

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED  
OMB No. 1004-0137  
Expires July 31, 2010

ATS-13-598  
TCS  
8/21/2013

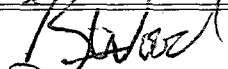
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM-106714 (unit: NMNM-101361X)
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator SM ENERGY COMPANY		7. If Unit or CA Agreement, Name and No. EAST SHUGART DELAWARE UNIT 2
3a. Address 3300 N. A STREET, BLDG. 7-200 MIDLAND, TX 79705		8. Lease Name and Well No. EAST SHUGART DELAWARE UNIT 34257437
3b. Phone No. (include area code) 432 688-3125		9. API Well No. 30-015-41615
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 1500' FNL & 2020' FEL At proposed prod. zone SAME		10. Field and Pool, or Exploratory SHUGART DELAWARE, EAST 4564197
14. Distance in miles and direction from nearest town or post office* 8 AIR MILES SW OF MALJAMAR, NM		11. Sec., T. R. M. or Blk. and Survey or Area SWNE 24-18S-31E NMPM
15. Distance from proposed* location to nearest 620' to lease line property or lease line, ft. 620' to unit line (Also to nearest drig. unit line, if any)	16. No. of acres in lease 240	12. County or Parish EDDY
17. Spacing Unit dedicated to this well SWNE	18. Distance from proposed location* 435' (ESDU 9) to nearest well, drilling, completed, applied for, on this lease, ft.	13. State NM
19. Proposed Depth 5,500'	20. BLM/BIA Bond No. on file NMB000805	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3,711' UNGRADED	22. Approximate date work will start* 08/20/2013	23. Estimated duration 1 MONTH

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- |  |   |
|--|---|
| 1. Well plat certified by a registered surveyor.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.  | 5. Operator certification   |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM.             |

25. Signature 	Name (Printed/Typed) BRIAN WOOD (505 466-8120)	Date 07/11/2013
---	---	--------------------

Title  
CONSULTANT

(FAX 505 466-9682)

Approved by (Signature) <i>/s/George MacDonell</i>	Name (Printed/Typed)	Date AUG 16 2013
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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

Conditions of approval, if any, are attached.

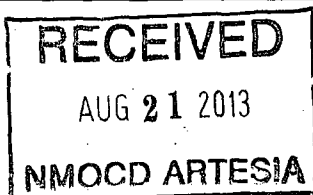
APPROVAL FOR TWO YEARS

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.

(Continued on page 2)

\*(Instructions on page 2)

Capitan Controlled Water Basin



SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

Approval Subject to General Requirements  
& Special Stipulations Attached

\*COA REVISE Fm. Tops  
TCS/OCD

DISTRICT I  
1825 N. French Dr., Hobbs, NM 88240  
Phone (575) 393-8161 Fax: (575) 393-0720

DISTRICT II  
811 S. First St., Artesia, NM 88210  
Phone (575) 748-1283 Fax: (575) 748-9720

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised August 1, 2011

Submit one copy to appropriate  
District Office

**OIL CONSERVATION DIVISION**  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015- <u>41615</u>	Pool Code <u>56413</u>	Pool Name SHUGART DELAWARE, EAST
Property Code 25743	Property Name ESDU	Well Number 34
OGRID No. 154903	Operator Name SM ENERGY	Elevation 3711'

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		1500	NORTH	2020	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 40	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

N.: 633429.8 E.: 695598.4 NAD 83	<b>SURFACE LOCATION</b> Lat - N 32°44'10.41" Long - W 103°49'15.51" NMSPC- N 631951.0 E 698881.0 (NAD-83)	N.: 633448.0 E.: 698254.4 NAD 83	N.: 633459.4 E.: 700890.7 NAD 83
N.: 630789.4 E.: 695601.0 NAD 83			
N.: 628149.5 E.: 695607.4 NAD 83		N.: 628167.5 E.: 698282.1 NAD 83	N.: 628187.9 E.: 700923.7 NAD 83

**OPERATOR CERTIFICATION**

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Brian Wood 7-11-13  
Signature Date

**BRIAN WOOD**  
Printed Name  
brian@permitswest.com  
Email Address

**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.

Date Surveyed 7-11-13  
Signature & Seal of Professional Surveyor Mary L. Jones  
Certificate No. Gary L. Jones 7977

**BASIN SURVEYS 28706**

SM Energy Company  
East Shugart Delaware Unit 34  
1500' FNL & 2020' FEL  
Sec. 24, T. 18 S., R. 31 E.  
Eddy County, NM

SURFACE PLAN PAGE 4

REPRESENTATION

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U. S. C. 1001 for the filing of false statements. Executed this 11th day of July, 2013.



-----  
Brian Wood, Consultant

Permits West, Inc.

37 Verano Loop, Santa Fe, NM 87508

(505) 466-8120

FAX: (505) 466-9682

Cellular: (505) 699-2276

Field representative will be:

