

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE APPLICATION OF THE NEW
MEXICO OIL CONSERVATION DIVISION FOR REPEAL
OF EXISTING RULE 50 CONCERNING PITS AND BELOW
GRADE TANKS AND ADOPTION OF A NEW RULE GOVERNING
PITS, BELOW GRADE TANKS, CLOSED LOOP SYSTEMS
AND OTHER ALTERNATIVE METHODS TO THE FOREGOING,
AND AMENDING OTHER RULES TO MAKE CONFORMING
CHANGES, STATEWIDE

Case No. 14015
Order No. R-12939

ORDER OF THE OIL CONSERVATION COMMISSION

BY THE COMMISSION:

THIS MATTER came before the Oil Conservation Commission (Commission) for consideration on October 22, 2007; November 5 through 9, 13 through 16, 26, 27, and 30, 2007; December 3, 4, 6, 7, 10, and 14, 2007; February 14, 2008; March 12 and 13, 2008; and April 16, 2008; and the Commission, having carefully considered the evidence, the pleadings, comments, and other materials submitted in support of and in opposition to the proposal, now, on this 9th day of May, 2008,

FINDS THAT:

1. NMSA 1978, Sections 70-2-11 and 70-2-12(B) grant the Oil Conservation Division (Division) authority to implement rules to carry out the purposes of the Oil and Gas Act, Chapter 70, NMSA 1978 Article 2 (the Act). NMSA 1978, Section 70-2-6(B) provides that the Commission shall have concurrent jurisdiction or authority with the Division to the extent necessary for the Commission to perform its duties. Generally, the Commission adopts rules, the Division implements those rules, and the Commission hears any final administrative adjudicatory proceedings.
2. This is a rulemaking proceeding the Division initiated for the purpose of the repeal of existing rule 19.15.2.50 NMAC concerning pits and below-grade tanks and the adoption of a new rule, 19.15.17 NMAC, governing pits, below-grade tanks, closed-loop systems, and sumps as well as amending other rules to make conforming changes.
3. Notice was given of the application and the hearing of this matter, and the Commission has jurisdiction of the parties and the subject matter herein.

*Before the OCC
Case 14521
Williams Production Co., LLC
OCD Exhibit 18*

4. At the conclusion of the hearing, on December 14, 2007; February 14, 2008; March 12 and 13, 2008; and April 16, 2008 the Commission deliberated in open session by reviewing the proposed rule changes and voting to accept the rules with certain changes by the Commission. The following Statement of Reasons indicates the Commission's analysis of certain key provisions and of the entire proposal. Additional reasons are included in the hearing transcript of the Commission deliberations.

Background of this Proceeding and the Division's Proposal

5. The Division applied to the Commission to adopt proposed changes to the Division's rule concerning pits and below-grade tanks presently codified as 19.15.2.50 NMAC and proposed that the revised rule be re-codified as 19.15.17 NMAC. The Division also proposed revisions to certain definitions set forth in 19.15.1.7 NMAC and to 19.15.1.21 NMAC, 19.15.2.52 NMAC, 19.15.3.114 NMAC, 19.15.4.202 NMAC, and 19.15.13.1103 NMAC. These changes were made to clarify the intent of the proposed rules, and to reflect and conform to the proposed repeal of 19.15.2.50 NMAC and adoption of 19.15.17 NMAC.

6. During the hearing witnesses and members of the Commission occasionally suggested revisions to portions of the proposal. At the conclusion of the hearing, the Commission directed the parties to file a redline draft indicating all their recommended changes to the Division's proposal.

Participants in the Hearing

7. At the hearing, the Division appeared through counsel and presented testimony in support of its proposal. The Industry Committee (a group of oil and gas producers who operate wells in New Mexico), the New Mexico Oil and Gas Association (NMOGA), ConocoPhillips Company, Dugan Production Company, and Energen Resources Company appeared through counsel and offered evidence in opposition to portions of the proposal and in support of their respective alternative proposals. Yates Petroleum appeared through counsel and offered evidence in opposition to portions of the proposal and in support of its respective alternative proposal. The Independent Petroleum Association of New Mexico (IPANM) also appeared through counsel and offered evidence in opposition to portions of the proposal and in support of its respective alternative proposal. The New Mexico Citizens for Clean Air and Water, Inc. (NMCCAW) appeared through counsel and an accredited representative, and offered evidence in support of portions of the Division's proposal and in support of certain alternative proposals. The Oil and Gas Accountability Project (OGAP) appeared through counsel and offered evidence in support of portions of the Division's proposal and in support of certain alternative proposals. Controlled Recovery, Inc. (CRI), an operator of an existing permitted surface waste management facility, appeared through counsel and provided certain alternative proposals.

8. In addition, numerous other individuals and organizations presented written or oral comments at the hearing.

The Evidence

9. The Division presented the testimony of Wayne Price, Environmental Bureau Chief; Edward J. Hansen, hydrologist; Carl J. Chavez, environmental engineer; Brad Jones, environmental engineer; Glenn von Gonten, senior hydrogeologist; Brandon Powell, environmental specialist; and Mike Bratcher, field supervisor. Mr. Price testified as an expert environmental engineer and as the Division's chief environmental officer. He testified about unlined pits, and infiltration, and delineation of contamination from pits. Mr. von Gonten testified concerning the hydrogeology of exempt and vulnerable areas, pit content sampling, and oil field waste management. Mr. Hansen testified about modeling of the transport of chloride and other constituents. Mr. Jones testified about the proposed rule, pit and below-grade tank standards, and the task force report. Mr. Chavez testified about pollution prevention and liner specifications. Mr. Powell and Mr. Bratcher testified about temporary pit liner failures and tears, and contamination found underneath temporary pits.

10. The Industry Committee presented the testimony of Dr. Daniel B. Stephens, a hydrogeologist; Dr. Bruce A. Buchanan, a soil physicist; and Dr. Ben Thomas, III, a toxicologist, who testified as experts in their respective fields. Dr. Stephens testified about the transport through soils to ground water of chloride mass from temporary pits used in oil and gas operations. Dr. Buchanan testified about movement of salts in soils and how these processes relate to salt migration in reconstructed soils associated with pit reclamation. Dr. Buchanan also testified concerning reclamation and re-vegetation of disturbed areas. Dr. Thomas explained principals of risk-based regulation and discussed management of risks incident to contaminants in temporary pits.

11. ConocoPhillips presented the testimony of J. Gregg Wurtz, hydrologist, and John W. Poore, reservoir engineer. Mr. Wurtz testified about the results of sampling conducted of temporary pit contents for pits located in northwestern New Mexico. Mr. Poore testified concerning the costs of closed-loop systems and digging and hauling of drilling waste.

12. The IPANM presented the testimony of Samuel Small, petroleum and environmental engineer; Al Springer, engineer; Tyson Foutz, petroleum engineer; Thomas E. Mullins, engineer; and John Byrom, President of D. J. Simmons, Inc. Mr. Small testified concerning operational costs associated with dig and haul of waste and use of closed-loop systems. Mr. Springer compared the technology of drilling using temporary pits to drilling using closed-loop systems. Mr. Foutz testified about closed-loop drilling and associated costs. Mr. Mullins testified concerning closed-loop systems, samples taken from pits in northwestern New Mexico, salinity profiles, and drilling of coal bed methane wells. Mr. Byrom testified about safety concerns and economic impacts of the proposed rule.

13. The NMCCAW presented the testimony of Dr. Donald Neeper, physicist, who described research he had done regarding movement of salts in soils and modeling

of moisture flow above and beneath buried waste. Dr. Neepier also presented data regarding the salt tolerance of plants and the effects of salt-induced osmotic pressure.

14. The OGAP presented the testimony of Dr. Theo Colburn, an environmental health analyst, and Mary Ellen Denomy, an oil and gas accountant. Dr. Colburn testified about chemicals, including heavy metals, which based upon publicly available data could be present in pits in New Mexico and the possible health effects of those chemicals. Ms. Denomy testified about the economic competitiveness of closed-loop systems with temporary pits and reviewed government and industry reports that evaluated the economic costs and benefits of temporary pits and closed-loop systems.

15. The particulars of the testimony, to the extent necessary to explain the Commission's conclusions, are set forth separately in connection with the discussion of each proposed rule section and subsection.

General Findings and Conclusions

16. The Commission and the Division have the authority, pursuant to NMSA 1978, Section 70-2-12.B(15), as amended, to regulate the disposition of produced water, and, pursuant to Section 70-2-12.B(21) to regulate the disposition of nondomestic wastes resulting from oil and gas industry operations including exploration, development, production, or storage to protect fresh water, public health, and the environment.

17. Protection of the environment is not limited to protection of fresh water and prevention of human exposure to toxic agents, but also includes protection of soil stability and productivity, agriculture, wildlife, biodiversity and, in appropriate circumstances, the aesthetic quality of the physical environment.

18. The current rule, 19.15.2.50 NMAC, is based upon performance standards. The performance standards do not provide specific technical standards for the Division to enforce or for the regulated industry to follow. For example, 19.15.2.50 NMAC provides that an operator must use a pit liner that prevents contamination of fresh water or harm to the public health or environment. It provides no standards for the type of liner that the operator must use. Tr. 65. The lack of specific technical standards makes enforcement difficult and requires more staff resources and time because of potential disagreements between the operator and the Division about whether the operator has met the performance standard. Tr. 63 through 65, 429, 485, and 486.

19. Rule 1204.C of the Commission's procedural rules addresses proposed changes to a rulemaking proposal before the Commission. It states, in material part:

Modifications to proposed rule changes.

(1) Any person, *other than the applicant or a commissioner*, recommending modifications to a proposed rule change shall, no later than 10 business days prior to the scheduled hearing date,

file a notice of recommended modifications with the commission clerk.
[Emphasis added]

Consistent with this rule, commissioners or the applicant (in this case the Division) could propose modifications to the original proposal at any time during the hearing process, until adoption of a final order by the Commission, and the Commission has power to consider all such proposed changes.

20. Rule 1205.E(3) states, in material part:

(3) The commission shall issue a written order adopting or refusing to adopt the proposed rule change, or adopting the proposed rule change in part. . .

21. The Commission concludes that the phrase "adopting the proposed rule in part," refers to substance, not particular language. Any other construction would lead to absurd results since the Commission would be without power to correct even clerical mistakes in a proposal. Thus, the Commission concludes that it can, consistent with this provision, adopt modifications of the proposal before it, proposed by the applicant or members of the Commission during or after the hearing, so long as the modified proposal is a logical outgrowth of the original proposal.

22. All of the changes offered by the parties and made by the Commission to the Division's proposed rule are logical outgrowths of the Division's proposal and proposals made by other parties to the hearing.

19.15.17.7 NMAC: Definitions.

23. 19.15.17.7 NMAC includes definitions of terms used only in 19.15.17 NMAC.

24. The terms defined include alluvium, closed-loop system, division-approved facility, emergency pit, permanent pit, restore, significant watercourse, sump, and temporary pit.

25. The definitions of alluvium and emergency pit are contained in the current rule governing pits and below-grade tanks, 19.15.2 NMAC. Tr. 859, lines 5 and 6; Tr. 862, lines 16 and 17.

26. The definition for closed-loop system is new because 19.15.2.50 NMAC did not address closed-loop systems. Closed-loop systems are systems that use above ground steel tanks for the management of drilling or workover fluids without the use of below-grade tanks or temporary pits. Like temporary pits, which are discussed below in Paragraph 30, closed-loop systems are used to collect or hold fluids used in or generated during the drilling or workover of an oil or gas well but do so through the use of tanks instead of excavated surface impoundments. Prior to the hearing, the Industry Committee

proposed that the definition of closed-loop system be modified to include the management of solids. Management of solids, however, may vary and may include the use of a pit or a drying pad. Tr. 859, 860, and 861.

27. The definition for Division-approved facility is also new. It means a Division-permitted surface waste management or injection facility, a facility permitted pursuant to 20.6.2 NMAC, a facility approved pursuant to 19.15.9.712 NMAC, or other facility the Division approves for a specific purpose. Prior to the hearing, the Industry Committee and others proposed that small landfarms registered pursuant to 19.15.36 NMAC (the surface waste management rule) be included as a Division-approved facility. Small landfarms are not included because there are limitations on the types of waste that small landfarms may accept. Tr. 861 and 862.

28. 19.15.17 NMAC distinguishes between permanent pits and temporary pits, so definitions of both are included. Tr. 863 and 864. A pit is a surface or subsurface impoundment, man-made or natural depression, or diked area on the surface.

29. A permanent pit is a pit, including a pit used for collection, retention, or storage of produced water or brine, that is not a temporary pit. It is intended for long-term use and not just the short time needed to collect or hold the liquids used or generated in the drilling or workover of a well.

30. Temporary pit is defined as a pit, including a drilling or workover pit, which is constructed with the intent that the pit will hold liquids for less than six months and will be closed in less than one year. Tr. 867. The primary use of a temporary pit is to collect or hold fluids used in or generated during the drilling or workover of an oil or gas well. Prior to the hearing, the Industry Committee proposed that liquids be changed to fluids. The Commission determines, however, while a liquid may be a fluid, a fluid is not necessarily a liquid because fluids can include drilling muds, gels, etc. Tr. 867, 868, and 869.

31. The definition of significant watercourse was proposed by the Industry Committee and is adopted with some modifications by the Commission to clarify the intent of the rules. See Paragraph 64 below. Significant watercourse means a watercourse with a defined bed and bank either named on a USGS 7.5 minute quadrangle map or a first order tributary of such watercourse.

