

NM1 - _____ 53 _____

**Proposal #1
Landfarm
Application
and
Withdraw Letter**

2009



RECEIVED

2009 JUL 27 PM 1 20

Project 03037-0005

July 24, 2009

Mr. Ed Hansen
New Mexico Oil Conservation District
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
(505) 476-3489

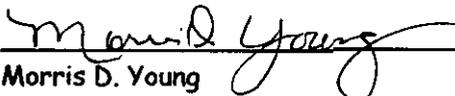
RE: APPLICATION FOR SURFACE WASTE MANAGEMENT FACILITY FOR LAND FARM #4, OWNED AND OPERATED BY ENVIROTECH INC.

Dear Mr. Hansen:

Envirotech Inc, respectfully asks to withdraw our previous application for approval of a new Surface Waste Management Facility for Land Farm #4 dated May 1, 2009. Mr. Brad Jones requested we formally withdraw our application of this date and begin anew.

Thank you for your consideration in this matter. If you have any questions or require additional information, please do not hesitate to contact our office at (505) 632-0615.

Respectfully submitted,
Envirotech, Inc.



Morris D. Young
President
myoung@envirotech-inc.com

AEP/Environmental/other/LandFarm/Recissionletter-7-24-09A



RECEIVED

May 1, 2009

2009 Project No. 03037-015

Mr. Ed Hansen
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Phone: (505) 476-3489

**RE: APPLICATION FOR SURFACE WASTE MANAGEMENT FACILITY FOR LANDFARM #4,
OWNED AND OPERATED BY ENVIROTECH, INC.**

Dear Mr. Hansen,

Please find enclosed, Form C-137, *Application for Surface Waste Management Facility*, for Landfarm #4, owned and operated by Envirotech, Inc., located in Sections, 6, 7, and 8, Township 26N, Range 10W, San Juan County, New Mexico.

Please note on the *Vicinity Map*, included in the application, that the "Great Northern Road" crosses the proposed Landfarm #4 area. This is an Ancestral Puebloan road that connects the Chaco and Salmon Ruins. This road was surveyed and marked by the San Juan County Museum Association and by Mr. Jim Copeland and Ms. Peggy Gardy, Bureau of Land Management (BLM) archeologists. We have designated a 400 foot buffer area to protect the road from any disturbance associated with landfarm operations. This buffer area consists of 200 feet on each side of the road. The buffer area will be bermed and marked to prevent any disturbance.

If you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully Submitted,
ENVIROTECH, INC.

A handwritten signature in cursive script that reads 'Morris D. Young'.

Morris D. Young, President

Enclosure: Form C-137, Application for Surface Waste Management Facility

Cc: Project File No. 03037

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources



Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-137
Revised March 1, 2007
Submit 1 Copy to Santa Fe Office

APPLICATION FOR SURFACE WASTE MANAGEMENT FACILITY

A meeting should be scheduled with the Division's Santa Fe office Environmental Bureau prior to pursuing an application for a surface waste management facility in order to determine if the proposed location is capable of satisfying the siting requirements of Subsections A and B of 19.15.36.13 NMAC for consideration of an application submittal.

1. Application: New Modification Renewal
2. Type: Evaporation Injection Treating Plant Landfill Landfarm Other
3. Facility Status: Commercial Centralized
4. Operator: Envirotech, Inc.
- Address: 5796 US HWY 64, Farmington, NM 87401
- Contact Person: Morris D. Young Phone: (505) 632-0615
5. Location: _____/4 _____/4 Section 6, 7, 8 Township 26N Range 10W
6. Is this an existing facility? Yes No If yes, provide permit number _____
7. Attach the names and addresses of the applicant and principal officers and owners of 25 percent or more of the applicant. Specify the office held by each officer and identify the individual(s) primary responsible for overseeing management of the facility.

Name and address of applicant: **Mr. Morris D. Young, Owner**
Envirotech, Inc.
5796 U.S. HWY 64
Farmington, NM 87401

Name and address of facility manager: **Mr. Morris D. Young, Owner**
Envirotech, Inc.
5796 U.S. HWY 64
Farmington, NM 87401

No other parties own 25% or more of the applicant.

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

See Attachment #8, Vicinity Map

9. Attach the names and addresses of the surface owners of the real property on which the surface waste management facility is sited and surface owners of the real property within one mile of the site's perimeter.

The surface owners of the real property and the real property within one mile of the site's perimeter are:

**Mr. Morris D. Young
Envirotech, Inc.
5796 U.S. HWY 64
Farmington, NM 87401**

**U.S. Bureau of Land Management
1235 La Plata HWY, Suite A
Farmington, NM 87401**

**Larry Groen Trust
c/o Larry Groen
29 CR 5267
Bloomfield, NM 87413**

10. Attach a description of the surface waste management facility with a diagram indicating the location of fences and cattle guards, and detailed construction/installation diagrams of pits, liners, dikes, piping, sprayers, tanks, roads, fences, gates, berms, pipelines crossing the surface waste management facility, buildings and chemical storage areas.

See Attachment #10, Facility Diagram and Description

11. Attach 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.

Not Applicable (this is a landfarm and does not include surface impoundments)

12. Attach a plan for management of approved oil field wastes that complies with the applicable requirements contained in 19.15.36.13, 19.15.36.14, 19.15.36.15 and 19.15.36.17 NMAC.

See Attachment #12, Plan for Management of Approved Oil Field Wastes

13. Attach an inspection and maintenance plan that complies with the requirements contained in Subsection L of 19.15.36.13 NMAC.

