MERIT ENERGY CORPORATION

INITIAL C-141 AND WORK PLAN

TURNER B #44 PRODUCED WATER PIPELINE RELEASE

PROJECT REF: MER-TB44-050105

UL-N (SE¼ OF THE SW¼) OF SECTION 20 T17S R31E

LATITUDE: N32° 48.960' LONGITUDE: 103° 53.713'

~5.1 MILES EAST (BEARING 91.7°) OF LOCO HILLS

EDDY COUNTY, NEW MEXICO

May 13, 2005

PREPARED FOR MERIT ENERGY CORPORATION BY:

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1.0 Introduction and Background

This report addresses the produced water release that occurred at point on a 4" fiberglass produced water pipeline most nearly associated with the Merit Energy Turner B #44 Injection Well site. The release was the result of a loss of integrity of the pipeline. The duration of the leak is estimated to be several hours prior to the discovery of the leak at approximately 4:00 PM, May 1, 2005. The total release volume is estimated to be in excess of 25-bbl.

This release site is located on BLM land in Unit Letter N, (SE¼ of the SW¼), Section 20, T17S, R31E. . The GPS coordinates are: Latitude: N32° 48.960' Longitude: 103° 53.713'. A location map, topographical map of the site and a site detail diagram are included as Plates 1-3 in the Attachments.

2.0 Site Description

2.1 Geological Description

This area of Eddy County is notable for its predominant and extensive red sand dune surface structure with dramatic variations in elevation and contour. The sand dunes area is underlain by a thick layer of caliche at depths ranging from a few feet to greater than 25-ft.

2.2 Ecological Description

The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of hummocky sand hills covered with Harvard Shin Oak (*Querqus harvardi*) interspersed with Honey Mesquite (*Prosopis glandulosa*) along with typical desert grasses, flowering annuals and flowering perennials. Mammals represented, include Orrd's and Merriam's Kangaroo Rat, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, Mule Deer, Bobcat, Red Fox and Coyote. Reptiles, Amphibians, and Birds are numerous and typical of area. A survey of Listed, Threatened, or Endangered species was not conducted.

2.3 Area Ground Water

There is no groundwater of record in the area according to information obtained from the New Mexico State Engineer online database.

2.4 Area Water Wells

There are no recorded or observed water wells within 1000 horizontal feet of the site.

2.5 Area Surface Water Features

No surface water bodies exist within 1000 horizontal feet of the site.

3.0 Contaminant and Size of Area

The primary contaminant is produced water. The release affected the immediate surface area around the pipeline leak and the bottom of a ravine extending west from the release location approximately 750-ft. (see Plate 3).

The produced water associated with this release is considered RCRA Exempt oilfield waste. No evidence of other contaminants was observed.

4.0 Vertical Extent of Contamination

The vertical contamination extent is projected to be less than 2-ft in the narrow ravine channel. Pooling at the west terminus of the ravine will result in contaminant depths greater than 2-ft.

5.0 NMOCD Site Ranking

Contaminant delineation and remedial work done at this site indicate that the chemical parameters of the soil and the physical parameters of the ground water were characterized consistent with the characterization and remediation/abatement goals and objectives set forth in the following New Mexico Oil Conservation Division (NMOCD) publications:

- *Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993)*
- *Unlined Surface Impoundment Closure Guidelines (February 1993)*

Acceptable thresholds for contaminants/constituents of concern (CoCs), i.e., TPH^{8015m}, Benzene, and the mass sum of Benzene, Toluene, Ethyl Benzene, and total Xylenes (BTEX^{8260}), was determined based on the NMOCD Ranking Criteria as follows:

- *Depth to Ground water, i.e., distance from the lower most acceptable concentration to the ground water.*
- *Wellhead Protection Area, i.e., distance from fresh water supply wells.*
- *Distance to Surface Water Body, i.e., horizontal distance to all down gradient surface water bodies.*

Based on the proximity of the site to area water wells, surface water bodies, and depth to ground water from the lower most contamination, the NMOCD ranking score for the site is 20 points with the soil remedial goals highlighted in the Site Ranking table presented below.

