

### Chapter 3. Pollution Control—Onsite Storage, Treatment and Disposal of Exploration and Production Waste (E&P Waste) Generated from the Drilling and Production of Oil and Gas Wells (Oilfield Pit Regulations)

Editor's Note: Statewide Order 29-B was originally codified in LAC 43:XIX as §129. In December 2000, §129 was restructured into Chapters 3, 4 and 5. Chapter 3 contains the oilfield pit regulations. Chapter 4 contains the injection/disposal well regulations. Chapter 5 contains the commercial facility regulations. A cross-reference chart in the December 2000 *Louisiana Register*, page 2798, indicates the locations for the rules in each existing Section.

#### §301. Definitions

*Coastal Area* that area comprising inland tidal waters, lakes bounded by the Gulf of Mexico, and salt water marshes and more particularly identified as the intermediate marshes, brackish marshes, and saline marshes on the Vegetative Type Map of the Louisiana Coastal Marshes, published by the Louisiana Department of Wildlife and Fisheries, August, 1978.

*Community Saltwater Disposal Well or System* as defined in §501.

*Contamination* the introduction of substances or contaminants into a groundwater aquifer, a USDW or soil in such quantities as to render them unusable for their intended purposes.

*Elevated Wetland Area* a wetland area which is not normally inundated with water and where land mass and levee material are available for mixing with waste fluids during closure of a pit.

*Exempt Pits* compressor station pits, natural gas processing plant pits, emergency pits, and salt dome cavern pits located in the coastal area.

*E&P Waste* exploration and production waste.

*Exploration and Production Waste* as defined in §501.

*Groundwater Aquifer* water in the saturated zone beneath the land surface that contains less than 10,000 mg/l TDS.

*Hydrocarbon Storage Brine* well water, potable water, rainwater, or brine (partially saturated to completely saturated) used as a displacing fluid in hydrocarbon storage well operations.

*Manufactured Liner* any man-made synthetic material of sufficient size and qualities to sustain a hydraulic conductivity no greater than  $1 \times 10^{-7}$  cm/sec after installation and which is sufficiently reinforced to withstand normal wear and tear associated with the installation and pit use without damage to the liner or adverse affect on the quality thereof. For purposes of this Chapter and Chapter 5, a manufactured liner used in pit construction must meet or exceed the following standards.

Parameter or Test Standard	
Thickness (average)	> 10 mil (0.01 in)
Breaking Strength (Grab Method)*	90 lbs
Bursting Strength*	140 psi
Tearing Strength*	25 lbs
Seam Strength*	50 lbs

\*Testing is to be performed according to ASTM method D-751, latest revision.

*Mining Water* well water, potable water, rainwater, or unsaturated brine which is injected into a brine solution mining well for recovery as saturated brine.

*Onsite* for purposes of this Section, on the same lease or contiguous property owned by the lessor, or within the confines of a drilling unit established for a specific well or group of wells.

*Operation of Oil and Gas Facilities* as used in this Section, all oil and gas wells, disposal wells, enhanced recovery injection wells and facilities, flowlines, field storage and separation facilities, natural gas processing and/or gas sweetening plants, and compressor stations.

*Pit* for purposes of this Chapter, a natural topographic depression or man-made excavation used to hold produced water or other exploration and production waste, hydrocarbon storage brine, or mining water. The term does not include lined sumps less than 660 gallons or containment dikes, ring levees or firewalls constructed around oil and gas facilities.

*Produced Water* liquids and suspended particulate matter that is obtained by processing fluids brought to the surface in conjunction with the recovery of oil and gas from underground geologic formations, with underground storage of hydrocarbons, or with solution mining for brine.

*Production Pits* either earthen or lined storage pits for collecting E&P Waste sediment periodically cleaned from tanks and other producing facilities, for storage of produced water or other exploration and production wastes produced from the operation of oil and gas facilities, or used in conjunction with hydrocarbon storage and solution mining operations as follows.

1. *Burn Pits* earthen pits intended for use as a place to temporarily store and periodically burn exploration and production waste (excluding produced water) collected from tanks and facilities.

2. *Compressor Station Pits* lined or earthen pits intended for temporary storage or disposal of fresh water condensed from natural gas at a gas pipeline drip or gas compressor station.

3. *Natural Gas Processing Plant Pits* lined or earthen pits used for the storage of process waters or stormwater runoff. No produced water may be stored in a natural gas processing plant pit.

4. *Produced Water Pits* lined or earthen pit used for storing produced water and other exploration and production wastes, hydrocarbon storage brine, or mining water.

5. *Washout Pits* lined earthen pits used to collect wash water generated by the cleaning of vacuum truck tanks and other vessels and equipment only used to transport exploration and production waste. Any materials other than E&P Waste are prohibited from being placed in such pits.

6. *Well Test Pits* small earthen pits intended for use to periodically test or clean up a well.

7. *Emergency Pits* lined or earthen pits used to periodically collect produced water and other E&P Waste fluids only during emergency incidents, rupture or failure of other facilities.

8. *Onshore Terminal Pits* lined or earthen pits located in the coastal area used for storing produced water at terminals that receive crude oil and entrained water by pipeline from offshore oil and gas production facilities.

9. *Salt Dome Cavern Pits* lined or earthen pits located in the coastal area associated with the storage of petroleum products and petroleum in salt dome caverns.

*Reserve Pits* temporary earthen pits used to store only those materials used or generated in drilling and workover operations.

*Submerged Wetland Area* a wetland area which is normally inundated with water and where only levee material is available for mixing with waste fluids during closure of a pit.

*Underground Source of Drinking Water (USDW)* for the purpose of administering these rules and regulations is defined in §403.B.

*Upland Area* an area which is not identified as a wetland and includes farm land, pasture land, recreational land, and residential land.

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### **§303. General Requirements**

A. Produced water generated from the drilling and production of oil and gas wells shall be disposed of into subsurface formations not productive of hydrocarbons, unless discharged or disposed of according to the provisions of §303.E or transported offsite in accordance with LAC 43:XIX, Subpart 1, Chapter 5.