32. The definition of sump originates in 19.15.2 NMAC. The definition has been modified to broaden the types of vessels that can be used as a sump. Tr. 865 and 866. A sump is an impermeable vessel, or collection device incorporated within a secondary containment device, with a capacity of less than 500 gallons, which remains predominantly empty, serves as a drain or receptacle for de minimis releases on an intermittent basis and is not used to store, treat, dispose of, or evaporate products or wastes. It is essentially used to capture small leaks. IPANM proposed that the definition be modified to remove "incorporated within a secondary containment system". However,

a sump's purpose is to serve as secondary containment - not as a primary tank. Tr. 866 and 867.

33. The Division proposed a definition for "re-vegetate". The Commission does not adopt this definition because it included specific requirements for re-vegetation in Subsection I of 19.15.17.13 NMAC, which make the definition unnecessary.

19.15.17.8 NMAC: Permit Required

34. Subsection A of 19.15.17.8 NMAC provides that a person shall not construct or use a pit or below-grade tank except in accordance with a Division-issued permit. Only an operator may apply for a permit. Facilities permitted pursuant to 19.15.36 NMAC or Water Quality Control Commission rules are exempt. This subsection is needed to instruct persons that a permit is required and advise them of who may apply for a permit. The requirement for a permit provides the Division with notice of the proposed activity and allows it to evaluate and monitor the activity to ensure that it is conducted in a manner that protects fresh water, public health, and the environment.

35. After the effective date of 19.15.17 NMAC, unlined pits are prohibited. Tr. 869. 19.15.2.50 NMAC currently allows unlined permanent pits in certain areas. Tr. 85, 104, and 174. The use of unlined pits should be discontinued because they may contaminate ground water. Tr. 104, 105, 106, and 168 through 174. The Industry Committee does not oppose the prohibition on the use of unlined permanent pits. Tr. 208.

36. A provision similar to Subsection A of 19.15.17.8 NMAC exists in the current rule, Subsection A of 19.15.2.50 NMAC, which 19.15.17 NMAC replaces.

37. Subsection B of 19.15.17.8 NMAC provides that instead of using a pit or below-grade tank an operator may use a closed-loop system or other Division-approved method. A Division-issued permit is required for a closed-loop system or other method. Tr. 870 and 871.

38. This subsection is needed to advise operators and others that the Division will process a proposed alternative as an exception under 19.15.17.15 NMAC and the operator would have to demonstrate that the alternative provides equivalent protection of fresh water, public health, and the environment.

39. The Industry Committee proposed that the Subsection C of 19.15.17.8 NMAC be added to clarify that individual permits are not needed for each pit, below-grade tank, or closed-loop system at a well site. Multiple permits for each pit, below-grade tank, or closed-loop system related to a single application for a permit to drill would waste resources and Division staff time.

40. The Commission agrees with the Industry Committee's proposal. Subsection C of 19.15.17.8 NMAC provides that the Division may issue a single permit

for all pits, below-grade tanks, closed-loop systems, and Division-approved alternative methods associated with a single application for permit to drill.

19.15.17.9 NMAC: Permit Application

41. Subsection A of 19.15.17.9 NMAC provides that an operator shall apply to the Division for a permit to construct or use a pit, closed-loop system, below-grade tank, or proposed alternative method. The operator shall use a form C-144 to apply.

42. Using one form simplifies the Division's tracking process and ensures that the appropriate Division representative reviews the application. Tr. 876 and 877.

43. Subsection B of 19.15.17.9 NMAC establishes that the permit application shall include a detailed plan so that the Division has the information it needs to evaluate the permit application. Tr. 879, 881, and 882.

44. The Division's proposal required a "detailed engineering plan". However, much of the information actually required by the plan is not related to engineering; therefore, the reference to engineering has been removed.

45. Paragraph (1) of Subsection B of 19.15.17.9 NMAC provides that for permanent pits, a registered professional engineer shall certify the engineering, design, and construction specifications. It also lists the components that the operator must include in the detailed plan. Tr. 889.

46. Paragraph (2) of Subsection B of 19.15.17.9 NMAC provides that the plan for temporary pits use appropriate engineering principles and practices and follow applicable manufacturers' requirements. The plan must include operating and maintenance procedures, a closure plan, and hydrogeologic data.

47. The Division's proposal required a hydrogeologic report. However, testimony that the Division provided indicated that its intent was to require the operator to submit sufficient hydrogeologic data in order for the Division to determine that the proposed temporary pit would meet the siting criteria in 19.15.17.10 NMAC and to determine that if a release occurred what its effects would be on soils, surface water and ground water. Tr. 881, 882, and 907. This data, rather than the detailed hydrogeologic report required for permanent pits and below-grade tanks, should be sufficient given the short term presence of a temporary pit compared to the potential long-term presence of a permanent pit or below-grade tank.

48. The Industry Committee proposed that the Commission replace the requirement that the data be sufficient for the Division to evaluate actual and potential effects on soils, surface water, and ground water with "compliance with the siting standards of 19.15.17.10 NMAC". However, the siting requirements are designed to address concerns about potential impacts on surface water and ground water, not soils. Instead the Commission adds the recommendation in addition to the Division's proposal.

The Commission makes the same change to Paragraphs (3) and (4) of Subsection B of 19.15.17.9 NMAC so that they are consistent.

49. In Paragraph (2) of Subsection B of 19.15.17.9 NMAC, the Division's proposal provided that the operator follow the applicable liner manufacturer's recommendations. The Industry Committee proposed that the Commission replace the word "recommendations" with the word "requirements". The Commission accepts this proposed change. Manufacturer recommendations rather than actual requirements often suggest that an operator may only use the manufacturer's branded parts and materials. The use of the word requirement would prevent the operator from using another manufacturer's parts or materials even when they meet the same standards as those of the original manufacturer. The Commission makes the same change to Paragraph (3) of Subsection B of 19.15.17.9 NMAC for consistency.

50. Paragraph (3) of Subsection B of 19.15.17.9 NMAC provides that the plan for closed-loop systems shall use appropriate engineering principles and practices and follow applicable liner manufacturers' requirements. The plan must include operating and maintenance procedures and a closure plan.

51. Paragraph (4) of Subsection B of 19.15.17.9 NMAC provides that the plan for below-grade tanks shall use appropriate engineering principles and practices and follow applicable manufacturers' requirements. The plan must include operating and maintenance procedures, a closure plan, and a hydrogeologic report.

52. The information required in the plans for pits, below-grade tanks, and closed-loop systems is necessary for the Division to determine whether the pit, below-grade tank, or closed-loop system is properly sited, design, constructed, and closed. Tr. 889, 894, 896, and 897.

53. Subsection C of 19.15.17.9 NMAC provides that any required closure plan describe the proposed closure method and the proposed procedures and protocols that the operator will use to implement and complete the closure. Tr. 899, 900, and 901.

54. Subsection C of 19.15.17.9 NMAC advises operators of the information that the Division requires in submitting their closure plans. Tr. 901, 902, and 903. This subsection is needed so that operators know what information they must include in their closure plans.

55. Subsection D of 19.15.17.9 NMAC provides that an operator file an application for permanent pits or for exceptions using form C-144 with the Division's Environmental Bureau. An operator shall file an application for temporary pits, closed-loop systems, or below-grade tanks using form C-144 with the appropriate district office. This subsection is needed so that operators know which form to file.

56. Subsection D of 19.15.17.9 NMAC advises operators with which office they need to file their applications. This subsection is needed because the location

depends upon the type of application filed. Applications for permanent pits or for many exceptions must be filed with the Division's Environmental Bureau due to their technical complexity. Tr. 903, 904, and 905.

19.15.17.10 NMAC: Siting Requirements

57. Subsection A of 19.15.17.10 NMAC provides those locations where an operator shall not locate a permanent pit, temporary pit, or below-grade tank. Pits and below-grade tanks contain constituents that can be harmful if present in sufficient quantities. Tr. 475, and 1421 through 1432. Samples of pit and tank contents taken by the Division and the Industry Committee showed constituents that exceeded state water quality standards and the New Mexico Environment Department's soil screening standards. Tr. 468. Some of the samples taken by the Division would be considered hazardous if they were not exempt from the federal Resource Conservation and Recovery Act due to congressional oil and gas industry exemptions. Tr. 472 and 475.

58. The proper placement of pits and below-grade tanks is needed to prevent contamination of fresh water and protect human health and the environment. Tr. 906.

59. Subsection A prohibits the use of a temporary pit, below-grade tank, or permanent pit where ground water is less than 50 feet below the pit or below-grade tank, unless the operator is using a pit for the cavitation method of stimulation and the operator obtains the appropriate district office's approval to use a temporary pit for cavitation. Tr. 907 and 908. The cavitation method of stimulation for coal bed methane well is described at Tr. 3084 through 3086.

60. The 50 foot depth is the same as the depth required for location of small landfarms, which have similar constituents, as provided in 19.15.36 NMAC. The Commission finds that consistency in requirements between rules dealing with similar issues is a logical improvement over the Division's proposal

61. CRI proposed that the depth to ground water be changed from 50 feet to 100 feet below the pit or below-grade tank. Based on sampling from actual releases and the Division's modeling, however, a distance of 50 feet to ground water provides an adequate safety buffer in the event of a release of contaminants from the pit or below-grade tank. Tr. 378, 379, 755, and 756.

62. The Commission adds the exception for coal bed methane wells that use the cavitation method because temporary pits are needed to cavitate a well. Tr. 3084 through 3087. The exception is intended only to allow a temporary pit for cavitation activities.

63. Subsection A of 19.15.17.10 NMAC also prohibits the location of a temporary pit, below-grade tank, or permanent pit within 300 feet of a continuously flowing watercourse, or 200 feet (measured from the high-water mark) of any other significant watercourse, lakebed, sinkhole, or playa lake. These setbacks allow for

sufficient room to operate large machinery, the installation of diversion measures to control surface water run-on, and to prevent releases from the pit or below-grade tank reaching the water. Tr. 910 through 914. The Industry Committee's proposal of 30 feet and IPANM's proposal of 10 feet from any other significant watercourse, lakebed, sinkhole, or playa lake do not adequately provide for those needs. Tr. 914 and 915.

64. The Industry Committee proposed that the word "significant" be added before watercourse for the 200 feet setback. The Division's proposal did not contain the word "significant". The Commission adopts the Industry Committee's proposed definition for "significant watercourse" with the exception of the Industry Committee's proposed modifier that the watercourse must drain an area of at least five square miles. Determining whether a watercourse drains an area of five square miles is difficult and removes certainty provided by a watercourse's location on a map or its status as a first order tributary. The Commission defines "significant watercourse" as a watercourse with a defined bed and bank either named on a United States Geological Survey 7.5 minute quadrangle map or a first order tributary of such watercourse.

65. Subsection A of 19.15.17.10 NMAC also provides for setbacks from residences, schools, hospitals, institutions, or churches; from private, domestic fresh water wells or springs; within incorporated municipal boundaries or well fields under a municipal ordinance; and from wetlands. Tr. 916, 917, 921, 924, and 933. Setbacks are needed to protect private and public water supplies and public health.

66. Pits and below-grade tanks are not allowed within a 100-year floodplain. This is to ensure that pits and below-grade tanks are not constructed within areas subject to 100-year flood events. This prevents the flooding or washing away of pits or below-grade tanks and their contents, which could contaminate soils and fresh water. Tr. 927 and 933.

67. Subsection B of 19.15.17.10 NMAC provides that an emergency pit is exempt from the siting criteria in 19.15.17.10 NMAC. This promotes the application of immediate safety protocols for the protection of public health, fresh water, and the environment. Tr. 933 and 934. An emergency pit is defined in 19.15.17.7 NMAC as a pit that is constructed as a precautionary matter to contain a spill in the event of release. Construction of an emergency pit requires a Division-issued permit unless the emergency pit is described in a spill prevention, control and countermeasure plan that the United States Environmental Protection Agency requires, the operator removes all fluids from the pit within 48 hours, and the operator has notified the appropriate district office of the pit's location.

68. Subsection C of 19.15.17.10 NMAC specifies those locations where an operator may not implement on-site closure methods (where the waste that is generated from the drilling or workover of the well is buried on or near the well pad). On-site closure includes burial in-place in a temporary pit or trench burial in a lined trench constructed specifically for burial of the waste. Many of the siting criteria are the same as those for temporary pits and below-grade tanks. Tr. 934 and 935.

69. In addition to the siting criteria that are the same as those for temporary pits and below-grade tanks, on-site closure is prohibited where ground water is between 50 and 100 feet below the bottom of the buried waste or over 100 feet below the bottom of the buried waste unless the treated and stabilized waste meets the standards specified in Paragraphs (2) or (3) of Subsection F of 19.15.17.13 NMAC.

70. An operator may bury waste in a lined trench if ground water is more than 100 feet below the bottom of the buried waste and the waste meets specified criteria in Subsection F of 19.15.17.13 NMAC.

71. The Division's proposal would have prohibited on-site burial where there was a Division-approved disposal facility or an out-of-state waste management facility within a 100-mile radius of the site unless the operator obtained the Division's approval for an exception. The Commission does not adopt this requirement because on-site closure should be based on the level of various constituents in the waste and site specific information rather than on the distance to a disposal facility.

72. NMCCAW, OGAP, and CRI proposed that no on-site burial of waste be allowed. The Commission does not adopt these proposals because the Commission finds there are circumstances where waste can be safely buried on-site. See Paragraph 75, 76, 77, and 79 below.

73. Mr. Hansen, Dr. Stephens, and Dr. Neeper used different models and inputs to determine whether waste buried in a temporary pit or trench would reach ground water and contaminate ground water above the state's ground water standards. However, each determined that waste constituents such as chlorides would eventually leach from the pit or trench and reach ground water.