Malcolm Kintzing, Reservoir Engineer

SM Energy Company

3300 N. A Street, Building 7-200

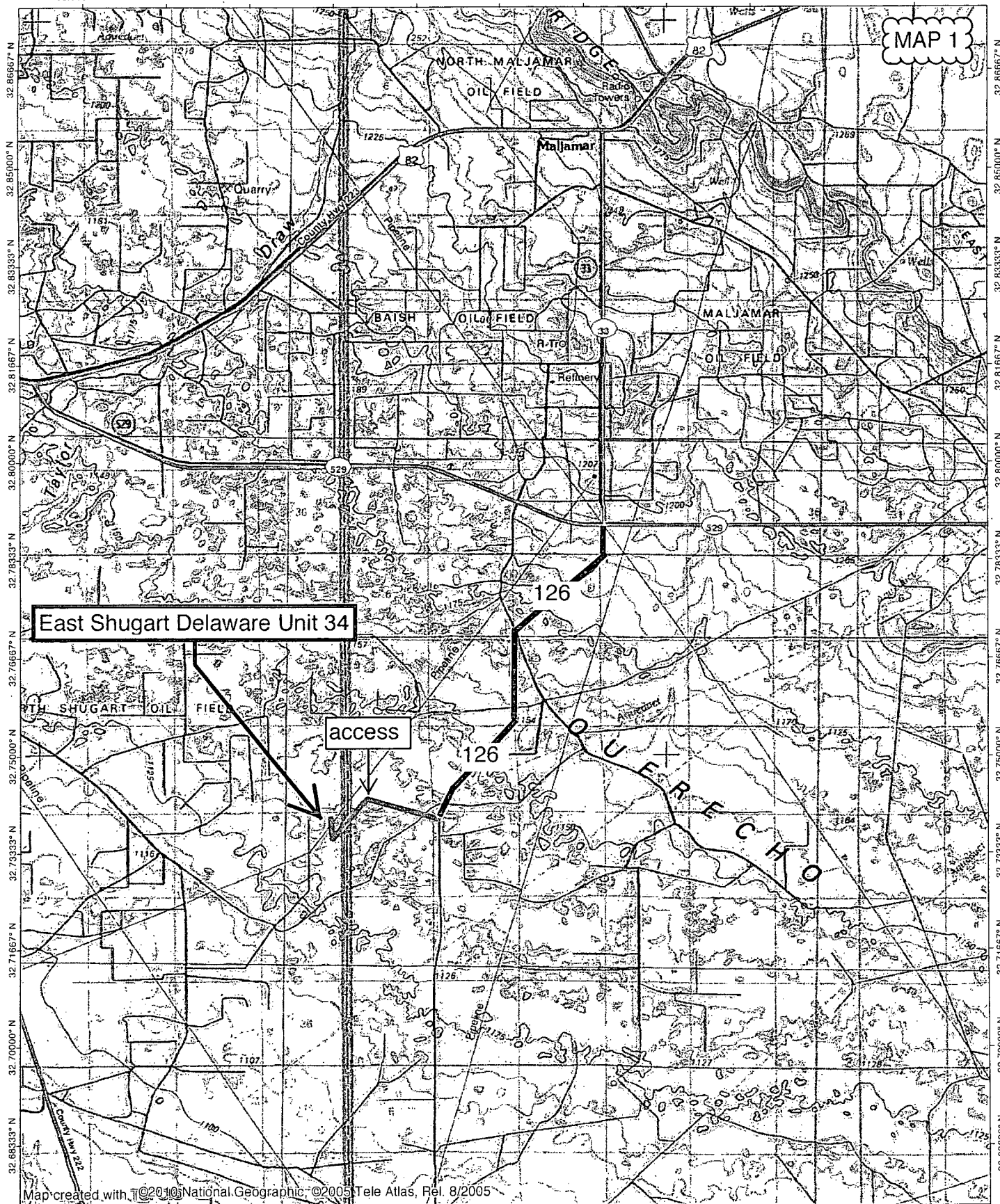
Midland, TX 79705

Office: (432) 688-1700

FAX: (432) 688-1701

103.86667° W 103.85000° W 103.83333° W 103.81667° W 103.80000° W 103.78333° W 103.76667° W 103.75000° W 103.73333° W

WGS84 103.70000° W



MAP 1

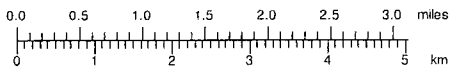
East Shugart Delaware Unit 34

access

Map created with T@2010 National Geographic, ©2005 Tele Atlas, Rel. 8/2005

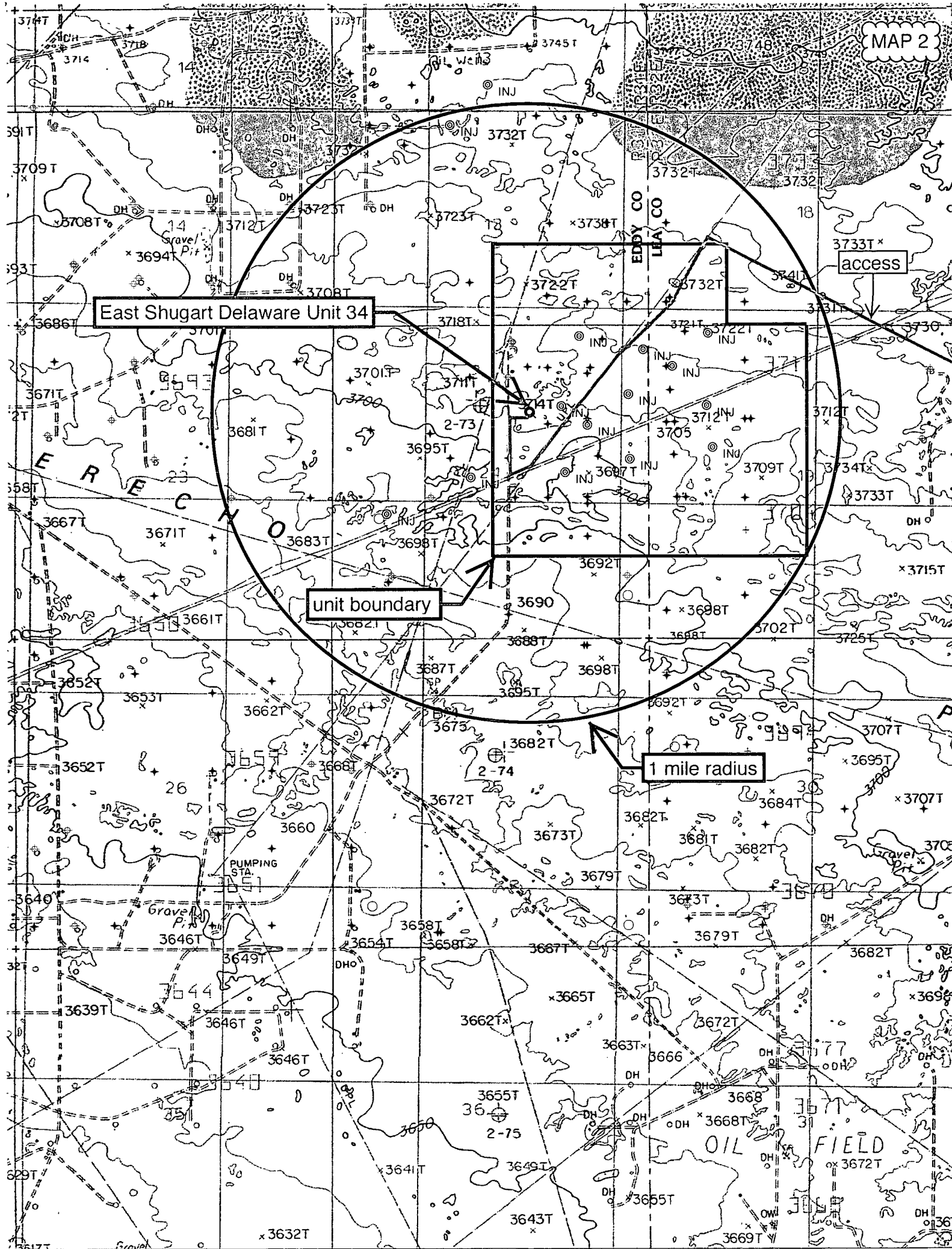
103.86667° W 103.85000° W 103.83333° W 103.81667° W 103.80000° W 103.78333° W 103.76667° W 103.75000° W 103.73333° W

WGS84 103.70000° W



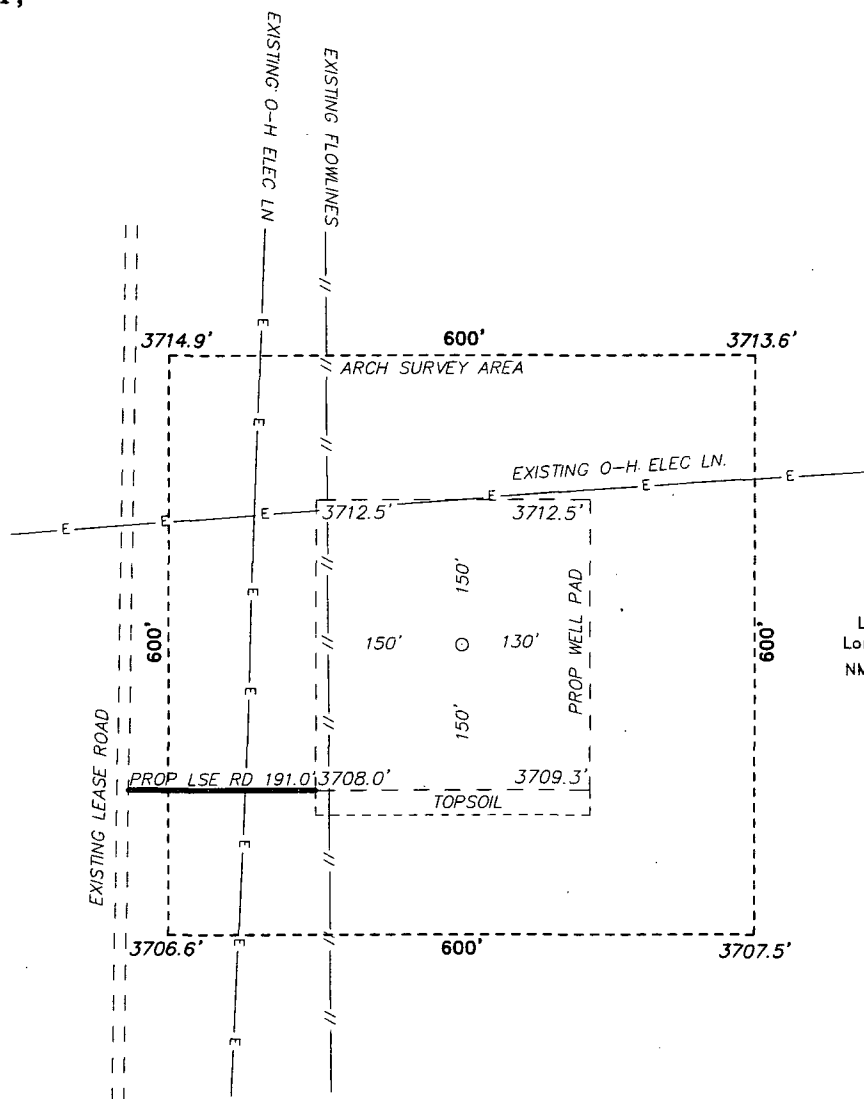
TN MN

7.5°



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

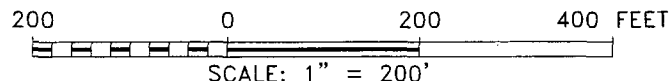
MAP 3



SM ENERGY  
ESDU #34  
ELEV. - 3711'

Lat - N 32°44'10.41"  
Long - W 103°49'15.51"  
NMSPCE- N 631951.0  
E 698881.0  
(NAD-83)

LOCO HILLS IS ±10 MILES TO THE NORTHWEST OF LOCATION.



Directions to Location:

FROM HWY 529 AND MALJAMAR ROAD, GO SOUTH ON  
MALJAMAR FOR 4.1 MILES TO LEASE ROAD, GO WEST  
ON LEASE ROAD 1.1 MILES TURNING SOUTH 0.4  
MILES THENCE SOUTHWEST 0.1 MILES TURNING  
NORTHWEST 0.1 AND NORTHEAST 0.1 MILES TO  
PROPOSED LEASE ROAD.

**BASIN SURVEYS** P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 28706

Drawn By: J. SMALL

Date: 06-03-2013

Disk: JMS 28706

**SM ENERGY**

REF: ESDU #34 / WELL PAD TOPO

THE ESDU #34 LOCATED 1500'

FROM THE NORTH LINE AND 2020' FROM THE EAST LINE OF  
SECTION 24, TOWNSHIP 18 SOUTH, RANGE 31 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 05-17-2013

Sheet 1 of 1 Sheets

East Shugart Delaware Unit 34

MAP 4

≈75' power line

191' road

≈650' surface flowline

Server

5000 ft

Google earth

Image Date: 11/2/2009 2:10:12 PM Lat: 42.3001° Lon: 101.2001° Data: 11/2/2009 2:10:12 PM

SM Energy Company  
East Shugart Delaware Unit 34  
1500' FNL & 2020' FEL  
Sec. 24, T. 18 S., R. 31 E.  
Eddy County, NM

DRILLING PLAN PAGE 1

Drilling Program

1. ESTIMATED TOPS

<u>Name</u>	<u>MD from KB (18')</u>	<u>Subsea Elevation</u>	<u>Fluid Content</u>
Quaternary	18'	+3,711'	fresh water
Rustler*	859'	+2,870'	---
Top salt	1,028'	+2,701'	---
Base salt	2,184'	+1,545'	---
Yates	2,396'	+1,333'	water, brine
Seven Rivers	2,844'	+885'	oil, gas, water, brine
Queen	3,519'	+210'	oil, gas, water, brine
Cherry Canyon	4,264'	-535'	oil, gas, water, brine
Brushy Canyon	4,759'	-1,030'	oil, gas
Delaware	5,024'	-1,295'	oil, gas
TD	5,500'	-1,771'	---

\*surface casing will be set at  $\approx$ 960'

2. NOTABLE ZONES

Water zones will be protected with casing, cement, and weighted mud. Fresh water found while drilling will be recorded. Closest existing water well (CP 00896) is 4,910' northwest. That well is 400' deep. Depth to water was not reported. Closest water well (CP 00672) with a water depth report is 9,977' northeast. Water was reported in that well at a depth of 430'.

