

New Mexico Oil Conservation Division
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTSUBMIT IN TRIPLICATE
Other instructions on
reverse sideFORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.

NM 9016106715

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME 25743

East Shugart Delaware Unit

8. FARM OR LEASE NAME, WELL NO.

Well # 18

9. API WELL NO.

30 025 37368

10. FIELD AND POOL, OR WILDCAT

Shugart, Delaware East 56419

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

Sec 19, T18S, R32E

12. COUNTY OR PARISH

Lea

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

3. ADDRESS AND TELEPHONE NO.

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

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

At surface
200' FNL & 1025' FWL, Lot # 1

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 drig. unit line, if any) 1025'

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

150'

19. PROPOSED DEPTH

5550'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

20

20. ROTARY OR CABLE TOOLS

Rotary

22. APPROX. DATE WORK WILL START*

7-1-05

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE OF SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH
12 1/4"	8 5/8"	24#	850' 915' 555'
7 7/8"	5 1/2"	15.5#	5550'

Caption Controlled Water Basin

QUANTITY OF CEMENT

225+ sx PP (sufficient to circulate)
695 sx CI C & H

WITNESS

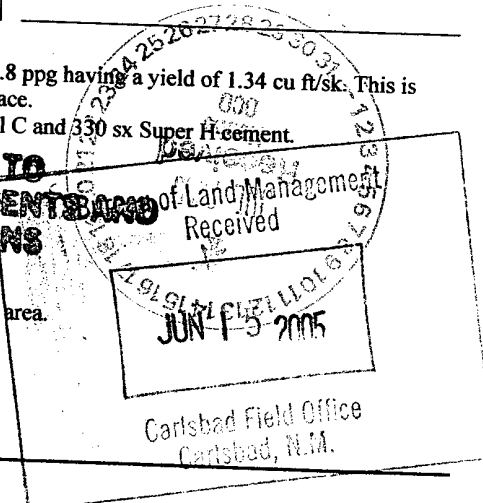
Plan to drill to 850' and cement with approx 225 sx PP w/2% CaCl₂. 25#/sk celloflake mixed @ 14.8 ppg having a yield of 1.34 cu ft/sk. This is 100% excess and will be adjusted to actual setting depth using sufficient cement to circulate to surface. Will drill to approximate total depth of 5550', run 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

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

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/ Joe G. Lara

TITLE FIELD MANAGER

DATE

JUL 12 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

DISTRICT I
1625 N. FRENCH DR., HOBBES, NM 86240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 86210

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 30-025-37368	Pool Code 56419	Pool Name Shugart; Delaware East
Property Code 25743	Property Name E.S.D.U.	Well Number 18
OGRID No. 154903	Operator Name ST. MARY LAND & EXPLORATION COMPANY	Elevation 3721'

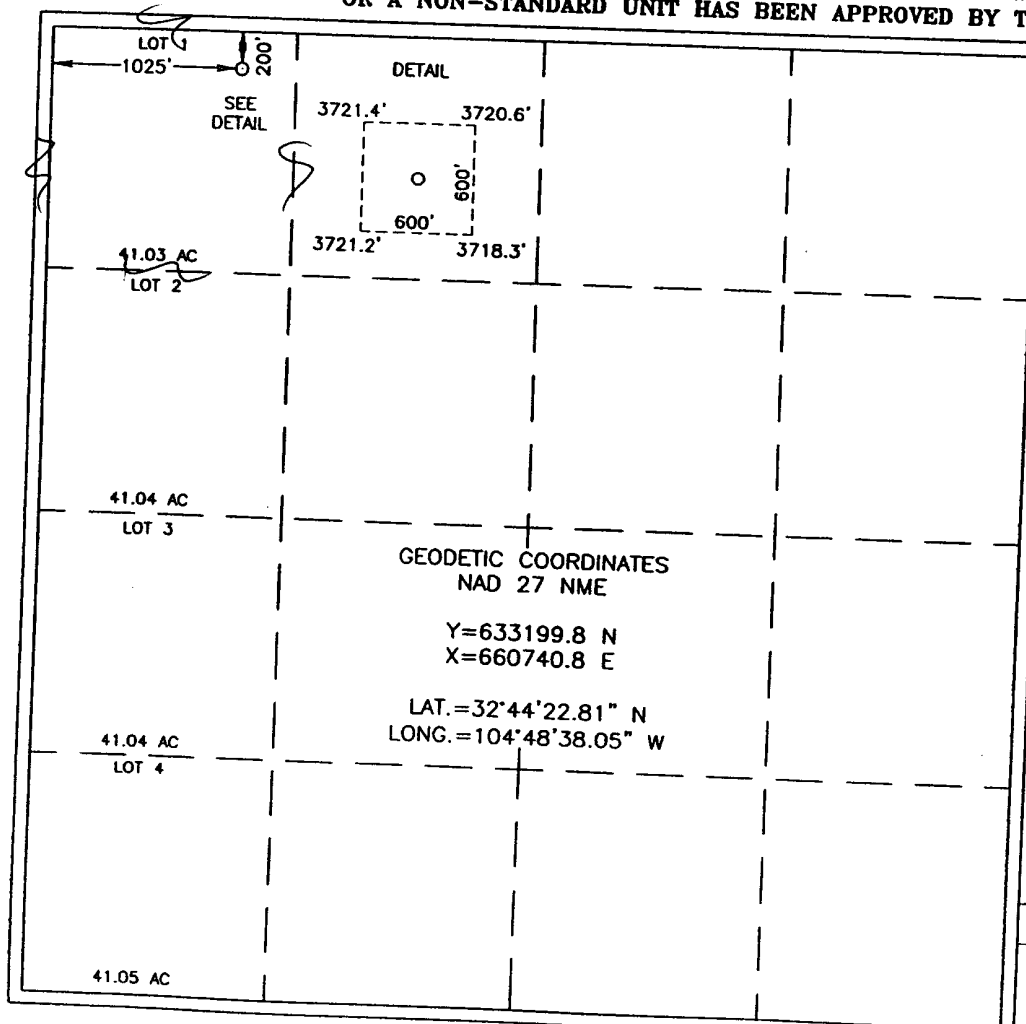
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	19	18-S	32-E		200	NORTH	1025	WEST	LEA

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		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



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Tiffany Grant
Signature
TIFFANY GRANT
Printed Name
REGULATORY TECH-AGENT
Title
05-19-05
Date

