    b. Tanks: Yes
    c. Approved discharge to surface water: No
    d. Underground injection: Yes
6. Chemical disclosure requirement:
    a. Mandatory: Yes
    b. Where disclosed: Fracfocus.ca
    c. When disclosed (pre-fracing, post-fracing, both): Both
    d. Time limit to disclose: Pre-operations

e. Information required to be disclosed: Chemicals used, amount of water used, pressures induced

f. Trade secret protection: From a chemical standpoint – no. The expectation is that all chemicals used will be disclosed publicly

g. Required disclosure to health/emergency personnel: Disclosure is made public, if these personnel require the information they can visit Fracfocus.ca, or contact the Chief Operations Officer or the company

Underground Injection

1. Agencies that control the underground injection of fluid by well class: Yukon Government – Oil and Gas Resources

Completion

1. Completion report required:

    a. Time limit: Daily and Summary Reporting

    b. Where submitted: Chief Operations Officer at Oil and Gas Resources

2. Well logs required to be filed

    a. Time limit: Part of Summary Report 30 to 60 days after operation (depending on type of operation)

    b. Where submitted: Chief Operations Officer at Oil and Gas Resources

    c. Confidential time period: Currently for Step-out/Delineation/Wildcat – 3/6/12 months, to be changed to 3/12/36 months

    d. Available for public use: Yes

    e. Log catalog available: By PDF on our website

3. Multiple completion regulation:

    a. Approval obtained: Well Operations Approval

4. Commingling in well bore:

    a. Approval obtained: Usually no.

Oil Production

1. Definition of an oil well: Oil Well means a well that produces oil from an oil pool.

2. Potential tests required:

    a. Time interval:

    b. Witness required:

3. Maximum gas-oil ratio:

    a. Provision for limiting gas-oil ratio:

$$F_{GOR} = \frac{C}{GOR \div 0{,}0257 \times S}$$

Where F_{GOR} = Gas-oil ratio adjustment factor calculated to the nearest 2 decimals

C = Constant, 177.3

GOR = Net calculated gas-oil ratio (m^3/m^3)

S = Average separator pressure (kPa)

    b. Exception to limiting gas-oil ratio: On approval of the COO

4. Bottom-hole pressure test reports required:

    a. Periodical bottom-hole pressure surveys: Yes

5. Commingling oil in common facilities: Yes

6. Measurement involving meters: Yes

7. Production reports:

    a. By lease: No

    b. By well: Yes

    c. Time limit: 21 days

<u>Gas Production</u>

1. Definition of a gas well: Gas Well means a well that produces gas from a gas pool or from the gas cap portion of an oil pool.

2. Pressure base _____101.325___ kPa @ ___15_____degrees C.

3. Initial potential tests:

    a. Time interval: Completion and Test Report – daily and in final report

   b. Witness required:

4. Bottom-hole pressure test reports required:
   a. Periodical bottom-hole pressure surveys: Yes
5. Commingling of gas in common facilities: Yes
6. Measurement involving meters: Yes
7. Production reports:
   a. By lease: No
   b. By well: Yes
   c. Time limits: 21 days