OCD-HOBBS

K-06-58

Form 3160-3
(April 2004)

Received
Hobbs OCD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

1277

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

5. Lease Serial No.
NM 18848

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. <300729>
SDE 31 Federal, Well #16

2. Name of Operator
XTO Energy, Inc. <5380>

9. API Well No.
30 025 - 39138

3a. Address **200 N. Loraine, Suite 800**
Midland, TX 79701

3b. Phone No. *(include area code)*
432 684-6381/682-8873

10. Field and Pool, or Exploratory
Triste Draw,W Del; Sand Dunes S Bone Spring

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **660 FSL and 900 FWL** Unit M, Lot 4
At proposed prod. zone " "

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 31, T23S, R32E

14. Distance in miles and direction from nearest town or post office*
23 miles east of Loving, New Mexico

12. County or Parish
Lea

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) **660'**	16. No. of acres in lease **1994.13**	17. Spacing Unit dedicated to this well **46.44 acres**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. **1560**	19. Proposed Depth **9300'**	20. BLM/BIA Bond No. on file **UTB 000138**
21. Elevations (Show whether DF, KDB, RT, GL, etc.) **3545' GR**	22. Approximate date work will start* **09/30/2006**	23. Estimated duration **14-21 days**

24. Attachments Carlsbad Controlled Water Basin

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature	Name *(Printed/Typed)*	Date
Ann Ritchie	**Ann E. Ritchie**	**08/12/2006**

Title
Regulatory Agent

Approved by *(Signature)* **/s/ Tony J. Herrell**	Name *(Printed/Typed)* **/s/ Tony J. Herrell**	Date **SEP 2 5 2006**
Title **FIELD MANAGER**	Office **CARLSBAD FIELD OFFICE**	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached. APPROVAL FOR 1 YEAR

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on page 2)

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

Oil Conservation Division
Conditions of approval: Approval for drilling ONLY --- CANNOT produce Downhole Commingled until DHC is approved in Santa Fe.

GWW

K-06-58
8/24/06

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 - 38138	59945; 53815	Triste Draw, W Dela - Sand Dunes, S - Bone Springs

Property Code	Property Name	Well Number
15704 (300729)	SDE 31 Federal	16

OGRID No.	Operator Name	Elevation
5380	XTO ENERGY	3545'

Surface Location

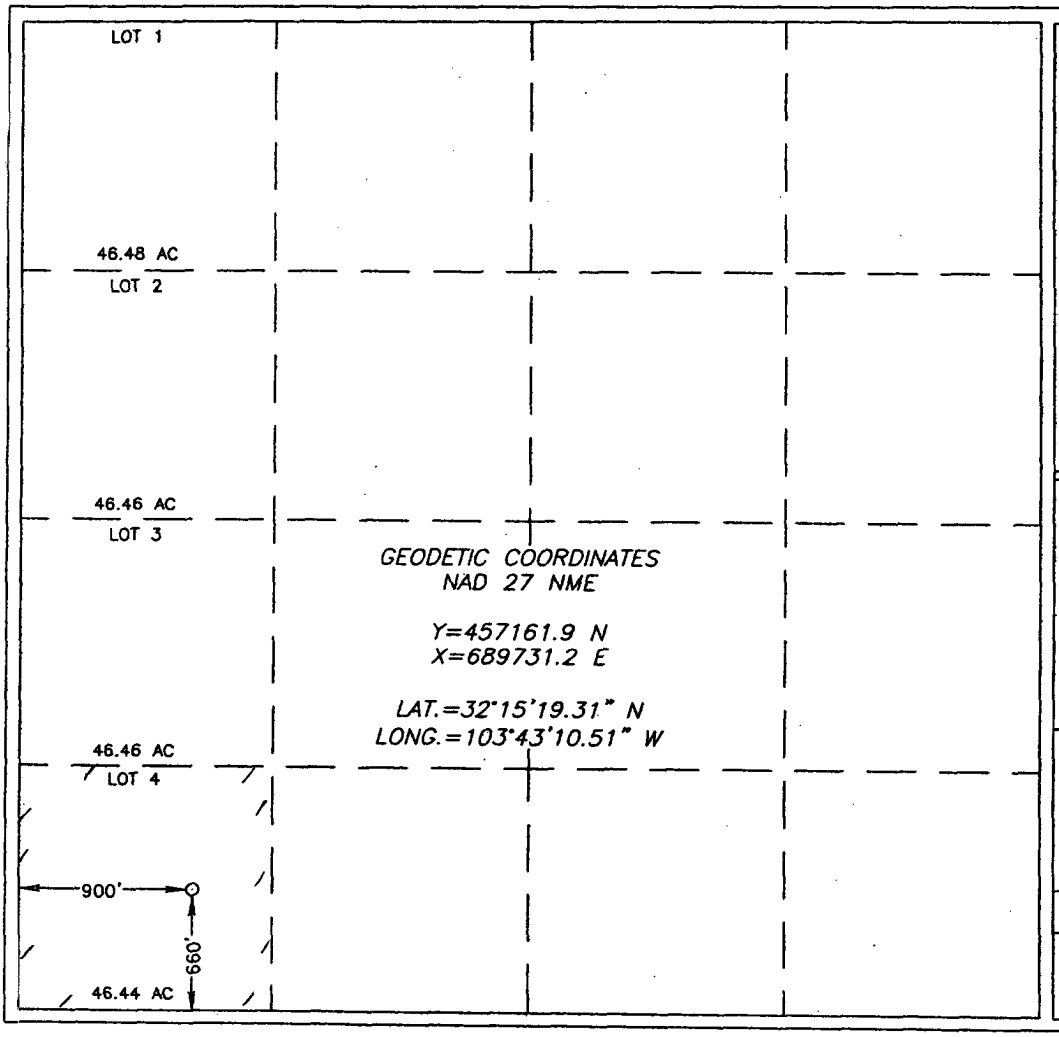
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M 4	31	23-S	32-E		660	SOUTH	900	WEST	LEA

