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June 24, 2005

VIA HAND DELIVERY

Will Jones, Hearing Examiner
Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Dept.
1220 South St. Francis
Santa Fe, NM 87504

Re: Case No. 13480 – Application of Gandy Marley, Inc.
Controlled Recovery Inc.'s Proposed Findings and Conclusions

Dear Mr. Jones:

Pursuant to your request at the May 24th hearing, delivered herewith are Controlled Recovery Inc.'s Proposed Findings and Conclusions (with citation to the record) as well as a disk containing this document for your convenience. This document has been filed with the Division.

By copy of this letter, I have also provided a paper copy of these proposed findings and conclusions to Mr. Apodaca and all counsel of record.

Controlled Recovery Inc. appreciates your time and attention to this matter.

Sincerely,

Michael H. Feldewert

MHF/jlp

cc. Ted Apodaca
Gail MacQuesten
Pete Domineci, Jr.
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STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION

2005 JUN 24 PM 2 44

APPLICATION OF GANDY MARLEY, INC. TO MODIFY THEIR EXISTING NMOCD RULE 711 PERMIT No. NM-01-019 SO THAT THEY MAY ACCEPT SALT-CONTAMINATED OILFIELD WASTES.

CASE NO. 13480

CONTROLLED RECOVERY INC.'S PROPOSED FINDINGS AND CONCLUSIONS

Controlled Recovery Inc. ("CRI"), pursuant to the Examiner's instructions at the May 24th hearing, hereby submits its proposed findings and conclusions with citations to the record.

History of GMI's Landfarm Facility and Noncompliance with Existing Permit Conditions.

1. On September 29, 1994, Gandy Marley, Inc. ("GMI') provided notice in the Roswell Daily Record that it intended to apply with the Division to operate a landfarm on 154 acres in Sections 4, 5, 8 and 9 in T-11-S, R-31-E, approximately 39 miles southeast of Roswell, New Mexico. The public notice stated in part:

> "The purpose of the proposed facility is [to] provide a safe place for *remediation of* contaminated soils from oil and gas operations. No produced water or tank bottoms will be allowed.

CRI Exhibit 4, last page (emphasis added).

2. In October 1994, GMI filed an application with the Division stating that the purpose of the proposed facility was to operate "*as a soil remediation, recycling, and landfarm facility.*" CRI Exhibit 4 at p. 2 (emphasis added).

3. On November 3, 1994, the Division provided public notice of the filing of GMI's application, requested public comment, and stated in relevant part:

> "Gandy Marley, Inc...has submitted an application to construct and operate a Rule 711 *commercial landfarm facility for remediation of hydrocargon contaminated soils*....The facility is proposed to consist of a 154 acre land management area where only solids

classified as "non-hazardous" oilfield wastes by RCRA Subtitle C exemption by characteristic testing will be spread on the ground surface in six inch lifts or less and periodically stirred to enhance biodegradation of contaminants. No liquids will be allowed to be accepted for disposal at the facility. Ground water most likely to be affected by an accidental release is at a depth of 150 feet with a total dissolved solids concentration of approximately 4920 mg/l.

CRI Exhibit 3 (emphasis added).

4. On January 27, 1995, the Division approved GMI's application. The Division's approval contained:

A. Standard permitting language clarifying that only wastes "exempt from RCRA Subtitle C regulations or non-hazardous by characteristics testing will be accepted at the facility"[GMI Exhibit 4 at ¶ 8; Tr. 335 (Martin)];

B. Soil disking, lifting, testing and reporting requirements [GMI Exhibit 4 at p. 2, ¶¶ 4-7 and 9-12];

C. Soil treatment zone monitoring and testing requirements, along with the use of "impermeable material such as bentonite cement" to protect against contamination of the groundwater beneath GMI's landfarm [*id.* at p. 3, ¶ 11 and ¶ 4]; and

D. Quarterly and annual reporting requirements [*id.* at p. 3].

5. On March 24, 1995, the New Mexico Environment Department granted GMI a discharge permit "for the *bioremediation and aeration* of up to 10,000 cubic yards per month of *hydrocarbon contaminated soils* at the Gandy Marley Inc. landfarm..." GMI Exhibit 4 – 3/24/95 letter, first paragraph (emphasis added). The NMED discharge permit contains many of the operational and reporting requirements found in the Division's landfarm permit, including:

A. Standard permitting language clarifying that only "solids which are classified as non-hazardous by RCRA Subtitle C exemption or by characteristics testing" will be accepted at the facility [GMI Exhibit 4 - March 24th letter at p. 2];

B. Quarterly monitoring and testing requirements, along with the use of "impermeable material such as cement or bentonite" to protect against contamination of the groundwater beneath the GMI landfarm [*id.* at p. 5]; and

C. Annual and semi-annual reporting obligations to the NMED [*id.* at p. 5 and 10].

6. In April of 1996, GMI applied to modify its landfarming operations to include "a solidification facility to enable it to accept tanks bottoms, pit sludge and exempt and nonexempt oilfield *hydrocarbon contaminated wastes*." GMI Exhibit 10 at p. 2 (emphasis added). The proposed solidification facility was comprised of concrete troughs set on a 20 mil HDPE liner. *Id.* at Figures 2 and 3.

7. On June 14, 1996, the Division approved construction of a "concrete holding and treating trough at the Gandy Marley Landfarm" to be set on the 20 mil HDPE liner. GMI Exhibit 11.

8. On December 9, 1997, GMI applied with the Division to modify its closure bond and remediation standards for its landfarming operations. GMI Exhibit 12. GMI represented to the Division that the "purpose of the facility is to *remediate* oilfield contaminated soils and solidify and remediate oilfield liquids and sludges that are unacceptable for injection wells." GMI Exhibit 12 at p. 3 (emphasis added).

9. GMI's December 1997 application included third-party estimates to "remediate the entire site within a period of three months using aeration, dilution and bio-augmentation as the remediation techniques..." GMI Exhibit 12, last page. *See also* Rule 711.B(1)(i).

10. By letter dated October 22, 1999, the Division modified GMI's bond and closure requirements for its landfarming operations. GMI Exhibit 13.

A. The Division's modification rested on "price and time quotes" from third party contractors to disk and till the landfarm, provide water for bioremediation, revegetate the area, remove liquids from the concrete holding and treating troughs, and remove the concrete and underlying liner. GMI Exhibit 14.

B. The Division's modification reconfirmed the monitoring, operational and reporting requirements in the Division's original 1995 approval. GMI Exhibit 13.

11. Under its existing Division and NMED permits, GMI was only authorized to accept *hydrocarbon contaminated soils* susceptible to *bioremediation by aeration.*

12. Division permitted landfarms are only intended to accept remediable oilfield wastes, such as petroleum contaminated soils. Tr. 295-297 (Martin)

13. Salt contaminated wastes cannot be landfarmed or remediated. Tr. 295 (Martin); Neeper Report and Testimony.

14. Despite the restrictions in its Division and NMED permits, GMI has been taking non-remediable salt contaminated wastes at its landfarm since it was first permitted in 1994. Tr. 418 (Gandy).

A. GMI was aware that its existing permits did not authorized acceptance of drilling muds, chloride impacted materials or other materials not susceptible to bioremediation by aeration. Tr. at p. 71-76 (Marley).

B. GMI was also aware that drilling muds and other salt contaminated wastes could not be remediated. Tr. 413 (Gandy).

C. Until a "few years ago" GMI mixed the non-remediable salt contaminated wastes with hydrocarbon contaminated soils in its landfarm. Tr. 418 (Gandy); Tr. 119 (Marley).

D. "A few years ago" GMI began storing salt contaminated wastes in separate cells, but could not identify those cells at the hearing. Tr. 412, 418 (Gandy).

E. Available tests of the soils at GMI's landfarm indicate concentrations of sodium that will prevent successful re-vegetation. Neeper Report at p. 4.

15. Under its existing permits, GMI was required to submit periodic monitoring reports to the Division and the NMED.

16. GMI has failed to meet its reporting requirements to the Division and the NMED:

A. GMI has received a Notice of Violation from the NMED for failing to meet virtually every single reporting obligation to that agency since August of 2000. CRI Exhibit 21.

B. GMI has failed to meet its annual and quarterly monitoring and reporting obligations to the Division. Tr. 79, 98 (Marley); Neeper Report at Figure 9; CRI Exhibit 23.

