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

2006 SEP 6 PM 4 38

IN THE MATTER OF THE APPLICATION OF THE NEW MEXICO OIL CONVERSERVATION DIVISION FOR REPEAL OF EXISTING RULE 709, 710, AND 711 CONCERNING SURFACE WASTE MANAGEMENT AND ADOPTION OF NEW RULES GOVERNING SURFACE WASTE MANAGEMENT.

CASE NO. 13586

CONTROLLED RECOVERY INC.'S POST-HEARING COMMENTS AND SUGGESTED FINDINGS

COMES NOW, Controlled Recovery, Inc. (CRI), by and through its attorneys, Huffaker & Moffett LLC, and for its Post-Hearing Comments, Suggested Findings, and reasons in support thereof, states as follows:

CRI's POSITION: WHEN THIS COMMISSION REGULATES THE DISPOSITION OF OIL FIELD WASTE THE PROTECTION OF GROUNDWATER IS PARAMOUNT

CRI generally supports the Proposed Rules drafted and revised by the Oil Conservation Division's Environmental Bureau in this proceeding. We believe the staff's work has been careful and comprehensive, and that it is supported by sound science.

This proceeding has been going on for an entire year. There have been 4 days of stakeholders meetings, 6 days of hearings, 5 drafts of the proposed rules, and over 3 months (May 25th to present) consumed by the industry-requested, invitation-only, post-hearing "Task Force."

The issues have been narrowed. The experts have spoken. Now it is time for this Commission to act, and to move on without further delay to other business.

All of the remaining issues concern landfarms. CRI believes there are landfarm principles all parties agree on:

- **Landfarms have not heretofore been managed to protect the environment.** "The way we were writing the permits, it was basically allowing materials to go into landfarms, which in essence would make them permanent landfills. And that's not the

intent of a landfarm. A landfarm is to treat hydrocarbon-contaminated soils, and the issue there was chlorides."[1]

- **Landfarms can remediate hydrocarbons.** Landfarms are best used for treating crude oil and condensate spills.
- **Landfarms pose a risk to groundwater** because they are unlined and because they may be sited over preferential pathways.
- **The major risk to groundwater from landfarms is chloride contamination,** when treating crude oil and condensate spills.
- **Landfarms cannot remediate metals, inorganics or solvents.** The risk of metals, inorganics or solvents threatening groundwater increases when substances other than crude oil and condensates are allowed in landfarms.
- **Revegetation is a critical issue for landfarms,** to avoid the proliferation of barren waste sites associated with the oil and gas industry.
- **Landfarm technology is new to New Mexico.** The risk to groundwater from unlined landfarms is manifest. When making choices about these rules, OCC should be conservative.

With these principles in mind, CRI urges the Commission to dispose of the few remaining issues as to landfarms in a manner that (1) minimizes the risk to groundwater and revegetation from chlorides, and (2) minimizes the risk to groundwater from substances that are on the WQCC's §3103 list, but that will *not* be remediated in a landfarm.

As a constituent agency of the WQCC, it is this Commission's responsibility under the Oil and Gas Act and under the Water Quality Act to assure the WQCC's §3103 groundwater standards are not threatened by unlined landfarms.

When choosing between alternatives, this Commission should choose the alternative that is most protective of, and that will create the least risk to, groundwater. The goal of revegetation of surface plant life, to avoid any further increase in barren waste disposal sites in this State, should receive equivalent attention.

We first address issues from the hearing. Then we address issues in the Task Force report.

Suggested findings: [THE COMMISSION FINDS THAT:]

The Oil and Gas Act is the source of the Commission's authority and obligations in this rulemaking proceeding. The Commission's enumerated powers and duties under the Oil and Gas Act include the power and duty to regulate the disposition of nondomestic wastes resulting from the exploration, development, production or storage of crude oil or natural gas to protect public health and the environment; and the power and duty to regulate the disposition of nondomestic wastes resulting from the oil field service industry, the transportation of crude oil or natural gas, the treatment of natural gas or the refinement of crude oil to protect public health and the

[1] Wayne Price. Tr. Vol. 1, 58:10-58:17.

environment, including administering the Water Quality Act as provided in Subsection E of Section 74-6-4, NMSA 1978. NMSA 1978, Section 70-2-12(B)(21) and (22).

Subsection E of NMSA 1978, Section 74-6-4 provides that the Water Quality Control Commission "shall assign responsibility for administering its regulations to constituent agencies . . .." OCC is a constituent agency of the WQCC.

The Commission's duty to regulate the disposition of oil field wastes to protect public health and the environment and to administer the Water Quality Act as a constituent agency of the Water Quality Control Commission requires this Commission to adopt rules that will avoid risk to the quality of groundwater in the State, and to adopt rules that will minimize the risk that waste disposal activities will result in the proliferation of barren waste disposal sites.

HEARING ISSUES

1. The 50 Feet to Groundwater Siting Requirement Should be Replaced with a 100 Feet to Groundwater Requirement.

Reasons in Support:

Proposed Rule 19.15.2.53(E)(1) would allow surface waste management facilities to be located as little as 50 feet above groundwater. This shallow siting depth creates an undue risk of groundwater contamination given the incidence of preferential pathways to groundwater in New Mexico. It is inconsistent with the Solid Waste regulations of the New Mexico Environment Department. In order to protect groundwater, the minimum depth to groundwater should be 100 feet below the lowest elevation at which contaminated waste will be placed at a facility.

50 feet may be risky for landfills with double liners and leak detection systems. It is *reckless* for landfarms with no liners, in light of the requirements for the addition of significant amounts of moisture to "wet" landfarms, and the risk of preferential pathways. The Environmental Bureau is playing a dangerous game by suggesting 50 feet because "focused recharge" through "preferential pathways" is a risk that exists throughout New Mexico.

Significant areas of fractured caliche exist at depths of 1 to 2 feet in Southeast New Mexico.[2] But the risk of preferential pathways was not addressed in the chloride modeling performed by and/or relied on by either the OCD staff or the industry experts.[3]

Mr. Price stated at the very beginning of his testimony that, in this proceeding, the Division has a goal to "normalize our rules" with "our sister agencies' rules and regulations."[4] But he did not recommend doing so in this case. The existing NMED Solid Waste regulations at

[2] Von Gonten at Tr. Vol. 3, 549:24-550:15; Stephens at Tr. Vol. 4, 885:14-888:18.
[3] Price at Tr. Vol. 1, 215:8-10, 229:23-230:25, 106:11-13; Stephens at Tr. Vol. 4, 844:11-847:15; see Neeper at Tr. Vol. 5, 1335:9-22.
[4] Price at Tr. Vol. 1, 41:20-42:5.

NMAC 20.9.1.300.B. state: "No municipal or special waste landfill shall be located . . . where depth to seasonal high water table will be closer than 100 feet to the bottom of the fill."[5]

CRI believes the risk to groundwater represented by the 50 foot standard is manifest. First, the Division's own Generalized Record of Groundwater Impact Sites, found at www.emnrd.state.nm.us/emnrd/ocd/documents/rptGeneralizedGWImpact.pdf shows that 91% of the 400-odd historic groundwater contamination events within the Division's jurisdiction occurred at sites where the depth to groundwater is less than 100 feet.

Second, according to Dr. Sublette, the only witness before the Commission with substantial landfarm experience, the application of supplemental moisture must be part of a successful landfarm: "everything takes water. Landfarming takes water, growing plants takes water, everything takes water." He stated that if you can't maintain adequate moisture, then "there shouldn't be a landfarm at all."[6]

CRI submits that the combination of the risk of preferential pathways to groundwater below an unlined landfarm, coupled with the necessity of applying large amounts of supplemental water to unlined landfarms, presents an unnecessary risk of groundwater contamination.

The reason the Division proposed to justify the shallow limit is egregious – "In our brainstorming – one issue was that most [existing] landfarms in southeast New Mexico are at groundwater elevations of 50 to 100 feet. If we'd gone to 100 feet in areas that need a landfarm," they would not be allowed. It would be "knocking out small landfarms, and that's not our intention."[7] This is a classic cart-before-the-horse argument. It is improper administrative procedure to first decide you want to license landfarms, and then to set the depth to groundwater standard to accommodate their siting. This rationale is patently arbitrary and capricious in an administrative forum where the primary issue is protection of public health, groundwater and the environment.

Finally, there is no data in the record to show that areas where the groundwater is more than 100 feet are hard to find. So, there is no basis in the record for a finding that commercial or centralized landfarm operators will have difficulty locating sites where the depth to groundwater exceeds 100 feet. And, to be blunt, if a lease operator cannot find a site for a small landfarm where the depth to groundwater is greater than 100 feet depth, that operator should take spill-contaminated soil to a permitted landfarm or to a landfill. Ease in siting is not a proper consideration in drafting environmental regulations where the risk to groundwater is plain.

Suggested Finding: [THE COMMISSION FINDS THAT:]

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[5] Whether the NMED decision to have and keep a 100 feet standard is a "political" or a "policy" decision, it is a longstanding decision by an agency with more experience regulating solid waste facilities than this one. Tr. Vol. 2, 297:2-16.

[6] Sublette at Tr. Vol. 4, 1050:1-12, 1121:24-1122:20.

[7] Price at Tr. Vol. 2, 298:18-299:8.

New rule 19.15.2.53.E.(1) should be adopted to provide that no surface waste management facility shall be located where groundwater is less than 100 feet below the lowest elevation at which waste will be placed at the facility. This is consistent with New Mexico Environment Department rules for solid waste facility siting, and is based on substantial evidence in the record of this proceeding that shows a 100 feet to groundwater requirement will minimize the risk from oil field waste to the quality of groundwater in the State, particularly from chloride contamination.

2. In Order to Avoid Risk to Groundwater and Revegetation, the 1,000 mg/kg Chloride Standard for Landfarm Acceptance, and for Closure, Should be Reduced to 500 mg/kg.

