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Jones, Brad A., EMNRD

From:	Jones, Brad A., EMNRD
Sent:	Wednesday, July 11, 2007 5:17 PM
То:	Sanchez, Daniel J., EMNRD
Subject:	Pit Rule Task Force Report
Attachments	: 7-11-07Cover LetterFinal.doc; 7-11-07 bullet pointsFinal.doc; The Matrix 7-11- 07Final.doc

Daniel,

Attached, you will find the Pit Rule Task Force Report.

Brad

Brad A. Jones

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July 11, 2007

Mr. Daniel Sanchez Enforcement & Compliance Manager Oil Conservation Division 1220 S. St. Francis Drive Santa Fe, New Mexico 87505

RE: Pit Rule Task Force Report

Dear Mr. Sanchez:

As directed by Joanna Prukop, Secretary of the New Mexico Energy, Minerals and Natural Resource Department, in the March 28, 2007 memorandum, the Pit Rule Task Force submits the attached documents (i.e., Task Force Report) to the Oil Conservation Division. It is the Task Force desire that the items of consensus be considered for integration into in the drafting of its proposed Rule 50 (19.15.2.50 NMAC) for the formal rulemaking process.

The Pit Rule Task Force, over the course of the past four months, has reviewed data, attended presentations from various guests, such as liner manufactures, an operator of closed loop system, stabilization process, reclamation experts, and technical information from members of the task force. The Pit Rule Task Force extensively discussed selected topics derived from comments and concerns expressed during the public outreach meetings. The results of the Pit Rule Task Force deliberations and discussions are attached.

These attached documents include recommended regulatory language and highlight topics of concern regarding pits, and below-grade tanks, for the current Rule 50. These documents are color coded to indicate which items obtained final consensus from the Pit Rule Task Force, items and topics that did not obtain consensus and items that should be defined. The data, presentations, and meeting minutes generated and utilized by the Task Force to develop the attached documents are available in OCD Santa Fe files.

The Task Force would like to express our appreciation for the opportunity to participate and express our concerns regarding the development of the new regulation regarding pits and below-grade tanks.

Sincerely,

The Pit Rule Task Force

Pit Rule Task Force Report July 10, 2007 Consensus Summary

Color Code Key: Green lettering = Consensus Red lettering = Consensus not reached Blue lettering = Suggested items that require definitions or require determination of application

General

Pits will be classified as either temporary or permanent. Temporary pits, usually used for drilling or workover, are constructed with the intent that the pit will hold liquids for less than six months and will be closed in less than one year. Permanent pits, which usually are used for retention of storage of produced water or brine, are constructed with the conditions and duration of the permit.

Permitting

Permit required:

1. No person shall construct or use any pit or below-grade tank except pursuant to and in accordance with the terms and conditions of a division-issued permit, unless otherwise provided in this part or unless the division grants an exception pursuant to part. Facilities the division has permitted pursuant to Part 36 (surface waste management facilities rules) or water quality control commission rules are exempt from this part.

2. In lieu of using pits or below-grade tanks in accordance with this part, operators may conduct operations using closed loop systems. Operators, however, shall dispose of closed loop generated waste at a division-approved waste disposal facility or in a manner approved by the division.

Applications

1. Upstream facilities (define). An operator shall apply to the division's district for a permit to construct or use a pit or below-grade tank or closed loop system at an upstream facility that is not permitted pursuant to water quality control commission rules or at a surface waste management facility that is not permitted pursuant to Part 36 (surface waste management facility rules) or environmental improvement board rules. The operator shall use a Form C-144, application to discharge into a pit or below-grade tank. The operator may submit the form separately or as an attachment to an application for a well permit. The application shall include proof of compliance (affidavit) with the Surface Owner's Protection Act, if applicable.

2. Downstream facilities (define). An operator shall apply to the division's environmental bureau for a permit to construct or use a pit or below-grade tank at a downstream facility that is not permitted pursuant to water quality control commission rules or at a surface waste

management facility that is not permitted pursuant to Part 36 (surface waste management facility rules) or environmental improvement board rules. The operator shall use a Form C-144, application to discharge into a pit or below-grade tank. The operator may submit the form separately or as an attachment to an application for a discharge permit; surface waste management facility permit, or other permit.

