

817

ATS-09-484

LA

OCD Artesia

Form 3160-3  
(August 2007)

SEP 22 2009

FORM APPROVED  
OMB No. 1004-0137  
Expires July 31, 2010UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

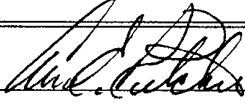
## APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. BLM 07725 <b>NM 7725</b>	
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator Rubicon Oil & Gas, LLC 194266		7. If Unit or CA Agreement, Name and No.	
3a. Address 508 W. Wall, Suite 500, Midland, TX 79701		8. Lease Name and Well No. Trigg 20 Fed, Well #1	
3b. Phone No. (include area code) 432 687-5100/684-6381		9. API Well No. 30 015 - <b>37286</b>	
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 660' FSL & 1980' FEL (O) At proposed prod. zone same		10. Field and Pool, or Exploratory <del>Onshore</del> , Morrow <b>Undesignated</b>	
14. Distance in miles and direction from nearest town or post office* 7 miles North of Loco Hills		12. County or Parish Eddy County	13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'	16. No. of acres in lease 320	17. Spacing Unit dedicated to this well 320 acres	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>1st well</b>	19. Proposed Depth 10,800'	20. BLM/BIA Bond No. on file 2922 <b>NM2922</b>	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3758'	22. Approximate date work will start* 08/08/2009	23. Estimated duration 32 days	

## 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) Ann E. Ritchie	Date 07/01/2009
Title Regulatory Agent		
Approved by (Signature) <b>/s/ DAVID D. EVANS</b>	Name (Printed/Typed) <b>/s/ DAVID D. EVANS</b>	Date <b>SEP 18 2009</b>
Title <b>FIELD MANAGER</b>	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)

Roswell Controlled Water Basin

SEE ATTACHED FOR  
CONDITIONS OF APPROVALApproval Subject to General Requirements  
& Special Stipulations Attached

DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II  
1301 W. Grand Avenue, Artesia, NM 88210

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

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised October 12, 2005

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30 015 - 37286	Pool Code	Pool Name WC: Morrow
Property Code 37837	Property Name TRIGG "20" FEDERAL	Well Number 1
OGRID No. 194266	Operator Name RUBICON OIL AND GAS, LLC	Elevation 3758'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	20	16 S	30 E		660	SOUTH	1980	EAST	EDDY

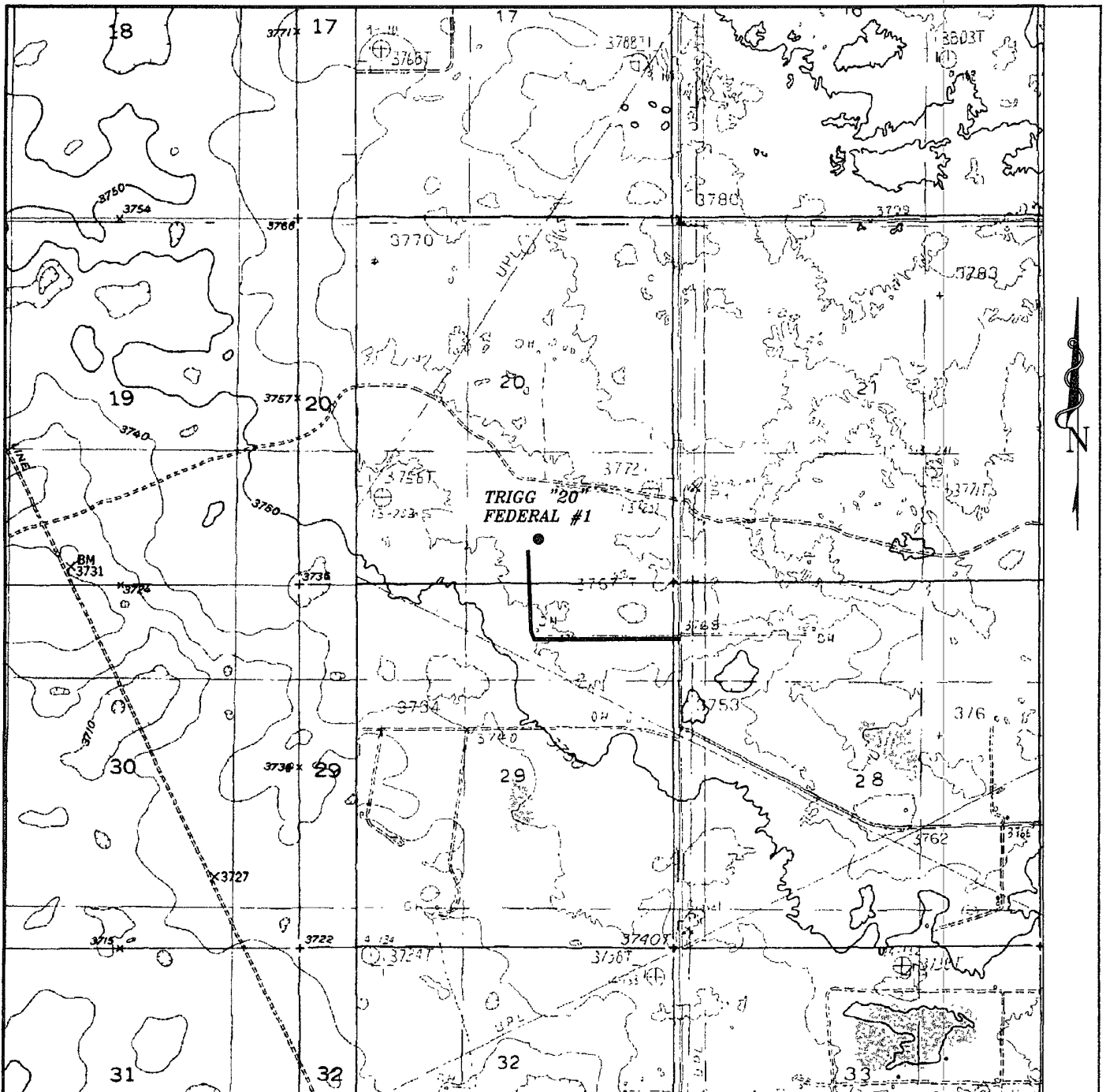
Bottom Hole Location If Different From Surface

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

Dedicated Acres 320	Joint or Infill	Consolidation Code	Order No.
------------------------	-----------------	--------------------	-----------

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

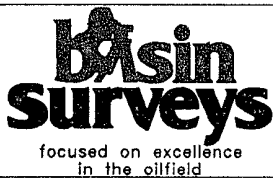
	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant 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.</p> <p>Signature: <i>[Signature]</i> Date: 6-29-09</p> <p>Ann E. Ritchie Printed Name</p>
	<p><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>FEBRUARY 11, 2009</p> <p>Date Surveyed: <i>[Signature]</i> Signature &amp; Seal of Professional Surveyor 7977</p> <p>W.O. No. 21157</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>
	<p><b>SURFACE LOCATION</b></p> <p>Lat - N32°54'05.96" Long - W103°59'31.33" NMSPCE- N 691914.827 E 646090.158 (NAD-83)</p>



# TRIGG "20" FEDERAL #1

Located 660' FSL and 1980' FEL

Section 20, Township 16 South, Range 30 East,  
N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(505) 393-7316 - Office  
(505) 392-3074 - Fax  
basinsurveys.com

