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

APPLICATION OF THE NEW MEXICO OIL CONSERVATION DIVISION FOR REPEAL OF EXISTING RULES 709, 710 AND 711 CONCERNING SURFACE WASTE MANAGEMENT AND ADOPTION OF NEW RULES GOVERNING SURFACE WASTE MANAGEMENT

CASE NO. 13586
ORDER NO. R-12460-B

ORDER OF THE OIL CONSERVATION COMMISSION

BY THE COMMISSION:

THIS MATTER came before the Oil Conservation Commission ("the Commission") for consideration on April 20 and 21, May 4, 5 and 6 and May 18 and September 21 and 22, 2006; 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 19th day of October, 2006,

FINDS THAT:

1. NMSA 1978 Sections 70-2-11 and 70-2-12(B) grant that the Oil Conservation Division (Division) authority to implement regulations 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 Oil Conservation Commission (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 on its own motion tor the purpose of the repeal of existing Rules 709, 710 and 711 [19.15.9.709 NMAC, 19.15.9.710 NMAC and 19.15.9.711 NMAC] concerning surface waste management and adoption of new rules governing surface waste management.

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.

4. Notice requirements were met and sworn testimony and exhibits concerning notice were presented to the Commission on April 20, 2006. At the conclusion of the hearing, on September 21 and 22, 2006, the Commission deliberated in open session by reviewing the proposed rules and voted 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.

Background of this Proceeding and the Division's Proposal

5. The Division applied to the Commission to adopt proposed changes to the Division's rules concerning surface waste management [presently coditied as 19.15.9.709 through 19.15.9.711 NMAC] and proposed that the revised rules be re-codified as 19.15.2.51 through 19.15.2.53 NMAC. The division's proposed rules are hereinafter called proposed Rules 51, 52 and 53. The Division also proposed revisions to certain definitions set forth in Oil Conservation Division Rule 7 [19.15.1.7 NMAC].

6. The Division filed its original proposal in September 2005. Since that time, the Division and Commission have received extensive comments, the Division has conducted a series of stakeholder and outreach meetings, and the Division has published several revisions of its proposals. On February 27, 2006, the Division filed its Notice of Filing of Fourth Amended Proposal and published the complete draft proposal presented to the Commission at the hearing. On March 30, 2006, the Division filed its Notice of Filing of Fifth Amended Proposal and published some revisions and corrections to the February 27, 2006 draft. The Division's draft published on February 27, 2006, with the revisions published separately on March 30, 2006, (the original proposal) was the proposal before the Commission at the start of the hearing in this case.

7. The hearing of this case comprised six days of testimony and argument, on April 20 and 21, May 4, 5 and 6 and May 18, 2006. 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 Division to file a redline draft indicating all changes to its proposal that it accepted and sponsored. The Division filed a redline draft on May 13, 2006 (the May 13 draft). Subsequently, on June 5, 2006, the Division filed another redline draft (the June 5 draft) indicating additional changes from the May 13 draft. Certain changes proposed in the May 13 draft and the June 5 draft are discussed separately in connection with the discussion of each proposed rule and subsection.

Participants in the Hearing

8. At the hearing, the Division appeared through counsel and presented testimony in support of its proposals. The Industry Committee (a group of oil and gas producers who operate wells in New Mexico) [the Industry Committee], John Hendrix Corporation, and the New Mexico Oil and Gas Association (NMOGA) appeared through counsel and offered evidence in opposition to portions of the proposals and in support of their respective alternative proposals. The New Mexico Citizens for Clean Air & Water, Inc. (NMCCAW) appeared through counsel and an accredited representative, and offered evidence in support of portions of the Division's proposals and in support of certain alternative proposals. During the hearing, The Industry Committee and NMCCAW

presented a memorandum incorporating certain joint recommendations of those parties. Controlled Recovery, Inc. (CRI), an operator of an existing permitted facility, appeared through its President and through counsel and presented evidence in support of some of the Division's proposals and in opposition to others.

9. The Independent Petroleum Association of New Mexico (IPANM), The Williams Companies, Inc., Yates Petroleum Company (Yates), the Oil & Gas Accountability Project and Rebecca G. Perry-Piper filed written comments. IPANM and the Citizens Alliance for Responsible Energy also appeared through accredited representatives and presented oral public comments at the hearing.

10. References to "the parties" include those who participated in the hearing and those who filed written comments.

The Evidence

11. The Division presented the testimony of environmental engineers Wayne Price, Edwin E. Martin, and Carl J. Chavez, and of hydro-geologist, Glenn von Gonten. The Division employs Mr. Price as Chief of the Environmental Bureau. He testified as an expert environmental engineer and as the Division's chief environmental officer. He gave the Commission a general overview of the Division's proposals and also gave a technical presentation explaining the reasons for the Division's proposal limiting chlorides in landfarms. The Division employs Mr. Martin as an environmental engineer and permit writer for waste management facilities. He testified as a fact witness concerning the permitting process and as an expert environmental engineer. He explained the permitting process at it now exists, the changes the Division proposes and the reasons for the changes. He also explained the Division's proposals regarding general operating rules for all surface waste management facilities. Mr. Chavez testified as an expert environmental engineer with specialized expertise in landfills. He explained the Division's proposed rules for the construction, operation and closure of oil field waste landfills, and the reasons for the proposals. Mr. von Gonten testified as a geologist and hydrologist. He explained the Division's proposed rules for construction, operation and management of landfarms. The Division also presented Theresa Duran-Saenz as a fact witness concerning notices.

12. The Industry Committee presented the testimony of Dr. Daniel B. Stephens, a geologist and hydro-geologist, Dr. Kerry L. Sublette, an environmental chemist and engineer, and Dr. Ben Thomas, III, a toxicologist, who testified as experts in their respective fields. Dr. Stephens testified concerning management of chlorides in landfarms and the environmental implications of chlorides in landfarms. Dr. Sublette testified concerning management of landfarms and the bioremediation process. Dr. Thomas explained principals of risk-based regulation and discussed management of risks incident to contaminants in landfarms.

13. Controlled Recovery, Inc. presented the testimony of I. Keith Gordon, an engineer with specialized expertise in landfills. Mr. Gordon testified concerning the management of gases in landfills.

14. The NMCCAW presented the testimony of Dr. Donald Neeper who, *inter alia,* described extensive research he had done regarding chloride and hydrocarbon contamination issues.

15. NMOGA presented the testimony of Yolanda Perez, senior regulatory specialist for ConocoPhillips and chair of NMOGA's Regulatory Affairs Committee, who testified as an expert in oil and gas industry regulatory matters.

16. 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.

The Task Force Process

17. Following the conclusion of the hearing, the Secretary of Energy, Minerals and Natural Resources appointed a task force (the Task Force) to review the proposals and evidence and make recommendations to the Commission regarding the provisions that it should adopt based upon the testimony and evidence presented during the hearing. The Task Force consisted of the following persons:

Alan Alexander - Burlington Resources/ConocoPhillips
John Byrom - D.J. Simmons, Inc.
Carl Chavez - Division Staff
Bill Marley - Gandy Marley, Inc.
Raye Miller - Marbob Energy Corp.
Donald Neeper (John Bartlit) – New Mexico Citizens for Clean Air & Water
Dennis Newman - Occidental Permian Ltd.
Terry Riley – Theodore Roosevelt Conservation Partnership
Glenn von Gonten - Division Staff

18. On September 1, 2006 the Task Force published its report, including recommended changes to the Division's June 5 draft.

19. The Division adopted the Task Force Report as a Division proposal and urged the Commission to adopt the changes recommended by the Task Force.

20. The particular recommendations of the Task Force are discussed separately in connection with the discussion of each proposed rule section and subsection.

General Findings and Conclusions

21. 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) and (22), to regulate the disposition of nondomestic wastes resulting from oil and gas industry operations, to protect fresh water, public health and the environment. Rules 709, 710 and 711 were adopted pursuant to this authority, and the Commission has authority to amend these rules in such manner as it determines to be necessary and appropriate for the protection of fresh water, public health and the environment.

22. 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.

23. Pursuant to NMSA 1978 Section 74-6-12.G, as amended, The New Mexico Water Quality Act (NMSA 1978 Sections 74-6-1 through 74-6-17, as amended) "does not apply to any activity or condition subject to the authority of the oil conservation commission pursuant to provisions of the Oil and Gas Act . . ."

24. Although the Commission and the Division have authority pursuant to NMSA 1978 Section 70-2-12.B (22), as amended, to apply the Water Quality Act to certain oil and gas industry operations, that authority is included within, and does not limit, the general authority of the Commission and the Division to regulate the disposition of oil and gas industry wastes under the Oil and Gas Act, without reference to the Water Quality Act.

25. 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]

Consistently 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.

26. 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. . .

27. 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 clerical mistakes in a proposal. Thus, the Commission concludes that it can, consistently 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.

28. All of the proposals in the Divisions May 13 and June 5 drafts and in the Task Force recommendations are logical outgrowths of the Division's Original Proposal.

29. Existing Rules 709, 710 and 711 and accompanying regulatory definitions should be revised to close gaps in the regulatory framework, resolve ambiguities, provide additional specificity and otherwise improve the regulation of disposition of oil field waste in New Mexico.

Definitions

30. The Division's proposed definition of "oil field waste" was not intended as a substantive change. However, the proposed definition is clearer and more accurate than the present definition and should be adopted.

31. IPANM commented that the definition should make clear that drill cuttings and pit liners are "oil field waste." The Commission concludes that these materials are clearly within the scope of the proposed definition, and no change is necessary to include them.

32. The Division's proposed definition of "soil" is derived from a geologic dictionary, and should be adopted.

33. The Division's proposed definition of "surface waste management facility" categorically excludes those facilities that are excluded from the definition in existing Rule 711. The definition also categorically excludes those facilities, except for small landfarms, that are exempt from permitting requirements of existing Rule 711. The definition incorporates two significant substantive changes. First, small landfarms that are exempt from permitting under present Rule 711 are included in the proposed definition of surface waste management facility. This type of facility will be exempt from permitting, but subject to registration and other special provisions set forth in proposed Rule 53.H. Second, the proposed definition clarifies that abatements conducted pursuant to Rule 19 and remediations conducted pursuant to or allowed by Rule 116, and are not "surface waste management facilities" and are not subject to proposed Rule 53.

34. The Commission concludes that the proposed definition of "surface waste management facility" resolves uncertainties in the present rule and should be adopted. It

is not necessary or appropriate that abatements or remediations be regulated as surface waste management facilities since such activities are controlled by other Division rules.

35. Yates has objected to the proposed definition as over-inclusive, contending that it includes pits regulated separately by Rule 50. Actually that is not the case, however. Rule 50 excludes from its operation pits regulated under existing Rule 711. Rule 50 applies to pits that are excluded from the definition of surface waste management facilities.

36. The Division's proposed definition of "watercourse" is the definition found in the New Mexico Water Code (NMSA 1978 Section 72-1-1) and the Water Quality Control Commission's rules.

37. Yates and others objected to the definition of "watercourse," contending that it would include so many small and ephemeral streams as to render location of permitted facilities away from watercourses impracticable.

38. The Commission concludes, however, that this definition ought to be adopted to coordinate the State's various regulatory programs. The Division has ample discretion, under the variance procedures in proposed Subsection 53.K, to deal with issues of *de minimis* watercourses on a case-by-case basis,

39. No party has objected to any of the other changes in definitions that the Division has proposed as amendments to existing Rule 7, and those definitions should accordingly be adopted.

40. The Division's May 13 draft proposed the following changes:

a. the addition of the words "drilling for" to the definition of oil field waste;

b. deletion of the word "onsite" in a clause excluding environmental remediations conducted pursuant to other rules from the definition of "surface waste management facility", and

c. revision of the clause excluding environmental remediations conducted pursuant to other rules from the definition of "surface waste management facility" to also exclude from that definition corrective action relating to a non-reportable release.

41. These changes conformed the proposed language to the general intent of the definitions to which they relate. No party objected to these proposed changes, and they should be adopted.

Rule 51: Transportation of Wastes

42. Rule 51 regulates the transportation of liquid oil field wastes. Subsections A, B and C of this rule are derived from existing Rule 709, which requires that a

transporter of produced water obtain a permit from the Division. The rule extends this requirement to all liquid oil field wastes. Since transportation of other liquid contaminants presents environmental hazards similar to those associated with transportation of produced water, this rule should be adopted.

43. Rule 51.D requires that a transporter be licensed to do business in the State and possess other required permits. It also allows denial of transportation permits to persons who have violated other laws or rules or to entities in which such persons own 25 percent or greater interests. These provisions appropriately require transporters to comply with other legal requirements, and should be adopted.

44. The provision permitting denial of permits to persons who have violated other Division requirements and to entities related to such persons are analogous to provisions of Rules 40 and 100 relating to oil and gas operators. Adoption of these provisions will help to synchronize requirements for Division-issued permits issued.

45. Rule 51.E, authorizing cancellation or suspension of the permit of a transporter who violates Division rules concerning transportation or disposition of wastes, is similar existing Rule 710.D, which provides for permit cancellation on this basis. The addition of the alternative remedy of suspension of a permit will give the Division greater regulatory flexibility, and should be adopted.

46. In the May 13 draft, the Division proposed revision of Rule 51.C to include a rebutable presumption that, if an oil and gas operator has checked the division's website for cancellations or suspensions of permits within 30 days prior to a shipment, the operator had no notice of any cancellation or suspension that was not then posted. The Division proposed this change in response to an Industry Committee comment. Because Rule 51, like existing Rule 710, prohibits oil and gas operators from shipping waste in unpermitted vehicles, the Industry Committee proposed that Rule 51 include a safe harbor for an oil and gas operator who delivers waste to a transporter whose permit has been revoked or suspended, without knowledge of the revocation or suspension.

47. The Commission concludes that safe harbor provision is appropriate and should be adopted. Therefore, the Commission adopts a provision that requires that the Division shall post a list of currently approved C-133s, authorization to move liquid waste, on its website. The list of form C-133s posted on the division's website on the first business day of each month shall be deemed notice of valid C-133s for the remainder of that month.

48. In the May 13 draft, the Division further proposed revision of Rule 51.E to also authorize cancellation or suspension of a permit on any ground upon which a permit could be denied under Subsection D. This change should be adopted in the interest of consistency.

Rule 52: Disposition of Wastes

49. Rule 52 sets forth permitted and prohibited methods of disposition of oil field waste. It is similar to existing Rule 710, which applies only to produced water. Rule 710, however, is entitled "Disposition of Transported Produced Water," a title that might suggest that it would not apply to produced water that has not been "transported." Disposition of wastes involves the same environmental concerns, whether or not the waste has been "transported." As the Division has recommended, the title of Rule 52 should not include the word "transported."

50. The extension of Rule 52 to all oil field waste is appropriate. Existing Division rules contain various provisions in various rules relating to the disposition of different categories of wastes. The Division's statutory authority to regulate disposition of oil field waste is comprehensive and applies to all types of oil field waste. Adoption of Rule 52 will eliminate inconsistencies, till any gaps that may exist in existing rules and make clear to operators what is and is not a permissible disposition of waste.

51. The Industry Committee suggested addition of language to proposed Rule 52 providing that no one may dispose of waste in any pit without the permission of pit's operator. The Commission agrees that such disposition is improper, either in a pit or in any other facility. The Division proposed language incorporating a prohibition on unauthorized disposition in its May 13 draft, and the Commission concludes that this proposed change should be adopted.

Rule 53.A: Definitions.

52. Rule 53.A includes definitions of terms used only in Rule 53.

53. Among the terms defined is "small landfarm." The Commission's reasons for concluding that this definition should be adopted as proposed, with certain changes, are set forth in the section of this order that discusses Proposed Rule 53.H, dealing with this type of facility.

54. A concern, however, has arisen as to whether a remediation conducted under Rule 116 is a "small landfarm." The proposed definition does not necessarily resolve this question. Although such remediations are categorically excluded from the definition of "surface waste management facility" set forth in proposed Rule 7.S, the definitions of "landfarm" and "small landfarm" in proposed Rule 53.A(1) do not expressly provide that such facilities are a subset of the category of "surface waste management facilities," though the Division witnesses testified that such was the intent. Accordingly, title of Paragraph (1) of Rule 53.A should be changed to read "Definitions relating to types of surface waste management facilities," in order to resolve this ambiguity, in accordance with the Division's proposal in its May 13 draft.

55. The definition of "major modification" specifies that category of permit modifications the Division may grant only after public notice and opportunity for

comment. The Industry Committee and Yates objected to this definition as inherently vague, and specifically objected to the last clause, which allows the Division to determine that a proposed modification is a "major modification" if it determines that public notice and participation is appropriate.

56. The Commission concludes, however, that any attempt to distinguish between those facility modifications that are major and those that are minor will necessarily be somewhat vague. The proposed definition, including the clause giving the Division discretion to define a modification as major, will provide the Division flexibility in applying the public notice and comment requirements to a variety of unanticipated situations that may arise, and should accordingly be adopted. The requirement to consider the need for public notice and comment provides a standard to govern the Division's exercise of its discretion in this matter.

57. The definition of "centralized facility," as distinguished from "commercial facility" is intended to be a non-substantive provision, A centralized facility is one operated by an oil and gas operator or its affiliate to manage waste resulting from its own operations. This was the intention of the definition of "centralized facility" in existing Rule 711, but the definition is complicated and confusing. The Commission concludes that the Division's proposed definition should be adopted in the interest of clarity.

58. Alternative distinctions between centralized and commercial facilities proposed by other parties would represent a substantive change, and should not be adopted.

59. No party has objected to any of the other definitions that the Division has proposed, and those definitions should be adopted.

60. The Task Force recommended addition of a definition of "landfarm cell" that would limit the size of a landfarm cell to a maximum of ten acres. The Task Force report observed that the absence of a limitation on the size of landfarm cells would lead to difficulty in regulating sampling and closure.

61. The Commission finds this reasoning persuasive and concludes that the Task Force recommendation in this respect should be adopted.

Rule 53.B: Permit Required

62. Rule 53.B maintains the requirement of existing Rule 711 that surface waste management facilities be permitted, except as otherwise specifically provided.

Rule 53.C: Permitting and Financial Assurance

63. Paragraph (1) of Rule 53.C sets out the requirements for a surface waste management facility permit application. Most of these requirements are either in existing Rule 711, or in the Division's guidelines, promulgated in 1997, for implementation of

Rule 711 (the guidelines). The provisions of the guidelines should be incorporated into Rule 53 in order to resolve questions regarding whether or not the guidelines must be followed. All of the information required in Paragraph (1) of proposed Rule 53.C is relevant to the issues the Division must address in determining the propriety of issuing a permit.

64. Paragraph (1) includes a new requirement that a registered professional engineer certify engineering designs for a proposed facility's components. These are complex, technical plans and specifications, and a requirement for certification by a professional with specified qualifications is appropriate. Furthermore, no party has objected to this proposed requirement for new facilities.

65. Paragraph (1) also introduces new requirements for a leachate management plan and a gas safety management plan for landfills. No party has objected to the requirement for a leachate management plan. CRI objected to the proposal to require a gas safety management plan. That proposal is discussed below in the portion of this order considering proposed Rule 53.F, relating to landfills.

66. Paragraph (2) of Rule 53.C provides for an abbreviated form of application for minor modifications of a permitted facility. Existing Rule 711 does not provide a procedure for approval of minor modifications. No party objected to the minor modification application procedure provided in Paragraph (2), and it should be adopted.

67. Paragraph (3) of Rule 53.C requires the Division to initially review all surface waste management facility permit applications for "administrative completeness," and defines what constitutes administrative completeness. Paragraph (4) requires that the applicant give public notice of the filing of the application *after* the Division has determined that the application is administratively complete.

68. The requirement for review for administrative completeness is new as applied to surface waste management facility applications. However, Division Rule 19 regarding abatement plans and Water Quality Control Commission Rule 20.6.2.3108, regarding discharge plans, contain similar provisions. Requiring a determination regarding the completeness of the application prior to public notice will help to insure that the concerned citizens will have sufficient information about the proposed facility to comment thereon. No party opposed these provisions, and they should be adopted.

69. Paragraph (4) of Rule 53.C prescribes the method and timing for public notice of surface waste management facility applications. It provides for a two-stage notice procedure. Upon determination of administrative completeness the applicant must mail notice to landowners within one-half mile of the proposed facility (or a greater distance if ordered by the Division) and to certain governmental entities, and the division must notify those persons on the Division's general mailing list. Following the initial notice, there is a 30-day period for public comment. When the Division makes a tentative decision on the application, the Division must notify the applicant and post the tentative decision on its website. The applicant must then give notice of the Division's

tentative decision by publication in the newspaper and by mail to governmental entities and to persons who have previously submitted comments. Subparagraph (4)(f) prescribes the contents of the notice. There is then another 30-day period during which members of the public may comment or request a hearing. The Division must hold a hearing if there is significant public interest, or if it receives comments that it deems to have technical merit.

70. The two-stage notice procedure is a new provision. It is similar to the discharge plan procedure provided by Water Quality Control Commission Rule 20.6.2.3108 NMAC. Receiving public comment both prior to initial consideration, when the public can comment on the propriety of permitting the proposed facility generally, and following tentative decision, when the public can comment on the propriety and adequacy of conditions the Division has determined to require, will help the Division make more informed decisions.

71. Except for the two-stage procedure and the additional requirement to notify affected federal, tribal and pueblo officials, notice requirements track those in existing Rule 711. No party objected to the proposed notice provisions, except that Yates objected to the provision allowing the Division to require notice to landowners beyond the Division's proposed one-mile radius in particular cases. That provision, however, is carried forward without change from existing Rule 711. The Commission finds that a one-half mile radius should be adopted as consistent with Paragraph (7) of Subsection A of 19.15.14.1210 NMAC.

72. The Task Force recommended a change to Paragraph (4) to require that public notices of the Division's tentative decision alert the public if the Division proposes to grant any waiver of, or exception to, any applicable requirement of Rule 53. The Commission concludes that this proposal conforms to the Commission's general intent to facilitate effective public input into the permitting process, and should be adopted.

73. Paragraphs (5) and (6) of Rule 53.C set out requirements for financial assurance applicable to new surface waste management facilities. The requirements for centralized facilities are unchanged from those provided in existing Rule 711. For new commercial facilities, the required amount of financial assurance is the greater of $25,000 or the estimated cost of closing the facility. The rule removes the $250,000 maximum for financial assurance for new commercial facilities provided in existing Rule 711, as well as provisions allowing deferred submission of a portion of the required amount. In addition, the rule establishes a procedure for Division review of an applicant's closure cost estimate that establishes the required amount of financial assurance.