17. GMI's failure to meet its monitoring and reporting obligations under its existing permits has persisted, even with the hiring of an outside consulting firm in December of 2004. GMI Exhibit 28; Tr. 403 (Gandy); CRI Exhibit 21.

18. Division Rule 711 imposes upon the applicant the burden of submitting an application that demonstrates operation of the proposed facility "will be in compliance with OCD rules and orders." 19.15.9.711.B(1)(m).

19. An applicant's compliance with existing permit conditions is an important consideration in determining whether new permits, or modifications to existing permits, should be granted by the Division. Tr. 306-07 (Martin); Rule 711.B(5).

20. A representative of the New Mexico Citizens for Clean Air & Water testified that in his opinion, an applicant should be in compliance with all regulations and permit requirements for at least two years prior to the issuance of a new or revised permit. Neeper Report at p. 6 and Figure 13.

21. GMI has a history of noncompliance with its existing Division and NMED permit requirements for its landfarm operations.

22. GMI has failed to present an Application that demonstrates its proposed landfill can be operated "in compliance with OCD rules and orders" as required by Rule 711.

GMI's Temporary Authority to Accept Salt Contaminated Wastes Rests on False Information.

23. On March 10, 2005, GMI applied with the Division to accept salt contaminated wastes on an emergency basis. CRI Exhibit 1.

24. Based on the information contained in GMI's Application, the Division authorized GMI to accepted salt contaminated wastes on a temporary basis. CRI Exhibit 2.

25. GMI's March 10, 2005, application to take salt contaminated wastes on a temporary emergency basis was drafted from "memory" without any investigation by GMI of its records. Tr. at 80-81 (Marley).

26. GMI's March 10, 2005, application to take salt contaminated wastes on a temporary emergency basis (CRI Exhibit 1) misrepresented that:

A. The groundwater 150 feet below the landfarm had total dissolved solids in excess of 15,000 ppm; and

B. An "impermeable redbed clay barrier of approximately 150 feet" existed between GMI's surface landfarm and the groundwater below its facility.

27. The information available to GMI as the time of the filing of its emergency application to take salt contaminated wastes on a temporary, emergency basis indicated:

A. The groundwater 150 feet below GMI's landfarm had TDS of less than 5,000 ppm. *See* GMI Exhibit 5 (Test results of Well No. 3); CRI Exhibit 3 (1994 public notice); Tr. 93-94 (Marley); Tr. 430-31 (Bonner).

B. An "impermeable redbed clay barrier of approximately 150 feet" did not exist below GMI's landfarm. *See* Tr. 82-83 (Marley); GMI Exhibit 3 at p. 16-17 (showing the site did not meet criteria for isolation of hazardous wastes).

28. By it terms, the Division's order allowing GMI to take salt contaminated wastes on a temporary basis is no longer in effect. *See* CRI Exhibit 2 (Order 12306-A) at p. 5

The Soils and Geology Below GMI's Landfarm Are Not Suitable For Disposal Of Hazardous Materials.

29. In 1993, GMI engaged the services of James Bonner, a geologist, to conduct a detailed study of its landfarm site to determine its suitability for accepting hazardous materials. Tr. 425 (Bonner); GMI Exhibits 2 and 3.

30. After extensive study, Mr. Bonner determined the soils and geology below GMI's landfarm did not meet the criteria established for the long-term isolation of hazardous materials. GMI Exhibits 2 and 3 at p. 16-18 and Figure 10; CRI Exhibit 7; Tr. 428 (Bonner); Tr. 170-71 (Corser).

31. Mr. Bonner's study found that GMI's landfarm is situated over 15-35 feet of alluvial sands that overlay discontinuous layers of sandstones, sands and clays of varying thicknesses. GMI Exhibit 3 at p. 18; GMI Exhibits 22 and 23; CRI Exhibits 7 and 8; Tr. 435-443 (Bonner); Tr. 246-47 (Mansker).

32. The available evidence indicates the sand to clay ratio underlying GMI's landfarm is approximately 50/50. Tr. 447 (Bonner).

33. The presence of groundwater at a depth of approximately 122 feet evidences the permeable nature of the soils below GMI's landfarm. Tr. 449 (Bonner).

34. The available evidence of the geology below GMI's landfarm raises concerns about horizontal and vertical migration of fluids over time. Tr. 449-50, 469-70 (Bonner).

