3RP-418

Remediation Workplan

DATE:
2009

ENVIROTECH INC.

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

REMEDIATION WORKPLAN

FOR:

BEELINE GAS 8 INCH TRUNK GAS PIPELINE
OTERO GATHERING STATION
SECTION 9, TOWNSHIP 23N, RANGE 5W
RIO ARRIBA COUNTY, NEW MEXICO
OCD CASE NO. 3R418

PROJECT NO. 08011-0007
MARCH 2009

5796 U.S. HIGHWAY 64 • FARMINGTON, NM 87401 • (505) 632-0615

Elm Ridge Exploration Co., LLC d.b.a.

Beeline Gas Systems

2001 E. Blanco Blvd.
P. O. Box 1280
Bloomfield, NM 87413
(505) 634-1144

April 1, 2009

New Mexico Oil Conservation Division
Attn: Mr. Glenn Von Gonten
1220 South St. Francis Dr.
Santa Fe, NM 87505

By Certified Mail 7008 2810 0000 1080 5927 – Return Receipt Requested

Subject: Remediation Work Plan – OCD Case Number 3R418

Dear Mr. Van Gonten,

Please see the attached remediation work plan that Beeline Gas Systems contracted Envirotech, Inc. to develop to monitor the effects of our pipeline leak on the ground water. If you have any questions or require additional information, please contact Mr. Cory Smith at the telephone number shown above.

Sincerely,

Allen Lain
Operations Manager

Attachments: One (1) – Paper copy of the Remediation Work Plan developed by Envirotech, Inc. – Project No. 08011-0007 for OCD Case Number 3R418
One (1) – CD containing an electronic copy of the Remediation Work Plan developed by Envirotech, Inc. – Project No. 08011-0007 for OCD Case Number 3R418

Cc: Mr. Brandon Powell, NMOCD District III
Neil Rensvold.
Tony Ferrari
Cory Smith

envirotech

March 26, 2009

RECEIVED
MAR 31 2009
BEELINE GAS SYSTEMS

Project No. 08011-0007

Mr. Allen Lain
Operations Manager
Beeline Gas Systems
2001 East Blanco Blvd
Bloomfield, New Mexico 87413

Phone (505) 486-0260

RE: REMEDIATION WORKPLAN
BEELINE GAS 8 INCH TRUNK GAS PIPELINE
OTERO GATHERING STATION
SECTION 9, TOWNSHIP 23N, RANGE 5W
RIO ARRIBA COUNTY, NEW MEXICO
OCD CASE NUMBER: 3R418

Dear Mr. Lain:

Enclosed please find the *Remediation Workplan* for the Beeline Gas 8 Inch Trunk Gas Pipeline near the Otero Gathering Station located in Section 9, Township 23N, Range 5W, Rio Arriba County, New Mexico. Please review the workplan and forward one (1) paper copy and one (1) electronic copy to Mr. Brandon Powell with the NMOCD Aztec District Office, Mr. Glenn von Gonten with the NMOCD, and Mr. Dixon Sandoval with the Jicarilla Environmental Protection Office.

If you have any questions or require additional information, please do not hesitate to contact me at (505) 632-0615.

Respectfully Submitted,
ENVIROTECH, INC.

James McDaniel
Project Scientist
jmcdaniel@envirotech-inc.com

Enc: Remediation Workplan

cc: Client File: 08011

REMEDIATION WORKPLAN

SITE NAME:

BEELINE GAS 8 INCH TRUNK GAS PIPELINE
OTERO GATHERING STATION
SECTION 9, TOWNSHIP 23N, RANGE 5W
RIO ARRIBA COUNTY, NEW MEXICO
OCD CASE NO. 3R418

SUBMITTED TO:

MR. BRANDON POWELL
NEW MEXICO OIL CONSERVATION DIVISION
1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 320-0200

MR. GLENN VON GONTEN
NEW MEXICO OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DRIVE
SANTA FE, NEW MEXICO 87505
(505) 476-3488

MR. DIXON SANDOVAL
JICARILLA ENVIRONMENTAL PROTECTION OFFICE
P.O. BOX 507
DULCE, NEW MEXICO 87528
(505) 759-7445

SUBMITTED FOR:

MR. ALLEN LAIN
ELM RIDGE BEELINE
P.O. BOX 1280
BLOOMFIELD, NEW MEXICO 87412
(505) 486-0260

SUBMITTED BY:

ENVIROTECH, INC.
5796 U.S. HIGHWAY 64
FARMINGTON, NEW MEXICO 87401
(505) 632-0615

PROJECT NO. 03095-0012

MARCH 2009
BEELINE GAS 8 INCH TRUNK GAS PIPELINE
OTERO GATHERING STATION
SECTION 9, TOWNSHIP 23N, RANGE 5W
RIO ARRIBA COUNTY, NEW MEXICO

TABLE OF CONTENTS

Figures: Figure 1, Vicinity Map
Figure 2, Site Map

INTRODUCTION

Envirotech, Inc. has been retained by Mr. Allen Lain of Elm Ridge Beeline to provide a workplan for the installation of monitoring wells at the Beeline Gas 8 Inch Trunk Gas Pipeline location near the Otero Gathering Station located in Section 9, Township 23N, Range 5W, Rio Arriba County, New Mexico on the Jicarilla Indian Tribe Reservation. Envirotech, Inc. was contacted on December 30, 2009 to respond to a leaking pipeline at the above mentioned location.

Tuesday, December 30, 2008

Environmental cleanup work on the site began on December 30, 2008. Upon arrival, a brief site assessment was performed to outline the extent of the spill area. At this time, due to the proximity of the contamination to a wash, the cleanup standard was determined to be 100 ppm TPH and 100 ppm organic vapors, pursuant to New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills, and Releases. A portion of the contaminated soil was excavated near the source to approximately 7' x 33' x 6-14' deep, in the wash crossing. Four (4) composite samples were collected from the excavation. One (1) sample was collected from the south-end of the excavation at approximately 6 feet below ground surface (BGS), one (1) composite sample was collected from the center of the excavation at depths of 6 – 10 feet BGS, one (1) composite sample was collected from the north-end of the excavation at 14 feet BGS, and one composite sample was collected from the north wall near the source. The samples were analyzed in the field for total petroleum hydrocarbons (TPH) using USEPA Method 418.1 and for organic vapors using a Photo-Ionization Detector (PID). The sample collected at 14 feet BGS was below the regulatory standards of 100 ppm TPH and 100 ppm organic vapors; however, the samples collected from 6 feet BGS, from 6 – 10 feet BGS, and from the north wall were above regulatory cleanup standards with concentrations ranging from 468 to 1,930 ppm TPH and 283 to 1,290 ppm organic vapors. Therefore, additional excavation was required.

When collecting soil samples, it appeared that ground water was present at approximately 13 feet BGS. A sample of the water was collected into two (2) 40 mL VOA vials, preserved with HCl, and transported on ice and under chain of custody to Envirotech's laboratory to be analyzed for TPH using USEPA Method 8015, and for benzene, toluene, ethylbenzene, and total xylenes using USEPA Method 8021. The sample was below the regulatory limit of 0.75 ppm ethylbenzene; however, the sample was above the regulatory limits of 0.01 ppm benzene, 0.75 ppm toluene, and 0.62 ppm total xylenes.

Wednesday, December 31, 2008

Prior to arrival, the area of release had been excavated to approximately 39' x 7-10' x 7 - 14' deep. Five (5) composite samples were collected from the excavation. Three (3) composite samples were collected from the north wall, the east wall, and from the west wall, respectively.