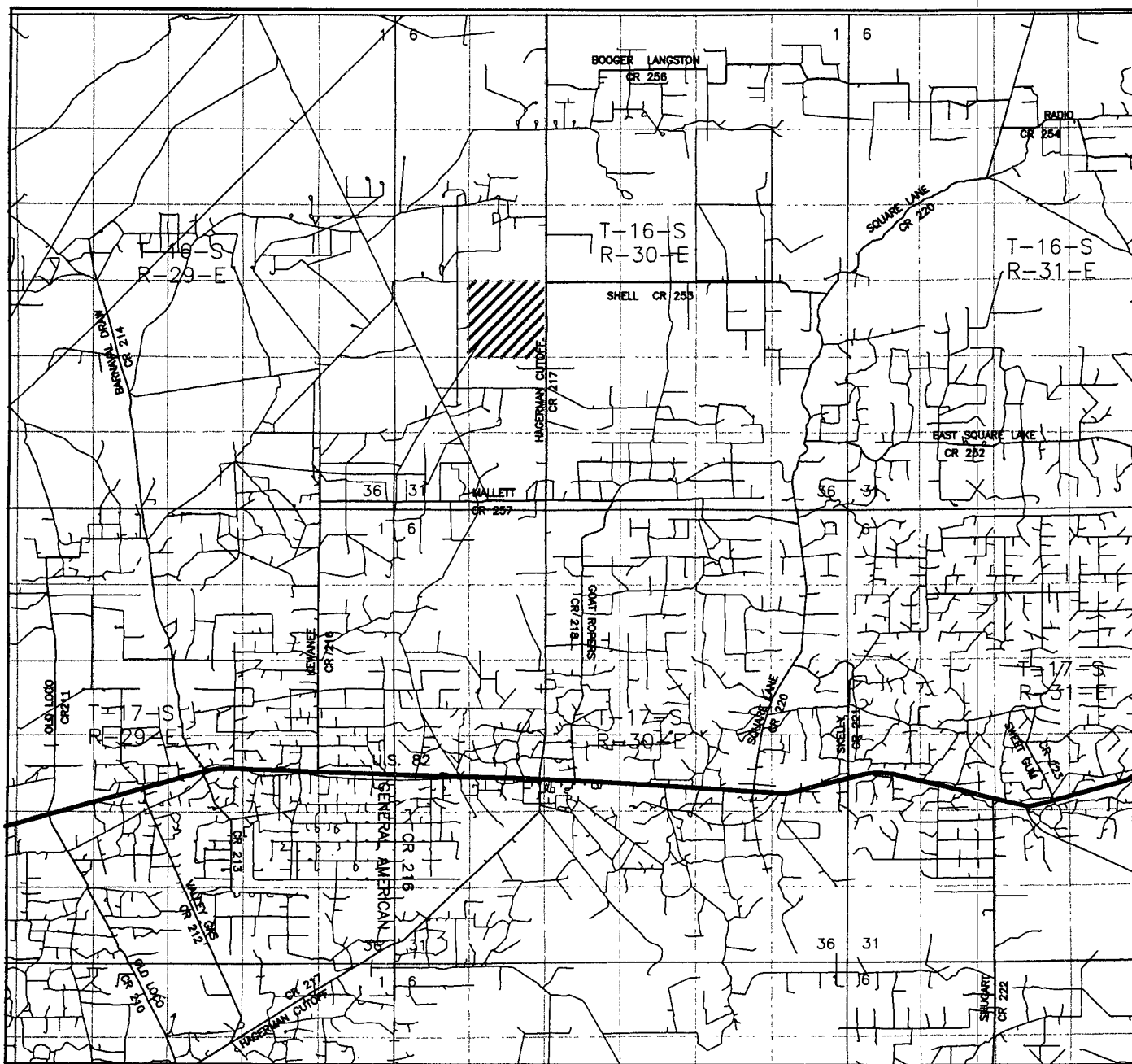
W.O. Number. JMS 21137

Survey Date: 02-13-2009

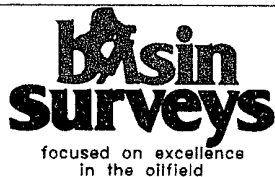
Scale. 1" = 2000'

Date: 02-16-2009

**RUBICON OIL  
AND GAS, LLC**



TRIGG "20" FEDERAL #1  
 Located 660' FSL and 1980' FEL  
 Section 20, Township 16 South, Range 30 East,  
 N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786  
 1120 N. West County Rd.  
 Hobbs, New Mexico 88241  
 (575) 393-7316 - Office  
 (575) 392-2206 - Fax  
 basinsurveys.com

W.O. Number. JMS 21137

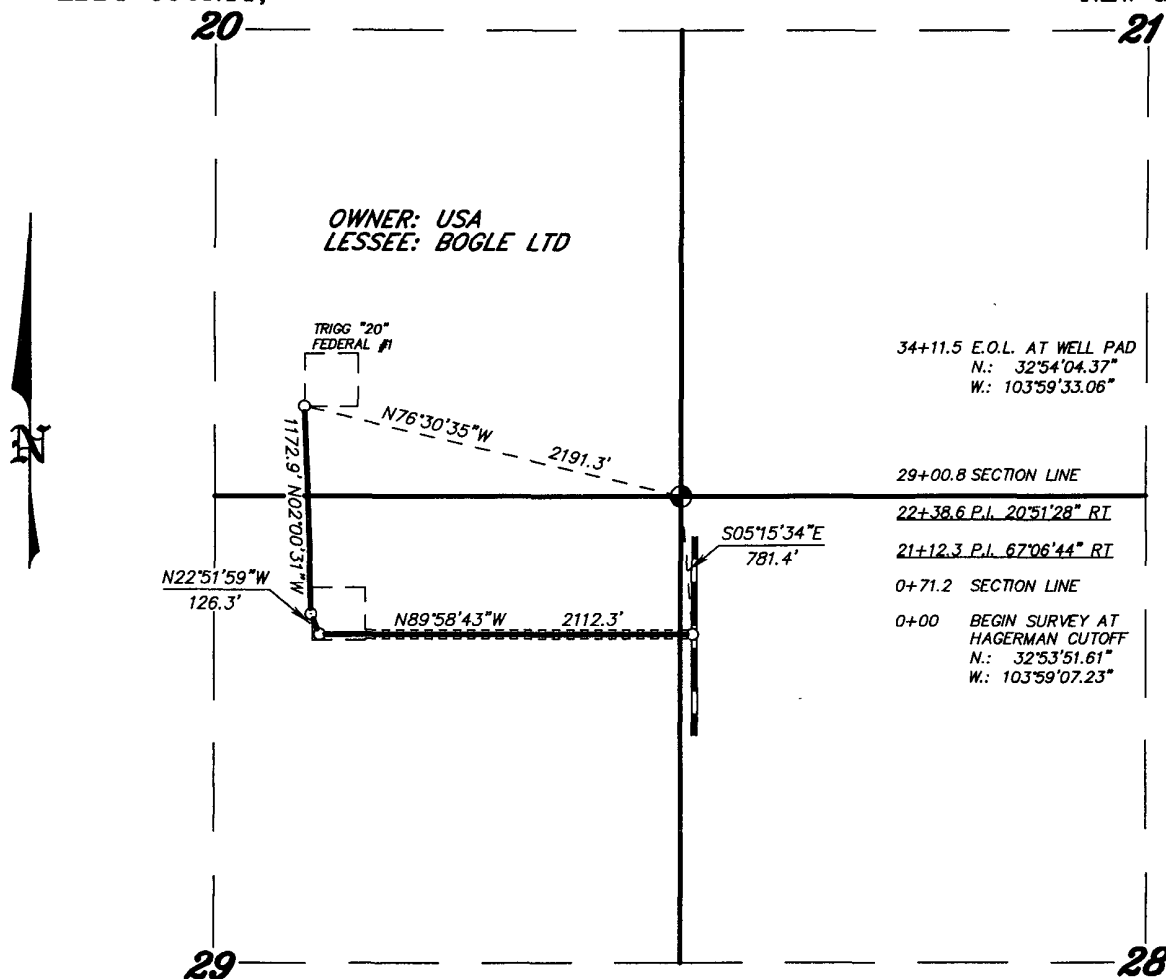
Survey Date 02-13-2009

Scale. 1" = 2000'

