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

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

Form C-101
May 27, 2004

Submit to appropriate District Office

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

[1] Operator Name and Address	[2] OGRID Number
XTO ENERGY INC. 200 N. Loraine St., Ste. 800 Midland, TX 79701	5380
	[3] API Number 30- 025- 29234

[3] Property Code	[5] Property Name	[6] Well No.
301587	North Vacuum ABO Unit	277

[9] Proposed Pool 1	[10] Proposed Pool 2
North Vacuum ABO	

[7] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	27	17S	34E		790	North	650	West	Lea

[8] Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	27	17S	34E		1530	North	2295	East	Lea

Additional Well Information

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
P - Horizontal	O	Rotary	S	4038
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
	10,100	ABO	Key Energy	ASAP

Depth to Groundwater	Distance from nearest fresh water well	Distance from nearest surface water
200'	+1000'	+1000'

Pit: Liner: Synthetic ☒ 12 mils thick Clay ☐ Pit Volume: 20000 bbls Drilling Method:
Closed-Loop System ☐ Fresh Water ☒ Brine ☐ Diesel/Oil-based ☐ Gas/Air ☐

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17-1/2"	13-3/8"	48# H-40	400'	500	Circ to Surf.
12-1/4"	8-5/8"	32# K-55/28# S-80	5000'	2500	Circ to Surf.
7-7/8"	5-1/2"	15.5#/17# K-55	8800'-4173'	1230	Circ to top of liner

[22] Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

* See Attached procedure for adding lateral.
* MUD PROGRAM: 8.4-8.9 fresh water from Kickoff point 8420'- 8515' to 9650'
* CIBP: will be set between 8420'-8515' with whipstock for Kickoff and directional drilling.
* BOP: Case III 7-1/16" 3000# w/Hyril single pipe ram, blind ram and manifold.

Permit Expires 1 Year From Approval Date Unless Drilling Underway

*** HORIZONTAL

Horizontal

[23] I hereby certify that the information given above is true and complete to the best of my knowledge and belief. **I further certify that the drilling pit will be constructed according to NMOCD guidelines ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.**

Printed name: Sorina L. Flores

Title: Drilling Tech.

E-mail Address: sorina_flores@xtoenergy.com

Date: 8/10/07 Phone: 432-620-6749

OIL CONSERVATION DIVISION

Approved by: Chris Williams
OC DISTRICT SUPERVISOR/GENERAL MANAGER

Title:

Approval Date: AUG 15 2007 Expiration Date:

Conditions of Approval Attached ☐

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease – 4 Copies
Fee Lease – 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-025-29234		North Vacuum ABO

Property Code	Property Name	Well Number
	NVAU	277H

OGRID No.	Operator Name	Elevation
005380	XTO ENERGY	4038'

Surface Location

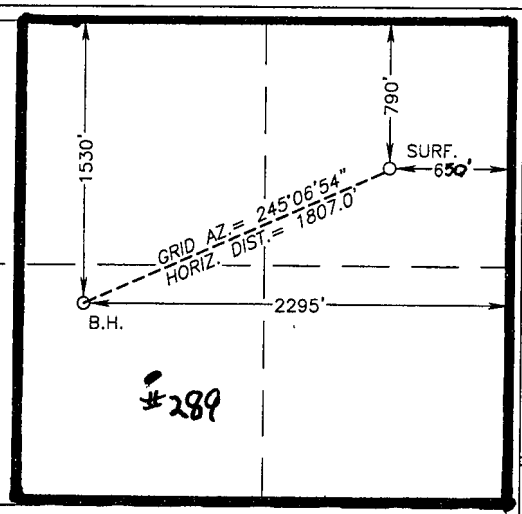
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	27	17-S	34-E		790	NORTH	650	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	27	17-S	34-E		1530	NORTH	2295	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



