Form 3160-3 (April 2004) N.M. Oil Cons. DIV-Dist. 2

1301 W. Grand Avenue

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

'n	0	l	١	

la. Type of work:

1-05-38 Ber united statesArtesia, NM 88210 DEPARTMENT OF THE INTERIOR

5. Lease Serial No. NM 24160

6. If Indian, Allotee or Tribe Name

9011	BUREAU OF LAND MANAGEMENT
$\mathcal{I}$	ADDITION FOR DEDMIT TO DOUG OR DE

APPLICATION FOR PERMIT TO DRILL OR REENTER

REENTER

SUBJECT TO LIKE APPROVAL BY STATE

7 If Unit or CA Agreement, Nam	e and No.
PARKWAY DELAWAR	RE UNIT
8. Lease Name and Well No.	10.02

✓ Oil Well Gas Well Other Single Zone lb. Type of Well: Name of Operator

Multiple Zone PDU, WELL #208 9. API Well No.

ST. MARY LAND & EXPLORATION COMPANY

**✓** DRILL

3b Phone No. (include

<del>30-</del>-015-34433 10. Field and Pool, or Exploratory

3a. Address 580 WESTLAKE PARK BLVD., SUITE 600 HOUSTON, TX 77079

19625 281/677-2800

PARKWAY DELAWARE 11. Sec., T. R. M. or Blk. and Survey or Area

Location of Well (Report location clearly and in accordance with any State requirements.\*) (H), 1438' FNL & 969' FEL At surface

Secretary's Potask

SEC 35, T19S, R29E

At proposed prod. zone 14. Distance in miles and direction from nearest town or post office\*

12. County or Parish **EDDY** 

13. State

17 MILES NE OF CARLSBAD Distance from proposed location to nearest

16. No. of acres in lease 920

17. Spacing Unit dedicated to this well

NM

property or lease line, ft.
(Also to nearest drig. unit line, if any)

19. Proposed Depth

20. BLM/BIA Bond No. on file

RECEIVED

18. Distance from proposed location\* to nearest well, drilling, completed, applied for, on this lease, ft.

46001

6041872

Elevations (Show whether DF, KDB, RT, GL, etc.) 3337.11

22. Approximate date work will start 10/31/2005

23. Estimated duration 15 DAYS

NOV 1 7 2005

OD:MOTEO!

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).

150

- 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the

25. Signature Title

Name (Printed Typed) **TIFFANY GRANT** 

08/29/2005

Approved by (Signature)

Name (Printed/Typed)

ACTING

Office

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. APPROVAL FOR 1 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 page 2)

5a 17 79.5

APPROVAL SUBJECT TO General requirements and SPECIAL STIPULATIONS attached

Confin Commiled Water Back

Witness Surface & Intermediate Casing

#### State of New Mexico

DISTRICT I 1G25 N. FRENCH DR., HOBBS, NM 88240

Energy, Minerals and Natural Resources Department

Form C-102

Revised JUNE 10, 2003 Submit to Appropriate District Office

> State Lease - 4 Copies Fee Lease - 3 Copies

#### DISTRICT II 1301 W. GRAND AVENUE, ARTESIA, NM 88210

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

## OIL CONSERVATION DIVISION 1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

DISTRICT IV 1220 S. ST. FRANCIS DR., SANTA FR. NW 87505 WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 49625	PARKWAY	Pool Name OELAWARE
Property Code	Property PARKWAY DELA		Well Number 208
OGRID No.	Operator ST. MARY LAND & EXP		NY 3337'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Н	35	19-S	29-E		1438	NORTH	969	EAST	EDDY

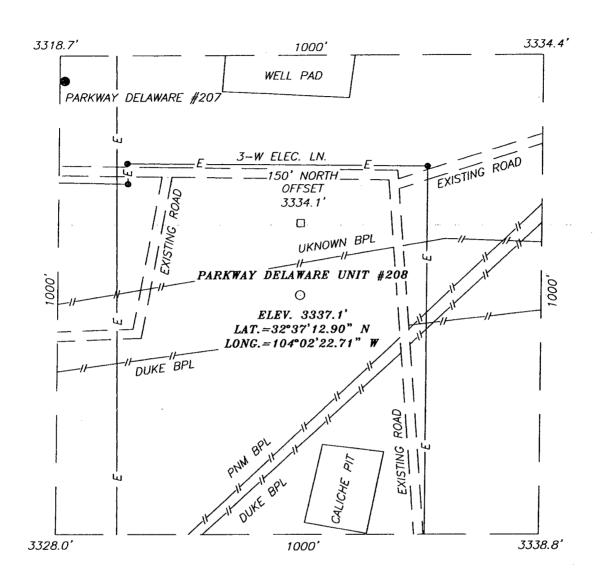
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres		r Infill Co	nsolidation (	Code Ord	ler 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

