

3R - 394

**ANNUAL
MONITORING
REPORT**

8/15/2006



Lodestar Services, Inc.

P.O. Box 3861, Farmington, NM 87499-3861, 505-334-2791

3R 394

August 15, 2006

Mr. Steve Austin
Navajo Nation EPA
PO Box 1999
Shiprock, NM 87420

CERTIFIED MAIL: 7004 1160 0007 4952 1517

RE: OH Randel #7

2006 AUG 17 AM 11 41

Dear Mr. Austin,

XTO Energy Inc. (XTO) has contracted Lodestar Services, Incorporated (Lodestar) to oversee groundwater monitoring and remedial activities at the OH Randel #7 natural gas production well. It has come to our attention that the well is located on land regulated by the Navajo Nation Environmental Protection Agency (NNEPA). Previous regulatory correspondence has been with the New Mexico Oil Conservation Division (NMOCD). An annual comprehensive report was submitted to the NMOCD in January 2006 and is included for your review.

The OH Randel #7 is located in Unit D of Section 16 of Township 26N, Range 11W, and includes a former oil-water-separator pit that may have affected shallow groundwater. Six groundwater monitoring wells were previously installed on the site to investigate groundwater quality. One of the wells, MW-6, contains free-phase hydrocarbons. Previously MW-1 and MW-2 contained free-phase hydrocarbons. MW-1 is located in the center of the former pit. MW-2 is directly adjacent to the pit, and MW-6 is located down gradient of the pit. The annual report included herein has several groundwater contour maps provided by Blagg Engineering that indicate varying groundwater flow directions. Navajo Agricultural Products Incorporated (NAPI) conducts irrigation adjacent to the site and may influence groundwater flow direction.

The following steps are proposed remove impacted soil and free-phase hydrocarbons:

1. Excavate affected soil associated with historical operations from the former pit. Impacted soil will be disposed at a local land farm permitted by the NMOCD. Soil headspace gas will be monitored with a photo-ionization detector (PID) to determine extent of impacted soil during excavation according to the NMOCD Guidelines for headspace analysis. Soil above 10 milligrams per kilogram (mg/kg) benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and xylenes (BTEX), and 100 mg/kg total petroleum hydrocarbons will be removed. Laboratory analyses of composite samples collected from the sidewalls of the excavation will be used to document that impacted soil has been removed.
2. Erect temporary fencing around the excavated site and remove impacted water and free-phase hydrocarbons from the pit.

3. Once the free-phase hydrocarbons have been removed, backfill the excavation site with clean soil.
4. Replace groundwater-monitoring wells as necessary.
5. Install additional down gradient monitoring wells as necessary to characterize impacted groundwater.
6. Remove free phase hydrocarbons from groundwater, then sample groundwater-monitoring wells for benzene, toluene, ethylbenzene and total xylenes (BTEX) on a quarterly basis to monitor progress at the site.

Following completion of the above tasks, XTO will provide a letter report describing onsite activities and analytical results. XTO wishes to complete this work as soon as practical and will contact you to schedule activities. Should you have any questions or require additional information, please do not hesitate to contact Lisa Winn of XTO at (505) 324-1090 or you can call me at (505) 334 2791.

Sincerely,
LODESTAR SERVICES, INC



Martin Nee

Cc: Lisa Winn, XTO, w/o enclosures
Kim Champlin, XTO, w/o enclosures
Ashley Ager, LSI, w/o enclosures
Glenn Von Gonten, NMOCD
File

Attachments: Annual Report



Lodestar Services, Inc.

P.O. Box 3861, Farmington, NM 87499-3861, 505-334-2791

3R 394

2006 AUG 17 AM 11 41

XTO ENERGY INC.

ANNUAL GROUNDWATER REMEDIATION REPORT

2005

**O.H. RANDEL #7
(D) SECTION 15, T26N, R11W, NMPM
SAN JUAN COUNTY, NEW MEXICO**

**PREPARED FOR:
MR. GLENN VON GONTEN
NEW MEXICO OIL CONSERVATION DIVISION**

JANUARY 2006

**PREPARED BY:
BLAGG ENGINEERING, INC.**

**Consulting Petroleum / Reclamation Services
P.O. Box 87
Bloomfield, New Mexico 87413**

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Field Sampling Data Summaries

Laboratory Reports

Pit Closure Documentation & NMOCD Correspondence Letter

XTO Energy Inc.
O.H. Randel # 7 - Abandoned Separator Pit
NW/4 NW/4 Sec. 15, T26N, R11W

Pit Closure Date:

3/12/02

Monitor Well Installation Dates:

3/22/02 (MW 1)
4/9/02 (MW 2, 3 & 4)
4/19/02 (MW 5 & 6)

Monitor Well Sampling Dates:

4/24/02, 8/27/02, 10/8/02, 3/3/03, 6/18/03, 8/29/03,
6/21/04, 6/28/05

Historical Information:

- January 1998 - XTO Energy Inc. (XTO) acquires the O. H. Randel #7 from Amoco Production Company.
- March 2002 – Hydrocarbon impact to soil associated with an historical earthen separator pit was discovered.
- March & April 2002 – Groundwater monitoring wells were installed (Figure 2). Groundwater was encountered at a depth of approximately 16 feet below ground surface. Phase separated hydrocarbons (PSH) were observed in monitoring wells MW 1 (source area), MW 2 and MW 6.
- April 2002 to Present – Continued quarterly/annual monitor well sampling. Periodic removal of PSH included with sample events.

Groundwater Monitor Well Sampling Procedures:

Groundwater samples were collected from site monitor wells (MW) following US EPA: SW-846 protocol. Samples were collected using new disposable bailers and placed in laboratory supplied containers and stored in a cooler on ice. The samples were delivered to an accredited environmental laboratory according to chain-of-custody procedures. The samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) per US EPA Method 8021B and general water chemistry per US EPA Method 600/4-79-020. Analytical results are summarized in Table 1. Waste generated (groundwater) during monitor well sampling and development was placed in the produced water separator tank located on the well site.

Water Quality and Gradient Information:

Groundwater elevation data indicates the groundwater surface is relatively flat with a variable gradient, but trending primarily to the southwest (Figures 4 – 7). In June 2003 the groundwater elevation data indicate a southeast direction. Groundwater may be influenced by irrigation of a field adjacent to the location. Additionally, it is possible the groundwater at this site is a perched water table due to the percolation of irrigation water from this field.

PSH was bailed off the water table from monitor wells MW1, MW2 and MW6. A total of approximately 22 gallons of product has been recovered to date, with some reduction in the thickness of product over time. Installation of groundwater monitoring wells and sampling was conducted to determine the extent of impact. It appears that monitor wells MW3 and MW4 adequately delineate the western and southern limits of groundwater impact. However the northern and eastern limits may not be fully defined.

Summary:

The O.H. Randel #7 is in a remote area (Figure 1) with no residences, water supply wells, surface water, utilities or known receptors within several miles. The presence of PSH indicates a need to address the source area(s) at the site. XTO proposes to excavate soil impacted by the former separator pit. Additional groundwater monitoring wells will be installed to further delineate hydrocarbon impact to groundwater.

TABLE 1

XTO ENERGY INC. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

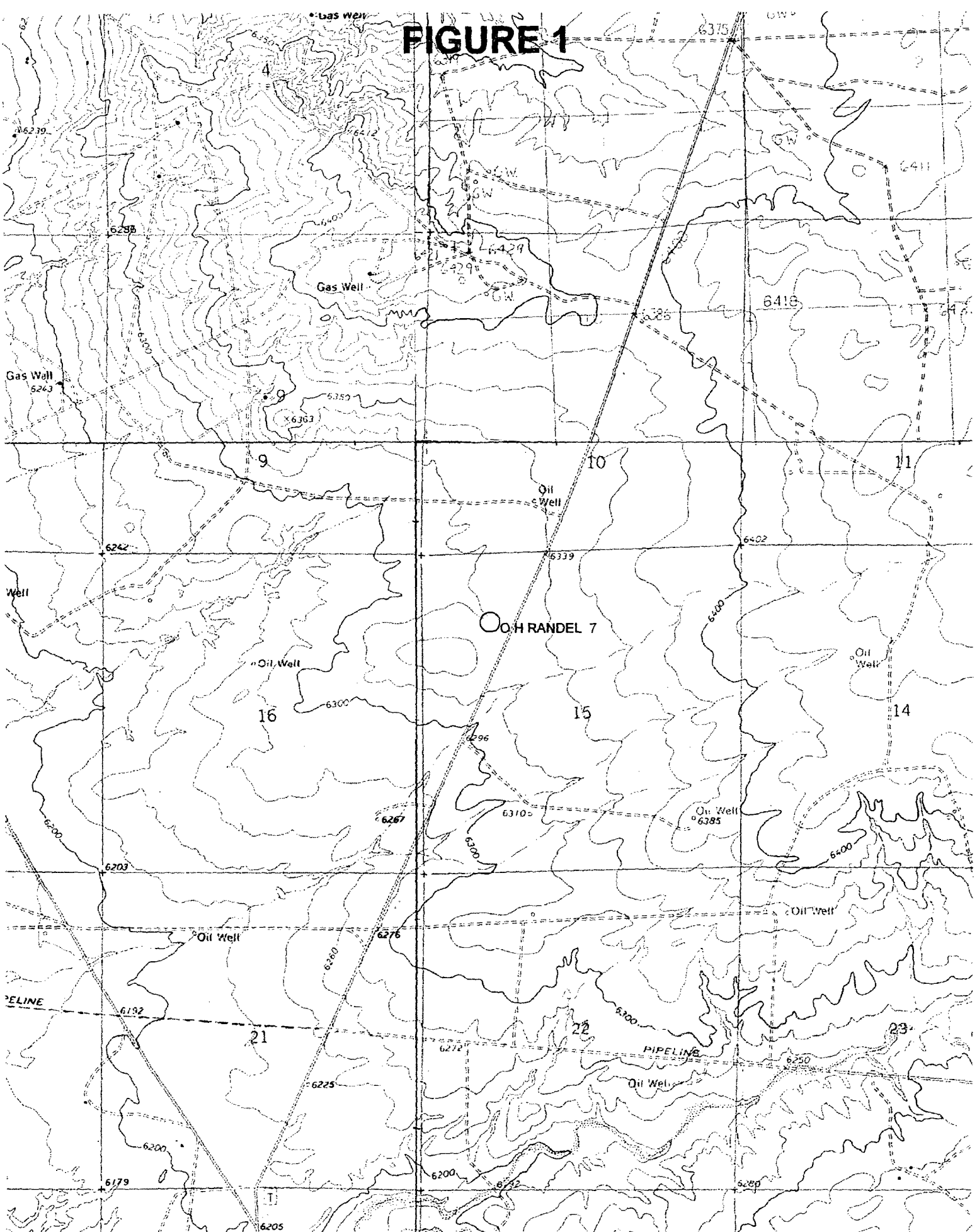
O. H. RANDEL #7 - SEP. PIT
UNIT D, SEC. 15, T26N, R11W