BOTTOM HOLE LOCATION

Y=658855.0 N
X=741666.9 E

GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION

Y=659615.2 N
X=743305.8 E

LAT.=32.810866° N
LONG.=103.541425° W

OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 8/10/07
Date

Sorina L. Flores
Printed Name

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

MAY 29, 2007
Date Surveyed REV: AUGUST 8, 2007 AR

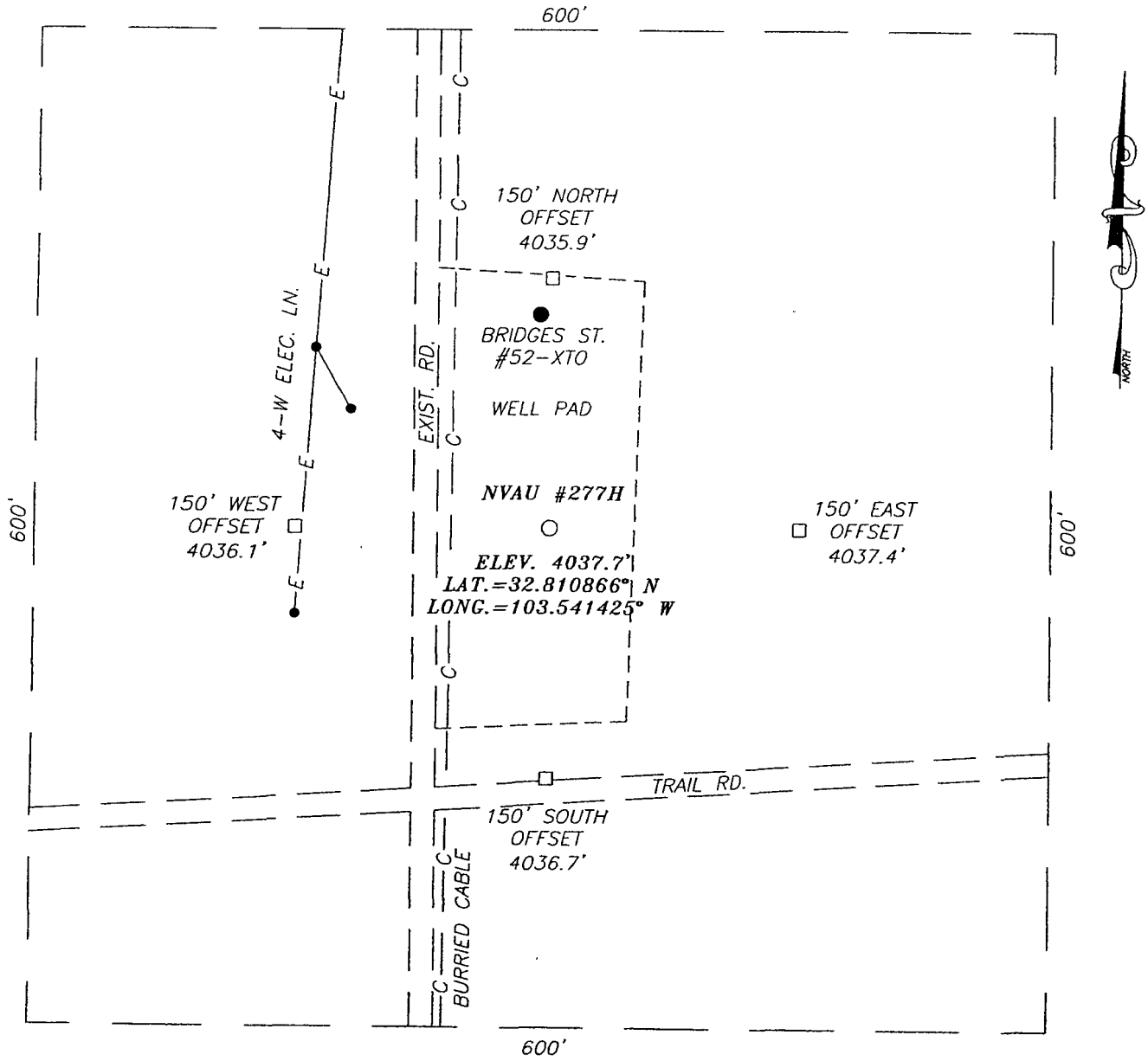
Signature & Seal of
Professional Surveyor