	OPERATOR CERTIFICATION
	I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.
3.	3334.4
	Signature Signature Printed Name
33	28.0' 20ac. 3338.8' Rabulata, Table  08.29.05
	SURVEYOR CERTIFICATION
GEODETIC COORDINATES NAD 27 NME	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
Y=589483.5 N X=590425.1 E	supervison, and that the same is true and correct to the best of my belief.
LAT.=32°37'12.90" N LONG.=104°02'22.71" W	DECEMBER 28, 2004  Date Surreyed 5 1/5 1/5 1/5 1/5 1/5 1/5 1/5 1/5 1/5 1
	Ban 1 20m 8/23/05
	Certificate No. GARY EDSON 12641

# SECTION 35, TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

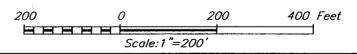


#### DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S HWY. 62-180 AND CO. RD. #238 (BURTON FLAT) GO NORTH ON CO. RD. #238 FOR APPROX. 6.0 MILES. TURN RIGHT (EAST) AND GO APPROX. 1.3 MILES. THIS LOCATION IS APPROX. 100' NORTH.



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

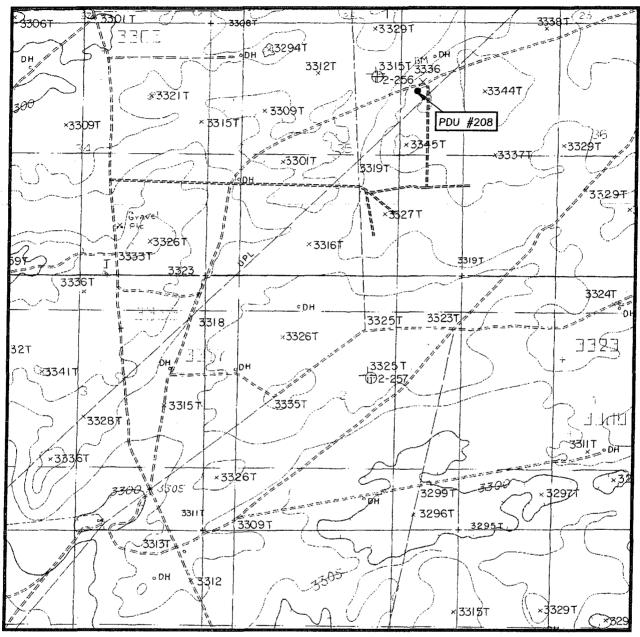


### ST. MARY LAND & EXPLORATION COMPANY

PARKWAY DELAWARE UNIT #208 WELL
LOCATED 1438 FEET FROM THE NORTH LINE
AND 969 FEET FROM THE EAST LINE OF SECTION 35,
TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

Survey Date: 1.	2/28/04		Sheet	1 0	of	1 Shee	ts
W.O. Number: 05.	11.1115	Dr	By: J.R.		Rev	1:N/A	
Date: 08/18/05	Disk: CD#	<sup>7</sup> 5	0511	1115	5	Scale:1 "=1	00'

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

ILLINOIS CAMP SE, N.M.

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

SEC. 35 TWP. 19—S RGE. 29—E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1438' FNL & 969' FEL

ELEVATION 3337'

ST. MARY LAND &

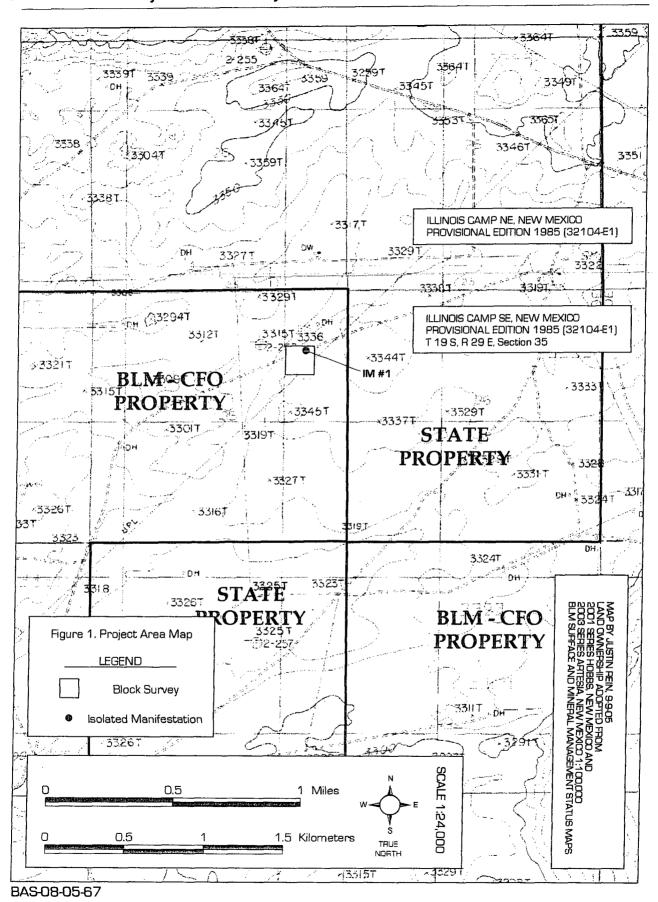
OPERATOR EXPLORATION COMPANY

LEASE PARKWAY DELAWARE UNIT

U.S.G.S. TOPOGRAPHIC MAP



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)

St. Mary Land and Exploration Co.