3. Engineering design plan. An applicant for a permit for a pit shall submit with the permit application a detailed engineering design plan, including operating and maintenance procedures, a closure plan and a hydrologic report that provides sufficient information and detail on the site's depth to ground water. Engineering design plans for permanent pits shall be certified by a professional engineer. Engineering design plans for temporary pits shall use appropriate engineering principles and practices and follow the appropriate manufactures' recommendations. Engineering design plans for temporary pits may include the submittal of a standard design for multiple pits.

4. Review and approval. The division shall review all applications and may approve, deny or approve an application with conditions.

Below-Grade Tanks (Fix definition to apply to condition #1 below)

1. If the bottom of any tank is below grade, the side walls of the tank shall be open to visual inspection for leaks and the bottom of the tank shall be equipped with an underlying mechanism to divert a leaked liquid to a location that can be visually inspected. Any below-grade tank not meeting these conditions must be in a vault or have a double wall that will contain any leaked liquids.

2. Operators shall construct all below-grade tanks with secondary containment and leak detection. The operator of any below-grade tank constructed prior to the effective date of this part that does not have secondary containment and leak detection shall test its integrity annually and shall promptly repair or replace any below-grade tank that does not demonstrate integrity. Any such below-grade tank shall be equipped with secondary containment and leak detection within five years of the effective date of this part, unless a closure plan has been submitted.

3. Operators shall not allow below-grade tanks to overflow nor surface water run-on.

4. Operators shall install only below-grade tanks of materials resistant to the tank's particular contents and to damage from sunlight.

<u>Sumps</u>

Operators shall test all sumps' integrity annually, and shall promptly repair or replace any sump that does not demonstrate integrity. Operators may test sumps that can be removed from their emplacements by visual inspection. Other sumps shall be tested by appropriate mechanical means. The operator shall maintain records of sump inspection and testing and make such records available for division review upon request.

Siting applicable to all permitted pits:

Except as otherwise provided in this part:

A. No temporary pits shall be located:

(1) where ground water is less than 50 feet below the bottom of the pit. (construction and operation and/or closure??)

(2) ,including any excavated material from pit construction, shall not be located within 300 feet of a continuously flowing watercourse, or <u>30</u> feet of any other watercourse, lakebed, sinkhole or playa lake, unless good cause is given for an alternate distance and specifically approved by the OCD.

(3) within 300 feet from the nearest permanent residence, school, hospital, institution or church in existence at the time of initial application;

(4) within 500 horizontal feet of an existing private, domestic fresh water well or spring used by less than five households for domestic or stock watering purposes or within 1000 horizontal feet of any other existing fresh water well or spring;

(5) within 500 feet of a wetland;

(6) within the area overlying a subsurface mine, unless good cause is given and specifically approved by the OCD;

(7) within an unstable area, unless the operator demonstrates that engineering measures have been incorporated into the design to ensure that the integrity will not be compromised;

(8) within incorporated municipal boundaries, unless specifically approved by the municipality; or

(9) within a 100-year floodplain.

B. No permanent pits shall be located:

(1) where ground water is less than 50 feet below the bottom of the pit.

(2) within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, lakebed, sinkhole or playa lake, unless good cause is given for an alternate distance and specifically approved by the OCD.

(3) within 1000 feet from the nearest permanent residence, school, hospital, institution or church in existence at the time of initial application;

(4) within 500 horizontal feet of an existing private, domestic fresh water well or spring used by less than five households for domestic or stock watering purposes or within 1000 horizontal feet of any other existing fresh water well or spring;

(5) within 500 feet of a wetland;

(6) within the area overlying a subsurface mine, unless good cause is given and specifically approved by the OCD;

(7) within an unstable area, unless the operator demonstrates that engineering measures have been incorporated into the design to ensure that the integrity will not be compromised;

(8) within incorporated municipal boundaries, unless specifically approved by the municipality; or

(9) within a 100-year floodplain.