07.11.0671

Certificate No. GARY EIDSON 12641
RONALD J. EIDSON 3239

SECTION 27, TOWNSHIP 17 SOUTH, RANGE 34 EAST, N.M.P.M.,

LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CO. RD. #L125 (QUERECHO RD.) AND CO. RD. #L51 (TEXAS CAMP RD.), GO EAST ON CO. RD. #L51 APPROX. 3.0 MILES TO EXISTING RD. TURN LEFT AND GO NORTH THROUGH CATTLE GUARD. GO NORTH APPROX. 1.10 MILES. TURN RIGHT AND GO EAST APPROX. 0.5 MILES. TURN LEFT AND GO NORTH APPROX. 0.8 MILES. THIS LOCATION IS APPROX. 130 FEET SOUTH OF THE BRIDGES ST. #52-XTO WELL.

100 0 100 200 Feet

Scale: 1"=100'

PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO

HOBBS, N.M. 88240

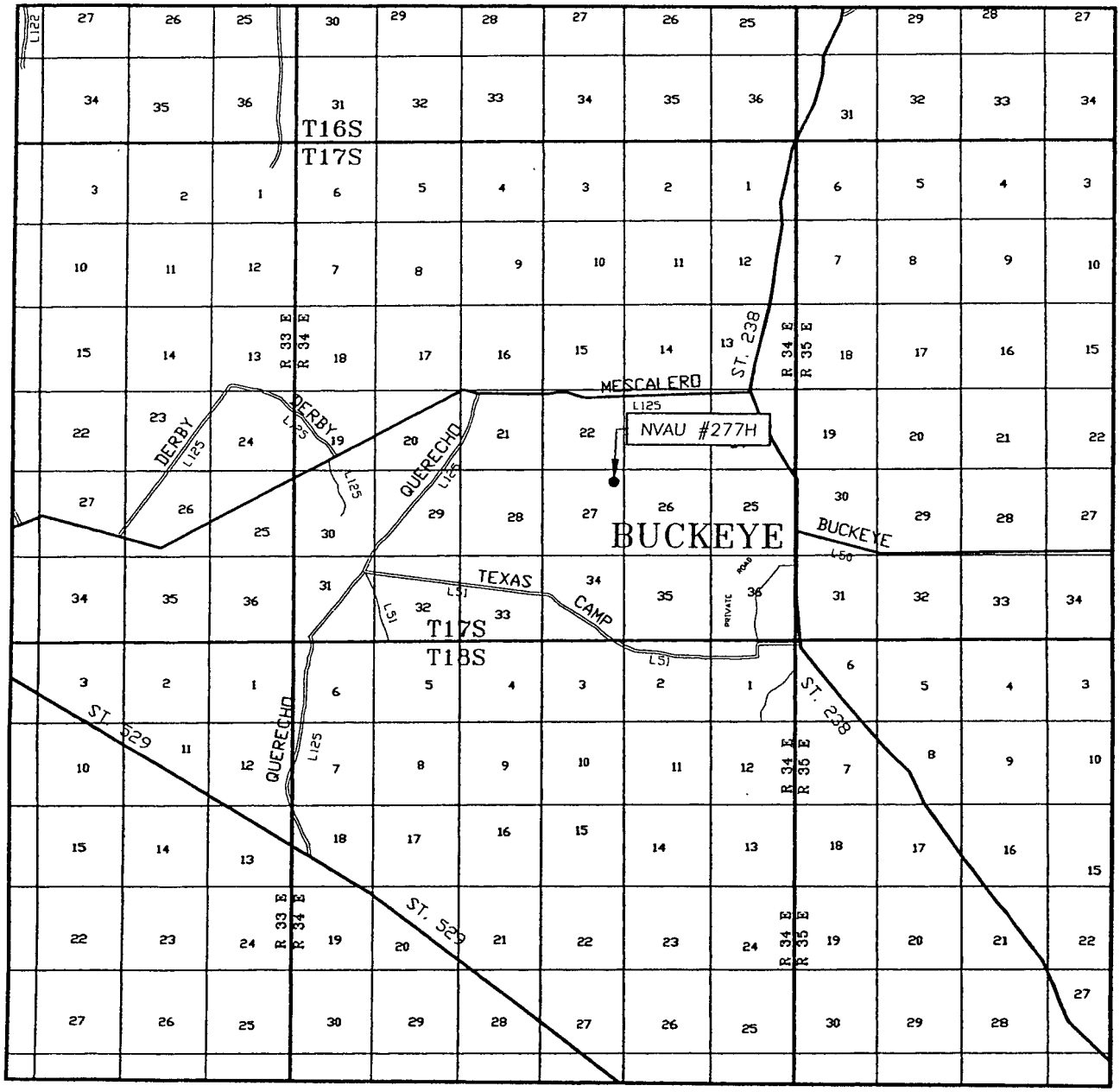
(505) 393-3117

XTO ENERGY

NVAU #277H WELL
LOCATED 790 FEET FROM THE NORTH LINE
AND 650 FEET FROM THE EAST LINE OF SECTION 27,
TOWNSHIP 17 SOUTH, RANGE 34 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

Survey Date: 5/29/07	Sheet 1 of 1 Sheets		
W.O. Number: 07.11.0671	Dr By: AR	Rev 1: N/A	
Date: 5/31/07	Disk:	07110671	Scale: 1"=100'

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 27 TWP. 17-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 790' FNL & 650' FEL

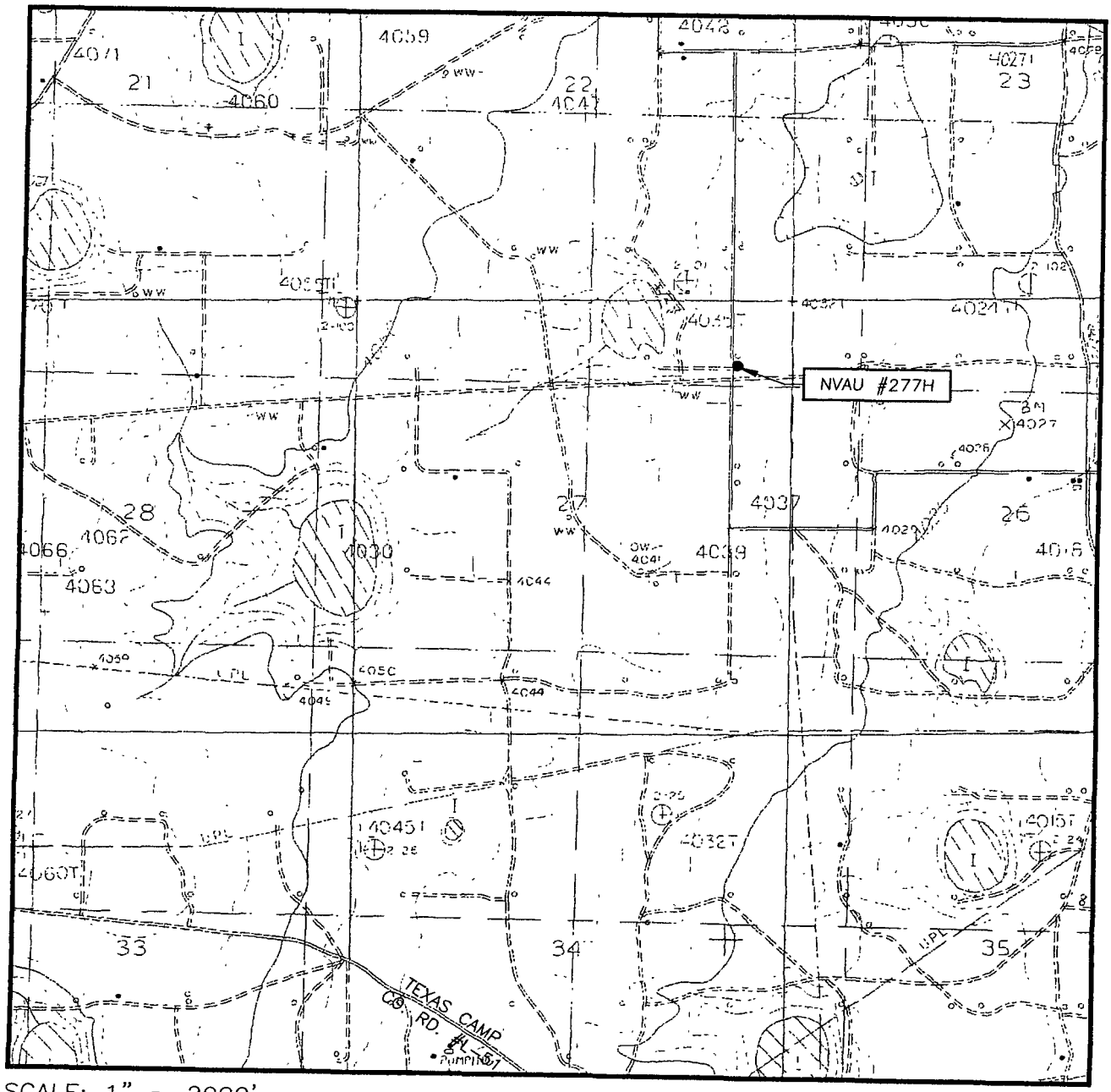
ELEVATION 4038'

