NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 01 2015
OCD Artesia
RECEIVED

ATS-14-654

Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NM- 92167

6. If Indian, Allotee or Tribe Name
N/A

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
N/A

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
~~Leonado~~ Leonardo "BKL" Federal #2H

2. Name of Operator YATES PETROLEUM CORPORATION

9. API Well No.
30-015-43218

3a. Address 105 South Fourth Street
Artesia, New Mexico 88210

3b. Phone No. *(include area code)*
575-748-4372

10. Field and Pool, or Exploratory
Undesignated Bone Spring

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 1980' FNL & 200' FWL, Unit Ltr E Sec. 28-T25S-R27E
At proposed prod. zone 1780' FNL & 330' FEL, Unit Ltr H Sec.28-T25S-R27E, BHL

11. Sec., T. R. M. or Blk. and Survey or Area
Section 28-T25S-R27E

14. Distance in miles and direction from nearest town or post office*
Approximately 9 miles east of Malaga, NM.

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) 200'

16. No. of acres in lease
NM-92167 ~~560 Ac.~~ 878.570

17. Spacing Unit dedicated to this well
S2N2, Sec.28-T25S-R27E

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 0.6 mile

19. Proposed Depth
TVD-7709' MD-12175'

20. BLM/BIA Bond No. on file
Nationwide Bond #NM-B000434
NMB000920

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3187 GL

22. Approximate date work will start*
07/28/2014

23. Estimated duration
60 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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature — Name *(Printed/Typed)* Cy Cowan — Date 3/25/14

Title
Land Regulatory Agent

Approved by *(Signature)* Steve Caffey — Name *(Printed/Typed)* — Date JUN 26 2015

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)

Carlsbad Controlled Water Basin

7/16/2015

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

CERTIFICATION
YATES PETROLEUM CORPORATION
Leonardo BKL Federal #2H

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; and an someone under employment of Yates Petroleum Corporation has 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 25th day of March 2014

Signature _____

Name Cy Cowan

Position Title Land Regulatory Agent

Address 105 South Fourth Street, Artesia, New Mexico 88210

Telephone (575) 748-4372

Field Representative (if not above signatory) Tim Bussell, Drilling Supervisor

Address (if different from above) Same as above.

Telephone (if different from above) (575) 748-4221

E-mail (optional) cy@yatespetroleum.com

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 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

OIL CONSERVATION DIVISION

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

Form C-102
Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-43218	97816	~~Undesignated~~ Bone Spring WC: 015-G02 S252715A; BS

Property Code	Property Name	Well Number
315031	LEONARDO BKL FEDERAL	2H

OGRID No.	Operator Name	Elevation
025575	YATES PETROLEUM CORPORATION	3187

Surface Location

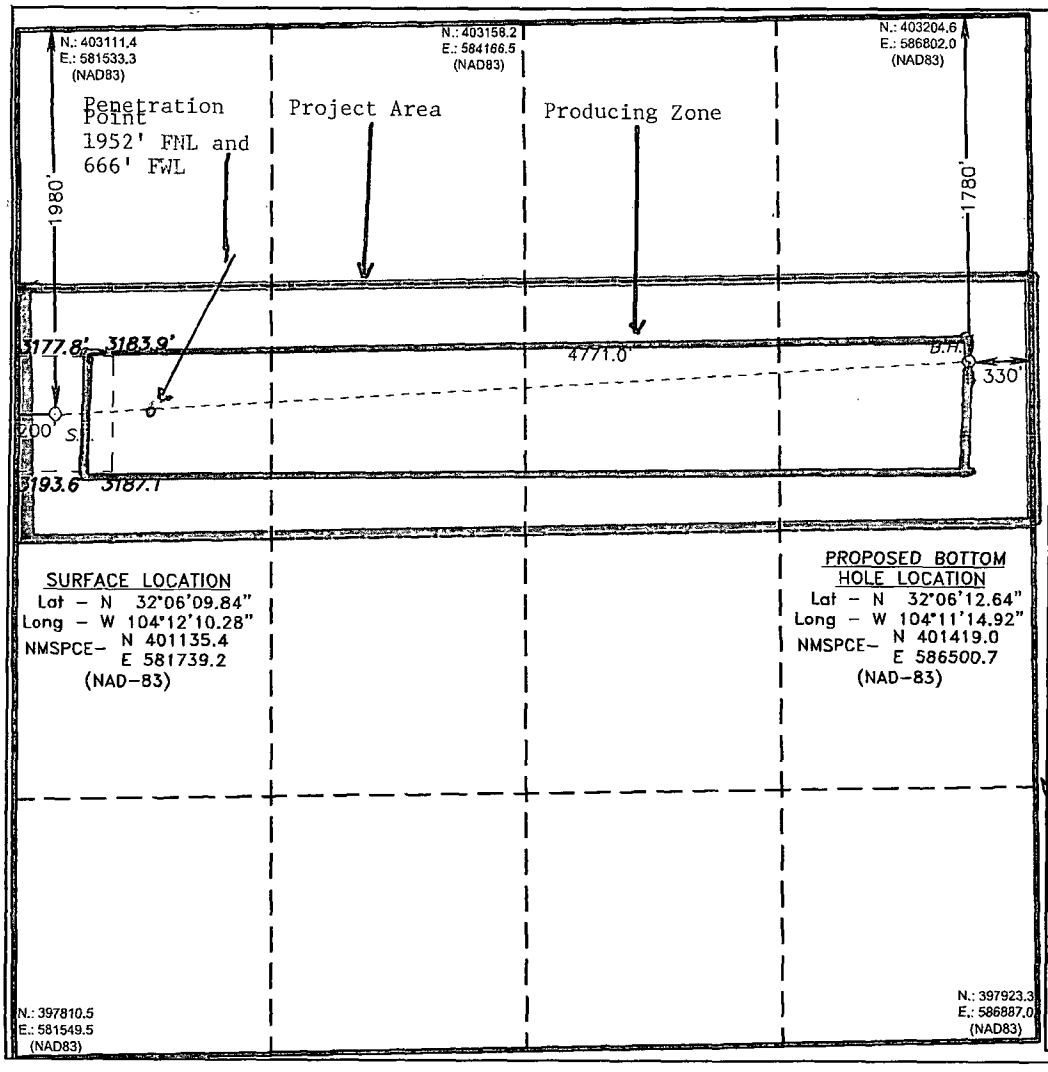
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	28	25 S	27 E		1980	NORTH	200	WEST	EDDY

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
H	28	25 S	27 E		1780	NORTH	330	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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



OPERATOR CERTIFICATION

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

Signature 3/25/14
Date

Cy Cowan
Printed Name

cy@yatespetroleum.com
Email Address

SURVEYOR CERTIFICATION

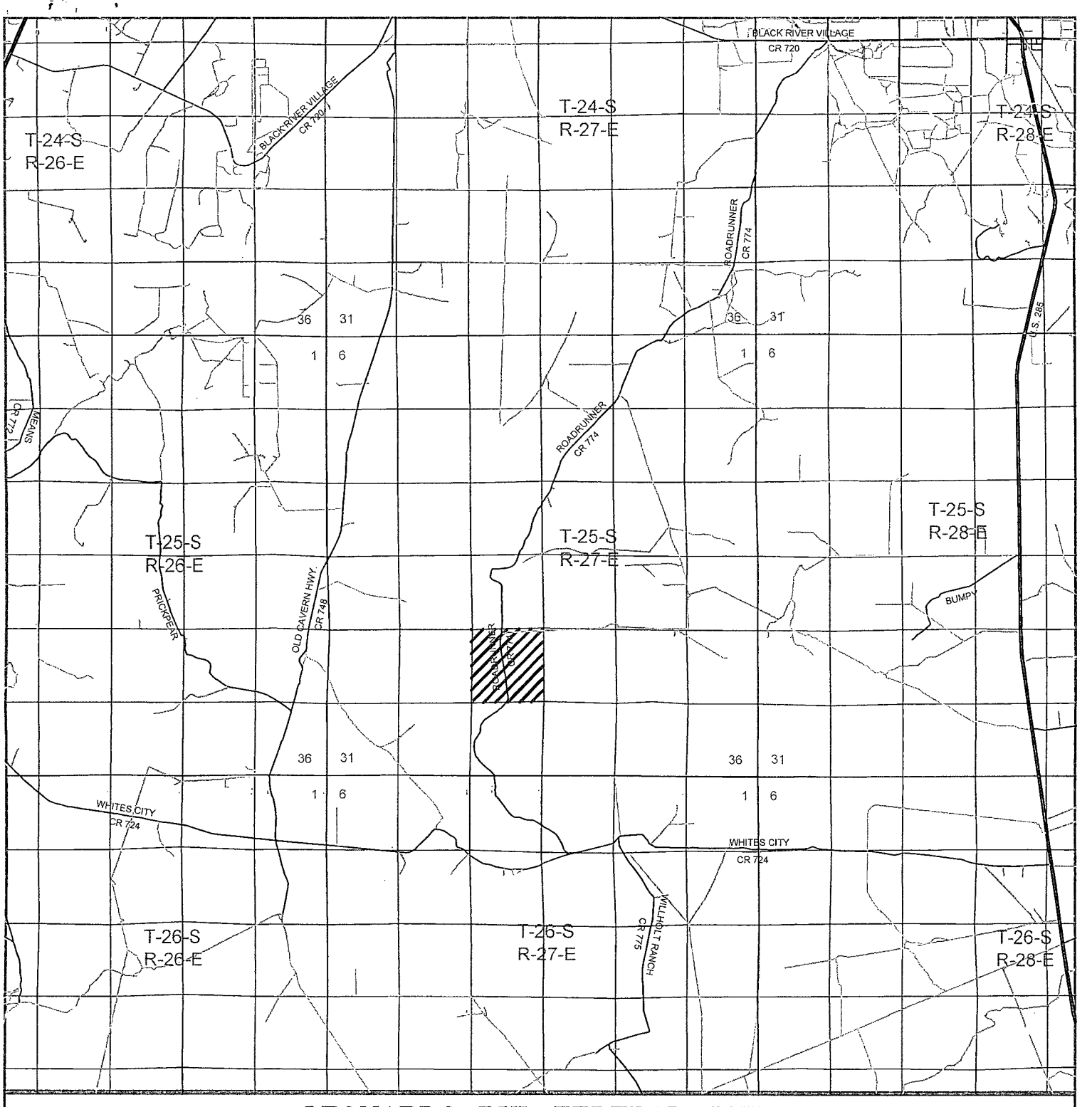
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.