- C. No pit shall exceed 10 acre-feet.
- D. Emergency pits are exempted from the siting criteria of this part.

Construction

Fencing:

1. The operator shall fence or enclose pits or ponds to prevent unauthorized access and maintain fences in good repair. Fences are not required if there is an adequate perimeter fence surrounding the well site or facility. During drilling operations, the edge of the pit adjacent to the drill rig is not required to have fencing.

2. Pits within 1000 feet of permanent residence, school, hospital, institution or church shall be surrounded by a chain link security fence, at least 6 feet in height with at least 2 strands of barbed wire at the top. All gates in the fence shall be closed and locked when operator personnel are not on site. During drilling operations, the edge of the pit adjacent to the drill rig is not required to have fencing.

3. All other pits shall be fenced to exclude wildlife and livestock with at least four strands of barbed wire in the interval between 1 foot and 5 feet above ground level. Any exceptions regarding this provision shall be submitted for at the OCD District level for good cause shown.

Netting:

The owner/operator shall ensure that all permanent pits and any permanent open top tanks shall be screened, netted, or otherwise rendered non-hazardous to wildlife, including migratory birds. Where netting is not feasible, routine witnessing and/or discovery of dead wildlife and migratory

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birds shall be reported to the appropriate wildlife agency with notification to the OCD in order to assess and enact measures to prevent the above from reoccurring.

Drilling and workover (temporary) pits:

1. Every pit shall have a properly constructed foundation or firm, unyielding base, smooth and free of rocks, debris, sharp edges or irregularities to prevent rupture or tear of the liner and an adequate anchor trench; and shall be construct so that the slopes are no steeper than 2H:1V. Any exceptions regarding this provision shall be submitted for at the OCD District level for good cause shown. Liner seams shall be minimized and oriented up and down, not across a slope where possible. Factory seams should be used where possible. All liner seams shall be welded. Qualified personnel shall perform all installations.

2. At any point of discharge into or suction from the lined pit, the liner shall be protected from the fluid force or mechanical damage.

3. All liners shall be constructed of a synthetic material (see matrix).

4. The edges of all liners shall be anchored in an earth-filled trench or by other means so that settling of the liner in the pit cannot pull the edge of the liner to the surface of the ground, where it is exposed to wind.

5. Construction shall avoid stress on the liner.

6. Geotextile may be required under the liner where needed to reduce localized stress or protuberances that may otherwise stress the liner.

Pits must be maintained to prevent run-on of surface water:

All pits shall be surrounded by a berm, ditch, or other diversion to prevent run-on of surface water. During drilling operations, the edge of the pit adjacent to the drill rig is not required to have run-on protection if the pit is being used to collect liquids escaping from the rig.

Other pits (permanent) (similar to Part 36):

- 1. Primary liner: 30-mil PVC or 60-mil HDPE or equivalent
- 2. Secondary liner: geosynthetic or approved alternative
- 3. Leak Detection System

Operation

General performance standard:

1. In general. Operators shall design, construct and operate pits, sumps and below-grade tanks so as to contain liquids and solids to prevent contamination of fresh water and protect public health and the environment.

2. Drilling and work over pits. Each drilling or work over pit shall be of an adequate size to assure that a supply of fluid is available and sufficient to confine oil, natural gas or water within its native strata. Only produced fluids may be disposed of into a pit. Operators shall maintain pits free of miscellaneous solid waste or debris. Hydrocarbon-based drilling fluids shall be contained in tanks made of steel or other division-approved material. Immediately after cessation of drilling or work over operations, the operator shall remove any visible or measurable layer of oil from the surface of any drilling or work over pit.

3. Operators shall maintain at least 2 feet of freeboard for temporary pits and at least 3 feet of freeboard for permanent pits.