See Attachment #13, Inspection and Maintenance Plan

14. Attach 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.

See Attachment #14, Hydrogen Sulfide Prevention and Contingency Plan

15. Attach a closure and post closure plan, including a responsible third party contractor's cost estimate, sufficient to close the surface waste management facility in a manner that will protect fresh water, public health, safety and the environment (the closure and post closure plan shall comply with the requirements contained in Subsection D of 19.15.36.18 NMAC).

See Attachment #15, Closure and Post Closure Plan

16. Attach a contingency plan that complies with the requirements of Subsection N of 19.15.36.13 NMAC and with NMSA 1978, Sections 12-12-1 through 12-12-30, as amended (the Emergency Management Act).

See Attachment #16, Emergency Contingency Plan

17. Attach a plan to control run-on water onto the site and run-off water from the site that complies with the requirements of Subsection M of 19.15.36.13 NMAC.

See Attachment #17, Plan to Control Water Run-On and Run-Off

18. In the case of an application to permit a new or expanded landfill, attach a leachate management plan that describes the anticipated amount of leachate that will be generated and the leachate's handling, storage, treatment and disposal, including final post closure options.

Not Applicable (this is a landfarm, not a landfill)

19. In the case of an application to permit a new or expanded landfill, attach a gas safety management plan that complies with the requirements of Subsection O of 19.15.36.13 NMAC

Not Applicable (this is a landfarm, not a landfill)

20. Attach a best management practice plan to ensure protection of fresh water, public health, safety and the environment.

See Attachment 20, Best Management Practice Plan

21. Attach a demonstration of compliance with the siting requirements of Subsections A and B of 19.15.36.13 NMAC.

See Attachment 21, Demonstration of Compliance with Siting Requirements of Subsections A and B of 19.15.36.13 NMAC

22. Attach geological/hydrological data including:

(a) a map showing names and location of streams, springs or other watercourses, and water wells within one mile of the site; **Not Applicable ; there are no streams, springs or other watercourses, or water wells within one mile of the site.**

(b) laboratory analyses, performed by an independent commercial laboratory, for major cations and anions; benzene, toluene, ethyl benzene and xylenes (BTEX); RCRA metals; and total dissolved solids (TDS) of ground water samples of the shallowest fresh water aquifer beneath the proposed site; **Not applicable; The first aquifer is the Ojo Amarillo formation located approximately 1,250 feet below ground surface with total dissolved solids (TDS) of approximately 650 milligrams per liter. TDS and depth information are based on San Juan Basin, New Mexico, Hydrological Report No. 6, New Mexico Institute of Mining and Technology, 1983. Well data is from the nearest water well located at the Mustang Convenience Store approximately 2.5 miles north of the north boundary of the site in Section 33, Township 27N, Range 11W, San Juan County, New Mexico.**

(c) depth to, formation name, type and thickness of the shallowest fresh water aquifer; **See (b) above.**

(d) soil types beneath the proposed surface waste management facility, including a lithologic description of soil and rock members from ground surface down to the top of the shallowest fresh water aquifer; **See Attachment 22, Geological/Hydrological Data, Soil Boring Lithology Logs.**

(e) geologic cross-sections; **See Attachment 22, Geological/Hydrological Data, Soil Boring Lithology Logs.**

(f) potentiometric maps for the shallowest fresh water aquifer; **Not Applicable and**

(g) porosity, permeability, conductivity, compaction ratios and swelling characteristics for the sediments on which the contaminated soils will be placed; **See Attachment 22, Geological/Hydrological Data, GEOMAT Laboratory Report.**

See Attachment 22, Geological/Hydrological Data

23. In the case of an existing surface waste management facility applying for a minor modification, describe the proposed change and identify information that has changed from the last C-137 filing.

Not Applicable

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

Additional information will be provided to the division upon request.