3. PRESSURE CONTROL

A 3,000 psi double ram BOP and 3,000 psi annular system will be installed after running the 8-5/8" casing. Pressure tests will be conducted before drilling out of the 8-5/8" casing. BOP controls will be installed before drilling out of the 8-

SM Energy Company  
 East Shugart Delaware Unit 34  
 1500' FNL & 2020' FEL  
 Sec. 24, T. 18 S., R. 31 E.  
 Eddy County, NM

DRILLING PAGE 2

5/8" casing and will remain in use until completion of drilling operations. BOPE will be inspected and operated as required by Onshore Order 2.

A Kelly cock valve and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor and in the open position when the Kelly is not in use. A third party testing company will test the 11" BOPE to 3,000 psi and the annular to 1,500 psi before drilling below the surface casing shoe. The BOP/BOPE test will include a low-pressure test from 250 psi to 300 psi. The test will be held for a minimum of 10 minutes if the test is done with a test-plug and at least 30 minutes without a test plug. (A cup or J-packer will not be used in the test.) All BOPs and related equipment will comply with well control requirements in Onshore Order 2 and API RP 53 Section 17.

#### 4. CASING & CEMENT

Hole O. D.	Casing O. D.	Pounds/foot	Grade	Set Interval	Collar	Age
12.25"	8.625"	24	J-55	0' - 960'*	S T & C	New
7.785"	5.5"	15.5	J-55	0' - 5500'	L T & C	New

\*Surface casing will be set at approximately 960' in a competent bed below the Magenta Dolomite, a member of the Rustler, and if salt is encountered, casing will be set at least 25' above the salt.

All casing is designed with a minimum of:

Burst = 1.0

Collapse = 1.125

Tensile Strength = 1.8

casing	casing depth	sacks	TOC	pounds per gallon	cubic feet per sack	total cubic feet	excess	blend
surface	960'	450	GL	14.8	1.34	603	100%	1
production	5500'	520	700'	12.5	1.96	1019	35%	2
		270		14.8	1.34	361		3

Blend 1: Surface casing will be cemented to the surface with 100% excess ( $\geq 450$  sacks = 603 cubic feet) Class C light + 2%  $\text{CaCl}_2$  + 4% bentonite +

SM Energy Company  
East Shugart Delaware Unit 34  
1500' FNL & 2020' FEL  
Sec. 24, T. 18 S., R. 31 E.  
Eddy County, NM

DRILLING PLAN PAGE 3

81.4% fresh water mixed to yield 1.34 cubic feet per sack and 14.8 pounds per gallon. Centralizers will be installed as required by Onshore Order 2.

Production casing will be cemented to 700' with >35% excess (1,380 cubic feet). There will be at least 200' of overlap. Blend 2: Lead with 520 sacks (1,019 cubic feet) 35:65 poz (fly ash) Class C with 5% sodium chloride + 1/8 pound per sack cell flake + 65 bentonite + 107.8% fresh water mixed to yield 1.96 cubic feet per sack and 12.5 pounds per gallon. Blend 3: Tail with 270 sacks (361 cubic feet) Class C with 5% sodium chloride + 1/8 pound per sack cello flake + 0.4% sodium metasilicate + 4% MPA-5 mixed to yield 1.34 cubic feet per sack and 14.8 pounds per gallon.

A flow up the backside after the production cement job has occurred in wells in the field. An external casing packer will be placed at 1,800' on the production casing. The purpose the packer is to create a seal between the casing and the well bore to prevent the flow from communicating to the surface through any micro-annulus.

## 5. MUD PROGRAM

An electronic/mechanical mud monitor with a minimum pit volume totalizer, stroke counter, and flow sensor will be used. Circulation could be lost in any section of the hole. Lost circulation material (e.g., cedar bark) will be on location.

Interval	Type	Weight	Viscosity	Fluid Loss
0' - 960'	fresh water spud mud	8.6 - 9.4	32-34	no control
960' - TD	brine	10	28-30	no control

A mud monitoring system will be in place to record slow pump rate, pit gain or loss, mud weight, viscosity, gel strength, filtration, and pH.

SM Energy Company  
East Shugart Delaware Unit 34  
1500' FNL & 2020' FEL  
Sec. 24, T. 18 S., R. 31 E.  
Eddy County, NM

DRILLING PAGE 4

#### 6. CORES, TESTS, & LOGS

No drill stem test or coring is planned. Mud log samples will be collected after drilling out from the surface casing. Samples will initially be collected every 20' until the Brushy Canyon is reached. Samples will be collected every 10' below the Brushy Canyon. Cased hole gamma ray/neutron logs will be run from surface to TD.

#### 7. DOWN HOLE CONDITIONS

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure: 2,381 psi. Maximum expected bottom hole temperature: 110° F.

*See  
COA*  
No H<sub>2</sub>S is expected during the drilling phase. Nevertheless, H<sub>2</sub>S monitoring equipment will be on the rig floor and air packs will be available before drilling out of the surface casing. The mud logger will be warned to use a gas trap to detect H<sub>2</sub>S. If any H<sub>2</sub>S is detected, then the mud weight will be increased and H<sub>2</sub>S inhibitors will be added to control the gas. An H<sub>2</sub>S drilling operations contingency plan is attached.

Lost circulation is expected in both the surface and production holes.

#### 8. OTHER INFORMATION

The anticipated spud date is upon approval. It is expected it will take 1 month to drill and complete the well.

