

30-025-39819

## **SURFACE USE PLAN OF OPERATIONS**

### **1. Existing Access Roads**

- A. The well site survey and elevation plat for the proposed well is shown in Exhibit 4. It was staked by John West Surveying Company, Hobbs, NM.
- B. All existing roads to the location are shown in the topographic map (Exhibit 2) and Plan of Development plat (Exhibit 6). The existing lease roads are illustrated and are adequate for travel during drilling and production operations. Upgrading existing roads prior to drilling the well will be done where necessary.
- C. Directions to Location:

From the intersection of State Highway 128 and County Road 789 (Red Road), go north on Red Road approximately 5.0 miles. Turn right and go east approximately 1.9 miles. Turn right and go south approximately 0.8 mile. Turn right and go west approximately 0.4 mile to a proposed road survey. Turn right and follow proposed road approximately 1,317 feet north. The location stake is approximately 212 feet to the northwest.

- D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

### **2. Proposed Access Road:**

The elevation plat (Exhibit 4) shows that 1,317' of new road will be required for this location, to be constructed from a point on the existing lease road, as shown on Exhibits 2 and 6. Any new road that is required will be constructed as follows:

- A. The maximum width of the running surface will be 14'. The road will be crowned, ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and be consistent with local drainage patterns.
- B. The average grade will be less than 1%.
- C. No turnouts are planned.
- D. No culverts, cattleguard, gates, low water crossings or fence cuts are necessary.



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- E. Surfacing material will consist of native caliche. Caliche will be obtained from the nearest BLM approved caliche pit or from a private source.

**3. Locations of Existing Wells:**

Exhibit 5 shows all existing wells within a one-mile radius of this well.

**4. Location of Existing and/or Proposed Facilities:**

- A. EnerVest Operating LLC ("EnerVest") will use its existing production facility located on the surface of Section 7, as shown in Exhibit 6.
- B. If the well is productive, contemplated facilities will be as follows:
- 1) Production will be sent to the existing production facility described in "A" above.
  - 2) Additions, if needed, to the existing tank battery and facilities including any piping will be installed according to API specifications.
  - 3) Any additional caliche will be obtained from a BLM-approved caliche pit or from a private source. Any additional construction materials will be purchased from contractors.
  - 4) 3,792 feet of flow line will be constructed to this well and laid alongside the access road from the well to the existing tank battery. The flow line will be constructed of a 4" SDRIL poly line which will be laid on the surface. The proposed flow line route is highlighted in red on Exhibit 6. Flow lines will be kept at least 3' apart.
  - 5) Electric service will be provided from a power line to be constructed along the new road to the location, as described above and shown on Exhibits 2 and 6. A copy of the survey plat for the proposed power line is attached as Exhibit 4A.
  - 6) Location and Type of Water Supply:

The well will be drilled with a combination brine and fresh water mud system as outlined in the drilling program. The water will be obtained from commercial water stations in the area and hauled to location by transport truck over the existing and proposed access roads shown on Exhibits 2 and 6. If a commercial fresh water source is nearby, temporary "fast line" may be laid alongside access roads existing at the time the line is laid and fresh water pumped to the well. No water well will be drilled on the location.

**6. Source of Construction Materials:**

All caliche required for construction of the drill pad and proposed new access road (approximately 2397 cubic yards) will be obtained from a BLM-approved caliche pit or from a private source.

**7. Methods of Handling Waste:**

- A. The well will be drilled utilizing a closed loop mud system. Drill cuttings will be held in rolloff style mud boxes and taken to an NMOCD-approved disposal site.
- B. Drilling fluids will be contained in steel mud pits.
- C. Water produced from the well during completion will be held temporarily in steel tanks and then taken to an NMOCD-approved commercial disposal facility.
- D. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill. No toxic waste or hazardous chemicals will be produced by this operation.
- E. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. In the event of a dry hole, only a dry hole marker will remain.

**8. Ancillary Facilities:**

No airstrip, campsite or other facilities will be built as a result of the operation on this well.

**9. Well Site Layout:**

- A. The drill pad layout, with elevations staked by John West Surveying Company, is shown in Exhibit 4. Dimensions of the pad, including the closed loop mud system, are shown on Exhibit 8. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level, no major cuts will be required.
- B. Exhibit 8 also shows the proposed orientation of the closed loop mud system, and access road. No permanent living facilities are planned; however, a temporary foreman/toolpusher trailer and crew quarters trailers will be on location during the drilling operations.



**10. Plans for Restoration of the Surface:**

- A. If the well is found to be non-commercial upon completion of the drilling and/or completion operations, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations in the area. The road will be reclaimed as directed by the BLM. The original top soil will be returned to the pad and contoured, as close as possible to the original topography, and reseeded as per BLM specifications.
- B. Upon completion of drilling and completion operations, the well pad will be reduced to a size suitable for continued operations, including workovers and other well servicing activities. The pad will be scraped such that the only portion of the pad remaining will be: (i) the area inside the anchors; and (ii) an area outside the anchors 50 feet in width. The caliche removed during the scraping operation will be stockpiled and either saved for use on future roads or pads, or returned to the pit from which it was originally removed.