REVISED DATE: JANUARY 18, 2006

FILENAME: (R7-2Q-05.WK4) NJV

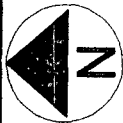
SAMPLE DATE	MONITOR WELL No:	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	BTEX EPA METHOD 8021B (ppb)			
								Benzene	Toluene	Ethyl Benzene	Total Xylene
22-Apr-02	MW #1	16.63	22.22				0.33	NA	NA	NA	NA
24-Apr-02							0.58	NA	NA	NA	NA
27-Aug-02		16.49					0.30	NA	NA	NA	NA
08-Oct-02		16.16					0.37	NA	NA	NA	NA
23-May-03		16.04					0.31	NA	NA	NA	NA
28-May-03		15.99					0.18	NA	NA	NA	NA
06-Jun-03		16.04					0.11	NA	NA	NA	NA
18-Jun-03		16.04					0.07	NA	NA	NA	NA
26-Jun-03		17.93					0.08	NA	NA	NA	NA
31-Jul-03		16.19					0.01	NA	NA	NA	NA
29-Aug-03		16.29					-	NA	NA	NA	NA
21-Jun-04		17.09					0.81	NA	NA	NA	NA
22-Apr-02	MW #2	18.32	24.60					NA	NA	NA	NA
24-Apr-02		18.38					0.03	NA	NA	NA	NA
27-Aug-02		19.86					0.94	NA	NA	NA	NA
08-Oct-02		18.02					0.52	NA	NA	NA	NA
23-May-03		17.83					0.53	NA	NA	NA	NA
28-May-03		17.78					0.16	NA	NA	NA	NA
06-Jun-03		17.83					0.12	NA	NA	NA	NA
18-Jun-03		17.88					0.09	NA	NA	NA	NA
26-Jun-03		16.09					0.04	NA	NA	NA	NA
31-Jul-03		15.86					-	NA	NA	NA	NA
29-Aug-03		15.99					-	NA	NA	NA	NA
21-Jun-04		16.83					0.73	NA	NA	NA	NA
22-Apr-02	MW #3	16.26	22.50					NA	NA	NA	NA
24-Apr-02		16.25			1,400	7.82		24	2.4	0.58	200
27-Aug-02		15.28			1,300	7.83		9.4	ND	ND	150
08-Oct-02		14.74						NA	NA	NA	NA
03-Mar-03		15.17			1,100	8.42		5.5	ND	ND	43
18-Jun-03		15.16			900	7.72		6.1	0.97	ND	43
29-Aug-03		15.39			1,400	7.58		3.2	0.53	ND	24
NMWQCC GROUNDWATER STANDARDS								10	750	750	620

FIGURE 1



Name: HUERFANO TRADING POST NW
 Date: 1/18/2006
 Scale: 1 inch equals 2000 feet

Location: 036.4919018° N 107.9965265° W
 Caption: O.H. RANDEL #7
 (D) SEC. 15 T20N R44W



TO
WELL
HEAD

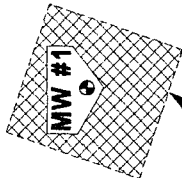
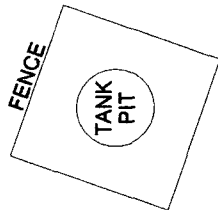
FIGURE 2

• MW #5

METER RUN

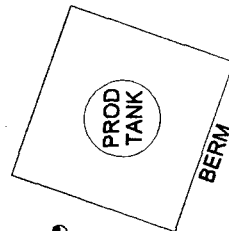
• MW #2

MW #3 •



ABANDONED
SEPARATOR PIT

• MW #6



MW #4 •

1 INCH = 30 FT.

0 30 60 FT.

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE
AS THE INSTRUMENTS USED IN OBTAINING THE
FOOTAGE AND BEARING FROM THE WELL HEAD
(BRUNTON/ COMPASS AND LASER RANGE FINDER).
ALL OTHER STRUCTURES DISPLAYED ON THE SITE
MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE
TO SCALE.

XTO ENERGY INC.

O.H. RANDEL #7

NW/4 NW/4 SEC. 15, T26N, R11W, NMPM

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: GW INVESTIGAT.

DRAWN BY: NJV

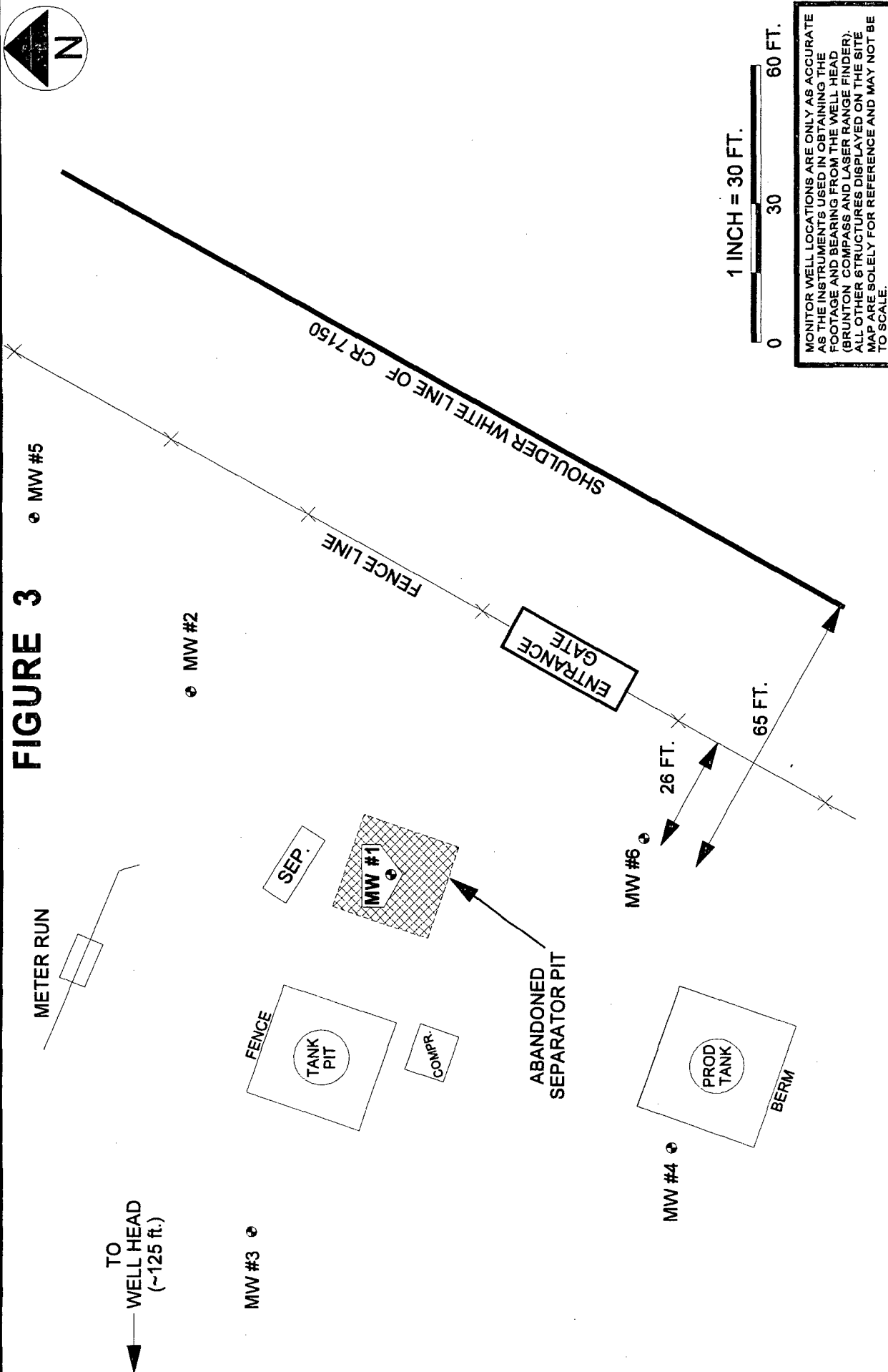
FILENAME: 06-18-03-SM.SKF

REVISED: 10/16/05 NJV

**SITE
MAP**

06/03

FIGURE 3



MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

SITE MAP

06/05

PROJECT: GW INVESTIGAT.
 DRAWN BY: NJV
 FILENAME: 10-17-05-SM.SKF
 REVISED: 10/17/05 NJV

BLAGG ENGINEERING, INC.
 CONSULTING PETROLEUM / RECLAMATION SERVICES
 P.O. BOX 87
 BLOOMFIELD, NEW MEXICO 87413
 PHONE: (505) 632-1199

