2R - 46

REPORTS

DATE:
APRIL 2001

Highlander Environmental Corp.

Midland, Texas

April 30, 2001

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2R0044

Mr. Michael C. Stubblefield
Environmental Bureau
Oil Conservation Division
Drawer DD
Artesia, New Mexico 88240

RE: Work Plan for the Well Blowout located at the Pogo McMillan 24 State #1, Eddy County, New Mexico

Dear Mr. Stubblefield:

Highlander Environmental Corp. (Highlander) was contacted by Pogo Producing Company (Pogo) to prepare a workplan for the impacted soil due to a well blowout, which occurred at the Pogo McMillan 24 State #1 in Eddy County, New Mexico. The Site is located in Section 24, Township 20 South, Range 26 East. The Site is shown in Figure 1.

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene and xylene). Based on the regional groundwater data, the proposed recommended remedial action level (RRAL) for TPH is 5,000 mg/kg.

According to published data, groundwater in the area of the Site is sparse. The published data indicated that groundwater in the vicinity of the Site is found at a depth of approximately 120 feet below the surface. During a field reconnaissance, two abandoned windmills were found west and southwest of the Site. These wells were both dry and each measured an approximate total depth of 130 feet below the surface. A total of four monitor wells were installed at the Site. The groundwater was encountered at a depth of 120' to 140' below the surface.

Background

On April 12, 2001, the well blowout occurred at the Site. During the initial blowout, the fluids that were not contained on location (drilling mud, produced water and condensate) flowed off the site and down an unnamed drywash south of the location approximately 1250'. The dry wash spill was contained in the erosion channel and is no more that 5' wide in the impacted area. No

estimate has been made as to the total amount of fluid the well produced during the blowout; however, the amount of fluid that was spilled in the dry wash was estimated at less than 25 bbl. This area was initially remediated by tilling peat moss and fertilizer into the affected soils.

Trench and berm containments were constructed on the west (Trench #1) and south sides (Trench #2) of the location to control the runoff of fluids from the well. The majority of the condensate and water migrated to the west edge of the pad into Trench #1 and a small amount flowed into Trench #2. The fluid was immediately pumped into an open lined pit located west of the Site using both vacuum trucks and trash pumps. A third trench (Trench #3) was dug approximately 200' south of the location to be used as an overflow pit during fire fighting operations. Trench #1 was breached during the wellhead cutting operations allowing approximately 3 bbl. of fluid to flow to Trench #3. The flow was redirected into Trench #2 to avoid collecting fluid in Trench #3.

A flare pit was constructed on the east end of the Trench #3 to be used when the well flow was diverted and controlled. During flaring operations, a small amount of emulsified condensate and water was washed over the back of the flare pit and flowed down the drywash a second time approximately 300'. The flow was discovered within minutes and was diverted to Trench #3. It was estimated that less than 5 bbl. of fluid was spilled into the dry wash. This area was immediately remediated by tilling peat moss and fertilizer as was performed after the initial spill into the dry wash.

After the rig was removed from the well, the fire was extinguished and gas, produced water and condensate were discharged into the air. Due to shifting winds, three major overspray areas occurred. Most of fluids fell into the reserve pit and onto the well location and were captured. The offsite overspray affected three areas that are northwest, east and southwest of the well. The areas of offsite impact are estimated to cover approximately 9 acres. The well was brought under control on April 18, 2001. The locations of the containment trenches and the overspray areas are shown in Figure 2.

Corrective Action

The west spray area, inside the firebreak, has been tilled and fertilized. An estimated 5 acres of heavier contaminated overspray areas (north of pad, north of fire break, and east of pad) were brush hogged and will be evaluated for further action.

The spill area in the drywash has been tilled with peat moss and fertilizer. Soil confirmation samples will be collected after several remedial treatments have been completed.

The soil in the containment pit, west of the location, was excavated and stockpiled to remove some of the saturated soil. This area was also excavated for access to install boreholes to vertically define the extent of impact. The soil stockpile remains onsite and is currently being worked and fertilized.

All containment trenches will remain open until the workover operations are completed.

Highlander personnel installed four (4) monitor wells at the Site. The locations of the wells are show in Figure 3. Soil samples were collected during the installation of the wells and the laboratory results are pending. The wells will be properly purged and sampled for BTEX and chloride evaluation. Two boreholes were installed at the west pit (west of pad) for vertical delineation. Soil samples were collected at five-foot intervals to a depth of 32 feet below surface and screened with an Organic Vapor Meter (OVM). Selected soil samples were analyzed for TPH, BTEX and chloride. The borehole results are currently pending.

