



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

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June 14, 2005

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**Re: Case No. 13480: Application of Gandy Marley, Inc., To Modify Their Existing NMOCD Rule 711 Permit No. NM-01-019 So That They May Accept Salt-Contaminated Oil Field Wastes.**

Gentlemen:

At the end of my testimony, I stated I would provide the parties with a proposed set of permit conditions for granting an approvable permit in this case. Enclosed please find a set of proposed permit conditions I am considering.

My proposed conditions are preliminary in nature and do not necessarily reflect the final position of the Division, or of the Director. Instead, I am offering them based upon concerns I heard raised during last month's hearing. They are intended to reflect the types of conditions I would deem appropriate. Others may also be appropriate, and I am reserving an opportunity to further modify my proposal.

The hearing examiner requested all parties submit their respective proposed permit conditions, as well as proposed findings of fact and conclusions of law, to him by June 24, 2005. The enclosure is for discussion purposes only, with the hope it will assist the parties in offering permit conditions for protecting the environmental integrity of any landfarm and landfill waste disposal site the Division may approve.

Sincerely,

Ed Martin  
Environmental Engineer  
Enclosures

Witness Proposed Permit  
(For Discussion Purposes Only)

**NM-01-0019 Permit Conditions**  
**Gandy Marley, Inc.**  
**Commercial Landfarm and Landfill**  
**Sections 4, 5, 8, and 9, Township 11 South, Range 31 East**  
**NMPM, Chaves County, New Mexico**

**LANDFILL CONSTRUCTION**

1. Construction must commence on the landfill facility within one (1) year of the permit approval date. If construction does not commence within one (1) year of the permit approval date, this permit will be of no effect.
2. Landfill cells may not be constructed such that the interior of the cell is within one hundred (100) feet of the boundary of the facility. Landfill cells will be converted from existing cells currently permitted as landfarm cells. No landfill cells will be constructed outside of the current confines of the landfarm facility without specific OCD approval.
3. Landfill cells may not be constructed within twenty (20) feet of any pipeline crossing the facility. In addition, no equipment will be operated within ten (10) feet of a pipeline. All pipelines crossing the facility must have surface markers identifying the location of the pipelines.
4. The landfill cells, must be constructed according to Attachment 1, "Facility Design and Construction," submitted by Gandy Marley to the OCD subsequent to the application. Additional landfill cells will be constructed to these specifications.
5. The bottom of any landfill cell will be lined with a clay liner at least one foot thick. Clay liners will be compacted to a density of  $1 \times 10^{-7}$  cm/sec permeability. Quality control measures, consistent with industry standards, will be employed to ensure the uniform construction of the clay liner.

**LANDFILL OPERATION**

1. No debris may be placed in the landfill cell that would compromise the integrity of the clay liner.
2. As the landfill cell fills, the contaminated material will be covered, progressively, with a 1 foot thick clay cap, compacted to  $1 \times 10^{-7}$  cm/sec permeability, and a minimum of 2 feet of clean soil.
3. Soils used as cover material will be sampled and analyzed for TPH, BTEX, and chlorides. A report of such sampling and analysis will be submitted to the NMOCD prior to using such soil as landfill cover.
4. The top of the clean soil cover will be seeded with indigenous plants and watered to promote plant growth.

5. No materials may be placed in the landfill that are chemically incompatible with each other.
6. Any precipitation that accumulates in the landfill cell will be removed within 24 hours. Upon removal, such accumulated water will be sampled for TPH, BTEX and Chlorides. Records of such sampling will be maintained on site and available for NMOCD inspection.
7. No more than 10 uncovered acres may be used for landfill disposal at any given time.
8. Vadose zone monitoring will be done as follows:
  - a. On top of the down-dip landfill berm, two (2) boreholes will be placed. Each borehole will be 40 feet below the natural grade, and the bottom 20 feet will be screened. The remainder of the borehole will be grouted with slurry, containing 3-5% bentonite, to the surface.
  - b. These boreholes will be monitored by checking quarterly for existing fluids. Inspection records will be maintained for NMOCD review.
  - c. If fluids appear in these vadose zone-monitoring wells, such fluids will be sampled for TPH, BTEX, and chlorides, and the NMOCD will be notified. Sample results will be forwarded to the NMOCD.
9. Landfarmed petroleum-contaminated soils may be used as daily cover within the landfill when a laboratory measurement of TPH is less than or equal to 1500 ppm, BTEX is less than or equal to 50 ppm, and benzene is less than or equal to 10 ppm. Comprehensive records of the laboratory analyses and the sampling locations must be maintained at the facility for OCD review.