PDU #208

1438' FNL, 969' 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 146' Slado 351' Tansill 1261' Yates 1513' 1695' Capitan Reef Delaware 2698'

- 2. Protection of possible useable water will be achieved by setting 13.375" surface casing @ 380'+/- 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 @ 300 – 400' in 17 1/2" hole.

WITHESS

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.

300-1800': Brine 9.9 - 10.0 PPG. Circulate thru reserve pit for gravitational solids 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.

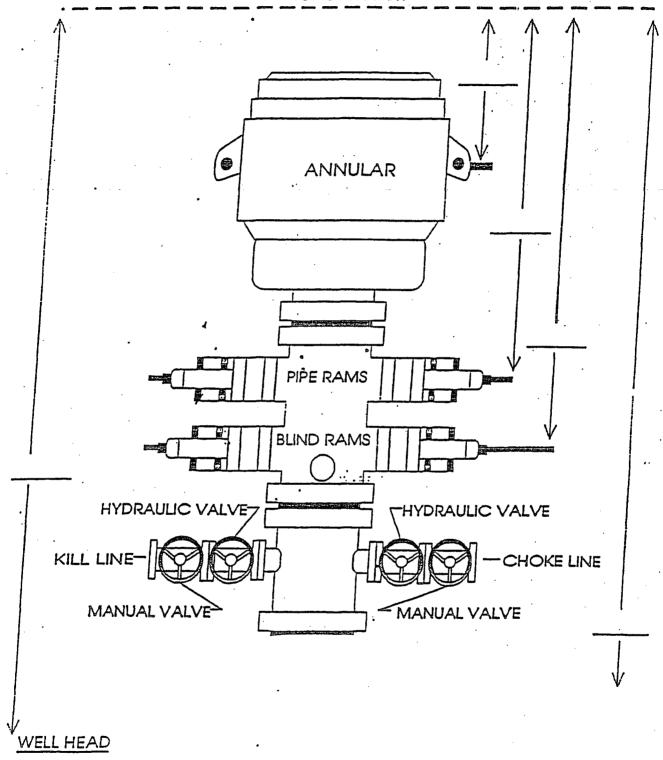
It is estimated that this well will be drilled and cased in 10-11 days. Drilling will commence as soon after approval is received and services can be contracted.

# EXHIBIT A

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

TOP OF ROTARY

4. 1. 1. 1.



WELL PDU 208 CONTRACTOR UNITED DRILLING

#### CONDITIONS OF APPROVAL - DRILLING

Operator's Name:

St. Mary Land & Exploration Parkway Delaware Unit #208

Well Name & No. Location:

1438' FNL, 969' FEL, Section 35, T. 19 S., R. 29 E., Eddy County, New Mexico

Lease:

NM-54865

#### I. DRILLING OPERATIONS REQUIREMENTS:

- 1. The Bureau of Land Management (BLM) is to be notified at the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822 for wells in Eddy County in sufficient time for a representative to witness:
  - A. Well spud
  - B. Cementing casing: <u>13-3/8</u> inch <u>8-5/8</u> inch <u>5-1/2</u> inch
  - C. BOP tests
  - D. Upon loss of circulation below the top of the Seven Rivers Formation at an approximated depth of 1623 feet, the operator will notify the PET staff to arrange for witnessing of the change to fresh water mud.
- 2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
- 3. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing ( size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15-day time frame.
- 4. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.
- 5. Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface; cable speed not to exceed 30 feet per minute.

#### II. CASING:

- 1. The <u>13-3/8</u> inch surface casing shall be set at <u>approximately 300 to 400 feet or 25 feet into the top of the <u>Rustler Anhydrite</u> and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.</u>
- 2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is **to be circulated to the surface**.
- 3. The minimum required fill of cement behind the <u>4-1/2</u> inch production casing is <u>to be circulated to the surface</u>.
- 5. Whenever a casing string is cemented in the R-111-P Potash Area, cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

#### III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore 9/22/2005

- Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the <u>13-3/8</u> inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.
- 2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2000 psi.
- 3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.
- The tests shall be done by an independent service company.
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in a safe workman-like manner. Hard line connections shall be required.

9/22/2005 acs