

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

5. LEASE DESIGNATION AND SERIAL NO.

NM 106714

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME **25743**

East Shugart Delaware Unit

8. FARM OR LEASE NAME, WELL NO.

Well # 22

9. API WELL NO.

30 ~~00~~ **015-34292**

10. FIELD AND POOL, OR WILDCAT

Shugart, Delaware East

11. SEC., T. R. OR BLK. AND SURV-Y% AREA

**24**  
Sec 19, T18S, R31E

12. COUNTY OR PARISH

Eddy

13. STATE

NM

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

b. TYPE OF WELL

OIL WELL ☒

GAS WELL ☐

OTHER

SINGLE ZONE ☐

MULTIPLE ZONE ☐

2. NAME OF OPERATOR

St. Mary Land & Exploration Company

**154903**

RECEIVED

AUG 24 2005

3. ADDRESS AND TELEPHONE NO.

580 Westlake Park Blvd., Suite 600, Houston, TX 77079; 281 677-2800

**OOD-ANTEDM**

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At sur-ace

**2550**

**SUBJECT TO LIKE APPROVAL BY STATE**

**2400' FNL & 1360' FEL, Unit letter G**

At proposed prod. zone

Non-Standard Location

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

8 miles South of Maljamar

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drlg. unit line, If any) 1360'

16. NO. OF ACRES IN LEASE

1280

17. NO. OF ACRES ASSIGNED TO THIS WELL

20

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING COMPLETED,

OR APPLIED FOR, ON THIS LEASE, FT.

150'

19. PROPOSED DEPTH

5550'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

3705'

**Capitan Controlled Water Basin**

22. APPROX. DATE WORK WILL START\*

7-1-05

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE OF SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	8 5/8"	24#	850'	225+ sx PP (sufficient to circulate) <b>WITNESS</b>
7 7/8"	5 1/2"	15.5#	5550'	695 sx CI C & H

Plan to drill to 850' and cement with approx 225 sx PP w/2% CaCl2 .25#/sk celloflake mixed @ 14.8 ppg having a yield of 1.34 cu ft/sk. This is 100% excess and will be adjusted to actual setting depth using sufficient cement to circulate to surface.

Will drill to approximate total depth of 5550', run 5 1/2" casing to TD & cement with 365 sx Interfill C and 330 sx Super H cement.

WOC. Prepare for completion.

Estimated duration for drilling & completion is 18 days.

This is a five spot waterflood unit. Bond # 6041872.

Pits for drilling will be in compliance with BLM and OCD rules and regulations. This is not an H2S area.

Form supplied by Carlsbad district office June 2005.

**APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED**

Bureau of Land Management  
Received

JUN 1 2005

Carlsbad Field Office  
Carlsbad, N.M.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

*[Signature]*

TITLE Alan D. Means, Operations Engineer

DATE 6-13-05

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

Application approval does not warrant or certify that the applicant holds legal or Nuitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY

/s/ Tony J. Herrell

TITLE

FIELD MANAGER

DATE

AUG 22 2005

\*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes 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.

**APPROVAL FOR 1 YEAR**

*59.5*

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

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

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

DISTRICT IV  
1220 S. ST. 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, 2003  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

AMENDED REPORT

API Number	Pool Code 56419	Pool Name
Property Code	Property Name E.S.D.U.	Well Number 22
OGRID No.	Operator Name ST. MARY LAND & EXPLORATION COMPANY	Elevation 3699'

