OCD Artesia

ATS-14-550

Form 3160-3
(March 2012)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NM-88136

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

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

8. Lease Name and Well No.
Corral Draw AQH Federal #3H

2. Name of Operator YATES PETROLEUM CORPORATION

9. API Well No.
30-015-43383

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

3b. Phone No. *(include area code)*
575-748-4479

10. Field and Pool, or Exploratory
Pierce Crossing, Bone Spring East

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 100' FSL & 2310' FWL, Unit Ltr N, Sec. 13-T24S-R29E
At proposed prod. zone 330' FNL & 1980' FWL, Unit Ltr C, Sec. 13-T24S-R29E, BHL

11. Sec., T. R. M. or Blk. and Survey or Area
Section 13-T24S-R29E

14. Distance in miles and direction from nearest town or post office*
Approximately 36 miles East of Malaga, New Mexico

12. County or Parish
Eddy

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
100'	320 acres	E2W2, Sec. 13, T24S-R29E
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
200'	TVD-9096' MD-13769'	Nationwide Bond #NM-B000434 NMB000920
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3082' GL		60 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
Cy Cowan	Cy Cowan	2/18/14

Title
Land Regulatory Agent

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/S/ STEPHEN J. CAFFEY		9/3/15

Title	Office
FIELD MANAGER	CARLSBAD FIELD OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

RD 9/24/2015

Carlsbad Controlled Water Basin
NM OIL CONSERVATION
ARTESIA DISTRICT
SEP 10 2015
RECEIVED

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

CERTIFICATION
YATES PETROLEUM CORPORATION
CORRAL DRAW AQH FEDERAL #3H

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 18 th day of February 2014

Signature _____

Name Cy Cowan

Position Title Land Regulatory Agent

Address 105 South Fourth Street, Artesia, New Mexico 88210

Telephone (575) 748-4372

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

Address (if different from above) Same as above.

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

E-mail (optional) cy@yatespetroleum.com

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102
Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-43383	96473	Pierce Crossing; Bone Spring East

Property Code	Property Name	Well Number
20474	CORRAL DRAW AQH FEDERAL	3H

OGRID No.	Operator Name	Elevation
025575	YATES PETROLEUM CORPORATION	3082

Surface Location

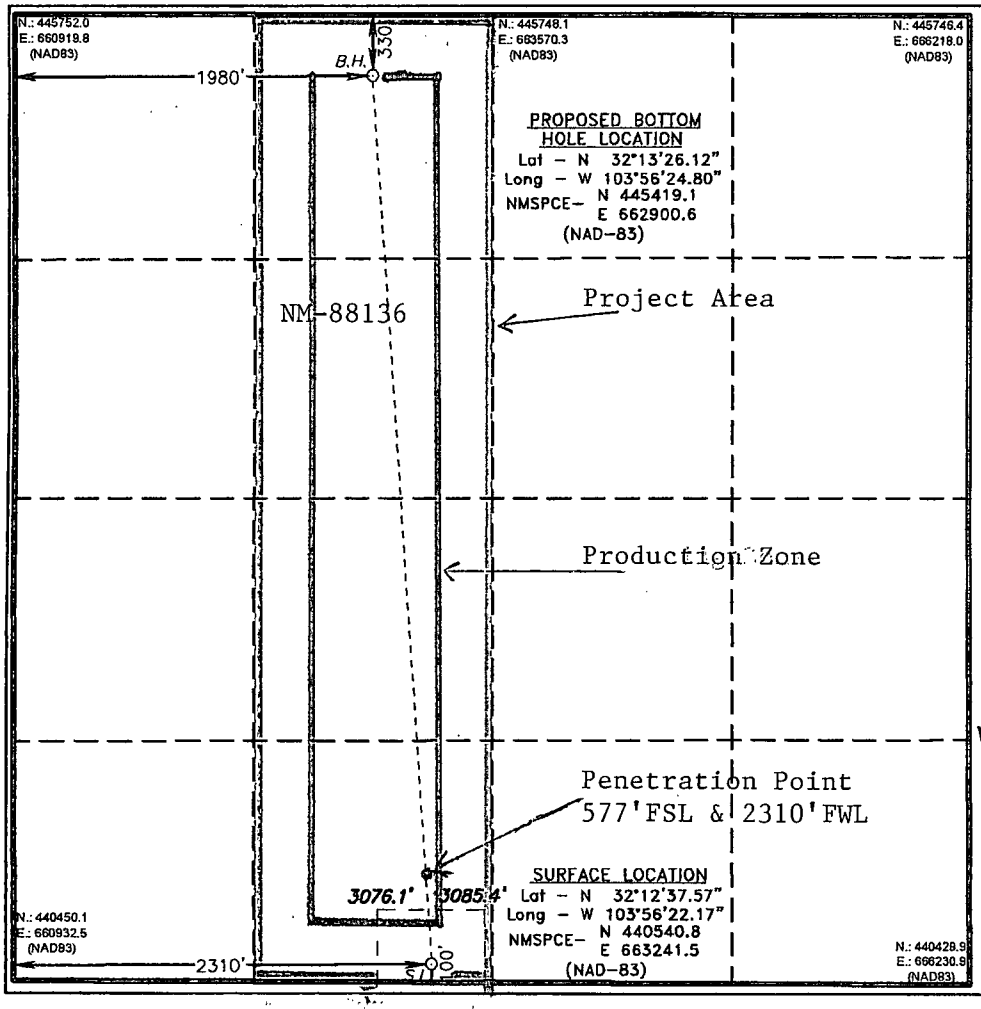
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/EAST line	County
N	13	24 S	29 E		100	SOUTH	2310	WEST	EDDY

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/EAST line	County
C	13	24 S	29 E		330	NORTH	1980	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



OPERATOR CERTIFICATION

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

Lori Flores 2/18/14
Signature Date

Lori Flores
Printed Name

lorif@yatespetroleum.com
Email Address

SURVEYOR CERTIFICATION

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

DECEMBER 10, 2013
Date Surveyed

Signature & Seal of Professional Surveyor

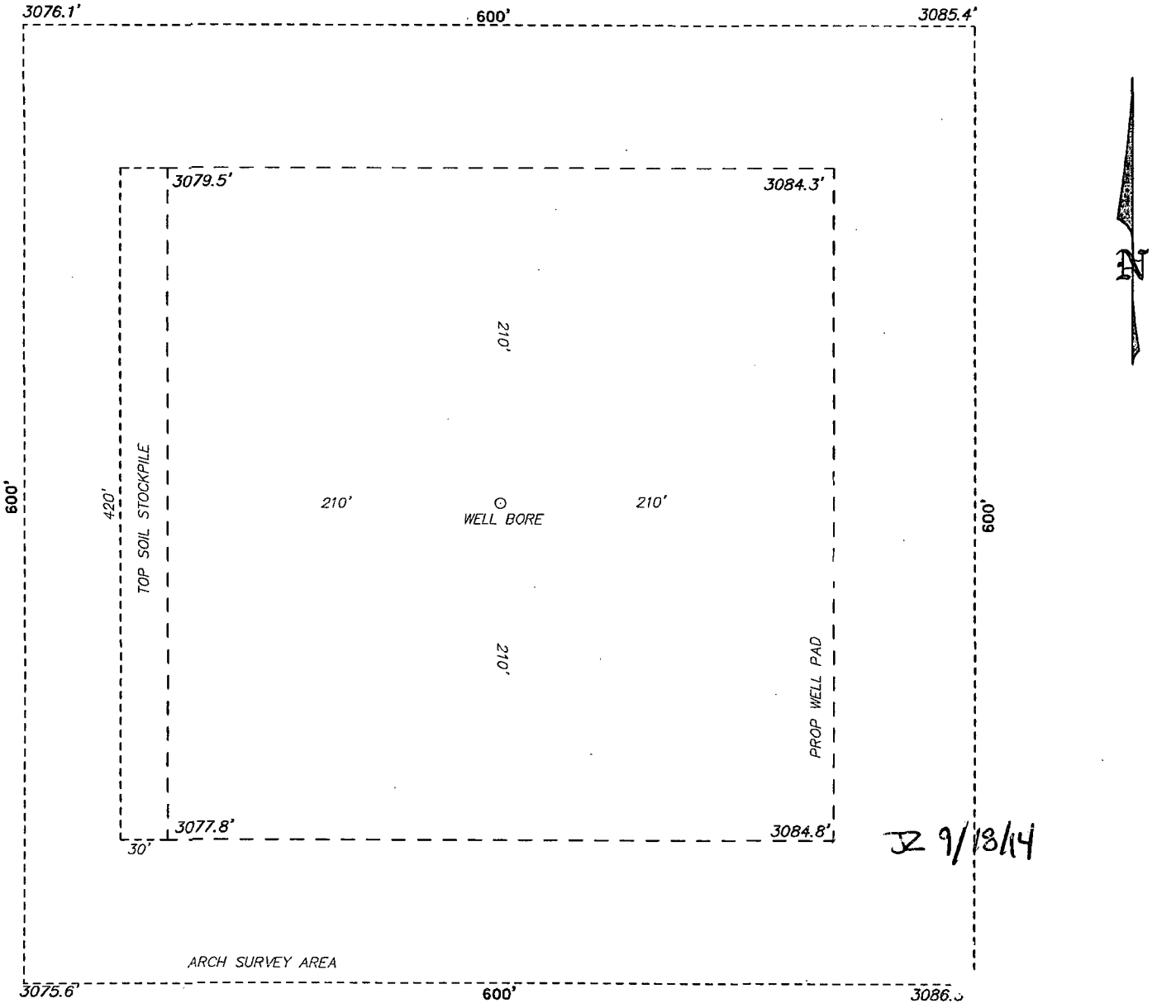
Certificate No. Gary L. Jones 7977

BASIN SURVEYS

0' 500' 1000' 2000'

SCALE: 1" = 1000'
WO Num.: 29668

SECTION 13, TOWNSHIP 24 SOUTH, RANGE 29 EAST. N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



JZ 9/18/14

YATES PETROLEUM CORPORATION

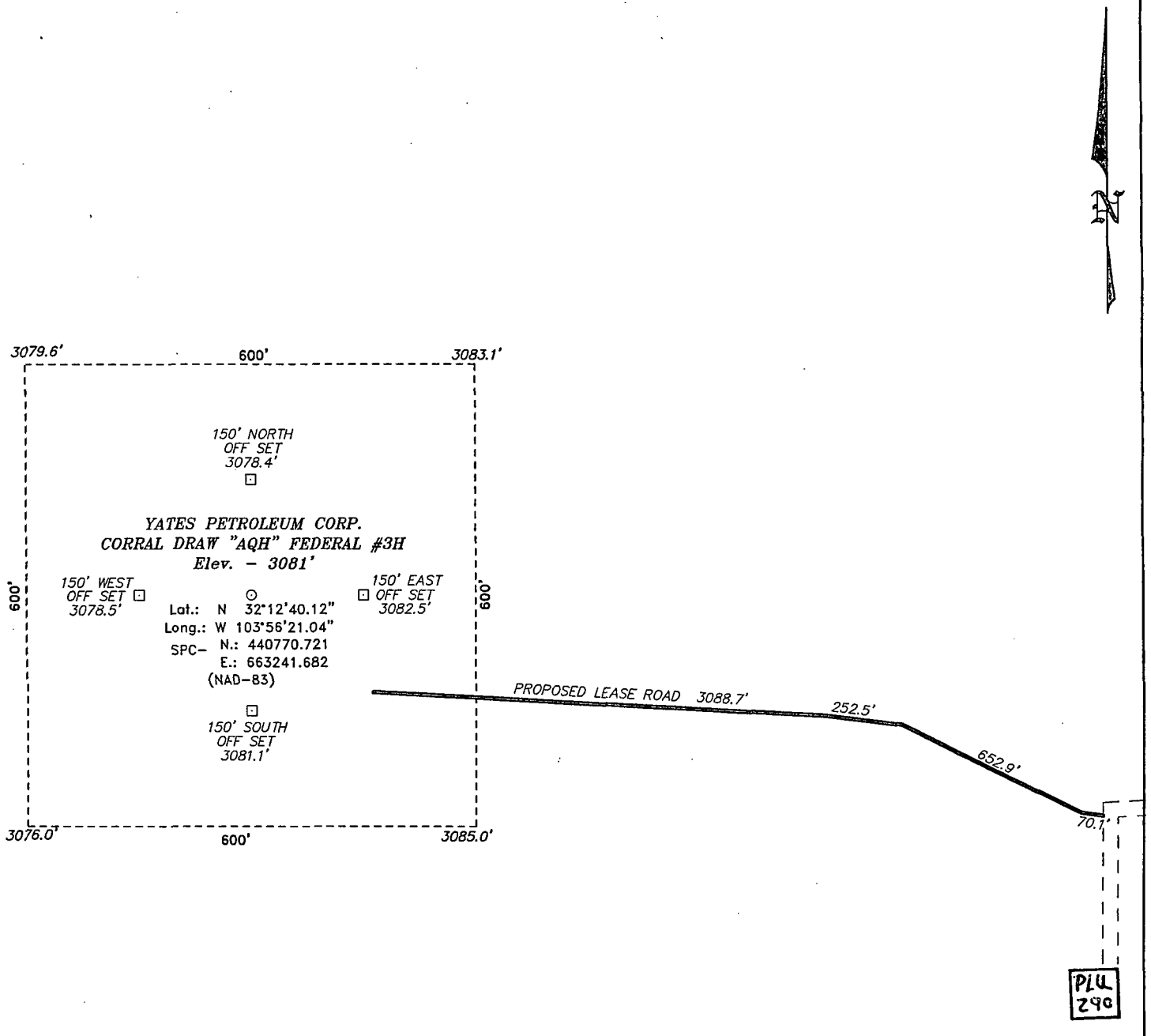
REF: CORRAL DRAW AQH FEDERAL #3H / WELL PAD TOPO

