

Arkansas

1. Definitions

- a. Produced Water – Water brought to the surface during oil or gas well drilling, completion, and production operations, which may include formation water, injected water, and flowback water.
 - i. If your state defines the term “produced water,” please provide that definition below.

Arkansas Oil and Gas Commission Rule B-17: WELL DRILLING PITS AND COMPLETION PITS REQUIREMENTS

Produced Water: Water produced from any productive or potentially productive brine, oil, or gas producing interval in the well, which is not Completion Flow-Back Fluid, Frac Flow-Back Fluid, Workover Flow-Back Fluid, or Encountered Water.

Arkansas Division of Environmental Quality General Permit

PERMIT NO. 0000-WG-SW AUTHORIZATION TO CONSTRUCT AND OPERATE THE SURFACE FACILITIES ASSOCIATED WITH A DISPOSAL SYSTEM FOR SUBSURFACE INJECTION OF SALT WATER AND OTHER OIL FIELD WASTES UNDER THE PROVISIONS OF THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT.

"Produced Water": Water produced along with oil and gas during the production phase, trapped in permeable sedimentary rocks within the wellbore.

- b. Recycle/Reuse – To process or treat produced water or its constituent substances for beneficial use.
- i. If your state defines the term “recycle” or “reuse,” please provide the definition(s) below.

Recycle/Reuse is not defined in the Arkansas Oil and Gas Commission Rules and statutes.

Recycle is defined in Arkansas Pollution Control and Ecology Commission Rule 22: Solid Waste Management, as follows:

Rule 22.102: “Recycling” means the systematic collection, sorting, decontaminating, and returning of waste materials to commerce as commodities for use or exchange by separating or diverting an item or items from the solid waste stream for the purpose of processing it or causing it to be processed into a material product, including compost, in order to provide for the final disposition of the material product in a manner other than landfilling or incineration.

2. Ownership

- a. Please describe the authority (deed, lease, contract, statute, regulation, case law, common law etc..) and include any relevant citations under which any of the following occurs.

Citations are provided below, a summary for each citation and authority is provided in section 4.

- i. The right to produce water during well completion and oil and gas production operations.

Deed, Lease, contract

Ark. Code Ann. § 15-71-110

Ark. Code Ann. § 15-72-219

***Lingo v. City of Jacksonville*, 258 Ark. 63, 522 S.W.2d 403 (1975)**

***Jones v. Oz-Ark-Val Poultry Co.*, 228 Ark. 76, 306 S.W.2d 111 (1957)**

***Harris v. Brooks*, 225 Ark. 436, 283 S.W.2d 129, 54 A.L.R.2d 1440;**

***Harrell v. City of Conway*, 224 Ark. 100, 271 S.W.2d 924.**

Ark. Code Ann. §15-22-201, et seq., Allocation and Use of Water. Ark. Code Ann. §15-22-301 et seq., Determination of Water Use Requirements. Ark. Code Ann. §15-22-501 et seq., Water Development Projects Generally. Ark. Code Ann. §15-20-201 et seq., Arkansas Natural Resources Division, ANRC- 138.00 Arkansas Natural Resources Commission Rules for the Utilization of Surface Water - Title 3

- ii. Ownership of produced water from oil or gas wells after it has been brought to the surface.

Deed, Lease, contract

Ark. Code Ann. § 15-71-110

Ark. Code Ann. § 15-72-219

Lingo v. City of Jacksonville, 258 Ark. 63, 522 S.W.2d 403 (1975)

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iii. Use and/or reuse of produced water in the oilfield.

Deed, Lease, contract

Ark. Code Ann. § 15-71-110

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***Lingo v. City of Jacksonville*, 258 Ark. 63, 522 S.W.2d 403 (1975)**

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iv. Use and/or reuse of produced water outside of the oilfield.

Deed, Lease, contract

Ark. Code Ann. § 15-71-110

Ark. Code Ann. § 15-72-219

***Lingo v. City of Jacksonville*, 258 Ark. 63, 522 S.W.2d 403 (1975)**

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- b. Place an “x” in each box to indicate who holds the right to each of the following regarding water that has not yet been produced.

Who	Possession	Use	Other rights (please specify)
Landowner	X	X	Reasonable use; correlative rights; subject to regulation by the Arkansas Natural Resource Division, the statutory requirements of Ark. Code Ann. § 15-22-911 <i>et seq.</i> , and required beneficial use;
Operator	X	X	Lease would allow use and/or possession from the owner, subject to regulation by the Arkansas Natural Resource Division and Ark. Code Ann. § 15-22-911 <i>et seq.</i> ;
Government		X	Use is Regulated by the Arkansas Natural Resource Division;
Other (please specify)			

- c. Place an “x” in each box to indicate who holds the right to each of the following regarding produced water after it has been brought to the surface.