## Rotating Head

up line	

Fill up line

Flow Line to pits and  
Mud Gas Separator

11" 3M Annular

11" 3M Blind Rams

11" 3M Pipe Rams

# H



1

Min 2" Check Valve

Spool

1

1

Min 2" 3M Valve

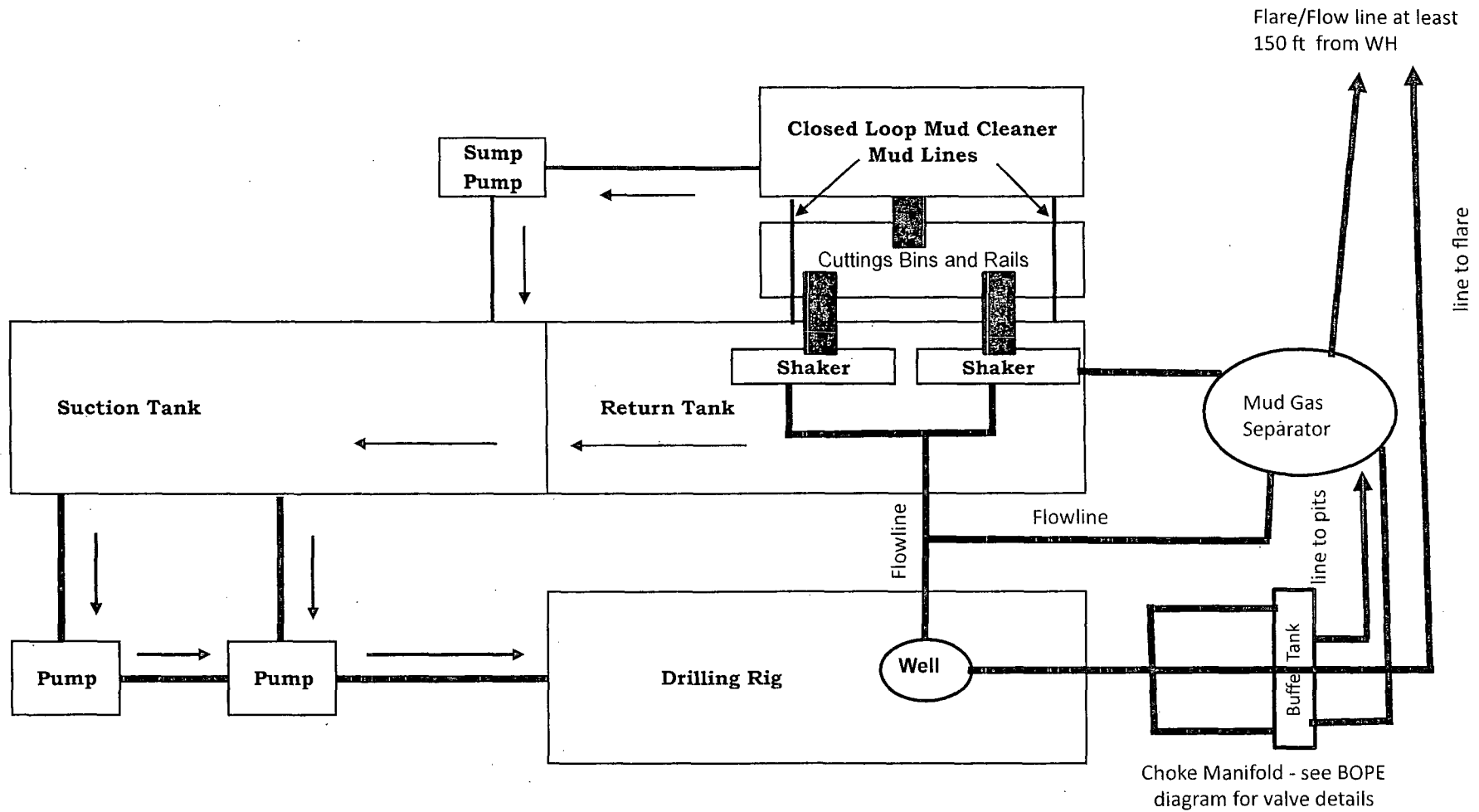
Buffer Tank

☒ To mud/gas separator and/or pits

3" line to flare 150' from WH

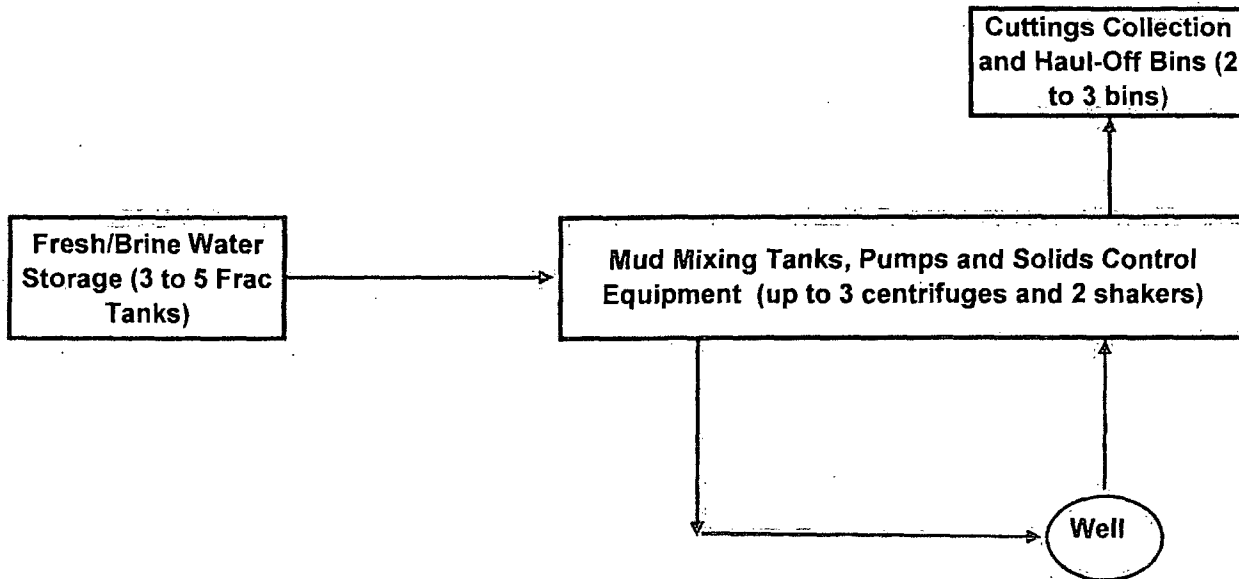
☒ To mud/gas separator and/or pits

## Choke Manifold Schematic for Closed Loop System



# **CLOSED-LOOP SYSTEM**

## **Design Plan:**



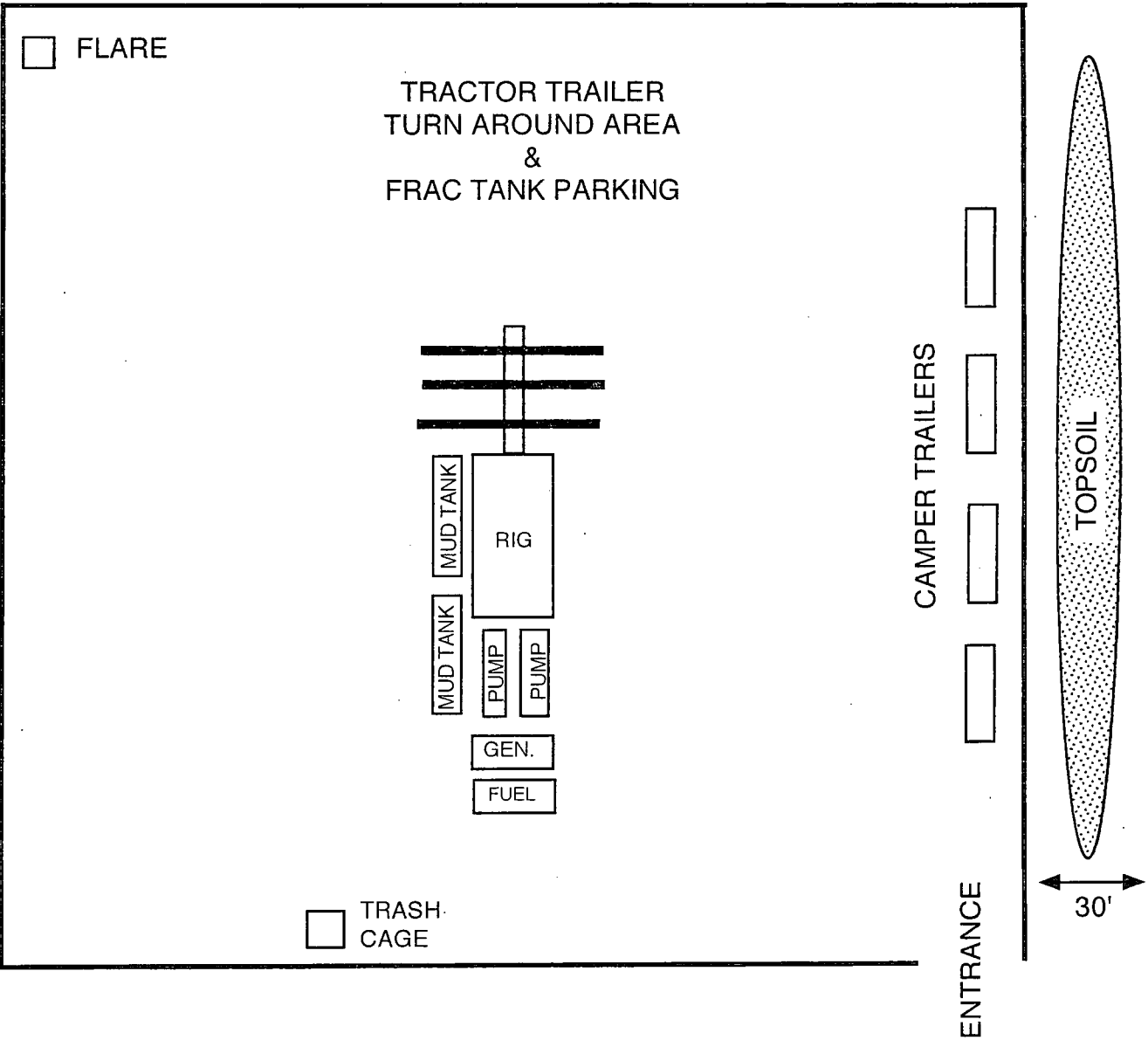
## **Operating and Maintenance Plan:**

During drilling operations, third party service companies will utilize solids control equipment to remove cuttings from the drilling fluid and collect it in haul-off bins. Equipment will be closely monitored at all times while drilling by the derrick man and the service company employees.

## **Closure Plan:**

During drilling operations, third party service companies will haul-off drill solids and fluids to an approved disposal facility as noted on the C-144 form. At the end of the well, all closed loop equipment will be removed from the location.

SM Energy Company  
East Shugart Delaware Unit 34



### **Hydrogen Sulfide Drilling Operations Plan**

1. Company and Contract personnel admitted on location should be trained by a qualified H<sub>2</sub>S safety instructor to the following:
  - A. Characteristics of H<sub>2</sub>S.
  - B. Physical Effects and Hazards.
  - C. Proper Use of Safety Equipment and Life Support Systems.
  - D. Principle and Operation of H<sub>2</sub>S Detectors, Warning System and Briefing.
  - E. Evacuation Procedure, Routes and First Aid.
  - F. Proper Use of 30 minute Pressure Demand Air Pack.
2. H<sub>2</sub>S Detection and Alarm Systems
  - A. H<sub>2</sub>S Detectors and Audio Alarm System to be Located at Bell Nipple, End of Blooie Line (mud pit) and on Derrick floor or doghouse.
3. Windsock and/or Wind Streamers
  - A. Windsock at Mud Pit Area Should be High Enough to be Visible.
  - B. Windsock at Briefing Area Should be High Enough to be Visible.
  - C. There Should be a Windsock at Entrance to Location.
4. Condition Flags and Signs
  - A. Warning Sign on Access Road to Location.
  - B. Flags to be Displayed on Sign at Entrance to Location.
    1. Green Flag, Normal Safe Condition.
    2. Yellow Flag, Indicates Potential Pressure and Danger.
    3. Red Flag, Danger H<sub>2</sub>S Present in Dangerous Concentration  
Only Emergency Personnel Admitted to Location.
5. Well Control Equipment
  - A. See Attached Diagram.
6. Communication
  - A. While Working Under Masks Chalkboards Will be Used for Communication.
  - B. Hand Signals will be Used Where Chalk Board is Inappropriate.
  - C. Two Way Radio or Cell Phone will be Used to Communicate off Location in Case of Available at Most Drilling Foreman's Trailer or Living Quarters.
7. Drillstem Testing
  - A. Exhausts will be Watered.
  - B. Flare Line will be Equipped with an Electric Igniter or a propane pilot light in case gas reaches the surface.
  - C. If Location is near any Dwelling a Closed DST will be Performed.
8. Drilling Contractor Supervisor will be Required to be Familiar with the Effects H<sub>2</sub>S has on tubular goods and other mechanical equipment.
9. If H<sub>2</sub>S Encountered, Mud system will be Altered if Necessary to Maintain Control of Formation. A Mud Gas Separator will be Brought into Service Along with H<sub>2</sub>S Scavengers if Necessary.