DECEMBER 20, 2013
Date Surveyed

Signature & Seal of Professional Surveyor

Certificate No. Gary L. Jones 7977
BASIN SURVEYS

0' 500' 1000' 1500' 2000'
SCALE: 1" = 1000'
WO Num.: 29883



LEONARDO BKL FEDERAL #2H
Located 1980' FNL and 200' FWL
Section 28, Township 25 South, Range 27 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

0 1 MI 2 MI 3 MI 4 MI
SCALE: 1" = 2 MILES

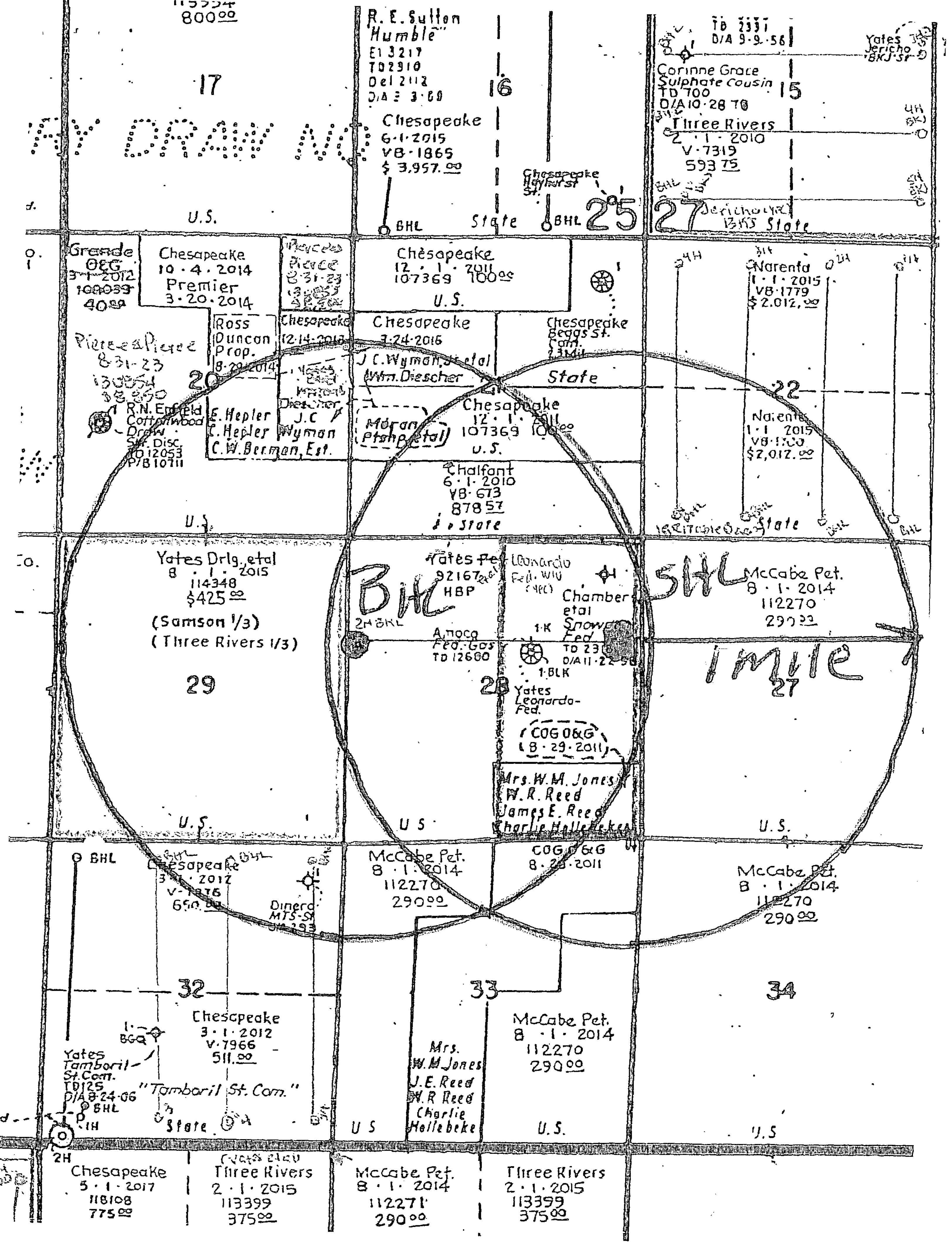
W.O. Number: KAN 29883

Survey Date: 12-21-2013

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

N

YATES PETROLEUM CORPORATION



800.00
17
R. E. Sutton
Humble
El 3217
TD 2910
Del 2112
D/A 3-3-60
16
Chesapeake
6-1-2015
VB-1865
$ 3,957.00
TD 2331
D/A 9-9-56
Yates
Jericho
BKJ St
Corinne Grace
Sulphate Cousin
TD 700
D/A 10-28-78
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2-1-2010
V-7319
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Chesapeake
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3-20-2014
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Ross
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Prop.
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Chesapeake
3-24-2016
J.C. Wyman, et al
Wm. Diescher
Chesapeake
Beggs St.
Com.
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Pierce & Pierce
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R.N. Enfield
Cottonwood
Draw
TD 12053
P/B 10711
E. Hepler
C. Hepler
C.W. Berman, Est.
J.C.
Wyman
Moran
Pham et al
Chesapeake
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Yates Drlg. et al
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(Samson 1/3)
(Three Rivers 1/3)
29
Yates Pet. et al
92167
HBP
Leonardo
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et al
Snowden
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D/A 11-22-56
BHL
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McCabe Pet.
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Amoco
Fed. Gas
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1-BLK
Yates
Leonardo-
Fed.
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COG O&G
8-29-2011
Mrs. W.M. Jones
W.R. Reed
James E. Reed
Charlie Hallebeken
U.S.
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Chesapeake
3-1-2012
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Mrs.
W.M. Jones
J.E. Reed
W.R. Reed
Charlie
Hellebeke
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Chesapeake
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Three Rivers
2-1-2015
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McCabe Pet.
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2-1-2015
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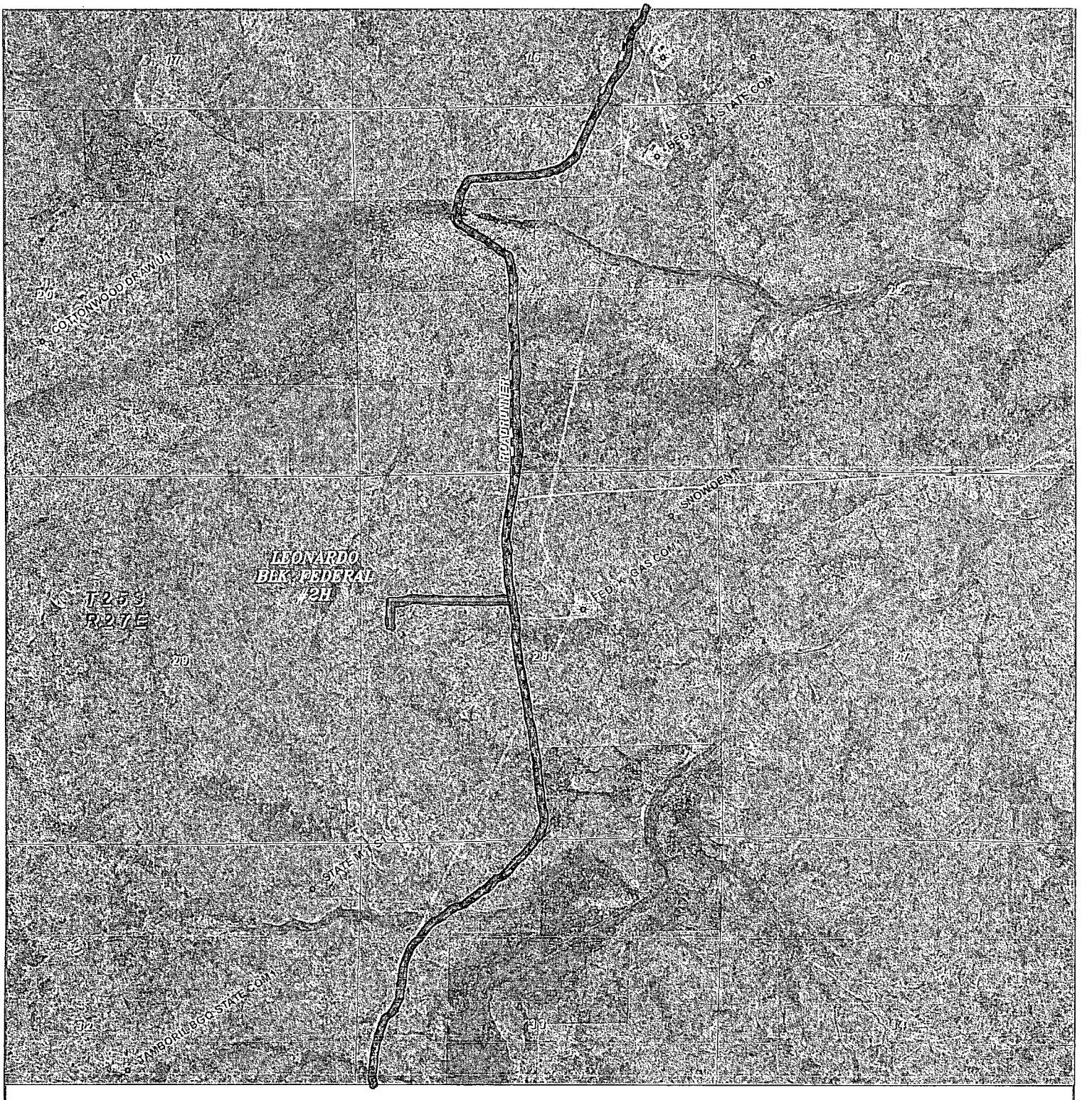

PROPOSED LEASE ROAD TO LEONARDO BLK FEDERAL #2H
Section 25 Township 19 South, Range 27 East, N.M.P.M., Lea County, New Mexico.