Soil samples collected from the spill area will be analyzed of Total Petroleum Hydrocarbon (TPH) by method EPA 418.1, Benzene, Toluene, Ethylbenzene and Xylene (BTEX) by method SW 846-8020 and chloride by method SW846-9252.

WorkPlan

The open trenches and berms constructed at the Site will remain open until the work on the well has been completed. Once completed, the open trenches and flare pit will be evaluated and remediated for closure. The surficial areas (overspray) affected by the blowout will also be evaluated for closure. The impacted soil at the bottom of the trench areas will be excavated and sampled for evaluation. Soil confirmation samples will be collected for TPH, BTEX and chloride. Once the RRAL have been achieved, the trench areas will be backfilled.

From April 20, 2001 to April 26, 2001, Highlander supervised the installation of (4) four monitor wells at the Site. The completion details are shown in Table 1. During the installation of the wells, each well drilled dry and did not encounter groundwater. It appears the groundwater at the Site may be sparse and may not produce significant amounts. On April 26, 2001, water levels measurements were collected from each well. The monitor wells that were found to have groundwater showed static water levels of 129.30' in MW-1 and 143.98' in MW-2. Monitor wells MW-3 and MW-4 were dry and may require additional time for the groundwater to seep into the wells. The wells will be purged and sampled for BTEX and chloride evaluation. Additional boreholes and monitor wells are proposed on the well pad once the work on the well is completed.

With your approval, Pogo proposes to landfarm the impacted soil onsite. The landfarm area will be placed inside the west fenceline in the area of trench #1 and will require some scraping and leveling. The scaped soil will be segregated and sampled for evaluation. If the levels are below the RRAL, the soil will be used to backfill some of the open trenches. The soil remediation will consist of spreading the impacted soil on the surface at 18-inch lifts and bermed. Periodically, the soil will then be fertilized, tilled and watered to promote the degradation of the TPH impact. Soil samples will be collected from the landfarm area until the RRAL has been achieved. The proposed landfarm location is shown in Figure 3. Once the impacted soils are below the RRAL, the affected areas at the Site will be reseeded and restored.

A detailed report will be submitted summarizing all activities and proposed activities at the Site. If you require any additional information or have any questions or comments concerning the work plan report, please call.

Very truly yours,

Ike Tavarez
Project Manager/Geologist

cc: Don Riggs – Pogo Producing Co.
Rex Jasper – Pogo Producing Co.
Jim Carr - New Mexico State Land Office
Rodger Anderson – NMOCD, Santa Fe

Table 1
Pogo Producing Company
McMillan 24 State #1
Eddy County, New Mexico

Soil Boring/ Monitor Well	Date Drilled	Drilled Depth Feet, BGS	Ground Elev. Feet, MSL	TOC Elev. Feet, MSL	Well Diameter Inches	Well Screen Feet/BGS	Depth-to-Ground Water Feet, BGS 4/26/01
MW-1	4/20/01	140.00	-	-	2	120.0-140.0	129.3
MW-2	4/21/01	165.00	-	-	2	145.0-165.0	143.98
MW-3	4/23/01	150.00	-	-	2	130.0-150.0	dry
MW-4	4/25/01	180.00	-	-	2	140.0-180.0	dry

Notes:

1. BGS: Denotes depth in feet below ground surface.
2. MSL: Denotes elevation in feet above mean sea level.
3. -: No data available. (wells are schedule to be surveyed)