Reasons in Support:

Not much was settled in the DAF debate between the experts at the May and June hearings. One thing *is* clear: The chloride standard for New Mexico drinking water is 250 ppm,[8] and the OCD staff testified that the larger the landfarm, the greater the risk to groundwater.[9]

Landfarms may be as large as 500 acres. A 500 acre landfarm is about 4,600 feet on a side – almost a mile. The DAF debate aside, it is obvious that allowing 1,000 ppm of chloride spread over 500 acres threatens groundwater at 50 (or at 100) feet below the surface where the WQCC groundwater standard is 250 ppm. And, there is no reasonable possibility of lateral dilution of chloride from a 500 acre landfarm, as Dr. Sublette proposed for small landfarms under IPEC Oklahoma practice.[10]

The comfort expressed by the industry's groundwater expert for a 1,000 ppm chloride limit was based on small landfarms – he testified that for a 500 acre landfarm it would be "a whole lot lower."[11] The threat to groundwater represented by a vadose zone standard 4 times the groundwater standard in the case of a soluble groundwater contaminant is manifest.

CRI also shares the Commission's concern to avoid having lands occupied by solid waste facilities significantly denuded at closure because of salts.[12] CRI's chief concern is that the 1,000 mg/kg standards in the draft rules will allow salt levels in landfarms that will make the revegetation standard *un*achievable. CRI's concern is increased by the aerial images of existing New Mexico landfarms presented during Mr. Price's testimony – none of the images showed the slightest indication of any revegetation.[13] And, OCD has *no* experience with revegetation of any landfarm.[14] If barren waste sites are to be avoided, caution in setting chloride limits is crucial.

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[8] NMAC 20.6.2.3103.B. "Other Standards for Domestic Water Supply (1) Chloride (Cl) 250.0 mg/l."
[9] Price at Tr. Vol. 1, 114:3-10, 303:16-304:13.
[10] Sublette at Tr. Vol. 4, 1127:1-1128:24.
[11] Stephens at Tr. Vol. 4, 872:12-873:12; Price at Tr. Vol. 1, 73:3-5 (" . . . the larger the size, the more threat there is"). OCD's modeling used a 5 acre site. Price at Tr. Vol. 1, 104:20-22.
[12] Comm'r. Olson at Tr. Vol. 4, 891:23-892:8.
[13] Exhibit 10, Photos 1-9; Tr. Vol. 1, 154:3-12.
[14] Price at Tr. Vol. 1, 154:13-25.

All of the testimony about the OCD staff's 1,000 mg/kg chloride acceptance limit was based on risk to *groundwater* and to *bioremediation*.[15] No one other than Dr. Neeper addressed the risk the 1,000 mg/kg limit presents to sustained revegetation.

Dr. Neeper testified that revegetation risk is addressed by an EC <4 standard.[16] EC is the preferred measurement, because it "correlates more closely with the damage to the plant."[17] Dr. Neeper reviewed academic studies, the IPEC yardsticks (CRI Exhibit L) for revegetation success, and his own data accumulated from an on-site study in Southeast New Mexico, and concluded that an EC<4 equated to a 400 to 600 mg/kg chloride standard, and that would be the maximum allowable to ensure a reasonable chance of success at revegetation.[18]

A 500 mg/kg chloride standard should also be the standard for acceptance of hydrocarbon contaminated soils and drill cuttings in landfarms in order to minimize the risk a landfarm will not be able to revegetate.

CRI's revegetation concern is with the inevitable return of the salt to the root zone and to the surface when the addition of moisture ceases during closure.[19] The risk to successful, sustained revegetation is manifest, but unaddressed by any witness other than Dr. Neeper.

This risk can be minimized by reducing the chloride standard to 500 mg/kg or EC<4. The evidence in the record to support this is cited above.

In addition, CRI's Exhibit L contains the tables labeled "Threshold" and "50% Yield Reduction" in IPEC's "How to Interpret Test Strip Readings." CRI Exhibit L, 7th and 8th pages. As highlighted in the attached copies of those pages from CRI Exhibit L, the table on the first page shows that seed germination is inhibited at levels of about 1/3d to 2/3ds of the 50% yield reduction chloride level. See footnote *. In the "50% Yield Reduction" table for native grasses on the second page, native grasses found in New Mexico, blue grama and sideoats grama, suffer 50% yield reduction beginning at a strip reading of 5.5, which translates into a chloride concentration of 800 ppm. If germination is affected at 1/3 to 2/3ds of that level, that is, at 265 to 535 ppm chloride, it is easy to see that the 1,000 ppm standard creates a risk to germination for grasses native to New Mexico. This risk can be avoided by adoption of the lower chloride level testified to by Dr. Neeper – 500 ppm, which approximates a saturated paste electrical conductivity of 4 micromhos per centimeter.

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[15] Price at Tr. Vol. 1, 102:9-115:21(groundwater); von Gonten at Vol. 3, 571:17-19 ("Q. Our primary concern with chlorides was the protection of groundwater? A. That's correct."); Stephens, e.g., Tr. Vol. 3, 749:16-19 (groundwater); Sublette at Tr. Vol. 6, 937:18-19 (bioremediation).

[16] "But it's generally regarded that an EC value somewhere between 2 and 4 affects sensitive crops. By the time you're getting over 4 you're high for many crops." Neeper at Tr. Vol. 5, 1341:11-13.

[17] Price at Tr. Vol. 1, 224:20-24.

[18] Neeper at Tr. Vol. 5, 1348:23-1349:3, 1353:211-1354:7. Mr. Price testified that an unidentified retired Lea County extension agent had told him that grama grass would grow at 1,800 sodium chloride, but that there would be an impact at 1,200 sodium chloride. Translating sodium chloride to chloride at the correct ratio of 3:2, the impact to this native grass would begin at 720 ppm chloride.

[19] See Stephens at Tr. Vol. 3, 738:13-740:5; Sublette at Tr. Vol. 4, 1129:19-24.

Given the unfamiliarity and inexperience of the Division (or anyone) with revegetation of landfarms in New Mexico, the Commission should adopt a conservative 500 mg/kg standard for closure of all landfarms:

> "Q. [Commissioner Bailey] So when the re-vegetation requirement calls for native plants in the area, we don't know what those re-vegetation type of plants can be in relationship to the chloride limits that we're placing, right?
> A. [Mr. Price] Chairman Fesmire and Commissioner Bailey, you're absolutely correct, we do not know that."[20]

Suggested Finding: [THE COMMISSION FINDS THAT:]

New rules 19.15.2.53.G.(1), G.(4), G.(6)(d), G.(6)(e)(xxiii), H.(2)(b), H.(3) and H.(5)(a)(4) should be adopted to provide that chloride concentrations in landfarm operations shall not exceed 500 mg/kg. There is substantial evidence in the record of this proceeding to support the establishment of a 500 mg/kg chloride standard for acceptance, operations and closure of landfarms in order to avoid risk to groundwater and to ensure revegetation of landfarms after closure.

3. Tank Bottoms Should Not Be Allowed In Landfarms.

Reasons in Support:

The historic recognized purpose of a landfarm is to remediate soil contaminated with crude oil or condensate, without threatening groundwater. Landfarms are *not* intended to be permanent *disposal* sites for non-remediable wastes.

Soil contaminated with crude oil has very low levels of metals, and no chlorinated solvents. But most tank bottoms have both. Wayne Price testified to the (1) lack of OCD experience managing/regulating landfarms; and to the (2) improper use of landfarms: "allowing materials in that in essence" should be in permanent landfills.[21] He also testified that tank bottoms contain hazardous contaminants that will not be remediated in a landfarm environment.[22] Tank bottoms are not "soil" under any reasonable definition of that term.

The death knell to the idea of tank bottoms in landfarms is in the record. The Commission need only perform a cursory comparison of exhibit pages 16-20 in Mr. Price's power point presentation, the EPA Associated Waste Report tables, with the Water Quality Control Commission's 3103 standards that are to be incorporated into the proposed rules as closure standards, at 53.G.(6)(e).[23] On this record there is a major question presented about the levels of the following contaminants present in tank bottoms:

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[20] Tr. Vol. 1, 239:7-12.
[21] Tr. Vol. 1, 58:10-17.
[22] Ibid; see Price at Tr. Vol. 1, 149:25-150:3.
[23] OCD Exhibit 9, Part 1, and OCD Exhibit 9, Photo 10; EPA Associated Waste Report on Crude Oil Tank Bottoms, Tables D-4 to D-7. A direct apples to apples comparison is not possible because the EPA did not detail its

Arsenic	Barium	Chromium[24]
Copper	Iron	Lead
Manganese	Mercury	Selenium
Zinc	Methylene Chloride	

Mr. Price pointed out that the EPA Associated Waste Report for Tank Bottoms findings include "some fairly nasty" volatile organic compounds, and that, for some of the semi-volatile organic compounds and heavy hydrocarbon constituents present in tank bottoms, "the jury is still out" on their ecological hazard.[25] Even Dr. Thomas testified that chlorinated solvents should not be in a landfarm, and that they would create a toxic risk to crops and people.[26]

There is nothing in the proposed rules to require any sampling or other characterization to determine if these hazardous substances are present in tank bottoms, or in what concentrations, *before* placing them in an unlined landfarm. Under the proposed rules their presence may first be discovered in the treatment zone at the time of closure!