Who	Possession	Use	Other rights (please specify)
Landowner	X	X	Reasonable use; correlative rights; subject to regulation by the Arkansas Natural Resource Division, Arkansas Oil and Gas Commission, and the Division of Environmental Quality as cited below;
Operator	X	X	Lease would allow use and/or possession from the owner, subject to regulation by the Arkansas Natural Resource Division, the Arkansas Oil and Gas Commission, and the

			Division of Environmental Quality as cited below
Government	X	X	Use is Regulated by the Arkansas Natural Resource Division; Ark. Code Ann. §15-22-201, et seq., Allocation and Use of Water. Ark. Code Ann. §15-22-301 et seq., Determination of Water Use Requirements. Ark. Code Ann. §15-22-501 et seq., Water Development Projects Generally. Ark. Code Ann. §15-20-201 et seq., Arkansas Natural Resources Commission, ANRC-138.00 Arkansas Natural Resources Commission Rules for the Utilization of Surface Water - Title 3; Possession and use further regulated by the Arkansas Oil and Gas Commission: General Rule E-3; General Rules A-5, B-17, B-26, B-34, E-3, H-1,2, and 3, and Ark. Code Ann. § 15-71-110. Possession and use further regulated by the Division of Environmental Quality pursuant to APC&EC Rule 1, Ark. Code Ann. § 8-4-101 et seq., and PERMIT NO. 0000-WG-SW AUTHORIZATION TO CONSTRUCT AND OPERATE THE SURFACE FACILITIES ASSOCIATED WITH A DISPOSAL SYSTEM FOR SUBSURFACE INJECTION OF SALT WATER AND OTHER OIL FIELD WASTES UNDER THE PROVISIONS OF THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT.
Other (please specify)			

- d. Does the quality of the produced water play a role in the ownership of the water?

No. Water rights are derivative from ownership of land, and water can be owned and transferred to other real property on the surface regardless of its qualities. However, the quality of produced water could result in liability for any harm resulting from its contact with the surface, and may require permits or be subject to regulation regarding use, storage, transportation, and disposal by the Arkansas Division of Environmental Quality, Arkansas Oil and Gas Commission, and the Arkansas Natural Resources Division.

3. Liability

- a. Please provide the cite to any relevant state statute/case law/regulation regarding liability for:
- i. Produced water handling (extraction, transportation, sale, etc.).

Arkansas Oil and Gas Commission General Rule E-3; General Rule H-1,2, and 3; General Rule A-5; General Rule B-17; General Rule B-26; General Rule B-34

Ark. Code Ann. § 15-71-110

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APC&EC Rule 1

Ark. Code Ann. § 8-4-101 et seq.,

PERMIT NO. 0000-WG-SW AUTHORIZATION TO CONSTRUCT AND OPERATE THE SURFACE FACILITIES ASSOCIATED WITH A DISPOSAL SYSTEM FOR SUBSURFACE INJECTION OF SALT WATER AND OTHER OIL FIELD WASTES UNDER THE PROVISIONS OF THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT.

- ii. Use and/or reuse of produced water in the oilfield:
 - 1. By the producer

Arkansas Oil and Gas Commission General Rule E-3; General Rule H-1,2, and 3; General Rule A-5; General Rule B-17; General Rule B-26; General Rule B-34

Ark. Code Ann. § 15-71-110

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APC&EC Rule 1

Ark. Code Ann. § 8-4-101 et seq.,

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**AND OTHER OIL FIELD WASTES UNDER THE PROVISIONS OF THE
ARKANSAS WATER AND AIR POLLUTION CONTROL ACT.**

2. By a different operator

Arkansas Oil and Gas Commission General Rule E-3; General Rule H-1,2, and 3; General Rule A-5; General Rule B-17; General Rule B-26; General Rule B-34

Ark. Code Ann. § 15-71-110

Ark. Code Ann. § 15-72-219

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iii. Use and/or reuse of produced water outside of the oilfield.

