AP - 017

STAGE 1 & 2 WORKPLANS

DATE:

July 21, 1999

EOTT ENERGY Pipeline Limited Partnership

P.O. BOX 1660
5805 E. BUSINESS 20
MIDLAND, TEXAS 79702
(915) 682-3761

BY CERTIFIED MAIL
RETURN RECEIPT NO. Z 445 240 630

JUL 23 199

July 21, 1999

State of New Mexico
Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505
Attn: William Olson

RE: TNM-97-17 SITE
LEA COUNTY, NEW MEXICO

Dear Mr. Olson:

After further investigation on the above captioned site, EOTT proposes the attached workplan for bioremediation of the site. Upon completion of soil/groundwater remediation to NMOCD required levels, EOTT will install an additional monitor well adjacent to and directly downgradient of the original leaksite.

We would like to begin this project as soon as possible. I hope all meets with your approval but if you have any questions, please don't hesitate to call me at 915/684-3467.

Sincerely,

Lennah Frost

Lennah Frost
Sr. Environmental Engineer

cc: Al Hugh - Environmental File
NMOCD Hobbs District Office

WORK PLAN FOR BIOREMEDIATION OF EOTT'S 9717 LOCATION

ETGI PROJECT NO. EOT.1004R

PREPARED BY:

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
MIDLAND, TEXAS

JULY 1, 1999

Midland, TX ■ P. O. Box 4845, 79704 ■ Office 915-522-1139 ■ Fax 915-520-4310
The Woodlands, TX ■ P. O. Box 131150, 77393 ■ Office (281) 362-8571 ■ Fax 281-362-8932

Work Plan for Bioremediation of EOTT's Eunice, New Mexico

Prepared For:

EOTT Energy Corporation
P.O. Box 1660
Midland, Texas 79702

ETGI Project No. EOT.1003R

Ronnie W. Nickell

July 1, 1999

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APPENDIX

1.0 INTRODUCTION

Environmental Technology Group, Inc. (ETGI) is pleased to present to EOTT Energy Corp. this Work Plan for in-situ bioremediation of petroleum contaminated soils located at their Eunice, New Mexico location.

The remediation process selected for this site involves treating the contaminated soils with bioremediation treatment technologies. Water augmented with microbes, nutrients, bioenhancers, and oxygen is injected into the contaminated soil through the Deep Remediation Injection System (DRIS).

ETGI's project objective is the remediation of petroleum contaminated soils in the areas defined by visual inspection on June 30, 1999. Execution of this Work Plan, utilizing bioremediation with the DRIS for a period of 6 months, should remediate these areas down to a depth of 25 feet.

The Project's goal is to achieve cleanup of contaminants detected in the treatment areas that meet and/or exceed the Oil Conservation Division (OCD) action level of soil to 5,000 ppm and ground water to 100 ppm. Total petroleum hydrocarbons (TPH). TPH is to be analyzed by EPA Method 8015.

In the event EOTT chooses to accept the cleanup goal required to meet OCD standards for TPH, ETGI, upon demonstrating the remediation of contaminants to this standard, will cease with the treatment activities and demobilize upon EOTT's written request.

2.0 TREATMENT AREAS

The areas that require treatment measure approximately 86' X 85' X 25' deep. Based on a preliminary site visit, the estimated volumes of contamination are approximately 6768 cubic yards.

3.0 FIELD WORK

3.1 Establishing Baseline Conditions

ETGI will establish baseline conditions in the impacted area by collecting soil samples and submitting these samples for analysis. Exact soil sample locations will be determined from the sampling grid for each of the treatment areas. This grid will allow duplication of sampling events to demonstrate achieved cleanup levels.

3.2 Monthly field Activities

The DRIS will be used once a month to introduce microbes, nutrients, and surfactant into the contaminated soil. Monthly sampling of treated soils will be performed to fine tune the system and achieve optimal bioremedial activity and efficiency.

