

N.M. Oil Cons. DIV-Dist. 2  
1301 W. Grand Avenue  
Albuquerque, NM 88210

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0136  
Expires January 31, 2004

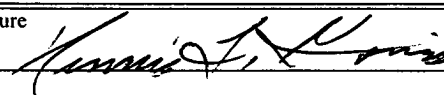
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM - 67102
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input 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 Land & Exploration Company		7. If Unit or CA Agreement, Name and No. Parkway Delaware Unit
3a. Address 580 Westlake Park Blvd., #600, Houston, TX 77079		8. Lease Name and Well No. PDU 512Y
3b. Phone No. (include area code) 281-677-2800		9. API Well No. 30-015-33998
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 2615' FSL, 1945' FWL, UL:K At proposed prod. zone SAME		10. Field and Pool, or Exploratory Parkway Delaware
14. Distance in miles and direction from nearest town or post office* 17 Miles NE of Carlsbad		11. Sec., T., R., M., or Blk. and Survey or Area SEC. 35, T19S, R29E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1945'	16. No. of Acres in lease 920	17. Spacing Unit dedicated to this well 20 Acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 631	19. Proposed Depth 4600'	20. BLM/BIA Bond No. on file 6041872
21. Elevations (Show whether DF, KDB, RT, GL, etc.) * 3308' GL	22. Approximate date work will start* Mid April	23. Estimated duration 15 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.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification.   |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature 	Name (Printed/Typed) Dennis L. Goins	Date *2-24-05
Title Operations Engineer		
Approved by (Signature) (ORIG. SGD.) ALEXIS C. SWOBODA	Name (Printed/Typed)	Date MAR 03 2005
Title PETROLEUM ENGINEER	Office ROSWELL 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.

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  
TO ORIGINAL APD

RECEIVED  
MAR 04 2005  
OCD-ARTESIA

DISTRICT I  
1000 N. FRANCIS DR., SUCRO, NM 87040

DISTRICT II  
1001 N. GRANT AVENUE, ALBUQUERQUE, NM 87102

DISTRICT III  
1000 Elia Brunes Rd., Artes, NM 87410

DISTRICT IV  
1000 S. EL. 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 JUNE 10, 2002  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 2 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Well Code	Well Name
Property Code	Property Name <b>PARKWAY DELAWARE UNIT</b>	Well Number <b>512Y</b>
OGSD No.	Operator Name <b>ST. MARY LAND &amp; EXPLORATION COMPANY</b>	Elevation <b>3308'</b>

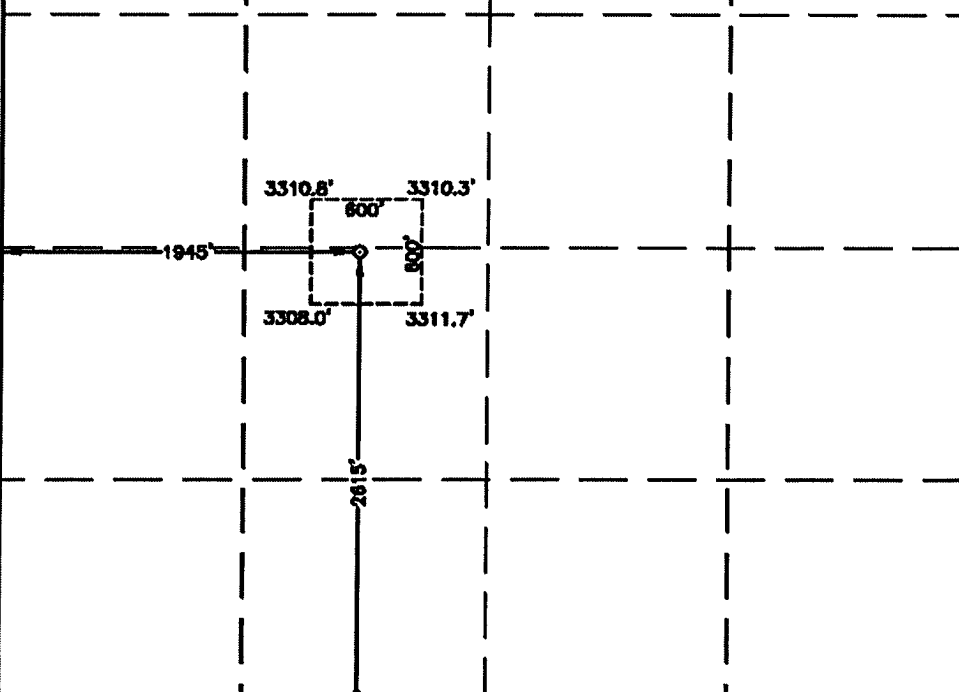
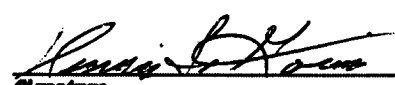
Surface Location