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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

0' 1000' 2000' 3000' 4000'
SCALE: 1" = 2000'

W.O. Number: KAN 30072

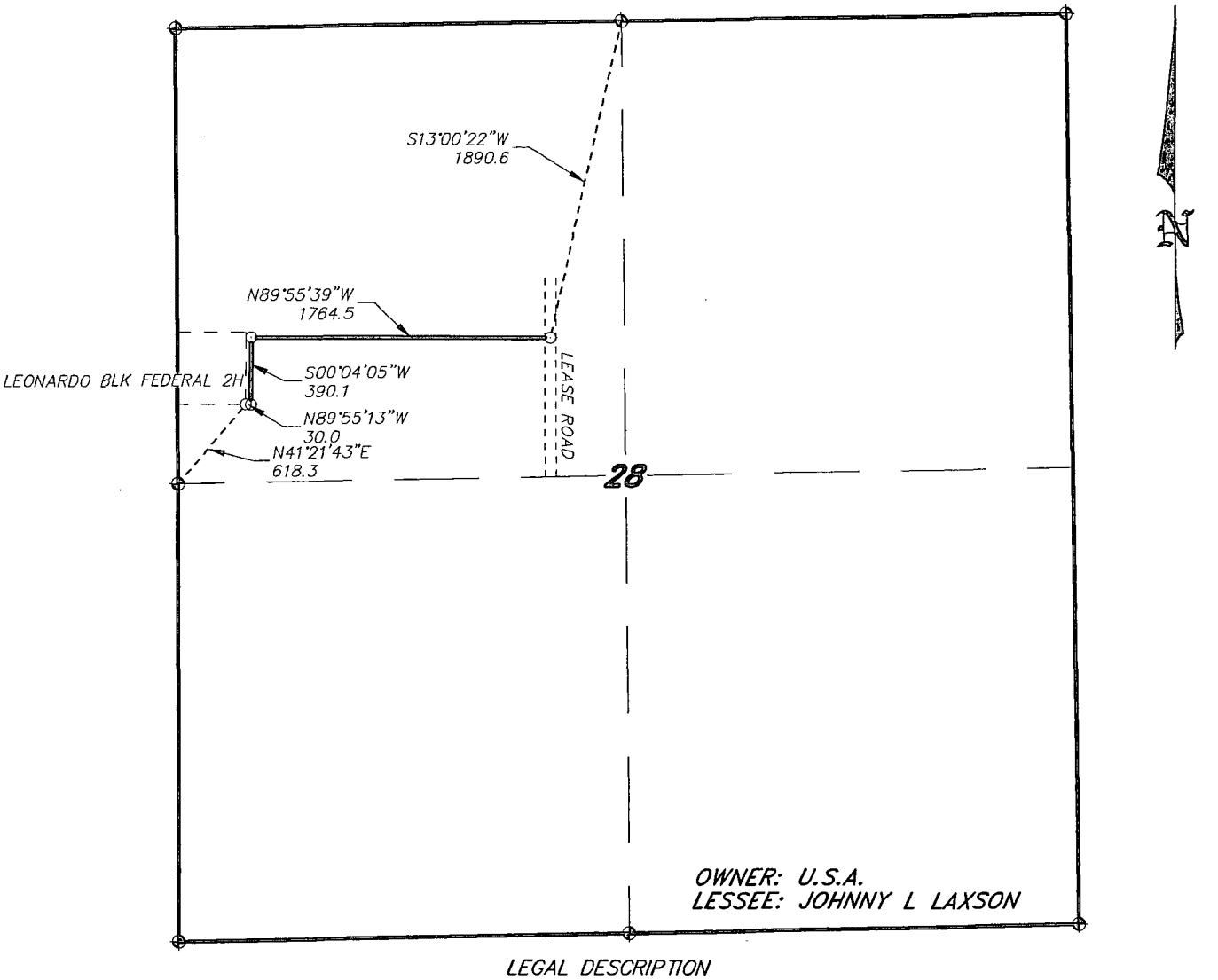
Survey Date: 02-12-2014

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

N

YATES PETROLEUM CORPORATION

SECTION 28, TOWNSHIP 25 SOUTH, RANGE 27 EAST, N.M.P.M.,
LEA COUNTY, **NEW MEXICO.**



LEGAL DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE, LOCATED IN SECTION 28, TOWNSHIP 25 SOUTH, RANGE 27 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY.

SECTION 28 = 2184.6 FEET = 132.40 RODS = 0.41 MILES = 1.50 ACRES

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

GARY L. JONES, N.M.P.S. No. 7977
TEXAS R.P.L.S. No. 5074

1000 0 1000 2000 FEET

YATES PETROLEUM CORPORATION

REF: PROPOSED LEASE ROAD TO LEONARDO BLK FEDERAL #2H

A ROAD CROSSING USA LAND IN
SECTION 28, TOWNSHIP 25 SOUTH, RANGE 27 EAST,
N.M.P.M., LEA COUNTY, NEW MEXICO.

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1120 N. West County Rd. (575) 392-2206 – Fax
Hobbs, New Mexico 88241 basinsurveys.com

W.O. Number: 30072	Drawn By: K. NORRIS	Date: 02-20-2014	Survey Date: 02-12-2014	Sheet 1 of 1 Sheets

PROPOSED PIPELINES TO LEONARDO BLK FEDERAL #2H
Section 25 Township 19 South, Range 27 East, N.M.P.M., Lea County, New Mexico.

Production + SWD Pipelines use same Route.

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

0' 1000' 2000' 3000' 4000'
SCALE: 1" = 2000'

W.O. Number: KAN 30072

Survey Date: 02-12-2014

YELLOW TINT – STATE LAND
BLUE TINT – STATE LAND
NATURAL COLOR – FEE LAND

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GATES PETROLEUM CORPORATION

YATES PETROLEUM CORPORATION
Leonardo "BKL" Federal #2H
1980' FNL & 200' FWL, Surface
1780' FNL & 330' FEL, Bottom
Section 28-T25S-R27E
Eddy County, New Mexico

1. The estimated tops of geologic markers are as follows:

Castile/LM/SD	589'	Bone Spring LM	5734'	
Top of Salt	1439'	Avalon Shale	5794'--Oil	
Base of Salt	1919'	Bone Spring 1/SD/	6689'--Oil	
Lamar	2119'	Kick Off Point	7132'	
Bell Canyon	2174'--Oil	Bone Spring 2/SD/	7319'--Oil	7314' TVD
Cherry Canyon	2984'--Oil	Target 2nd Bone Spring Sand	7871'--Oil	7610' TVD
Brushy Canyon	4104'--Oil	TD EOL	12175'	7709' TVD

2. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:

Water: Approximately 35'

Oil or Gas: See above.

3. **Pressure Control Equipment:** 3000 PSI BOPE with a 13.625" opening will be installed on the 13 3/8" and a 5000# BOP with a minimum opening of 11.0 opening on the 9 5/8" casing. Test will be conducted by an independent tester, utilizing a test plug in the well head. 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 on each segment of the system tested if test is done with a test plug and 30 minutes without a test plug. Blind rams and pipe rams will be tested to the rated pressure of the BOP. Any leaks will be repaired at the time of the test. Annular preventers will be tested to 50% of rated pressure. Accumulator system will be inspected for correct pre charge pressures, and proper functionality, prior to connection to the BOP system. Tests will be conducted before drilling out from under all casing strings, which are set and cemented in place. Blowout Preventer controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. See Exhibit B.

Auxiliary Equipment:

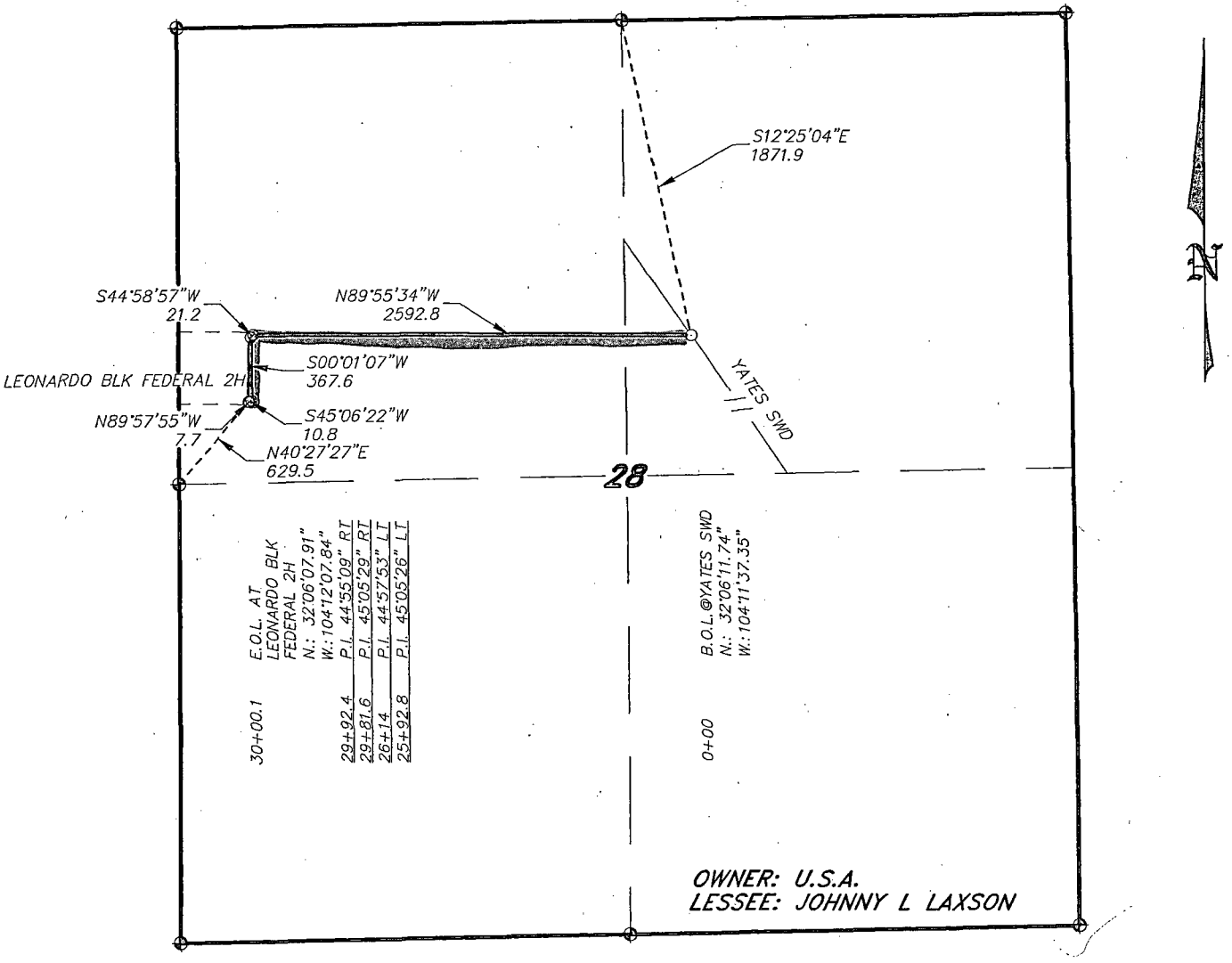
A. Auxiliary Equipment: Kelly cock, pit level indicators, flow sensor equipment and a sub with full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when kelly is not in use.

4. The proposed Casing and Cementing Program:

A. Casing Program: (All New)

HOLE SIZE	CASING SIZE	WT./FT.	GRADE	COUPLING	INTERVAL	LENGTH
17.5"	13.375"	48#	H-40/J-55 Hybrid	ST&C	0'-400'	400'
12.25"	9.625"	36#	J-55	LT&C	0'-2250'	2250'
8.75"	5.5"	17#	P-110	Buttress	0'-7871'	7871'
8.5"	5.5"	17#	P-110	Buttress	7871'-12175'	4304'

SECTION 28, TOWNSHIP 25 SOUTH, RANGE 27 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



LEGAL DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE, LOCATED IN SECTION 28, TOWNSHIP 25 SOUTH, RANGE 27 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY.