74. Because waste constituents over time will leach to ground water, the waste should only be buried on-site if the constituents in the waste are at levels that will not result in ground water contamination. This is particularly important given that there are hundreds of wells drilled each year and the wells are located over large areas. The dispersed on-site closure of temporary pits that contain waste with levels of constituents that will likely result in contamination of ground water is not preferable to disposing of the waste in a limited, known number of commercial landfills. Dispersed burial sites increase the potential number of sites where ground water contamination may occur, increase the number of sites that require regulatory oversight, and make it more difficult to determine the source of contamination. Tr. 220, 221, 261, 349, 691, and 692.

75. The Commission previously determined in adopting the surface waste management rules, 19.15.36 NMAC, that when a landfarm is closed, the treated soils can be left in place without endangering ground water when the soil has a chloride concentration that does not exceed 500 mg/kg and ground water is between 50 and 100 feet below the lowest elevation of the landfarm. It also determined that when a landfarm is closed, the treated soils can safely be left in place when the soil has a chloride

concentration that does not exceed 1000 mg/kg and the ground water is more than 100 feet below the lowest elevation of the landfarm. Subsections F and G of 19.15.36 NMAC.

76. Therefore, where the distance to ground water is 50 to 100 feet below the bottom of the buried waste, which has been treated or stabilized, and the waste does not contain more than 500 mg/kg of chlorides and does not exceed the criteria for the other constituents listed in Subparagraph (c) of Paragraph (2) of Subsection F of 19.15.17.13 NMAC the operator may bury waste in-place in a temporary pit. An operator may also bury waste, which has been treated and stabilized, in a temporary pit where ground water is more than 100 feet below the bottom of the buried waste and the waste does not contain more than 1000 mg/kg of chlorides and does not exceed the criteria for the other constituents listed in Subparagraph (d) of Paragraph (2) of Subsection F of 19.15.17.13 NMAC.

77. Where the bottom of the waste will be more than 100 feet below ground water and the waste has higher concentrations of chlorides than those allowed for in-place burial in a temporary pit, an operator may construct a separate lined trench to bury the waste if the waste meets criteria contained in Subparagraph (c) of Paragraph (3) of Subsection F of 19.15.17.13 NMAC. The waste may not contain a chloride leachate concentration of more than 250 mg/l of chlorides as determined by an approved leaching procedure. This equates to a chloride concentration of 5000 mg/kg prior to leaching.

78. Dr. Thomas testified that the determination of whether constituents in waste pose a risk should be based on the constituent's leachate concentration. Tr. 4303 through 4313.

79. The 250 mg/l chloride leachate concentration is protective of ground water because if a chloride leachate of 250 mg/l reaches ground water it will not cause an exceedance of the state ground water standard, which is 250 mg/l as established in 20.6.2 NMAC. Tr. 5316. Chloride is a good tracer for contamination because it is rarely inhibited as it passes through the soil. Tr. 3949.

80. Dr. Stephens testified that a leachable standard of 3500 mg/l of chlorides was protective of ground water assuming a 3:1 mixing ratio of soil to waste. Tr. 3841. At a 1:1 ratio the leachable standard was 1240 mg/l. Industry Committee Exhibit 2.

81. However, Dr. Stephens' modeling was based on using a 50 foot thick mixing zone in the aquifer rather than the 10 foot thick mixing zone used by the Division. Tr. 1346 through 1350, 1381, and 4431 through 4434. A large mixing zone allows for greater aquifer dilution in the modeled results. When you reduce the mixing zone in the aquifer to a thickness of 10 feet, the modeled concentration would be reduced by a fifth, so a 1240 mg/l chloride modeled result would be reduced to 248 mg/l. Tr. 1350. The Division uses an approximate 10 foot thick mixing zone in its modeling because monitoring wells installed for sampling ground water for compliance with state standards contain a 10 foot well screen length. The 10 foot thickness is commonly used in

monitoring ground water for contamination. Tr. 1348 through 1350. Therefore, water quality modeling of chloride migration in the subsurface, for purposes of estimating compliance with state water quality standards, should only consider mixing effects that occur in the first 10 feet of the aquifer. Also mixing is unlikely to occur rapidly over the entirety of a 50 foot thick aquifer. Tr. 2030, and 4431 through 4434.

19.15.17.11 NMAC: Design and Construction Specifications

82. Subsection A of 19.15.17.11 NMAC requires that an operator design and construct a pit, closed-loop system, below-grade tank, or sump to contain liquids and solids and prevent contamination of fresh water and protect public health and the environment. Tr. 936.

83. Subsection B of 19.15.17.11 NMAC requires that prior to constructing a pit or closed-loop system, except for a pit constructed in an emergency, an operator shall strip and stockpile the topsoil for use as the final cover or fill once it closes the pit or completes use of the closed-loop system.

84. While not contained in 19.15.2.50 NMAC, the practice of stockpiling topsoil is currently included in the current Division guidelines for pits and below-grade tanks. Stockpiling topsoil allows for it to be used as the final cover upon closure of a pit or below-grade tank. Tr. 938 and 939.

85. Subsection C of 19.15.17.11 NMAC requires an operator to post an upright sign in a conspicuous place on the fence surrounding a pit, closed-loop system, or below-grade tank unless the pit, closed-loop system, or below-grade tank is located on a site where the operator already has another well that has signs in compliance with 19.15.3.103 NMC. The sign must be at least 12 inches by 24 inches in size and have lettering that is not less than two inches in height. The sign must provide the operator's name, emergency telephone numbers, and the location of the site by quarter-quarter or unit letter, section, township, and range.

86. The sign provides information to the Division and the public to identify the responsible operator in case of an emergency or outstanding compliance or safety issues. Tr. 939.

87. Subsection D of 19.15.17.11 NMAC provides requirements for fencing of pits or below-grade tanks. The operator must fence or enclose a pit or below-grade tank in a manner that prevents unauthorized access and must maintain fences in good repair. An operator is not required to fence a pit or below-grade tank if there is already an adequate perimeter fence that prevents unauthorized access to the well site or facility, including the pit or below-grade tank. During drilling or workover operations, the operator is not required to fence the edge of the pit adjacent to the drilling or workover rig until the drilling or workover is complete.

88. If the pit or below-grade tank is within 1000 feet of a permanent residence, school, hospital, institution, or church, the operator must fence the pit or below-grade tank with a chain link security fence that is at least six feet in height and has a least two strands of barbed wire at the top. The operator must ensure that all gates associated with the fence are closed and locked when responsible personnel are not on-site. During drilling or workover operations, the operator does not have to fence the edge of the temporary pit that is adjacent to the drilling or workover rig.

89. For any other pit or below-grade tank the operator must fence the pit or below-grade tank to exclude livestock. The fence must be at least four feet in height and have at least four strands of barbed wire evenly spaced in the interval between one and four feet above ground level. The Division's proposal stated that a fence must be five foot in height and exclude wildlife. Five foot is not a standard fence post length and the New Mexico Department of Game and Fish commented that this type of fence was not adequate to exclude wildlife. Tr. 942. Therefore, the Commission changes the height to four feet and removes the reference to wildlife. The district office where the pit or below-grade tank is located may require the operator to meet additional fencing requirements for protection of wildlife in particular areas.

90. Specific design and construction standards for fences are needed in order to establish a minimum standard of protection for the public as well as to exclude livestock. Tr. 940.

91. Subsection E of 19.15.17.11 NMAC requires an operator to screen, net, or otherwise render non-hazardous to wildlife, including migratory birds, a permanent pit or a permanent open top tank. This is needed to prevent wildlife from drowning or being trapped. Where netting or screening is not feasible, the operator must inspect the permanent pit or the permanent open top tank on a monthly basis and report, within 30 days of discovery, the discovery of dead migratory birds or other wildlife to the appropriate wildlife agency and the appropriate district office. This is required in order to facilitate the assessment and implementation of measures to prevent such incidents from reoccurring. Tr. 942 and 943. The Commission adds the 30 day reporting time limit and the monthly requirement for inspections so that operators will know how often they must inspect and how long they have to report a discovery. The Division's proposal stated that an operator must routinely inspect but did not provide a definitive timeframe.

92. Subsection F of 19.15.17.11 NMAC provides the requirements for designing and constructing a temporary pit. The operator must construct a temporary pit to ensure confinement of liquids and to prevent unauthorized releases. In order to accomplish this, the temporary pit must have a properly constructed foundation and interior slopes consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges, or irregularities. This is needed to prevent the liner's rupture or tear.

93. The operator must construct the temporary pit so that the slopes are not steeper than two horizontal feet to one horizontal foot. Slopes that are greater than two to one place undue static stress on the liner material and liner seams as the drilling fluids

and cuttings accumulate. Tr. 944 and 945. In addition, steeper slopes create a safety hazard for people and animals because they are difficult to climb out of. Tr. 945 and 946.

94. The operator must design and construct a temporary pit with a geomembrane liner. The geomembrane liner shall consist of 20-mil string reinforced linear low-density polyethylene (LLDPE) or equivalent liner material that the Division approves. The operator must minimize the liner seams and orient them up and down, not across a slope and shall use factory welded seams where possible. If factory welded seams are not possible personnel trained in field seaming must perform field seaming and shall weld the field liner seams. Minimizing liner seams and orienting them up and down reduces the potential for leaks.

95. The Industry Committee proposed that only a 12-mil liner be required. A 12-mil liner is what is currently suggested in the Division's guidelines for pits and below-grade tanks. Tr. 345. However, in rocky or caliche areas a 20-mil liner has a lower chance of being punctured. Tr. 2049. Division inspectors have noted liner failures or tears during their inspections and received reports of liner failures or tears. Tr. 1178, 1305, 2078, 2083, 2085, 2088, 2089, 2091, 2093, 2094, 2122, 2149, 2151, and 2152. The current rule, 19.15.2.50 NMAC, does not require the operator to notify the Division if a liner tears or is otherwise compromised. If a liner failure results in a release as provided in 19.15.3.116 NMAC the operator must report the release.

96. The Division proposed the addition of the requirement that field seams be welded. The Commission adopts this requirement because stitched seams weaken the integrity of the liner and create a pathway for fluids to escape. Tr. 947 through 950.

97. During construction of the temporary pit, the operator shall avoid excessive stress-strain on the liner and shall place geotextile under the liner when needed to reduce localized stress-strain or protuberances that may otherwise compromise the liner's integrity. This addresses situations where the existing subgrade consists of rocks, which can puncture the liner and provide pathways for fluids to escape. Tr. 981.

98. The operator must ensure that the liner is protected from any fluid force or mechanical damage at any point of discharge into or suction from the lined temporary pit. Damage to the liner can provide a pathway for fluids to escape.

99. The operator must anchor the liner's edges in the bottom of a compacted earth-filled trench, which shall be at least 18 inches deep.

100. The anchor trench ensures that the liner is secured from forces such as wind and prevents erosion around the surface edges of the liner. This prevents the liner edge from being blown or washed into the pit and decreases the potential for a release of fluids from the pit. Tr. 951.

101. The Industry Committee proposed that the requirement that the anchor trench be at least 18 inches deep be removed. However, this requirement is needed to ensure that the anchor trench is deep enough that the liner will remain in place.

102. The operator shall design and construct the temporary pit to prevent run-on of surface water. Run-on can collect in the pit and result in the pit becoming full and fluid overflowing onto the surrounding ground surface. Run-on can also result in erosion around and beneath the pit, which can compromise the liner's integrity. Tr. 953 and 954. The temporary pit shall be surrounded by a berm, ditch, proper sloping, or other diversion in order to prevent run-on of surface water. During drilling or workover operations, the edge of the temporary pit adjacent to the drilling or workover rig is not required to have run-on protection if the operator is using the temporary pit to collect fluids escaping from the drilling or workover rig. The Industry Committee proposed that "proper sloping" be one of the means allowed to prevent run-on. The Commission adopts this proposal because operators currently use engineered sloping and it is a reasonable method for addressing run-on.

103. The temporary pit's volume shall not exceed 10 acre-feet including freeboard. This volume is adequate to hold the fluids used in or generated during drilling or workover operations and prevents more surface disturbance than necessary for a temporary pit.

104. The part of the temporary pit used to vent or flare gas during a drilling or workover operation that is designed to allow liquids to drain to a separate temporary pit does not have to have a liner unless the appropriate district office requires an alternative design in order to protect surface water, ground water and the environment. The operator shall not allow freestanding liquids to remain on the unlined portion of a temporary pit the operator is using to vent or flare gas. This provision recognizes that due to the venting or flaring of gas, which would compromise the liner's integrity it is not prudent to line that portion of the pit and that lining would provide little additional protection because the liner would be melted or otherwise compromised. Tr. 954. The Division proposed a modification to its original proposal to not allow freestanding liquids to remain on the unlined portion of the temporary pit. The Commission adopts this proposal because freestanding liquid, particularly where there is not a liner, may travel downward and contaminate ground water.

105. Subsection G of 19.15.17.11 NMAC provides the requirements for designing and constructing a permanent pit.

106. Given their long-term nature it is appropriate that permanent pits be designed and constructed in a similar manner to evaporation ponds, which are regulated under 19.15.36 NMAC, and have similar technical standards. Tr. 955, 956, and 957.

107. Therefore, each permanent pit must have a properly constructed foundation consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges, or irregularities to prevent the liner's rupture or tear. The operator must construct

the permanent pit so that the inside grade of the levee is no steeper than two horizontal feet to one vertical foot. The levee must have an outside grade no steeper than three horizontal feet to one vertical foot. The levee's top shall be wide enough to install an anchor trench and provide adequate room for inspection and maintenance.