UL or lot No.	Section	Township	Range	Lot 14a	Feet from the	North/South Line	Feet from the	East/West Line	County
K	35	19-S	29-E		2615	SOUTH	1945	WEST	EDDY

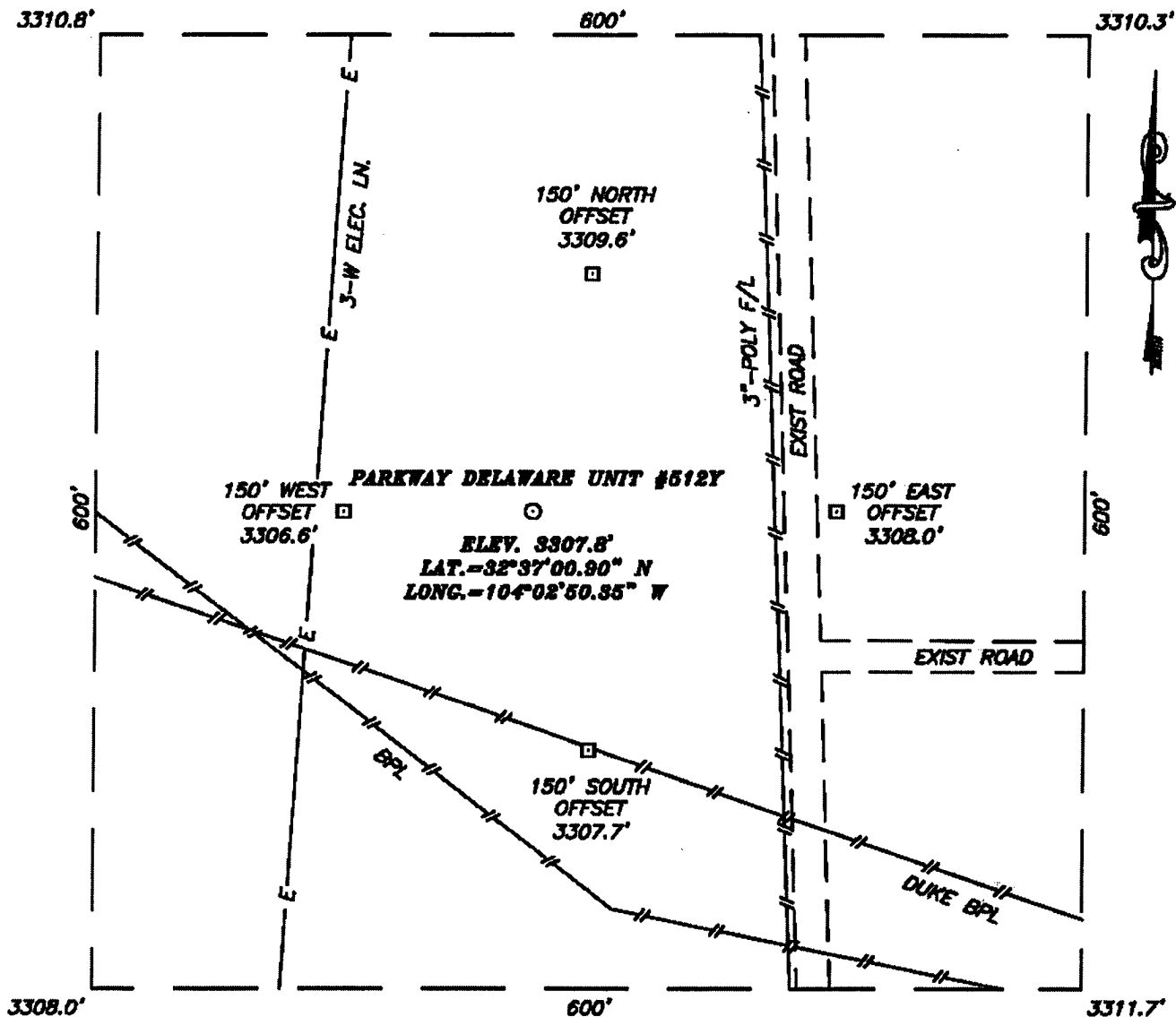
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot 14a	Feet from the	North/South Line	Feet from the	East/West Line	County
Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.						

