Form 3160-3 (September 2001)

N.M. Oil Cons. DIV-Dist., 2

1301 W. Grand Avenue

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

UNITED STATES DEPARTMENT OF THE INTERIORS IS NOT SECTION

5. Lease Serial No.

BUREAU OF LAND MANAC		14101 - 01 102			
APPLICATION FOR PERMIT TO DE	RILL OR RI	EENTER		6. If Indian, Allottee	or Tribe Name
la. Type of Work: DRILL REENTER	R			7. If Unit or CA Agree Parkway Delaware U	<u>Jnit</u>
1b. Type of Well:	☐ Si	ngle Zone 🔲 Multi	ple Zone	8. Lease Name and We PDU 306	ll No.
2. Name of Operator St Mary Land an & Exploration Company	ECRETA	ARY'S POTA	SH	9. API Well No.	- 33711
3a. Address	3b. Phone No	. (include area code)		10. Field and Pool, or E	
580 Westlake Park Blvd., #600, Houston, TX 77079	281-677-280	00		Parkway Delaware	
4. Location of Well (Report location clearly and in accordance with a	any State requir	rements. *)		11. Sec., T., R., M., or	Blk. and Survey or Area
At surface 2090' FNL & 2430' FEL, UL: G					
At proposed prod. zone Unarthology X	ocation.	~		SEC. 35, T19S, R29	.
14. Distance in miles and direction from nearest town or post office*			·	12. County or Parish	13. State
17 Miles NE of Carlsbad				Eddy	NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 2090:	16. No. of A	cres in lease		g Unit dedicated to this w	ell
18. Distance from proposed location*	920 19. Proposed	1 Davids	20 PLACE	14 D 131 C1	
to nearest well, drilling, completed, applied for, on this lease, ft. 466'	4600'	і Дерті	20. BLM/B	IA Bond No. on file	
21. Elevations (Show whether DF, KDB, RT, GL, etc.)		mate date work will s		23. Estimated duration	
3313' GL	Early Octob			15 Days	
	24. Attac			1	
The following, completed in accordance with the requirements of Onshor	re Oil and Gas	Order No.1, shall be at	ached to this	form:	
 Well plat certified by a registered surveyor. A Drilling Plan. A Surface Use Plan (if the location is on National Forest System SUPO shall be filed with the appropriate Forest Service Office). 	Lands, the	Item 20 above). 5. Operator certific	ation. pecific info	unless covered by an e	
25. Signature	:	(Printed/Typed)		1	Date
Title Kning J. Horen	Denni	s L. Goins			9-804
Operations Engineer					
Approved by (Signature)	Name	(Printed/Typed)		!]	Date
1SI JANICE L. SAMBY		18/ JAN	166		OCT 2 2 7004
Title OTATE DIDECTOD	Office			•	

FOSTATE DIRECTOR NM STATE 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)

Capitan Controlled Water Basin

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

RECEIVED OCT 2 9 2004 OCD-ARTESIA

<u>1625 N. French Dr., Hobbs, NM 88240</u> 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

For drilling and production facilities, submit to appropriate NMOCD District Office.

For downstream facilities, submit to Santa Fe

Form C-144 June 1, 2004

1220 South St. Francis Dr. office Santa Fe, NM 87505

Pit or Below-Gra	de Tank Registration or Clos	sure
Is pit or below-grade tan	k covered by a "general plan"? Yes \[\]	No [
Type of action: Registration of a pit of	or below-grade tank 🔲 Closure of a pit or below-	grade tank
Operator: St. Mary Land & Exploration Company Telephone: 281-677-28 Address: 580 Westlake Park Blvd., Suite 600, Houston, TX 77079 Facility or well name: PDU #306 API #: U/L or C County: Eddy Latitude 37°37'06.57"N Longitude 104°02'39.79"W		State Private Indian
Dia	Below-grade tank	
Pit Type: Drilling X Production Disposal D	Volume:bbl Type of fluid:	
Workover Emergency	Construction material:	
Lined X Unlined	Double-walled, with leak detection? Yes If	
Liner type: Synthetic X Thickness 12 mil Clay		
Pit Volume 3500 bbl		
	Less than 50 feet	(20 points)
Depth to ground water (vertical distance from bottom of pit to seasonal high	50 feet or more, but less than 100 feet	(10 points)
water elevation of ground water.)	X 100 feet or more	(0 points)
Wellhead protection area: (Less than 200 feet from a private domestic	Yes	(20 points)
water source, or less than 1000 feet from all other water sources.)	X No	(0 points)
Distance to surface sustant (harizontal distance to all sustlends alones	Less than 200 feet	(20 points)
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	200 feet or more, but less than 1000 feet	(10 points)
arrigation canais, ditches, and perennial and ephemeral watercourses.)	1000 feet or more	(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) Ind	icate disposal location: (check the onsite box if
your are burying in place) onsite offsite If offsite, name of facility N		
date. (4) Groundwater encountered: No Yes If yes, show depth belo		
diamon of comple leastions and automations		ipio resulta. (3) Attach son sample resulta anu a
Additional Comments:	·······	
Additional Comments:		
		