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
46.44			

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



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 — Date: 8-9-06

Ann E. Ritchie, Agent
Printed Name

ann.ritchie@wtor.net

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 04, 2006
Date Surveyed — MR

Signature & Seal of Professional Surveyor

RONALD J. EIDSON NEW MEXICO 3239 REGISTERED PROFESSIONAL SURVEYOR

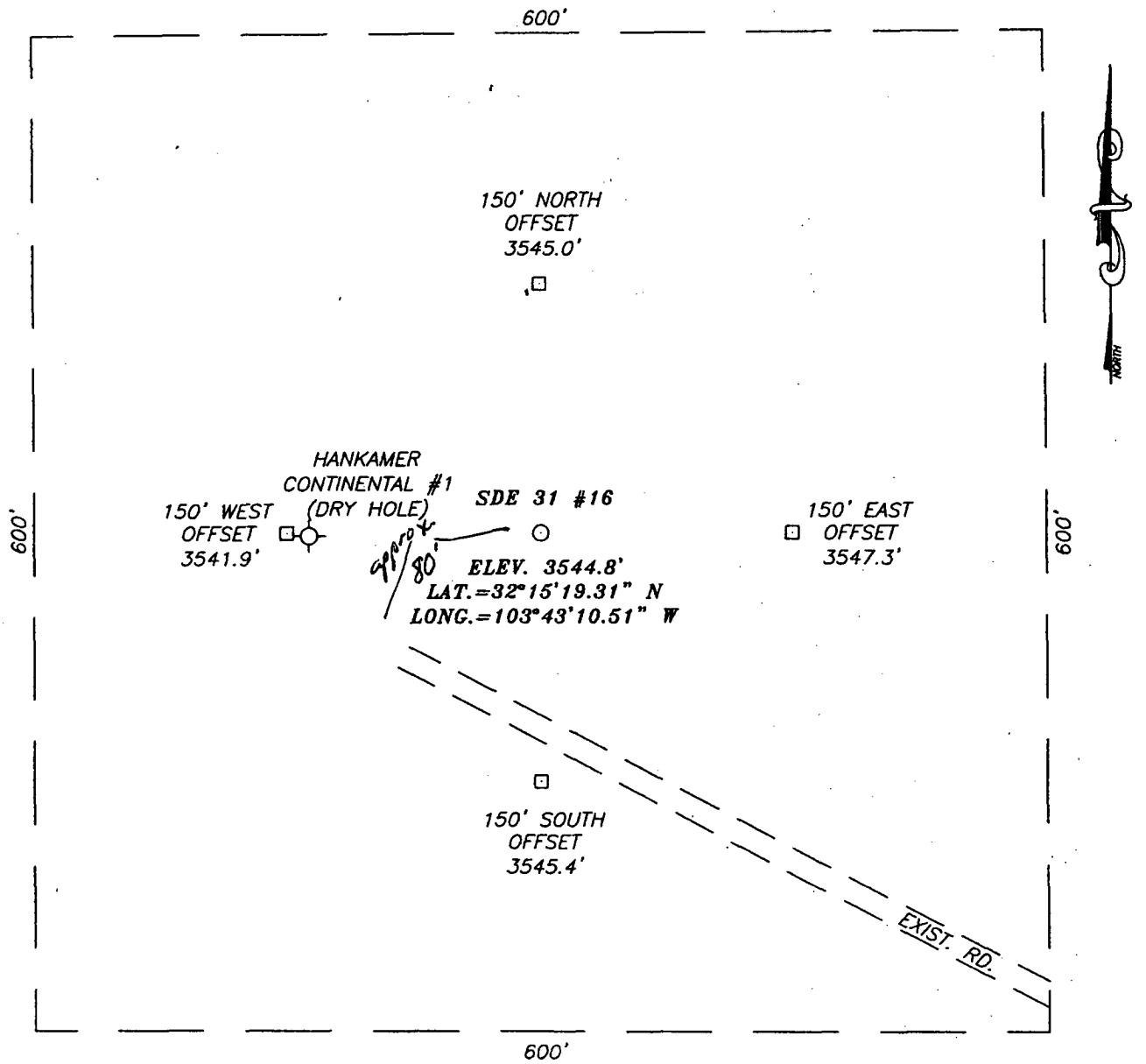
5/09/06

06.11.0784

Certificate No. GARY EIDSON 12641
RONALD J. EIDSON 3239

SECTION 31, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.,

LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF ST. HWY. #128 AND PADUCA BREAKS RD., GO NORTHEAST ON PADUCA BREAKS RD. APPROX. 1.0 MILES. TURN LEFT AND GO NORTHWEST APPROX. 0.7 MILES TO A DRY HOLE MARKER. THIS LOCATION IS APPROX. 137 FEET EAST.

