NM1 - __11_____

GENERAL CORRESPONDENCE

YEAR(S):

2015-2018

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division

February 25, 2016

Greg Crabtree
Envirotech, Inc.
5796 US Highway 64
Farmington, New Mexico 87401

RE: Facility Background Sampling Plan Review
Envirotech, Inc.
Commercial Landfarm #2: Permit NM1-011
Location: NW/4 Section 6, Township 26 North, Range 10 West, NMPM
San Juan County, New Mexico

Dear Mr. Crabtree:

The Oil Conservation Division (OCD) has reviewed Envirotech, Inc.'s (Envirotech) request, dated September 24, 2015 and received by OCD on September 29, 2015, to consider approval of a revised sampling plan to update the existing facility background data set for Envirotech's landfarm surface waste management facility.

Based on the information provided in the request, the background sampling plan is hereby approved with the following understandings and conditions:

1. Envirotech shall comply with all applicable requirements of the Oil and Gas Act (Chapter 70, Article 2 NMSA 1978), and all conditions specified in this approval and shall operate in accordance with the September 24, 2015 submittal;

2. Envirotech shall include bicarbonate as one of the major anions to be analyzed as one of the facility background constituents; and

3. Envirotech shall obtain written approval from OCD prior to implementing any changes to the September 24, 2015 background sampling plan.

Please be advised that approval of this request does not relieve Envirotech of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve Envirotech of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If there are any questions regarding this matter, please do not hesitate to contact Brad Jones on my staff at (505) 476-3487 or brad.a.jones@state.nm.us.

Sincerely,

Jim Griswold
Environmental Bureau Chief

JG/baj

cc: OCD District III Office, Aztec

envirotech

September 24, 2015

Mr. Brad Jones
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Phone: (505) 476-3487

RE: REVISED BACKGROUND SOIL SAMPLING PLAN

Dear Mr. Jones,

Envirotech, Inc. has developed and reviewed the attached submittal in response to your letter dated June 22, 2015, "Vadose Zone Demonstration and Additional Lift Request for Cell 11". As per your request during our phone call on September 21, 2015, please find attached a revised sampling plan to update the existing background data set for Envirotech's Landfarm facility.

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

Respectfully Submitted,
ENVIROTECH, INC.

Greg Crabtree
Environmental Manager
gcrabtree@envirotech-inc.com

envirotech

Background Soil Sampling Plan

Prepared for:
State of New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
(505) 476-3490

Submitted By:
Envirotech, Inc.
5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

September 24, 2015

envirotech

TABLE OF CONTENTS

Introduction

Envirotech, Inc. (Envirotech) is requesting approval to update the existing background data for the current and proposed landfarm permits. Envirotech will complete background sampling and analysis as outlined in this sampling plan in order to establish background concentrations as required by NMAC 19.15.36.15 (B).

Objective

The objective of this background soil sampling plan is to collect data through investigation of proposed Landfarm #4 to satisfy all applicable requirements of 19.15.36.15 (B) NMAC. In addition to the proposed Landfarm #4, Envirotech will utilize the background soil samples described in this plan to compare our existing vadose zone samples as well as, our scraping request samples for Envirotech's existing Landfarm #2 facility.

Scope of Work

In order to accomplish the objectives of this soil sampling plan, the following scope of work will be executed:

1. A total of 12 composite samples will be collected as specified in NMAC 19.15.36.15 (B).
2. Locations of the 12 composite samples are indicated on ***Figure 1, Landfarm Background Sampling Plan.***
3. Envirotech proposes to collect soil samples from 36" below ground surface (BGS) using a hand auger.
4. Each one of the 12 composite samples will consist of 16 discrete sample points.
5. Samples will be composited and homogenized in a stainless steel pan and place in the appropriate container for laboratory analysis.
6. Plug the bore hole with cuttings and other earthen material.