25. CERTIFICATION

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

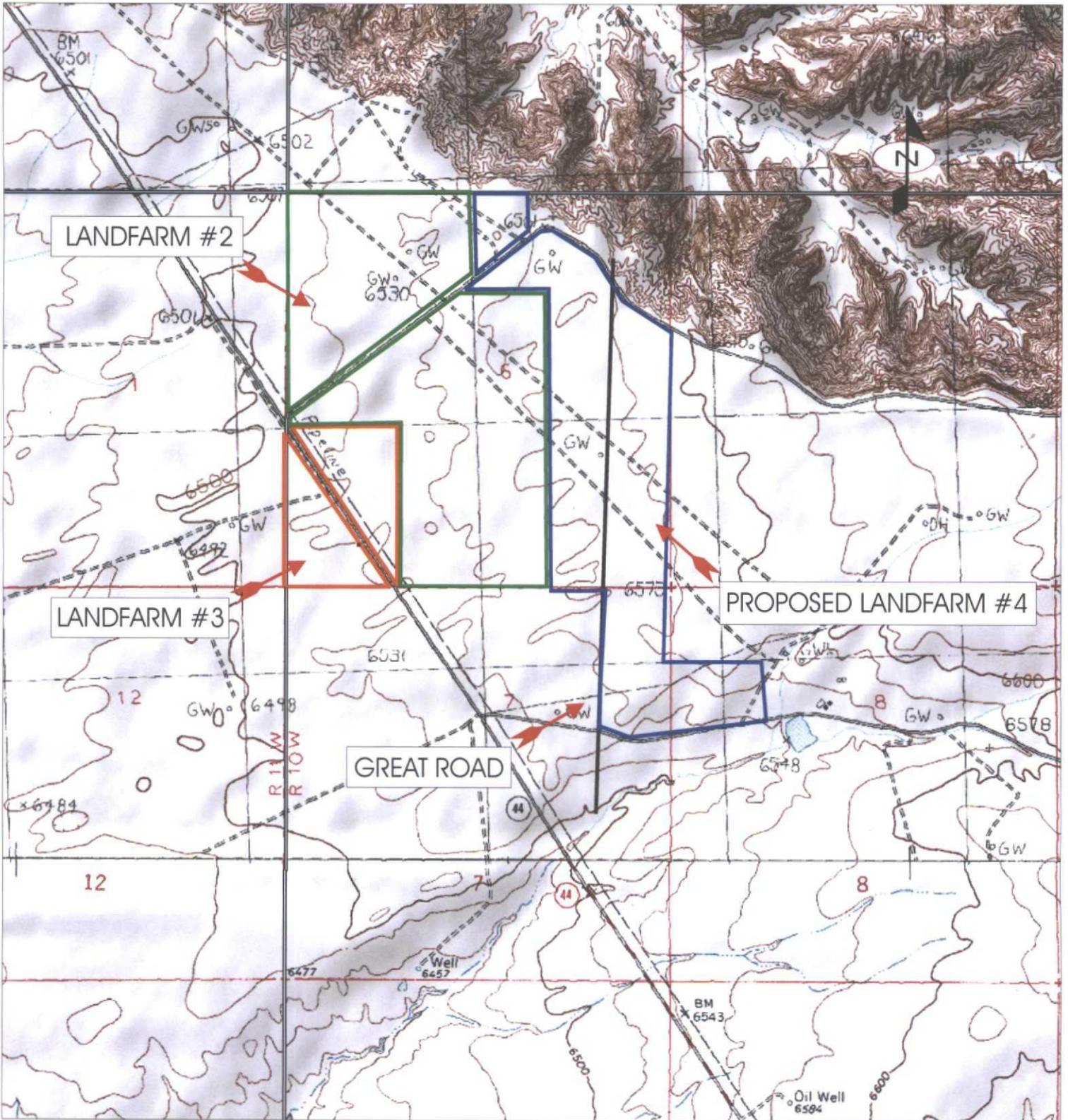
Name: Morris D. Young

Title: President

Signature: Morris D. Young

Date: 5/1/2009

E-mail Address: myoung@envirotech-inc.com



Source: East Fork Kutz Canyon and Huerfano Trading Post NW, New Mexico, 7.5-Minute U.S.G.S. Topographic Quadrangle Maps
 Scale: 1:24,000 1" = 2000'

<p>Envirotech, Inc. Proposed Landfarm #4 San Juan County, New Mexico</p>	<p>ENVIROTECH INC. ENVIRONMENTAL SCIENTISTS & ENGINEERS 5796 U.S. HIGHWAY 64 FARMINGTON, NEW MEXICO 87401 PHONE (505) 632-0615</p>	<p>Vicinity Map</p>	
<p>Date Drawn: 01/22/08</p>		<p>Attachment 8</p>	
		<p>DRAWN BY: Juli Thompson</p>	<p>PROJECT MANAGER: Kyle P. Kerr</p>

Attachment # 12: Plan for Management of Approved Oil Field Wastes

This plan complies with the applicable requirements contained in 19.15.36.13, 19.15.36.14, 19.15.36.15 and 19.15.36.17 NMAC.

Depth to groundwater at Landfarm #4 is greater than 100 feet. Landfarm #4 will accept oil field wastes such as soil and/or drill cuttings in accordance with Subsection A of 19.15.36.13 NMAC and Subsection A of 19.15.36.15 NMAC.

The location of Landfarm #4 conforms with the requirements listed in Subsection B of 19.15.36.13 NMAC.

Landfarm #4 consists of 189 acres in accordance with Subsection C of 19.15.36.13 NMAC.

The operator will require all motor vehicle transporters, transporting any oil field wastes accepted at Landfarm #4, to possess a form C-133, Authorization to Move Liquid Waste, approved by the division in accordance with Subsection D of 19.15.36.13 NMAC.

Landfarm #4 will not accept oil field waste containing free liquids. The operator will screen waste in accordance with Subsection E of 19.15.36.13 NMAC, to determine conformance.

Landfarm #4 will accept only exempt or non-hazardous waste, except in an emergency as ordered by the department of public safety in accordance with Paragraph (3) of Subsection F of 19.15.36.13 NMAC. Landfarm #4 will not accept hazardous waste. The operator will require and maintain completed Form C-138 for receipt of wastes in accordance with Subsection F of 19.15.36.13 NMAC.

The operator of the Landfarm #4 will maintain records in accordance with Subsection G of 19.15.36.13 NMAC.

Disposal activities at Landfarm #4 will be performed in accordance with Subsection H of 19.15.36.13 NMAC. Landfarm #4 will be secured to prevent unauthorized disposal.

Because there are no tanks, pits, or ponds at Landfarm #4, operations are not hazardous to migratory birds. Therefore, the operator hereby applies for an exception from screening, netting, or covering, in accordance with Subsection I of 19.15.36.13 NMAC. Landfarm #4 will be fenced with four-wire barbed wire and locking steel gates to prevent unlawful entry.

Landfarm #4 will be signed in accordance with Subsection J of 19.15.36.13 NMAC.

The Landfarm #4 operator will comply with the spill reporting and corrective action provisions of 19.15.29 or 19.15.30 NMAC.

The Landfarm #4 operator maintains an inspection and maintenance plan, as applicable to operations, in accordance with Subsection L of 19.15.36.13 NMAC

The Landfarm #4 operator maintains plan to control run-on and run-off water in accordance with Subsection M of 19.15.36.13 NMAC

The Landfarm #4 operator will maintain a contingency plan and notify the division of amendments in accordance with Subsection N of 19.15.36.13 NMAC. The contingency plan is available for inspection at Envirotech's Landfarm office and at the operator's main office, located at 5796 US Hwy 64, Farmington, NM.

Background testing will be performed at Landfarm #4 in accordance with Subsection B of 19.15.36.15 NMAC.