OPERATOR XTO ENERGY

LEASE NVAU

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
BUCKEYE, N.M. – 5'

SEC. 27 TWP. 17-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 790' FNL & 650' FEL

ELEVATION 4038'

OPERATOR XTO ENERGY

LEASE NVAU

U.S.G.S. TOPOGRAPHIC MAP
BUCKEYE, N.M.

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

NVAC #277H
Horizontal Sidetrack Procedure
North Vacuum Abo Field
Lea County, New Mexico
AFE #712637
XTO WELL ID #61548

TD:	8800'
PBTD:	8712'
8-5/8" Casing:	5000'
5-1/2" Liner:	8700 – 4173' TOL, 5-1/2" 15.5# & 17# K-55 see wellbore diagram for all details
Surface Location:	790' FNL & 650' FEL, Sec 27, T17S, R34E
Target BHL:	1530' FNL & 2295' FEL, Sec 27, T17S, R34E
Drilled Date:	
Abo Perfs:	8548-8685' OA
Ground Elev:	4037'
Original KB Elev:	4054'
Key Energy #36:	4049' (12'AGL)

1. MIRU Key Rig #36. Install BOP. Test to 250# & 1000#. Notify NMOGB – permit attached.

2. Unload and tally ±6200' 2-7/8" 10.40# AOH & 4000' 3-1/2" 13.30# IF workstring. 6 3-1/4" or 3-1/2" & 2 4-3/4" Spiral DC's for weight. Knight Oil Tools has pipe.

3. R/U WSI WL. Run gauge ring and junk basket for 5-1/2" 17# (drift ID – 4.767") to 8600'. Log up and tie into csg collars @ 8419.5', 8378', 8339', 8298' (see attached log). P/U Weatherford Oil Tools wireline set 5-1/2" 17# RBP. Set RBP so that the top will be at 8420' RD WL.

4. PU 4-3/4" dummy milling assbly or 4-3/4" flat bottom mill with the 2-7/8" AOH & 3-1/2" IF drill pipe and TIH. Tag up on the RBP @ 8420', set down 20,000# of weight on the RBP. Circulate the hole with fresh water. TOOH with assbly.

5. PU Weatherford Services Whipstock System (3° face) with metal muncher mills. **Note: Make sure all mills will gauge to 4.75". Minimum DD is 4.767".** Total length of the whipstock assembly in the set position is approximately 12'. Orient the UBHO sub and whipstock face on the surface. Insert the gyro stinger (Scientific Drilling) to ensure compatibility and to check orientation.