100 0 100 200 Feet

Scale: 1"=100'

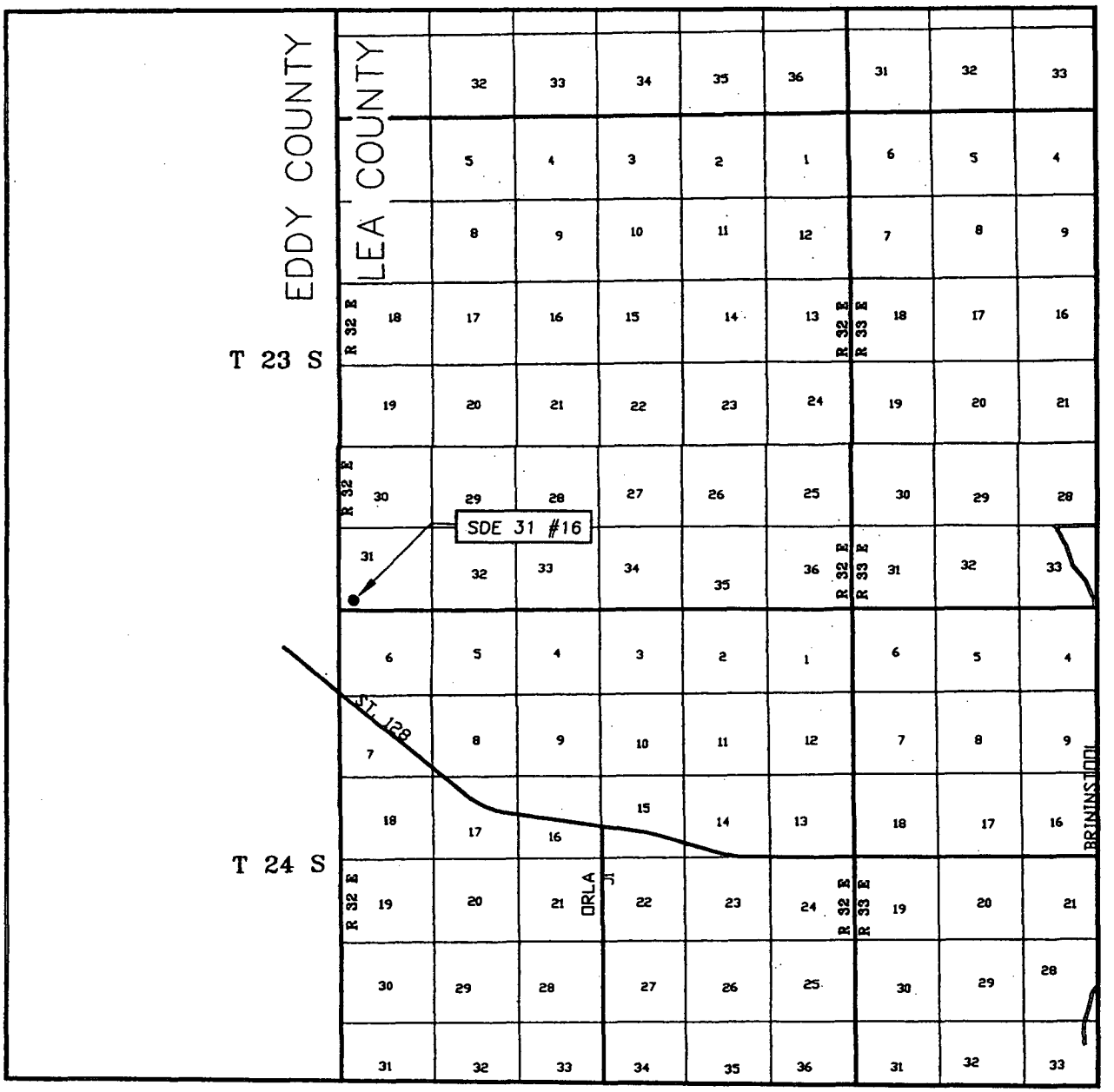
XTO ENERGY

SDE 31 #16
LOCATED 660 FEET FROM THE SOUTH LINE
AND 900 FEET FROM THE WEST LINE OF SECTION 31,
TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

Survey Date: 05/04/06	Sheet 1 of 1 Sheets		
W.O. Number: 06.11.0784	Dr By: M.R.	Rev 1:N/A	
Date: 05/08/06	Disk: CD#6	06110784	Scale: 1"=100'

PROVIDING SURVEYING SERVICES
SINCE 1948
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 31 TWP. 23-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 660' FSL & 900' FWL