108. Each permanent pit, at a minimum, must contain a primary and secondary liner with a leak detection system appropriate to the site's conditions. All liner edges must be anchored in the bottom of an earth-filled trench, which is at least 18 inches deep. The primary and secondary liners must be geomembrane liners consisting of 30-mil flexible poly vinyl chloride (PVC) or 60-mil high-density polyethylene (HDPE), or an equivalent material that the appropriate district office approves. The geomembrane liner must be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts, and acidic and alkaline solutions. The material shall also be resistant to ultraviolet light. The permanent pit has a thicker liner than a temporary pit because it is intended for long-term use and the longer fluids remain in a pit the greater the potential for releases of the pit's contents into the underlying soil.

109. The Division's Environmental Bureau may approve other liner media if the operator demonstrates to the Environmental Bureau's satisfaction that the alternative protects fresh water, public health, safety, and the environment as effectively as the specified media.

110. The operator shall minimize liner seams and orient them up and down, not across the slope and shall use factory welded seams where possible. If factory welded seams are not possible the operator shall weld the seams in the field. The operator must ensure that any field seams in geosynthetic material are thermally seamed with a double track weld to create an air pocket for non-destructive air channel testing. The operator shall test a seam by establishing an air pressure between 33 and 37 pounds per square inch in the pocket and monitoring that the pressure does not change by more than one percent during five minutes after the pressure source is shut off from the pocket. The operator shall overlap liners four to six inches before seaming, and orient the seams parallel to the line of maximum slope. The operator shall minimize the number of field seams in corners and irregularly shaped areas to reduce the potential for leaks. The operator shall not locate horizontal seams within five feet of the slope's toe. Personnel trained to perform seaming shall perform field seaming.

111. The Division's proposal provided that in testing a seam "a stabilized air pressure of 35 psi, plus or minus one percent, shall be maintained for at least five minutes". NMCCAW recommended that the language be revised to provide that an operator test a seam by establishing an air pressure between 33 and 37 pounds per square inch in the pocket and monitoring that the pressure does not change by more than one percent during five minutes after the pressure source is shut off from the pocket. The Commission adopts the proposed change because equipment may not provide one percent absolute accuracy.

112. The operator shall ensure that the liner is protected from excessive hydrostatic force or mechanical damage at a point of discharge into or suction from the lined permanent pit. The operator shall also ensure that external discharge or suction lines do not penetrate the liner. Damage to the liner can provide a pathway for fluids to escape, which may contaminate soils or fresh water.

113. The operator must place a leak detection system between the upper and lower geomembrane liners that consists of two feet of compacted soil with a saturated hydraulic conductivity of 1×10^{-5} cm/sec or greater to facilitate drainage. The leak detection system must consist of a properly designed drainage and collection and removal system that the operator places above the lower geomembrane liner in depressions and sloped to facilitate the earliest possible leak detection.

114. The operator must notify the Division's Environmental Bureau at least 72 hours prior to installing the primary liner. Such notice allows a representative of the Environmental Bureau an opportunity to inspect the leak detection system before it is covered.

115. The operator must construct the permanent pit in a manner that prevents overtopping due to wave action or rainfall and maintain a three foot freeboard at all times. Adequate freeboard is important to prevent overflows of pit fluids that may contaminate soils or fresh water.

116. The volume of the permanent pit shall not exceed 10 acre-feet including the freeboard. This requirement is necessary in order to avoid the need for a dam permit from the Office of the State Engineer.

117. The operator must maintain the permanent pit to prevent run-on of surface water. A permanent pit must be surrounded by a berm, ditch, or other diversion to prevent run-on. Run-on can collect in the pit and result in the pit becoming full and fluid overflowing onto the surrounding ground surface. Run-on can also result in erosion around and beneath the pit, which can compromise the liners' integrity. Tr. 953 and 954.

118. Other than NMCCAW's recommendation for changes to the liner seam testing method, which the Commission adopts, the parties did not propose changes after the conclusion of the testimony to the Division's proposed design and construction requirements for permanent pits.

119. Subsection H of 19.15.17.11 NMAC provides the requirements for designing and constructing a closed-loop system.

120. The operator must design and construct a closed-loop system to ensure the confinement of oil, gas, or water in order to prevent uncontrolled releases. If not confined these fluids may contaminate soils or fresh water.

121. An operator of a closed-loop system that uses temporary pits for solids management must comply with the requirements for temporary pits in 19.15.17 NMAC.

122. An operator of a closed-loop system that uses drying pads shall design and construct the drying pads to include appropriate liners that prevent the contamination of fresh water and protect public health and the environment, sumps to facilitate the collection of liquids from drill cuttings, and berms to prevent run-on of surface water. These requirements reduce the potential for contaminating soils or fresh water.

123. The parties did not propose changes after the conclusion of the testimony to the Division's proposed design and construction requirements for closed-loop systems.

124. Subsection 1 of 19.15.17.11 NMAC provides the requirements for designing and constructing a below-grade tank. The Commission has revised this subsection based upon testimony from ConocoPhillips' witnesses and public comments from Dugan Production Company. The Division's proposed design and construction requirements for below-grade tanks would not have allowed ConocoPhillips to continue to use its current Division approved design. This design is a below-grade-tank without double walls where the side walls are open for visual inspection. The below-grade tank is elevated above the underlying ground surface and is placed above a geomembrane liner.

125. The Industry Committee proposed that the Commission adopt a definition for a category of tanks called "sub-grade tanks" in order to continue the use of the ConocoPhillips-type tanks. The Commission does not adopt this proposal because it has instead revised the design requirements for below-grade tanks to allow for below-grade tanks that are designed in the manner that the ConocoPhillips witnesses supported. See Subparagraph (a) of Paragraph (4) of Subsection 1 of 19.15.17.11 NMC.

126. After the amendments to 19.15.2.50 NMAC in 2004, ConocoPhillips worked with the Division's Aztec District Office and the Division's Environmental Bureau to develop the design it now uses. Tr. 4024 and 4026. The Division's proposal would have required the retrofitting or replacement of thousands of tanks currently used by operators such as ConocoPhillips and Dugan Production Company that were installed or retrofitted to comply with the 2004 amendments. ConocoPhillips alone has spent over \$125 million retrofitting its tanks to comply with the 2004 amendments to 19.15.2.50 NMAC and replaced approximately 5000 tanks. Tr. 4022, 4023, and 4024.

127. The operator must ensure that a below-grade tank is constructed of materials resistant to the below-grade tank's contents and resistant to damage from sunlight. The intent of this provision is to ensure that the below-grade tank is capable of containing its contents and that its integrity is not compromised by exposure to sunlight. Tr. 971.

128. The below-grade tank system must have a properly constructed foundation consisting of a level base free of rocks, debris, sharp edges, or irregularities to prevent punctures, cracks, or indentations of the liner or tank bottom. This is to ensure that the

below-grade tank's integrity is not compromised and to prevent releases of the tank's contents. Tr. 968 and 969. This provision is currently contained in the Division's guidelines for pits and below-grade tanks.

129. The operator must construct a below-grade tank to prevent overflow and the collection of surface water run-on. This provision is currently contained in the Division's guidelines for pits and below-grade tanks. Run-on can collect in the below-grade tank and result in the below-grade tank becoming full and fluid overflowing onto the surrounding ground surface. Such events can contaminate soils and may result in contamination of ground water.

130. An operator must use a below-grade tank that meets one of two designs.

131. The first design, which is that used by ConocoPhillips, is a below-grade tank without double walls where the below-grade tank's side walls are open for visual inspection for leaks; the below-grade tank's bottom is elevated a minimum of six inches above the underlying ground surface and is placed above a geomembrane liner; and the below-grade tank is equipped with an underlying mechanism to divert leaked liquid to a location that can be visually inspected. The operator must equip the below-grade tank with a properly operating automatic high-level shut-off control device and manual controls to prevent overflows. The geomembrane liner shall consist of a 30-mil flexible PVC or 60-mil HDPE liner, or an equivalent liner material that the appropriate district office approves. The liner must be composed of an impervious, synthetic material that is resistant to hydrocarbons, salts, and acidic and alkaline solutions and is impervious to ultraviolet light.

132. The second design is where the side walls are not open for visible inspection. In that case, the below-grade tank must be double walled with leak detection capability. Given that the side walls are not open for inspection, the double walled design provides secondary containment in the event the first wall fails.

133. The operator of a below-grade tank that was constructed and installed prior to the effective date of 19.15.17 NMAC, which has side walls open for visual inspection and is placed upon an impermeable geomembrane liner that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC may continue to use the below-grade tank so long as it demonstrates integrity during the monthly inspection required by Subsection D of 19.15.17.12 NMAC. If the existing below-grade tank does not demonstrate integrity, the operator must install a below-grade tank that complies with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC. The operator is not required to equip or retrofit the below-grade tank to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17 NMAC so long as it demonstrates integrity during the monthly inspections required by Subsection D of 19.15.17.12 NMAC. This provision allows tanks such as those used by Dugan Production Company, which are similar to those used by ConocoPhillips but are not elevated above the ground, to continue to be used.

134. The operator of a below-grade tank constructed and installed prior to the effective date of 19.15.17 NMAC, that does not comply with Paragraphs (1) through (4) of Subsection 1 of 19.15.17.11 NMAC and does not have the side walls open for inspection must equip or retrofit the below-grade tank to comply with Paragraphs (1) through (4) of Subsection 1 of 19.15.17.11 NMAC or close it within five years of the effective date of 19.15.17 NMAC. This provides sufficient time for operators to comply with the required design and installation requirements.

135. Subsection J of 19.15.17.11 NMAC provides the requirements for designing and constructing trenches for burial of waste on-site. CRI and OGAP proposed that this subsection be deleted because they proposed that no on-site burial be allowed. The Commission does not adopt these proposals because it finds there are circumstances where waste can be safely buried on-site. See Paragraph 72.

136. The trench must meet the siting criteria in Subsection C of 19.15.17.10 and Subparagraph (d) of Paragraph (3) of Subsection F of 19.15.17.13 NMAC and be excavated to a depth that allows for the installation of the geomembrane bottom liner, geomembrane liner cover, and the soil cover required pursuant to Subsection H of 19.15.17.13 NMAC in order for an operator to use an on-site trench for closure. This requirement prevents the siting of on-site trenches in areas prohibited by Subsection C of 19.15.17.10 NMAC. Tr. 980.

137. An on-site trench must have a properly constructed foundation and side walls consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges, or irregularities to prevent the liner's rupture or tear. One of the primary causes of liner integrity failure is due to improperly prepared foundations. Tr. 981.

138. The operator shall place geotextile under the liner where needed to reduce localized stress-strain or protuberances that might otherwise compromise the liner's integrity. This addresses situations where the existing subgrade consists of rocks. Tr. 981.

139. An operator must construct an on-site trench with a geomembrane liner. The liner must consist of a 20-mil string reinforced LLDPE liner or equivalent that the appropriate district office approves. The geomembrane liner must be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts, and acidic and alkaline solutions and be resistant to ultraviolet light. This reduces the potential for the liner to fail and release leachate.

140. The Industry Committee has proposed that a 12-mil liner be required instead of a 20-mil liner. However, in rocky or caliche areas a 20-mil liner has a lower chance of being punctured. Tr. 2049. A 20-mil LLDPE liner provides a higher level of protection. See Paragraph 95.

141. The operator shall minimize liner seams and orient them up and down, not across the slope. The operator shall use factory welded seams where possible. If factory

seams are not possible the operator must field seam in accordance with the following. The operator must overlap liners four to six inches before seaming, and orient the liner seams parallel to the line of maximum slope. The operator shall minimize the number of field seams in corners and irregularly shaped areas. Personnel trained to perform seaming shall perform field seaming and weld field liner seams. These requirements reduce the potential for liner failures and leaks. The Division proposed the addition of the requirement that field seams be welded. The Commission adopts this requirement because stitched field seams weaken the liner's integrity and create a pathway for fluids to escape. Tr. 947 through 950.

142. The operator shall install liner material in a quantity sufficient to reduce stress-strain on the liner. If insufficient material is used, the liner will not rest smoothly on the foundation and excessive strain will be placed on the liner when the operator adds the waste and the liner will collapse into the trench. Tr. 983.

143. The operator must ensure that the liner's outer edges are secured for the placement of excavated waste material into the trench and the operator shall fold the outer edges of the trench liner to overlap the waste material in the trench prior to installing the geomembrane cover. This prevents the collection and accumulation of water in the trench liner and the leaching of contaminants from the waste material. Tr. 984 and 985.

144. The operator shall install a geomembrane cover over the waste material in the lined trench and install the cover in a manner that prevents the collection of infiltration water in the lined trench and on the geomembrane cover after the soil cover is in place. The installation of a geomembrane cover ensures that the waste material is completely enveloped and infiltration of rain water will not come into contact with the waste. By requiring the operator to install the geomembrane cover in a manner that prevents collection, water should not accumulate and penetrate the geomembrane cover or pass through the waste material. Tr. 984.

145. The geomembrane cover must consist of a 20-mil string reinforced LLDPE liner or an equivalent cover that the appropriate district office approves. The geomembrane cover must be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts, and acidic and alkaline solutions. These requirements reduce the potential for liner failures and leaks. The Industry Committee proposed that a 12-mil liner be allowed instead. The Commission does not adopt this proposal. See Paragraph 95.