35. GMI has an unused, permitted site 1.5 miles southwest of its landfarm (called Triassic Park) that is permitted by the NMED to accept hazardous wastes. Tr. 426 (Bonner).

36. GMI's Triassic Park hazardous waste site rests on 600 foot, low permeability clays in the lower Dockum. Tr. 447 (Bonner); CRI Exhibit 8.

37. Unlike GMI's Triassic Park hazardous waste site, GMI's proposed landfill cells will rest within the upper Dockum. Tr. 447 (Bonner); CRI Exhibit 8.

38. Unlike GMI's Triassic Park site, GMI's landfarm does not have a continuous, thick layer of low permeability redbed clays between the surface and the groundwater. Tr. 436-37 (Bonner); Tr. 173-74 (Corser).

39. Most of the witnesses agreed that because the geology beneath GMI's facility is sufficiently unpredictable, an engineered barrier and vadose zone monitoring is necessary to protect against horizontal and vertical migration of any oilfield wastes stored at GMI's landfarm. Tr. 448-50, 475 (Bonner); Tr. 177 (Corser); Tr. 658 (Martin).

40. GMI has failed to establish that a sufficient natural barrier exists to protect groundwater from the oilfield wastes GMI seeks to store at its facility.

41. GMI has failed to establish that the geology beneath its landfarm is sufficient to allow the disposal of oilfield wastes without an engineered barrier and vadose zone monitoring.

Regulatory Protection Of The Groundwater Below GMI's Landfarm Is Required.

42. Just prior to the hearing in this matter, GMI drilled two wells into the groundwater below its landfarm that establish the following:

A. Groundwater exists below GMI's landfarm at a depth of approximately 122 feet. GMI Exhibit 15 at p. 2-3.

B. The groundwater is capable of an estimated sustained yield of 154 to 206 gallons per day. GMI Exhibit 15 at p. 3.

C. The groundwater contains less than 9,000 mg/l of total dissolved solids. GMI Exhibit 15 at last two pages (Summary Report); Tr. 126 (Marley).

43. It is likely that the groundwater below GMI's landfarm is a perched acquifer, meaning there is an unsaturated zone below the groundwater. Tr. 455 (Bonner).

44. This perched acquifer appears to originate from either the surface or the shallow Ogallala Aquifer, flows down through the alluvial deposits and Triassic sediments, perches between the upper and lower Dockum, and tapers out as you move west of the Caprock area. Tr. 147-48, 168 (Corser); Tr. 449 (Bonner); Tr. 258-59 (Mansker).

45. The State of New Mexico uses a 10,000 ppm standard to determine whether groundwater should be protected. Tr. 244 (Mansker); Tr. 334 (Martin). *See also* Division Rule 19.15.1.19.A(1)(requiring abatement of groundwater "which has a background concentration of 10,000 mg/L or less TDS"); 19.B(2) (requiring abatement to WQCC standards); WQCC Reg. 20.6.2.3101.A (purpose of WQCC regulations is to "protect all ground water of the state of New Mexico which has an existing concentration of 10,000 mg/l or less TDS").

46. The Division defines "Fresh Water (to be protected)" as "all underground waters containing 10,000 milligrams per liter (mg/l) or less of total dissolved solids (TDS) except for

which, *after notice and hearing*, it is found there is no present or reasonably foreseeable beneficial use which would be impaired by contamination of such waters." 19.15.1.7.F(3)(emphasis added).

47. The Oil Conservation Division has not determined after notice and hearing that the groundwater below GMI's landfarm lacks a reasonably foreseeable beneficial use.

48. Under the standards used by New Mexico Water Quality Control Commission, the groundwater below GMI's landfarm has a sufficient yield to have a reasonably foreseeable beneficial use. Tr. 593-94, 597-600 (Gordon).

49. The permits issued by the NMED and the Division indicate an administrative determination by both agencies to protect the groundwater below GMI's landfarm. Tr. 433-34 (Bonner); CRI Exhibit 5; GMI Exhibit 4 at 3/24/95 letter p. 4-5.

