

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

1301 W. Grand Avenue  
Artesia, NM 88210

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM 025777/06714	
1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator St. MARY EXPLORATION & LAND CO. 154903		7. If Unit or CA Agreement, Name and No. E. SHUGART DELAWARE UNIT #17	
3a. Address 580 WESTLAKE PARK BLVD, ST 600, HOUSTON TX 77079		8. Lease Name and Well No.	
3b. Phone No. (include area code) (432) 684-8900		9. API Well No. 30-015-33841	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 475' FNL & 100' FEL UL : A At proposed prod. zone SAME SUBJECT TO LIKE APPROVAL BY STATE ST. MARY'S LETTER DATED 10-11-04 B.H.D.		10. Field and Pool, or Exploratory SHUGART DELAWARE EAST	
14. Distance in miles and direction from nearest town or post office* 14 MILES SE OF LOCO HILLS, NM		11. Sec., T., R., M., or Blk. and Survey or Area SEC. 24 - T18S - R31E	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1600'		12. County or Parish EDDY	
16. No. of Acres in lease 604.12 AC UNIT		13. State NM	
17. Spacing Unit dedicated to this well 20		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 650' (ESDU #7)	
19. Proposed Depth 5550'		20. BLM/BIA Bond No. on file 6041872	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3715'		22. Approximate date work will start* OCTOBER 15, 2004	
		23. Estimated duration 30 DAYS	

24. Attachments

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 <i>Cary N. Billingsley</i>		Name (Printed/Typed) Cary N. Billingsley	Date 8-31-04
Title Operations Engineer / Agent			
Approved by (Signature) <i>151 RUSS SORENSEN</i>		Name (Printed/Typed) 151 RUSS SORENSEN	Date 11-1-04
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 reverse)

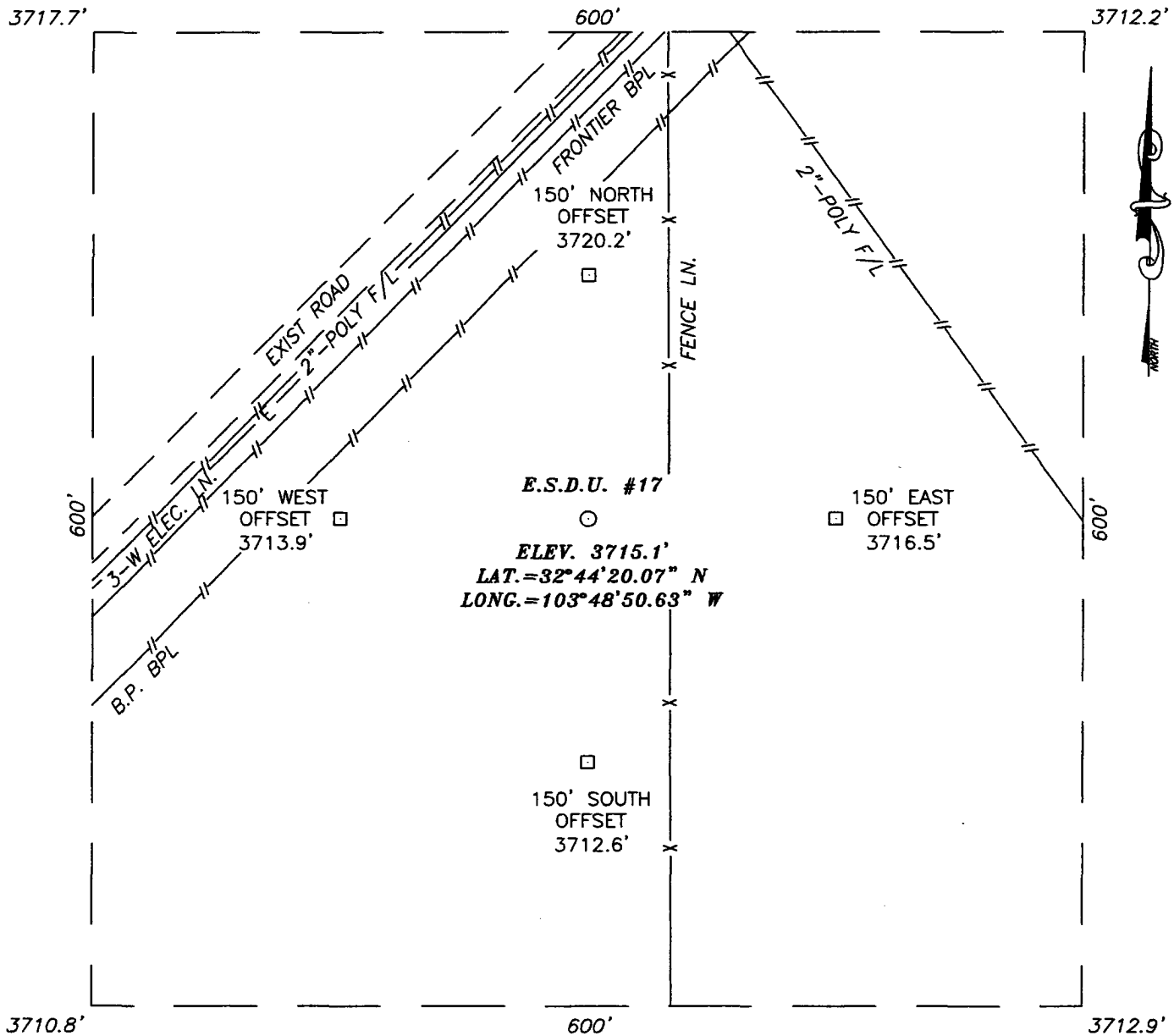
APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED

Controlled Water Risk

If earthen pits are used in association with the drilling of this well, an OCD pit permit must be obtained prior to pit construction.

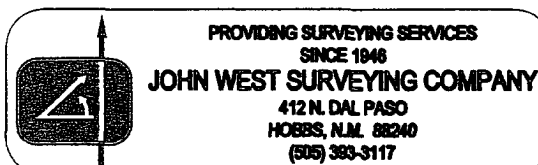
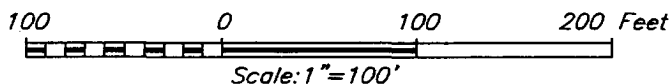
	<p>SECTION 24</p> <p>SECTION 19</p>	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Gary N. Billingsley</i> Signature</p> <p>Gary N. Billingsley Printed Name</p> <p>Operations Engr./Agent Title</p> <p>10/11/04 Date</p>
<p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=632917.4 N X=659667.6 E</p> <p>LAT.=32°44'20.07" N LONG.=103°48'50.63" W</p>		<p><b>SURVEYOR CERTIFICATION</b></p> <p>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.</p> <p>OCTOBER 5, 2004</p> <p>Date Surveyed</p> <p><i>GARY EDSON</i> Signature &amp; Seal of Professional Surveyor</p> <p>NEW MEXICO GARY EDSON 04.11.1274</p> <p>Certificate No. GARY EDSON 12641</p>

**SECTION 24, TOWNSHIP 18 SOUTH, RANGE 31 EAST, N.M.P.M.,**  
 EDDY COUNTY, NEW MEXICO



**DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF CO. RD. #222 (SHUGART RD.) AND CO. RD. #249 (WESTALL RD.) GO SE ON CO. RD. #249 FOR APPROX. 2.8 MILES UNTIL CO. RD. #249 TURNS RIGHT (SOUTH). CONTINUE SE ON CALICHE ROAD APPROX. 1.3 MILES. TURN LEFT AND GO NE APPROX. 0.6 MILES TO A BEND IN THE ROAD. CONTINUE THRU BEND HEADING NORTH APPROX. 0.5 MILES TO A CALICHE ROAD ON THE RIGHT AND GO APPROX. 0.1 MILES TO A CALICHE ROAD ON THE LEFT. TURN LEFT AND GO APPROX. 0.5 MILES NE. PROPOSED LOCATION IS APPROX. 150' EAST



**ST. MARY LAND & DEVELOPMENT COMPANY**

**E.S.D.U. #17 WELL**  
 LOCATED 475 FEET FROM THE NORTH LINE  
 AND 50 FEET FROM THE EAST LINE OF SECTION 24,  
 TOWNSHIP 18 SOUTH, RANGE 31 EAST, N.M.P.M.,  
 EDDY COUNTY, NEW MEXICO.

Survey Date: 10/5/04	Sheet 1 of 1 Sheets
W.O. Number: 04.11.1274	Dr By: J.R.
Date: 10/6/04	Disk: CD#10
04111274	Scale: 1"=100'

**Nine Point Drilling Plan**  
**(Supplement to BLM 3160-3)**

St. Mary Land and Exploration Co.