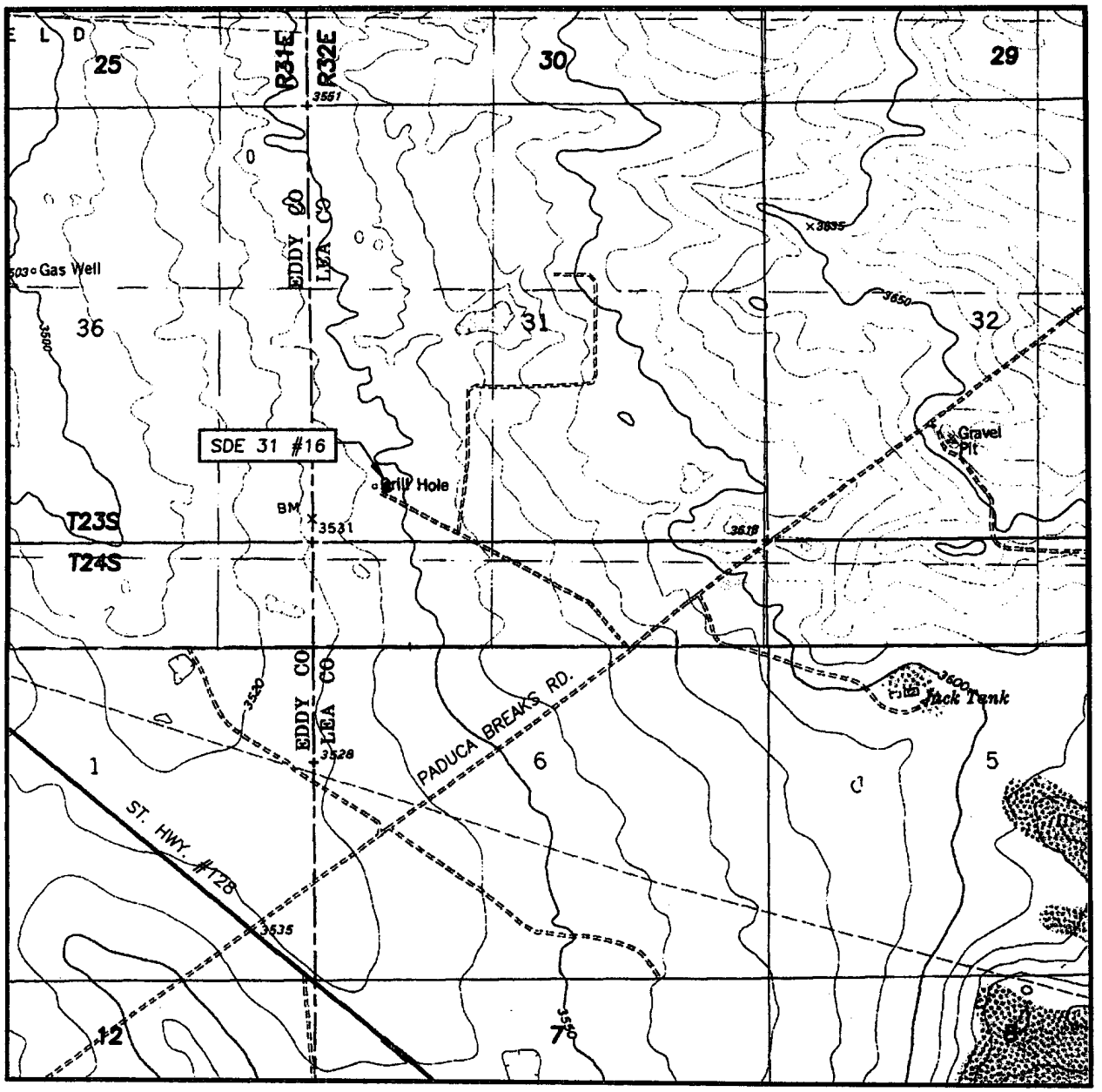
ELEVATION 3545'

OPERATOR XTO ENERGY

LEASE SDE 31

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:
BOOTLEG RIDGE, N.M. – 10'
PADUCA BREAKS NW, N.M. – 10'

SEC. 31 TWP. 23-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 660' FSL & 900' FWL

ELEVATION 3545'

OPERATOR XTO ENERGY

LEASE SDE 31

U.S.G.S. TOPOGRAPHIC MAP
BOOTLEG RIDGE, N.M.

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

Nine Point Drilling Plan

(Supplement to BLM 3160-3)

XTO Energy, Inc., 200 North Loraine, Suite 800, Midland, TX 79701

SDE "31" Federal, Well #16

660' FSL and 900' FWL; Section 31, Blk 23S, R32E, Lea County, New Mexico

Sand Dunes; Bone Spring, South/Triste Draw; Delaware, West

NM 18848; BLM Nationwide Bond Number UTB 000138

1. The geologic surface formation is quaternary; the land surface is relatively level with moderate sand dunes. Regionally, the land slopes to the southwest. Vegetation consists primarily of scrub oak, mesquite and sparse ranch grasses.

2. Name and estimated tops of geologic horizons:

Rustler	860'
Salt	1200'
Base of Salt	4200'
Lamar	4600'
Lwr Delaware	7080'
Lwr Delaware A	8120'
1st Bone Spring	8530'
2nd Bone Spring	8980'
Total Depth	9300'

Witness Surface Casing

3. **Protection of possible useable water** will be achieved by setting 13 3/8", 48#, H40, STC surface casing @ 970'+/-.

Intermediate Casing: 8 5/8",~~24#~~,24# & 32#, J-55 & HCK-55, STC casing set @ 4400'+/-. 2300' J-55 24# 2100' HCK-55 32#

Production Casing: 5.5" casing @ 9300' +/-.