Arkansas Oil and Gas Commission General Rule E-3; General Rule H-1,2, and 3; General Rule A-5; General Rule B-17; General Rule B-26; General Rule B-34

Ark. Code Ann. § 15-71-110

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4. State or Provincial Regulatory Agency

- a. State or provincial agencies charged with regulating the use/reuse of produced water:

The Arkansas Department of Energy and Environment, Arkansas Oil and Gas Commission

**5301 Northshore Drive
North Little Rock, AR 72118
501-683-5814**

Arkansas Department of Energy and Environment, Division of Environmental Quality

**5301 Northshore Drive
North Little Rock, AR 72118
501-682-0744**

**The Arkansas Department of Agriculture, Arkansas Natural Resources Division
(formerly the Arkansas Natural Resources Commission)**

**1 Natural Resources Dr.
Little Rock, AR
72205
(501) 225-1598**

Summary of areas of responsibilities:

That Arkansas Oil and Gas Commission has the following powers and duties:

Ark. Code Ann. § 15-71-110

(a)

(1) The Oil and Gas Commission shall have jurisdiction of and authority over all persons and property necessary to administer and enforce effectively the provisions of this act and all other statutory authority of the commission relating to the exploration, production, and conservation of oil and gas.

(2) Production of natural gas includes both the production facilities and production process.

(3) This jurisdiction includes, but is not limited to, jurisdiction over production facilities and natural gas production facilities wherein natural gas contains one hundred (100) or more parts per million of hydrogen sulfide.

(b)

(1) "Production facilities" includes, without limitation, piping or equipment used in the production, extraction, recovery, lifting, stabilization, separation, or treatment of natural gas or associated storage or measurement from the wellhead to a meter where the gas is transferred to a custodian other than the well operator for gathering or transport, commonly known as a "custodial transfer meter".

(2) "Production process" means the extraction of gas from the geological source of supply to the surface of the earth, then through the lines and equipment used to treat, compress, and measure the gas between the wellhead and the meter, where it is either sold or delivered to a custodian other than the well operator for gathering and transportation to a place of sale, sometimes called the "custodial transfer meter".

(c)

(1) The commission shall have the authority and it shall be its duty to make inquiries as it deems proper to determine whether or not waste over which it has jurisdiction exists or is imminent.

(2) In the exercise of that power, the commission shall have the authority to:

- (A) Collect data;
- (B) Make investigations and inspections;
- (C) Examine properties, leases, papers, books, and records;
- (D) Examine, check, test, and gauge oil and gas wells, tanks, refineries, and means of transportation;
- (E) Hold hearings;
- (F) Provide for the keeping of records and the making of reports; and
- (G) Take action as reasonably necessary to enforce this act.

(d) After hearing and notice as provided in this act, the commission may make such reasonable rules and orders as are necessary from time to time in the proper administration and enforcement of this act, including rules or orders for the following purposes:

(1) To require:

- (A) The drilling, casing, operation, and plugging of wells to be done in such a manner as to:
 - (i) Prevent the escape of oil or gas from one (1) stratum to another;
 - (ii) Prevent the intrusion of water into an oil or gas stratum from a separate stratum; and

(iii) Prevent the pollution of fresh water supplies and unnecessary damage to property, soil, animals, fish, or aquatic life by oil, gas, or salt water; and

(B) A reasonable financial assurance acceptable to the commission conditioned on the performance of the duty to plug each dry or abandoned well;

(2) To require the making of reports showing the location of oil and gas wells and the filing of logs and drilling records;

(3) To prevent the drowning by water of any stratum or part of any stratum capable of producing oil and gas in paying quantities and to prevent the premature and irregular encroachment of water which reduces, or tends to reduce, the total ultimate recovery of oil and gas from any pool;

(4) To require the operation of wells with efficient gas-to-oil ratios and to fix those ratios;

(5) To prevent blow outs, caving, and seepage in the sense that conditions indicated by those terms are generally understood in the oil and gas business;

(6) To prevent fires;

(7) To identify the ownership of all oil or gas wells, producing leases, refineries, tanks, plants, structures, and all storage and transportation equipment and facilities;

(8) To regulate the shooting, perforating, and chemical treatment of wells;

(9) To regulate secondary recovery methods, including the introduction of gas, air, water, or other substances into producing formations;

(10) To limit and prorate the production of oil or gas, or both, from any pool or field for the prevention of waste as defined in this act;

(11) To issue and regulate, either generally or in or from particular areas or wells, certificates of clearance or tenders in connection with the transportation or sale of oil or gas;

(12) To regulate the spacing of wells and to establish drilling units;

(13) To prevent, so far as is practical, reasonably avoidable drainage from each development unit which is not equalized by counter drainage regarding oil and gas;