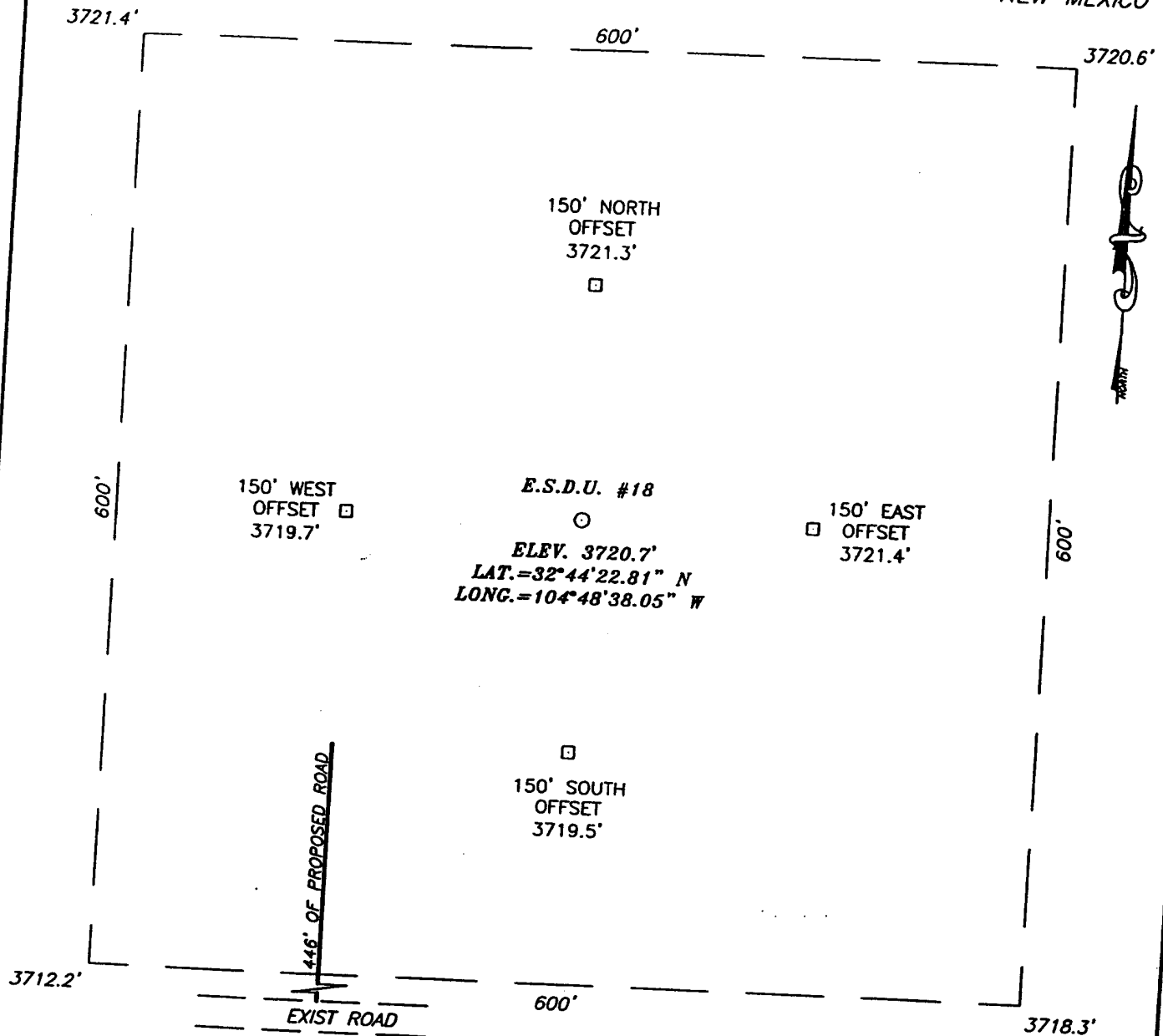
SURVEYOR CERTIFICATION

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 supervision, and that the same is true and correct to the best of my belief.

AUGUST 5, 2004

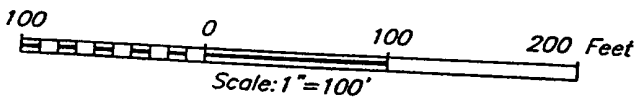
Date Surveyed
Signature & Seal
Professional Surveyor
GARY EIDSON
NEW MEXICO
04.11.0718
Certified No. **GARY EIDSON** 12641
RONALD J. EIDSON 3239

SECTION 19, TOWNSHIP 18 SOUTH, RANGE 32 EAST, N.M.P.M.,
 LEA COUNTY,
 NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF ST. HWY #529 AND CO. RD. #126. GO SOUTH AND SOUTHWEST ON CO. RD. #126 FOR APPROX. 4.1 MILES TO YELLOW CATTLEGUARD. TURN WEST THRU CATTLEGUARD AND GO APPROX. 0.1 MILES ON CALICHE ROAD. THEN GO N/W APPROX. 0.3 MILES, THEN GO WEST APPROX. 0.6 MILES. THEN GO SOUTH APPROX. 0.2 MILES THEN S/W APPROX. 0.34 MILES. TURN LEFT (EAST) AND GO APPROX. 0.3 MILES TO PROPOSED ROAD SURVEY. FOLLOE PROPOSED ROAD SURVEY APPROX. 446' TO PROPOSED LOCATION.



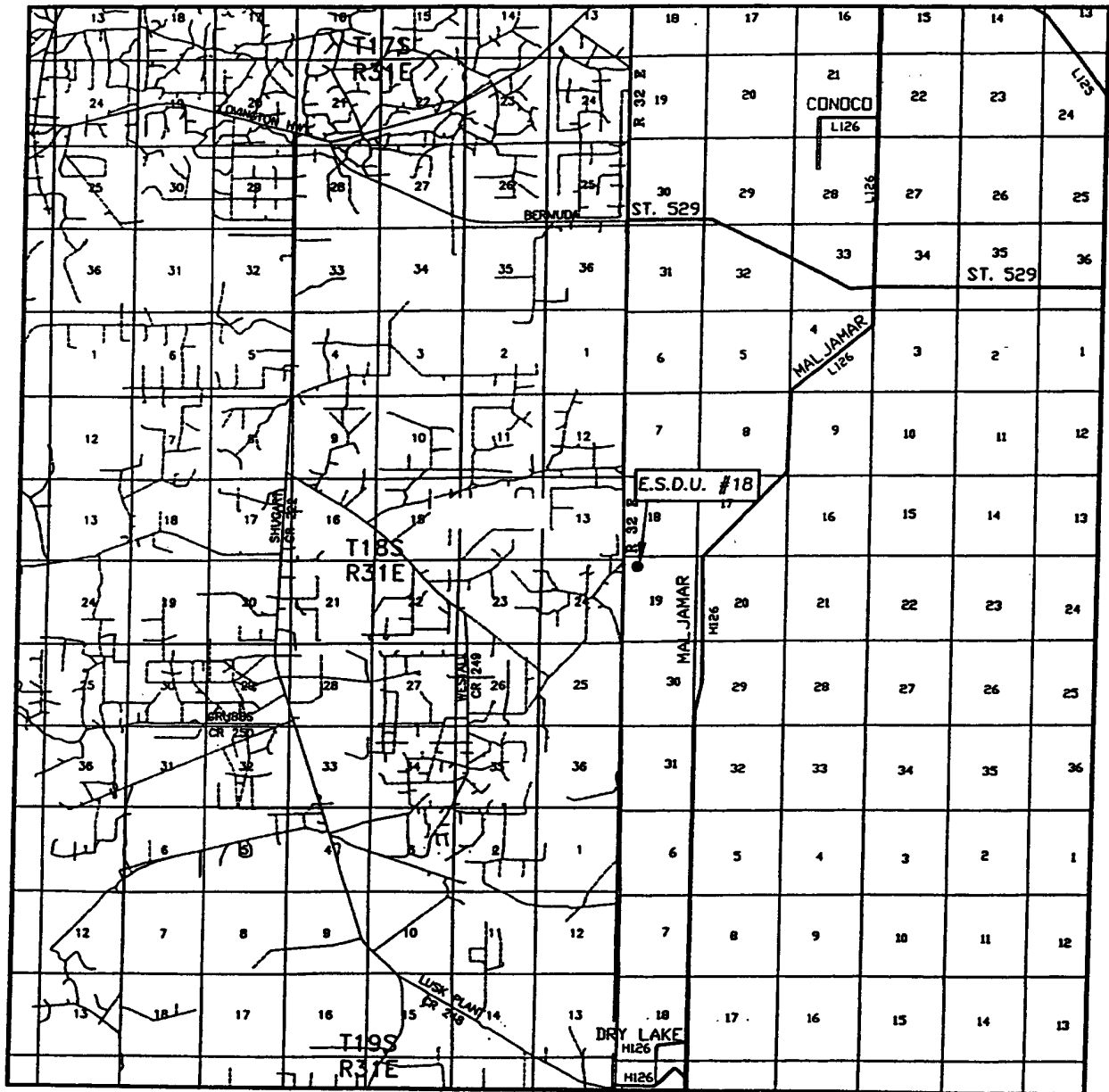
PROVIDING SURVEYING SERVICES
 SINCE 1946
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO
 HOBBS, N.M. 88240
 (505) 393-3117