B. Produced water may be disposed of by subsurface injection into legally permitted or authorized operators saltwater disposal wells, commercial saltwater disposal wells, enhanced recovery injection wells, community saltwater disposal wells, or gas plant disposal wells. The use of hydrocarbon storage brine and mining water in storage and/or mining operations is not considered to be disposal.

C. Contamination of a groundwater aquifer or a USDW with E&P Waste is strictly prohibited. In addition, the injection of E&P Waste into a groundwater aquifer or a USDW is strictly prohibited.

D. Produced water and other E&P Waste generated in the drilling and production of oil and gas wells shall not be disposed of into a zone producing or productive of hydrocarbons unless such disposal is approved by the Office of Conservation after a public hearing or unless prior approval to use the proposed zone for such disposal can be documented.

E. The discharge of produced water or other E&P Waste (including drilled solids) into manmade or natural drainage or directly into state waters is allowed only in conformance with any applicable state or federal discharge regulatory program.

F. The use of closed E&P Waste storage systems is encouraged by the Office of Conservation; therefore, the use of new or existing pits to store produced water, drilling fluids, and other E&P Waste generated from the drilling and production of oil and gas wells is prohibited unless:

1. notification for each pit is submitted to the Office of Conservation as outlined in §305; and
2. pits are in conformance with standards set forth in §307.

G. Unless exempted from liner requirements in §303.K.8 or §303.M below, all existing produced water pits, onshore terminal pits, and washout pits which are to be utilized in the operation of oil and gas or other facilities must be shown to comply with the liner requirements of §307.A.1.a or be permanently closed in accordance with the pit closure criteria of §311 and §313 by January 20, 1989. A certification attesting to compliance with these requirements shall be submitted to this office in a timely manner.

H. All existing pits which are not to be utilized in the operation of oil and gas or other facilities must be permanently closed according to the requirements of §311 and §313 by January 20, 1989. A certification attesting to compliance with these requirements shall be submitted to this office in a timely manner.

I. Operators of existing pits are required to comply with all applicable operational requirements of §307.A.2 and 4, §307.B.1, 2, and 3, §307.C.2, 4, 5, and 6, §307.D.2, 4, and 5, §307.E.1, 3, 4, and 6, and §307.F.1 and 3.

J. Production pits, except for those identified in §303.K.1 and §303.M below, may not be constructed in a "V" or A zone as determined by flood hazard boundary or rate maps and other information published by the Federal Emergency Management Agency (FEMA), unless such pits have levees which have been built at least 1 foot above the 100-year flood level and able to withstand the predicted velocity of the 100-year flood. Location, construction and use of such pits is discouraged.

K. Production pits located in the coastal area shall be subject to the following requirements.

1. Except for exempt pits, no production pit may be constructed in the coastal area after June 30, 1989.

2. Production pits located in the coastal area shall be closed in compliance with §311 and §313 by January 1, 1993 with the following exceptions:

- a. exempt pits as such term is defined in §301;
- b. any onshore terminal pit that was in existence on June 30, 1989, provided such pit has an approved Louisiana Water Discharge Permit System (LWDPS) permit applicable thereto. Upon expiration of such permit, operator shall discontinue use of said pit and comply with the provisions of §307;
- c. any production pit which is subject to an approved Louisiana Water Discharge Permit System (LWDPS) permit is not subject to the closure requirements of §311 and §313 until January 1, 1995 or until expiration of such permit which ever occurs first. Upon expiration of such permit, operator shall discontinue use of said pit and comply with the provisions of §307.

3. Operators of existing production pits located in the coastal area shall submit Form ENG 15-CP to the Office of Conservation by January 1, 1991. Pits closed prior to October 20, 1990 are not considered existing pits for purposes hereof.

4. Operators intending to construct an exempt pit shall submit Form ENG-15-CP to the Office of Conservation at least 10 days prior to start of construction thereof.

5. Production pits located within the coastal area must maintain a levee with an elevation of at least 2 feet above mean high tide, the liquid level in pit(s) shall not be permitted to rise within 2 feet of top of pit levee or walls, and any surface water discharge from an active pit must be done in accordance with appropriate state or federal regulatory programs. Such discharge must be piped to open water (within the marsh) that receives good flushing action and shall not otherwise significantly increase the salinity of the receiving body of water or marsh. Further, unless otherwise indicated in §303.K.6, 7, 8 and 9, production pits located in the coastal area shall comply with the standards and operational requirements set forth in §307.

6. Burn pits, compressor station pits, natural gas processing plant pits, and well test pits located in the coastal area are exempt from the liner requirements of §307.A.

7. Salt dome cavern pits are exempt from the liner requirements of §307.A.

8. Produced water pits, washout pits, and onshore terminal pits located in the coastal area shall comply with the liner requirements of §307.A unless such pit is subject to an approved Louisiana Water Discharge Permit System (LWDPS) permit.

9. Emergency pits located in the coastal area shall comply with the requirements of §307.E unless such pit is subject to an approved Louisiana Water Discharge Permit System (LWDPS) permit.

10. Any production pit which is not subject to an approved Louisiana Water Discharge Permit System (LWDPS) permit on October 20, 1990 shall submit a closure plan to the Office of Conservation by January 1, 1991.

L. Within six months of the completion of the drilling or workover of any permitted well, the operator (generator) shall certify to the commissioner by filing Form ENG-16 the types and number of barrels of E&P Waste generated, the disposition of such waste, and further certify that such disposition was conducted in accordance with applicable rules and regulations of the Office of Conservation. Such certification shall become a part of the well's permanent history.

M. Based upon the best practical technology, production pits located within an 'A' zone (FEMA) which meet the following criteria are not subject to the levee height requirements of §303.J above or the liner requirements of §307.A.1:

1. pit size is less than or equal to 10' x 10' x 4' deep;
2. such pit contains only produced brine; and
3. such pit is utilized for gas wells producing less than 25 mcf per day and less than or equal to one barrel of saltwater per day (bswpd).