ESDU #17

475' FNL, 100' FEL; Sec 24, T18S, R31E

East Shugart Delaware Unit - Property Code 25743

Shugart (Delaware) East Field

Eddy Co., NM

NM-025777

1. The geologic surface formation is quaternary.
2. Name and estimated tops of geologic horizons

Yates	2400'
Queen	3500'
Grayburg	4020'
San Andres	4420'
Delaware	4575'

3. Protection of possible useable water will be achieved by setting 8.625" surface casing @ 850' + and cementing it to surface. The Queen - Grayburg are oil and gas productive in this area in addition to the targeted Delaware-Brushy Canyon. Isolation will be achieved by setting 5.5" casing @ 5550' +/-, and cementing back to surface.
4. **Specifically the casing strings referenced in #3 above will consist of the following:**

**Surface:** 8.625" OD, 24#/ft, J55, STC, new pipe @ 850'+ in 12.25" hole

**Production:** 5.50" OD, 15.5#/ft, J55, LTC, new pipe @ 5550'+/- in 7.875" hole

**Cementing programs for the above casing strings are:**

**Surface:** 525 sx Premium Plus w/ 2% CaC12, .25#/sk celloflake mixed at 14.8 ppg, and having a yield of 1.34 cu ft/sk

*The above volume represents 100% excess over calculated hole volume, and will be adjusted to actual setting depth of casing. The slurries will be preceded by a fresh water spacer, and displaced with brine water.*

**Production:** (a) 365 sx Interfill C cement mixed @ 11.9 ppg and having a yield of 2.45 cuft/sk  
(b) 330 sx Super H cement w/2.5 lbm salt, 0.3% CFR-3, 0.3% Lap-1, 5 lbm Gilsonite mixed @ 13.2 ppg, and having a yield of 1.63 cu f/sk

*The above are Halliburton products with 50% excess volume - actual volumes will be adjusted to the open hole caliper of this wellbore. The cement slurries will be preceded by 12 bbls cement wash for mud removal and displaced with fresh water. Equivalent products from another vendor may be substituted for Halliburton depending on price/availability.*

5. The well control equipment to be employed during the drilling of this well is as illustrated on EXHIBIT A. 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 the 8.625" surface casing.
6. It is anticipated that this well will be drilled to TD utilizing the fluids shown below:  

<b>0-850'</b>	NewGelLime "spud mud"	8.6-9.0 ppg	Utilize native solids to maintain sufficient viscosity to clean hole. Mix paper as required to control seepage loss.
<b>850-5000'</b>	Brine	9.9-10.0 ppg	Circulate thru reserve pit for gravitational solids removal. Add paper as required to control seepage loss. Maintain pH using Lime.
<b>5000-5550'</b>	Salt gel	10-10.1 ppg	Confine circulation to steel pits. Discontinue Lime, and mix starch for filtration control. Maintain water loss @ 10-15 cc. Sweep hole with Loloss at TD to clean hole for logging operations.
7. Auxiliary equipment will include an upper kelly cock valve, safety valve to fit drill pipe and pressure gauges.

8. No drill stem testing is planned for this wellbore.

Coring the Brushy Canyon is being considered and may be proposed if economically feasible.

A one-man mud logging unit will be utilized from 3000' to TD to record geological tops, collect samples, and monitor drilling fluids for hydrocarbons. GR/Caliper, Density Neutron and Dual Laterologs will be run at TD to evaluate porosity and saturations. A cased hole GR/CBL/CCL will be run during the completion for correlation and to evaluate cement quality.

9. The expected BHP at TD is not expected to exceed 1500 psi, and a BHT of 105 F is anticipated. There is no H<sub>2</sub>S present in the hydrocarbons being produced from the other wells that the company operates in this section. Should such unexpected circumstances be encountered the operator and drilling contractor are prepared to take necessary steps to ensure safety of all personnel, and environment. Likewise, if a water flow is experienced while drilling through the Penrose-Grayburg (which has an active waterflood) the appropriate steps will be taken. 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 LCM in the drilling fluid.

It is estimated that this well will be drilled and cased in 10-11 days. Drilling will commence as soon after approval is received and services can be contracted.

**Thirteen Point Plan for Surface Use**  
**(Additional data for form 3160-3)**

St. Mary Land and Exploration Co.