ST. MARY LAND & EXPLORATION COMPANY

E.S.D.U. #18 WELL
 LOCATED 200 FEET FROM THE NORTH LINE
 AND 1025 FEET FROM THE WEST LINE OF SECTION 19,
 TOWNSHIP 18 SOUTH, RANGE 32 EAST, N.M.P.M.,
 LEA COUNTY, NEW MEXICO.

Survey Date: 08/05/04	Sheet 1 of 1 Sheets
W.O. Number: 04.11.0718	Dr By: J.R.
Date: 08/06/04	Disk: CD#10
04110718	Scale: 1"=100'

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 19 TWP. 18-S RGE. 32E

SURVEY N.M.P.M.


COUNTY LEA

DESCRIPTION 200' FNL & 1025' FWL

ELEVATION 3721'

ST. MARY LAND &
OPERATOR EXPLORATION COMPANY

LEASE E.S.D.U.

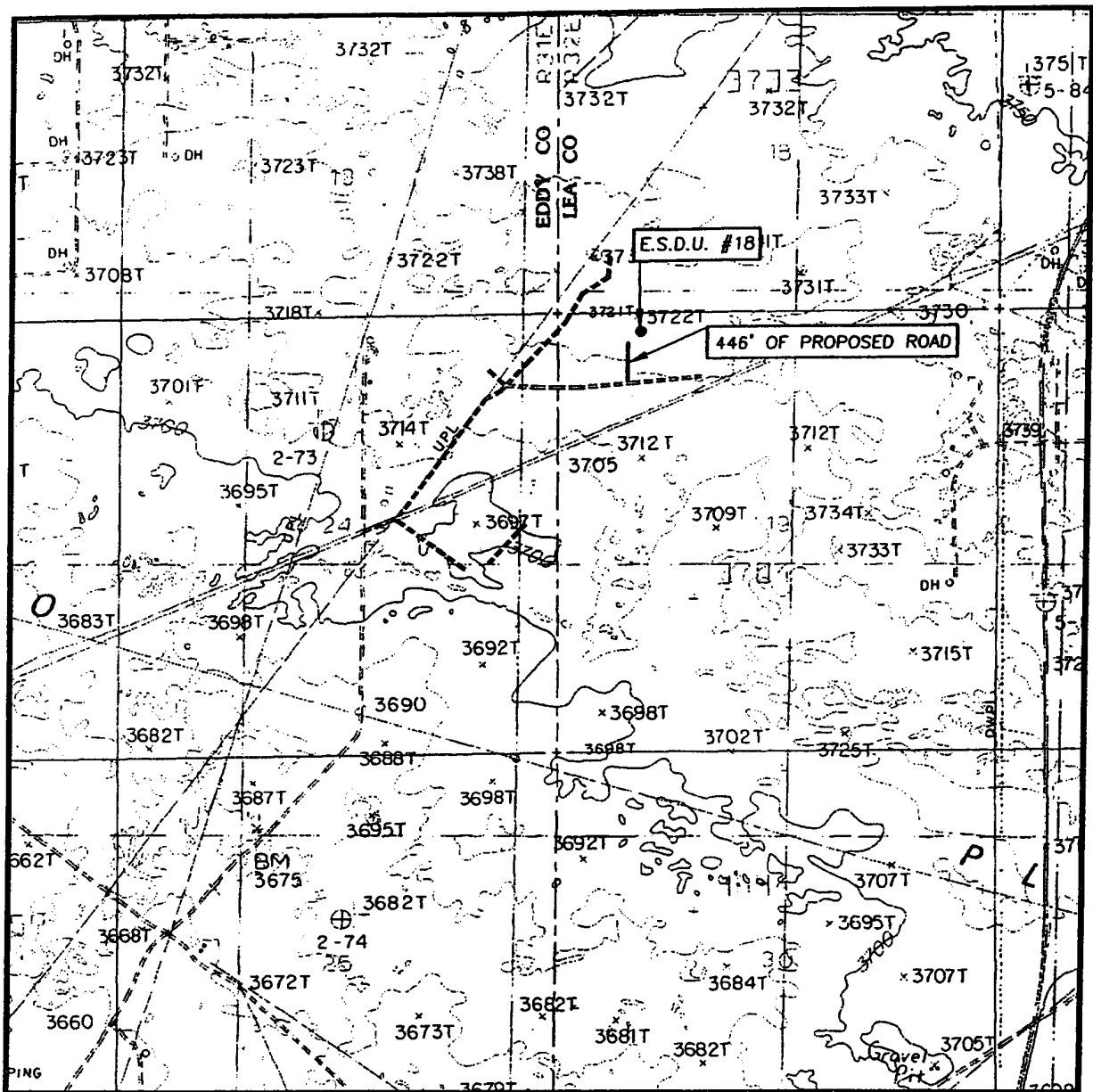


PROVIDING SURVEYING SERVICES
SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO
HOBBS, N.M. 88240
(505) 383-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
GREENWOOD LAKE, N.M. - 10'

SEC. 19 TWP. 18-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA

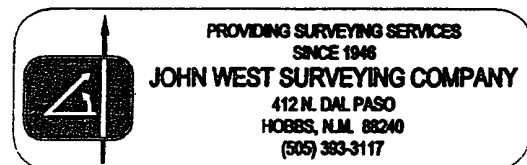
DESCRIPTION 200' FNL & 1025' FWL

ELEVATION 3721'

ST. MARY LAND &
OPERATOR EXPLORATION COMPANY

LEASE E.S.D.U.