Oil field waste treatment operations and activities at Landfarm #4 will be conducted, recorded, and reported in accordance with Subsection C of 19.15.36.15 NMAC.

The Landfarm #4 operator will conduct, record, and report treatment zone monitoring in accordance with Subsection D of 19.15.36.15 NMAC.

The Landfarm #4 operator will conduct, record, and report vadose zone monitoring in accordance with Subsection E of 19.15.36.15 NMAC. In the event of a confirmed release, the operator will notify the division, conduct a re-sampling event, and provide the results and a response action plan to the division in accordance with Paragraph 5 of Subsection E 19.15.36.15 NMAC.

The Landfarm #4 operator will conduct treatment zone closure, as necessary, in accordance with Subsection F of 19.15.36.15 NMAC.

When treatment zone closure performance standards are achieved in accordance with Subsection F of 19.15.36.15 NMAC, the Landfarm #4 operator will disposition the treated soils in accordance with Subsection G of 19.15.36.15 NMAC.

If closure performance standards are not met within five years or as extended by the division, the Landfarm #4 operator will perform one of the following:

- Remove contaminated soils from the landfarm cell and dispose of at a division-permitted landfill, or reuse or recycle in a manner approved by the division in accordance with Paragraph 2 of Subsection G of 19.15.36.15 NMAC.
- If appropriate, the operator may request approval of an alternative soil closure standard in accordance with Paragraph 4 of Subsection G of 19.15.36.15 NMAC.
- Use an environmentally acceptable bioremediation endpoint approach to landfarm management in accordance with Subsection H of 19.15.36.15 NMAC.

Attachment #13: Inspection and Maintenance Plan

The Landfarm #4 operator maintains an inspection and maintenance plan that includes the following, as applicable, in accordance with Subsection L of 19.15.36.13 NMAC:

(1) The operator will perform monthly inspection of leak detection sumps, including sampling if fluids are present. The operator will provide the following to the division as applicable:

- Analytical results of fluid samples
- Records of maintenance including:
 - Inspection date(s)
 - Inspector's name(s)
 - Status of the leak detection system(s)

(2) The operator will perform semi-annual inspection and sampling of monitoring wells as required. The operator will provide the following to the division as applicable:

- Analytical results of ground water samples
- Records of maintenance including:
 - Inspection date(s)
 - Inspector's name(s)
 - Status of ground water monitoring well(s)

(3) The operator will perform quarterly inspections of the berms. Additionally, the operator will inspect the berms after a major rainfall or windstorm. The operator will construct and maintain berms in such a manner as to prevent erosion.

Attachment #14: Hydrogen Sulfide Prevention and Contingency Plan

The Landfarm #4 contingency plan will comply with the applicable requirements contained in 19.15.11.9 NMAC.

All Landfarm #4 personnel receive 40-hour hazwoper training, which includes hydrogen sulfide hazards, detection, personal protection, and contingency procedures.

The Landfarm #4 operator will use representative sampling and/or process knowledge to reasonably represent hydrogen sulfide concentrations within the facility in accordance with 19.15.11.8 NMAC, to determine hydrogen sulfide concentrations.

If any changes in the operation of the facility could potentially increase the hydrogen sulfide concentrations within the facility, the operator will conduct new sampling and/or process knowledge activities to make a new determination.

The Landfarm #4 operator will notify the division upon a release of hydrogen sulfide, requiring activation of the hydrogen sulfide contingency plan as soon as possible, but no more than four hours after plan activation, recognizing that a prompt response should supersede notification. The operator will submit a full report of the incident to the division on Form C-141 no later than fifteen (15) days following the release.

Attachment #15: Closure and Post Closure Plan

This plan complies with the applicable requirements contained in 10.15.36.18 NMAC.

The Landfarm #4 operator will notify the division at least 60 days prior to cessation of operations at Landfarm #4 and provide a proposed schedule for closure in accordance with Paragraph 1, Subsection A, 19.15.36.18 NMAC.

The Landfarm #4 operator will proceed with closure in accordance with the approved closure plan and schedule and modifications or additional requirements the division imposes, if any. During closure operations the operator will maintain Landfarm #4 in accordance with Paragraph 5, Subsection A, 19.15.36.18 NMAC.

When closure is complete, the Landfarm #4 operator will perform remediation, backfilling, and re-vegetation in accordance with Paragraph 6, Subsection A, 19.15.36.18 NMAC, and Paragraph 4, Subsection D, 19.15.36.18 NMAC.

Attachment #16: Emergency Contingency Plan

This contingency plan complies with the applicable requirements contained in Subsection N of 19.15.36.13 NMAC.

1. In the event of a fire, explosion, or release to air, soil, surface water, or groundwater, of contaminants or oil field waste that could threaten fresh water, public health, safety or the environment, Landfarm #4 employees will implement the following steps:
 - a. Stop all activities, assess the situation and determine if emergency steps are needed.
 - b. Communicate to facility personnel, any necessary emergency response agencies, and management via the cellular phones and air horns, that an emergency condition exists. In case of after hours, contact 911 for appropriate dispatch of emergency services. Management will then notify NMOCD and all non-emergency agencies as needed.
 - c. If a fire has occurred, every effort shall be made to contain it using the proper fire extinguishers and shovels as appropriate.
 - d. In the case of a spill, every effort shall be made to contain the spill using shovels, equipment and absorbent materials.
 - e. All activities will follow the most current NMOCD regulations.
2. All local police department, fire department, hospitals, and state and local emergency response teams have been notified of the location of the Landfarm and the nature of business taking place at this location. If contractors are needed for emergency response purposes the Landfarm will rely on Envirotech's 24 Hour Emergency Response Team.
3. The emergency coordinator for the Landfarm is:

April Pohl
5796 US Hwy 64
Farmington, NM 87401
505-320-6431 Cell
505-632-0647 Home
505-632-0615 Work

(1) List of emergency equipment on site:

1. 20 lb Fire Extinguishers (placed in office & equipment);
2. 55 gallon drum Emergency Spill Kit (located in office);
3. 150 DB Air Horns (located in office & equipment);

4. First Aid Kit;
 5. Cellular phones – in possession of all employees.
4. In the event of an emergency, evacuation will proceed as follows:
- a. Employee initiating evacuation will sound air horn;
 - b. All employees will proceed to the appropriate designated meeting area as follows:
 - i. Primary - Landfarm # 2 Main Gate
 - ii. Secondary - Intersection of Highway 550 and Angel Peak Road
 - iii. Alternate - Upwind;
 - c. Employees will complete evacuation by traveling to Highway 550 and North if it is safe to do so;
 - d. Meeting location once evacuation is completed will be the Mustang convenience store north of the landfarm in Hilltop, New Mexico.
5. Proposed Landfarm #4 will be permitted to accept hydrocarbon contaminated soil and sludge. Should an emergency occur, information will be available at both the Landfarm office as well as the main office, including documentation of where all material originated from, who transported it, and where the material was placed. This information will be readily available and would aid in an investigation. Sludge authorized for acceptance is placed directly into a concrete containment, where it is blended to promote stability of the material. Soil to be remediated is placed directly into the grid it has been assigned, all cells are surrounded by a soil containment berm. Corrections to operation procedures will be made on a case by case basis when necessary.
6. Copies of this contingency plan will be available at Envirotech's main office, located at 5796 US Hwy 64, Farmington, New Mexico. An additional copy of this contingency plan will be available at the Landfarm office. Should an emergency occur at the Landfarm, a copy of this contingency plan will be available to any emergency response agencies that are needed to respond.
7. The contingency plan will be amended as necessary and as soon as possible, but no later than five working days after any of the following events take place:
- a. The surface waste management facility permit is revised or modified;
 - b. The plan fails in an emergency;

- c. The surface waste management facility changes in design, construction, operation, maintenance, or other circumstances in a way that increases the potential for fires, explosions, or releases of oilfield waste that could threaten fresh water, public health, safety, and environment;
 - d. Emergency coordinators or their contact information changes;
 - e. Emergency equipment changes.
8. The emergency coordinator or the coordinator's designee will communicate in the following ways:
- a. Facility personnel will be notified via air horn or cellular phones that an emergency has occurred;
 - b. Local and state emergency response agencies will be notified by contacting 911, all other agencies will be notified accordingly once the emergency is under control.
9. The emergency coordinator will be able to identify the source of any emergency due to extensive documentation of all material transported to the Landfarm, including where the material originated from, who transported, and where the material was placed. The emergency coordinator will be assisted by an Environmental Scientist to assess possible hazards to fresh water, public health, safety, or the environment from the emergency, by collecting the appropriate samples of air, water, or soil when needed.
10. Due to the nature of operation of this facility, monitoring for leaks, pressure buildup, gas generation, or rupture in valves, pipes, or the equipment in the event of a temporary closure, would be an unlikely event.
11. Due to the nature of operations of this facility, which is acceptance of hydrocarbon contaminated soil and sludge, once the emergency phase of a fire, explosion, or spill has been completed, business will continue as usual. Any material that has been deemed hazardous due to the emergency will be disposed of at a hazardous waste facility as soon as arrangements can be made. Non-hazardous materials shall remain at the Landfarm for remediation.
12. Due to the nature of operation of this facility, which is acceptance of hydrocarbon contaminated soil and sludge, all contaminated material authorized for acceptance should consist of a similar chemical makeup. The Landfarm will suspend normal operations and will not accept material while attempting to control any emergency situation.

13. The Emergency Coordinator may amend the plan during an emergency as necessary to protect fresh water, public health, safety, or the environment

Attachment #17: Plan to Control Water Run-On and Run-Off

This plan complies with the applicable requirements contained in Subsection M of 19.15.36.13 NMAC.

The operator shall construct 4 foot berms around each Landfarm cell to prevent rainwater run-on and run-off. The operator shall construct soil berms to control run-on water onto the site and run-off water from the site, such that:

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

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

(3) if any break of the berm system occurs, the operator shall immediately notify NMOCD, repair the break, and take appropriate measures to contain any runoff.

Attachment #20: Best Management Practice Plan

Water: The Landfarm is located on a plain or mesa that has no fresh water resources. The first usable aquifer is the Ojo Amarillo at approximately 1,250 feet below ground surface.

Public Health: The Landfarm is located in an area remote to human habitation. There are no residences within one (1) mile of the facility boundaries. This is an open air facility with a prevailing westerly breeze that prevents any vapor or odor accumulation that may affect employees stationed at the Landfarm.

Safety: Safe operation is our prime objective. All employees attend monthly safety meetings and seminars. A tailgate safety meeting is conducted before each shift noting the dangers of heavy equipment operation, temperature extremes, slips, trips, or falls, and other dangers at the site. This tailgate safety meeting also refreshes the employees on the emergency procedures to follow in the event of an incident.

Environment: The entire landfarm facility is enclosed with four-wire barbed wire fence, locked gates and four (4) foot earthen berms. The berm is to prevent storm water from entering the facility and provides containment of any contaminated media including storm water and/or contaminated soils. This is an open air facility with no close proximity to any habitable residences or open water. There are no impoundments, process piping, or vessels.