No witness at the four day hearing provided a rationale for accepting tank bottoms in landfarms. They were only included as parentheticals in the various presentations.[27] No data, no "sound science," was presented by any witness, OCD or industry, to show that tank bottoms will be remediated in a landfarm. See, for instance, Dr. Sublette's lists of 16 academic studies of bioremediation landfarms at pages 32 – 34 of his written exhibits - - *none* address tank bottoms.[28]

In the current draft rules tank bottoms are a giant, intentional loophole:

> "All right, I think I had mentioned earlier that we did have a problem with the way we were operating landfarms in which basically contaminants were going in there that probably could not be remediated, could be detrimental to the bioremediation aspect of it, and also could be a threat to the environment.
>
> And so we knew we had to make some changes. And one of the things is that landfarms are meant to bioremediate or to treat hydrocarbon-contaminated soils. No tankbottoms. We -- under our waste rules, tankbottoms should be recycled because they have recoverable oil in it.
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> Now as industry pointed out, there are some areas in the state that we may not have the ability to find a treating plant, and of course those exceptions are

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sample methods, and the EPA used micrograms per kilogram and NMED uses milligrams per kilogram. But a cursory comparison of the two shows the following contaminants are present in the EPA sampling at levels that appear to exceed the 3103 closure standards, in many, and perhaps, in some cases, in *all* tank bottoms sampled.

[24] Wayne Price testified the EPA tank bottom study " . . . really shocked me, because chromium, for example, was found in eight out of eight tankbottoms in a production tank and was at [as high as] 71,000 micrograms per kilogram." Tr. Vol. 1, 62:23-63:2.

[25] Tr. Vol. 1, 63:10-64:21 (referring to EPA Associated Waste Report: Crude Oil Tank Bottoms and Oily Debris (EPA 2000), Tables D-11 and D-12).

[26] Tr. Vol. 4, 1180:23-1181:5

[27] Sublette at Tr. Vol. 4, 991:20-992:3, 1070:18-20; Thomas at Tr. Vol. 4, 1180:20-21.

[28] Tr. Vol. 4, 1070:18-25.

permitted if that's justified. And you know, if you have to haul tankbottoms 300 miles and you get $50 out of them, well, you know, that's certainly -- you'll spend more money and the gasoline in the transportation trucks -- waste more energy that way than you're going to get out of the hydrocarbons that are in the oil."[29]

Not having a treatment plant in close proximity is not a valid reason to introduce tank bottoms into a landfarm. This proceeding should not be an exercise in finding ways to make waste disposal easy, convenient or cheap in the face of serious environmental risk. This Commission's mandate is to *protect public health and the environment* first, not the economics of oil and gas production.

The bottom line is that tank bottoms will not bioremediate. This is not landfarming. It is land spreading, which is a disposal method. Placing tank bottoms on open, unlined ground violates the Division's "no release, no risk" policy by shifting the risk of groundwater contamination from tank bottoms away from the industry, where it belongs, and placing it upon the groundwater-consuming public, where it does not belong. No other industry in the State, or the United States, enjoys the luxury of leaving unremediated waste exposed to humans, animals, plants, and the environment.

The Commission should remove all authority for placing tank bottoms in any landfarm.

Suggested Finding: [THE COMMISSION FINDS THAT:]

Proposed rule 19.15.2.53.G.(1) should not be adopted to provide that the Division may approve placement of tank bottoms in a landfarm. There is substantial evidence in the record of this proceeding to show a risk to groundwater from tank bottoms containing metals, inorganics and chlorinated solvents. There is no substantial evidence in the record of this proceeding to show that these contaminants will be remediated in a landfarm.

4. Proper Disposal of Contaminated Soils After Removal from Landfarms

Reasons in Support:

Proposed Rules 53.G.(4), 53.H.(5)(b)(ii) and 53.J.(4)(d)(iii) are not specific enough in dealing with disposal of contaminated soils that are removed from a landfarm after failing to meet standards *because they threaten public health, the environment and groundwater.*

If the last sentence of proposed Rule 53.G.(4) operates to require removal of soil that does *not* meet standards, then contaminated soils will be "removed" from an active landfarm without any limitation on where they may be removed to. Similarly, under proposed Rules 53.H.(5)(b)(ii) and 53.J.(4)(d)(iii), at the time of closure of a landfarm, soils that have *not* been or *cannot* be remediated must be "removed." Neither provision, nor any other part of the proposed rules, makes clear how these contaminated soils are to be disposed of.

[29] Price, Tr. Vol. 1, 86:18-87:12; see von Gonten at Tr. Vol. 3, 525:13-526:4.

In order to avoid transferring a risk to groundwater from one location to another, the rules should be changed to adopt the standard in proposed Rule 53.H.(5)(a): "dispose of it at a permitted landfill, unless the division authorizes a specific alternative disposition."

Suggested Finding: This a technical drafting change for purposes of clarity and consistency. No separate finding is necessary.

5. The Revegetation Standard Should be Incorporated Throughout.

Reasons in Support:

There is a clear revegetation standard in 53.J.(1). It should be referenced elsewhere in the rules as follows: "revegetation in accordance with the standard in subparagraph 1 of Section J." See proposed Rules H.(5)(b)(i) and (ii), J.(2); J.(3)(d); and J.(4)(f).

Suggested Finding: This a technical drafting change for purposes of clarity and consistency. No separate finding is necessary.

"TASK FORCE" ISSUES

CRI was not among those invited to participate in the Task Force affair. The Task Force report does not represent a "consensus" of the OCD-regulated community. It only represents a consensus of its hand-picked participants.

6. The So-Called 3103 Problem Is A Red Herring.

Reasons in support:

CRI suspects the industry will use the Task Force 's "statement pertaining to Section G.(6)," at page 2 of its report, to urge the Commission to postpone adoption of these rules, or to suspend adoption of the landfarm sections of these rules. CRI vehemently opposes any further delay.

The oil and gas industry experts had their say about the 3103 standards for landfarm vadose zone and closure monitoring and sampling at the hearing before this Commission in May and June. Their collective opinion was that WQCC 3103 standards were necessary and appropriate for all landfarms *except* those dedicated to pure crude oil and condensate spills.[30]

[30] See Hiser at Tr. Vol. VI, 1620:5-1622:6. "3103 constituents. Well, the first issue is, why do we need to consider the 3103 constituents? And of course the answer to that is that, well, the Water Quality Act tells us that you need to consider the 3103 constituents."

Mr. von Gonten testified in detail and at length to the 3103 standards at the hearing on May 4th. In cross-examination the industry brought nothing up other than vague attacks on his data sources.

No expert testified natural soil exceeded 3103 standards. There is no evidence in the record to that effect.

No one at the hearing suggested or intimated the "potential" problem the Task Force now fears *may* exist.

If this were a *real,* as opposed to a potential, problem, then why would the landfarm and oil and gas industry representatives on the Task Force agree to slacken off on 3103 vadose zone sampling from once per year to once every five years?[31]

The alleged, potential 3103 problem is not a reason for postponing adoption of the surface waste rule and all its parts.

Exceptions and waivers of closure standards are available, if the Division can be convinced there is no danger to groundwater, human health, and the environment. But, if the industry cannot avoid increasing the background levels of metals and inorganics, then the industry would be trying to use landfarms for disposal. That is not permissible.

OCC is a constituent agency of the WQCC, responsible for meeting WQCC standards. If the industry cannot operate its landfarms without threatening 3103 WQCC standards developed by the WQCC, then it *should* be impossible to dispose of this waste in a landfarm:

> "Q. [Commissioner Bailey] But they're [metals] not going to be remediated?
> A. [Wayne Price] No, that is correct. The metals that are in there most likely will not be remediated, but we feel that they're probably at a low enough number that they will not be detrimental. *But we're very concerned about that, and that's why we've set some real stringent closure standards*, so the soils -- so we know that if those soils are going to re-used, we feel very confident that those soils could go to a playground somewhere."[32]

This proceeding has gone on long enough. The Commission should act without further delay to adopt a new rule.

Suggested Finding: [THE COMMISSION FINDS THAT:]

The closure standards in proposed rule 19.15.2.53.G.(6), derived from the list of constituents in Water Quality Control Commission Ground and Surface Water Protection Regulations at 20.6.2.3103 NMAC, should be adopted. There is substantial evidence in the record of this proceeding to support the inclusion of the constituents and the standards for the constituents proposed by the Division. There is no substantial evidence in the record of this

[31] See Task Force Report Suggested Change 7 to G.(5)(c) at pages 4-5.
[32] Tr. Vol. I, 241:18-242:3.

proceeding of any potential problem with natural soil exceeding these standards. If, and to the extent that, any such problem exists, it may be addressed under the waivers and exceptions provisions of these rules, or, upon the development of supporting data, by an application for amended rulemaking.

7. Retain the 1,000 mg/kg TEPH standard.

Reasons in Support:

CRI supports the 1,000 mg/kg TEPH landfarm soil closure standard in the draft rules. The genesis of these proposed rules is the realization that existing landfarms aren't working. Mr. von Gonten's chart at page 20 of his testimony shows that the majority of existing landfarms in Lea County have failed to approach TPH levels of 1,000 ppm after years of operation.[33] The 1,000 TPH standard was incorporated in the rules by OCD staff because "[T]he 1000 milligrams per kilogram of TPH is taken from . . . the [NMED] solid waste management regulations at 20.9.1.700 NMAC, Special Waste Requirements, which states that remediation shall be deemed adequate when the following conditions are met, and that condition is . . . 1000 milligrams per kilogram."[34]

The Task Force has proposed a 2,500 TPH standard. The industry experts at best showed the 1,000 ppm standard might be too low by a small amount. They didn't make a case for a 250% increase. The Commission should adopt the staff's original 1,000 ppm TEPH closure standard as stated in Sections 53.G.(6)(c) and 53.H.(5)(iii).

CRI agrees with the basic concept of landfarming when appropriately applied to hydrocarbon contaminated soils. But CRI also believes new technology should be approached with caution, and that the draft rules should be adjusted only with the objective of caution to ensure that public health, in the form of groundwater and soils, are ensured, rather than put at risk.

The rationale expressed in the Task Force report is nonsensical. Why would the Commission relax the TPH standard because the GRO and DRO fractions are "limited by separate specifications"? Task Force Report, Change 8, page 5.