SECTION 28 = 3000.1 FEET = 181.82 RODS = 0.57 MILES = 2.07 ACRES

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

GARY L. JONES — NEW MEXICO — 7977 — REGISTERED PROFESSIONAL LAND SURVEYOR

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

1000 0 1000 2000 FEET

YATES PETROLEUM CORPORATION

REF: PROPOSED SWD PIPELINE TO LEONARDO BLK FEDERAL #2H

FLOW A PIPELINE CROSSING USA LAND IN SECTION 28, TOWNSHIP 25 SOUTH, RANGE 27 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

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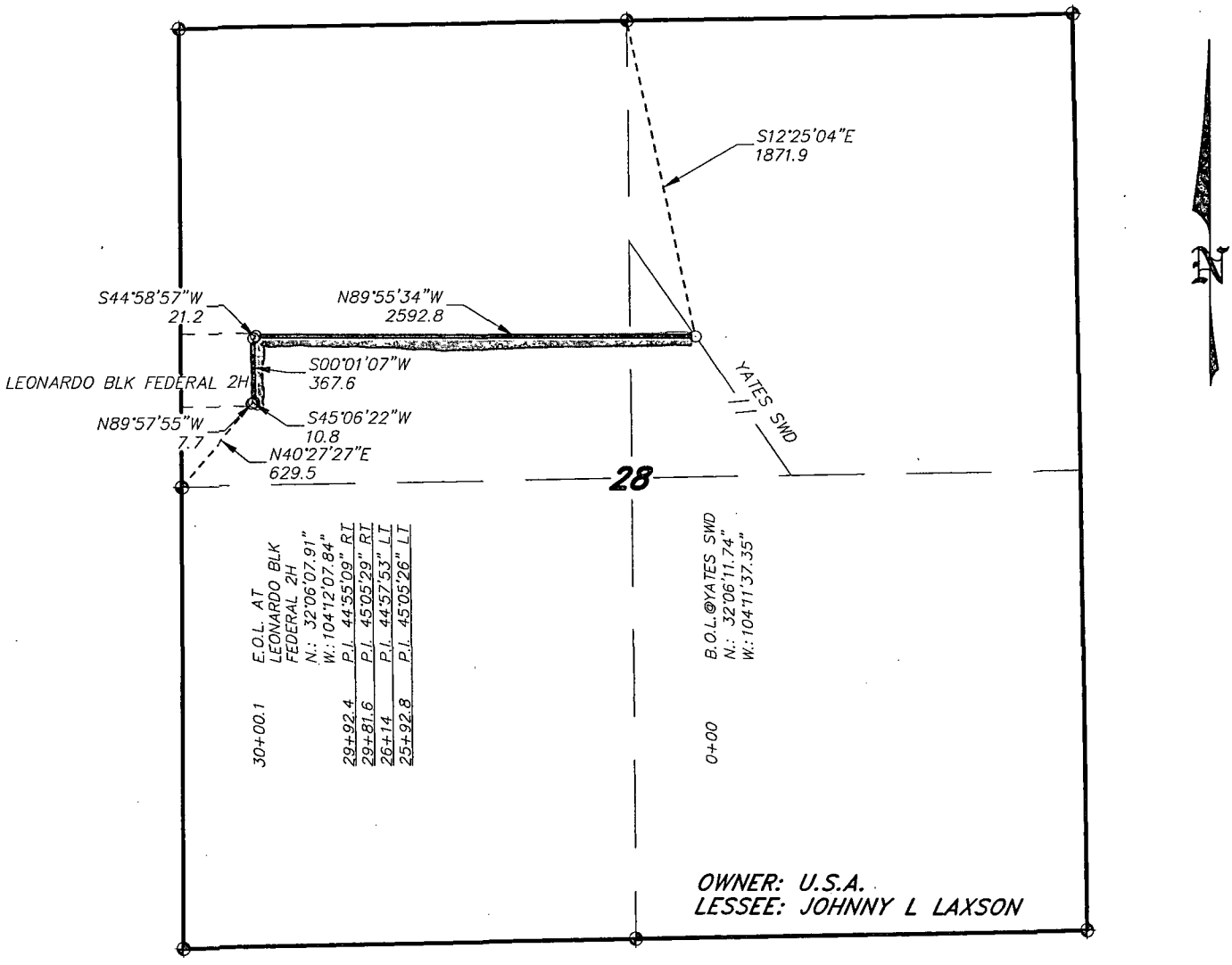
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 – Office
(575) 392-2206 – Fax
basinsurveys.com

W.O. Number: 30072	Drawn By: K. NORRIS	Date: 02-20-2014	Survey Date: 02-12-2014	Sheet 1 of 1 Sheets

SECTION 28, TOWNSHIP 25 SOUTH, RANGE 27 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



LEGAL DESCRIPTION

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GARY L. JONES — NEW MEXICO — 7977 — REGISTERED PROFESSIONAL LAND SURVEYOR

GARY L. JONES, N.M. P.S. No. 7977
TEXAS No. 5074

1000 0 1000 2000 FEET

YATES PETROLEUM CORPORATION

REF: PROPOSED SWD PIPELINE TO LEONARDO BLK FEDERAL #2H

SWD A PIPELINE CROSSING USA LAND IN SECTION 28, TOWNSHIP 25 SOUTH, RANGE 27 EAST, N.M.P.M., LEA 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: 30072	Drawn By: K. NORRIS	Date: 02-20-2014	Survey Date: 02-12-2014	Sheet 1 of 1 Sheets

This well will be drilled vertically to 7132'. At 7132' the well will be kicked off and directionally drilled at 12 degrees per 100' with an 8 3/4" hole to 7871' MD (7610' TVD). Hole size will then be reduced to 8 ½" and drilled to 12175' MD (7709' TVD) where 5 1/2" casing will be set and cemented 500' into intermediate casing with a DV Tool at approximately 5000' (cement volumes will be adjusted per tool placement). Penetration point of producing zone will be encountered at 1952' FNL & 666 FWL of section 28-25S-27E. The deepest TVD in well is 7709' in the lateral.

Minimum Casing Design Factors: Collapse 1.125, Burst 1.0, Joint Strength 1.8

B. Cementing Program:

Surface casing from 0' to 400': TOC surface; 415 sack 50/50 PozC with CaCl2 2% (WT 14.20 YLD 1.34 WTR. 6.20 gal/sack); Cement designed with 100% excess.

Intermediate Casing 0' to 2250': TOC surface. 565 sack 35:65:6PzC (WT 12.50 YLD 2.00 WTR. 11.0 gal/sack); Tail in w/ 210 sack 50/50 PozC + 2% CaCl2 (Wt. 14.20 Yld.1.34 WTR. 6.20 gal/sack). Cement designed with 100% excess.

Production Casing will be done intwo stages with DV Tool at 5000':

Stage I 12175' to 5000': TOC 5000', Lead in with 360 sack 35:65:6PzC (Wt. 12.50 Yld. 2.00 Wtr. 11.00 gal/sack). Tail in with 875 sack of Pecos Valley Lite with D112 fluid loss 0.4%, D151-Calcium Carbonate 22.5 lbs/sack, D174-Extender 2.5 lb/sack, D177-Retarder 0.01 lb/sack, D800-Retarder 0.6 lb/sack, D046-antifoam agent 0.15 lb/sack (Wt 13.00 Yld. 1.82 Wtr. 9.3 gal/sack). Cement designed with 35% excess.

Stage II 5000' to1750': TOC 1750'. Lead with 420 sack 35:65:6PzC (Wt. 12.50 Yld. 2.00 Wtr. 11.0 gal/sack). Tail in with 205 sacks of 50/50 PozC w/2% CaCl2 (Wt 14.2 0 Yld. 1.34 Wtr 6.2 gal/sack). Cement designed with 35% excess.

5. Mud Program and Auxiliary Equipment:

INTERVAL	TYPE	WEIGHT	VISCOSITY	FLUID LOSS
0'-400'	Fresh Water	8.60-9.20	32-34	N/C
400'-2250'	Brine Water	10.00-10.20	28-29	N/C
2250'-12175'	Cut Brine	8.80-9.20	28-32	N/C

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blow out will be available at the well site during drilling operations. The slow pump speed will be recorded on the daily drilling report after mudding up. A mud test will be performed every 24 hours after mudding up to determine, as applicable, viscosity, gel strength, filtration and pH. After surface casing is set an electronic PVT system will be installed as our primary mud level monitoring system. A secondary system will also be implemented as to insure the PVT system is functioning properly. The secondary system will be comprised of the derrick hand visually checking the fluid level in the pits periodically using a nut on the end of a rope hanging just above the fluid level in the pit.

6. EVALUATION PROGRAM:

Samples: 10' samples surface to TD.
Logging: Gamma-Ray/Neutron, 30 degree deviation to surface. Neutron Density,30 degree deviation to intermediate casing. Laterolog, 30 degree deviation to intermediate casing. CMR, 30 degree deviation to intermediate casing. Horizontal—MWD-Gamma-Ray.

Coring: None Anticipated.
DST's: As warranted.
Mudlogger on from surface casing to TD.

H2S is not anticipated.

7. Abnormal Conditions, Bottom hole pressure and potential hazards:

Anticipated BHP:

From:	O	TO:	400'	Anticipated Max.	BHP:	191	PSI
From:	400'	TO:	2250'	Anticipated Max.	BHP:	1193	PSI
From:	2250'	TO:	7709'	Anticipated Max.	BHP:	3688	PSI

No abnormal pressures or temperatures are anticipated.

Lost Circulation Zones Anticipated: None.