NMOCD Site Ranking Table

1. Ground Water	2. Wellhead Protection	3. Distance to Surface Water
Depth to GW <50 feet: 20 points	If <1000' from water source, or; <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points
Depth to GW 50 to 99 feet: 10 points		200-1000 horizontal feet: 10 points
Depth to GW >100 feet: 0 points	If >1000' from water source, or; >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points
Ground Water Score = 0	Wellhead Protection Score= 0	Surface Water Score= 0
Site Rank (1+2+3) = 0 + 0 + 0 = 0 points		

Total Site Ranking Score and Acceptable Remedial Goal Concentrations			
Parameter	20+	10	0
Benzene	10 ppm	10 ppm	10 ppm
BTEX	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm

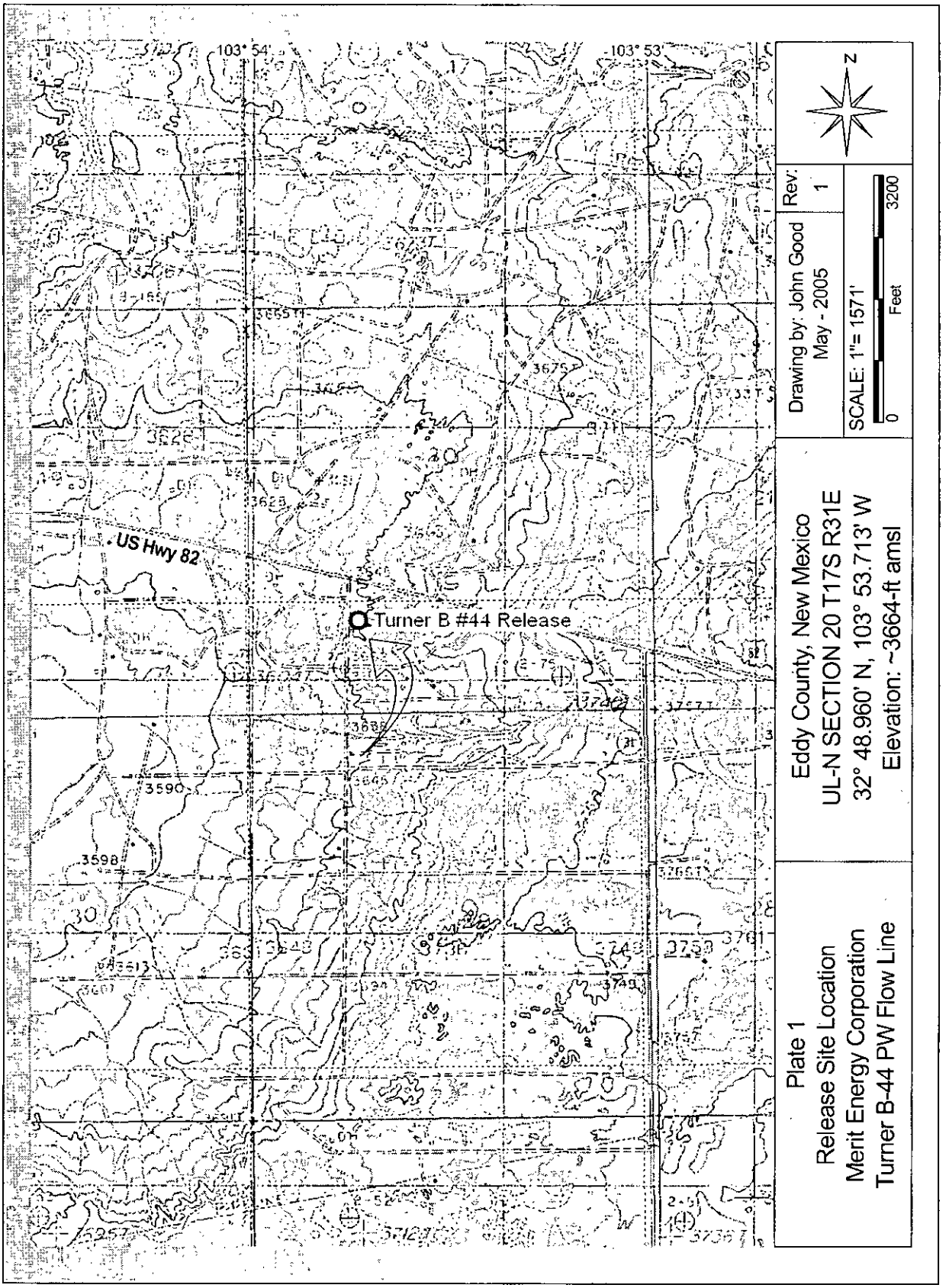
6.0 Remediation Action Plan

The contaminated sand in the areas of the pipeline release and the western ravine terminus will be blended to achieve contaminant levels below the remedial action levels (5000-ppm TPH; 50-ppm BTEX; 10-ppm Benzene).