Date 02-16-2009

**RUBICON OIL  
 AND GAS, LLC**

SECTIONS 20,28&29, TOWNSHIP 16 SOUTH, RANGE 30 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



LEGAL DESCRIPTION

A STRIP OF LAND 20.0 FEET WIDE, LOCATED IN SECTIONS 20,28&29, TOWNSHIP 16 SOUTH, RANGE 30 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 10.0 FEET LEFT AND RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

SECTION 20 = 510.7 FEET = 30.95 RODS = 0.10 MILES = 0.24 ACRES  
SECTION 28 = 71.2 FEET = 4.32 RODS = 0.01 MILES = 0.03 ACRES  
SECTION 29 = 2829.6 FEET = 171.49 RODS = 0.54 MILES = 1.30 ACRES  
TOTAL = 3411.5 FEET = 206.76 RODS = 0.65 MILES = 1.57 ACRES

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ACCURATE SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES No. 7977  
TEXAS P.L.S. No. 5074

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

W.O. Number: 21137 Drawn By: J. M. SMALL

Date: 02-16-2009 Disk: JMS 21137

1000 0 1000 2000 FEET

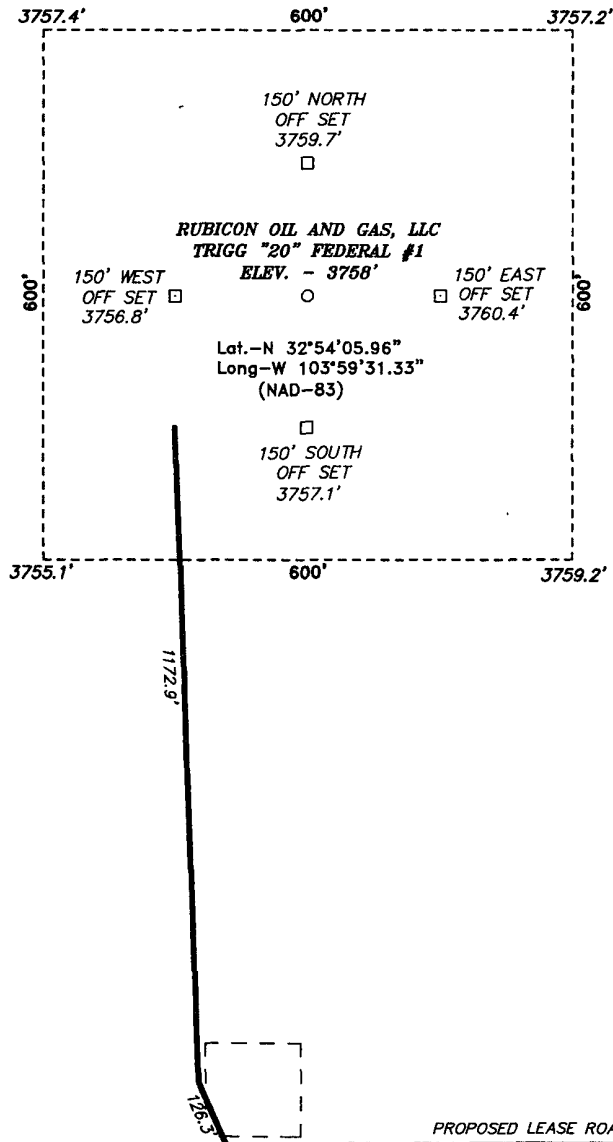
**RUBICON OIL AND GAS, LLC**

REF: PROPOSED LEASE ROAD TO THE TRIGG "20" FEDERAL #1

A LEASE ROAD CROSSING USA LAND IN  
SECTIONS 20,28&29, TOWNSHIP 16 SOUTH, RANGE 30 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.

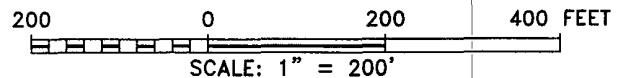
Survey Date: 02-13-2009 Sheet 1 of 1 Sheets

SECTION 20, TOWNSHIP 16 SOUTH, RANGE 30 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



Directions to Location:

FROM LOCO HILLS, AT THE JUNCTION OF US HWY 82  
AND CO. RD. 217 (HAGERMAN CUTOFF), GO NORTH  
5.4 MILES ON CO. RD. 217 T PROPOSED LEASE  
ROAD.



**RUBICON OIL AND GAS, LLC**

REF: TRIGG "20" FEDERAL #1 / WELL PAD TOPO

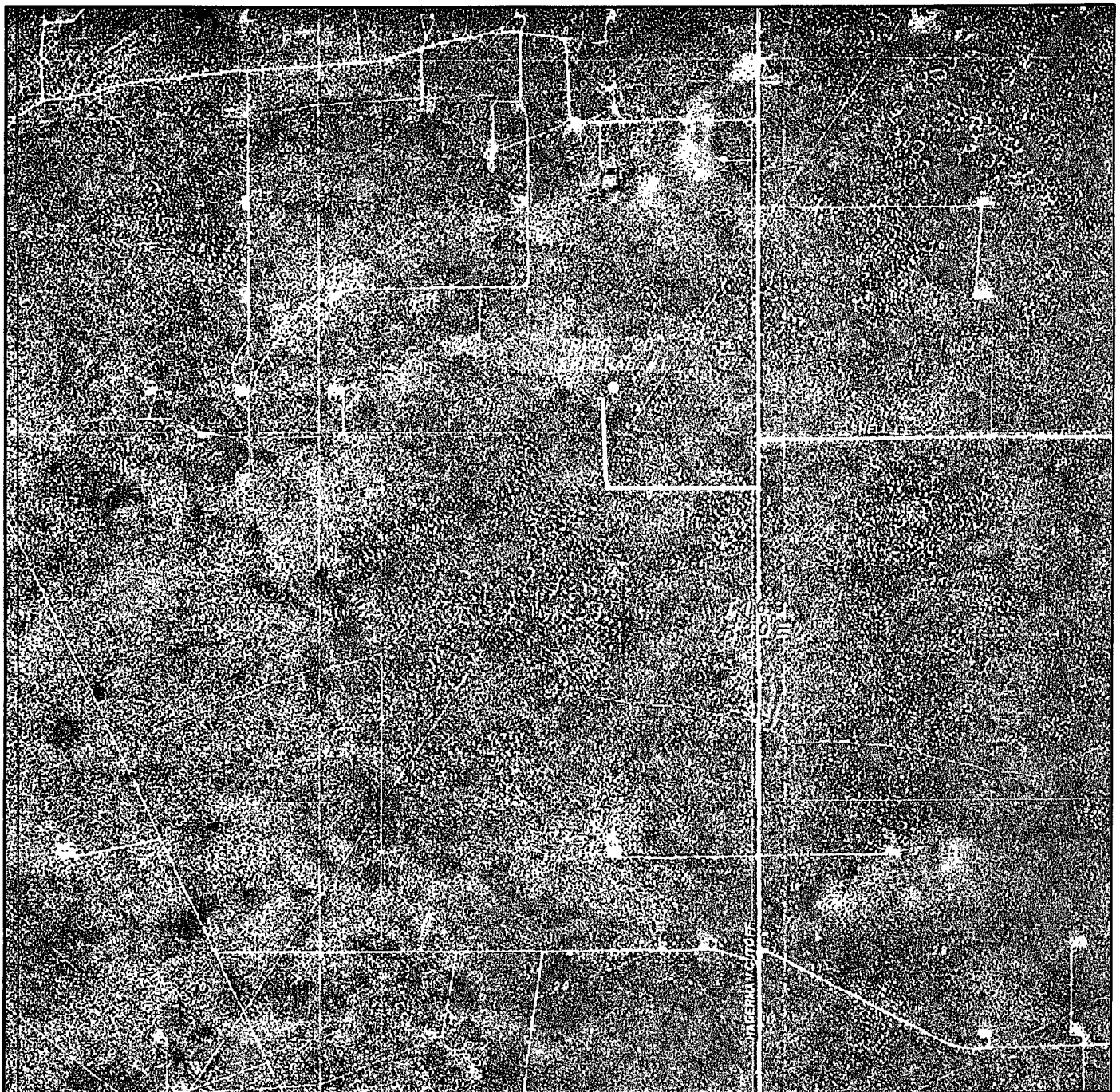
THE TRIGG "20" FEDERAL #1 LOCATED 660'  
FROM THE SOUTH LINE AND 1980' FROM THE EAST LINE OF  
SECTION 20, TOWNSHIP 16 SOUTH, RANGE 30 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.