4. All temporary pits containing drilling liquids shall be inspected daily by the operator while the drilling rig is on site. Thereafter, such pits shall be inspected weekly by the operator so long as liquids remain in the pit. The operator shall maintain a log of such inspections, and the log shall be available to Division personnel. A copy of the log shall be filed with OCD when the pit is closed

5. If any lined pit develops a leak or any penetration of the liner occurs below the surface of the liquid, all liquid above the damage or leak shall be removed from the pit within 48 hours.

6. All lined pits containing liquids shall be equipped with a device or marker to indicate the level of the liquid surface, so that unanticipated loss of liquid may be recognized.

7. The injection or withdrawal of liquids from a lined pit shall be accomplished through a header, diverter, or other hardware that prevents damage to the liner by erosion, fluid jets, or impact from installation and removal of hoses or pipes.

8. No oil or floating hydrocarbon shall be present in any permanent pit permitted under this rule.

9. Removal of liquids from temporary pits shall occur (see matrix).

Closure

Closure required:

Existing unlined permitted or registered permanent pits must close within two years of the effective date of this part (unless an exception is granted pursuant to this part). Existing unlined permanent pits not permitted or registered shall be closed in a timely manner. Existing unlined temporary pits must close within 3 months of the effective date of this part (unless an exception is granted pursuant to this part).



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Time frame (see matrix)

<u>4 feet of earthen cover (including background thickness of topsoil or at least 1 foot of suitable material to establish vegetation for the site)</u>

Re-vegetation:

Upon completion of closure, the operator will substantially restore the surface affected by oil and gas operations to the condition that existed prior to oil and gas operations and maintenance of that cover through two successive growing seasons, but not including noxious weeds. If the landowner contemplates use of the land where a pit is located for purposes inconsistent with revegetation, the landowner may, with division approval, implement an alternative surface treatment appropriate for the contemplated use, provided that the alternative treatment will effectively prevent erosion.

Testing of soils for dig / haul and deep-trench burial:

1. Soils must be tested for contamination when closing a pit: five point composite sample, test for BTEX, TPH, & Chlorides – "clean closure" (i.e., no release) would be 100 ppm for TPH and 250 ppm for chlorides.

2. If the operator determines that a release has occurred, then the operator shall comply with 19.15.3.116 NMAC (Releases) and 19.15.1.19 NMAC (Abatement Plans), as appropriate.

Testing of soils for in-place burial:

1. Soils must be tested for contamination when closing a pit: at least one representative sample within 10 feet from the bottom of the pit, test for BTEX, TPH, & Chlorides – "clean closure" (i.e., no release) would be 100 ppm for TPH and 250 ppm for chlorides.

2. If the operator determines that a release has occurred, then the operator shall comply with 19.15.3.116 NMAC (Releases) and 19.15.1.19 NMAC (Abatement Plans), as appropriate.

Closure Notice:

The operator shall notify the private surface owner by certified mail, by demonstration of postage, that the pit is to be closed. OCD District Office shall be notified verbally or by other means at least 72 hours, but not more than one week, prior to closure operations.

Closure Report:

Within 60 days of closure completion, the operator shall submit a closure report on Form C-144, with necessary attachments to document all closure activities, including but not limited to sampling results, information required by this part, a plot plan and details on back-filling, capping and covering, where applicable. In the closure report, the operator shall certify that all

information in the report and attachments is correct and that the operator has complied with all closure requirements of this part.

Emergency actions

1. Permit not required. In an emergency an operator may construct a pit without a permit to contain fluids, solids or wastes if an immediate danger to fresh water, public health or the environment exists.

2. Construction standards. Operators shall construct pits during an emergency, to the extent possible given the emergency, in a manner that is consistent with the requirements of this part and that prevents the contamination of fresh water, and protects public health and the environment.

3. Notice. The operator shall notify the appropriate district office as soon as possible (if possible before construction begins) of the need for such pit's construction.

4. Use and duration. The pit may be used only for the emergency's duration. If the emergency lasts more than 48 hours, the operator shall seek the division's approval for the pit's continued use. The operator shall remove all fluids, solids or wastes within 24 hours after cessation of use unless the division extends that time period.

