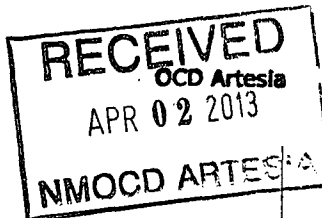


Secretary's  
Potash



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

TOS  
4/4/2013

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

(EH)

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. LC-028978-B & NM-27276
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator YATES PETROLEUM CORPORATION		7. If Unit or CA Agreement, Name and No. N/A
3a. Address 105 South Fourth Street Artesia, NM 88210	3b. Phone No. (include area code) 575-748-4347	8. Lease Name and Well No. <b>LC397999</b> Benson Deep AAS Federal Com #2H
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface UL D, Section 33-T18S-R30E, 660' FNL & 300' FWL At proposed prod. zone UL A, Section 33-T18S-R30E, 660' FNL & 330' FEL		9. API Well No. <b>30-015-41247</b>
14. Distance in miles and direction from nearest town or post office* Approximately 28 miles east of Artesia, New Mexico		10. Field and Pool or Exploratory <b>LC-028978-B &amp; NM-27276</b> Undesignated Bone Spring
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 300'	16. No. of acres in lease LC-028978-B--440 acres NM-27276--560 acres	11. Sec., T. R. M. or Bk. and Survey or Area Section 33-T18S-R30E
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1420'	19. Proposed Depth 8384' TVD 12743' MD	12. County or Parish Eddy County
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3425' GL	22. Approximate date work will start* 07/18/2012	13. State NM
17. Spacing Unit dedicated to this well N2N2 of Section 33-18S-30E		
20. BLM/BIA Bond No. on file NMB000434		
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:

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

25. Signature	Name (Printed/Typed) Cy Cowan	Date 7/3/12
---------------	----------------------------------	----------------

Title  
Land Regulatory Agent

Approved by (Signature) <b>/s/ Jesse J. Juen</b>	Name (Printed/Typed)	Date <b>MAR 29 2013</b>
--	----------------------	----------------------------

Title <b>STATE DIRECTOR</b>	Office <b>NM STATE 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.

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)

(Continued on page 2)

CAPITAN CONTROLLED WATER BASIN

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

## DISTRICT I

1625 N. French Dr., Hobbs, NM 88240

## DISTRICT II

1301 W. Grand Avenue, Artesia, NM 88210

## DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

## DISTRICT IV

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102

Revised July 16, 2010

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>30-015-41247</b>	Pool Code <b>39720 37920</b>	Pool Name <b>Undesignated Bone Spring, South</b>
Property Code <b>39799</b>	Property Name <b>BENSON DEEP "AAS" FEDERAL COM</b>	Well Number <b>2H</b>
UGRID No. <b>025575</b>	Operator Name <b>YATES PETROLEUM CORP.</b>	Elevation <b>3425'</b>

## Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	33	18 S	30 E		660	NORTH	300	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
A	33	18 S	30 E		660	NORTH	330	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

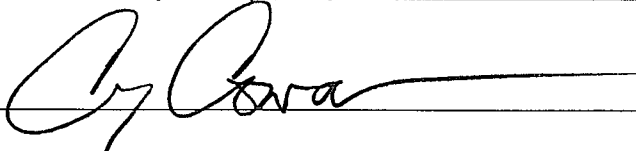
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>3397.8' 3426.4'</p> <p>3409.7' 3420.6'</p> <p>300'</p> <p>4650'</p> <p>330'</p> <p>660'</p> <p><b>SURFACE LOCATION</b> Lat - N 32°42'33.81" Long - W 103°59'04.45" NMSPCE- N 621984.897 E 648609.851 (NAD-83)</p> <p>Producing Zone</p> <p>Project Area</p> <p>Penetration Point</p> <p>661' FNL &amp; 768' FNL</p>		<p><b>PROPOSED BOTTOM HOLE LOCATION</b> Lat - N 32°42'33.75" Long - W 103°58'10.04" NMSPCE- N 621993.621 E 653258.306 (NAD-83)</p>		<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 is a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Cy Cowan</i> 6/20/12</p> <p>Signature _____ Date _____</p> <p>Cy Cowan</p> <p>Printed Name _____</p> <p>cy@yatespetroleum.com</p> <p>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>DECEMBER 10, 2011</p> <p>Date Surveyed _____</p> <p>Signature _____ Seal of Professional Surveyor 7877</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS 25756</p>

CERTIFICATION  
YATES PETROLEUM CORPORATION  
Benson Deep AAS 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 20<sup>th</sup> day of June 2012

Signature 

Name Cy Cowan

Position Title Land Regulatory Agent

Address 105 South Fourth Street, Artesia, New Mexico 88210

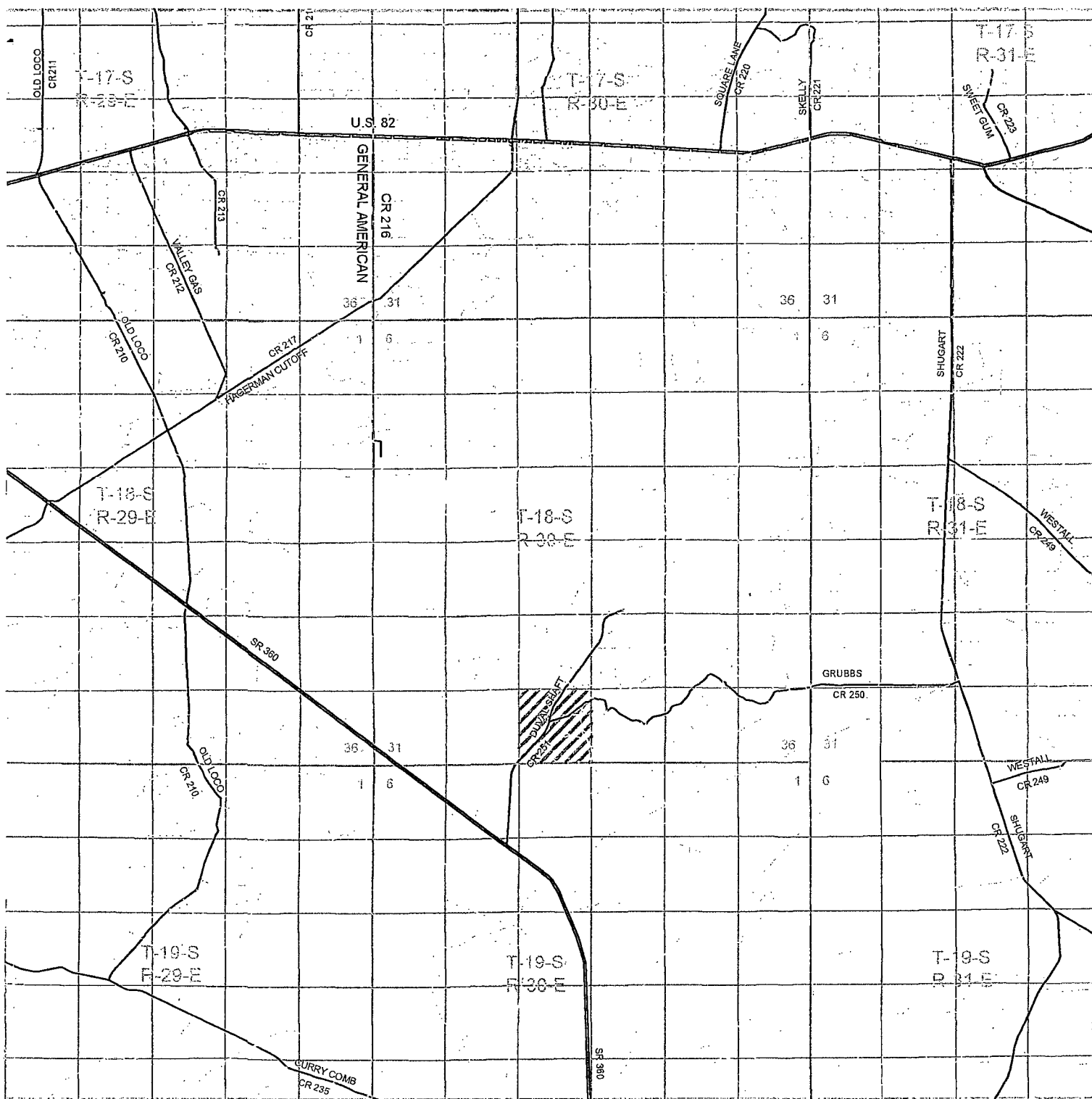
Telephone (505) 748-4372

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

Address (if different from above) Same as above.

Telephone (if different from above) (505) 748-4221

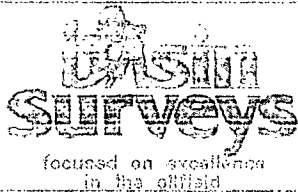
E-mail (optional) \_\_\_\_\_



# **BENSON DEEP "AAS" FEDERAL COM #2H**

Located 660' FNL and 300' FWL

Section 33, Township 18 South, Range 30 East,  
N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(575) 393-7316 - Office  
(575) 392-2205 - Fax  
washburn.surveys.com

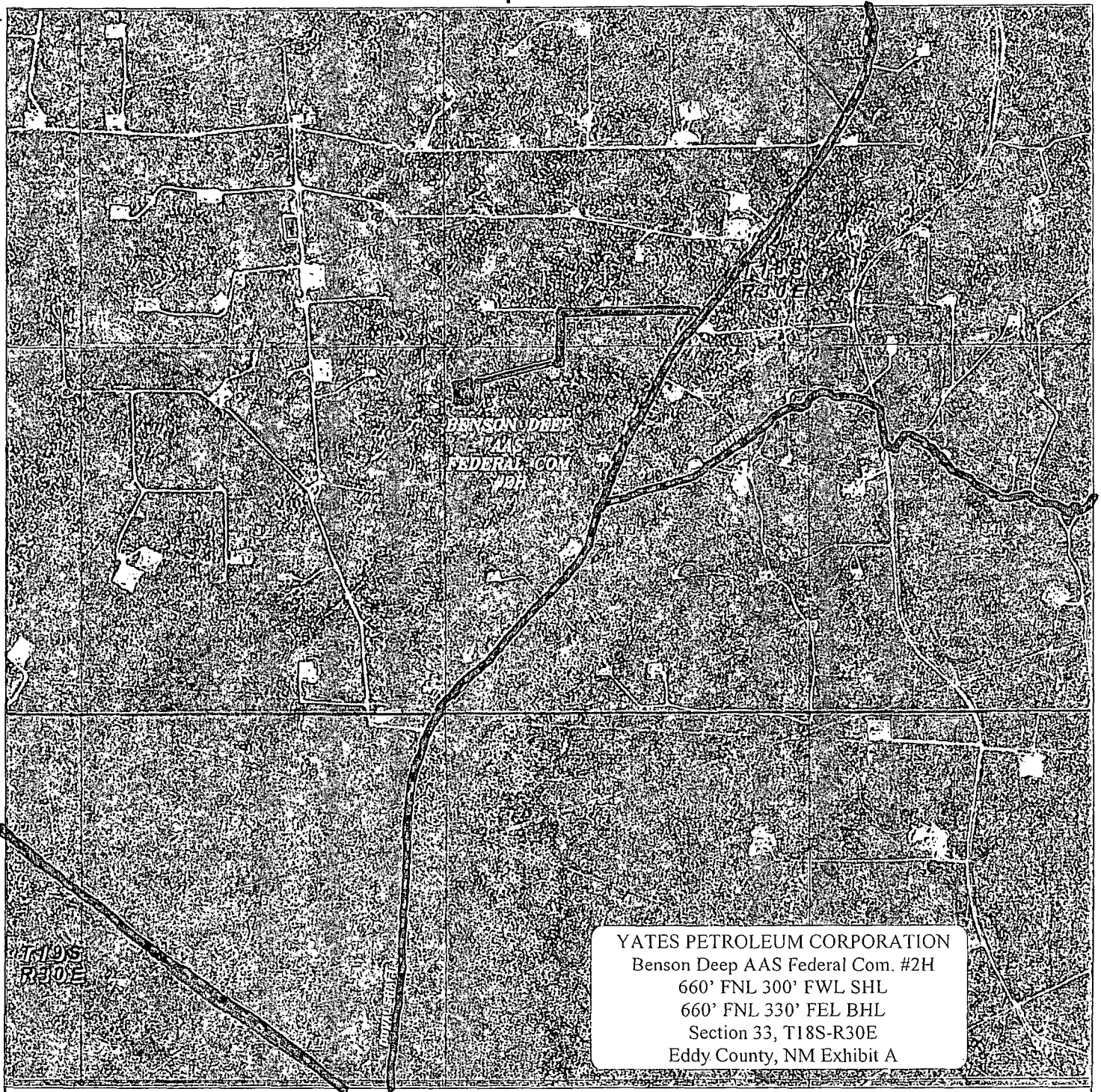
W.O. Number: JMS 25756

Survey Date: 12-07-2011

Scale: 1" = 2 Miles

Date: 12-12-2011

**YATES  
PETROLEUM  
CORP.**



**BENSON DEEP "AAS" FEDERAL COM #2H**  
Located 660' FNL and 300' FWL  
Section 33, Township 18 South, Range 30 East,  
N.M.P.M., Eddy County, New Mexico.

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

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

W.O. Number: JMS 25756

Scale: 1" = 2000'

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

**YATES  
PETROLEUM  
CORP.**

28



A STRIP OF LAND 20.0 FEET WIDE, LOCATED IN SECTIONS 28&33, TOWNSHIP 18 SOUTH, RANGE 30 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 10.0 FEET LEFT AND RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY.

SECTION 28	= 2611.4 FEET	= 158.27 RODS	= 0.49 MILES	= 1.20 ACRES
SECTION 33	= 1734.9 FEET	= 105.14 RODS	= 0.33 MILES	= 0.80 ACRES
<b>TOTAL</b>	<b>= 4346.3 FEET</b>	<b>= 263.41 RODS</b>	<b>= 0.82 MILES</b>	<b>= 2.00 ACRES</b>

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

Date: 12-12-2011	Disk: 25756
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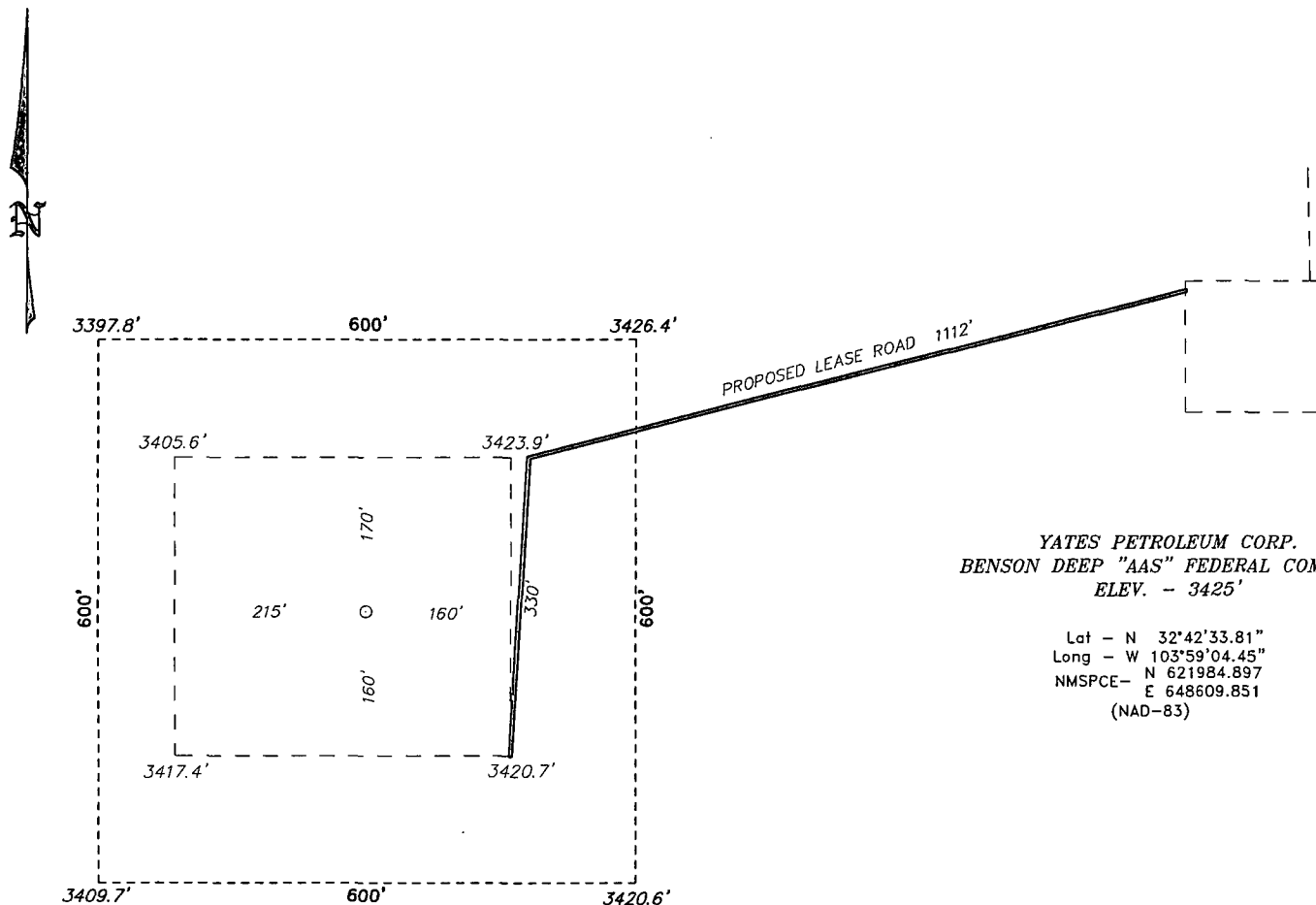
**YATES PETROLEUM CORP.**

REF: PROP LEASE ROAD TO THE BENSON DEEP "AAS" FEDERAL COM #2

A LEASE ROAD CROSSING USA LAND IN  
SECTIONS 28&33, TOWNSHIP 18 SOUTH, RANGE 30 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 12-07-2011	Sheet 1 of 1 Sheets
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SECTION 33, TOWNSHIP 18 SOUTH, RANGE 30 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



YATES PETROLEUM CORP.  
BENSON DEEP "AAS" FEDERAL COM #2H  
ELEV. - 3425'

Lat - N 32°42'33.81"  
Long - W 103°59'04.45"  
NMSPCE- N 621984.897  
E 648609.851  
(NAD-83)

200 0 200 400 FEET  
SCALE: 1" = 200'

**YATES PETROLEUM CORP.**

REF: BENSON DEEP "AAS" FEDERAL COM #2H / WELL PAD TOPO

THE BENSON DEEP "AAS" FEDERAL COM #2H LOCATED 660'  
FROM THE NORTH LINE AND 300' FROM THE WEST LINE OF  
SECTION 33, TOWNSHIP 18 SOUTH, RANGE 30 EAST,

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

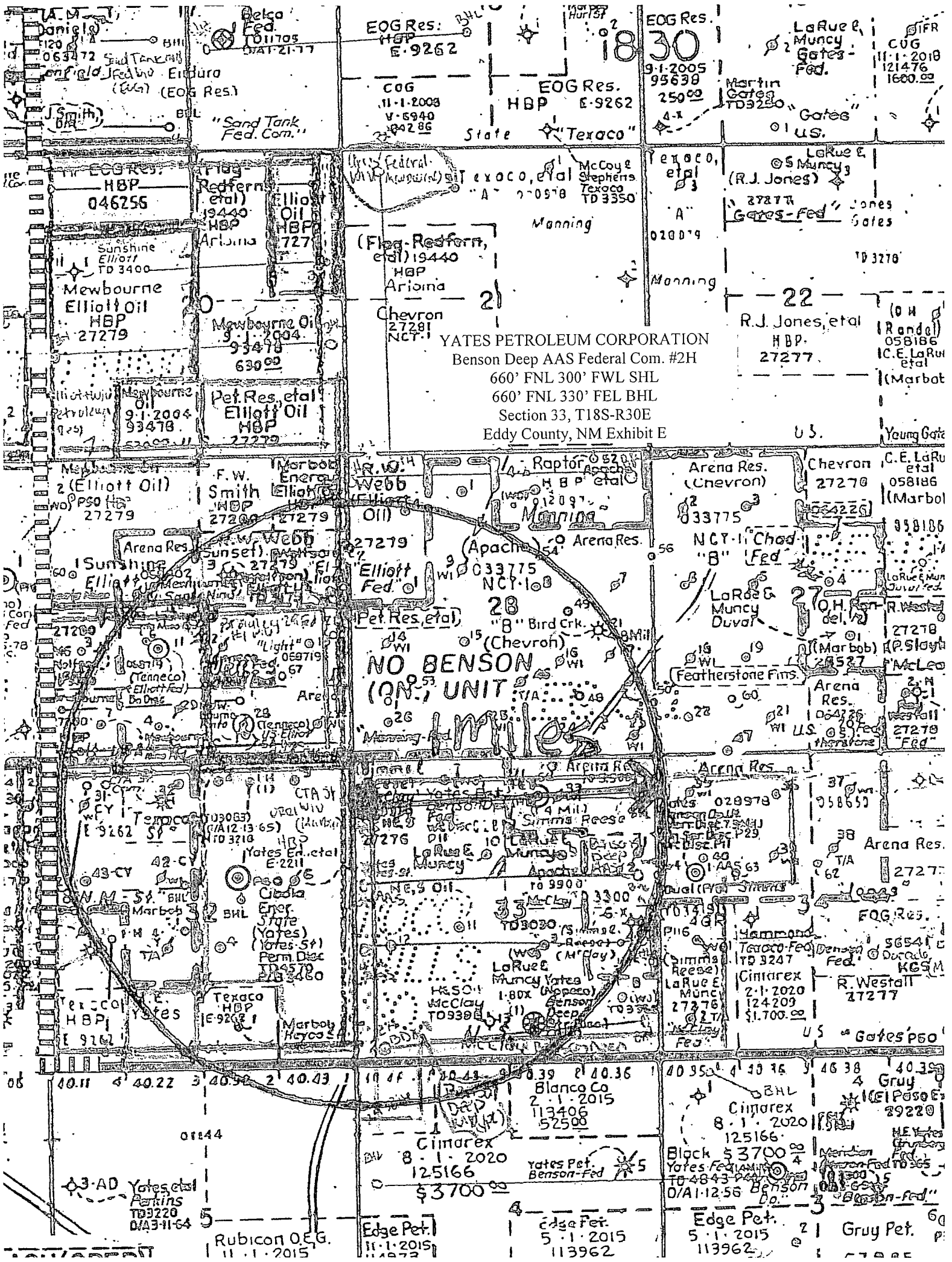
**BASIN SURVEYS** P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 25756 Drawn By: J. SMALL

Date: 12-12-2011 Disk: JMS 25756

Survey Date: 12-07-2011 Sheet 1 of 1 Sheets





EOG Res.  
HBP  
E-9262

EOG Res.  
HBP  
E-9262

LaRue & Muncy  
Gates-Fed.  
CUG  
11-1-2018  
121476  
1600.00

COG  
11-1-2003  
V-5940  
194286

EOG Res.  
HBP  
E-9262

9-1-2005  
95638  
250.00  
4-1  
Martin  
Gates  
TD3220

"Gates"  
01 U.S.

EOG Res.  
HBP  
046256

Flag Redfern  
et al)  
19440  
HBP  
Arlonia  
727

Flag Redfern  
et al) 19440  
HBP  
Arlonia  
Chevron  
27281  
NCT-1

McCoy & Stephens  
Texaco  
TD3350

EOG Res.  
HBP  
E-9262

LaRue & Muncy  
Gates-Fed.  
27277  
Gates

Sunshine  
Elliott  
TD 3400  
Mewbourne  
Elliott Oil  
HBP  
27279

Mewbourne Oil  
9-1-2004  
93478  
630.00

YATES PETROLEUM CORPORATION  
Benson Deep AAS Federal Com. #2H  
660' FNL 300' FWL SHL  
660' FNL 330' FEL BHL  
Section 33, T18S-R30E  
Eddy County, NM Exhibit E

YATES PETROLEUM CORPORATION  
Benson Deep AAS Federal Com. #2H  
660' FNL 300' FWL SHL  
660' FNL 330' FEL BHL  
Section 33, T18S-R30E  
Eddy County, NM Exhibit E

R.J. Jones, et al  
HBP  
27277

Mewbourne Oil  
9-1-2004  
93478  
630.00

Pet. Res. et al  
Elliott Oil  
HBP  
27279

Webb  
Oil

Raptor  
HBP  
Manning

Arena Res.  
(Chevron)  
33375

Chevron  
27270  
058186  
(Marbol)

2 (Elliott Oil)  
PSO HBP  
27279

F.W. Webb  
HBP  
27279

Webb  
Oil

Apache  
HBP  
Manning

Arena Res.  
"B" Fed  
NCT-1

LaRue & Muncy  
Duvall  
27278  
(Marbol)

Sunshine  
Elliott  
HBP  
27279

Sunshine  
Elliott  
HBP  
27279

Pet. Res. et al  
"B" Bird Crk.  
(Chevron)  
NCT-1

Apache  
HBP  
Manning

Arena Res.  
"B" Fed  
NCT-1

LaRue & Muncy  
Duvall  
27278  
(Marbol)

Sunshine  
Elliott  
HBP  
27279

Sunshine  
Elliott  
HBP  
27279

NO BENSON  
(ON UNIT)  
1 mile

Arena Res.  
"B" Fed  
NCT-1

LaRue & Muncy  
Duvall  
27278  
(Marbol)

Sunshine  
Elliott  
HBP  
27279

Sunshine  
Elliott  
HBP  
27279

Webb  
Oil

Apache  
HBP  
Manning

Arena Res.  
"B" Fed  
NCT-1

LaRue & Muncy  
Duvall  
27278  
(Marbol)

Sunshine  
Elliott  
HBP  
27279

Sunshine  
Elliott  
HBP  
27279

Webb  
Oil

Apache  
HBP  
Manning

Arena Res.  
"B" Fed  
NCT-1

LaRue & Muncy  
Duvall  
27278  
(Marbol)

Sunshine  
Elliott  
HBP  
27279

Sunshine  
Elliott  
HBP  
27279

Webb  
Oil

Apache  
HBP  
Manning

Arena Res.  
"B" Fed  
NCT-1

LaRue & Muncy  
Duvall  
27278  
(Marbol)

Sunshine  
Elliott  
HBP  
27279

Sunshine  
Elliott  
HBP  
27279

Webb  
Oil

Apache  
HBP  
Manning

Arena Res.  
"B" Fed  
NCT-1

LaRue & Muncy  
Duvall  
27278  
(Marbol)

Sunshine  
Elliott  
HBP  
27279

Sunshine  
Elliott  
HBP  
27279

Webb  
Oil

Apache  
HBP  
Manning

Arena Res.  
"B" Fed  
NCT-1

LaRue & Muncy  
Duvall  
27278  
(Marbol)

Sunshine  
Elliott  
HBP  
27279

Sunshine  
Elliott  
HBP  
27279

Webb  
Oil

Apache  
HBP  
Manning

Arena Res.  
"B" Fed  
NCT-1

LaRue & Muncy  
Duvall  
27278  
(Marbol)

Sunshine  
Elliott  
HBP  
27279

Sunshine  
Elliott  
HBP  
27279

Webb  
Oil

Apache  
HBP  
Manning

Arena Res.  
"B" Fed  
NCT-1

LaRue & Muncy  
Duvall  
27278  
(Marbol)

Sunshine  
Elliott  
HBP  
27279

Sunshine  
Elliott  
HBP  
27279

Webb  
Oil

Apache  
HBP  
Manning

Arena Res.  
"B" Fed  
NCT-1

LaRue & Muncy  
Duvall  
27278  
(Marbol)

Sunshine  
Elliott  
HBP  
27279

Sunshine  
Elliott  
HBP  
27279



**YATES PETROLEUM CORPORATION**

Benson Deep AAS Federal Com. #2H

660' FNL &amp; 300' FWL, Surface Hole

660' FNL &amp; 330' FEL, Bottom Hole

Section 33 -T18S-R30-E

Eddy County, New Mexico

**1. THE ESTIMATED TOPS OF GEOLOGIC MARKERS ARE AS FOLLOW:**

Rustler	289'	Cherry Canyon	3969'--Oil	
Top of Salt	559'	Brushy Canyon	4129'--Oil	
Base of Salt	1389'	Bone Spring LM	5539'--Oil	
Tansil	1524'	Bone Spring 1/SD/	7294'--Oil	
Yates	1659'	Bone Spring 2/SD/	8149'--Oil	8182'--MD
Seven Rivers	1989'	Target Zone SBSG	8299'--Oil	8562'--MD
Queen	22769'--Oil	TD	8384'	12743--MD
Grayberg	3369'			

**2. THE ESTIMATED DEPTHS AT WHICH ANTICIPATED WATER, OIL OR GAS FORMATIONS ARE EXPECTED TO**

Water: Approx 250' - 350'

Oil or Gas: See above--All Potential Zones

**3. PRESURECONTROL EQUIPMENT:**

A BOP with a minimum opening of 13 5/8" will be installed on the 13 3/8" and 9 5/8" casing and rated for 3000 BOP systems will be consistent with API RP 53. Pressure 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.

**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 1/2"	13 3/8"	48#	J-55-Hybrid	ST&C	0'-400'	400'
12 1/4"	9 5/8"	40#	J-55 or K-55	LT&C	0'-80'	80'
12 1/4"	9 5/8"	36#	J-55 or K-55	LT&C	80'-3200	3120'
12 1/4"	9 5/8"	40#	J-55 or K-55	LT&C	3200'-3500'	300'
8 3/4"	5 1/2"	17#	P-110	LT&C	0'-7800'	7800'
8 1/2"	5 1/2"	17#	P-110	Buttress	7800'-12743'	4943'

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

**B. CEMENTING PROGRAM:**

Surface casing: 415 sacks Class C with 2% CaCl (Wt. 14.80 Yld. 1.34). Cement designed with 100% excess. TOC-Surface.

Intermediate Casing: Lead with 955 sacks 35:65:6PzC (Wt. 12.50 Yld. 2.00); tail in with 200 sacks Class C with 2% CaCl (Wt. 14,80 Yld. 1.34). Cement designed with 100% excess. TOC-Surface

Production Casing: Cement to be done in two stages with hydraulic DV tool will be set approximately at 8500' and 6000'.

Stage 1 from 6000'-8000'; cement with 1315 sacks 35:65:6PzC (Wt. 12.50 Yld. 2.00). Tail in 200 sacks PecosVILt with D112, Fluid Loss 0.4%; D151, Calcium Carbonate 22.5 lb/sack; D174, Extender 1.5 lb/sack; D177, Retarder 0.01 lb/sack; D800, Retarder 0.6 lb/sack; D46, Antifoam Agent (Wt. 12.50 Yld. 2.00. Cement designed with 35% excess. TOC-6000'

Stage 2 from 3000'-6000'; Lead with 375 sacks 35:65:6PzC (Wt. 12.50 Yld 2.00). Tail In with 200 sacks Class C with 2% CaCl (Wt. 14.80 Yld 1.34). Cement designed with 35% excess. TOC- 3000'.

Well will be drilled vertically to 7821'. Well will be kicked off at approximately 7821' and directionally drilled at 12 degrees per 100' with an 8 3/4" hole to 8562' MD (8299' TVD). Hole will then be reduced to 8 1/2" and drilled to 12743' MD (8384' TVD) where 5 1/2" casing will be set and cemented. A Hydraulic DV tool will be set at 8500' and 6000'. Cement will be placed from first DV tool to 500' into intermediate casing at approximately 3000'. A packers and ports system will be utilized through the lateral. Penetration point of producing zone will be encountered at 661' FNL & 768' FWL, Section 33-18S-30E. Deepest TVD is 8384' in the lateral.

5. MUD PROGRAM AND EQUIPMENT::

INTERVAL	TYPE	WEIGHT	VISCOSITY	FLUID LOSS
0-400'	Fresh Water	8.60-9.20	28-32	N/C
400'-3500'	Brine Water	10.00-10.20	28-30	N/C
3500'-8562'	Cut Brine	9.00-9.20	30-32	N/C
8562'-12743'	Cut Brine (Lateral Section)	9.00-9.20	32-34	<15

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. Mud will be checked hourly by rig personnel.

6. EVALUATION PROGRAM:

Samples: 30' samples to 5000'. 10' samples from 5000' to TD.

Logging: Platform Express/Hals/CMR.

Coring: As warranted.

DST's: As warranted.

Mudlogging from the surface casing to TD

7. ABNORMAL CONDITIONS, Bottom hole pressure and potential hazards:

Anticipated BHP:

From: 0	TO: 400'	Anticipated Max. BHP:	191 PSI
From: 400'	TO: 3500'	Anticipated Max. BHP:	1856 PSI
From: 3500'	TO: 8384'	Anticipated Max. BHP:	4010 PSI

No abnormal pressures or temperatures are anticipated.

Lost Circulation Zones Anticipated: None.

H2S Zones Anticipated: None

8. ANTICIPATED STARTING DATE:

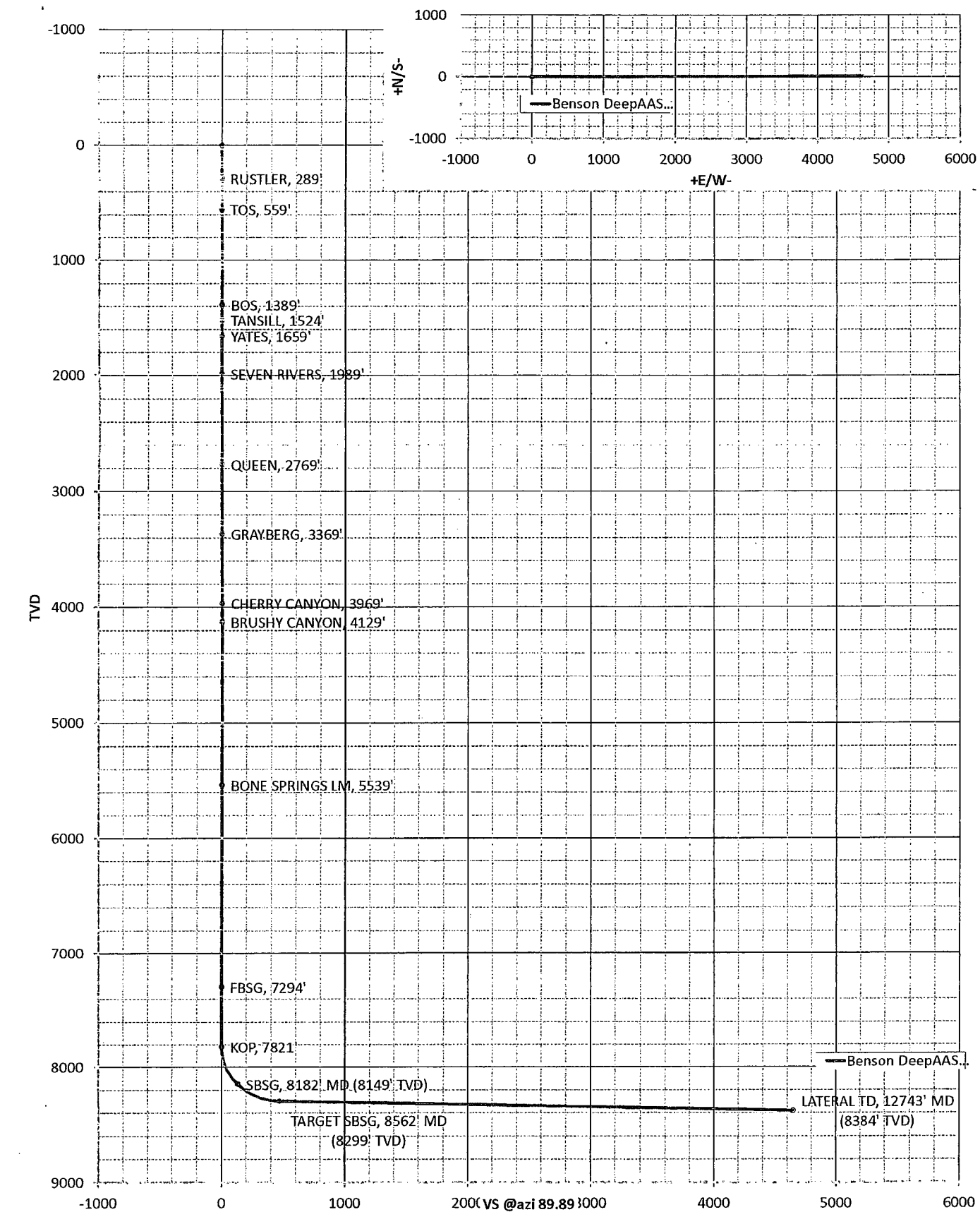
Plans are to drill this well as soon as possible after receiving approval. It should take approximately 60 days to drill the well with completion taking another 30 days.

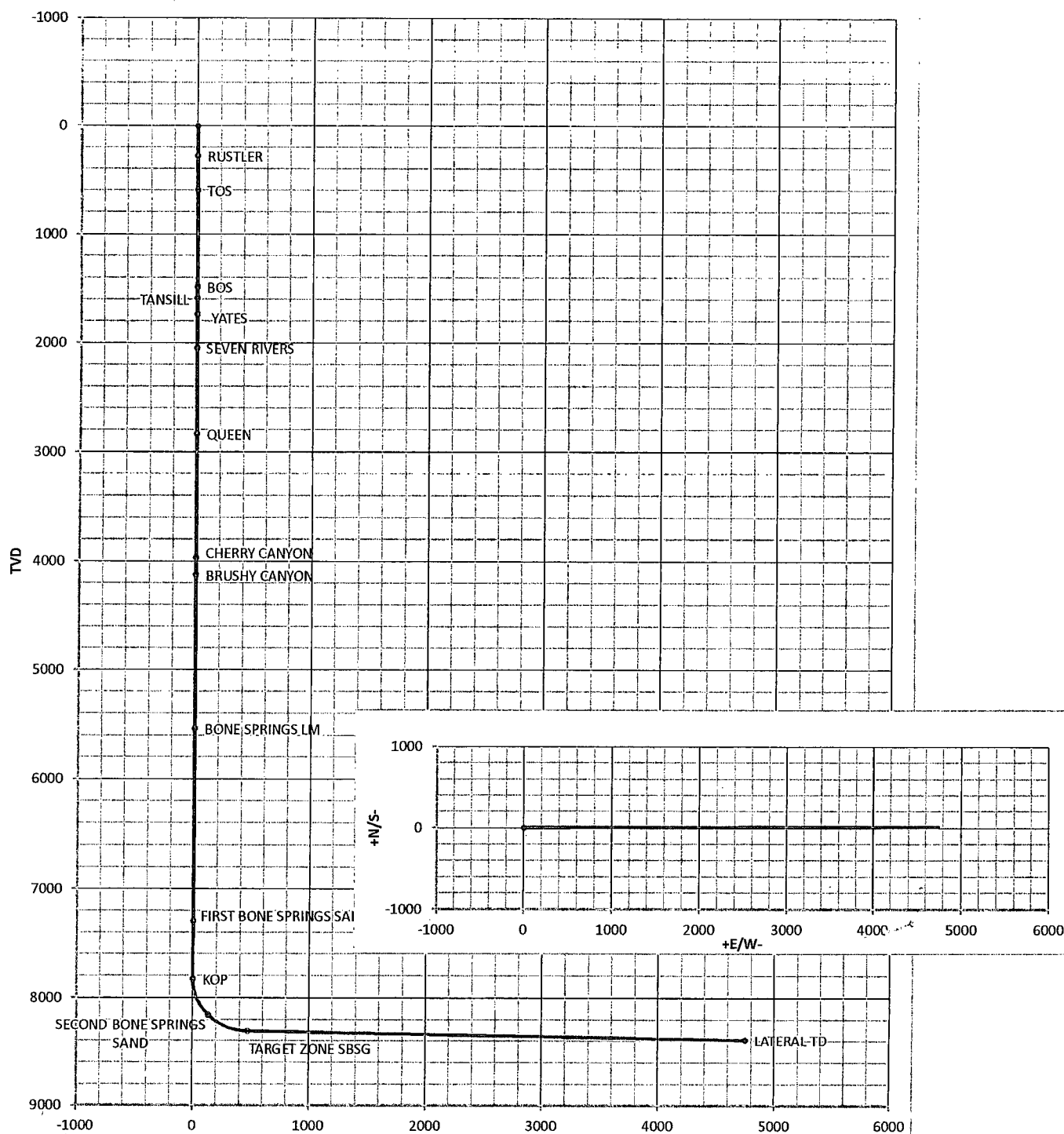
Operator Co.

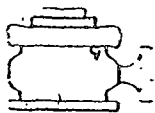
Your Co.

Survey/Planning/Report										
Operator	Yates Petroleum Corp.			Northing			Date	14-Jun-12		
Dir. Co.	Yates Petroleum Corp.			Easting			System	2 - St. Plane		
Well Name	Benson DeepAAS 2H Survey			Elevation			Datum	1983 - NAD83		
Location	Sec. 33, 18S-30E			Latitude			Zone	4302 - Utah Central		
Rig				Longitude			Scale Fac.			
Job				Units	Feet		Converg.			
MD	INC	AZI	TVD	N/S	E/W	VS@89.89°	BR	TR	DLS	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
289.00	0.00	0.00	289.00	0.00	0.00	0.00	0.00	0.00	0.00	
289: RUSTLER, 289'										
559.00	0.00	0.00	559.00	0.00	0.00	0.00	0.00	0.00	0.00	
559: TOS, 559'										
1389.00	0.00	0.00	1389.00	0.00	0.00	0.00	0.00	0.00	0.00	
1389: BOS, 1389'										
1524.00	0.00	0.00	1524.00	0.00	0.00	0.00	0.00	0.00	0.00	
1524: TANSILL, 1524'										
1659.00	0.00	0.00	1659.00	0.00	0.00	0.00	0.00	0.00	0.00	
1659: YATES, 1659'										
1989.00	0.00	0.00	1989.00	0.00	0.00	0.00	0.00	0.00	0.00	
1989: SEVEN RIVERS, 1989'										
2769.00	0.00	0.00	2769.00	0.00	0.00	0.00	0.00	0.00	0.00	
2769: QUEEN, 2769'										
3369.00	0.00	0.00	3369.00	0.00	0.00	0.00	0.00	0.00	0.00	
3369: GRAYBERG, 3369'										
3969.00	0.00	0.00	3969.00	0.00	0.00	0.00	0.00	0.00	0.00	
3969: CHERRY CANYON, 3969'										
4129.00	0.00	0.00	4129.00	0.00	0.00	0.00	0.00	0.00	0.00	
4129: BRUSHY CANYON, 4129'										
5539.00	0.00	0.00	5539.00	0.00	0.00	0.00	0.00	0.00	0.00	
5539: BONE SPRINGS LM, 5539'										
7294.00	0.00	0.00	7294.00	0.01	0.00	0.00	0.00	0.00	0.00	
7294: FBSG, 7294'										
7821.25	0.00	89.89	7821.25	0.01	0.00	0.00	0.00	1.15	0.00	
7821.25: KOP, 7821'										
7900.00	9.45	89.89	7899.64	0.02	6.48	6.48	12.00	0.00	12.00	
8000.00	21.45	89.89	7995.85	0.07	33.07	33.07	12.00	0.00	12.00	
8100.00	33.45	89.89	8084.43	0.16	79.08	79.08	12.00	0.00	12.00	
8182.49	43.35	89.89	8149.00	0.25	130.26	130.26	12.00	0.00	12.00	
8182.49: SBSG, 8182' MD (8149' TVD)										
8200.00	45.45	89.89	8161.51	0.27	142.51	142.51	12.00	0.00	12.00	
8300.00	57.45	89.89	8223.72	0.42	220.57	220.57	12.00	0.00	12.00	
8400.00	69.45	89.89	8268.33	0.59	309.86	309.86	12.00	0.00	12.00	
8500.00	81.45	89.89	8293.41	0.77	406.47	406.48	12.00	0.00	12.00	
8561.50	88.83	89.89	8298.62	0.88	467.71	467.72	12.00	0.00	12.00	
8561.5: TARGET SBSG, 8562' MD (8299' TVD)										
12743.12	88.83	89.89	8384.00	8.72	4648.45	4648.46	0.00	0.00	0.00	
12743.12: LATERAL TD, 12743' MD (8384' TVD)										



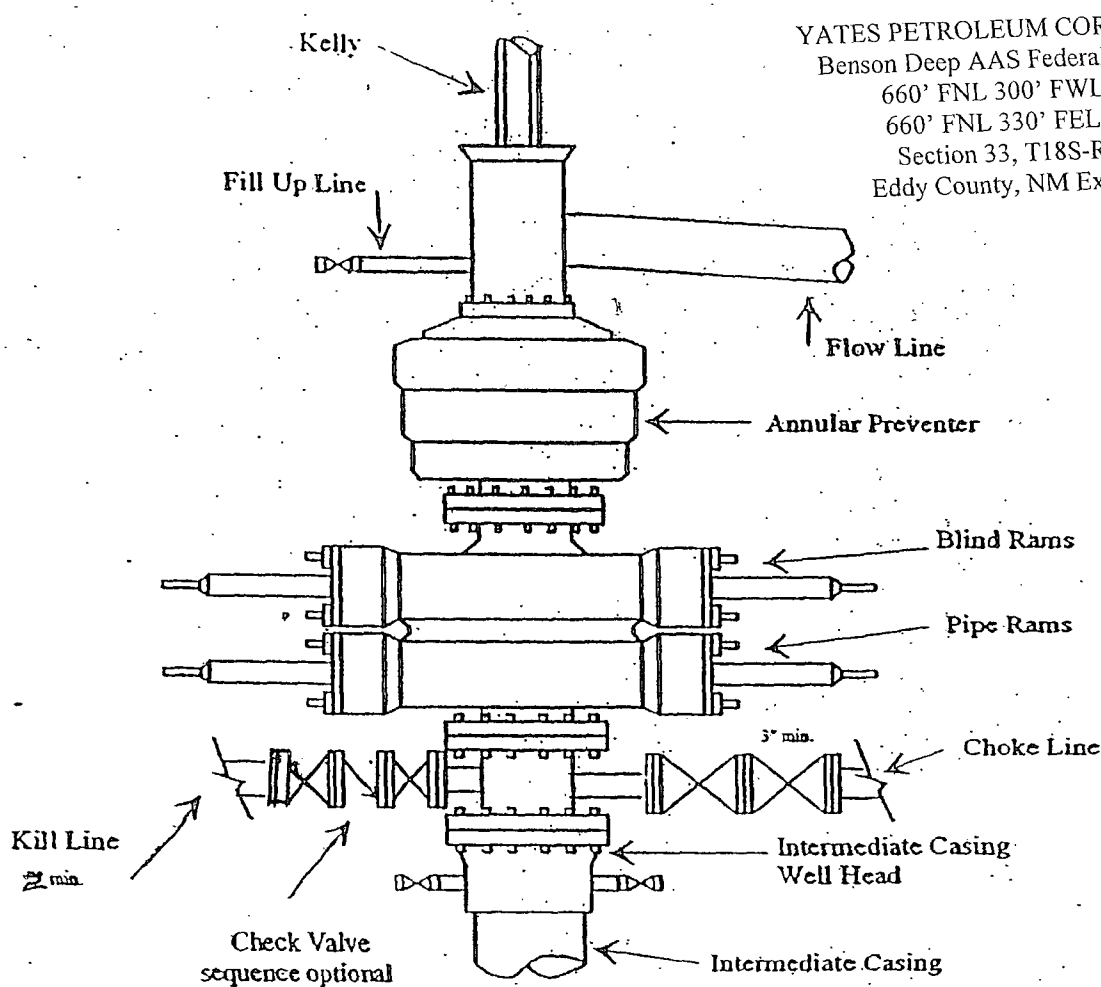




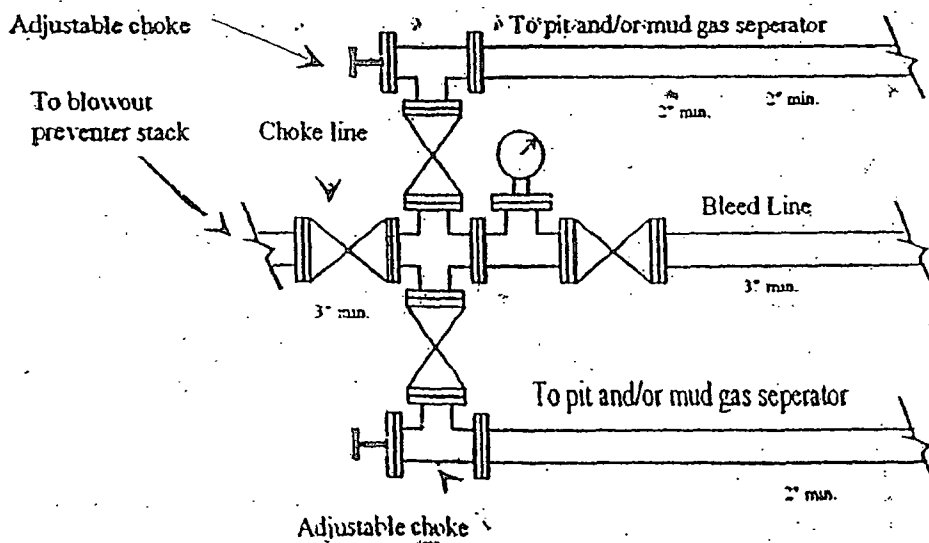


Yates Petroleum Corporation  
Typical 3,000 psi Pressure System  
Schematic  
Annular with Double Ram Preventer Stack

BOP-3



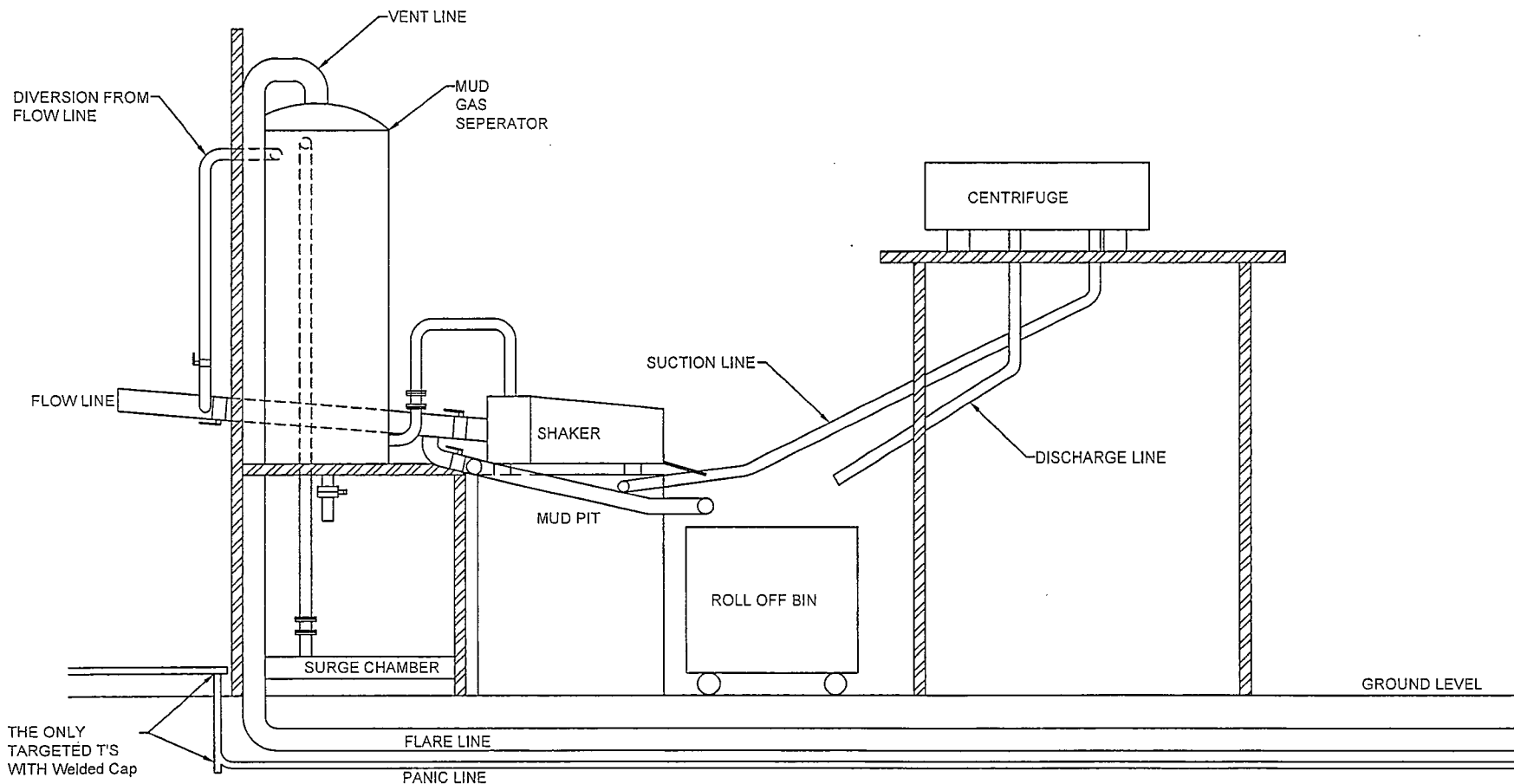
Typical 3,000 psi choke manifold assembly with at least these minimum features



# YATES PETROLEUM CORPORATION

## Piping from Choke Manifold to the Closed Loop Drilling Mud System

YATES PETROLEUM CORPORATION  
Benson Deep AAS Federal Com. #2H  
660' FNL 300' FWL SHL  
660' FNL 330' FEL BHL  
Section 33, T18S-R30E  
Eddy County, NM Exhibit D



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.

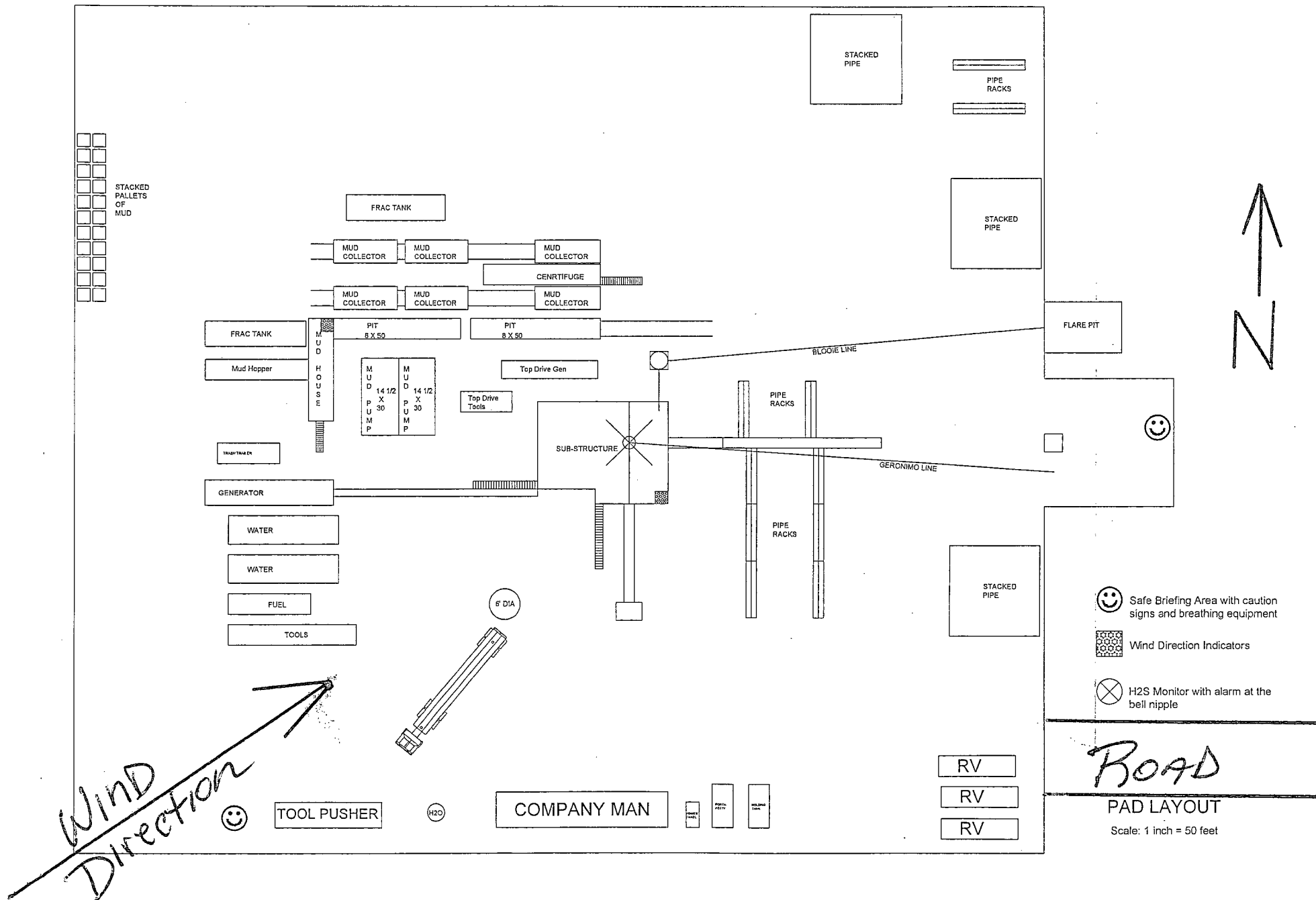
Any spills / leaks will be reported to YPC, NMOCD, and cleaned up without delay.

### Closure Plan

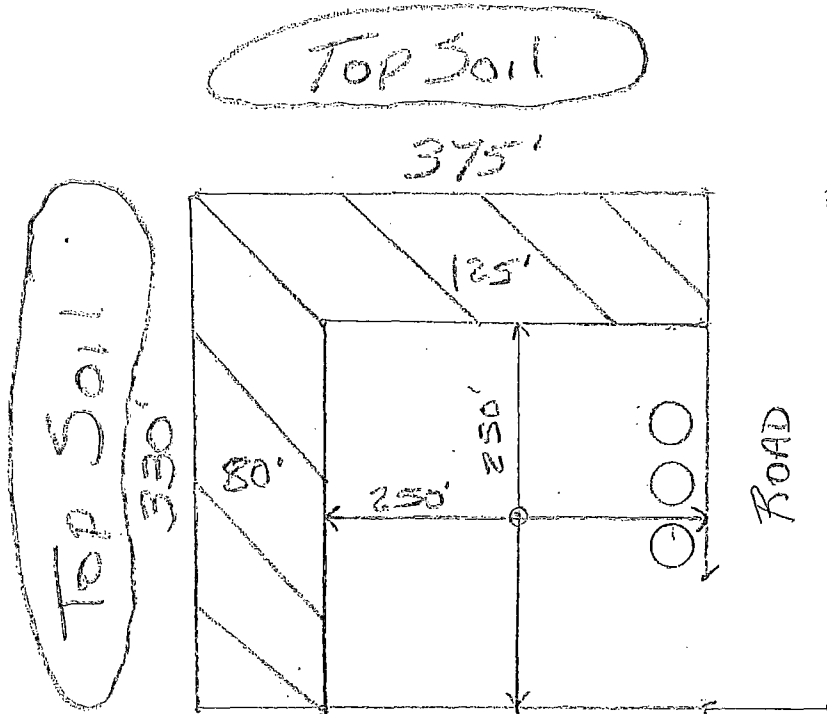
Drilling with Closed Loop System, haul off bins will be taken to Gandy Marley, Lea Land Farm, CRI or Sundance Services Inc.

# YATES PETROLEUM CORPORATION

Benson Deep AAS  
FED Com 2H

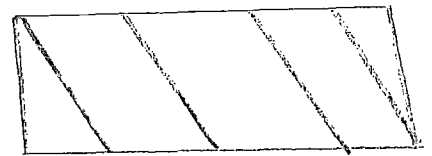


YATES PETROLEUM CORPORATION  
Benson Deep AAS Federal Com. #2H  
660' FNL 300' FWL SHL  
660' FNL 330' FEL BHL  
Section 33, T18S-R30E  
RECLAMATION PLAT



Not To Scale

Final Reclamation  
May Look Different  
Than This PLAT.



Possible  
Reclaimed  
Area

## **MULTI-POINT SURFACE USE AND OPERATIONS PLAN**

### **Yates Petroleum Corporation**

Benson Deep AAS Federal #2H

660' FNL & 300' FWL Surface Hole Location

660' FSL and 330' FEL Bottom Hole Location

Section 33, T18S-R30-E

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 well site is located approximately 28 miles southeast of Artesia, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

#### **DIRECTIONS:**

Go east of Artesia on Highway 82 for approximately 26.1 miles to the intersection of Highway 82 and County Road 360 (Blue Stem Road). Turn right on Bluestem Road and go approximately 12.7 miles to Duval Shaft Road. Turn left on Duval Shaft Road and go approximately 2.2 miles. Turn left here on existing lease road and go approximately .3 of a mile. Turn left here and go approx.. .1 of a mile to Linn Petroleum's Mc Clay Federal #7 well location. From the northwest corner of this location the new road will start here going west. DIRECTIONS NOT FINISHED.

#### **2. PLANNED ACCESS ROAD.**

- A. The proposed new access will go east for approximately 400 feet to the southwest corner of the proposed well location. The road will lie in a west to east direction.
- B. The new road will be 14 feet in width (driving surface) and will be adequately drained to control runoff and soil erosion.
- C. The new road will be bladed with drainage on one side. Traffic turnouts may be needed.
- 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 drilling activity within a one-mile radius of the well site.
- B. Exhibit D shows existing wells within a one-mile radius of the proposed well site.

#### **4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES**

- A. There are not any production facilities on this lease at the present time
- B. A tank battery and related production facilities will be placed on this location. Please note attached plat showing placement of the tank battery. However should a tank battery not be needed for this well a Sundry Notice will be filed with the BLM showing this change and the route of flowlines.

5. 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.

6. SOURCE OF CONSTRUCTION MATERIALS:

Dirt contractor will locate closest pit and obtain any permits and materials needed for construction of the well location.

7. 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.

8. ANCILLARY FACILITIES: None.

9. WELLSITE LAYOUT:

- A. Exhibit C shows 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.
- B. 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 wellsite 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 non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible. All pits will be filled level after they have evaporated and dried.

11. SURFACE OWNERSHIP:

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

Mineral Estate: Federal Lease NM-028978-B  
Bureau of Land Management  
620 East Greene Street, Carlsbad, NM 88220

12. 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.:	LC028978B
WELL NAME & NO.:	Benson Deep AAS Federal 2H
SURFACE HOLE FOOTAGE:	660' FNL & 300' FWL
BOTTOM HOLE FOOTAGE:	660' FNL & 330' FEL
LOCATION:	Section 33, T.18 S., R.30 E., NMPM
COUNTY:	Eddy County, New Mexico

### TABLE OF CONTENTS

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

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Lesser Prairie-Chicken Timing Stipulations
  - Ground-level Abandoned Well Marker
  - Communitization Agreement
- ☐ **Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
  - Secretary's Potash
  - H<sub>2</sub>S Requirements
  - Waste Material and Fluids
- ☐ **Production (Post Drilling)**
  - Well Structures & Facilities
  - Pipelines
  - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**



## **I. GENERAL PROVISIONS**

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

## **II. PERMIT EXPIRATION**

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

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

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

## **IV. NOXIOUS WEEDS**

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

## **V. SPECIAL REQUIREMENT(S)**

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

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

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

### **Communitization Agreement**

A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales. In addition, the well sign shall include the surface and bottom hole lease numbers. If the Communitization Agreement number is known, it shall also be on the sign. If not, it shall be placed on the sign when the sign is replaced.

## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-6235 at least 3 working days prior to commencing construction of the access road and/or well pad.

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

### **B. TOPSOIL**

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 4 inches in depth. The topsoil will be used for interim and final reclamation.

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

Tanks are required for drilling operations: No Pits.

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

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

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

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

Surfacing of the well pad is not required.

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

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

### **F. 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 (20) feet.

### Surfacing

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

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

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

### Crowning

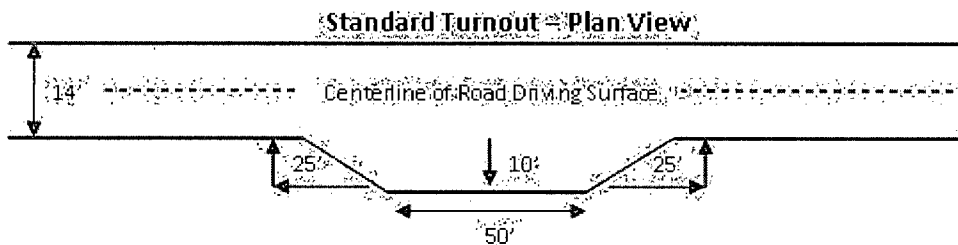
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

### Ditching

Ditching shall be required on both sides of the road.

### Turnouts

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

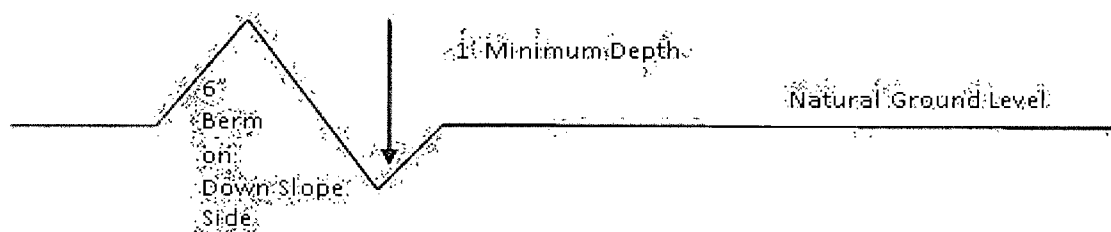


### Drainage

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

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

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



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

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

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

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

### Culvert Installations

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

### Cattleguards

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

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

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

### Fence Requirement

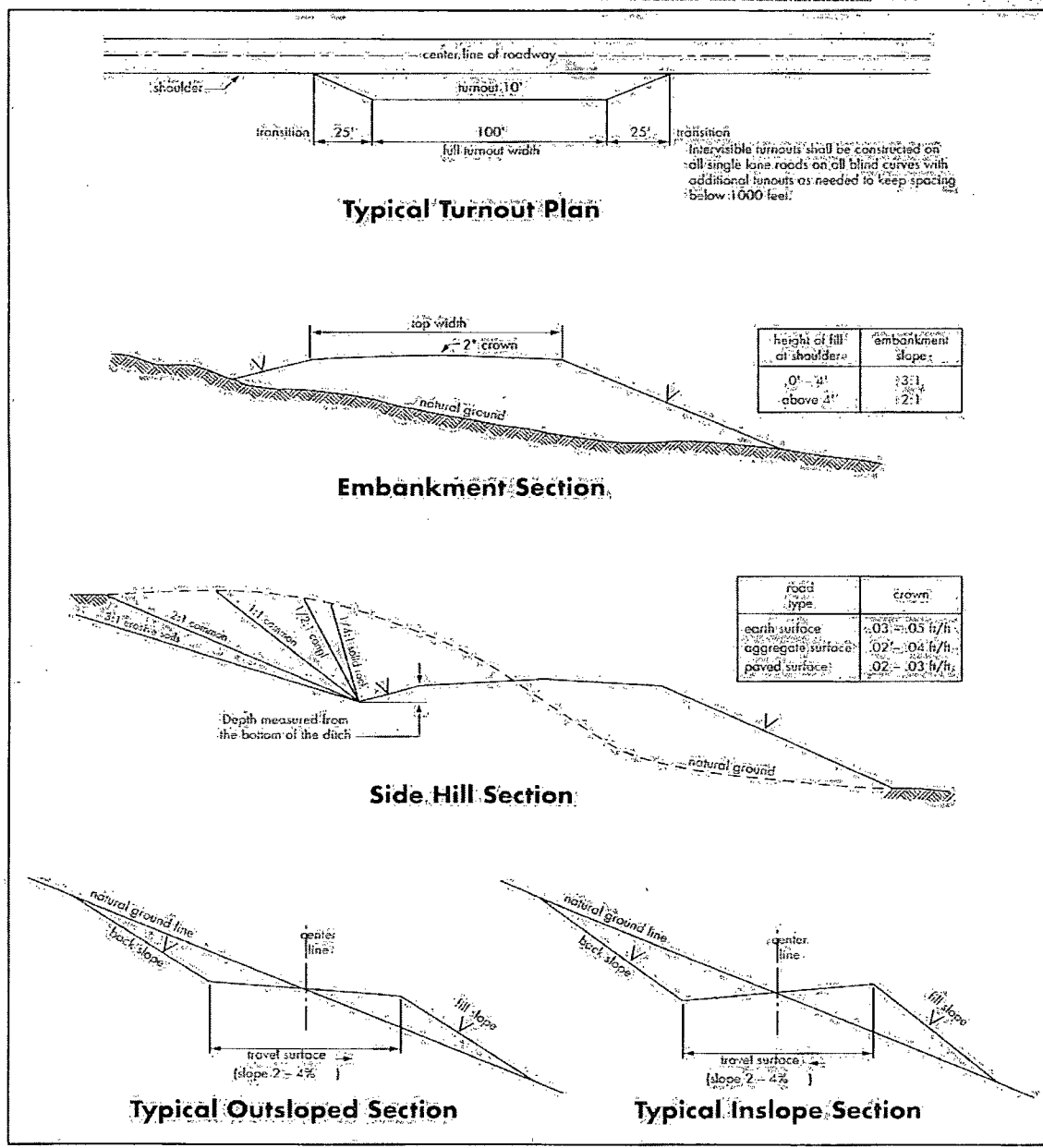
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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

## Public Access

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

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



## VII. DRILLING

### A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

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

☒ **Eddy County**

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

1. A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan shall be activated 500 feet prior to drilling into the **Queen** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run from TD to surface (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. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#).**



**Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).**

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

**Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.**

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

#### **Secretary's Potash**

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

**Possible lost circulation in the Artesia group.**

1. The **13-3/8** inch surface casing shall be set at approximately **330** 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 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 potash.**

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
  - a. First stage to DV tool:  
☒ Cement not required – Packer/Port system to be used.
  - b. Second stage above DV tool:  
☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with third stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.
  - c. Third stage above DV tool:  
☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.
4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

### C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.
  - a. **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.
3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.

- 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 (18 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 results of the test shall be reported to the appropriate BLM office.
- d. 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.**
- e. 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.

#### **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.

#### **Containment Structures**

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

#### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color  
Shale Green, Munsell Soil Color Chart # 5Y 4/2

### **B. PIPELINES (not applied for in APD)**

### **C. ELECTRIC LINES (not applied for in APD)**

## **IX. INTERIM RECLAMATION**

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

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

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

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

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

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

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

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

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

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

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

## Seed Mixture for LPC Sand/Shinnery Sites

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

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

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

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

\*Pounds of pure live seed:

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