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

<p>GEODETIC COORDINATES NAD 27 NME  Y=588264.6 N X=588054.2 E  LAT.=32°37'00.90" N LONG.=104°02'50.35" W</p> 	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained herein to be true and complete to the best of my knowledge and belief.</p> <p> Signature <b>DENNIS L. GOINS</b> Printed Name <b>OPERATIONS ENGINEER</b> Title <b>2-24-05</b> Date</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><b>AUGUST 12, 2004</b></p> <p>Date Surveyed <b>JR</b> Signature &amp; Seal of Professional Surveyor</p> <p><b>05.11.0315</b></p> <p>Certificate No. <b>GARY HEDSON</b> <b>12041</b></p>
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**SECTION 35, TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO**



**DIRECTIONS TO LOCATION**

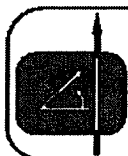
FROM THE INTERSECTION OF U.S HWY. 62-180 AND CO. RD. #238 (BURTON FLAT) GO NORTH ON CO. RD. #238 FOR APPROX. 2.0 MILES ONTO A CALICHE RD. GOING NORTH. GO NW ON CALICHE ROAD APPROX. 4.1 MILES TO A CALICHE ROAD INTERSECTION. TURN RIGHT (EAST) AND GO APPROX. 0.8 MILES TO A CALICHE ROAD INTERSECTION. TURN LEFT (NORTH) AND GO APPROX. 800'. PROPOSED LOCATION 130' WEST.



**ST. MARY LAND & EXPLORATION COMPANY**

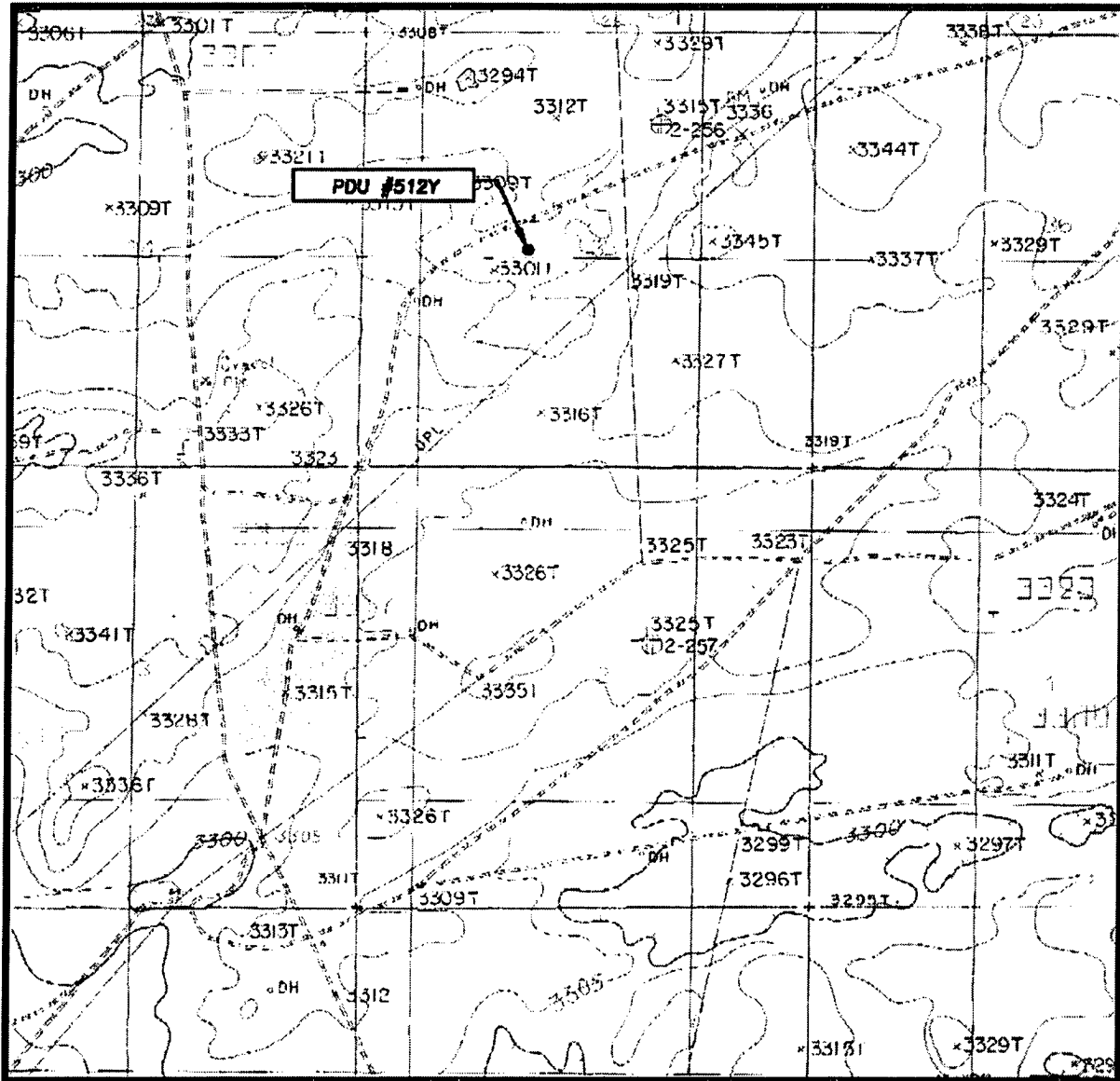
PARKWAY DELAWARE UNIT #512Y WELL  
LOCATED 2615 FEET FROM THE SOUTH LINE  
AND 1945 FEET FROM THE WEST LINE OF SECTION 35,  
TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.