THE CORRAL DRAW AQH FEDERAL #3H LOCATED 100' FROM THE SOUTH LINE AND 2310' FROM THE WEST LINE OF SECTION 13, TOWNSHIP 24 SOUTH, RANGE 29 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: 29668 | Drawn By: K. NORRIS | Date: 12-19-2013 | Survey Date: 12-17-2013 | Sheet 1 of 1 Sheets

SECTION 4, TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



200 0 200 400 FEET

SCALE: 1" = 200'

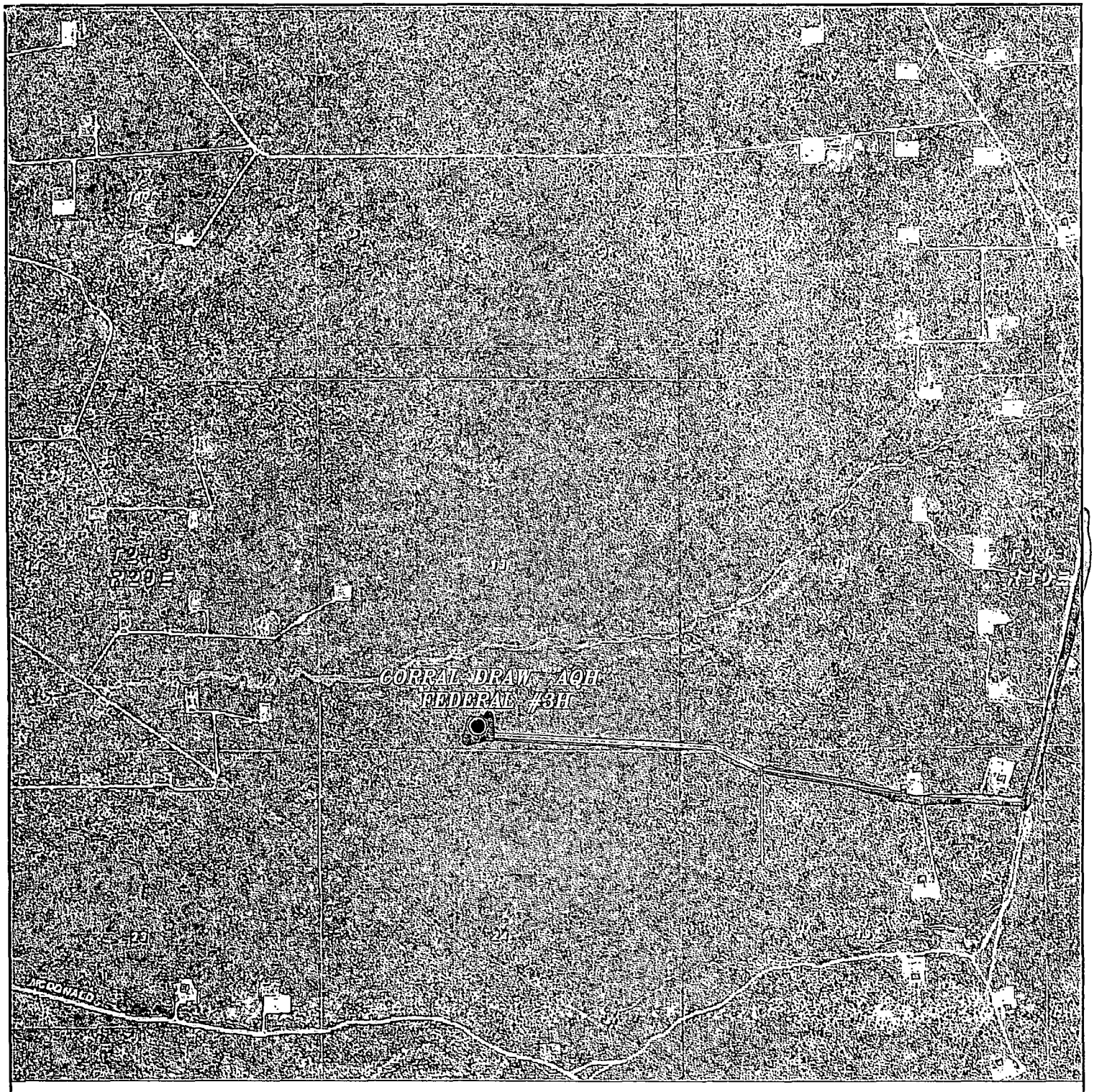
YATES PETROLEUM CORP.

REF: CORRAL DRAW "AQH" FEDERAL #3H / WELL PAD TOPO

THE CORRAL DRAW "AQH" FEDERAL #3H LOCATED 100' FROM THE SOUTH LINE AND 2310' FROM THE WEST LINE OF SECTION 13, TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO

W.O. Number: 21179	Drawn By: J. M. SMALL		
Date: 02-27-2009	Disk: 21179 JMS	Survey Date: 02-26-2009	Sheet 1 of 1 Sheets



CORRAL DRAW "AQH" FEDERAL #3H
Located at 100' FSL AND 2310' FWL
Section 13, Township 24 South, Range 29 East,
N.M.P.M., Eddy County, New Mexico.

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1120 N. West County Rd.
Hobbs, New Mexico 88241
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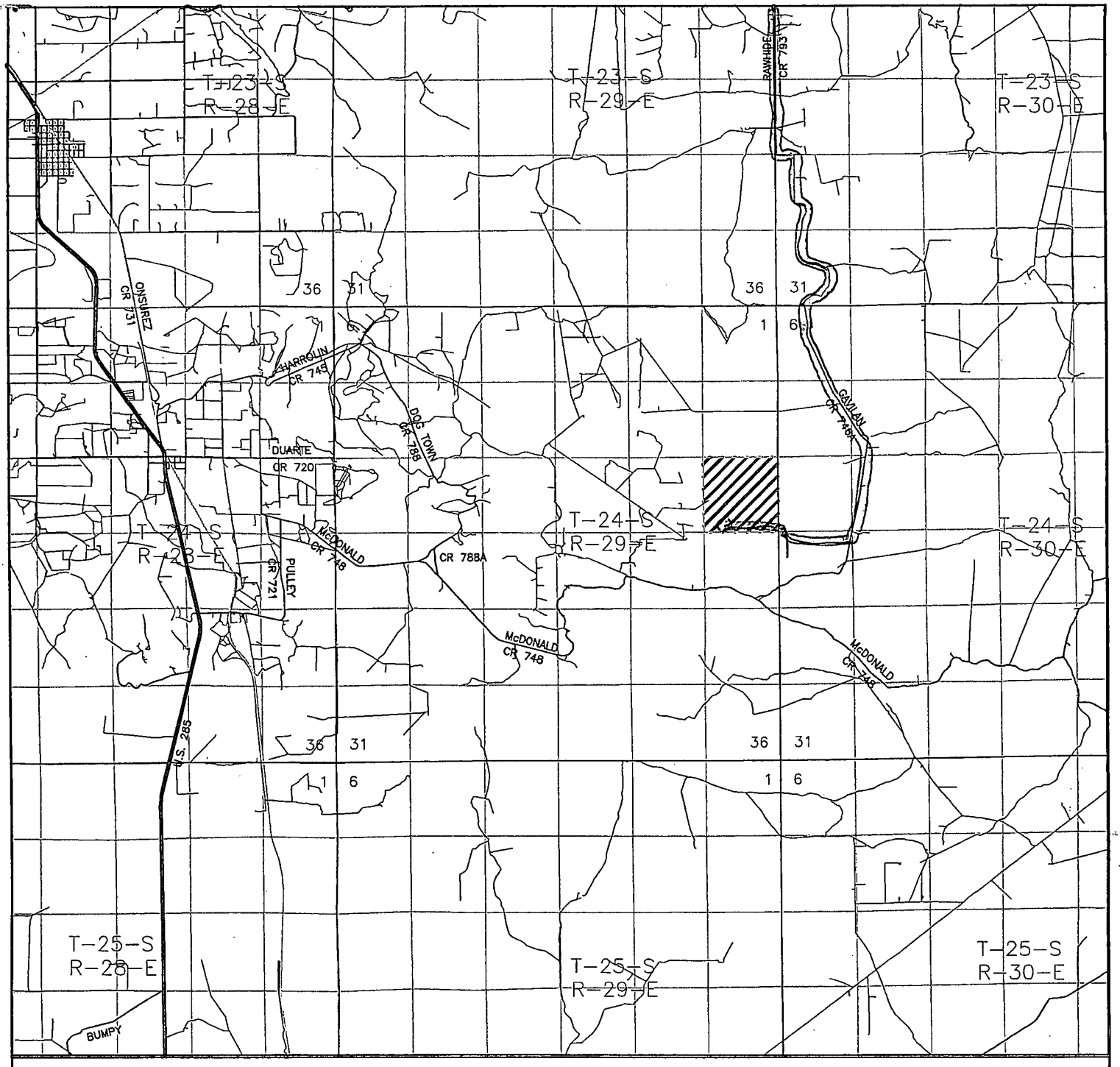
basinsurveys.com

W.O. Number: 21179

Scale: 1" = 2000'

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

YATES PETROLEUM CORP.



CORRAL DRAW "AQH" FEDERAL #3H
Located at 100' FSL AND 2310' FWL
Section 13, Township 24 South, Range 29 East,
N.M.P.M., Eddy County, New Mexico.

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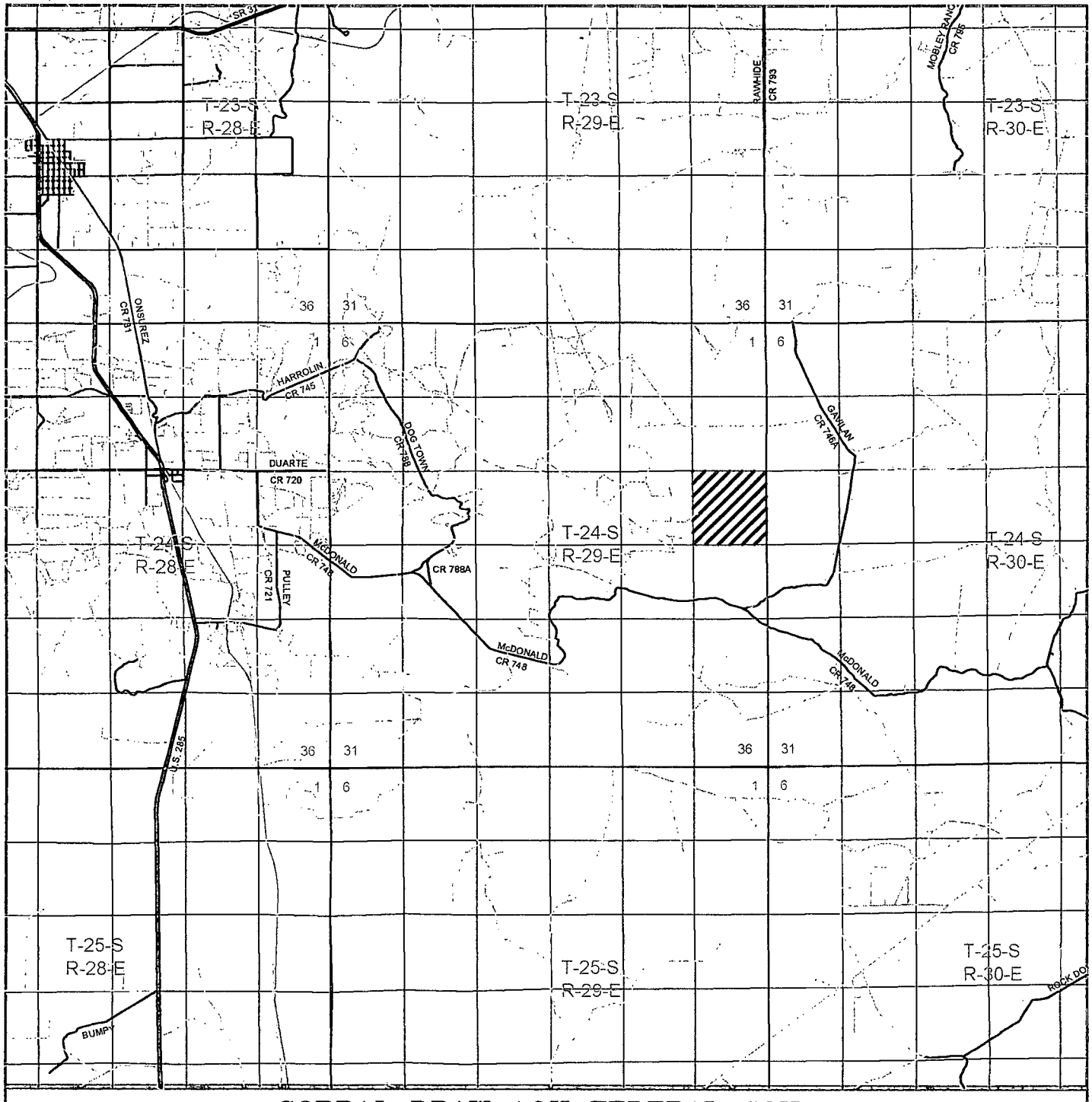
W.O. Number:	21179
Survey Date:	02-09-2009
Scale:	1" = 2000'
Date:	02-09-2009

YATES PETROLEUM CORP.



CORRAL DRAW AQH FEDERAL #3H

Located 100' FSL and 2310' FWL

Section 13, Township 24 South, Range 29 East,

N.M.P.M., Eddy County, New Mexico.

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0 1 MI 2 MI 3 MI 4 MI

SCALE: 1" = 2 MILES

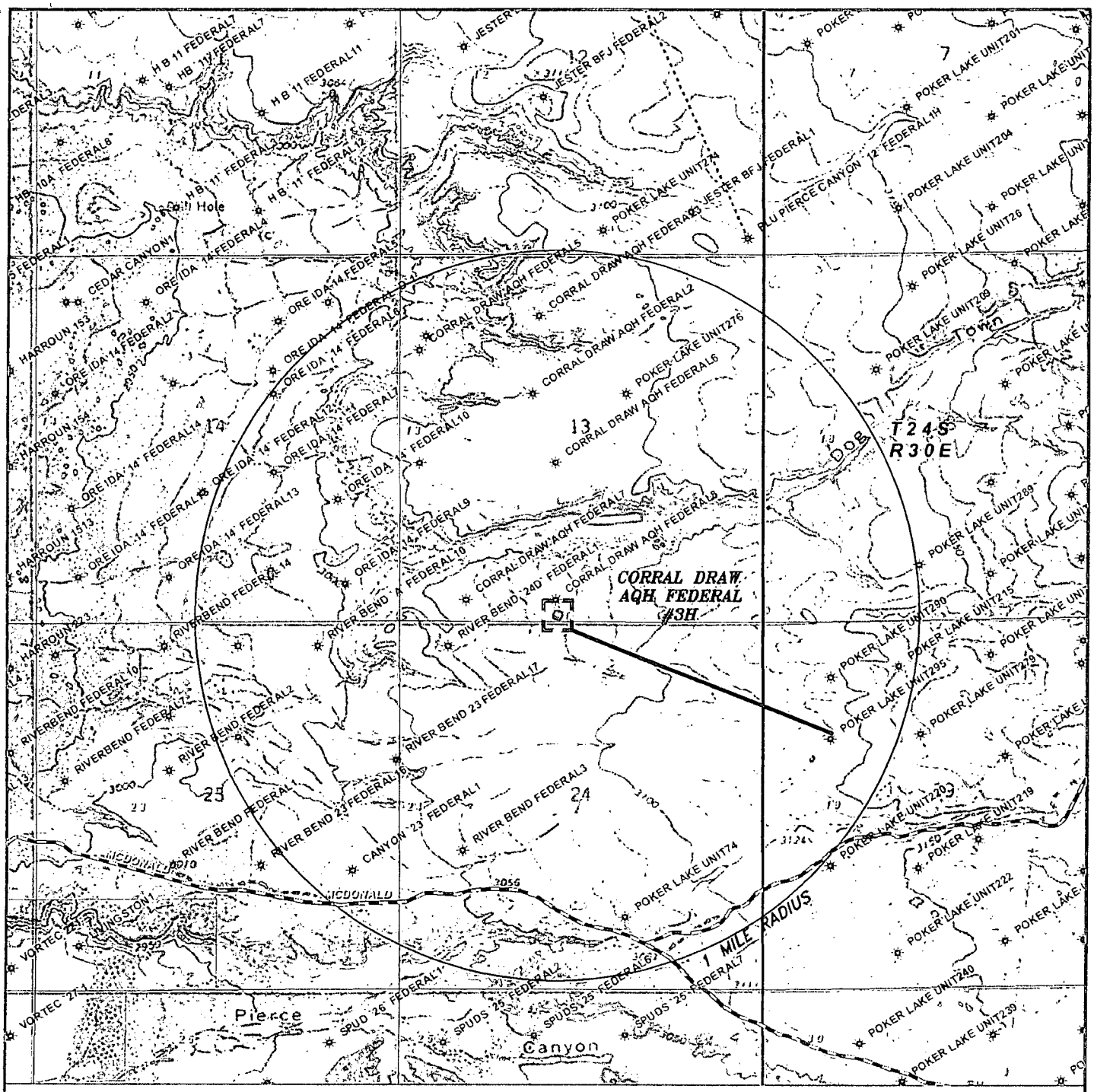
W.O. Number: KAN 29668

Survey Date: 12-17-2013

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

N

YATES PETROLEUM CORPORATION



CORRAL DRAW AQH FEDERAL #3H

Located 100' FSL and 2310' FWL

Section 13, Township 24 South, Range 29 East, N.M.P.M., Eddy County, New Mexico.

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0' 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

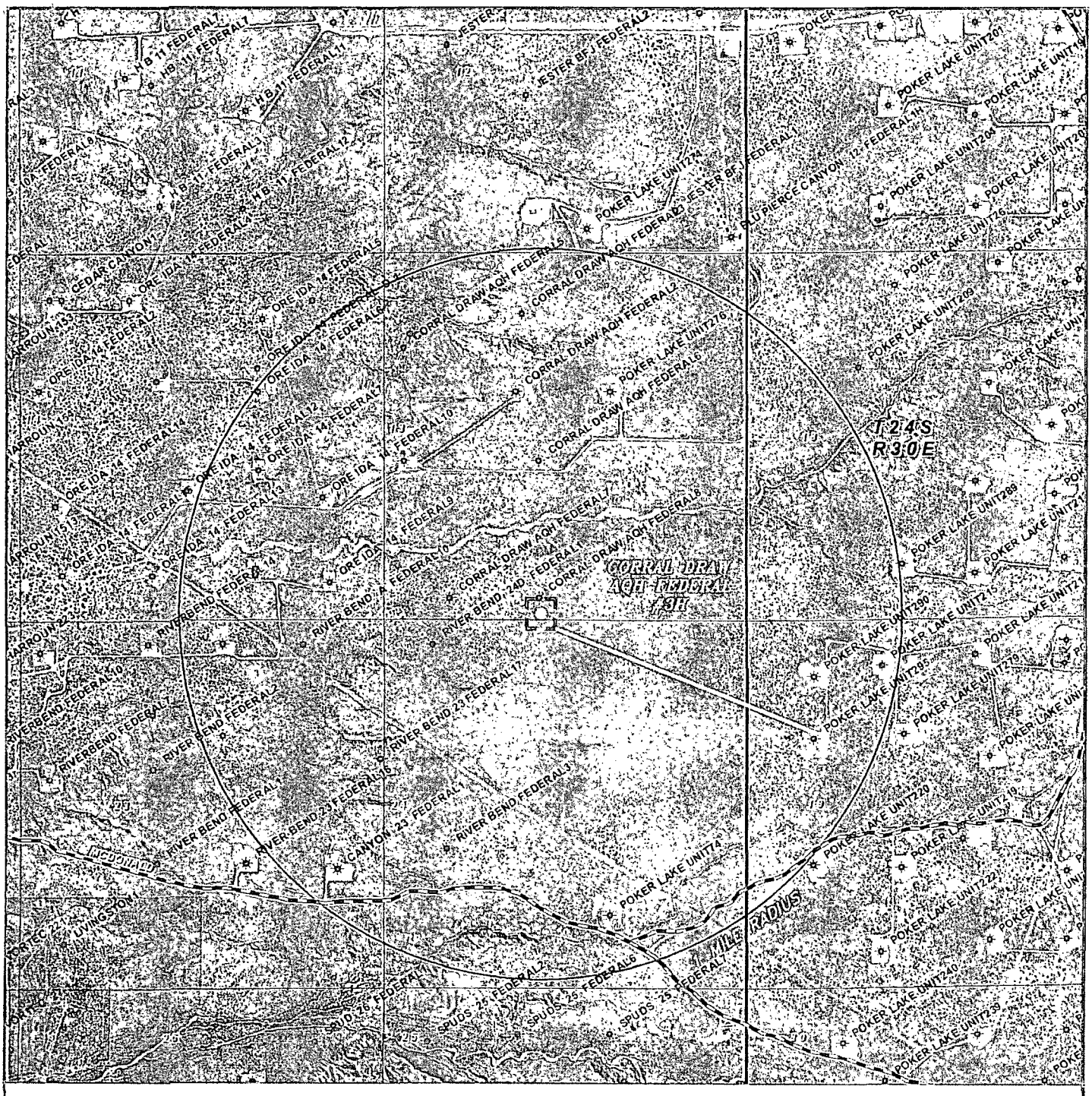
W.O. Number: KAN 29668

Survey Date: 12-17-2013

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

N

YATES PETROLEUM CORPORATION



CORRAL DRAW AQH FEDERAL #3H

Located 100' FSL and 2310' FWL

Section 13, Township 24 South, Range 29 East, N.M.P.M., Eddy County, New Mexico.

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0' 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

W.O. Number: KAN 29668

Survey Date: 12-17-2013

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

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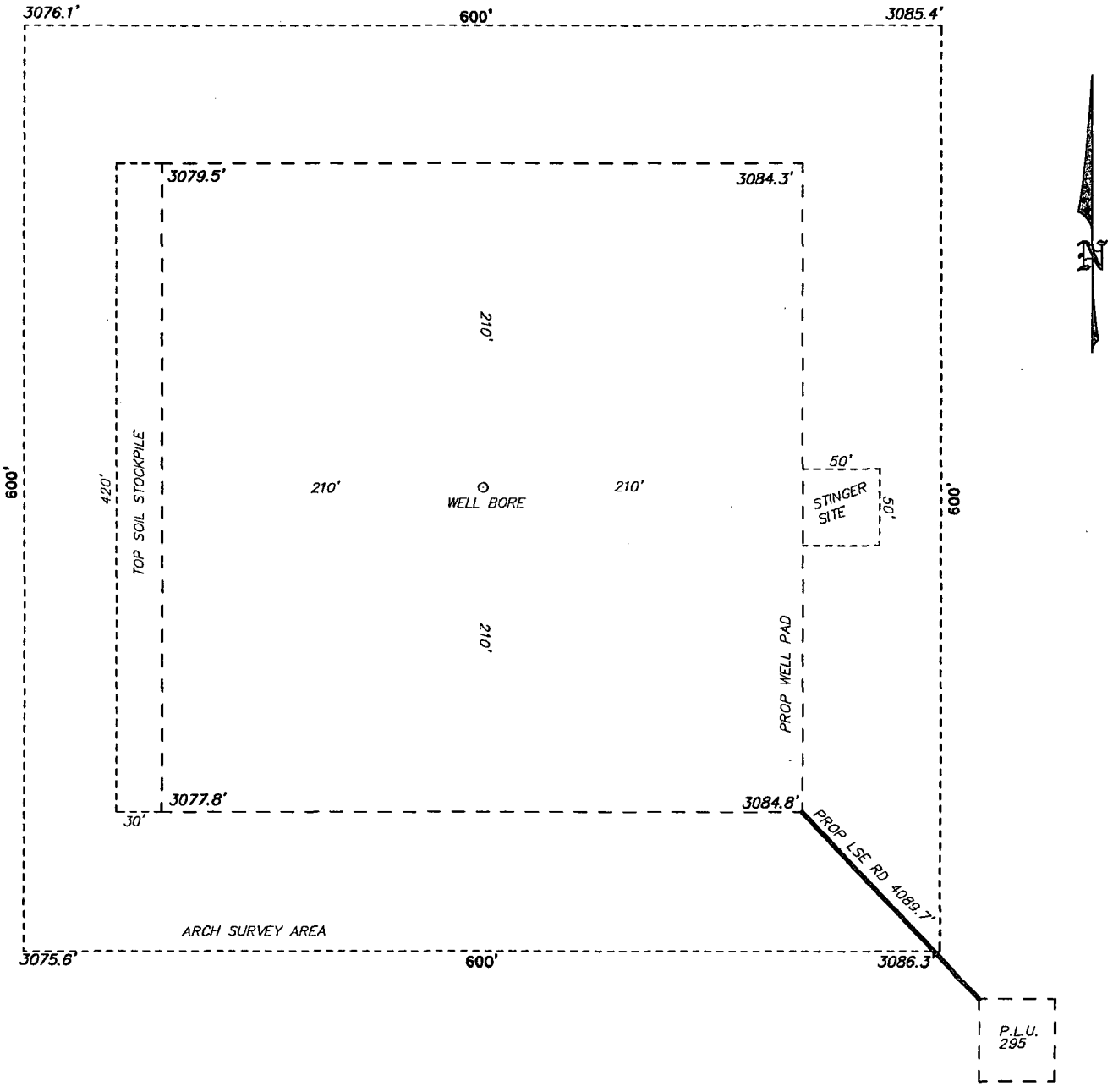
YATES PETROLEUM CORPORATION

SECTION 13, TOWNSHIP 24 SOUTH, RANGE 29 EAST. N.M.P.M.,

EDDY COUNTY, **NEW MEXICO.**



YATES PETROLEUM CORPORATION

REF: CORRAL DRAW AQH FEDERAL #3H / WELL PAD TOPO

THE CORRAL DRAW AQH FEDERAL #3H LOCATED 100' FROM THE SOUTH LINE AND 2310' FROM THE WEST LINE OF SECTION 13, TOWNSHIP 24 SOUTH, RANGE 29 EAST. N.M.P.M., EDDY COUNTY, NEW MEXICO.

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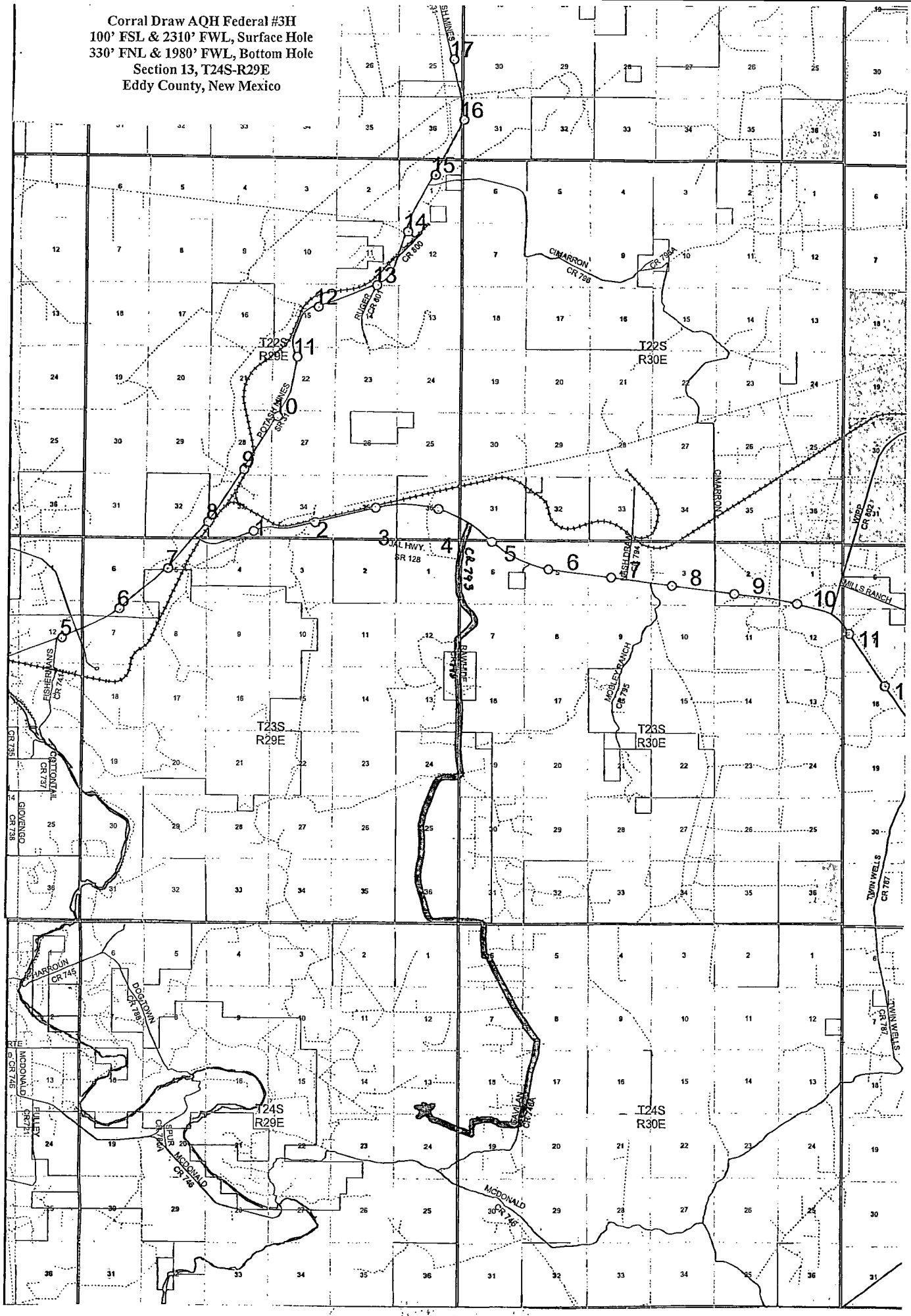
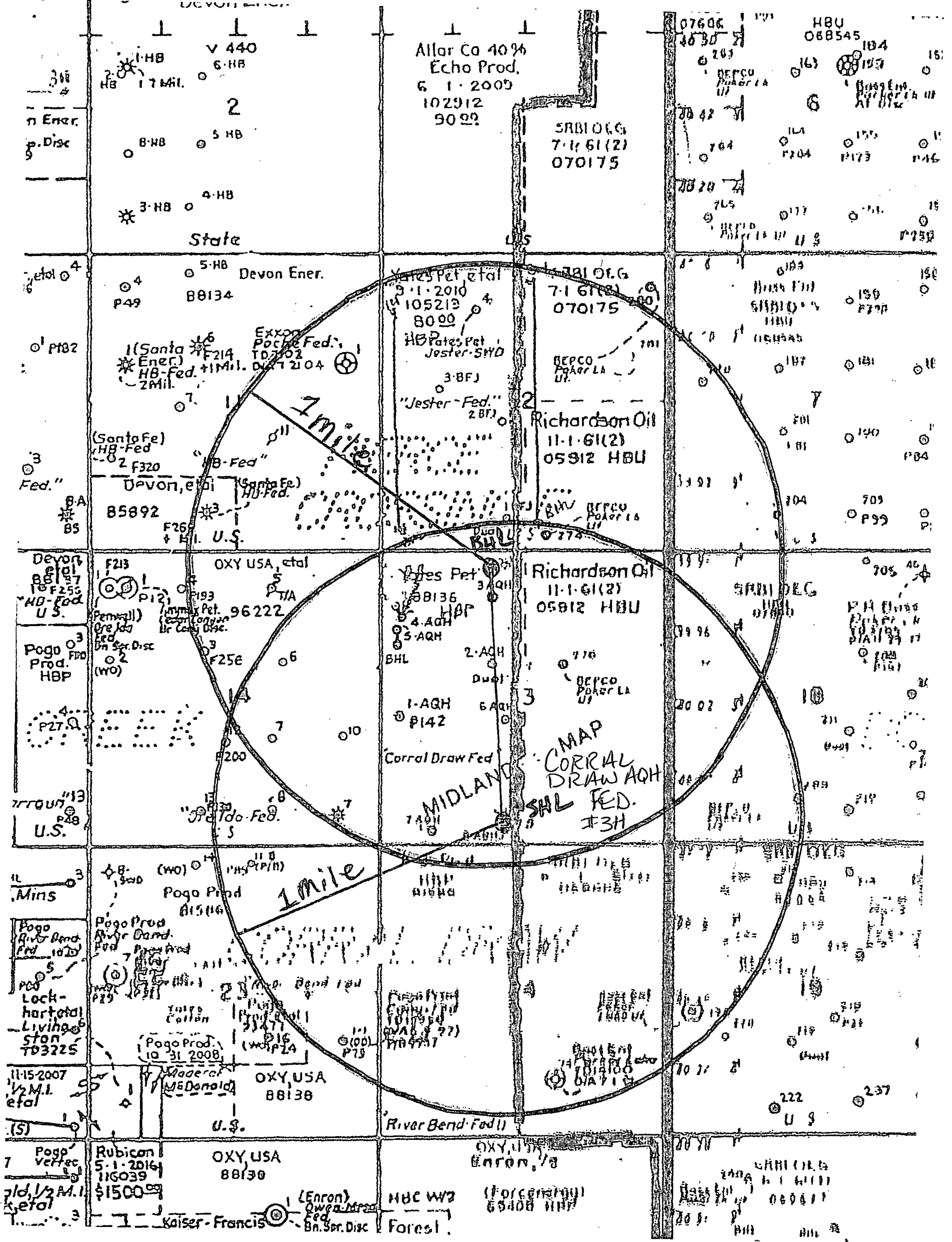
W.O. Number: 29668	Drawn By: K. NORRIS	Date: 12-19-2013	Survey Date: 12-17-2013	Sheet 1 of 1 Sheets

Corral Draw AQH Federal #3H
100' FSL & 2310' FWL, Surface Hole
330' FNL & 1980' FWL, Bottom Hole
Section 13, T24S-R29E
Eddy County, New Mexico





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(Santa Fe)
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"HB-Fed"
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85892
U.S.
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OXY USA, etal
Yates Pet
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Richardson Oil
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Pogo Prod.
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2·AQH
3·AQH
4·AQH
5·AQH
6 AQH
7 AQH
Corral Draw Fed
MIDLAND MAP
CORRAL DRAW AQH FED. #3H
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81516
Pogo Prod
River Bend Fed
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Livingston
TD3225
Pogo Prod.
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McDonald
OXY USA
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River Bend Fed
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Rubicon
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116039
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88130
Kaiser-Francis
Forest

YATES PETROLEUM CORPORATION
Corral Draw AQH Federal #3H
100' FSL & 2310' FWL Surface Hole Location
330' FNL and 1980' FWL Bottom Hole Location
Section 13-T24S-R29E
Eddy County, New Mexico

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

Rustler	262'	Bone Springs LM	7,012'
Top of Salt	505'	Bone Springs 1/SD/	8,079'
Base of Salt	3,211'	Bone Springs 2/SD/	8,886'
Bell Canyon (Oil)	3,250'	2BSG Target	9,369'(MD)
Cherry Canyon (Oil)	4,150'	TD	13,769' (MD)
Brushy Canyon (Oil)	5,401'		

2. **The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:**
   Water: 118'+
   Oil or Gas: All potential zones.

3. **Pressure Control Equipment: A 3000 PSI BOP system with a minimum opening of 13 5/8" will be nippled up and tested on the 13 3/8" casing. A 5000 PSI BOP system with a minimum opening of 11" will be nippled up and tested on the 9 5/8" casing. A variance is requested for the use of a flexhose between the well head and the manifold if Cactus Rig #24 is used to drill this well. Certification and specs are attached. Blind rams and pipe rams will be tested to the rated pressure of BOP and the low side to 250 psi. Test will be conducted by an Independent Tester, utilizing a test plug in the well head. Test will be held for 10 minutes on each segment of the system tested. Any Leaks will be repaired at the time of the test. Annular preventer will be tested to 50% of rated working pressure. 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.**

   See COA

   Auxiliary Equipment:

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

4. **THE PROPOSED CASING AND CEMENTING PROGRAM:**
   A. Casing Program: (All New)

Hole Size	Casing Size	Wt./Ft	Grade	Coupling	Interval	Length
17 1/2"	13 3/8"	48#	J-55 **Hybrid**	ST&C	0-300'	300'
12 1/4"	9 5/8"	36#	J-55	LT&C	**0**-3300'	**3300'**
8 3/4"	5 1/2"	17#	P-110	Buttress Thread	**0**-9369'	**9369'**
8 1/2"	5 1/2"	17#	P-110	Buttress Thread	9369-13,769	4400'

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

See COA

B. CEMENTING PROGRAM:

Surface: 310 sacks Class "C" with CaCl 2% (WT 12.50 YLD 2.00 **Wtr 11.00 gal/sk**). Cement designed with 100% excess. TOC-Surface.

Intermediate: 895 sacks 35:65:6PzC (WT 12.50 YLD 2.00 **Wtr 11.00 gal/sk**); Tail in w/ **210** sacks Class 50/50 PozC with CaCl 2% (WT. 14.20 YLD 1.34 **WTR 6.20 gal/sk**). Cement designed with 100% excess. TOC-Surface.

Production Casing:

Stage 2 from 2,800' to 6,000', cement with 410 sacks Class 35:65:6PzC (Wt. 12.50 Yld. 2.00 **Wtr 11.00 gal/sk**). Tail in 205 sacks Class 50/50PzC w/CaCl 2% (Wt. 14.20 Yld. 1.34 **Wtr 6.20**) Cement designed with 35% excess. **TOC-2,800**.

Stage 1 from 6,000' to 13,769', **DV Tool at 6000',** cement with 410 sacks Class 35:65:6PzC (WT 12.5 YLD 2.00 **Wtr 11.00 gal/sk**); Tail in 890 sacks Pecos VILt with D-112 Fluid Loss 0.4%; D151 Calcium Carbonate 22.5 lb/sack; D-174 Extender 1.5 lb/sack; D-177, Retarder 0.01 lb/sack; D-800, Retarder 0.6 lb/sack and D-46, Antifoam Agent 0.15 lb/sack (WT 13.00 YLD 1.82 **Wtr 9.30**) Cement designed with 35% excess. **TOC-6000'**.

Well will be drilled to 8,619'. Well will then be kicked off approximately 8619' and directionally drilled at 12 degrees per 100' with a 8 3/4" hole to 9,369' MD (9,096' TVD) where hole size then be reduced to 8 ½" and drilled to 13,769' MD (9,096' TVD) where 5 ½" casing will be set. Production casing will be cemented 500' into previous casing string with a DV tool at approximately 6000'. Penetration point of producing zone will be encountered at 577' FSL and 2310' FWL Section 13, T24S-R29E. Deepest TVD in the well is 9,096' in the lateral.

5. Mud Program and Auxiliary Equipment:

Interval	Type	Weight	Viscosity	Fluid Loss
0-300'	Fresh Water	8.6-9.2	29-32	N/C
300'-3300'	Brine Water	10.0-10.2	28-28	N/C
3300'-13769'	Cut Brine	8.8-9.0	28-32	N/C

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

6. EVALUATION PROGRAM: * See COA

Samples: 30' samples surface to 3300'; 10' samples from 3000'-TD.
Logging: CNL/LDT/NGT Curve-Intermediate; CNL/GR Curve-Surf; DLL-MSFL-Curve-Intermediate; CMR Curve-Intermediate; HORIZONTAL-MWD-GR
Coring: None Anticipated.
DST's: As warranted.
Mudlogging From 3000' to TD.

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

From:	0	TO:	300'	Anticipated Max.	BHP:	144	PSI
From:	300'	TO:	3300'	Anticipated Max.	BHP:	1750	PSI
From:	3300'	TO:	9096'	Anticipated Max.	BHP:	4257	PSI

No abnormal pressures or temperatures are anticipated.

Lost Circulation Zones Anticipated: None.

H2S Zones Anticipated: None

Maximum Bottom Hole Temperature: 152° F

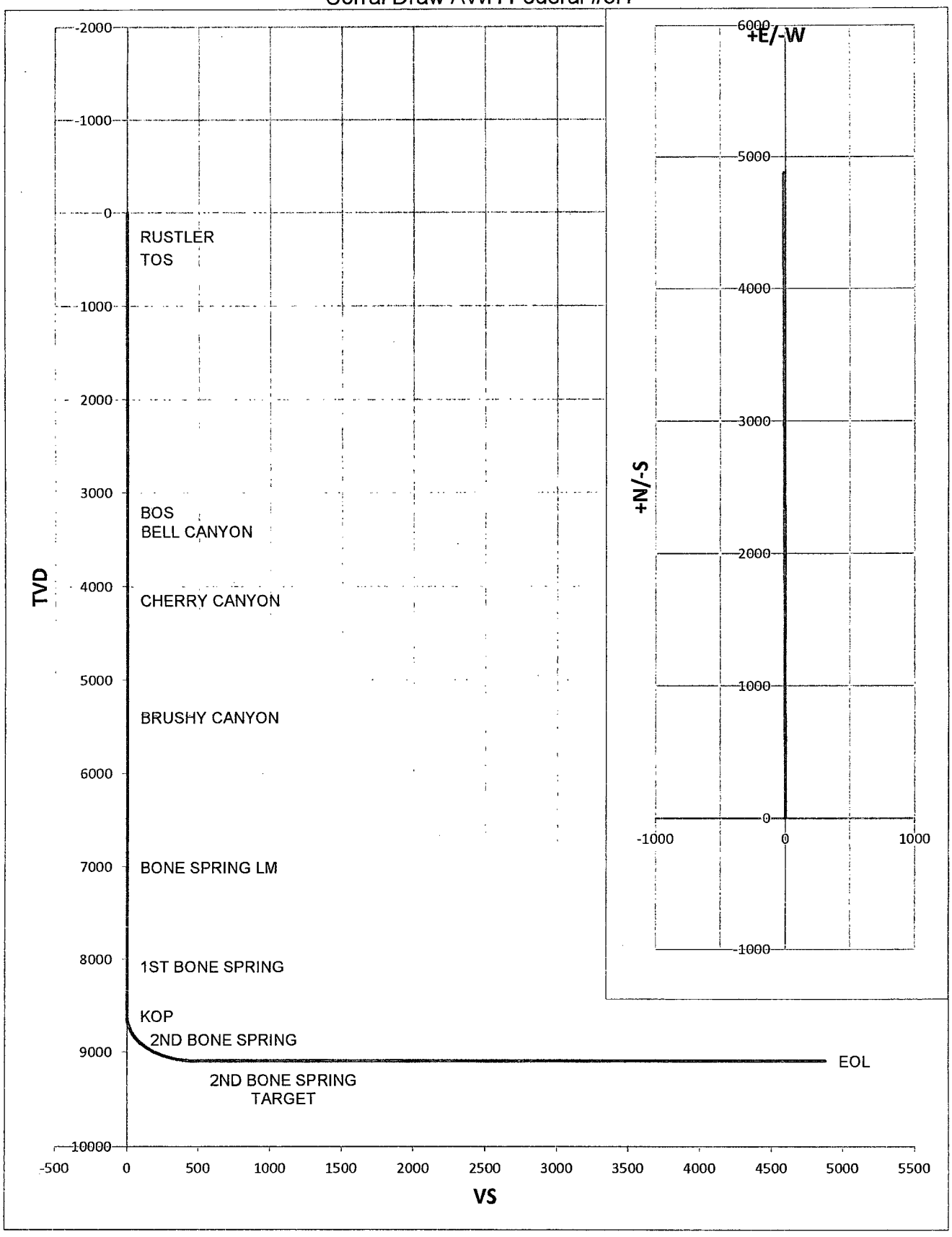
8. ANTICIPATED STARTING DATE:

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: Corral Draw AWH Federal #3H	**Tgt N/-S:** 4877.90		
	Tgt E/-W: -11.40	**EOC TVD/MD:** 9096.00 / 9368.54	
Surface Location: Section 13 , Township 24S Range 29E	**VS:** 4877.91		
Bottom Hole Location: Section 13 , Township 24S Range 29E	**VS Az:** 359.87	**EOL TVD/MD:** 9096.00 / 13768.98	

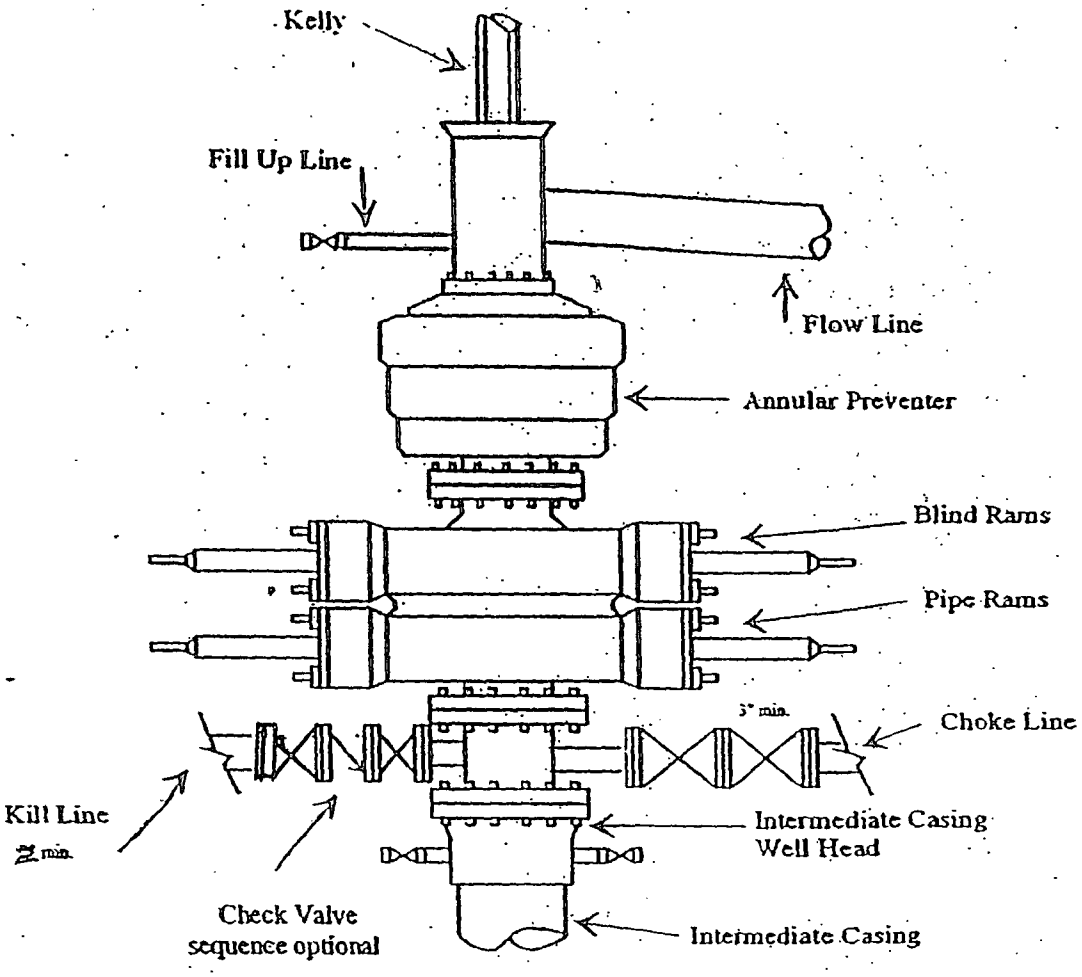
MD	Inc.	Azi.	TVD	+N/-S	+E/-W	VS	DLS	Comments
0	0	0	0	0	0	0	0	
262.00	0.00	0.00	262.00	0.00	0.00	0.00	0.00	RUSTLER
505.00	0.00	0.00	505.00	0.00	0.00	0.00	0.00	TOS
3211.00	0.00	0.00	3211.00	0.00	0.00	0.00	0.00	BOS
3250.00	0.00	0.00	3250.00	0.00	0.00	0.00	0.00	BELL CANYON
4150.00	0.00	0.00	4150.00	0.00	0.00	0.00	0.00	CHERRY CANYON
5401.00	0.00	0.00	5401.00	0.00	0.00	0.00	0.00	BRUSHY CANYON
7012.00	0.00	0.00	7012.00	0.00	0.00	0.00	0.00	BONE SPRING LM
8079.00	0.00	0.00	8079.00	0.00	0.00	0.00	0.00	1ST BONE SPRING
8618.54	0.00	0.00	8618.54	0.00	0.00	0.00	0.00	KOP
8625.00	0.78	359.87	8625.00	0.04	0.00	0.04	12.00	
8650.00	3.78	359.87	8649.98	1.04	0.00	1.04	12.00	
8675.00	6.78	359.87	8674.87	3.33	-0.01	3.33	12.00	
8700.00	9.78	359.87	8699.61	6.93	-0.02	6.93	12.00	
8725.00	12.78	359.87	8724.12	11.82	-0.03	11.82	12.00	
8750.00	15.78	359.87	8748.35	17.98	-0.04	17.98	12.00	
8775.00	18.78	359.87	8772.21	25.41	-0.06	25.41	12.00	
8800.00	21.78	359.87	8795.66	34.07	-0.08	34.07	12.00	
8825.00	24.78	359.87	8818.63	43.95	-0.10	43.95	12.00	
8850.00	27.78	359.87	8841.04	55.01	-0.13	55.01	12.00	
8875.00	30.78	359.87	8862.84	67.24	-0.16	67.24	12.00	
8885.73	32.06	359.87	8872.00	72.82	-0.17	72.83	12.00	2ND BONE SPRING
8900.00	33.78	359.87	8883.98	80.59	-0.19	80.59	12.00	
8925.00	36.78	359.87	8904.39	95.02	-0.22	95.02	12.00	
8950.00	39.78	359.87	8924.01	110.51	-0.26	110.51	12.00	
8975.00	42.78	359.87	8942.80	127.00	-0.30	127.00	12.00	
9000.00	45.78	359.87	8960.69	144.45	-0.34	144.45	12.00	
9025.00	48.78	359.87	8977.65	162.81	-0.38	162.81	12.00	
9050.00	51.78	359.87	8993.63	182.04	-0.43	182.04	12.00	
9075.00	54.78	359.87	9008.58	202.07	-0.47	202.07	12.00	
9100.00	57.78	359.87	9022.46	222.86	-0.52	222.86	12.00	
9125.00	60.78	359.87	9035.23	244.35	-0.57	244.35	12.00	
9150.00	63.78	359.87	9046.86	266.48	-0.62	266.48	12.00	
9175.00	66.78	359.87	9057.31	289.19	-0.68	289.19	12.00	
9200.00	69.78	359.87	9066.56	312.41	-0.73	312.41	12.00	
9225.00	72.78	359.87	9074.59	336.08	-0.79	336.08	12.00	
9250.00	75.78	359.87	9081.36	360.14	-0.84	360.14	12.00	
9275.00	78.78	359.87	9086.87	384.53	-0.90	384.53	12.00	
9300.00	81.78	359.87	9091.09	409.16	-0.96	409.16	12.00	
9325.00	84.78	359.87	9094.02	433.99	-1.01	433.99	12.00	
9350.00	87.78	359.87	9095.64	458.93	-1.07	458.93	12.00	
9368.54	90.00	359.87	9096.00	477.46	-1.12	477.46	12.00	2ND BONE SPRING TARGET
13768.98	90.00	359.87	9096.00	4877.90	-11.40	4877.91	0.00	EOL

Corral Draw AWH Federal #3H

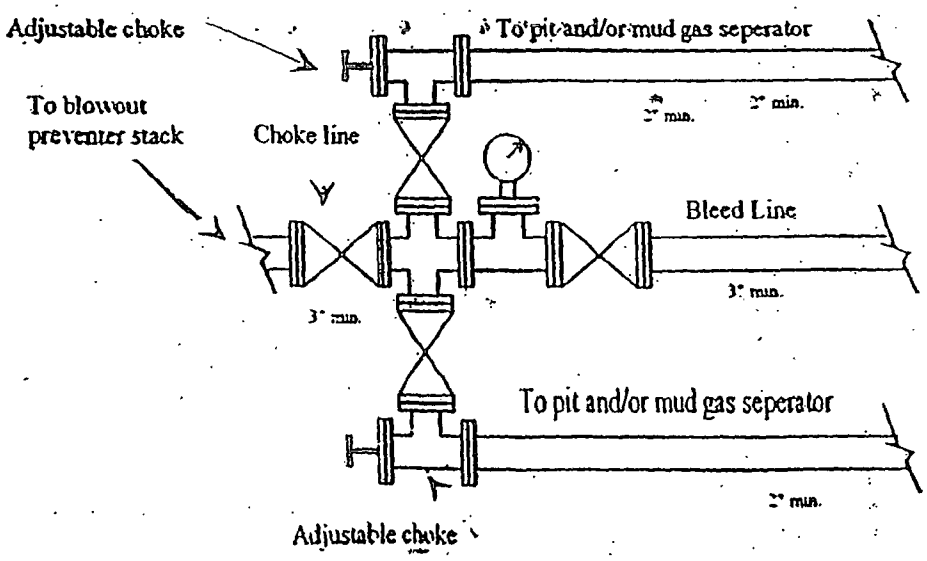


Yates Petroleum Corporation

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

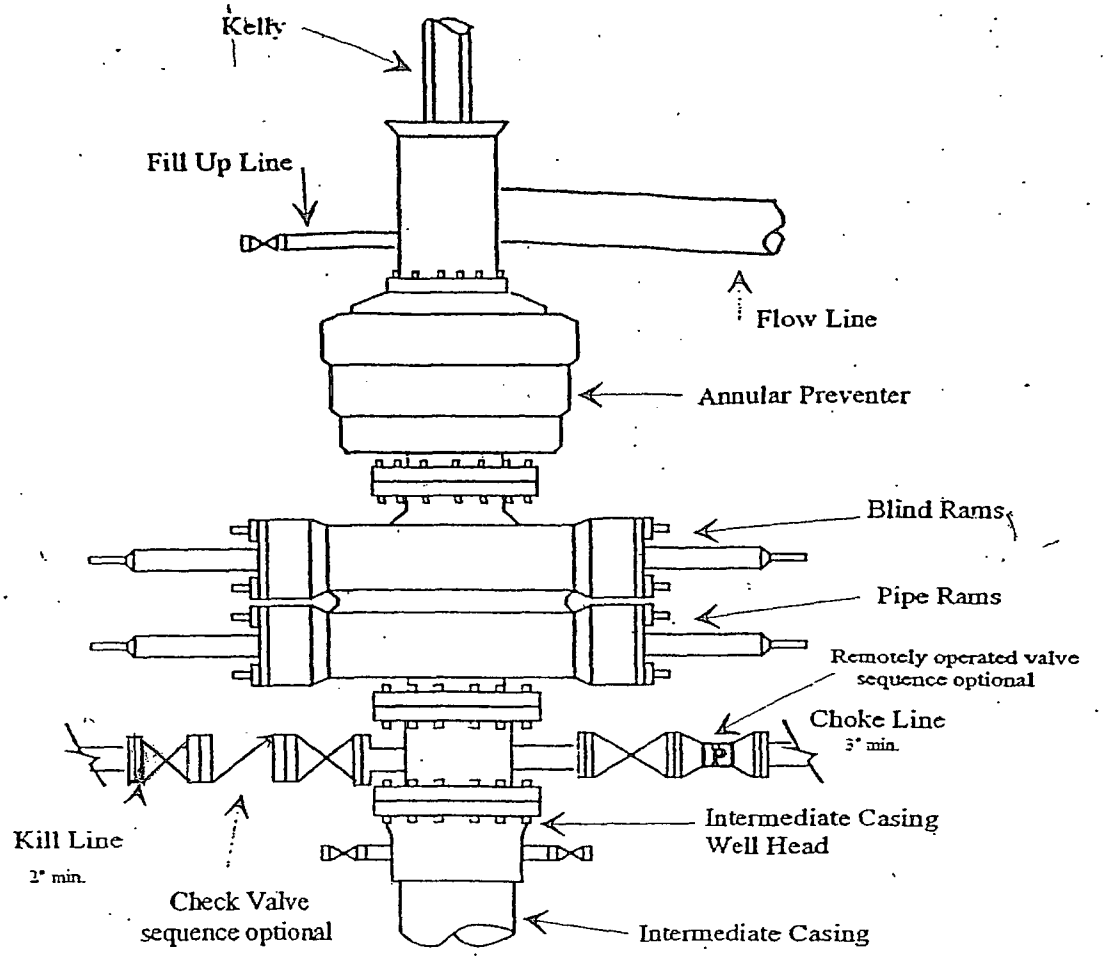


Typical 3,000 psi choke manifold assembly with at least these minimun features

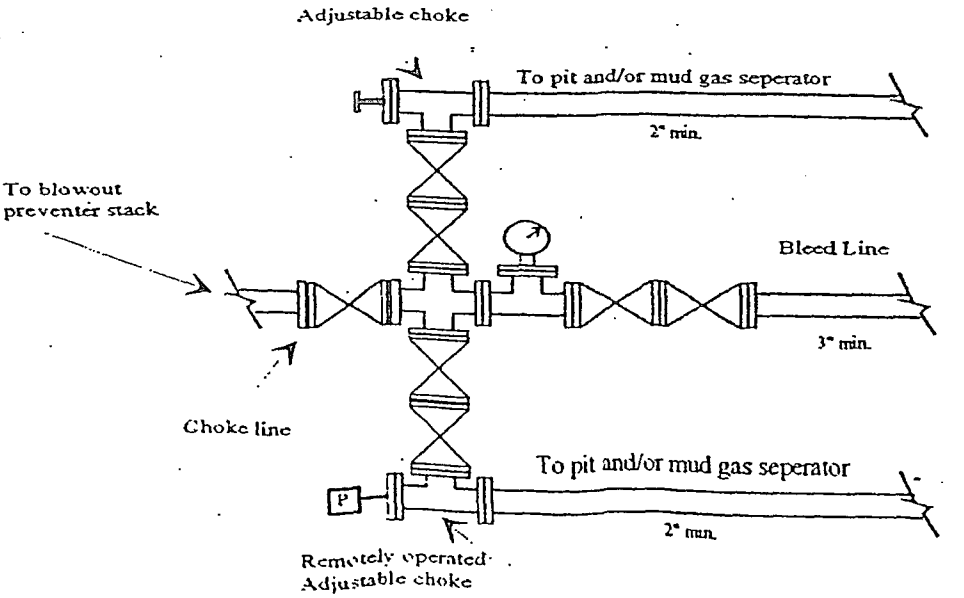


Yates Petroleum Corporation

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

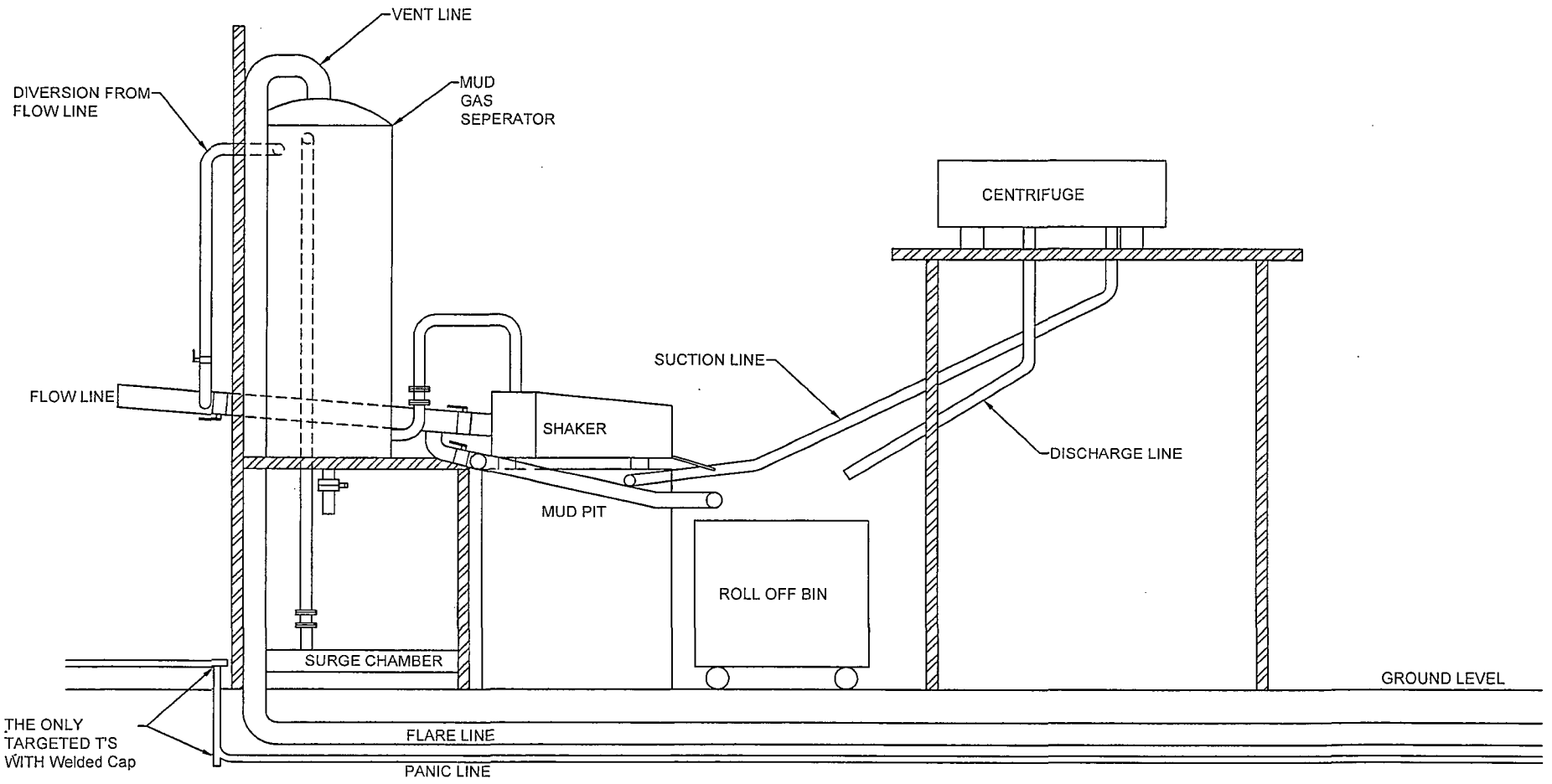


Typical 5,000 psi choke manifold assembly with at least these minimun features



YATES PETROLEUM CORPORATION

Piping from Choke Manifold
to the Closed Loop Drilling Mud System



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

Yates Petroleum Corporation
Closed Loop System

Equipment Design Plan

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

Operation Plan

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

Closure Plan

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

Midwest Hose
& Specialty, Inc.

Certificate of Conformity

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

Specifications

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

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

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

Comments:

Approved By	*Date*
	12/11/2013

Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

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

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

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

Date Tested	*Tested By*	*Approved By*
12/11/2013		

M12653

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

December 11, 2013

Customer: Cactus

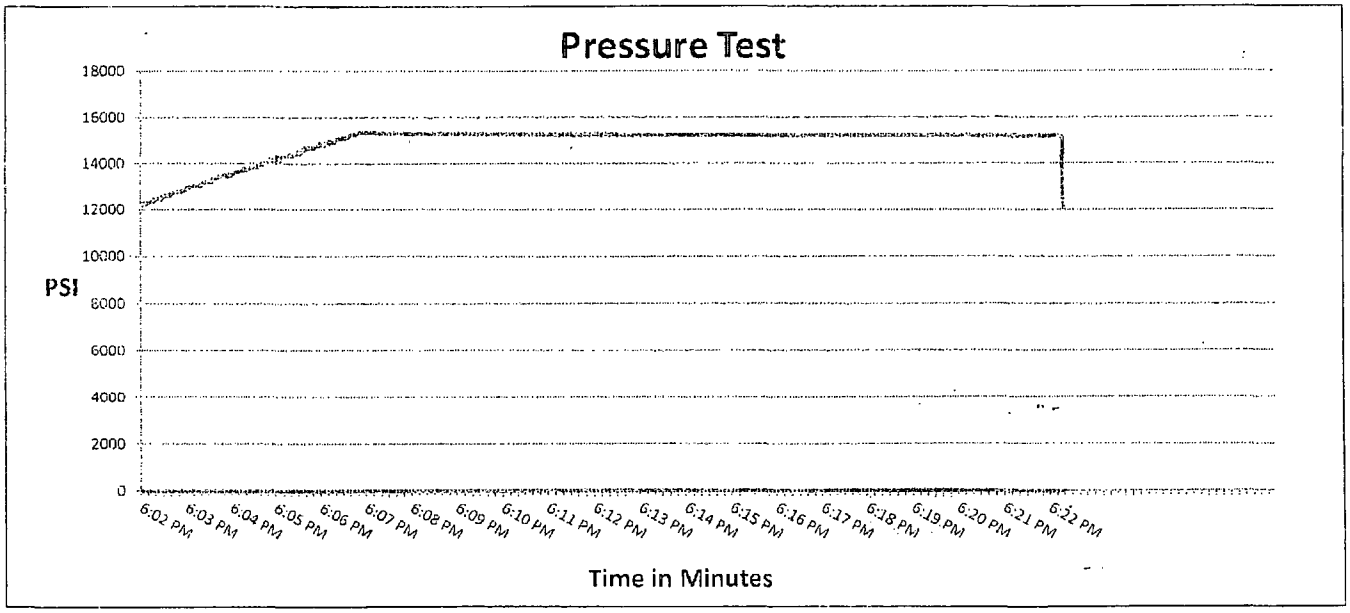
Pick Ticket #: 229391

Hose Specifications

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

Verification

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



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

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

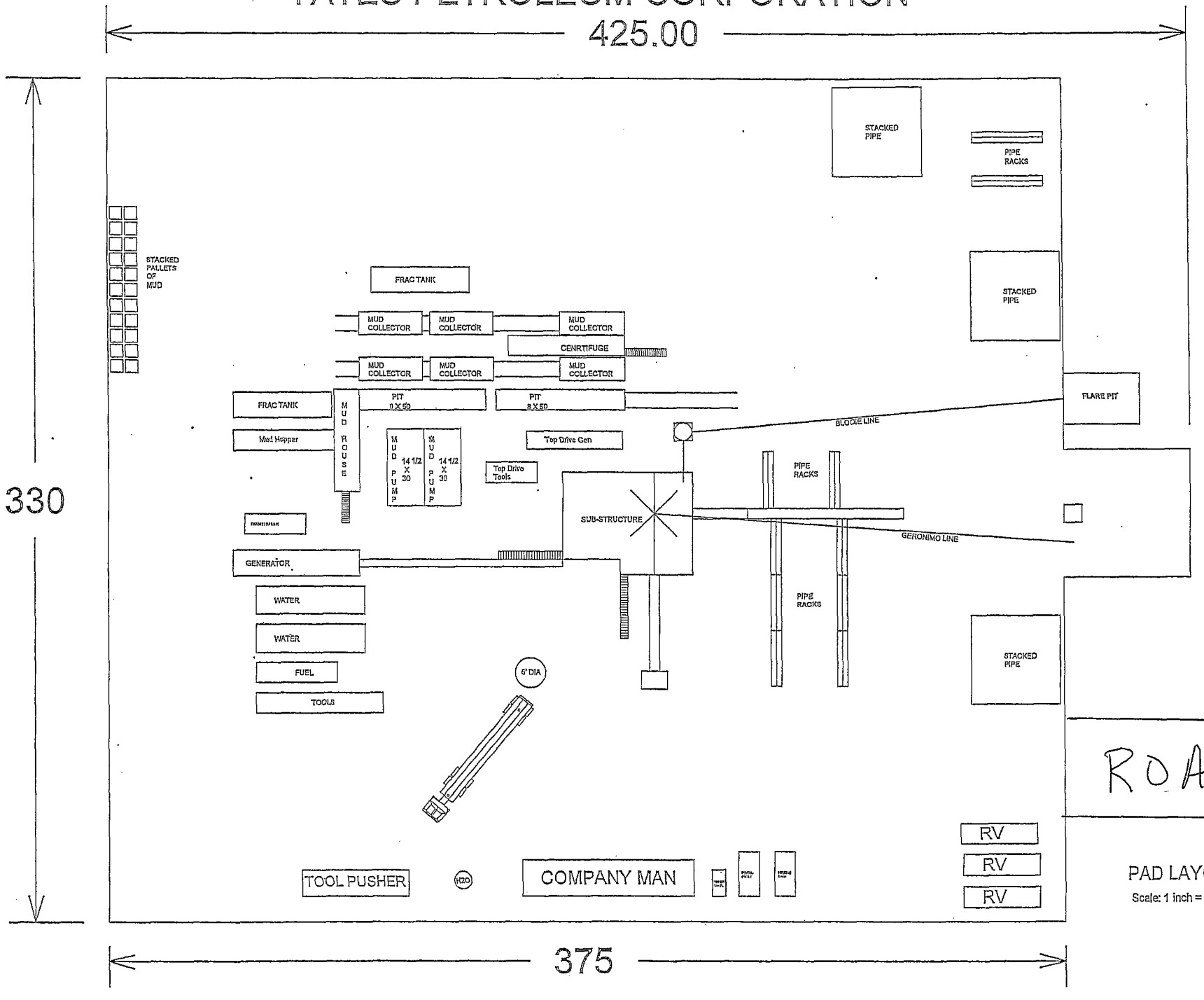
Tested By: *Tony Kellington*

x

Approved By: *Phil Maytubby*

x

YATES PETROLEUM CORPORATION



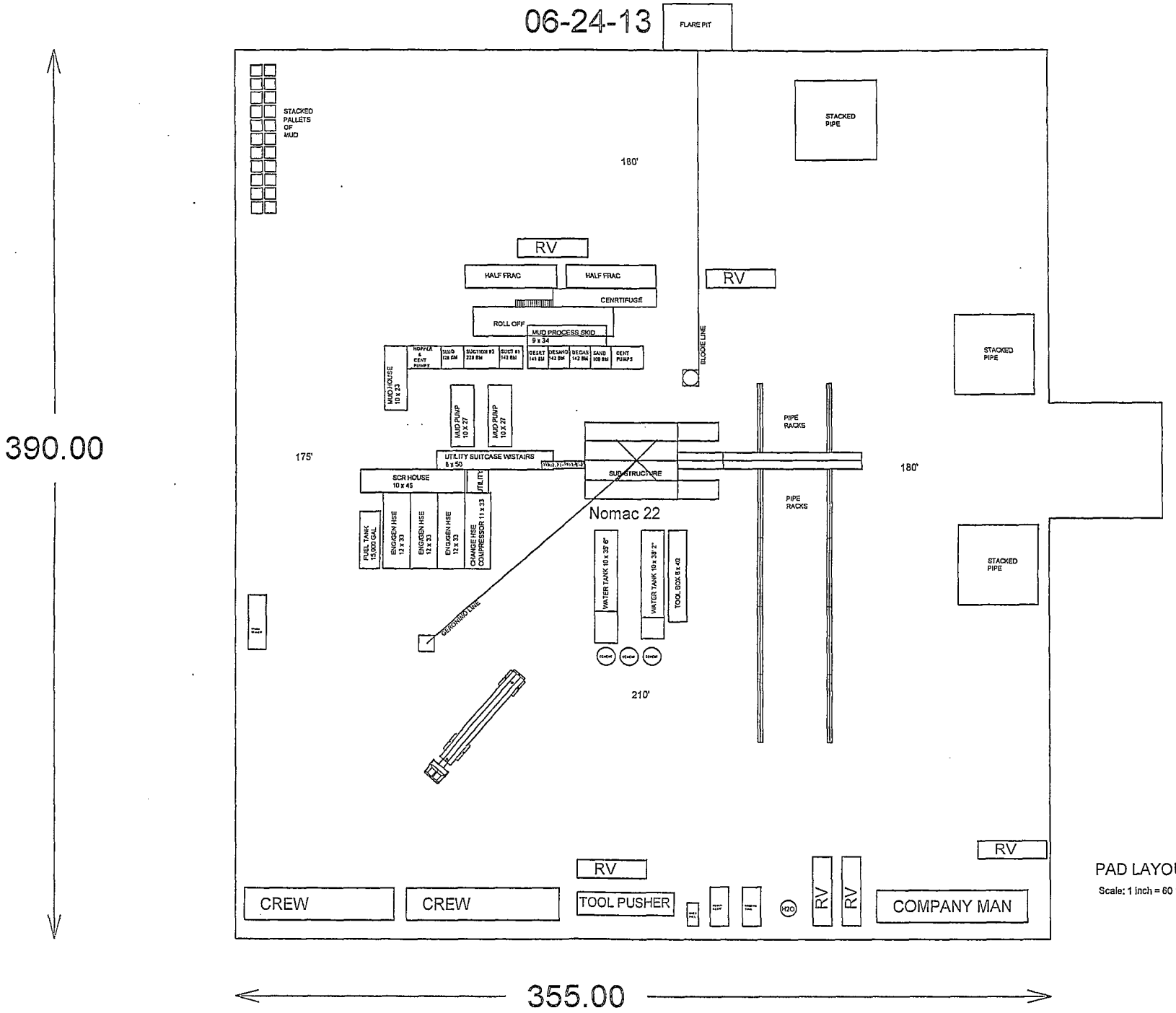
PAD LAYOUT

Scale: 1 inch = 50 feet

YATES PETROLEUM CORPORATION

Nomac 22

06-24-13

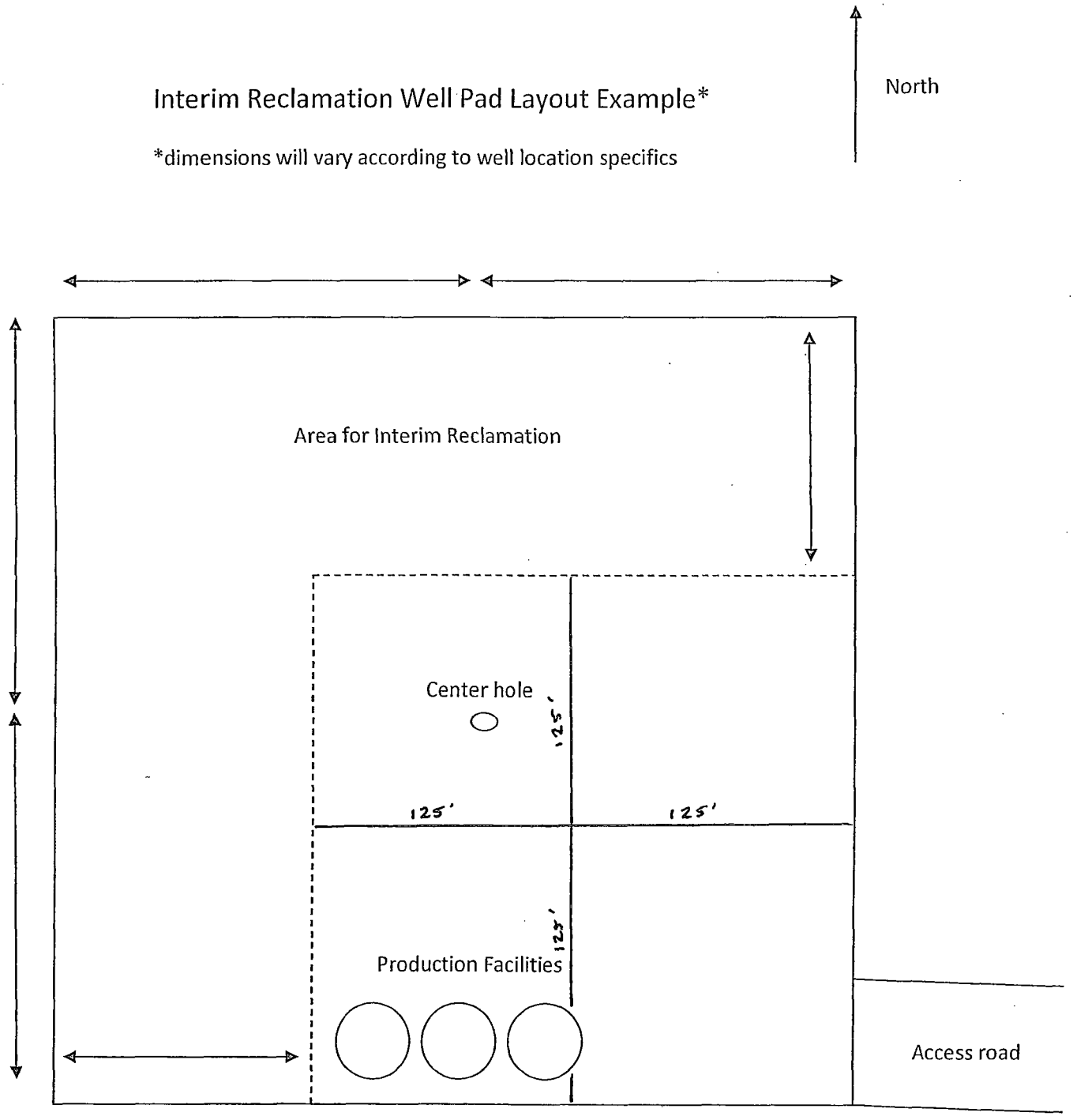


PAD LAYOUT

Scale: 1 inch = 60 feet

Interim Reclamation Well Pad Layout Example*

*dimensions will vary according to well location specifics



Created 6/11/2012

MULTI-POINT SURFACE USE AND OPERATIONS PLAN
Yates Petroleum Corporation
Corral Draw AQH Federal #3H
100' FSL & 2310' FWL Surface Hole Location
330' FNL and 1980' FWL Bottom Hole Location
Section 13-T24S-R29E
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:

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 36 miles east of Malaga, New Mexico and the access route to the location is indicated in red and green.

DIRECTIONS:

Go east of Carlsbad, New Mexico on Highway 62-180 to State Road 31. Turn south on 31 and go to Highway 128 (Jal Highway). Turn left on Hwy 128 and go approximately 4 miles to Rawhide Road (CR-793) Mississippi Potash Mine Shaft #5 is here. Turn south here on CR-793 and go approximately 3.4 miles. Follow County road to the left and go east for approximately 0.2 of a mile. Turn south on county road and follow it for approximately 5.4 miles. Turn west on lease road and go approximately 0.5 of a mile to Bass' Poker Lake Unit #215 well location. The new road will start going west for approximately 0.9 of a mile to the southeast corner of the proposed well location.

2. PLANNED ACCESS ROAD:

A. The proposed new access will be approximately 0.9 of a mile in length going west to the southeast corner of the drilling pad. The road will lie in a westerly 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 no drilling activity within a one-mile radius of the well site.
B. An exhibit shows existing wells within a one-mile radius of the proposed well site.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

A. There are production facilities on this lease at the present time.
B. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad. If the well is productive oil, a gas or diesel self-contained unit will be used to provide the necessary power until an electric line can be built, if needed. No power will be required if the well is productive of gas.

5. LOCATION AND TYPE OF WATER SUPPLY:

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

6. SOURCE OF CONSTRUCTION MATERIALS:

Dirt contractor will locate closest pit and obtain any permits and materials needed for construction.

7. METHODS OF HANDLING WASTE DISPOSAL:

A. A closed loop system will be used to drill this well.
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. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.
D. Oil produced during operations will be stored in tanks until sold.
E. Current laws and regulations pertaining to the disposal of human waste will be complied with.
F. 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 land fill. Burial on site is not approved.

8. ANCILLARY FACILITIES: None

9. WELLSITE LAYOUT:

A. An Exhibit shows the relative location and dimensions of the well pad and the location of the drilling equipment, rig orientation and access road approach.
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. Form C-144 attached.
C. 600' x 600' area has been staked and flagged.
D. Yates has staked a 420' x 420' "Pad Clearance Area." This area can contain the regularly used rigs Yates utilizes in Southeastern New Mexico. The actual pad size to be constructed would be smaller than the "Pad Clearance Area." This area was staked at this size with aid from the BLM, since the actual pad size/drilling rig is unknown at this time. Yates will submit a Sundry Notice with a rig layout depicting the actual size of the pad to be constructed with the dimensions from the well bore to all four sides of the pad with the same orientation as the "Pad Clearance Area." Yates will not construct the well pad until the rig layout is approved through the Sundry Notice.

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. The location will be reduced to a 250' x 250' after completion operations have been conducted. At this point the surfacing material will be

removed and topsoil will be redistributed. The area will be contoured as closely as possible to its original state and reseeded. Please note attached Reclamation Plat.

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

11. SURFACE OWNERSHIP: Federal surface, Administered by the Bureau of Land Management, Carlsbad, New Mexico.

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.:	NM88136
WELL NAME & NO.:	3H Corral Draw AQH Federal
SURFACE HOLE FOOTAGE:	100' FSL & 2310' FWL
BOTTOM HOLE FOOTAGE	330' FNL & 1980' FWL
LOCATION:	Section 13, T. 24 S., R 29 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.

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)

VRM:

All above ground structures including but not limited to pumpjacks, storage tanks, production equipment, etc. would be shorter than 8 feet and painted a flat, non-reflective Munsell Shale green to minimize visual impacts to the natural features of the landscape.

Cave Karst

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

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

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

Tank Battery Liners and Berms:

Tank battery locations and all facilities 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, situating values 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 values, 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.

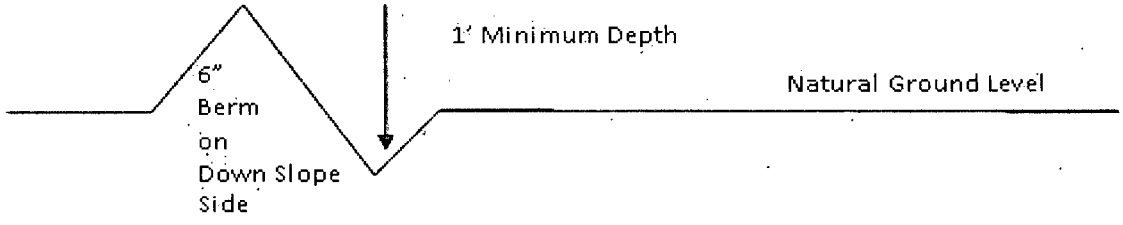
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

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

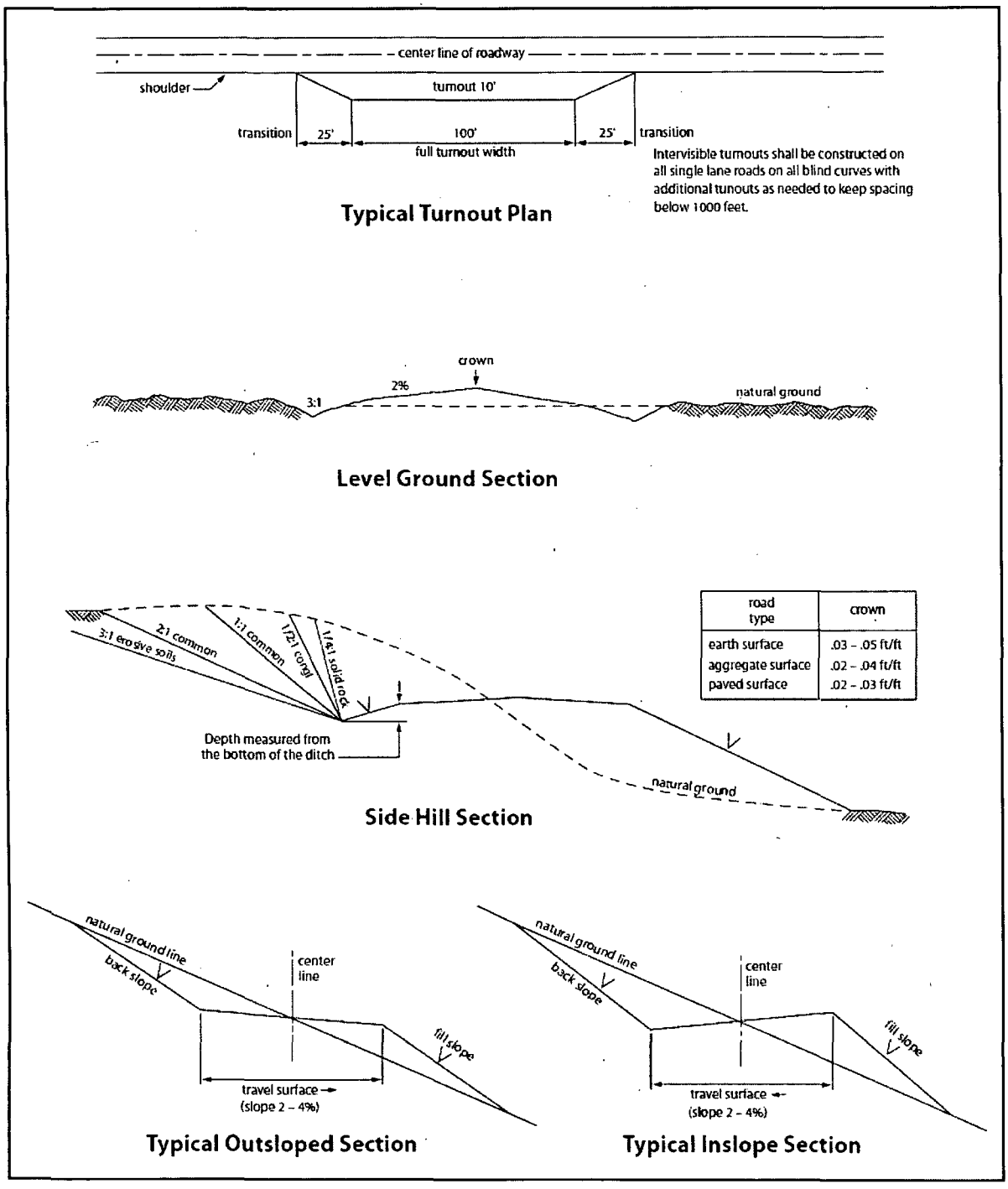


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

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

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **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) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. See individual casing strings for details regarding lead cement slurry requirements.

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

Possible water flows in the Castile and Salado
Possible lost circulation in the Rustler, Salado and Delaware formations.

1. The **13-3/8** inch surface casing shall be set at approximately **300** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If the salt is penetrated, casing shall be set 25 feet above the salt.**

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry. NOTE: Operator currently using a cement yield above 1.35 around the shoe; WOC will be critical. Cement slurry documentation to be submitted to BLM.

    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: **(Ensure casing is set in the Lamar at approximately 3300')**

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

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:

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second 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. 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. 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.

    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.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface 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**.

    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.

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

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

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

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

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

VRM Facility Requirement
Low-profile tanks not greater than eight-feet-high shall be used.

IX. INTERIM RECLAMATION

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

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

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

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

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

X. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

Seed Mixture 2, for Sandy 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:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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