### **LANDFARM OPERATION**

1. Treatment of petroleum-contaminated soils, exempt from RCRA Subtitle C regulations and that do not contain Naturally Occurring Radioactive Material regulated pursuant to 20 NMAC 3.1 Subpart 1403 (NORM), may be done inside the landfarm cells. Salt-contaminated wastes may not be placed in the landfarm cells.
2. All petroleum-contaminated soils received at the facility must be spread for treatment within 72 hours of receipt.
3. Soils must be spread on the surface in lifts of six inches or less.
4. Soils must be disked or turned a minimum of one time every two weeks (biweekly) to enhance biodegradation of contaminants.

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5. The soil samples must be analyzed using EPA-approved methods.
6. Moisture may be added to landfarm cells to enhance biodegradation of contaminants and to control blowing dust.
7. There may be no ponding, pooling or run-off of water allowed. Any ponding of precipitation will be removed within twenty-four (24) hours of discovery.
8. The portion of the facility containing contaminated soils must be bermed to prevent run-off and run-on. A perimeter berm must be constructed and maintained such that it is capable of containing precipitation from a one hundred year flood for the specific region.
9. Contaminated soils may not be placed within one hundred (100) feet of the boundary of the facility.
10. Contaminated soils may not be placed within twenty (20) feet of any pipelines crossing the landfarm. In addition, no equipment may be operated within ten (10) feet of a pipeline. All pipelines crossing the facility must have surface markers identifying the location of the pipelines.
11. The OCD Santa Fe and Hobbs offices must be notified within 24 hours of discovery of a spill or leak.
12. Successive lifts of contaminated soils may not be spread until a laboratory measurement of total petroleum hydrocarbons (TPH) in the previous lift is less than 2500 parts per million (ppm), the sum of all aromatic hydrocarbons (BTEX) is less than 50 ppm, and benzene is less than 10 ppm. Comprehensive records of the laboratory analyses and the sampling locations must be maintained at the facility. Authorization from the OCD must be obtained prior to application of successive lifts and/or removal of remediated soils.
13. Application of microbes or fertilizers to enhance bioremediation is permitted only with prior approval from the OCD Santa Fe office. Requests for approval of such application must include the location of the area designated for the program, the composition of additives, and the method, amount and frequency of application.
14. Any design changes to the landfarm must be submitted to the OCD Santa Fe office for approval.
15. Landfarm inspection and maintenance must be conducted on at least a bi-weekly basis and immediately following each consequential rainstorm or windstorm. The OCD Santa Fe office must be notified within 48 hours if any defect is noted. Repairs must be made as soon as possible. If the defect will jeopardize the integrity of the landfarm, additional wastes may not be placed in the landfarm until repairs have been completed.
16. A treatment zone, not to exceed three (3) feet beneath the landfarm native ground surface, will be monitored. A minimum of two random soil samples will be taken from each

individual landfarm cell quarterly. The samples will be taken at two (2) to three (3) feet below the native ground surface.

- a. The soil samples will be analyzed quarterly using EPA-approved methods for total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX). The soil samples will be analyzed annually for major cations and anions and Water Quality Control Commission (WQCC) metals.
- b. Reports of the analyses shown in item 9 above will be forwarded to the OCD Santa Fe office no later than April 30, July 31, October 31, and January 31 of each year that the facility is in operation, and also maintained on site for OCD review. Failure to adhere to the scheduled sampling regimen will result in the cessation of operations at the landfarm until sampling is brought up to date. In the event that the operator fails to adhere to the sampling and reporting schedule, the operator will accept no further material at the landfarm for 90 days after sampling and reporting are brought up to date.
- c. After the soil samples are obtained, the boreholes will be filled with an impermeable material such as a cement slurry containing 3% - 5% bentonite.