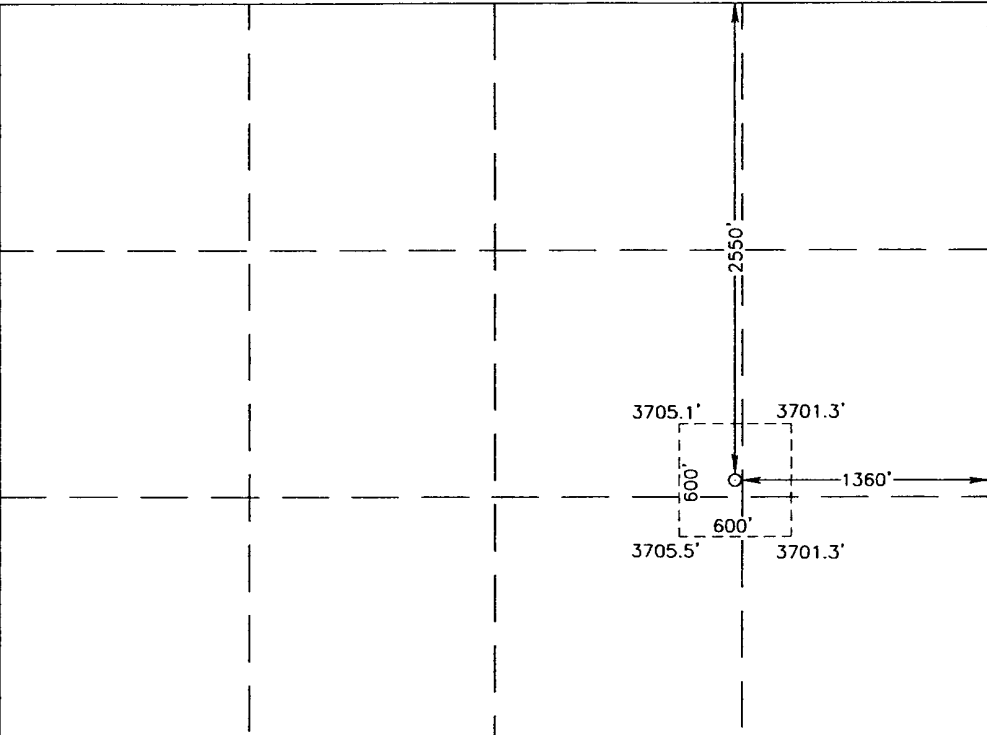
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	24	18-S	31-E		2550	NORTH	1360	EAST	EDDY

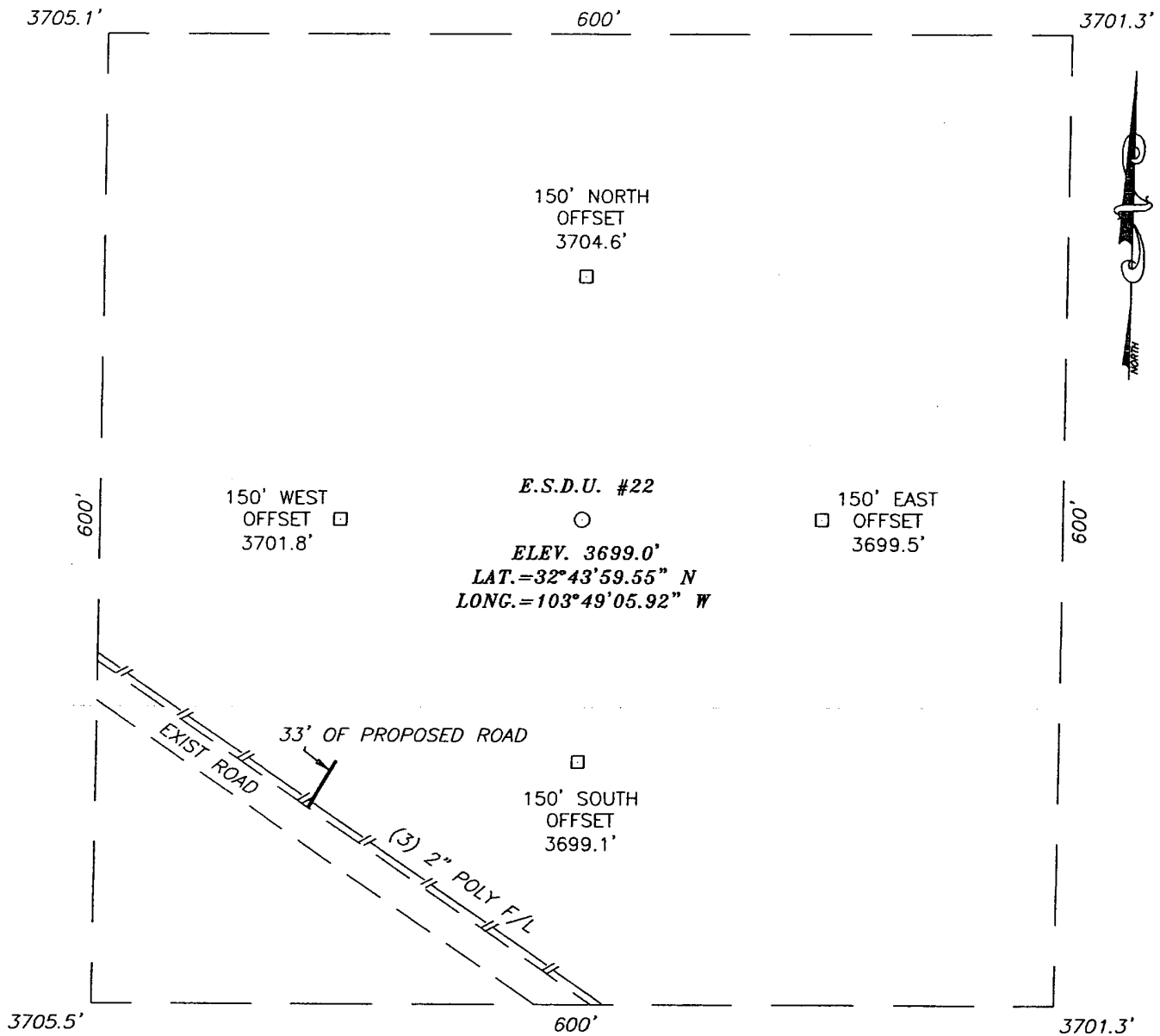
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 4/0	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