**11. Surface Ownership:**

- A. The surface at this location is owned by the Federal government. The minerals are owned by the Federal government and are administered by the Bureau of Land Management. The surface has multiple uses, which are primarily grazing of livestock and the production of oil and gas.
- B. The surface tenant for this site is:

Brininstool XL Ranch LLC  
P.O. Box 940  
Jal, NM 88252
- C. The proposed road routes and surface location will be restored as directed by the BLM.

**12. Other Information:**

- A. The area around the well site is grassland and the topsoil is sandy. The vegetation is moderately sparse with native prairie grasses, some mesquite and shinnery oak. No wildlife was observed but it is likely that mule deer, rabbits, coyotes and rodents traverse the area.

A request for exemption was submitted from the Lesser Prairie Chicken (LPC) operations stipulation when the APD for this well was originally filed in 2000, based on an Auburn University *Field Survey to Determine the Status of the Lesser Prairie Chicken*, a copy of which is attached.



Similarly, EnerVest requests an exemption from the LPC operations stipulation. In the event that the BLM rejects this request for exemption, EnerVest will comply with the standard LPC protection stipulations relating to operations between 3:00 AM and 9:00 AM, from March 1 through June 15, as may be set out in the permit to drill.

- B. There is no permanent or live water in the immediate area.
- C. There are no dwellings within two (2) miles of this location.
- D. This project is being administered by a MOA with the Carlsbad, New Mexico Bureau of Land Management office.

**13. Bond Coverage:**

Bond Coverage is Nationwide Bond # NMB000503.

**14. Lessee's and Operator's Representative:**

The EnerVest representative responsible for assuring compliance with the surface use plan is as follows:

Harvey Barney  
Drilling Manager  
1001 Fannin, Suite 800  
Houston, Texas 77002  
(713) 493-6522 (office)  
(713) 203-9322 (cell)

Surface Use Plan  
EnerVest Operating LLC  
Sharbro Federal #9  
1980' FSL & 2080' FWL  
Section 7, T-23-S, R-32-E  
Lea County, New Mexico



### CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or EnerVest Operating LLC am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 10<sup>th</sup> day of May, 2010.

Signed: Harvey Barney

Printed Name: Harvey Barney

Position: Drilling Manager

Address: 1001 Fannin, Suite 800, Houston, Texas 77002

Telephone: (713) 495-6522

Field Representative (if not above signatory): William Pilkington

E-mail: hbarney@enervest.net

Field Survey to Determine the Status of the Lesser Prairie Chicken

(*Tympanuchus pallidicinctus*) in Southeastern New Mexico:

Sharbro Federal #1 (T23S R32E Sec. 7) and

ANM # 7 #8 #6 #9 7/12/00

Sharbro Federal #2 (T23S R32E Sec. 17), Lea County

Submitted to: Ernest L. Carroll, Law Offices of Losee, Carson, Haas, and Carroll, 311 West Quay Avenue, P.O. Box 1720, Artesia, NM 88211-1720, 505/746-3505, FAX 505/746-6316

Submitted by: Troy L. Best, Dept. of Biological Sciences, 331 Funchess Hall, Auburn University, Alabama 36849-5414, 334/844-9260, FAX 334/844-9234, besttro@mail.auburn.edu

*Purpose:*

To determine if breeding sites (leks) of the lesser prairie chicken (*Tympanuchus pallidicinctus*) are present within the vicinity of the following oil and gas operations sites (please see "A" and "B" on the attached map):

A.--MYCO Industries, Inc., Sharbro Federal #1, 660' FSL and 660' FEL, Sec. 7-T23S-R32E, Lea Co., NM;

B.--MYCO Industries, Inc., Sharbro Federal #2, 1980' FSL and 660' FEL, Sec. 17-T23S-R32E, Lea Co., NM.

*Methods:*

Census transects were evaluated using standard scientific techniques. Beginning 0.5-1 hour before sunrise, an experienced field biologist began the census transect at Site 1 (see below), listened for 3-5 minutes for the calls made by lesser prairie chickens on leks, recorded GPS coordinates, date, time of observation, and weather conditions, the observer proceeded to the next monitoring site, repeated this protocol, and continued this process until no later than 3 hours after sunrise. Census transects were not conducted under adverse weather conditions.

*Survey Sites:*

Please see circled numbers 1-11 on the attached map.