Summary: casing string(s) referenced above will consist of the following:

Surface: 13 3/8", 48#, H-40, STC, new pipe @ 970'+/- in 17.5" hole.

Intermediate: 8 5/8", J-55 & HCK-55, 24# & 32# @ 4400' in 12 1/4" hole. 2300' J-55 top 2100' HCK-55 bottom

Production: 5 1/2", 17#, J-55, L-80, LTC casing @ 9300' in 7 7/8" hole.

4. **Cement Program**:

Surface Casing: 13 3/8", 48# H-40, STC @ 970':

Lead: 510 sx 35/65 Poz/C + 2% CaCl +3#/sk LCM-1 + 0.25 #/sx celloflake + 6^ gel (12.4 ppg 2.02 cu ft/sx, 10.82 gal/sx wtr). Tail w/200 sx C + 1% CaCl (mixed @ 14.8 ppg, 1.34 ft3/sx, 6.34 gal/sx wtr). All volumes 100% excess.

Intermediate Casing: 8 5/8", 24# & 32# set @ 4400':

Lead: 20 bbls fresh water, 875 sx 50/50 poz Cl C +5% NaCl + 10% gel + 5 lb/sx LCM-1 + 0.25 lb/sx celloflake (~~missed~~ MIXED @ 11.9 ppg 2.45 ft3/sx 13.57 gal/sx wtr.)

Tail: 200 sx Cl C + 1% CaCl (mixed @ 14.8 ppg, 1.34 ft3/sx, 6.34 gal/sx wtr.

Through DV Tool @ 1500':

Lead: 20 bbls fresh water, 875 sx 50/50 poz Cl C +5% NaCl + 10% gel + 5 lb/sx LCM-1 +0.25 lb/sx celloflake (mixed @ 11.9 ppg 2.45 ft3/sk,13.57 gal/sx wtr).

Tail: 200 sx C (mixed @ 14.8 ppg 1.34 ft3/sx,6.34 gal/sx wtr) – all volumes 100% excess

Production Casing: 5 1/2", 17# J055, L-80, LTC @ 9300':

First Stage: Cement fill from 9300' to DV tool @ 6800+/-'.

Tail: 620 sx H + 0.4% CD-32 + 1% FL-62 0.1% Sodium Metasilicate + 0.15% FL-52A (15.6 ppg 1.19 cuft/sx, 5.14 gal/sx wtr).

Second Stage: Cement fill from DV Tool @ +/- 6800' – 3200':

Lead: 20 bbls FW, 275 sx 50/50 Poz Cl C + 5% NaCl + 10% gel (11.8 ppg, 2.44 ft3/sx, 14.07 gal/sx wtr.)

Tail: 150 sx Cl C (mixed @ 14.8 ppg, 1.33 ft3/sx, 6.33 gal/sx wtr.)

Remarks: Cement volumes to be adjusted for production casing based on log caliper volume plus 30% in open hole section. Desired cement top on the second stage cement job is 3200'.

5. **The well control equipment** to be employed during the drilling of this well is as illustrated on BOP diagram attached. This equipment includes a pipe and blind rams, an annular preventer and a choke manifold of comparable pressure rating. Equipment will be rated for a minimum of 3000 psi, and will be tested to 80% of that pressure rating prior to drilling out of the surface casing.

6. **Mud/Drilling fluid program**: Spud with fresh water/native mud. Drill out from under 13 3/8" surface casing with fresh water/brine solution. Start brine additions as mud begins to salt up while drilling salt sections (1200'). Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Will use available solids control equipment to help keep mud weight down after mud up. Raise viscosity at TD for logging. Reduce viscosity after logging for cementing purposes.

0-970': 17 ½" hole, mud-FW/native; MW 8.5-8.8; vis. 35-40; FL-NC

970-4400': 11" hole, mud-FW/Brine/Gel sweeps; MW 9.8-10.2; vis. 30-32

4400-8400': 7 7/8" hole, mud-FW/polymer sweeps; MW 8.6-8.8; vis. 29-32; fluid loss – NC-20.

8400-9300': 7 7/8" hole, mud-FW/Poly/Gel/Starch; MW 8.8-9.0; vis. 32-38; fluid loss 18-15-10.

7. **Auxiliary equipment** will include an upper kelly cock valve, safety valve to fit drill pipe and pressure gauges. WOC a minimum of 12 hrs before drilling out surface casing, check BOP blind rams each trip and pipe rams each day.