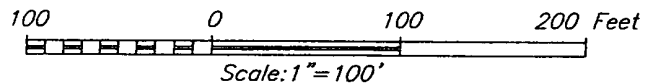
	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>[Signature]</i> Signature</p> <p>TIFFANY GRANT Printed Name</p> <p>REGULATORY TECH Title</p> <p>07.08.05 Date</p>
<p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=630837.4 N X=658371.1 E</p> <p>LAT.=32°43'59.55" N LONG.=103°49'05.92" 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>JUNE 27, 2005</p> <p>Date Surveyed</p> <p><i>[Signature]</i> Signature &amp; Seal of Professional Surveyor</p> <p>GARY E. EDSON 05.11.0973</p> <p>Certificate No. GARY E. EDSON 12641</p>

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



**DIRECTIONS TO LOCATION**

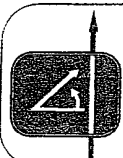
FROM THE INTERSECTION OF ST. HWY. #529 AND LEA CO. RD. #126 (MALJAMAR RD.) GO SOUTH ON CO. RD. #126 FOR APPROX. 4.2 MILES TO A CALICHE ROAD ON THE RIGHT. TURN RIGHT AND FOLLOW NORTHWESTERLY AND SOUTHWESTERLY MEANDERING ROAD APPROX. 2.0 MILES TO A CALICHE ROAD ON THE LEFT. TURN LEFT (SE) AND GO APPROX. 0.1 MILES TO A PROPOSED ROAD SURVEY. FOLLOW PROPOSED ROAD SURVEY APPROX. 166' TO THIS LOCATION.



**ST. MARY LAND & EXPLORATION COMPANY**

**E.S.D.U. #22 WELL**  
 LOCATED 2550 FEET FROM THE NORTH LINE  
 AND 1360 FEET FROM THE EAST LINE OF SECTION 24,  
 TOWNSHIP 18 SOUTH, RANGE 31 EAST, N.M.P.M.,  
 EDDY COUNTY, NEW MEXICO.

Survey Date: 06/27/05	Sheet 1 of 1 Sheets
W.O. Number: 05.11.0973	Dr By: J.R.
Date: 06/29/05	Disk: CD#5
05110973	Scale: 1"=100'



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

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

St. Mary Land and Exploration Company  
E.S.D.U. # 22  
2400 FNL, 1360' FEL; Sec 24, T18S, R31E  
East Shugart Delaware Unit – Property Code 25743  
Shugart (Delaware) East Field  
Eddy Co., NM  
NM-106715

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 intersection of State Hwy #529 and County Road #126, go South on County Road #126 for 4.2 miles to a caliche road on the right.
  - b) Turn right and follow northwesterly and southwesterly meandering road approx. 2.0 miles to a caliche road on the left.
  - c) Turn left (SE) and go approx. .1 mile to the proposed road survey.
  - d) Follow proposed road survey 166' to the proposed location.
2. PLANNED ACCESS ROAD —Access will be directly from existing road.
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 – A fiberglass injection line will be laid to the well from ESDU #20 injection facility, which is located 1571 feet to the Northeast 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.

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

St. Mary Land and Exploration Co.