Sample Collection

Envirotech will utilize a hand auger to collect soil samples from 36" BGS. Samples will be collected from the bottom of the boring and placed in a stainless steel pan. A total of 16 samples will be collected from each of the selected 10-acre sections and composited into one sample for laboratory analysis

Soil Boring Locations

Sample locations are illustrated on Figure 1; see ***Figure 1, Landfarm Background Soil Sampling Plan.*** Locations provided are for illustration purposes only and actual locations of the borings will be determined based on field observations and topographical considerations. Once the borings are completed, a sampling map identifying the location of the boring will be created and the Latitude and Longitude of each boring will be collected. Care will be taken to move sample locations that fall within existing roadways or pipeline right of ways.

Laboratory Analysis

Samples collected will be will be analyzed for TPH via USEPA method 8015M for hydrocarbon ranges C_6 – C_{36}, BTEX via USEPA Method 8021 or 8260 and chloride. In addition to the analysis listed above the analysis listed in Subsections A and B of NMAC 20.6.2.3103 will be analyzed via the appropriate method for soil samples. For convenience the analytes are listed below in ***Table 1, Summary of Analytes***.

Table 1: Summary of Analytes

Analyte	Method
TPH	8015M ($C_6 - C_{36}$)
Benzene	8021 or 8260
Toluene	8021 or 8260
Ethylbenzene	8021 or 8260
Total Xylenes	8021 or 8260
Arsenic (As)	6010
Barium (Ba)	6010
Cadmium (Cd)	6010
Calcium (Ca)	6010
Chloride (Cl)	300.0
Chromium (Cr)	6010
Copper (Cu)	6010
Cyanide (CN)	SM 4500CN
Fluoride (F)	6010
Lead (Pb)	6010
Total Mercury (Hg)	7471
Magnesium (Mg)	6010
Nitrate (NO_3 as N)	300.0
Nitrite	300.0
Phosphate (PO_4)	300.0
Potassium (K)	6010
Selenium (Se)	6010
Silver (Ag)	6010
Sodium (Na)	6010
Sulfate (SO_4)	300.0
Uranium (U)	901.1
Radioactivity: Combined Radium-226 & Radium-228	901.1
Polychlorinated biphenyls (PCB's)	8082
Carbon Tetrachloride	8260
1,2-dichloroethane (EDC)	8260
1,1-dichloroethylene (1,1-DCE)	8260
1,1,2,2-tetrachloroethylene (PCE)	8260
1,1,2-trichloroethylene (TCE)	8260
methylene chloride	8260
chloroform	8260
1,1-dichloroethane	8260
ethylene dibromide (EDB)	8260
1,1,1-trichloroethane	8260
1,1,2-trichloroethane	8260
1,1,2,2-tetrachloroethane	8260
vinyl chloride	8260

PAHs:total naphthalene plus monomethylnaphthalenes	8260,8270 or 8021
benzo-a-pyrene	8270
Iron (Fe)	6010
Manganese (Mn)	6010
Phenols	8270
Total Dissolved Solids (TDS)	SM 2540
Zinc (Zn)	6010
pH	150.1