19.15.17.12 NMAC: Operational Requirements

146. Subsection A of 19.15.17.12 NMAC establishes the maintenance and operational requirements for pits, closed-loop systems, below-grade tanks, and sumps.

147. The operator must operate and maintain a pit, closed-loop system, below-grade tank, or sump to contain liquids and solids and maintain the integrity of the liner,

liner system, or secondary containment system; prevent contamination of fresh water; and protect public health and the environment.

148. The operator must recycle, reuse, or reclaim or dispose of all drilling fluids in a manner approved by Division rules that prevents the contamination of fresh water and protects public health and the environment. This requirement is needed to ensure the proper management and disposal of drilling fluids.

149. The Industry Committee, IPANM, and the Division proposed that "or dispose" be added to the requirement for recycling, reusing, or reclaiming drilling fluids. The Commission adopts this proposal because it is not always possible to reclaim, recycle, or reuse drilling fluids. The Commission also adds the requirement that disposal be in a manner approved by Division rules so that it is clear that operators must dispose of the fluids properly.

150. The operator shall not discharge into or store any hazardous waste in a pit, closed-loop system, below-grade tank, or sump. Tr. 989 and 990. Since the Division does not have regulatory authority over hazardous wastes, this prevents the disposal of non-exempt, hazardous waste into a pit, closed-loop system, below-grade tank, or sump.

151. If any pit liner's integrity is compromised, or if any penetration of the liner occurs above the liquid's surface, then the operator must notify the appropriate district office within 48 hours of discovery and repair the damage or replace the liner. The 48 hour notice requirement allows the operator time to assess the damage, inform the Division of the results of the assessment, and provide the Division with a schedule for repair or replacement. Tr. 991.

152. If a pit, below-grade tank, closed-loop system, or sump develops a leak, or if any penetration of the pit liner, below-grade tank, closed-loop system, or sump occurs below the liquid's surface, then the operator shall remove all liquid above the damage or leak line within 48 hours and repair the damage or replace the pit liner, below-grade tank, closed-loop system, or sump. The operator shall notify the appropriate district office within 48 hours of the discovery. The Commission adds the 48 hour notification requirement so that it is consistent with the requirement in Paragraph 149 and the Division will have notice of the leaks or damage below the liquid's surface as well as those that occur above the liquid's surface. Tr. 991 and 992.

153. The Division's proposal contained a requirement that the operator install a level measuring device in the pit to monitor the fluid levels, so that the operator may recognize unanticipated changes in the volume. The Industry Committee proposed that the Commission remove this requirement. The Commission adopts the Industry Committee's proposal because fluid levels change with the weather through precipitation and evaporation making it difficult to determine whether a fluid change is due to a leak in the pit liner unless a tear or puncture is found or a dramatic change in fluid levels occurs.

154. 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 impacts from installation and removal of hoses or pipes. Tr. 993 and 994. Damage to the liner can provide a pathway for fluids, which may contaminate soils or fresh water.

155. The operator must operate and install a pit, below-grade tank, or sump to prevent the collection of surface water run-on. Tr. 993. Run-on can collect in a pit, below-grade tank, or sump and result in the pit, below-grade tank, or sump becoming full and fluid overflowing onto the surrounding ground surface causing contamination of soils and potential contamination of fresh water. Run-on can also result in erosion around and beneath a pit, which can compromise liner integrity. Tr. 953 and 954.

156. The operator shall install, or maintain on site, an oil absorbent boom or other device to contain and remove oil from a pit's surface. This is intended to ensure that the operator has a device in place to remove the oil because no oil or floating hydrocarbon shall be present in a pit. Tr. 993 and 994.

157. Subsection B of 19.15.17.12 NMAC provides additional maintenance and operational requirements for temporary pits.

158. An operator may only discharge fluids used or generated during the drilling or workover process into a temporary pit. The operator must maintain a temporary pit free of miscellaneous solid waste or debris. The operator shall use a tank made of steel or other material to contain hydrocarbon-based drilling fluids that the appropriate district office approves. This is needed to prevent the release of hydrocarbons into the environment. Immediately after cessation of a drilling or workover operation, the operator shall remove any visible or measurable layer of oil from the surface of a drilling or workover pit. Tr. 996, 997, and 998.

159. The operator must maintain at least two feet of freeboard for a temporary pit. This is needed to prevent the overtopping or overflowing of fluids. Tr. 999. If a temporary pit overflows the fluids may contaminate soils or fresh water.

160. The operator shall inspect a temporary pit containing drilling fluids at least daily while the drilling or workover rig is on-site. This inspection is to ensure that the liner is intact and that releases are not occurring. Thereafter, the operator shall inspect the temporary pit weekly so long as liquids remain in the temporary pit. The operator must maintain a log of such inspections and make the log available for the appropriate district office's review upon request. The operator shall file a copy of the log with the appropriate district office when the operator closes the temporary pit. This encourages operators to properly maintain temporary pits, and provides for the early detection of liner leaks and fluid releases. Tr. 1000.

161. The operator shall remove all free liquids from a temporary pit within 30 days from the date that the operator releases the drilling or workover rig. The operator

shall note the date of the drilling or workover rig's release on form C-105 or C-103 upon well or workover completion. The appropriate district office may grant an extension of up to three months. This requirement reduces the risk of a liquid release or overtopping of fluids caused by precipitation or run-on and reduces the hydraulic head on the pit liner. The longer fluids remain in the pit the greater the likelihood for a release. Tr. 75, 174, and 1000.

162. The Commission adds the requirement that the operator note the date of the drilling or workover rig's release so that the Division will have the date in order to determine when the 30 day time period begins.

163. The Division's proposal contained a 15 day limit for removal of fluids from a temporary pit used for a workover. The Industry Committee proposed that a 45 day limit be used for both drilling and workovers. The Commission finds that 45 days is too long to leave fluid in a pit after the rig is released but that a 30 day limit should apply to both drilling and workovers. Tr. 1000.

164. Subsection C of 19.15.17.12 NMAC provides additional maintenance and operational requirements for permanent pits.

165. The operator shall maintain at least three feet of freeboard for a permanent pit and shall permanently mark such level on the permanent pit. This is needed to prevent overtopping and overflow of fluids. Tr. 1002. If a permanent pit overflows the fluids may contaminate soils or fresh water.

166. No oil or floating hydrocarbon shall be present in a permanent pit. This recommendation is included in the Division's guidelines for pits and below-grade tanks. Tr. 1002. This requirement is needed to prevent the waste of oil and prevent an accumulation of hydrocarbons, which can result in build up of hydrocarbon vapors, create a fire hazard, and be toxic to animals.

167. Subsection D of 19.15.17.12 NMAC provides additional maintenance and operational requirements for below-grade tanks.

168. The operator shall not allow a below-grade tank to overflow or allow surface water run-on to enter the below-grade tank. Tr. 1002 and 1003. This is needed to prevent the release of wastes that can cause soil and ground water contamination.

169. The operator shall remove any visible or measurable layer of oil from the fluid surface of a below-grade tank. Tr. 1003. This is needed to prevent the waste of oil and prevent an accumulation of hydrocarbons, which can result in build up of hydrocarbon vapors, create a fire hazard, and be toxic to animals.

170. The operator shall inspect the below-grade tank at least monthly for integrity and maintain a record of each inspection for five years. Monthly inspections

allow leaks or punctures or other damage to a below-grade tank to be discovered in a timely manner.

171. The operator shall maintain adequate freeboard to prevent overtopping of the below-grade tank. The operator shall not allow a below-grade tank to overflow or allow surface water run-on to enter the below-grade tank. If a below-grade tank overflows the fluids may contaminate soils or fresh water.

172. Subsection E of 19.15.17.12 NMAC provides additional maintenance and operational requirements for sumps.

173. The operator shall visually inspect a sump's integrity annually and promptly repair or replace a sump that fails inspection because it is leaking, punctured, cracked, or otherwise compromised. The Division's proposal required annual testing of the sump but the Division acknowledged that a reliable test method for sumps does not exist. Instead, sump integrity shall be determined by visual inspection. This provision is needed to ensure that sumps have integrity and are capable of collecting and containing leaks. Tr. 1003 and 1004.

174. The operator shall maintain records of sump inspections and make the records available to the appropriate district office's review upon request. Tr. 1004. This advises operators that they must maintain inspection records and provides the Division information needed to verify that sump operations do not result in soil or ground water contamination.

19.15.17.13 NMAC: Closure Requirements

175. Subsection A of 19.15.17.13 NMAC establishes the deadlines for closure of a pit, closed-loop system, or below-grade tank.

176. An operator shall cease discharging into an existing unlined permanent pit that is permitted by or registered with the Division within two years after the effective date of 19.15.17 NMAC. An operator shall close an existing unlined permanent pit that is permitted by or registered with the Division within three years after the effective date.

177. The Division's proposal required that all existing unlined permanent pits that are permitted by or registered with the Division be closed within two years after the effective date of 19.15.17 NMAC. The Industry Committee proposed that they be closed within two years after the Division approves the closure plan. The primary concern is that discharges cease into unlined pits due to the potential for these pits to cause contamination of soils and ground water. Therefore, the Commission adopts the requirement that discharges cease within two years and the pit itself must be closed within three years. This allows the operator sufficient time to obtain approval of a closure plan. Tr. 1006.

178. An operator shall cease discharging into an existing, lined or unlined, permanent pit that is not permitted by or registered with the Division on or by the effective date of 19.15.17 NMAC. An operator shall close an existing, lined or unlined, permanent pit that is not permitted by or registered with the Division within six months after the effective date.

179. The Division's proposal required that an existing, lined or unlined, permanent pit that is not permitted by or registered with the Division be closed within 60 days. The Industry Committee proposed that they be closed within 120 days of the Division's approval of the closure plan. The primary concern is that discharges cease into permanent pits that are not registered or permitted. Under existing rule, 19.15.2.50 NMAC, operators were supposed to close permanent pits that were not registered or permitted by October 30, 2004. Tr. 1006. Therefore, because operators who have such pits are already in violation of an existing Division rule they should not be allowed to continue to discharge into an unregistered or unpermitted permanent pit.

180. An operator shall close an existing unlined temporary pit within three months after the effective date of 19.15.17 NMAC. Tr. 1006. The Industry Committee proposed that this be modified to require closure within three months after approval of a closure plan. The Commission does not adopt this proposal because given the short-term nature of temporary pits they should be closed promptly.

181. An operator shall close an existing, below-grade tank that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph (5) of Subsection I of 19.15.17.11 NMAC within five years after the effective date of 19.15.17 NMAC if the operator does not retrofit the below-grade tank to comply with Paragraph (1) through (4) of Subsection I of 19.15.17.11 NMAC. Tr. 1006 and 1007. The Commission makes modifications to reflect the changes it made to Subsection I of 19.15.17.11 NMAC. See Paragraph 134.

182. An operator shall close any other permitted permanent pit within 60 days of cessation of operation of the permanent pit in accordance with a closure plan that the Division's Environmental Bureau approves. Tr. 1007 and 1008. Sixty days provides sufficient time for such closure.

183. An operator shall close any other permitted temporary pit within six months from the date that the operator releases the drilling or workover rig. The appropriate district office may grant an extension not to exceed three months. The six month period allows ample time for the operator to remove free liquids, for evaporation of fluids remaining in the pit, and for the operator to make arrangements for closure. Tr. 1008, 1009, and 1010.

184. An operator shall close a drying pad used for a closed-loop system permitted under 19.15.17 NMAC or in operation on the effective date of 19.15.17 NMAC within six months from the date that the operator releases the drilling or workover rig. The operator shall note the date of the drilling or workover rig's release on form C-105 or

C-103, filed with the division, upon the well's or workover's completion. The appropriate district office may grant an extension not to exceed six months. The six month period allows ample time for the operator to remove free liquids, if necessary, for drying of solids on the drying pad, and for the operator to make arrangements for closure. Tr. 1010.

185. An operator shall close a permitted below-grade tank within 60 days of cessation of the below-grade tank's operation or as required by the transitional provisions of Subsection B of 19.15.17.17 NMAC in accordance with a closure plan that the appropriate district office approves. Tr. 1010 and 1011.

186. Subsection B of 19.15.17.13 NMAC requires the operator of a temporary pit to remove all liquids from the temporary pit prior to closure and dispose of the liquids in a Division-approved facility or recycle, reuse, or reclaim the liquids in a manner that the appropriate district office approves. This ensures proper management and disposal of the liquids. Subsection B of 19.15.17.13 NMAC also provides that the operator must close the temporary pit by one of the specified methods in Paragraphs (1) through (3) of Subsection B of 19.15.17.13 NMAC. Tr. 1011, 1012, and 1013. The current rule, 19.15.2.50 NMAC, does not contain specific requirements for closure. These are needed to ensure that temporary pits are closed in a manner that protects fresh water, public health, and the environment. IPANM asked that evaporation be added to list of methods for disposal of liquids. An operator has six months from the date of the drilling or workover rig's release to close a temporary pit, so evaporation is already allowed during that time period. Tr. 1012 and 1013.

187. The first closure method provided for is waste excavation and removal. The operator must close the temporary pit by excavating all contents and, if applicable, synthetic pit liners and transferring those materials to a Division-approved facility. This closure method is required unless the operator meets the siting requirements in Subsection C of 19.15.17.10 NMAC and the closure requirements and standards of Subsection F of 19.15.17.13 NMAC or obtains Division approval of an alternative closure method pursuant to Subsection B of 19.15.17.15 NMAC. See Paragraph 74.