Suggested Finding: [THE COMMISSION FINDS THAT:]

Proposed rules 19.15.2.53.G.(6)(c) and H.(5)(iii) should be adopted using a total extractable petroleum hydrocarbon fractions, or TPH, standard of 1,000 mg/kg. There is substantial evidence in the record of this proceeding to support the inclusion of the standard for total petroleum hydrocarbons originally proposed by the Division.

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[33] OCD Exhibit 9, page 20.
[34] von Gonten at Tr. Vol. 3, 572:11-18.

8. Grandfathering Landfarms for 10 Years is totally unacceptable.

The industry-dominated, industry-initiated, invitation-only Task Force, in violation of its *own* procedures, and at the eleventh hour and the fifty-ninth minute, e.g., as its last item of business at its last meeting, adopted a proposal that this Commission, without a shred of evidence to back it up in the hearing transcript, relieve all existing landfarm operators, commercial and centralized, from any obligation to comply with the closure requirements of Rule 53 for ten years!

This suggestion violates the Task Force's mandate, as set out in Secretary Joanna Prukop's letter of June 23, 2006, that the Task Force is to limit its deliberations to "address issues based on evidence already in the record." There is *no* evidence in the record on grandfathering landfarm closure requirements.

There is no basis in the record of the hearing on which OCC *could* make a decision to allow landfarms to risk groundwater contamination and avoid any kind of effective revegetation for 10 years into the future.

Existing landfarm permits have no chloride standards. That fact is a major reason for this proceeding. The result of adopting this unsubstantiated industry ploy would be to perpetuate, indeed to proliferate, the kind of barren, denuded waste sites that already plaque our State. Leaving landfarms unregulated for chloride for ten more years would allow a grave threat to groundwater to go unaddressed and would be inconsistent with this Commission's duty as a constituent agency of the Water Quality Control Commission.

The intent of the rules is to address problems that all recognize *because landfarms are now operating without adequate standards.*[35] This proposed abrogation of the new rules would allow dangerously unregulated landfarms to continue to operate without regard to any closing standards for TEN MORE YEARS! This unsafe idea would make a mockery of this Commission's rulemaking process.

Regulated entities operating under regulatory permits do not have a vested right to ignore subsequent regulations designed to protect public health, welfare, and safety. *Cerrillos Gravel Products, Inc. v. Board of County Com'rs of Santa Fe County*, 138 N.M. 126, 117 P.3d 932, 938 (2005).

This Commission should reject out of hand any recommendation that existing landfarms can operate virtually indefinitely without complying with the Commission's new closure standards.

Suggested Finding: [THE COMMISSION FINDS THAT:]

Proposed rules 19.15.2.53.K.(1) and (2) should be adopted without providing that existing landfarm operators may avoid closure obligations under the new rules for ten years.

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[35] Price at Tr. Vo. 1, 58:10-15; 100:4-7.

There is no substantial evidence in the record of this proceeding to justify grandfathering existing permittees from complying with closure rules designed to avoid risk to the quality of groundwater in the State, and to minimize the risk that landfarm closure will result in barren waste disposal sites. Regulated entities operating under regulatory permits do not have a vested right to dispense with subsequent regulations designed to protect public health and the environment. *Cerrillos Gravel Products, Inc. v. Board of County Com'rs of Santa Fe County*, 138 N.M. 126, 117 P.3d 932, 938 (2005).

Respectfully submitted,

HUFFAKER & MOFFETT LLC

By: 
Gregory D. Huffaker, Jr.
Attorneys for Controlled Recovery, Inc.

CERTIFICATE OF SERVICE

I hereby certify that on this 6th day of September, 2006, a copy of CRI's Post Hearing Comments and Suggested Findings in the above-captioned case were delivered to the following by U.S. Mail:

David K. Brooks, Esq.
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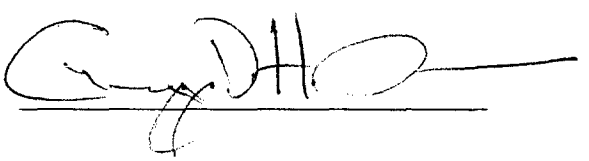
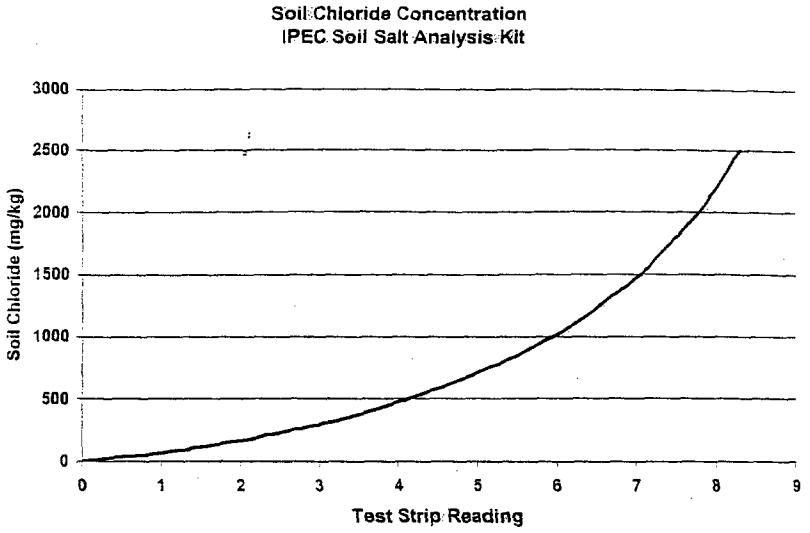
Los Alamos, NM 87544
(Also by email delivery)

Oil and Gas Accountability Project
c/o Carolyn Lamb/Bruce Baizel
P.O. Box 1102
Durango, CO 81302



HOW TO INTERPRET TEST STRIP READINGS



For example, a strip reading of 6.0 means the soil chloride concentration is 1000 mg/kg.

Grasses and Forage	Threshold*	IPEC Soil Salt Analysis Kit Strip Reading 50% Yield Reduction
Clover, alsike	2.8	6.0
Clover, Berseem	2.8	7.8
Clover, ladino	2.8	6.0
Clover, red	2.8	6.0
Clover, strawberry	2.8	6.0
Foxtail, meadow	2.8	6.5
Orchard grass	2.8	7.5
Corn (forage)	3.0	7.0
Love grass	3.3	7.0
Alfalfa	3.5	7.0
Trefoil, big	3.5	5.5
Wheat, Durum (forage)	3.5	>10**
Sphaerophysa	3.7	7.4
Sesbania	3.8	7.5
Cowpea (forage)	4.0	6.5
Wild rye (beardless)	4.2	7.8
Vetch, common	4.3	6.8
Sudan grass	4.3	>10
Fescue, tall	4.7	>10
Wheat grass (standard)	4.7	>10
Harding grass	5.3	7.8
Wheat (forage)	5.3	>10
Trefoil, narrowleaf	5.5	7.5
Ryegrass, perennial	6.0	8.0
Barley (forage)	6.2	8.3
Bermuda grass	6.5	>10
Wheat grass (tall)	6.8	>10

* Lowest level at which an effect on mature plants is seen. This is often also the level where seed germination is inhibited.

** Greater than 10: off scale.

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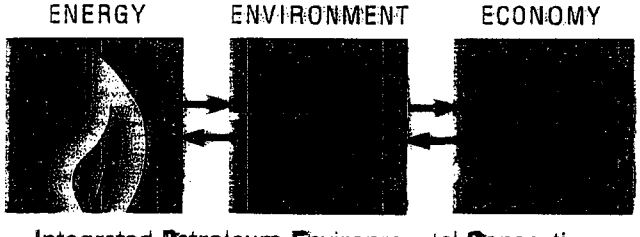
Native Grasses	IPEC Soil Salt Analysis Kit Strip Reading 50% Yield Reduction
Bluebunch wheatgrass	Less than 5
Streambank wheatgrass	5.5 - 7
Indian ricegrass	Less than 5
Little bluestem	Less than 5
Alpine Timothy	Less than 5
Thickspike wheatgrass	Less than 5
Idaho fescue	Less than 5
Blue grama	5.5 - 7
Alkali sacaton	7 - Off scale
Basin wildrye	7 - Off scale
Western wheatgrass	7 - Off scale
Prairie sandreed	Less than 5
Big bluegrass	Less than 5
Green needlegrass	Less than 5
Switchgrass	5.5 - 7
Sideoats grama	5.5 - 7
Mountain brome	5.5 - 7
Beardless wildrye	7 - Off scale
Big bluestem	5.5 - 7
Reed canarygrass	5.5 - 7

Soil chloride concentrations determined from the curve provided are approximate only. Salt tolerance data are provided as guidelines to relative tolerance. Absolute tolerances vary depending on climate, soil conditions, and cultivation practices. IPEC does not manufacture the test strips. These are labeled Quantab® and are manufacture Environmental Test Systems, Elkhart, ID.

For more information or to request additional IPEC Soil Salt Analysis Kits contact Sheila Kumpe at the IPEC office at (918) 631-3284 or sheila-kumpe@utulsa.edu. This kit was developed by Kerry L. Sublette, University of Tulsa, who may be contacted at (918) 631-3085 or kerry-sublette@utulsa.edu. Comments are welcome.

IPEC Soil Salt Analysis Kits are provided free-of-charge as a service to small independent oil and gas producers. IPEC activities are funded through a grant from the U.S. Environmental Protection Agency but may not necessarily reflect the opinions or policies of the EPA. Grant# R827015-01-1.