50. The groundwater below GMI's landfarm is subject to protection. Tr. 588-89 (Gordon).

The Application Filed By GMI Is Deficient in Major Areas

51. GMI has applied with the Division for approval to accept and dispose in landfill cells all types of oilfield wastes, including "oilfield wastes classified as non-hazardous by RCRA Subtitle C exemption or by characteristic testing, including petroleum and chloride impacted debris, mud, soils, sludges, tank bottoms and filters associated with the drilling, operating and maintenance of oil and gas wells and related operations of the oil and gas industry." GMI Exhibit 5 at p. 2; Tr. 316 (Martin).

52. GMI's Application seeks a major modification to its existing landfarm permit. GMI Exhibit 5; Tr. 295-96 (Martin); Tr. 622 (Gordon).

53. Division Rule 711 imposes upon the applicant the burden of filing for public review an application that meets the requirements of subsection B(1) and affirmatively demonstrates that the operation of the proposed facility "will not adversely impact public health or the environment..." 19.15.9.711.B(1)(m).

54. Once a full and complete Application has been filed with the Division, Rule 711.B(2)(b) and (c) require public notice of the filed application and at least a 30 day comment period.

55. Under Rule 711.B(7), the Director is authorized to issue a permit only "upon a finding that an acceptable application has been filed" and that the notices and public comment provisions of Rule 711.B(2) and B(3) have been met. *See also* Tr. 304-05; 331 (Martin).

56. Rule 711.B(1)(k) and B(2)(a) require an applicant to include *within its Application* proof that written notice of the application has been provided to the appropriate surface owners, county commission, and city officials. *See also* Form C-137 at paragraph 12.

57. GMI's Application failed to "attach proof" of the written notice required by Rule 711.B(1)(k), B(2)(a), and paragraph 12 of Form C-137. GMI Exhibit 5; Tr. 331 (Martin).

58. At the time of the hearing, GMI was still collecting the information and data required by Rule 711. Tr. 206 (Mansker); Tr. 668.

59. The Application GMI filed with the Division, and which was presented to the public for review and comment, contained only a fraction of the information required by Rule 711(B)(1) and Form C-137. *Compare* CRI Exhibit 11 *with* GMI Exhibit 5.

60. In addition to the absence of proof of the written notice required by Rule 711.B(1)(k) and B(2)(a), GMI's Application failed to provide the following mandatory information:

A. GMI's Application did not contain a "cost estimate" to close its proposed landfill operations "based upon the use of equipment normally available to a third party" as required by Rule 711.B(1)(i) and paragraph 10 of Form C-137. GMI Exhibit 5.

(i) The bond GMI presently has with the Division is for closure of a landfarm, not the closure and post-closure monitoring of a landfill. *See* GMI Exhibit 14.

(ii) Typical closure and post-monitoring costs for landfills accepting the types of wastes proposed to be accepted by GMI are in excess of $2 million. Tr. 579 (Gordon).

B. GMI's Application failed to attach a contingency plan for any release of hydrogen sulfide as required by Rule 711.B(1)(h), paragraph 13 of Form C-137, and Division Rule 118. GMI Exhibit 5.

(i) After acknowledging hydrogen sulfide is expected at its facility, GMI's Application simply states: "Appropriate signs will be (sic) and H2S training will be provided to all personnel and all provisions set forth in OCD Rule 118 will me met."

(ii) GMI's Application does not state *how* the provisions of Rule 118 will be met, and does not contain any of the "required contents" set forth in Rule 118.D(2).

(iii) The application commits to "appropriate signs" but does not indicate where the signs will be placed or what the signs will state.

(iv) The application does not describe how the referenced "training" will be accomplished or documented.

(v) The single sentence provided in the application does not address emergency procedures, characteristics of hydrogen sulfide, maps and drawings, coordination with state emergency plans, activation levels, or any of the other information required by Rule 118.D(2)(b).

C. GMI's Application does not contain the plat required by Rule 711.B(1)(b). GMI Exhibit 5; Tr. 527-28 (Gordon).

D. GMI's Application does not contain a diagram of the proposed facility as required by Rule 711.B.(1)(d) and paragraph 6 of Form C-137. GMI Exhibit 5; Tr. 331 (Martin); Tr. 529-30 (Gordon).

(i) GMI's Application does not identify the cells that have been utilized to store salt contaminated wastes. Tr. 622 (Gordon).

(ii) GMI's Application does not identify the cells to be used for landfarming operations and the cells to be used as landfills. Tr. 622 (Gordon).

(iii) GMI did not provide a diagram of its facility until the day of the hearing. GMI Exhibit 7.