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

W.O. Number: 21137 Drawn By: J. SMALL

Date: 02-16-2008 Disk: JMS 21137

Survey Date: 02-13-2009 Sheet 1 of 1 Sheets



TRIGG "20" FEDERAL #1  
Located 660' FSL and 1980' FEL  
Section 20, Township 16 South, Range 30 East,  
N.M.P.M., Eddy County, New Mexico.

**basin**  
**surveys**  
focused on excellence  
in the oilfield

P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(575) 393-7316 - Office  
(575) 392-2206 - Fax  
basinsurveys.com

W.O. Number: JMS 21137

Scale: 1" = 2000'

YELLOW TINT - USA LAND  
BLUE TINT - STATE LAND  
NATURAL COLOR - FEE LAND

**RUBICON OIL  
AND GAS, LLC**

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

Rubicon Oil & Gas, LLC

Trigg 20 Federal #1

Surface Location: Section 20, T-16-S, R-30-E, 660' FSL & 1980' FEL

Bottomhole Location: Same

Field: Henshaw Morrow

Eddy Co., NM

1. Name and estimated tops of geologic horizons:

Surface formation is the Quaternary Alluvium.

Queen ~2000', Premier~2700', San Andres ~2800, Tubb~5500, Abo~6300',  
Wolfcamp~7600', Cisco~8700', Strawn~9950', Atoka~10,250', Morrow~10,400',  
Morrow Clastics ~ 10,650', Miss ~ 10,700'

2. Protection of possible useable water will be achieved by setting 13-3/8" surface casing @ 450' +/- and cementing it to surface. Isolation of any evaporate/ anhydrite section will be achieved by setting 9-5/8" casing @ 3000' +/- and cementing back to surface. Isolation of the productive horizons will be achieved by setting 4-1/2" casing @ 10,800' and cementing back to a depth of 8000'.

3. The well control equipment to be employed during the drilling of this well is illustrated on attached EXHIBIT A. This equipment includes a 13-5/8"- 2 ram BOP, annular BOP and choke manifold of comparable pressure rating. Equipment ~~(except annular which is rated to 3000 psi)~~ will be rated for 5000 PSI and will be tested to 5000 psi ~~(except annular which will be tested to 70% of rated working pressure - 2100 psi)~~ prior to drilling out of the 9-5/8" intermediate casing. Prior to drilling out of the 13-3/8" surface casing the same equipment and casing shall be tested to 1211 PSI or 70% of the burst rating of the casing ~~utilizing the rig pumps~~. A hydraulic closing unit will be a part of this equipment and will be function tested daily.

4. The casing strings will consist of the following:

Conductor 20" set @ 40'

Surface 13-3/8" OD, 48 #/ft, H40, STC, new pipe @ 450' +/- in 17-1/2" hole.

Intermediate: 9-5/8" OD, 36 #/ft, J55, STC, new pipe @ 3000' +/- in 12-1/4" hole.

Production: 4-1/2" OD, 11.6 #/ft, P110HC, LTC, new pipe @ 10,800' +/- in 8-3/4" hole.

Minimum Casing Design Factors: Collapse 1.1, Burst 1.2, and Tensile Strength 1.8

See  
COA



5. Cementing programs for the above casing strings are:

**Conductor @ 40'** cemented to surface utilizing redi-mix cement

**Surface @ 450':**      **Slurry:** 450 sks Class C with 2% Bentonite, 0.125% Cello Flake, yld ~ 1.35 cu ft/sk, mixed @ 14.8 ppg

*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 fresh water.*

**Intermediate 1 @ 3000':**

**Lead Slurry:** 550 sks Class C Interfill, yld ~ 2.11 cu ft/sk, 11.9 #/gal

**Tail Slurry:** 250 sks Class C w/ 2% CaCl, yld ~ 1.34 cu ft/sk, 14.8#/gal

*The above volume represents 50% excess over calculated hole volume - actual volumes will be adjusted to a fluid caliper run at TD of this hole section with 20% excess added. The cement slurries will be preceded by 20 bbls cement wash for mud removal and displaced with fresh water.*

**Production 1: 10,800 to ~~8000~~'**

**Slurry:** 500 sks Class H Poz with additives, yld ~ 1.73 cu ft/sk, 13#/gal

*Actual cement type and additives will be determined from hole conditions encountered and prospective zones determined from e-logs. Actual volumes pumped will be determined from an open hole caliper recorded over this interval.*

6. It is anticipated that this well will be drilled to TD utilizing the fluids shown below and closed loop system as mandated by the NMOCD:

**0-450':**      Gel/Lime "spud mud" 8.4-9.4 PPG. Utilize native solids to maintain sufficient viscosity to clean hole. Mix paper as required to control seepage loss.

**450-3000':**      Brine water, 9.6 ppg to 10 ppg, with paper sweeps for seepage and to insure hole cleaning.

**3000-10,000':**      Fresh Water / Cut brine 8.4 – 9.4 Circulate thru steel pits utilizing solids control.; sweeps for hole cleaning and LCM as needed for seepage.

**10,000-11,000':** Polymer/Brine 10.0 – 10.1 PPG Utilize polymers and starch to maintain fluid loss < 8 cc range and sufficient mud weights to stabilize shales and minimize any hydrocarbon influx. Utilize sweeps for hole cleaning and LCM as needed for seepage.

7. Auxiliary equipment will include an upper kelly cock valve, safety valve to fit drill pipe and pressure gauges.

8. No drill stem testing or coring is planned for this wellbore. Mudlogging will commence at 6000' under the current plan. A Schlumberger Platform Express Triple Combo electric log suite or equivalent will be run at TD.

9. The estimated BHP at TD is not expected to exceed 5500 psi, and a BHT of 175 F is anticipated. There is no H<sub>2</sub>S present in the hydrocarbons being produced in this area. Should such unexpected circumstances be encountered the operator and drilling contractor are prepared to take necessary steps to ensure safety of all personnel, and environment. Lost circulation could occur but is not expected to be a serious problem in this area, and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid.

10. It is estimated that this well will be drilled and cased in 32 days. Drilling will commence as soon approval is received and services can be contracted.