6. TIH with the whipstock assembly slowly, being careful when picking the string up off of the slips and when setting the slips. Fill DP every 2000'. Tag the RBP at 8420' with 2000# of weight. PU to first tool joint and RU Scientific Drilling gyro truck. Orient the whipstock to the desired azimuth and work the torque out of the drill string.

7. When desired orientation is achieved, tag the RBP with 2000# of weight, take a final check shot with gyro, then apply weight and set the anchor with 20,000# compression to shear the running bolt. RD WL truck.

8. Obtain values for free torque, PU & SO weights. Install ditch magnets at the surface. Lower milling assembly and make the starting cut through the casing wall at approximately 8408'.

9. Mill the remainder of the window, 8408-014', making the necessary rat hole (8420') to ensure that the string mill has fully opened the window, and that the window exit is smooth. Work the mills through the window. When the window is "clean", circulate the hole clean, TOOH and LD the window mills.

10. PU 4-3/4" bit ("47-type" – the Abo has **'chert'** in it), PU 3-1/2" dir assbly w Non-Mag DC & GammaRay, run surface tests, and TIH. ***Mud loggers should be rigged up after cutting the window and prior to commencing the curve.*** Use Gyro for first few surveys. Follow well plan from Pathfinder. Open hole lateral length is +/- 1300'. Be prepared to drill with an XCD/Xanthum fluid system to keep 'YP' higher for hole cleaning in the 8-5/8" area. **For trips out of the hole, circ hole clean with sweep(s). TOH slowly in the curve and lateral, if necessary consider pumping out.**

11. At TD, circulate the hole clean with polymer sweeps.

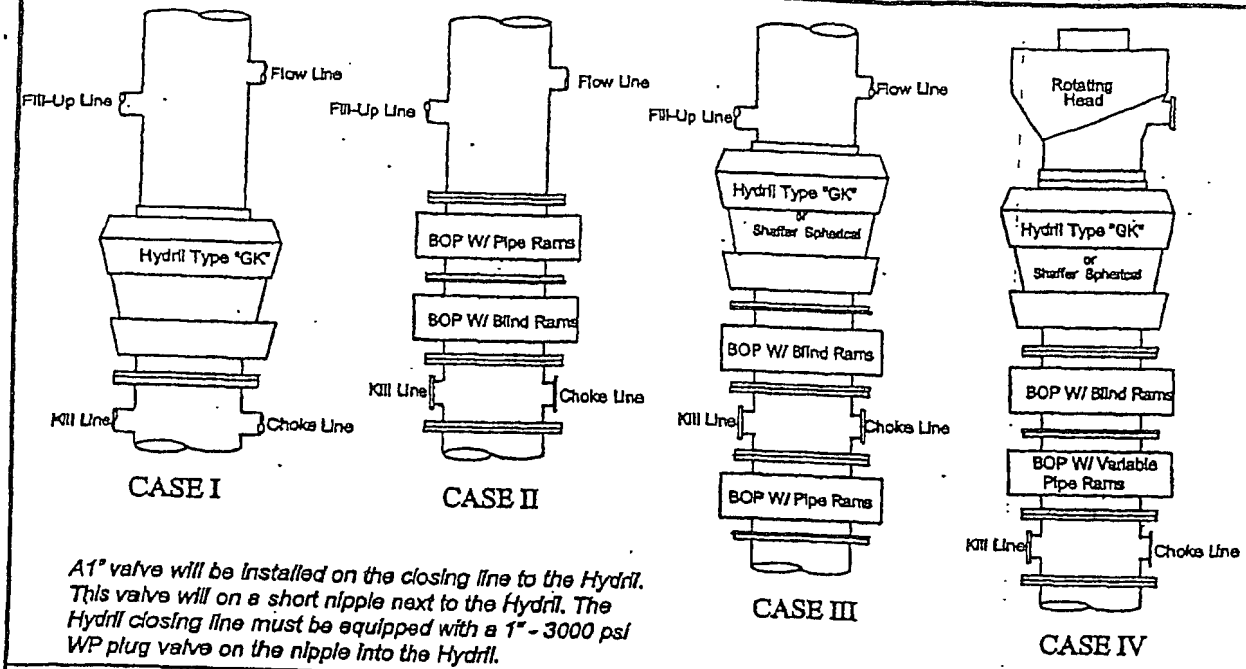
12. TOOH and LD directional tools.