H2S Zones Anticipated: None

Maximum Bottom Hole Temperature: 160 F

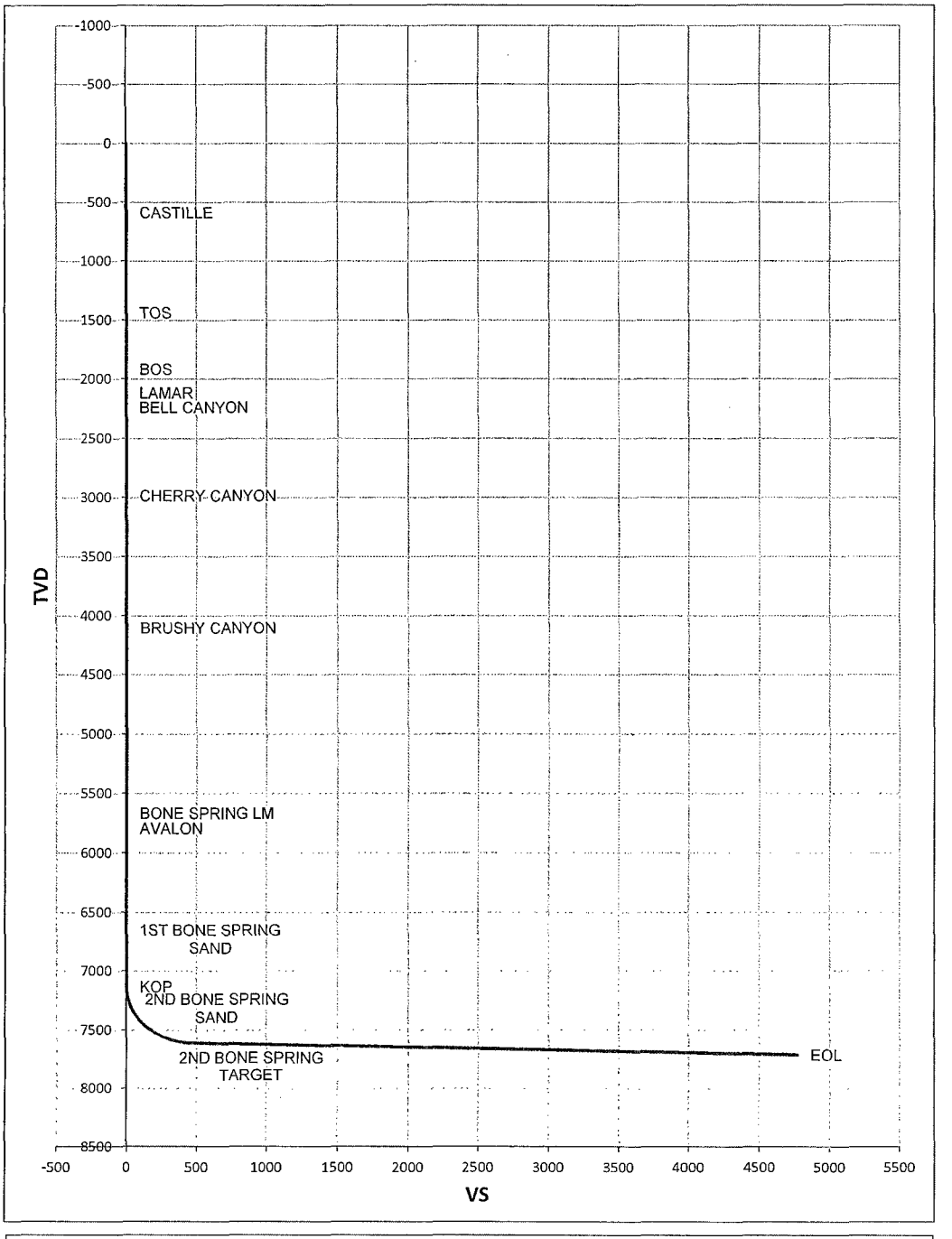
8. ANTICIPATED STARTING DATE:

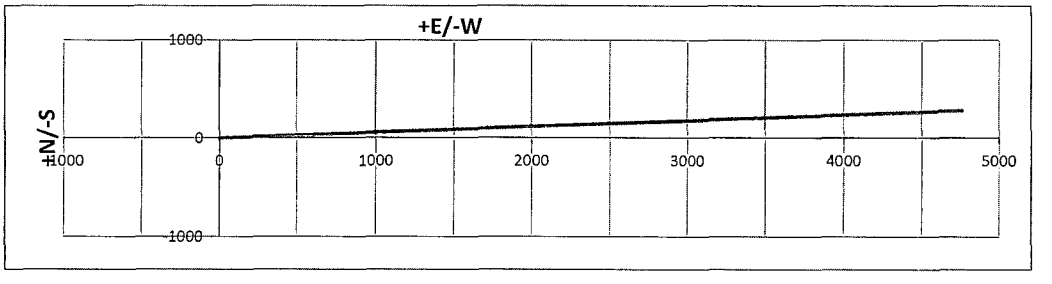
Plans are to drill this well as soon as possible after receiving approval. It should take approximately 60 days to drill the well with completion taking another 30 days.

Well Name:	Leonardo BKL Federal #2H	**Tgt N/-S:**	283.60		
		Tgt E/-W:	4761.50	**EOC TVD/MD:**	7609.76 / 7871.41
Surface Location:	Section 28 , Township 25S Range 27E	**VS:**	4769.94		
Bottom Hole Location:	Section 28 , Township 25S Range 27E	**VS Az:**	86.59	**EOL TVD/MD:**	7709.00 / 12174.89

MD	Inc.	Azi.	TVD	+N/-S	+E/-W	VS	DLS	Comments
0	0	0	0	0	0	0	0	
589.00	0.00	0.00	589.00	0.00	0.00	0.00	0.00	CASTILLE
1439.00	0.00	0.00	1439.00	0.00	0.00	0.00	0.00	TOS
1919.00	0.00	0.00	1919.00	0.00	0.00	0.00	0.00	BOS
2119.00	0.00	0.00	2119.00	0.00	0.00	0.00	0.00	LAMAR
2174.00	0.00	0.00	2174.00	0.00	0.00	0.00	0.00	BELL CANYON
2984.00	0.00	0.00	2984.00	0.00	0.00	0.00	0.00	CHERRY CANYON
4104.00	0.00	0.00	4104.00	0.00	0.00	0.00	0.00	BRUSHY CANYON
5734.00	0.00	0.00	5734.00	0.00	0.00	0.00	0.00	BONE SPRING LM
5794.00	0.00	0.00	5794.00	0.00	0.00	0.00	0.00	AVALON
6689.00	0.00	0.00	6689.00	0.00	0.00	0.00	0.00	1ST BONE SPRING SAND
7132.42	0.00	0.00	7132.42	0.00	0.00	0.00	0.00	KOP
7150.00	2.11	86.59	7150.00	0.02	0.32	0.32	12.00	
7175.00	5.11	86.59	7174.94	0.11	1.89	1.90	12.00	
7200.00	8.11	86.59	7199.77	0.28	4.77	4.77	12.00	
7225.00	11.11	86.59	7224.42	0.53	8.93	8.95	12.00	
7250.00	14.11	86.59	7248.82	0.86	14.38	14.40	12.00	
7275.00	17.11	86.59	7272.89	1.26	21.09	21.13	12.00	
7300.00	20.11	86.59	7296.58	1.73	29.06	29.11	12.00	
7318.69	22.35	86.59	7314.00	2.13	35.81	35.87	12.00	2ND BONE SPRING SAND
7325.00	23.11	86.59	7319.82	2.28	38.25	38.31	12.00	
7350.00	26.11	86.59	7342.55	2.90	48.64	48.72	12.00	
7375.00	29.11	86.59	7364.70	3.59	60.20	60.31	12.00	
7400.00	32.11	86.59	7386.21	4.34	72.91	73.04	12.00	
7425.00	35.11	86.59	7407.03	5.17	86.72	86.87	12.00	
7450.00	38.11	86.59	7427.10	6.05	101.60	101.78	12.00	
7475.00	41.11	86.59	7446.35	7.00	117.51	117.72	12.00	
7500.00	44.11	86.59	7464.75	8.01	134.40	134.64	12.00	
7525.00	47.11	86.59	7482.24	9.07	152.23	152.50	12.00	
7550.00	50.11	86.59	7498.77	10.18	170.95	171.26	12.00	
7575.00	53.11	86.59	7514.29	11.35	190.51	190.85	12.00	
7600.00	56.11	86.59	7528.77	12.56	210.85	211.23	12.00	
7625.00	59.11	86.59	7542.16	13.81	231.93	232.34	12.00	
7650.00	62.11	86.59	7554.42	15.11	253.67	254.12	12.00	
7675.00	65.11	86.59	7565.53	16.44	276.02	276.51	12.00	
7700.00	68.11	86.59	7575.46	17.80	298.92	299.45	12.00	
7725.00	71.11	86.59	7584.17	19.20	322.31	322.88	12.00	
7750.00	74.11	86.59	7591.64	20.62	346.12	346.74	12.00	
7775.00	77.11	86.59	7597.85	22.06	370.29	370.95	12.00	
7800.00	80.11	86.59	7602.79	23.51	394.75	395.45	12.00	
7825.00	83.11	86.59	7606.44	24.98	419.44	420.18	12.00	
7850.00	86.11	86.59	7608.78	26.46	444.28	445.07	12.00	
7871.41	88.68	86.59	7609.76	27.73	465.63	466.46	12.00	2ND BONE SPRING TARGET
12174.89	88.68	86.59	7709.00	283.60	4761.50	4769.94	0.00	EOL