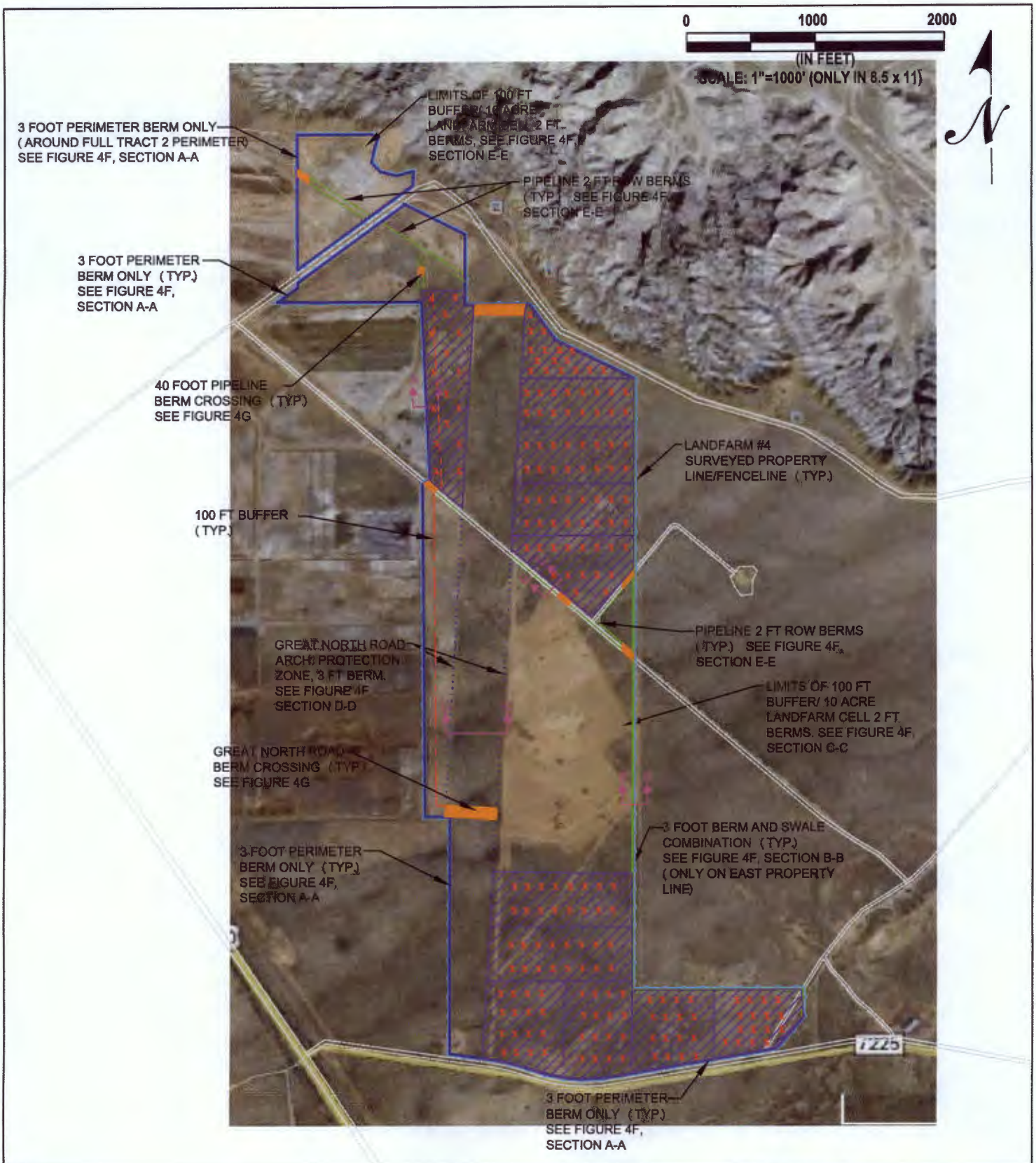
Schedule

We anticipate sampling activities will take approximately two (2) days, depending on weather and unforeseen difficulties. Soil sampling records and the collection of soil samples will be completed during the two (2) day sampling activities.

Reporting

Upon completion of background soil sampling activities and obtaining final lab results, Envirotech will complete a report for submittal. The report will include the following information:

- Table showing a summary of analytical results
- Statistical analysis showing average analyte concentrations



KEY

- 3 FOOT PERIMETER BERM & SWALE COMBINATION
- 3 FOOT PERIMETER BERM ONLY
- 2 FOOT PIPELINE BERM
- 2 FOOT LANDFARM CELLS BERM
- 3 FOOT GREAT NORTH ROAD ARCH BERM
- SURVEYED LANDFARM #4 BOUNDARY/FENCELINE
- EXISTING EDGE OF ROAD
- B B SECTION LABELS (SEE FIGURE 4G FOR DETAILS)
- 100 FOOT BUFFER
- BERM CROSSINGS
- x APPROX BACKGROUND SAMPLE LOCATIONS
- BACKGROUND SAMPLE GRIDS