N. Evidence of contamination of a groundwater aquifer or USDW may require compliance with the monitoring program of §309, compliance with the liner requirements of §307.A.1, or immediate closure of the pit.

O. The commissioner may authorize, without the necessity of a public hearing, the disposal of produced water into a zone producing or productive of hydrocarbons upon application of the operator of an existing or proposed disposal well. Such written request shall include the following:

1. the appropriate permit application as per the requirements of LAC 43:XIX.Chapter 4;
2. evidence establishing the production mechanism of the proposed disposal zone is aquifer expansion (water drive);
3. evidence demonstrating the subject disposal well is not productive in the proposed disposal zone;

4. a plat showing the subject disposal well is not located within 330' of a property line as it is defined in LAC 43:XIX.1901;

5. written consent of all operators of record with existing wells within a 1/4 mile radius of the subject well; and

6. such other information which the commissioner may require.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:4 et seq.

HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Office of Conservation, LR 26:2799 (December 2000), amended LR 30:254 (February 2004), LR 33:1654 (August 2007).

### **§305. Notification**

#### **A. Existing Pits**

1. Each pit which was constructed prior to January 20, 1986, is an existing pit. Use of an existing pit is prohibited unless the operator has reported that pit to the Office of Conservation by July 20, 1986, according to the requirements of this Paragraph. Notification shall contain the information requested below. Pits closed prior to January 20, 1986, are not considered existing pits.

2. Operators of existing pits must submit the following information to the Office of Conservation by July 20, 1986:

a. for each existing pit to be utilized in the operation of oil and gas facilities, the information requested in §305.D.1-8 below;

b. for each existing pit not to be utilized in the operation of oil and gas facilities the information requested in §305.D.1-6 below;

c. a plan and schedule of abandonment for closure of pits identified in §305.A.2.b above. Such plan must comply with the provisions of §303.H, §311, and §313. Failure to comply with the plan in a timely manner will subject an operator to appropriate civil penalties.

3. Operators of existing pits in the coastal area shall comply with the requirements of §303.K.3.

**B. New Pits.** Except for reserve pits, operators must notify the Office of Conservation of the intent to construct new pits at least 10 days prior to start of construction. Notification shall contain all information requested in §305.D or §303.K.4 as appropriate. The Office of Conservation may inspect any proposed pit site prior to or during construction; however, initial use of the completed pit need not be deferred if no inspection is made.

**C. Reserve Pit Notification.** For reserve pits used in drilling and workover operations, notification requirements of this rule shall be satisfied by application for a drilling or work permit.

#### **D. Notification Information Required Form ENG-15**

1. Name of Facility Pit (indicate whether new or existing)

2. Field Designation, if applicable

3. Section, Township and Range (include approximate footage location of pit center)

4. Parish Name

5. Type of Pit (consistent with definitions in §301)

6. Size of Pit (length, width and depth)

7. Type of Liner, if applicable

8. Certification that each pit will or does conform to standards stipulated under §307 applicable to that type pit and that such compliance will be within the time frame described in §303.G, H, and I, if applicable.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:4 et seq.

HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Office of Conservation, LR 26:2801 (December 2000), amended LR 33:1656 (August 2007).

### **§307. Pit Classification, Standards, and Operational Requirements**

#### **A. Produced Water, Onshore Terminal, and Washout Pits**

1. Except where exempted by §303.K.8 and §303.M, groundwater aquifer and USDW protection for above-listed pits shall be provided by one of the following.

a. A liner along the bottom and sides of pits which has the equivalent of 3 continuous feet of recompacted or natural clay having a hydraulic conductivity no greater than  $1 \times 10^{-7}$  cm/sec. Such liners include, but are not limited to the following.

i. *Natural Liner* natural clay having a hydraulic conductivity meeting the requirements of §307.A.1.a above.

ii. *Soil Mixture Liner* soil mixed with cement, clay-type, and/or other additives to produce a barrier which meets the hydraulic conductivity requirements of §307.A.1.a above.

iii. *Recompacted Clay Liner* in situ or imported clay soils which are compacted or restructured to meet the hydraulic conductivity requirements of §307.A.1.a above.

iv. *Manufactured Liner* synthetic material that meets the definition in §301 and is equivalent or exceeds the hydraulic conductivity requirements of §307.A.1.a above. Pits constructed with a manufactured liner must have side slopes of 3:1 and the liner at the top of the pit must be buried in a 1' wide and 1' deep trench. A sufficient excess of liner material shall be placed in the pit to prevent tearing when filled with E&P Waste.

v. *Combination Liner* a combination of two or more types of liners described in this Section which meets the hydraulic conductivity requirements of §307.A.1.a above.

b. Any other alternate groundwater aquifer and USDW protection system acceptable to the Office of Conservation.

2. Pits shall be protected from surface waters by levees or walls and by drainage ditches, where needed, and no siphon or openings will be placed in or over levees or walls that would permit escaping of contents so as to cause pollution or contamination. Authorized surface discharges of pit contents under federal and/or state regulatory programs are not considered to be pollution or contamination as used herein.

3. A representative of the Office of Conservation must be given an opportunity to inspect prior to and during construction of the pit as provided under §305.B.

4. Liquid levels in pits shall not be permitted to rise within 2 feet of top of pit levees or walls. Pit levees or walls shall be maintained at all times to prevent deterioration, subsequent overflow, and leakage of E&P Waste to the environment.

5. When use of a pit will be permanently discontinued by the operator of record, the Office of Conservation shall be notified in writing. Pits shall be emptied of all fluids in a manner compatible with all applicable regulations and closed in accordance with §303.F and G within six months of abandonment.

#### **B. Reserve Pits**

1. Pits shall be protected from surface waters by levees or walls and by drainage ditches, where needed, and no siphons or openings will be placed in or over levees or walls that would permit escaping of contents so as to cause pollution or contamination. Authorized surface discharges of pit contents under federal or state regulatory programs are not considered to be pollution or contamination as used herein.