<u>GPS Coordinates and Legal Description</u>	<u>Date</u>	<u>Time (MST)</u>	<u>Weather Conditions</u>
Site 1.--32°18.341'N, 103°41.698'W T23S R32E, Sec. 17, NE 1/4	27Mar00 12Apr00	0530-0535 0455-0500	high clouds, calm high thick overcast, nearly calm
Site 2.--32°17.922'N, 103°41.377'W T23S R32E, Sec. 16, SW 1/4	27Mar00 12Apr00	0538-0543 0503-0508	high clouds, calm high thick overcast, nearly calm
Site 3.--32°18.351'N, 103°42.539'W T23S R32E, Sec. 18, NE 1/4	27Mar00 12Apr00	0611-0616 0536-0541	clear, calm high thick overcast, nearly calm
Site 4.--32°18.768'N, 103°43.699'W T23S R31E, Sec. 12, SE 1/4	27Mar00 12Apr00	0620-0625 0546-0551	clear, calm high thick overcast, nearly calm
Site 5.--32°19.016'N, 103°43.482'W T23S R31E, Sec. 12, SE 1/4	27Mar00 12Apr00	0627-0632 0553-0558	clear, calm high thick overcast, nearly calm
Site 6.--32°19.692'N, 103°43.012'W T23S R32E, Sec. 6, SW 1/4	27Mar00 12Apr00	0638-0643 0604-0609	clear, calm high thick overcast, nearly calm
Site 7.--32°19.449'N, 103°42.452'W T23S R32E, Sec. 7, NE 1/4	27Mar00 12Apr00	0645-0650 0612-0617	clear, calm high thick overcast, nearly calm
Site 8.--32°18.816'N, 103°42.460'W T23S R32E, Sec. 7, SE 1/4	27Mar00 12Apr00	0652-0657 0619-0624	clear, calm high thick overcast, nearly calm
Site 9.--32°18.804'N, 103°42.705'W T23S R32E, Sec. 7, SE 1/4	27Mar00 12Apr00	0658-0703 0627-0632	clear, calm high thick overcast, nearly calm



Site 10.--32°19.472'N, 103°41.707'W T23S R32E, Sec. 5, SE 1/4	12Apr00	0640-0645	high thick overcast, nearly calm
	14Apr00	0515-0520	clear, wind 5-10SE
Site 11.--32°19.444'N, 103°41.440'W T23S R32E, Sec. 5, SE 1/4	12Apr00	0650-0655	high thick overcast, nearly calm
	14Apr00	0505-0510	clear, wind 5-10SE

**Results:**

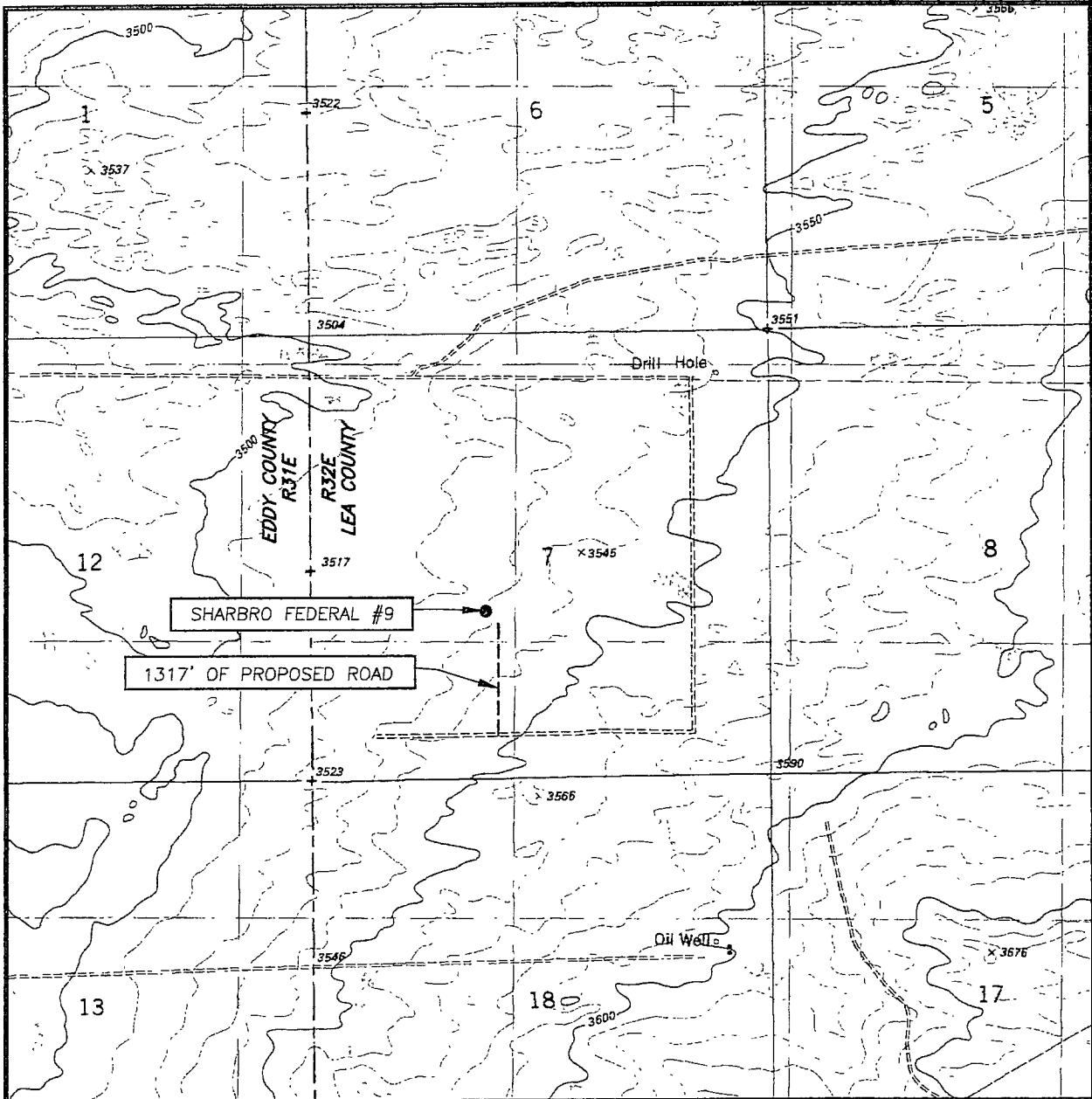
Please see the attached map. No evidence of lesser prairie chickens was heard or observed within the 0.5-mile radius encircling each of the 11 survey sites.