U.S.G.S. TOPOGRAPHIC MAP
GREENWOOD LAKE, N.M.



**TITLE PAGE/ABSTRACT/
NEGATIVE SITE REPORT
CFO/RFO**

1/03

1. BLM Report No.		2. Reviewer's Initials/Date _____ ACCEPTED () REJECTED ()		3. NMCRIS No.: 93323	
4. Type of Report <div style="display: flex; justify-content: space-between;"> Negative(X) Positive () </div>					
5. Title of Report: Class III Archaeological Survey for St. Mary Land & Exploration Company's Proposed Access Road and Well Pad to Serve the E.S.D.U No. 18 Well Author: Stephen Smith					6. Fieldwork Date: June 9, 2005
8. Consultant Name & Address: Boone Archaeological Services 2030 North Canal Carlsbad, NM 88220 Direct Charge: Danny Boone Field Personnel Name: Stephen Smith & Janet Cox Phone: (505) 885-1352					7. Report Date: June 12, 2005
					9. Cultural Resource Permit No. BLM: 190-2920-05-F State: NM-05-157
11. Customer Name: St. Mary Land & Exploration Company Responsible Individual: Alan Means Address: P.O. Box 272 Midland, Texas 79702 Phone: (432) 620-9181					10. Consultant Report No. BAS 05-05-59
					12. Customer Project No.:
13. Land Status	BLM	STATE	PRIVATE	OTHER	TOTAL
a. Area Surveyed (acres)	7.56	0	0	0	7.56
b. Area of Effect (acres)	3.98	0	0	0	3.98
14. Linear: Length: 446 ft (total length of access road) Width: 100 ft 296 ft (total length of access road after 150 ft deduction for the current survey) Block: 600 ft by 600 ft (100 ft by 600 ft deduction for BLM previous project 88-418)					
15. Location: (Maps Attached if Negative Survey) a. State: New Mexico b. County: Lea c. BLM Office: Carlsbad d. Nearest City or Town: Maljamar, NM e. Legal Location: T 18S, R 32E, Section 18: SE¼SW¼SW¼ Section 19: E½NW¼NW¼ f. Well Pad Footages: 200 ft FNL; 1025 FWL g. USGS 7.5 Map Name and Code Number: Greenwood Lake, NM (Provisional Edition 1985) 32103-F7					

16. Project Data:

a. Records Search: Date of BLM File Review: June 6, 2005 Name of Reviewer: Stephen Smith
Date of ARMS Data Review: June 3, 2005 Name of Reviewer: Stephen Smith

Findings:

Sites within 0.25 mile of the project area: During the course of the pre-field investigation for this project it was learned that no previously recorded sites are plotted within 0.25 mile of the project area. Six previously recorded sites are plotted within 1 mile of the proposed well pad and access road, LA 50483, LA 68280, LA 75708, LA 75709, LA 79567, and LA 109564. The proposed well pad interacts with BLM previous project 88-418. The pre-field investigation was supervised by Bruce Boeke, BLM-CFO archaeologist.

b. Description of Undertaking: St. Mary Land & Exploration Company plans to construct an access road and well pad to serve the E.S.D.U. No. 18 well. St. Mary Land & Exploration Company contacted Boone Archaeological Services requesting an archaeological survey for the proposed project. The well pad is staked at 600 ft by 600 ft (8.26 acres). Because the proposed well pad interacts with BLM previous project 88-418 (100 ft by 600 ft), 1.38 acres was deducted from the total acreage of the survey for the well pad. The access road for the well pad begins at an existing lease road and travels north 446 ft. A total of 150 ft was deducted from the total length of the proposed access road because it falls within the current survey. A total of 296 ft (0.68 acres) of the road required survey. A total of 7.56 acres required an archaeological survey, all of which is on lands administered by the BLM-CFO.

c. Environmental Setting :

Topography: Aeolian, deep sand, small dunes (1.5 meters in height)

Vegetation: Shin oak, mesquite, yucca, prickly pear, and various grasses

Visibility: 55-65 percent due to vegetative cover

NRCS: Pyote-Maljamar-Kermit association: Gently undulating and rolling, deep, sandy soils

d. Field Methods:

Transect Interval: Transects are no greater than 15 meters and performed in a straight-line pattern.

Crew Size: 2

Time in Field: 2 hours

e. Artifacts Collected: None

17. Cultural Resource Findings: No cultural resources were encountered during the course of this survey.

a. Identification and Description: N/A

b. Evaluation of Significance of Each Resource: N/A

18. Management Summary (Recommendations): Because no cultural resources were encountered during the survey for St. Mary Land & Exploration Company's proposed access road and well pad, archaeological clearance is recommended as presently staked. If cultural resources are encountered during any construction related activity, construction should cease and an archaeologist with the BLM be immediately notified.

19.

I certify that the information provided above is correct and accurate and meets all appreciable BLM standards.

Responsible Archaeologist

Stephen Smith

Signature

6-12-05

Date

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

St. Mary Land and Exploration Company
E.S.D.U. #18
200' FNL, 1025' FWL; Sec 19, T18S, R32E
East Shugart Delaware Unit – Property Code 25743
Shugart (Delaware) East Field
Lea Co., NM
NM-9016

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 and Southwest on County Road #126 for 4.1 miles to the yellow cattleguard.
 - b) Turn west through cattleguard and go 0.1 miles on caliche road then go N/W 0.3 miles.
 - c) Go west 0.6 miles then south 0.2 miles then S/W 0.34 miles.
 - d) Turn East and proceed for 0.3 miles to a proposed road survey.
 - e) Follow proposed road survey 446 feet to location.
2. PLANNED ACCESS ROAD —Approximately 446' 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 – A fiberglass injection line will be laid to the well from ESDU #20 injection facility, which is located 1684 feet to the Southwest 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 #18 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 June 2005. Danny Boone, the registered archeological surveyor, has forwarded 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:

Alan D. Means, Operations Manager

Joe Crawford, Operations Engineer

303 West Wall St.

Suite 500

Midland, Tx. 79701

432-620-9181 Office

432-620-0796 Direct

432-664-7052 Cell

Jackie Herron, Contract Pumper

Hagerman, NM

505-746-7601 Cell

505-752-2701 Home

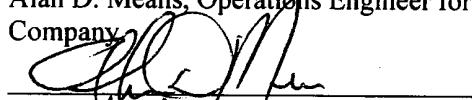
13. OPERATORS CERTIFICATION

I hereby certify that I, Alan D. Means-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: Alan D. Means, Operations Engineer for St. Mary Land & Exploration
Company

Signature:



Date:

6/13/05

.....
.....