2. Liquid levels in pits shall not be permitted to rise within 2 feet of top of pit levees or walls. Pit levees or walls shall be maintained at all times to prevent deterioration, subsequent overflow, and leakage of E&P Waste to the environment.

3. Operators shall prevent the placing of produced water, waste oil, trash, or any other material into a reserve pit which would increase the difficulty in clean-up of the pit or otherwise harm the environment. Such material shall be properly stored and disposed of according to applicable state or federal regulations.

4. Pits shall be emptied of fluids in a manner compatible with all applicable regulations, and closed in accordance with §311 and §313 within six months of completion of drilling or work over operations.

#### C. Burn Pits

1. Pits shall be constructed in such a manner as to keep fire hazards to a minimum, and in no case shall be located less than 100 feet from a well location, tank battery, separator, heater-treater, or any and all other equipment that may present a fire hazard.

2. Pits shall be protected from surface waters by levees or walls and by drainage ditches, where needed, and no siphons or openings will be placed in or over levees or walls that would permit escaping of contents so as to cause pollution or contamination.

3. A representative of the Office of Conservation must be given an opportunity to inspect prior to and during construction of the pit as provided under §305.B.

4. Any burning process shall be carried out in conformance with applicable air quality regulations. Notification as required by said regulation shall be made to the Air Permits Division, Department of Environmental Quality.

5. No produced water, radioactive material (except industry-accepted and license-approved radioactive material utilized in oilfield operations, and radioactive material naturally occurring in the produced fluids), or other noncombustible waste products shall be placed in pits, except water or emulsion which may be associated with crude oil swabbed or otherwise produced during test operations, or during tank or other vessel cleaning operations. E&P Waste must be removed or burned periodically to assure that storage of materials in the pit is kept to a minimum.

6. Liquid levels in pits shall not be permitted to rise within 2 feet of top of pit levees or walls. Pit levees or walls shall be maintained at all times to prevent deterioration, subsequent overfill, and leakage of E&P Waste to the environment.

7. When use of pits will be permanently discontinued by the operator of record, the Office of Conservation shall be notified in writing. Pits shall be emptied of fluids in a manner compatible with all applicable regulations, and closed in accordance with §311 and §313 within six months of abandonment.

#### D. Well Test Pits

1. Pits shall be constructed in such a manner as to keep fire hazards to a minimum, and in no case shall be located less than 100 feet from a well location, tank battery, separator, heater-treater, or any and all other equipment that may present a fire hazard.

2. Pits shall be protected from surface waters by levees or walls and by drainage ditches, where needed, and no siphons or openings will be placed in or over levees or walls that would permit escaping of contents so as to cause pollution or contamination.

3. A representative of the Office of Conservation must be given an opportunity to inspect prior to and during construction of the pit as provided under §305.B.

4. Within 30 days after completion of a well test, pits shall be emptied of produced fluids and must remain empty of produced fluids during periods of nonuse.

5. Liquid levels in pits shall not be permitted to rise within 2 feet of top of pit walls or dikes. Pit levees or walls shall be maintained at all times to prevent deterioration, subsequent overfill, and leakage of E&P Waste to the environment.

6. When use of pits will be permanently discontinued, the Office of Conservation shall be notified in writing. Pits shall be emptied of fluids in a manner compatible with all applicable regulations, and closed in accordance with §311 and §313 within six months of abandonment.

#### E. Emergency Pits

1. Groundwater aquifer and USDW protection for emergency pits shall be evaluated on a case-by-case basis. Operators who intend to utilize existing or new emergency pits without liners must demonstrate by written application to the Office of Conservation that groundwater aquifer and USDW contamination

will not occur; otherwise, emergency pits shall be lined. Applications to demonstrate unlined pits will not contaminate groundwater aquifers and USDW's shall at a minimum address the following.

a. *Emergency Incident Rate* operator shall estimate the number of times a pit will be utilized each year. A detailed discussion of the facility operation and reasons for the emergency incident rate must be addressed.

b. *Soil Properties* operator shall describe and evaluate soil properties onsite. Soil hydraulic conductivity and physical properties must be addressed to assess potential groundwater aquifer and USDW impacts.

c. *Groundwater Aquifer Evaluation* water quality, groundwater aquifer, and USDW depth shall be evaluated.

d. *Produced Water Composition* (total dissolved solids and oil and grease) must be determined to assess potential impacts on the site.

2. All emergency pits required to be lined must conform to hydraulic conductivity requirements in §307.A.1 above.

3. No produced water or any other E&P Waste shall be intentionally placed in any emergency pit not meeting the hydraulic conductivity requirements ( $1 \times 10^{-7}$  cm/sec for 3 continuous feet of clay) except in the case of an emergency incident. In emergency situations, notice must be given to the Office of Conservation within 24 hours after discovery of the incident. Produced water and any other E&P Waste must be removed from the pit within seven days following termination of the emergency situation.

4. Pits shall be protected from surface waters by levees and by drainage ditches, where needed, and no siphons or openings will be placed in or over levees or walls that would permit escaping of contents so as to cause pollution or contamination. Surface discharges of pit contents under federal or state permits are not considered to be pollution or contamination as used herein.

5. A representative of the Office of Conservation must be given an opportunity to inspect prior to and during construction of the pits as provided under §305.B.

6. Liquid level in pits shall not be permitted to rise within 2 feet of top of pit levees. Pit levees or walls shall be maintained at all times to prevent deterioration, subsequent overfill, and leakage of E&P Waste to the environment.

7. When use of pits will be permanently discontinued, the Office of Conservation shall be notified in writing. After notification to the Office of Conservation, pits shall be emptied of all fluids in a manner compatible with all applicable regulations, and closed in accordance with §311 and §313 within six months of abandonment.

#### F. Natural Gas Processing Plant Pits, Compressor Station Pits, and Salt Dome Cavern Pits

1. Pits shall be protected from surface waters by levees or walls and by drainage ditches, where needed, and no siphon or openings will be placed in or over levees or walls that would permit escaping of contents so as to cause pollution or contamination. Authorized surface discharges of pit contents under federal and/or state regulatory programs are not considered to be pollution or contamination as used herein.