FIGURE 1
FACILITY DIAGRAM CONT.
LANDFARM BACKGROUND SAMPLING PLAN

DRWN BY: gwc	DATE DRWN:8/15	PROJECT NO:----

envirotech
5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615

envirotech

RECEIVED OCD

2015 AUG -7 P 1:26

August 5, 2015

Mr. Brad Jones
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Phone: (505) 476-3487

RE: BACKGROUND SOIL SAMPLING PLAN

Dear Mr. Jones,

Envirotech, Inc. has developed and reviewed the attached submittal in response to your letter dated June 22, 2015, "Vadose Zone Demonstration and Additional Lift Request for Cell 11". As per your request, please find attached a sampling plan to update the existing background data set for Envirotech's Landfarm facility.

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

Respectfully Submitted,
ENVIROTECH, INC.

Greg Crabtree
Environmental Manager
gcrabtree@envirotech-inc.com

envirotech

Background Soil Sampling Plan

Prepared for:
State of New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
(505) 476-3490

Submitted By:
Envirotech, Inc.
5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

August 5, 2015

envirotech

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Introduction

Envirotech, Inc. (Envirotech) is requesting approval to update the existing background data for the current and proposed landfarm permits. Envirotech will complete background sampling and analysis as outlined in this sampling plan in order to establish background concentrations as required by NMAC 19.15.36.15 (B).

Objective

The objective of this background soil sampling plan is to collect data through investigation of proposed Landfarm #4 to satisfy all applicable requirements of 19.15.36.15 (B) NMAC. In addition to the proposed Landfarm #4, Envirotech will utilize the background soil samples described in this plan to compare our existing vadose zone samples to as well as samples pulled for scraping request for our existing Landfarm #2.

Scope of Work

In order to accomplish the objectives of this soil sampling plan, the following scope of work will be executed:

1. A total of 12 composite samples will be collected as specified in NMAC 19.15.36.15 (B).
2. Locations of the 12 composite samples are indicated on *Figure 1, Landfarm Background Sampling Plan.*
3. Envirotech proposes to collect soil samples from 36"- 48" below ground surface using a hand auger.
4. Each one of the 12 composite samples will consist of 16 discrete sample points.
5. Samples will be composited and homogenized in a stainless steel pan and place in the appropriate container for laboratory analysis.
6. Plug the bore hole with cuttings and other earthen material

Sample Collection

Envirotech will utilize a hand auger to collect soil samples from 36"-48" below ground surface (BGS). Samples will be collected from the bottom of the boring and placed in a stainless steel pan. A total of 16 samples will be collected from each of the selected 10-acre sections and composited into one sample for laboratory analysis

Soil Boring Locations

Sample locations are illustrated on Figure 1; see ***Figure 1, Background Soil Sampling Plan***. Locations provided are for illustration purposes only and actual locations of the borings will be determined based on field observations and topographical considerations. Once the borings are completed a sampling map identifying the location within the cell will be created and the Latitude and Longitude of each boring will be collected.

Laboratory Analysis

Samples collected will be will be analyzed for TPH via USEPA method 8015M for GRO/DRO/MRO, BTEX via USEPA Method 8021 or 8260 and chloride. In addition to the analysis listed above the analysis listed in Subsections A and B of NMAC 20.6.2.3103 will be analyzed via the appropriate method for soil samples. For convenience the analytes are listed below in Table 1.