ESDU #22

2400 FNL, 1360' FEL; Sec 24, T18S, R31E

East Shugart Delaware Unit – Property Code 25743

Shugart (Delaware) East Field

Eddy Co., NM

NM-106715

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 @ ~~350' +/-~~ 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 @ 5500' +/-, and cementing back to surface.
4. **Specifically the casing string 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:** 225 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 mixes @ 11.9 ppg and having a yield of 2.45 cuft/sk

(b) 330 sx Super H cement w/2.5lbm salt, 0.3% CFR-3, 00.3% Lap-1, 5 lbm Gilsonite mixed at 13.2 ppg and having a yield of 1.63 cuft/sk

*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.*

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 of the 8.625" surface casing.*

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

**0-850':** 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.

**850-5000':** 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.

**5000-5550':** Salt gel 10-10.01 PPG Confine circulation to steel pits. Discontinue Lime, and mix starch for filtration control. Maintain water loss @ 10-15 cc. Sweep hole with Lohoss 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.

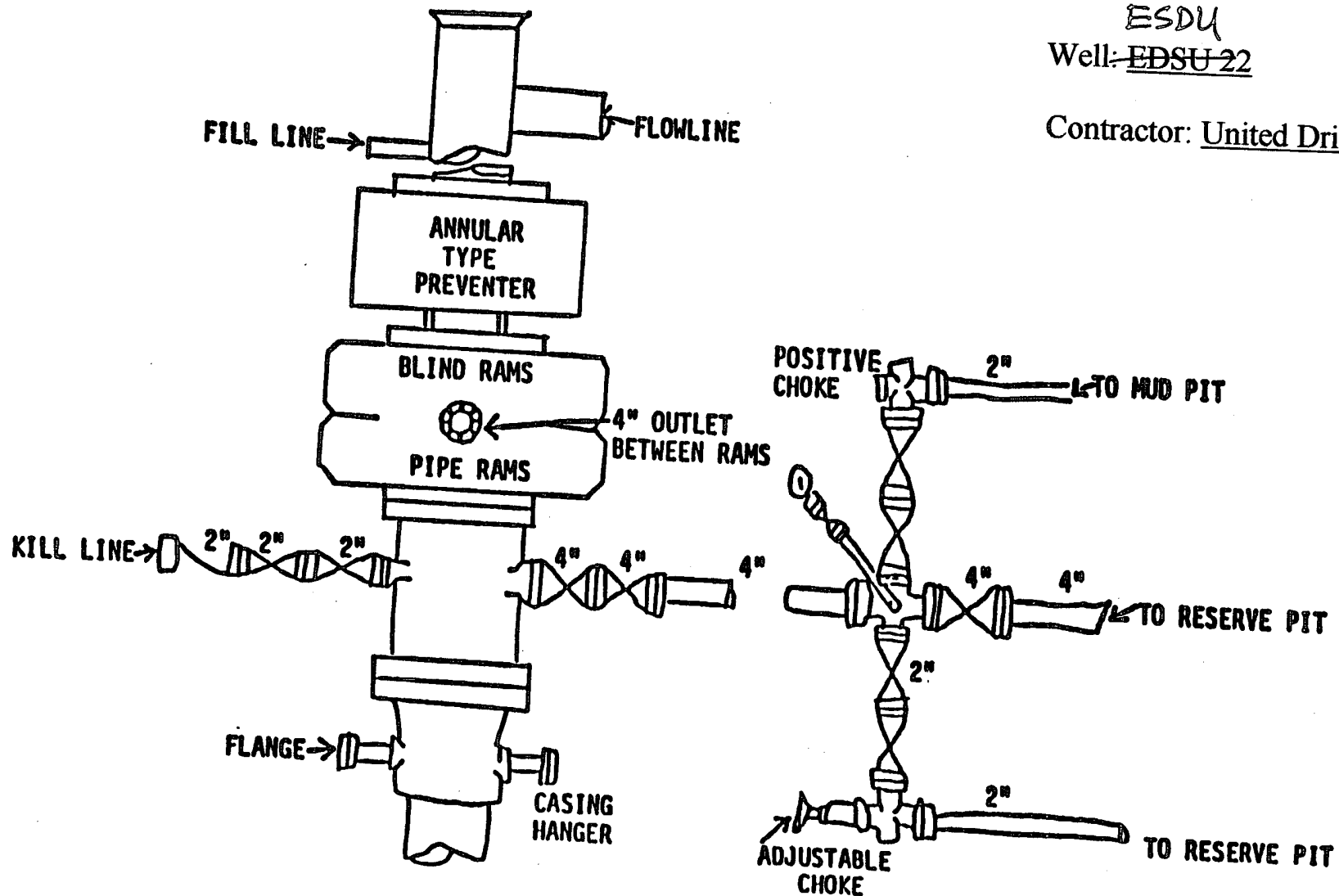
8. No drill stem testing is planned for this wellbore. Coring the Brushy Canyon is being considered and may be proposed if economically feasible.