Attachment #21: Demonstration of Compliance with Siting Requirements of Subsections A and B of 19.15.36.13 NMAC

This Landfarm accepts soil or drill cuttings with a chloride concentration that exceeds 500 mg/kg and is located where ground water is more than 100 feet below the lowest elevation at which the operator will place oil field waste.

This Landfarm is not located within 200 feet of a watercourse, lakebed, sinkhole, or playa lake; within an existing wellhead protection area or 100-year floodplain; within, or within 500 feet of, a wetland; within the area overlying a subsurface mine; within 500 feet from the nearest permanent residence, school, hospital, institution, or church in existence at the time of initial application; or within an unstable area.

Attachment #22: Geological/Hydrological Data

- Soil Boring Lithology Logs with Narrative
- GEOMAT Laboratory Report

**SOIL BORING
LITHOLOGY LOG**

Location # SB-1

Depth (Ft)	USCS	SAMPLE TYPE	HEADSPACE (PPM)	LITHOLOGY	SAMPLE DESCRIPTION	Depth (Ft)
0					Brown fine sandy loam, DRY	0
5	SS				Interbedded Sands, DRY	5
10	SS				Clay, Brown-tan, compact, some coarse grained sediments, DRY	10
15	SS				Fine brown to red compitent clay, interbedded fine grained sands every 1.5-2 feet	15
20	SS				Mudstone, brown-red compitent clay with interbedded coarse sand, hard, DRY	20
25	SS					25
30	SS				Mudstone, brown-black clay, very hard, DRY	30
35	SS				Mudstone, brown-black clay, very hard, DRY	35

DRILLER: Sam
 HELPER: Myron
 DRILLING COMPANY: Envirotech
 DRILLING METHOD: HSA/AIR

BIT SIZE: 7 3/4
 TOTAL BORING DEPTH: 100'
 DATE STARTED: 09 / 02 / 08
 SAMPLER TYPE: SS

LOCATION: Landfarm Expansion
 ELEVATION: _____
 DATE COMPLETED: 09 / 03 / 08
 GEOLOGIST: Kyle Kerr

Landfarm Expansion
Hilltop, New Mexico

ENVIROTECH INC.

SB-1

ENVIRONMENTAL SCIENTISTS & ENGINEERS
 5796 U.S. HIGHWAY 64
 FARMINGTON, NEW MEXICO 87401
 (505) 632-0615

DATE 04/06/09 DRAWN JPM PAGE 1
 SCALE NTS APPROVED KPK OF 3

REVISIONS
 BY _____ DATE _____
 BY _____ DATE _____
 JOB # 03037-0006

SOIL BORING LITHOLOGY LOG

Location # SB-1

Depth (Ft)	USCS	SAMPLE TYPE	HEADSPACE (FPM)	LITHOLOGY	SAMPLE DESCRIPTION	Depth (Ft)
35						35
40	SS				Mudstone, brown-black clay, very hard, DRY	40
					Mudstone, red-grey clay, very hard, DRY	
45	AR				Sandstone, Grey, poorly sorted, DRY, well cemented	45
50	AR				Mudstone, red-grey clay, very hard, DRY	50
55	AR				Mudstone, red-grey clay, very hard, DRY	55
					Sandstone, Grey, poorly sorted, DRY, well cemented	
60	AR				Mudstone, brown-tan clay, very hard, DRY	60
					Mudstone, black, very hard, DRY	
65	AR				Mudstone, grey, very hard, DRY	65
70	AR				Sandstone, Grey, poorly sorted, DRY, well cemented	70

DRILLER: Sam BIT SIZE: 7 3/4 LOCATION: Landfarm Expansion
 HELPER: Myron TOTAL BORING DEPTH: 100' ELEVATION: _____
 DRILLING COMPANY: Envirotech DATE STARTED: 09 / 02 / 08 DATE COMPLETED 09 / 03 / 08
 DRILLING METHOD: HSA/AIR SAMPLER TYPE: SS GEOLOGIST: Kyle Kerr

Landfarm Expansion Hilltop, New Mexico	 ENVIROTECH INC. <small>ENVIRONMENTAL SCIENTISTS & ENGINEERS 5796 U.S. HIGHWAY 64 FARMINGTON, NEW MEXICO 87401 (505) 632-0615</small>	SB-1
REVISIONS BY _____ DATE _____ BY _____ DATE _____	JOB # <u>03037-0006</u>	DATE <u>04/06/09</u> DRAWN <u>JPM</u> PAGE <u>1</u> SCALE <u>NTS</u> APPROVED <u>KPK</u> OF <u>3</u>

SOIL BORING LITHOLOGY LOG

Location # SB-1

Depth (Ft)	USCS	SAMPLE TYPE	HEADSPACE (PPM)	LITHOLOGY	SAMPLE DESCRIPTION	Depth (Ft)
70						70
75	AR				Mudstone, grey, very hard, DRY, consolidated	75
80	AR				Mudstone with coarse sand, grey, hard, DRY Mudstone, grey, soft, DRY, well sorted, interbedded	80
85	AR				Mudstone, grey, soft, DRY, well sorted, interbedded	85
90	AR				Mudstone, grey, soft, DRY, well sorted, interbedded	90
95	AR				Mudstone, grey, soft, DRY, well sorted, interbedded	95
100	AR				Mudstone, grey, soft, DRY, well sorted, interbedded	100

DRILLER: <u>Sam</u>	BIT SIZE: <u>7 3/4</u>	LOCATION: <u>Landfarm Expansion</u>
HELPER: <u>Myron</u>	TOTAL BORING DEPTH: <u>100'</u>	ELEVATION: _____
DRILLING COMPANY: <u>Envirotech</u>	DATE STARTED: <u>09 / 02 / 08</u>	DATE COMPLETED <u>09 / 03 / 08</u>
DRILLING METHOD: <u>HSA/AIR</u>	SAMPLER TYPE: <u>SS</u>	GEOLOGIST: <u>Kyle Kerr</u>