I hereby certify that the information above is true and complete to the best o been/will be constructed or closed according to NMOCD guidelines , Date: 10/25/04	f my knowledge and belief. I further certify that a general permit [], or an (attached) alternative	the above-described pit or below-grade tank has e OCD-approved plan .
Printed Name/Title Dennis L. Goins / Production Engineer	Signature Signature	
Your certification and NMOCD approval of this application/closure does no otherwise endanger public health or the environment. Nor does it relieve the regulations.	t relieve the operator of liability should the content	s of the pit or tank contaminate ground water or any other federal, state, or local laws and/or
Annovel	$\sim \sim $	
Approval: Printed Name/Title Signa	ature	Date: OCT 29 2004
		RECEIVED

RECEIVED

OCT 2 9 2004 **OUD:**ARTESIA

NOTICE OF STAKING (Not to be used in place of Application for Perm	6. Lease Number NM - 24160			
1. Oil WellX Gas Well Oth (Sp	7. If Indian, Allottee or Tribe Name:			
2. Name of Operator: St Mary Land & Explor	ation Company	Unit Agreement Name Parkway Delaware Unit		
3. Name of Specific Contact Person: Dennis Go	9. Farm or Lease Name Federal			
4. Address & Phone Number of Operator 580 Westlake Park Blvd., Suite 600 Houston, TX 77079 Phone 281-677-2800	10. Well Name PDU 306			
5. Surface Location of Well: 2090' FNL, 2430	11. Field or Wildcat Name Parkway Delaware			
Attach: a) Sketch showing road entry onto pad, pad dimensions, and reserve pit. b) Topographical or other acceptable map showing location, access road, and lease boundaries		12. Sec., T., R., M., or Blk and Survey or A Sec. 35, T19S – R.	Area	
15. Production Objective(s) Delaware Sands 16. Estimated Well Depth 4600' 13. County, Paris or Borough Eddy		1	14. State NM	
17. Additional Information (as appropriate; shall include surface owner's name): Federal surface lands administered by Bureau of Land Management, Carlsbad, NM Field office Surveyed wellsite plats and maps are attached.				

18. Signed Title Operations Engineer Date September 8,2004

State of New Mexico

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

Energy, Minerals and Natural Resources Department

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

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

Revised JUNE 10, 2003 Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

Form C-102

DISTRICT III

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

DISTRICT IV 1220 S. ST. FRANCIS DR., SANTA FR, NM 87505	WELL LOCATION AND	ACREAGE DEDICATION	PLAT AMENDED REPORT
API Number	Pool Code		Pool Name
Property Code	Prop	perty Name	Well Number
	PA	RKWAY	306
OGRID No.	-	ator Name	Elevation
	ST. MARY LAND &	EXPLORATION COMPAN	IY 3313'