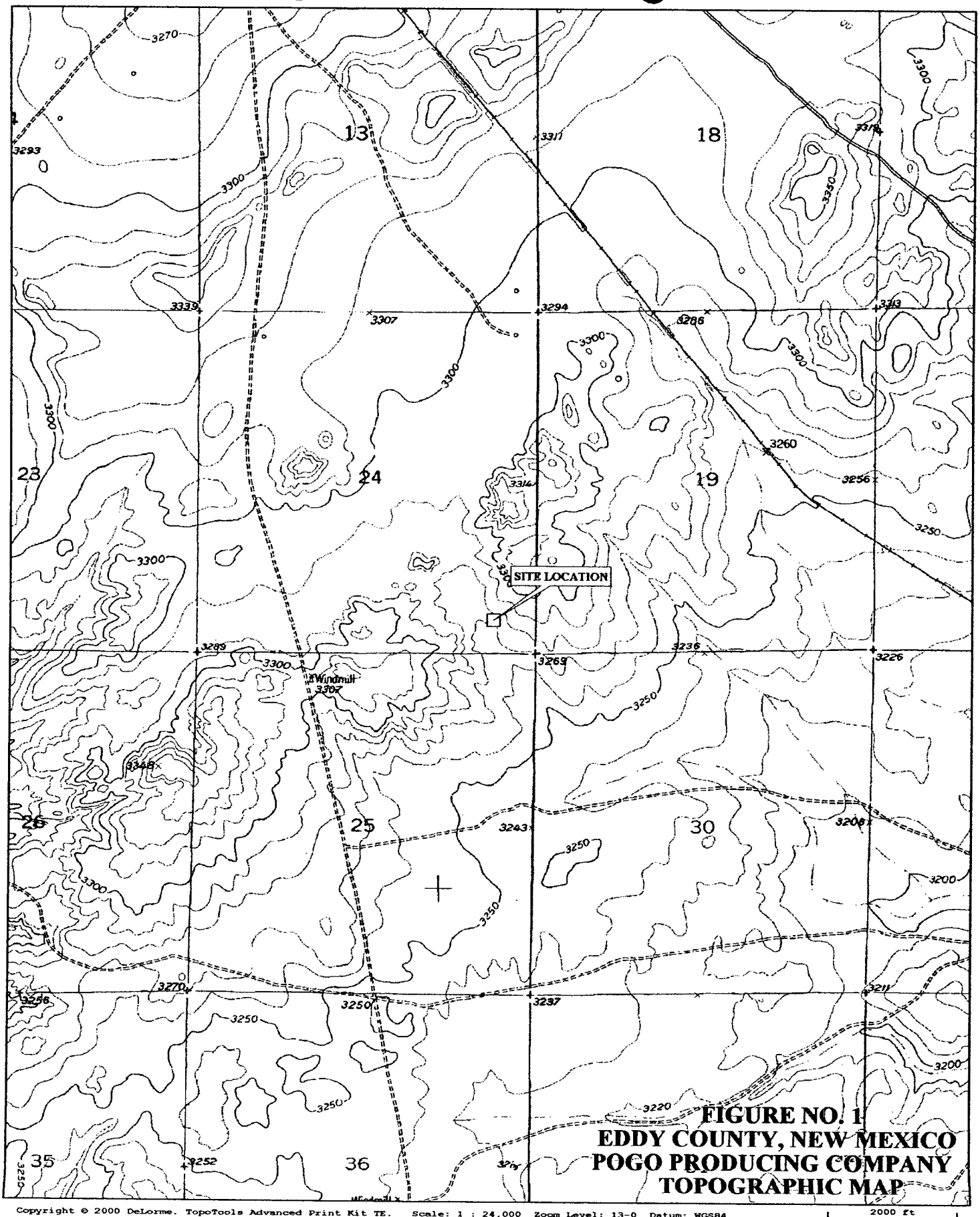

FIGURE NO. 1
EDDY COUNTY, NEW MEXICO
POGO PRODUCING COMPANY
TOPOGRAPHIC MAP

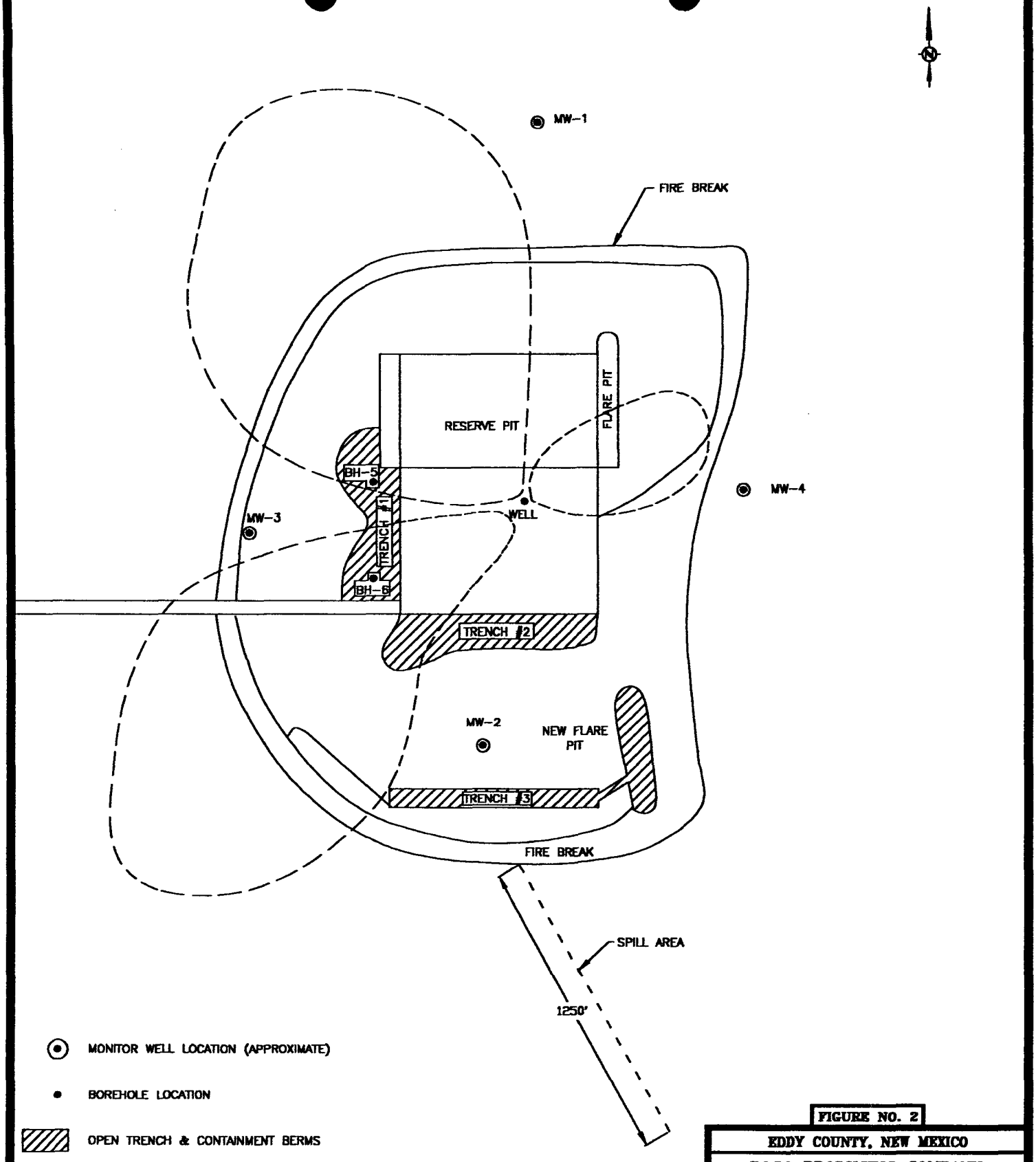

FIGURE NO. 2

EDDY COUNTY, NEW MEXICO

POGO PRODUCING COMPANY

WELL BLOWOUT
SITE PLAN
McMILLAN 24 STATE #1

DATE: 4/24/01

DWG. BY: JDA

FILE: C:\POGO\1655\SITE-PLAN

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

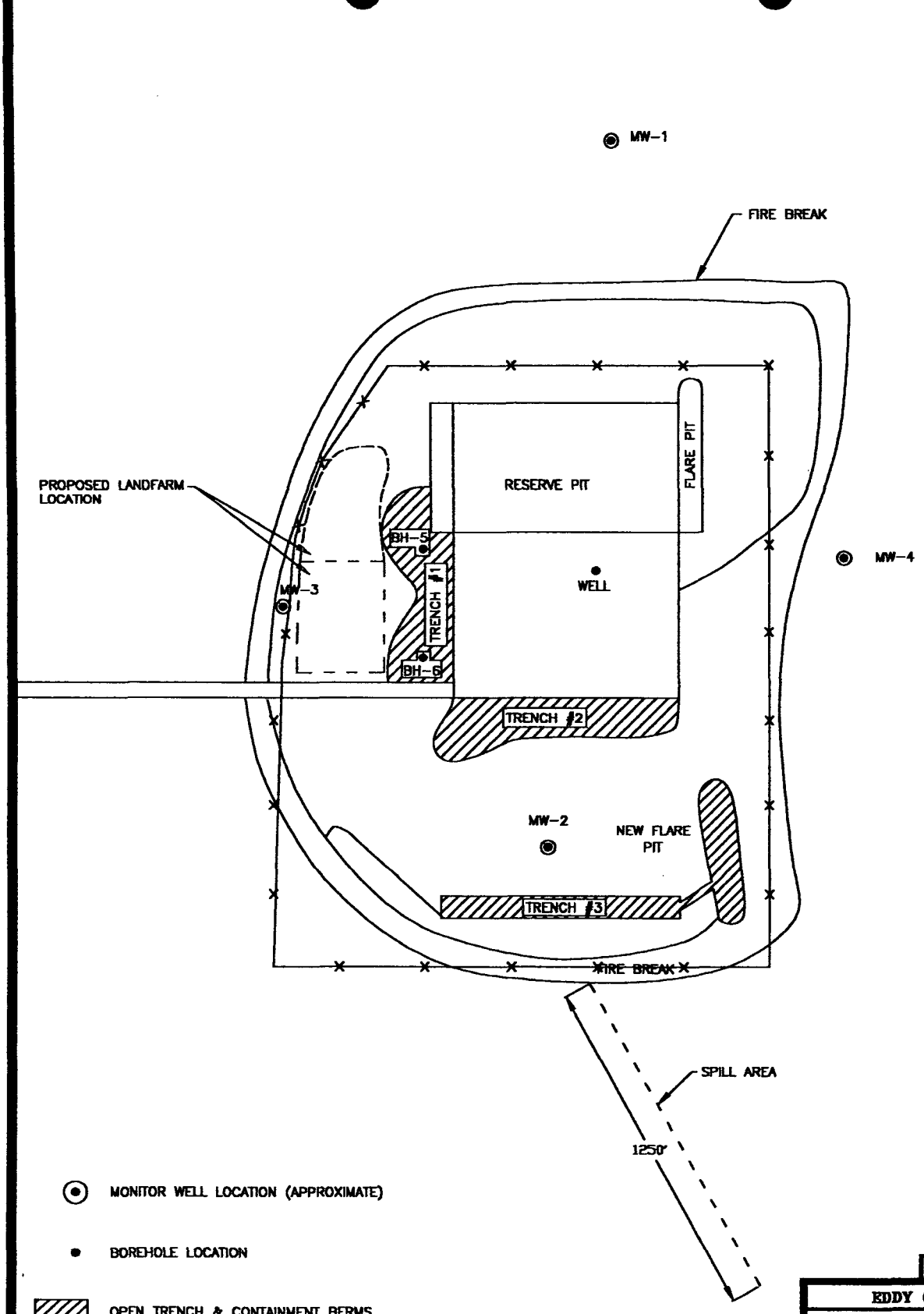

FIGURE NO. 3

EDDY COUNTY, NEW MEXICO

POGO PRODUCING COMPANY

WELL BLOWOUT
SITE PLAN
McMILLAN 24 STATE #1

DATE: 4/24/01
DWG. BY: JDA
FILE: C:\POGO\1600\

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company :	*Pogo Producing Company*	Contact:	*Rex Jasper*