One (1) composite sample was collected from the smear zone and one (1) composite sample was collected from the center of the excavation at approximately 7 – 10 feet BGS. The samples were analyzed in the field for TPH using USEPA Method 418.1 and for organic vapors using a PID. The sample collected from the smear zone was below the regulatory limits of 100 ppm TPH and 100 ppm organic vapors. The samples collected from 7 – 10 feet BGS and from the walls were above regulatory standards for TPH with concentrations ranging from 320 to 5248 ppm. The sample collected from 7 – 10 feet BGS was below the regulatory standard of 100 ppm organic vapors; however, the samples collected from the walls were above the regulatory standard for organic vapors with concentrations ranging from 249 to 804 ppm. In order to restore the road to the east of the excavation, excavation continued on the east wall, toward the road for approximately two (2) more feet with extents of excavation being approximately 39' x 7 – 12' x 7 -14' deep. A second composite sample was collected from the east wall. The sample was analyzed in the field for TPH using USEPA Method 418.1 and for organic vapors using a PID. The sample was below the regulatory limit of 100 ppm organic vapors; however, the sample was above the regulatory limit of 100 ppm TPH. All of the samples were then collected into four (4)-ounce glass jars, capped headspace free, and transported on ice under chain of custody to Envirotech's laboratory. All of the samples were analyzed for TPH using USEPA Method 8015. The samples collected from the north, south, west walls, and the initial sample collected from the east wall were analyzed for benzene and BTEX using USEPA Method 8021. The wall samples analyzed for benzene and BTEX were below the regulatory standards of 10 ppm benzene and 50 ppm BTEX. The samples collected from the bottom, the north wall, the south wall, and the second sample collected from the east wall were below the regulatory limits of 100 ppm TPH; however, the sample collected from the west wall was above the regulatory limit of 100 ppm TPH. Due to traffic concerns over the holiday, the area was staked-off and partially backfilled. Additional excavation was required on the west walls and on the bottom at the south-end of the excavation.

Tuesday, January 6, 2009

Envirotech, Inc. returned to the site to continue sampling and cleanup activities. Prior to Envirotech's arrival, the west wall had been excavated an additional 8 feet. Extents of excavation were approximately 40' x 7 – 15' x 7 -14' deep. A composite sample was collected from the west wall. The sample was analyzed in the field for TPH using USEPA Method 418.1 and for organic vapors using a PID. The sample was below the regulatory limit of 100 ppm organic vapors; however the sample was well above the regulatory limit for TPH with a concentration of 37,700 ppm. Therefore, additional excavation was required.

Wednesday, January 7, 2009

Envirotech, Inc. returned to complete sampling and cleanup activities. Prior to Envirotech's arrival, the area had been excavated to approximately 45' x 7 – 25' x 10 - 14' deep. Two (2) composite samples were collected from the excavation. One sample was collected from the north-west wall and one sample was collected from the bottom at the south end of the excavation, at approximately 10 feet BGS. The sample collected from the north-west wall was

below the regulatory limits of 100 ppm TPH and 100 ppm organic vapors. The sample collected from the bottom was below the regulatory limit of 100 ppm organic vapors; however, the sample was above the regulatory limit of 100 ppm TPH. Therefore, excavation continued on the south bottom to approximately 15 feet BGS, where a second composite sample was collected. The sample was analyzed in the field for TPH using USEPA Method 418.1 and for organic vapors using a PID. The sample was below the regulatory limits of 100 ppm TPH and 100 organic vapors. A composite sample was then collected from the south-west bottom of the excavation at approximately 10 feet BGS. The sample was analyzed in the field for TPH using USEPA Method 418.1 and for organic vapors using a PID. The sample was below the regulatory limit of 100 ppm organic vapors; however the sample was above the regulatory limit of 100 ppm TPH. Therefore, excavation continued on the south-west bottom to approximately 13 feet BGS. A second sample was collected from the south-west bottom at approximately 13 feet BGS. The sample was analyzed in the field for TPH using USEPA Method 418. The sample was below the regulatory limit of 100 ppm TPH. A composite sample was then collected from the west wall and analyzed in the field for TPH using USEPA Method 418.1 and for organic vapors using a PID. The sample was below the regulatory limits of 100 ppm TPH and 100 ppm organic vapors; therefore, further excavation was not required. Final extents of excavation were approximately 45' x 7 – 25' x 13 - 14' deep.

Approximately 625 cubic yards of contaminated soil was transported to Envirotech's NMOCD permitted remediation facility, Landfarm #2, located near Hilltop, New Mexico. Approximately 625 cubic yards of clean virgin soil was transported from Envirotech and the site was restored to pre-incident conditions.

Due to possible groundwater impacts, the New Mexico Oil Conservation Division (NMOCD) is requiring Elm Ridge Beeline to perform an assessment on the groundwater at this site to determine impacts. The following is a workplan meeting the requirements set forth by the NMOCD in a letter to Elm Ridge Beeline requiring groundwater assessment.