Survey Date: 08/12/04	Sheet 1 of 1 Sheets
W.O. Number: 05.11.0315	Dr By: J.R.
Date: 2/22/05	Diak: CD#5
05110315	Scale: 1"=100'



PROVIDING SURVEYING SERVICES  
SINCE 1948  
**JOHN WEST SURVEYING COMPANY**  
412 N. DALLAS  
MCKINNEY, TEXAS 75069  
(972) 389-9117

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
ILLINOIS CAMP SE, N.M. - 10'

SEC. 35 TWP. 19-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 2615' FSL & 1945' FWL

ELEVATION 3308'

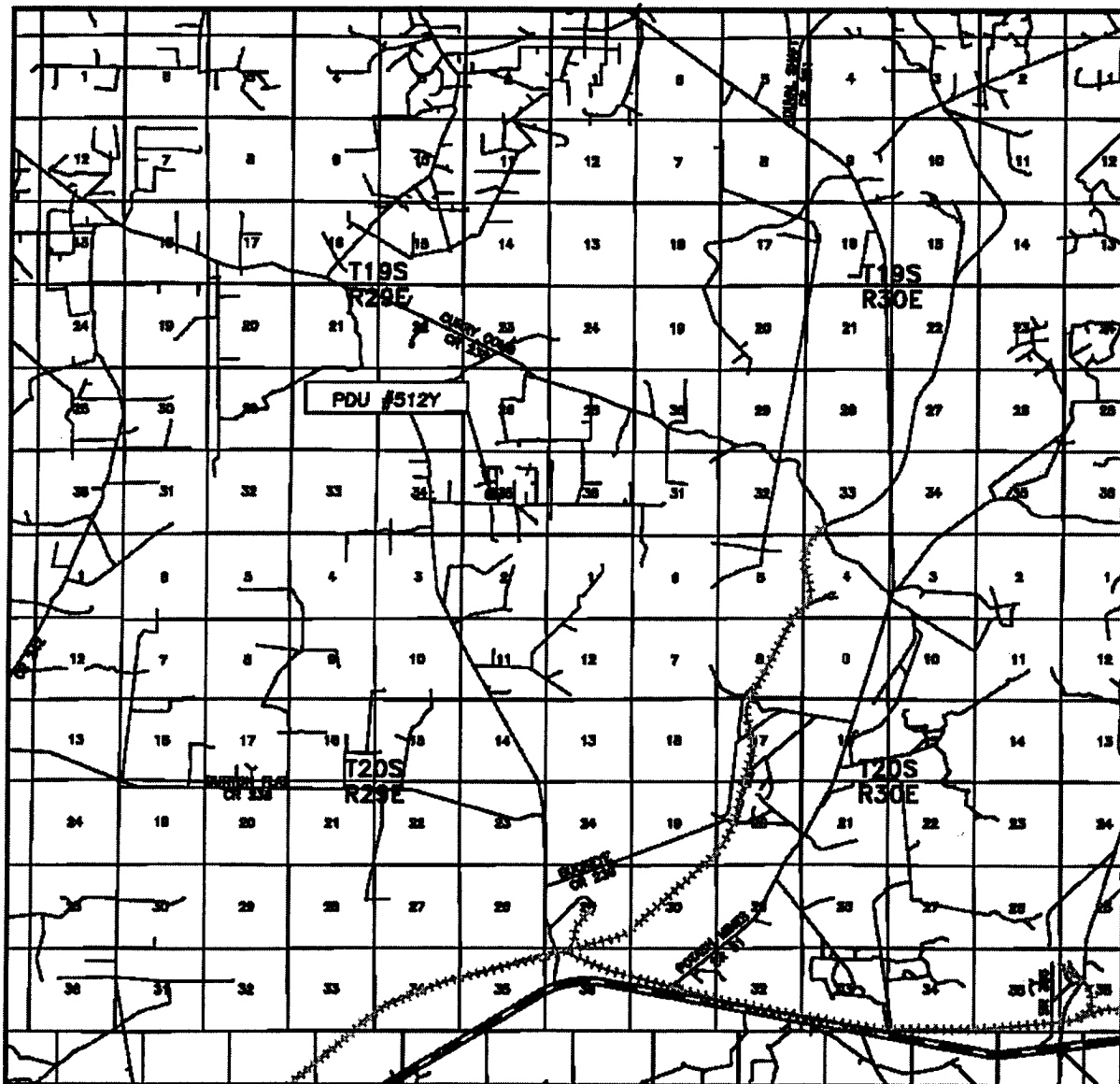
ST. MARY LAND &  
OPERATOR EXPLORATION COMPANY

LEASE PARKWAY DELAWARE UNIT

U.S.G.S. TOPOGRAPHIC MAP  
ILLINOIS CAMP SE, N.M.