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 Induction Laterologs will be run at TD to evaluate porosity and saturations. A cased hole GR/CB/CVL will be run during the completion for correlation and to evaluate cement quality.

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. 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.

# EXHIBIT A



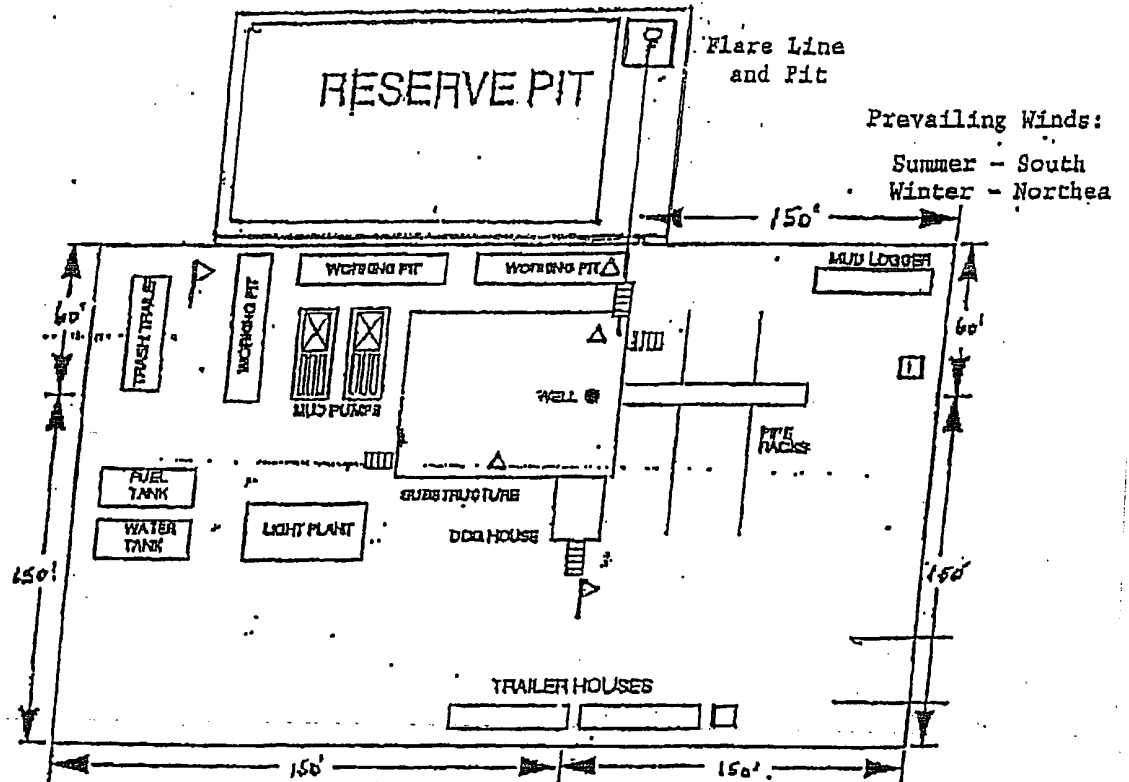
ESDU  
Well: EDSU-22

Contractor: United Drilling



# EXHIBIT C

## Typical United Drilling Rig Layout



- △ - 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. 1 designates primary area.

## CONDITIONS OF APPROVAL - DRILLING

Operator's Name: St. Mary Exploration & Land Co.  
Well Name & No. East Shugart Delaware Unit #22  
Location: 2550 2400' FNL, 1360' FEL, Section 24, T. 18 S., R. 31 E., <sup>Eddy</sup> Lea County, New Mexico  
Lease: EA NM-106714

### 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: 8-5/8 inch 5-1/2 inch
- C. BOP tests

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.

### II. CASING:

1. The 8-5/8 inch surface casing shall be set at approximately 850 feet 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.

2. The minimum required fill of cement behind the 5-1/2 inch production casing is to reach at least 500 feet above the top of the uppermost hydrocarbon productive interval.

### III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 8-5/8 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.

6/29/05  
acs