ESDU #17

475' FNL, 100' FEL; Sec 24, T18S, R31E

East Shugart Delaware Unit - Property Code 25743

Shugart (Delaware) East Field

Eddy Co., NM

NM-025777

1. **EXISTING ROADS** - A "VICINITY MAP" and a "LOCATION VERIFICATION MAP" by John West Surveying are attached which show the location of existing roads and the area topography.  
The road log to the location is as follows (the roads are better coming in from the east):
  - a) From the intersection of State Highway #529 and County road #126, go south on #126 4.1 miles to yellow cattleguard.
  - b) Turn west-northwest through cattleguard and go approximately 1.0 mile.
  - c) Turn left (south) past the E.S.D.U. #3. Go approximately .4 miles through cattleguard.
  - d) Turn east on proposed access road and go 100' to location.
2. **PLANNED ACCESS ROAD** —Approximately 100' of new E-W access road will be built from an existing road to the proposed location.
3. **LOCATION OF EXISTING WELLS** - EXHIBIT B1 shows the location of other wells within a mile radius of the proposed location in Eddy County and EXHIBIT B2 in Lea, County.
4. **LOCATION OF EXISTING OR PROPOSED FACILITIES** - A fiberglass injection line will be laid to the well from the ESDU #20 injection facility, which is located 762' to the South of the proposed location.
5. **LOCATION AND TYPE OF WATER SUPPLY** - All water (fresh or otherwise) needed for the drilling and completion of this well will be purchased from a commercial source and trucked to the location via the existing and proposed access road. No water source wells will be drilled, and no surface water will be utilized.

6. **SOURCE OF CONSTRUCTION MATERIALS** - Construction material (caliche) required for the preparation of the drill site is available from a local source 3 ½ miles away. It is not anticipated that a significant amount of material will be required as the terrain is relatively flat. Transportation will be over the existing roads.
7. **METHODS FOR HANDLING WASTE DISPOSAL** -
  - Drill cuttings will be disposed into drilling pits after fluids have evaporated.
  - The drilling pits will be lined with a biodegradable plastic liner, and buried as per regulatory requirements. The pits will be located on the #17 drill site.
  - Receptacles for solid wastes (paper, plastic, etc) will be provided and equipped to prevent scattering by wind, animals, etc. This waste will be hauled to an approved landfill site.
  - Any other waste generated by the drilling, completion, testing of this well will be removed from the site within 30 days of the completion of drilling or testing operations.
  - A Porta-John will be provided for the crews. This will be properly maintained during the drilling operations and removed upon completion of the well.
8. **ANCILLARY FACILITIES** - The drilling, completion, and/or testing of this well will require no ancillary facilities.
9. **WELLSITE LAYOUT** - Attached, as EXHIBITS C & D are plats showing the anticipated orientation of the drilling rig and the pad. A similar rig may have to be substituted for Big Dog Rig #3 if it is no longer available when approval is granted for this application. Material moved to create the drilling pits will be utilized in the dike around the pits so as to facilitate restoration of the area when operations are completed.
10. **PLANS FOR SURFACE RESTORATION** - Reclamation of the surface location will be in accordance with the requirements set forth by the BLM. As stated earlier all waste generated by this operation will be disposed of in an approved manner, and the site restored as closely as possible to its pre-operation appearance. Due to the topography of the area no problems are anticipated in achieving this status and no erosion or other detrimental effects are expected as a result of this operation.
11. **OTHER INFORMATION** - The surface ownership of the drill site and the access routes are under the control/ownership of:

Bureau of Land Management  
P. O. Box 1778  
Carlsbad, New Mexico 88221-1778  
505-234-5972

The BLM representative for this area is Barry Hunt who can be reached at the above number, or 505-361-4078.



The site was archaeologically surveyed in September 2004. Danny Boone, the registered archeological surveyor, should forward a copy of that report to the BLM.