Table 1: Summary of Analytes

Analyte	Method
TPH	8015M (GRO/DRO/MRO)
Benzene	8021 or 8260
Toluene	8021 or 8260
Ethylbenzene	8021 or 8260
Total Xylenes	8021 or 8260
chlorides	300.0
Arsenic (As)	6010
Barium (Ba)	6010
Cadmium (Cd)	6010
Chromium (Cr)	6010
Cyanide (CN)	SM 4500CN
Fluoride (F)	6010
Lead (Pb)	6010
Total Mercury (Hg)	7471
Nitrate (NO_3 as N)	300.0
Selenium (Se)	6010
Silver (Ag)	6010
Uranium (U)	901.1
Radioactivity: Combined Radium-226 & Radium-228	901.1
Polychlorinated biphenyls (PCB's)	8082
Carbon Tetrachloride	8260
1,2-dichloroethane (EDC)	8260
1,1-dichloroethylene (1,1-DCE)	8260
1,1,2,2-tetrachloroethylene (PCE)	8260
1,1,2-trichloroethylene (TCE)	8260
methylene chloride	8260
chloroform	8260
1,1-dichloroethane	8260
ethylene dibromide (EDB)	8260
1,1,1-trichloroethane	8260
1,1,2-trichloroethane	8260
1,1,2,2-tetrachloroethane	8260
vinyl chloride	8260
PAHs:total naphthalene plus monomethylnaphthalenes	8260,8270 or 8021
benzo-a-pyrene	8270
Copper (Cu)	6010
Iron (Fe)	6010
Manganese (Mn)	6010
Phenols	8270
Sulfate (SO_4)	300.0
Total Dissolved Solids (TDS)	SM 2540
Zinc (Zn)	6010
pH	150.1

Schedule

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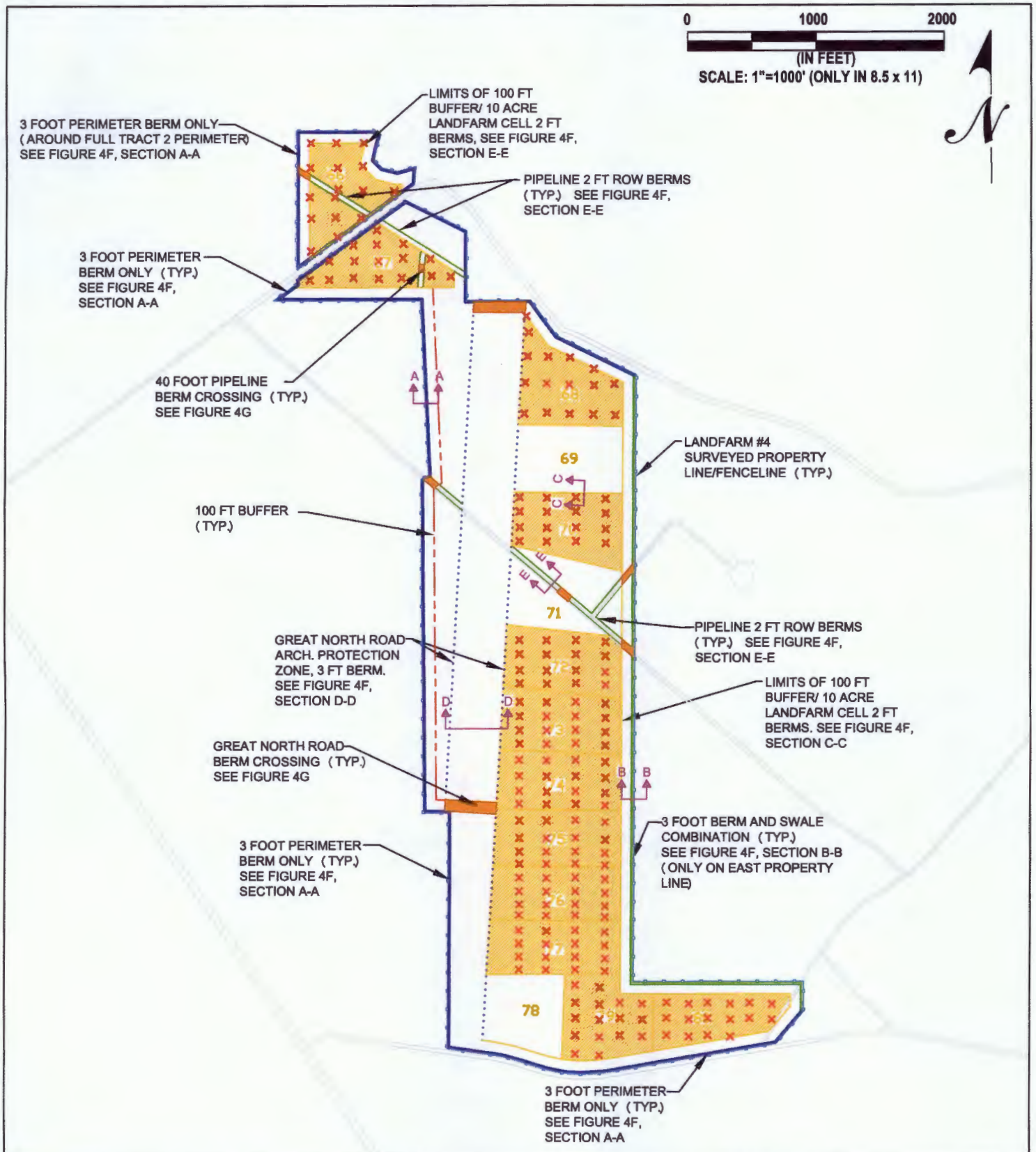