XTO ENERGY INC.
 O.H. RANDEL #7
 NW/4 NW/4 SEC. 15, T26N, R11W, NMPM
 SAN JUAN COUNTY, NEW MEXICO

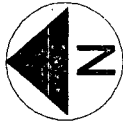
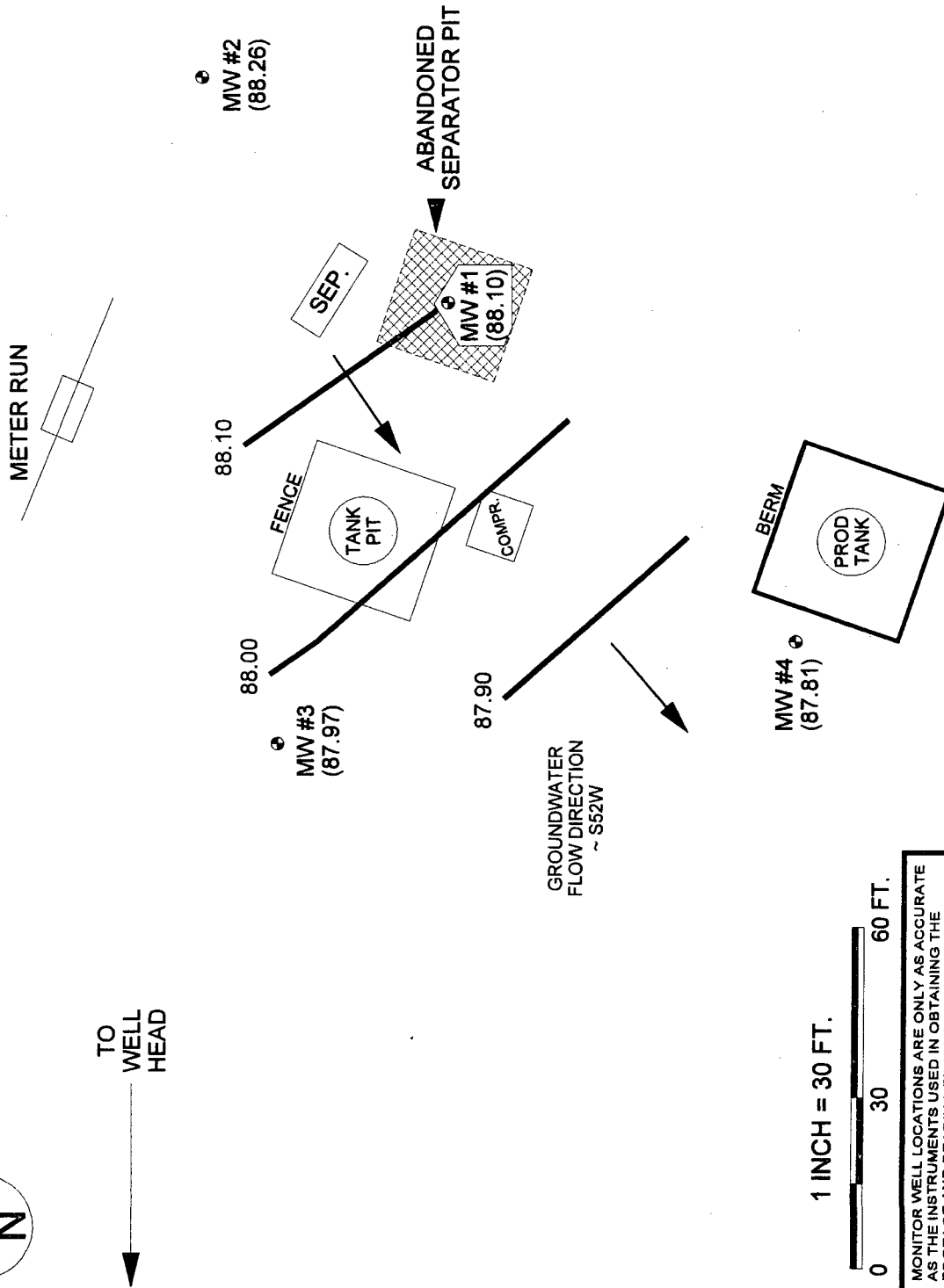


FIGURE 4



1 INCH = 30 FT.



MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

Top of Well Elevation	
MW #1	(104.74)
MW #2	(106.90)
MW #3	(105.56)
MW #4	(105.86)
MW #1	Groundwater Elevation as of 04/11/02.
⊕ (88.10)	

XTO ENERGY INC.

O.H. RANDEL #7

NW/4 NW/4 SEC. 15, T26N, R11W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: GW INVESTIGAT.

DRAWN BY: NJV

FILENAME: 041102-GW1.SKF

REVISED: 10/17/05 NJV

GROUNDWATER
CONTOUR
MAP

04/11/02

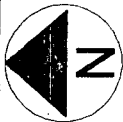
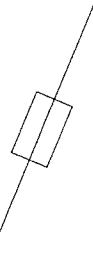


FIGURE 5

MW #5
(88.12)

METER RUN



MW #2
(88.13)

88.10

88.00

MW #3
(87.88)

87.90

FENCE

TANK
PIT

COMP.

ABANDONED
SEPARATOR PIT

MW #1

87.80

APPARENT
GROUNDWATER
FLOW DIRECTION
~ S39W

MW #4
(87.67)

BERM

PROD
TANK

MW #6
(87.84)

87.80

1 INCH = 30 FT.

0 30 60 FT.

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AS THE INSTRUMENTS USED IN OBTAINING THE
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(BRUNTON COMPASS AND LASER RANGE FINDER).
ALL OTHER STRUCTURES DISPLAYED ON THE SITE
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TO SCALE.

Top of Well Elevation

MW #1 (104.73)

MW #2 (106.49)

MW #3 (104.13)

MW #4 (104.33)

MW #5 (107.26)

MW #6 (106.16)

MW #2 Groundwater Elevation
as of 04/24/02.

(88.13)

XTO ENERGY INC.

O.H. RANDEL #7

NW/4 NW/4 SEC. 15, T26N, R11W

SAN JUAN COUNTY, NEW MEXICO

PROJECT: GW INVESTIGAT.

DRAWN BY: NJV

FILENAME: 042402-GW.SKF

REVISED: 10/17/05 NJV

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

GROUNDWATER

CONTOUR

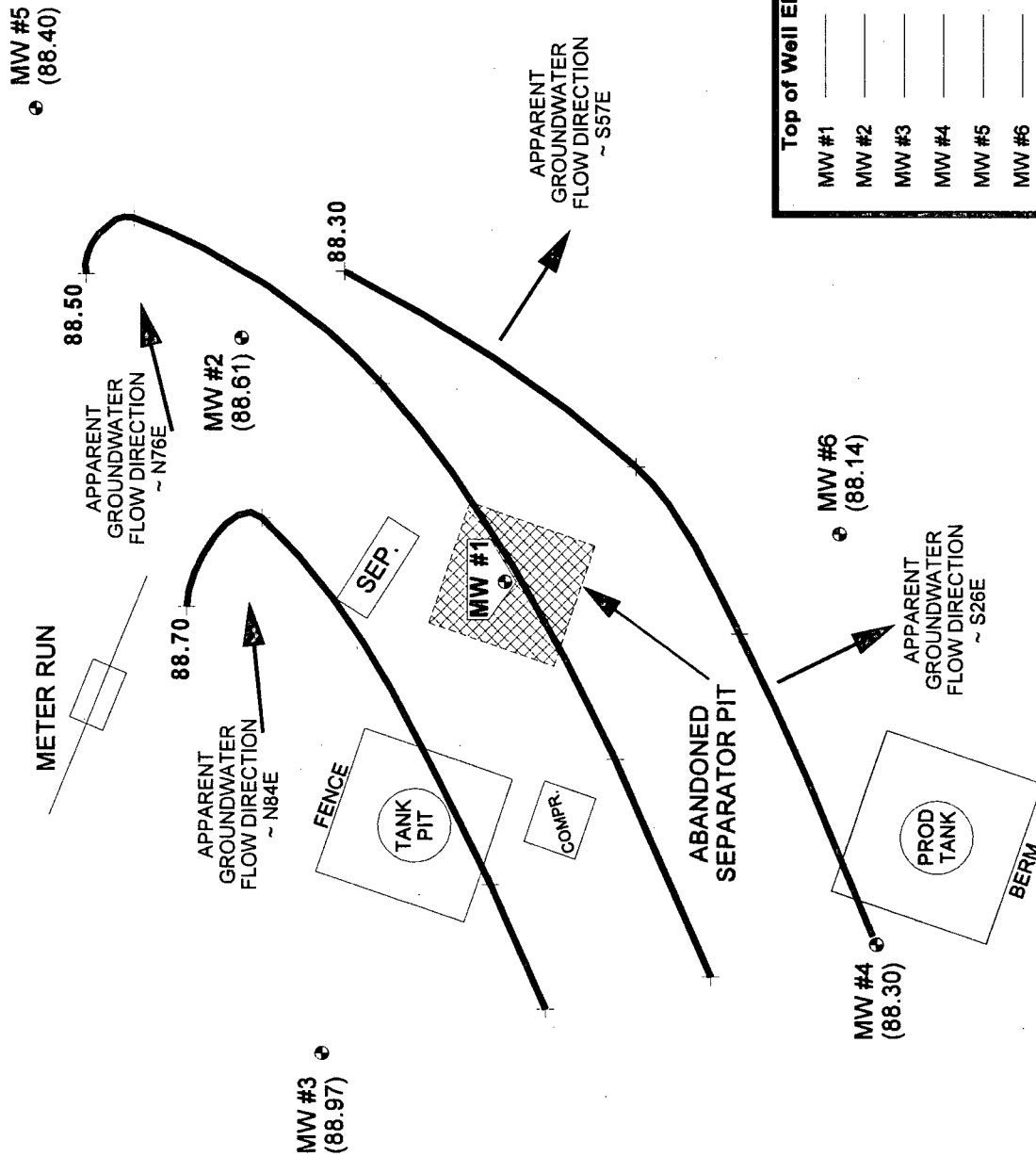
MAP

04/24/02



TO
WELL
HEAD

FIGURE 6



1 INCH = 30 FT.



MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

Top of Well Elevation

MW #1	(N/A)
MW #2	(106.49)
MW #3	(104.13)
MW #4	(104.33)
MW #5	(107.26)
MW #6	(106.16)

MW #5 Groundwater Elevation as of 6/18/03.