**Conclusions:**

There are no breeding leks within at least 0.5 mile of Sharbro Federal #1 or Sharbro Federal #2, Lea Co., NM.

## EXHIBIT 2

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
BOOTLEG RIDGE, N.M. - 10'

SEC. 7 TWP. 23-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

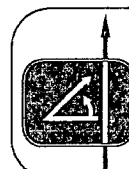
DESCRIPTION 1980' FSL & 2080' FWL

ELEVATION 3532'

OPERATOR ENERVEST OPERATING, LLC

LEASE SHARBRO FEDERAL

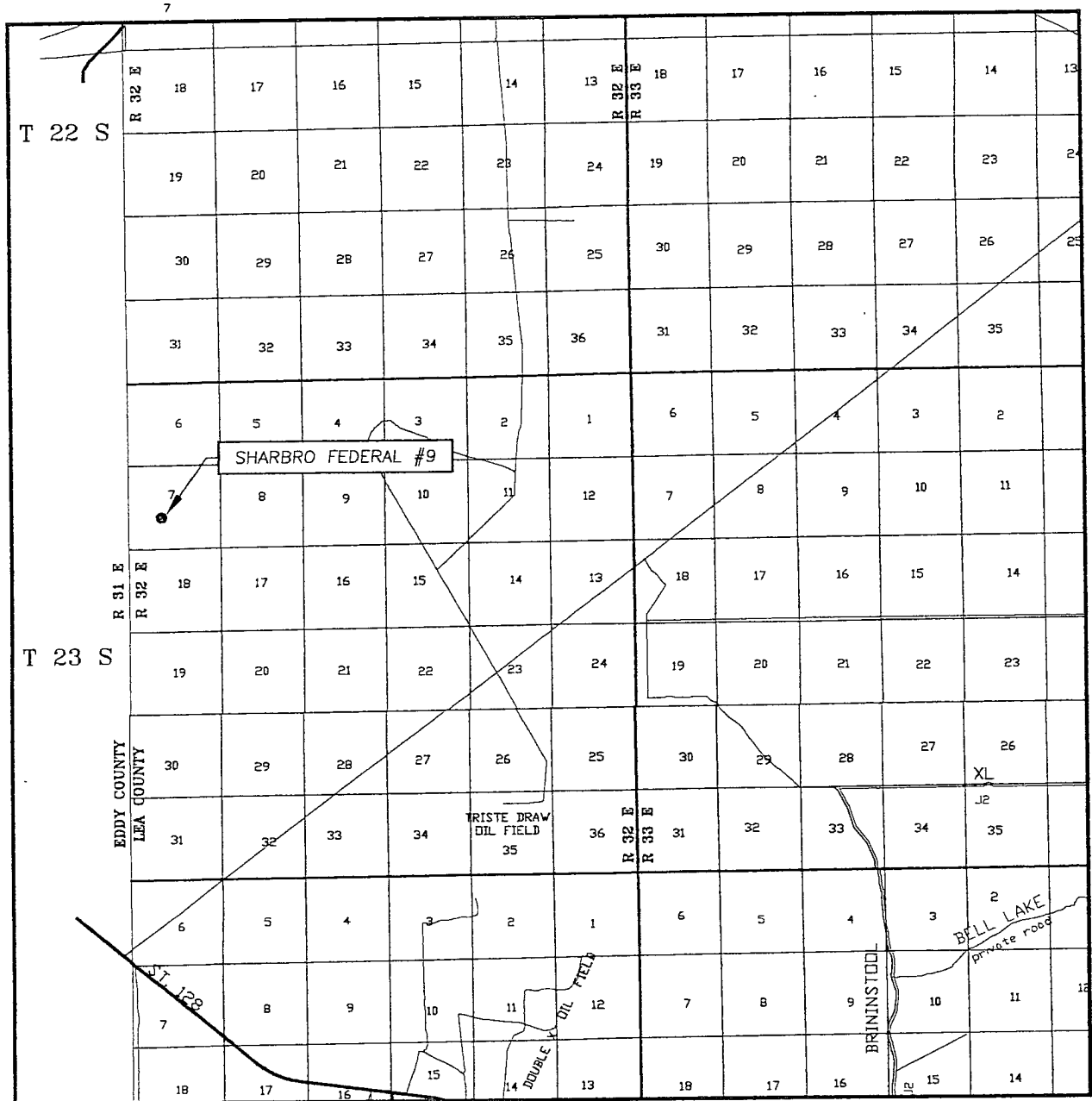
U.S.G.S. TOPOGRAPHIC MAP  
BOOTLEG RIDGE, N.M.



PROVIDING SURVEYING SERVICES  
SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
412 N. DAL PASO  
HOBBS, N.M. 88240  
(575) 393-3117

# EXHIBIT 3

## VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 7 TWP. 23-S RGE. 32-E

SURVEY \_\_\_\_\_ N.M.P.M.