FIGURE 1
FACILITY DIAGRAM CONT.
LANDFARM BACKGROUND SAMPLING PLAN

DRWN BY: gwc	DATE DRWN:8/15	PROJECT NO:----

envirotech
5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
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David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division

June 22, 2015

Kendra Runung
Envirotech, Inc.
5796 US Highway 64
Farmington, New Mexico 87401

RE: Vadose Zone Demonstration and Additional Lift Request for Cell 11
Envirotech, Inc.
Commercial Landfarm #2: Permit NM1-011
Location: NW/4 Section 6, Township 26 North, Range 10 West, NMPM
San Juan County, New Mexico

Dear Ms. Runung:

The Oil Conservation Division (OCD) has reviewed Envirotech, Inc.'s (Envirotech) request, dated June 2, 2015, to reactivate Cell 11 after sampling the vadose zone (native soils) to demonstrate that a release has not occurred in the vadose zone prior to placing soils back in to the cell for landfarmimg and to grant approval to apply a six-inch lift of petroleum hydrocarbon-contaminated soils for remediation. OCD's review has determined that all the conditions regarding the vadose zone sampling, from the July 30, 2014 approval have not been properly addressed and/or demonstrated.

OCD's July 30, 2014 approval "to remove approximately 28,317 cubic yards of remediated soils from Cells 11 and 16; stockpile in a designated bermed area; and utilize the remediated soils for the stabilization and/or solidification of incoming drilling mud, tank bottoms, and sludge," specified three conditions regarding sampling the vadose zone. Such conditions are as follows:

- Envirotech shall complete a vadose zone monitoring/sampling event in **Cells 11 and 16** upon the removal of the remediated soils to the original native ground surface in each landfarm cell.

- If the remediated soils are removed in a phased approach, Envirotech shall complete a vadose zone monitoring/sampling event upon the removal of the remediated soils to the original native ground surface within each landfarm cell.

- Envirotech shall comply with the release response provision of Paragraph (5) of Subsection E of 19.15.36.15 NMAC, if "vadose zone sampling results show that the concentrations of TPH, BTEX or chlorides exceed the higher of the PQL or the background soil concentrations."

The conditions required Envirotech to sample the vadose zone when treatment zone soils have been removed to determine if a release has occurred. Envirotech's June 2, 2015 letter, states "After removal of the remediated soil, the area was sampled again to prove that native soil had been reached and that all remediated soil had been removed from the cell. Envirotech's demonstration was not compliant to OCD's conditions which was to assess the vadose zone to determine if a release has occurred while the soils were removed.