Visit the IPEC web site at: http://ipec.utulsa.edu



Integrated Petroleum Environmental Consortium

3-25-03

CRI'S REDLINE VERSION

CRI'S PROPOSED CHANGES TO THE DIVISION'S MAY 18, 2006 VERSION OF THE DRAFT RULES

TABLE OF CONTENTS

19.15.1.7 DEFINITIONS:

B. Definitions beginning with the letter "B".

(1) Back allowable shall mean the authorization for production of any 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 division 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 portion of the sidewalls of the tank is below the surface of the ground and not visible.

(6) Berm shall mean an embankment or ridge constructed for the purpose of preventing 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.

(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.

(9) Braden head gas well shall mean any well producing gas through wellhead connections from a gas reservoir 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 order of the division by such method and means and in such manner as prescribed by the division.

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

(3) Oil field waste shall mean waste generated in conjunction with the exploration for, drilling for, production of, refining of, processing of, gathering of or transportation of, crude oil natural gas or carbon dioxide; waste generated during oil field service company operations; and waste generated from any oil field remediation or abatement activity regardless of the date of the release. Oil field waste does not include certain 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 source.

(4) Oil well shall mean any well capable of producing oil and that is not a gas well as defined herein.

(5) Operator shall mean any 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 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 the person who has the right to drill into and to produce from any 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 has a depth range from]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 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 single medium, as designated pursuant to Subsubparagraph (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.

(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.

(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 any facility that receives any oil field waste for collection, disposal, evaporation, remediation, reclamation, treatment or storage, except:

(a) a facility that utilizes underground injection wells subject to regulation by the division pursuant to the federal Safe Drinking Water Act, and does not manage oil field waste 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 capacity or volume of 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 pose 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) any 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 waste 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 pool, and the locating, spacing, drilling, equipping, operating, or producing, of any 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 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 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 the Oil and Gas Act; 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 and causes waste by violating Section 70-2-16 of the Oil and Gas Act;

(e) the production in this state of natural gas from any gas well or wells, or from any 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 Conservations 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 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 means non-exempt oil field waste that is not hazardous waste.

(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.

(7) Water contaminant shall mean any substance 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.

(8) Watercourse shall mean a river, creek, arroyo, canyon, draw or wash, or any other channel having definite banks and bed with visible evidence of the occasional flow of water.

(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.

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

(11) Wellhead protection area shall mean the area within 200 horizontal feet of any private, domestic fresh water well or spring used by less than five households for domestic or stock watering purposes or within1000 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.

(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.

(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 & gas minerals. Working interests are cost bearing.

19.15.2.51 TRANSPORTATION OF PRODUCED WATER, DRILLING FLUIDS AND OTHER LIQUID OIL FIELD WASTE:

A. No person shall transport any produced water, drilling fluids or other liquid oil field waste, including but not limited to drilling fluids and residual liquids in oil field equipment, except for small samples removed for analysis, by motor vehicle from any 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 any transporting vehicle.

B. A person may apply for authorization to move liquid 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 by motor vehicle except by a person possessing an approved form C-133. If an owner or operator demonstrates that it has checked the division's posted website list of currently approved C-133s, authorization to move liquid waste, less than 30 days prior to any shipment, there shall be a rebuttable presumption that the owner or operator had no notice of any suspension or cancellation first posted on the division's website subsequent to the date when the operator last checked the list..

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 administered by the public regulation commission, if it is required to have such a permit under applicable statutes and 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 or rules; 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 waste. Vehicular movement or disposition of produced water or other liquid oil field waste in any manner contrary to division rules, or any 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 opportunity for hearing, for cancellation or suspension of a transporter's authorization to move liquid waste.

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 any transporter, shall dispose of produced water or other oil field waste:

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

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

(3) in any permitted pit or registered or permitted surface waste management facility without written 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) 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, in a manner that does not constitute a hazard to fresh water, public health, safety or the environment; or

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

C. Authorized dispositions of other oil field waste. Other oil field waste shall be disposed of by transfer to an appropriate permitted or registered surface waste management facility or injection facility or applied to a division-authorized beneficial use. Recovered drilling fluids may be transported 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 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 that:

(i) does not receive compensation for waste management;

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

(iii) receives exclusively wastes that are generated from production units or leases operated by such generator, or by an affiliate of such generator. 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 oil field waste.

(e) A small landfarm is a centralized landfarm that has a total capacity of 1400 cubic yards or less, remains active for a maximum of 3 years, receives only petroleum hydrocarbon-contaminated soils (excluding drill cuttings) that are exempt waste.

(2) Other definitions.

(a) Active portion is that part of a surface waste management facility that has received or is receiving 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 generic classification of all 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) a 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) a 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 lift is an accumulation of soil or drill cuttings predominately contaminated by petroleum hydrocarbons which is placed into a landfarm cell for treatment.

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

(h) 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.

(i) A major modification is a modification of a facility that involves an increase in the land area that the permitted facility occupies, a change in the nature of the permitted waste stream or addition of
a new treatment process, or any other modification that the division determines is sufficiently substantial that public notice and public participation in the application process are appropriate.

(j) A minor modification is a modification of a facility that is not a major modification.

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

(l) Poor foundation conditions are features which indicate that a natural or human-induced event may result in inadequate foundational support for the structural components of a landfill.

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

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

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

(p) 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 the structural components of a landfill. Examples of unstable areas are areas of poor foundation conditions, areas susceptible to mass earth movements, and Karst terrain areas, where Karst topography, with its characteristic surface and subterranean features, is developed as a result of dissolution of limestone, dolomite or other soluble rock. Characteristic physiographic features of Karst terrain include, but are not limited to, 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, all new commercial or centralized facilities prior to commencement of construction, and all existing commercial or centralized facilities prior to modification, 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 and major modifications . An application, form C-137, for a permit for a new facility or for a major modification of an existing facility shall be filed with the environmental bureau in the division's Santa Fe office. The application shall include:

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

(b) a plat and topographic map showing the facility's location in relation to governmental surveys (quarter-quarter section, township and range), highways or roads giving access to the 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 facility is sited and surface owners of the real property within one mile of the site's perimeter;

(d) a description of the facility with a diagram indicating the location of fences and cattle guards, and detailed construction/installation diagrams of any pits, liners, dikes, piping, sprayers, tanks, roads, fences, gates, berms, pipelines crossing the 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 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 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 Sections 12-12-1 through 12-12-30, NMSA 1978, 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 handling, storage, treatment and disposal of the leachate, including final post closure options;

(m) 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, 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 facility, including a lithologic description of all soil and rock members from ground surface down to 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 the information submitted in the application is true, accurate, and complete to the best of the applicant's knowledge, after reasonable inquiry; and

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

(2) Application requirements for minor modifications. An existing 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 any 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 permit, the division shall review the application for administrative completeness. To be deemed administratively complete, the application shall provide all 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 of receipt of the application and state what additional information is necessary.

(4) Notice requirement for new 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 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 mile of the facility, the county commission of the county where the facility site is located, the appropriate city officials if the facility site is within city limits or within one mile of the city limits, and any affected federal, tribal or pueblo governmental agency. The division may extend the distance requirements for notice if the division determines that the proposed facility has the potential to adversely impact fresh water, public health, safety or the environment at a distance greater than one 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 facility or for a renewal or major modification of an existing facility is administratively complete to all 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) Any 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 division director, after the later of the date when the applicant mails the notice required by Subparagraph (a) of Paragraph (4) of Subsection C of 19.15.3.53 NMAC or the date when the division distributes the notice provided in Subparagraph (b) of Paragraph (4) of Subsection C of 19.15.3.53 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 notice, 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 facility is or will be located;

(ii) mailing notice by first class mail or e-mail to all persons, as identified to the applicant by the division, who have requested notification of applications

generally, or of the particular application, including all 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 any affected local, state, federal or tribal governmental agency, as determined and identified to the applicant by the division.

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

(iii) a brief description of the proposed facility;

(iv) the depth to, and TDS concentration of, the ground water in the shallowest aquifer beneath the 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 statement of the comment period and of the procedures for requesting a hearing on the application; and

(vii) a brief statement of the procedures to be followed by the division in making a final decision.

(g) Any 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 hearing request with the division clerk within 30 days after the date that the applicant issued public notice of the division's tentative decision. Any 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:

(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 division directordetermines in writing that there is significant public interest in the application;

(iii) the division director determines in writing 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 any fresh water has a reasonably foreseeable beneficial use.

(h) If the division schedules a hearing on an application, it shall give notice of the hearing's date, time and place by certified mail, return receipt requested, to the applicant and to each person who has specifically requested a hearing in writing, and by first class or electronic mail to all other persons who have filed written comments and provided a current address on the application.

(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 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 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 facility's estimated closure and post closure cost, or $25,000, whichever is greater. The 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 forms prescribed by the division, payable to the state of New Mexico and conditioned upon the proper operation of the facility, closure of the site and post closure monitoring in compliance with statutes of the state of New Mexico, division rules and the permit terms. The applicant shall notify the division of any 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 twenty days notice and opportunity for a hearing prior to forfeiting any 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 division director or his 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, and the division may, at any time and from time to time, direct payment of all or any part of the balance of such account (excluding interest accrued on the account) to itself or its designee.

(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 any 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 acceptance of financial assurance for a commercial facility, or whenever the operator applies for a major modification of the facility's permit, initiate a review of such financial assurance's adequacy.

Upon determination, after notice to the operator and opportunity for a hearing, that the financial assurance is not adequate to cover the reasonable and probable cost of closure of such facility 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 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 such facility. If such a 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 facility as modified, without regard to the $250,000 limit.

D. Permit approval, denial, revocation, suspension, modification and transfer.

(1) Granting of permit.

(a) The division shall issue a permit for a new 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 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 issued 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 any facility, the permit for that facility shall remain in effect for 10 years from the date the division approves the major modification. Any 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 permit expires, and the operator is not in violation of the permit on the date of its expiration, then the existing 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 any violation, or if the operator and the division have signed an agreed compliance order providing for remedying the violation, then the permit shall continue in effect as above provided notwithstanding existence of a permit violation. 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 all of the information necessary for evaluation of a new 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 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 permit at least once during the ten-year term, and shall review 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 opportunity for a hearing, may require appropriate modifications of the permit, including modifications necessary to make the permit terms and conditions consistent with statutes, rules or judicial decisions.