12. OPERATORS REPRESENTATIVE - St. Mary Land and Exploration is covered by Nationwide Bond No. 6041872. St. Mary Land and Exploration is represented by:

Charles M. Jones, Operations Manager

Dennis Goins, Operations Specialist

Cary Billingsley, Operations Engineer/Agent

550 W. Texas, Suite #704

P.O. Box 51904

Midland, TX 79710-1904

432-684-8900 (o)

432-638-6781 (m)

432-697-0701 (h)

Jackie Herron, Contract Pumper

Hagerman, NM

505-746-7601 (m)

505-752-2701 (h)

13. OPERATORS CERTIFICATION

I hereby certify that I, Cary N. Billingsley-Operations Engineer/agent, have inspected the proposed drill site and access route and that I am familiar with the conditions that currently exist; that the statements made in the APD package are to the best of my knowledge true and correct; and that the work associated with operations herein will be performed by ST. MARY LAND & EXPLORATION COMPANY and it's contractors and subcontractors in conformity with the terms and conditions of this APD package. I also certify responsibility for the operations conducted on that portion of the leased lands associated with this application with bond coverage being provided under a BLM nationwide bond.

This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Name and title: Cary N. Billingsley, Operations Engineer/agent for St. Mary Land & Exploration Co.

Signature:

Cary N. Billingsley

Date:

9/1/04

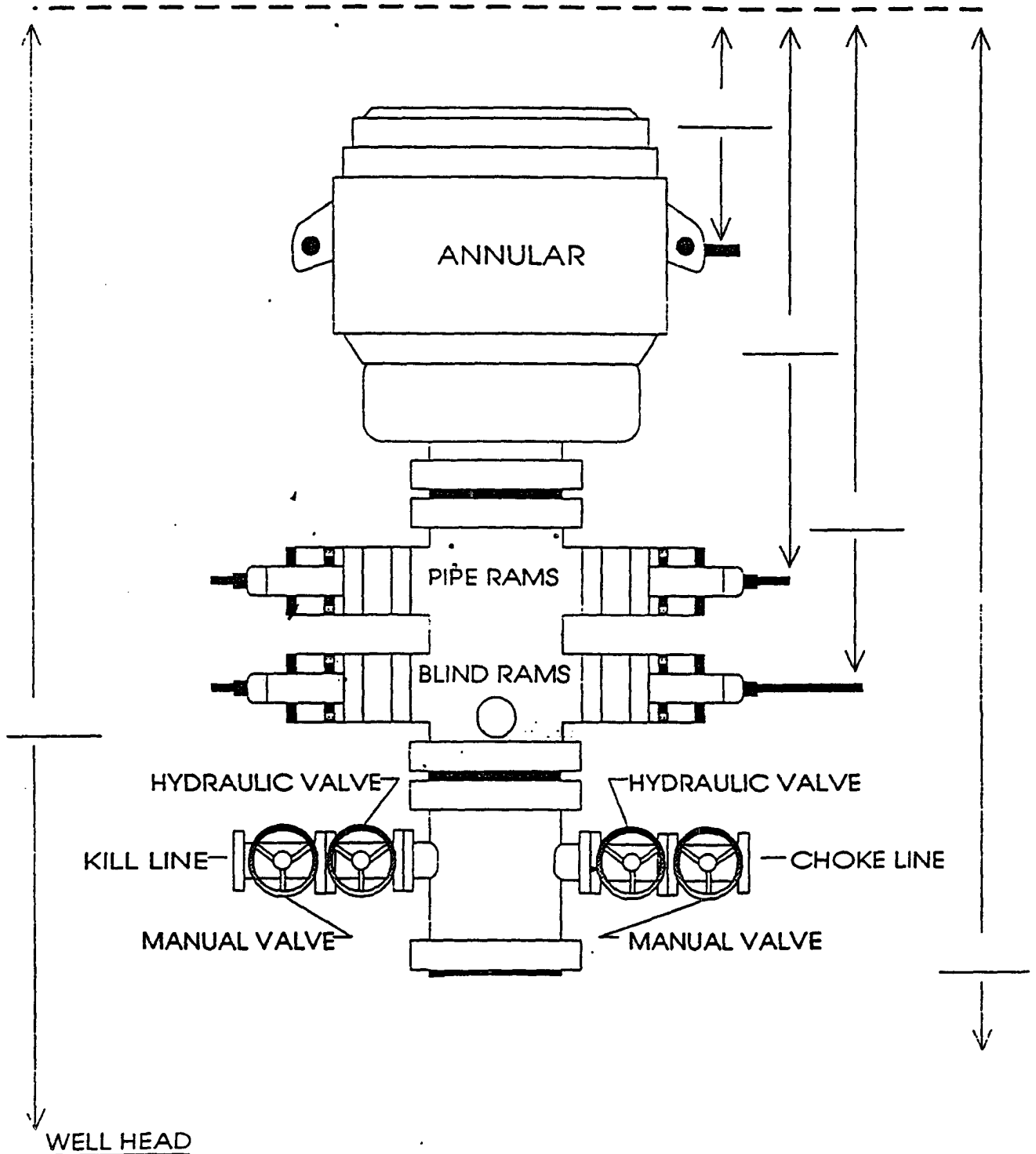
# EXHIBIT A

B.O.P. STACK SPACING

SIZE: **11" 3000#**

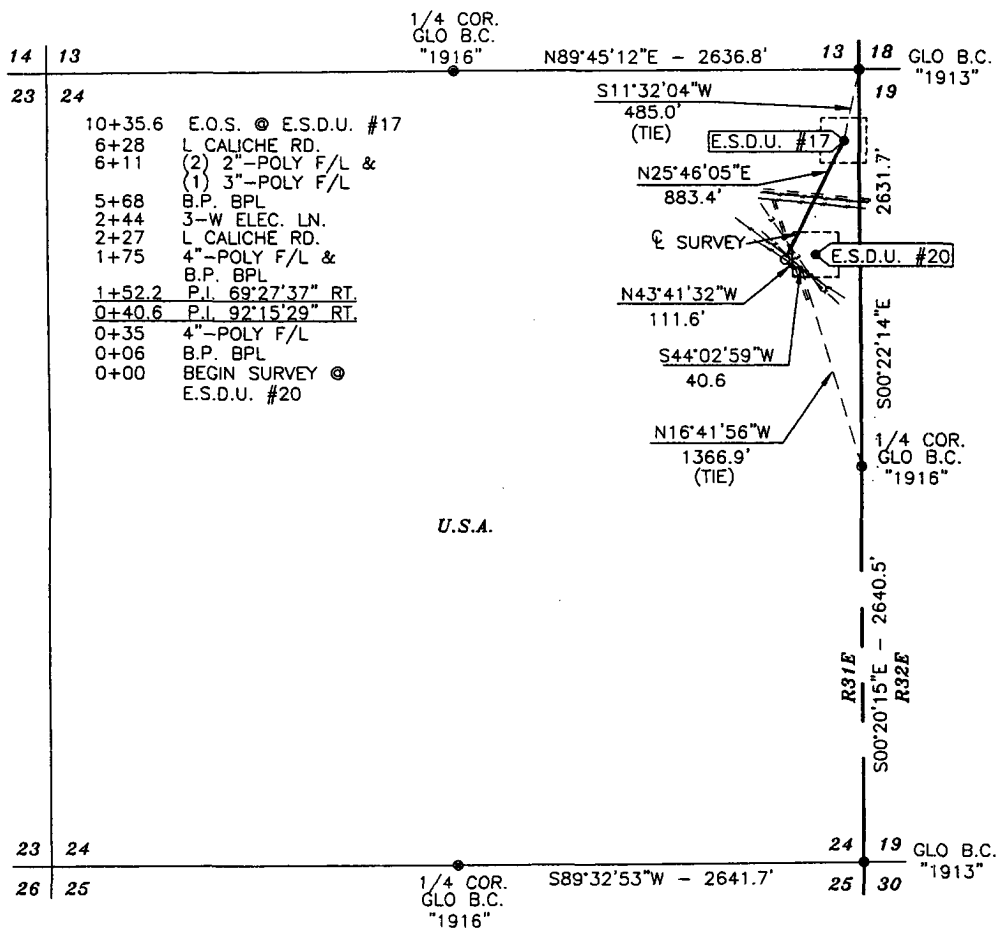
AHEP-3187

TOP OF ROTARY



WELL ESDU #17 CONTRACTOR TBD

SECTION 24, TOWNSHIP 18 SOUTH, RANGE 31 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 50.0 FEET WIDE AND 1035.6 FEET OR 0.196 MILES IN LENGTH CROSSING USA LAND IN SECTION 24, TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM, EDDY COUNTY, NEW MEXICO AND BEING 25.0 FEET LEFT AND 25.0 FEET RIGHT OF THE ABOVE CENTERLINE.

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.

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

ST. MARY LAND & EXPLORATION COMPANY

SURVEY AN INJECTION LINE CROSSING  
SECTION 24, TOWNSHIP 18 SOUTH, RANGE 31 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 08/10/04	Sheet 1 of 1 Sheets
W.O. Number: 04.11.0714	Drawn By: J.R.
Date: 08/13/04	DISK:CD#10 04110714_PL