(14) With respect to the drilling of wells for production and disposal of salt water, the commission shall have the jurisdiction of and authority over all persons and property to the extent necessary to effectively make and enforce rules and orders for the following purposes:

(A) To require that before drilling any well in search of salt water or for the injection of salt water into the earth, the operator shall obtain from the commission a permit authorizing that drilling;

(B) To require that casing and cementing of supply wells and injection wells be done in accordance with such rules as may be promulgated by the commission;

(C) To require the plugging of wells to be done in such a manner as to:

(i) Prevent the escape of salt water out of one stratum into another;

(ii) Prevent the intrusion of salt water into an oil and gas stratum; and

- (iii) Prevent the pollution of fresh water supplies by salt water;
- (D) To require the making of reports showing the completing data, volume of water injected, and the filing of electrical logs of all wells with the commission;
- (E) To regulate the shooting and perforating of all wells;
- (F) To require the operation of wells in a manner designed to prevent blow outs, caving, and seepage;
- (G) To physically identify at the site the ownership of all salt water wells, plants, ponds, structures, and all storage facilities; and

(H)

- (i) To require the annual payment of one hundred dollars (\$100) per well for each injection well and disposal well and each well into which debrominated brine is injected.
- (ii) All moneys so collected shall be used solely to pay the expenses and other costs in the administration of this law;

(15) To administer and enforce the applicable provisions of the Natural Gas Policy Act of 1978, Pub. L. No. 95-621;

(16) To acquire primary enforcement responsibility either singularly or jointly with the Division of Environmental Quality for the control of underground injection under the applicable provisions of the Safe Drinking Water Act, Pub. L. No. 93-523, as it existed on January 1, 2005;

(17)

(A)

(i)

(a) To require the payment of a fee of two hundred fifty dollars (\$250) or a sum the commission may prescribe for each application for hearing or other proceeding before it under this act.

(b) The fee shall not exceed five hundred dollars (\$500); and

(ii) To prescribe a reasonable and necessary charge or fee per copy and per subscription for notices and reports prepared and published by the commission deemed necessary to reimburse the commission for the cost of those notices and reports.

(B) All moneys so collected shall be used solely to pay the expenses and other costs in the administration of this law; and

(18) To administer and enforce any applicable provisions of the Natural Gas Pipeline Safety Act of 1968, Pub. L. No. 90-481, and to specifically empower the commission to submit any satisfactory certification required by the Natural Gas Pipeline Safety Act of 1968, Pub. L. No. 90-481, in connection with:

(A) A production process or production facility as defined in this section; or

(B) A natural gas pipeline or associated facility whose:

- (i) Owner is not affiliated with an Arkansas natural gas public utility;**
- and**
- (ii) Majority owner is either a production company or an affiliate of a production company; or**

(19) To require any owner or operator to provide a meter reading or report of the amount of natural gas sold or to allow the commission to obtain a meter reading of the amount of natural gas sold.

(e) The commission has the following specific powers and duties in administering the Abandoned and Orphaned Well Plugging Program and the Abandoned and Orphaned Well Plugging Fund:

- (1) To adopt rules necessary to implement the program, including rules regarding wells deemed abandoned in accordance with § 15-72-217;**
- (2) To collect the fees assessed by the commission under this chapter and to make deposits into the fund;**
- (3) To deposit the amount of any forfeited bond or other financial assurance into the fund;**
- (4) To recover well-site plugging, repair, and restoration costs from well operators who fail to reimburse the fund for expenses attributable to those well operators and to deposit any amounts reimbursed or collected into the fund;**
- (5) To accept, receive, and deposit into the fund any grants, gifts, or other funds that may be made available from public or private sources;**
- (6) To make expenditures of amounts appropriated from the fund, as the commission may deem appropriate in its sole discretion, for the sole purposes of plugging, replugging, or repairing any well or restoring the site of any well, including, but not limited to:
 - (A) Removal of well-site equipment or production facilities; and**
 - (B) Reimbursement to landowners through grants for plugging a well and restoring the site of a well, including, but not limited to, removal of well-site equipment located on the landowner's property for which the landowner has no legal obligation to plug the wells or remove the well-site equipment, if the well is determined by the commission to be abandoned or ordered by the commission to be plugged, replugged, repaired, or restored;****
- (7) To enter into contracts and to administer a landowner grant program in accordance with applicable state law; and**
- (8) To dispose of well-site equipment, including an associated tank battery and production facility equipment, and any amount of hydrocarbons from the well that is stored on the lease, in a commercially reasonable manner at generally recognized market value, by either or both of the following methods after the well has been determined to be abandoned by the commission:
 - (A) A plugging contract may provide that the person plugging the well or remediating oil field waste pollution, or both, shall have clear title, subject to any prior perfected claim on all well-site equipment and hydrocarbons from****

the well that are stored on the lease or hydrocarbons recovered during the plugging operation, in exchange for a sum of money deducted as a credit from the contract price; or

(B)

(i)

(a) The well-site equipment, including, but not limited to, an associated tank battery and production facility equipment, hydrocarbons from the well that are stored on the lease, and hydrocarbons recovered during the plugging operation may be sold at a public auction or a public or private sale.