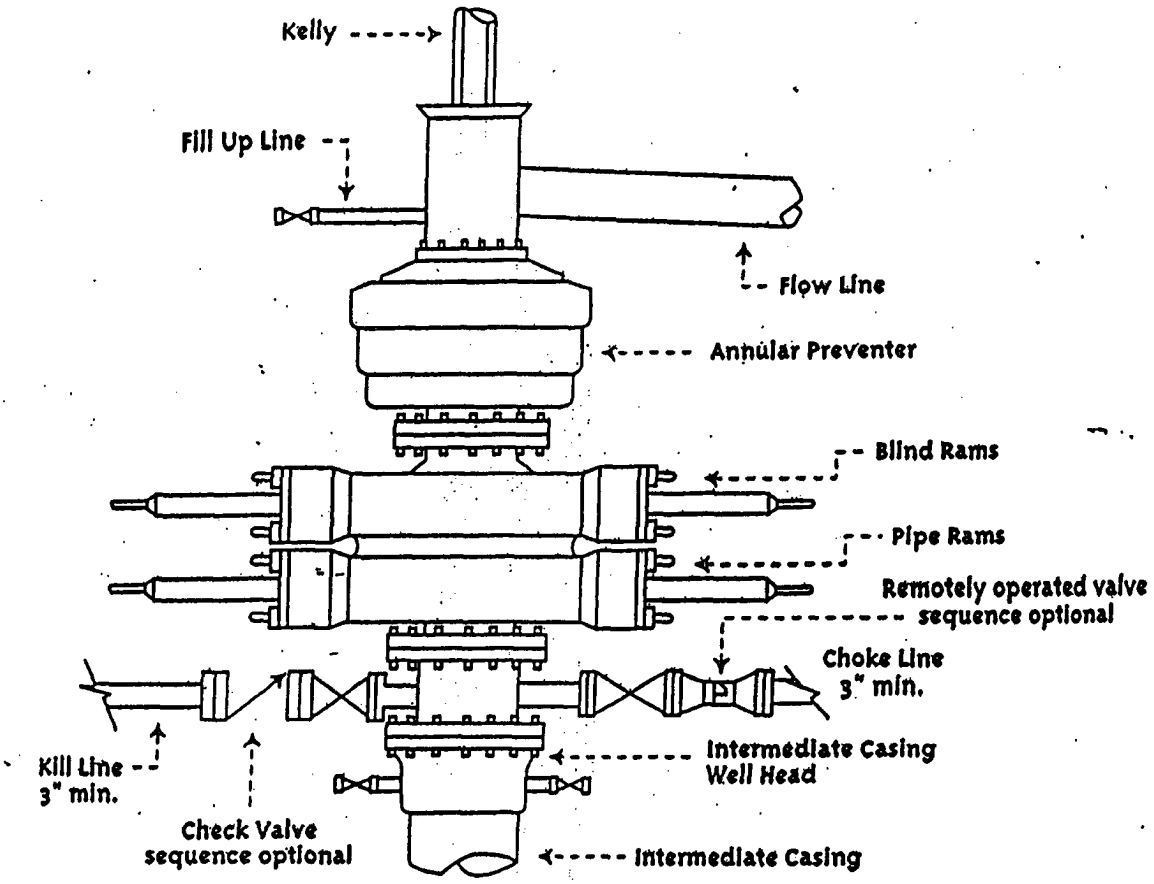
8. No drill stem testing is planned for this wellbore. A mud logging unit will be utilized: Selman Mud Logging Unit on @ 4500'. Will catch 10' samples from 4500' to 9300'. Open hole logs by Halliburton: GR/Cal/DLL/DPHI/NPHI/Microlog from TD to intermediate casing point NPHI/GR to surface.

9. The estimated BHP at TD is not expected to exceed 1300 psi, and a BHT of 100 F is anticipated. There is H2S present from approximately 4600' to TD. Monitors and alarms will be installed on the rig floor, beneath the substructure, and at the flowline. Escape units will be provided for rig crews. All persons requiring access to the drilling location should be trained in H2S safety and have current documentation with them. No beards or facial will be permitted. This is for the safety of the individual and there are no exceptions. H2S can be deadly and should be treated as such.

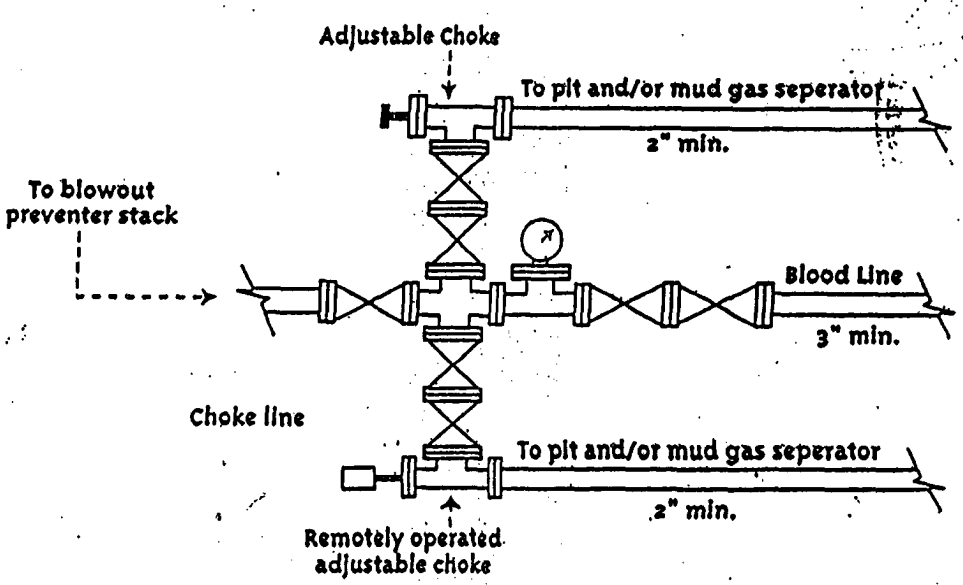
   Lost circulation is not expected to be a serious problem in this area, and hole seepage will be compensated for by additions of small amounts of starch & gel as needed.