XTO ENERGY INC.

O.H. RANDEL #7

NW/4 NW/4 SEC. 15, T26N, R11W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: GW INVESTIGAT.

DRAWN BY: NJV

FILENAME: 06-18-03-GW.SKF

REVISED: 10/17/05 NJV

GROUNDWATER

GRADIENT

MAP

06/03



TO
WELL
HEAD

FIGURE 7

90.0 MW #5
(89.99)

METER RUN

90.5

MW #2

91.0

MW #3
(91.16)

FENCE

TANK
PIT

CONPR.

SEP.

MW #1

APPARENT
GROUNDWATER
FLOW DIRECTION
~ S45.5E

ABANDONED
SEPARATOR PIT

MW #6

MW #4
(90.00)

1 INCH = 30 FT.

0 30 60 FT.

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(BRUNTON COMPASS AND LASER RANGE FINDER).
ALL OTHER STRUCTURES DISPLAYED ON THE SITE
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TO SCALE.

Top of Well Elevation

MW #1	(104.77)
MW #2	(104.26)
MW #3	(104.12)
MW #4	(103.56)
MW #5	(107.29)
MW #6	(105.98)

MW #5 Groundwater Elevation
(89.99) as of 6/28/05.

XTO ENERGY INC.

O.H. RANDEL #7

NW/4 NW/4 SEC. 15, T26N, R11W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: GW INVESTIGAT.

DRAWN BY: NJV

FILENAME: 06-28-05-GW.SKF

REVISED: 10/31/05 NJV

GROUNDWATER

GRADIENT

MAP

06/05

FIGURE 8

BLAGG ENGINEERING, INC.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: 240 FT., S76.5E FEET FROM WELL HEAD.

BORING #..... BH - 1
MW #..... 1
PAGE #..... 1
DATE STARTED 3/22/02
DATE FINISHED 3/22/02
OPERATOR..... JCB
PREPARED BY NJV

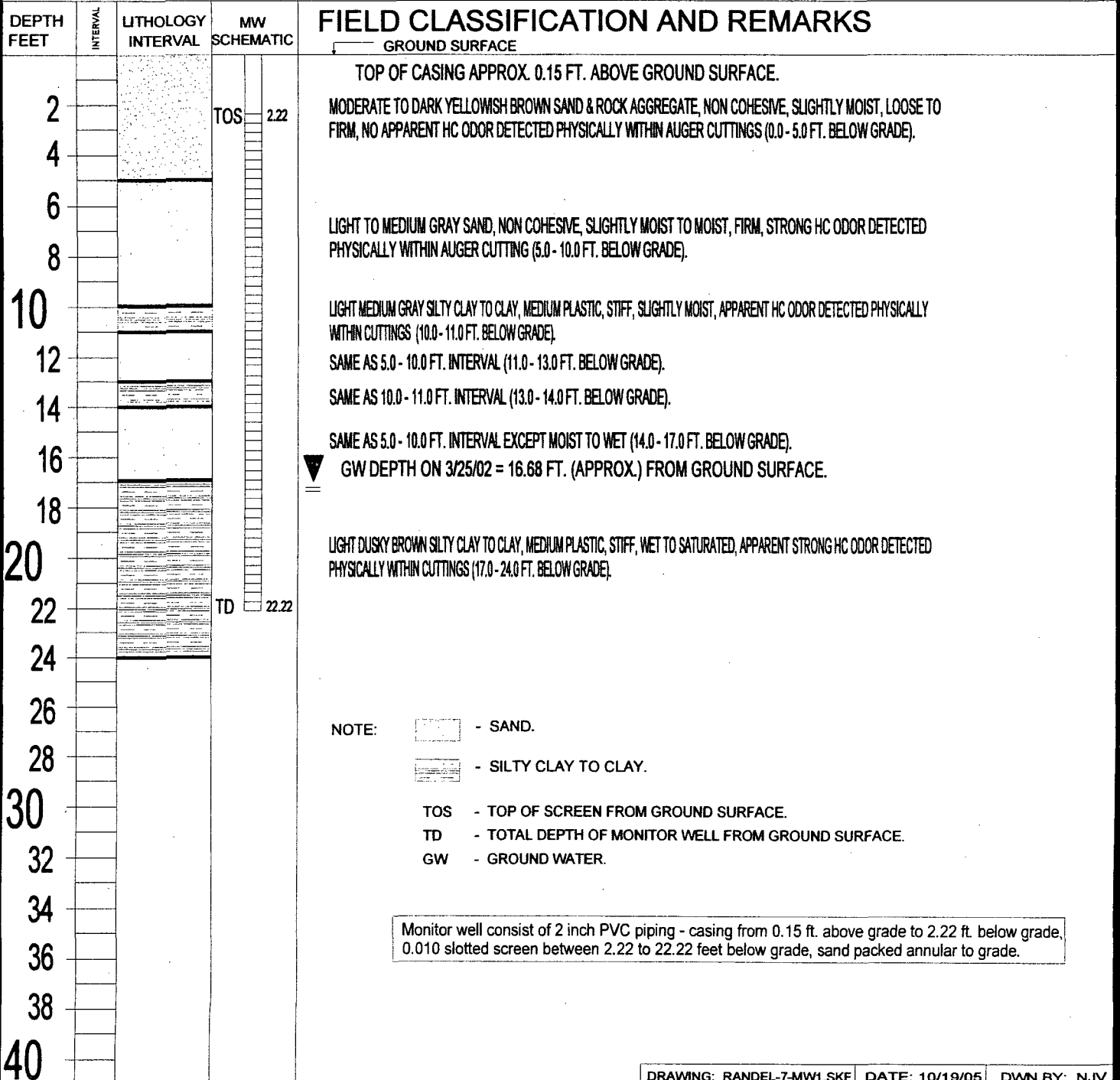


FIGURE 9

BLAGG ENGINEERING, INC.




P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: 274 FT., S87.5E FEET FROM WELL HEAD.

BORING #..... BH - 2
MW #..... 2
PAGE #..... 2
DATE STARTED 4/09/02
DATE FINISHED 4/09/02
OPERATOR..... JCB
PREPARED BY NJV

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
2				TOP OF CASING APPROX. 1.63 FT. ABOVE GROUND SURFACE.
4				
6				MODERATE TO DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (0.0 - 10.0 FT. BELOW GRADE).
8				
10				
12				LIGHT TO MEDIUM GRAY SILTY SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, DENSE, STRONG HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTING (10.0 - 15.0 FT. BELOW GRADE).
14				
16				▼ GW DEPTH ON 4/22/02 = 16.69 FT. (APPROX.) FROM GROUND SURFACE.
18				LIGHT MEDIUM GRAY SILTY CLAY TO CLAY, MEDIUM PLASTIC, STIFF, SLIGHTLY MOIST, APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (15.0 - 21.0 FT. BELOW GRADE).
20				
22				TD 22.97
24				LIGHT DUSKY BROWN SILTY CLAY TO CLAY, MEDIUM PLASTIC, STIFF, DRY, SLIGHT APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (21.0 - 24.0 FT. BELOW GRADE).
26				
28				
30				
32				
34				
36				
38				
40				

NOTE:  - SAND.
 - SILTY SAND (HC IMPACTED).
 - SILTY CLAY TO CLAY.
TOS - TOP OF SCREEN FROM GROUND SURFACE.
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
GW - GROUND WATER.

Monitor well consist of 2 inch PVC piping - casing from 1.63 ft. above grade to 12.97 ft. below grade, 0.010 slotted screen between 12.97 to 22.97 feet below grade, sand packed annular to 10 ft. below grade, then filled with clean native soil to surface.

FIGURE 10

BLAGG ENGINEERING, INC.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: 158 FT., S80.5E FEET FROM WELL HEAD.