2. A representative of the Office of Conservation must be given an opportunity to inspect prior to and during construction of the pit as provided under §305.B.

3. Liquid levels in pits shall not be permitted to rise within 2 feet of top of pit levees or walls. Pit levees or walls shall be maintained at all times to prevent deterioration, subsequent overfill, and leakage of E&P Waste to the environment.

4. When use of a pit will be permanently discontinued by the operator of record, the Office of Conservation shall be notified in writing. Pits shall be emptied of all fluids in a manner compatible with all applicable regulations and closed in accordance with §311 and §313 within six months of abandonment.

G. Office of Conservation Corrective Action and Closure Requirement. Should the Office of Conservation determine that continued operation of pits specified in this Subparagraph may result in contamination of a groundwater aquifer or a USDW, or the discharge of fluids into man-made or natural

drainage or directly into state waters, or contamination of soils outside the confines thereof, further use of the pit shall be prohibited until conditions causing or likely to cause contamination have been corrected. If corrective measures are not satisfactorily completed in accordance with an Office of Conservation compliance order or schedule, the commissioner may require closure of the pit. When an order for closure is issued, a pit shall be closed in accordance with §311 and §313 and the operator must comply with any closure schedule issued by the Office of Conservation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:4 et seq.

HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Office of Conservation, LR 26:2801 (December 2000), amended LR 33:1656 (August 2007).

### **§309. Monitoring Program**

A. Upon a determination by the operator or the Office of Conservation that any pit subject to this rule is likely to contaminate a groundwater aquifer or a USDW, the Office of Conservation shall require the timely submission of a plan for the prevention of such contamination. Such plan may include using an under-built drainage and collection system, monitoring wells, and/or other means that the Office of Conservation may approve to prevent or detect contamination. Any required monitor wells shall be registered with the appropriate state agency.

B. When required by the Office of Conservation, monitoring shall be conducted on a quarterly schedule. A written report summarizing the results of such monitoring shall be submitted to the Office of Conservation within 30 days of the end of each quarter.

C. If monitoring of a groundwater aquifer or USDW indicates contamination due to a discharge from a pit, the owner or operator shall immediately notify the Office of Conservation. Within 30 days, the operator shall empty the pit of all E&P Waste and submit a remedial plan for prevention of further contamination of any groundwater aquifer or any USDW. Upon approval, the remedial plan shall be implemented by the operator and monthly progress reports, reviewing actions taken under the plan and their results, will be filed with the Office of Conservation until all actions called for in the plan have been satisfactorily completed.

D. Notification received by the Office of Conservation, pursuant to §309.A, B, or C above, of any contamination of a groundwater aquifer or a USDW as the possible result of a discharge, or information obtained by the exploitation of such notification shall not be used against the reporting owner or operator in any criminal action, including but not limited to those provided for by Louisiana Revised Statutes 30:18, except in a prosecution for perjury or for giving a false statement.

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HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Office of Conservation, LR 26:2803 (December 2000), amended LR 33:1658 (August 2007).

### **§311. Pit Closure**

A. Pits must be closed properly to assure protection of soil, surface water, groundwater aquifers and USDW's. Operators may close pits utilizing onsite land treatment, burial, solidification, onsite land development, or other techniques approved by the Office of Conservation only if done so in compliance with §313 and §315. Otherwise, all E&P Waste must be manifested according to §511 and transported offsite to a permitted commercial facility unless temporarily used in hydraulic fracture stimulation operations conducted on the Haynesville Shale Zone in accordance with the requirements of LAC 43:XIX:313.J.

B. Liability for pit closure shall not be transferred from an operator to the owner of the surface land(s) on which a pit is located.

C. For evaluation purposes prior to closure of any pit and for all closure and onsite and offsite disposal techniques, excluding subsurface injection of reserve pit fluids, exploration and production waste (pit contents) must be analyzed for the following parameters:

1. pH;
2. total metals content (ppm) for:

- a. arsenic;
- b. barium;
- c. cadmium;
- d. chromium;
- e. lead;
- f. mercury;
- g. selenium;
- h. silver;
- i. zinc;
3. oil and grease (percent dry weight);
4. soluble salts and cationic distributions:
  - a. electrical conductivity . EC in mmhos/cm (millimhos);
  - b. sodium adsorption ratio . SAR;
  - c. exchangeable sodium percentage . ESP (percent); and
  - d. cation exchange capacity . CEC (milliequivalents/100 gm soil).
5. Radioisotopes if such pit is located in the coastal area and is closed after October 20, 1990.

D. Laboratory Procedures for Exploration and Production Waste Analyses

1. For soluble salts, cationic distributions, metals (except barium) and oil and grease (organics) samples are to be analyzed using standard soil testing procedures as presented in the manual titled "Laboratory Procedures for Analysis of Exploration and Production Waste" (Department of Natural Resources, August 9, 1988, or latest revision).

2. For barium analysis, samples are to be digested in accordance with the "True Total" method, as presented in the manual titled "Laboratory Procedures for Analysis of Exploration and Production Waste" (Department of Natural Resources, August 9, 1988 or latest revision).

3. For radioisotopes, the sampling and testing of pit sludges shall comply with the requirements of the Department of Environmental Quality.

E. Documentation of testing and closure activities, including onsite disposal of E&P Waste, shall be maintained in operator's files for at least three years after completion of closure activities. Upon notification, the Office of Conservation may require the operator to furnish these data for verification of proper closure of any pit. If proper onsite closure has not been accomplished, the operator will be required to bring the site into compliance with applicable requirements.

F. Reserve pits utilized in the drilling of wells less than 5,000 feet in depth are exempt from the testing requirements of §311.C and §313 provided the following conditions are met:

1. the well is drilled using only freshwater "native" mud which contains no more than 25 lbs/bbl bentonite, 0.5 lbs/bbl caustic soda or lime, and 50 lbs/bbl barite; and
2. documentation of the above condition is maintained in the operator's files for at least three years after completion of pit closure activities.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:4 et seq.

HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Office of Conservation, LR 26:2803 (December 2000), amended LR 33:1658 (August 2007), LR 35:2464 (November 2009).

**§313. Pit Closure Techniques and Onsite Disposal of E&P Waste**

A. Reserve pit fluids, as well as drilling muds, cuttings, etc., from holding tanks, may be disposed of onsite provided the technical criteria of §313.C, D, E, F, or G below are met, as applicable. All E and P Waste must be either disposed of on-site, temporarily used in hydraulic fracture stimulation operations

conducted on the Haynesville Shale Zone in accordance with the requirements of LAC 43:XIX.313.J or transported to an approved commercial facility or transfer station in accordance with the requirements of LAC 43:XIX.Chapter 5 or under the direction of the commissioner.

B. Prior to conducting onsite pit closure activities, an operator must make a determination that the requirements of this Subparagraph are attainable.

C. Unless specifically stated otherwise, all pit closure techniques in this Subparagraph, except solidification, waste/soil mixtures must not exceed the following criteria:

1. range of pH: 6-9 for land treatment and burial and trenching, 6-12 for onsite land development;
2. total metals content (ppm):

Parameter	Limitation
Arsenic	10
Barium	
Submerged Wetland Area	20,000
Elevated Wetland Area	20,000
Upland Area	40,000
Cadmium	10
Chromium	500
Lead	500
Mercury	10
Selenium	10
Silver	200
Zinc	500

D. Land Treatment. Pits containing E&P Waste may be closed onsite by mixing wastes with soil from pit levees or walls and adjacent areas provided waste/soil mixtures at completion of closure operations do not exceed the following criteria, as applicable, unless the operator can show that higher limits for EC, SAR, and ESP can be justified for future land use or that background analyses indicate that native soil conditions exceed the criteria.

1. In addition to the pH and metals criteria listed in §313.C above, land treatment of E&P Waste in submerged wetland, elevated wetland, and upland areas is permitted if the oil and grease content of the waste/soil mixture after closure is < 1 percent (dry weight).

2. Additional parameters for land treatment E&P Waste in elevated, freshwater wetland areas where the disposal site is not normally inundated:

a. electrical conductivity (EC-solution phase): < 8 mmhos/cm;

b. sodium adsorption ratio (SAR-solution phase): < 14;

c. exchangeable sodium percentage (ESP-solid phase): 25 percent.

3. Additional parameters for land treatment of E&P Waste in upland areas:

a. electrical conductivity (EC-solution phase): < 4 mmhos/cm;

b. sodium adsorption ratio (SAR-solution phase): < 12;

c. exchangeable sodium percentage (ESP-solid phase): < 15 percent.

E. Burial or Trenching. Pits containing E&P Waste may be closed by mixing the waste with soil and burying the mixture onsite, provided the material to be buried meets the following criteria:

1. the pH and metals criteria in §313.C above;
2. moisture content: < 50 percent by weight;
3. electrical conductivity (EC): < 12 mmhos/cm;

4. oil and grease content: < 3 percent by weight;
5. top of buried mixture must be at least 5 feet below ground level and then covered with 5 feet of native soil;
6. bottom of burial cell must be at least 5 feet above the seasonal high water table.

F. Solidification. Pits containing E&P Waste may be closed by solidifying wastes and burying it onsite provided the material to be buried meets the following criteria:

1. pH range: 6 - 12;
2. Leachate testing\* for oil and grease: < 10.0 mg/l and chlorides < 500.0 mg/l

\*NOTE: The leachate testing method for oil and grease is included in the manual titled "Laboratory Procedures for Analysis of Exploration and Production Waste" (Department of Natural Resources, August 9, 1988, or latest revision).

3. Leachate testing\* for the following metals:

- a. arsenic < 0.5 mg/l;
- b. barium < 10.0 mg/l;
- c. cadmium < 0.1 mg/l;
- d. chromium < 0.5 mg/l;
- e. lead < 0.5 mg/l;
- f. mercury < 0.02 mg/l;
- g. selenium < 0.1 mg/l;
- h. silver < 0.5 mg/l;
- i. zinc < 5.0 mg/l;

\*NOTE: The leachate testing method for metals is included in the manual titled "Laboratory Procedures for Analysis of Exploration and Production Waste" (Department of Natural Resources, August 9, 1988, or latest revision).

4. top of buried mixture must be at least 5 feet below ground level and covered with 5 feet of native soil;
5. bottom of burial cell must be at least 5 feet above the seasonal high water table;
6. solidified material must meet the following criteria\*:

- a. unconfined compressive strength (Qu): > 20 lbs/in<sup>2</sup> (psi);
- b. permeability: < 1 x 10<sup>-6</sup> cm/sec;
- c. wet/dry durability: > 10 cycles to failure.

\*NOTE: Testing must be conducted according to ASTM or other approved methods prior to pit closure by solidification processes.

G. Onsite Land Development. Reserve pits containing E&P Waste may be closed by processing the waste material with Department of Environmental Quality approved stabilizing additives and using the mixture onsite to develop lease roads, drilling and production locations, etc. provided the following conditions have been met:

1. at least 72 hours prior to commencement of waste processing operations, written notification has been made to the Office of Conservation of the operator's intent to utilize this method of reserve pit closure. This notification shall include a detailed explanation of the methods used to generate the processed waste material, including but not limited to the types and volumes of additives to be used, amounts of processed waste material to be generated, the applications and locations onsite for which the processed waste material will be used, written approval from the surface owner of the property on which the processed waste material is to be applied; and any other pertinent information required by the commissioner;

2. E&P Waste shall not be processed in an unlined reserve pit with a bottom that extends to a depth deeper than 5 feet above the seasonal high water table;

3. the processed waste material meets the following analytical criteria:

- a. pH range of the mixture: 6-12;
- b. electrical conductivity (EC): < 8 mmhos/cm;
- c. oil and grease content: < 1 percent by weight;
- d. total metals content meeting the criteria of §313.C.2 above;
- e. leachate testing\*\* for chloride concentration: < 500 mg/L; and,
- f. NORM concentrations do not exceed applicable DEQ criteria or limits;

\*NOTE: The testing method for pH, EC, and metals shall conform to the requirements of §311.D and is included in the manual titled "Laboratory Procedures for Analysis of Exploration and Production Waste" (Department of Natural Resources, August 9, 1988, or latest revision).