#### **TANK BOTTOM ACCEPTANCE**

1. For worker protection all loads of tank bottoms must be pre-screened for Hydrogen Sulfide (H<sub>2</sub>S) before they are unloaded from the truck. Records of H<sub>2</sub>S screening must be maintained for OCD review.
2. All tank bottoms must be accepted into the receiving tank for settling prior to solidification and landfarm application.
3. The concrete mixing impoundment may be used for the solidification of tank bottoms received by the facility. Adequate freeboard must be maintained to prevent any overtopping or slop over of material. OCD-approved remediated soil may be mixed with the tank bottoms to stabilize the material. Material received at the impoundment must be missed and stabilized immediately.
4. The concrete mixing impoundment must be inspected inside and outside bi-weekly for overall integrity. Records of such inspections must be made available to the OCD upon request.
5. Loads of tank bottoms that contain miscellaneous hydrocarbons exceeding 2/10 of 1% of the total volume of the tank bottoms must be accompanied by an OCD-approved Form C-117-A from the well operator. Accumulations of miscellaneous hydrocarbons must be reported monthly on Form C-118.

#### **OVERALL FACILITY OPERATION**

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1. The facility must be fenced and have a sign at the entrance. The sign must be legible from at least fifty (50) feet and contain the following information: a) name of the facility; b) permit number; c) location by section, township and range; and d) emergency phone number.
2. Disposal may occur only when an attendant is on duty. The facility must be secured to prevent unauthorized disposal when no attendant is present.
3. The facility must be maintained such that there will be no contaminated storm water runoff beyond the boundaries of the facility.
4. The OCD Santa Fe office must be notified prior to the construction of a new cell. Gandy Marley must submit the design and placement plan for the cell to the OCD Santa Fe office.
5. The OCD must be notified when final closure of a cell has been attained.
6. The landfill cells may not contain any free liquid. Any ponding of precipitation must be removed within 24 hours of discovery.
7. Landfill cell inspection and maintenance must be conducted at least daily and immediately following each consequential rainstorm or windstorm. If any defect is noted, repairs must be made as soon as possible. If the defect will jeopardize the integrity of the landfill, the OCD Hobbs office must be notified within 24 hours and the landfill may not be operated until repairs have been completed. Records of such inspections must be made available to the OCD upon request.
8. Cover material must be applied to the working face of the landfill, as necessary, to control odors, vectors, and blowing litter.
9. Litter that may have blown out of the landfill must be controlled. Stray litter including trapped litter in vegetation or fencing, must be picked up and returned to the landfill cell.
10. Within 24 hours of receiving notification from the OCD that an objectionable odor has been detected or reported, the facility must implement the following response procedure:
  - a. log date and approximate time of notice that an odor exists;
  - b. log investigative steps taken, including date and time, and conclusions reached; and
  - c. log actions taken to alleviate the odor, which may include covering, landfarming, adjusting chemical treatment, air sparging or other similar responses.

A copy of the log, signed and dated by the facility manager, must be maintained for OCD review.

11. Any design changes to the surface waste management facility must be submitted to the OCD Santa Fe office for approval.
12. The OCD must be notified prior to the installation of any pipelines or wells or other construction within the boundaries of the facility.
13. In the event that H<sup>2</sup>S (hydrogen sulfide) gas is encountered at the facility, the NMOCD Hobbs district office will be notified. An emergency contact list will be maintained at the facility so that employees are able to quickly notify proper authorities should H<sup>2</sup>S occur. A wind direction indicator will be placed near the facility solidification unit.
14. In the event that any contaminants leave the confines of the facility, the NMOCD Hobbs district office will be notified.

#### **REPORTING AND RECORD KEEPING**

1. Gandy Marley, Inc. must notify the OCD Santa Fe and Hobbs offices within 24 hours of any fire, break, leak, spill, or any other circumstance that could constitute a hazard or contamination in accordance with OCD Rule 116.
2. Records of facility inspections and maintenance must be kept and maintained for OCD review.
3. Records of the landfarm soil laboratory analyses and the sampling locations must be maintained at the facility for OCD review.
4. Gandy Marley, Inc. must maintain, for at least 5 years after facility closure, inspection records that include the following information concerning the waste disposed of at the facility:
  - a. generator of the waste
  - b. volume and type of waste
  - c. date of disposal
  - d. name of trucking company that delivered the waste
  - e. location of disposal (i.e., cell number, landfill cell, etc.)