BORING #..... BH - 3
MW #..... 3
PAGE #..... 3
DATE STARTED 4/09/02
DATE FINISHED 4/09/02
OPERATOR..... JCB
PREPARED BY NJV

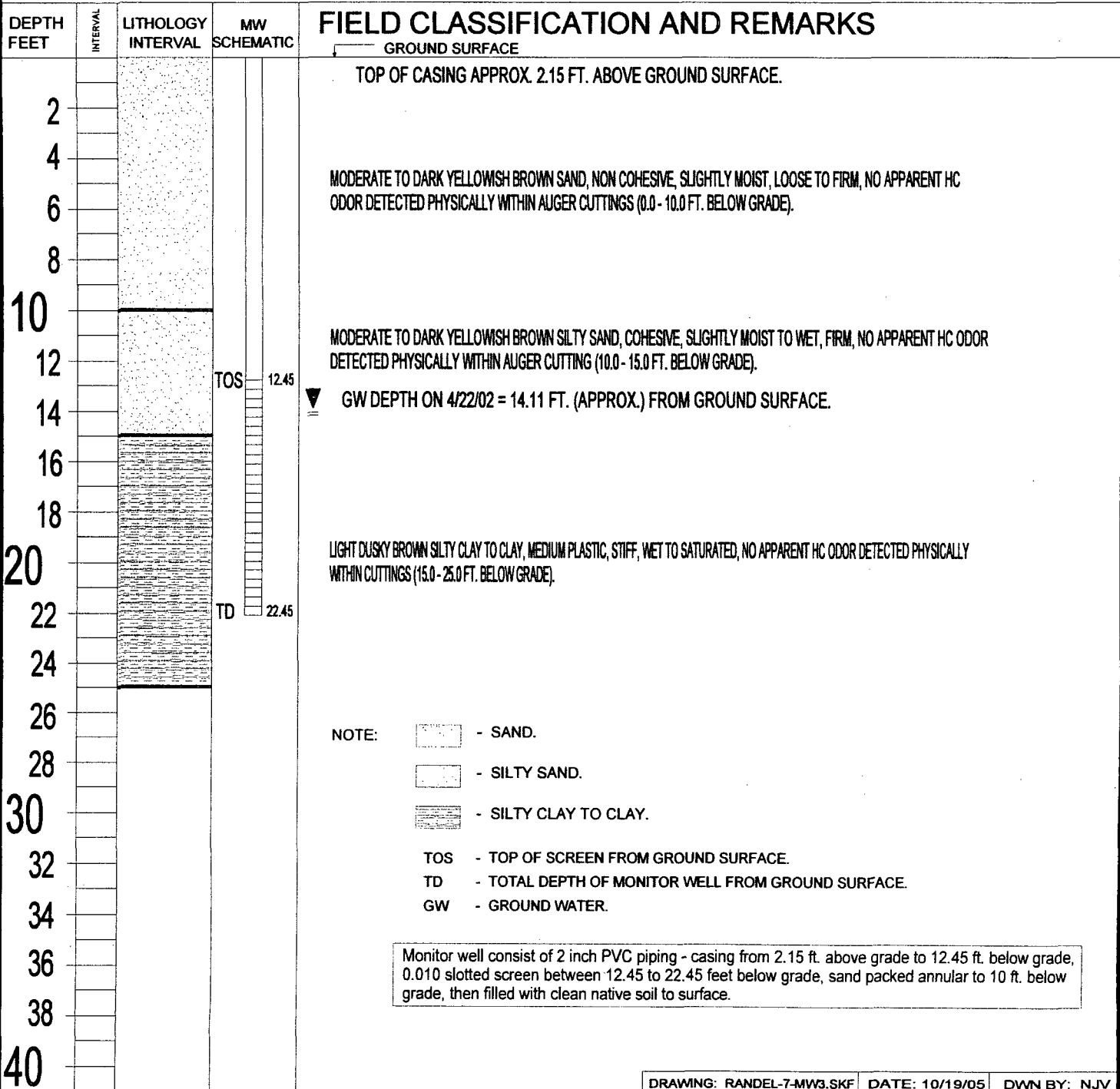


FIGURE 11

BLAGG ENGINEERING, INC.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: 210 FT., S56E FEET FROM WELL HEAD.

BORING #..... BH - 4
MW #..... 4
PAGE #..... 4
DATE STARTED 4/09/02
DATE FINISHED 4/09/02
OPERATOR..... JCB
PREPARED BY NJV

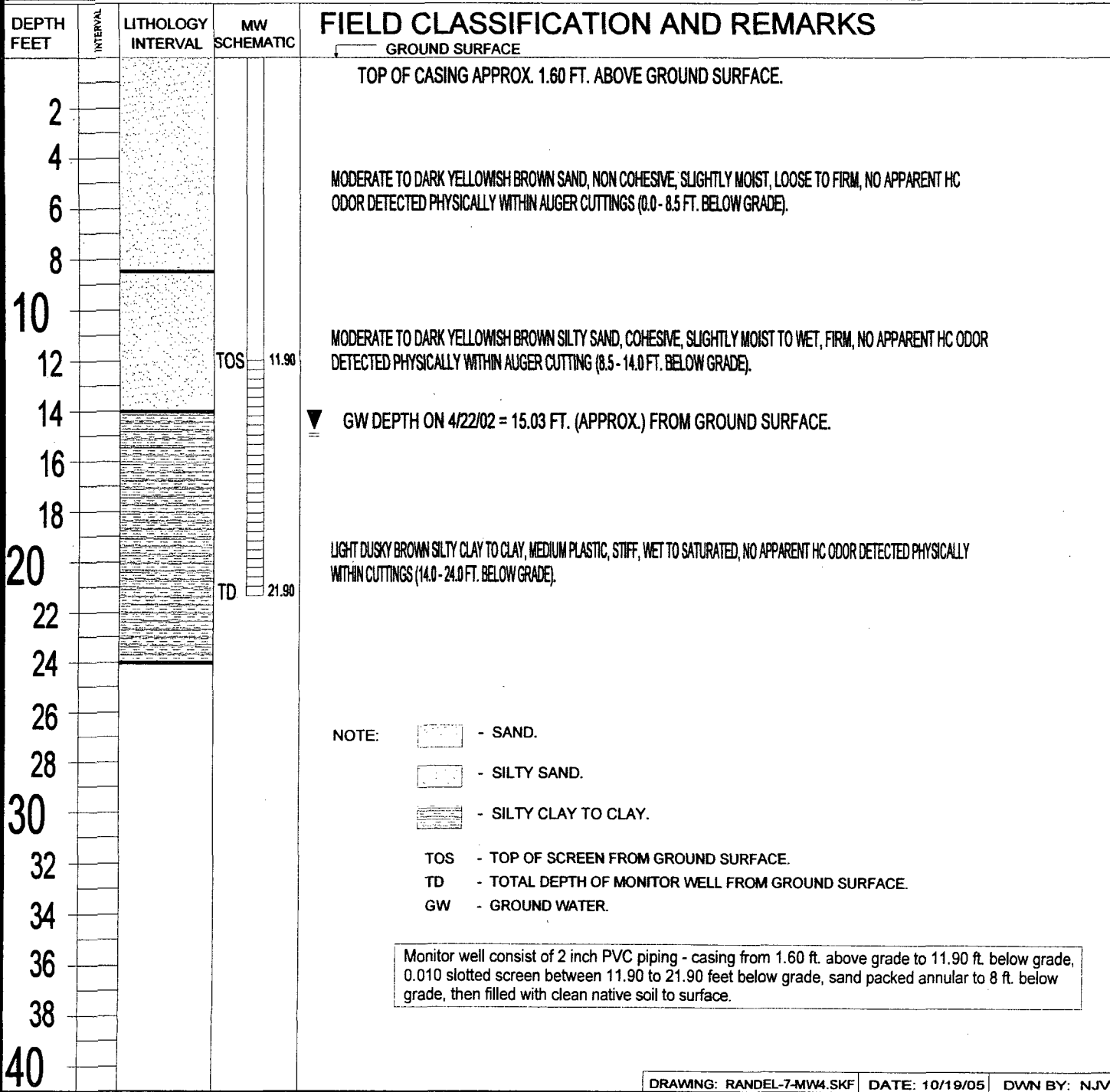


FIGURE 12

BLAGG ENGINEERING, INC.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: 312 FT., N86E FEET FROM WELL HEAD.

BORING #..... BH - 5
MW #..... 5
PAGE #..... 5
DATE STARTED 4/19/02
DATE FINISHED 4/19/02
OPERATOR..... JCB
PREPARED BY NJV

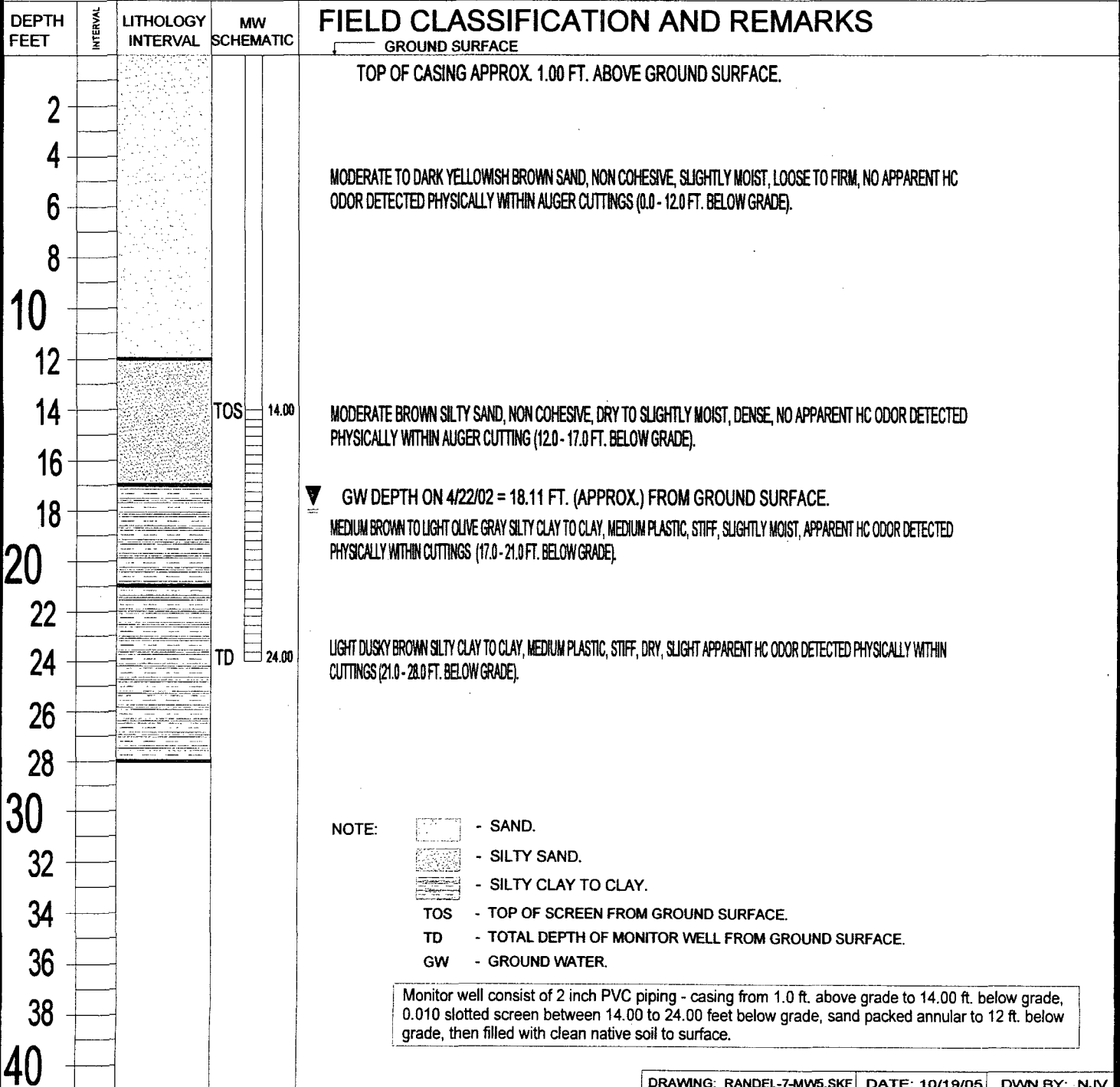


FIGURE 13

BLAGG ENGINEERING, INC.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: 266 FT., S65.5E FEET FROM WELL HEAD.