74. The changes to the financial assurance requirements for new commercial facilities are designed to afford the State protection for the full probable cost of closing a facility in event of an operator's inability to perform closure. NMCCAW commented that the proposal would not provide adequate financial assurance for closure of a landfarm if the closure estimate were based on leaving remediated soils in place, because a landfarm

might not be able to meet the standards for closure in this manner, and closure by removal of the treated soils would be substantially more expensive.

75. The Task Force recommended a change to Subparagraph 6(e) to provide for review of a landfarm's financial assurance when the landfarm seemed likely not to meet the closure standards of Paragraph 53.G(6). The Commission concludes that the Task Force's proposed change, as well as the corresponding change it recommended to Paragraph 53.G(7) should be adopted for the reasons noted in findings concerning Paragraph 53.G.

76. Subparagraph (6)(e) provides that the Division may review a facility's financial assurance at five-year intervals, or at the time of any major modification, and, if necessary, require additional financial assurance. The Division may not, however, increase the financial assurance requirement for an existing facility above the $250,000 maximum provided in existing Rule 711 except in case of a major modification. Although existing Rule 711 provides for review of facilities at five-year intervals, it does not expressly provide that financial assurance requirements may be increased. This change is necessary to insure continued full-cost protection. Maintenance of the $250,000 maximum for existing facilities is appropriate because operators may have relied on that provision.

Rule 53.D: Permit Approval. Denial, Suspension, Modification and Transfer

77. Subparagraph (1)(a) of Rule 53.D provides that the Division shall issue a permit if the applicant complies with the rule and the facility can be operated without endangering fresh water, public health or the environment. Existing Rule 711 provides that the Division *may* issue a permit if the applicant has complied with the rule, but does not provide a standard. The proposed rule provides a standard to control the Division's discretion, and accordingly should be adopted.

78. Subparagraphs (1)(b) and (c) of Rule 53.D limit permits for new facilities or major modifications to a term of 10 years, and provide procedure for renewal of expiring permits. Under existing Rule 711, all permits continue in effect indefinitely unless revoked. This would continue to be the case for existing facilities absent major modification.

79. The limitation of permits to a ten-year term, with renewal provisions, will improve the ability of the Division to assure that facilities continue to meet acceptable standards in a changing environment. A transitional provision allowing facilities that have applied for permit renewal to continue operation will prevent the renewal process from disrupting facility operation. Existing facilities whose permits have indefinite duration will continue to be subject to comprehensive review at five-year intervals, as provided in existing Rule 711. No party objected to limiting the terms of new permits, and these provisions should be adopted.

80. Paragraph (2) of Rule 53.D authorizes the Division to deny a permit if the applicant or an affiliate of the applicant has a history of violating environmental laws or is not in compliance with Division Rule 40. "Affiliate" is defined by reference to 25 percent or greater ownership. Existing Rule 711 authorizes revocation of a permit if the *applicant* has a history of violating environmental laws. Otherwise, this provision is new.

81. Yates and the Industry Committee objected to allowing denial of a permit based on the past actions of an owner of less than a 50 percent interest. This proposal, however, is consistent with Division Rule 100.B, which authorizes denial of registration as an operator of oil and gas wells on the basis of 25 percent ownership. The Commission concludes that this provision is necessary for effective enforcement of Division rules and orders and to make the enforcement tools of permit cancellation or suspension effective. Permit denial in these circumstances is discretionary, not mandatory. An applicant will have an opportunity to demonstrate in the permitting process why a permit should not be denied on this basis.

82. Paragraph (3) of Rule 53.D authorizes the Division to place conditions on permits, and provides a standard. Existing Rule 711 contains a similar provision. No party objected to this provision. Yates suggested addition of a provision expressly imposing a burden of proof on the Division to support additional conditions. However, the Commission concludes that the Division, as proponent of additional conditions, would have the burden of justifying them in any event, and no such express requirement is necessary.

83. Paragraph (4) of Rule 53.D. like existing Rule 711, allows the Division to revoke a permit for good cause after notice and hearing. The provision alternatively allows the Division to suspend a permit, and describes the effect of a permit suspension.

84. Permit suspension will provide the Division with an additional enforcement tool and help in securing compliances with the rule and permits. No party objected to this proposal, and it should be adopted.

85. Paragraph (5) of Rule 53.D requires Division approval for transfer of a permit and prescribes a procedure. Except for the requirement that officers, directors and owners of 25 percent or greater interests in the transferee be identified, there is no material change from the similar requirement of existing Rule 711.

Rule 53.E: Siting and Operational Requirements Applicable to All Permitted Facilities

86. Paragraphs (1) and (2) of Rule 53.E establish siting requirements for new surface waste management facilities. No landfarm that accepts soil or drill cuttings with a chloride concentration that exceeds 1,000 mg/kg or landfill shall be located where ground water is less than 100 feet below the lowest elevation at which the operator will place oil field waste. No landfarm that accepts soil or drill cuttings with a chloride concentration that exceeds 500 mg/kg, small landfarm or other surface waste

management facility shall be located where ground water is less than 50 feet below the lowest elevation at which the operator will place oil field waste. All surface waste management facilities must be at prescribed distances from surface water features and existing wells, and may not be sited in any floodplain or geologically unstable area. Existing Rule 711 does not provide siting criteria. Existing guidelines provide only that such facilities not be located in a watercourse, lakebed, sinkhole or other depression.

87. Vertical and horizontal separation of waste facilities from surface and underground water provides a margin of safety for protection of fresh water. No party objected to the required lateral distances to surface water or wells, except that Yates objected to the definition of "watercourse" as noted above. The Commission concludes that these requirements should be adopted to protect watercourses.

88. The Division proposed that surface waste management facilities only be located where the depth to ground water was at least 50 feet below where the operator would place oil field waste. The NMCCAW and CRI objected to the 50-foot distance to ground water as being insufficiently protective. They pointed out that the New Mexico Environment Department (NMED) requires that solid waste landfills be located where depth to ground water is at least 100 feet, that the testimony concerning modeling assumed uniform transport through the soil and did not consider preferential pathways through the soil and testimony indicates that vapors from a landfill could reach depths exceeding 100 feet. Division witnesses testified that a 50-foot distance was sufficient for environmental protection in light of other provisions of the proposed rule requiring multiple lining of landfills and imposing chloride waste screening requirements for landfarms.

89. Yates objected to the 50-foot distance to ground water as over-protective and unnecessary. However, the Commission concludes based on NMCCAW and CRI's testimony, preferential pathways and NMED's requirement of a 100-foot depth to ground water that the proposed 50-foot distance is not sufficiently protective for landfills and large landfarms that accept waste with chloride concentrations greater than 500 mg/kg and therefore adopts a 100-foot distance to ground water requirement for those facilities.

90. Paragraph (3) of Rule 53.E limits the size of permitted facilities to a maximum of 500 acres. No party objected to this proposal, and it should be adopted.

91. Paragraphs (4) through (11) of Rule 53.E prescribe operating requirements applicable to all permitted facilities. Except as indicated below, these requirements are similar to provisions of existing Rule 711 or Division guidelines.

92. The provision of Paragraph (5) requiring that waste introduced into landfarms and landfills be dry continues a guideline requirement as to landfarms, but is new as to landfills. The Division's witness, Mr. Chavez, testified that wastes deposited into landfills should be as dry as possible, since moisture in the waste would cause leachate management problems (Tr 389). No party objected to the extension of the moisture ban to landfills.

93. The provision of Paragraph (5) requiring use of the paint filter test is new. Yates objected to requiring application of the paint filter test to every load of waste brought to a facility, due to the alleged difficulty of conducting it. However, the Division's witness, Mr. Chavez testified that the test is easy to perform, and an operator should not have difficulty applying it (Tr 384-85). Mr. Chavez described how the test should be conducted (Tr 389). Furthermore, the provision for use of the paint filter test is a performance standard. The proposed regulatory language does not prescribe application of the test to every load, but could be satisfied by a sampling procedure. Accordingly, the Commission concludes that the paint filter test is an appropriate method to require.

94. The provision of Paragraph (6) requiring that disposition of regulated NORM be in accordance with Rule 714 is not a substantive change since that rule would govern in any case.

95. Subparagraph (6)(b) eliminates the provision of existing Rule 711 requiring that a form C-138 be filed with, and approved by, the Division before a facility can accept non-exempt, non-hazardous oil field waste. This provision has imposed significant administrative burden on the Division and has minimal relevance to any regulatory objective. No party objected to this change.

96. Subparagraph (6)(c) addresses the acceptance of non-oil field waste at permitted facilities. It continues a provision of existing Rule 711 allowing acceptance of non-oilfield waste in emergencies pursuant to orders of the Department of Public Safety. However, it eliminates a provision that now purports to authorize, with Division approval, acceptance non-oil field waste that is similar in physical and chemical composition to the oilfield wastes.

97. The Commission concludes that the provision of the existing rule allowing the Division to authorize acceptance of non-oil field waste at permitted facilities exceeds the Commission's and the Division's statutory authority, and was improvidently adopted.

98. The Commission's and the Division's authority over waste management facilities is derived exclusively from provisions of NMSA 1978 Section 70-2-12.B that authorize regulation of wastes resulting from oil and gas industry activities. Accordingly the Commission concludes that the Commission and the Division lack statutory authority to authorize a waste management facility to accept or treat any non-oil field waste, except pursuant to the direction of another agency having appropriate jurisdiction.

99. Paragraph (7) requires operators to maintain waste acceptance records until five years after facility closure. Existing Rule 711 requires maintenance of such records only for five years after waste acceptance. CRI objected to this change. However, the Commission concludes that requiring maintenance of records till five years after closure is necessary to preserve information about the identity of waste disposers who might be responsible for cleaning up the site in the event of operator insolvency.

100. Paragraph (9) requires netting of pits and ponds, and of open tanks exceeding eight feet in diameter, to exclude birds. The corresponding provision of existing Rule 711 is identical, except that it requires netting of open tanks only if they exceed 16 feet in diameter.

101. Paragraphs (12), (13), (14) and (15) require each facility to have, respectively, an inspection and maintenance plan (12), a plan to control run-on and run-off of storm waters (13), a contingency plan (14) and a gas safety management plan. Corresponding provisions of existing Rule 711 and of the guidelines require all of these plans except the gas safety management plan. However, the new rule includes greater detail. Also, the existing rule and guidelines specifically require only a spill/leak contingency plan and an H2S contingency plan. The new rule requires that the contingency plan address these matters, as well as other matters not specifically covered in the existing rule or guidelines. The principal objection to these provisions, other than the gas safety management plan requirement, was that separate plans for the matters treated in these paragraphs should not be necessary. The Division witnesses, however, explained that the rule was intended only to require that each of the matters specified be covered in the facility's operations plan, whether contained in one document of several. The Commission concludes that all of the requirements relate to aspects of facility operation that the Division should supervise and that the requirements are appropriate.

102. CRI objected to the requirement for a gas safety management plan, and presented the testimony of I. Keith Gordon, an expert in landfill design and operation. Mr. Gordon testified that gas build-up would not be a problem in oil field waste landfills. However, the Division's expert witness, Mr. Chavez, testified that this could happen because the new rule would not limit hydrocarbon content of oilfield waste, which accordingly might emit volatile hydrocarbons after deposit in a landfill. (Tr 415-16) The Commission concludes that the requirement of a gas safety management *plan* is an appropriate regulatory tool. The sufficiency of the gas safety measures that the operator proposes at a particular landfill, whether extensive or perfunctory, can be assessed on a site-specific basis through the permit approval process.

103. Paragraph (5) of proposed Rule 53.F will require installation of specific gas control systems only if the gas safety management plan (proposed and approved on the basis of site-specific conditions) or other applicable laws or rules require such systems.

104. Paragraph (16) requires that each facility operator have a training program for its employees. This provision is new; however, no party objected to the requirement. CRI requested the addition of a provision requiring the Division to provide a curriculum for such training programs. However, the Commission concludes that operators should have the expertise necessary to train those who will operate their facilities.

Rule 53.F: Specific Requirements Applicable to Landfills

105. The provisions of Rule 53.F are new. Neither existing Rule 711 nor the guidelines contains specific provisions concerning landfill design, construction and operation. The guidelines provide liner and leak detection system specifications for evaporation ponds (G-p.4) that may be applicable to landfills. However, the liner provisions of the guidelines are significantly revised in Rule 53.F.

106. Paragraph (1) of Rule 53.F provides general operating rules for landfills. No party objected to these provisions, except that CRI objected to the requirement that a landfill control odors. CRI urged that this requirement was unfairly subjective. The Commission concludes that, whatever may be the difficulties associated with controlling odors from landfills, the landfill operator is in the best position of anyone to know what may cause odors and what measures will adequately control them.

107. Paragraph (2) requires a landfill operator to have a ground water monitoring program that includes monitoring wells around the landfill to determine if contaminants are escaping. Mr. Chavez, the Division's expert witness on landfills, testified that a proper ground water monitoring program is vital to protection of fresh water and to ensure the disposal area's long-term security. (Tr 396-398)

108. NMCCAW objected to the absence of any provision in the proposed rule requiring reporting to the Division on the results of ground water monitoring. Mr. Chavez pointed out, however, that the rule would require prompt reporting to the Division if the operator encountered any evidence of a release from the landfill. (Tr 398) The Commission accordingly concludes that the proposed ground water monitoring provisions are both necessary and adequate.

109. Paragraph (3) prescribes a design for landfill's that will meet all of the Division's requirements. Mr. Chavez testified that the design and construction requirements of Paragraph (3) are similar to NMED's design and construction requirements for solid waste landfills, and also incorporate design features of hazardous waste landfills, as prescribed by the United States Environmental Protection Agency (EPA). (Tr 398-413) Mr. Chavez presented a table and diagram (Division Ex. 10, pages 122 and 123) comparing requirements applicable to solid waste landfills and hazardous waste landfills with the requirements of the proposed rule. He further testified that oilfield waste would likely contain constituents identified as hazardous, and would, in many cases, be classified as hazardous if not exempt. (Tr 383-88, Ex 109-111) Accordingly, he concluded that incorporation of features of hazardous landfill design is an appropriate precaution to protect the environment. (Tr 413)

110. Paragraph (3) also provides that the Division will consider other landfill designs, and will evaluate proposed designs using the EPA's HELP model, or other acceptable model an operator proposes. Mr. Chavez testified that the HELP model is a standard reference that EPA uses to evaluate landfill designs. (Tr 418-19)

111. Paragraph (4) sets forth specifications for design and construction of landfill liners and liner systems, including components of leachate collection and removal systems and leak detection systems.

112. Mr. Chavez testified to the necessity for each of these requirements. (Tr 420-35) No party objected to any of the specific requirements of Paragraph 4.

113. The Industry Committee and Yates objected that the liner requirements should be more flexible and proposed alternative language that would allow dispensing with some requirements upon a showing that ground water would not be impacted. However, the Commission concludes that the Division's proposed language is sufficiently flexible, both because specific provisions of Subparagraph 53.F(2)(i) allow an operator to propose alternative designs, and because provisions of Subsection 53.K allow for variances upon a proper showing.

114. Paragraphs (5) and (6) deal with landfill gas control systems and gas response generally. Gas control systems are required only if required by the facility's gas safety management plan or other applicable laws or rules. Mr. Chavez testified that gas control systems would ordinarily be needed only in very large landfills. (Tr 443)

115. CRI objected to the gas management safety plan provisions, contending that gas accumulations are not an issue at oil and gas landfills.

116. Since Mr. Chavez's testimony indicates that gas build-up problems at oil and gas landfills represent a safety hazard that could occur in some cases, the Commission concludes that Paragraphs (5) and (6) should be included to allow the Division regulatory flexibility to deal with this contingency if and when it does occur.

117. For the reason explained by Mr. Chavez and other reasons noted in specific findings above, the Commission concludes that the landfill rules set forth in Subsection 53.F should be adopted.

Rule 53.G: Specific Requirements Applicable to Landfarms

118. Rule 53.G was the focus of the most comment and evidence presented at the hearing. Though this subsection incorporates many provisions of the existing guidelines, it also contains many new provisions and requirements.

119. Paragraph (1) of Rule 53.G limits the waste that landfarms may accept to (a) soils and drill cuttings that (b) are predominantly contaminated by petroleum hydrocarbons, and (c) do not have a chloride concentration exceeding 500 mg/kg if the landfarm is located where the distance to ground water is less than 100 feet but more than 50 feet below the lowest elevation at which the operator will place oil field waste or exceeding 1,000 mg/kg if the landfarm is located where ground water is 100 feet or more below the lowest elevation at which the operator will place oil field waste, and (d) are sufficiently dry to pass the paint filter test. Tank bottoms may be accepted only where

there are no other practical alternatives available for their disposition. Except for the requirement of the guidelines that the waste not contain free liquids (G-p.11), these provisions are new. Existing guidelines only limit landfarms to accepting oil field contaminated solids that are either exempt or non-hazardous (G-pp.11-12). The prescription of the paint filter test as the screening method for moisture content is also new. The chloride limitation is an outgrowth of the Division's directive issued March 4, 2005, prohibiting the further acceptance of chloride-contaminated waste at landfarms.

120. The Industry Committee and Yates proposed to revise Paragraph (1) to provide separately for Tier 1 and Tier II landfarms. Only Tier I landfarms would be subject to the waste acceptance provisions of the Division's proposed Paragraph (1). Tier II landfarms could accept wastes that do not pass the paint filter test or that contain more than 1,000 mg/kg of chlorides "provided that such materials will not cause an exceedance of applicable WQCC ground water standards." Only Tier II landfarms could accept tank bottoms. The Industry Committee did not offer specific evidence in support of this proposal, and it is unclear how the Division would determine whether acceptance at Tier II landfarms of wastes that would not be acceptable at Tier I landfarms would cause an exceedance of ground water standards. Accordingly, the Commission concludes that this approach should not be adopted.

121. The limitation of the chloride content of wastes accepted at landfarms to 1,000 mg/kg was the focus of much debate at the hearing. The Division's witness, Mr. Price, testified, using a modeling approach based on peer-reviewed modeling methods, that 1,000 mg/kg would be an appropriate level for protection of ground water based on a five-acre site with treated soils left in place at closure. The Industry Committee's witness, Dr. Stephens, did not take significant issue with Mr. Price's methodology.

122. The NMCCAW and CRI objected that the proposed chloride standard was too high and urged the adoption of a lower standard of 500 mg/kg. NMCCAW witness, Dr. Neeper, testified that many plant species would not grow effectively in the presence of chloride concentrations higher than 500 mg/kg.

123. The Commission finds the testimony of Mr. Price and the results of his modeling and the testimony of NMCCAW persuasive, and concludes that the 1,000 mg/kg standard should be adopted only so long as the landfarm is located where the depth to ground water is at least 100 feet and a 500 mg/kg should be adopted should apply when the landfarm is located where the depth to ground water is at least 50 feet but less than 100 feet. While the evidence concerning the chloride levels that would support plant growth was limited, the Commission finds that at least some plant species would grow adequately at the 1,000 mg/kg level; and, accordingly, the proposed level would not preclude re-vegetation. In addition, the fact that the Division may retain part of the operator's financial assurance until re-vegetation is successful encourages the operator to ensure that re-vegetation occurs. The Commission also finds that ground water would be protected from chloride contamination where the oil field waste has a chloride concentration of 1,000 mg/kg if the landfarm's location is at least 100 feet below the location where the operator places the oil field waste but oil field waste should be limited

to a chloride concentration of 500 mg/kg if the depth to ground water is at least 50 feet but less than 100 feet.

124. Paragraph (2) requires that landfarms test for background concentrations of pollutants prior to initial waste acceptance. Existing guidelines contain a similar provision (G-p.9). However, Paragraph (2), as proposed by the Division, requires taking more samples than the guidelines (four as compared to one), increases the sampling depth from two feet provided in the guidelines to three feet below the surface, and specifies testing methods. Also Paragraph (2) substitutes a requirement of testing for constituents listed in Water Quality Control Commission Rule 20.6.2.3103 NMAC (Section 3103 constituents), a category that includes, but is broader than, the category of "heavy metals" provided in the guidelines.

125. The Industry Committee proposed that background testing be conducted at a depth of up to ten feet, as opposed to three to five feet as proposed by the Division. On this issue, the Task Force recommended background testing at a depth of not less than six inches.

126. The Task Force also recommended changing Paragraph (2) to further increase the number of samples required to 12 composite samples, each consisting of 16 discrete samples.

127. Since the object of background testing is to get an accurate assessment of conditions existing at the site prior to commencement of waste treatment, the Commission concludes that the requirements for testing a larger number of samples, and testing closer to the surface on which the contaminated soils will be laid, are appropriate and should be adopted.

128. Paragraph (3) sets out detailed operating requirements for landfarms. These requirements are substantially the same as those in existing guidelines (G-pp 9-11). Changes allow waste to be spread in lifts up to eight inches thick (guidelines limit lift thickness to six inches), require removal of standing water within 24 hours (guidelines allow 72 hours), eliminate a requirement for division approval for use of fertilizer, and include new provisions for biopiles. Subparagraph (j), expressly authorizing the Division to approve alternative treatment methods, is also new.

129. No party objected to proposed Paragraph (3), except that the Industry Committee objected to the change of the time provided for removal of pooled liquids from 72 to 24 hours.

130. The Division's witness, Mr. von Gonten testified that requiring removal of ponded water from landfarms is directly related to environmental protection, since ponded water, when it soaks into the ground, will tend to carry pollutants toward ground water. In New Mexico's arid climate ponded water will likely soak into the ground in less than 72 hours. (Tr 529) Accordingly, the Commission concludes that requiring removal of such water within 24 hours is appropriate.

131. Paragraph (4) establishes requirements for testing of a landfarm's treatment zone and the remediation standards that must be achieved prior to adding new lifts. These provisions are more detailed than the guidelines in that they specify the number of samples (four) and prescribe test methods. The standards for adding new lifts are significantly changed. Operators may add new lifts when the total petroleum hydrocarbon (TPH) level in the treatment zone does not exceed 2,500 mg/kg and the chloride level does not exceed 500 mg/kg if the landfarm is located where ground water is less than 100 feet but at least 50 feet below the lowest elevation at which the operator will place oil field waste or 1,000 mg/kg if the landfarm is located where ground water is 100 feet or more below the lowest elevation at which the operator will place oil field waste. The guidelines require that TPH be reduced to 100 mg/kg, BTEX to 50 mg/kg and benzene to 10 mg/kg before a new lift may be added. The guidelines do not provide a chloride standard.

132. The Industry Committee objected to inclusion in the rule of *any* treatment zone monitoring requirements, contending that the closure standards would be sufficient to protect the environment.

133. The Commission concludes, however, that treatment zone monitoring is appropriate so that landfarm operators and the Division can make judgments as to whether a landfarm is likely to meet its closure standards, and take appropriate corrective action early in the life of the landfarm if there are indications that it will not.