Leonardo BKL Federal #2H



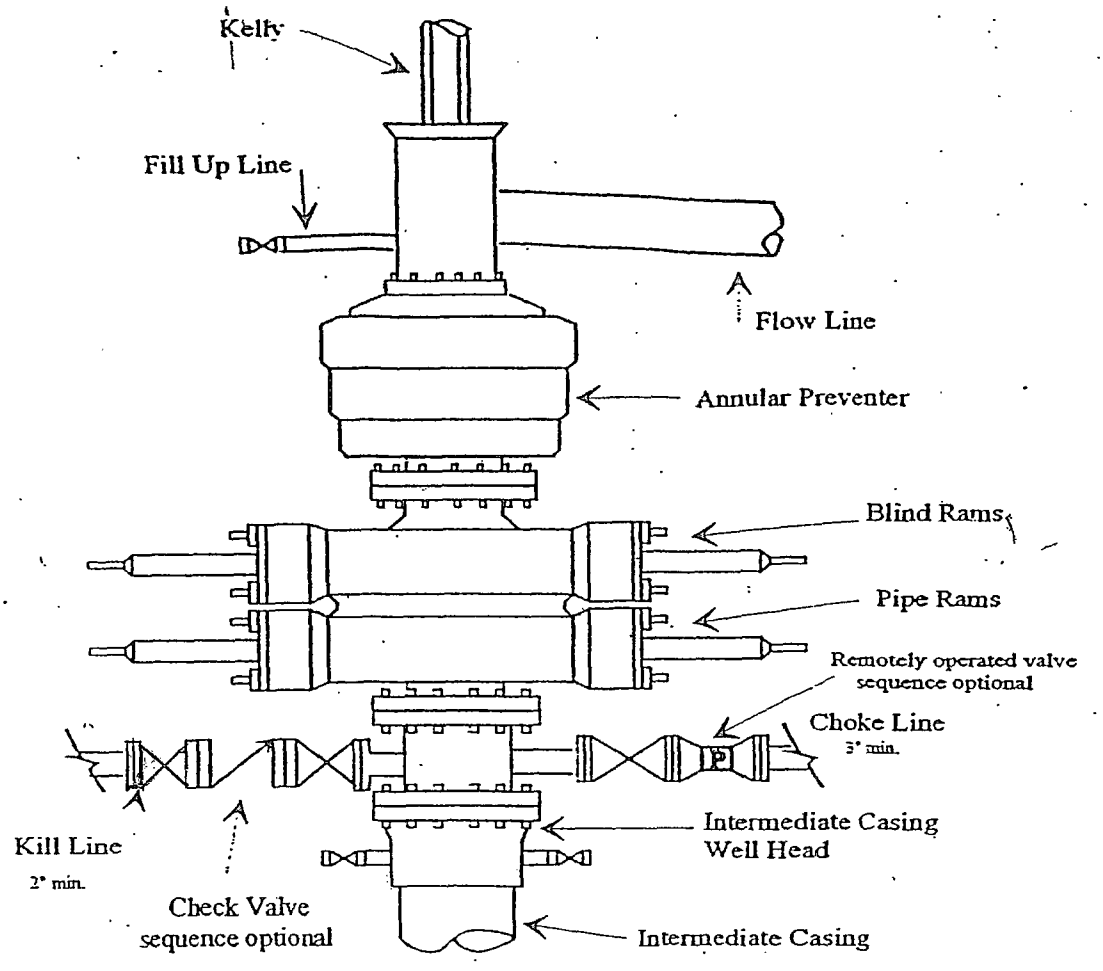


BOP-4

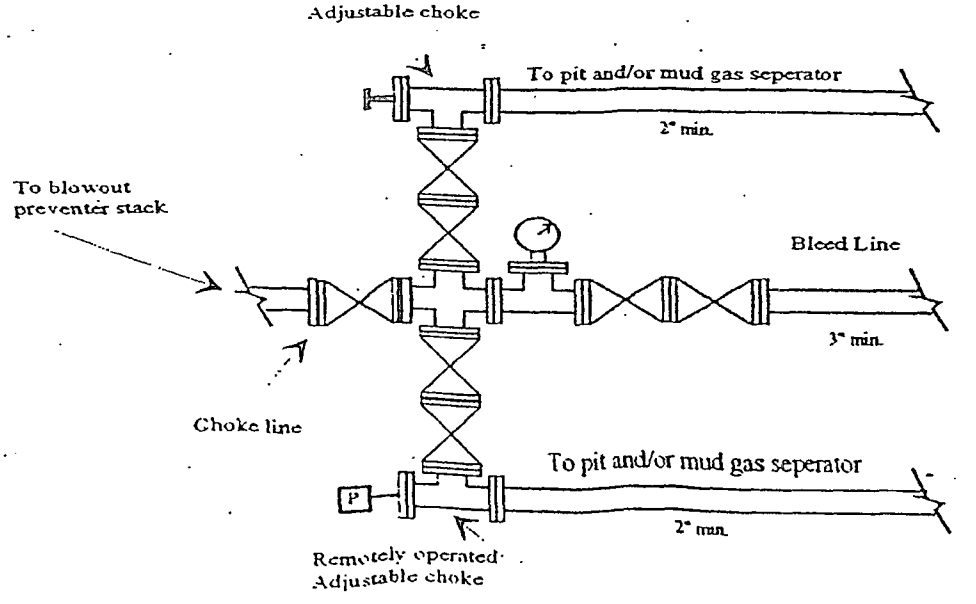
Exhibit

Yates Petroleum Corporation

Typical 5,000 psi Pressure System Schematic
Annular with Double Ram Preventer Stack

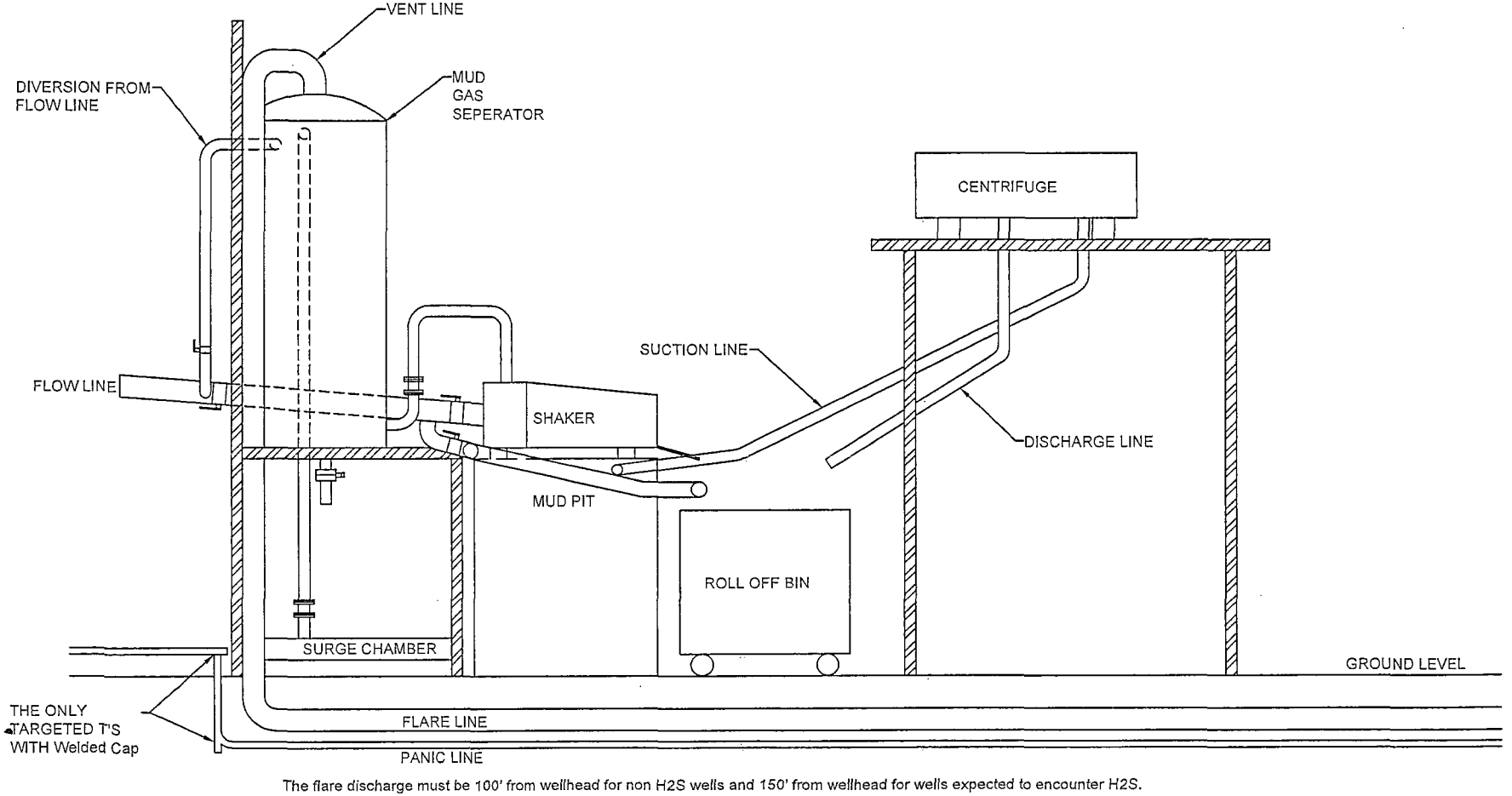


Typical 5,000 psi choke manifold assembly with at least these minimun features



YATES PETROLEUM CORPORATION

Piping from Choke Manifold
to the Closed Loop Drilling Mud System



The flare discharge must be 100' from wellhead for non H2S wells and 150' from wellhead for wells expected to encounter H2S.

Yates Petroleum Corporation
Closed Loop System

Equipment Design Plan

Closed Loop System will consist of:
1 – double panel shale shaker
1 – (minimum) Centrifuge, certain wells and flow rates may require 2 centrifuges
On certain wells, the Centrifuge will be replaced by a Clackco Settling Tank System
1 – minimum centrifugal pump to transfer fluids
2- 500 bbl. FW Tanks
1 – 500 bbl. BW Tank
1 – half round frac tank – 250 bbl. capacity as necessary to catch cement / excess mud returns generated during a cement job.
1 Set of rail cars / catch bins
Certain wells will use an ASC Auger Tank

Operation Plan

All equipment will be inspected at least hourly by rig personnel and daily by contractors' personnel.
Any spills / leaks will be reported to YPC, NMOCD, and cleaned up without delay.

Closure Plan

Drilling with Closed Loop System, haul off bins will be taken to Gandy Marley, Lea Land Farm, CRI or Sundance Services Inc.

Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	CACTUS	Hose Assembly Type	Choke & Kill
MWH Sales Representative	EVAN SPARKMAN	Certification	API 7K
Date Assembled	12/11/2013	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	191672	Hose Lot # and Date Code	11060 10/13
Customer Purchase Order #	RIG#137 M12653	Hose I.D. (Inches)	4"
Assembly Serial # (Pick Ticket #)	229391	Hose O.D. (Inches)	6.60"
Hose Assembly Length	35 FEET	Armor (yes/no)	YES

Fittings			
End A		End B	
Stem (Part and Revision #)	R4.0X64WB	Stem (Part and Revision #)	R4.0X64WB
Stem (Heat #)	1311405220	Stem (Heat #)	1311405220
Ferrule (Part and Revision #)	RF4.0	Ferrule (Part and Revision #)	RF4.0
Ferrule (Heat #)	120368	Ferrule (Heat #)	120368
Connection (Part #)	4 1/16" 10K	Connection (Part #)	4 1/16" 10K
Connection (Heat #)		Connection (Heat #)	
Dies Used	6.62"	Dies Used	6.62"

Hydrostatic Test Requirements		
Test Pressure (psi)	15,000	*Hose assembly was tested with ambient water temperature.*
Test Pressure Hold Time (minutes)	16 1/2	

Date Tested	Tested By	Approved By
12/11/2013		

M12653

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

December 11, 2013

Customer: Cactus

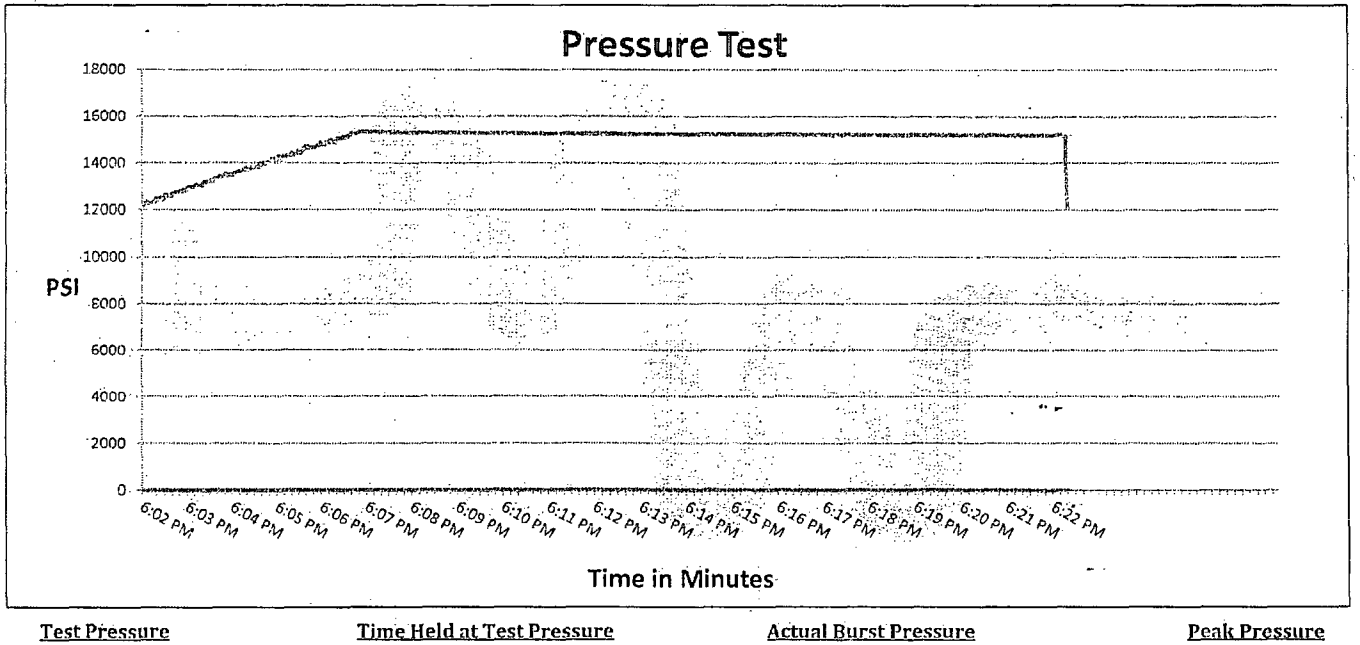
Pick Ticket #: 229391

Hose Specifications

Hose Type	Length
Mud	35'
I.D.	**O.D.**
4"	6.13"
Working Pressure	**Burst Pressure**
10000 PSI	Standard Safety Multiplier Applies

Verification

Type of Fitting	Coupling Method
4 1/16 10K	Swage
Die Size	**Final O.D.**
6.62"	6.66"
Hose Serial #	**Hose Assembly Serial #**
11060	229391



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	16 2/4 Minutes		15483 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: *Tony Kellington*

x

Approved By: *Phil Maytubby*

x

Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer: **CACTUS**	*Customer P.O.#* **RIG#137 M12653**
Sales Order # **191672**	*Date Assembled:* **12/11/2013**

Specifications

Hose Assembly Type:	**Choke & Kill**		
Assembly Serial #	**229391**	*Hose Lot # and Date Code*	**11060 10/13**
Hose Working Pressure (psi)	**10000**	*Test Pressure (psi)*	**15000**

We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.

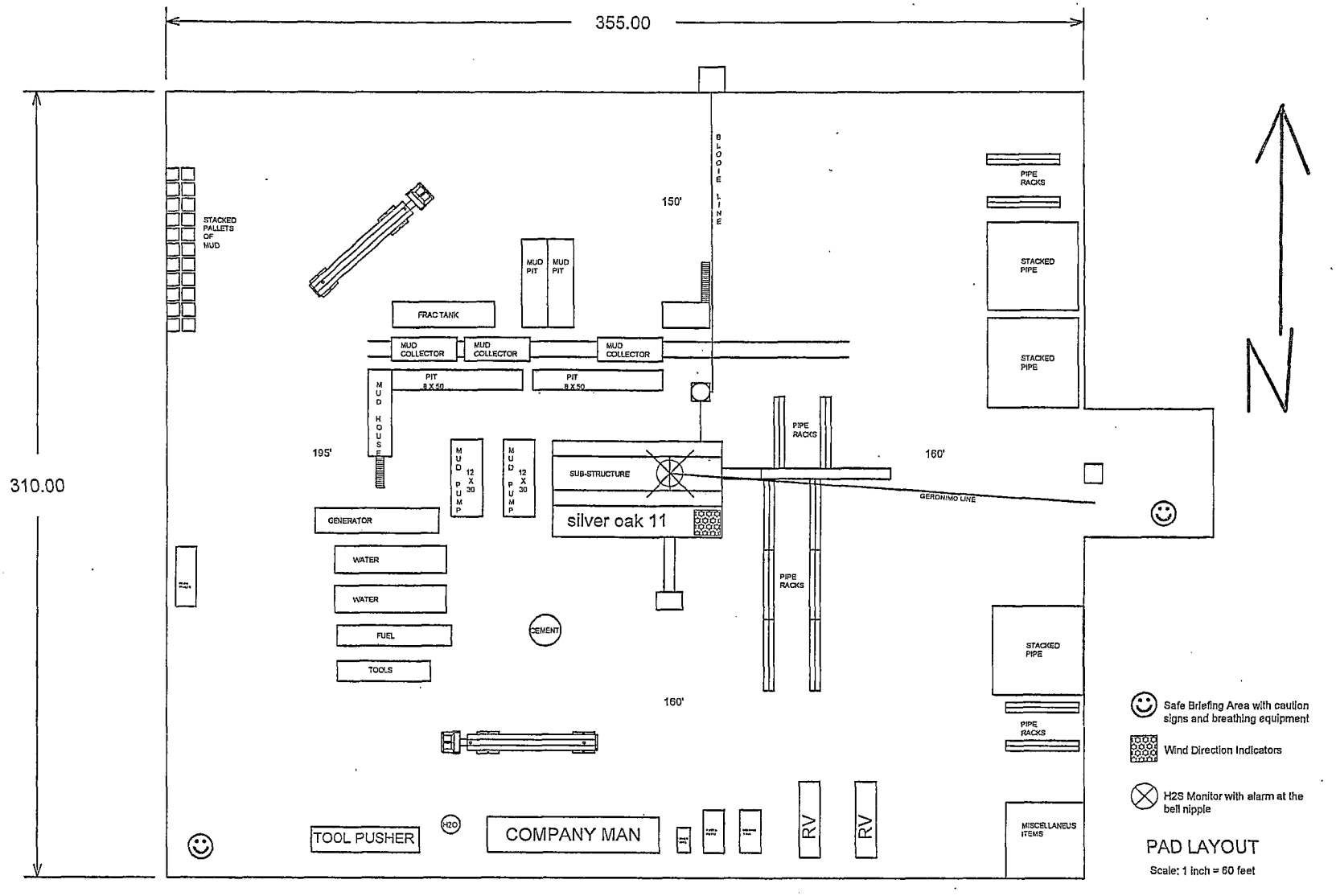
Supplier:
Midwest Hose & Specialty, Inc.
3312 S I-35 Service Rd
Oklahoma City, OK 73129

Comments:

Approved By	***Date***
Phillip Mayfield	**12/11/2013**

YATES PETROLEUM CORPORATION Rig Plat #1

SILVER OAK RIG #11

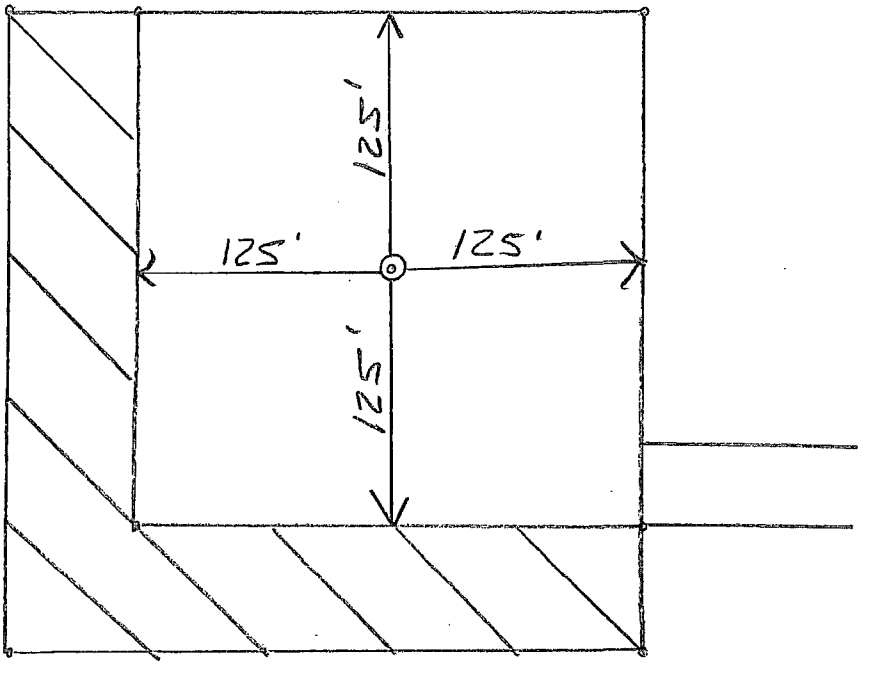


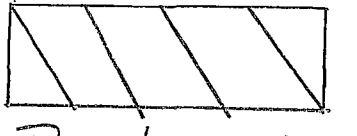
PAD LAYOUT

Scale: 1 inch = 60 feet

LEONARDO BKL
Federal 2H

RECLAMATION PLAT





RECLAIMED AREA

MULTI-POINT SURFACE USE AND OPERATIONS PLAN
YATES PETROLEUM CORPORATION
Leonardo BKL Federal Com. #2H
1980' FNL and 200' FWL SHL
1780' FNL and 330' FEL BHL
Section 28-T25S-R27E
Eddy County, New Mexico

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS:

Exhibit A is a portion of the BLM map showing the well and roads in the vicinity of the proposed location. The proposed wellsite is located approximately 13 miles southwest of Malaga, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

DIRECTIONS:

From the Malaga, New Mexico go west on Black River Road (CR-774) for approximately 2.5 miles to Roadrunner Road. (CR-774). Turn left on Roadrunner Road and go Approximately 9.8 miles. The new road will start here going west for approximately .4 of a mile to the southeast corner of the well location.

2. PLANNED ACCESS ROAD:
   A. The proposed new access will be approximately 0.4 mile in length from the point of origin to the southeast corner of drilling pad. The road will lie in an east to west direction. The road will be crowned and ditched to a 2% slope from the tip of the crown to the edge of the driving surface.
   B. Ditches will be 3' wide with a 3:1 slopes
   C. The new road will be bladed with drainage on one side. Some traffic turnouts may be built.
   D. The route of the road is visible.
   E. Existing roads will be maintained in the same or better condition.

3. LOCATION OF EXISTING WELL / Production facilities JE 9/19/14

   A. There are production facilities on this lease at the present time. Yates' Production Department personnel will determine what production facilities will be constructed on this location at a later date. This information will then be submitted to the BLM. If the well is productive oil, a gas or diesel self-contained unit will be used to provide the necessary power. No power will be required if the well is productive of gas.
   B. One (1) 8" SDR-11 poly buried production flowline and one (1) 8" SDR-11 poly buried produced water pipeline. Each will have a working pressure of 100# psi and a volume of 1000 barrels per day. Lengths will be 3000.1 feet and will tie into the existing pipeline to the east. Both pipelines will follow the proposed access to the Leonardo BKL Federal #2H well location.
   C. There is drilling activity within a one-mile radius of the wellsite.
   D. An exhibit shows existing wells within a one-mile radius of the proposed wellsite.

4. LOCATION AND TYPE OF WATER SUPPLY:

   A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit A.

5. SOURCE OF CONSTRUCTION MATERIALS:

   The dirt contractor will locate the closest pit and obtain any permits and material needed for the constructon if necessary.

6. METHODS OF HANDLING WASTE DISPOSAL:

   A. This well will be drilled with a closed loop system
   B. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the "Pit Rule" 19.15.17 NMAC.
   C. Drilling fluids will be removed after drilling and completions are completed.
   D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.
   E. Oil produced during operations will be stored in tanks until sold.
   F. Current laws and regulations pertaining to the disposal of human waste will be complied with.
   G. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not approved.

7. ANCILLARY FACILITIES: None

8. WELLSITE LAYOUT:

   A. Yates has staked a 410' x 400' "Pad Clearance Area." This area can contain the regularly used rigs Yates utilizes in Southeastern New Mexico. The actual pad size to be constructed would be smaller than the "Pad Clearance Area." This area was staked at this size with aid from the BLM, since the actual pad size/drilling rig is unknown at this time. Yates will submit a Sundry Notice with a rig layout depicting the actual size of the pad to be constructed with the dimensions from the well bore to all four sides of the pad with the same orientation as the "Pad Clearance Area." Yates will not construct the well pad until the rig layout is approved through the Sundry Notice.
   B. Please note exhibits Rig Size #1 and Rig Size #2 show the relative location and dimensions of the well pad, location of the drilling equipment, pulling unit orientation and access road approach. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the "Pit Rule" 19.15.17 NMAC.
   C. A 600' x 600' area has been staked and flagged.

9 PLANS FOR RESTORATION:

A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing a condition as possible. The location will be reduced to a 250' x 250' after completion operations have been conducted. At this point the surfacing material will be removed, topsoil will be redistributed and the area will be reseeded. Please note attached Reclamation Plat.

B. If the proposed well is plugged and abandoned, all equipment and other material will be removed. The location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing a condition as possible. At this point the surfacing material will be removed, topsoil will be redistributed and the area will be reseeded. The location will be re-contoured to resemble the original site as possible before construction took place. These actions will be completed and accomplished as expeditiously as possible.

C. The reclamation of the pad will be done in sixty days if possible after the well is put in production.

10 SURFACE OWNERSHIP:

Surface Estate Bureau of Land Management
620 East Greene Street, Carlsbad, NM 88220.

Mineral Estate: Federal Lease NM-92167
Bureau of Land Management
620 East Greene Street, Carlsbad, NM 88220

11. OTHER INFORMATION:

A. Topography: Refer to the existing archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.
B. The primary surface use is for grazing.

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Yates Petroleum Corp
LEASE NO.:	NM92167
WELL NAME & NO.:	2H-Leonardo BKL Federal
SURFACE HOLE FOOTAGE:	1980'/N & 200'/W
BOTTOM HOLE FOOTAGE	1780'/N & 330'/E
LOCATION:	Sec. 28, T. 25 S., R. 27 E.
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.

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)

Sundry Notice Required Prior to Production

Since Yates Petroleum has elected to defer submission of production facility plans as per Onshore Oil and Gas Order Number 1 Section III(D)4d, a sundry notice must be submitted prior to construction and installation of the facilities. A field inspection by the BLM may be required and Yates may not begin construction until BLM approves the construction in writing.

Pad Construction Requirement

- As outlined in the surface use plan of the APD, Yates has staked a 420 x 420 foot "Pad Clearance Area." This area can contain the regularly used rigs Yates utilizes in southeast New Mexico. The actual pad size to be constructed will be smaller than this "Pad Clearance Area." This area was staked at this size with aid from the BLM, since the actual pad size/drilling rig is unknown at the time of the APD submittal.
- Yates must submit a sundry notice with a rig layout depicting the actual size of pad to be constructed with dimensions from the well bore to all four sides with the same orientation as the "Pad Clearance Area", v-door facing southeast. Yates cannot construct the well pad until the rig layout is approved through the sundry notice.

Berm Well Pad

The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile and interim reclamation shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

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 strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area 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 exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure 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.

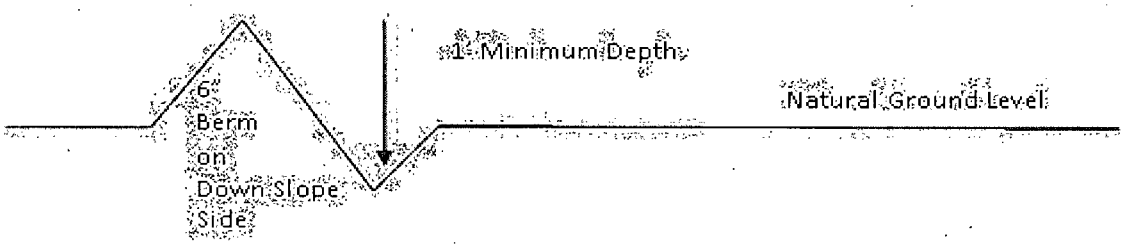
Ditching
Ditching shall be required on both sides of the road.

Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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.

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

Cattleguards
An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards on the access road route 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 cattleguards that are in place and are utilized during lease operations.

Fence Requirement
Where entry is granted 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 fences.

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

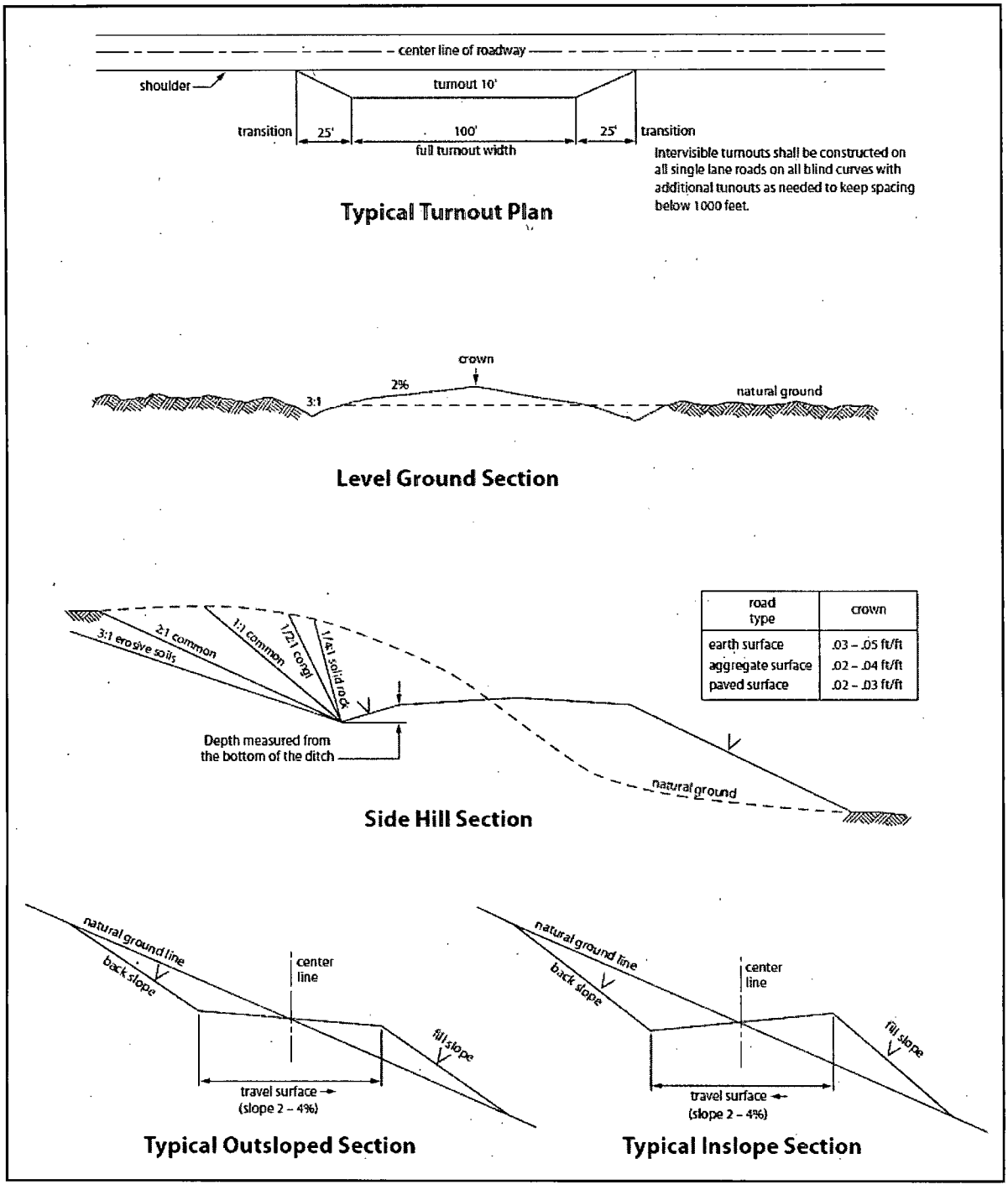


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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.).

The initial wellhead installed on the well will remain on the well with spools used as needed.

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

Wait on cement (WOC) for Potash Areas:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE.

Wait on cement (WOC) for Water Basin:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. See individual casing strings for details regarding lead cement slurry requirements.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

HIGH CAVE/KARST
Possibility water flows in the Salado, Castile and Delaware.
Possibility of lost circulation in the Delaware.

A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH. THEREFORE, ONE INCH OPERATIONS ARE NOT SUFFICIENT TO PROTECT CAVE KARST RESOURCES. A CASING DESIGN THAT HAS A ONE INCH JOB PERFORMED DOES NOT COUNT AS A SOLID SHEATH.

ON A THREE STRING DESIGN; IF THE PRIMARY CEMENT JOB ON THE SURFACE CASING DOES NOT CIRCULATE, THEN THE NEXT TWO CASING STRINGS MUST BE CEMENTED TO SURFACE.

1. The **13-3/8** inch surface casing shall be set at approximately **400** feet and cemented to the surface. **Fresh water mud to be used to setting depth.**

    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 **9-5/8** inch intermediate casing, which shall be set at approximately **2130** feet in the basal anhydrite of the Castile Formation or the top of the Lamar Limestone, is:

    ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

Operator has proposed DV tool at depth of 5000'. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

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

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, 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. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil 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 or other

pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of 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 holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. 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.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless

otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

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. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

(X) seed mixture 1	( ) seed mixture 3
( ) seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. 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. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. 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 before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (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.

17. 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 associated roads, 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.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches that are not otherwise fenced, screened, or netted to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.

For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

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).

Seed Mixture 1, for Loamy 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 regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/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:

Species	lb/acre
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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