PURPOSE AND SCOPE OF SERVICES

The purpose of this workplan is to provide the methodology and cost information for the installation of three (3) monitoring wells, quarterly groundwater monitoring, laboratory analysis, and reporting of the onsite activities at the subject site. The following scope of services has been designed to meet this objective:

1) Three (3) monitoring wells (PMW-1, PMW-2 and PMW-3) will be installed to determine the effect of the release, if any, on the groundwater at this site.

2) The three (3) new wells will be sampled for VOCs using EPA Method 8260B.

3) After each sampling event, a report documenting the results will be prepared and submitted to the NMOCD for review and approval.

WORKPLAN FOR GROUNDWATER INVESTIGATION

The following workplan has been prepared to meet the requirements of the New Mexico Oil Conservation Division.

Monitor Well Installation

Three (3) monitor wells will be installed in order to determine possible effects on the groundwater at this site.

The monitoring wells will be constructed of 2-inch Schedule 40 PVC threaded flush joint casing with 10 feet of 0.010 slot screen. The screens will be gravel packed with #8-10 Colorado Silica Sand to two (2) feet above the screened interval, followed by two (2) feet of Bentonite Chips. The screened interval will be placed to allow a minimum of five (5) feet below the static water level. Soil cuttings will be drummed and transported to Envirotech's NMOCD permitted soil remediation facility for disposal.

Two (2) soil samples will be collected for laboratory analysis from each soil boring: one (1) based on the highest headspace measurement and one (1) from immediately above the water level. All soil samples will be preserved on ice in a chilled, insulated cooler until delivered to the analyzing laboratory. Soil samples will be submitted to the laboratory for determination of VOCs analysis per USEPA Method 8260B. Monitor well completion logs will be completed in the field.

The monitor wells will be surveyed to provide control for latitude, longitude, and U.S.G.S elevation. Upon completion of the monitor wells, the top of casing elevations will be surveyed into the site benchmark in order to provide 0.01-foot vertical control and 0.1-foot horizontal control.

The newly completed monitor wells will be developed by purging with a new disposable bailer until the produced water is clear. Within 48 hours of development, the monitor wells will be sampled.

Groundwater Monitoring and Analysis

Groundwater monitoring events of the monitoring wells will occur quarterly. Three (3) monitor wells (MW-1, MW-2 and MW-3) will be sampled for laboratory determination of VOCs including BTEX, and total naphthalenes. The sample procedures will follow USEPA SW-846 protocol. Water levels will be measured prior to bailing each well. A minimum of three (3) well volumes will be removed from each well prior to sampling using a new disposable bailer. Samples will be collected into 40 ml VOA vials with Teflon closures, preserved with HCl, capped headspace free, labeled, and stored on ice in an ice chest. Samples will be delivered to Envirotech's Laboratory for analysis using USEPA Method 8260B.

Report Preparation

A report will be prepared and submitted to the NMOCD upon completion of the monitor well installation and sampling. The report will address the methods, procedures, analytical results, and other information related to the onsite activities. One (1) copy of the report will be submitted to the NMOCD, one (1) copy of the report will be submitted to the local division of the NMOCD, one (1) copy will be submitted to the Jicarilla Environmental Protection Office, and one (1) copy will be submitted to Elm Ridge Beeline. Administrative and secretarial time is included for report preparation assistance.

CLOSURE AND LIMITATIONS

The scope of Envirotech's services will be limited to project management, sampling, monitoring well installation, laboratory analysis, and reporting at the Beeline Gas 8 Inch Trunk Gas Pipeline near the Otero Gathering Station located in Section 9, Township 23N, Range 5W, Rio Arriba County, New Mexico. All work will be performed in accordance with accepted practices in geotechnical, environmental and petroleum engineering, and hydrogeology.

Envirotech, Inc. will not perform work beyond the Scope of Services outlined herein without first obtaining approval from Elm Ridge Beeline and the NMOCD Project Manager.