134. The Task Force recommends changing Paragraph (4) to require one composite sample, consisting of four discrete samples, per landfarm cell, instead of four separate samples.

135. In view of the Task Force's recommendation, which the Commission is adopting, to limit landfarm cell size to 10 acres, the Commission concludes that one composite sample per cell will provide adequate monitoring, and the recommendation of the Task Force in this respect should be adopted.

136. Paragraph *(5)* establishes requirements for testing the vadose zone beneath a landfarm to determine if contaminants are escaping from the treatment zone. Its provisions are similar to those of the paragraph of the guidelines entitled "Treatment Zone Monitoring." (G-p.9-10) As compared to the guidelines, Paragraph (5) increases the number of required vadose zone samples from one to four and prescribes testing methods. The guidelines require quarterly testing for TPH and BTEX and annual testing for cations and anions and heavy metals. Paragraph (5), in the Division's proposal, requires semi-annual testing for TPH, BTEX and chlorides and annual testing for Section 3103 constituents. Paragraph (5) adds a new requirement that if testing identifies a release, the operator will submit a corrective action plan to prevent further contamination and isolate or remedy existing contamination.

137. The Industry Committee proposed elimination of vadose zone monitoring for Section 3103 constituents, and sampling the vadose zone for hydrocarbons at a depth of up to 10 feet below the original landfarm surface. The NMCCAW, on the other hand, proposed that vadose zone monitoring be conducted at a depth of less than two feet, in order to detect any release sooner.

138. The Task Force recommended changing Paragraph (5) to require testing the vadose zone for Section 3103 constituents only every five years, or if hydrocarbon and chloride monitoring indicates that a release has occurred. They agreed that vadose zone testing should be conducted at a depth of three to four feet below the original ground surface as the Division proposed.

139. The Commission recognizes that hydrocarbons and chlorides are more mobile that the other Section 3103 constituents. Thus, less frequent monitoring for the other constituents is appropriate so long as the semiannual monitoring for hydrocarbons and chlorides does not indicate a problem. Accordingly, the Task Force recommendation in this respect should be adopted.

140. The Division's proposal would increase the depth requirement for vadose zone testing from one foot to three to four feet. In this connection, the Commission also recognizes that, as Mr. von Gonten testified (Tr. 531 and 578), some constituents from the treatment zone will become mixed with the upper levels of native soil during normal operation of a landfarm. Vadose zone monitoring should be conducted at a depth below that at which such mixing of treated and native soils would ordinarily occur. On the other hand, testing at a depth of ten feet would not alert the operator or the Division to the existence of a release until contaminants had penetrated the native soils to a substantial extent. Accordingly the Commission concludes that the Division's proposal of a three of five-foot vadose zone sampling depth, as also recommended by the Task Force, should be adopted.

141. The Industry Committee proposed application of a statistical method to compare vadose zone testing results to background test results to determine if a release had occurred. There was, however, no clear demonstration in the evidence of how such a statistical method would work.

142. The Task Force did not recommend use of a statistical method of comparison, but did recommend that vadose zone test results be compared to the higher of the background level or Practical Quantitation Limit (PQL).

143. Comparison to the higher of background or the PQL is appropriate. If a vadose zone test indicates a detected concentration of a contaminant at a level lower than the PQL used to establish background, and that test were compared to a "non detect" indication from a background test applying a higher PQL, it would give a likely false indication of a release. Accordingly, the Commission concludes that the Task Force's recommendation in this respect should be adopted.

144. The Task Force further recommended changing the designation of the plan required with a report of a release from a "corrective action plan" to a "response action plan," that would propose means to prevent further contamination, and *if necessary,* clean up existing contamination.

145. These proposed changes would avoid confusion with the "corrective action plan" required in event of a spill or leak pursuant to Rule 116. Accordingly, this recommendation also should be adopted. The proposal that clean up be required only if, upon assessment of all circumstances the Division concluded that such action was warranted reflects the Division's actual intention, as stated by the Division's witness, Mr. von Gonten. (Tr. 533)

146. Paragraph (6) establishes standards that must be met before an operator can close a landfarm cell and leave the treated soils in place. This provision is new. The existing guidelines provide that landfarm cells will be closed in accordance with the Division's closure standards in effect at the time of closure.

147. Under Paragraph (6), the soils in the treatment zone must, at the time of closure, contain not more than 1,000 mg/kg TPH, 500 mg/kg gasoline range organic and diesel range organic hydrocarbons (GRO/DRO), 0.2 mg/kg benzenes, 50 mg/kg BTEX, 500 mg/kg of chlorides if the landfarm is located where ground water is less than 100 feet but at least 50 feet below the lowest elevation at which the operator will place oil field waste or 1,000 mg/kg of chlorides if the landfarm is located where ground water is 100 feet or more below the lowest elevation at which the operator will place oil field waste and the greatest of background concentration, practical quantitation limit. If the concentration of Section 3103 constituents exceed the PQL or background concentration, the operator shall perform a site specific risk assessment using EPA approved methods and shall propose closure standards based upon individual site conditions that protect fresh water, public health, safety and the environment, which shall be subject to Division approval.

148. The Industry Committee objected to any standard based on TPH. In support of this position, the Industry's landfarm expert, Dr. Sublette, testified that once a landfarm reached its bioremediation endpoint, further reductions in TPH levels would be impossible. He testified that the Division's proposed standard could probably not be achieved unless the landfarm operator limited waste acceptance to condensates. Industry's toxicologist, Dr. Thomas, testified that hydrocarbons remaining in a landfarm when it reached its bioremediation endpoint would not present a significant hazard to human health.

149. The Division, however, presented evidence of tests conducted at operating landfarms in New Mexico that the operators identified as ready for closure. (Tr. 561-66) These tests indicated that a very high percentage of these operating landfarms had actually achieved the Division's recommended hydrocarbon concentration closure standards. (Exhibit 11, pages 192A and 192B) The Division's Environment Bureau Chief, Mr. Price, testified that the Division's proposal took into account soil quality and

aesthetics, as well as toxicity, in arriving at its recommended closure standard. The Division's landfarm expert, Mr. von Gonten testified that assessing the toxicity of hydrocarbon waste is difficult because of the large variety of particular substances included. (Tr-558) The NMCCAW's witness, Dr. Neeper, testified that some studies had found that hydrocarbons in soils could produce an adverse effect the ability of soils to absorb moisture (hydrophobicity), thereby reducing soil fertility. Although Dr. Thomas testified that hydrophobicity would not be encountered at TPH concentrations below 10,000 mg/kg, Dr. Neeper presented evidence from a published study that disputed that conclusion.

150. The Commission concludes that, in fixing standards for landfarm closure when the operator proposes to leave treated soils in place, it can, pursuant to its power to regulate waste disposal to protect the environment, consider soil quality, aesthetics, and the inherently waste-like character of material the operator intends to leave on the land, as well as specific toxicity risks. Although the evidence is insufficient to establish a level at which hydrophobicity is a serious concern, it is also a factor that should be considered in fixing hydrocarbon standards, and counsels adoption of conservative standards.

151. The Task Force recommended retaining the TPH closure standard, but increasing the maximum screening level for total TPH (EPA Method 418.1 or equivalent) to 2,500 mg/kg.

152. Based on the foregoing evidence, the Commission concludes that the hydrocarbon screening levels recommended by the Division for landfarm closure should be adopted, except that the screening level for TPH (Method 418.1 or equivalent) should be increased to 2,500 mg/kg as the Task Force recommended.

153. In view of the uncertainties surrounding hydrophobicity and the toxicity of particular hydrocarbon constituents, the Commission does not accept that residual hydrocarbons in landfarms do not involve environmental hazards, or that the alternative screening level of 10,000 mg/kg proposed in the letter between the Industry Committee and the NMCCAW, introduced on the last day of the hearing, would adequately protect against those hazards.

154. Furthermore, the Commission concludes that the object of waste management is the prevention of non-essential introduction contaminants into the environment. The Division's evidence indicates that landfarms are achieving reductions in TPH to levels lower than 2,500 mg/kg with almost uniform consistency. (Exhibit 11, page 192B) Additionally, NMED uses a 2,500 ppm screening level for "waste oil" *[See* testimony of Mr. von Gonten (Tr. 535, 552-53) and Exhibit 11, page 179 and 181] and this number is very close to Canada's residential soil screening standard for high-end hydrocarbons in coarse-grained soils. (Tr. 555 and Exhibit 11, page 183)

155. The Commission concludes that the Division's proposed hydrocarbon screening levels, with the incorporation of the 2,500 mg/kg TPH standard, achieve a proper balance between what is achievable, as demonstrated by the Division's empirical

data, and the possible environmental risks, including aesthetic detriment and risk of hydrophobicity, that could ensue from adopting less restrictive standards.

156. The Task Force also recommended the number of samples required to demonstrate that a landfarm cell has achieved the closure standards of Paragraph (6) be reduced from four independent samples to one composite sample.

157. In view of the ten-acre cell size limitation adopted pursuant to the Task Force recommendation, the Commission concludes that one composite sample will provide an adequate demonstration that closure standards have been achieved, and the Task Force recommendation in this respect should be adopted.

158. Paragraph (6) provides a chloride soil-screening standard for landfarm closure of 1,000 mg/kg, identical to the standard for waste acceptance. The NMCCAW and CRI objected to this standard at being too high to protect soil fertility. They recommended instead a closure standard based on sodium absorption ratio (SAR) and electrical conductivity (EC). Dr. Neeper testified that these measures are directly related to plant toxicity. Though these criteria bear a general relationship to chloride concentration in the soil, it is not a definite proportional relationship.

159. The Task Force recommended that only landfarms using the environmentally acceptable bioremediation endpoint approach as provided in paragraph 53.G(8) be required to meet a soil electrical conductivity (EC) standard less than or equal to 4.0 mmhos/cm and a sodium adsorption ratio (SAR) of less than or equal to 13.0 for closure. These requirements would be in addition to, and not in lieu of, the 1,000 mg/kg or 500 mg/kg (depending on the depth of ground water) soil-screening standard, which is designed primarily to protect ground water. Based on the testimony of Dr. Neeper and the recommendation of the Task Force, the Commission concludes that this requirement should be adopted, and the SAR and EC standards for landfarms using the bioremediation endpoint approach are incorporated into the landfarm closure requirements of Subparagraph 53.J(4)(d).

160. Paragraph 6 as proposed by the Division prescribed specific screening levels for each of the applicable Section 3103 constituents and provides that the standard for *in situ* closure would be a concentration of each of these constituents not greater than the higher of the prescribed level or site background.

161. The Industry Committee objected to the inclusion of any screening standards for Section 3103 constituents. Industry's witnesses questioned whether Section 3103 constituents were likely to be present in oil field water that would be received in landfarms.

162. Industry proposed that if theses standards were to be applied, the rule should assume a DAF of 20, rather than the DAF of 1 employed by the Division.

163. The Commission concludes that requiring that landfarm-treated soils that will be left in place at closure to be tested for Section 3103 constituents is appropriate because of the risk such constituents may pose if present. The WQCC has identified all of these constituents as constituents of concern for ground water protection. However, there was insufficient evidence presented to establish that all of these constituents have been identified in crude oils or if found in contaminated soils what levels of such constituents pose a risk.

164. Accordingly, while the Commission concludes that operators should test for Section 3101 constituents, if such constituents are found during testing closure standards should be based upon individual site conditions that protect fresh water, public health, safety and the environment, which shall be subject to division approval.

165. Paragraph (7) provides that if the soils in the landfarm do not meet the standards of Paragraph (6) after five years, then the operator must remove the treated soils and either use or dispose of them in a manner approved by the Division. It also provides that the Division may approve alternative closure standards to those of Paragraph (6) after public notice. These provisions are new. No party objected to Paragraph (7), except that CRI objected to the provision allowing the Division, after notice, to approve alternative closure standards. In view of the very conservative closure standards prescribed by the rule, especially for Section 3103 constituents, and the high cost of removing treated soils, the Commission concludes that the Division must have the discretion to allow exceedance of these closure standards in appropriate cases.

166. The Task Force recommends adding to Paragraph (7) a provision that if the landfarm does not meet the *in situ* closure standards of Paragraph (6) within five years, the Division may require that the operator furnish additional financial assurance.

167. The Commission recognizes that if a landfarm cannot meet the requirements for closure leaving the treated soils in place, then the cost of closing that landfarms will be significantly greater. The Commission also recognizes that failure of a landfarm to meet the applicable closure standards within five years is an indication that it may not meet those standards. Accordingly, the Commission concludes that this change and the conforming change that the Task Force recommended to Subparagraph 53.C(6)(e) should be adopted.

168. Paragraph (8) provides that a landfarm cell or cells may be operated in accordance with an "environmentally acceptable bioremediation endpoint approach." A cell so operated may be closed leaving the treated soils in place without reference to the TPH and GRO/DRO standards provided in Paragraph (6) when the cell achieves its "environmentally acceptable bioremediation endpoint."

169. The environmentally acceptable bioremediation endpoint is defined in Subparagraph (8)(a) as that point when the TPH concentration has been reduced by at least 80 percent and the rate of change in the reduction of TPH concentration is negligible. Operation of a landfarm cell in accordance with an environmentally

acceptable bioremediation endpoint approach requires compliance with detailed provisions set forth in Paragraph (8), including limiting hydrocarbon loading to less than 5 percent, maintaining pH, applying proper nutrients and maintaining moisture in the treatment zone to between 60 and 80 percent of field capacity. The provision for the environmentally acceptable bioremediation endpoint approach is entirely new.

170. The Industry Committee's witness, Dr. Sublette, explained the concept of a bioremediation endpoint. He testified that some hydrocarbon constituents could be eliminated by a process of bioremediation, while others cannot be. Under ideal conditions, with adequate moisture and nutrient levels and proper landfarm maintenance, the bioremediation process will continue until it has eliminated substantially all of the bioremediatable components. Beyond that point landfarming will not further reduce TPH levels. Thus it is appropriate to dispense with particular TPH standards for closure for a landfarm that has been properly operated in accordance with the bioremediation endpoint approach and has achieved its endpoint.

171. Mr. von Gotten testified, however, that not all hydrocarbon wastes would be susceptible to bioremediation (Tr. 569 and 575). If applied uncritically, the bioremediation endpoint approach that substitutes achievement of the endpoint for achievement of environmentally acceptable residual hydrocarbon levels in a landfarm could become a loophole to allow dumping of non-remediable or marginally remediable wastes. Furthermore, Mr. Von Gotten testified that if the landfarm were not operated in an ideal manner, or adequate moisture were not available to satisfy the ideal conditions of bioremediation, a landfarm could reach a bioremediation endpoint (where bioremediation would cease) at a time when significant quantities of bioremediable constituents remained in the waste. (Tr. 582)

172. In view of these considerations, the Division, in Paragraph (8), has proposed allowing landfarms to avoid the TPH closure standards only if they operated in accordance with an *environmentally acceptable* bioremediation endpoint approach and achieved an *environmentally acceptable* bioremediation endpoint. The environmentally acceptable bioremediation endpoint approach requires operation of the landfarm in accordance with a plan that incorporates the parameters for proper bioremediation, and an environmentally acceptable bioremediation endpoint is an endpoint achieved by that approach that has reduced the TPH content of the waste by at least 80 percent.

173. In proposing the 80 percent reduction, the Division was also concerned about the residual hydrocarbon concentration at landfarms that were eligible for closure in place due to having reached the bioremediation endpoint. Mr. von Gonten testified that the Division sought to set the bar high enough to be protective of human health and the environment. The requirements for a maximum five percent hydrocarbon loading and a minimum 80 percent hydrocarbon reduction from inception to the bioremediation endpoint, the proposed rule would insure a maximum 10,000 mg/kg TPH concentration at closure. (Tr. 568)

174. Mr. von Gonten further testified that the evidence available to the Division, both from EPA documents and from experience with landfarming in New Mexico indicated that the 80 percent reduction requirement is realistic and generally achievable. (Tr. 576-77)

175. The Industry Committee objected to the provision of Paragraph (8) requiring an 80 percent reduction in the waste's TPH content. Dr. Sublette testified that achievement of an 80 percent TPH reduction would likely not be possible. He presented an exhibit that purported to correlate achievable TPH endpoints with API gravity of oils. Based on that exhibit, he testified that only if the waste accepted at the landfarm consistent exclusively of condensates or very light oils could an 80 percent TPH reduction be achieved.

176. Comparison of the exhibit with evidence that the Division offered concerning specific gravities of crude oils in New Mexico (Div. Exhibit 11, page 209) indicated, however, that even if Dr. Sublette's data were accepted, an 80 percent TPH reduction should be achievable for many New Mexico oils. In addition, Mr. von Gonten testified that bioremediability does not bear a linear relationship to API gravity, but depends on many factors not incorporated in Dr. Sublette's exhibit. (Tr. 587-88)

177. The Commission shares the Division's concern that allowing closure of landfarms based on achievement of the bioremediation endpoint without regard to the amount of hydrocarbon reduction achieved could allow landfarms to be used as dumpsites for wastes not susceptible to effective treatment. The Commission also finds it significant that an 80 percent TPH reduction applied to the maximum five percent TPH loading factor would leave a residual TPH at closure of one percent, or 10,000 mg/kg, four times the closure level that the Commission has concluded represents an appropriate maximum.

178. The Commission concludes that the most environmentally acceptable disposition of wastes for which the hydrocarbon concentration could not be materially reduced, or could not be reduced to an acceptable level, by bioremediation would be sequestration in a landfill. Accordingly, the Commission concludes that the Division's proposal for an environmentally acceptable bioremediation endpoint approach, including the five percent maximum hydrocarbon loading factor and the minimum 80 percent TPH reduction requirement, should be adopted.

179. Of course, a landfarm operated using the bioremediation endpoint approach could still close without removal of the treated soils, even if it did not reduce the waste's TPH by 80 percent, if it achieved the TPH closure standards provided in Paragraph (6), as revised in accordance with the Task Force recommendation.

180. The Industry Committee also objected to provisions of Paragraph (8) requiring that the operating plan for a landfarm using the environmentally acceptable bioremediation endpoint approach include a characterization of native soils.

181. Mr. von Gonten testified, however, that the character of the native soils could affect the bioremediation process (Tr, 578-79). He also testified that, in view of the novelty of the bioremediation endpoint approach, at least in New Mexico, the Division wanted to design the program to acquire as much information as possible. (Tr. 578).

182. The Commission finds these considerations persuasive, and concludes that the requirement for native soil characterization should be adopted.

183. The Commission concludes from the testimony of Dr. Sublette and Mr. von Gonten that the bioremediation endpoint approach is a viable approach to landfarming, and Paragraph 53.G(8) allowing its use as an alternative subject to the conditions provided in the Division's proposal, should be adopted.

Rule 53.H: Small Landfarms

184. Rule 53.H regulates small landfarms. "Small landfarm" is defined in Rule 53.A(1)(e). Under the Division's proposal, a small landfarm is a centralized landfarm (*i.e.*, one operated by an oil and gas operator for treatment of its own waste) having a total capacity of 1,400 cubic yards or less, that is active for no more than three years, and that accepts for treatment only hydrocarbon contaminated soils (not including drill cuttings).

185. The small landfarm provisions of the proposed rule are new. Existing Rule 711 provides an exemption from permitting for centralized facilities having a capacity of not more that 1,400 cubic yards of solids. [Rule 711.A(3)(b)] However such facilities are subject to other provisions of the existing rule.

186. The purpose of the small landfarm proposal, articulated by the Division, is to allow operators to collect contaminated soils from isolated spill sites for remediation at a common site in close proximity to their production facilities. Remediation of particular spill sites, either where they occur, or at an alternative location, would not be a subject to proposed Rule 53. *See* the definition of "surface waste management facility" in Rule 7.S(10)(f).

187. Paragraph (1) of Rule 53 (H) requires that an operator establishing a small landfarm file a registration with the Division, accompanied by certification that it has a written agreement with the surface owner at the site.

188. Paragraph (1) further provides that an operator may establish not more than one small landfarm per governmental section. As proposed by the Division prior to the hearing this provision would have limited small land farms to one such facility per lease. In its June 5 draft, however, the Division requested to change the limitation to that in the present proposal due to the difficulty of precisely defining the term "lease" as the Division uses it. This change is also a partial response to a comment filed by NMOGA objecting to the hauling costs incident to the one small landfarm per lease requirement as applied to large leases that cover multiple sections.

189. Paragraph (1), as revised in the June 5 draft, also requires that a small landfarm be located no more than one mile from the operator's production facility. The requirement maintains the concept that the purpose of these facilities is to provide opportunities for treatment in proximity to the source of the waste.

190. The Commission concludes that the limitations of small landfarms to one per section and the requirement of proximity to production facilities serve the same purpose as the original limitation of one such facility per lease, and are more workable. Accordingly these changes recommended in the June 5 draft should be adopted.

191. Paragraphs (2), (3) and (4) specify the requirements that apply to small landfarms. Small landfarms are subject to the siting requirements. However, the applicable testing rules are much more limited. Soils at small landfarms shall be tested at acceptance to ensure that the chloride concentration is not more than 500 mg/kg.

192. Paragraph *(5)* provides closure requirements for small landfarms. Closure standards proposed by the Division are the same that the Division proposed in Subsection G, except that screening for Section 3103 constituents are not required.

193. The Task Force recommended increasing the closure TPH closure standard for small landfarms to 2,500 mg/kg, the same level that they recommended for permitted landfarms.

194. The Industry Committee objected to the requirement for certification of surface owner authorization, contending that this provision exceeded the Division's regulatory authority. However, Mr. von Gonten explained that the requirement for surface owner approval would provide a partial substitute for the permitting process from which small landfarms are exempt. (Tr. 596-98)

195. The Commission finds this reasoning persuasive. Although the Division would have no jurisdiction or responsibility with respect to property rights, it would have the jurisdiction and responsibility to address a surface owner's environmental concerns. The surface owner at the site would be among those environmental issues most directly affect. Exemption of small landfarms from the permitting process limits the surface owner's ability to present any environmental concerns to the Division. Thus the provision conditioning the exemption from permitting on the surface owner's approval of the facility is a rational means of discharging the Division's responsibility to provide a forum for addressing relevant environmental issues, and should be adopted.

196. The Industry Committee also objected to the provision limiting the number and proximity of small landfarms. The Division's witness, Mr. Martin, testified that this provision was included because, absent such a provision an operator could avoid the permitting requirements of proposed Rule 53.G by registering multiple small landfarms adjacent to, or in close proximity to, each other. (Tr. 1487) This restriction was a response to a comment submitted by NMCCAW at an earlier stage of this

rulemaking proceeding, pointing out that that the lack of a limit on proximity of small, unpermitted facilities would establish a loophole. The Division's witness, Mr. Price, testified that the potential impact of pollutant loading the environment would depend on the total load deposited in a given area. (Tr-93) Thus, the Division, in limiting the proximity of exempt small landfarms was concerned about the cumulative affects of such facilities in close proximity to each other.

