

# Carlsbad Field Office

Form 3160-3  
(June 2015)

**OCD Artesia**  
NM OF CONSERVATION

FORM APPROVED  
OMB No. 1004-0137  
Expires: January 31, 2018

**UNORTHODOX  
LOCATION**

UNITED STATES

ARTESIA DISTRICT

DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

DEC 12 2016

**APPLICATION FOR PERMIT TO DRILL OR REENTER  
RECEIVED**

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-113939
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input checked="" type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator <del>Yates Petroleum Corporation</del> <b>EOG 4 Resources, Inc.</b>		8. Lease Name and Well No. Gutsy BUN Federal #5H <b>317146</b>
3a. Address 105 S. Fourth St., Artesia, NM 88210	3b. Phone No. (include area code) 575-748-4120	9. API Well No. <b>30-015-43974</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 200' FNL & 990' FWL At proposed prod. zone 330' FSL & 660' FWL		10. Field and Pool, or Exploratory 2nd Bone Spring; Undesignated <b>97818</b>
14. Distance in miles and direction from nearest town or post office* Approximately 25 miles southwest of Malaga, NM		11. Sec., T. R. M. or Blk. and Survey or Area Section 10, T26S - R26E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>200'</b>	16. No of acres in lease 1280 acres	17. Spacing Unit dedicated to this well W2W2, 160 acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>1349'</b>	19. Proposed Depth 7260' TVD, 11943' TD	20. BLM/BIA Bond No. in file NMB000434, NMB000920
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3410'	22. Approximate date work will start*	23. Estimated duration 30 days

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- |  |   |
|--|---|
| 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 requested by the BLM.            |

25. Signature 	Name (Printed/Typed) Travis Hahn	Date 8/4/2016
Title Land Regulatory Representative		
Approved by (Signature) <b>/s/Cody Layton</b>	Name (Printed/Typed)	Date <b>DEC 03 2016</b>
Title Land Regulatory Representative <b>FIELD MANAGER</b>	Office <b>CARLSBAD FIELD OFFICE</b>	

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.

**Carlsbad Controlled Water Basin**

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

**Approval Subject to General Requirements  
& Special Stipulations Attached**

DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240  
Phone (505) 393-6161 Fax: (505) 393-0720

DISTRICT II  
811 S. First St., Artesia, NM 88210  
Phone (505) 745-1283 Fax: (505) 745-9720

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

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised August 12, 2011

Submit one copy to appropriate  
District Office

OIL CONSERVATION DIVISION

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number <b>30-015-43974</b>	Pool Code <b>97818</b>	Pool Name <b>Wildcat; Bone Spring</b>
Property Code <b>317146</b>	Property Name <b>GUTSY BUN FEDERAL</b>	Well Number <b>5H</b>
OGRID No. <b>025575</b>	Operator Name <b>EOG-Y <del>YATES</del> PETROLEUM CORPORATION Resources</b>	Elevation <b>3410</b>

Surface Location

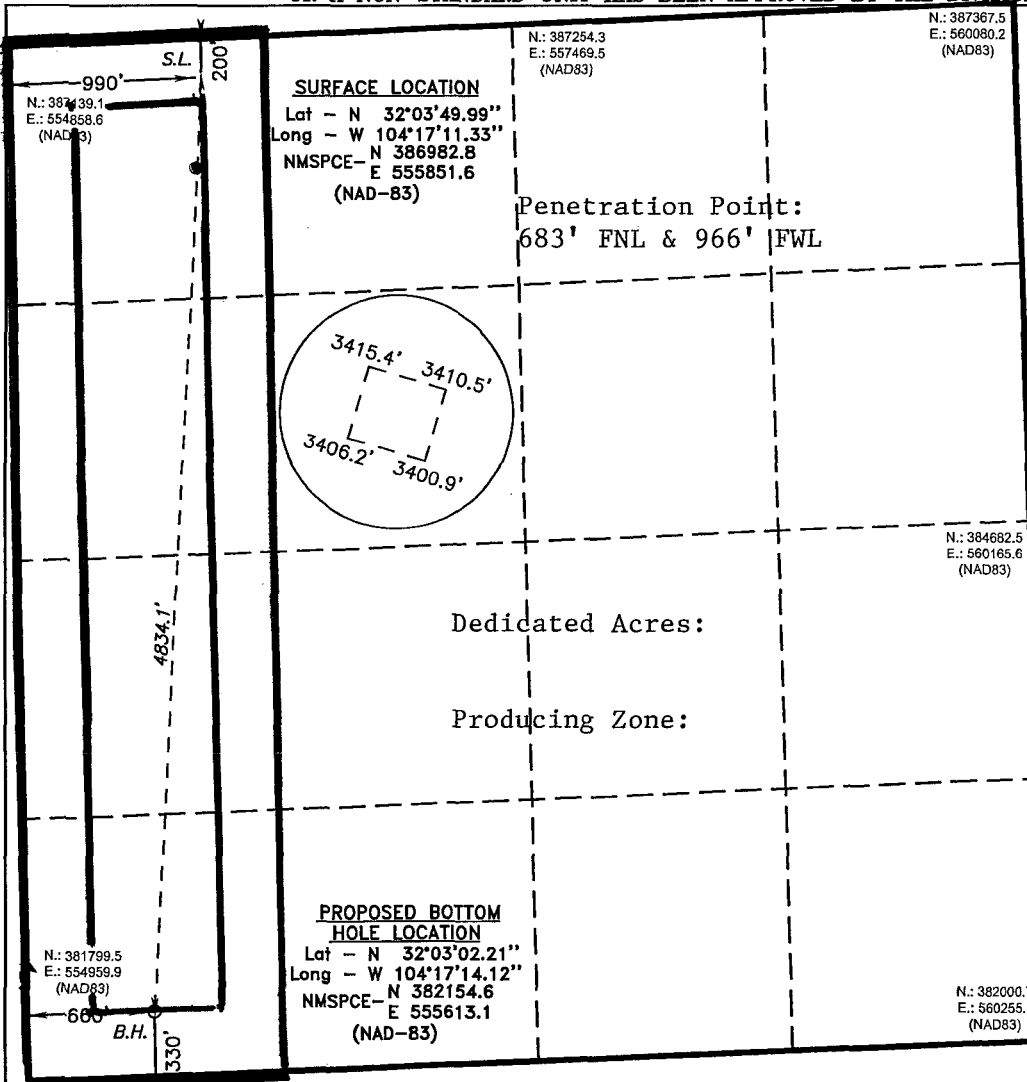
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
D	10	26 S	26 E		200	NORTH	990	WEST	EDDY

Bottom Hole Location If Different From Surface

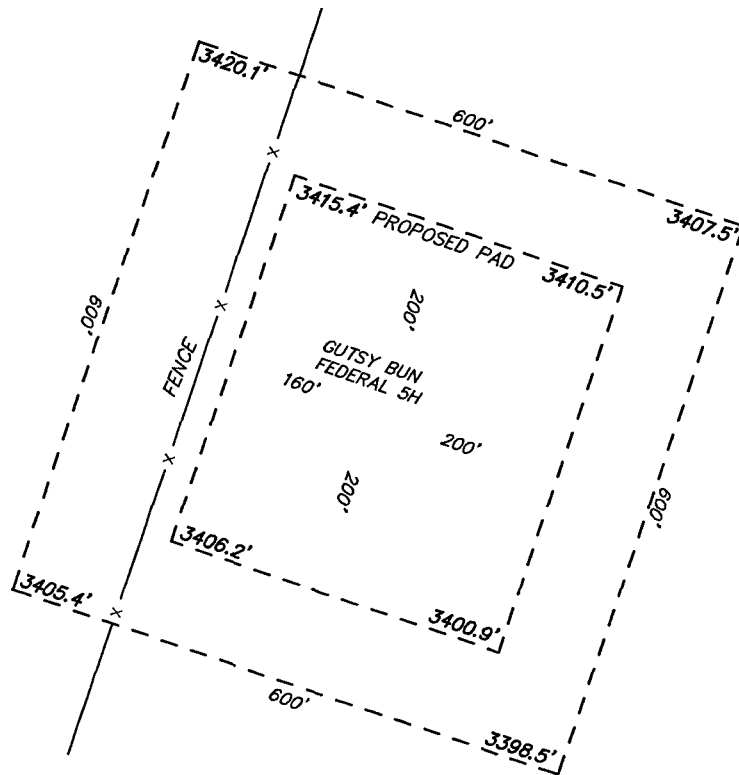
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
M	10	26 S	26 E		330	SOUTH	660	WEST	EDDY

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

	<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 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.</p> <p><i>Travis Hahn</i> 8/5/16 Signature Date</p> <p>Travis Hahn Printed Name thahn@yatespetroleum.com Email Address</p>
	<p><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>JUNE 29, 2016 Date Surveyed</p> <p><i>[Signature]</i> Signature &amp; Seal of Professional Surveyor</p> <p>Certificate No. 7977 Base Survey</p> <p>0' 500' 1000' 1500' 2000' SCALE: 1" = 2000' WO Num.: 32362</p>

SECTION 10, TOWNSHIP 26 SOUTH, RANGE 26 EAST. N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



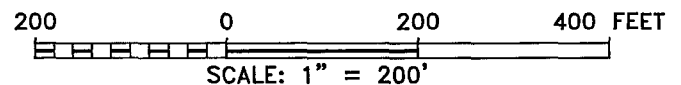
YATES PETROLEUM CORPORATION  
GUTSY BUN FEDERAL COM 5H  
ELEV. - 3410'

Lat - N 32°03'49.99"  
Long - W 104°17'11.33"  
NMSPCE - N 386982.8  
E 555851.6  
(NAD-83)

Directions to Location:

FROM HIGHWAY 62/180 GO EAST ON BLACK RIVER  
VILLAGE ROAD 7 MILES THEN GO SOUTH ON OLD  
CAVERN HIGHWAY 11.7 MILES THEN GO WEST 13.4  
MILES ON WHITES CITY ROAD TO PROPOSED ROAD.

WHITES CITY, NM IS ±9 MILES TO THE NORTHWEST OF LOCATION.



PETROLEUM  
CORPORATION

REF: GUTSY BUN FEDERAL 5H/ WELL PAD TOPO

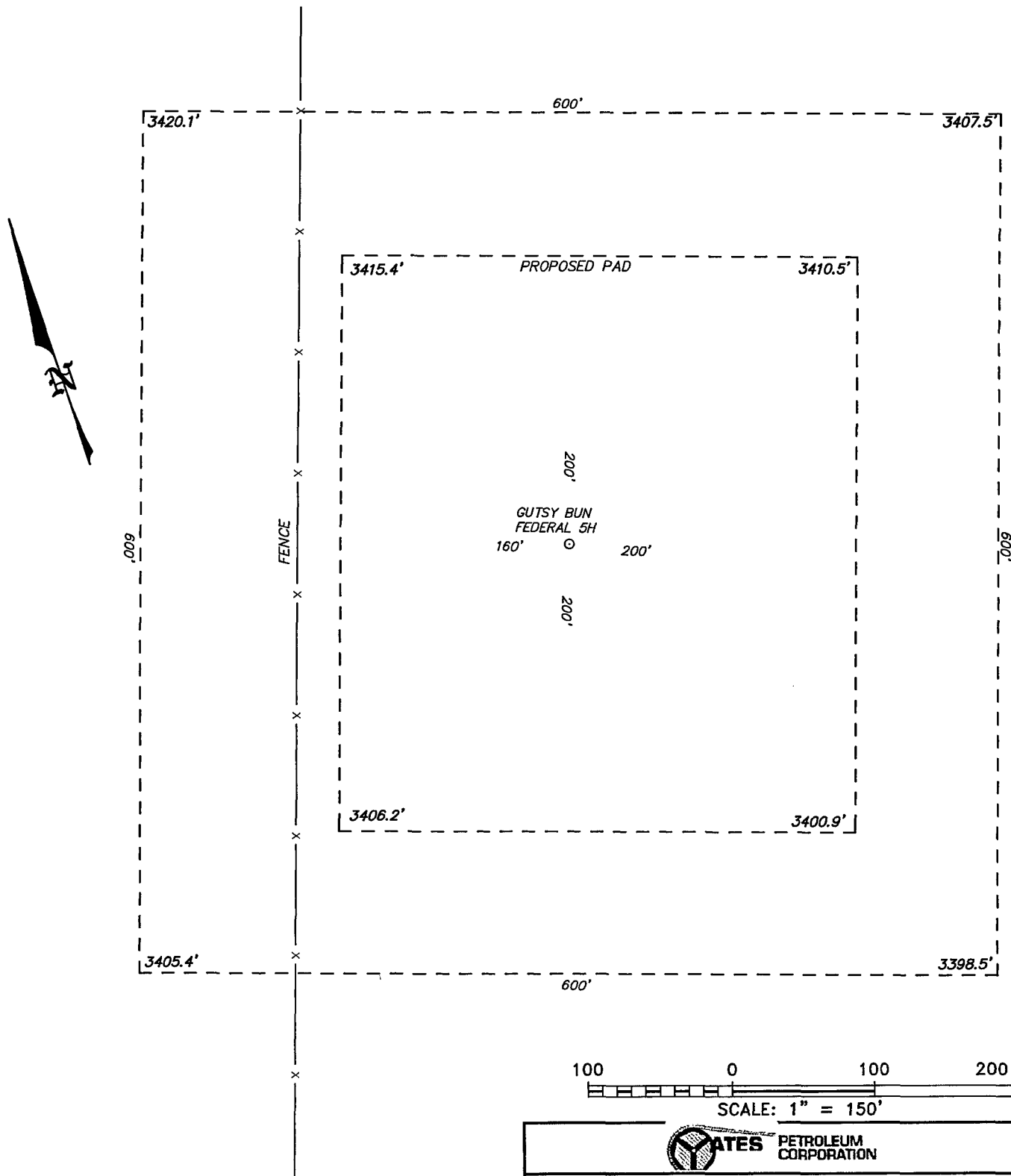
THE GUTSY BUN FEDERAL 5H LOCATED 200' FROM  
THE NORTH LINE AND 990' FROM THE WEST LINE OF  
SECTION 10, TOWNSHIP 26 SOUTH, RANGE 26 EAST.

N.M.P.M., EDDY COUNTY, NEW MEXICO.

**basin**  
**surveys**

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

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EDDY COUNTY, NEW MEXICO.



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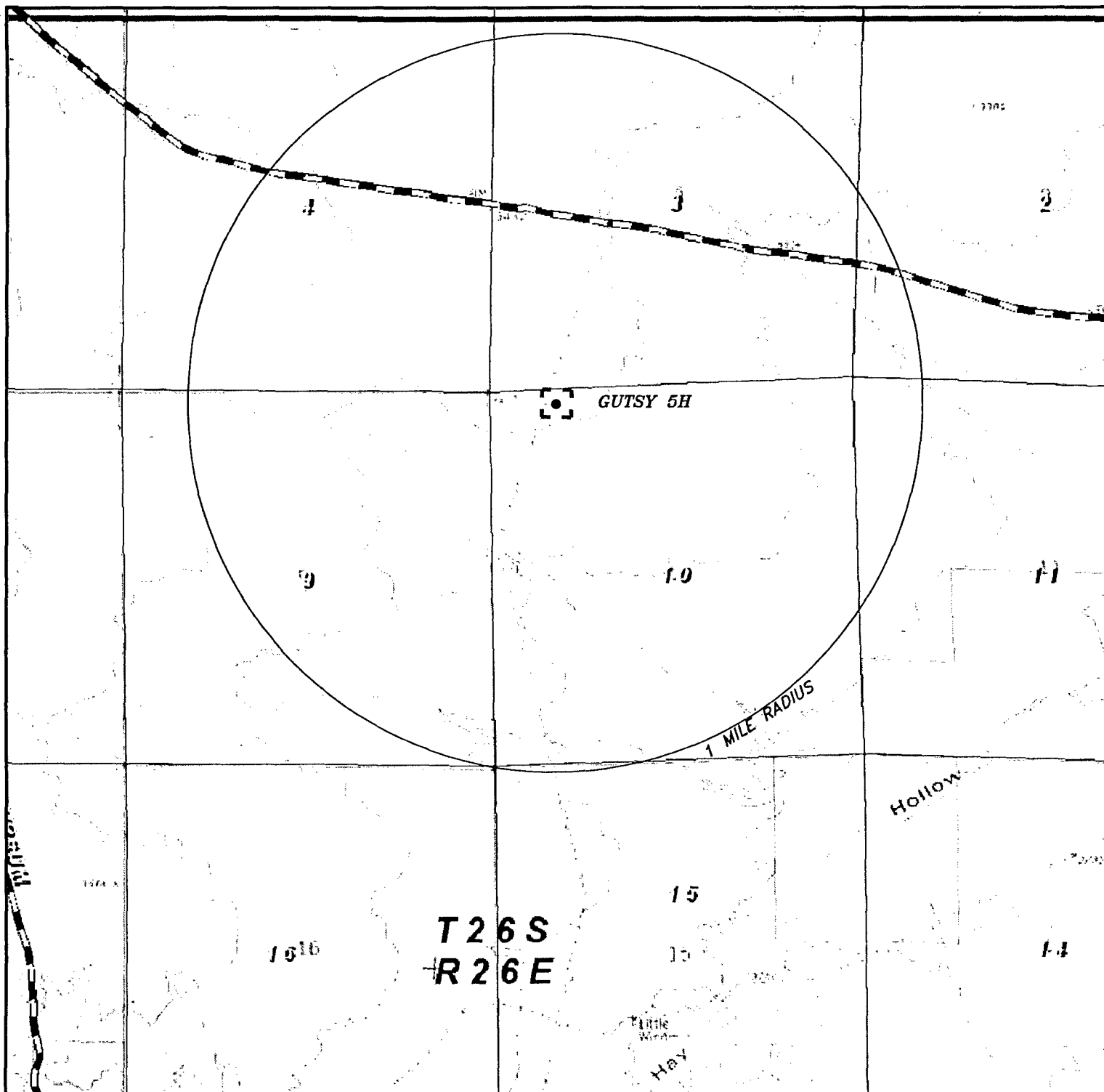


**YATES** PETROLEUM  
CORPORATION

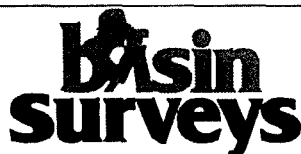
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N.M.P.M., EDDY COUNTY, NEW MEXICO.



**GUTSY BUN FEDERAL 5H**  
 Located 200' FNL and 990' FWL  
 Section 10 Township 26 South, Range 26 East,  
 N.M.P.M., Eddy County, New Mexico.



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 basinsurveys.com

0' 1000' 2000' 3000' 1500'

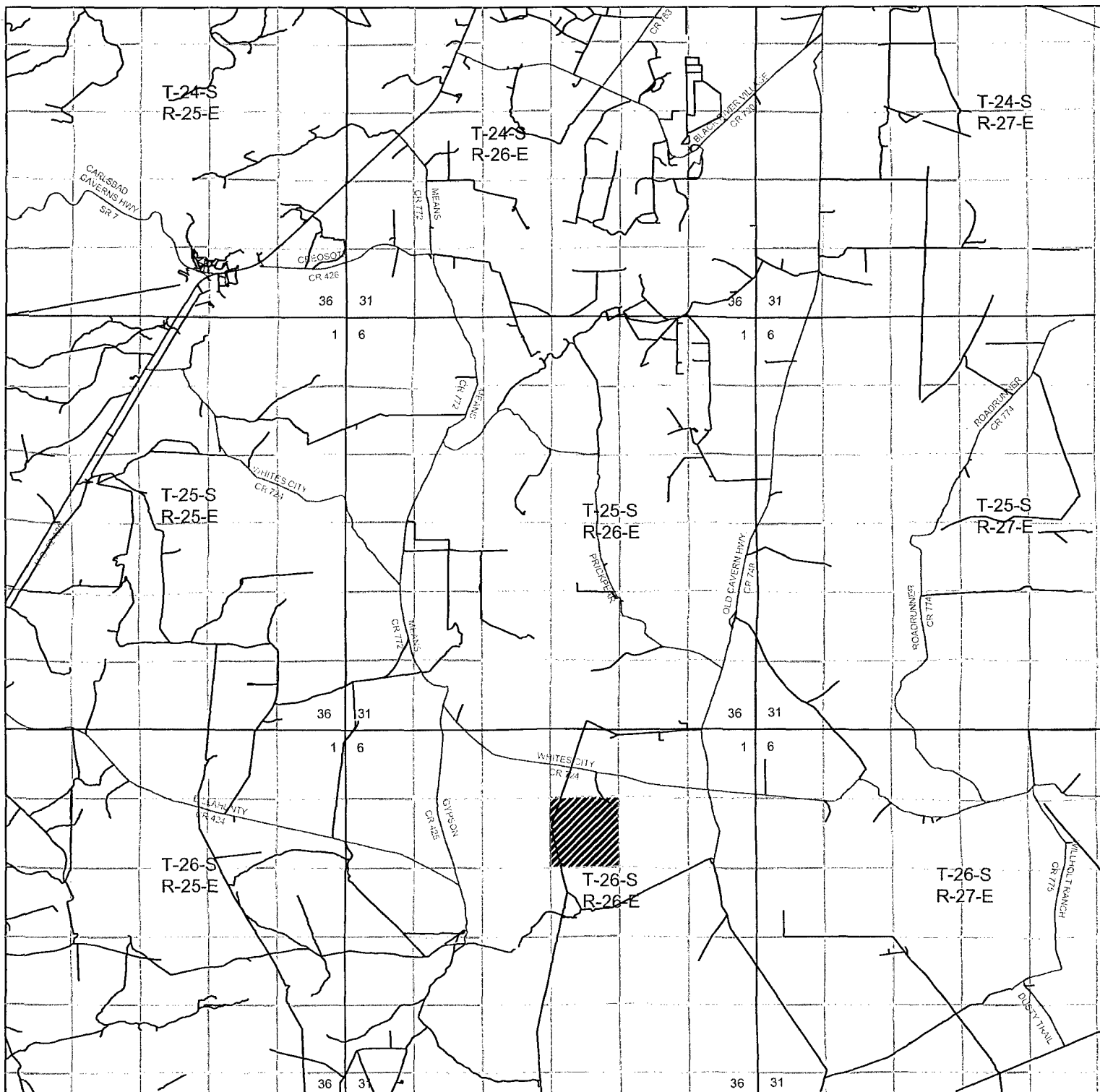
SCALE: 1" = 2000'

W.O. Number: JG 32362

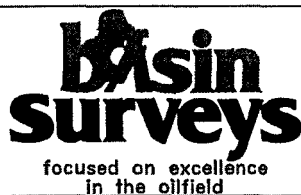
Survey Date: 6-25-2016

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





**GUTSY BUN FEDERAL 5H**  
 Located 200' FNL and 990' FWL  
 Section 10 Township 26 South, Range 26 East,  
 N.M.P.M., Eddy County, New Mexico.



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[basinsurveys.com](http://basinsurveys.com)

0 1 MI 2 MI 3 MI 4 MI

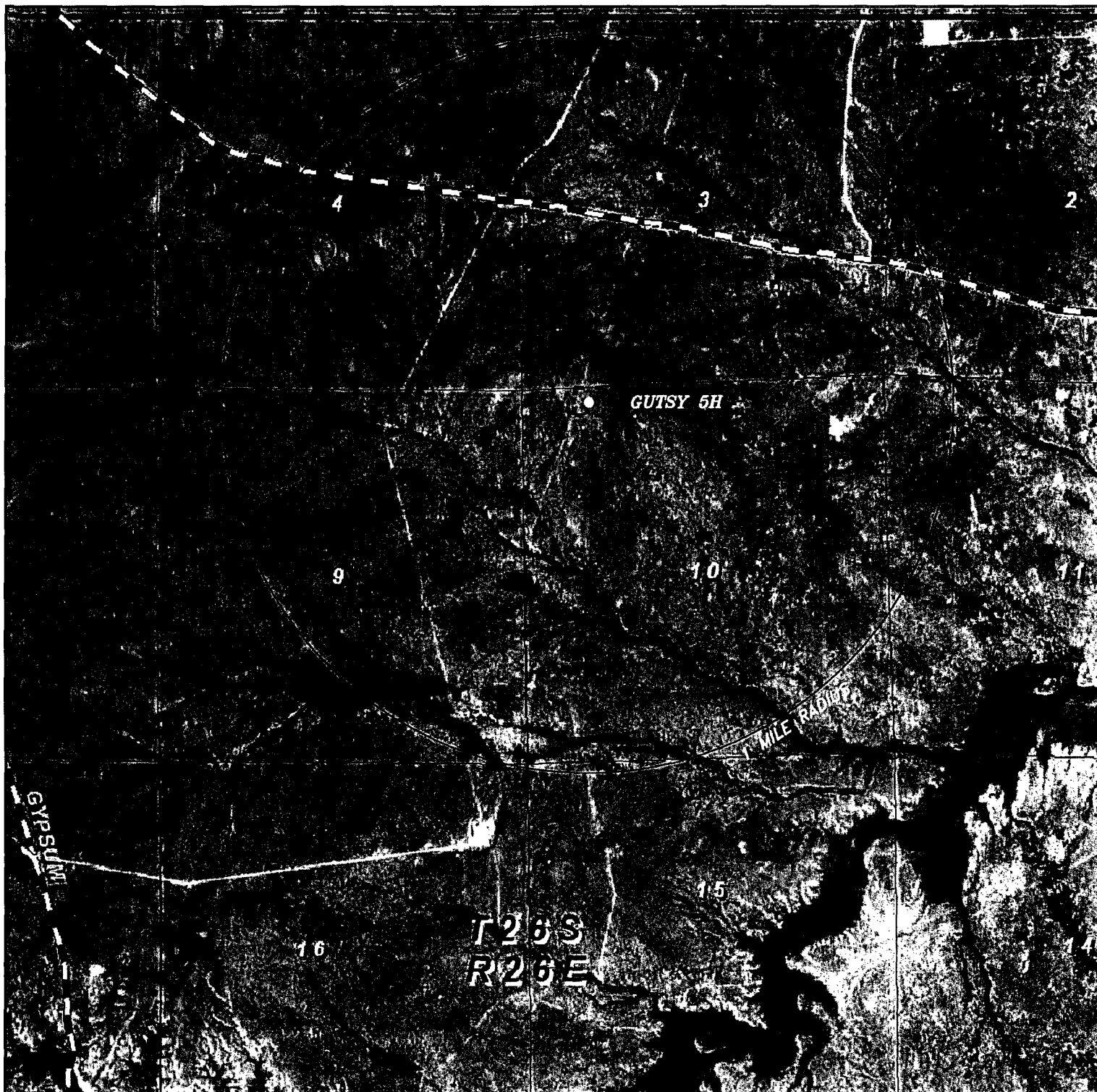
SCALE: 1" = 2 MILES

W.O. Number: JG 32362

Survey Date: 6-25-2016

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





**GUTSY BUN FEDERAL 5H**  
 Located 200' FNL and 990' FWL  
 Section 10 Township 26 South, Range 26 East,  
 N.M.P.M., Eddy County, New Mexico.

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0' 1000' 2000' 3000' 1500'  
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 W.O. Number: JG 32362  
 Survey Date: 6-25-2016  
 YELLOW TINT - USA LAND  
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 NATURAL COLOR - FEE LAND



# YATES PETROLEUM CORPORATION

Gutsy BUN Federal #5H  
200' FNL & 990' FWL SHL  
330' FNL & 660' FWL BHL  
Section 10 -T26S-R26E  
Eddy County, New Mexico

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

Castile/LM	271'	Brushy Canyon Marker	5104'
Top of Salt	1062'	Bone Spring LM	5424'
Base of Salt	1630'	Avalon Shale	5520' Oil
Lamar	1820'	Bone Spring 1/SD	6326' Oil
Bell Canyon	1871' Oil	Bone Springs 2/SD	7069' Oil
Cherry Canyon	2768' Oil	Bone Springs 2/Target	7593' Oil
Manzanita Marker	2863'	TVD	7260'
Brushy Canyon	3852' Oil	TD	11943'

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

Water: Approx.: 0' - 325'

Oil or Gas: See above--All Potential Zones

3. Pressure Control Equipment: A 3000 PSI BOP with a 13 5/8" opening will be installed on the 13 3/8" casing and a 5000 PSI BOP will be installed 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.
4. 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.

5. THE PROPOSED CASING AND CEMENTING PROGRAM:

- A. Casing Program: (All New) 13 3/8" will be H-40/J-55 Hybrid

Hole Size	Casing Size	Wt./Ft	Grade	Coupling	Interval	Length
30"	20"	94#	H-40	ST&C	0'-85'	85'
17.5"	13.375"	48#	J-55	ST&C	0'-350'	350'
12.25"	9.625"	36#	J-55	ST&C	0'-1850'	1850'
8.75"	5.5"	17#	P-110	Buttress Thread	0'-7593'	7593'
8.5"	5.5"	17#	P-110	Buttress Thread	7593'-11943'	4350'

Minimum Casing Design Factors: Burst 1.0, Tensile 1.8, Collapse 1.125



**B. CEMENTING PROGRAM:**

Conductor Cement (0'-85'): Lead with Ready Mix cement.

Surface Cement (0'-350'): Lead with 365 sacks of Class C plus 2% CaCl<sub>2</sub> (WT 14.8, YLD 1.34, H<sub>2</sub>O gal/sack 6.2). This is designed with 100% excess, TOC is surface.

Intermediate Cement (0'-1850'): Lead with 440 sacks of Class PozC 35:65:6 (WT 12.5, YLD 2.0, H<sub>2</sub>O gal/sack 11.0); tail in with 210 sacks of Class PozC 50/50 (WT 14.2, YLD 1.34, H<sub>2</sub>O gal/sack 6.2). Designed with 100% excess, TOC is surface.

See  
COA

Production Cement (1350'-11943'): Lead with 640 sacks of Class Lite Crete (WT. 9.5, YLD 2.85, H<sub>2</sub>O gal/sack 12.0) with the additives being 0.03 gal/sack retarder, 0.2% Anti foam, 0.1% Dispersant, and 39 lbs/sack Extender. Tail in with 900 sacks of Pecos Valley Lite (WT. 13.0, YLD 1.83, H<sub>2</sub>O gal/sack 9.3). Additives include 30% CaCO<sub>3</sub> Weight, 3.2% Expansion additive, 2% Antifoam, .8% Retarder, 15 Fluid loss. TOC is surface, designed with 35% excess.

Well will be drilled vertically depth to 6837' well will then be kicked off and directionally drilled at 12 degrees per 100' with an 8.75" hole to 7593' MD (7314' TVD). Hole size will then be reduced to 8.5" and drilled to 11943' MD (7260' TVD) where 5.5" casing will be set and cemented 500' into the previous casing string in a single stage. Penetration point of producing zone will be encountered at 683' FNL & 966' FWL, Section 10-T26S-R26E. Deepest TVD is 7314' in the lateral.

Mud Program and Auxiliary Equipment:

Interval	Type	Weight	Viscosity	Fluid Loss
0'-350'	Fresh Water	8.6-9.2	32-34	N/C
350'-1850'	Brine Water	10.0-10.2	28-29	N/C
1850'-11943'	Cut Brine	8.8-9.2	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. 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 a derrick hand checking the fluid level in the pits hourly 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: GR Neutron 30° deviation to the surface casing; laterolog 30° deviation to the intermediate casing; CMR 30° deviation to intermediate casing; Horizontal – MWD – GR.

Coring: None.

DST's: None.

Mudlogging: On after surface casing

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

Anticipated BHP:

From: 0 TO: 350' Anticipated Max. BHP: 167 PSI

From: 350' TO: 1850' Anticipated Max. BHP: 981 PSI

From: 1850' TO: 7314' Anticipated Max. BHP: 3499 PSI

No abnormal pressures or temperatures are anticipated.

H<sub>2</sub>S Zones Not Anticipated

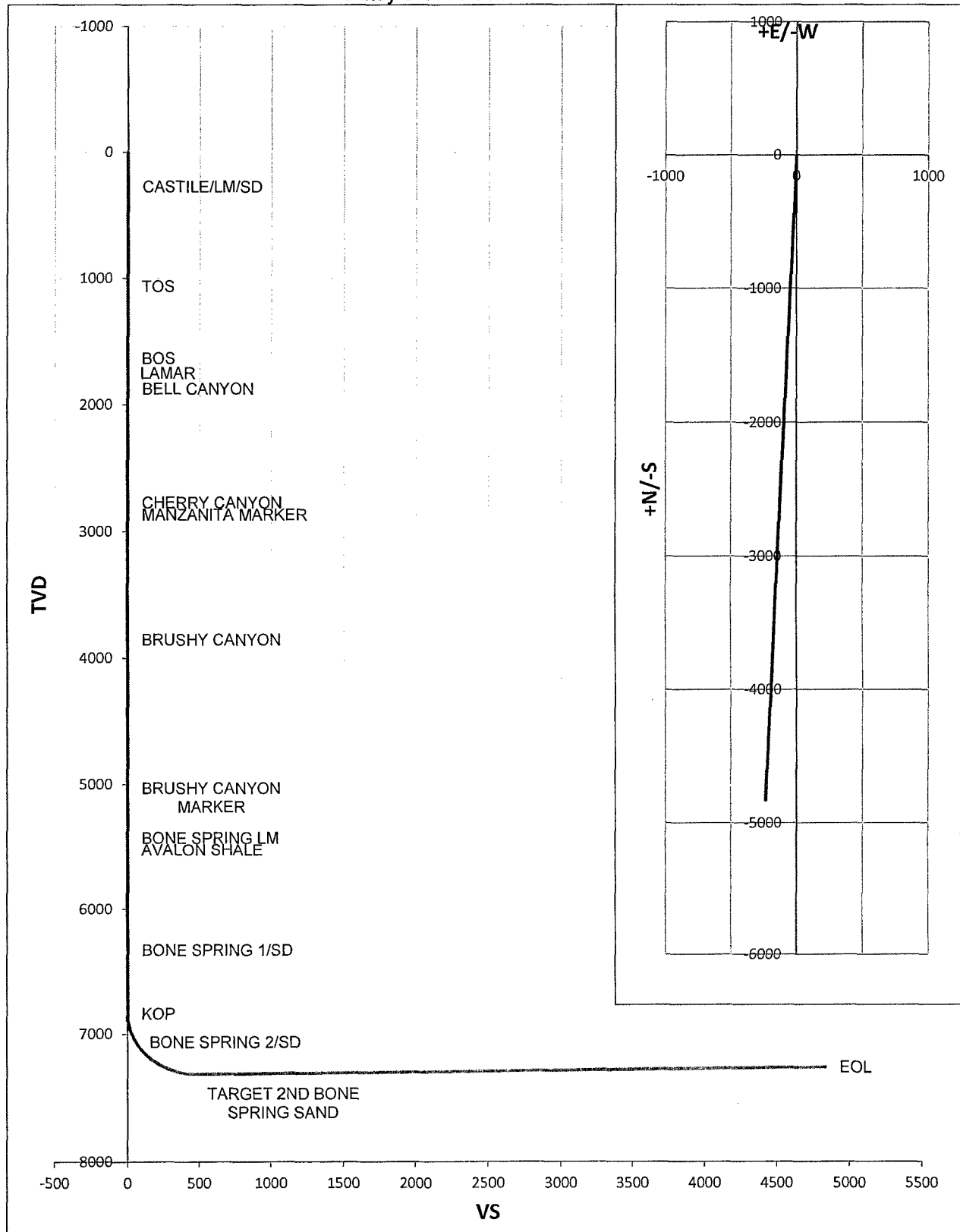
**8. ANTICIPATED STARTING DATE:**

Plans are to drill this well as soon as possible after receiving approval. It should take approximately 30 days to drill the well with completion taking another 15 days.

Well Name: Gutsy BUN Federal Com #5H		Tgt N/-S: -4828.20	EOC TVD/MD: 7314.00 / 7592.50
Surface Location: Section 10 , Township 26S Range 26E		Tgt E/-W: -238.50	
Bottom Hole Location: Section 10 , Township 26S Range 26E		VS: 4834.09	EOL TVD/MD: 7260.00 / 11943.19
		VS Az: 182.83	

MD	Inc.	Azi.	TVD	+N/-S	+E/-W	VS	DLS	Comments
0	0	0	0	0	0	0	0	
271.00	0.00	0.00	271.00	0.00	0.00	0.00	0.00	CASTILE/LM/SD
1062.00	0.00	0.00	1062.00	0.00	0.00	0.00	0.00	TOS
1630.00	0.00	0.00	1630.00	0.00	0.00	0.00	0.00	BOS
1820.00	0.00	0.00	1820.00	0.00	0.00	0.00	0.00	LAMAR
1871.00	0.00	0.00	1871.00	0.00	0.00	0.00	0.00	BELL CANYON
2768.00	0.00	0.00	2768.00	0.00	0.00	0.00	0.00	CHERRY CANYON
2863.00	0.00	0.00	2863.00	0.00	0.00	0.00	0.00	MANZANITA MARKER
3852.00	0.00	0.00	3852.00	0.00	0.00	0.00	0.00	BRUSHY CANYON
5104.00	0.00	0.00	5104.00	0.00	0.00	0.00	0.00	BRUSHY CANYON MARKER
5424.00	0.00	0.00	5424.00	0.00	0.00	0.00	0.00	BONE SPRING LM
5520.00	0.00	0.00	5520.00	0.00	0.00	0.00	0.00	AVALON SHALE
6326.00	0.00	0.00	6326.00	0.00	0.00	0.00	0.00	BONE SPRING 1/SD
6836.57	0.00	0.00	6836.57	0.00	0.00	0.00	0.00	KOP
6850.00	1.61	182.83	6850.00	-0.19	-0.01	0.19	12.00	
6875.00	4.61	182.83	6874.96	-1.54	-0.08	1.55	12.00	
6900.00	7.61	182.83	6899.81	-4.20	-0.21	4.21	12.00	
6925.00	10.61	182.83	6924.50	-8.16	-0.40	8.17	12.00	
6950.00	13.61	182.83	6948.94	-13.39	-0.66	13.41	12.00	
6975.00	16.61	182.83	6973.07	-19.90	-0.98	19.93	12.00	
7000.00	19.61	182.83	6996.83	-27.66	-1.37	27.70	12.00	
7025.00	22.61	182.83	7020.15	-36.66	-1.81	36.70	12.00	
7050.00	25.61	182.83	7042.96	-46.86	-2.31	46.91	12.00	
7069.08	27.90	182.83	7060.00	-55.43	-2.74	55.50	12.00	BONE SPRING 2/SD
7075.00	28.61	182.83	7065.21	-58.23	-2.88	58.30	12.00	
7100.00	31.61	182.83	7086.84	-70.76	-3.50	70.84	12.00	
7125.00	34.61	182.83	7107.78	-84.40	-4.17	84.50	12.00	
7150.00	37.61	182.83	7127.97	-99.11	-4.90	99.23	12.00	
7175.00	40.61	182.83	7147.37	-114.86	-5.67	115.00	12.00	
7200.00	43.61	182.83	7165.91	-131.60	-6.50	131.76	12.00	
7225.00	46.61	182.83	7183.55	-149.29	-7.37	149.47	12.00	
7250.00	49.61	182.83	7200.24	-167.88	-8.29	168.08	12.00	
7275.00	52.61	182.83	7215.93	-187.31	-9.25	187.54	12.00	
7300.00	55.61	182.83	7230.59	-207.54	-10.25	207.79	12.00	
7325.00	58.61	182.83	7244.16	-228.50	-11.29	228.78	12.00	
7350.00	61.61	182.83	7256.62	-250.15	-12.36	250.45	12.00	
7375.00	64.61	182.83	7267.92	-272.42	-13.46	272.75	12.00	
7400.00	67.61	182.83	7278.05	-295.24	-14.58	295.60	12.00	
7425.00	70.61	182.83	7286.96	-318.57	-15.74	318.96	12.00	
7450.00	73.61	182.83	7294.64	-342.33	-16.91	342.75	12.00	
7475.00	76.61	182.83	7301.06	-366.46	-18.10	366.91	12.00	
7500.00	79.61	182.83	7306.21	-390.89	-19.31	391.37	12.00	
7525.00	82.61	182.83	7310.07	-415.56	-20.53	416.06	12.00	
7550.00	85.61	182.83	7312.64	-440.39	-21.75	440.93	12.00	
7575.00	88.61	182.83	7313.90	-465.33	-22.99	465.89	12.00	
7592.50	90.71	182.83	7314.00	-482.80	-23.85	483.39	12.00	TARGET 2ND BONE SPRING SAND
11943.19	90.71	182.83	7260.00	-4828.20	-238.50	4834.09	0.00	EOL

# Gutsy BUN Federal Com #5H





Midwest Hose  
& Specialty, Inc.

Certificate of Warranty, Schedule B, ECCN, Origin and CE Marking

January 27, 2014

We hereby certify that the material shipped for Nomac Drilling Corporation purchase order 333594 is new and unused and is free of any defects as to their design, material and workmanship.

We also warrant the goods to be consistent with the generally accepted standards of the material of the type ordered. Which is API Spec 7K.

The goods are warranted for a period of 1 year (12 months) from the date of delivery.

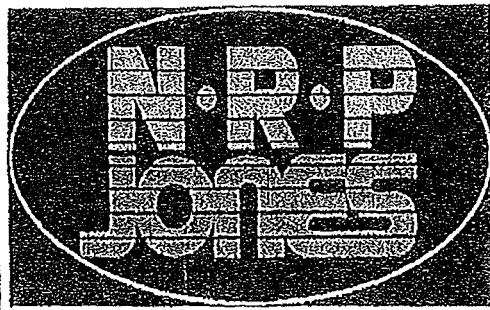
We certify that the material of this order is of American origin.

ECCN - EAR99

Schedule B – 4009.22.0500

EIN-731185740

Thank You,  
Juan Ortiz



255 W 1100 N  
Nephi, UT 84648  
1-800-453-1480

## Certificate of Compliance

Date: 2014-01-17

Test #:

Entered by: bwentz

Asset Desc: 10,000/15,000

Tested by: bwentz

Asset #: NLD-009R

Chip ID: E004010079CF031D

Owner: NRP Jones

Initial Location: Site/NEPHI

Witness: dnelson

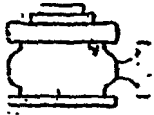
City:

Asset Characteristics	
Manufacturer	NRP JONES
Extended Desc	N/A
Model	5040-4840-B
Application Group	Choke & Kill
Date of Mfr/Assembly	2014-01-17
Assembled By	Brad Wentz
Orig Date Sold	2014-01-04
Hose Date of Mfr	2014-01-04
Locn Desc	N/A
Inside Dia.	3"
Length	40'
Cul Length	N/A
Working Pressure	10000 PSI
Test Pressure	15000 PSI
Coupling A	26-0054
Coupling A Model	N/A
Attach Method A	Built-In
Coupling A Add-On	4 1/8" RTJ FLANGE
Coupling B	26-0054
Coupling B Model	N/A
Attach Method B	Built-In
Coupling B Add-On	4 1/8" RTJ FLANGE
Factory Ref #	M0102747
Distributor Ref #	N/A
End User Ref #	N/A
Standard	N/A
Notes	N/A

Operation Number/Date/Time/Location	
Order #	M0102747
Cust PO#	N/A
Serial Number	NLD-009R
Test Pressure	15,000 PSI
Test Time	15 MIN.
Test Number	N/A
Inspection Instruction	N/A
Certification Result	PASS
Generate Alert?	
Comments	N/A
TimeStamp	2014-01-17 13:16:56 -07:00



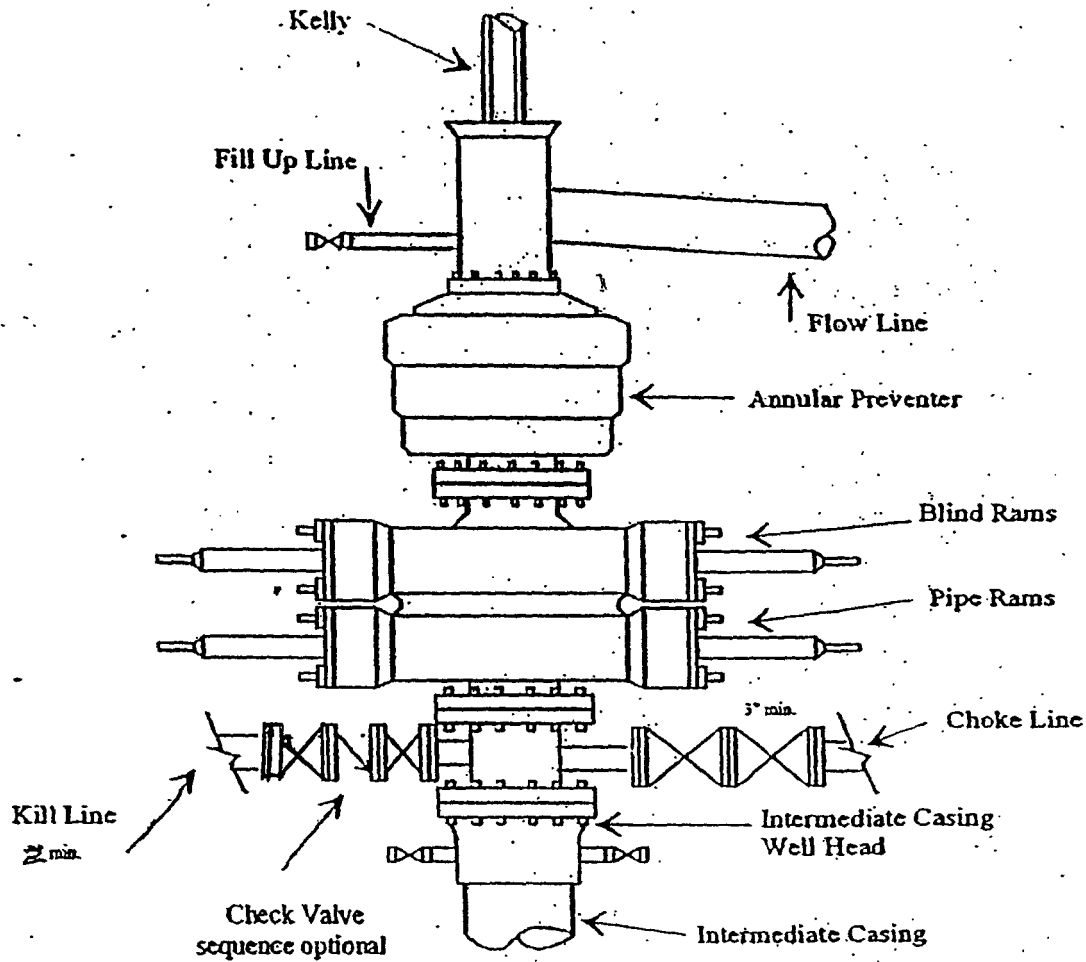




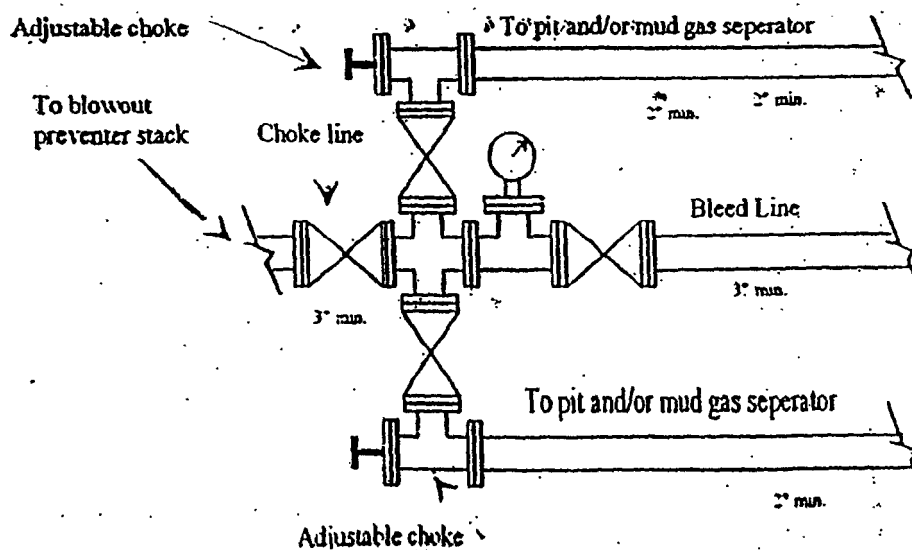
# Yates Petroleum Corporation

BOP-3

## Typical 3,000 psi Pressure System Schematic Annular with Double Ram Preventer Stack



## Typical 3,000 psi choke manifold assembly with at least these minimum features

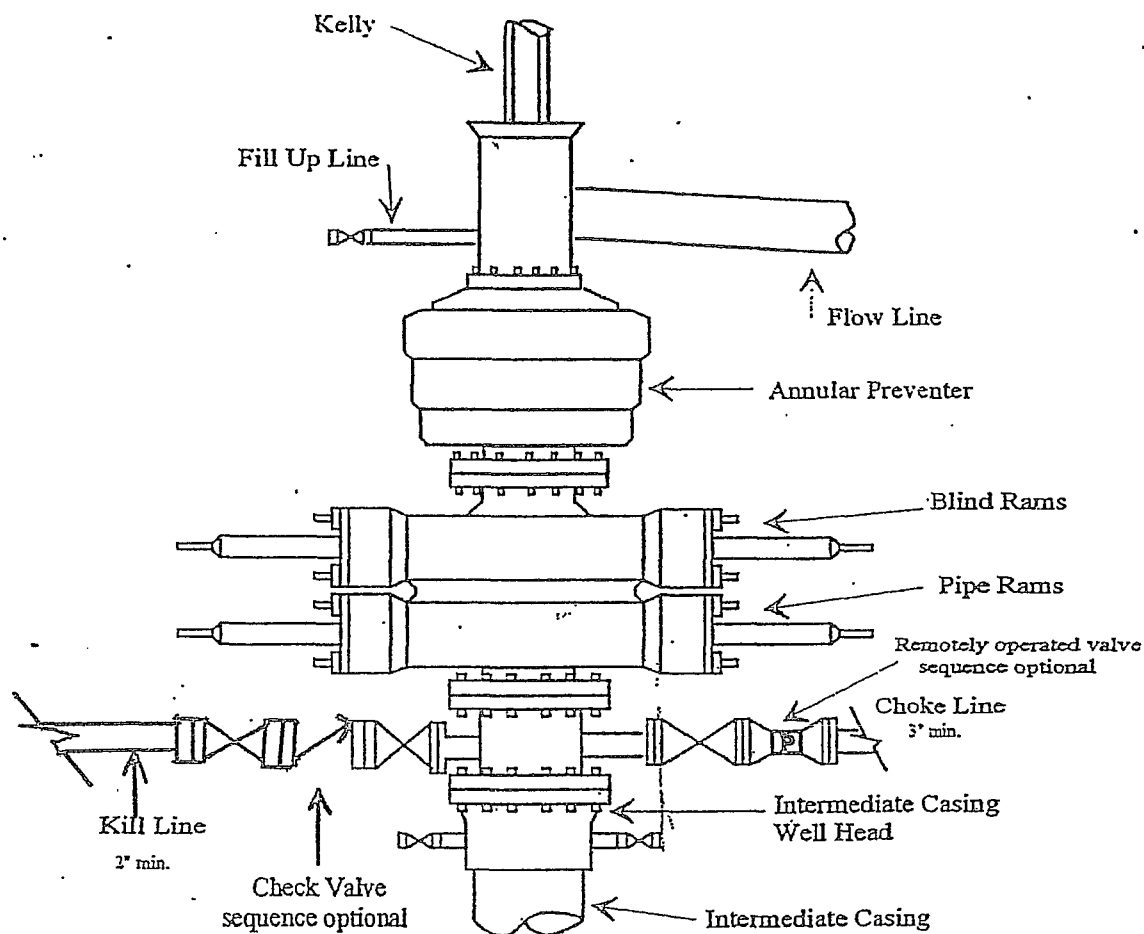




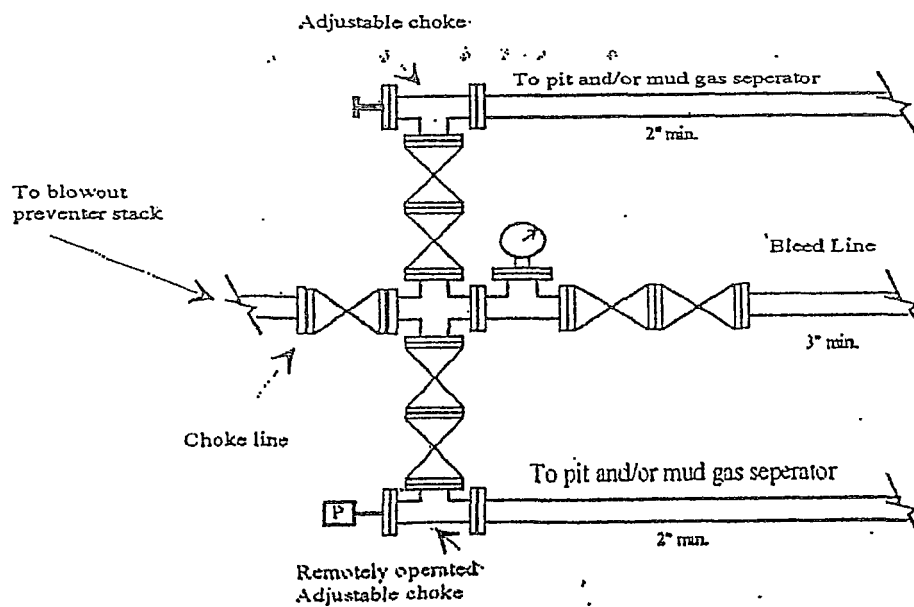
Yates Petroleum Corporation  
 Typical 5,000 psi Pressure System  
 Schematic  
 Annular with Double Ram Preventer Stack

BOP-4

*Exhibit*



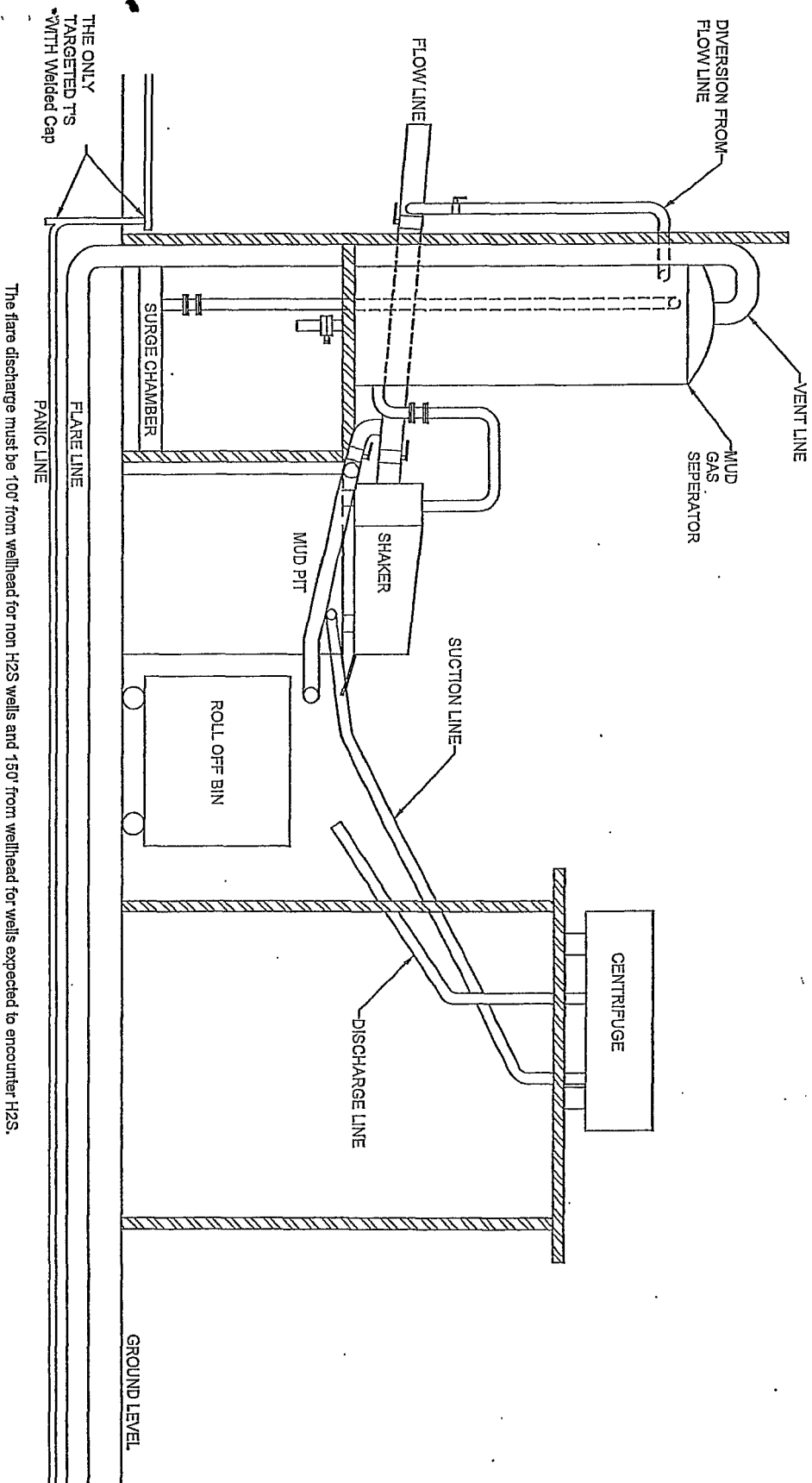
Typical 5,000 psi choke manifold assembly with at least these minimum features





# YATES PETROLEUM CORPORATION

Piping from Choke Manifold  
to the Closed Loop Drilling Mud System



# 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

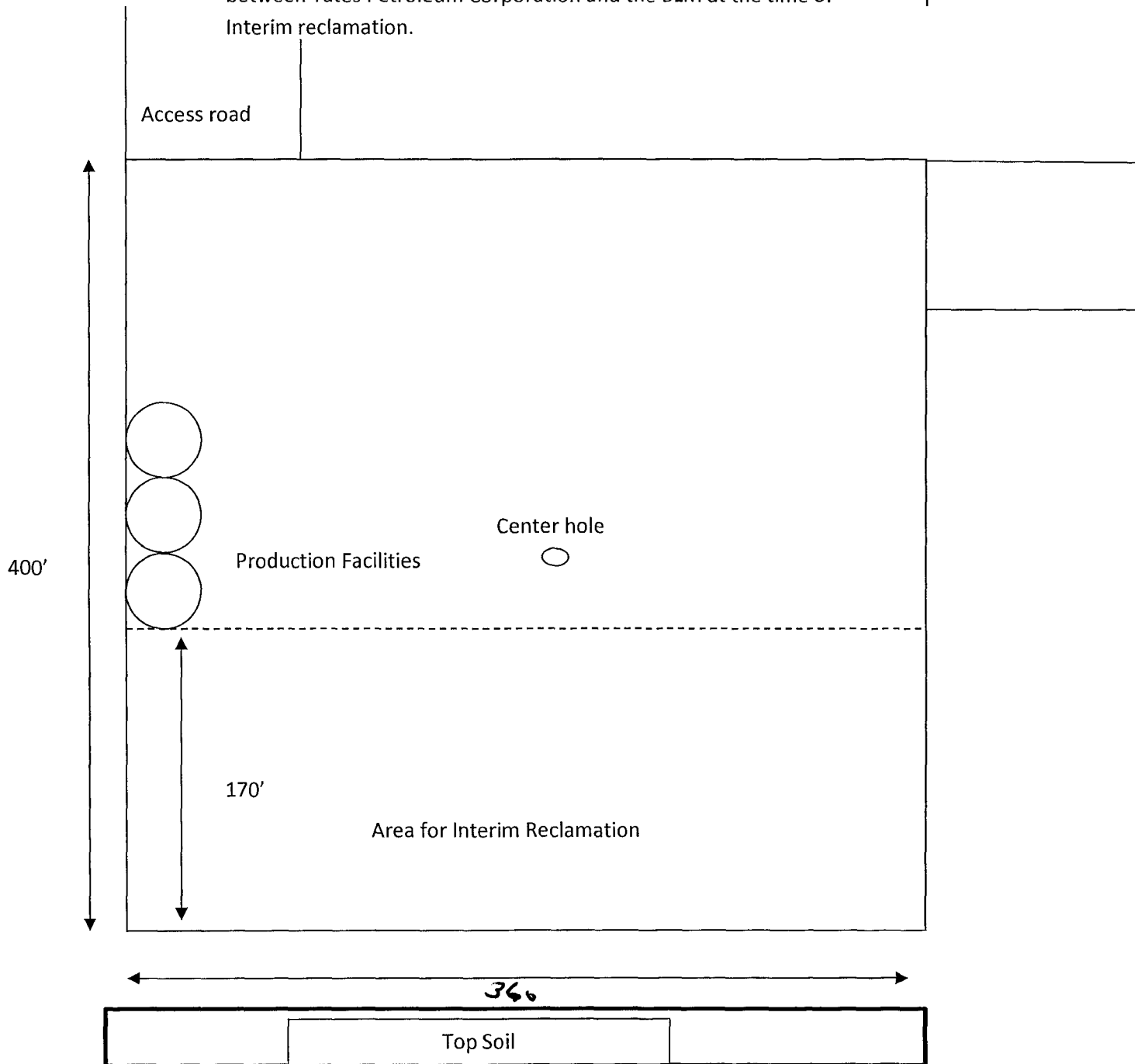
Drilling with Closed Loop System, haul off bins will be taken to Gandy Marley, Lea Land Farm or CRI.

# Gutsy BUN Federal Com #5H

## Interim Reclamation Well Pad Layout Example\*

\* dimensions and locations may vary depending on discussions between Yates Petroleum Corporation and the BLM at the time of Interim reclamation.

North



360'

MULTI-POINT SURFACE USE AND OPERATIONS PLAN  
YATES PETROLEUM CORPORATION  
Gutsy BUN Federal #5H  
200' FNL & 990' FWL  
Section 10-T26S-R26E  
Eddy County, New Mexico

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:

Attached exhibit is a portion of the BLM map showing the well and roads in the vicinity of the proposed location. The proposed well site is located approximately 38 miles south of Carlsbad, New Mexico and the access route to the location is indicated in green on the attached exhibit.

DIRECTIONS: From Carlsbad go so on U. S. Highway 285 south towards Pecos, TX. At White's City turn right (west) and continue west for approximately 13.4 miles, past CO RD 742, lease road will be a left turn (south) and continue for 2800', to the northwest corner of the location.

2. PLANNED ACCESS ROAD:

- A. The existing road will be rebuilt to allow access and the new road constructed will be 2800' in length.
- B. The road will be 14 feet in width (driving surface) and will be adequately drained to control runoff and soil erosion.
- C. The road will be bladed with drainage on both sides. Traffic turnouts will be every 1000'.
- 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:

- A. There is no drilling activity within a one-mile radius of the well site.
- B. Exhibit attached shows existing wells within a one-mile radius of the proposed well site.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

- A. There is not production facilities located in this area at the present time.
- B. In the event that the well can be used, the necessary production facilities will be installed on the existing pad. If the well is able to be used a diesel self-contained unit will be used to provide the necessary power until an electric line can be built, if needed.

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is planned to drill the proposed well with a brine 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 the attached exhibit.

6. SOURCE OF CONSTRUCTION MATERIALS:

The dirt contractor will be responsible for finding a source of material for construction of road and pad and will obtain any permits that may be required.

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. A closed loop system will be used to drill this well and reserve pits will not be used.
- 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. No oil will be produced during drilling operations.
- 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.

8. ANCILLARY FACILITIES: NONE

9. WELLSITE LAYOUT:

- A. Exhibit attached shows the relative location and dimensions of the well pad, the closed loop design plan, the location of the drilling equipment, orientation and access road approach of three of the rigs Yates Petroleum is currently using. It is yet to be determined which drilling rig will drill this well, a 400' x 360' area has been staked, all drilling rigs being used by Yates Petroleum Corporation at this time will fit within these dimensions. At the time the determination is made a Sundry notice will be submitted with the appropriate information. (Approximately 3.5 acres).
- 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. A 600' x 600' area has been staked and flagged.

10. 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.
- B. Unguarded pits, if any, containing fluids will be fenced until they have dried and been leveled.
- C. If the proposed well is plugged and abandoned, all rehabilitation and/or vegetation requirements of the State of New Mexico will be complied with and will be accomplished as expeditiously as possible.

11. SURFACE OWNERSHIP:  
Federal Land

12. OTHER INFORMATION:

A. The primary use of the surface is for grazing.

Minerals: USA-Federal-NM-113939

Administered by: Bureau of Land Management  
Carlsbad Field Office  
620 E. Greene Street  
Carlsbad, NM 88220-6292

B. Refer to the archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, and historical and cultural sites.

CERTIFICATION  
YATES PETROLEUM CORPORATION  
Gutsy BUN Federal Com #5H

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 the 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 19 day of November, 2014

Signature Ysenia Navarrette

Name Ysenia Navarrette

Position Title Land Regulatory Technician

Address 105 South Fourth Street, Artesia, New Mexico 88210

Telephone (575) 748-4424

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

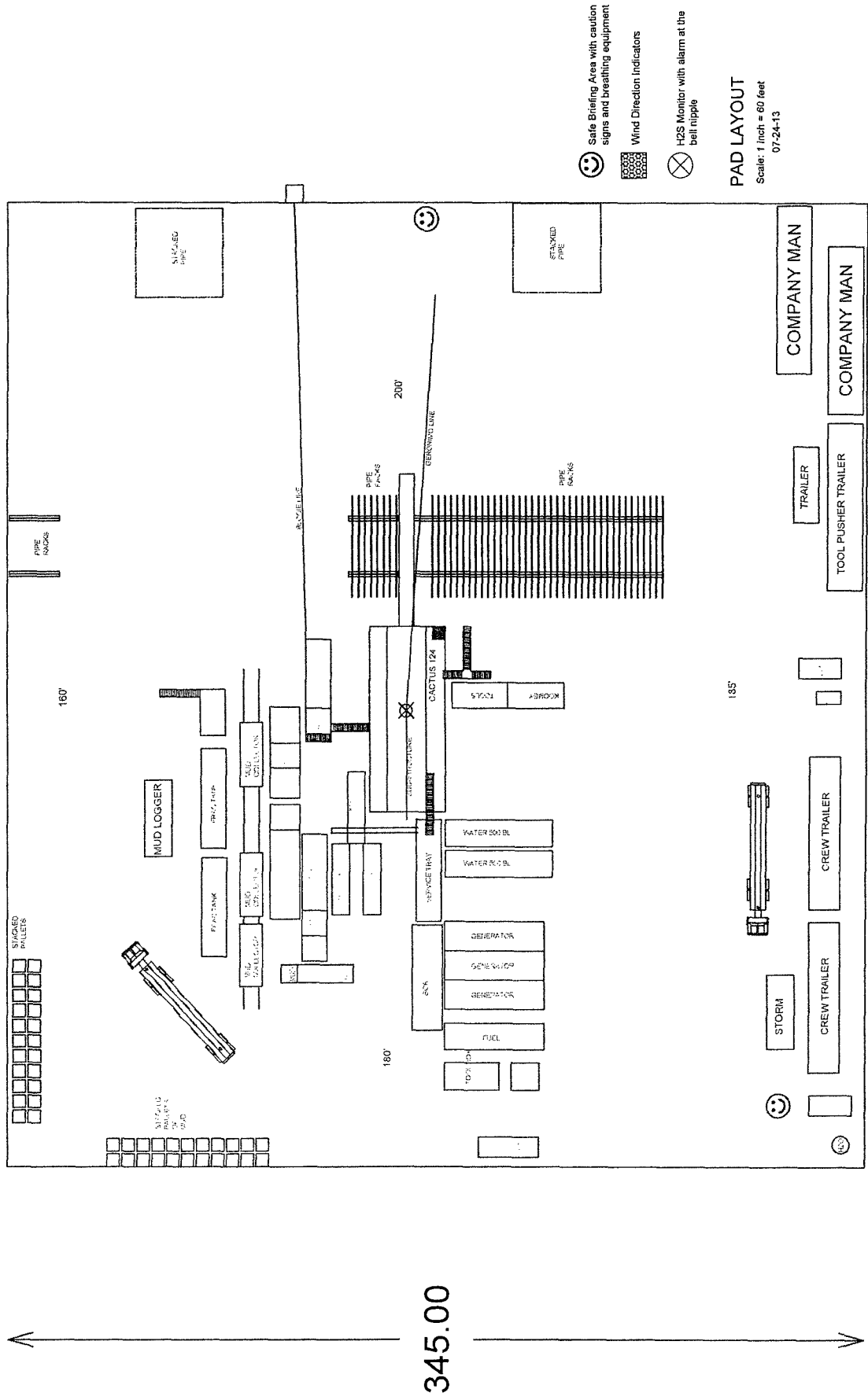
Address (if different from above) Same as above

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

# YATES PETROLEUM CORPORATION

## CACTUS 124

### 07-24-13



PAD LAYOUT  
Scale: 1 inch = 60 feet  
07-24-13

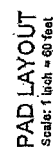


## 06-24-13



355.00

12-16-13



## PECOS DISTRICT CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	<b>Yates Petroleum Corporation</b>
<b>LEASE NO.:</b>	<b>NMNM-113939</b>
<b>WELL NAME &amp; NO.:</b>	<b>Gutsy BUN Federal 5H</b>
<b>SURFACE HOLE FOOTAGE:</b>	<b>0200' FNL &amp; 0990' FWL</b>
<b>BOTTOM HOLE FOOTAGE:</b>	<b>0330' FSL &amp; 0660' FWL</b>
<b>LOCATION:</b>	<b>Section 10, T. 26 S., R 26 E., NMPM</b>
<b>COUNTY:</b>	<b>Eddy County, New Mexico</b>

### TABLE OF CONTENTS

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

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Communitization Agreement
  - Lease Suspension
  - Cave/Karst
- ☐ **Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
  - Cement Requirements
  - High Cave/Karst
  - Logging Requirements
  - Waste Material and Fluids
- ☐ **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)

### Communitization Agreement

The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.

In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

### Lease Suspension

**One of the Gutsy wells is to be spudded within 120 days of the approval of the APD. If the drilling operations have not commenced by this time the lease suspension of Lease NMNM113939 will be removed and 99 days will be remaining in its primary term.**

### Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

#### **Construction:**

In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

#### **No Blasting:**

No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

#### **Pad Berming:**

The pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad

**Closed Mud System Using Steel Tanks with All Fluids and Cuttings Hauled Off.**

A closed mud system using steel tanks for all cuttings and fluids is required. All fluids and cuttings will be hauled off site for disposal. No pits are allowed.

**Tank Battery Liners and Berms:**

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

**Leak Detection System:**

A method of detecting leaks is required. The method could incorporate gauges to measure loss, siting valves and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

**Automatic Shut-off Systems:**

Automatic shut off, check valves, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

**Cave/Karst Subsurface Mitigation**

The following stipulations will be applied to protect cave/karst and ground water concerns:

**Rotary Drilling with Fresh Water:**

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

**Directional Drilling:**

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

**Lost Circulation:**

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

**Abandonment Cementing:**

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

**Pressure Testing:**

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

## **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**

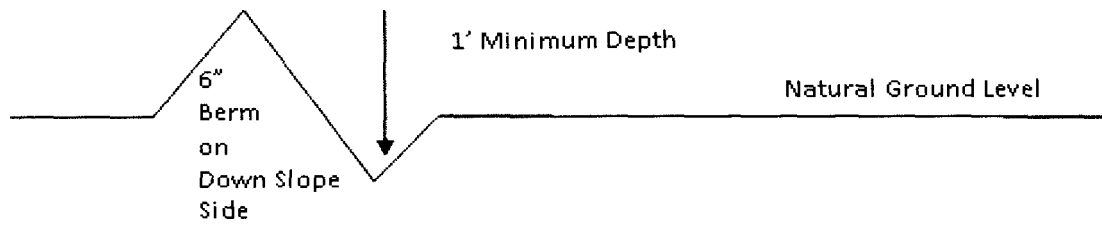
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

**Drainage**

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

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

#### **Cross Section of a Typical Lead-off Ditch**



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

#### **Formula for Spacing Interval of Lead-off Ditches**

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

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

#### **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

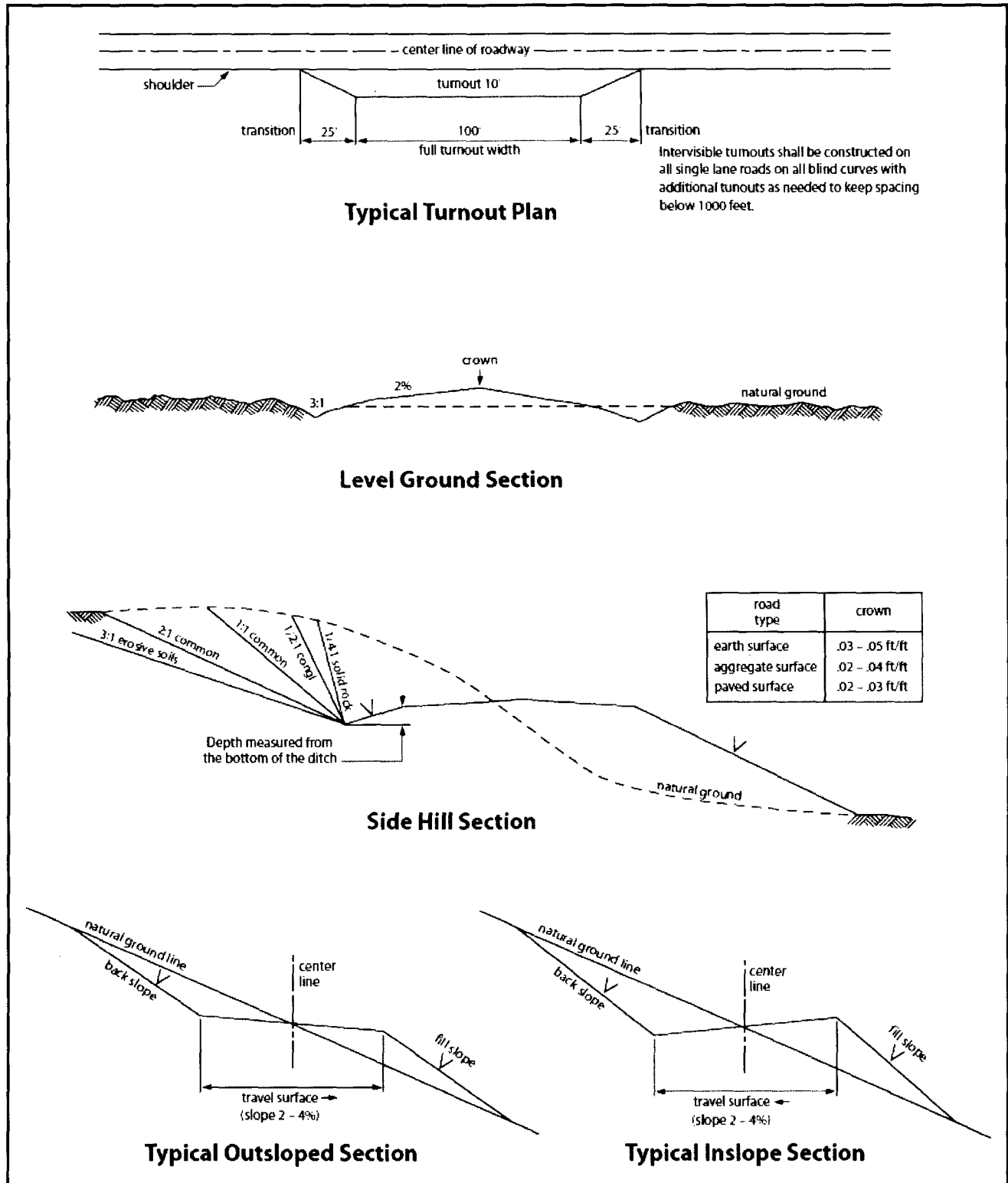


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

## VII. DRILLING

### A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Eddy County**

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

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

### B. CASING

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

**Possibility of lost circulation in the Castile, Salado, and 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. 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 350 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - 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 1850 feet (**in the Lamar Limestone or the basal anhydrite of the Castile Formation**), 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.**

**Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.**

**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:  
☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Excess calculates to 14% - Additional cement may be required.**
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 53.
2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M) psi.**  
**For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

4. 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.**
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
  - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
  - d. The results of the test shall be reported to the appropriate BLM office.
  - e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
  - f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

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

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

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

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

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

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## **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 enclosure 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).

### **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).

#### Mixture 4, for Gypsum Sites

The holder shall seed all the 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>
Alkli Sacaton ( <i>Sporobolus airoides</i> )	1.5
DWS~ Four-wing saltbush ( <i>Atriplex canescens</i> )	8.0
~DWS: DeWinged Seed	

\*Pounds of pure live seed:

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

### NMOCD CONDITION OF APPROVAL

The *New!* Gas Capture Plan (GCP) notice is posted on the NMOCD website under Announcements. The Plan became effective May 1, 2016. A copy of the GCP form is included with the NOTICE and is also in our FORMS section under Unnumbered Forms. Please review filing dates for all applicable activities currently approved or pending and submit accordingly. Failure to file a GCP may jeopardize the operator's ability to obtain C-129 approval to flare gas after the initial 60-day completion period.