Surface Location

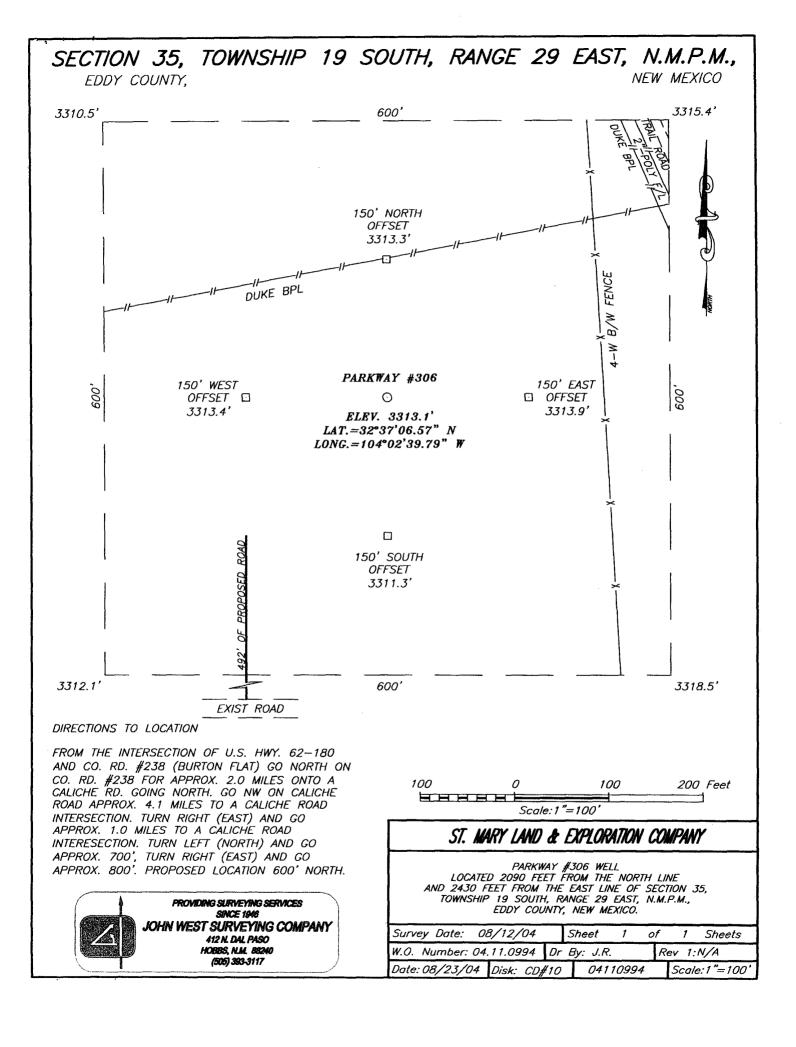
UL or lot No.	Section	Township	Range	Lot idn	Feet from the	North/South line	Feet from the	East/West line	County
G	35	19-S	29-E		2090	NORTH	2430	EAST	EDDY

Bottom Hole Location If Different From Surface

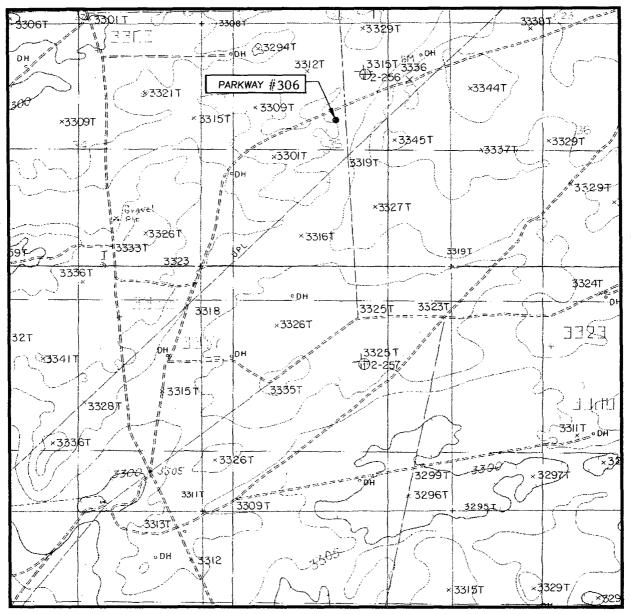
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	Rast/West line	County
Dedicated Acres	Joint o	r Infill Co	nsolidation (Code Ore	der No.				