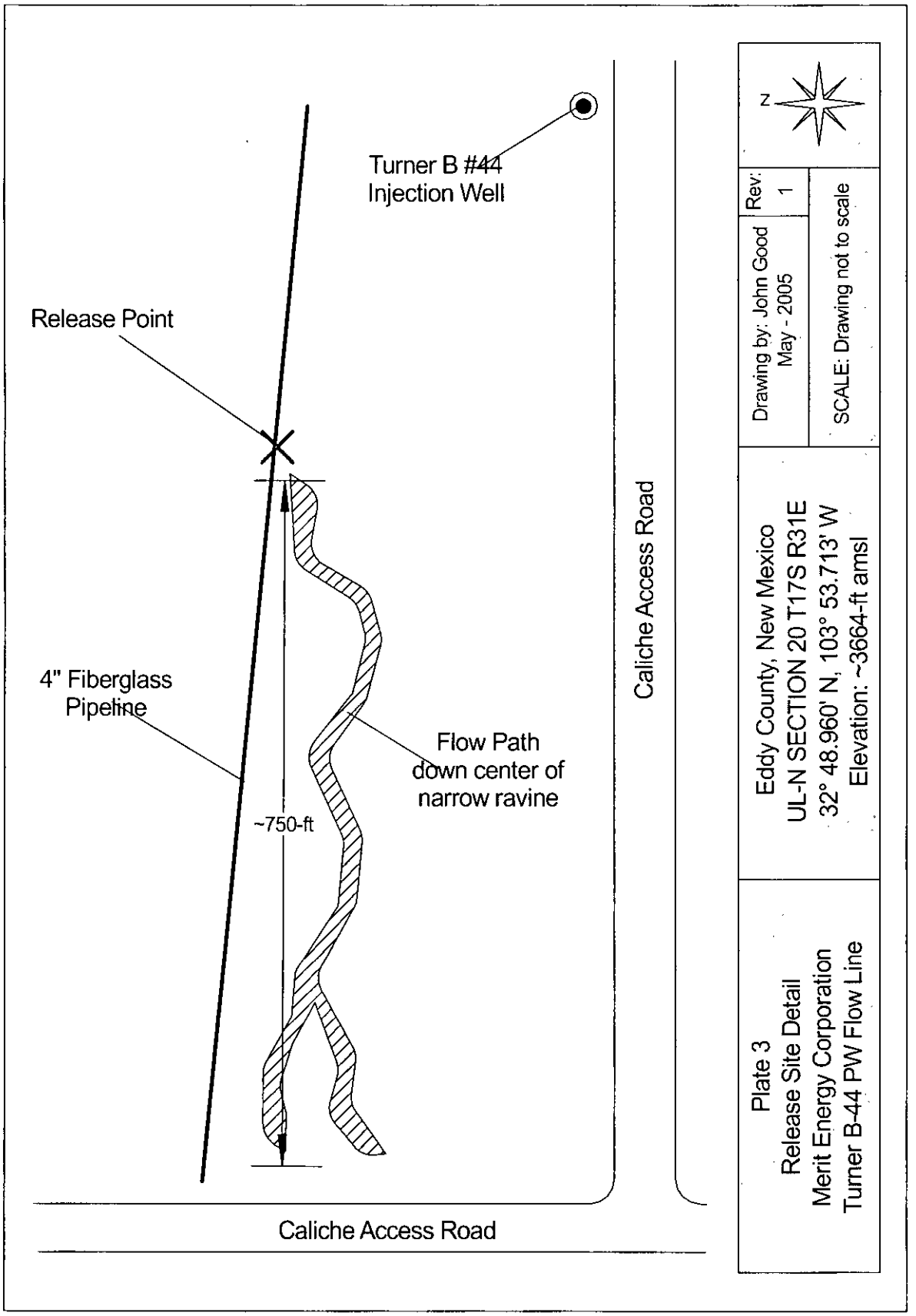
I am recommending that the narrow flow path in the bottom channel of the ravine not be remediated at this time. Due to the depth (8 to 10-ft) and steep vertical sides of the ravine, the bottom channel cannot be worked with any type of heavy equipment. Working it from the sides of the ravine with a trackhoe would damage much more vegetated surface area than the narrow flow path we would be remediating. The bottom of the ravine channel is naturally un-vegetated due to erosion during every significant rain event. The presence of elevated chloride levels in this narrow channel will not alter the normal un-vegetated condition of the ravine bottom. Run-off from rain events will be concentrated in the ravine bottom, thus causing an increased rate of vertical migration of the chlorides in the ravine bottom.