**WASTE ACCEPTANCE CRITERIA**

1. The facility is authorized to accept only:
  - a. Oilfield wastes that are exempt from RCRA Subtitle C regulations and that do not contain Naturally Occurring Radioactive Material regulated pursuant to 20 NMAC 3.1 Subpart 1403 (NORM). All loads of these wastes other than wastes returned from the well bore in the normal course of well operations, such as produced water and spent treating fluids, received at the facility shall be accompanied by a "Generator Certificate of Waste Status" signed by the generator.
  - b. "Non-hazardous" non-exempt oilfield wastes that do not contain NORM regulated pursuant to 20 NMAC 3.1 Subpart 1403. These wastes may be accepted on a case-by-case basis after a hazardous waste determination is made. Samples must be obtained from the wastes prior to removal from the generator's facility and without dilution in accordance with EPA SW-846 sampling procedures. All "non-hazardous" non-exempt wastes received at the facility must be accompanied by:
    - i. an approved OCD Form C-138 "Request For Approval To Accept Solid Waste."
    - ii. a "Generator Certificate of Waste Status" signed by the generator.
    - iii. a verification of waste status issued by the appropriate agency, for wastes generated outside OCD jurisdiction. The agency verification is based on specific information on the subject waste submitted by the generator and demonstrating the exempt or non-hazardous classification of the waste.
  - c. Non-oilfield wastes that are non-hazardous if ordered by the Department of Public Safety in a public health emergency. OCD approval must be obtained prior to accepting the wastes.
2. At no time may any OCD-permitted surface waste management facility accept wastes that are hazardous by either listing or characteristic testing.
3. Waste containing mercaptans (Thiols) must be treated to eliminate odor prior to receipt into the facility.
4. No free liquids may be accepted into the landfill. Materials that may be accepted into the landfill facility must pass a paint filter test by EPA Method 9095A prior to disposal.
5. Petroleum contaminated soils may be accepted for disposal or cover material without treatment by landfarming if the TPH is less than 1500 parts per million (ppm), the sum of all BTEX is less than 50 ppm, and benzene is less than 10 ppm. Materials received that

are not conducive to landfarming because of physical properties that make it impractical to till, should be placed in the landfill cells.

6. The transporter of any wastes to the facility must supply a certification that wastes delivered are those wastes received from the generator and that no additional materials have been added.

### **FINANCIAL ASSURANCE**

Financial assurance in the amount of **\$82,917** in the form of a cash bond is currently in place for the commercial surface waste management facility. The NMOCD will monitor the continuous closure of the landfill cells, during the operations phase of the facility, to ensure that no increase in the financial assurance will be necessary for the current operation. However, OCD has determined that post-closure monitoring for the landfill portion of the facility will be necessary for 40 years after closure of the site. OCD has estimated that annual sampling of the groundwater monitor wells and checking the vadose monitor wells at the site will cost approximately \$500 per year. Gandy Marley will be required to increase their financial assurance to **\$102,917**.

### **NMOCD INSPECTION**

The facility is subject to inspection by the OCD. The conditions of this permit and the facility will be reviewed no later than five (5) years from the date of this approval. In addition, the closure cost estimate will be reviewed according to prices and remedial work estimates at the time of review. The financial assurance may be adjusted to incorporate any closure cost changes.

### **CLOSURE**

1. The OCD Santa Fe and Hobbs offices must be notified when operation of the facility is to be discontinued for a period in excess of six (6) months or when the facility is to be dismantled. Within six (6) months after discontinuing use or within 30 days of deciding to dismantle the facility, the operator must submit a closure plan to the OCD Santa Fe office for approval. The operator must complete cleanup of constructed facilities and restoration of the facility site within six (6) months of receiving the closure plan approval, unless the Director grants an extension of time.
2. The closure plan to be submitted must include the following procedures:
  - a. When the facility is to be closed no new material may be accepted.
  - b. The landfill cells must be closed according to an approved closure plan that includes a post closure care period. This plan must include institutional controls, such as deed restrictions and signs that will be maintained after closure.