BORING #..... BH - 6
MW #..... 6
PAGE #..... 6
DATE STARTED 4/19/02
DATE FINISHED 4/19/02
OPERATOR..... JCB
PREPARED BY NJV

DEPTH
FEET

INTERVAL

LITHOLOGY
INTERVAL

MW
SCHEMATIC

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FT. ABOVE GROUND SURFACE.

MODERATE TO DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (0.0 - 9.0 FT. BELOW GRADE).

MODERATE BROWN TO LIGHT OLIVE GRAY SILTY SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, DENSE, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTING (9.0 - 14.0 FT. BELOW GRADE).

▼ GW DEPTH ON 4/22/02 = 16.51 FT. (APPROX.) FROM GROUND SURFACE.

LIGHT OLIVE TO MEDIUM GRAY SILTY CLAY TO CLAY, MEDIUM PLASTIC, STIFF, SLIGHTLY MOIST, APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (14.0 - 21.0 FT. BELOW GRADE).

LIGHT DUSKY BROWN SILTY CLAY TO CLAY, MEDIUM PLASTIC, STIFF, DRY, SLIGHT APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (21.0 - 24.0 FT. BELOW GRADE).

NOTE:

- SAND.

- SILTY SAND.

- SILTY CLAY TO CLAY.

TOS - TOP OF SCREEN FROM GROUND SURFACE.

TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

GW - GROUND WATER.

Monitor well consist of 2 inch PVC piping - casing from 2.00 ft. above grade to 13.00 ft. below grade, 0.010 slotted screen between 13.00 to 23.00 feet below grade, sand packed annular to 10 ft. below grade, then filled with clean native soil to surface.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT / SAMPLING DATA

CLIENT : XTO ENERGY, INC.

CHAIN-OF-CUSTODY # : NA

O. H. RANDEL # 7

LABORATORY (S) USED : HALL ENVIRONMENTAL

UNIT D, SEC. 15, T26N, R11W

Date : April 24, 2002

SAMPLER : N J V

Filename : 04-24-02.WK4

PROJECT MANAGER : J C B

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	104.73		-	22.22	-	-	-	-	1.75
DEPTH TO PRODUCT (FT.) =			-	PRODUCT THICKNESS (FT.) =			-		
2	106.49	88.13 *	18.38	24.60	-	-	-	-	1.25
DEPTH TO PRODUCT (FT.) =			18.35	PRODUCT THICKNESS (FT.) =			0.03		
3	104.13	87.88	16.25	22.50	0830	7.82	1,400	13.8	2.00
4	104.33	87.67	16.66	23.50	0845	7.87	1,400	15.1	2.00
5	107.26	88.12	19.14	25.00	0905	7.45	1,900	17.2	1.50
6	106.16	87.84	18.32	25.00	0935	7.40	2,300	17.2	1.65

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2"

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65

Poor recovery in MW #6, poor / fair in #5, fair in #3 & #4. Collected BTEX & major anion / cation samples from all MW's except #1 & #2, with additional analyzes (pH, hardness, dissolved iron, SAR, anion / cation difference [%]). Bailed free phase product from MW #1 & #2 (approx. 3 gallons of fluid removed between the two).

MW #	DTW	(prior to purging - in ft.)
1	-	
2	-	
3	16.25	
4	16.66	
5	19.14	
6	18.32	

MW #	DTW	(@ time of sampling - in ft.)
1	-	
2	-	
3	16.62	
4	16.68	
5	19.15	
6	19.95	

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT / SAMPLING DATA

CLIENT: XTO ENERGY, INC.

CHAIN-OF-CUSTODY #: NA

O. H. RANDEL # 7

LABORATORY (S) USED: HALL ENVIRONMENTAL

UNIT D, SEC. 15, T26N, R11W

Date: August 27, 2002

SAMPLER: N J V

Filename: 08-27-02.WK4

PROJECT MANAGER: J C B

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	104.73	88.14 *	16.60	22.22	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			16.49	PRODUCT THICKNESS (FT.) =			0.30		
2	106.49	87.87 *	18.64	24.60	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			18.31	PRODUCT THICKNESS (FT.) =			0.94		
3	104.13	88.85	15.28	22.50	0730	7.83	1,300	16.4	3.50
4	104.33	87.86	16.47	23.50	0720	7.93	1,300	16.3	3.50
5	107.26	87.65	19.61	25.00	-	-	-	-	-
6	106.16		-	25.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			18.18	PRODUCT THICKNESS (FT.) =			0.47 ¹		

NOTES: Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
(i.e. 2" MW $r = (1/12) \text{ ft.}$ $h = 1 \text{ ft.}$) (i.e. 4" MW $r = (2/12) \text{ ft.}$ $h = 1 \text{ ft.}$)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.

¹ INDICATES MEASURED WITH DISPOSABLE BAILER.

Fair recovery in MW # 3 & # 4. Collected BTEX samples from MW # 3 & # 4 only.

MW #	DTW
1	-
2	-
3	15.28
4	16.47
5	-
6	-

(prior to purging -
in ft.)

MW #	DTW
1	-
2	-
3	15.31
4	16.53
5	-
6	-

(@ time of
sampling -
in ft.)

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : XTO ENERGY , INC.

CHAIN-OF-CUSTODY # : _____

O. H. RANDEL # 7

LABORATORY (S) USED : _____

UNIT D, SEC. 15, T26N, R11W

Date : October 8, 2002

SAMPLER : NJV

Filename : 10-08-02.WK4

PROJECT MANAGER : JCB

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1		*	16.16	22.22	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			16.03	PRODUCT THICKNESS (FT.) =			0.37		
2	106.49	88.29 *	18.20	24.60	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			18.02	PRODUCT THICKNESS (FT.) =			0.52		
3	104.13	89.39	14.74	22.50	-	-	-	-	-
4	104.33	88.30	16.03	23.50	-	-	-	-	-
5	107.26	88.16	19.10	25.00	-	-	-	-	-
6	106.16	88.03 *	18.13	25.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			17.68	PRODUCT THICKNESS (FT.) =			1.29		

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
 (i.e. 2" MW $r = (1/12) \text{ ft.}$ $h = 1 \text{ ft.}$) (i.e. 4" MW $r = (2/12) \text{ ft.}$ $h = 1 \text{ ft.}$)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 "

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

MW #	DTW
1	-
2	-
3	-
4	-
5	-
6	-

(prior to purging -
in ft.)

MW #	DTW
1	-
2	-
3	-
4	-
5	-
6	-

(@ time of
sampling -
in ft.)

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: XTO ENERGY, INC.

CHAIN-OF-CUSTODY #: N / A

O. H. RANDEL # 7

LABORATORY (S) USED: HALL ENVIRONMENTAL

UNIT D, SEC. 15, T26N, R11W

Date: March 3, 2003

SAMPLER: NJV

Filename: 03-03-03.WK4

PROJECT MANAGER: JCB

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	-	- *	-	22.22	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			-	PRODUCT THICKNESS (FT.) =			-		
2	106.49	- *	-	24.6	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			-	PRODUCT THICKNESS (FT.) =			-		
3	104.13	-	15.17	22.50	0945	8.42	1,100	-	3.50
4	104.33	-	15.94	23.50	0935	8.37	1,100	-	3.75
5	107.26	-	-	25.00	-	-	-	-	-
6	106.16	- *	-	25.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			-	PRODUCT THICKNESS (FT.) =			-		

INSTRUMENT CALIBRATIONS =

7.00	2,800
03/03/03	09:25

DATE & TIME =

NOTES: Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : XTO ENERGY , INC.

CHAIN-OF-CUSTODY # : _____

O. H. RANDEL # 7

LABORATORY (S) USED : _____

UNIT D, SEC. 15, T26N, R11W

Date : May 23, 2003

SAMPLER : NJV

Filename : 05-23-03.WK4

PROJECT MANAGER : JCB

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	-	- *	16.04	22.22	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			15.93	PRODUCT THICKNESS (FT.) =			0.31		
2	106.49	88.66 *	17.83	24.60	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			17.64	PRODUCT THICKNESS (FT.) =			0.53		
3	104.13	88.95	15.18	22.50	-	-	-	-	-
4	104.33	88.37	15.96	23.50	-	-	-	-	-
5	107.26	88.65	18.61	25.00	-	-	-	-	-
6	106.16	88.21 *	17.95	25.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			17.48	PRODUCT THICKNESS (FT.) =			1.33		

INSTRUMENT CALIBRATIONS =

DATE & TIME =

-	-
-	-

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

BAILED APPROX. 3.75 - 4.00 GAL. FROM MW # 1 , # 2 , & # 6 . BAILED MW # 6 TO TOT. DEPTH .