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED

 OR A NON-STANDARD UNIT HAS	BEEN APPROVED BY TH	E DIVISION
3310.5' 3315.4'	2430'	OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief. Signature DEMNS L. GONS Printed Name OPERATION ENGL. Title 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 supervison, and that the same is true and correct to the best of my belief. AUGUST 12, 2004 Date Surveyed
GEODETIC COORDINATES NAD 27 NME Y=588839.2 N		Professional Surveyor 5
X=588965.4 E LAT.=32°37'06.57" N		04.11.0994 S Certificate No. GARY BIDSON 12841
LONG.=104*02'39.79" W	<u> </u>	Management of the second of th



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

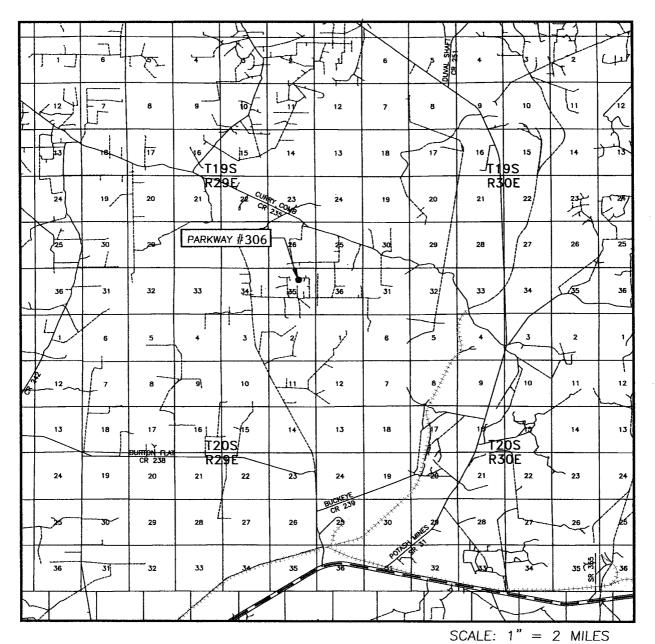
CONTOUR INTERVAL: ILLINOIS CAMP SE, N.M. - 10'

SEC. <u>35</u> TWP. <u>19–S</u> RGE. <u>29–E</u>
SURVEY N.M.P.M.
COUNTYEDDY
DESCRIPTION 2090' FNL & 2430' FEL
ELEVATION 3313'
ST. MARY LAND & OPERATOR EXPLORATION COMPANY
LEASEPARKWAY
U.S.G.S. TOPOGRAPHIC MAP ILLINOIS CAMP SE, N.M.



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

VICINITY MAP



SEC. <u>35</u>	TWP. <u>19-S</u> RGE. <u>29-E</u>
SURVEY	N.M.P.M.
COUNTY	EDDY
DESCRIPTIO	N 2090' FNL & 2430' FEL
	3313'
	ST. MARY LAND & EXPLORATION COMPANY
_	PARKWAY





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

St. Mary Land and Exploration Co.

PDU #306

2090' FNL, 2430' FEL; Sec 35, TI9S, R29E

Parkway Delaware Unit

Parkway (Delaware) Field

Eddy Co., NM

NM-24160

1. Name and estimated tops of geologic horizons

Rustler 130'
Slado 335'
Tansill 1245'
Yates 1497'
Capitan Reef 1725'
Delaware 3705'

- 2. Protection of possible useable water will be achieved by setting 13.375" surface casing @ 385'+/- 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 @ 385'+/- in 17 ½" 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% 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.

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.

Brine 9.9 - 10.0 PPG. Circulate thru reserve pit for gravitational solids 300-1800": 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 H2S 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 #306

, , , ,

2090' FNL, 2430' FEL; Sec 35, TI9S, 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 1.0 mile to a caliche road intersection.
- e) Turn north and go approx. 700', turn east and go approx. 800'.
- d) Proposed location is 600' north.
- 2. PLANNED ACCESS ROAD —Approximately 492' of new N-S access road will be built from the existing E-W main caliche road to the south.
- 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 #306 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:

9-08-04

Date:

.....