(2) Denial of permit. The division may deny an application for a permit, or modification or renewal of a permit, if it finds that the proposed facility or modification may endanger fresh water or may be detrimental to fresh water, public health, safety or the environment. The division may also deny an application for a 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 common control with, the applicant or a 25 percent or greater owner of the applicant.

(3) Additional requirements. The division may impose additional 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. Any such additional conditions or requirements shall be incorporated into the permit.

(4) Revocation, suspension or modification of a permit. The division may revoke, suspend or impose additional operating conditions or limitations on a permit at any time, for good cause, after notice to the
operator and opportunity for a hearing. The division may suspend a permit, or impose additional conditions or limitations, in an emergency to forestall an imminent threat to fresh water, public heath, safety or the environment, subject to the provisions of Section 70-2-23 NMSA 1978, 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 permit may be for a fixed period of time or until the operator remedies the violation or potential violation. If a facility's permit is suspended, such facility shall not accept new waste during the suspension period.

(5) An operator shall not transfer a permit without the division's prior written approval. A request for transfer of a permit shall identify all officers, directors and owners of 25 percent or greater interest in the transferee. No public notice or hearing shall be required for approval of such a request unless the director otherwise orders. If the division denies approval of the requested transfer, it shall notify the operator and the proposed transferee of such denial by certified mail, return receipt requested, and either the operator or the proposed transferee may request a hearing within 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 facilities. Except as otherwise provided in 19.15.2.53 NMAC:

(1) No surface waste management facility shall be located where ground water is less than 100 feet below the lowest elevation at which waste will be placed at the facility.

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

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

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

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

(d) within the area overlying any subsurface mine registered with the department of energy, minerals and natural resources, as listed on the mines, mills and quarries map;

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

(f) within any seismic impact zone, unless the operator demonstrates that all containment structures, including liners, leachate collection and removal systems and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site; or

(g) within any unstable area, unless the operator demonstrates that engineering measures have been incorporated into the facility design to ensure that the integrity of the facility will not be compromised.

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

(4) No liquid wastes transported by motor vehicle shall be accepted at the facility unless the transporter has a form C-133, authorization to move liquid waste, approved by the division.

(5) No waste containing free liquids shall be placed in any landfill or landfarm cell. Operators shall use the paint filter test, as prescribed by the federal Environmental Protection Agency (EPA SW-846, Method 9095) to determine conformance of the waste to this criterion.

(6) Facilities shall accept only exempt or non-hazardous oil field waste, except as provided in Subparagraph (c) of Paragraph (6) of Subsection E of 19.15.2.53 NMAC. No hazardous waste shall be accepted at a permitted facility. No wastes containing regulated naturally occurring radioactive material (NORM) shall be accepted at a permitted facility except as provided in Subsection C of 19.15.9.714 NMAC. The operator shall require the following documentation for accepting wastes, and both the operator and the generator shall maintain and make said documentation available for division inspection.

(a) Exempt oil field wastes. The operator shall require a certification on a form of its choice, signed by the generator or its authorized agent, that represents and warrants that the 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 said 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 waste is non-hazardous.

(c) Emergency non-oil-field wastes. An operator may accept non-hazardous, non-oil-field wastes in an emergency if ordered by the department of pubic 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 facility, the volume and type of waste, the date of disposal and the hauling company for each load or category of waste accepted at the facility. The operator shall maintain such records for a period of not less than five years after facility closure, subject to division inspection.

(8) Disposal at a facility shall occur only when an attendant is on duty unless loads can be monitored or otherwise isolated for inspection before disposal. The facility shall be secured to prevent unauthorized disposal when no attendant is present.

(9) To protect migratory birds, all 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 of a facility upon the operator's showing that an alternative method will protect migratory birds or that the facility is not hazardous to migratory birds. All waste management facilities shall be fenced in a manner approved by the division.

(10) All waste management facilities shall have a sign, readable from a distance of 50 feet, containing the operator's name, permit or order number, 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 all leak detection sumps and systems including sampling if fluids are present, with analyses of any fluid samples furnished to the division, and maintenance of records of inspection dates, the inspector and the status of the leak detection system;

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

(c) inspections of the berms and the outside walls of all pond levees quarterly and after any 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 systems shall prevent flow onto the facility's active portion during the peak discharge from a 25-year storm;

(b) run-off from the facility's active portion shall not be allowed to discharge any pollutant to the waters of the state or United States that violates any 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 any 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 any 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 any unplanned, sudden or non-sudden, release of contaminants or 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 waste containing 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 facility personnel must take in response to fires, explosions or releases to air, soil, surface water or ground water of contaminants or 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 must be named as the primary emergency coordinator.);

(d) include a list, which shall be kept current, of all emergency equipment at the 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 facility personnel that describes signals to be used to begin evacuation, evacuation routes and alternative evacuation routes in cases where fire or releases of 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 facility; all 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 facility permit is revised or modified;

(ii) the plan fails in an emergency;

(iii) the facility changes design, construction, operation, maintenance or other circumstances in a way that increases the potential for fires, explosions or releases of waste constituents that could threaten freshwater, public health, safety or the environment, or changes 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 his designee, whenever there is an imminent or actual emergency situation, will immediately;

(i) activate internal facility alarms or communication systems, where applicable, to notify all 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 any released materials (The emergency coordinator may do this by observation or review of 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 hazards associated with the release, fire or explosion.);

(k) describe how, if the 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 waste, or any other material that results from a release, fire or explosion at a facility;

(m) describe how the emergency coordinator will ensure that no waste that 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 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.

(16) Training program. Each operator shall conduct an annual training program for key personnel that includes general operations, permit conditions, emergencies, proper sampling methods, and identification of exempt and non-exempt waste, and hazardous waste. The operator shall maintain records of such training, subject to division inspection, for five years.

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 and other nuisances, or as otherwise required by the division.

(g) For all areas of the landfill that will not receive additional 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 waste deposition process.

(h) When a landfill cell has been filled it shall be closed 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 closure of a landfill cell.

(2) Ground water monitoring program. If fresh ground water exists at the site, the operator shall, unless otherwise approved by the division, establish a ground water monitoring program, approved by the division's environmental bureau, that shall include a ground water monitoring work plan, a sampling and analysis plan, and a ground water monitoring system. 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 has not been affected by leakage from a landfill; and

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

(3) Landfill design specifications. All 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% Standard Proctor Density (ASTM D-698.) with a hydraulic conductivity of 1×10^{-7} cm/sec or less. In areas where depth to ground water is greater than 100 feet, or 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 PVC or 60-mil HDPE liner, or an equivalent liner approved by the division.

(c) The leak detection system shall be placed between the lower and upper geomembrane liners and shall consist of two feet of compacted soil with a saturated hydraulic conductivity of 1×10^{-5} cm/sec or greater. 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 earliest possible leak detection at designated collection point(s). All drainage piping shall be designed to withstand chemical attack from

waste or leachate and structural loading and other stresses and disturbances from overlying 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 all drainage lines and laterals shall be at least a 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. A solid drainage pipe shall be sealed to convey any collected fluids to a corrosion-proof sump or sumps located outside the perimeter of the landfill, for observation, storage, treatment or disposal. Alternative designs may be installed as approved by the Division.

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

(e) The leachate collection and removal system shall be placed over the upper geomembrane liner and shall consist of at least two feet of compacted soil with a saturated hydraulic conductivity of 1 x 10^{-2}cm/sec or greater, 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. All piping shall be designed to withstand chemical attack from waste or leachate and structural loading and other stresses and disturbances from overlying 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 all drainage lines and laterals shall be at least a 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. A solid drainage pipe shall be sealed to convey any collected fluids outside the perimeter of the landfill for storage, treatment and disposal. Alternative designs may be installed as approved by the Division.

(f) The leachate collection and removal system protective layer shall be placed over the leachate collection and removal system and shall consist of a soil layer at least one foot thick with a saturated hydraulic conductivity of 1 x 10^{-2} cm/sec or greater.

(g) Oil field waste shall be placed above 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 fertile topsoil (at least 12inches) re-vegetated in accordance with the post closure provisions of Paragraph (1) of Subsection J of 19.15.2.53 NMAC; a protection or frost protection layer composed of native soil (12 to 30 inches), a drainage layer composed of sand or gravel (at least 12 inches) 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 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 sand or gravel (at least twelve inches) above waste with soils compacted to the minimum eighty 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 waste is achieved in a timely manner with date

recorded in a field construction log. The date of top landfill cover installation shall also be recorded to document the timely installation of all top landfill covers. The operator shall provide a minimum of three working days notice to the division in advance of the installation of any top landfill cover to allow the division to witness the installation of all top landfill covers.

(i) Alternatively, the operator may propose 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 model approved by the division. All landfills shall be designed 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 the installation of a side-wall 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 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. All 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 provisions shall be made to protect the material from sunlight. Liner compatibility shall comply with EPA SW-846 Method 9090A.

(ii) All liners must be able to withstand projected loading stresses, settling and disturbances from overlying waste, waste cover materials and equipment operations.

(iii) All liners shall be constructed with a minimum 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 waste to be disposed. Geomembranes shall be resistant to chemical attack from the waste or leachate. The operator shall demonstrate this by means of the manufacturer's test reports, laboratory analyses or other division-approved method.

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

(iii) Field seams in geosynthetic material shall be thermally seamed (hot wedge) 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 psi +/- one percent, shall be maintained for at least five minutes. Liners shall be overlapped four to six inches before seaming, and seams shall be oriented parallel to the line of maximum slope; i.e., oriented along, not across, the slope. The number of field seams in corners and irregularly shaped areas shall be

minimized. Factory seams shall be used where possible. There shall be no horizontal seams within five feet of the toe of the slope. Qualified personnel shall perform all field seaming.