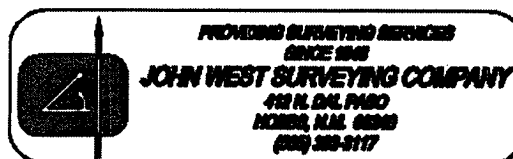


# VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 35 TWP. 19-S RGE. 29-E  
 SURVEY N.M.P.M.  
 COUNTY EDDY  
 DESCRIPTION 2815' FSL & 1945' FWL  
 ELEVATION 3308'  
 OPERATOR ST. MARY LAND & EXPLORATION COMPANY  
 LEASE PARKWAY DELAWARE UNIT



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

St. Mary Land and Exploration Co.

PDU #5137

1700' FSL, 2630' FeL; Sec 35, T19S, R29E

Parkway Delaware Unit

Parkway (Delaware) Field

Eddy Co., NM

NM-24160

1. Name and estimated tops of geologic horizons

Rustler	127'
Slado	332'
Tansill	1242'
Yates	1494'
Capitan Reef	1700'
Delaware	3698'

2. Protection of possible useable water will be achieved by setting 13.375" surface casing @ 405'+/- and cementing it to surface. Isolation of the productive Delaware-Brushy Canyon will be achieved by setting 5.5" casing @ 4600' +/-, and cementing back to surface.

3. The well control equipment to be employed during the drilling of this well is illustrated on attached EXHIBIT A. This equipment includes a two ram BOP, annular BOP and choke manifold of comparable pressure rating. Equipment will be rated for 3000 PSI and will be tested to 80% of that pressure prior to drilling out of the 13 3/8" surface casing. A hydraulic closing unit will be a part of this equipment and will be function tested daily.

4. The casing strings will consist of the following:

Surface:	13 3/8" OD, 48#/ft, H40, STC, new pipe @ 405'+/- in 17 1/2" hole.
Intermediate:	8.625" OD, 24 & 32#/ft, J55, STC, new pipe @ 3200'+/- in 12.25" hole.
Production:	5.50" OD, 15.5#/ft, J55, LTC, new pipe @ 4600'+/- in 7.875" hole

5. Cementing programs for the above casing strings are:

**Surface:** 360 sx Premium Plus w/ 2% CaCl<sub>2</sub>, .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.*

**Intermediate: Stage 1**

- (a) 500 sx 50/50 Poz: Class C mixed @ 11.6 PPG and having a yield of 2.47 cuft/sx. Additives will be 5% D44(salt), 10% D20(gel), 0.25#/sx D29 (celloflake) and 0.2% D46(antifoamer).
- (b) 200 sx Class C neat mixed @ 14.8 PPG w/ a yield of 1.32 cuft/sx

**Stage 2(w/Stage Tool @ 1500+/-)**

- (a) 350 sx 50/50 Poz: Class C cement w/ 5% D44, 10% D20, 0.2% D46 and 0.25#/sx D29 mixed @ 11.6 PPG, and having a yield of 2.47 cuft/sx
- (b) 55 sx Class C neat mixed @ 14.8 PPG and having a yield of 1.32 cuft/sx.

*The above are Schlumberger 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 Schlumberger depending on price/availability.*

- Production:**
- (a) 345 sx 35/65 Poz: Class H w/ 5% D44 +6% D20 +0.25#/D29 + 0.2% D46 mixed @ 12.4 PPG and having a yield of 2.03 cuft/sx .
  - (b) 160 sx 50/50 Poz: Class H w/55 D44 + 2% D20 + 0.25#/sx D29 + 0.2%D46 mixed @ 14.2 PPG and having a yield of 1.33 cuft/sx.

*The above are Schlumberger products with 25% excess volume - actual volumes will be adjusted to the open hole caliper of this wellbore. Equivalent products from another vendor may be substituted for Schlumberger depending on price/availability.*

6. It is anticipated that this well will be drilled to TD utilizing the fluids shown below:

**0-400':** Gel/Lime "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.

**300-1800':** Brine 9.9 - 10.0 PPG. Circulate thru reserve pit for gravitational solids removal. Add paper as required to control seepage loss while

maintaining pH at 10.0 – 10.5 using Lime. Brine water will minimize hole wash out in the salt.

**1800-3200':** Fresh Water 8.3 - 8.5 PPG Loss of circulation is anticipated in the Capitan Reef which will require switching to fresh water and dry drilling to casing point.