197. The Commission finds these concerns persuasive, and concludes that the provision limiting small landfarms to one per governmental section, per operator, should be adopted.

198. The Industry Committee also proposed that higher chloride limits than the 1,000 mg/kg standard proposed by the Division be allowed in small landfarms.

199. In support of the 1,000 mg/kg chloride standard, the Division's witness, Mr. Price, testified to modeling studies he performed that indicated that the 1,000 mg/kg standard would be protective of ground water assuming a five-acre site loaded with chlorides to that extent. The Industry Committee argued that, since small landfarms would be less than five acres, allowing a larger chloride concentration in such facilities would be consistent with the assumptions of Mr. Price's modeling.

200. Dr. Neeper's testimony indicated that the ability of soils to support plant growth would decrease significantly at chloride levels higher than 1,000 mg/kg, making re-vegetation of small landfarms difficult if a higher chloride standard were adopted. Dr. Neeper recommended a chloride level of 500 mg/kg.

201. In view of the larger number of small landfarms that might exist, the cumulative effects of multiple such facilities might create contaminant-loading hazards comparable to those of a larger facility. In addition, small landfarm operators are not required to have financial assurance, and therefore do not have the same incentive as large landfarm operators to ensure re-vegetation occurs. No party offered evidence sufficient to permit a rigorous analysis of the potential for cumulative effects, and the Commission accordingly concludes from the testimony that a 500 mg/kg chloride standard, would be protective of ground water when the landfarm is located at least 50 feet below the surface and provide for re-vegetation, and would allow a margin of safety to protect from cumulative effects of multiple smaller sites.

202. For these reasons, the Commission concludes that the closure standards for small landfarms except for the chloride standard should be the same as for large landfarms.

203. With respect to the Section 3103 constituents, however, the testimony indicated that these substances would be significantly less mobile that the chlorides. The size restriction on small land farms would limit the loading of these substances in small landfarms, and, accordingly, mitigate any hazard to ground water. Accordingly, the

Commission concludes that screening of small landfarms for Section 3103 constituents should not be required.

204. The Industry Committee proposed that the maximum size of landfarms exempt from permitting be increased from 1,400 cubic yards provided in existing Rule 711 to 6,400 cubic yards.

205. The Task Force considered the issue of maximum size of small landfarms, and recommended that the maximum capacity be increased to from 1,400 cubic yards to 2,000 cubic yards, with the addition of a surface area limitation of two acres.

206. Since the two-acre limitation serves to limit contaminant loading, the Commission concludes that the Task Force recommendations in this respect should be adopted.

Rule 53.I: Specific Requirements Applicable to Evaporation. Storage. Treatment and Skimmer Ponds

207. Rule 53.I establishes design, construction and operation standards for pits to be used as evaporation, storage, treatment or skimmer ponds, and for below-grade tanks. There are provisions concerning ponds in the existing guidelines. (G-pp 3-8) The proposed rule is similar in substance to the existing guidelines, but revises the requirements in detail, conforming the liner and leak detection specifications to those provided in Subsection F with respect to landfills. Furthermore, the proposed rule requires that all pits and ponds be lined. The existing guidelines contemplated that some pits and ponds in some areas might be unlined. (G-p.7)

208. The New Mexico Oil and Gas Association objected to inclusion of provisions regarding pits and ponds in proposed Rule 53, contending that these matters should be addressed in Rule 50, relating to pits.

209. The Division's witness, Mr. Price, explained that Rule 50 expressly excludes pits at facilities permitted pursuant to existing Rule 711. (Rule 50.A) Since the Division's proposal Rule 53 contemplates repeal of Rule 711, if pits and ponds at permitted facilities were not covered in Rule 53, they would be wholly unregulated until such time as Rule 50 is amended to cover them. (Tr. 95) Furthermore, Rule 50 provides for permitting only and does not provide for public notice and comment. This limited review might be appropriate for small and temporary pits that are excluded from the definition of "surface waste management facility" pursuant to proposed Rule 7.S(10), but would not be appropriate for large pits that the Division proposes to regulate under proposed Rule 53.I. (Tr 96-97)

210. The Commission finds this logic persuasive.

211. No party objected to any of the substantive changes proposed in Rule 53.I.

Rule 53.J: Closure and Post Closure

212. Paragraphs (1), (2) and (3) of Rule 53.J establish procedures applicable to closure of permitted facilities by the operator or by the Division and for release or forfeiture of the operator's financial assurance. These provisions are similar to provisions of existing Rule 711.D.

213. A new provision included in Paragraph (1) allows the Division a period of 60 days (subject to one optional extension) to review the closure plan, inspect the facility, and determine if it will require additional closure conditions beyond those provided in the existing closure plan. If the Division imposes additional closure requirements, the proposed rule provides for notice to the operator and opportunity for a hearing.

214. Other new provisions provide for the Division to retain a portion of the operator's financial assurance after closure of the facility is otherwise complete in order to secure the operator's compliance with new post closure requirements of proposed Rule 53.J, including requirements to re-vegetate the facility site.

215. Paragraph f1) also provides standards for site re-vegetation. These provisions are new. Existing Rule 711 does not expressly require site re-vegetation, and the Guidelines only require reseeding.

216. Except for landfarms (which are subject to separate re-vegetation requirements of proposed Rule 53.J(4)(b)(ii), required re-vegetation consists of establishment of a vegetative cover equivalent to 70 percent of the vegetative cover prevailing in the surrounding area, consisting of native plants and excluding noxious weeds.

217. The Task Force recommended revision of the re-vegetation requirements proposed by the Division as to various details, including a recommendation modifying the description of the reference area that would establish the required extent of coverage, and including at least one grass among the plant species to be established on the site.

218. The re-vegetation standards recommended by the Division and included in Paragraph 53.J(1) are generally in accordance with recommendations of the Department of Game and Fish articulated in comments filed in this proceeding. As the Task Force, recognized, however, establishment of the reference area that would determine the required extent of re-vegetation might not always be easy, and that reference should be had to available scientific data, as well as direct observation. Accordingly, the Commission concludes that the Division's proposal, as modified by the recommendations of the Task Force in this respect, should be adopted.

219. Paragraph (4) establishes closure and post-closure standards, respectively for oil treating plants [Subparagraph (a)], landfills [Subparagraphs (b) and (c)]; landfarms [Subparagraphs (d) and (f)], and pits and ponds [Subparagraphs (e) and (f)]. These provisions are new.

220. The Division's witness, Mr. Chavez described the closure and post-closure provisions for landfills. With respect to the closure requirements, Mr. Chavez explained that the proposed top cover construction requirements, sloping and special re-vegetation provisions [different from those provided in Paragraph (1) for other facilities] would be necessary to prevent invasion of moisture into the landfill. He further testified that moisture invasion could compromise the landfill's integrity and allow the escape of contaminants.

221. The landfill provisions require for post closure monitoring and maintenance of the top cover for a period of 30 years after closure. Mr. Chavez testified that these provisions were needed to insure that landfill integrity was maintained.

222. For landfarms and ponds, the proposed rule contemplates that all contamination will be either rendered harmless or removed. Accordingly, the post closure period for such facilities is limited to three years for the purpose of assuring successful re-vegetation.

223. NMCCAW's witness, Dr. Neeper testified at the hearing that EC and SAR were the most sensitive indicators of the ability of soils to support plant growth, and his testimony supports the reasonableness of these standards. The Commission accordingly concludes that the recommendation of the Task Force in this respect should be adopted.

224. Paragraph (5) provides for an exception to re-vegetation requirements, with Division approval, if the site owner plans another use for the site. To prevent the provision from becoming a means of evading responsibility for re-vegetation it also provides that the Division may withhold final release of the operator's financial assurance until the site owner has obtained necessary regulatory approvals for the contemplated alternative use and begun implementation.

225. The Industry Committee objected to several details of proposed Rule 53.J, as follows:

a. The committee objected that the time provided for review of an operator's closure plan at the time closure is initiated (60 days after the proposed date for cessation of operations, with an optional extension) is too long. The committee proposed 30 days from notification of intent to close. The Commission concludes, however, that the longer time period proposed by the Division is reasonable to allow adequate review.

b. The committee proposed that re-vegetation be required to the extent of 70 percent of natural coverage in the vicinity, instead of 70 percent of the area being site area. The Division accepted this objection and proposed a change in its May 13 draft partially adopting the committee's proposal in this respect. The Commission has adopted this

proposal with changes recommended by the Task Force, as indicated below.

c. The committee objected to a provision allowing the Division to close a facility where there had been no significant activity for six months. This provision, however, is similar to a provision of existing Rule 711. The Commission concludes that retaining this provision is appropriate, as the Division has proposed, because, even though a facility might not receive waste for a six-month period, if the facility is properly operated, the operator would be conducting regular maintenance, which would constitute "significant activity," at the site more frequently that once per six-month period.

d. The committee and Yates objected to the 30-year post-closure period for landfills, suggesting a site-specific provision in the facility's closure plan be used instead. The Commission concludes, however, that the variance procedure provided in Subparagraph 53.K is adequately to allow adoption of a site-specific post-closure plan where appropriate.

Rule 53.K: Exceptions and Waivers

226. Rule 53.K provides that the Division may grant exceptions to, or waivers of, any provision of the proposed rules in particular cases. Paragraph (1) of the proposal provides for that an applicant may seek, and the Division may grant, exceptions or waivers during the initial permitting process. Paragraph (2) provides for exceptions and waivers after a facility is permitted. This provision is new.

227. As originally proposed by the Division, Paragraph (2) attempted to describe a category of exceptions and waivers that the Division could grant after permitting without public notice, and Paragraph (3) provided that other exceptions and waivers could be granted post-permit after public notice and opportunity for members of the public to request a hearing.

228. No party objected to the concept of allowing exceptions and waivers, or to the concept that some exceptions and waivers of a minor, or routine nature could be granted without public notice. However, the NMCCAW objected to the Division's original proposal on the ground that it did not provide an acceptable standard for when the public notice provisions would apply.

229. At the conclusion of the hearing, after witnesses and members of the Commission articulated difficulty in understanding the situations to which Paragraphs (2) and (3), respectively, would apply, the Division submitted a revision of proposed Rule 53.K that is its current proposal. The current proposal requires that an operator seeking an exception or waiver of a rule provision, except in an emergency, will present that request in the form of an application for a permit modification. Under this proposal, the

operator must give public notice and opportunity for a hearing if the modification is a major modification as defined in Rule 53.A(2)(i); whereas no notice would be required for a minor modification, and that significant waivers and exceptions might be allowed without public input.

230. The Task Force further addressed this concern with a recommendation to modify the public notice requirements of proposed Rule 53.C(4)(f). For the reasons stated in findings regarding Subsection 53.C the Commission concludes that this recommendation should be adopted.

231. The Commission concludes that the Division's revised proposal provides a manageable standard for determining the procedure to be applied to variance requests, and, with the additional notice provision that the Task Force proposed, provides adequate public notice. Accordingly, the Commission concludes that the Division's proposal and the Task Force recommendation in this respect should be adopted.

Rule 53.L: Transitional Provisions

232. Rule 53.L addresses the extent to which the provisions of the proposed new rule will apply to existing facilities. Under the rule, existing facilities can continue to operate and will not have to apply for a new permit. The waste acceptance, operation and closure provisions of the new rule would apply to existing facilities unless specifically otherwise provided in the facilities permit or a previously granted exception or waiver. Design and construction standards, however, would apply only to new facilities or major modifications of existing facilities.

233. During the hearing the Division submitted a modification of its proposal to provide that permit applications submitted to the Division on or after May 18, 2006, would be subject to the new rule. May 18, 2006 was the date that the Division submitted its revised proposal incorporating this provision. The Commission finds that the Division's proposal as modified should be adopted.

234. The Task Force recommended a modification of the requirement that closure of existing facilities be in accordance with the new rule. Under the Task Force recommendation, existing cells at any existing landfarm could be closed "in accordance with the standards of its existing permit" if closed within ten years after adoption of the new rule.

235. The Commission concludes the Task Force's recommendation could be construed to allow landfarms to continue to accept soils contaminated with chloride concentrations that exceed 500 mg/kg (if the landfarm is located at least 50 feet but less than 100 feet above ground water) or 1,000 mg/kg (if the landfarm is located 100 feet or more above ground water). Accordingly the Commission concludes that the Task Force's recommended changes to Rule 53.L should not be adopted.

Final Conclusions

236. For the reasons explained in connection with each of the proposed rule sections and subsections, and in order to provide a regiment for regulating the disposal of oil field waste at surface waste management facilities in a manner that will protect fresh water, human health and the environment, the Commission concludes that the proposed rules and Task Force recommendations should be adopted.

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

238. For the reasons stated above and in the transcript, the Commission concludes that it should adopt the proposed amendments to Rules 7 [Sections B, O, S and W of 19.15.1.7 NMAC], and Rules 51, 52 and 53 [19.15.2.51 NMAC, 19.15.2.52 NMAC and 19.15.2.53 NMAC] in the form attached to this Order as Exhibit A and that existing Rules 709, 710 and 711 [19.15.9.709 NMAC, 19.15.9.710 and 19.15.9.711 NMAC] should be repealed.

IT IS THEREFORE ORDERED:

1. The Commission hereby adopts the amendments to Rules 7 [Sections B, O, S and W of 19.15.1.7 NMAC], 51, 52 and 53 [19.15.2.51 NMAC, 19.15.2.52 NMAC and 19.15.2.53 NMAC] of the Oil Conservation Division rules shown in Exhibit A to this Order, and repeals existing Rules 709, 710 and 711 9[19.15.9.709 NMAC, 19.15.9.710 and 19.15.9.711 NMAC] effective as of the date of publication thereof in the New Mexico Register.

2. Oil Conservation 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

MARK E. FESMIRE, P.E., CHAIR

JAMI BAILEY, CPG, MEMBER

WILLIAM OLSON, MEMBER

SEAL

Exhibit A

19.15.1.7 **DEFINITIONS:**

B. Definitions beginning with the letter "B".

(1) Back allowable shall mean the authorization for production of [~~any~~]a shortage or underproduction resulting from pipeline proration.

(2) Background shall mean, for purposes of ground water abatement plans only, the amount of ground water contaminants naturally occurring from undisturbed geologic sources or water contaminants occurring from a source other than the responsible person's facility. This definition shall not prevent the director from requiring abatement of commingled plumes of pollution, shall not prevent responsible persons from seeking contribution or other legal or equitable relief from other persons[~~,~~] and shall not preclude the director from exercising enforcement authority under any applicable statute, regulation or common law.

(3) Barrel shall mean 42 United States gallons measured at 60 degrees fahrenheit and atmospheric pressure at the sea level.

(4) Barrel of oil shall mean 42 United States gallons of oil, after deductions for the full amount of basic sediment, water and other impurities present, ascertained by centrifugal or other recognized and customary test.

(5) Below-grade tank shall mean a vessel, excluding sumps and pressurized pipeline drip traps, where [~~any~~]a portion of the tank's sidewalls [of the tank]is below the ground surface [of ~~the~~ ground]and not visible.

(6) Berm shall mean an embankment or ridge constructed [for ~~the~~ purpose of ~~preventing~~]to prevent the movement of liquids, sludge, solids[~~,~~] or other materials.

(7) Biopile. also known as biocell. bioheap, biomound or compost pile. shall mean a pile of contaminated soils used to reduce concentrations of petroleum constituents in excavated soils through the use of biodegradation. This technology involves heaping contaminated soils into piles or "cells" and stimulating aerobic microbial activity within the soils through the aeration or addition of minerals. nutrients and moisture.

[~~(7)~~]**(8)** Bottom hole or subsurface pressure shall mean the gauge pressure in pounds per square inch under conditions existing at or near the producing horizon.

[~~(8)~~]**(9)** Braden[-]head gas well shall mean [~~any~~]a well producing gas through wellhead connections from a gas reservoir [~~which~~]that has been successfully cased off from an underlying oil or gas reservoir.

O. Definitions beginning with the letter "O".

(1) Official gas-oil ratio test shall mean the periodic gas-oil ratio test made by division order [of the ~~division~~]by such method and means and in such manner as [~~prescribed by~~]the division prescribes.

(2) Oil, crude oil[~~,~~] or crude petroleum oil shall mean [~~any~~]petroleum hydrocarbon produced from a well in the liquid phase and [~~which~~]that existed in a liquid phase in the reservoir.

(3) Oil field wastes shall mean those wastes [~~produced~~]generated in conjunction with the exploration for, drilling for, production of, refining of, processing of, gathering of [~~and~~]or transportation of crude oil [~~and/or~~], natural gas or carbon

dioxide: [and commonly ~~collected~~ at ~~field~~ ~~storage,~~ processing, ~~disposal,~~ or ~~service facilities,~~ and ~~waste collected~~ at ~~gas processing plants, refineries~~ and ~~other processing~~ or transportation ~~facilities~~]waste generated from oil field service company operations: and waste generated from oil field remediation or abatement activity regardless of the date of release. Oil field waste does not include waste not generally associated with oil and gas industry operations such as tires, appliances or ordinary garbage or refuse unless generated at a division-regulated facility, and does not include sewage, regardless of the source.

(4) Oil well shall mean [~~any~~]a well capable of producing oil and [~~which~~]that is not a gas well as defined [~~herein~~]in Paragraph (5) of Subsection G of 19.15.1.7 NMAC.

(5) Operator shall mean [~~any~~]a person who, duly authorized, is in charge of the development of a lease or the operation of a producing property, or who is in charge of [~~the~~]a facility's operation or management[of a ~~facility~~].

(6) Overage or overproduction shall mean the amount of oil or the amount of natural gas produced during a proration period in excess of the amount authorized on the proration schedule.

(7) Owner [~~means~~]shall mean the person who has the right to drill into and to produce from [~~any~~]a pool, and to appropriate the production either for himself or for himself and another.

S. Definitions beginning with the letter "S".

(1) Secondary recovery shall mean a method of recovering quantities of oil or gas from a reservoir which quantities would not be recoverable by ordinary primary depletion methods.

(2) Shallow pool shall mean a pool [~~which~~]that has a depth range from [~~0~~]zero to 5000 feet.

(3) Shortage or underproduction shall mean the amount of oil or the amount of natural gas during a proration period by which a given proration unit failed to produce an amount equal to that authorized in the proration schedule.

(4) Shut-in shall be the status of a production well or an injection well [~~which~~]that is temporarily closed down, whether by closing a valve or disconnection or other physical means.

(5) Shut-in pressure shall mean the gauge pressure noted at the wellhead when the well is completely shut in, not to be confused with bottom hole pressure.

(6) Significant modification of an abatement plan shall mean a change in the abatement technology used excluding design and operational parameters, or relocation of 25[~~%~~] percent or more of the compliance sampling stations, for [~~any~~]a single medium, as designated pursuant to [~~Subsection~~ E, Paragraph (4), Subparagraph (b). ~~Subsubparagraph (iv)~~ of ~~Section~~]Sub-subparagraph (iv) of Subparagraph (b) of Paragraph (4) of Subsection E of 19.15.5.19 NMAC.

(7) Soil shall mean earth, sediments or other unconsolidated accumulations of solid particles produced by the physical and chemical disintegration of rocks, and which may or may not contain organic matter.

[~~(7)~~](8) Spacing unit is the area allocated to a well under a well spacing order or rule. Under the Oil [~~&~~]and Gas Act, NMSA 1978, Section 70-2-12.B(10), the

commission has the power to fix spacing units without first creating proration units. See *Rutter & Wilbanks Corp. v. Oil Conservation Comm'n*, 87 NM 286 (1975). This is the area designated on division form C-102.

[(8)](9) Subsurface water shall mean ground water and water in the vadose zone that may become ground water or surface water in the reasonably foreseeable future or may be utilized by vegetation.

(10) Surface waste management facility shall mean a facility that receives oil field waste for collection, disposal, evaporation, remediation, reclamation, treatment or storage except:

(a) a facility that utilizes underground injection wells subject to division regulation pursuant to the federal Safe Drinking Water Act, and does not manage oil field wastes on the ground in pits, ponds, below-grade tanks or land application units;

(b) a facility permitted pursuant to environmental improvement board rules or water quality control commission rules;

(c) a drilling or workover pit as defined in 19.15.2.50 NMAC;

(d) a tank or pit that receives oil field waste from a single well, regardless of the capacity or volume of oil field waste received;

(e) a facility located at an oil and gas production facility and used for temporary storage of oil field waste generated on-site from normal operations, if such facility does not poses a threat to fresh water, public health, safety or the environment;

(f) a remediation conducted in accordance with a division-approved abatement plan pursuant to 19.15.1.19 NMAC. a corrective action pursuant to 19.15.3.116 NMAC or a corrective action of a non-reportable release;

(g) a facility operating pursuant to an emergency order of the division;

(h) a site or facility where the operator is conducting emergency response operations to abate an immediate threat to fresh water, public health, safety or the environment or as the division has specifically directed or approved; or

(i) a facility that receives only exempt oil field waste, receives less than 50 barrels of liquid water per day (averaged over a 30-day period), has a capacity to hold 500 barrels of liquids or less and is permitted pursuant to 19.15.2.50 NMAC.

W. Definitions beginning with the letter "W".

(1) Waste, in addition to its ordinary meaning, shall include:

(a) underground waste as those words are generally understood in the oil and gas business, and in any event to embrace the inefficient, excessive[,] or improper use or dissipation of the reservoir energy, including gas energy and water drive, of [~~any~~]a pool, and the locating, spacing, drilling, equipping, operating[,] or producing[,] of [~~any~~]a well or wells in a manner to reduce or tend to reduce the total quantity of crude petroleum oil or natural gas ultimately recovered from [~~any~~]a pool, and the use of inefficient underground storage of natural gas;

(b) surface waste as those words are generally understood in the oil and gas business, and in any event to embrace the unnecessary or excessive surface loss or destruction without beneficial use, however caused, of natural gas of any type or in

any form, or crude petroleum oil, or [~~any~~]a product thereof, but including the loss or destruction, without beneficial use, resulting from evaporation, seepage, leakage[~~,~~] or fire, especially such loss or destruction incident to or resulting from the manner of spacing, equipping, operating or producing a well or wells, or incident to or resulting from the use of inefficient storage or from the production of crude petroleum oil or natural gas, in excess of the reasonable market demand;

(c) the production of crude petroleum oil in this state in excess of the reasonable market demand for such crude petroleum oil; such excess production causes or results in waste [~~which~~ *is* ~~prohibited~~ by]that the Oil and Gas Act prohibits; the words "reasonable market demand" as used herein with respect to crude petroleum oil, shall be construed to mean the demand for such crude petroleum oil, for reasonable current requirements for current consumption and use within or outside of the state, together with the demand of such amounts as are reasonably necessary for building up or maintaining reasonable storage reserves of crude petroleum oil or the products thereof, or both such crude petroleum oil and products;

(d) the non-ratable purchase or taking of crude petroleum oil in this state; such non-ratable taking and purchasing causes or results in waste, as defined in Subparagraphs (a), (b)[~~,~~] and (c) of [this ~~definition~~]Paragraph (1) of Subsection W of 19.15.1.7 NMAC and causes waste by violating the Oil and Gas Act. NMSA 1978, Section 70-2-16[of the ~~Oil~~ and Gas ~~Act~~];

(e) the production in this state of natural gas from [~~any~~]a gas well or wells, or from [~~any~~]a gas pool, in excess of the reasonable market demand from such source for natural gas of the type produced or in excess of the capacity of gas transportation facilities for such type of natural gas; the words "reasonable market demand[~~,~~]", as used herein with respect to natural gas, shall be construed to mean the demand for natural gas for reasonable current requirements, for current consumption and for use within or outside the state, together with the demand for such amounts as are necessary for building up or maintaining reasonable storage reserves of natural gas or products thereof, or both such natural gas and products.