E. GMI's Application does not attach the "detailed construction/installation diagrams" required by Rule 711.B(1)(d) and paragraph 7 of Form C-137. GMI Exhibit 5.

(i) Kieth Gordon, an expert engineer on land disposal issues, testified that CRI Exhibit 16 is the type of "detailed construction/installation diagrams" required by Rule 711.B(1)(d) and paragraph 7 of Form C-137. Tr. 563, 566 (Gordon).

(ii) CRI Exhibit 16 is the type of minimal engineering detail necessary to properly commence construction of a landfill storage cell and liner. Tr. 560-566 (Gordon).

(iii) It normal and typical for landfill applications proposing to accept wastes with the same characteristics as oilfield wastes to have a more detailed description of the design of the storage cells that what was provided by GMI with its Application. Tr. 178-79 (Corser).

F. GMI's Application does not contain a plan for management of the approved wastes as required by Rule 711.B(1)(e). GMI Exhibit 5.

(i) GMI's Application does not contain any waste screening proposals to ensure that incompatible materials are not mixed together. Tr. 571 (Gordon); Tr. 654, 661 (Martin).

(ii) GMI's Application does not contain any waste screening and operating protocols to ensure that the wastes accepted are compatible with the proposed clay liner. Tr. 571 (Gordon); Tr. 654, 661 (Martin).

(iii) GMI's Application does not have any waste screening protocols to ensure that liquid material is not placed within the landfill. Tr. 571-72 (Gordon); Tr. 654, 661 (Martin).

(iv) GMI's Application does not set forth procedures to protect the proposed 1 foot clay liner from damage by disposal equipment or the placement of debris within the landfill cell. Tr. 572 (Gordon); Tr. 661-62 (Martin).

G. GMI's four sentence recitation of the plan for spills and releases required by Rule 711.B(1)(f) and paragraph 8 of Form C-137 is not a contingency plan because it lacks basic and necessary information, such as:

(i) Emergency contact information;

(ii) Notification requirements;

(iii) A list of the emergency equipment that will maintained at the facility; and

(iv) An evacuation plan.

GMI Exhibit 5; Tr. 573 (Gordon).

H. GMI's five sentence recitation of the inspection *and* maintenance matters required by Rule 711.B(1)(g) and paragraph 9 of Form C-137 is not an inspection and maintenance plan because it lacks basic and necessary information, such as:

(i) An inspection coordinator;

(ii) The inspection frequency;

(iii) A maintenance coordinator;

(iv) A list of the equipment and environmental monitoring devices that will be maintained; and

(v) A maintenance plan.

GMI Exhibit 5; Tr. 574 (Gordon).

61. From an engineering standpoint, the Application filed by GMI is not sufficient to make a reasonable determination as to whether the proposed landfill can be operated without adversely affecting the public health or the environment. Tr. 592 (Gordon).

62. GMI's prehearing statement expressed an intent to cure the deficiencies in its Application by providing:

- a closure plan and closure costs for the proposed landfill based on "third party estimates" (Pre-hearing statement at p. 4);
- a diagram of the proposed facility outlining existing structures and the proposed disposal cells (Exhibit 2 to the Pre-hearing statement);
- changes to the proposed cap and liner for the cells (Pre-hearing statement at p. 6);
- handling methods for "[s]olids, semi-solids and sludges" (*id.*); and
- "geological and hydrological studies" presented to the New Mexico Environment Department in another proceeding, but not included as part of the filed application with the Division (*id.* at 8).

63. Because this additional information has not been the subject of the public notice and 30-day comment period required by Rule 711.B(2)(b) and (c), this supplemental information cannot be considered by the Division.

64. GMI failed to file an "acceptable application" with the Division that contains all of the requirements of Rule 711. *See* Rule 711.B(7) ("The Director may issue a permit upon a finding that an acceptable application has been filed and that the conditions of paragraphs 2 and 3 above have been met.")

65. Since the Application GMI filed with the Division, and which was presented to the public for review and comment, did not contain all of the information required by Rule 711(B)(1) and Form C-137, the Application is defective and this matter is dismissed.

GMI Failed to Meet Its Burden of Proof Under Rule 711.