**3200-3800':** Cut Brine 8.5 – 8.9 PPG Pump high-vis sweeps to clean hole.

**3800-4600':** Cut Brine/Starch 8.7 – 8.9 PPG Maintain water loss @ 10-15 cc. Sweep with high-vis pill 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, mud logging or coring is planned for this wellbore. A Platform Express Triple Combo electric log suite will be run at TD.
9. The estimated 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 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. Lost circulation could occur but 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 Company

PDU #513

1700' FSL, 2630' FEL; Sec 35, T19S, R29E

Parkway Delaware Unit

Parkway (Delaware)

Eddy Co., NM

NM-24160

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:
  - a) From the Pecos River bridge in Carlsbad, proceed East on US Highway 62-180 for 13.5 miles.
  - b) Turn north on County Road 238 and proceed for 2.0 miles onto a caliche road going north.
  - c) Go northwest on caliche road for 4.1 miles to a caliche road intersection.
  - d) Turn east and proceed for 0.9 miles.
  - e) Proposed location is approx. 170' South.
2.     **PLANNED ACCESS ROAD** — Approximately 170' of new N-S access road will be built from the existing E-W main caliche road to the east.
3.     **LOCATION OF EXISTING WELLS** - EXHIBIT B shows the location of other wells within a mile radius of the proposed location.
4.     **LOCATION OF EXISTING OR PROPOSED FACILITIES** – This production well will be tied into existing PDU facilities.
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 #513 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 United Drilling Rig #24 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 Engineer

580 Westlake Park Blvd., Suite 600

Houston, Texas 77079

281-677-2800 Office

281-677-2774 Direct

918-408-8025 Cell

Jackie Herron, Contract Pumper  
Hagerman, NM

505-746-7601 Cell

505-752-2701 Home

13. OPERATORS CERTIFICATION

I hereby certify that I, Dennis L. Goins-Operations Engineer, 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: Dennis L Goins, Operations Engineer for St. Mary Land & Exploration  
Company

Signature:



Date:

9-7-04

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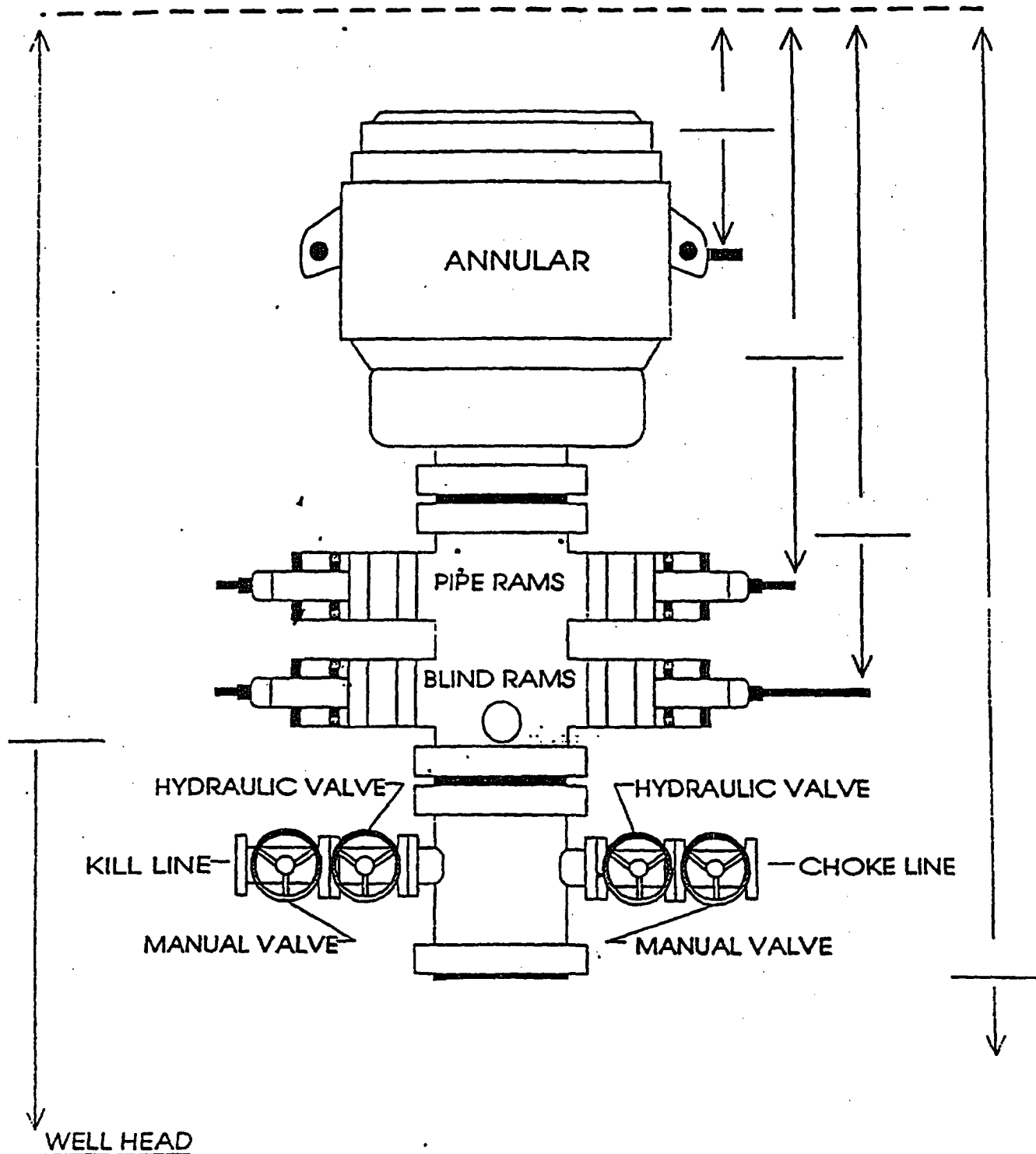