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

St. Mary Land and Exploration Co.
ESDU #18
200' FNL, 1025' FWL; Sec 19, T18S, R32E
East Shugart Delaware Unit – Property Code 25743
Shugart (Delaware) East Field
Lea Co., NM
NM-9016

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 @ ^{915'}~~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:
- | | |
|---|--|
| <p>0-850': 915'</p> <p>915' 850-5000':</p> <p>5000-5550':</p> | <p>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.</p> <p>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.</p> <p>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 Lo-loss at TD to clean hole for logging operations.</p> |
|---|--|
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 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. 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

East Shugart Delaware Ut.
ESDU
Well: EDSU 18

Contractor: United Drilling

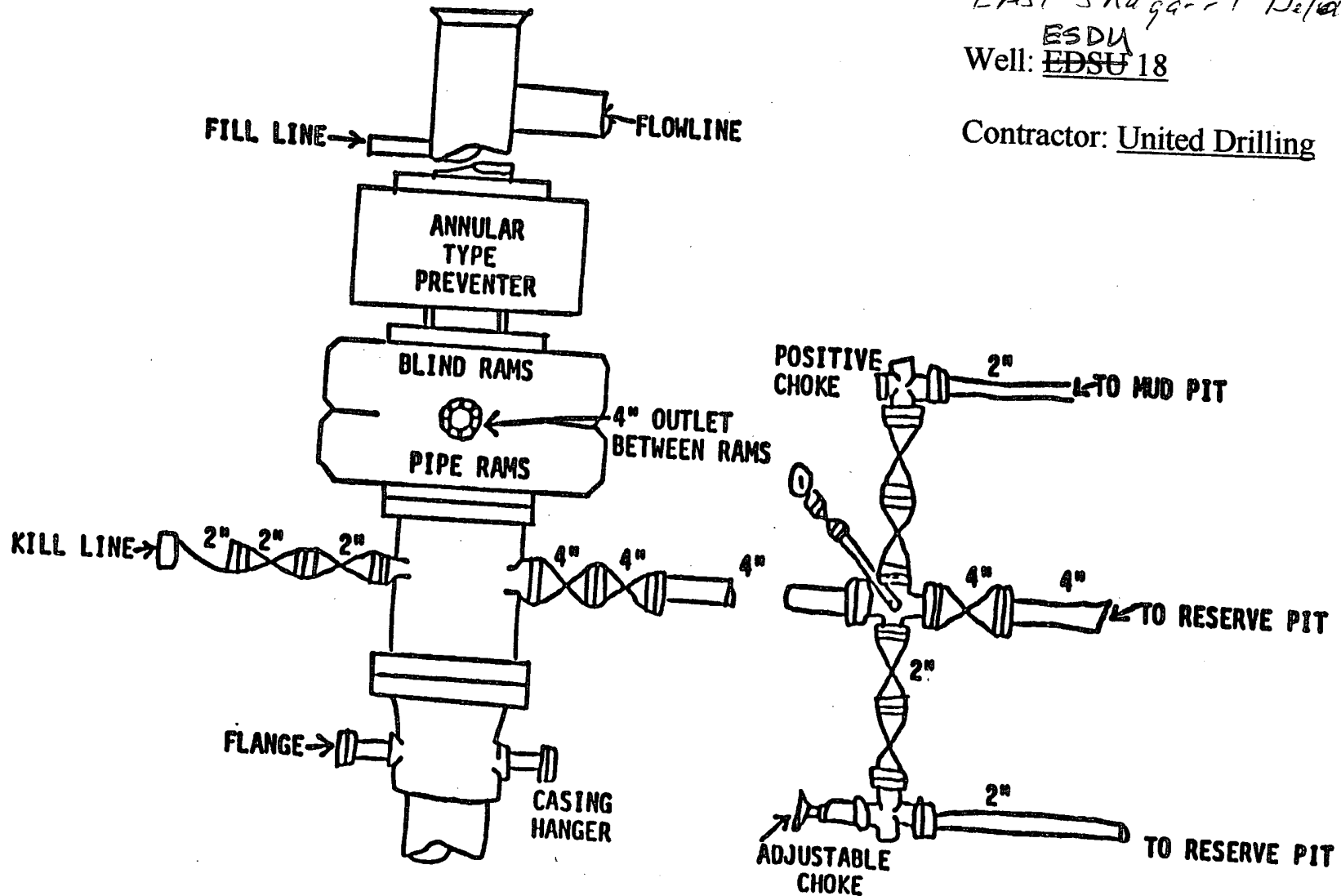
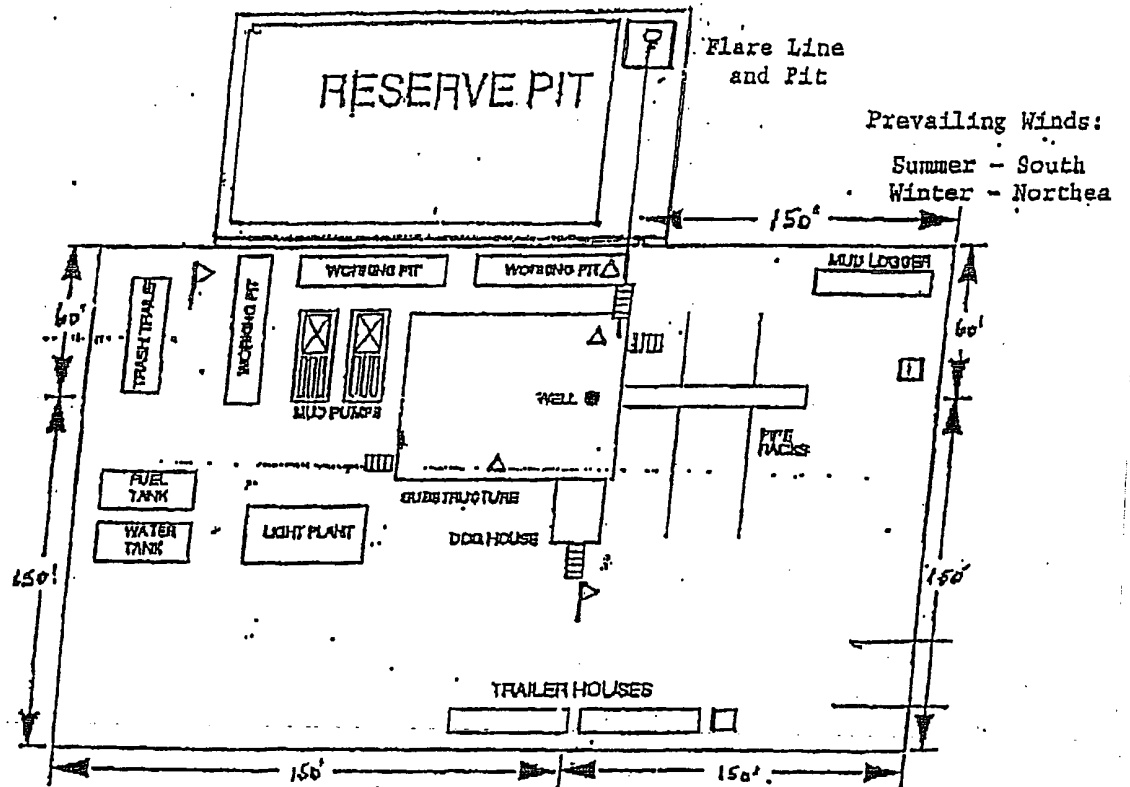


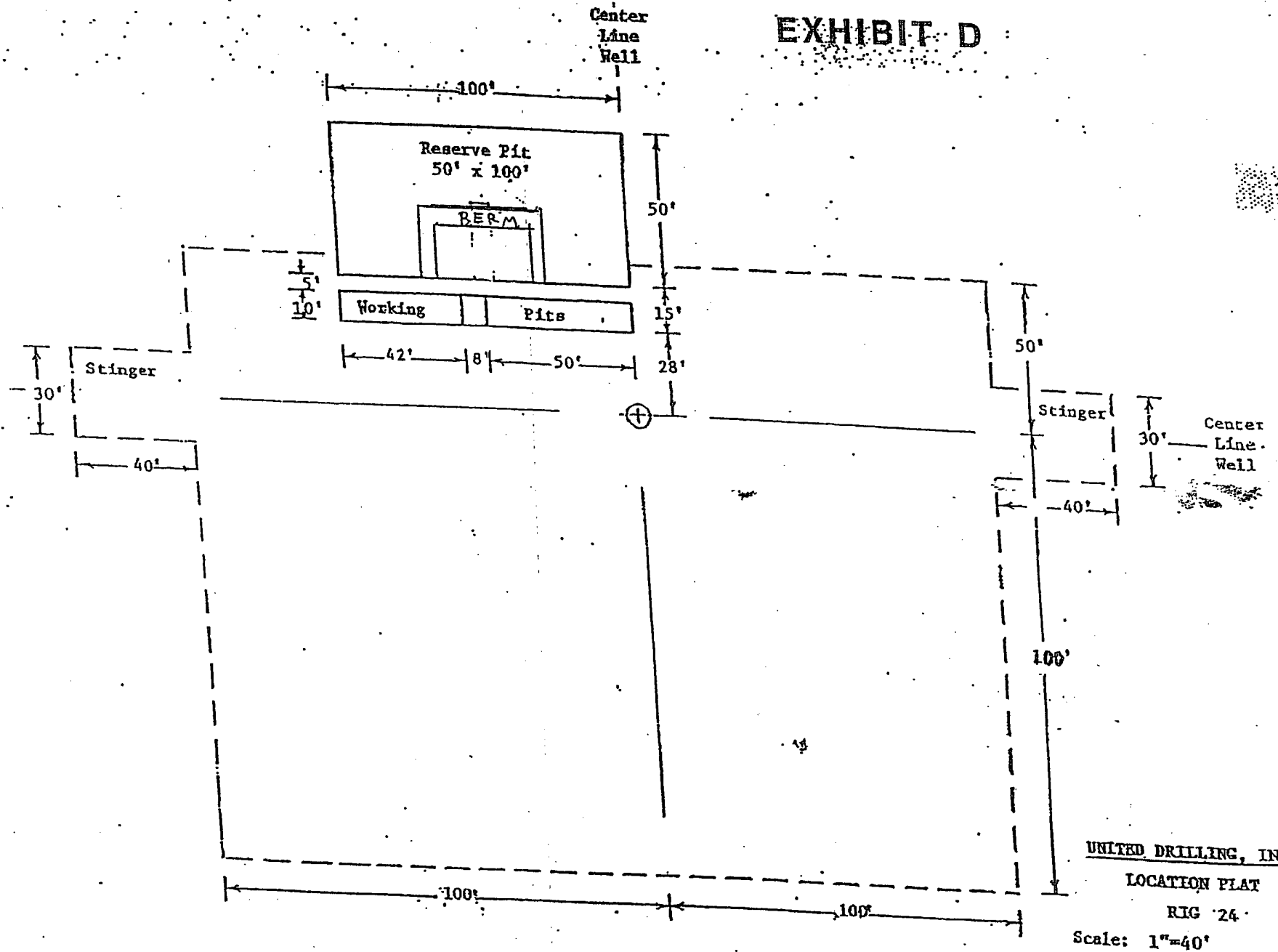
EXHIBIT C

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.

EXHIBIT D



SPECIAL DRILLING STIPULATIONS

THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

Operator's Name St. Mary Land & Exploration Co Well Name & No. 18-East Shugart Delaware Unit
 Location 200' F N L & 1025' F W L Sec. 19, T. 18 S, R. 32 E.
 Lease No. NM-106715 County Lea State New Mexico

The Special stipulations check marked below are applicable to the above described well and approval of this application to drill is conditioned upon compliance with such stipulations in addition to the General Requirements. The permittee should be familiar with the General Requirements, a copy of which is available from a Bureau of Land Management office. EACH PERMITTEE HAS THE RIGHT OF ADMINISTRATIVE APPEAL TO THESE STIPULATIONS PURSUANT TO TITLE 43 CRF 3165.3 AND 3165.4.

This permit is valid for a period of one year from the date of approval or until lease expiration or termination whichever is shorter.

I. SPECIAL ENVIRONMENT REQUIREMENTS

- ☒ Lesser Prairie Chicken (stips attached) ☐ Flood plain (stips attached)
☐ San Simon Swale (stips attached) ☐ Other

II. ON LEASE - SURFACE REQUIREMENTS PRIOR TO DRILLING

☒ The BLM will monitor construction of this drill site. Notify the ☒ Carlsbad Field Office at (505) 234-5972 ☐ Hobbs Office (505) 393-3612, at least 3 working days prior to commencing construction.

☒ Roads and the drill pad for this well must be surfaced with 6 inches of compacted caliche upon completion of well and it is determined to be a producer.

☐ All topsoil and vegetation encountered during the construction of the drill site area will be stockpiled and made available for resurfacing of the disturbed area after completion of the drilling operation. Topsoil on the subject location is approximately _____ inches in depth. Approximately _____ cubic yards of topsoil material will be stockpiled for reclamation.

☒ Other. Injection Line not authorized under this permit.

III. WELL COMPLETION REQUIREMENTS

☐ A Communitization Agreement covering the acreage dedicated to the well must be filed for approval with the BLM. The effective date of the agreement must be prior to any sales.