**Rubicon Oil & Gas, LLC  
Trigg Prospect**

**KB: TBD'  
GL: 3758'**

**660' FSL & 1980' FEL  
Sec. 20, T16S, R30E, UL O  
Eddy County, NM**

**Trigg 20 Fed 1  
Eddy County, New Mexico  
Proposed Wellbore  
30-015-XXXX**

**Prod:  
TD'd:  
Spud: 7/2009**

**Cameron 5k 7-1/16" Wellhead**

**Bit Size: 17-1/2" drilled to 450'  
8.4-8.6 MW, 32+ Vis, FW Spud Mud**

**13-3/8" 48ppf H40 @ 450' w/ Cmt 450sks. C 2% CC  
Circ to surface.**

**Bit Size: 12-1/4" drilled to 3000'  
8.4-10.0 MW, 28 vis, FW w/ LCM sweeps for seepage**

*See COA*

**TOC planned 8000'.**

**9-5/8" 36# J55 @ 3000' CMT w/ 550sks. C Interfill Lite 11.9  
ppg, 2.1ft3/sk yld w/ 1/8# polyflake + 250 sks C 14.8 ppg, 1.26  
ft3/sk yield w/ 2%CC. Circ to surface.**

**Queen ~ 2000'  
Premier ~ 2700'  
San Andres ~ 2800'  
Tubb ~ 5500'  
Abo ~ 6300'  
Wolfcamp ~ 7600'  
Cisco ~ 8700'  
Strawn ~ 9950'  
Atoka ~ 10250'  
Morrow ~ 10400'  
Morrow Clastics ~ 10650'  
TD Miss ~ 10700'**

**Bit Size: 8-3/4" drilled to 10,800'  
3000'-6300' 8.4-8.6 MW FW & sweeps  
6300'-10,800' 8.8-9.4 MW cutbrine salt gel & Starch**