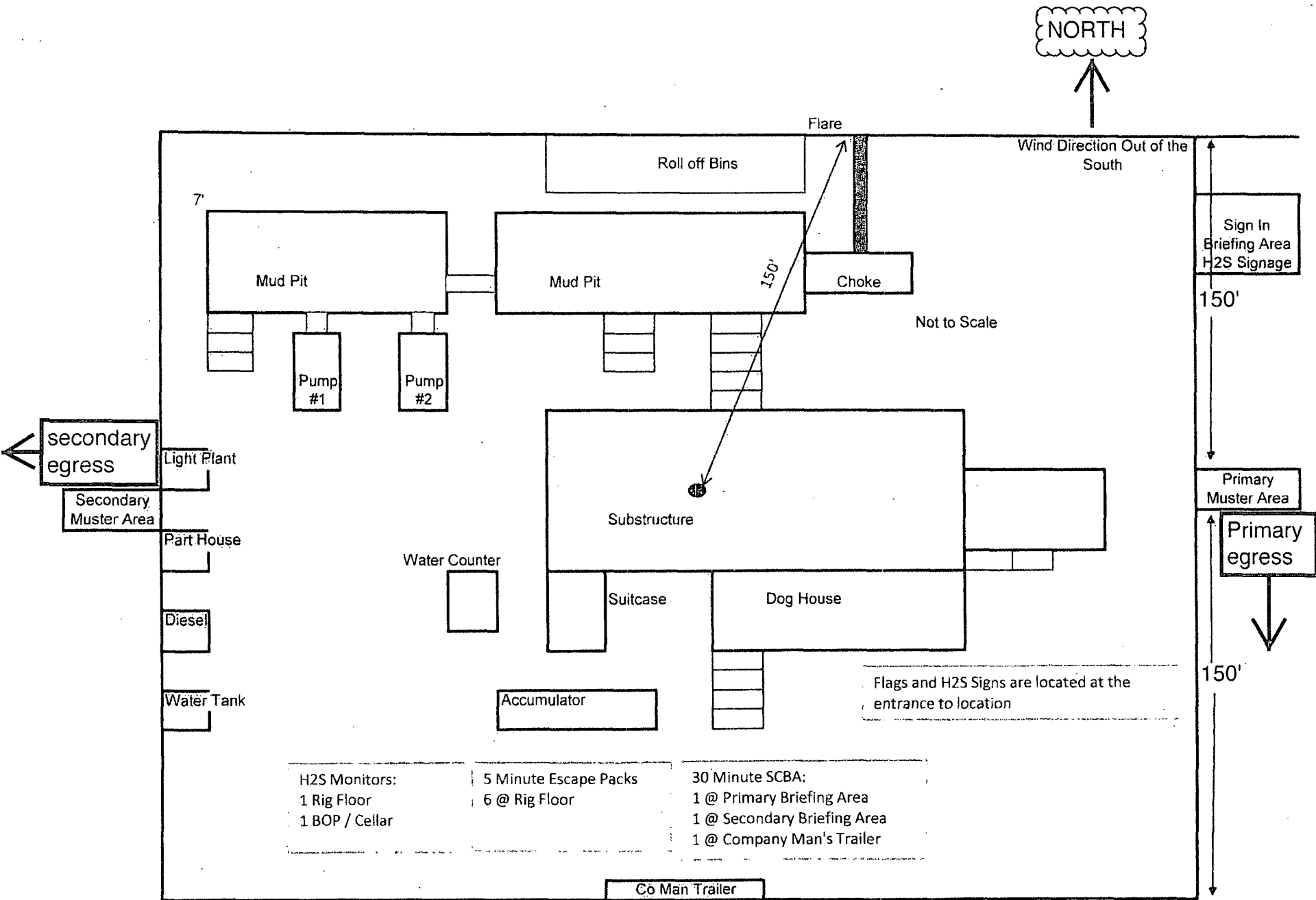
Company Contact List:

<u>New Mexico Operations:</u>	<u>Name:</u>	<u>Cellular:</u>	<u>Office:</u>
Drilling Superintendent	Chris Bryan	405-538-7458	432-653-1265
Drilling Superintendent	Duane Winkler	970-769-4187	432-653-1265
Drilling Manager	Jonathan Nix	432-296-8956	432-688-3127
HSE Manager	David Carrillo	432-664-2095	432-688-3391
Project Manager	Malcolm Kintzing	432-212-2628	432-688-3125
Drilling Engineer	Michael Mataalii	432-271-2230	432-688-3392

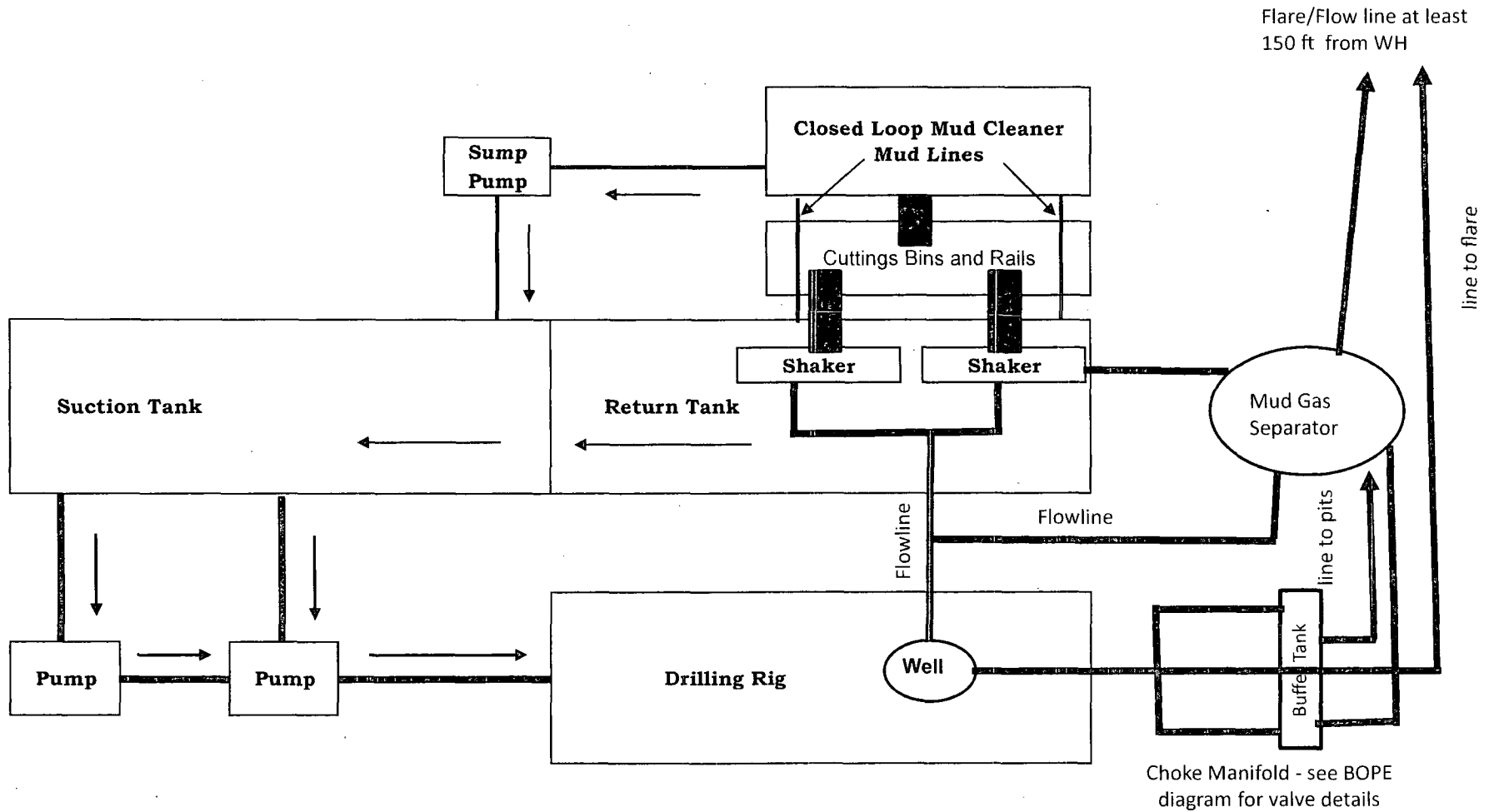
<u>Lea County (Hobbs):</u>	<u>Contact Number:</u>
State Police	575-392-5588
City Police	575-397-9265
Sheriff's Office	575-393-2515
Ambulance	911
Fire Department	575-397-9308
Local Emergency Planning Committee	575-393-2870
NMOCD	575-393-6161
US Bureau of Land Management	575-393-3612