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

(i) The base layer shall be placed , and compacted to 90% Standard Proctor Density on a prepared subgrade.

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

(iii) Any clay soil component of any composite liner shall be compacted to a minimum of 90% Standard Proctor Density and shall, unless otherwise approved by the division, have a plasticity index greater than 10%, a liquid limit between 25% and 50%, a portion of material passing the No. 200 sieve (0.074 mm and less fraction) greater than 40% by weight; and clay content greater than 18% 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 any 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. Any geosynthetic materials or geocomposites including geonets and geotextiles, 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 will not be adversely affected by waste placement, equipment operation or leachate generation. 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 hydraulic head on the liner 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 approval by the division which shall include the following:

(a) design of the system, indicating the location and design of vents, barriers, collection piping and manifolds and other control measures that will be installed (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 major on-site components of the system, including storage, transportation, processing, treatment or disposal measures required in the management of the 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 the location of each gas vent;

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

(f) means that will be implemented to prevent the generation and lateral migration of gas such that:

(i) the concentration of the gases generated by the facility does not exceed 25 percent
of the lower explosive limit for all gases in facility structures (excluding gas control or recovery system components); and

(ii) the concentration of any gases does not exceed the lower explosive limit for all gases at the facility property boundary;

(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 facility; and

(iii) the location of 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 nature and extent of the problem 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) Waste acceptance criteria. Only soils and drill cuttings predominantly contaminated by petroleum hydrocarbons may be placed in a landfarm. All waste placed in any 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. The person tendering waste for treatment at a landfarm shall certify, on form C-138, that representative samples of the 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 waste for landfarm treatment unless accompanied by this certification.

Deleted: 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 or that no treatment plant capable of extracting any recoverable petroleum hydrocarbons exists within reasonable proximity.

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(2) Background testing. Prior to beginning operation of a new landfarm or to opening a new cell at an existing landfarm, the operator shall take, at a minimum, four background soil samples from each landfarm cell, three feet below the original ground surface, to establish background concentrations. The operator shall analyze the background soil samples for total petroleum hydrocarbons (TPH), as determined by EPA Method 418.1 or other EPA method approved by the division, benzene, toluene, ethyl benzene and xylenes (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 United States Environmental Protection Agency (EPA) methods.

(3) Operation and waste treatment.

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

(b) The operator shall not place contaminated soils received at any landfarm after the effective date of 19.15.2.53 NMAC within 100 feet of a boundary of the facility.

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

(d) The operator shall biopile or spread and disk all contaminated soils in eight inch or less lifts or approximately 1000 cubic yards per acre per eight-inch lift within 72 hours of receipt.

(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. Freestanding water shall be removed within 24 hours.

(i) The operator shall maintain records of the facility'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 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, prior to adding an additional lift. The operator shall collect and analyze a minimum of four representative, independent samples from the vadose zone at least semi-annually using the methods specified below for TPH and chlorides. The maximum thickness of treated soils in any 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 disposal site.

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(5) Vadose zone monitoring.

(a) Sampling. The operator shall monitor the vadose zone beneath the treatment zone in each landfarm cell to ensure that contaminants do not migrate to the underlying

native soil or to ground water The vadose zone samples shall be taken from soils between three and four feet below the cell's original surface.

(b) Semi-annual monitoring program. The operator shall collect and analyze a minimum of four representative, independent samples from the vadose zone at least semi-annually using the methods specified below, for TPH, BTEX and chlorides.

(c) Annual monitoring program. The operator shall collect and analyze a minimum of four representative, independent samples from the vadose zone at least annually, using the methods specified below, for TPH, BTEX, chlorides, and the metals and inorganics listed in Subsections A and B of 20.6.2.3103 NMAC.

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

(e) Corrective action for releases. If any vadose zone sampling results show that the concentrations of TPH, BTEX, chlorides, or constituents listed in Subsections A and B of 20.6.2.3103 NMAC, exceed the background concentrations, then the operator shall notify the division's environmental bureau of the exceedance, and shall submit a corrective action plan, within 15 days. The corrective action plan shall address changes in the operation of the landfarm to prevent further contamination and a plan for isolating or remedying any existing contamination.

(6) Treatment zone closure performance standards. After a landfarm cell has been filled 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 four representative, independent 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 by EPA SW-846 Method 8021B or 8260B, shall not exceed 50 mg/kg.

(c) The gasoline range organics (GRO) and diesel range organics (DRO) combined fraction, as determined by EPA SW-846 Method 8015M, shall not exceed 500 mg/kg. The total extractable petroleum hydrocarbon fractions, as determined by EPA Method 418.1 or other EPA method approved by the division, shall not exceed 1000 mg/kg.

(d) Chlorides, as determined by EPA Method 300.1, shall not exceed 500 mg/kg.

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(e) The concentration of the constituents listed in Subsections A and B of 20.6.2.3103 NMAC, as determined by EPA SW-846 Methods 6010B or 6020, or other methods approved by the division, shall not exceed the background soil concentration or the applicable closure concentration specified below, or an acceptable Practical Quantitation Limit, whichever is greater:

Landfarm Soil Closure Standards

	Constituent	Concentration (mg/kg) (Except where noted)
(i)	Arsenic (As)	0.0146
(ii)	Barium (Ba)	106
(iii)	Cadmium (Cd)	1.37

(iv)	Chromium (Cr)	2.10
(v)	Cyanide (CN)	7.35
(vi)	Fluoride (F)	329
(vii)	Lead (Pb)	400
(viii)	Total Mercury (Hg)	334
(ix)	Nitrate (NO3 as N)	17.1
(x)	Selenium (Se)	0.953
(xi)	Silver (Ag)	1.57
(xii)	Uranium (U)	16
(xiii)	Radioactivity: Combined Radium-226 and Radium-228	30 pCi/g
(xiv)	Polychlorinated biphenyls (PCBs)	0.0224
(xv)	Toluene	0.347
(xvi)	Carbon Tetrachloride	0.000988
(xvii)	1,2-dichloroethane (EDC)	0.000248
(xviii)	1,1-dichloroethylene (1,1-DCE)	0.133
(xix)	1,1,2,2-tetrachloroethylene (PCE)	0.00215
(xx)	1,1,2-trichloroethylene (TCE)	0.000131
(xxi)	ethylbenzene	1.01
(xxii)	total xylenes	0.167
(xxiii)	methylene chloride	0.00853
(xxiv)	chloroform	0.000414
(xxv)	1,1-dichloroethane	0.201
(xxvi)	ethylene dibromide (EDB)	0.000013
(xxvii)	1,1,1-trichloroethane	1.34
(xxviii)	1,1,2-trichloroethane	0.000498
(xxix)	1,1,2,2-tetrachloroethane	0.000172
(xxx)	vinyl chloride	0.000143
(xxxi)	PAHs: total naphthalene plus monomethylnaphthalenes	0.0197
(xxxii)	benzo-a-pyrene	0.6210
(xxxiii)	Chloride (Cl)	500
(xxxiv)	Copper (Cu)	51.5
(xxxv)	Iron (Fe)	277
(xxxvi)	Manganese (Mn)	334
(xxxvii)	Phenols	2.37
(xxxviii)	Sulfate (SO4)	background

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(xxxix) Zinc (Zn) 682

(7) Disposition of treated 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 may either leave the treated soil in place, or with prior division approval dispose or reuse the treated soil in an alternative manner.

(b) If the 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 by the division, then the operator shall remove all contaminated soil from the landfarm cell and properly dispose of it at a division-approved landfill, or reuse or recycle it in a manner approved by the division. The operator may request approval of an alternative soil closure standard from the division, provided that the operator shall give 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 may 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 may utilize an environmentally 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 in soil occurs when TPH 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% by a combination of physical, biological and chemical processes and the rate of change in the reduction in 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 in 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 utilize 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. At 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 the other operational requirements specified in subsection G of 19.15.2.53 NMAC, the operator utilizing 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 ration (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, but not limited to: tilling procedures and schedule; procedures to limit petroleum hydrocarbon loading to less than 5%; procedures to maintain pH between six and eight; procedures to monitor and apply proper nutrients; procedures to monitor, apply and maintain moisture to 60-80% 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 19.15.3.53 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 owner of the surface estate at the proposed site, the operator shall furnish with its form C-137 EZ its certification it has a written agreement with the owner of the surface estate authorizing use of the site for the proposed facility. The division will issue the operator a registration number no more than thirty days from receipt of a properly completed form.

(b) Limitation. An 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. An 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, oilfield-contaminated 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 do not have a chloride concentration exceeding 500 mg/kg.

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

(d) post a sign at the facility listing the operator's name, small landfarm registration number, location, expiration date and an emergency contact telephone number.

(3) Waste management standards. The operator shall biopile or spread and disk all contaminated soils in eight inch or less lifts or 1000 cubic yards per acre per lift within 72 hours of receipt. The operator shall conduct treatment zone monitoring to ensure that 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, prior to adding an additional lift. The maximum thickness of treated soils in any landfarm cell shall not exceed two feet. When that thickness is reached, the operator shall not place additional oil field waste in the small landfarm. The operator shall treat the soils by disking at least once a month and by watering and addition of bioremediation enhancing materials when needed.

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(4) Record-keeping requirements. The operator shall maintain records reflecting the generator, the location of origin, the volume and type of waste, the date of acceptance, and the hauling company for each load of oil field waste received. In addition, the operator shall maintain records of the facility's remediation activities in a form readily accessible for division inspection. The operator shall maintain all records for five years following closure of the small landfarm.

(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 site of generation, 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 date of registration, then the operator shall remove all 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 8021B or 8260B, shall not exceed 0.2 mg/kg.