# EXHIBIT A

B.O.P. STACK SPACING

SIZE: 11" 3000#

TOP OF ROTARY

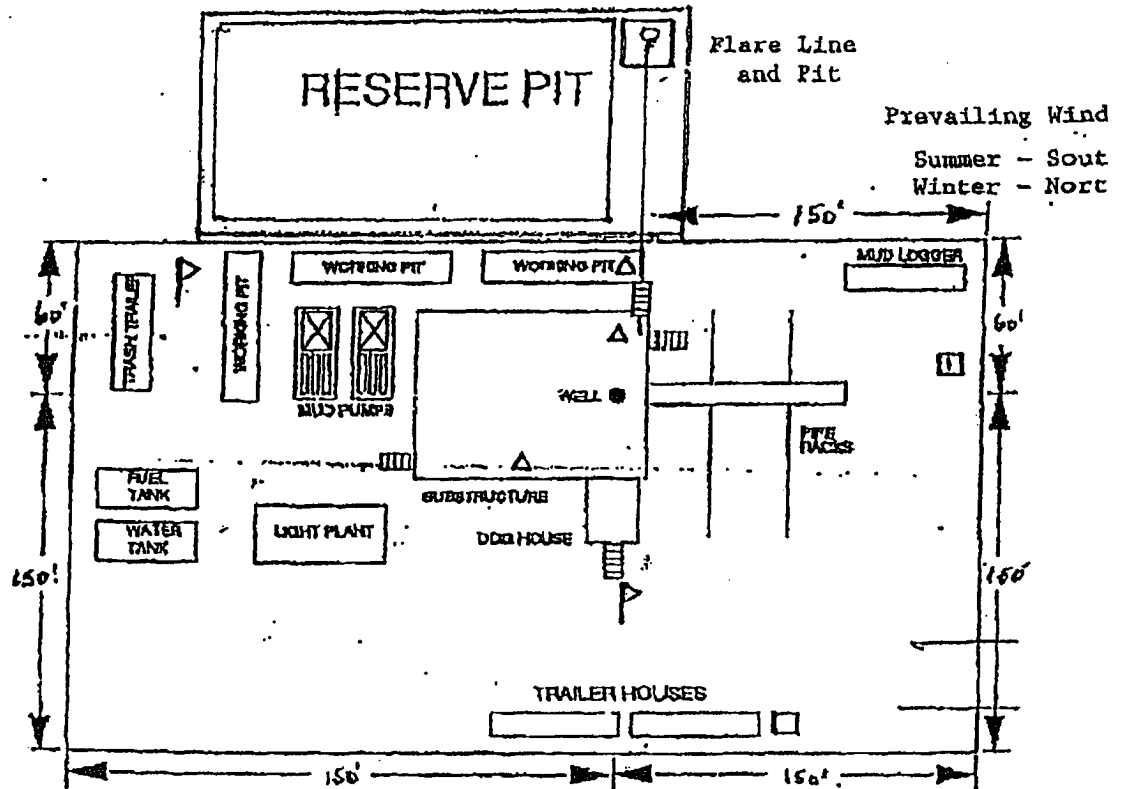


WELL \_\_\_\_\_

CONTRACTOR \_\_\_\_\_

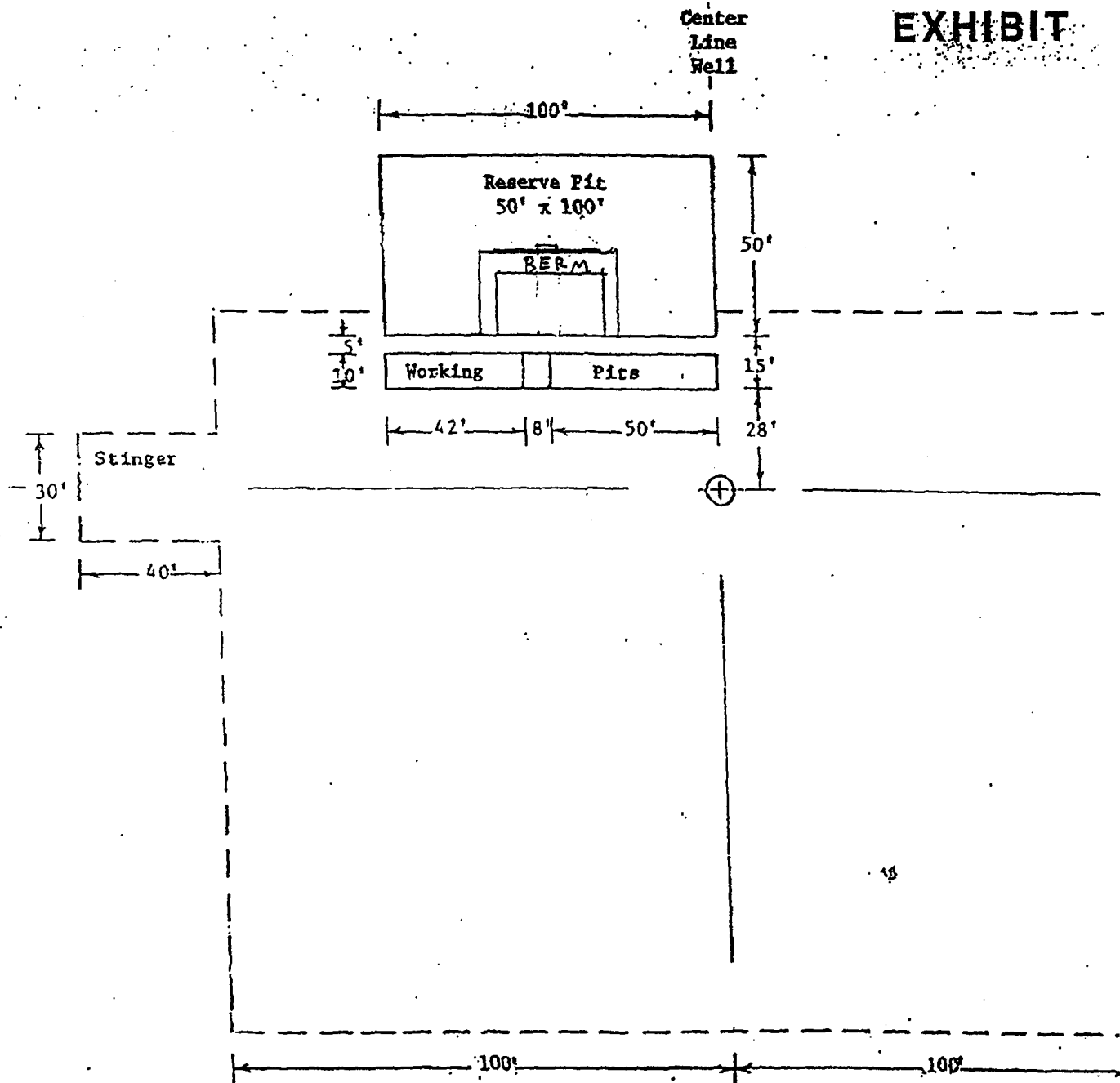
# EXHIBIT C

## Typical United Drilling Rig Layout



- △ - H<sub>2</sub>S Monitors with alarms at the bell nipple and shale shaker
- ▷ - Wind Direction Indicators
- - Safe Briefing areas with caution signs and protective breathing equipment. Minimum 150 feet from wellhead. 1 designates primary area.

# EXHIBIT





# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

March 14, 2005  
St. Mary Land & Exploration Company  
580 Westlake Park blvd, # 600  
Houston, TX 77079  
Attn: Dennis L. Goins

**Re: St. Mary Land Exploration Company: PDU # 512Y, located in Unit K  
(2615' FSL & 1945' FWL) of Section 35, Township 19 South, Range 29 East, Eddy County,  
New Mexico, NMPM**

Dear Mr. Goins,

In regards to conditions for approval of the above captioned well, the New Mexico Oil Conservation Division (NMOCD) will require the following:

This is for St. Mary Land & Exploration Company to take samples from the flow line of the drilling mud every 100 'in order to determine the chloride levels from the surface casing down through the setting depth of the intermediate casing projected.

The results of this data are to be submitted to the NMOCD in Artesia and the Bureau of Land Management in Roswell.

Please call our office if you have any questions regarding this matter.

Respectfully yours,

Bryan G. Arrant

PES

CC: John Simitz-Gelologist-Bureau of Land Management/Roswell  
Tim Gum-District Supervisor-Artesia  
Well File