(2) Waste (exempt). Exempt waste shall mean oil field waste exempted from regulation as hazardous waste pursuant to Subtitle C of the federal Resource Conservation and Recovery Act (RCRA) and applicable regulations.

(3) Waste (hazardous). Hazardous waste shall mean non-exempt waste that exceeds the minimum standards for waste hazardous by characteristics established in RCRA regulations- 40 CFR 261.21-261.24, or listed as hazardous waste as defined in 40 CFR, part 261, subpart D. as amended.

(4) Waste (non-exempt). Non-exempt waste shall mean oil field waste not exempted from regulation as hazardous waste pursuant to Subtitle C of RCRA and applicable regulations.

(5) Waste (non-hazardous). Non-hazardous waste shall mean non-exempt oil field waste that is not hazardous waste.

[~~(2)~~]**(6)** Water shall mean all water including water situated wholly or partly within or bordering upon the state, whether surface or subsurface, public or private, except private waters that do not combine with other surface or subsurface water.

[~~(3)~~]**(7)** Water contaminant shall mean [~~any~~]asubstance that could alter if released or spilled the physical, chemical, biological or radiological qualities of water.

"Water contaminant" does not mean source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954.

[~~(4)~~](8) Watercourse shall mean [any ~~lake~~ bod, or gully, draw, stream ~~bed,~~ wash, ~~arroyo,~~ or natural or human ~~made channel~~ through which ~~water flows~~ or has ~~flowed~~]a river, creek, arroyo, canyon, draw or wash or other channel having definite banks and bed with visible evidence of the occasional flow of water.

[~~(5)~~](9) Water pollution shall mean introducing or permitting the introduction into water, either directly or indirectly, of one or more water contaminants in such quantity and of such duration as may with reasonable probability injure human health, animal or plant life or property, or to unreasonably interfere with the public welfare or the use of property.

[~~(6)~~](10) Well blowout shall mean a loss of control over and subsequent eruption of [~~any~~]a drilling or workover well or the rupture of the casing, casinghead[~~,~~] or wellhead or [~~any~~]an oil or gas well or injection or disposal well, whether active or inactive, accompanied by the sudden emission of fluids, gaseous or [~~liquids~~]liquid, from the well.

[~~(7)~~](11) Wellhead protection area shall mean the area within 200 horizontal feet of [~~any~~]a private, domestic fresh water well or spring used by less than five households for domestic or stock watering purposes or within 1000 horizontal feet of any other fresh water well or spring. Wellhead protection areas shall not include areas around water wells drilled after an existing oil or natural gas waste storage, treatment[~~,~~] or disposal site was established.

[~~(8)~~](12) Wetlands shall mean those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions in New Mexico. Constructed wetlands used for wastewater treatment purposes are not included in this definition.

[~~(9)~~](13) Working interest owners are the owners of the operating interest under an oil and gas lease who have the exclusive right to exploit the oil [~~&~~]and gas minerals. Working interests are cost bearing.

[1-5-50...2-1-96; A, 7-15-96; Rn, I9NMAC 15.A.7.1 through 7.84, 3-15-97; A, 7-15-99; 19.15.1.7 NMAC - Rn, 19 NMAC 15.A.7, 5-15-001; A, 3/31/04; A, 9/15/04; A, 09/30/05; A, 10/ /06]

This is an amendment to 19.15.2 NMAC, with the addition of Sections 51, 52 **and 53. This amendment is to be effective __/__/06]**

19,15.2.51 TRANSPORATION OF PRODUCED WATER, DRILLING FLUIDS AND OTHER LIQUID OIL FIELD WASTE:

A. No person shall transport produced water, drilling fluids or other liquid oil field waste, including drilling fluids and residual liquids in oil field equipment, except for small samples removed for analysis, by motor vehicle from a lease, central tank battery or other facility without an approved form C-133, authorization to move liquid waste. The transporter shall maintain a photocopy of the approved C-133 in the transporting vehicle.

B. A person may apply for authorization to move produced water, drilling fluids or other liquid oil field waste by filing a complete form C-133 with the division's Santa Fe office. Authorization is granted upon the division's approval of form C-133.

C. No owner or operator shall permit produced water, drilling fluids or other liquid oil field waste to be removed from its leases or field facilities, except for small samples removed for analysis, by motor vehicle except by a person possessing an approved form C-133. The division shall post a list of currently approved C-133s. authorization to move liquid waste, on its website. The list of form C-133s posted on the division's website on the first business day of each month shall be deemed notice of valid C-133s for the remainder of that month.

D. The division may deny approval of a form C-133 if:

(1) the applicant is a corporation or limited liability company, and is not registered with the public regulation commission to do business in New Mexico;

(2) the applicant is a limited partnership, and is not registered with the New Mexico secretary of state to do business in New Mexico;

(3) the applicant does not possess a carrier permit under the single state registration system the public regulation commission administers, if it is required to have such a permit under applicable statutes or rules; or

(4) the applicant or an officer, director or partner in the applicant, or a person with an interest in the applicant exceeding 25 percent, is or was within the past five years an officer, director, partner or person with an interest exceeding 25 percent in another entity that possesses or has possessed an approved form C-133 that has been cancelled or suspended, has a history of violating division rules or other state or federal environmental laws; is subject to a commission or division order, issued after notice and hearing, finding such entity to be in violation of an order requiring corrective action; or has a penalty assessment for violation of division or commission rules or orders that is unpaid more than 70 days after issuance of the order assessing the penalty.

E. Cancellation or suspension of authorization to move liquid wastes. Vehicular movement or disposition of produced water, drilling fluids or other liquid oil field wastes in a manner contrary to division rules, or a ground for denial of approval of form C-133 specified in Subsection D of 19.15.2.51 NMAC. shall be cause, after notice and an opportunity for hearing, for cancellation or suspension of a transporter's authorization to move liquid wastes.

19.15.2.52 DISPOSITION OF PRODUCED WATER AND OTHER OIL FIELD WASTE:

A. Prohibited dispositions. Except as authorized by 19.15.1.19 NMAC. 19.15.2.50 NMAC, 19.15.2.53 NMAC. 19.15.3.116 NMAC or 19.15.9.701 NMAC, no person, including a transporter, shall dispose of produced water or other oil field waste:

(1) on or below the surface of the ground; in a pit; or in a pond, lake, depression or watercourse;

(2) in another place or in a manner that may constitute a hazard to fresh water, public health, safety or the environment; or

(3) in a permitted pit or registered or permitted surface waste management facility without the permission of the owner or operator of the pit or facility.

B. Authorized disposition of produced water. The following methods of disposition of produced water are authorized:

(1) in a manner that does not constitute a hazard to fresh water, public health, safety or the environment, delivery to a permitted salt water disposal well or facility, secondary recovery or pressure maintenance injection facility, surface waste management facility or disposal pit permitted pursuant to 19.15.2.50 NMAC or to a drill site for use in drilling fluid; or

(2) use in accordance with a division-issued use permit or other division authorization.

C. Authorized dispositions of other oil field waste. Persons shall dispose of other oil field waste by transfer to an appropriate permitted or registered surface waste management facility or injection facility or applied to a division-authorized beneficial use. Persons may transport recovered drilling fluids to other drill sites for reuse provided that such fluids are transported and stored in a manner that does not constitute a hazard to fresh water, public health, safety or the environment.

19.15.2.53 SURFACE WASTE MANAGEMENT FACILITIES:

A. Definitions applicable to 19.15.2.53 NMAC only.

(1) Definitions relating to types of surface waste management facilities.

(a) A centralized facility is a surface waste management facility

(i) that is used exclusively by one generator subject to New Mexico's Oil and Gas Conservation Tax Act, NMSA 1978, Section 7-30-1, as amended;

(ii) where the generator or operator does not receive compensation for oil field waste management at that facility; and

(iii) receives exclusively oil field wastes that are generated from production units or leases the generator, or an affiliate of the generator, operates (For this provision's purposes, an affiliate of a generator is a person who controls, is controlled by or is under common control with the generator).

(b) A commercial facility is a surface waste management facility that is not a centralized facility.

(c) A landfarm is a discrete area of land designated and used for the remediation of petroleum hydrocarbon-contaminated soils and drill cuttings.

(d) A landfill is a discrete area of land or an excavation designed for permanent disposal of exempt or non-hazardous waste.

(e) A small landfarm is a centralized landfarm of two acres or less that has a total capacity of 2000 cubic yards or less in a single lift of eight inches or less, remains active for a maximum of three years from the date of its registration and that receives only petroleum hydrocarbon-contaminated soils (excluding drill cuttings) that are exempt or non-hazardous waste.

(2) Other definitions.

(a) Active portion is that part of a surface waste management facility that has received or is receiving oil field waste and has not been closed.

(b) A cell is a confined area engineered for the disposal or treatment of oil field waste.

(c) A composite liner is a liner that may consist of multiple layers of geosynthetics and low-permeability soils. The different layers of a composite liner may

have different material properties and may be applied at different stages of landfill liner installation.

(d) Geosynthetic is the general classification of synthetic materials used in geotechnical applications, including the following classifications:

(i) geocomposite is a manufactured material using geotextiles, geogrids, geomembranes, or combinations thereof, in a laminated or composite form;

(ii) geogrid is a deformed or non-deformed, netlike polymeric material used to provide reinforcement to soil slopes;

(iii) geomembrane is 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;

(iv) geonet is a type of geogrid that allows planar flow of liquids and serves as a drainage system;

(v) geosynthetic clay liner (GCL) is a relatively thin layer of processed clay (typically bentonite) that is either bonded to a geomembrane or fixed between two sheets of geotextile; and

(vi) geotextile is any 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.

(e) Leachate is the liquid that has passed through or emerged from oil field waste and contains soluble, suspended or miscible materials.

(f) A landfarm cell is a bermed area of 10 acres or less within a landfarm.

(g) A landfarm lift is an accumulation of soil or drill cuttings predominately contaminated by petroleum hydrocarbons that is placed into a landfarm cell for treatment.

(h) A liner is a continuous, low-permeability layer constructed of natural or human-made materials that restricts the migration of liquid oil field wastes, gases or leachate.

(i) Lower explosive limit is the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 77 degrees fahrenheit and atmospheric pressure.

(j) A major modification is a modification of a surface waste management facility that involves an increase in the land area that the permitted surface waste management facility occupies; a change in the design capacity or nature of the permitted oil field waste stream; addition of a new treatment process; an exception to, waiver of or change to a numerical standard provided in 19.15.2.53 NMAC; or other modification that the division determines is sufficiently substantial that public notice and public participation in the application process are appropriate.

(k) A minor modification is a modification of a surface waste management facility that is not a major modification.

(l) Operator means the operator of a surface waste management facility.

(m) Poor foundation conditions are features that indicate that a natural or human-induced event may result in inadequate foundational support for a surface waste management facility's structural components.

(n) Run-off is rainwater, leachate or other liquid that drains over land from any part of a surface waste management facility.

(o) Run-on is rainwater, leachate or other liquid that drains from other land on to any part of a surface waste management facility.

(p) Structural components of a landfill are liners, leachate collection and removal systems, final covers, run-on/run-off systems and other components used in a landfill's construction or operation that are necessary for protection of fresh water, public health, safety or the environment.

(q) An unstable area is a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of a landfill's structural components. Examples of unstable areas are areas of poor foundation conditions, areas susceptible to mass earth movements and Karst terrain areas where Karst topography is developed as a result of dissolution of limestone, dolomite or other soluble rock. Characteristic physiographic features of Karst terrain include sinkholes, sinking streams, caves, large springs and blind valleys.

B. Permit required. No person shall operate a surface waste management facility (other than a small landfarm registered pursuant to Subsection H of 19.15.2.53 NMAC) except pursuant to and in accordance with the terms and conditions of a division-issued surface waste management facility permit.

C. Permitting requirements, application, public notice and financial assurance. Except for small landfarms registered pursuant to Subsection H of 19.15.2.53 NMAC, new commercial or centralized facilities prior to commencement of construction, and existing commercial or centralized facilities prior to modification or permit renewal, shall be permitted by the division in accordance with the applicable requirements of Subsection C of 19.15.2.53 NMAC.

(1) Application requirements for new facilities, major modifications and permit renewals. An applicant or operator shall file an application, form C-137, for a permit for a new surface waste management facility, to modify an existing surface waste management facility or for permit renewal with the environmental bureau in the division's Santa Fe office. The application shall include:

(a) the names and addresses of the applicant and principal officers and owners of 25 percent or more of the applicant;

(b) a plat and topographic map showing the surface waste management facility's location in relation to governmental surveys (quarter-quarter section, township and range); highways or roads giving access to the surface waste management facility site; watercourses; fresh water sources, including wells and springs; and inhabited buildings within one mile of the site's perimeter;

(c) the names and addresses of the surface owners of the real property on which the surface waste management facility is sited and surface owners of the real property within one mile of the site's perimeter;

(d) a description of the surface waste management facility with a diagram indicating the location of fences and cattle guards, and detailed construction/installation diagrams of pits, liners, dikes, piping, sprayers, tanks, roads.

fences, gates, berms, pipelines crossing the surface waste management facility, buildings and chemical storage areas;

(e) engineering designs, certified by a registered professional engineer, including technical data on the design elements of each applicable treatment, remediation and disposal method and detailed designs of surface impoundments;

(f) a plan for management of approved oil field wastes that complies with the applicable requirements contained in Subsections E, F, G and I of 19.15.2.53 NMAC;

(g) an inspection and maintenance plan that complies with the requirements contained in Paragraph (12) of Subsection E of 19.15.2.53 NMAC;

(h) a hydrogen sulfide prevention and contingency plan that complies with those provisions of 19.15.3.118 NMAC that apply to surface waste management facilities:

(i) a closure and post closure plan, including a responsible third party contractor's cost estimate, sufficient to close the surface waste management facility in a manner that will protect fresh water, public health, safety and the environment (The closure and post closure plan shall comply with the requirements contained in Paragraph (4) of Subsection J of 19.15.2.53 NMAC):

(j) a contingency plan that complies with the requirements of Paragraph (14) of Subsection E of 19.15.2.53 NMAC and with NMSA 1978, Sections 12-12-1 through 12-12-30, as amended (the emergency management act):

(k) a plan to control run-on water onto the site and run-off water from the site that complies with the requirements of Paragraph (13) of Subsection E of 19.15.2.53 NMAC;

(l) in the case of an application to permit a new or expanded landfill, a leachate management plan that describes the anticipated amount of leachate that will be generated and the leachate's handling, storage, treatment and disposal, including final post closure options;

(m) in the case of an application to permit a new or expanded landfill, a gas safety management plan that complies with the requirements of Paragraph (15) of Subsection E of 19.15.2.53 NMAC;

(n) a best management practice plan to ensure protection of fresh water, public health, safety and the environment;

(o) geological/hydrological data including:

(i) a map showing names and location of streams, springs or other watercourses, and water wells within one mile of the site;

(ii) laboratory analyses, performed by an independent commercial laboratory, for major cations and anions; benzene, toluene, ethyl benzene and xylenes (BTEX); RCRA metals; and total dissolved solids (TDS) of ground water samples of the shallowest fresh water aquifer beneath the proposed site;

(iii) depth to, formation name, type and thickness of the shallowest fresh water aquifer;

(iv) soil types beneath the proposed surface waste management facility, including a lithologic description of soil and rock members from ground surface down to the top of the shallowest fresh water aquifer:

(v) geologic cross-sections;

(vi) potentiometric maps for the shallowest fresh water aquifer:

(vii) porosity, permeability, conductivity, compaction ratios and swelling characteristics for the sediments on which the contaminated soils will be placed;

(p) certification by the applicant that information submitted in the application is true, accurate and complete to the best of the applicant's knowledge, after reasonable inquiry; and

(q) other information that the division may require to demonstrate that the surface waste management facility's operation will not adversely impact fresh water, public health, safety or the environment and that the surface waste management facility will comply with division rules and orders.

(2) Application requirements for minor modifications. An existing surface waste management facility applying for a minor modification shall file a form C-137 with the environmental bureau in the division's Santa Fe office describing the proposed change and identifying information that has changed from its last C-137 filing.

(3) Determination that an application is administratively complete. Upon receipt of an application for a surface waste management facility permit or modification or renewal of an existing surface waste management facility permit, the division shall review the application for administrative completeness. To be deemed administratively complete, the application shall provide information required by Paragraph (1) or (2) (as applicable) of Section C of 19.15.2.53 NMAC. The division shall notify the applicant in writing when it deems the application administratively complete. If the division determines that the application is not administratively complete, the division shall notify the applicant of the deficiencies in writing within 30 days after the application's receipt and state what additional information is necessary.

(4) Notice requirement for new surface waste management facilities, major modifications or renewals.

(a) Upon receipt of notification of the division's determination that the application is administratively complete, the applicant for a new surface waste management facility permit, permit renewal or major modification shall give written notice of the application, by certified mail, return receipt requested, to the surface owners of record within one-half mile of the surface waste management facility, the county commission of the county where the surface waste management facility site is located. the appropriate city officials if the surface waste management facility site is within city limits or within one-half mile of the city limits, and affected federal tribal or pueblo governmental agencies. The notice shall contain the information in Sub-subparagraphs of (i) through (iv) of Subparagraph (f) of Paragraph (4) of Subsection C of 19.15.2.53 NMAC. The division may extend the distance requirements for notice if the division determines that the proposed surface waste management facility has the potential to adversely impact fresh water, public health, safety or the environment at a distance greater than one-half mile. The applicant shall furnish proof that it has given the required notices.

(b) The division shall distribute notice of its determination that an application for a new surface waste management facility or for a renewal or major modification of an existing surface waste management facility is administratively

complete to persons who have requested notification of division and commission hearing dockets within 30 days following the date that the division determines the application to be administratively complete.

(c) A person wishing to comment on an application prior to the division's preliminary consideration of the application may file comments within 30 days, or as extended by the director, after the later of the date when the applicant mails the notice required by Subparagraph (a) of Paragraph (4) of Subsection C of 19.15.2.53 NMAC or the date when the division distributes the notice provided in Subparagraph (b) of Paragraph (4) of Subsection C of 19.5.2.53 NMAC.

(d) Within 60 days after the end of the public comment period provided in Subparagraph (c) of Paragraph (4) of Subsection C of 19.15.2.53 NMAC, the division shall issue a tentative decision concerning the application, renewal or modification, including proposed conditions for approval or reasons for disapproval, as applicable. The division shall mail notice of the tentative decision, together with a copy of the decision, by certified mail, return receipt requested, to the applicant and shall post notice on the division's website, together with a copy of the tentative decision.

(e) Within 30 days after receiving the division's tentative decision, the applicant shall provide notice of the tentative decision by:

(i) publishing a display ad in English and Spanish, in a form approved by the division, in a newspaper of general circulation in this state and in a newspaper of general circulation in the county where the surface waste management facility is or will be located; the display ad shall be at least three inches by four inches and shall not be published in the newspaper's legal or classified sections;

(ii) mailing notice by first class mail or e-mail to persons, as identified to the applicant by the division, who have requested notification of applications generally, or of the particular application, including persons who have filed comments on the particular application during the initial public comment period, and who have included in such comments a legible return address or e-mail address; and

(iii) mailing notice by first class or e-mail to affected local, state, federal or tribal governmental agencies, as determined and identified to the applicant by the division.

(f) This notice issued pursuant to Subparagraph (e) of Paragraph (4) of Subsection C of 19.15.2.53 NMAC shall include:

(i) the applicant's name and address;

(ii) the surface waste management facility's location, including a street address if available, and sufficient information to locate the surface waste management facility with reference to surrounding roads and landmarks;

(iii) a brief description of the proposed surface waste management facility:

(iv) the depth to. and TDS concentration of, the ground water in the shallowest aquifer beneath the surface waste management facility site;

(v) a statement that the division's tentative decision is available on the division's website, or, upon request, from the division clerk, including the division clerk's name, address and telephone number:

(vi) a description of alternatives, exceptions or waivers that may be under consideration in accordance with Paragraph (5) of Subsection J or Subsection K of 19.15.2.53 NMAC;

(vii) a statement of the comment period and of the procedures for requesting a hearing on the application: and

(viii) a brief statement of the procedures the division shall follow in making a final decision.

(g) A person, whether or not such person has previously submitted comments, may file comments or request a hearing on the application by filing their comments or. in accordance with 19.15.14.1206 NMAC, a hearing request with the division clerk within 30 days after the date that the applicant issued public notice of the division's tentative decision. A request for a hearing shall be in writing and shall state specifically the reasons why a hearing should be held. The division shall schedule a public hearing on the application if. in addition to the requirements in 19.15.14.1206 NMAC,

(i) the division has proposed to deny the application or grant it subject to conditions not expressly required by rule, and the applicant requests a hearing:

(ii) the director determines that there is significant public interest in the application;

(iii) the director determines that comments have raised objections that have probable technical merit: or

(iv) determination of the application requires that the division make a finding, pursuant to Paragraph (3) of Subsection F of 19.15.1.7 NMAC, whether a water source has a present or reasonably foreseeable beneficial use that contamination would impair.

(h) If the division schedules a hearing on an application, the hearing shall be conducted according to 19.15.14.1206 through 19.15.14.1215 NMAC.

(5) Financial assurance requirements.

(a) Centralized facilities. Upon notification by the division that it has approved a permit but prior to the division issuing the permit, an applicant for a new centralized facility permit shall submit acceptable financial assurance in the amount of $25,000 per centralized facility, or a statewide "blanket" financial assurance in the amount of $50.000 to cover all of that applicant's centralized facilities, unless such applicant has previously posted a blanket financial assurance for centralized facilities.