\*\*NOTE: The leachate testing method for metals is included in the manual titled "Laboratory Procedures for Analysis of Exploration and Production Waste" (Department of Natural Resources, August 9, 1988, or latest revision).

4. any pit remaining after the generation and application of the processed waste material shall be closed in conformance with the criteria of §313.D above; and

5. the Commissioner of Conservation, the Secretary of the Department of Natural Resources, and the State of Louisiana shall be held harmless from and indemnified for any and all liabilities arising from onsite land development using processed E&P Waste, and the operator of record and the surface owner shall execute agreements as the commissioner requires for this purpose.

#### H. Passive Closure

1. The Office of Conservation will consider requests for passive pit closure provided one of the following conditions exists:

- a. where pit closure would create a greater adverse environmental impact than if the pit were allowed to remain unreclaimed;
- b. where pit usage can be justified for agricultural purposes or wildlife/ecological management.

2. Operators requesting passive pit closure shall submit the following:

- a. an affidavit requesting passive pit closure for one of the reasons contained in §313. H.1;
- b. a copy of ENG-15 or ENG-15-CP with pit identification number shown thereon;
- c. an affidavit of no objection from the Louisiana Department of Wildlife and Fisheries obtainable by contacting:

La. Department of Wildlife & Fisheries  
P.O. Box 98000  
Baton Rouge, LA 70898  
Telephone: (225) 765-2819

d. where applicable, an affidavit of no objection from the Department of Natural Resources, Coastal Management Division, obtainable by contacting:

Department of Natural Resources  
Coastal Management Division  
P.O. Box 44487  
Baton Rouge, LA 70804-4487  
Telephone: (225) 342-7591

e. an affidavit of no objection from the landowner endorsing operator's request for passive pit closure;

- f. a photograph of the pit in question;

g. an inspection of the pit signed by a conservation enforcement agent and a representative of the operator. The operator shall contact the applicable conservation district office to arrange date and time for inspection;

h. analytical laboratory reports of the pit bottoms and pit levees indicating conformance with applicable land treatment criteria set forth in §313.C and D;

i. an analytical laboratory report of the fluid contents of the pit indicating conformance with applicable state and federal effluent guidelines for oil and gas exploration and production. Contact the Department of Environmental Quality, Office of Environmental Services, (225) 219-3181 for information regarding effluent limitations.

3. The Commissioner of Conservation retains the right to grant exceptions to the requirements of §313.H.2 as he deems appropriate.

I. Offsite Disposal of E and P Waste

1. Except for produced water, drilling, workover, completion, and stimulation fluids, and rainwater which may be transported by an oil and gas operator to a community well or an operators permitted Class II disposal well, or discharged to surface waters where authorized, or otherwise authorized in LAC 43:XIX.313.J, exploration and production waste shall not be moved offsite for storage, treatment, or disposal unless transported to an approved commercial facility or transfer station in accordance with the requirements of LAC 43:XIX.Chapter 5 or under the direction of the commissioner.

2. The criteria for land treatment, burial, solidification, or onsite generation of reuse material listed above will apply, as appropriate, to the onsite disposal of any exploration and production waste remaining onsite.

3. E&P Waste that fails to meet the criteria of this Paragraph for onsite disposal shall be moved offsite by the operator to a permitted commercial facility or transfer station in accordance with the requirements of LAC 43:XIX, Chapter 5.

J. Temporary Use of E and P Waste (Produced Water, Rainwater, Drilling, Workover, Completion and Stimulation Fluids) for Hydraulic Fracture Stimulation of the Haynesville Shale Zone

1. Produced water, rainwater, drilling, workover, completion and stimulation fluids generated at a wellsite (originating wellsite) that are classified as E and P Waste may be transported offsite for use in hydraulic fracture stimulation operations of the Haynesville Shale Zone at another wellsite (receiving wellsite) provided that the following conditions are met.

a. The originating wellsite and the receiving wellsite must have the same operator of record.

b. All residual waste generated in the treatment or processing of E and P Waste prior to its use in hydraulic fracture stimulation operations must be properly disposed of in accordance with the following.

i. All residual waste generated as a result of treatment or processing conducted at the originating wellsite must be either disposed of onsite at the originating wellsite in accordance with all the requirements of LAC 43:XIX.311 and 313, except and not including Subsection 313.J, or offsite in accordance with the requirements of LAC 43:XIX.Chapter 5.

ii. All residual waste generated as a result of treatment or processing conducted at the receiving wellsite must be disposed of offsite in accordance with the requirements of LAC 43:XIX.Chapter 5.

c. At the conclusion of hydraulic fracture stimulation operations involving the temporary use of E and P Waste, all E and P Waste associated with the hydraulic fracture stimulation operation must be either disposed of onsite in accordance with all the requirements of LAC 43:XIX.311 and 313, except and not including Subsection 313.J, or disposed of offsite in accordance with the requirements of LAC 43:XIX.Chapter 5.

d. The types and volumes of E and P Waste generated for temporary use along with the well name and well serial number of the receiving wellsite must be reported on Form ENG-16 (Oilfield Waste Disposition) for the originating well and/or other appropriate forms specified by the commissioner depending on the waste types involved.

e. An affidavit of no objection must be provided by the surface owner of the property on which the receiving wellsite is located. The affidavit must be in a format acceptable to the commissioner and attached to Form ENG-16 (Oilfield Waste Disposition) for the originating well and/or other appropriate forms specified by the commissioner depending on the waste types involved.

f. E and P Waste intended for temporary use must be stored at the receiving wellsite in an above ground storage tank or a lined production pit which conforms to the liner requirements and operational provisions of LAC 43:XIX.307.A.