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : XTO ENERGY, INC.

CHAIN-OF-CUSTODY # : _____

O. H. RANDEL # 7

LABORATORY (S) USED : _____

UNIT D, SEC. 15, T26N, R11W

Date : May 28, 2003

SAMPLER : NJV

Filename : 05-28-03.WK4

PROJECT MANAGER : JCB

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	-	- *	15.99	22.22	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			15.93	PRODUCT THICKNESS (FT.) =			0.18		
2	106.49	- *	17.78	24.60	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			17.72	PRODUCT THICKNESS (FT.) =			0.16		
3	104.13	-	-	22.50	-	-	-	-	-
4	104.33	-	-	23.50	-	-	-	-	-
5	107.26	-	-	25.00	-	-	-	-	-
6	106.16	- *	17.90	25.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			17.47	PRODUCT THICKNESS (FT.) =			1.22		

INSTRUMENT CALIBRATIONS =

DATE & TIME =

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 "

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.

BAILED APPROX. 2.00 - 2.50 GAL. FROM MW #1, #2, & #6. BAILED MW #6 TO TOT. DEPTH.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : XTO ENERGY, INC.

CHAIN-OF-CUSTODY # : _____

O. H. RANDEL # 7

LABORATORY (S) USED : _____

UNIT D, SEC. 15, T26N, R11W

Date : June 6, 2003

SAMPLER : NJV

Filename : 06-06-03.WK4

PROJECT MANAGER : JCB

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	-	- *	16.04	22.22	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			16.00	PRODUCT THICKNESS (FT.) =			0.11		
2	106.49	*	17.83	24.60	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			17.79	PRODUCT THICKNESS (FT.) =			0.12		
3	104.13			22.50	-	-	-	-	-
4	104.33			23.50	-	-	-	-	-
5	107.26			25.00	-	-	-	-	-
6	106.16	*	18.00	25.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			17.58	PRODUCT THICKNESS (FT.) =			1.20		

INSTRUMENT CALIBRATIONS =

DATE & TIME =

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2"

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.

BAILED APPROX. 2.00 - 2.50 GAL. FROM MW # 1, # 2, & # 6. BAILED MW # 6 TO TOT. DEPTH.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : XTO ENERGY, INC.

CHAIN-OF-CUSTODY # : N / A

O. H. RANDEL # 7

LABORATORY (S) USED : HALL ENVIRONMENTAL

UNIT D, SEC. 15, T26N, R11W

Date : June 18, 2003

SAMPLER : N J V

Filename : 06-18-03.WK4

PROJECT MANAGER : J C B

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	-	- *	16.04	22.22	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			16.02	PRODUCT THICKNESS (FT.) =			0.07		
2	106.49	88.61 *	17.88	24.60	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			17.85	PRODUCT THICKNESS (FT.) =			0.09		
3	104.13	88.97	15.16	22.50	1000	7.72	900	17.5	2.50
4	104.33	88.30	16.03	23.50	0920	7.75	1,000	17.4	2.50
5	107.26	88.40	18.86	25.00	1030	7.30	1,300	17.3	1.25
6	106.16	88.14 *	18.02	25.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			17.59	PRODUCT THICKNESS (FT.) =			1.24		
INSTRUMENT CALIBRATIONS =						7.00	2,800		
DATE & TIME =						06/18/03	09:15		

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 "

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

BAILED APPROX. 2.00 - 2.50 GAL. FROM MW # 1, # 2, & # 6. BAILED MW # 6 TO TOT. DEPTH.

Fair recovery in MW # 3 & # 4, poor recovery in # 5. Collected BTEX samples from MW # 3 # 4, & # 5 only .

MW #	DTW
3	15.16
4	16.03
5	18.86

(prior to purging -
in ft.)

MW #	DTW
3	15.16
4	16.04
5	18.86

(@ time of
sampling -
in ft.)

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : XTO ENERGY INC.

CHAIN-OF-CUSTODY # : _____

O. H. RANDEL # 7

LABORATORY (S) USED : _____

UNIT D, SEC. 15, T26N, R11W

Date : June 26, 2003

SAMPLER : NJV

Filename : 06-26-03.WK4

PROJECT MANAGER : JCB

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
--------	-----------------	------------------	---------------------	------------------	---------------	----	-----------------	-----------------	----------------------

1	-	- *	17.93	22.22	-	-	-	-	-
---	---	-----	-------	-------	---	---	---	---	---

DEPTH TO PRODUCT (FT.) = 17.90 PRODUCT THICKNESS (FT.) = 0.08

2	106.49	- *	16.09	24.60	-	-	-	-	-
---	--------	-----	-------	-------	---	---	---	---	---

DEPTH TO PRODUCT (FT.) = 16.08 PRODUCT THICKNESS (FT.) = 0.04

3	104.13	-	15.16	22.50	-	-	-	-	-
---	--------	---	-------	-------	---	---	---	---	---

4	104.33	-	16.03	23.50	-	-	-	-	-
---	--------	---	-------	-------	---	---	---	---	---

5	107.26	-	18.86	25.00	-	-	-	-	-
---	--------	---	-------	-------	---	---	---	---	---

6	106.16	- *	18.10	25.00	-	-	-	-	-
---	--------	-----	-------	-------	---	---	---	---	---

DEPTH TO PRODUCT (FT.) = 17.67 PRODUCT THICKNESS (FT.) = 1.22

INSTRUMENT CALIBRATIONS =

DATE & TIME =

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

BAILED APPROX. 2.00 - 2.50 GAL. FROM MW # 1 , # 2 , & # 6 . BAILED MW # 6 TO TOT. DEPTH .

MW #	DTW	(prior to purging - in ft.)
3	-	
4	-	
5	-	

MW #	DTW	(@ time of sampling - in ft.)
3	-	
4	-	
5	-	

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : XTO ENERGY , INC.

CHAIN-OF-CUSTODY # : _____

O. H. RANDEL # 7

LABORATORY (S) USED : _____

UNIT D, SEC. 15, T26N, R11W

Date : July 3, 2003

SAMPLER : NJV

Filename : 07-03-03.WK4

PROJECT MANAGER : JCB

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
--------	-----------------	------------------	---------------------	------------------	---------------	----	-----------------	-----------------	----------------------

1	-	- *	17.98	22.22	-	-	-	-	-
---	---	-----	-------	-------	---	---	---	---	---

DEPTH TO PRODUCT (FT.) = 17.96 PRODUCT THICKNESS (FT.) = 0.05

2	106.49	- *	16.09	24.60	-	-	-	-	-
---	--------	-----	-------	-------	---	---	---	---	---

DEPTH TO PRODUCT (FT.) = 16.08 PRODUCT THICKNESS (FT.) = 0.02

3	104.13	-	15.16	22.50	-	-	-	-	-
---	--------	---	-------	-------	---	---	---	---	---

4	104.33	-	16.03	23.50	-	-	-	-	-
---	--------	---	-------	-------	---	---	---	---	---

5	107.26	-	18.86	25.00	-	-	-	-	-
---	--------	---	-------	-------	---	---	---	---	---

6	106.16	- *	18.12	25.00	-	-	-	-	-
---	--------	-----	-------	-------	---	---	---	---	---

DEPTH TO PRODUCT (FT.) = 17.71 PRODUCT THICKNESS (FT.) = 1.18

INSTRUMENT CALIBRATIONS =

DATE & TIME =

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

BAILED APPROX. 2.00 - 2.50 GAL. FROM MW # 1 , # 2 , & # 6 . BAILED MW # 6 TO TOT. DEPTH .

MW #	DTW	(prior to purging - in ft.)
3	-	
4	-	
5	-	

MW #	DTW	(@ time of sampling - in ft.)
3	-	
4	-	
5	-	

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: XTO ENERGY, INC.

CHAIN-OF-CUSTODY #: _____

O. H. RANDEL #7

LABORATORY (S) USED: _____

UNIT D, SEC. 15, T26N, R11W

Date: July 31, 2003

SAMPLER: NJV

Filename: 07-31-03.WK4

PROJECT MANAGER: JCB

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
--------	-----------------	------------------	---------------------	------------------	---------------	----	-----------------	-----------------	----------------------

1	-	- *	16.18	22.22	-	-	-	-	-
---	---	-----	-------	-------	---	---	---	---	---

DEPTH TO PRODUCT (FT.) = 16.18 PRODUCT THICKNESS (FT.) = 0.01

2	106.49	90.63	15.86	24.60	-	-	-	-	-
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DEPTH TO PRODUCT (FT.) = PRODUCT THICKNESS (FT.) = 0.00

3	104.13		-	22.50	-	-	-	-	-
---	--------	--	---	-------	---	---	---	---	---

4	104.33		-	23.50	-	-	-	-	-
---	--------	--	---	-------	---	---	---	---	---

5	107.26		-	25.00	-	-	-	-	-
---	--------	--	---	-------	---	---	---	---	---

6	106.16	87.91 *	18.25	25.00	-	-	-	-	-
---	--------	---------	-------	-------	---	---	---	---	---

DEPTH TO PRODUCT (FT.) = 17.77 PRODUCT THICKNESS (FT.) = 1.36

INSTRUMENT CALIBRATIONS =

DATE & TIME =

NOTES: Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2."

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.

BAILED APPROX. 2.00 GAL. FROM MW #1, & #6. BAILED MW #6 TO TOT. DEPTH.

Top of casing of MW #2 found damaged / destroyed. Was able to salvage well by cutting off damaged casing (approx. 3 ft.). Top of casing now approx. 1 ft. below grade with slip cap.

MW #	DTW	(prior to purging - in ft.)
3	-	
4	-	
5	-	

MW #	DTW	(@ time of sampling - in ft.)
3	-	
4	-	
5	-	

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : XTO ENERGY INC.