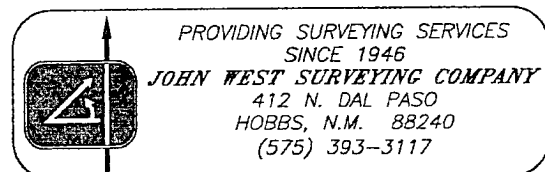
COUNTY LEA STATE NEW MEXICO

DESCRIPTION 1980' FSL & 2080' FWL

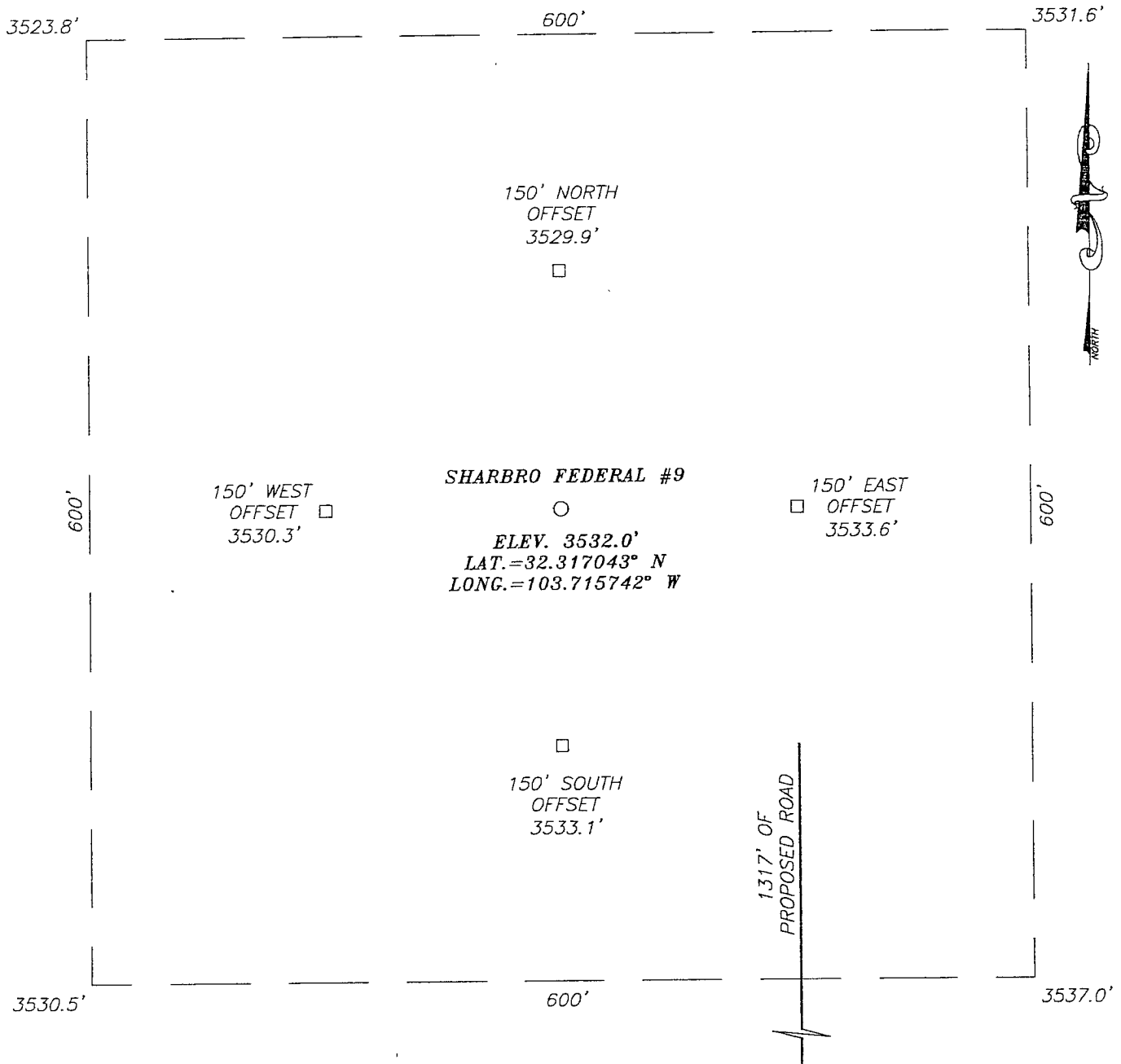
ELEVATION 3532'

OPERATOR ENERVEST OPERATING, LLC

LEASE SHARBRO FEDERAL



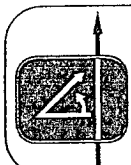
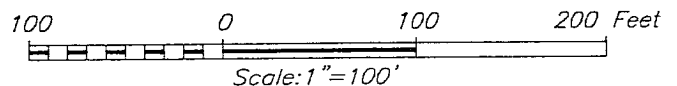
**SECTION 7, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.,**  
LEA COUNTY, NEW MEXICO



**EXHIBIT 4**

**DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF ST. HWY. #128 AND CO. RD. #789 (RED ROAD), GO NORTH ON RED ROAD APPROX. 5.0 MILES. TURN RIGHT AND GO EAST APPROX. 1.9 MILES. TURN RIGHT AND GO SOUTH APPROX. 0.8 MILES. TURN RIGHT AND GO WEST APPROX. 0.4 MILES TO A PROPOSED ROAD SURVEY. FOLLOW ROAD SURVEY APPROX. 1317 NORTH. THIS LOCATION STAKE IS APPROX. 212 FEET NORTHWEST.