(ii) Total BTEX, as determined by EPA SW-846 method 8021B 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 1000 mg/kg. The GRO and DRO combined fraction, as determined by EPA SW-846 Method 8015M, shall not exceed 500 mg/kg.

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

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(b) Closure Requirements. The operator shall:

(i) re-vegetate soils remediated in accordance with Subparagraph (1) of Section J of 19.15.2.53 NMAC if left in place;

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(ii) remove landfarmed soils that have not been or cannot be remediated to the closure performance standards (or that the operator determines to return to the original site, or, with division permission, re-cycle), and re-vegetate the cell filled in with native soil in accordance with Subparagraph (1) of Section J of 19.15.2.53 NMAC;

(iii) remove all berms on the facility and any buildings, fences, roads and equipment.

(iv) 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-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 opportunity for a hearing if requested, may require additional information or additional investigation or clean-up activities.

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

(1) Engineering design plan. An applicant for a 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 permit application a detailed engineering design plan, certified by a registered professional 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 facility that has an integrated contingency plan; type of waste stream, including chemical analysis; climatological factors, including freeze-thaw cycles; a monitoring and inspection plan; erosion control and any other pertinent information the division requests.

(2) Construction, standards.

(a) In general. Each pit, pond and below-grade tank shall be designed, constructed and operated so as to contain liquids and solids in a manner that will prevent contamination of fresh water and 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 appropriate to the site's conditions.

(c) Liner specifications. All liners shall consist of a 30-mil flexible PVC or 60-mil HDPE liner, or an equivalent liner approved by the division. Synthetic (geomembrane) liners shall have a hydraulic conductivity no greater than 1×10^{-9} centimeters per second. 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 provisions shall be made to protect the material from sunlight. Liner compatibility shall comply with United States Environmental Protection Agency 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:1V. The tops of the levees shall be wide enough to install an anchor trench and provide adequate room for inspection and maintenance. Liner seams shall be minimized and

oriented up and down, not across a slope. Factory seams shall be used where possible. Field seams in geosynthetic material shall be 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. Liners shall be overlapped four to six inches before seaming, and seams shall be oriented parallel to the line of maximum slope; i.e., oriented along, not across, the slope. The number of field seams in corners and irregularly shaped areas shall be minimized. There shall be no horizontal seams within five feet of the toe of the slope. Qualified personnel shall perform all field seaming.

(f) At any 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. All compacted soil membranes shall have a hydraulic conductivity 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) A leak detection system shall be placed between the lower and upper geomembrane liners and shall consist 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 earliest possible leak detection. All piping used shall be designed to withstand chemical attack from waste or leachate, structural loading from stresses and disturbances from overlying waste, 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 the fluids to the drainage pipe. The slope of the interior sub-grade and of all 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 network shall be comprised of solid and perforated pipe having a minimum diameter of four inches and a minimum wall thickness of schedule 80. A solid sidewall riser pipe shall be sealed to convey any collected fluids to a collection, observation and disposal system, located outside the perimeter of the pit or pond.. Alternative methods may be installed 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) All pits and ponds shall be constructed in such a manner as to prevent overtopping due to wave action or rainfall, and a three foot freeboard shall be maintained at all times.

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

(3) Operating Standards.

(a) Only produced fluids or non-hazardous oil field waste shall be discharged into or stored in any pit or pond. No measurable or visible layer of oil may be allowed to accumulate or remain anywhere on the surface of any pit except an approved skimmer pit. Spray evaporation systems shall be operated such that all spray-borne suspended or dissolved solids remain within the perimeter of the pond's lined portion.

(b) Leak detection systems shall be monitored pursuant to the approved permit conditions. The operator shall maintain a monitoring records in a form readily accessible for division inspection, and shall report discovery of any liquids in the leak detection system to the division within 24 hours.

(c) Fencing and netting. Operators shall fence or enclose all pits or ponds to prevent unauthorized access and maintain fences in good repair. Fences are not be required if there is an adequate perimeter fence surrounding the surface waste management facility. All tanks exceeding 8 eight feet in diameter, exposed pits and ponds shall be screened, netted, covered or otherwise rendered non-hazardous to migratory birds. 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. Engineering designs for such systems shall be submitted to the division's environmental bureau for approval prior to installation. Spray systems shall be operated such that spray-borne salt does not leave the pond area.

(e) A skimmer pond or tank shall be used to separate any oil from produced water prior to water discharge into the pond. All connected ponds shall have a trap device installed to prevent solids and oils from transferring from one pond to the other unless approved in the facility permit.

(4) Below-grade tanks and sumps:

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

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

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

J. Closure and post closure.

(1) Facility closure by operator. The operator shall notify the division's environmental bureau at least 60 days prior to cessation of operations at the 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 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 any 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 of the division 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 any modifications or additional requirements 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 any modifications or additional requirements imposed by the division. During closure operations the operator shall maintain the 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 vegetative cover equal to 70% of native vegetative cover found in undisturbed areas surrounding the facility at the time of closure consisting of at least two native plant species and not including noxious weeds, and maintenance of that cover through two successive growing seasons. The division may approve re-vegetation with non-native plants if seed for native plant species are not commercially available or the operator demonstrates that re-vegetation with native plant species is impracticable.

(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 facility, the division will 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 Subparagraph (1) of Section J of 19.15.2.53 NMAC is successful. If monitoring wells or other monitoring or leak detection systems reveal contamination during the facility's operation or in the applicable post closure care period following the facility's closure the division shall not release the financial assurance until all such contamination is remediated in accordance with 19.15.1.19 or 19.15.3.116 NMAC, as applicable. In any event, the division will not finally release the financial assurance until it determines that the operator has successfully re-vegetated the site in accordance with Subparagraph (1) of Section J of 19.15.2.53 NMAC, or, if the division has approved an alternative site use plan, until the land owner has obtained necessary regulatory approvals and begun implementation of such use.

(3) Facility closure initiated by the division. Forfeiture of financial assurance.

(a) For good cause, the division may, after notice to the operator and opportunity for a hearing, order immediate cessation of a facility's operation when it appears that such 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 opportunity for hearing in the event of an emergency, subject to Section 70-2-23 NMSA 1978, as amended.

(b) If an operator refuses or is unable to conduct operations at a 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 permit, or the operator defaults on the conditions under which the financial

assurance was accepted, or if disposal operations have ceased and there has been no significant activity at the 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 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 must be made within 10 days of receipt of the notice; and

(ii) advise the operator and surety of the conditions under which the forfeiture may be avoided. 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 permit conditions, the closure plan (including any modifications or additional requirements imposed by the division) and division rules, and satisfactory demonstration that such 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 a hearing has been timely requested, to declare forfeiture of the financial assurance. 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 facility and collect the forfeited amount as reimbursement. All amounts collected as a result of forfeiture of any financial assurance shall be deposited 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 all 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 of any contamination, and all costs of forfeiture, the excess shall be returned 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 Subparagraph (1) of Section J of 19.15.2.53 NMAC. Any excess of the amount retained over the actual cost of post-closure monitoring and re-vegetation shall be returned 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 Subparagraph (1) of Section J of 19.15.2.53 NMAC is successful.

(e) If the operator abandons the facility or cannot fulfill the conditions and obligations of the 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 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 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 operation, termination and closure of the facility in accordance with the permit and to conduct post closure monitoring.

(4) 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 facility.

(a) Oil treating plant closure. At closure, the operator shall ensure that:

(i) all tanks and equipment used for oil treatment are cleaned and all waste disposed of at a division-approved facility (The operator shall reuse, recycle or remove all 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 all 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 slope is 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 cover covering at least 70% 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 maint that cover through the post-closure period.

(c) Landfill post closure. Following facility 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 the 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.

(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 Subparagraph (1) of Section J of 19.15.2.53 NMAC;

(iii) landfarmed soils that have not been or cannot be remediated to the above standards are removed to a Division - approved disposal site, and the landfarm remediation area is filled in with native soil and re-vegetated in accordance with Subparagraph (1) of Section J of 19.15.2.53 NMAC;

(iv) if treated soils are removed, the cell is filled in with native soil and re-vegetated in accordance with Paragraph (1) of Subsection J of 19.15.3.53 NMAC;

(v) all berms on the facility are removed;

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

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

(e) Evaporation pond closure. The operator shall ensure that:

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

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

(iii) all equipment associated with the 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, metals and other inorganics 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 evaporation pond post closure. The post-closure care period for a landfarm or evaporation pond shall be three years if the operator has achieved clean closure. During that period the operator or other responsible person 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 operator or owner of the land contemplates use of the land where a cell or facility is located for purposes inconsistent with re-vegetation, the operator or owner 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 land owner has obtained necessary regulatory approvals and begun implementation of such alternative use.

K. Exceptions and waivers.

(1) In a permit application, the applicant may propose alternatives to any of the requirements of 19.15.2.53 NMAC, and the division may approve any such alternative if it determines that the proposed alternative 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, any requirement of 19.15.2.53 NMAC, in an emergency without notice or hearing. An operator requesting an exception or waiver , except in an emergency, shall apply for a 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 such request in accordance with Paragraph (4) 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 permits or orders of the division may continue to operate in accordance with such permits or orders, subject to the following provisions.

(1) All existing facilities shall comply with the operational, waste acceptance and closure requirements provided in 19.15.2.53 NMAC, except as otherwise specifically provided in the applicable permit or order, or in any specific waiver, exception or agreement that the division has granted in writing to the particular facility.

(2) Any major modification of an existing facility, and any new landfarm cells constructed at an existing facility, shall comply with all requirements of 19.15.2.53 NMAC.

(3) Any application for a surface waste management facility permit filed prior to May 18, 2006, shall be processed in accordance with 19.15.9.711 NMAC, and any application filed after May 18, 2006, shall be processed in accordance with 19.15.3.53 NMAC.