CHAIN-OF-CUSTODY # : N / A

O. H. RANDEL #7

LABORATORY (S) USED : HALL ENVIRONMENTAL

UNIT D, SEC. 15, T26N, R11W

Date : August 29, 2003

SAMPLER : NJV

Filename : 08-29-03.WK4

PROJECT MANAGER : JCB

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	-	-	16.29	22.22	-	-	-	-	-
2	-	-	15.99	22.59	-	-	-	-	-
3	104.13	88.74	15.39	22.50	0805	7.58	1,400	16.7	2.50
4	104.33	88.04	16.29	23.50	0735	7.69	1,400	16.0	2.25
5	107.26	87.96	19.30	25.00	-	-	-	-	-
6	106.16	87.82 *	18.34	25.00	-	-	-	-	-

DEPTH TO PRODUCT (FT.) = 17.83

PRODUCT THICKNESS (FT.) = 1.46

INSTRUMENT CALIBRATIONS =

7.00 2,800

DATE & TIME =

08/29/03 0730

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 "

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

BAILED APPROX. 1.50 GAL. FROM MW #6 . BAILED MW #6 TO TOT. DEPTH .

Fair recovery in MW #3 & #4 . Collected BTEX samples from MW #3 & #4 only .

MW #2 top of casing found damaged on 7/31/03 . Cut off ~ 2 ft. Top of casing

Top of casing currently ~ 1 ft. below grade .

MW #	DTW	(prior to purging - in ft.)
3	15.39	
4	16.29	
5	-	

MW #	DTW	(@ time of sampling - in ft.)
3	15.88	
4	16.33	
5	-	

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-144
June 1, 2004

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☒ No ☐

Type of action: Registration of a pit or below-grade tank ☐ Closure of a pit or below-grade tank ☒

Operator: XTO ENERGY INC. Telephone: (505) 324-1090 e-mail address: _____
Address: 2700 FARMINGTON AVE., BLDG. K, SUITE 1, FARMINGTON, NM 87401
Facility or well name: O. H. RANDEL #7 API #: 30-045- 24749 U/L or Qtr/Qtr D Sec 15 T 26N R 11W
County: SAN JUAN Latitude 36.49193 Longitude 107.99632 NAD: 1927 ☐ 1983 ☒ Surface Owner Federal ☒ State ☐ Private ☐ Indian ☐

Pit	Below-grade tank
Type: Drilling <input type="checkbox"/> Production <input checked="" type="checkbox"/> Disposal <input type="checkbox"/> SEPARATOR Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input type="checkbox"/> Unlined <input checked="" type="checkbox"/> Liner type: Synthetic <input type="checkbox"/> Thickness _____ mil Clay <input type="checkbox"/> Pit Volume _____ bbl	Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes <input checked="" type="checkbox"/> If not, explain why not. _____
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet (20 points) 50 feet or more, but less than 100 feet (10 points) 20 100 feet or more (0 points)
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes (20 points) No (0 points) 0
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet (20 points) 200 feet or more, but less than 1000 feet (10 points) 0 1000 feet or more (0 points)
Ranking Score (Total Points) 20	

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if you are burying in place) onsite ☒ offsite ☐ If offsite, name of facility _____. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☒ Yes ☐ If yes, show depth below ground surface _____ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments: PIT LOCATED APPROXIMATELY 239 FT. S75E FROM WELL HEAD.

PIT EXCAVATION: WIDTH N/A ft., LENGTH N/A ft., DEPTH N/A ft.

PIT REMEDIATION: CLOSE AS IS: ☒ LANDFARM: ☐ COMPOST: ☐ STOCKPILE: ☐ OTHER ☐ (explain)

Cubic yards: N/A

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐, or an alternative OCD-approved plan ☒.

Date: 11/18/05

Printed Name/Title Jeff Blagg - P.E. # 11607

Signature _____

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

Printed Name/Title _____ Signature _____ Date: _____

CLIENT: <u>XTO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: _____ C.D.C. NO: <u>9776</u>
--------------------	---	--

FIELD REPORT: PIT CLOSURE VERIFICATION		PAGE No: <u>1</u> of <u>1</u>
---	--	-------------------------------

LOCATION: NAME: <u>O.H. RANDEL</u> WELL #: <u>7</u> TYPE: <u>ABAN. SEP.</u> QUAD/UNIT: <u>D</u> SEC: <u>15</u> TWP: <u>26N</u> RNG: <u>11W</u> PM: <u>NM</u> CNTY: <u>SI</u> ST: <u>NM</u> QTR/FOOTAGE: <u>1150'N 1150'W</u> CONTRACTOR: _____	DATE STARTED: <u>3/12/02</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV</u>
--	---

EXCAVATION APPROX. <u>NA</u> FT. x <u>NA</u> FT. x <u>NA</u> FT. DEEP. CUBIC YARDAGE: <u>NA</u>
DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: _____
LAND USE: <u>RANGE - RUM</u> LEASE: _____ FORMATION: <u>DK</u>

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY <u>239</u> FT. <u>S75E</u> FROM WELLHEAD.	
DEPTH TO GROUNDWATER: <u>>100'</u>	NEAREST WATER SOURCE: <u>>1000'</u>
NEAREST SURFACE WATER: <u>>1000'</u>	
NMOCED RANKING SCORE: <u>0</u>	NMOCED TPH CLOSURE STD: <u>5000</u> PPM

SOIL AND EXCAVATION DESCRIPTION: SOIL TYPE: <u>(SAND)</u> / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER _____ SOIL COLOR: <u>MED. GRAY</u> COHESION (ALL OTHERS): <u>NON COHESIVE</u> / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE CONSISTENCY (NON COHESIVE SOILS): <u>(LOOSE)</u> / <u>(FIRM)</u> / DENSE / VERY DENSE PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC DENSITY (COHESIVE CLAYS & SILTS): <u>SOFT</u> / FIRM / STIFF / VERY STIFF / HARD MOISTURE: DRY / SLIGHTLY MOIST / <u>(MOIST)</u> / WET / SATURATED / SUPER SATURATED DISCOLORATION/STAINING OBSERVED: <u>(YES)</u> / NO EXPLANATION - <u>SEP. 4-6' BELOW SURF</u> HC ODOR DETECTED: <u>(YES)</u> / NO EXPLANATION - <u>MED. GRAY SAND (STILLING)</u> SAMPLE TYPE: <u>(GRAB)</u> / COMPOSITE - # OF PTS. _____ ADDITIONAL COMMENTS: <u>CONDUCTED SAMPLING WITH HAND SHOVEL.</u>	OVM CALIB. READ: <u>52.7</u> ppm OVM CALIB. GAS = <u>100</u> ppm RF = <u>0.52</u> TIME: <u>11:48</u> AM DATE <u>3/12/02</u>
--	---

FIELD 418.1 CALCULATIONS							
SAMP. TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

PIT PERIMETER 	OVM RESULTS <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>SAMPLE ID</th> <th>FIELD HEADSPACE P.D. (ppm)</th> </tr> <tr><td>1 @ 6'</td><td>1,215</td></tr> <tr><td>2 @</td><td> </td></tr> <tr><td>3 @</td><td> </td></tr> <tr><td>4 @</td><td> </td></tr> <tr><td>5 @</td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>	SAMPLE ID	FIELD HEADSPACE P.D. (ppm)	1 @ 6'	1,215	2 @		3 @		4 @		5 @										PIT PROFILE <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>SAMPLE ID</th> <th>ANALYSIS</th> <th>TIME</th> </tr> <tr> <td>1 @ 6'</td> <td>TPH (50158)</td> <td>11:50</td> </tr> <tr> <td>"</td> <td>BTEX (50118)</td> <td>"</td> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	SAMPLE ID	ANALYSIS	TIME	1 @ 6'	TPH (50158)	11:50	"	BTEX (50118)	"												
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1 @ 6'	TPH (50158)	11:50																																									
"	BTEX (50118)	"																																									

P.D. = PIT DEPRESSION; B.G. = BELOW GRADE
 T.H. = TEST HOLE; ~ = APPROX.; B = BELOW

TRAVEL NOTES: CALLOUT: <u>3/12/02 - MORN.</u> ONSITE: <u>3/12/02 - MORN.</u>
--

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903

April 17, 2002

Mr. Roger Anderson
Chief of Environmental Bureau
State of New Mexico Oil Conservation Division (NMOCD)
1220 St. Francis Drive
Santa Fe, New Mexico 87505

**RE: Groundwater Impact
XTO Energy, Inc.**

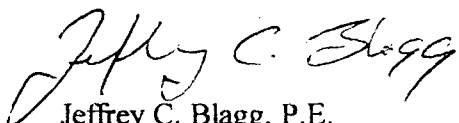
**O.H. Randel # 7 Well site
Legal Description: Unit D, Sec. 15, T26N, R11W
San Juan County, New Mexico**

Dear Mr. Anderson:

Physical observation of groundwater after monitor well construction was completed on March 22, 2002 at the above referenced well site indicates approximately 0.32 ft. or 3.84 inches of free phase product. The monitor well is located within an abandoned separator pit area. XTO Energy will adhere to its NMOCD approved groundwater management plan during further assessment of the apparent hydrocarbon contamination encountered. Depth to free phase product in the monitor well was approximately 16.36 ft. below the ground surface.

If you have any questions concerning this information, please do not hesitate to contact Nelson Velez or myself at (505) 632-1199. Thank you for your cooperation.

Respectfully submitted,
Blagg Engineering, Inc.


Jeffrey C. Blagg, P.E.
President

cc: Denny Foust, Environmental Geologist, NMOCD, Aztec, NM
Terry Matthews, Production Superintendent, XTO Energy, Inc., Farmington, NM
Nina Hutton, Environmental & Safety Manager, XTO Energy, Inc., Ft. Worth, TX

NJV/njv

RANDEL-7.LTR