(b) New commercial facilities or major modifications of existing commercial facilities. Upon notification by the division that it has approved a permit for a new commercial facility or a major modification of an existing commercial facility but prior to the division issuing the permit, the applicant shall submit acceptable financial assurance in the amount of the commercial facility's estimated closure and post closure cost, or $25,000, whichever is greater. The commercial facility's estimated closure and post closure cost shall be the amount provided in the closure plan the applicant submitted unless the division determines that such estimate does not reflect a reasonable and probable closure and post closure cost, in which event, the division shall determine the estimated closure and post closure cost and shall include such determination in its tentative decision. If the applicant disagrees with the division's determination of estimated closure and post closure cost, the applicant may request a hearing as provided

in Subparagraph (g) of Paragraph (4) of Subsection C of 19.15.2.53 NMAC. If the applicant so requests, and no other person files a request for a hearing regarding the application, the hearing shall be limited to determination of estimated closure and post closure cost.

(c) Terms of financial assurance. The financial assurance shall be on division-prescribed forms, payable to the state of New Mexico and conditioned upon the surface waste management facility's proper operation, site closure and post closure monitoring in compliance with state of New Mexico statutes, division rules and the surface waste management facility permit terms. The applicant shall notify the division of a material change affecting the financial assurance within 30 days of discovery of such change.

(d) Forfeiture of financial assurance. The division shall give the operator 20 days notice and an opportunity for a hearing prior to forfeiting financial assurance.

(6) Forms of financial assurance. The division may accept the following forms of financial assurance.

(a) Surety bonds. A surety bond shall be executed by the applicant and by a corporate surety licensed to do business in the state, and shall be non-cancelable.

(b) Letters of credit. A letter of credit shall be issued by a bank organized or authorized to do commercial banking business in the United States, shall be irrevocable for a term of not less than five years and shall provide for automatic renewal for successive, like terms upon expiration, unless the issuer has notified the division in writing of non-renewal at least 90 days before its expiration date. The letter of credit shall be payable to the state of New Mexico in part or in full upon receipt from the director or the director's authorized representative of demand for payment accompanied by a notice of forfeiture.

(c) Cash accounts. An applicant may provide financial assurance in the form of a federally insured or equivalently protected cash account or accounts in a financial institution, provided that the operator and the financial institution shall execute as to each such account a collateral assignment of the account to the division, which shall provide that only the division may authorize withdrawals from the account. In the event of forfeiture pursuant to Paragraph (3) of Subsection J of 19.15.2.53 NMAC, the division may, at any time and from time to time, direct payment of all or part of the balance of such account (excluding interest accrued on the account) to itself or its designee for the surface waste management facility's closure.

(d) Replacement of financial assurance.

(i) The division may allow an operator to replace existing forms of financial assurance with other forms of financial assurance that provide equivalent coverage.

(ii) The division shall not release existing financial assurance until the operator has submitted, and the division has approved, an acceptable replacement.

(e) Review of adequacy of financial assurance. The division may at any time not less than five years after initial acceptance of financial assurance for a commercial facility, or whenever the operator applies for a major modification of the commercial facility's permit, initiate a review of such financial assurance's adequacy.

Additionally, whenever the division determines that a landfarm operator has not achieved the closure standards specified in Subparagraph (b) of Paragraph (7) of Subsection G of 19.15.2.53 NMAC. the division may review the adequacy of the landfarm operator's financial assurance, without regard to the date of its last review. Upon determination, after notice to the operator and an opportunity for a hearing, that the financial assurance is not adequate to cover the reasonable and probable cost of a commercial facility's closure and post closure monitoring, the division may require the operator to furnish additional financial assurance sufficient to cover such reasonable and probable cost, provided that the financial assurance required of a commercial facility permitted prior to the effective date of 19.15.2.53 NMAC shall not exceed $250,000 except in the event of a major modification of the commercial facility. If such a commercial facility applies for a major modification, the division shall determine the applicable financial assurance requirement based on the total estimated closure and post closure cost of the commercial facility as modified, without regard to the $250,000 limit.

D. Permit approval, denial, revocation, suspension or modification.

(1) Granting of permit.

(a) The division may issue a permit for an new surface waste management facility or major modification upon finding that an acceptable application has been filed, that the conditions of Paragraphs (4) and (5) of Subsection C of 19.15.2.53 NMAC have been met and that the surface waste management facility or modification can be constructed and operated in compliance with applicable statutes and rules and without endangering fresh water, public health, safety or the environment.

(b) Each permit the divisions issues for a new surface waste management facility shall remain in effect for 10 years from the date of its issuance. If the division grants a permit for a major modification of a surface waste management facility, the permit for that surface waste management facility shall remain in effect for 10 years from the date the division approves the major modification. A surface waste management facility permit may be renewed for successive 10-year terms. If the holder of a surface waste management facility permit submits an application for permit renewal at least 120 days before the surface waste management facility permit expires, and the operator is not in violation of the surface waste management facility permit on the date of its expiration, then the existing surface waste management facility permit for the same activity shall not expire until the division has approved or denied an application for renewal. If the division has not notified the operator of a violation, if the operator is diligently pursuing procedures to contest a violation or if the operator and the division have signed an agreed compliance order providing for remedying the violation, then the surface waste management facility permit shall continue in effect as above provided notwithstanding the surface waste management facility permit violation's existence. A surface waste management facility permit continued under this provision remains fully effective and enforceable. An application for permit renewal shall include and adequately address the information necessary for evaluation of a new surface waste management facility permit as provided in Paragraph (1) of Subsection C of 19.15.2.53 NMAC. Previously submitted materials may be included by reference provided they are current, readily available to the division and sufficiently identified so that the division may retrieve them. The operator shall give public notice of the renewal application in the manner prescribed by Paragraph (4) of Subsection C of 19.15.2.53 NMAC. The division

shall grant an application for renewal if the division finds that an acceptable application has been filed, that the conditions of Paragraphs (4) and (5) of Subsection C of 19.15.2.53 NMAC have been met and that the surface waste management facility can be operated in compliance with applicable statutes and rules and without endangering fresh water, public health, safety or the environment.

(c) The division shall review each surface waste management facility permit at least once during the 10-year term, and shall review surface waste management facility permits to which Subparagraph (b) of Paragraph (1) of Subsection D of 19.15.2.53 NMAC does not apply at least every five years. The review shall address the operation, compliance history, financial assurance and technical requirements for the surface waste management facility. The division, after notice to the operator and an opportunity for a hearing, may require appropriate modifications of the surface waste management facility permit, including modifications necessary to make the surface waste management facility permit terms and conditions consistent with statutes, rules or judicial decisions.

(2) Denial of permit. The division may deny an application for a surface waste management facility permit or modification of a surface waste management facility permit if it finds that the proposed surface waste management facility or modification may be detrimental to fresh water, public health, safety or the environment. The division may also deny an application for a surface waste management facility permit if the applicant, an owner of 25 percent or greater interest in the applicant or an affiliate of the applicant has a history of failure to comply with division rules and orders or state or federal environmental laws: is subject to a division or commission order, issued after notice and hearing, finding such entity to be in violation of an order requiring corrective action: or has a penalty assessment for violation of division or commission rules or orders that is unpaid more than 70 days after issuance of the order assessing the penalty. An affiliate of an applicant, for purposes of Paragraph (2) of Subsection D of 19.15.2.53 NMAC. shall be a person who controls, is controlled by or under is common control with the applicant or a 25 percent or greater owner of the applicant.

(3) Additional requirements. The division may impose conditions or requirements, in addition to the operational requirements set forth in 19.15.2.53 NMAC. that it determines are necessary and proper for the protection of fresh water, public health, safety or the environment. The division shall incorporate such additional conditions or requirements into the surface waste management facility permit.

(4) Revocation, suspension or modification of a permit. The division may revoke, suspend or impose additional operating conditions or limitations on a surface waste management facility permit at any time, for good cause, after notice to the operator and an opportunity for a hearing. The division may suspend a surface waste management facility permit or impose additional conditions or limitations in an emergency to forestall an imminent threat to fresh water, public health, safety or the environment, subject to the provisions of NMSA 1978. Section 70-2-3, as amended. If the division initiates a major modification it shall provide notice in accordance with Paragraph (4) of Subsection C of 19.15.2.53 NMAC. Suspension of a surface waste management facility permit may be for a fixed period of time or until the operator remedies the violation or potential violation. If the division suspends a surface waste management facility's permit, the

surface waste management facility shall not accept oil field waste during the suspension period.

(5) The operator shall not transfer a permit without the division's prior written approval. A request for transfer of a permit shall identify officers, directors and owners of 25 percent or greater in the transferee. Unless the director otherwise orders, public notice or hearing are not required for the transfer request's approval. If the division denies the transfer request, it shall notify the operator and the proposed transferee of the denial by certified mail, return receipt requested, and either the operator or the proposed transferee may request a hearing with 10 days after receipt of the notice. Until the division approves the transfer and the required financial assurance is in place, the division shall not release the transferor's financial assurance.

E. Siting and operational requirements applicable to all permitted surface waste management facilities. Except as otherwise provided in 19.15.2.53 NMAC:

(1) Depth to ground water.

(a) No landfill shall be located where ground water is less than 100 feet below the lowest elevation of the design depth at which the operator will place oil field waste.

(b) No landfarm that accepts soil or drill cuttings with a chloride concentration that exceeds 500 mg/kg shall be located where ground water is less than 100 feet below the lowest elevation at which the operator will place oil field waste. See Paragraph (1) of Subsection G of 19.15.2.53 NMAC for oil field waste acceptance criteria.

(c) No landfarm that accepts soil or drill cuttings with a chloride concentration that is 500 mg/kg or less shall be located where ground water is less than 50 feet below the lowest elevation at which the operator will place oil field waste.

(d) No small landfarm shall be located where ground water is less than 50 feet below the lowest elevation at which the operator will place oil field waste.

(e) No other surface waste management facility shall be located where ground water is less than 50 feet below the lowest elevation at which the operator will place oil field waste.

(2) No surface waste management facility shall be located:

(a) within 200 feet of a watercourse, lakebed, sinkhole or playa lake;

(b) within an existing wellhead protection area or 100-year floodplain;

(c) within, or within 500 feet of, a wetland;

(d) within the area overlying a subsurface mine;

(e) within 500 feet from the nearest permanent residence, school, hospital, institution or church in existence at the time of initial application; or

(f) within an unstable area, unless the operator demonstrates that engineering measures have been incorporated into the surface waste management facility design to ensure that the surface waste management facility's integrity will not be compromised.

(3) No surface waste management facility shall exceed 500 acres.

(4) The operator shall not accept oil field wastes transported by motor vehicle at the surface waste management facility unless the transporter has a form C-133, authorization to move liquid waste, approved by the division.

(5) The operator shall not place oil field waste containing free liquids in a landfill or landfarm cell.

(6) Surface waste management facilities shall accept only exempt or non-hazardous waste, except as provided in Subparagraph (c) of Paragraph (6) of Subsection E of 19.15.2.53 NMAC. The operator shall not accept hazardous waste at a surface waste management facility. The operator shall require the following documentation for accepting oil field wastes, and both the operator and the generator shall maintain and make the documentation available for division inspection.

(a) Exempt oil field wastes. The operator shall require a certification on form C-138, signed by the generator or the generator's authorized agent, that represents and warrants that the oil field wastes are generated from oil and gas exploration and production operations, are exempt waste and are not mixed with non-exempt waste. The operator shall have the option to accept such certifications on a monthly, weekly or per load basis. The operator shall maintain and shall make the certificates available for the division's inspection.

(b) Non-exempt non-hazardous, oil field wastes. The operator shall require a form C-138, oil field waste document, signed by the generator or its authorized agent. This form shall be accompanied by acceptable documentation to determine that the oil field waste is non-hazardous.

(c) Emergency non-oil field wastes. The operator may accept non-hazardous, non-oil field wastes in an emergency if ordered by the department of public safety. The operator shall complete a form C-138, oil field waste document, describing the waste, and maintain the same, accompanied by the department of public safety order, subject to division inspection.

(7) The operator of a commercial facility shall maintain records reflecting the generator, the location of origin, the location of disposal within the commercial facility, the volume and type of oil field waste, the date of disposal and the hauling company for each load or category of oil field waste accepted at the commercial facility. The operator shall maintain such records for a period of not less than five years after the commercial facility's closure, subject to division inspection.

(8) Disposal at a commercial facility shall occur only when an attendant is on duty unless loads can be monitored or otherwise isolated for inspection before disposal. The surface waste management facility shall be secured to prevent unauthorized disposal.

(9) To protect migratory birds, tanks exceeding eight feet in diameter, and exposed pits and ponds shall be screened, netted or covered. Upon the operator's written application, the division may grant an exception to screening, netting or covering upon the operator's showing that an alternative method will protect migratory birds or that the surface waste management facility is not hazardous to migratory birds. Surface waste management facilities shall be fenced in a manner approved by the division.

(10) Surface waste management facilities shall have a sign, readable from a distance of 50 feet and containing the operator's name; surface waste management facility permit or order number; surface waste management facility location by unit letter, section, township and range; and emergency telephone numbers.

(11) Operators shall comply with the spill reporting and corrective action provisions of 19.15.1.19 or 19.15.3.116 NMAC.

(12) Each operator shall have an inspection and maintenance plan that includes the following:

(a) monthly inspection of leak detection sumps including sampling if fluids are present with analyses of fluid samples furnished to the division: and maintenance of records of inspection dates, the inspector and the leak detection system's status;

(b) semi-annual inspection and sampling of monitoring wells as required, with analyses of ground water furnished to the division; and maintenance of records of inspection dates, the inspector and ground water monitoring wells' status: and

(c) inspections of the berms and the outside walls of pond levees quarterly and after a major rainfall or windstorm, and maintenance of berms in such a manner as to prevent erosion.

(13) Each operator shall have a plan to control run-on water onto the site and run-off water from the site, such that

(a) the run-on and run-off control system shall prevent flow onto the surface waste management facility's active portion during the peak discharge from a 25-year storm; and

(b) run-off from the surface waste management facility's active portion shall not be allowed to discharge a pollutant to the waters of the state or United States that violates state water quality standards.

(14) Contingency plan. Each operator shall have a contingency plan. The operator shall provide the division's environmental bureau with a copy of an amendment to the contingency plan, including amendments required by Subparagraph (h) of Paragraph (14) of Subsection E of 19.15.2.53 NMAC; and promptly notify the division's environmental bureau of changes in the emergency coordinator or in the emergency coordinator's contact information. The contingency plan shall be designed to minimize hazards to fresh water, public health, safety or the environment from fires, explosions or an unplanned sudden or non-sudden release of contaminants or oil field waste to air, soil, surface water or ground water. The operator shall carry out the plan's provisions immediately whenever there is a fire, explosion or release of contaminants or oil field waste constituents that could threaten fresh water, public health, safety or the environment: provided that the emergency coordinator may deviate from the plan as necessary in an emergency situation. The contingency plan for emergencies shall:

(a) describe the actions surface waste management facility personnel shall take in response to fires, explosions or releases to air, soil, surface water or ground water of contaminants or oil field waste containing constituents that could threaten fresh water, public health, safety or the environment:

(b) describe arrangements with local police departments, fire departments, hospitals, contractors and state and local emergency response teams to coordinate emergency services;

(c) list the emergency coordinator's name: address: and office, home and mobile phone numbers (Where more than one person is listed, one shall be named as the primary emergency coordinator.);

(d) include a list, which shall be kept current, of emergency equipment at the surface waste management facility, such as fire extinguishing systems, spill control equipment, communications and alarm systems and decontamination

equipment, containing a physical description of each item on the list and a brief outline of its capabilities:

(e) include an evacuation plan for surface waste management facility personnel that describes signals to be used to begin evacuation, evacuation routes and alternate evacuation routes in cases where fire or releases of hazardous wastes could block the primary routes:

(f) include an evaluation of expected contaminants, expected media contaminated and procedures for investigation, containment and correction or remediation;

(g) list where copies of the contingency plan will be kept, which shall include the surface waste management facility; local police departments, fire departments and hospitals; and state and local emergency response teams:

(h) indicate when the contingency plan will be amended, which shall be within five working days whenever:

(i) the surface waste management facility permit is revised or modified:

(ii) the plan fails in an emergency;

(iii) the surface waste management facility changes design, construction, operation, maintenance or other circumstances in a way that increases the potential for fires, explosions or releases of oil field waste constituents that could threaten fresh water, public health, safety or the environment or change the response necessary in an emergency:

(iv) the list of emergency coordinators or their contact information changes: or

(v) the list of emergency equipment changes;

(i) describe how the emergency coordinator or the coordinator's designee, whenever there is an imminent or actual emergency situation, will immediately;

(i) activate internal surface waste management facility alarms or communication systems, where applicable, to notify surface waste management facility personnel; and

(ii) notify appropriate state and local agencies with designated response roles if their assistance is needed;

(j) describe how the emergency coordinator, whenever there is a release, fire or explosion, will immediately identify the character, exact source, amount and extent of release materials (The emergency coordinator may do this by observation or review of surface waste management facility records or manifests, and, if necessary, by chemical analysis.) and describe how the emergency coordinator will concurrently assess possible hazards to fresh water, public health, safety or the environment that may result from the release, fire or explosion (This assessment shall consider both the direct and indirect hazard of the release, fire or explosion.);

(k) describe how, if the surface waste management facility stops operations in response to fire, explosion or release, the emergency coordinator will monitor for leaks, pressure buildup, gas generation or rupture in valves, pipes or the equipment, wherever this is appropriate;

(l) describe how the emergency coordinator, immediately after an emergency, will provide for treating, storing or disposing of recovered oil field waste, or

other material that results from a release, fire or explosion at a surface waste management facility; and

(m) describe how the emergency coordinator will ensure that no oil field waste, which may be incompatible with the released material, is treated, stored or disposed of until cleanup procedures are complete: and

(n) provide that the emergency coordinator may amend the plan during an emergency as necessary to protect fresh water, public health, safety or the environment.

(15) Gas safety management plan. Each operator of a surface waste management facility that includes a landfill shall have a gas safety management plan that describes in detail procedures and methods that will be used to prevent landfill-generated gases from interfering or conflicting with the landfill's operation and protect fresh water, public health, safety and the environment. The plan shall address anticipated amounts and types of gases that may be generated, an air monitoring plan that includes the vadose zone and measuring, sampling, analyzing, handling, control and processing methods. The plan shall also include final post closure monitoring and control options.

F. Specific requirements applicable to landfills.

(1) General operating requirements.

(a) The operator shall confine the landfill's working face to the smallest practical area and compact the oil field waste to the smallest practical volume. The operator shall not use equipment that may damage the integrity of the liner system in direct contact with a geosynthetic liner.

(b) The operator shall prevent unauthorized access by the public and entry by large animals to the landfill's active portion through the use of fences, gates, locks or other means that attain equivalent protection.

(c) The operator shall prevent and extinguish fires.

(d) The operator shall control litter and odors.

(e) The operator shall not excavate a closed cell or allow others to excavate a closed cell except as approved by the division.

(f) The operator shall provide adequate cover for the landfill's active face as needed to control dust, debris, odors or other nuisances, or as otherwise required by the division.

(g) For areas of the landfill that will not receive additional oil field waste for one month or more, but have not reached the final waste elevation, the operator shall provide intermediate cover that shall be:

(i) approved by the division;

(ii) stabilized with vegetation: and

(iii) inspected and maintained to prevent erosion and manage infiltration or leachate during the oil field waste deposition process.

(h) When the operator has filled a landfill cell, the operator shall close it pursuant to the conditions contained in the surface waste management facility permit and the requirements of Subparagraph (b) of Paragraph (4) of Subsection J of 19.15.2.53 NMAC. The operator shall notify the division's environmental bureau at least three working days prior to a landfill cell's closure.

(2) Ground water monitoring program. If fresh ground water exists at a site, the operator shall, unless otherwise approved by the division, establish a ground

water monitoring program, approved by the division's environmental bureau, which shall include a ground water monitoring work plan, a sampling and analysis plan, a ground water monitoring system and a plan for reporting ground water monitoring results. The ground water monitoring system shall consist of a sufficient number of wells, installed at appropriate locations and depths, to yield ground water samples from the uppermost aquifer that

(a) represent the quality of background ground water that leakage from a landfill has not affected; and

(b) represent the quality of ground water passing beneath and down gradient of the surface waste management facility.

(3) Landfill design specification. New landfill design systems shall include a base layer and a lower geomembrane liner (e.g.. composite liner), a leak detection system, an upper geomembrane liner, a leachate collection and removal system, a leachate collection and removal system protective layer, an oil field waste zone and a top landfill cover.

(a) The base layer shall, at a minimum, consist of two feet of clay soil compacted to a minimum 90 percent Standard Proctor Density (ASTM D-698) with a hydraulic conductivity of 1×10^{-7} cm/sec or less. In areas where no ground water is present, the operator may propose an alternative base layer design, subject to division approval.

(b) The lower geomembrane liner shall consist of a 30-mil flexible poly vinyl chloride (PVC) or 60-mil high-density polyethylene (HDPE) liner, or an equivalent liner approved by the division.

(c) The operator shall place the leak detection system, which shall consist of two feet of compacted soil with a saturated hydraulic conductivity of 1×10^{-5} cm/sec or greater, between the lower and upper geomembrane liners. The leak detection system shall consist of a drainage and collection system placed no more than six inches above the lower geomembrane liner in depressions and sloped so as to facilitate the earliest possible leak detection at designated collection points. Drainage piping shall be designed to withstand chemical attack from oil field waste and leachate and structural loading and other stresses and disturbances from overlying oil field waste, cover materials, equipment operation, expansion or contraction, and to facilitate clean-out maintenance. The material placed between the pipes and laterals shall be sufficiently permeable to allow the transport of fluids to the drainage pipe. The slope of the landfill sub-grade and drainage pipes and laterals shall be at least two percent grade; i.e.. two feet of vertical drop per 100 horizontal feet. The piping collection network shall be comprised of solid and perforated pipe having a minimum diameter of four inches and a minimum wall thickness of schedule 80. The operator shall seal a solid drainage pipe to convey collected liquids to a corrosion-proof sump or sumps located outside the landfill's perimeter for observation, storage, treatment or disposal. The operator may install alternative designs as approved by the division.

(d) The operator shall place the upper geomembrane liner, which shall consist of a 30-mil flexible PVC or 60-mil HDPE liner, or an equivalent liner approved by the division, over the leak detection system.