13. TIH with 4-3/4" (4-1/2") swaging tool, single reamer about 7-8 jts behind swaging tool, wash and ream to TD. POH and place 2nd reamer 1 jt behind 1st, wash and ream to TD, pull back up through the window, RIH for push pull test to btm, circ hole clean.

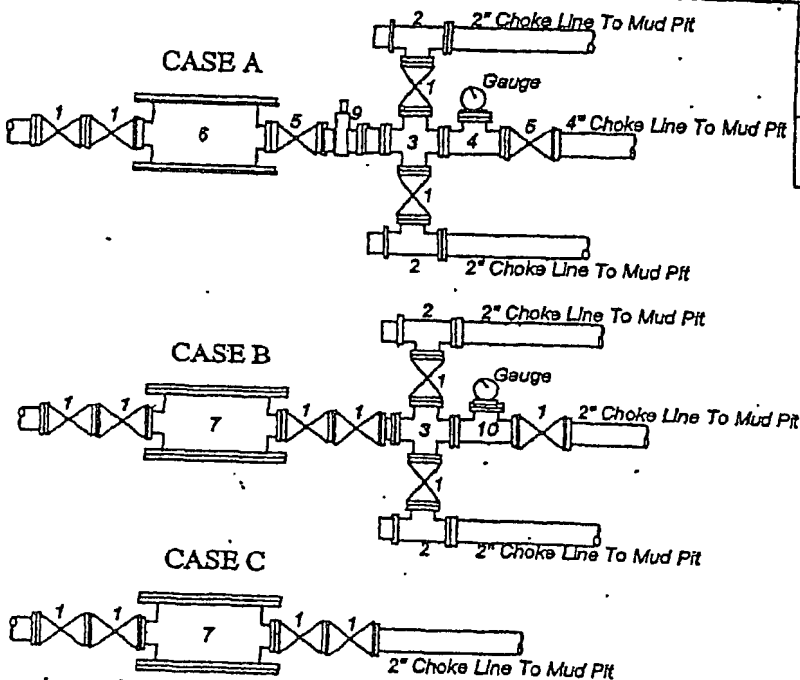
14. TOOH & LDDP. RD Re-entry Rig. Prepare to move to the next location.

Chip
8/3/07

MINIMUM BLOWOUT PREVENTER REQUIREMENTS



A1" valve will be installed on the closing line to the Hydril. This valve will on a short nipple next to the Hydril. The Hydril closing line must be equipped with a 1" - 3000 psi WP plug valve on the nipple into the Hydril.



BOP SIZE	BOP CASE	WORKING PRESSURE	CHOKE CASE
13-5/8"	IV	5000	A

**Rotating head required*

Bradenhead furnished by Conoco will be:
Mfr: Wood Group
Description: 13-3/8" x 13-5/8" 3M
Type: SOW

Legend

1. *2" flanged all steel valve must be either Cameron "F", Halliburton Low Torque or Shaffer Flo-Seal.*
2. *2" flanged adjustable chokes, min. 1" full opening & equiped with hard trim.*
3. *4" x 2" flanged steel cross.*
4. *4" flanged steel tee.*
5. *4" flanged all steel valve (Type as in no. 1).*
6. *Drilling Spool with 2" x 4" flanged outlet.*
7. *Drilling Spool with 2" x 2" flanged outlet.*
8. *2" x 2" flanged steel cross.*
9. *4" pressure operated gate valve.*
10. *2" flanged steel tee.*

Notes

Choke manifold may be located in any convenient position. Use all steel fittings throughout. Make 90° turns with bull plugged tees only. No field welding will be permitted on any of the components of the choke manifold and related equipment upstream of the chokes. The choke spool and all lines and fittings must be at least equivalent to the test pressure of the preventers required. Independent closing control unit with clearly marked controls to be located on derrick floor near driller's position.