☒ Surface Restoration: If the well is a producer, the reserve pit(s) will be backfilled when dry, and cut-and-fill slopes will be reduced to a slope of 3:1 or less. All areas of the pad not necessary for production must be re-contoured to resemble the original contours of the surrounding terrain, and topsoil must be re-distributed and re-seeded with a drill equipped with a depth indicator (set at depth of 1/2 inch) with the following seed mixture, in pounds of Pure Live Seed (PLS), per acre.

- | | |
|--|---|
| <input type="checkbox"/> A. Seed Mixture 1 (Loamy Sites) | <input checked="" type="checkbox"/> B. Seed Mixture 2 (Sandy Sites) |
| Side Oats Grama (<i>Bouteloua curtipendula</i>) 5.0 | Sand Dropseed (<i>Sporobolus cryptandrus</i>) 1.0 |
| Sand Dropseed (<i>Sporobolus cryptandrus</i>) 1.0 | Sand Lovegrass (<i>Eragrostis trichodes</i>) 1.0 |
| | Plains Bristlegrass (<i>Setaria magrostachya</i>) 2.0 |
| <input type="checkbox"/> C. Seed Mixture 3 (Shallow Sites) | <input type="checkbox"/> D. Seed Mixture 4 (Gypsum Sites) |
| Side oats Grama (<i>Boute curtipendula</i>) 1.0 | Alkali Sacaton (<i>Sporobolus airoides</i>) 1.0 |
| | Four-Wing Saltbush (<i>Atriplex canescens</i>) 5.0 |

☐ OTHER SEE ATTACHED SEED MIXTURE

Seeding should be done either late in the fall (September 15 - November 15, before freeze up, or early as possible the following spring to take advantage of available ground moisture.

☐ Other.

RESERVE PIT CONSTRUCTION STANDARDS

The reserve pit shall be constructed entirely in cut material and lined with 6 mil plastic. Mineral material extracted from within the boundary of the APD during construction of the well pad and reserve pits and be used for the construction of this well pad and its immediate access road only, as long as that portion of the access road it is use on remains on-lease. Removal of any additional material from this location for construction or improvement of other well pads and other access or lease roads must first be purchased from BLM.

Reclamation: Reclamation of this type of deep pit will consist of pushing the pit walls into the pit when sufficiently dry to support track equipment. The pit liner is NOT TO BE RUPTURED to facilitate drying; a ten month period after completion of the well is allowed for drying of the pit contents.

The pit area must be contoured to the natural terrain with all contaminated drilling mud buried with at least 3 feet of clean soil. The reclaimed area will then be seeded as specified in this permit.

OPTIONAL PIT CONSTRUCTION STANDARDS

The reserve pit may be constructed in predominantly fill material if:

- (1) Lined as specified above and
- (2) A temporary or emergency pit may be constructed immediately adjacent to the reserve pit as long as the pit remains within the APD boundary. Mineral material removed from this pit may be used for the construction of this well pad only and its immediate access road, as long as that portion of the access road the material is used on remains on-lease. Removal of any material from the APD boundary for use on other well locations or roads must first be purchased from BLM.

Reclamation of the reserve pit consists of bulldozing all reserve pit contents and contaminants into the borrow pit and covering with a minimum of 3 feet of clean soil material. The entire area must be recontoured, all trash removed, and reseeded as specified in this permit.

CULTURAL

Whether or not an archaeological survey has been completed and notwithstanding that operations are being conducted as approved, the lessee/operator/grantee shall notify the BLM immediately if previously unidentified cultural resources are observed during surface disturbing operations. From the time of the observation, the lessee/operator/grantee shall avoid operations that will result in disturbance to these cultural resources until directed to processed by BLM.

TRASH PIT STIPS

All trash, junk, and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.

PRAIRIE CHICKENS

No surface use is allowed during the following time periods; unless otherwise specified, this stipulation does not apply to operation and maintenance of production facilities.

On the lands described below:

T. 18S, R. 32E

Sec. 19 AU

For the purpose of: Protecting Prairie Chickens:

Drilling for oil and gas, and 3-D geophysical exploration operations will not be allowed in Lesser Prairie Chicken Habitat during the period of March 15 through June 15, each year. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 a.m. and 9:00 a.m. The 3:00a.m. and 9:00a.m. restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during the period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

CONDITIONS OF APPROVAL - DRILLING

Operator's Name: St. Mary Exploration & Land Co.
Well Name & No. East Shugart Delaware Unit #18
Location: 200' FNL, 1025' FWL, Section 19, T. 18 S., R. 32 E., Lea County, New Mexico
Lease: NM-106715

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 915 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

BLM Serial Number: NM-106715
Company Reference: St. Mary Land & Exploration Co.
Well No. & Name: 18-East Shugart Delaware Unit

STANDARD STIPULATIONS FOR PERMANENT RESOURCE ROADS
CARLSBAD FIELD OFFICE

A copy of the grant and attachments, including stipulations and map, will be on location during construction. BLM personnel may request to view a copy of your permit during construction to ensure compliance with all stipulations.

~~The holder/grantee/permittee shall hereafter be identified as the holder in these~~
stipulations. The Authorized Officer is the person who approves the Application for Permit to Drill (APD) and/or Right-of-Way (ROW).

GENERAL REQUIREMENTS

A. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

B. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, *et. seq.*) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

C. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seq.*) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

D. If, during any phase of the construction, operation, maintenance, or termination of the road, any oil or other pollutant should be discharged, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all

damages to Federal lands resulting therefrom, the Authorized

Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

E. The holder shall minimize disturbance to existing fences and other improvements on public domain surface. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times.

~~The holder will make a documented good-faith effort to contact the owner of any~~
improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence.

F. The Holder shall ensure that the entire right-of-way, including the driving surface, ditching and drainage control structures, road verges and any construction sites or zones, will be kept free of the following plant species: Malta starthistle, African rue, Scotch thistle and salt cedar.

Holder agrees to comply with the following stipulations:

1. ROAD WIDTH AND GRADE

The road will have a driving surface of 14 feet (all roads shall have a minimum driving surface of 12 feet, unless local conditions dictate a different width). The maximum grade is 10 percent unless the box below is checked. Maximum width of surface disturbance from construction will be 30 feet.

☐ Those segments of road where grade is in excess of 10% for more than 300 feet shall be designed by a professional engineer.

2. CROWNING AND DITCHING

Crowning with materials on site and ditching on one side of the road on the uphill side will be required. The road cross-section will conform to the cross section diagrams in Figure 1. If conditions dictate, ditching may be required for both sides of the road; if local conditions permit, a flat-bladed road may be considered (if these conditions exist, check the appropriate box below). The crown shall have a grade of approximately 2% (i.e., 1" crown on a 12' wide road).

☒ Ditching will be required on both sides of the roadway as shown on the attached map or as staked in the field.

☐ Flat-blading is authorized on segment(s) delineated on the attached map.

3. DRAINAGE

Drainage control shall be ensured over the entire road through the use of borrow ditches, outsloping, insloping, natural rolling topography, lead-off (turnout) ditches, culverts, and/or drainage dips.