66. Division Rule 711 imposes upon the applicant the burden of filing an application for public review that demonstrates operation of the proposed facility "will not adversely impact public health or the environment *and* that the facility will be in compliance with OCD rules and orders." 19.15.9.711.B(1)(m).

67. The oilfield wastes GMI proposes to accept are similar in characteristics to hazardous substances. Tr. 534, 544 (Gordon); CRI Exhibit 10 and 12; Tr. 163 (Corser); Tr. 302 (Martin).

68. GMI has provided no data on the concentrations of the various types of oilfield waste streams it proposed to accept. GMI Exhibit 5; Tr. 540 (Gordon)

69. A liner that is capable of storing hazardous wastes is necessary for the types of oilfield wastes GMI proposes to accept. Tr. 544, 550, 553-54 (Gordon).

A. Landfills that store salts typically have a single 60-mil high density polyethylene liner. Tr. 551-552, 616(Gordon); CRI Exhibit 15.

B. Landfills that store non-hazardous solid wastes typically have a double liner system comprised of an initial flexible membrane liner, a second liner of either geosynthetic or compacted clay, and a leak detection system between the two liners. TR. 551-52, 617 (Gordon); CRI Exhibit 15.

C. Landfills that store wastes hazardous in nature typically have a double geosynthetic composite liner with a leak detection system. TR. 551-52, 617 (Gordon); CRI Exhibit 15.

D. GMI's Triassic Park facility permitted by the NMED to accept hazardous wastes rests on Triassic redbeds, has a geosynthetic clay liner 1 inch thick, a high-density polyethylene second liner, a leak detection system, and a leachate collection system. Tr. 180-81 (Corser); Tr. 468 (Bonner); Tr. 553 (Gordon).

70. The one-foot clay liner proposed by GMI is much less protective than the 60-mil high density polyethylene liner that is customarily used to store salts. Tr. 554 (Gordon).

71. The testimony at the hearing also identified other problems with GMI's proposed 1 foot clay liner:

A. Since GMI's Application provides no procedures or protocol during the filling process to protect the clay liner from damage, the liner will likely lose its integrity at some point during the landfilling process. GMI Exhibit 5; Tr. 555 (Gordon).

B. The organic petrochemical and salt constituents within oilfield wastes can cause clay liners to fail. Tr. 541, 555 (Gordon); Tr. 650 (Corser).

C. GMI's Application contains no protocols, waste screening, or waste handling procedures to ensure that organic petrochemicals, salts or other damaging free compounds will not come into contact with the proposed clay liner. GMI Exhibit 5; Tr. 531 (Gordon); Tr. 654, 661 (Martin).

D. The Soil Report attached to GMI's Application indicates the soils at the site are unable to reach either the compaction or permeability standards set forth in GMI's Application. GMI Exhibit 5 at p. 10-11 (Soil Report); Tr. 556-58.

E. GMI's Application provides no quality control standards, test frequencies or third party observation methods to ensure that the proposed clay liner meets the standards proposed in the application. Tr. 559 (Gordon); Tr. 661 (Martin).

F. GMI's Application fails to provide engineered drawings or technical specifications for construction of the proposed liner. Tr. 559-60 (Gordon).

(i) It is customary for landfill applications to specify how the proposed liner is to be constructed and tested. Tr. 178 (Corser)

(ii) The application filed by GMI does not contain a description as to how the proposed clay liner is to be compacted and tested. Tr. 177 (Corser)

72. GMI's Application also provides little information on storm water control and fluid removal during landfill operations, raising concerns about fluid buildup on the proposed clay liner. GMI Exhibit 5; Tr. 568-69 (Gordon).

A. The buildup of fluids on any liner system will cause leakage. Tr. 552 (Gordon); Tr. 181 (Corser).

B. Properly designed landfills have leachate collection systems to avoid fluid buildup on liners. Tr. 552 (Gordon); CRI Exhibit 15.

C. GMI's proposed landfill cells do not have any type of leachate or fluid collection systems. GMI Exhibit 5; Tr. 560 (Gordon).

D. GMI'S Application does not address in any detail how fluids will be prevented from accumulating in the cell, or how fluids will be removed from the cell, during or after disposal operations. GMI Exhibit 5; Tr. 182 (Corser).

73. GMI's Application states that it intends to excavate cells that are *no more than* 20 feet below grade. GMI Exhibit 5 at p. 2.