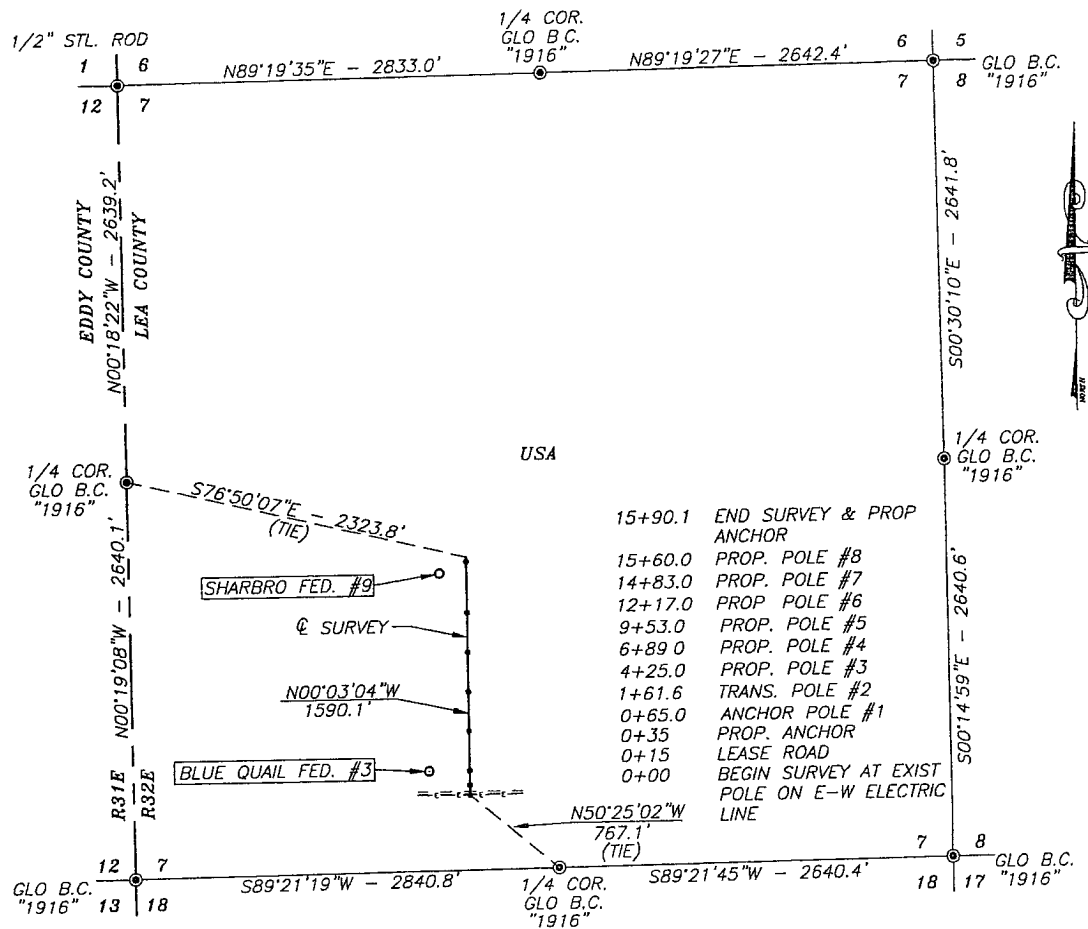
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**JOHN WEST SURVEYING COMPANY**  
412 N. DAL PASO  
HOBBS, N.M. 88240  
(575) 393-3117

**ENERVEST OPERATING, LLC**

SHARBRO FEDERAL #9 WELL  
LOCATED 1980 FEET FROM THE SOUTH LINE  
AND 2080 FEET FROM THE WEST LINE OF SECTION 7,  
TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO.

Survey Date: 2/16/10	Sheet 1 of 1 Sheets
W.O. Number: 10.11.0186	Dr By: LA
Date: 2/22/10	10110186
	Scale: 1"=100'

SECTION 7, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO.



DESCRIPTION

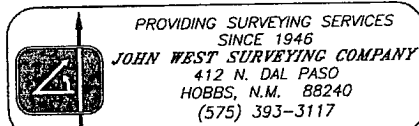
A STRIP OF LAND 50.0 FEET WIDE AND 1590.1 FEET OR 0.301 MILES IN LENGTH CROSSING USA LAND IN SECTION 7, TOWNSHIP 23 SOUTH, RANGE 32 EAST, NMPM, LEA COUNTY, NEW MEXICO AND BEING 25.0 FEET LEFT AND 25.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

EXHIBIT 4A

NOTE: BEARINGS SHOWN HEREON ARE  
MERCATOR GRID AND CONFORM TO THE  
NEW MEXICO COORDINATE SYSTEM  
"NEW MEXICO EAST ZONE" NORTH  
AMERICAN DATUM 1983. DISTANCES  
ARE SURFACE VALUES.