(b) The proceeds from any sale under subdivision (e)(8)(B)(i)(a) of this section shall be deposited into the fund.

(ii) All well-site equipment and hydrocarbons acquired by a person by sale shall be acquired under clear title subject to any prior perfected claims.

(f) Nothing in this section is to affect any hydrogen sulfide emission standards or ambient air standards enacted by the General Assembly.

Pursuant to Title 15, Chapter 71 of the Arkansas Code, the Arkansas Oil and Gas Commission has promulgated General Rules, and General Rule E-3 specifically addresses "EXPLORATION AND PRODUCTION FLUID GATHERING, HANDLING, AND TRANSPORTATION" and permits that are issued by the Arkansas Oil and Gas Commission for such produced fluid operations.

General Rule H-1, addresses Class II Disposal and Class II Commercial Disposal well permit applications and procedures. General Rule H-2 addresses Well construction, operating, and reporting requirements for class II disposal wells. General Rule H-3 addresses well construction, operating, and reporting requirements for class II commercial disposal wells.

General Rule A-5 addresses enforcement procedures;

General Rule B-17 addresses well drilling pits and completion pits requirements

General Rule B-26 addresses General Lease Operating Requirements;

General Rule B-34 addresses notice of fire breaks

***Lingo v. City of Jacksonville*, 258 Ark. 63, 522 S.W.2d 403 (1975); *Jones v. Oz-Ark-Val Poultry Co.*, 228 Ark. 76, 306 S.W.2d 111 (1957); *Harris v. Brooks*, 225 Ark. 436, 283 S.W.2d 129, 54 A.L.R.2d 1440; *Harrell v. City of Conway*, 224 Ark. 100, 271 S.W.2d 924. All of these cases address water rights and liability for surface and groundwater use and ownership in the state of Arkansas. These decisions affect determinations made by the Arkansas Oil and Gas Commission, Arkansas Natural Resources Division, and Division of Environmental Quality when determining water ownership, use, and liability.**

Arkansas Natural Resources Division jurisdiction over water use:

Ark. Code Ann. §15-22-201, et seq., Allocation and Use of Water.

Ark. Code Ann. §15-22-301 et seq., Determination of Water Use Requirements.

Ark. Code Ann. §15-22-501 et seq., Water Development Projects Generally.

Ark. Code Ann. §15-20-201 et seq.,

ANRC- 138.00 Arkansas Natural Resources Commission Rules for the Utilization of Surface Water - Title 3

The Arkansas Department of Energy and Environment, Division of Environmental Quality enforces certain activities associated with produced water pursuant to Arkansas Pollution Control and Ecology Commission Rule 1: Prevention of Pollution by Oil Field Waste; Ark. Code Ann. § 8-4-101 et seq.; and

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- b. Federal agencies charged with regulating the use and/or reuse of produced water: If available, please provide appropriate contact information.

N/A

5. Incentives

- a. Does your state or province have any incentives to use and/or reuse produced water in the oilfield? If so, please describe.

There are no regulatory incentives for recycling or reuse of produced water. However the industry does engage in reuse and recycling practices as part of good production practices and reduce cost of handling produced waters.

- b. Outside of the oilfield? If so, please describe.

There are no regulatory incentives for recycling or reuse of produced water outside of the oil and gas industry.

6. Innovations and Successes

- a. Do you have any innovative or unique approaches to addressing use and/or reuse of produced water? If so, please provide a brief description.

None to report.

- b. Does the quality of the produced water pose impediments to recycling and reuse?

There is no regulatory impediment to the reuse or recycling of produced water in oil and gas operations, other than the quality of the produced waters compatibility with the intended reuse of the produced water for drilling or completion purposes.

There would be regulatory impediments to the reuse or recycling use of produced water in other industries, other than the oil and gas industry, due to the quality of the water.

7. Other Information

- a. Please provide any additional notes or commentary below.

No additional notes or commentary.