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- c. The area must be contoured, seeded with a native seed mix and allowed to return to its natural state. If the landowner desires to keep existing structures, berms, and fences for future alternative uses the structures may be left in place.
- d. Closure must be pursuant to all OCD requirements in effect at the time of closure, and any other applicable local, state and/or federal regulations.
- e. Landfarm cells will be remediated until they meet the OCD standards in effect at the time of closure.
- f. The soils beneath the landfarm cells will be characterized as to total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) content in order to determine potential migration of contamination beneath the cell.
- g. Contaminated soils in the landfarm cells exceeding OCD closure standards for the site will be removed or remediated.

**CERTIFICATION**

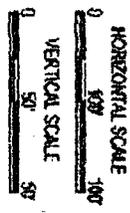
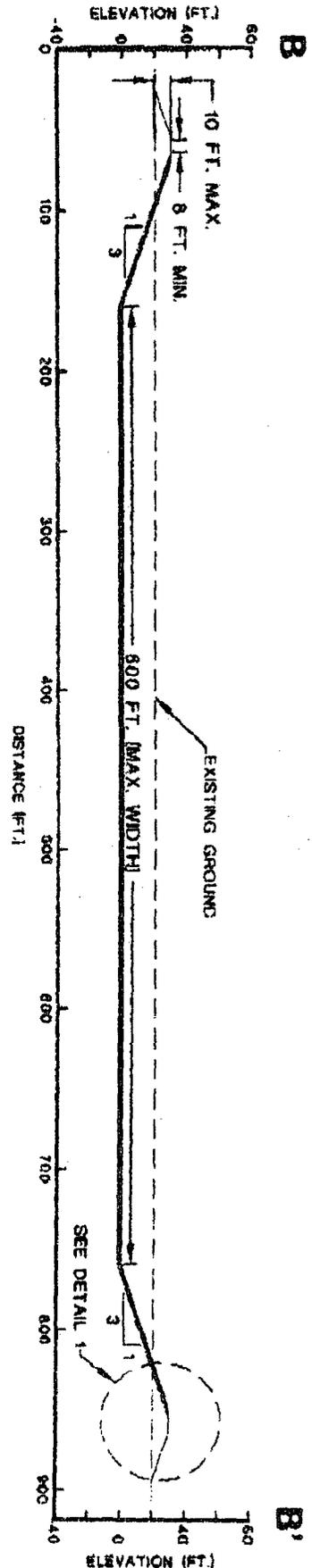
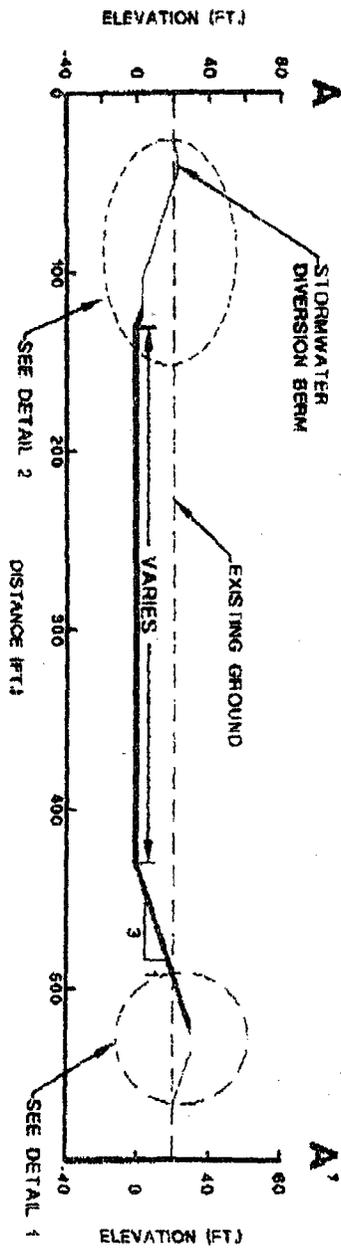
Gandy Marley, Inc. by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. Gandy Marley, Inc. further agrees to comply with all applicable conditions of all OCD rules including, but not limited to, 19 NMAC 15.9.711 Gandy Marley, Inc. further acknowledges that the Division for good cause shown as necessary to protect fresh water, public health and the environment may change these conditions and requirements of this permit administratively.

Accepted:

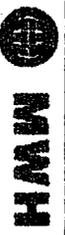
GANDY MARLEY, INC.

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_





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**TYPICAL CELL CROSS-SECTIONS**