I HEREBY CERTIFY THAT I DIRECTED AND AM  
RESPONSIBLE FOR THIS SURVEY. THAT THIS SURVEY IS  
TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE  
AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET  
THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

GARY G. EIDSON N.M.P.S. No. 12641

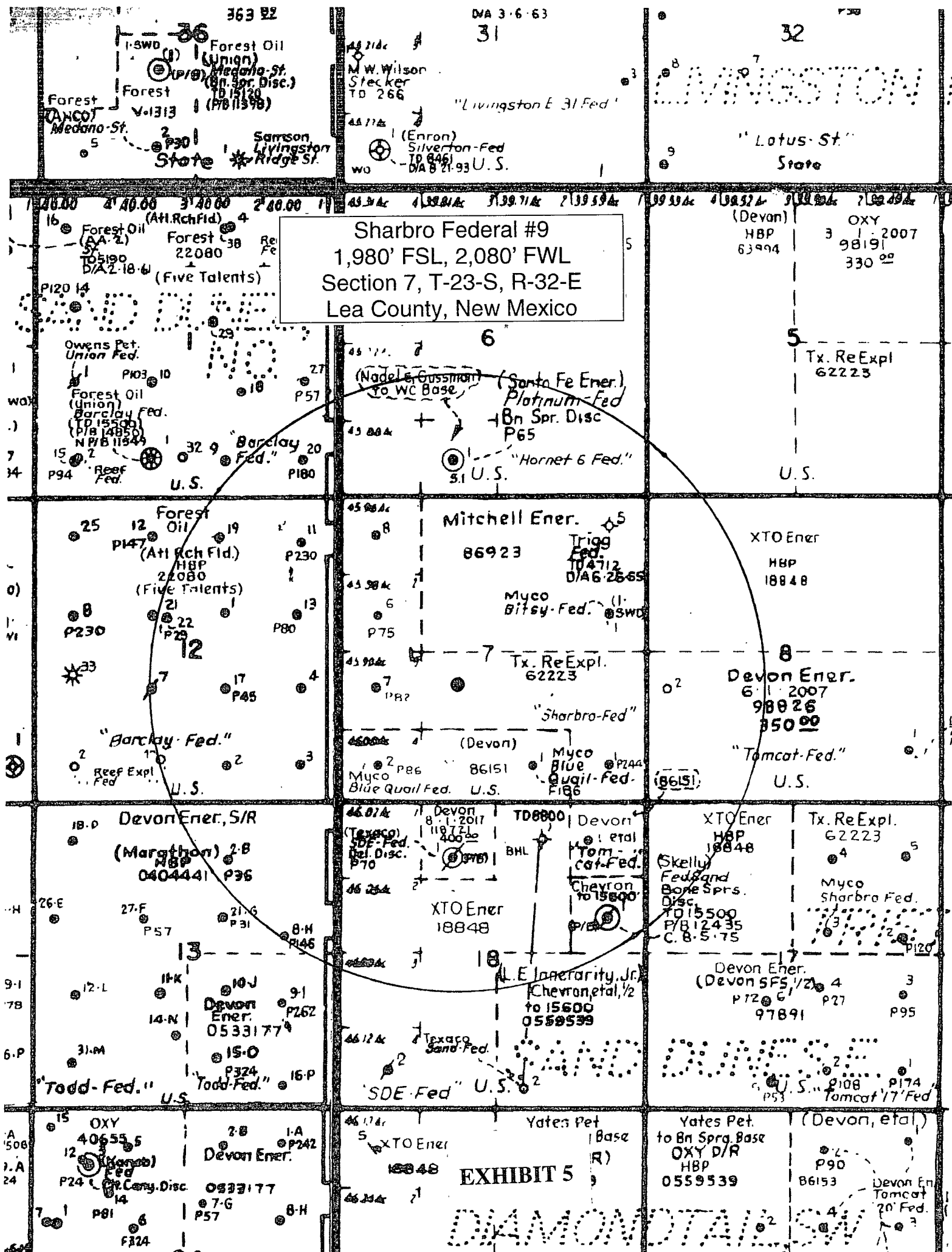


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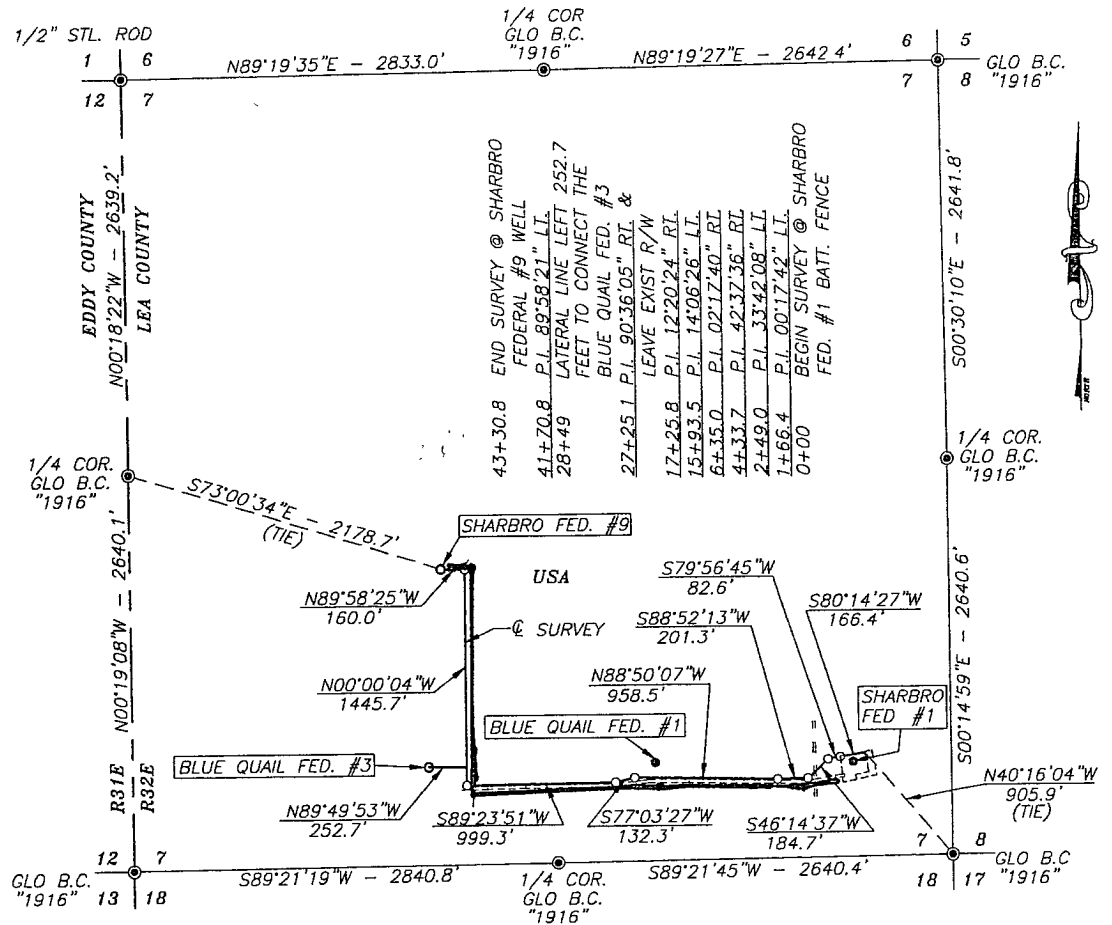
ENERVEST OPERATING, LLC

SURVEY OF AN ELECTRIC LINE CROSSING  
SECTION 7, TOWNSHIP 23 SOUTH, RANGE 32 EAST,  
N.M.P.M., LEA COUNTY, NEW MEXICO

Survey Date: 2/17/10	Sheet 1 of 1 Sheets
W.O. Number: 10.11.0186	Drawn By: LA
Date: 2/23/10	10110186



SECTION 7, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 50.0 FEET WIDE AND 4583.5 FEET OR 0.868 MILES IN LENGTH CROSSING USA LAND IN SECTION 7, TOWNSHIP 23 SOUTH, RANGE 32 EAST, NMPM, LEA COUNTY, NEW MEXICO AND BEING 25.0 FEET LEFT AND 25.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

NOTE: BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

EXHIBIT 6

I HEREBY CERTIFY THAT I HAVE DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

1000 0 1000 2000 FEET  
Scale: 1"=1000'