4.0 SAMPLING PROTOCOL

Each boring will be completed with a Geo Probe. Soil samples will be trimmed from the sampler using a decontaminated tool. A sample of soil will be placed into a glass container. The container will be placed into an ice chest with ice. The samples collected for TPH analysis for each boring location will be placed into laboratory supplied glass containers and immediately placed into a cooler with sufficient ice to maintain a temperature less than 4 degrees C. Relevant sampling data will be recorded into a field notebook. At the conclusion of all baseline sampling, the on-site Project Manager will complete and sign a Chain-of-Custody form and submit the samples for transportation to the designated analytical laboratory.

5.0 LABORATORY ANALYSIS PARAMETERS

5.1 Baseline Analytical Parameters

The analytical parameters that will be used to determine baseline conditions for the composite soil samples are as follows:

1. Total Petroleum Hydrocarbons (TPH) - EPA Method 8015
2. BTEX - EPA Method SW 846-8021B

5.2 Monthly Operational Analytical Parameters

The analytical parameters that will be used to determine the degradation activity and progress of the treatment system are:

1. TPH
2. BTEX

6.0 DECONTAMINATION

To prevent possible cross contamination of samples, all sampling equipment will be decontaminated prior to each use. Decontamination will be completed by cleaning the sampling equipment in a non-phosphate detergent in water, followed by triple rinsing in distilled water.

7.0 PROJECT ASSUMPTION

In order for ETGI to complete this project specified in the Work Plan, the following assumptions/limitations have been made:

* Written permission from EOTT to complete subsurface boring and injections using the DRIS unit. This will require all utilities to be located and marked by EOTT and the appropriate utility companies.

* Based on initial observations, contaminated soils exist down to a maximum depth of 25 feet.

* Baseline sampling and analysis will demonstrate that the only contaminant of concern is TPH and that conditions do not exist that will inhibit microbes which are used for treating TPH contaminated soils. Baseline sampling will also confirm that contaminated soils exist to a maximum depth of 25 feet and groundwater investigation and/or treatment will not be necessary.

* Borings will be completed in soil and not in hard rock. ETGI follow the OCD guidelines for remediation activities. Regulatory reports, requests, and communications are not included in this project. Any regulatory communication will be completed by EOTT. All copies of the quarterly reports and the final report will be submitted by ETGI in sufficient quantity for EOTT to forward copies to the appropriate regulatory authorities. Any enforcement actions made by the regulatory agencies are beyond the scope of this project. All work will be completed using Level D safety equipment consisting of steel-toe shoes, hard hats, safety glasses, and safety gloves.

8.0 PROJECT MANAGEMENT

ETGI will be the prime consultant responsible for conducting the enhanced biotreatment of the contaminated soils at EOTT's facility. All data collected will adhere to the specific requirements to control the quality of data and results obtained from the information collected.

8.1 Project Management, Organization, and Key Technical Personnel

ETGI will be the prime consultant responsible for conducting the remedial project at the EOTT site. Firms that have been incorporated as subcontractors for this project include: Environmental Lab of Texas, Inc. for chemical analytical services.

Monthly progress reports will be prepared and submitted to EOTT with a monthly invoice.

Progress reports will provide details by task, compliance with the project schedule, accomplishments, and projected changes in the project scope.

9.0 PROJECT SCHEDULE

Field activities will be started two weeks after written approval from EOTT to proceed with remediation, by collecting samples to determine baseline conditions. Monthly soil samples will be collected and submitted for analysis. The analytical results obtained will be used to calibrate the bioremediation systems. Upon completion of all field activities and reducing the contamination to meet OCD's standard selected by EOTT, a draft report will be prepared within 15 working days, and submitted to EOTT for review. The anticipated time frames for completion of this project to meet OCD's standard is six months.

ETGI's goal are to complete this project meeting the objectives specified in Section 1.0 in a safe and incident-free manner, within budget, and on schedule. ETGI has an excellent health and safety-record with zero reportable accidents to OSHA.