5. "Emergency pits". This section shall not be construed to allow construction or use of socalled "emergency pits" which are pits constructed as a precautionary matter to contain a spill in the event of a release. Construction or use of any such pit shall require a permit issued pursuant to this part unless the pit is described in a spill prevention, control and countermeasure (SPCC) plan the United States environmental protection agency requires, the operator removes all fluids from the pit within 24 hours and the operator has filed a notice of the pit's location with the division.

Conditions and Exceptions

1. The division may attach additional conditions to any permit upon a finding that such conditions are necessary to prevent the contamination of fresh water, or to protect public health or the environment.

2. The division may grant an exception from any requirement, with good cause, (other than the requirements under the Permitting Section or Exceptions Section) of this part if the operator demonstrates that the granting of such exception provides equivalent protection to fresh water, public health or the environment. The division may revoke any such exception after notice to the pit's operator and to the surface owner, and opportunity for a hearing if the division determines that such action is necessary to prevent the contamination of fresh water, or to protect public health or the environment. The division may grant exceptions administratively without hearing provided that the operator gives notice to the surface owner of record where the pit is to be located and to such other persons as the division may direct and (a) obtains written waivers from all persons to whom notice is required, or (b) the division receives no objection within 30 days of



the time the applicant gives notice. If the division receives any objection and the division director determines that the objection has technical merit or that there is significant public interest the division director shall set the application for hearing. The division director, however, may set any application for hearing.

Approvals, Denials, and Revocation of Permits

Task Force agreed that provisions regarding approvals, denials, and revocation of new and existing permit should be created.

Transitional Provision

Task Force agreed that transitional provisions should be created. It was not decided if transitional provisions should be general or apply to specific requirements.

				14.1.5 × 1
DRILLING PIT OR WORKOVER PIT LINERS		DISPOSAL/CL0	DISPOSAL/CLOSURE OPTIONS*	
*This assumes that the pit will meet the proposed siting criteria, and the proposed construction, operation and closure	DIG AND HAUL TO	DEEP-TRENCH BURIAL ^{1,2}	IN-PLACE CLOSURE ^{1,2,3}	IN-PLACE CLOSURE ^{2,4,5}
requirements (see below).	LANDFILL	(requires 30 mil	(requires 30 mil	(Meets closure
Color Code Key		mil HDPE Reinforced/	mil HDPE Reinforced/	(ententiete
Green lettering = Consensus		20 mil PVC/ 20-mil	20-mil PVC/ 20-mil	
Ked lettering = Consensus not reached		reinforced liners)	reinforced liners)	
Closed Loop System: have 6 months to close with possible 6 month extension by OCD District for good cause.	Ŋ		*	*
Any liner capable of equivalent performance standards of a 12- mil string reinforced LLDPE liner: must remove fluids within 40 30 days from date rig is released; must complete closure within 3 months with possible 3 months extension by OCD District for good cause.	D		X	Σ
Any liner capable of equivalent performance standards of a 20- mil HDPE string reinforced / 20 mil PVC string reinforced / 20- mil LLDPE liner string reinforced: have 6 months to close from date rig is released with possible 3 month extension by OCD District for good cause.	Σ			
30 mil PVC/60 mil HDPE liner: have 6 months to close from date rig is released with possible 6 month extension by OCD District for good cause.	₽	5	5	

OCD approval. Considerations include waste minimization (quantity and reduction in toxic chemical constituents) and protection of fresh water, human health and 💌 ^{TC} May use cuttings for onsite construction projects such as pads beneath tank batteries. Based upon site-specific conditions on a case-by-case basis and We the environment. D a¹ Burial area would also require a capping (top) liner of similar material b² Closure would require paint filter test testing of pit contents ³ Closure would require testing of soil beneath the bottom liner

⁴ Closure would require testing of pit contents prior to stabilization/solidification to demonstrate compliance with closure standards ⁵ If closure standards are demonstrated and not exceeded, testing of soil beneath the bottom liner will not be required