**4-1/2" 11.60# HCP-110 LTC 10,800'**

**1) Cement 10,800' to 8000' 500 sks Super H w/ .5% Halad 4, .4%  
CFR-3, 3# salt, .2% HR 5. (1.73ft3/yld, 13ppg)**

**PBTD (FC): ~10,750' TD: ~10,800'**

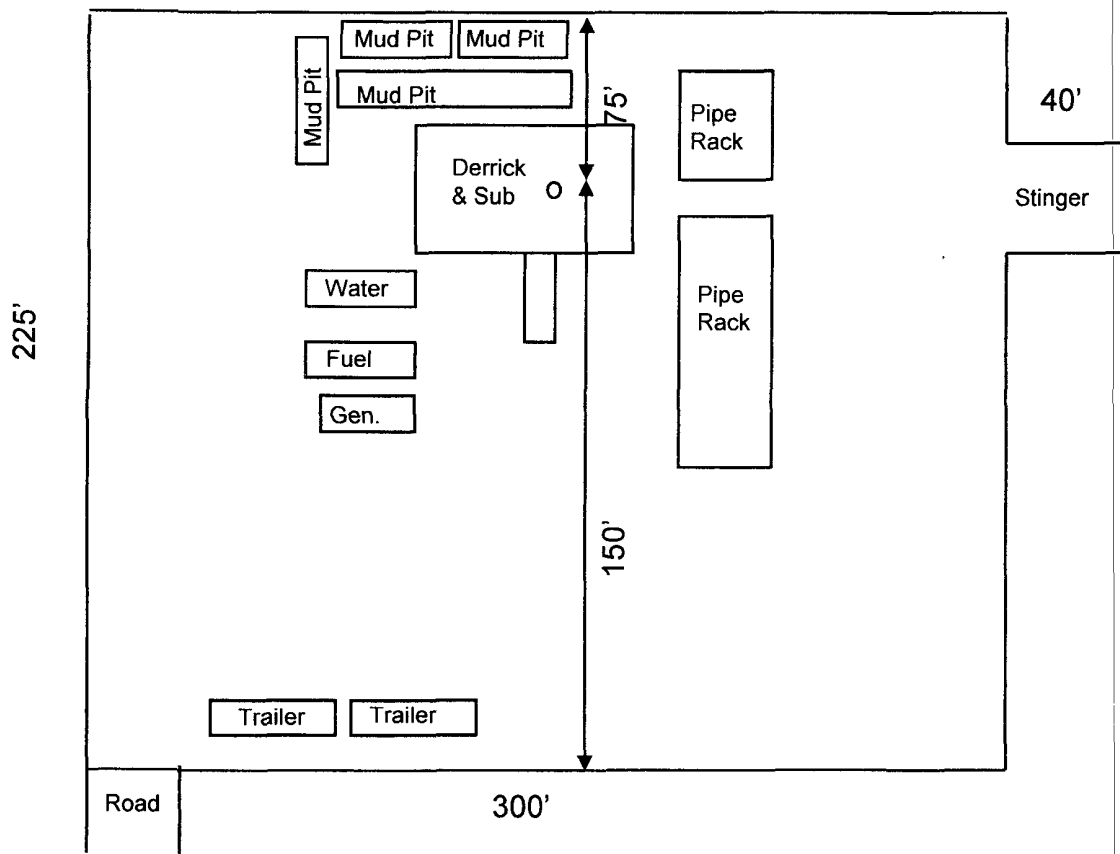
HAL 5/15/2009

North



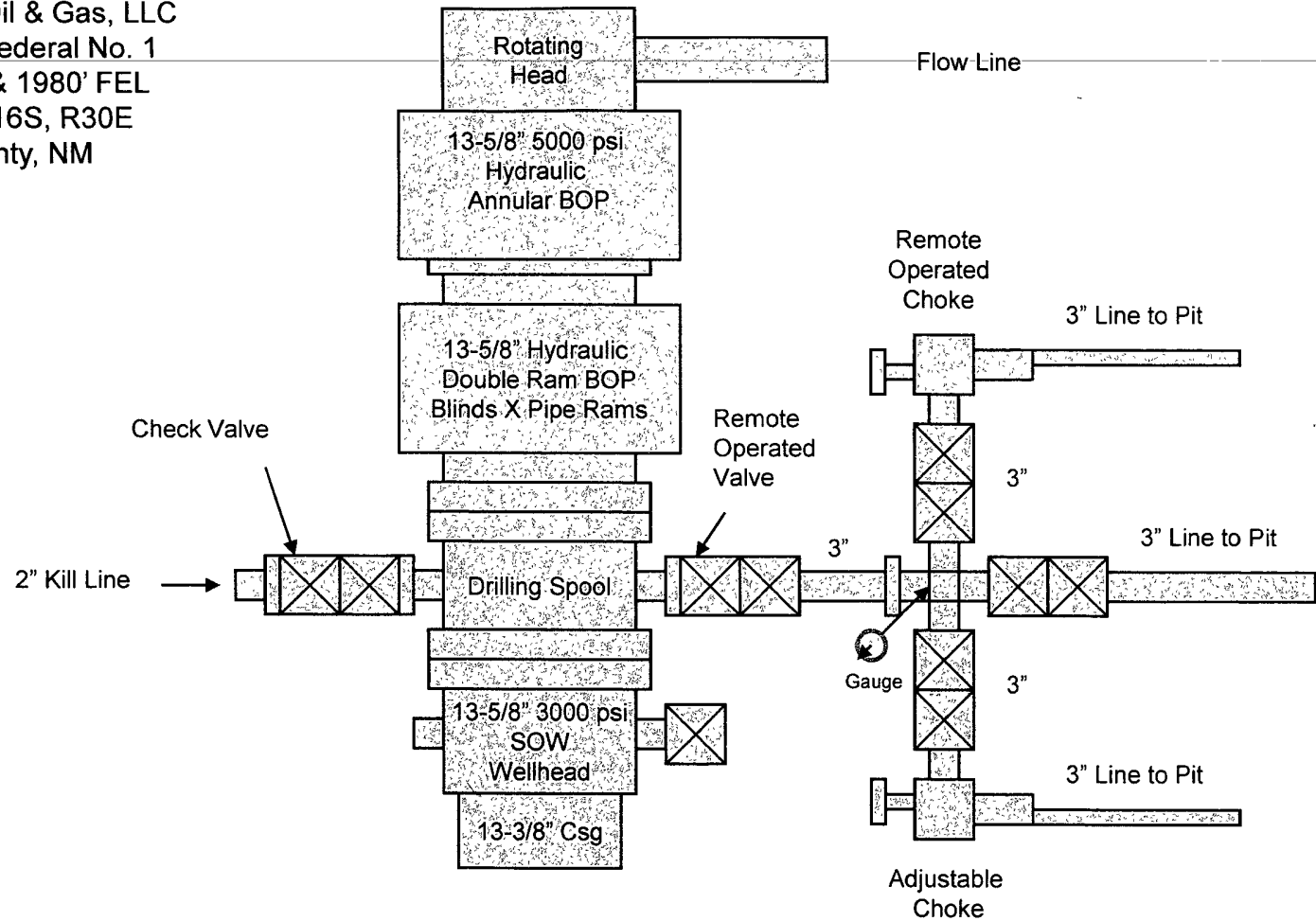
Flare Pit

## Closed Loop Mud system, No reserve



Rig & Well Site Plat  
Rubicon Oil & Gas, LLC  
Trigg 20 Federal 1  
Section 20, T16S, R30E  
Eddy County, NM

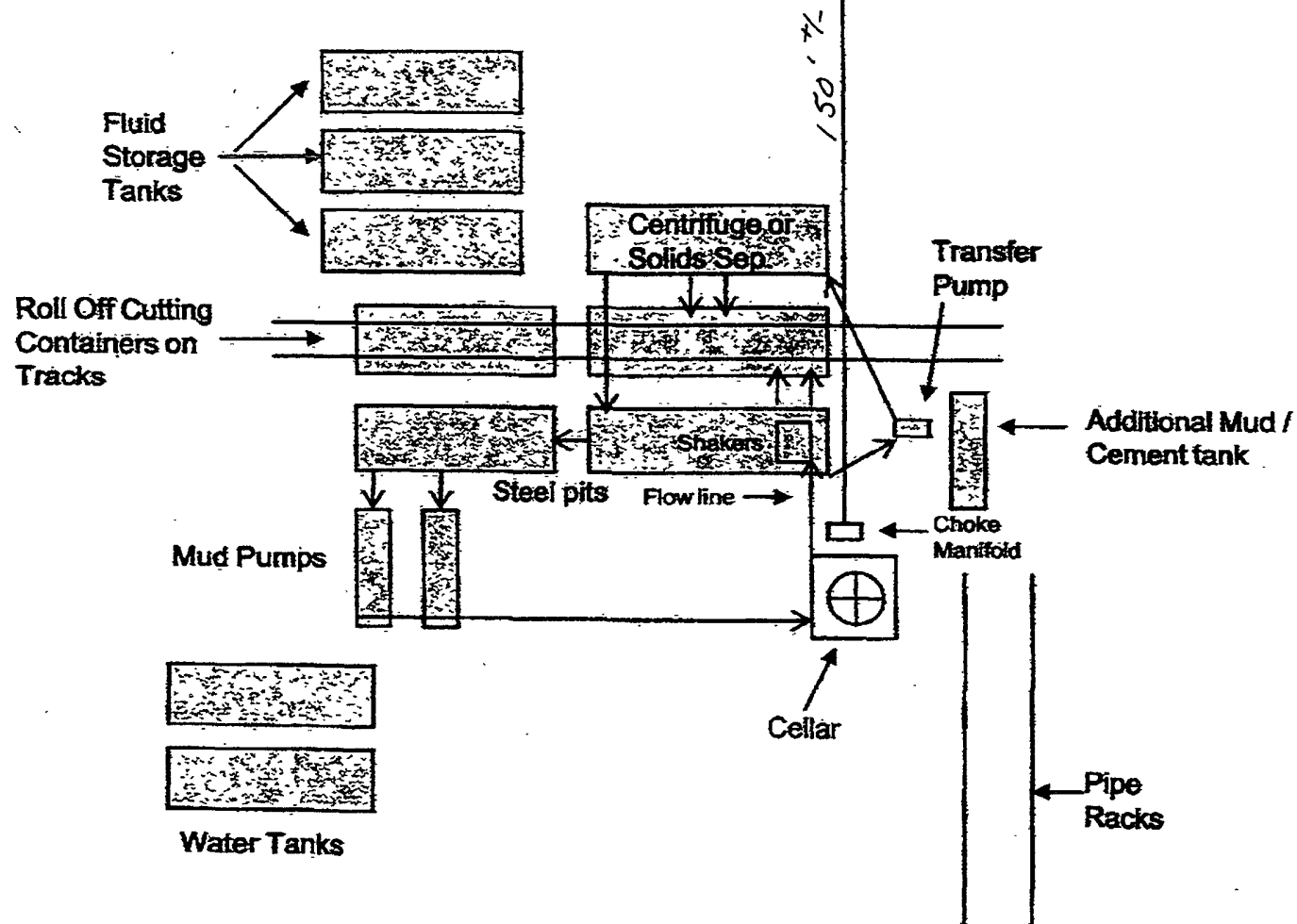
Rubicon Oil & Gas, LLC  
Trigg 20 Federal No. 1  
660' FSL & 1980' FEL  
Sec 20, T16S, R30E  
Eddy County, NM



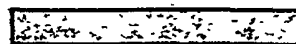
5000 psi Working Pressure  
BOPE Configuration  
And Choke Manifold

Exhibit "A"

# Closed Loop Equipment Diagram



Trailer



Rubicon Oil & Gas, LLC  
Trigg 8, 9, 17, 20 Federal  
Eddy County, NM

**Rubicon Oil & Gas, LLC  
Trigg 20 Fed, Well #1  
Sec 20, T16S, R30E  
660' FSL & 1980' FEL  
Eddy County, NM**

**H2S Contingency Plan**

Bureau of Land Management  
RECEIVED

**AUG 06 2009**

Carlsbad Field Office  
Carlsbad, N.M.

# **Rubicon Oil & Gas, LLC**

## **HYDROGEN SULFIDE (H<sub>2</sub>S) CONTINGENCY PLAN**

**Assumed 100 ppm ROE = 3000'**

**100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.**

### **Emergency Procedures**

**In the event of a release of gas containing H<sub>2</sub>S, the first responder(s) must**

- **Isolate the area and prevent entry by other persons into the 100 ppm ROE.**
- **Evacuate any public places encompassed by the 100 ppm ROE.**
- **Be equipped with H<sub>2</sub>S monitors and air packs in order to control the release.**
- **Use the "buddy system" to ensure no injuries occur during the response**
- **Take precautions to avoid personal injury during this operation.**
- **Contact operator and/or local officials to aid in operation. See list of phone numbers attached.**
- **Have received training in the**
  - **Detection of H<sub>2</sub>S, and**
  - **Measures for protection against the gas,**
  - **Equipment used for protection and emergency response.**

### **Ignition of Gas source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

### **Characteristics of H<sub>2</sub>S and SO<sub>2</sub>**

<b>Common Name</b>	<b>Chemical Formula</b>	<b>Specific Gravity</b>	<b>Threshold Limit</b>	<b>Hazardous Limit</b>	<b>Lethal Concentration</b>
<b>Hydrogen Sulfide</b>	<b>H<sub>2</sub>S</b>	<b>1.189 Air = 1</b>	<b>10 ppm</b>	<b>100 ppm/hr</b>	<b>600 ppm</b>
<b>Sulfur Dioxide</b>	<b>SO<sub>2</sub></b>	<b>2.21 Air = 1</b>	<b>2 ppm</b>	<b>N/A</b>	<b>1000 ppm</b>

### **Contacting Authorities**

Rubicon's personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. Rubicon's response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).