188. The operator must sample the soils beneath the temporary pit upon closure to determine whether a release has occurred. Testing beneath the pit provides notice if a release has occurred so that abatement actions can be taken to protect or remediate fresh water and soils if needed. Different standards are established for temporary pits where ground water is between 50 and 100 feet below the bottom of the temporary pit or a pit used for cavitation and where ground water is more than 100 feet below the bottom of the temporary pit. The current rule, 19.15.2.50 NMAC, does not require testing underneath temporary pits once the contents are removed. Therefore, if a release has occurred the Division is not informed. Tr. 1016.

189. The Division's proposal did not include different standards for temporary pits where ground water is between 50 and 100 feet or more than 100 feet below the bottom of the temporary pit. It also contained a lower TPH (total petroleum

hydrocarbon) criteria. The Commission has revised this section to reflect the landfarm criteria from 19.15.36 NMAC used for siting in 19.15.17.10 NMAC. This ensures consistency between 19.15.36 NMAC and 19.15.17 NMAC. See Paragraphs 74 through 76.

190. If the operator determines, based on the sampling, that a release has occurred that causes an exceedance of the standards then the operator must comply with 19.15.3.116 NMAC and 19.15.1.19 NMAC as appropriate. Tr. 1034.

191. If the sampling program demonstrates that a release has not occurred or that a release does not exceed the concentrations specified in the standards then the operator must backfill the temporary pit excavation with compacted, non-waste containing, earthen material, construct a Division-prescribed soil cover, and recontour and re-vegetate the site. Tr. 1036.

192. The second closure method is on-site burial. In order to bury the waste on site the operator must demonstrate and comply with the siting requirements in Subsection C of 19.15.17.10 NMAC and the closure requirements and standards of Subsection F of 19.15.17.13 NMAC. Tr. 1039. The Division's proposal only addressed trench burial. The Commission has modified this subsection to reflect that it is allowing in-place burial in a temporary pit under certain circumstances. See Paragraph 69.

193. CRI and OGAP proposed that this subsection be deleted because they proposed that no on-site burial be allowed. The Commission does not adopt the proposals because it finds there are circumstances where waste can be safely buried on-site. See Paragraph 72.

194. An operator may also propose alternatives to the waste excavation and removal or on-site burial. If the Division's Environmental Bureau grants an exception approving the proposed alternative the operator may close the temporary pit by the alternative method. Tr. 1040 and 1041.

195. Subsection C of 19.15.17.13 NMAC provides the closure requirements for permanent pits. The operator must remove all liquids and basic sediments and water from the permanent pit prior to closure and dispose of them in a Division-approved facility. The operator must also remove the pit liner system and remove any on-site equipment that is not needed for another purpose. The removal of liquids and basic sediment and waste from the permanent pit prior to closure reduces the risk of a release and potential contamination of soils and ground water. Tr. 1079 and 1080.

196. The operator must test the soils under the permanent pit to determine whether a release has occurred. If a release has occurred, then the operator must comply with 19.15.3.116 NMAC and 19.15.1.19 NMAC as applicable. If a release has not occurred then the operator must backfill the excavation with compacted, non-waste containing, earthen material; construct a Division-prescribed soil cover; and recontour

and re-vegetate the site. Testing is needed to determine that a release has not occurred in order to prevent ground water contamination. Tr. 1080.

197. Subsection D of 19.15.17.13 NMAC provides the closure methods for closed-loop systems. If the closed-loop system uses a temporary pit instead of drying pad, the operator must comply with the closure requirements for temporary pits. Tr. 1081.

198. The operator shall close a closed-loop system that uses a drying pad either by waste removal, by on-site burial, or by an alternative method if the Division's Environmental Bureau approves the request for an exception. To use on-site burial the operator must demonstrate and comply with the siting requirements of Subsection C of 19.15.17.10 NMAC and the closure requirements and standards of Subsection F of 19.15.17.13 NMAC. Tr. 1081 and 1082.

199. CRI proposed that the option for on-site burial be deleted because CRI proposed that no on-site burial be allowed. The Commission does not adopt this proposal because it finds there are circumstances where waste can be safely buried on-site. See Paragraph 72.

200. Subsection E of 19.15.17.13 NMAC provides the closure methods for below-grade tanks. The operator must remove liquids and sludge from a below-grade tank prior to closure and dispose of the liquids and sludge in a Division-approved facility. The removal of liquids and sludge from a below-grade tank prior to closure reduces the risk of a release and contamination of ground water. Tr. 1082 and 1083.

201. The operator shall remove and dispose of the below-grade tank in a Division-approved facility or recycle, re-use, or reclaim it in a manner that the appropriate district office approves. If there is any on-site equipment that is not needed for some other purpose the operator must remove the equipment. Tr. 1083. This is needed to ensure equipment is not abandoned on site, which can create safety and health hazards.

202. The operator must test the soils beneath the below-grade tank to determine whether a release has occurred. Testing beneath the below-grade tank provides notice if a release has occurred so that abatement actions can be taken to protect or remediate fresh water and soils if needed. If a release has occurred then the operator must comply with 19.15.3.116 NMAC and 19.15.1.9 NMAC as appropriate. If a release has not occurred, then the operator must backfill the excavation with compacted, non-waste containing earthen material; construct a Division-prescribed soil cover; and recontour and re-vegetate the site. Testing is needed to ensure that a release has not occurred in order to prevent ground water contamination. Tr. 1083.

203. Subsection F of 19.15.17.13 NMAC provides the requirements and methods for on-site closure. Any on-site closure method must comply with the siting criteria specified in Subsection C of 19.15.17.10 NMAC. See Paragraphs 68 through 71.

The operator must provide the surface owner notice of the operator's proposed use of an on-site closure method.

204. The Division's proposal provided that a surface waste disposal facility not be available within a 100 mile radius and that the operator have surface owner approval in order for an operator to bury waste on-site. The Industry Committee and IPANM proposed that the 100 mile radius requirement be removed and that only surface owner notification be required. The Commission does not adopt the 100-mile radius requirement because on-site closure should be based on the level of various constituents in the waste rather than on the distance to a disposal facility. See Paragraph 71.

205. A majority of the Commission adopts the Industry Committee and IPANM's proposal for surface owner notification because the Commission and Division's responsibility with regard to waste disposal is to protect fresh water, public health, and the environment. As long as the waste constituents are below levels that would result in contamination, as required by the siting and waste criteria the Commission adopted in 19.15.17.10 NMAC and Subsection F of 19.15.17.13 NMAC, protection of fresh water, public health, and the environment is provided and surface owner approval is not needed to provide such protection. Whether permanent burial of waste on-site is included in the mineral estate's right to reasonable use of the surface in order to develop the minerals or comply with the Surface Owners Protection Act's (NMSA 1978, Section 70-12-1 *et seq.*) requirement to substantially restore the surface are issues for the courts, not the Commission, to determine. Commissioner Olson dissented from this position because he believes that on-site burial of oil and gas wastes is not necessary for development of the mineral estate and therefore surface owner permission should be required to permanently bury these wastes on-site.

206. CRI, OGAP, and NMCCAW proposed that the option for on-site burial be deleted because they had proposed that no on-site burial be allowed. The Commission does not adopt this proposal because it finds there are circumstances where waste can be safely buried on-site. See Paragraph 72.

207. The operator must comply with the closure requirements and standards of Paragraphs (2) and (3), as applicable, of Subsection F of 19.15.17.13 NMAC in order to use on-site burial or an alternative closure method.

208. The operator must place a steel marker at the center of an on-site burial. A person may not build permanent structures over an on-site burial without the appropriate district office's approval and may not remove an on-site burial marker without the Division's written permission. This requirement ensures that future surface owners know where on-site burial has occurred and prevents the waste contents from being disturbed and released where they may pose a threat to fresh water, public health, and the environment. Tr. 1308, 2526, and 2527.

209. The operator must report the exact location of the on-site burial on form C-105 filed with the Division and file a notice identifying the on-site burial's exact

location with the county clerk in the county where the on-site burial occurs. This requirement ensures that future surface owners may know where on-site burials have occurred. Tr. 1309, 2526, and 2527.

210. Where the operator meets the siting criteria specified in Paragraphs (2) or (3) of Subsection C of 19.15.17.10 NMAC and the applicable waste criteria specified in Subparagraphs (c) or (d) of Paragraph (2) of Subsection F of 19.15.17.13 NMAC, an operator may use in-place burial (burial in the existing temporary pit for closure of a temporary pit or bury the contents of a drying pad associated with a closed-loop system in a temporary pit that the operator constructs for the purpose of burial).

211. Prior to closing an existing temporary pit or to placing the contents from a drying pad into a temporary pit that the operator constructs for disposal, the operator must stabilize or solidify the contents to a bearing capacity sufficient to support the temporary pit's final cover. The operator shall not mix the contents with soil or other material at a mixing ratio of greater than 3:1 soil or other material to contents.

212. The 3:1 ratio is needed to ensure that in order to meet the standards for on-site closure that operators do not bring in large volumes of additional uncontaminated soil or other material to dilute the waste or dig or scrape up additional soil from the existing location, which would result in greater surface disturbance. In other words, the mixing ratio limit is needed to ensure that "the solution to pollution is not dilution".

213. The rule provides two separate standards for sampling the contents of the temporary pit or the drying pad to determine if the waste can be buried in place. One standard is for where ground water would be 50 and 100 feet below the bottom of the buried waste. The other is for where ground water would be more than 100 feet below the bottom of the buried waste. If the waste meets those standards the operator may bury the waste in place. See Paragraphs 74 through 76. These standards provide for consistency with the landfarm closure requirements of 19.15.36 NMAC.

214. The Division's proposal did not allow in-place burial. Because the Commission has determined that in-place burial is appropriate in certain circumstances, sampling standards are needed. The Commission adopts the sampling standards for landfarm closure from 19.15.36 NMAC. This ensures consistency between 19.15.36 NMAC and 19.15.17 NMAC and between the siting and sampling requirements. See Paragraphs 74 through 76.

215. Upon closure of the temporary pit the operator shall cover the geomembrane-lined, filled, temporary pit with compacted, non-waste containing, earthen material; construct a Division-prescribed soil cover; and recontour and re-vegetate the site. The proper installation of a geomembrane liner and placement of the soil cover restricts moisture from coming into contact with the buried waste and reduces the risk of contaminants leaching out of the waste. Tr. 1103 and 1104.

216. For burial of contents from a drying pad the operator shall construct the temporary pit in accordance with Paragraphs (1) through (6) and (10) of Subsection F of 19.15.17.10 NMAC, within 100 feet of the drying pad, unless the appropriate district office approves another distance and location.

217. The location of the temporary pit within 100 feet of the drying pad limits additional surface disturbance and prevents the accumulation of multiple drying pads from other locations being buried on-site, in effect creating a mini-landfill. Tr. 1091, 1092, 1100, and 1101.

218. Where the operator meets the siting criteria of Paragraph (4) of Subsection C of 19.15.17.10 NMAC an operator may use on-site trench burial for closure of a drying pad or a temporary pit if the waste meets the criteria in Subparagraph (c) of Paragraph (3) of Subsection F of 19.15.17.13 NMAC. See Paragraphs 77 through 81.

219. Prior to placing the contents from the drying pad or temporary pit in the trench, the operator must stabilize or solidify the contents to a bearing capacity sufficient to support the final cover of the trench burial. The operator shall not mix the contents with soil or other material at a mixing ratio of greater than 3:1 soil or other material to contents.

220. The 3:1 ratio is needed to ensure that in order to meet the standards for on-site closure that operators do not bring in large volumes of additional uncontaminated soil or other material to dilute the waste or dig or scrape up additional soil from the existing location, which would result in greater surface disturbance. In other words, the mixing ratio limit is needed to ensure that "the solution to pollution is not dilution".

221. The operator shall sample the contents to determine it meets the standards established for trench burial. If the contents do not exceed the established standards the operator shall construct the trench with a geomembrane liner within 100 feet of the drying pad or temporary pit, unless the appropriate district office approves another distance and location. The location of the trench within 100 feet of the drying pad limits additional surface disturbance and prevents the accumulation of multiple drying pads from other locations being buried on-site, in effect creating a mini-landfill. Tr. 1091, 1092, 1100, and 1101.

222. The operator shall close each drying pad or temporary pit by excavating and transferring all contents and synthetic pit liners to the lined trench.

223. The operator shall test the soils beneath the temporary pit after excavation to determine whether a release occurred. Testing beneath the pit provides notice if a release has occurred so that abatement actions can be taken to protect or remediate fresh water and soils if needed. The rule provides two separate standards for sampling under the temporary pit to determine whether a release occurred. One standard is for where ground water is 50 and 100 feet below the bottom of the temporary pit. The other is for where ground water is more than 100 feet below the bottom of the temporary pit. If a

release has not occurred the operator shall backfill the excavation with compacted, non-waste containing earthen material; construct a Division-prescribed soil cover; and recontour and re-vegetate the site.

224. The Division's proposal did not include different standards for sampling under temporary pits where ground water is between 50 and 100 feet or more than 100 feet below the bottom of the temporary pit. It also contained a different chloride level. The Commission does not adopt the Division's proposed sampling criteria and revises this requirement to reflect the landfarm criteria from 19.15.36 NMAC, which the Commission used for siting in 19.15.17.10 NMAC. See Paragraphs 74 through 76. This ensures consistency between 19.15.36 NMAC and 19.15.17 NMAC and between the siting and sampling criteria. See Paragraphs 74 through 76.

225. If a release has occurred under the temporary pit, the operator shall comply with 19.15.3.116 NMAC and 19.15.1.19 NMAC as appropriate. The operator may propose to transfer the excavated, contaminated soil into the lined trench if it meets the criteria for trench burial. Tr. 1102.