Landfarm Expansion Hilltop, New Mexico	ENVIROTECH INC. <small>ENVIRONMENTAL SCIENTISTS & ENGINEERS 5796 U.S. HIGHWAY 64 FARMINGTON, NEW MEXICO 87401 (505) 632-0615</small>	SB-1
REVISIONS BY _____ DATE _____ BY _____ DATE _____	JOB # <u>03037-0006</u>	DATE <u>04/06/09</u> DRAWN <u>JPM</u> PAGE <u>1</u> SCALE <u>NTS</u> APPROVED <u>KPK</u> OF <u>3</u>

SOIL BORING LITHOLOGY LOG

Location # SB-2

Depth (Ft)	USCS	SAMPLE TYPE	HEADSPACE (PPM)	LITHOLOGY	SAMPLE DESCRIPTION	Depth (Ft)
0						0
5	SS				Light-brown sandy-loam, loosely packed fine grained-medium grained, DRY	5
					Light-brown sandy-loam, loosely packed fine grained-medium grained, DRY	
10	SS				Dark Brown hard rocky layer, DRY	10
					Light-brown sandy-loam, loosely packed fine grained-medium grained, DRY	
15	SS				Dark-Grey, dense shale, hard, crumbly, DRY	15
					Dark-Grey, dense shale, hard, crumbly, DRY	
20	SS				Dark-Grey, dense shale, hard, crumbly, DRY	20
					Dark-Grey, dense shale, hard, crumbly, DRY	
25	SS				Light-Grey sandstone, fine grained, DRY	25
					Dark-Grey, sandy shale, hard, DRY	
30	SS				Light-Grey sandstone, fine grained, dense, DRY	30
35	SS				Light-Grey sandstone, fine grained, dense, DRY	35

DRILLER: Mike Stone BIT SIZE: 8 1/4 OD LOCATION: Landfarm Expansion
 HELPER: Louie Chavez TOTAL BORING DEPTH: 100' ELEVATION: _____
 DRILLING COMPANY: Enviro-Drill DATE STARTED: 03 / 09 / 09 DATE COMPLETED 03 / 10 / 09
 DRILLING METHOD: HSA/AIR SAMPLER TYPE: SS GEOLOGIST: James McDaniel

Landfarm Expansion Hilltop, New Mexico	ENVIROTECH INC. <small>ENVIRONMENTAL SCIENTISTS & ENGINEERS 5796 U.S. HIGHWAY 64 FARMINGTON, NEW MEXICO 87401 (505) 632-0615</small>	SB-2
REVISIONS BY _____ DATE _____ BY _____ DATE _____	JOB # <u>03037-0006</u>	DATE <u>04/06/09</u> DRAWN <u>JPM</u> PAGE <u>1</u> SCALE <u>NTS</u> APPROVED <u>KPK</u> OF <u>3</u>

**SOIL BORING
LITHOLOGY LOG**

Location # SB-2

Depth (Ft)	USCS	SAMPLE TYPE	HEADSPACE (PPM)	LITHOLOGY	SAMPLE DESCRIPTION	Depth (Ft)
35						35
40	SS				Dark-Grey, Dense, Hard, Sandy Shale, DRY	40
					Dark-Grey, Dense, Hard, Sandy Shale, DRY	
45	AR				Redish-Brown Sandy-Shale, DRY, Dense with interbedded gray sandstone throughout	45
50	AR				Redish-Brown Sandy-Shale, DRY, Dense with interbedded gray sandstone throughout	50
					Redish-Brown Sandy-Shale, DRY, Dense with interbedded gray sandstone throughout	
55	AR				Light-Grey, Sandstone, fine-grained, DRY	55
60	AR				Light-Grey, Sandstone, fine-grained, DRY	60
65	AR				Dark-Grey sandy shale, dense, hard, DRY	65
70	AR				Dark-Grey sandy shale, dense, hard, DRY	70

DRILLER: Mike Stone BIT SIZE: 8 1/4 OD LOCATION: Landfarm Expansion
 HELPER: Louie Chavez TOTAL BORING DEPTH: 100' ELEVATION: _____
 DRILLING COMPANY: Enviro-Drill DATE STARTED: 03 / 09 / 09 DATE COMPLETED 03 / 09 / 09
 DRILLING METHOD: HSA/AIR SAMPLER TYPE: SS/Air Rotary GEOLOGIST: James McDaniel

Landfarm Expansion Hilltop, New Mexico		ENVIROTECH INC.	SB-2	
REVISIONS BY _____ DATE _____ BY _____ DATE _____	JOB # <u>03037-0006</u>	ENVIRONMENTAL SCIENTISTS & ENGINEERS 5796 U.S. HIGHWAY 64 FARMINGTON, NEW MEXICO 87401 (505) 632-0615	DATE <u>04/06/09</u>	DRAWN <u>JPM</u> APPROVED <u>KPK</u>
			SCALE <u>NTS</u>	PAGE <u>2</u> OF <u>3</u>

SOIL BORING LITHOLOGY LOG

Location # SB-2

Depth (Ft)	USCS	SAMPLE TYPE	HEADSPACE (PPM)	LITHOLOGY	SAMPLE DESCRIPTION	Depth (Ft)
70					Boring Dry	70
75	AR				NO RECOVERY - BIT BROKEN	75
					Boring Dry	
80	AR				NO RECOVERY - BIT BROKEN	80
85	AR				Dark-Grey shale, interbedded light grey sandstone dense, hard, DRY, very sandy	85
90	AR				Dark-Grey shale, interbedded light grey sandstone dense, hard, DRY, very sandy	90
95	AR				Dark-Grey shale, interbedded light grey sandstone dense, hard, DRY, very sandy Interbedded, reddish-brown shale	95
100	AR					100