2. The Commissioner of Conservation, the Secretary of the Department of Natural Resources, and the state of Louisiana shall be held harmless from and indemnified for any and all liabilities arising from temporary use of E and P Waste pursuant to this subsection, and the operator of record and the surface owner shall execute agreements as the commissioner requires for this purpose.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:4 et seq.

HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Office of Conservation, LR 26:2804 (December 2000), amended LR 33:1659 (August 2007), 35:2464 (November 2009).

### **§315. Disposal of Reserve Pit Fluids by Subsurface Injection**

#### **A. General Provisions**

1. The disposal (subsurface injection) of drilling and workover waste fluids (including reserve pit fluids) into (1) a newly drilled well which is to be plugged and abandoned; or (2) into the casing annulus of a well being drilled, a recently completed well, or a well which has been worked over is prohibited, except when such injection is conducted in accordance with the requirements of this Subsection.

2. Injection of drilling and workover waste fluids shall not commence until approval has been granted by the Office of Conservation. Operators may apply for approval when applying for a drilling permit. Approval for injection into a well will remain valid for subsequent workovers provided the criteria in §315.C below continue to be met.

3. Injection of drilling and workover waste fluids (including reserve pit fluids) shall be limited to injection of only those fluids generated in the drilling, stimulation or workover of the specific well for which authorization is requested. Reserve pit fluids may not be transported from one well location to another for injection purposes.

4. Injection of drilling and workover waste pit fluids into zones that have been tested for hydrocarbons or are capable of hydrocarbon production is prohibited, except as otherwise provided by the commissioner.

5. Pump pressure shall be limited so that vertical fractures will not extend to the base of the USDW and/or groundwater aquifer.

6. A drilling and workover waste fluids injection site may be inspected by a duly authorized representative of the commissioner prior to approval.

7. Drilling and workover waste fluids to be injected pursuant to the provisions of this Section are exempt from the testing requirements of §311.C.

#### **B. Application Requirements**

1. Prior to the onsite injection of reserve pit fluids, an application shall be filed by the well operator on the appropriate form. The original and one copy of the application (with attachments) shall be submitted to the Office of Conservation for review and approval.

2. An application for approval of reserve pit fluid injection shall include:

a. schematic diagram of well showing:

i. total depth of well;

ii. depths of top and bottom of all casing strings and the calculated top of cement on each;

- iii. size of casing; and
- iv. depth of the deepest USDW;
- b. operating data:
  - i. maximum pressure anticipated; and
  - ii. estimated volume of fluids to be injected;
- c. a copy of the electric log of the well (if run) or a copy of the electric log of a nearby well;
- d. additional information as the commissioner may require.

C. Criteria for Approval

1. Casing string injection may be authorized if the following conditions are met and injection will not endanger underground sources of drinking water:

a. surface casing annular injection may be authorized provided the surface casing is set and cemented at least 200 feet below the base of the lowermost USDW, except as otherwise provided by the commissioner; or

b. injection through perforations in the intermediate or production casing may be authorized provided that intermediate or production casing is set and cemented at least 200 feet below the base of the lowermost USDW, except as otherwise provided by the commissioner.

2. Surface casing open hole injection may be approved provided the surface casing is set and cemented at least 200 feet below the lowermost USDW and a cement plug of at least 100 feet has been placed across the uppermost potential hydrocarbon bearing zone.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:4 et seq.

HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Office of Conservation, LR 26:2805 (December 2000).

**§317. Requirements for Community Saltwater Disposal Wells and Systems**

A. The use of a legally permitted saltwater disposal well and system for community saltwater disposal purposes is prohibited unless the disposal well system operator submits a statement of noncommercial operation and the information requested in §317.B below to the Office of Conservation. Such statement must indicate that the operators using the community saltwater disposal system share only in the cost of operating and maintaining the well and related storage tanks and equipment (system).

B. The operator of an existing or proposed community saltwater disposal well and system must submit the following information to the Office of Conservation:

- 1. the name of the community saltwater disposal system including the disposal well name(s) and number(s), serial number(s), field, and section, township, and range;
- 2. a list of the operators using the community saltwater disposal system;
- 3. a list of the producing wells (well name, number, and serial number) from which saltwater going into the community saltwater system is generated;
- 4. the approximate number of barrels per month of saltwater received from each producing well;
- 5. the method of transportation of the saltwater to the community system (i.e., truck, pipeline, etc.).

C. Within six months of the effective date of this amendment and annually thereafter, the operator of an existing community saltwater disposal system shall report the information required in §317.B above to the Office of Conservation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:4 et seq.

HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Office of Conservation, LR 26:2806 (December 2000).

**§319. Exceptions**

A. The commissioner may grant an exception to any provision of this amendment upon proof of good cause. The operator must show proof that such an exception will not endanger USDWs.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:4 et seq.

HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Office of Conservation, LR 26:2806 (December 2000).

**§321. Effect on Existing Special Orders**

A. This order shall supersede §129 of Office of Conservation Statewide Order No. 29-B (effective November 1, 1967). Any existing special orders authorizing disposal of saltwater under conditions which do not meet the requirements hereof shall be superseded by this amendment and the operator shall obtain authority for such disposal after complying with the provisions hereof.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:4 et seq.

HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Office of Conservation, LR 26:2806 (December 2000).

**§323. Applicability**

A. All oil and gas and commercial facility operators shall be required to comply with applicable portions of this amendment within 90 days of the effective date, provided that all existing commercial facility operators shall be exempt from all permit application and public hearing requirements under §507 of this order. Failure to comply with this requirement in a timely manner will subject an operator to the suspension or revocation of his permit and/or the imposition of penalties pursuant to R.S. 30:18.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:4 et seq.

HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Office of Conservation, LR 26:2807 (December 2000).