ATTACHMENTS

Plate 1: Site Location Map 7
Plate 2: Site Topography Map 8
Plate 3: Site Features 9
Site Information and Metrics Form 10
Initial NMOCD C-141 Form 11


103° 54'
103° 53'
US Hwy 82
Turner B #44 Release
3590
3598
Plate 1
Release Site Location
Merit Energy Corporation
Turner B-44 PW Flow Line
Eddy County, New Mexico
UL-N SECTION 20 T17S R31E
32° 48.960' N, 103° 53.713' W
Elevation: ~3664-ft amsl
Drawing by: John Good
May - 2005
Rev: 1
SCALE: 1"= 1571'
0
Feet
3200
N

Turner B #44 Release
US Hwy 82
-103° 54'
-103° 53'
32° 49'
Plate 2
Release Site Topography
Merit Energy Corporation
Turner B-44 PW Flow Line
Eddy County, New Mexico
UL-N SECTION 20 T17S R31E
32° 48.960' N, 103° 53.713' W
Elevation: ~3664-ft amsl
Drawing by: John Good
May - 2005
Rev: 1
SCALE: 1"= 1025'
0
Feet
2000
N


Turner B #44
Injection Well
Release Point
4" Fiberglass
Pipeline
Flow Path
down center of
narrow ravine
~750-ft
Caliche Access Road
Caliche Access Road
Plate 3
Release Site Detail
Merit Energy Corporation
Turner B-44 PW Flow Line
Eddy County, New Mexico
UL-N SECTION 20 T17S R31E
32° 48.960' N, 103° 53.713' W
Elevation: ~3664-ft amsl
Drawing by: John Good
May - 2005
Rev: 1
SCALE: Drawing not to scale
N

Merit Energy Corporation	Incident Date: 5/1/05	NMOCD Notified: 5/3/05

SITE: Turner B #44 PW Line		Assigned Site Reference:	TB44-050105
Company:	Merit Energy Corporation		
Street Address:			
Mailing Address:	P.O. Box 69		
City, State, Zip:	Loco Hills, NM 88255		
Representative:	Gene Brookshire		
Representative Telephone:	505-420-5497		
Telephone:			
Fluid Volume Released (bbl): > 25	Volume Recovered (bbl): ~ 0	Net Release: > 25	

>25 bbl: Notify NMOCD verbally within 24 hours and submit C-141 within 15 days.

5-25 bbl: Submit Form C-141 within 15 days. (Also applies to unauthorized release of >50 mcf Natural Gas).

Leak, Spill, or Pit (LSP) Name:	Turner B #44 PW Line
Source of Contamination:	4" Produced Water Line - loss of integrity
Land Owner, i.e. BLM, ST, Fee, Other:	BLM
LSP Dimensions:	3' X 750' narrow channel flow path
LSP Area	~ 2250 -ft^2
Location of Reference Point (RP):	
Location distance and direction from RP:	
Latitude: North	32deg 48.960'
Longitude: West	103deg 53.713'
Elevation above mean sea level (amsl):	3664 feet 1117 meters
Distance from South Section Line (feet):	700
Distance from West Section Line (feet):	1755
Location - Unit Letter and 1/4 1/4:	UL- N SE - 1/4 of SW - 1/4
Location - Section	20
Location - Township	17S
Location - Range	31E
Surface water body within 1000' radius of site:	0
Surface water body within 1000' radius of site:	0
Domestic water wells within 1000' radius of site:	0
Domestic water wells within 1000' radius of site:	0
Agricultural water wells within 1000' radius of site:	0
Agricultural water wells within 1000' radius of site:	0
Public water supply wells within 1000' radius of site:	0
Public water supply wells within 1000' radius of site:	0
Depth (feet) from land surface to Ground Water (DG): >	250
Depth (feet) of lowest contamination (DC):	5
Depth (feet) to Ground Water (DG - DC = DtGW): >	245

1. Ground Water	2. Wellhead Protection Area	3. Distance to Surface Water
If Depth to GW <50-feet: 20 points	If <1000' from water source, or, <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points
If Depth to GW 50 to 100-feet: 10 points	If >1000' from water source, or, >200' from private domestic water source: 0 points	200-1000 horizontal feet: 10 points
If Depth to GW >100-feet: 0 points		>1000 horizontal feet: 0 points
Ground Water Score: 0	Wellhead Protection Score: 0	Surface Water Score: 0

Site Ranking (1 + 2 + 3): **0**

Total Site Ranking Score and Acceptable Concentrations

Parameter	20 or >	10	**0**
Benzene[1]	10-ppm	10-ppm	**10-ppm**
BTEX[1]	50-ppm	50-ppm	**50-ppm**
TPH	100-ppm	1000-ppm	**5000-ppm**

[1] *100-ppm field VOC headspace measurement may be substituted for lab analysis*