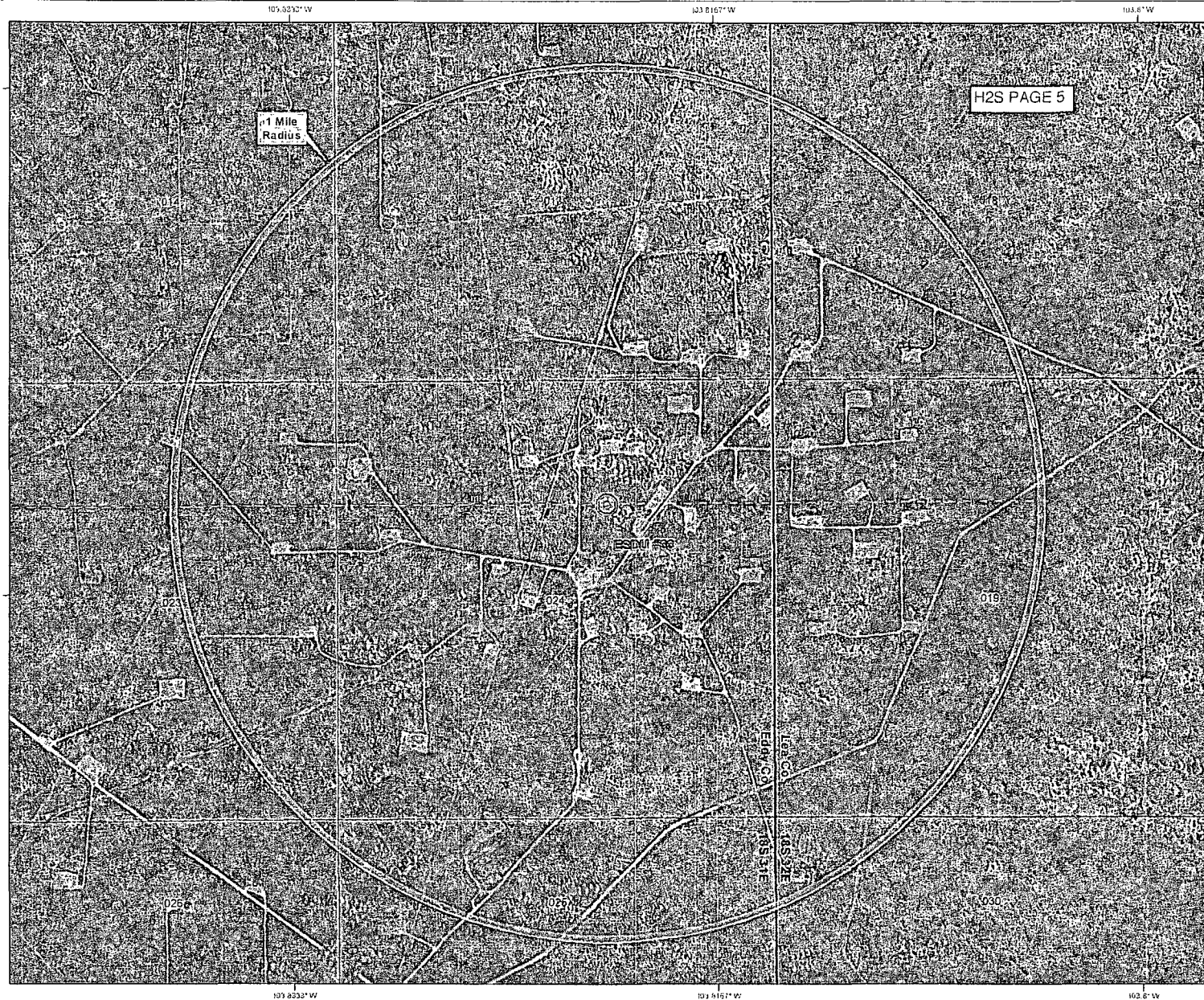
<u>Eddy County (Carlsbad)</u>	<u>Contact Number:</u>
State Police	575-885-3137
City Police	575-855-2111
Sheriff's Office	575-887-7551
Ambulance	911
Fire Department	575-885-2111
Local Emergency Planning Committee	575-887-3798
US Bureau of Land Management	575-887-6544

<u>Emergency Services</u>	<u>Contact Numbers:</u>
Boots & Coots IWC	1-800-256-9688 or 281-931-8884
Cudd Pressure Control	915-699-0139 or 915-563-3356
Halliburton	575-746-2757
B.J. Services	575-746-3569
Flight for Life Lubbock TX	806-743-9911
Aerocare Lubbock TX	806-747-8923
Med Flight Air Ambulance Albuquerque NM	575-842-4433
Lifeguard Air Med Albuquerque NM	575-272-3115



## Choke Manifold Schematic for Closed Loop System

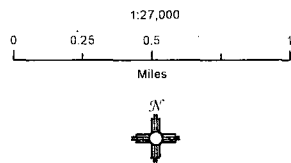






**ESDU #34**  
**H<sub>2</sub>S Contingency Plan:**  
**2 Mile Radius Map**

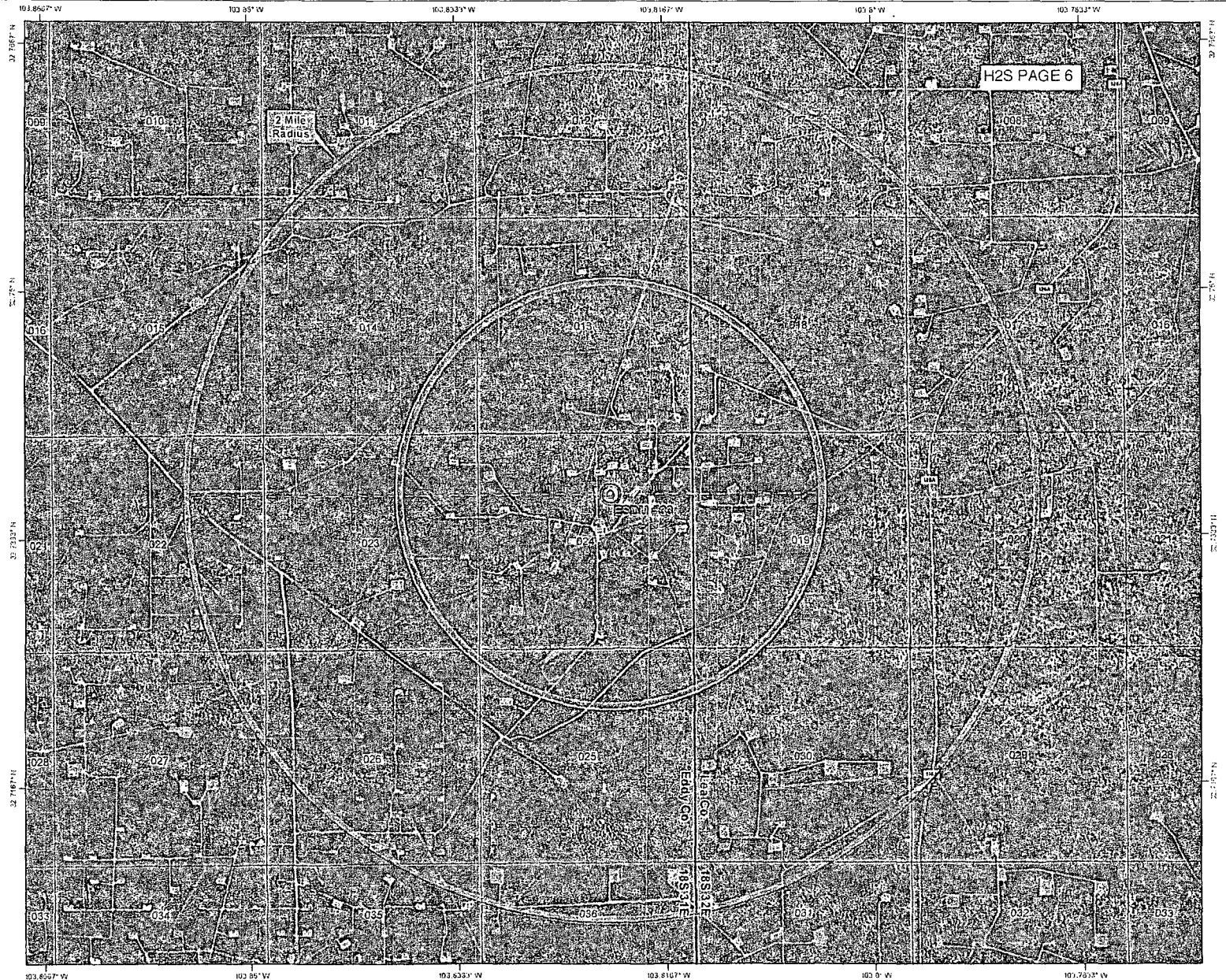
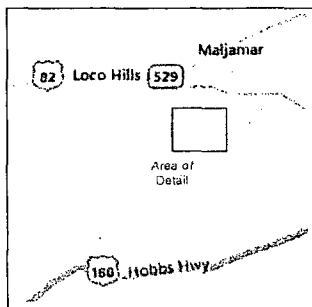
Section 24, Township 18S, Range 31E  
Eddy County, New Mexico