A. All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

SPACING INTERVAL FOR TURNOUT DITCHES

Percent slope	Spacing interval
0% - 4%	400' - 150'
4% - 6%	250' - 125'
6% - 8%	200' - 100'
8% - 10%	150' - 75'

A typical lead-off ditch has a minimum depth of 1 foot below and a berm 6 inches above natural ground level. The berm will be on the down-slope side of the lead-off ditch. The ditch end will tie into vegetation whenever possible.

For this road the spacing interval for lead-off ditches shall be at

☒ 400 foot intervals.

☐ _____ foot intervals.

☐ locations staked in the field as per spacing intervals above.

☐ locations delineated on the attached map.

B. Culvert pipes shall be used for cross drains where drainage dips or low water crossings are not feasible. The minimum culvert diameter must be 18 inches. Any culvert pipe installed shall be of sufficient diameter to pass the anticipated flow of water. Culvert location and required diameter are shown on the attached map (Further details can be obtained from the Roswell District Office or the appropriate Resource Area Office).

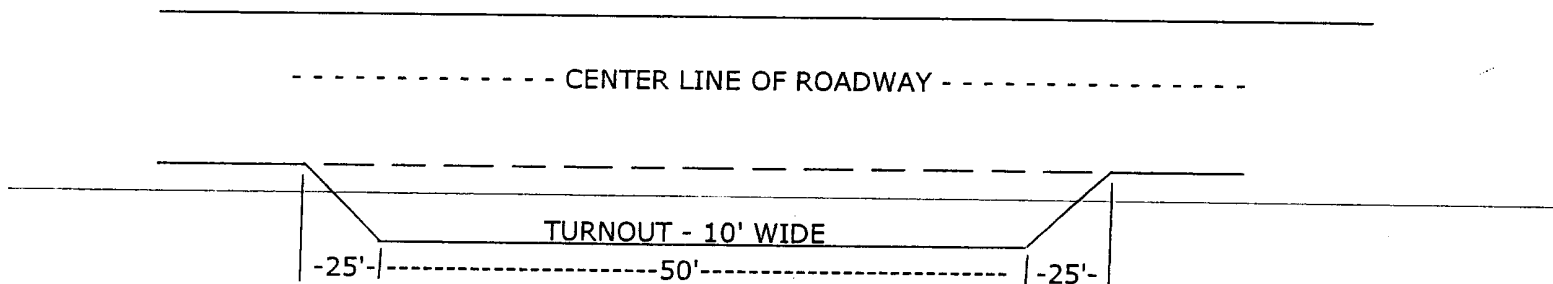
C. On road slopes exceeding 2%, drainage dips shall drain water into an adjacent lead-off ditch. Drainage dip location and spacing shall be determined by the formula:

$$\text{spacing interval} = \frac{400'}{\text{road slope in \%}} + 100'$$

Example: 4% slope: spacing interval = $\frac{400}{4} + 100 = 200$ feet

4. TURNOUTS

Unless otherwise approved by the Authorized Officer, vehicle turnouts will be required. Turnouts will be located at 2000-foot intervals, or the turnouts will be intervisible, whichever is less. Turnouts will conform to the following diagram:



STANDARD TURNOUT - PLAN VIEW

5. SURFACING

Surfacing of the road or those portions identified on the attached map may, at the direction of the Authorized Officer, be required, if necessary, to maintain traffic within the right-of-way with caliche, gravel, or other surfacing material which shall be approved by the Authorized Officer. When surfacing is required, surfacing materials will be compacted to a minimum thickness of six inches with caliche material. The width of surfacing shall be no less than the driving surface. Prior to using any mineral materials from an existing or proposed Federal source, authorization must be obtained from the Authorized Officer.

A sales contract for the removal of mineral materials (caliche, sand, gravel, fill dirt, etc.) from an authorized pit, site, or on location must be obtained from the BLM prior to using any such mineral material from public lands. Contact the BLM solid minerals staff for the various options to purchase mineral material.

6. CATTLEGUARDS

Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads (exceeding H-20 loading), are anticipated (See BLM standard drawings for cattleguards). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.

7. MAINTENANCE

The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation, culvert cleaning, drainage installation, cattleguard maintenance, and surfacing.

8. PUBLIC ACCESS

Public access along this road will not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public lands will ~~not be locked or closed to public use unless closure is specifically determined to be~~ necessary and is authorized in writing by the Authorized Officer.

9. CULTURAL RESOURCES

Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the authorized officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the authorized officer after consulting with the holder.

10. SPECIAL STIPULATIONS: *None*

1625 N. French Dr., I Iobbs, NM 88240
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 87504-

State of New Mexico
Energy Minerals and Natural Resources

Form C-144
June 1, 2004

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

For drilling and production facilities, submit to
appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe
office

Pit or Below-Grade Tank Registration or Closure

Is pit below-grade tank covered by a "general plan" Yes ☐ No ☒

Type of action Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: St Mary Land & Exploration Company Telephone: _____ e-mail address: _____
Address: 580 Westlake Park Blvd #600, Houston, TX 77079 30-025-37368
Facility or well name: East Shugart Delaware Unit API # 4 pendings U/L or Qtr/Qtr 0 Sec 19 T 18S R 32E
County: LEA Latitude _____ Longitude _____ NAD: 1927 ☐ 1983 ☐ Surface Owner Federal ☒ State ☐ Private ☐ Indian ☐
plats attached Sec 19, T18S, R32E, Wells #24,
#22, #18, #25

Pit
Type: Drilling ☒ Production ☐ Disposal ☐
Workover ☐ Emergency ☐
Lined ☒ Unlined ☐
Liner type: Synthetic ☒ Thickness 12 mm Clay ☐
Pit Volume 3500 bbl

Volume: _____ bbl Type of fluid: _____
Construction materials: _____
Double-walled, with leak detection? Yes ☐ No ☒ If not, explain why not.

Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.) <u>400'</u>	Less than 100 feet	(20 points)
	100 feet or more, build less than 100 feet	(10 points)
	100 feet or more 100 ft.	(0 points) 0
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes	(20 points)
	No No	(0 points) 0
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet	(20 points)
	200 feet or more, but less than 1000 feet	(10 points)
	1000 feet or more 1000 ft or more	(0 points) 0
Ranking Score (Total Points)		0 Points

Is this an oil closure. (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) attach a diagram of the pit's location (check the onsite box if you are burying in place) onsite: ☐ offsite ☒ If offsite, name of facility _____
(3) Attach a general description of remedial action taken including, _____
remediation start date and end date (4) Groundwater encountered: No ☒ Yes ☐ If yes, show depth below ground surface _____
PL and attach sample results. (5)

Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments:

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒ a general permit ☐ or an (attached) alternative NMOCD-approved plan ☐

Date: _____
Printed Name/Title Alan D. Means, Operations Manager

Signature: _____

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

Printed Name/Title PETROLEUM ENGINEER

Signature: _____

Date: JUL 18 2005