Address:	*300 N. Marienfeld St.*	Telephone No.:	*(915) 685-8100*
Facility Name:	McMillan 24 State #1	Facility Type:	Well (new)

Surface Owner: New Mexico State Land	Mineral Owner: New Mexico State Land	Lease No. *NM 1324*

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	*24*	*20S*	*26E*	*660*	*FSL*	*660*	*FEL*	*Eddy County*

NATURE OF RELEASE

Type of Release: *Oil and water*	Volume of Release: *unknown*	Volume Recovered: *unknown*
Source of Release: *Well blowout*	Date and Hour of Occurrence: *7/16/01 (8:00 am)*	Date and Hour of Discovery: *7/16/01 (8:00 am)*
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom? NMOCD – *Mike Stubblefield was location approx. 2hrs after blowout (7/16/01).*	
By Whom?	Date and Hour: *7/16/01*	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*
Well blowout – Placed containment dikes and trenches to catch fluids from well blowout. The standing fluids were pumped into a lined pit at the Site and disposed of properly.

Describe Area Affected and Cleanup Action Taken.*
The affected area is shown in Figure 2. The cleanup action is attached.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Ike Tavarez (Agent for Pogo Producing)	OIL CONSERVATION DIVISION
Printed Name: IKE Tavarez	Approved by District Supervisor:
Title: Geologist	Approval Date: / Expiration Date:
Date: 5/15/01 Phone: (915) 682-4559	Conditions of Approval: / Attached ☐

* Attach Additional Sheets If Necessary