DRILLER: Mike Stone BIT SIZE: 8 1/4 OD LOCATION: Landfarm Expansion
 HELPER: Louie Chavez TOTAL BORING DEPTH: 100' ELEVATION: _____
 DRILLING COMPANY: Enviro-Drill DATE STARTED: 03 / 10 / 09 DATE COMPLETED 03 / 10 / 09
 DRILLING METHOD: AIR SAMPLER TYPE: Air Rotary GEOLOGIST: James McDaniel

Landfarm Expansion Hilltop, New Mexico		SB-2
REVISIONS BY _____ DATE _____ BY _____ DATE _____	ENVIRONMENTAL SCIENTISTS & ENGINEERS 5796 U.S. HIGHWAY 64 FARMINGTON, NEW MEXICO 87401 (505) 632-0615	DATE <u>04/06/09</u> DRAWN <u>JPM</u> PAGE <u>3</u> SCALE <u>NTS</u> APPROVED <u>KPK</u> OF <u>3</u>

Drilling Narrative

On September 2, 2008, Envirotech personnel Kyle Kerr and Sherry Auckland were on-site with Mr. Brad Jones of the New Mexico Oil Conservation Division to complete a groundwater assessment for the proposed Envirotech Landfarm #4 expansion. On September 2, 2008, Envirotech driller Sam Mustache with helper Myron used a hollow stem auger to complete a boring to approximately 40 feet below ground surface. A spilt spoon was used to collect a sample every five (5) feet to assess the presence of groundwater and to record the subsurface lithology. Lithology was recorded on a field lithology sheet. Once 40 feet was reached with the hollow stem auger, the drillers switched over to an air rotary drilling system to complete the boring to the target depth of 100 feet below ground surface. A core from the boring was brought to the surface every ten (10) feet to record the subsurface lithology and to assess the presence of groundwater. All subsurface lithology was recorded on a field lithology log. No groundwater was encountered in this 100 foot boring. The boring was left open for 72 hours to determine if any groundwater would enter the boring. The boring was then backfilled with the dry cuttings removed from the boring itself.

On March 10, 2009, Envirotech scientist James McDaniel was on-site with Mr. Brandon Powell of the New Mexico Oil Conservation Division to complete a groundwater assessment for the proposed Envirotech Landfarm #4 expansion. On March 10, 2009, Enviro-Drill was onsite to perform drilling activities. Driller Mike Stone with helper Louie Chavez used a hollow stem auger to complete a boring to approximately 40 feet below ground surface. A spilt spoon was used to collect a sample every five (5) feet to assess the presence of groundwater and to record the subsurface lithology. Lithology was recorded on a field lithology sheet. Once 40 feet was reached with the hollow stem auger, Enviro-Drill switched over to an air rotary drilling system to complete the boring to the target depth of 100 feet below ground surface. A core from the boring was brought to the surface every ten (10) feet to record the subsurface lithology and to assess the presence of groundwater. All subsurface lithology was recorded on a field lithology log. The boring was completed to 80 feet below ground surface before a broken bit halted drilling activities. Drilling activities continues on March 11, 2009, and the boring was completed an additional 20 feet to the targeted depth of 100 feet below ground surface using an air rotary drilling method. All subsurface lithology was recorded on a field lithology sheet. No groundwater was encountered in this 100 foot boring. The boring was backfilled with the dry cuttings removed from the boring itself.



2060 Afton Place ♦ Farmington, NM 87401 ♦ Tel (505) 327-7928 ♦ Fax (505) 326-5721

May 12, 2008
 GEOMAT Project No. 81-0657

RECEIVED
 MAY 12 2008

Morris Young
 Envirotech Inc.
 5796 U.S. Highway 64
 Farmington, New Mexico 87401

RE: Land Farm Expansion Area
 U.S. Highway 550 South of Bloomfield, NM

As you requested we have performed laboratory testing on a sample representative of the surface soils at the above referenced project. The sample was submitted to our laboratory for testing on May 6, 2008. The tests performed and results follow.

Soil Index Tests

Sieve Analysis, ASTM C117, C136	
Sieve Size	Accumulative % Passing
No. 10	100
No. 16	99
No. 30	94
No. 40	85
No. 50	73
No. 100	35
No. 200	19
Plasticity Index, ASTM D4318	
Liquid Limit	NLL
Plastic Limit	NPL
Plasticity Index	Non Plastic
Soil Classification for Engineering Purposes, ASTM D2487	
SM, Silty Sand, Brown	

Compaction / Swelling Characteristics

Compaction		
Test Method	Dry Density	Optimum Moisture Content
Moisture-Density Relationship, ASTM D698	117.7 pcf	11.0 %
Swelling Characteristics		
¹ Remolded Swell Potential, %	0.0	
¹ Sample molded to 90% compaction at 3% below optimum moisture content, surcharged with 100 psf, then wetted.		

Morris Young
Envirotech Land Farm
GEOMAT Project No. 81-0657
May 12, 2008

Soil Resistivity

Minimum Resistivity, ARIZ 236b	20,207 ohm-cm
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Porosity / Permeability Properties

² Porosity	23% (assuming dense condition)
³ Permeability	Semi-Pervious to Impervious (when compacted)
² From B.K. Hough, Basic Soils Engineering, 2 nd Edition	
³ From Bureau of Reclamation, U.S. Department of the Interior	

Thank you for the opportunity to work with you on this project. If you have any questions or need additional information, please let us know.

Sincerely yours,
GEOMAT Inc.



George A. Madrid, P.E.
President, Principal Engineer