226. The operator shall install a geomembrane cover over the excavated material in the lined trench. The operator shall cover the geomembrane-lined and covered, filled, trench with compacted, non-waste containing, earthen material; construct a Division-prescribed soil cover; and recontour and re-vegetate the site. The proper installation of a geomembrane liner and placement of the soil cover restricts moisture from coming into contact with the buried waste and reduces the risk of contaminants leaching out of the waste. Tr. 1103 and 1104.

227. Subsection G of 19.15.17.13 NMAC specifies the requirements for reclamation of pit locations, on-site burial locations, and drying pad locations. Once the operator has closed a pit or trench or is no longer using a drying pad, below-grade tank, or an area associated with a closed-loop system, pit, trench, or below-grade tank, the operator must reclaim the location and all associated areas to a safe and stable condition that blends with the surrounding undisturbed area. The operator must substantially restore the impacted surface area to the condition that existed prior to the oil and gas operations. NMSA 1978, Section 70-1-4(C) requires an operator to reclaim all surfaces affected by the operator's oil and gas operations. Reclaim is defined as substantially restoring the affected surface to the condition that existed prior to oil and gas operations, or as the surface owner otherwise agrees. NMSA 1978, Section 70-12-3(C). The operator must recontour the area to a contour that approximates the original contour and blends with the surrounding topography and re-vegetate according to Subsection I of 19.15.17.13 NMAC. Subsection G of 19.15.17.13 NMAC allows the operator to propose an alternative to this requirement if the surface owner agrees.

228. Subsection H of 19.15.17.13 NMAC specifies the requirements for soil cover designs. The soil cover for closures where the operator has removed the pit contents or remediated the contaminated soil to the Division's satisfaction shall consist of the background thickness of topsoil or one foot of suitable material to establish

vegetation at the site, whichever is greater. This requirement ensures that enough topsoil or suitable material is present to allow vegetation to re-establish. Tr. 1104, 3538, 3539, and 3563.

229. The soil cover for burial in-place or trench burial shall consist of a minimum of four feet of compacted, non-waste containing, earthen material. The soil cover shall include either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater. Compaction of the soil ensures that the soil cover does not settle and collect water. Collection of water above buried waste increases the likelihood of infiltration of water and water leaching the waste contents. Tr. 1105.

230. Subsection I of 19.15.17.13 NMAC specifies the re-vegetation requirements. The first growing season after the operator closes a pit or trench or is no longer using a drying pad, below-grade tank, or an area associated with a closed-loop system, pit, or below-grade tank, the operator shall seed or plant the disturbed areas. The Division's proposal did not specify a specific requirement for revegetation. The Commission adopts specific requirements so that adequate revegetation is achieved. Vegetation is important in maintaining the site and preventing erosion. Tr. 3625, 3626, and 3627.

231. The operator must accomplish seeding by drilling on the contour whenever practical or by other Division-approved methods. The operator must obtain vegetative cover that equals 70% of the native perennial vegetative cover. Tr. 3647 and 3648. Plants have specific genetic material that is adapted to certain areas so native plants do better in those areas. Tr. 3564. The operator shall repeat seeding or planting until it successfully achieves the required vegetative cover. The requirement for 70% of the native perennial vegetative cover is the same requirement the Commission adopted for revegetation of landfarms in 19.15.36 NMAC. Revegetation requirements should be consistent among Division rules wherever possible.

232. Subsection J of 19.15.17.13 NMAC specifies the requirements for closure notice. The operator shall notify the surface owner and the Division that the operator plans to close a temporary pit, permanent pit, below-grade tank, or where the operator has Division approval for on-site closure. This subsection instructs operators on the methods for providing notice, which closures require notice, and what the operator must do to demonstrate compliance. Tr. 1114, 1115, and 1116.

233. Subsection K of 19.15.17.13 NMAC provides the requirements for closure reports. Within 60 days of closure completion, the operator must submit a closure report on form C-144. The use of form C-144 standardizes the format that operators use in submitting closure reports. Tr. 1116.

19.15.17.14 NMAC: Emergency Actions

234. Subsection A of 19.15.17.14 NMAC provides that 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.

235. Subsection A of 19.15.17.14 NMAC is based upon existing provisions in 19.15.2.50 NMAC. The emergency action provision has been modified from the existing rule, 19.15.2.50 NMAC, to provide 48 hours rather than 24 hours for notification and removal of fluids, solids, or wastes. Tr. 1116, 1117, and 1118.

236. Subsection B of 19.15.17.14 NMAC provides that in an emergency the operator shall construct a pit, to the extent possible given the emergency, in a manner that is consistent with the requirements for temporary pits provided in 19.15.17 NMAC and that prevents the contamination of fresh water and protects public health and the environment.

237. Subsection C of 19.15.17.14 NMAC requires the operator to notify the appropriate district office as soon as possible of the need for the construction of a pit in an emergency.

238. Subsection D of 19.15.17.14 NMAC provides that a pit constructed in an emergency may be used only for the emergency's duration. If the emergency lasts more than 48 hours then the operator must seek the appropriate district office's approval to continue to use the pit. The operator must remove all fluids, solids, or wastes within 48 hours after it is no longer using the pit unless it obtains the appropriate district office's approval for a longer period of time.

239. Subsection E of 19.15.17.14 NMAC provides that 19.15.17.14 NMAC does not authorize the construction or use of an emergency pit as defined in Subsection D of 19.15.17.7 NMAC. Construction or use of such a pit requires a permit issued pursuant to 19.15.17 NMAC, unless the pit is described in a spill prevention, control and countermeasure plan the United States Environmental Protection Agency requires; the operator removes all fluids from the pit within 48 hours and the operator has filed a notice of the pit's location with the appropriate district office.

240. The Commission clarified that Subsection E of 19.15.17.14 NMAC was in reference to emergency pits, not a pit constructed in an emergency, by adding "as defined in Subsection D of 19.15.17.7 NMAC".

241. At the conclusion of the hearing, none of parties proposed changes to 19.15.17.14 NMAC.

19.15.17.15 NMAC: Exceptions

242. Subsection A of 19.15.17.15 NMAC addresses general exceptions.

243. The operator may apply to the Division's Environmental Bureau for an exception to a requirement or provision of 19.15.17 NMAC other than the permit requirements of 19.15.17.8 NMAC; the exception requirements of 19.15.17.15 NMAC; or the permit approval, condition, denial, revocation, suspension, modification, or transfer requirements of 19.15.17.16 NMAC. Tr. 1120. In order for the Environmental Bureau to grant an exception the operator must demonstrate to its satisfaction that the exception provides equivalent or better protection of fresh water, public health, and the environment. Tr. 1122. Subsection A establishes who must receive notice of the exception request and the methods by which notice must be provided.

244. CRI proposed that Subsection A of 19.15.17.15 NMAC be modified to require notice to surface owners of record within one-half mile of the location for which the operator has requested an exception, the county commission, the appropriate city officials if the location is within one-half mile of the city or its zoning and planning jurisdiction and to affected federal, tribal, or pueblo governments. CRI also proposed that the subsection include a time period of 30 days for persons to comment or to request a hearing. The Commission adopts the proposed changes. The changes make the notice requirements consistent with those the Commission adopted for the surface waste management rule, 19.15.36 NMAC, and meet the Commission's requirement to comply with existing Executive Order 2005-056 that directs state agencies to provide for public notice and involvement.

245. Subsection B of 19.15.17.15 NMAC addresses alternative closure methods. The operator of a temporary pit or a closed-loop system may apply to the Division's Environmental Bureau for an exception to the closure methods specified in Paragraphs (1) and (2) of Subsection B of 19.15.17.13 NMAC or Paragraphs (1) and (2) of Subsection D of 19.15.17.13 NMAC. The Environmental Bureau may grant the proposed exception if the operator meets the requirements in Paragraphs (1) through (3) of Subsection B of 19.15.17.15 NMAC.

246. The intent of the exception provisions is to allow industry to develop and apply new methods or practices that protect fresh water, public health, and the environment, but that may not be addressed by the existing sections on design and construction, operations, and closure. Tr. 1139 and 1142.

19.15.17.16 NMAC: Permit Approvals, Conditions, Denials, Revocations, Suspensions, Modifications, or Transfers

247. Subsection A of 19.15.17.16 NMAC requires the Division to review all applications to permit facilities subject to 19.15.17 NMAC and provides that the Division may approve, deny, or approve applications with conditions. Tr. 1147 and 1148. This subsection is needed so that the Division can determine whether the proposed facilities will be sited, designed, constructed, operated, and closed in a manner that protects fresh water, public health, and the environment.

248. The Industry Committee proposed that a requirement be added to require the Division to act upon an application within 60 days and if it did not that the matter be set for hearing before the Commission. Given the Division's current staffing limits a 60 day timeline for acting upon an application would likely result in the Division having to reject incomplete applications rather than working with an operator to resolve deficiencies in the application. Therefore, the Commission does not adopt this proposal.

249. Subsection B of 19.15.17.16 NMAC provides that the Division shall issue a permit if it finds that the operator has filed an acceptable application and that the proposed construction, operation, and closure of a pit, closed-loop system, below-grade tank, or proposed alternative will comply with applicable statutes and rules and will not endanger fresh water, public health, safety, or the environment. Tr. 1147. This subsection is needed so that the Division and operators know under what circumstances the Division shall grant a permit.

250. Subsection C of 19.15.17.16 NMAC provides that the Division may impose conditions or requirements that it determines are necessary and proper for the protection of fresh water, public health, safety, or the environment on a permit. This allows the Division to add conditions that will protect fresh water, public health, safety, or the environment instead of denying the permit.

251. Subsection D of 19.15.17.16 NMAC provides that the Division may deny an application for a permit if it finds that the application and materials that the operator submitted do not sufficiently demonstrate that the operator can construct, operate, and close the proposed pit, closed-loop system, below-grade tank, or proposed alternative without detriment to fresh water, public health, safety, or the environment. Tr. 1148. This subsection is needed so that the Division and operators know under what circumstances the Division may deny a permit.

252. Subsection E of 19.15.17.16 NMAC addresses revocation, suspension, or modification of a permit. Tr. 1148. NMCCA proposed that the Commission add the requirement that "any modification that is equivalent to an exception of any paragraph of 19.15.17 NMAC shall be subject to the notice and approval procedures for an exception". The Commission adopts this proposal because a modification may be equivalent to an exception.

253. Subsection F of 19.15.17.16 NMAC provides that an operator cannot transfer a permit without the Division's prior written approval. Tr. 1148 and 1149. The Division's approval of an application to transfer a well or other facility with which a permitted pit, below-grade tank, or closed-loop system is associated shall constitute approval of the transfer of the permit for the pit, below-grade tank, or closed-loop system so a separate request for approval to transfer a permit will usually not be necessary. In all other cases, the operator and the transferee shall apply for approval to transfer the permit to the division office to which permit applications for the type of facility involved are directed.

254. Subsection G of 19.15.17.16 NMAC provides that the Division shall grant or confirm any approval it grants by written statement. Tr. 1149. Written statements include e-mail. This ensures that approvals are documented.

255. The Industry Committee asked that Subsection H of 19.15.17.16 NMAC be added to specify that any hearings on applications be conducted according to the Division's rule on adjudicatory hearings, 19.15.14.1206 through 19.15.14.1215 NMAC. The Commission adds this subsection to clarify that such hearings will be held pursuant to that rule.

19.15.17.17 NMAC: Transitional Provisions

256. 19.15.17.17 NMAC addresses transitional provisions for existing pits, below-grade tanks, and closed-loop systems. Transitional provisions are needed because there are ongoing activities that will continue after the effective date of 19.15.17 NMAC.

257. Subsection A of 19.15.17.17 NMAC provides that after the effective date of 19.15.17 NMAC, the Division shall not accept applications for permits for unlined temporary pits. The Industry Committee requested that "applications for permits" for unlined temporary pits be added because phasing out of unlined temporary pits is addressed in 19.15.17.13 NMAC and this avoids a conflict between the provisions and the need for approved closure plans.

258. Subsection B of 19.15.17.17 NMAC provides that an operator of an existing operation that is required to close pursuant to Paragraphs (2) or (3) of Subsection A of 19.15.17.13 NMAC must submit a closure plan pursuant to Subsection C of 19.15.17.9 NMAC to the Division not later than 30 days after the effective date of 19.15.17 NMAC. An operator of an existing operation that is required to close pursuant to Paragraphs (1) or (4) of Subsection A of 19.15.17.13 NMAC must submit a closure plan not later than six months after the effective date.

259. The Division's proposal would have required that all existing operations required to be closed pursuant to Paragraphs (1) through (4) of Subsection A of 19.15.17.13 NMAC submit a closure plan within 30 days after the effective date. However, because operators have three years to close unlined, permitted or registered, permanent pits and five years to close a below-grade tank that does not comply with the requirements of Subsection I of 19.15.17.11 NMAC, 30 days is unnecessarily restrictive.

260. Subsection C of 19.15.17.17 NMAC provides that within 180 days after the effective date, an operator of an existing lined permitted permanent pit must request a modification pursuant to Subsection E of 19.15.17.16 NMAC. Within 180 days after the effective date an operator of an existing lined registered permanent pit must apply for a permit. An operator of an existing lined, permitted or registered, permanent pit must comply with the construction requirements of 19.15.17.11 NMAC within 18 months after permit modification or issuance.