74. GMI's proposed level of excavation will result in the base of the landfill cells remaining within the alluvium, creating concerns about horizontal and vertical migration of wastes. GMI Exhibit 5 at p. 2; Tr. 474-75 (Bonner); Tr. 567-68 (Gordon).

75. The height of GMI's proposed storage cells raises concerns about wind and water erosion over time, causing exposure of wastes. Neeper Report at p. 5-6 and Figures 11 and 12.

76. GMI's Application proposes to use "at least two 100 ft. monitor wells on the east (down gradient) side of our facility." GMI Exhibit 5 at p. 2.

77. GMI has not established that the two wells recently drilled at the landfarm facility are appropriately situated to monitor for contamination from GMI's proposed landfill operations. Tr. 478-79, 483 (Bonner); Tr. 532 (Gordon); Tr. 654, 657-58 (Martin).

A. The two recently drilled wells are not located on the east side of the facility. Tr. 54 (Marley); GMI Exhibit 7.

B. GMI could not establish whether its proposed monitor wells were upgradient or downgradient of the groundwater below the landfarm. Tr. 257-58 (Mansker).

C. GMI did not provide any information as to how they intend to utilize their proposed monitor wells. Tr. 531 (Gordon).

78. While GMI's Application represents that it intends to meet all WQCC requirements, the application does not indicate how this goal is to be met. Tr. 306 (Martin).

79. The only difference between NMED permitted landfills and landfills approved by the Division under Rule 711 is the source of the wastes. Tr. 302 (Martin)

80. Closure plans for NMED permitted landfills typically have much greater detail than the single paragraph submitted with GMI's Application. GMI Exhibit 5; Tr. 163 (Corser).

81. The brief closure description set forth in GMI's Application was prepare by Mr. Marley. GMI Exhibit 5; Tr. 419 (Gandy).

82. The five sentences in GMI's Application addressing closure of the facility is not a "closure plan" because it lacks necessary detail.

A. The Division testified GMI's Application does not contain sufficient information on monitoring and closure protocols. Tr. 294; 654 (Martin).

B. The Division testified it would be difficult for the Division to adequately monitor closure of the disposal cells as proposed by GMI. Tr. 331-32 (Martin).

C. The application does not describe the nature or grade of the cell cap design.

D. The application does not address how vegetative seeding of the cap will be accomplished.

E. The application does not provide protocols or quality assurances for closure.

F. The application does not address or provide for post-closure monitoring and care.

GMI Exhibit 5; Tr. 533, 576-78 (Gordon); Tr. 654, 663, 665 (Martin); Tr. 155 (Corser).

83. GMI's Application proposes to use a 2 foot soil cap to close the landfill cells. GMI Exhibit 5.

A. The available evidence indicates that soils at GMI's landfarm contain sodium concentrations that will prevent re-vegetation of the proposed cap. Neeper Report at p. 4.

B. GMI's proposal to use a 2 foot soil cap to close the landfill cells raises concerns about upward migration of salts and other wastes that will prevent successful re-vegetation of the area. Neeper Testimony and Report; Tr. 659-60 (Martin).

C. GMI could not identify at the hearing which landfarm cells contained salt contaminated wastes, and GMI's Application does not indicate whether or how the soils used to close its facility will be tested for salt contamination. GMI Exhibit 5; Tr. 418-20 (Gandy).

D. GMI's Application does not provide protocols for sampling the materials to be used to cover the landfills cells. Tr. 654, 660 (Martin).

84. From an engineering standpoint, the supplemental information provided by GMI at the hearing was not sufficient to make a reasonable determination as to whether the proposed landfill can be operated without adversely affecting the public health or the environment. Tr. 592 (Gordon).

85. The 1 foot clay liner proposed in GMI's Application is not sufficient to protect the public health and environment, or the groundwater below its facility.

86. The disposal cell design set forth in GMI's Application is not sufficient to protect the public health and environment.

87. GMI has failed to present an Application or evidence that demonstrates its proposed landfill "will not adversely impact public health or the environment" as required by Rule 711.B.(1).

Respectfully Submitted,

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CERTIFICATE OF SERVICE

I certify that on the 24th, day of June, 2005 a copy of the foregoing **Controlled Recovery Inc.'s Proposed Findings and Conclusions** were served to the following counsel of record:

Via Hand Delivery to:

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