The second paragraph of the June 2, 2015 cover letter states "Cell 11 has passed analysis for total petroleum hydrocarbons, benzene, toluene, ethlybenzene, total xylenes, and chloride…" The June 2, 2015 submittal included correspondence dated April 26, 1993 from Envirotech that provided facility background data, but in the cover letter Envirotech did not recommend using the data from Cell F-17, which states "The background levels were higher than anticipated for TPH and Total Metals. This site was close to a former natural gas well pad. Subsequently a second sample was taken from Cell H-4 which we believe is more representative of the actual average background of the facility." OCD's review of the background data set and the current laboratory results for Cell 11 demonstrates that the current laboratory analysis of Cell 11 was assessed with reporting limits that exceed the 1993 background limits and/or PQLs. If the 1993 data for Cell F-17 is not valid, then the comparison to chlorides cannot be completed.

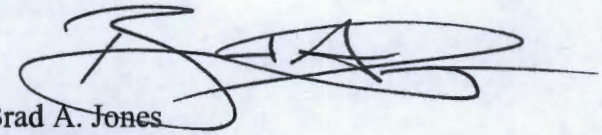
The laboratory analysis submitted for Cell 11 demonstrated Gasoline Range Organics (C_6-C_{10}) and Diesel Range Organics (C_{10}-C_{28}). Part 36 specifies EPA Method 418.1 as the required vadose zone analyses for TPH. OCD is willing to accept an equivalent method to EPA Method 418.1 that is capable of demonstrating a carbon range from C_6 to C_{36} (e.g. Method 8015 for GRO/DRO/MRO or ORO). The analysis for Cell 11 is incomplete and the comparison for this demonstration cannot be completed.

In order for Envirotech to proceed, certain issues regarding the facility background need to be resolved. Currently, Envirotech does not have the complete background data to perform the vadose zone assessment as required by OCD's July 30, 2014 approval, Permit NM1-011, and Part 36. The April 26, 1993 background data set (if the results for Cell F-17 are not considered, as recommended by Envirotech) provides results for the following 9 analytes: total petroleum hydrocarbons (TPH) by EPA Method 418.1, arsenic, barium, cadmium, calcium, chromium, lead, mercury, selenium, and silver. To complete the five year vadose zone assessment, background needs to be established for copper, iron, manganese, and zinc. If follow up and/or future quarterly vadose zone monitoring demonstrate exceedances, then the additional analysis will be needed to complete the comparison to the 46 analtyes required by 19.15.36.15.E(5) NMAC. Please submit a background sampling plan to OCD under a separate cover, for OCD's consideration of approval to update the existing background data set and complete vadose zone assessment.

OCD is unable to approve Cell 11 for an additional lift based upon the information provided in the June 2, 2015 request. Please submit a background sampling plan to OCD under a separate cover, for OCD's consideration of approval to update the existing background data set and complete the vadose zone assessment required of OCD's July 30, 2014 approval within 45 days of the date of this letter. Please ensure that the laboratory's reporting limit does not exceed the established background and/or PQLs for all future vadose zone sampling events.

OCD has implemented some new policies for submittal. For future submittals, please include a cover letter from the owner/operator, on the owner's/operator's company letterhead, that recognizes the owner/operator has reviewed the submittal, signed by the owner/operator. Also, please provide an updated facility map, for each individual sampling event, that identifies the individual landfarm cells within the facility boundary and indicate the approximate location within the landfarm cells in which the samples were obtained. If there are any questions regarding this matter, please do not hesitate to contact me at (505) 476-3487 or brad.a.jones@state.nm.us.

Sincerely,



Brad A. Jones
Environmental Engineer

BAJ/baj

cc: OCD District III Office, Aztec