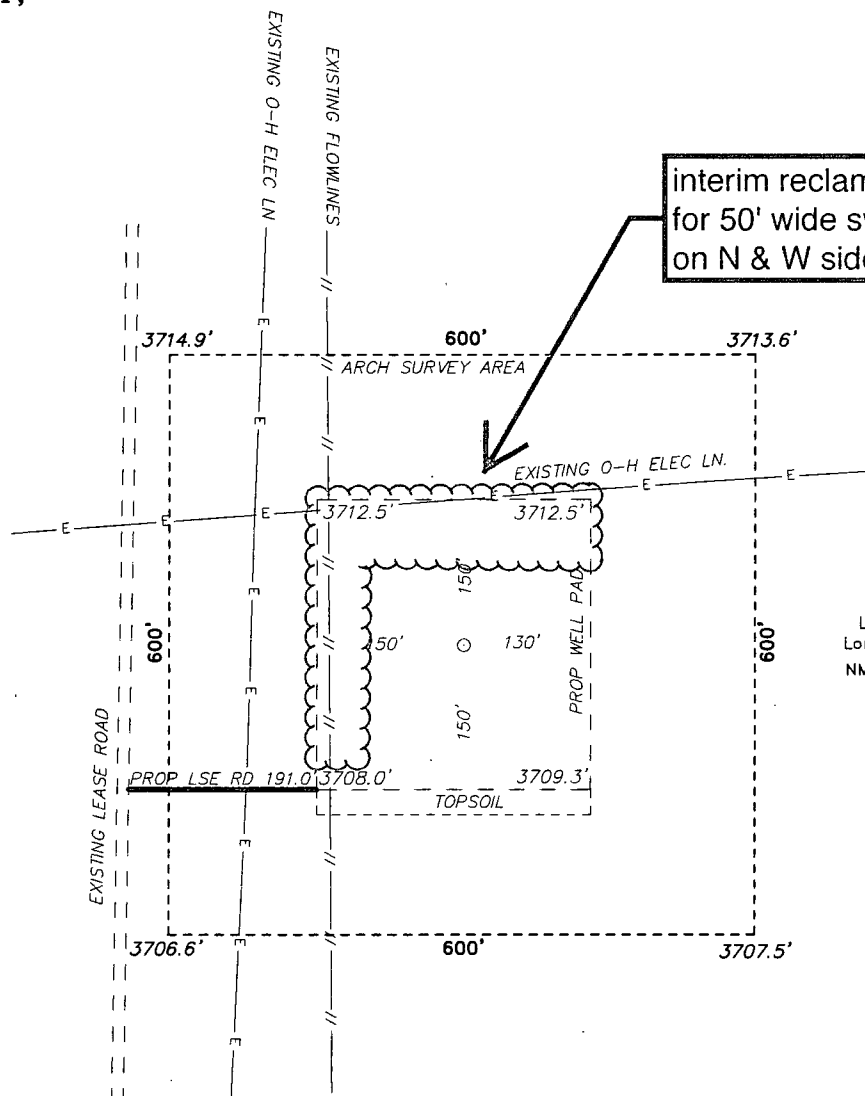
NAD 1927 New Mexico State Plane East  
FIPS 3001 Feet

**PERMITS WEST**  
PROFESSIONAL ENGINEERS AND SURVEYORS  
STATE OF NEW MEXICO

Prepared by Permits West, Inc., July 12, 2013  
for SM Energy Company

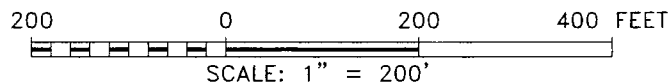


SECTION 24, TOWNSHIP 18 SOUTH, RANGE 31 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



SM ENERGY  
ESDU #34  
ELEV. - 3711'  
Lat - N 32°44'10.41"  
Long - W 103°49'15.51"  
NMSPEC - N 631951.0  
E 698881.0  
(NAD-83)

LOCO HILLS IS ±10 MILES TO THE NORTHWEST OF LOCATION.



Directions to Location:

FROM HWY 529 AND MALJAMAR ROAD, GO SOUTH ON MALJAMAR FOR 4.1 MILES TO LEASE ROAD, GO WEST ON LEASE ROAD 1.1 MILES TURNING SOUTH 0.4 MILES THENCE SOUTHWEST 0.1 MILES TURNING NORTHWEST 0.1 AND NORTHEAST 0.1 MILES TO PROPOSED LEASE ROAD.

**BASIN SURVEYS** P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 28706 Drawn By: J. SMALL

Date: 06-03-2013 Disk: JMS 28706

**SM ENERGY**

REF: ESDU #34 / WELL PAD TOPO

THE ESDU #34 LOCATED 1500'

FROM THE NORTH LINE AND 2020' FROM THE EAST LINE OF  
SECTION 24, TOWNSHIP 18 SOUTH, RANGE 31 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 05-17-2013 Sheet 1 of 1 Sheets

SM Energy Company  
East Shugart Delaware Unit 34  
1500' FNL & 2020' FEL  
Sec. 24, T. 18 S., R. 31 E.  
Eddy County, NM

SURFACE PLAN PAGE 1

Surface Use Plan

1. ROAD DIRECTIONS & DESCRIPTIONS (See MAPS 1 - 4)

From Maljamar...

Go South 4.6 miles on paved Lea County Road 126 to a stop sign on NM 529  
Then continue South 4.4 miles on paved Lea County Road 126  
Then turn right and go Northwest 1.1 miles on a caliche road  
Then turn left and go Southwest 1.0 mile on a caliche road  
Then turn right after a tank battery and go NW 250' on a caliche road  
Then then turn right and go NW and North 0.15 mile on a caliche road  
Then turn right and go east 191' cross country to the proposed pad

Roads will be maintained to a standard at least equal to or better than their present condition. Off unit portion of existing access will be authorized via pending road right-of-way NMNM-130640.

2. ROAD TO BE BUILT OR UPGRADED (See MAPS 3 & 4)

Approximately 191' of new road will be built. The new road will be crowned, have a 14' wide driving surface, and be surfaced with caliche. Maximum disturbed width = 20'. Maximum grade = 1%. Maximum cut of fill = 2'. No culvert, cattle guard, or turn out is needed. Upgrading of existing roads will consist of filling potholes with caliche.

3. EXISTING WELLS

Existing oil, gas, injection, water, and P & A wells within a mile are shown on MAP 2. There are no disposal wells within a mile radius.

SM Energy Company  
East Shugart Delaware Unit 34  
1500' FNL & 2020' FEL  
Sec. 24, T. 18 S., R. 31 E.  
Eddy County, NM

SURFACE PLAN PAGE 2

4. PROPOSED PRODUCTION FACILITIES (See MAP 4)

Production will be piped via a 650' long poly surface flow line south to SM Energy's existing battery in the SWNE Section 24. SM will build a 75' long overhead power line from its existing overhead power line east to the pad.

5. WATER SUPPLY (See MAP 1)

Water will be trucked from a private water source in Maljamar.

6. CONSTRUCTION MATERIALS & METHODS

NM One Call (1-800-321-ALERT) will be notified before construction starts. The top 6" of soil and brush will be stockpiled south of the pad. A closed loop drilling system will be used. Caliche will be bought and hauled from an existing approved caliche pit. Dirt contractor will be responsible for caliche.

7. WASTE DISPOSAL

All trash will be placed in a portable trash cage. It will be hauled to a county landfill. There will be no trash burning. Contents of the mud tanks will be hauled to state approved disposal sites. Human waste will be disposed of in chemical toilets and hauled to an approved dump station.

8. ANCILLARY FACILITIES

There will be no airstrip or camp. Camper trailers will be on location for the company man, tool pusher, or mud logger.

SM Energy Company  
East Shugart Delaware Unit 34  
1500' FNL & 2020' FEL  
Sec. 24, T. 18 S., R. 31 E.  
Eddy County, NM

SURFACE PLAN PAGE 3

#### 9. WELL SITE LAYOUT

See rig layout and MAP 3 for depictions of the well pad, trash cage, access onto the location, parking, living facilities, and rig orientation.

#### 10. RECLAMATION

Interim reclamation will consist of removing the caliche from at least a 50' wide strip on the north and west sides of the pad. Disturbed areas will be contoured to a natural shape and no steeper than 3:1. Soil and brush will be evenly spread over disturbed areas. Seeded areas will be ripped or harrowed. A BLM approved seed mix will be sown in a BLM approved manner. Enough stockpiled topsoil will be retained to cover the remainder of the pad when the well is plugged. Once the well is plugged, then the remainder of the pad will be similarly reclaimed. Noxious weeds will be controlled.

#### 11. SURFACE OWNER

All construction will be on BLM.

#### 12. OTHER INFORMATION

An on site inspection was held May 14, 2013 with Legion Brumley (BLM).

SM Energy is contributing to the cultural resource mitigation fund.

## PECOS DISTRICT CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	<b>SM Energy Company</b>
<b>LEASE NO.:</b>	<b>NMNM-106714</b>
<b>WELL NAME &amp; NO.:</b>	<b>East Shugart Delaware Unit 34</b>
<b>SURFACE HOLE FOOTAGE:</b>	<b>1500' FNL &amp; 2020' FEL</b>
<b>LOCATION:</b>	<b>Section 24, T. 18 S., R 31 E., NMPM</b>
<b>COUNTY:</b>	<b>Eddy County, New Mexico</b>

### TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Lesser Prairie-Chicken Timing Stipulations
  - Ground-level Abandoned Well Marker
  - Unit Well Sign Specs
- ☐ **Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
  - Cement Requirements
  - H2S Requirements
  - Logging Requirements
  - Waste Material and Fluids
- ☐ **Production (Post Drilling)**
  - Well Structures & Facilities
  - Pipelines
  - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

## **I. GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## **II. PERMIT EXPIRATION**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator 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 shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

## **IV. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

## V. SPECIAL REQUIREMENT(S)

### **Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:**

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this 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.