(e) The operator shall place the leachate collection and removal system, which shall consist of at least two feet of compacted soil with a saturated

hydraulic conductivity of 1 x 10^{-2} cm/sec or greater, over the upper geomembrane liner to facilitate drainage. The leachate collection and removal system shall consist of a drainage and collection and removal system placed no more than six inches above the upper geomembrane liner in depressions and sloped so as to facilitate the maximum leachate collection. Piping shall be designed to withstand chemical attack from oil field waste or leachate and structural loading and other stresses and disturbances from overlying oil field waste, cover materials, equipment operation, expansion or contraction and to facilitate clean-out maintenance. The material placed between the pipes and laterals shall be sufficiently permeable to allow the transport of fluids to the drainage pipe. The slope of the upper geomembrane liner and drainage lines and laterals shall be at least two percent grade: i.e., two feet of vertical drop per 100 horizontal feet. The piping collection network shall be comprised of solid and perforated pipe having a minimum diameter of four inches and a minimum wall thickness of schedule 80. The operator shall seal a solid drainage pipe to convey collected fluids outside the landfill's perimeter for storage, treatment and disposal. The operator may install alternative designs as approved by the division.

(f) The operator shall place the leachate collection and removal system protection layer, which shall consist of a soil layer at least one foot thick with a saturated hydraulic conductivity of 1 x 10^{-5} cm/sec or greater, over the leachate collection and removal system.

(g) The operator shall place oil field waste over the leachate collection and removal system protective layer.

(h) The top landfill cover design shall consist of the following layers (top to bottom): a soil erosion layer composed of at least 12 inches of fertile topsoil re-vegetated in accordance with the post closure provisions of Sub-subparagraph (ii) of Subparagraph (b) of Paragraph (4) of Subsection J of 19.15.2.53 NMAC: a protection or frost protection layer composed of 12 to 30 inches of native soil: a drainage layer composed of at least 12 inches of sand or gravel with a saturated hydraulic conductivity of 1 x 10^{-2} cm/sec or greater and a minimum bottom slope of four percent, a hydraulic barrier-layer–geomembrane (minimum of a 30-mil flexible PVC or 60-mil HDPE liner, or an equivalent liner approved by the division); and a gas vent or foundation layer composed of at least 12 inches of sand or gravel above oil field waste with soils compacted to the minimum 80 percent Standard Proctor Density. The operator shall install the top landfill cover within one year of achieving the final landfill cell waste elevation. The operator shall ensure that the final landfill design elevation of the working face of the oil field waste is achieved in a timely manner with the date recorded in a field construction log. The operator shall also record the date of top landfill cover installation to document the timely installation of top landfill covers. The operator shall provide a minimum of three working days notice to the division in advance of the top landfill cover's installation to allow the division to witness the top landfill cover's installation.

(i) Alternatively, the operator may proposed a performance-based landfill design system using geosynthetics or geocomposites, including geogrids, geonets, geosynthetic clay liners, composite liner systems, etc., when supported by EPA's "Hydrologic Evaluation of Landfill Performance" (HELP) Model or other division-approved model. The operator shall design the landfill to prevent the "bathtub effect".

The bathtub effect occurs when a more permeable cover is placed over a less permeable bottom liner or natural subsoil.

(j) External piping, e.g.. leachate collection, leak detection and sump removal systems shall be designed for installation of a sidewall riser pipe. Pipes shall not penetrate the liner with the exception of gas vent or collection wells where the operator shall install a flexible clamped pipe riser through the top landfill cover liner that will accommodate oil field waste settling and will prevent tears.

(4) Liner specifications and requirements.

(a) General requirements.

(i) Geomembrane liner specifications. Geomembrane liners shall consist of a 30-mil flexible PVC or 60-mil HDPE liner, or an equivalent liner approved by the division. Geomembrane liners shall have a hydraulic conductivity no greater than 1×10^{-9} cm/sec. Geomembrane liners shall be composed of impervious, geosynthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions. Liners shall also be resistant to ultraviolet light, or the operator shall make provisions to protect the material from sunlight. Liner compatibility shall comply with EPA SW-846 method 9090A.

(ii) Liners shall be able to withstand projected loading stresses, settling and disturbances from overlying oil field waste, cover materials and equipment operations.

(iii) Operators shall construct liners with a minimum of two percent slope to promote positive drainage and to facilitate leachate collection and leak detection.

(b) Additional requirements for geomembranes.

(i) Geomembranes shall be compatible with the oil field waste to be disposed. Geomembranes shall be resistant to chemical attack from the oil field waste or leachate. The operator shall demonstrate this by means of the manufacturer's test reports, laboratory analyses or other division-approved method.

(ii) Geosynthetic material the operator installs on a slope greater than 25 percent shall be designed to withstand the calculated tensile forces acting upon the material. The design shall consider the maximum friction angle of the geosynthetic with regard to a soil-geosynthetic or geosynthetic-geosynthetic interface and shall ensure that overall slope stability is maintained.

(iii) The operator shall thermally seal (hot wedge) field seams in geosynthetic material with a double track weld to create an air pocket for non-destructive air channel testing. In areas where double-track welding cannot be achieved, the operator may propose alternative thermal seaming methods. A stabilized air pressure of 35 pounds per square inch (psi), plus or minus one percent, shall be maintained for a least five minutes. The operator shall overlap liners four to six inches before seaming, and shall orient seams parallel to the line of maximum slope; i.e.. oriented along, not across, the slope. The operator shall minimize the number of field seams in corners and irregularly shaped areas. The operator shall use factory seams whenever possible. The operator shall not install horizontal seams within five feet of the slope's toe. Qualified personnel shall perform all field seaming.

(c) Requirements for the soil component of composite liners.

(i) The operator shall place and compact the base layer to 90 percent Standard Proctor Density on a prepared sub-grade.

(ii) The soil surface upon which the operator installs a geosynthetic shall be free of stones greater than one half inch in any dimension, organic matter, local irregularities, protrusions, loose soil and abrupt changes in grade that could damage the geosynthetic.

(iii) The operator shall compact a clay soil component of a composite liner to a minimum of 90 percent Standard Proctor Density, which shall have, unless otherwise approved by the division, a plasticity index greater than 10 percent, a liquid limit between 25 and 50 percent, a portion of material passing the no. 200 sieve (0.074 mm and less fraction) greater than 40 percent by weight: and a clay content greater than 18 percent by weight.

(d) The leachate collection and removal system protective layer and the soil component of the leak detection system shall consist of soil materials that shall be free of organic matter, shall have a portion of material passing the no. 200 sieve no greater than five percent by weight and shall have a uniformity coefficient (Cu) less than 6. where Cu is defined as D60/D10. Geosynthetic materials or geocomposites including geonets and gcotextiles. if used as components of the leachate collection and removal or leak detection system, shall have a hydraulic conductivity, transmissivity and chemical and physical qualities that oil field waste placement, equipment operation or leachate generation will not adversely affect. These geosynthetics or geocomposites. if used in conjunction with the soil protective cover for liners, shall have a hydraulic conductivity designed to ensure that the liner's hydraulic head never exceeds one foot.

(5) Landfill Gas Control Systems. If the gas safety management plan or requirements of other federal, state or local agencies require the installation of a gas control system at a landfill, the operator shall submit a plan for division approval, which shall include the following:

(a) the system's design, indicating the location and design of vents, barriers, collection piping and manifolds and other control measure that the operator will install (Gas vent or collection wells shall incorporate a clamped and seamed pipe riser design through the top cover liner.);

(b) if gas recovery is proposed, the design of the proposed gas recovery system and the system's major on-site components, including storage. transportation, processing, treatment or disposal measures required in the management of generated gases, condensates or other residues:

(c) if gas processing is proposed, a processing plan designed in a manner that does not interfere or conflict with the activities on the site or required control measures or create or cause danger to persons or property:

(d) if gas disposal is proposed, a disposal plan designed

(i) in a manner that does not interfere or conflict with the activities on the site or with required control measures;

(ii) so as not to create or cause danger to persons or property; and

(iii) with active forced ventilation, using vents located at least one foot above the landfill surface at each gas vent's location;

(e) physical and chemical characterization of condensates or residues that are generated and a plan for their disposal;

(f) means that the operator will implement to prevent gas' generation and lateral migration such that

(i) the concentration of the gases the landfill generates does not exceed 25 percent of the lower explosive limit for gases in surface waste management facility structures (excluding gas control or recovery system components): and

(ii) the concentration of gases does not exceed the lower explosive limit for gases at the surface waste management facility boundary; and

(g) a routine gas monitoring program providing for monitoring at least quarterly: the specific type and frequency of monitoring to be determined based on the following:

(i) soil conditions:

(ii) the hydrogeologic and hydraulic conditions surrounding the surface waste management facility; and

(iii) the location of surface waste management facility structures and property lines.

(6) Landfill gas response. If gas levels exceed the limits specified in Subparagraph (f) of Paragraph (5) of Subsection F of 19.15.2.53 NMAC. the operator shall:

(a) immediately take all necessary steps to ensure protection of fresh water, public health. safety and the environment and notify the division:

(b) within seven days of detection. record gas levels detected and a description of the steps taken to protect fresh water. public health, safety and the environment;

(c) within 30 days of detection. submit a remediation plan for gas releases that describes the problem's nature and extent and the proposed remedy; and

(d) within 60 days after division approval, implement the remediation plan and notify the division that the plan has been implemented.

G. Specific requirements applicable to landfarms.

(1) Oil field waste acceptance criteria. Only soils and drill cuttings predominantly contaminated by petroleum hydrocarbons shall be placed in a landfarm. The division may approve placement of tank bottoms in a landfarm if the operator demonstrates that the tank bottoms do not contain economically recoverable petroleum hydrocarbons. Soils and drill cuttings placed in a landfarm shall be sufficiently free of liquid content to pass the paint filter test. and shall not have a chloride concentration exceeding 500 mg/kg if the landfarm is located where ground water is less than 100 feet but at least 50 feet below the lowest elevation at which the operator will place oil field waste or exceeding 1000 mg/kg if the landfarm is located where ground water is 100 feet or more below the lowest elevation at which the operator will place oil field waste. The person tendering oil field waste for treatment at a landfarm shall certify, on form C-138. that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content. and that the samples have been found to conform to these requirements. The landfarm's operator shall not accept oil field waste for landfarm treatment unless accompanied by this certification.

(2) Background testing. Prior to beginning operation of a new landfarm or to opening a new cell at an existing landfarm at which the operator has not already established background, the operator shall take, at a minimum, 12 composite background soil samples, with each consisting of 16 discrete samples from areas that previous operations have not impacted at least six inches below the original ground surface, to establish total petroleum hydrocarbons (TPH), as determined by United States Environmental Protection Agency (EPA) method 418.1 or other EPA method approved by the division; BTEX, as determined by EPA SW-846 method 8021B or 8260B; chlorides; and other constituents listed in Subsections A and B of 20.6.2.3103 NMAC, using approved EPA methods.

(3) Operation and oil field waste treatment.

(a) The operator shall berm each landfarm cell to prevent rainwater run-on and run-off.

(b) The operator shall not place contaminated soils received after the effective date of 19.15.2.53 NMAC within 100 feet of the surface waste management facility's boundary.

(c) The operator shall not place contaminated soils received at a landfarm after the effective date of 19.15.2.53 NMAC within 20 feet of a pipeline crossing the landfarm.

(d) With 72 hours after receipt, the operator shall spread and disk contaminated soils in eight-inch or less lifts or approximately 1000 cubic yards per acre per eight-inch lift or biopile.

(e) The operator shall ensure that soils are disked biweekly and biopiles are turned at least monthly.

(f) The operator shall add moisture, as necessary, to enhance bioremediation and to control blowing dust.

(g) The application of microbes for the purposes of enhancing bioremediation requires prior division approval.

(h) Pooling of liquids in the landfarm is prohibited. The operator shall remove freestanding water within 24 hours.

(i) The operator shall maintain records of the landfarm's remediation activities in a form readily accessible for division inspection.

(j) The division's environmental bureau may approve other treatment procedures if the operator demonstrates that they provide equivalent protection for fresh water, public health, safety and the environment.

(4) Treatment zone monitoring. The operator shall spread contaminated soils on the surface in eight-inch or less lifts or approximately 1000 cubic yards per acre per eight-inch lift. The operator shall conduct treatment zone monitoring to ensure that prior to adding an additional lift the TPH concentration of each lift, as determined by EPA SW-846 method 8015M or EPA method 418.1 or other EPA method approved by the division, does not exceed 2500 mg/kg and that the chloride concentration, as determined by EPA method 300.1, does not exceed 500 mg/kg if the landfarm is located where ground water is less than 100 feet but at least 50 feet below the lowest elevation at which the operator will place oil field waste or 1000 mg/kg if the landfarm is located where ground water is 100 feet or more below the lowest elevation at which the operator will place oil field waste. The operator shall collect and analyze at least one composite

soil sample, consisting of four discrete samples, from the treatment zone at least semi-annually using the methods specified below for TPH and chlorides. The maximum thickness of treated soils in a landfarm cell shall not exceed two feet or approximately 3000 cubic yards per acre. When that thickness is reached, the operator shall not place additional oil field waste in the landfarm cell until it has demonstrated by monitoring the treatment zone at least semi-annually that the contaminated soil has been treated to the standards specified in Paragraph (6) of Subsection G of 19.15.2.53 NMAC or the contaminated soils have been removed to a division-approved surface waste management facility.

(5) Vadose zone monitoring.

(a) Sampling. The operator shall monitor the vadose zone beneath the treatment zone in each landfarm cell. The operator shall take the vadose zone samples from soils between three and four feet below the cell's original ground surface.

(b) Semi-annual monitoring program. The operator shall collect and analyze a minimum of four randomly selected, independent samples from the vadose zone at least semi-annually using the methods specified below for TPH, BTEX and chlorides and shall compare each result to the higher of the practical quantitation limit (POL) or the background soil concentrations to determine whether a release has occurred.

(c) Five year monitoring program. The operator shall collect and analyze a minimum of four randomly selected, independent samples from the vadose zone, using the methods specified below for the constituents listed in Subsections A and B of 20.6.2.3103 NMAC at least every five years and shall compare each result to the higher of the PQL or the background soil concentrations to determine whether a release has occurred.

(d) Record keeping. The operator shall maintain a copy of the monitoring reports in a form readily accessible for division inspection.

(e) Release response. If vadose zone sampling results show that the concentrations of TPH. BTEX or chlorides exceed the higher of the PQL or the background soil concentrations, then the operator shall notify the division's environmental bureau of the exceedance. and shall immediately collect and analyze a minimum of four randomly selected, independent samples for TPH, BTEX. chlorides and the constituents listed in Subsections A and B of 20.6.2.3103 NMAC. The operator shall submit the results of the re-sampling event and a response action plan for the division's approval within 45 days of the initial notification. The response action plan shall address changes in the landfarm's operation to prevent further contamination and, if necessary, a plan for remediating existing contamination.

(6) Treatment zone closure performance standards. After the operator has filled a landfarm cell to the maximum thickness of two feet or approximately 3000 cubic yards per acre, the operator shall continue treatment until the contaminated soil has been remediated to the higher of the background concentrations or the following closure performance standards. The operator shall demonstrate compliance with the closure performance standards by collecting and analyzing a minimum of one composite soil sample, consisting of four discrete samples.

(a) Benzene, as determined by EPA SW-846 method 8021B or 8260B, shall not exceed 0.2 mg/kg.

(b) Total BTEX. as determined bv EPA SW-846 method 8021B or 8260B. shall not exceed 50 mg/kg.

(c) The gasoline range organics (GRO) and diesel range organics (PRO) combined fractions. as determined bv EPA SW-846 method 8015M. shall not exceed 500 mg/kg. TPH, as determined by EPA method 418.1 or other EPA method approved by the division. shall not exceed 2500 mg/kg.

(d) Chlorides. as determined bv EPA method 300.1. shall not exceed 500 mg/kg if the landfarm is located where ground water is less than 100 feet but at least 50 feet below the lowest elevation at which the operator will place oil field waste or 1000 mg/kg if the landfarm is located where ground water is 100 feet or more below the lowest elevation at which the operator will place oil field waste.

(e) The concentration of constituents listed in Subsections A and B of 20.6.2.3103 NMAC shall be determined bv EPA SW-846 methods 6010B or 6020 or other methods approved by the division. If the concentration of those constituents exceed the POL or background concentration. the operator shall either perform a site specific risk assessment using EPA approved methods and shall propose closure standards based upon individual site conditions that protect fresh water, public health, safetv and the environment. which shall be subject to division approval or remove pursuant to Subparagraph (b) of Paragraph (7) of Subsection G of 19.15.2.53 NMAC.

(7) Disposition oftreated soils.

(a) If the operator achieves the closure performance standards specified in Paragraph (6) of Subsection G of 19.15.2.53 NMAC, then the operator mav either leave the treated soils in place, or. with prior division approval, dispose or reuse of the treated soils in an alternative manner.

(b) Ifthe operator cannot achieve the closure performance standards specified in Paragraph (6) of Subsection G of 19.15.2.53 NMAC within five vears or as extended by the division, then the operator shall remove contaminated soils from the landfarm cell and properly dispose of it at a division-permitted landfill, or reuse or recvcle it in a manner approved by the division.

(c) Ifthe operator cannot achieve the closure performance standards specified in Paragraph (6) of Subsection G of 19.15.2.53 NMAC within five years or as extended bv the division. then the division mav review the adequacy of the operator's financial assurance. as provided in Subparagraph (e) of Paragraph (5) of Subsection C of 19.15.2.53 NMAC. In that event. the division may require the operator to modify its financial assurance to provide for the appropriate disposition of contaminated soil in a manner acceptable to the division.

(d) The operator may request approval of an alternative soil closure standard from the division, provided that the operator shall give division-approved public notice of an application for alternative soil closure standards in the manner provided in Paragraph (4) of Subsection C of 19.15.2.53 NMAC. The division mav grant the request administratively if no person files an objection thereto within 30 days after publication of notice; otherwise the division shall set the matter for hearing.

(8) Environmentally acceptable bioremediation endpoint approach.

(a) A landfarm operator mav use an environmentallv acceptable bioremediation endpoint approach to landfarm management in lieu of compliance with the requirements of Subparagraph (c) of Paragraph (6) of Subsection G of 19.15.2.53

NMAC. The bioremediation endpoint occurs when TPH, as determined by EPA method 418.1 or other EPA method approved by the division, is reduced to a minimal concentration as a result of bioremediation and is dependent upon the bioavailability of residual hydrocarbons. An environmentally acceptable bioremediation endpoint occurs when the TPH concentration has been reduced by at least 80 percent by a combination of physical, biological and chemical processes and the rate of change in the reduction in the TPH concentration is negligible. The environmentally acceptable bioremediation endpoint in soil is determined statistically by the operator's demonstration that the rate of change in the reduction of TPH concentration is negligible.

(b) In addition to the requirements specified in Paragraph (1) of Subsection C of 19.15.2.53 NMAC. an operator who plans to use an environmentally acceptable bioremediation endpoint approach shall submit for the division's review and approval a detailed landfarm operation plan for those landfarm cells exclusively dedicated to the use of the environmentally acceptable bioremediation endpoint approach. As a minimum, the operations plan shall include detailed information on the native soils, procedures to characterize each lift of contaminated soil, operating procedures and management procedures that the operator shall follow.

(c) In addition to other operational requirements specified in Subsection G of 19.15.2.53 NMAC, the operator using an environmentally acceptable bioremediation endpoint approach shall comply with the following:

(i) Native soil information required. The operator shall submit detailed information on the soil conditions present for each of its landfarm cells immediately prior to the application of the petroleum hydrocarbon-contaminated soils, including: treatment cell size, soil porosity, soil bulk density, soil pH. moisture content, field capacity, organic matter concentration, soil structure, sodium adsorption ratio (SAR), electrical conductivity (EC), soil composition, soil temperature, soil nutrient (C:N:P) concentrations and oxygen content.

(ii) Characterization of contaminated soil. The operator shall submit a description of the procedures that it will follow to characterize each lift of contaminated soil or drill cuttings, prior to treating each lift of contaminated soil or drill cuttings, for petroleum hydrocarbon loading factor, TPH. BTEX. chlorides, constituents listed in Subsections A and B of 20.6.2.3103 NMAC, contaminated soil moisture, contaminated soil pH and API gravity of the petroleum hydrocarbons.

(iii) Operating procedures. The operator shall submit a description of the procedures, including a schedule, that it shall follow to properly monitor and amend each lift of contaminated soil in order to maximize bioremediation. including tilling procedures and schedule: procedures to limit petroleum hydrocarbon loading to less than five percent; procedures to maintain pH between six and eight: procedures to monitor and apply proper nutrients: procedures to monitor, apply and maintain moisture to 60 to 80 percent of field capacity: and procedures to monitor TPH concentrations.

(iv) Management procedures. The operator shall submit a description of the management procedures that it shall follow to properly schedule landfarming operations, including modifications during cold weather, record keeping, sampling and analysis, statistical procedures, routine reporting, determination and

reporting of achievement of the environmentally acceptable bioremediation endpoint and closure and post-closure plans.

H. Small landfarms. Small landfarms as defined in Subparagraph (e) of Paragraph (1) of Subsection A of 19.15.2.53 NMAC are exempt from 19.15.2.53 NMAC except for the requirements specified in Subsection H of 19.15.2.53 NMAC.

(1) General rules.

(a) Registration. Prior to establishment of a new small landfarm, the operator shall file a form C-137 EZ, small landfarm registration, with the environmental bureau in the division's Santa Fe office. If the operator is not the surface estate owner at the proposed site, the operator shall furnish with its form C-137 EZ its certification it has a written agreement with the surface estate owner authorizing the site's use for the proposed small landfarm. The division shall issue the operator a registration number no more than 30 days from receipt of the properly completed form.

(b) Limitation. The operator shall operate only one active small landfarm per governmental section at any time. No small landfarm shall be located more than one mile from the operator's nearest oil or gas well or other production facility.

(2) General operating rules. The operator shall:

(a) comply with the siting requirements of Paragraphs (1) and (2) of Subsection E of 19.15.2.53 NMAC;

(b) accept only exempt or non-hazardous wastes consisting of soils (excluding drill cuttings) generated as a result of accidental releases from production operations, that are predominantly contaminated by petroleum hydrocarbons, do not contain free liquids, would pass the paint filter test and where testing shows chloride concentrations are 500 mg/kg or below;

(c) berm the landfarm to prevent rainwater run-on and run-off: and

(d) post a sign at the site readable from a distance of 50 feet and listing the operator's name: small landfarm registration number; location by unit letter. section, township and range; expiration date; and an emergency contact telephone number.

(3) Oil field waste management standards. The operator shall spread and disk contaminated soils in a single eight inch or less lift within 72 hours of receipt. The operator shall conduct treatment zone monitoring to ensure that the TPH concentration. as determined by EPA SW-846 method 8015M or EPA method 418.1 or other EPA method approved by the division, does not exceed 2500 mg/kg and that the chloride concentration, as determined by EPA method 300.1, does not exceed 500 mg/kg. The operator shall treat soils by disking at least once a month and by watering and adding bioremediation enhancing materials when needed.