261. The Division's proposal required that an operator comply with the construction requirements within two years after the effective date. The Commission adopts the Industry Committee's proposal because it establishes a two step process for bringing pits into compliance with the requirements of 19.15.17 NMAC. It establishes a definitive deadline for submitting the permit application or modification application. In addition, it bases the deadline for complying with the construction requirements on the date the Division issues the permit or permit modification.

262. Subsection D of 19.15.17.17 NMAC provides that an operator of an existing below-grade tank must apply for a permit or permit modification pursuant to 19.15.17 NMAC within 90 days after the effective date. An operator of an existing below-grade tank shall comply with the construction requirements of 19.15.17.11 NMAC within one year of permit issuance.

263. The Division's proposal required that the operator of an existing below-grade tank comply with the permitting requirements within 90 days after the effective date. The Commission adopts the Industry Committee's proposal because it provides a schedule for the operator of a below-grade tank to submit a permit application or modification and bases the deadline for complying with the construction requirements upon the date the Division issues the permit.

264. Subsection E of 19.15.17.17 NMAC provides that an operator of an existing below-grade tank or pit permitted prior to the effective date may continue to operate in accordance with such permits or orders, subject to the provisions in Paragraphs (1) through (4) of Subsection E of 19.15.17.17 NMAC.

265. Subsection F of 19.15.17.17 NMAC provides that an operator may continue to operate an existing closed-loop system without applying for a permit, but the operator shall close the system in accordance with the closure requirements in 19.15.17.13 NMAC.

266. Subsection G of 19.15.17.17 NMAC provides that an operator of an existing sump shall comply with the operational requirements of 19.15.17.12 NMAC.

19.15.1.7 NMAC: Definitions

267. Paragraph (9) of Subsection A of 19.15.1.7 NMAC defines "ASTM" as the ASTM-International, an international standards developing organization that develops and publishes voluntary technical standards for a wide range of materials, products, systems, and services. This acronym is used in Division rules and should be defined.

268. Paragraph (5) of Subsection B of 19.15.1.7 NMAC amends the definition of "below-grade tank" to remove that portion of the definition that referred to the tank's sidewalls not being visible. The current definition has resulted in tanks that are below the ground's surface but which have their side walls visible not being permitted by the Division. Below-grade tank does not include an above ground storage tank that is located

above or at the surrounding ground surface's elevation and is surrounded by berms. This was added to clarify that above ground storage tanks that have berms around them are not below-grade tanks and are not subject to the requirements of 19.15.17 NMAC.

269. Paragraph (10) of Subsection B of 19.15.1.7 NMAC defines "BS&W" as basic sediments and water. This abbreviation is used in 19.15.17 NMAC as well as other Division rules and should be defined.

270. Paragraph (11) of Subsection B of 19.15.1.7 NMAC defines "BTEX" as benzene, toluene, ethylbenzene, and xylene. This acronym is currently defined in 19.15.36 NMAC, but now that it is also used in 19.15.17 NMAC it needs to be included in the general definitions.

271. Paragraph (3) of Subsection C of 19.15.1.7 NMAC defines "cm/sec" as centimeters per second. This abbreviation is used in 19.15.17 NMAC as well as other Division rules and should be defined.

272. Paragraph (6) of Subsection D of 19.15.1.7 NMAC defines "downstream facility" as a facility associated with transportation (including gathering) or processing of gas or oil (including a refinery, gas plant, compressor station, or crude oil pump station); brine production; or the oil field service industry. An upstream facility is defined as not including a downstream facility; therefore, downstream facility needs to be defined.

273. Paragraph (7) of Subsection D of 19.15.1.7 NMAC defines "DRO" as diesel range organics. This acronym is currently defined in 19.15.36 NMAC, but now that it is also used in 19.15.17 NMAC it needs to be included in the general definitions.

274. Paragraph (1) of Subsection E of 19.15.1.7 NMAC defines "EPA" as the United States Environmental Protection Agency. This acronym is used in 19.15.17 NMAC as well as other Division rules and should be defined.

275. Paragraph (6) of Subsection G of 19.15.1.7 NMAC defines "geomembrane" as an impermeable polymeric sheet material that is impervious to liquid and gas as long as it maintains its integrity, and is used as an integral part of an engineered structure designed to limit the movement of liquid or gas in a system. This definition is currently included in 19.15.36 NMAC, but now that the term is also used in 19.15.17 NMAC it needs to be included in the general definitions.

276. Paragraph (7) of Subsection G of 19.15.1.7 NMAC defines "geotextile" as a sheet material that is less impervious to liquid than a geomembrane but more resistant to penetration damage, and is used as part of an engineered structure or system to serve as a filter to prevent the movement of soil fines into a drainage system, to provide planar flow for drainage, to serve as a cushion to protect geomembranes, or to provide structural support. This definition is currently included in 19.15.36 NMAC, but now that the term is also used in 19.15.17 NMAC it needs to be included in the general definitions.

277. Paragraph (8) of Subsection G of 19.15.1.7 NMAC defines "GRO" as gasoline range organics. This acronym is currently defined in 19.15.36 NMAC, but now that it is also used in 19.15.17 NMAC it needs to be included in the general definitions.

278. Paragraph (2) of Subsection H of 19.15.1.7 NMAC defines "HDPE" as high-density polyethylene. This acronym is currently defined in 19.15.36 NMAC, but now that it is also used in 19.15.17 NMAC it needs to be included in the general definitions.

279. Paragraph (3) of Subsection H of 19.15.1.7 NMAC defines "H₂S" as hydrogen sulfide. This chemical symbol is used in 19.15.17 NMAC as well as other Division rules and should be defined.

280. Paragraph (2) of Subsection L of 19.15.1.7 NMAC defines "liner" as a continuous, low-permeability layer constructed of natural or human-made materials that restricts the migration of liquid oil field wastes, gases, or leachate. This definition is currently included in 19.15.36 NMAC, but now that the term is also used in 19.15.17 NMAC it needs to be included in the general definitions.

281. Paragraph (3) of Subsection L of 19.15.1.7 NMAC defines "LLDPE" as linear low-density polyethylene. This acronym is used in 19.15.17 NMAC and should be defined.

282. Paragraph (3) of Subsection M of 19.15.1.7 NMAC defines "Mg/l" as milligrams per liter. This abbreviation is used in 19.15.17 NMAC as well as other Division rules and should be defined.

283. Paragraph (4) of Subsection M of 19.15.1.7 NMAC defines "Mg/kg" as milligrams per kilogram. This abbreviation is used in 19.15.17 NMAC as well as other Division rules and should be defined.

284. Paragraph (3) of Subsection P of 19.15.1.7 NMAC defines "pit". The Industry Committee proposed that the definition be amended to clarify that berms or ponds constructed for storm water or run-on control are not included in the definition of pit. The Commission adopts this proposal because it is not the Commission's intent that a permit be required for a storm water control pond or basin.

285. Paragraph (17) of Subsection P of 19.15.1.7 NMAC defines "PVC" as poly vinyl chloride. This acronym is currently defined in 19.15.36 NMAC, but now that it is also used in 19.15.17 NMAC it needs to be included in the general definitions.

286. Paragraph (18) of Subsection P of 19.15.1.7 NMAC defines "Psi" as pounds per square inch. This abbreviation is used in 19.15.17 NMAC as well as other Division rules and should be defined.

287. Paragraph (7) of Subsection R of 19.15.1.7 NMAC defines "run-on" to mean rainwater, leachate, or other liquid that drains from other land on to any part of a Division-approved facility. This definition is currently included in 19.15.36 NMAC, but now that the term is also used in 19.15.17 NMAC it needs to be included in the general definitions.

288. Paragraph (10) of Subsection S of 19.15.1.7 NMAC amends the definition of "surface waste management facility" to refer to temporary pit rather than a drilling or workover pit and to refer to below-grade tank rather than a tank. Current rule 19.15.2.50 NMAC, which the new rule 19.15.17 NMAC replaces, used the terms drilling and workover pit. 19.15.17 NMAC uses temporary pit to include both drilling and workover pits.

289. Paragraph (5) of Subsection T of 19.15.1.7 NMAC defines "TPH" as total petroleum hydrocarbons. This acronym is currently defined in 19.15.36 NMAC, but now that it is also used in 19.15.17 NMAC it needs to be included in the general definitions.

290. Paragraph (5) of Subsection U of 19.15.1.7 NMAC defines "unstable area". This definition is currently included in 19.15.36 NMAC, but now that it the term also used in 19.15.17 NMAC it needs to be included in the general definitions.

291. Paragraph (6) of Subsection U of 19.15.1.7 NMAC defines "upstream facility" as a facility or operation associated with the exploration, development, production, or storage of oil or gas that is not a downstream facility. This term is used in 19.15.17 NMAC and should be defined.

292. Paragraph (14) of Subsection W of 19.15.1.7 NMAC defines "WQCC" as the Water Quality Control Commission. This acronym is used in 19.15.17 NMAC as well as other Division rules and should be defined.

19.15.1.21 NMAC: Special Provisions for Selected Areas of Sierra and Otero Counties

293. Subsection B of 19.15.1.21 NMAC is amended so that the cross reference reflects that pits are now addressed by 19.15.17 NMAC not 19.15.2.50 NMAC and 19.15.9.711 NMAC.

19.15.2.52 NMAC: Disposition of Produced Water and Other Oil Field Waste

294. Subsection A of 19.15.2.52 NMAC is amended to reflect that 19.15.2.50 NMAC is replaced by 19.15.17 NMAC and 19.15.2.53 NMAC has been replaced by 19.15.36 NMAC.

295. Subsection B of 19.15.2.52 NMAC is amended to reflect that disposal pits are now referred to as permanent pits and 19.15.2.50 NMAC is replaced by 19.15.17 NMAC.

19.15.3.114 NMAC: Safety Procedures for Drilling and Production

296. 19.15.3.114 NMAC is amended to reflect that oil wells must be cleaned into a pit or tank permitted pursuant to 19.15.17 NMAC.

19.15.4.202 NMAC: Plugging and Permanent Abandonment

297. 19.15.4.202 NMAC is amended to reflect that the operator must close all pits and below-grade tanks in accordance with 19.15.17 NMAC.

19.15.13.1103 NMAC: Sundry Notices and Reports on Wells (Form C-103)

298. 19.15.13.1103 NMAC is amended to reflect that the Division shall not approve a plugging report until the operator demonstrates that it has complied with 19.15.4.202 NMAC, which requires the operator to close all pits and below-grade tanks in accordance with 19.15.17 NMAC. This replaces the reference to the operator closing pits and leveling and clearing the location of junk.

Final Conclusions

299. For the reasons explained in connection with each of the proposed rule sections and subsections, and in order to provide a regimen for regulating the use of pits, below-grade tanks, closed-loop systems, and sumps in a manner that will protect fresh water, human health, and the environment, the Commission concludes that the proposed rules as revised by the Commission should be adopted.

300. The Commission has considered the potential effects of these rule changes on small businesses as required by the Small Business Regulatory Relief Act, and finds that the rule changes as adopted are necessary to protect fresh water, human health, and the environment. The Commission has made those changes it found possible to the Division's proposal to lessen any potential effects while still meeting its statutory duty to protect fresh water, human health, and the environment. These include allowing operators to use temporary pits for cavitation of coal bed methane wells in areas where ground water is less than 50 feet below the pit, allowing operators to bury waste on-site when the location and waste meet the siting criteria and waste criteria requirements in Subsection C of 19.15.17.10 NMAC and Subsection F of 19.15.17.13 NMAC, and not requiring operators to replace or retrofit below-grade tanks that meet the requirements in Paragraph (5) of Subsection F of 19.15.17.10 NMAC so long as the tanks demonstrate integrity.

301. The final rules, incorporating all changes proposed during the proceedings, that the Commission has determined to adopt are set forth in Exhibit A to this order.

302. For the reasons stated above and in the transcript, the Commission concludes that it should adopt the new rule 19.15.17 NMAC and the proposed amendments to Subsections A, B, C, D, E, G, H, L, M, P, R, S, T, U, and W of 19.15.1.7 NMAC, Subsection B of 19.15.1.21 NMAC, 19.15.2.52 NMAC, 19.15.3.114 NMAC, 19.15.4.202 NMAC, and 19.15.13.1103 NMAC in the form attached to this Order as Exhibit A and that existing rule 19.15.2.50 NMAC should be repealed.

IT IS THEREFORE ORDERED THAT:

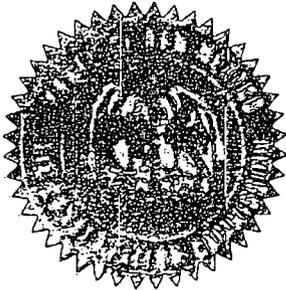
1. The Commission hereby repeals existing rule, 19.15.2.50 NMAC; and adopts new rule, 19.15.17 NMAC and the amendments to Subsections A, B, C, D, E, G, H, L, M, P, R, S, T, U and W of 19.15.1.7 NMAC, Subsection B of 19.15.1.21 NMAC, 19.15.2.52 NMAC, 19.15.3.114 NMAC, 19.15.4.202 NMAC and 19.15.13.1103 NMAC of the Division rules shown in Exhibit A to this Order, effective as of the date of publication thereof in the New Mexico Register.

2. Division staff is instructed to secure prompt publication of the referenced rule changes in the New Mexico Register.

3. The Commission retains jurisdiction of this matter for entry of such further orders as may be necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

**STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION**



Handwritten signature of Jami Bailey in cursive.

JAMI BAILEY, CPG, MEMBER

Handwritten signature of William Olson in cursive.

WILLIAM OLSON, MEMBER

Handwritten signature of Mark E. Fesmire in cursive.

MARK E. FESMIRE, CHAIR

SEAL