   It is estimated that this well will be drilled and cased in 14-21 days. Drilling will commence as soon as approval to drill is issued by the Bureau of Land Management.

Typical 5,000 psi Pressure System Schematic
Annular Double Ram Preventer Stack



Typical 3,000 psi choke manifold assembly with at least these minimum features



Hydrogen Sulfide Drilling Operations Plan

For

XTO Energy, Inc.

Sand Dunes, South Bone Springs

Lea County, New Mexico

ONE: Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted or employed on an unscheduled basis has or will receive training from qualified instructors in the following areas prior to working on the drilling operations on this well:

The hazards & characteristics of H2S
The proper use & maintenance of personal protective equipment and Life support systems;
The proper use of H2S detectors, alarms, warning systems, briefing areas, evacuation procedures & prevailing winds; and,
The proper techniques of first aid and rescue contact procedures

In addition, the supervisory personnel will be trained in the following areas:

The effects of H2S on metel components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
Corrective action an shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
The contents and requirements of the H2S Drilling Operations Plan.

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500') and periodic H2S and well control drills for all personnel in each crew. The initial training session should include a review of the site specific Drilling Operations Plan. This plan is to be available at the well site.

TWO: H2S Safety Equipment and Systems

NOTE: All H2S safety equipment and systems will be installed, tested and operational when drilling reaches a depth of 500 feet above, or three days prior to penetration of a known zone containing or reasonably expected to contain H2S.

1. Well Control Equipment:
   Flare line with flare igniter;
   Choke manifold with one remote hydraulic choke installed;
   Blind rams & pipe rams to accommodate all pipe sizes with properly sized closing unit;
   Auxiliary equipment to include an Annular Preventer.

GEOLOGICAL WELL PLAN & AFE REQUEST

OPERATOR:	XTO Energy Inc	BY:	Charles Ways
WELL NAME:	**SDE 31 #16**	DATE:	April 12, 2005
LOCATION:	660' FSL & 900' FWL Sec. 31	COUNTY / STATE:	Lea County, N.M.
	T23 S, R 32 E, Lea County, New Mexico		
PROSPECT:	Sand Dune East Unit	EST. SPUD:	September-06
PROPOSED T.D.:	9,300'	REMARKS:	

DEVELOPMENT:	XX	NEW WELL: XX	OIL: XX
EXPLORATORY:		RE-ENTRY:	GAS:
REMARK:			

DRILL STEM TESTS:	FORMATION	DEPTH	DEFINITE/POSS/PROB
1)			
2)			
3)			

CORES:	FORMATION	CORE INTERVAL	CORE ANALYSIS
1)			
2)			
3)			

MUD LOG:

DEPTH ON	DEPTH OFF	LOGGING COMPANY	TYPE UNIT
4500'	TD	Selman	2-man

OPENHOLE LOGS:		TYPE LOGS	WELL DEPTH	LOG INTERVAL
Run 1:	Resistivity:	LLD. LLS & MSFL	9300'	9300' to surface csg
	Porosity:	Density Neutron Log	9300'	9300' to surface csg
	Other:	GR	9300'	9300' to surface
Run 2:	Resistivity:			
	Porosity:			
	Other:			

Remarks:

WELL PLAN/AFE REQUEST cont'd

WELL NAME:	**SDE 31 #16**			
LOGGING COMPANY:	Halliburton			
WELLSITE GEOLOGICAL SUPERVISION:	Mud Logger	Consultant	Company XX	
Geologist:	Charles Ways	Office:	(817) 885-2801	
		Home:	(817) 557-1937	
		Cell:	(817) 680-8302	
Remarks:	If unavailable, contact Trent B	Office:	(817) 885-2852	
		Home:		
		Cell:	(817) 475-3658	
SAMPLES:	Caught & Bagged	Depth Interval	No. of Sets of Samples	
1 Full Bag	Each 10 feet	From 4500' to TD	One set of dry samples to Midland Sample Library	
EXPECTED FORMATION TOPS:	K.B. Elevation (feet):	3550'	(Est.: XX Actual:)	

Formation	Subsea Depth (feet)	Well Depth (feet)
Rustler	2,690'	860'
Salt	2,350'	1,200'
Base of Salt	-650'	4,200'
Lamar	-1,050'	4,600'
Lower Delaware *	-3,625'	7,175'
Lower Delaware "A" *	-4,650'	8,200'
1st Bone Spring Sand *	-5,070'	8,620'
2nd Bone Spring Sand **	-5,470'	9,020'
TD	-5,750'	9,300'

* Primary Objective ** Secondary Objective

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-144
June 1, 2004

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

Operator: XTO Energy, Inc. Telephone: 432 684-6381/682-8873 e-mail address: ann.ritchie@wtor.net
Address: c/o Box 953, Midland, TX 79702
Facility or well name: SDE "31" Federal #16 API #: 30-025-~~pending~~ 38138 U/L or Qtr/Qtr "4" Sec 31 T 23S R 32E
County: Lea Latitude 32'1519.31 Longitude 103'4310.51 NAD: 1927 X 1983 ☐
Surface Owner: Federal X State Private ☐ Indian ☐