ENERVEST OPERATING, LLC

SURVEY OF A PIPELINE CROSSING  
SECTION 7, TOWNSHIP 23 SOUTH, RANGE 32 EAST,  
N.M.P.M., LEA COUNTY, NEW MEXICO

Survey Date: 2/17/10	Sheet 1 of 1 Sheets
W.O. Number: 10.11.0186	Drawn By: LA
Date: 2/23/10	10110186

GARY G. EIDSON N.M.P.S. No. 12641

PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO

HOBBS, N.M. 88240

(575) 393-3117

## **EXHIBITS AND ATTACHMENTS**

<b>Exhibit 1</b>	<b>Plat Page (Form C-102)</b>
<b>Exhibit 2</b>	<b>Topographic Map</b>
<b>Exhibit 3</b>	<b>Vicinity Map and Area Roads</b>
<b>Exhibit 4</b>	<b>Elevation Plat</b>
<b>Exhibit 4A</b>	<b>Proposed Power Line Plat</b>
<b>Exhibit 5</b>	<b>Ownership Map with Well Location and Wells in 1-mile Radius</b>
<b>Exhibit 6</b>	<b>Plan of Development (Roads, Flow Lines, Power Lines and Tank Battery)</b>
<b>Exhibit 7</b>	<b>Drilling Plan</b>
<b>Exhibit 8</b>	<b>Rig Layout</b>
<b>Exhibit 9</b>	<b>BOP and Choke Manifold Diagram</b>
<b>Exhibit 10</b>	<b>C-144 CLEZ, Closed Loop System Permit Application with Closed Loop Schematic (Orig filed with NMOCD)</b>
<b>Exhibit 11</b>	<b>H2S Plan</b>
<b>Exhibit 12</b>	<b>Surface Use Plan of Operations and Operator Certification</b>