# Rubicon Oil & Gas, LLC

## H<sub>2</sub>S CONTINGENCY PLAN EMERGENCY CONTACTS

Company Office 432 687-5100  
Answering Service (During Non-Office Hours) 432 664-9040

### Key Personnel

Name	Title	Phone Number
Hal Lee:	Operations & Drilling Manager	432-683-6565(off); 432 664-9040 (cell)
Jerry Cox:	Rig Supervisor	432 934-5668 (24 hr #)
JW Drilling:		575 746-6410
Ambulance		911
State Police		575-746-2703
City Police		575-746-2703
Sheriff's Office		575-746-9888
Fire Department		575-746-2701
Local Emergency Planning Committee		575-746-2122
New Mexico Oil Conservation Division		575-748-1283

### Carlsbad

Ambulance	911
State Police	575-8885-3137
City Police	575-885-2111
Sheriff's Office	575-887-7551
Fire Department	575-887-3798
Local Emergency Planning Committee	575-887-6544
US Bureau of Land Management	575-887-6544

New Mexico Emergency Response Commission (Santa Fe)	505-476-9600
24 Hour	505-827-9126
New Mexico State Emergency Operations Center	505-476-9635
National Emergency Response Center (Washington, DC)	800-424-8802

### Other

Total Safety, 1101 S. 1st St. , Artesia, NM 88210	575 746-2847
Bobby Winn – Construction Supervisor	432 934 5668
Boots & Coots IWC	800-256-9688 or 281-931-8884
Cudd PressureControl	915-699-0139 or 915-563-3356
Halliburton	575-746-2757
Flight For Life – 4000 24 <sup>th</sup> St. Lubbock, Texas	806-743-9911
Aerocare – R3, Box 49F, Lubbock, Texas	806-747-8923
Med Flight Air Amb – 2301 Yale Blvd SE #D3, Albuquerque, NM	505-842-4433
S B Air Med Service – 2505 Clark Carr Loop SE, Albuquerque, NM	505-842-4949

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

Rubicon Oil & Gas, LLC

Trigg 20 Federal #1

Section 20, T-16-S, R-30-E

660' FNL & 1980' FEL, Unit Ltr O

Field: Henshaw Morrow

Eddy County, NM

1. EXISTING ROADS - A "VICINITY MAP" and a "LOCATION VERIFICATION MAP" by Basin Surveys are attached which show the location of existing roads and the area topography.  
The road log to the location is as follows:
  - a) From intersection of U.S. Hwy. #82 and Co. Rd. #217 (Hagerman cutoff). Go North 5.4 miles on Co. Rd. #217 to lease road.
  - b) Turn left or west on new lease road for 4/10 mile, road turns North 2.5/10 mile to location.
2. PLANNED ACCESS ROAD —Build approximately 3411' of new E-W & N-S access road to location as depicted on Basin survey.
3. LOCATION OF EXISTING WELLS - EXHIBIT B shows the location of other wells within a mile radius of the proposed location.
4. LOCATION OF PROPOSED FACILITIES - This production well will be tied new facilities built on 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. 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 -
  - A closed system will be utilized for drilling (no reserve pits). Steel pits will be utilized to catch cuttings and drill fluids. All drill cuttings and drill fluids will be removed from the site and disposed at an approved facility.
  - 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.
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 February 2009. Danny Boone, the registered archeological surveyor, should forward a copy of that report to the BLM.

12. OPERATORS REPRESENTATIVE – Rubicon Oil & Gas, LLC is covered by Statewide Bond No. B32644643, BLM Bond # 2922, Oil & Gas State of New Mexico Blanket Plugging Bond B32644641.

Rubicon is represented by:

Brett Smith

Rubicon Oil & Gas, LLC

(432) 687-5100

Agent / Operations Manager:

Hal Lee

Cell (432) 664-9040

Office (432) 683-6565

- 
13. OPERATORS CERTIFICATION

I hereby certify that I, Hal Lee -Operations Manager, 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

*New  
Page*

OFFICE  
(432) 684-7933

T. VERNE DWYER  
OIL & GAS INVESTMENTS  
508 WEST WALL, SUITE 403  
MIDLAND, TEXAS 79701

FAX  
(432) 684-4032

March 9, 2009

Rubicon Oil & Gas II, L.P.  
508 West Wall, Suite 500  
Midland, Texas 79701

Attn: Mr. Gary Green

RE: Trigg Federal Nos. 8-1 and 20-1  
Eddy County, New Mexico

Dear Gary:

For your files, please find the following original documents:

- 1) Receipt and Release signed by Stuart Bogle, COO of Bogle, Ltd., on February 20, 2009 pertaining to the location damages for the Trigg Federal No. 8-1 in Section 8, T16S, R30E, Eddy County, New Mexico.
- 2) Receipt and Release signed by Stuart Bogle, COO of Bogle, Ltd., on February 20, 2009 pertaining to the location damages for the Trigg Federal No. 20-1 in Section 20, T16S, R30E, Eddy County, New Mexico.

Should you need additional information for your files, please do not hesitate to call.

Very truly yours,



T. Verne Dwyer

:kml

Enclosures

Cc: Mr. Don Deck w/copies

**RUBICON OIL & GAS, LLC**

**RECEIPT AND RELEASE**

Received of Rubicon Oil & Gas, LLC ("Rubicon") the sum of ONE THOUSAND FIVE HUNDRED AND NO/100 DOLLARS (\$1,500.00), cash in hand paid, the receipt of which is hereby acknowledged, being settlement of damages as follows:

PAYMENT IN FULL FOR ALL DAMAGES ASSOCIATED WITH THE DRILLING, COMPLETING AND OPERATING OF THE TRIGG FEDERAL NO. 20-1 WELL LOCATED IN SECTION 20, TOWNSHIP 16 SOUTH, RANGE 30 EAST, EDDY COUNTY, NEW MEXICO

NOW, THEREFORE, the undersigned Surface Owner or Tenant, as the case may be, for and in consideration of the above mentioned sum of \$1,500.00, does hereby release and acquit Rubicon from any and all damages sustained as a result of the above.

Executed this 20<sup>th</sup> day of February, 2009.

Bogle, Ltd.

By: 

Name: STUART BOGLE

Title: CEO

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

Rubicon Oil & Gas, LLC 194266

Sec. 20, T16S, R30E

Trigg 20 Federal Lease

Eddy County, New Mexico

The undersigned accepts all applicable terms, conditions, stipulations and restrictions concerning re-entry operations conducted on the leased land or portion thereof, as described below:

Lease Name & Well Number: Trigg 20 Federal, Well #1

Federal Lease Number: BLM 07725

Legal Description of Land: Sec. 20, T16S, R30E

Formation: Morrow

Bond Coverage: NMB B32644641 (BLM Bond #2922)

Authorized Signature: 

Printed Name: Hal Lee

Title: Engineer

Telephone No.: office: 432 683-6565; cell: 432 664-9040

Date: 6-25-09

Address: 508 W. Wall, Suite 500, Midland, TX 79701

correct; and that the work associated with operations herein will be performed by Rubicon Oil & Gas, LLC 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: Hal Lee, Agent and Operations Manager for Rubicon Oil & Gas, LLC

Signature: HAL LEE

Date: 6/24/09

.....  
.....

## PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	RUBICON OIL & GAS, LLC
LEASE NO.:	NM7725
WELL NAME & NO.:	TRIGG 20 FED WELL #1
SURFACE HOLE FOOTAGE:	660' FSL & 1980' FEL
BOTTOM HOLE FOOTAGE:	660' FSL & 1980' FEL
LOCATION:	Section 20, T. 16 S., R 30 E., NMPM
COUNTY:	Eddy County, New Mexico

### 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
  - Ground-level Abandoned Well Marker
- ☐ **Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
  - Logging requirements
  - Cement
  - BOP
- ☒ **Production (Post Drilling)**
  - Well Structures & Facilities
- ☐ **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, geophysical exploration other than 3-D operations, 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. 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 ft. 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.