Pit	**Below-grade tank**	
Type: Drilling X Production ☐ Disposal ☐ Workover ☐ Emergency ☐ Lined X Unlined ☐ Liner type: Synthetic X Thickness 12 mil Clay ☐ Pit Volume 16000	Volume: ____bbl Type of fluid: ____ Construction material: ____ Double-walled, with leak detection? Yes ☐ 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 50 feet or more, but less than 100 feet 100 feet or more X	(20 points) (10 points) (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 No X	(20 points) (0 points)
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet 200 feet or more, but less than 1000 feet 1000 feet or more X	(20 points) (10 points) (0 points)
	Ranking Score (Total Points) 0	

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 your 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:

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 X, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.**

Date: 8-9-06
Printed Name/Title Ann E. Ritchie Signature

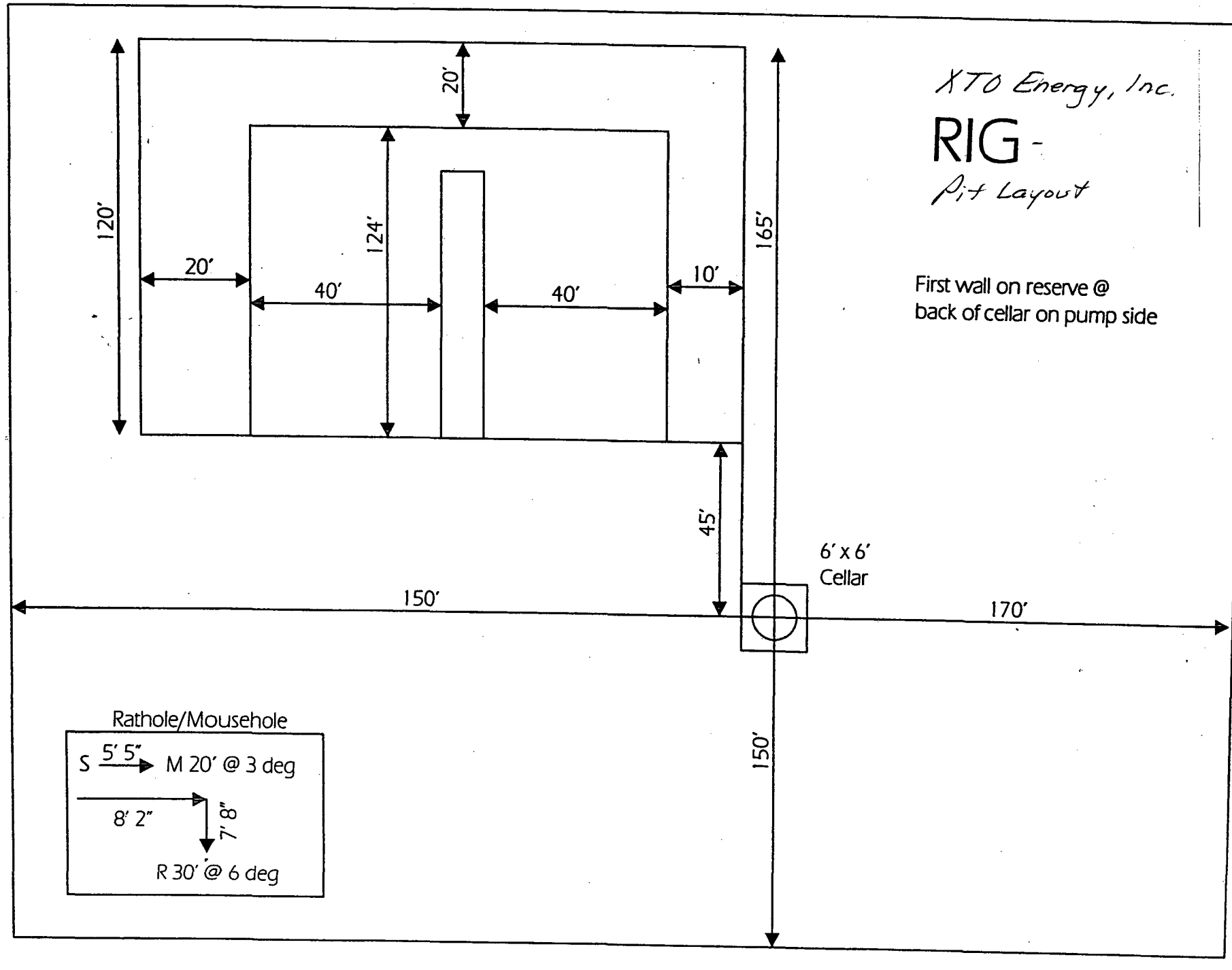
Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with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

Approval:
Printed Name/Title GARY W. WINK / STAFF MGR Signature Gary W. Wink Date: 9/28/06

XTO Energy, Inc.

RIG -

Pit Layout



First wall on reserve @
back of cellar on pump side

FIGURE 1: CROSS-SECTIONS AND PLANS FOR TYPICAL ROAD CONSTRUCTION REPRESENTATIVE OF BLM RESOURCE, AND HIGHER CLASS, ROADS. (copy for reference)

(Travel way, top width, driving surface, and travel surface are synonomous.)