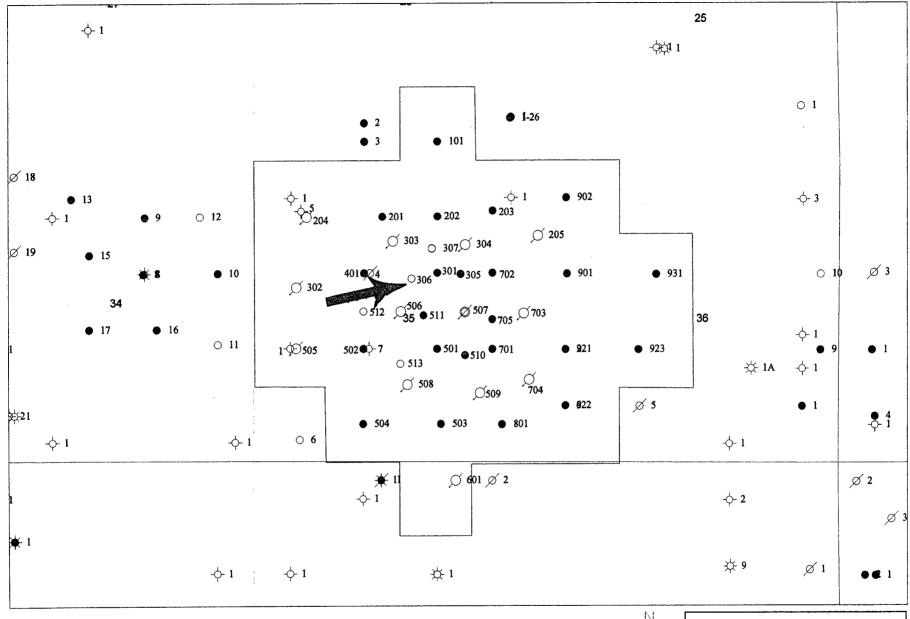


EXHIBIT B 2004 PDU INFILL DRILLING PROGRAM

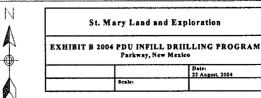
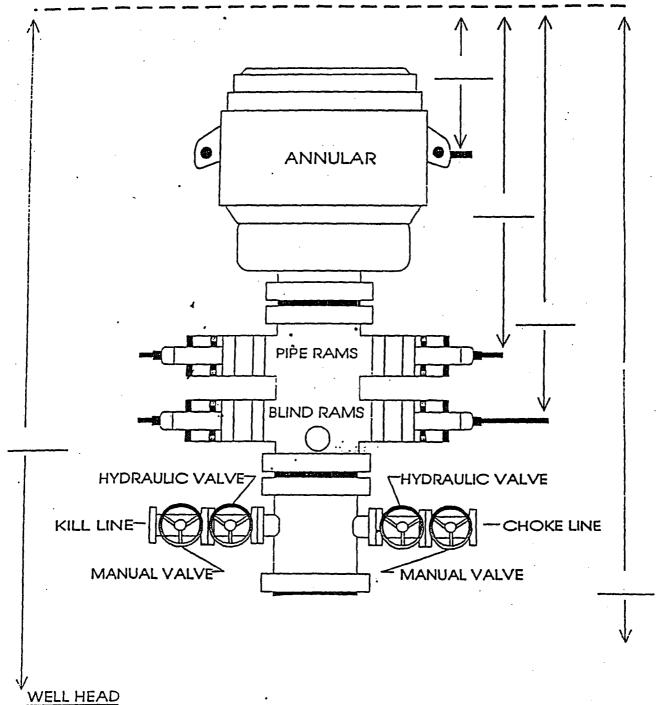


EXHIBIT A

B.O.P. STACK SPACING SIZE: 11" 3000#

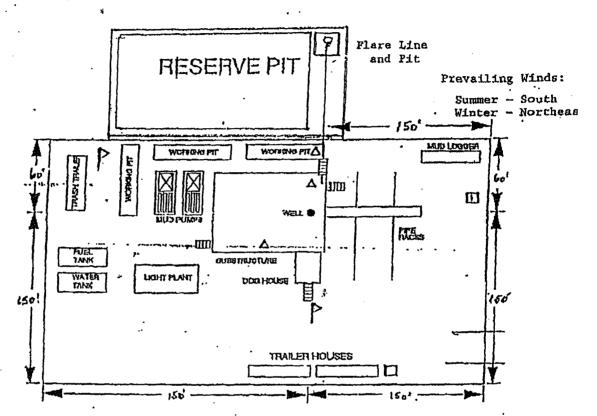
TOP OF ROTARY



WELL PDU 512 CONTRACTOR UNITED DRILLING

EXHIBIT C

Typical United Drilling Rig Layout



- Δ H2S 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. I designates primary area.