(4) Record-keeping requirements. The operator shall maintain records reflecting the generator, the location of origin, the volume and type of oil field waste, the date of acceptance and the hauling company for each load of oil field waste received. The division shall post on its website each small landfarm's location, operator and registration date.

(5) Small landfarm closure.

(a) Closure performance standards and disposition of soils. If the operator achieves the closure performance standards specified below, then the operator may return the soil to the original generation site, leave the treated soil in place at the

small landfarm or. with prior division approval, dispose or reuse the treated soil in an alternative manner. If the operator cannot achieve the closure performance standards within three years from the registration date, then the operator shall remove contaminated soil from the landfarm and properly dispose of it at a permitted landfill, unless the division authorizes a specific alternative disposition. The following standards shall apply:

(i) benzene, as determined by EPA SW-846 method 8021 B or 8260B, shall not exceed 0.2 mg/kg;

(ii) Total BTEX, as determined by EPA SW-846 method 8021 B or 8260B, shall not exceed 50 mg/kg;

(iii) TPH, as determined by EPA SW-846 method 418.1 or other EPA method approved by the division, shall not exceed 2500 mg/kg; the GRO and DRO combined fraction, as determined by EPA SW-846 method 8015M, shall not exceed 500 mg/kg; and

(iv) chlorides, as determined by EPA method 300.1, shall not exceed 500 mg/kg.

(b) Closure Requirements. The operator shall:

(i) re-vegetate soils remediated to the closure performance standards if left in place in accordance with Paragraph (1) of Subsection J of 19.15.2.53 NMAC;

(ii) remove landfarmed soils that have not or cannot be remediated to the closure performance standards within three years to a division-approved surface waste management facility, and re-vegetate the cell filled in with native soil to the standards in Paragraph (1) of Subsection J of 19.15.2.53 NMAC;

(iii) if the operator returns remediated soils to the original site, or with division permission, recycles them, re-vegetate the cell filled in with native soil to the standards in Paragraph (1) of Subsection J of 19.15.2.53 NMAC;

(iv) remove berms on the small landfarm and buildings, fences, roads and equipment; and

(v) clean up the site and collect one vadose zone soil sample from three to five feet below the middle of the treatment zone, or in an area where liquids may have collected due to rainfall events; the vadose zone soil sample shall be collected and analyzed using the methods specified above for TPH, BTEX and chlorides.

(6) Final report. The operator shall submit a final closure report on a form C-137 EZ, together with photographs of the closed site, to the environmental bureau in the division's Santa Fe office. The division, after notice to the operator and an opportunity for a hearing if requested, may require additional information, investigation or clean up activities.

I. Specific requirements applicable to evaporation, storage, treatment and skimmer ponds.

(1) Engineering design plan. An applicant for a surface waste management facility permit or modification requesting inclusion of a skimmer pit; an evaporation, storage or treatment pond; or a below-grade tank shall submit with the surface waste management facility permit application a detailed engineering design plan, certified by a registered profession engineer, including operating and maintenance procedures; a closure plan; and a hydrologic report that provides sufficient information

and detail on the site's topography, soils, geology, surface hydrology and ground water hydrology to enable the division to evaluate the actual and potential effects on soils, surface water and ground water. The plan shall include detailed information on dike protection and structural integrity; leak detection, including an adequate fluid collection and removal system; liner specifications and compatibility: freeboard and overtopping prevention: prevention of nuisance and hazardous odors such as H2S; an emergency response plan, unless the pit is part of a surface waste management facility that has an integrated contingency plan; type of oil field waste stream, including chemical analysis; climatological factors, including freeze-thaw cycles: a monitoring and inspection plan: erosion control: and other pertinent information the division requests.

(2) Construction, standards.

(a) In general. The operator shall ensure each pit, pond and below-grade tank is designed, constructed and operated so as to contain liquids and solids in a manner that will protect fresh water, public health, safety and the environment.

(b) Liners required. Each pit or pond shall contain, at a minimum, a primary (upper) liner and a secondary (lower) liner with a leak detection system appropriate to the site's conditions.

(c) Liner specifications. Liners shall consist of a 3Q-mil flexible PVC or 6Q-mil HDPE linen or an equivalent liner approved by the division. Synthetic (geomembrane) liners shall have a hydraulic conductivity no greater than 1×10^{-9} cm/sec. Geomembrane liners shall be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions. Liner materials shall be resistant to ultraviolet light, or the operator shall make provisions to protect the material from sunlight. Liner compatibility shall comply with EPA SW-846 method 9090A.

(d) Alternative liner media. The division may approve other liner media if the operator demonstrates to the division's satisfaction that the alternative liner protects fresh water, public health, safety and the environment as effectively as the specified media.

(e) Each pit or pond shall have a properly constructed foundation or firm, unyielding base, smooth and free of rocks, debris, sharp edges or irregularities, in order to prevent rupture or tear of the liner and an adequate anchor trench: and shall be constructed so that the inside grade of the levee is no steeper than 2H: 1V. Levees shall have an outside grade no steeper than 3H:1 V. The levees' tops shall be wide enough to install an anchor trench and provide adequate room for inspection and maintenance. The operator shall minimize liner seams and orient them up and down, not across a slope. The operator shall use factory seams where possible. The operator shall ensure field seams in geosynthetic material are thermally seamed (hot wedge) with a double track weld to create an air pocket for non-destructive air channel testing. A stabilized air pressure of 35 psi, plus or minus one percent, shall be maintained for at least five minutes. The operator shall overlap liners four to six inches before seaming, and orient seams parallel to the line of maximum slope, i.e., oriented along, not across, the slope. The operator shall minimize the number of field seams in corners and irregularly shaped areas. There shall be no horizontal seams within five feet of the slope's toe. Qualified personnel shall perform field seaming.

(f) At a point of discharge into or suction from the lined pit, the liner shall be protected from excessive hydrostatic force or mechanical damage, and external discharge lines shall not penetrate the liner.

(g) Primary liners shall be constructed of a synthetic material.

(h) A secondary liner may be a synthetic liner or an alternative liner approved by the division. Secondary liners constructed with compacted soil membranes, i.e., natural or processed clay and other soils, shall be at least three feet thick, placed in six-inch lifts and compacted to 95 percent of the material's Standard Proctor Density, or equivalent. Compacted soil membranes used in a liner shall undergo permeability testing in conformity with ASTM standards and methods approved by the division before and after construction. Compacted soil membranes shall have a hydraulic conductivity of no greater than 1×10^{-8} cm/sec. The operator shall submit results of pre-construction testing to the division for approval prior to construction.

(i) The operator shall place a leak detection system between the lower and upper 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 shall consist of a properly designed drainage and collection and removal system placed above the lower geomembrane liner in depressions and sloped so as to facilitate the earliest possible leak detection. Piping used shall be designed to withstand chemical attack from oil field waste or leachate; structural loading from stresses and disturbances from overlying oil field waste, cover materials, equipment operation or expansion or contraction: and to facilitate clean-out maintenance. The material placed between the pipes and laterals shall be sufficiently permeable to allow the transport of fluids to the drainage pipe. The slope of the interior sub-grade and of drainage lines and laterals shall be at least a two percent grade, i.e., two feet vertical drop per 100 horizontal feet. The piping collection system shall be comprised of solid and perforated pipe having a minimum diameter of four inches and a minimum wall thickness of schedule 80. The operator shall seal a solid sidewall riser pipe to convey collected fluids to a collection, observation and disposal system located outside the perimeter of the pit or pond. The operator may install alternative methods as approved by the division.

(j) The operator shall notify the division at least 72 hours prior to the primary liner's installation so that a division representative may inspect the leak detection system before it is covered.

(k) The operator shall construct pits and ponds in a manner that prevents overtopping due to wave action or rainfall, and maintain a three foot freeboard at all times.

(l) The maximum size of an evaporation or storage pond shall not exceed 10 acre-feet.

(3) Operating standards.

(a) The operator shall ensure that only produced fluids or non-hazardous waste are discharged into or stored in a pit or pond: and that no measurable or visible oil layer is allowed to accumulate or remain anywhere on a pit's surface except an approved skimmer pit.

(b) The operator shall monitor leak detection systems pursuant to the approved surface waste management facility permit conditions, maintain monitoring

records in a form readily accessible for division inspection and report discovery of liquids in the leak detection system to the division within 24 hours.

(c) Fencing and netting. The operator shall fence or enclose pits or ponds to prevent unauthorized access and maintain fences in good repair. Fences are not required if there is an adequate perimeter fence surrounding the surface waste management facility. The operator shall screen, net, cover or otherwise render non-hazardous to migratory birds tanks exceeding eight feet in diameter and exposed pits and ponds. Upon written application, the division may grant an exception to screening, netting or covering requirements upon the operator's showing that an alternative method will adequately protect migratory birds or that the tank or pit is not hazardous to migratory birds.

(d) The division may approve spray systems to enhance natural evaporation. The operator shall submit engineering designs for spray systems to the division's environmental bureau for approval prior to installation. The operator shall ensure that spray evaporation systems are operated so that spray-borne suspended or dissolved solids remain within the perimeter of the pond's lined portion.

(e) The operator shall use skimmer pits or tanks to separate oil from produced water prior to water discharge into a pond. The operator shall install a trap device in connected ponds to prevent solids and oils from transferring from one pond to another unless approved in the surface waste management facility permit.

(4) Below-grade tanks and sumps.

(a) The operator shall construct below-grade tanks with secondary containment and leak detection. The operator shall not allow below-grade tanks to overflow. The operator shall install only below-grade tanks of materials resistant to the tank's particular contents and to damage from sunlight.

(b) The operator shall test sumps' integrity annually, and shall promptly repair or replace a sump that does not demonstrate integrity. The operator may test sumps that can be removed from their emplacements by visual inspection. The operator shall test other sumps by appropriate mechanical means. The operator shall maintain records of sump inspection and testing and make such records available for division inspection.

(5) Closure required. The operator shall properly close pits, ponds and below-grade tanks within six months after cessation of use.

J. Closure and post closure.

(1) Surface waste management facility closure by operator. The operator shall notify the division's environmental bureau at least 60 days prior to cessation of operations at the surface waste management facility and provide a proposed schedule for closure. Upon receipt of such notice and proposed schedule, the division shall review the current closure plan for adequacy and inspect the surface waste management facility. The division shall notify the operator within 60 days after the date of cessation of operations specified in the operator's closure notice of modifications of the closure plan and proposed schedule or additional requirements that it determines are necessary for the protection of fresh water, public health, safety or the environment. If the division does not notify the operator of additional closure requirements within 60 days as provided, the operator may proceed with closure in accordance with the approved closure plan; provided that the director may, for good cause, extend the time for the division's response

for an additional period not to exceed 60 days by written notice to the operator. The operator shall be entitled to a hearing concerning a modification or additional requirement the division seeks to impose if it files an application for a hearing within 10 days after receipt of written notice of the proposed modifications or additional requirements. Closure shall proceed in accordance with the approved closure plan and schedule and modifications or additional requirements the division imposes. During closure operations the operator shall maintain the surface waste management facility to protect fresh water, public health, safety and the environment. Upon completion of closure, the operator shall re-vegetate the site unless the division has approved an alternative site use plan as provided in Paragraph (5) of Subsection J of 19.15.2.53 NMAC. Re-vegetation, except for landfill cells, shall consist of establishment of a vegetation cover equal to 70 percent of the native perennial vegetative cover (un-impacted by overgrazing, fire or other intrusion damaging to native vegetation) or scientifically documented ecological description consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintenance of that cover through two successive growing seasons.

(2) Release of financial assurance. When the division determines that closure is complete it shall release the financial assurance, except for the amount needed to maintain monitoring wells for the applicable post closure care period, to perform semi-annual analyses of such monitoring wells and to re-vegetate the site. Prior to the partial release of the financial assurance covering the surface waste management facility, the division shall inspect the site to determine that closure is complete. After the applicable post closure care period has expired, the division shall release the remainder of the financial assurance if the monitoring wells show no contamination and the re-vegetation in accordance with Paragraph (1) of Subsection J of 19.15.2.53 NMAC is successful. If monitoring wells or other monitoring or leak detection systems reveal contamination during the surface waste management facility's operation or in the applicable post closure care period following the surface waste management facility's closure the division shall not release the financial assurance until the contamination is remediated in accordance with 19.15.1.19 or 19.15.3.116 NMAC, as applicable. In any event, the division shall not finally release the financial assurance until it determines that the operator has successfully re-vegetated the site in accordance with Paragraph (1) of Subsection J of 19.15.2.53 NMAC. or. if the division has approved an alternative site use plan, until the landowner has obtained the necessary regulatory approvals and begun implementation of the use.

(3) Surface waste management facility closure initiated by the division. Forfeiture of financial assurance.

(a) For good cause, the division may, after notice to the operator and an opportunity for a hearing, order immediate cessation of a surface waste management facility's operation when it appears that cessation is necessary to protect fresh water, public health, safety or the environment, or to assure compliance with statutes or division rules and orders. The division may order closure without notice and an opportunity for hearing in the event of an emergency, subject to NMSA 1978, Section 70-2-23, as amended.

(b) If the operator refuses or is unable to conduct operations at a surface waste management facility in a manner that protects fresh water, public health,

safety and the environment; refuses or is unable to conduct or complete an approved closure plan; is in material breach of the terms and conditions of its surface waste management facility permit; or the operator defaults on the conditions under which the division accepted the surface waste management facility's financial assurance; or if disposal operations have ceased and there has been no significant activity at the surface waste management facility for six months the division may take the following actions to forfeit all or part of the financial assurance:

(i) send written notice by certified mail, return receipt requested, to the operator and the surety, if any, informing them of the decision to close the surface waste management facility and to forfeit the financial assurance, including the reasons for the forfeiture and the amount to be forfeited, and notifying the operator and surety that a hearing request or other response shall be made within 10 days of receipt of the notice; and

(ii) advise the operator and surety of the conditions under which they may avoid the forfeiture. Such conditions may include but are not limited to an agreement by the operator or another party to perform closure and post closure operations in accordance with the surface waste management facility permit conditions, the closure plan (including modifications or additional requirements imposed by the division) and division rules, and satisfactory demonstration that the operator or other party has the ability to perform such agreement.

(c) The division may allow a surety to perform closure if the surety can demonstrate an ability to timely complete the closure and post closure in accordance with the approved plan.

(d) If the operator and the surety do not respond to a notice of proposed forfeiture within the time provided, or fail to satisfy the specified conditions for non-forfeiture, the division shall proceed, after hearing if the operator or surety has timely requested a hearing, to declare the financial assurance's forfeiture. The division may then proceed to collect the forfeited amount and use the funds to complete the closure, or, at the division's election, to close the surface waste management facility and collect the forfeited amount as reimbursement. The division shall deposit amounts collected as a result of forfeiture of financial assurance in the Oil and Gas Reclamation Fund. In the event the amount forfeited and collected is insufficient for closure, the operator shall be liable for the deficiency. The division may complete or authorize completion of closure and post closure and may recover from the operator reasonably incurred costs of closure and forfeiture in excess of the amount collected pursuant to the forfeiture. In the event the amount collected pursuant to the forfeiture was more than the amount necessary to complete closure, including remediation costs, and forfeiture costs, the division shall return the excess to the operator or surety, as applicable, reserving such amount as may be reasonably necessary for post closure monitoring and re-vegetation in accordance with Paragraph (1) of Subsection J of 19.15.2.53 NMAC. The division shall return excess of the amount retained over the actual cost of post closure monitoring and re-vegetation to the operator or surety at the later of the conclusion of the applicable post closure period or when the site re-vegetation in accordance with Paragraph (1) of Subsection J of 19.15.2.53 NMAC is successful.

(e) If the operator abandons the surface waste management facility or cannot fulfill the conditions and obligations of the surface waste management facility

permit or division rules, the state of New Mexico, its agencies, officers, employees, agents, contractors and other entities designated by the state shall have all rights of entry into, over and upon the surface waste management facility property, including all necessary and convenient rights of ingress and egress with all materials and equipment to conduct operation, termination and closure of the surface waste management facility, including but not limited to the temporary storage of equipment and materials, the right to borrow or dispose of materials and all other rights necessary for the surface waste management facility's operation, termination and closure in accordance with the surface waste management facility permit and to conduct post closure monitoring.

(4) Surface waste management facility and cell closure and post closure standards. The following minimum standards shall apply to closure and post closure of the installations indicated, whether the entire surface waste management facility is being closed or only a part of the surface waste management facility.

(a) Oil treating plant closure. The operator shall ensure that:

(i) tanks and equipment used for oil treatment are removed from the site and recycled or properly disposed of at a division-approved surface waste management facility (The operator shall reuse, recycle or remove tanks and equipment from the site within 90 days of closure.);

(ii) the site is sampled, in accordance with the procedures specified in chapter nine of EPA publication SW-846. Test Methods for Evaluating Solid Waste. Physical/Chemical Methods, for TPH. BTEX, major cations and anions and RCRA metals, in accordance with a gridded plat of the site containing at least four equal sections that the division has approved; and

(iii) sample results are submitted to the environmental bureau in the division's Santa Fe office.

(b) Landfill cell closure.

(i) The operator shall properly close landfill cells, covering the cell with a top cover pursuant to Subparagraph (h) of Paragraph (3) of Subsection F of 19.15.2.53 NMAC, with soil contoured to promote drainage of precipitation: side slopes shall not exceed a 25 percent grade (four feet horizontal to one foot vertical), such that the final cover of the landfill's top portion has a gradient of two percent to five percent, and the slopes are sufficient to prevent the ponding of water and erosion of the cover material.

(ii) The operator shall re-vegetate the area overlying the cell with native grass covering at least 70 percent of the landfill cover and surrounding areas, consisting of at least two grasses and not including noxious weeds or deep rooted shrubs or trees, and maintain that cover through the post closure period.

(c) Landfill post closure. Following landfill closure, the post closure care period for a landfill shall be 30 years.

(i) A post closure care and monitoring plan shall include maintenance of cover integrity, maintenance and operation of a leak detection system and leachate collection and removal system and operation of gas and ground water monitoring systems.

(ii) The operator or other responsible entity shall sample existing ground water monitoring wells annually and submit reports of monitoring performance and data collected within 45 days after the end of each calendar year. The

operator shall report any exceedance of a ground water standard that it discovers during monitoring pursuant to 19.15.3.116 NMAC.

(d) Landfarm closure. The operator shall ensure that

(i) disking and addition of bioremediation enhancing materials continues until soils within the cells are remediated to the standards provided in Paragraph (6) of Subsection G of 19.15.2.53 NMAC, or as otherwise approved by the division;

(ii) soils remediated to the foregoing standards and left in place are re-vegetated in accordance with Paragraph (1) of Subsection J of 19.15.2.53 NMAC;

(iii) landfarmed soils that have not been or cannot be remediated to the standards in Paragraph (6) of Subsection G of 19.15.2.53 NMAC are removed to a division-approved surface waste management facility and the landfarm remediation area is filled in with native soil and re-vegetated in accordance with Paragraph (1) of Subsection J of 19.15.2.53 NMAC;

(iv) if treated soils are removed, the cell is filled in with native soils and re-vegetated in accordance with Paragraph (1) of Subsection J of 19.15.2.53 NMAC;

(v) berms are removed;

(vi) buildings, fences, roads and equipment are removed, the site cleaned-up and tests conducted on the soils for contamination;

(vii) annual reports of vadose zone and treatment zone sampling are submitted to the division's environmental bureau until the division has approved the surface waste management facility's final closure: and

(viii) for operators who choose to use the landfarm methods specified in Paragraph (8) of Subsection G of 19.15.2.53 NMAC, that the soil has an electrical conductivity (EC_s) of less than or equal to 4.0 mmhos/cm (dS/m) and a SAR of less than or equal to 13.0.

(e) Pond and pit closure. The operator shall ensure that:

(i) liquids in the ponds or pits are removed and disposed of in a division-approved surface waste management facility;

(ii) liners are disposed of in a division-approved surface waste management facility;

(iii) equipment associated with the surface waste management facility is removed;

(iv) the site is sampled, in accordance with the procedures specified in chapter nine of EPA publication SW-846. Test Methods for Evaluating Solid Waste. Physical/Chemical Methods for TPH, BTEX, major cations and anions and other organics listed in Subsections A and B of 20.69.2.3103 NMAC, in accordance with a gridded plat of the site containing at least four equal sections that the division has approved; and

(v) sample results are submitted to the environmental bureau in the division's Santa Fe office.

(f) Landfarm and pond and pit post closure. The post-closure care period for a landfarm or pond or pit shall be three years if the operator has achieved clean closure. During that period the operator or other responsible entity shall regularly inspect

and maintain required re-vegetation. If there has been a release to the vadose zone or to ground water, then the operator shall comply with the applicable requirements of 19.15.1.19 and 19.15.3.116 NMAC.

(5) Alternatives to re-vegetation. If the landowner contemplates use of the land where a cell or surface waste management facility is located for purposes inconsistent with re-vegetation, the landowner may, with division approval, implement an alternative surface treatment appropriate for the contemplated use, provided that the alternative treatment will effectively prevent erosion. If the division approves an alternative to re-vegetation, it shall not release the portion of the operator's financial assurance reserved for post-closure until the landowner has obtained necessary regulatory approvals and begun implementation of such alternative use.

K. Exceptions and waivers.

(1) In a surface waste management facility permit application, the applicant may propose alternatives to requirements of 19.15.2.53 NMAC. and the division may approve such alternatives if it determines that the proposed alternatives will provide equivalent protection of fresh water, public health, safety and the environment.

(2) The division may grant exceptions to, or waivers of. or approve alternatives to requirements of 19.15.2.53 NMAC in an emergency without notice or hearing. The operator requesting an exception or waiver, except in an emergency, shall apply for a surface waste management facility permit modification in accordance with Subsection C of 19.15.2.53 NMAC. If the requested modification is a major modification, the operator shall provide notice of the request in accordance with Paragraph (4) of Subsection C of 19.15.2.53 NMAC.

L. Transitional provisions. Existing permitted facilities. Surface waste management facilities in operation prior to the effective date of 19.15.2.53 NMAC pursuant to division permits or orders may continue to operate in accordance with such permits or orders, subject to the following provisions.

(1) Existing surface waste management facilities shall comply with the operational, waste acceptance and closure requirements provided in 19.15.2.53 NMAC.

(2) Major modification of an existing surface waste management facility and a new landfarm cells constructed at an existing surface waste management facility shall comply with the requirements provided in 19.15.2.53 NMAC.

(3) The division shall process an application for a surface waste management facility permit filed prior to May 18, 2006 in accordance with 19.15.9.711 NMAC, and an application filed after May 18, 2006 in accordance with 19.15.2.53 NMAC.