## **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) 234-5972 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 of the well pad. The topsoil shall not be used to backfill the reserve pit and 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**

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. 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. 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 thirty (30) 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**

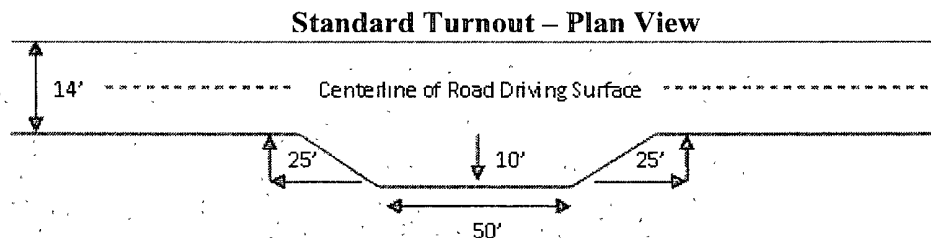
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

### **Ditching**

Ditching shall be required on both sides of the road.

### **Turnouts**

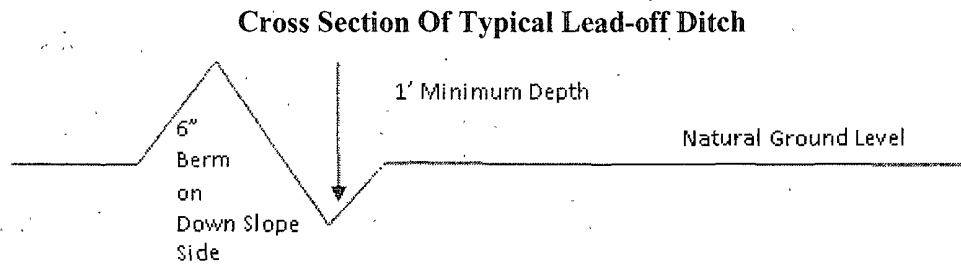
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



### **Drainage**

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping 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.



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:

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

#### **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**

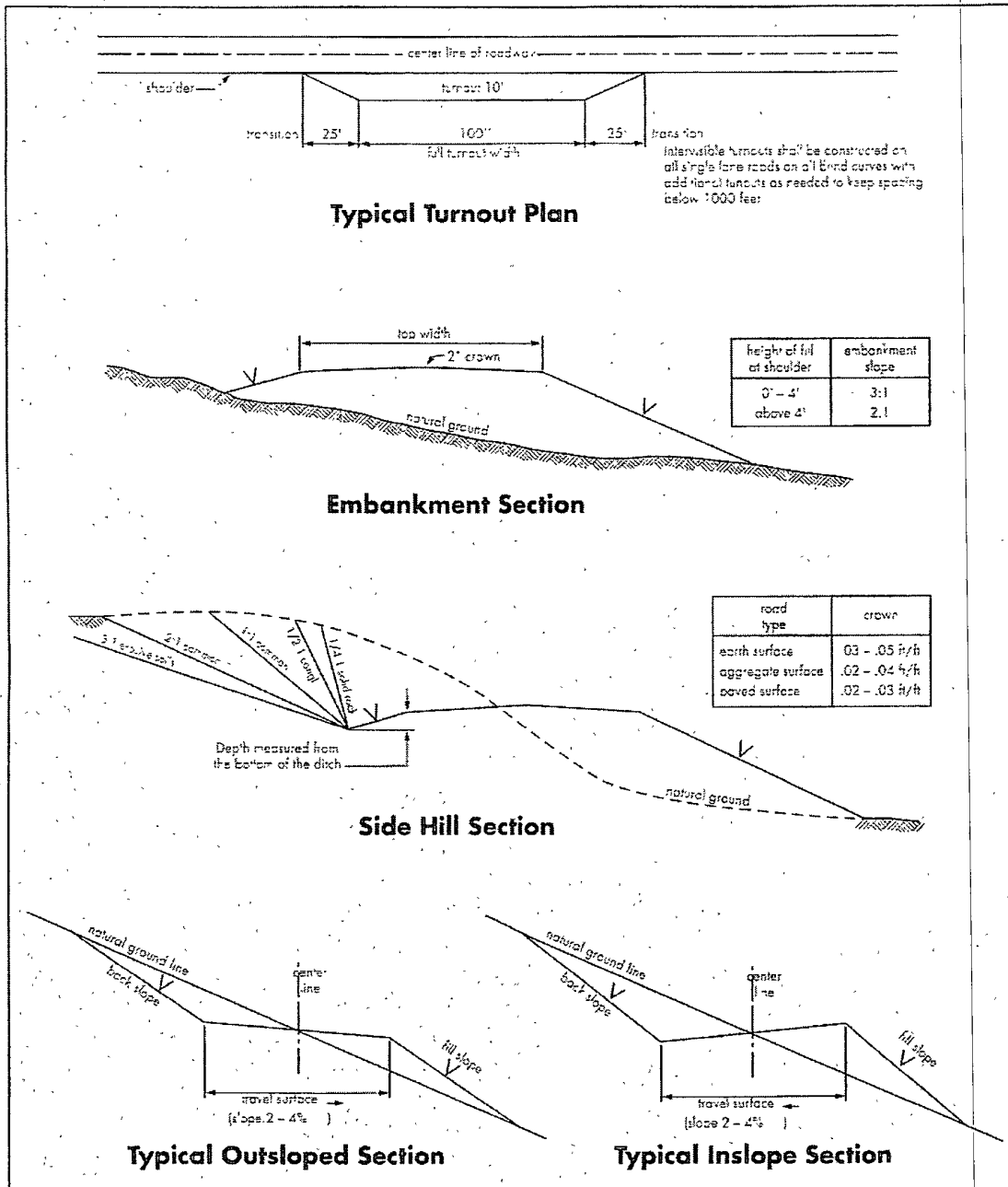
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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 a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

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

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts 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.
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 are located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. The Rustler top and top and bottom of Salt is to be recorded on the Completion Report.**

### **B. CASING**

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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



**Wait on cement (WOC) time 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. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. 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.**

**Possible brine and water flows in the Salado and Artesia groups.**

**Possible loss of circulation in the Grayburg and San Andres formations.**

**Possible over pressure in Atoka Clastics.**

1. The 13-3/8 inch surface casing shall be set at **approximately 450 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **If salt is penetrated, set casing shoe 25' above the top of 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 a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
  - 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 9-5/8 inch intermediate casing is:  
☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
3. The minimum required fill of cement behind the 4-1/2 inch production casing is:  
☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Cement volume submitted is inadequate to reach the required depth.**

4. 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 **2000 (2M) psi**.
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be **5000 (5M) psi**. **5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. The tests shall be done by an independent service company.
  - b. The results of the test shall be reported to the appropriate BLM office.
  - c. 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.**
  - d. 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.
  - e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.
  - f. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

**D. DRILLING MUD**

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

**E. DRILL STEM TEST**

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

**DHW 090809**

## **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. The production facilities shall not be placed on the north or east side of the well pad so maximum interim reclamation can begin on these portions of the well pad.

#### **Containment Structures**

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

#### **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, Munsell Soil Color Chart # 5Y 4/2

## **IX. INTERIM RECLAMATION**

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting 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.

The operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions 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 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.

### 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

\*\*Four-winged Saltbush 5lbs/A

\* This can be used around well pads and other areas where caliche cannot be removed.

\*Pounds of pure live seed:

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

## **X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS**

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

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.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.