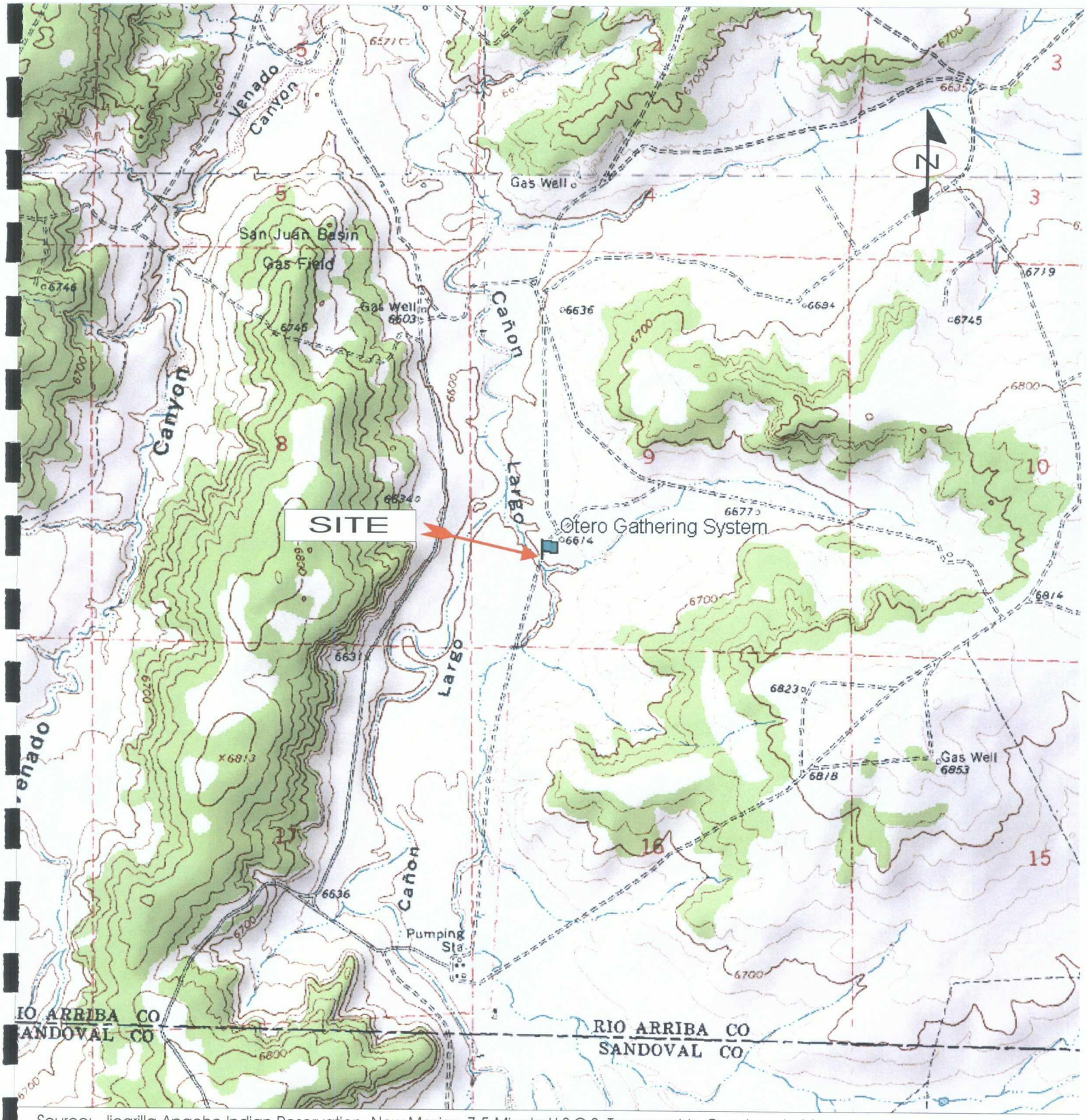
Respectfully Submitted,
ENVIROTECH, INC.

James McDaniel
Project Scientist
jmcdaniel@envirotech-inc.com

Reviewed By:

Kyle P. Kerr, CHMM
Senior Environmental Scientist/Manager
kpkerr@envirotech-inc.com

FIGURES



Source: Jicarilla Apache Indian Reservation, New Mexico 7.5 Minute U.S.G.S. Topographic Quadrangle Maps
Scale: 1:24,000 1" = 2000'

Elm Ridge Beeline
Otero Gathering Station
Section 9, Township 23N, Range 5W
Rio Arriba County, New Mexico

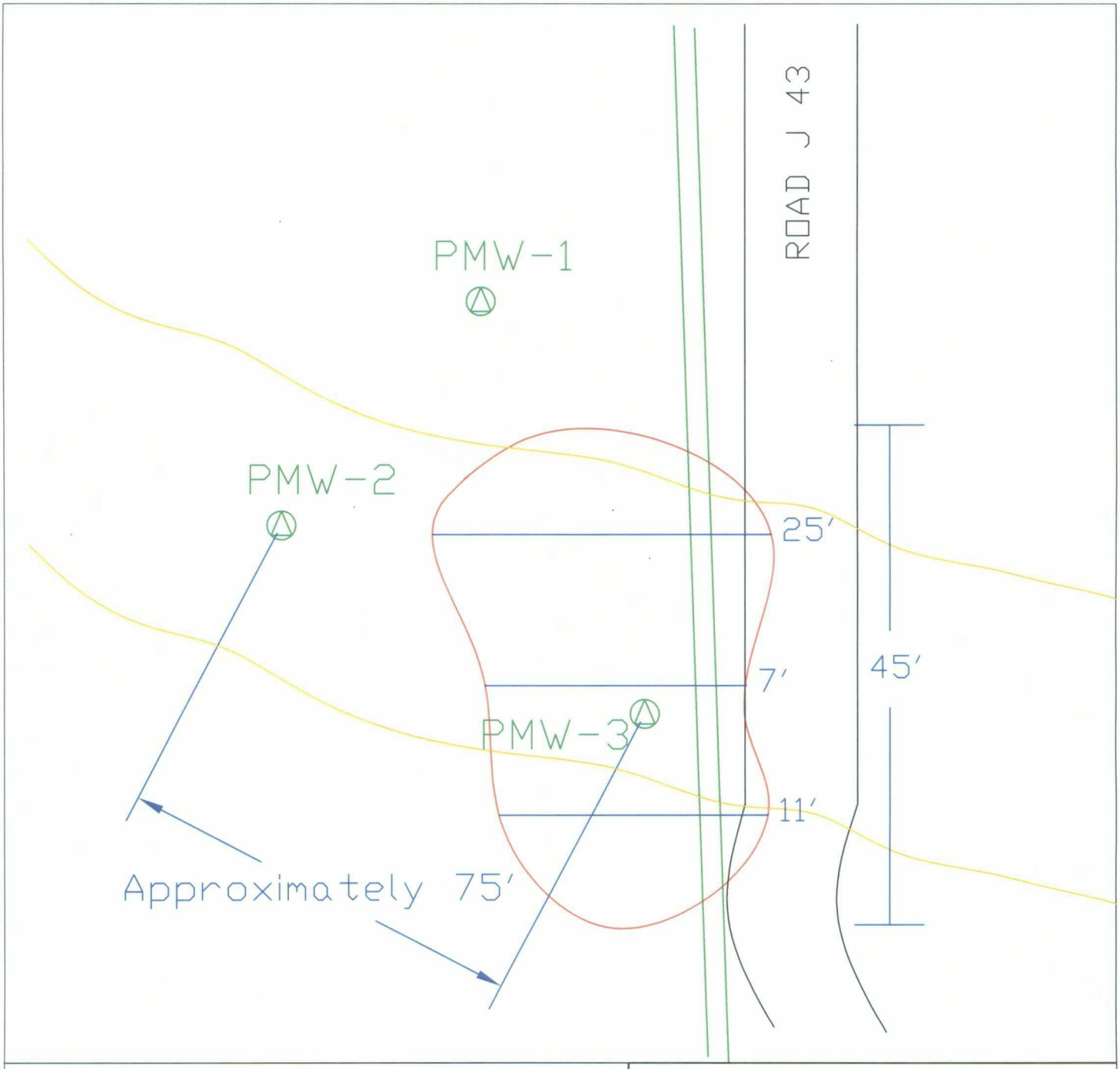
Project# 08011-0007 | Date Drawn: 03/12/09

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

Vicinity Map

Figure 1

Drawn By: James McDaniel | Project Manager: Greg Crabtree



LEGEND

Excavated Area

Proposed Monitoring Wells

SITE MAP
Elm Ridge Beeline
Otero Gathering Station
Section 9, Township 23N, Range 5W

SCALE: NTS	FIGURE NO. 2	REV
PROJECT NOD8011-0007		

REVISIONS

NO.	DATE	BY	DESCRIPTION

MAP DRWN	JPM	DATE	3/12/09		

envirotech

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