**Ground-level Abandoned Well Marker to avoid raptor perching:** Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

### **Unit Wells**

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

### **B. TOPSOIL**

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be used for interim and final reclamation.

### **C. CLOSED LOOP SYSTEM**

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

### **D. FEDERAL MINERAL MATERIALS PIT**

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

### **E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

### **F. EXCLOSURE FENCING (CELLARS & PITS)**

#### **Exclosure Fencing**

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For

examples of enclosure fencing design, refer to BLM's Oil and Gas Gold Book, Enclosure Fence Illustrations, Figure 1, Page 18.)

## **G. ON LEASE ACCESS ROADS**

### **Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

### **Surfacing**

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

### **Crowning**

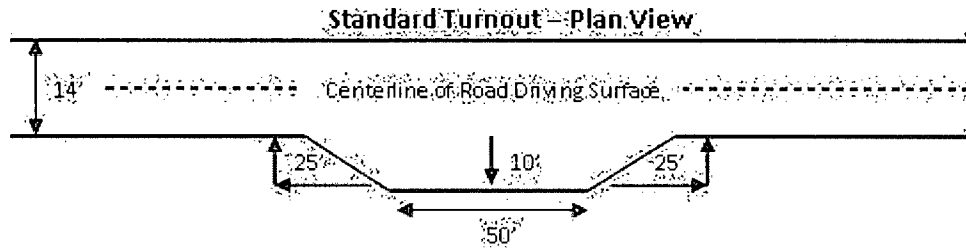
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

### **Ditching**

Ditching shall be required on both sides of the road.

### **Turnouts**

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

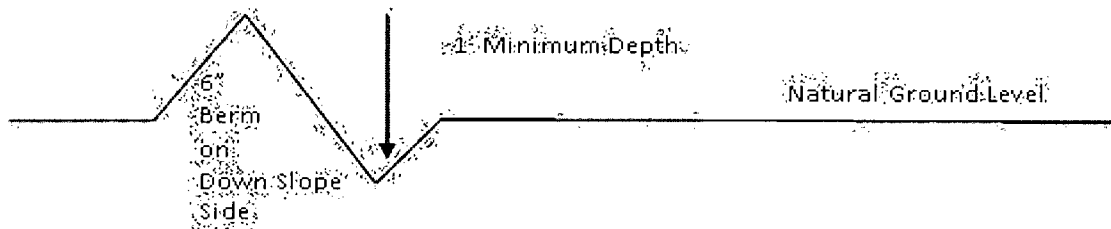


## Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

## Cross Section of a Typical Lead-off Ditch



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

## Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

## Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

## Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

### **Fence Requirement**

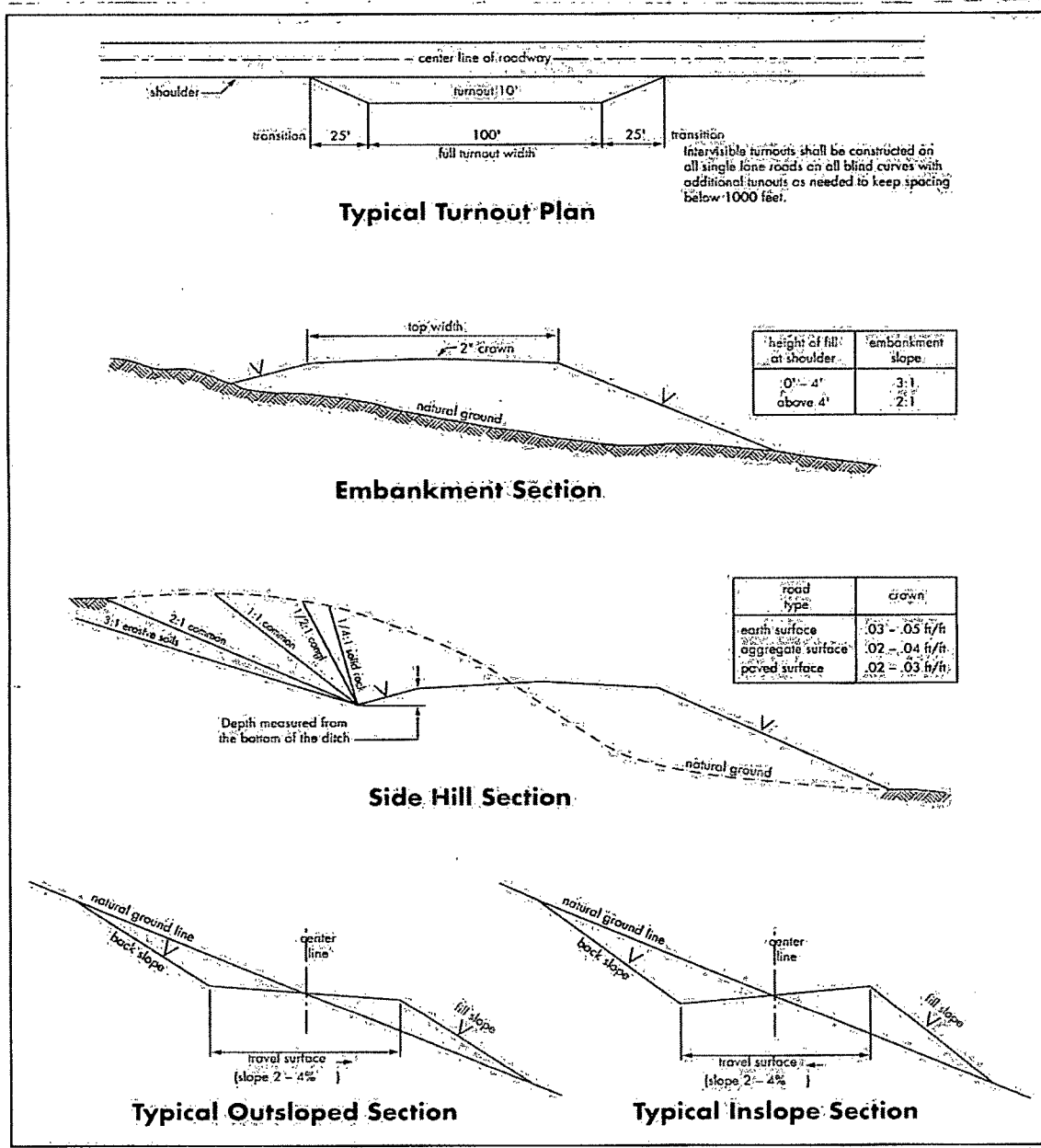
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

### **Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

**Figure 1 – Cross Sections and Plans For Typical Road Sections**



## VII. DRILLING

### A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,  
(575) 361-2822

1. A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan shall be activated 500 feet prior to drilling into the Yates formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**
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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run from TD to surface shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

### B. CASING

**Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).**

**Centralizers required on surface casing per Onshore Order 2.III.B.1.f.**

**Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. See individual casing strings for details regarding lead cement slurry requirements.**

**No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.**

**Possibility of water flows in the Artesia Group, Salado, San Andres, and Delaware. Possibility of lost circulation in the Artesia Group, Rustler, San Andres, and Delaware.**

1. The **8-5/8** inch surface casing shall be set at approximately **960** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **5-1/2** inch production casing is:
  - ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

3. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

### C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M) psi**.
3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
  - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock.
  - d. The results of the test shall be reported to the appropriate BLM office.
  - e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

#### **D. DRILL STEM TEST**

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

#### **E. WASTE MATERIAL AND FLUIDS**

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

**JAM 081213**

## **VIII. PRODUCTION (POST DRILLING)**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Exclosure Netting (Open-top Tanks)**

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

#### **Chemical and Fuel Secondary Containment and Exclosure Screening**

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

#### **Open-Vent Exhaust Stack Exclosures**

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

#### **Containment Structures**

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the

largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

## **B. PIPELINES**

### **STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES**

**A copy of the application (Grant, Sundry Notice, APD) and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.**

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. 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.
2. 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 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way 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.
3. 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 activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder 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.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
- b. Activities of other parties including, but not limited to:
  - (1) Land clearing.
  - (2) Earth-disturbing and earth-moving work.
  - (3) Blasting.
  - (4) Vandalism and sabotage.
- c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, 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 resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up 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 responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of 20 feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline must be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline must be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky or dune areas, the pipeline will be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. 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 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. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. 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 cultural or scientific values. The holder will

be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, powerline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

17. Surface pipelines must be less than or equal to 4 inches and a working pressure below 125 psi.

18. Special Stipulations:

- a. **Lesser Prairie-Chicken:** Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted.

## C. ELECTRIC LINES

### STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

**A copy of the approved application and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.**

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. 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.
2. 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 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way 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.

3. 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), or resulting from the activity of the Right-of-Way holder 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.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed in accordance to standards outlined in "Suggested Practices for Raptor Protection on Power lines, " Raptor Research Foundation, Inc., 1981. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "raptor safe." Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. 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 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 the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. 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 proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction and no further construction will be done until clearance has been issued by the Authorized Officer. Special restoration stipulations or realignment may be required.
- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes with native soil from the removed poles.

## **IX. INTERIM RECLAMATION**

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

## **X. FINAL ABANDONMENT & RECLAMATION**

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

### Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed