14-321

OCD Artesia

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-44532

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.
Sosa Federal #4H

2. Name of Operator YATES PETROLEUM CORPORATION

9. API Well No.
30-015-43139

3a. Address 105 South Fourth Street
Artesia, NM 88210

3b. Phone No. *(include area code)*
575-748-4347

10. Field and Pool, or Exploratory
Undesignated 2nd Bone Spring

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface UL E, Section 15-T26S-R29E,1980' FNL & 330' FWL
At proposed prod. zone UL H Section 15-T26S-R29E, 1980 FNL & 330' FEL

11. Sec., T. R. M. or Blk. and Survey or Area
Section 15-T26S-R29E

14. Distance in miles and direction from nearest town or post office*
Approximately 35 miles east of Carlsbad, New Mexico

12. County or Parish
Eddy County

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330'

16. No. of acres in lease
NM-44532--880 acres

17. Spacing Unit dedicated to this well
S2N2 of Section 15-26S-29E

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. approx. 1100'

19. Proposed Depth
Horizontal MD 13299'
TVD 8758'

20. BLM/BIA Bond No. on file
NMB000434
NMB000920

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
2923' GL

22. Approximate date work will start*
03/15/2014

23. Estimated duration
60 days

24. Attachments

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

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

25. Signature Cy Cowan — Name *(Printed/Typed)* Cy Cowan — Date 12/7/13

Title
Land Regulatory Agent

Approved by *(Signature)* /s/George MacDonell — Name *(Printed/Typed)* — Date MAY 11 2015

Title FIELD MANAGER — Office CARLSBAD FIELD OFFICE

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

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

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

KRD
5/27/15

Approval Subject to General Requirements
& Special Stipulations Attached

API CANCELS AND SUPERSEDES 30-015-37579

CERTIFICATION
YATES PETROLEUM CORPORATION
SOSA FEDERAL #4H

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 17 th December day of 2013

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
30-015-43139	97801	WILDCAT G-04 S262908A; ~~Undesignated 2nd Bone Spring~~ Bone Spring

Property Code	Property Name	Well Number
12760	SOSA FEDERAL	4H

OGRID No.	Operator Name	Elevation
025575	YATES PETROLEUM CORPORATION	2923

Surface Location

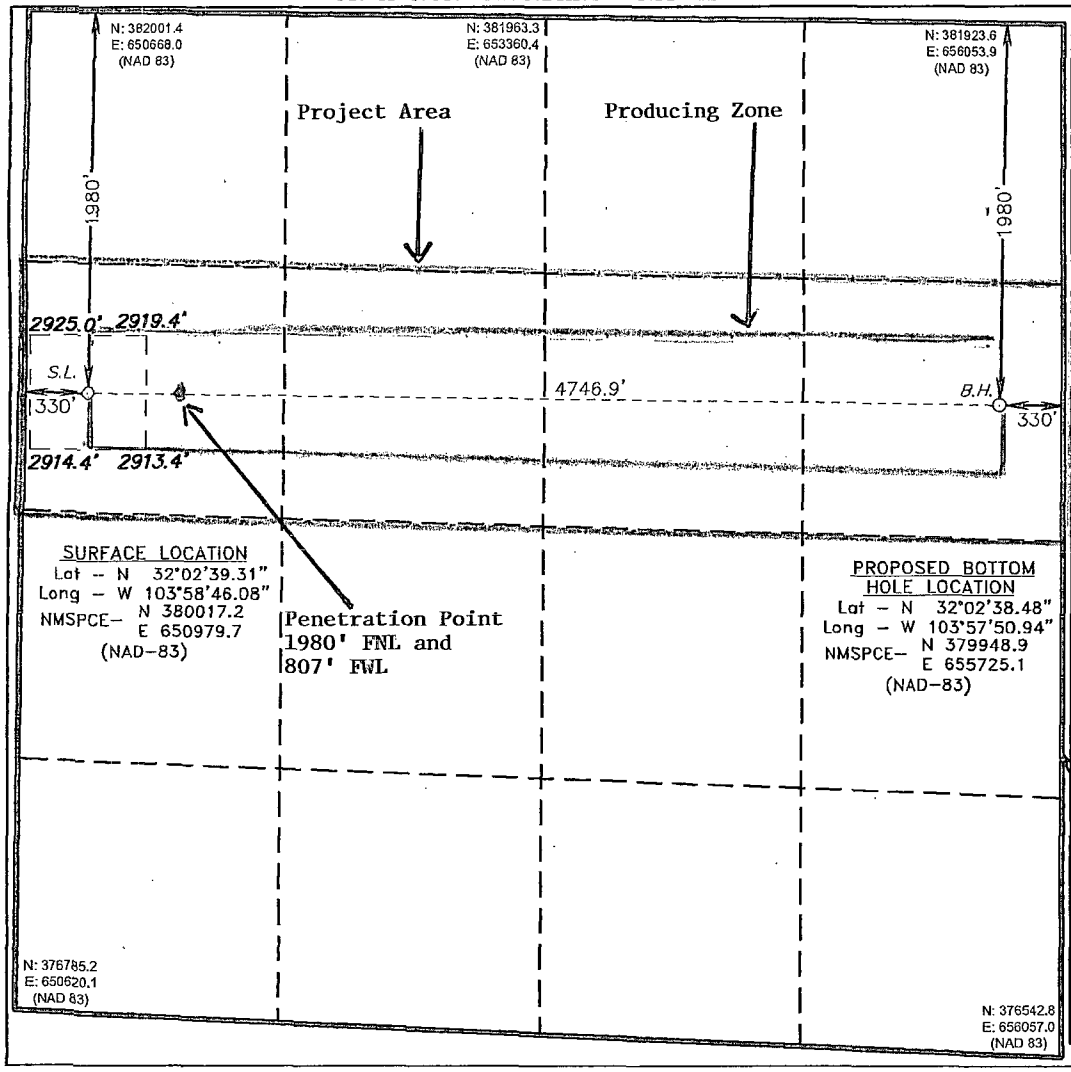
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	15	26 S	29 E		1980	NORTH	330	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	15	26 S	29 E		1980	NORTH	330	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
880			

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



OPERATOR CERTIFICATION

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

Signature 12/17/13 Date

Cy Cowan
Printed Name

cy@yatespetroleum.com
Email Address

SURVEYOR CERTIFICATION

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

NOVEMBER 11, 2013
Date Surveyed

Signature & Seal of Professional Surveyor

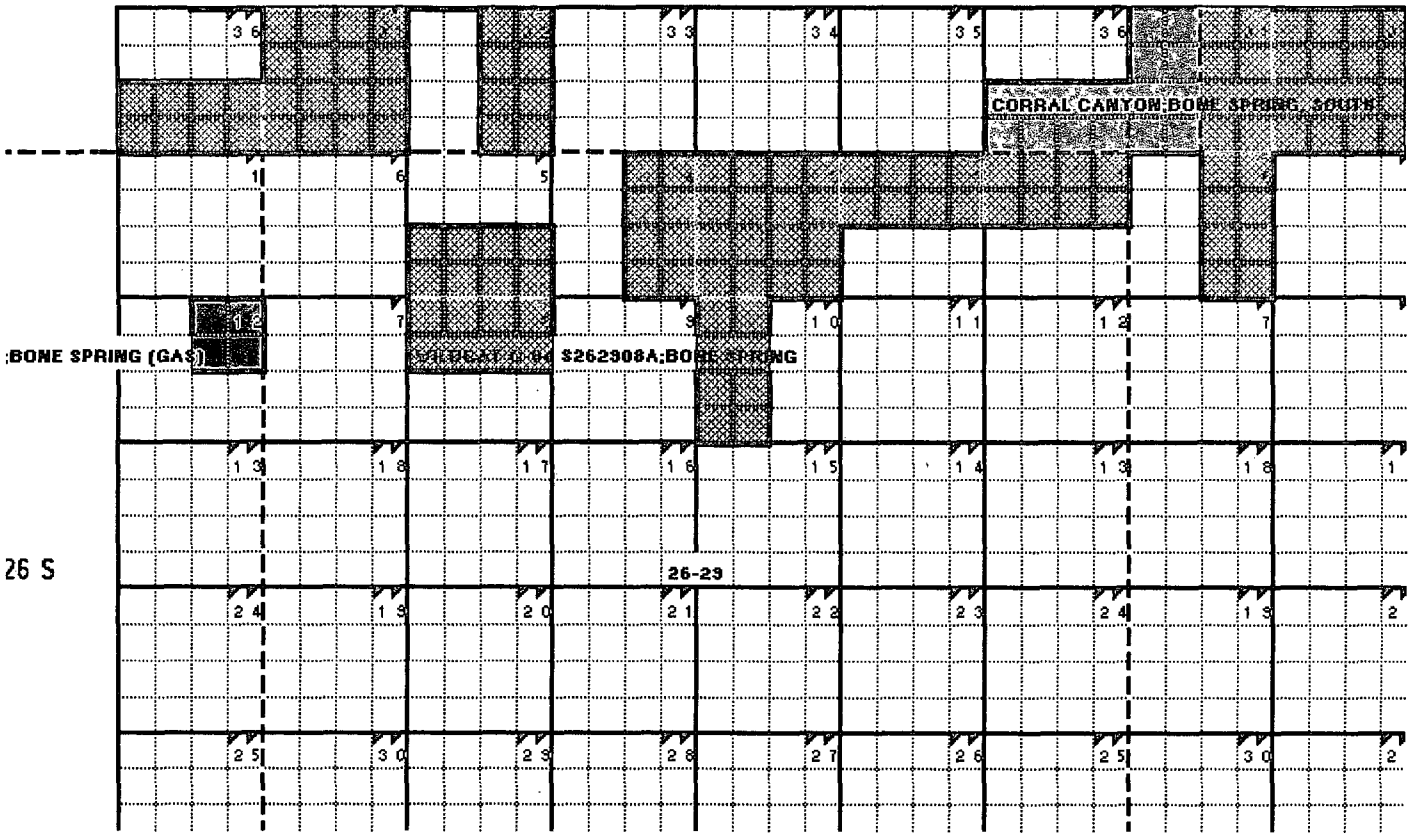
GARY L. JONES
NEW MEXICO
7977
REGISTERED PROFESSIONAL LAND SURVEYOR

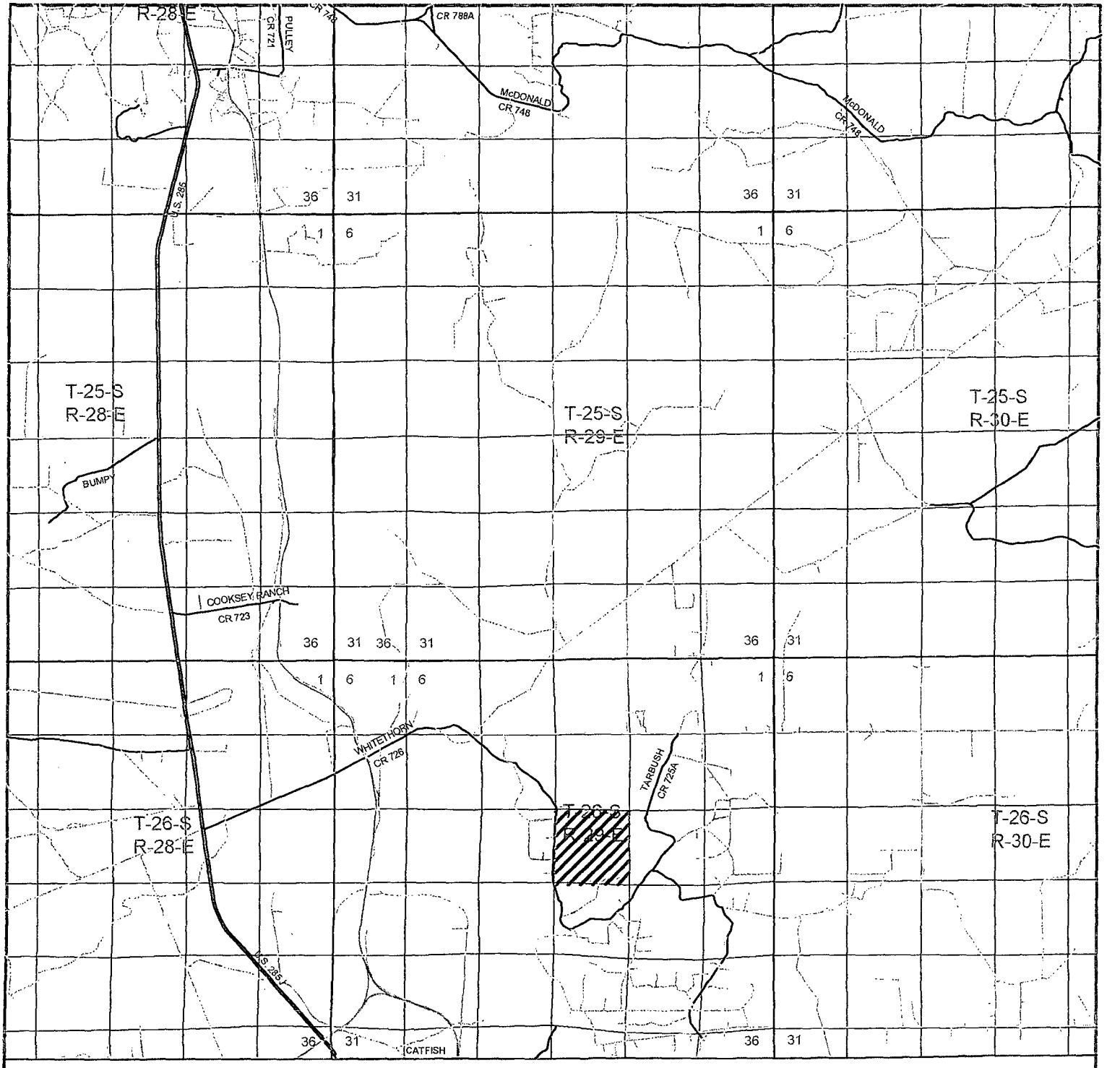
Certificate No. Gary L. Jones 7977
BASIN SURVEYS

0' 500' 1000' 1500' 2000'
SCALE: 1" = 1000'
WO Num.: 29670

Sharp, Karen, EMNRD

From: Sharp, Karen, EMNRD
Sent: Thursday, May 21, 2015 8:46 AM
To: Sharp, Karen, EMNRD
Subject: Sent from Snipping Tool





SOSA FEDERAL #4H

Located 1980' FNL and 330' FWL

Section 15, Township 26 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

0 1 MI 2 MI 3 MI 4 MI

SCALE: 1" = 2 MILES

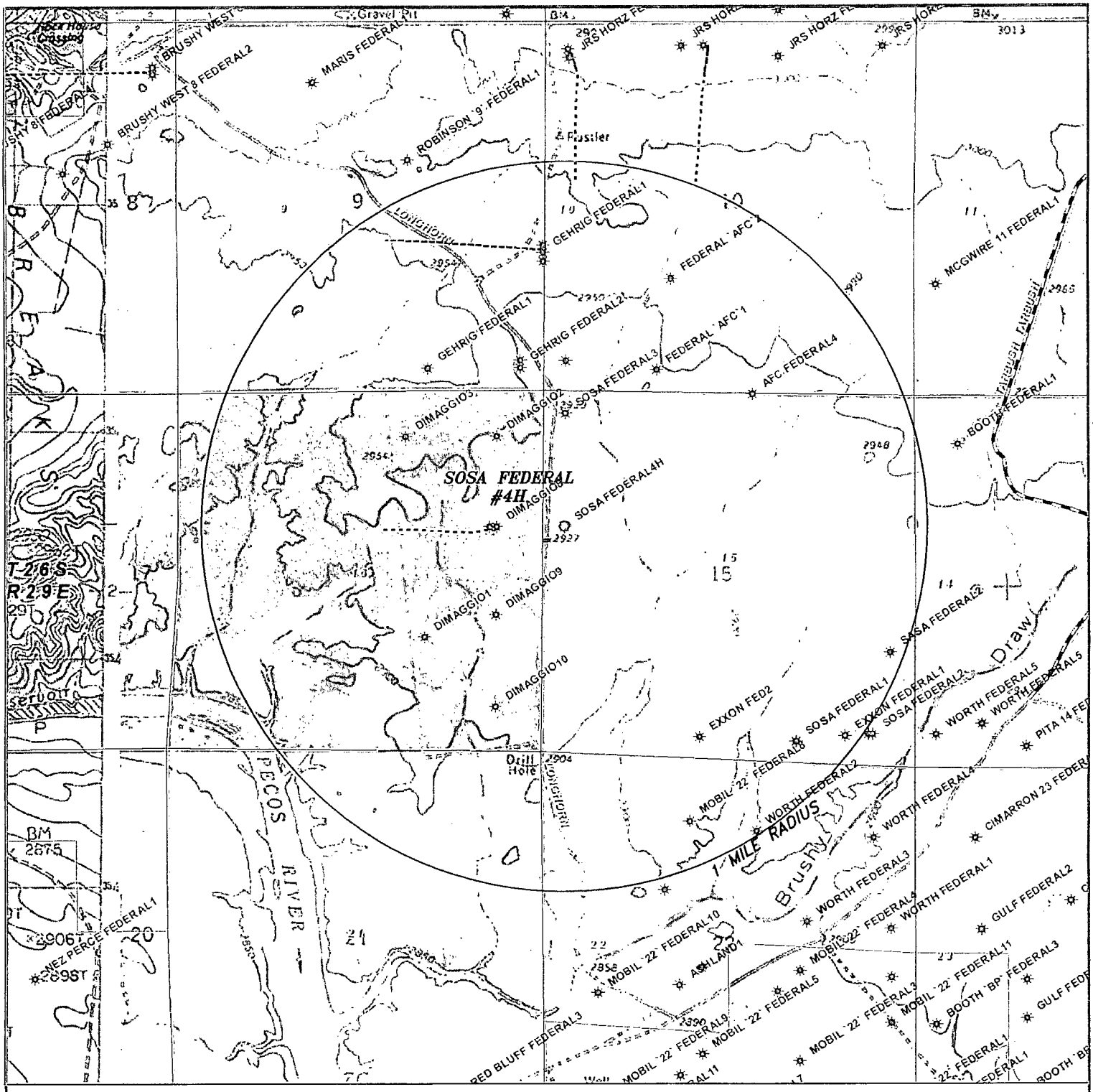
W.O. Number: KAN 29670

Survey Date: 11-11-2013

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

N

YATES PETROLEUM CORPORATION



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Section 15, Township 26 South, Range 29 East,
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Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

0' 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

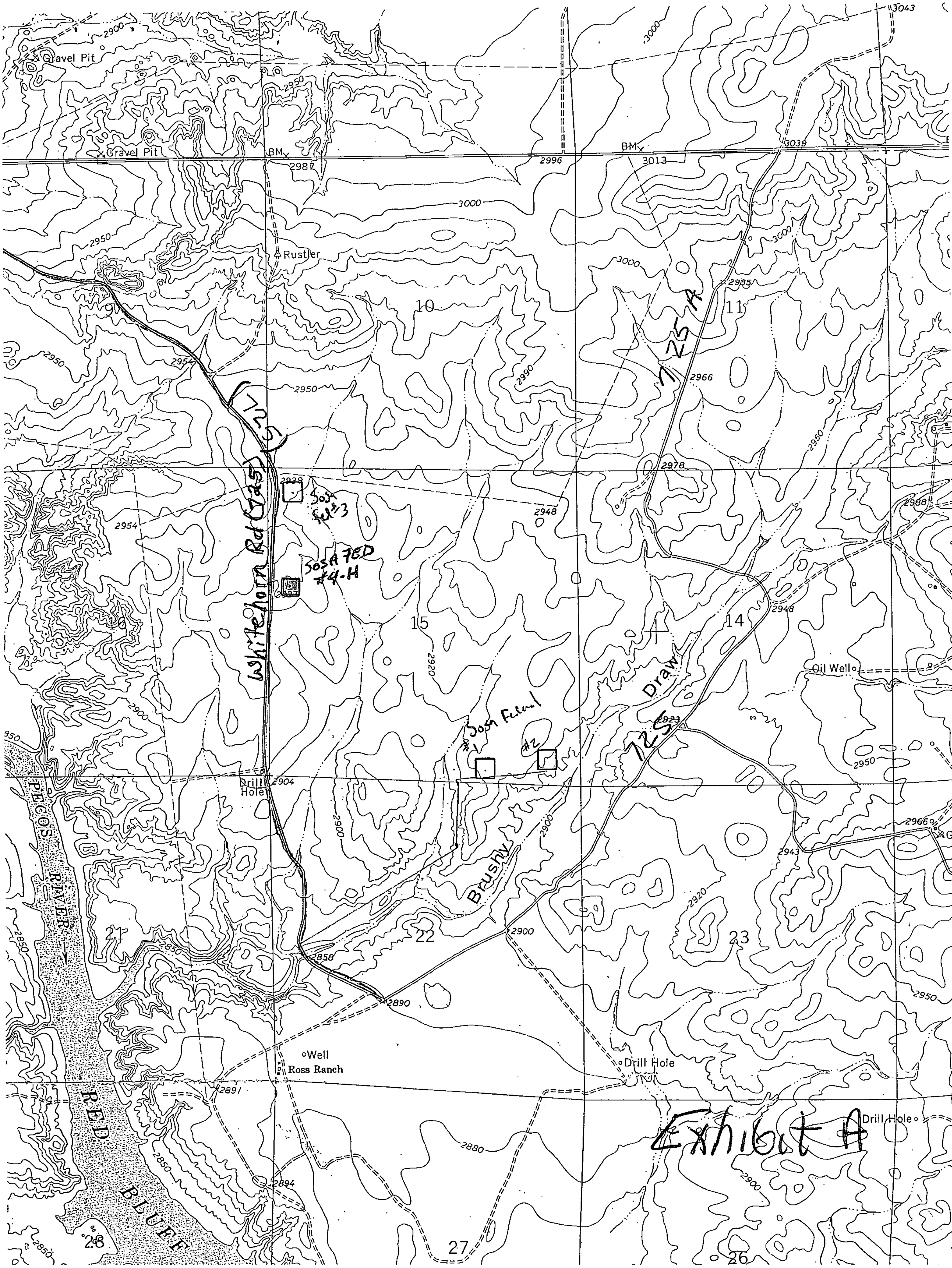
W.O. Number: KAN 29670

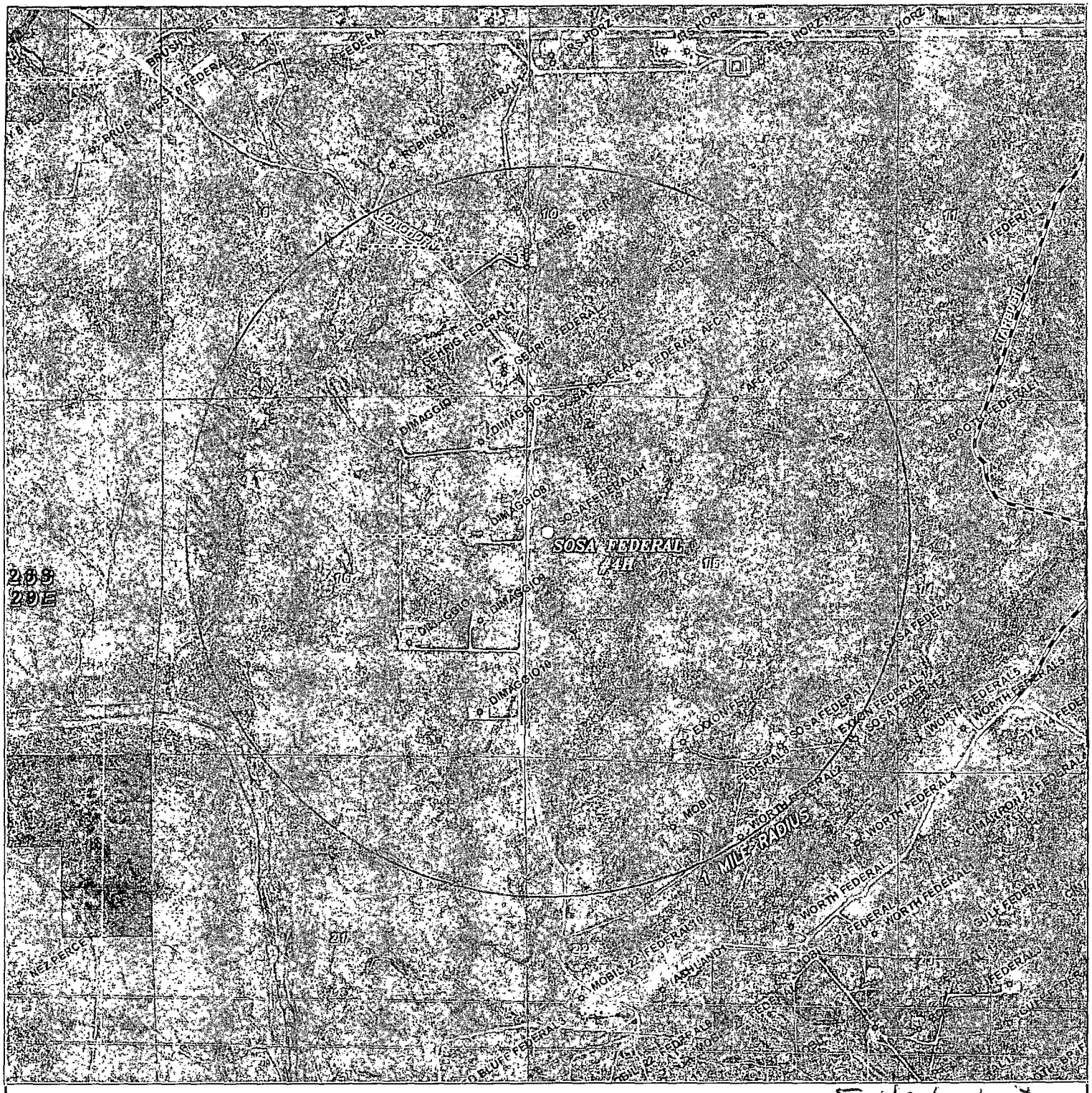
Survey Date: 11-11-2013

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

N

YATES PETROLEUM CORPORATION


Gravel Pit
Gravel Pit
BM 2987
2996
BM 3013
3039
3043
3000
2950
2900
Rustler
2954
2939
2948
2978
2935
2966
2990
2988
2920
2904
Drill Hole
PECOS RIVER
RED BLUFF
Brushy Draw
2923
2943
2966
2858
2850
2890
2900
Well
Ross Ranch
2891
Drill Hole
Drill Hole
Oil Well
2880
2894
10
11
14
15
16
21
22
23
26
27
28
Whitehorn Rd (725) (721)
725A
725
Sosa Fed #3
SOSA FED #4-H
Sosa Federal
#2
Exhibit A



SOSA FEDERAL #4H

Exhibit D

Located 1980' FNL and 330' FWL
Section 15, Township 26 South, Range 29 East,
N.M.P.M., Eddy County, New Mexico.

Basin Surveys
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Hobbs, New Mexico 88241
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(575) 392-2206 - Fax
basinsurveys.com

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

W.O. Number: KAN 29670

Survey Date: 11-11-2013

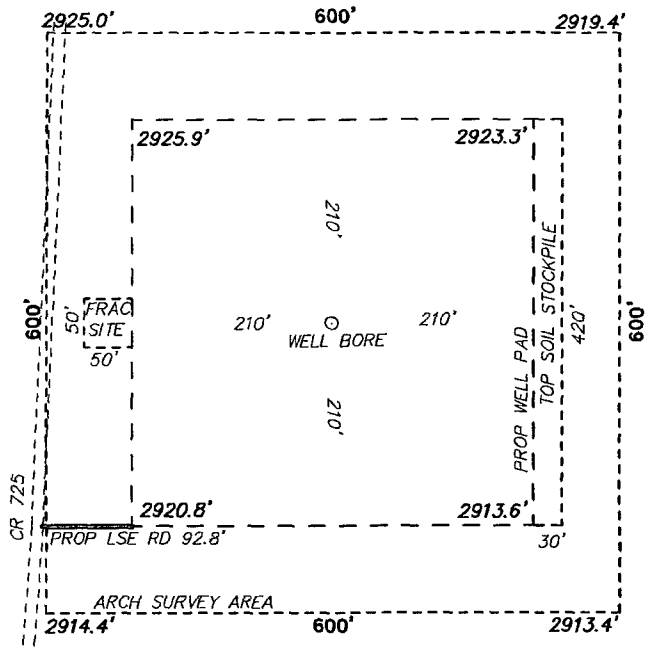
YELLOW TINT - USA LAND
BLUE TINT - STATE LAND
NATURAL COLOR - FEE LAND

N

YATES PETROLEUM CORPORATION

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 29 EAST. N.M.P.M.,

EDDY COUNTY, **NEW MEXICO.**



YATES PETROLEUM CORPORATION
SOSA FEDERAL #4H
ELEV. – 2923'
Lat – N 32°02'39.31"
Long – W 103°58'46.08"
NMSPCE– N 380017.2
E 650979.7
(NAD-83)

Exhibit C

WILLOW LAKE, NM IS ±8 MILES TO THE NORTHWEST OF LOCATION.

200 0 200 400 FEET

SCALE: 1" = 200'

Directions to Location:

FROM LOVING GO SOUTH ON US 285 17 MILES TO LONGHORN ROAD, GO SOUTHEAST ON LONGHORN ROAD FOR 6.5 MILES TO PROPOSED LOCATION.

YATES PETROLEUM CORPORATION

REF: SOSA FEDERAL #4H / WELL PAD TOPO

THE SOSA FEDERAL #4H LOCATED 1980' FROM THE NORTH LINE AND 330' FROM THE WEST LINE OF SECTION 15, TOWNSHIP 26 SOUTH, RANGE 29 EAST. N.M.P.M., EDDY COUNTY, NEW MEXICO.

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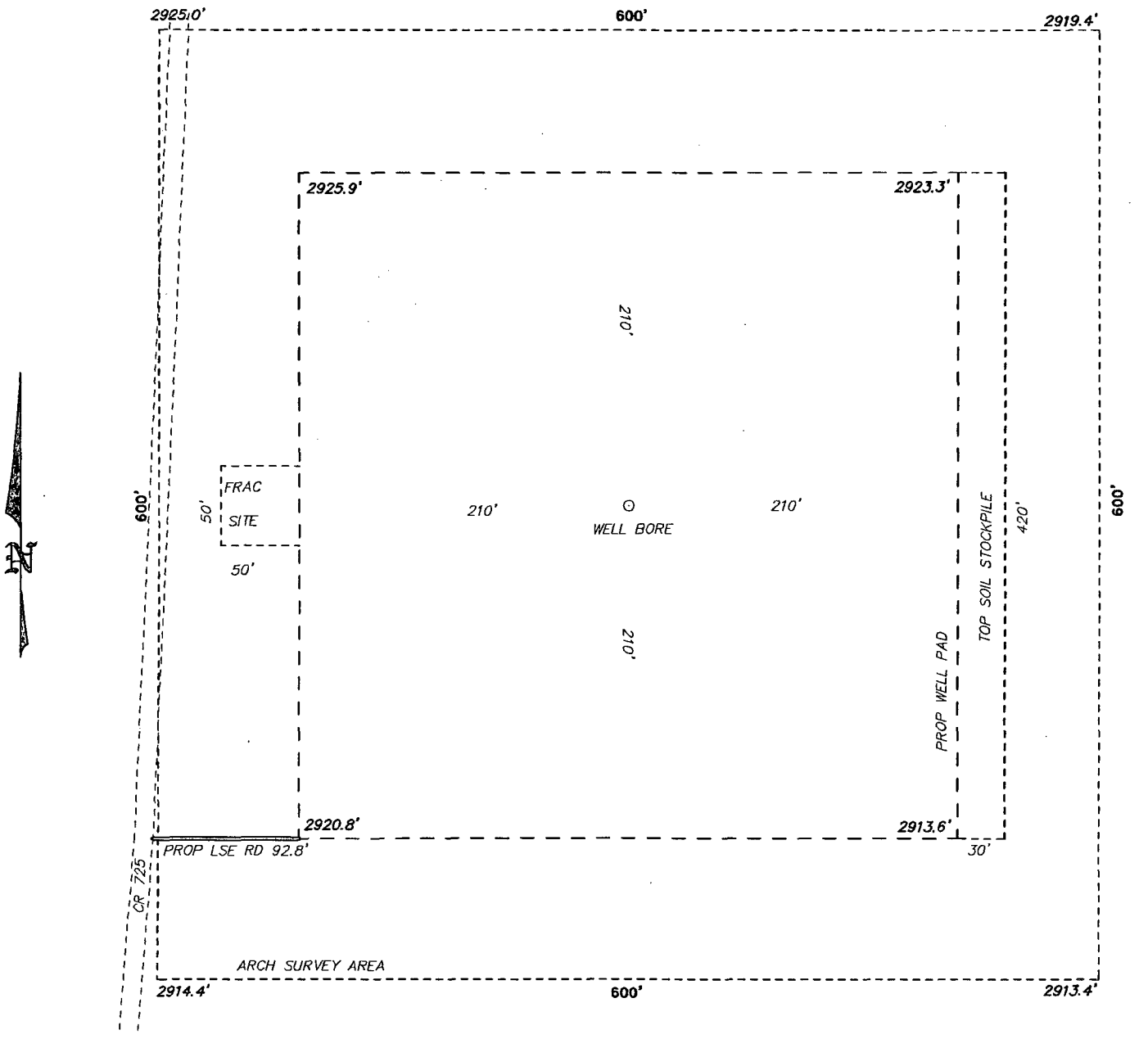
focused on excellence in the oilfield
P.O. Box 1786 (575) 393-7316 – Office
1120 N. West County Rd. (575) 392-2206 – Fax
Hobbs, New Mexico 88241 basinsurveys.com

W.O. Number: 29670 | Drawn By: K. NORRIS | Date: 11-21-2013 | Survey Date: 11-11-2013 | Sheet 1 of 1 Sheets

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 29 EAST. N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



100 0 100 200 FEET

SCALE: 1" = 100'

YATES PETROLEUM CORPORATION

REF: SOSA FEDERAL #4H / WELL PAD TOPO

THE SOSA FEDERAL #4H LOCATED 1980' FROM THE NORTH LINE AND 330' FROM THE WEST LINE OF SECTION 15, TOWNSHIP 26 SOUTH, RANGE 29 EAST. N.M.P.M., EDDY COUNTY, NEW MEXICO.

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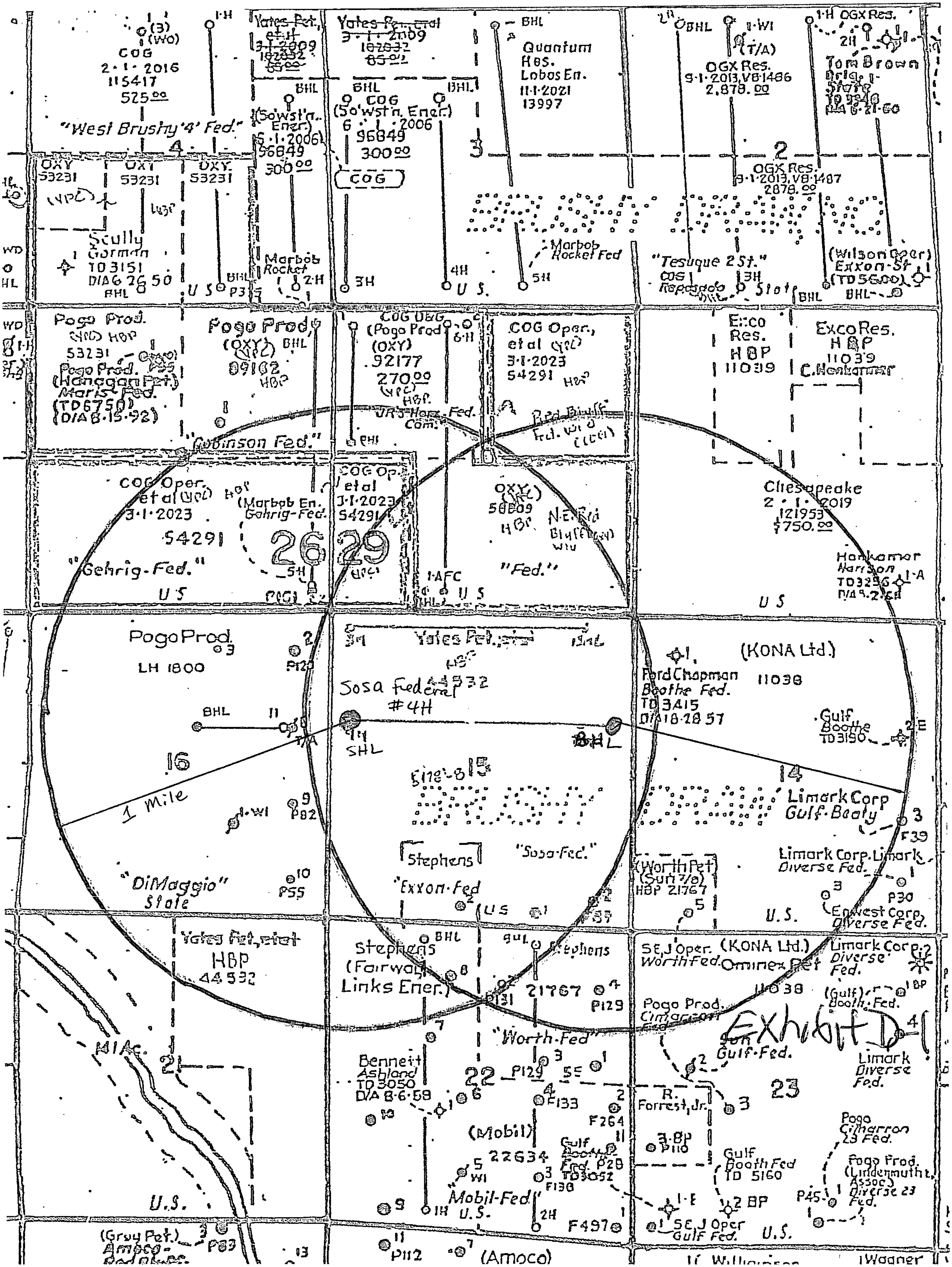


COG
2-1-2016
115417
525.00
"West Brushy '4' Fed."
4
Yates Pet.
3-1-2009
Quantum
Res.
Lobos En.
11-1-2021
13997
OGX Res.
9-1-2013, VB-1486
2,878.00
Tom Brown
3
2
OGX Res.
9-1-2013, VB-1487
2878.00
COG
(So'wst'n Ener.)
6-1-2006
96849
300.00
OXY
53231
Scully
Gorman
TD 3151
Marbob
Rocket
Marbob
Rocket Fed
"Tesuque 2 St."
(Wilson Oper)
Exxon-St
(TD 5600)
Pogo Prod.
53231
Pogo Prod.
(Hanagan Pet.)
Maris-Fed.
(TD 6750)
(D/A 8-15-92)
Pogo Prod.
(OXY)
09162
HBP
COG O&G
(Pogo Prod.)
(OXY)
92177
270.00
JRS Harr-Fed. Com.
COG Oper.
et al
3-1-2023
54291
Red Bluff
Fed. Wtr
Exco
Res.
HBP
11039
Exco Res.
HBP
11039
C. Hankamer
"Robinson Fed."
COG Oper.
et al
3-1-2023
54291
"Gehrig-Fed."
(Marbob En.
Gehrig-Fed.)
26
29
COG Op.
et al
3-1-2023
54291
OXY
58609
HBP
"Fed."
Chesapeake
2-1-2019
121953
$750.00
Hankamer
Harrison
TD 3256
U S
Pogo Prod.
LH 1800
Yates Pet.
Sosa Federal #4H
44532
SHL
BHL
(KONA Ltd.)
Ford Chapman
Boothe Fed.
TD 3415
D/A 8-28-57
11038
Gulf
Boothe
TD 3190
16
15
14
1 Mile
Limark Corp
Gulf-Bealy
Stephens
"Sosa-Fed."
"Exxon-Fed"
"DiMaggio" State
(Worth Pet.)
HBP 21767
Limark Corp. Limark
Diverse Fed.
Enwest Corp.
Diverse Fed.
U.S.
Yates Pet. et al
HBP
44532
Stephens
(Fairway
Links Ener.)
Stephens
21767
SE J Oper. (KONA Ltd.)
Worth Fed.
Ominex Pet
11038
Limark Corp.
Diverse
Fed.
(Gulf)
Booth Fed.
Pogo Prod.
Cimarron
Fed.
Exhibit D-1
Gulf-Fed.
Limark
Diverse
Fed.
"Worth-Fed"
21
22
23
Bennett
Ashland
TD 3050
D/A 8-6-58
(Mobil)
22634
Gulf
Booth
Fed.
TD 3052
R.
Forrest, Jr.
Gulf
Booth Fed
TD 5160
Pogo
Cimarron
23 Fed.
Pogo Prod.
(Lindenmuth
Assoc.)
Diverse 23
Fed.
"Mobil-Fed"
U.S.
SE J Oper
Gulf Fed.
(Gray Pet.)
Amoco
(Amoco)

YATES PETROLEUM CORPORATION
Sosa Federal #4H
1980' FNL & 330' FWL, Surface
1980' FNL & 330' FEL, Bottom
Section 15-T26S-R29E
Eddy County, New Mexico

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

Rustler	569'	Bone Spring LM	6770'	
Top of Salt	947'	1st Bone Spring	7716'--Oil	
Salt/Lamar	2729'	Kick Off Point	8281	
Bell Canyon	2945'--Oil	2nd Bone Spring	8603--'Oil	8579
Cherry Canyon	3587'--Oil	2nd Bone Spring Target	9031'--Oil	8758' TVD
Brushy Canyon	4901'--Oil	TD EOL	13299'	8758' TVD

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

Water: Approximately 85'

Oil or Gas: See above.

3. **Pressure Control Equipment:** 3000 PSI BOPE with a 13.625" opening will be installed on the 13 3/8" and a 5000# BOP with a minimum opening of 11.0 opening on the 9 5/8" casing. A variance is requested for the use of a flex hose between the well head and manifold if Cactus Rig #124 is used to drill this well. Certification and specs are attached. Test will be conducted by an independent tester, utilizing a test plug in the well head. BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes on each segment of the system tested if test is done with a test plug and 30 minutes without a test plug. Blind rams and pipe rams will be tested to the rated pressure of the BOP. Any leaks will be repaired at the time of the test. Annular preventers will be tested to 50% of rated pressure. Accumulator system will be inspected for correct pre charge pressures, and proper functionality, prior to connection to the BOP system. Tests will be conducted before drilling out from under all casing strings, which are set and cemented in place. Blowout Preventer controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. See Exhibit B.

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)

See COA

HOLE SIZE	CASING SIZE	WT./FT.	GRADE	COUPLING	INTERVAL	LENGTH
17.5"	13.375"	48#	H-40/J-55 Hybrid	ST&C	0'-~~600'~~ 400'	600'
12.25"	9.625"	36#	J-55	LT&C	0'-~~3000'~~ 2900'	3000'
8.75"	5.5"	17#	P-110	Buttress	0'-9031'	9031'
8.5"	5.5"	17#	P-110	Buttress	9031'-13299'	4268'

This well will be drilled vertically to 8281' will be kicked off at approximately 8281' and directionally drilled at 12 degrees per 100' with an 8 3/4" hole to 9031' MD (8768' TVD). Hole size will then be reduced to 8 ½" and drilled to 13299' MD (8758' TVD) where 5 1/2" casing will be set and cemented 500' into intermediate casing with a DV/Stage Packer Tools at approximately 7000'. Penetration point of producing zone will be encountered at 1980' FNL & 807' FWL of section15-26S-29E. The deepest TVD in well is 8758' in the lateral.

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

B. Cementing Program:

Surface casing from 0' to 600': TOC surface; 280 sack 35:65:6PzC (WT 12.50 YLD 2.00 WTR. 11.00 gal/sack); Tail in with 205 sacks 50/50 Poz C with 2% CaCl2 (Wt. 14.20 Yld. 1.34 Wtr 6.20). Cement designed with 100% excess.

Intermediate Casing 0' to 3000': TOC surface. 805 sacks 35:65:6PzC (WT 12.50 YLD 2.00 WTR. 11.0 gal/sack); Tail in w/ 200 sacks 50/50 PozC with 2% CaCl2 (Wt. 14.80 Yld.1.34 WTR. 6.2 gal/sack). Cement designed with 100% excess.

Production Casing will be done in two stages with DV Tool at 7000'.:

See COA

Stage I 13299' to 7000': TOC 7000', Lead in with 975 sacks of 35:65:6PzC (Wt. 12.50 Yld. 2.00 Wtr. 11.00). Tail in with 880 Sacks Pecos Valley Lite with D112 fluid loss 0.4%, D151-Calcium Carbonate 22.5 lbs/sack, D174-Extender 2.5 lb/sack, D177-Retarder 0.01 lb/sack, D800-Retarder 0.6 lb/sack, D046-antifoam agent 0.15 lb/sack (Wt 13.00 Yld. 1.82 Wtr. 9.3 gal/sack). Cement designed with 35% excess.

Stage II 7000' to 0': TOC surface'. Lead with 630 sacks 35:65:6PzC (Wt. 12.5 Yld. 2.00 Wtr. 11.0 gal/sack). Tail in with 205 sacks of 50/50 PozC w/2% CaCl2 (Wt 14.20 Yld. 1.34 Wtr 6.2 gal/sack). Cement designed with 35% excess.

5. Mud Program and Auxiliary Equipment:

See COA

INTERVAL	TYPE	WEIGHT	VISCOSITY	FLUID LOSS
0'-~~600'~~ 400'	Fresh Water	8.60-9.20	32-34	N/C
~~600'-3000'~~ 2900'	Brine Water	10.00-10.20	28-29	N/C
~~3000'~~-13299'	Cut Brine	8.80-9.20	28-32	N/C

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

6. EVALUATION PROGRAM:

Samples: 30' samples to 3000'; 10' samples 3000' to TD.
Logging: Gamma-Ray/Neutron, 30 degree deviation to surface. CNL/LDY/NGT. 30 degree deviation to intermediate casing. DNL/MSLF. 30 degree deviation to intermediate casing. CMR, 30 degree deviation to intermediate casing. Horizontal-MWD-GR.

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

H2S is not anticipated.

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

Anticipated BHP:

From:	O	TO:	600'	Anticipated Max.	BHP:	287	PSI
From:	600'	TO:	3000'	Anticipated Max.	BHP:	1591	PSI
From:	3000'	TO:	8758'	Anticipated Max.	BHP:	4190	PSI

No abnormal pressures or temperatures are anticipated.

Lost Circulation Zones Anticipated: None.

H2S Zones Anticipated: None

Maximum Bottom Hole Temperature: 160 F

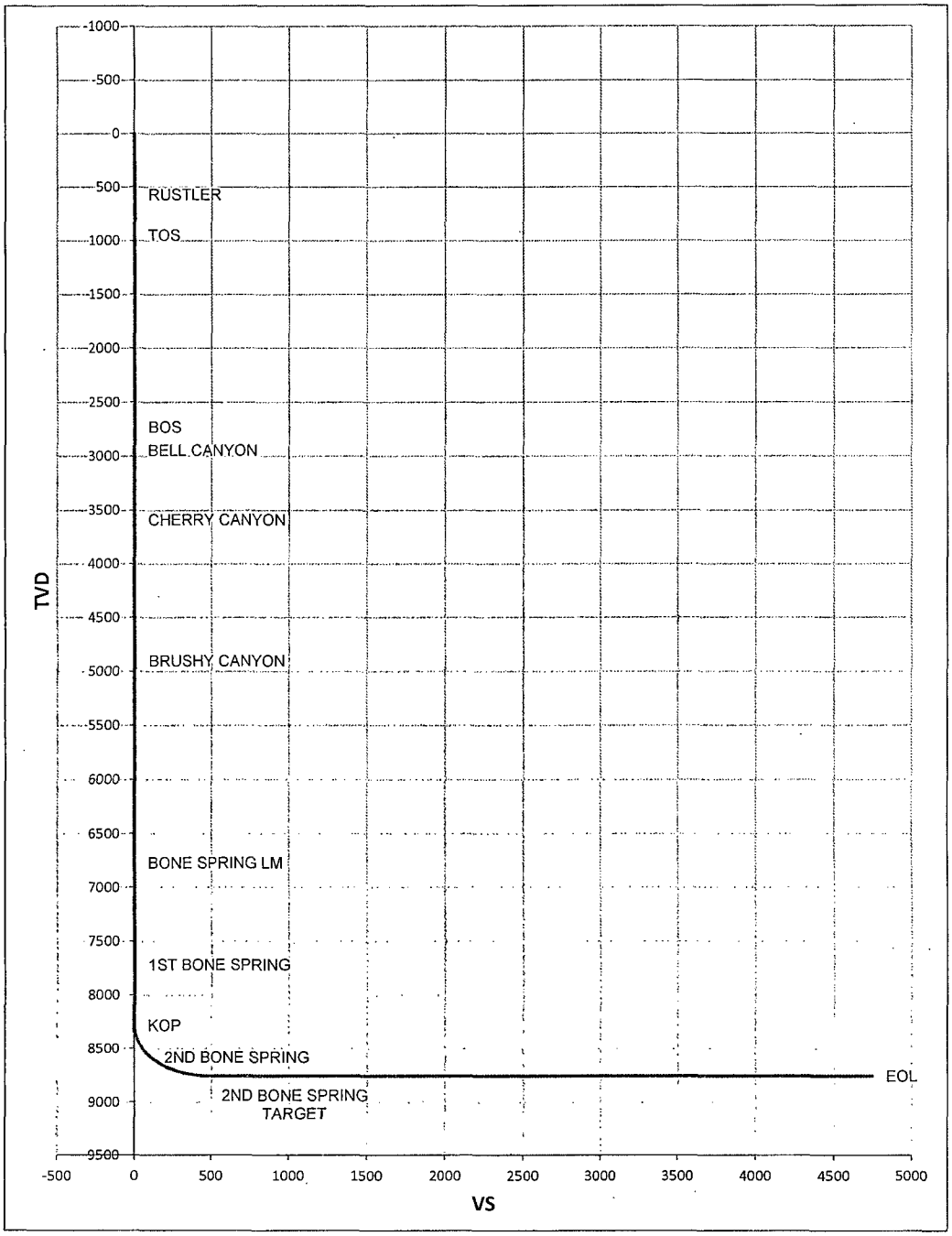
8. ANTICIPATED STARTING DATE:

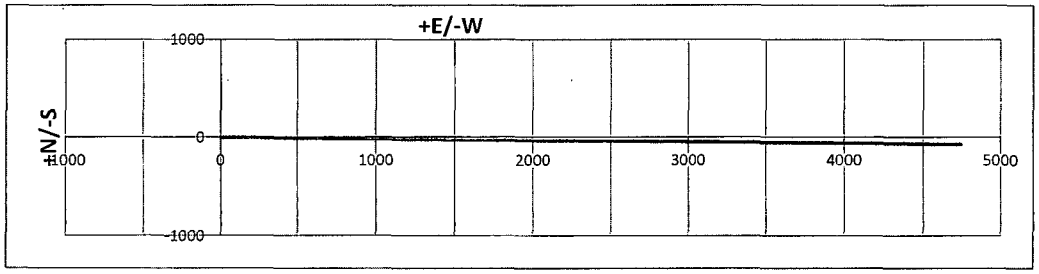
Plans are to drill this well as soon as possible after receiving approval. It should take approximately 60 days to drill the well with completion taking another 30 days.

Well Name:	Sosa Federal #4H	**Tgt N/-S:**	-68.30		
		Tgt E/-W:	4745.40	**EOC TVD/MD:**	8758.00 / 9030.54
Surface Location:	Section 15 , Township 26S Range 29E	**VS:**	4745.89		
Bottom Hole Location:	Section 15 , Township 26S Range 29E	**VS Az:**	90.82	**EOL TVD/MD:**	8758.00 / 13298.96

MD	Inc.	Azi.	TVD	+N/-S	+E/-W	VS	DLS	Comments
0	0	0	0	0	0	0	0	
569.00	0.00	0.00	569.00	0.00	0.00	0.00	0.00	RUSTLER
947.00	0.00	0.00	947.00	0.00	0.00	0.00	0.00	TOS
2729.00	0.00	0.00	2729.00	0.00	0.00	0.00	0.00	BOS
2945.00	0.00	0.00	2945.00	0.00	0.00	0.00	0.00	BELL CANYON
3587.00	0.00	0.00	3587.00	0.00	0.00	0.00	0.00	CHERRY CANYON
4901.00	0.00	0.00	4901.00	0.00	0.00	0.00	0.00	BRUSHY CANYON
6770.00	0.00	0.00	6770.00	0.00	0.00	0.00	0.00	BONE SPRING LM
7716.00	0.00	0.00	7716.00	0.00	0.00	0.00	0.00	1ST BONE SPRING
8280.54	0.00	0.00	8280.54	0.00	0.00	0.00	0.00	KOP
8300.00	2.34	90.82	8299.99	-0.01	0.40	0.40	12.00	
8325.00	5.34	90.82	8324.94	-0.03	2.07	2.07	12.00	
8350.00	8.34	90.82	8349.76	-0.07	5.04	5.04	12.00	
8375.00	11.34	90.82	8374.38	-0.13	9.31	9.31	12.00	
8400.00	14.34	90.82	8398.76	-0.21	14.87	14.87	12.00	
8425.00	17.34	90.82	8422.81	-0.31	21.69	21.69	12.00	
8450.00	20.34	90.82	8446.46	-0.43	29.76	29.76	12.00	
8475.00	23.34	90.82	8469.67	-0.56	39.05	39.06	12.00	
8500.00	26.34	90.82	8492.35	-0.71	49.55	49.56	12.00	
8525.00	29.34	90.82	8514.46	-0.88	61.22	61.23	12.00	
8550.00	32.34	90.82	8535.92	-1.07	74.03	74.04	12.00	
8575.00	35.34	90.82	8556.69	-1.27	87.95	87.96	12.00	
8600.00	38.34	90.82	8576.69	-1.48	102.94	102.95	12.00	
8602.95	38.69	90.82	8579.00	-1.51	104.76	104.77	12.00	2ND BONE SPRING
8625.00	41.34	90.82	8595.89	-1.71	118.95	118.96	12.00	
8650.00	44.34	90.82	8614.22	-1.96	135.94	135.96	12.00	
8675.00	47.34	90.82	8631.63	-2.21	153.87	153.89	12.00	
8700.00	50.34	90.82	8648.09	-2.49	172.69	172.71	12.00	
8725.00	53.34	90.82	8663.53	-2.77	192.34	192.36	12.00	
8750.00	56.34	90.82	8677.93	-3.06	212.77	212.79	12.00	
8775.00	59.34	90.82	8691.24	-3.37	233.93	233.95	12.00	
8800.00	62.34	90.82	8703.42	-3.68	255.76	255.78	12.00	
8825.00	65.34	90.82	8714.44	-4.00	278.19	278.22	12.00	
8850.00	68.34	90.82	8724.27	-4.33	301.17	301.20	12.00	
8875.00	71.34	90.82	8732.89	-4.67	324.63	324.67	12.00	
8900.00	74.34	90.82	8740.27	-5.02	348.51	348.55	12.00	
8925.00	77.34	90.82	8746.38	-5.36	372.75	372.79	12.00	
8950.00	80.34	90.82	8751.22	-5.72	397.27	397.31	12.00	
8975.00	83.34	90.82	8754.77	-6.07	422.01	422.05	12.00	
9000.00	86.34	90.82	8757.02	-6.43	446.90	446.95	12.00	
9025.00	89.34	90.82	8757.97	-6.79	471.88	471.93	12.00	
9030.54	90.00	90.82	8758.00	-6.87	477.42	477.46	12.00	2ND BONE SPRING TARGET
13298.96	90.00	90.82	8758.00	-68.30	4745.40	4745.89	0.00	EOL

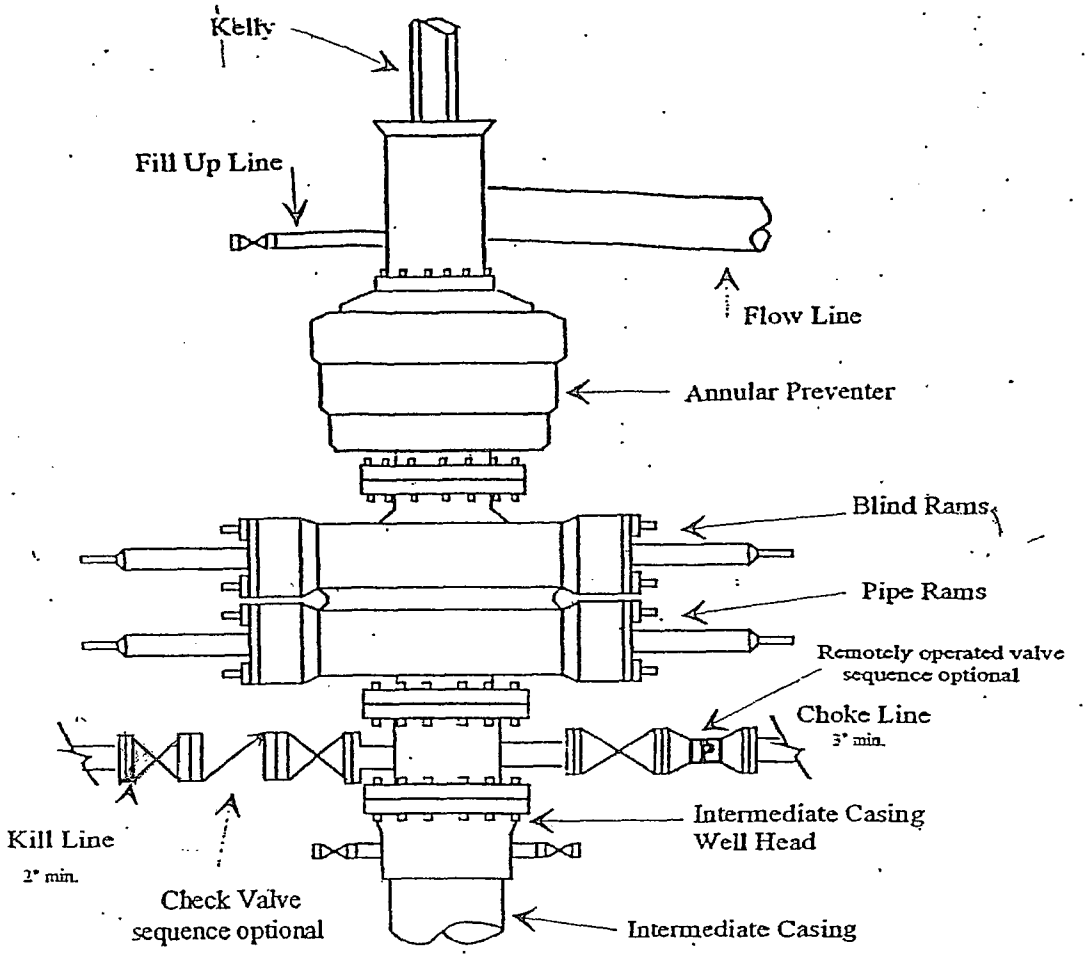
Sosa Federal #4H





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

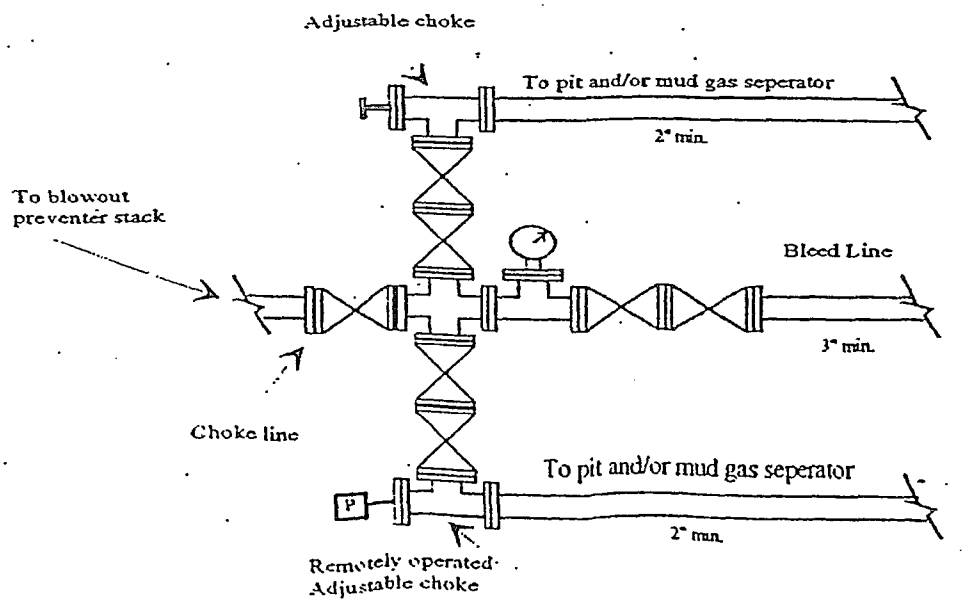
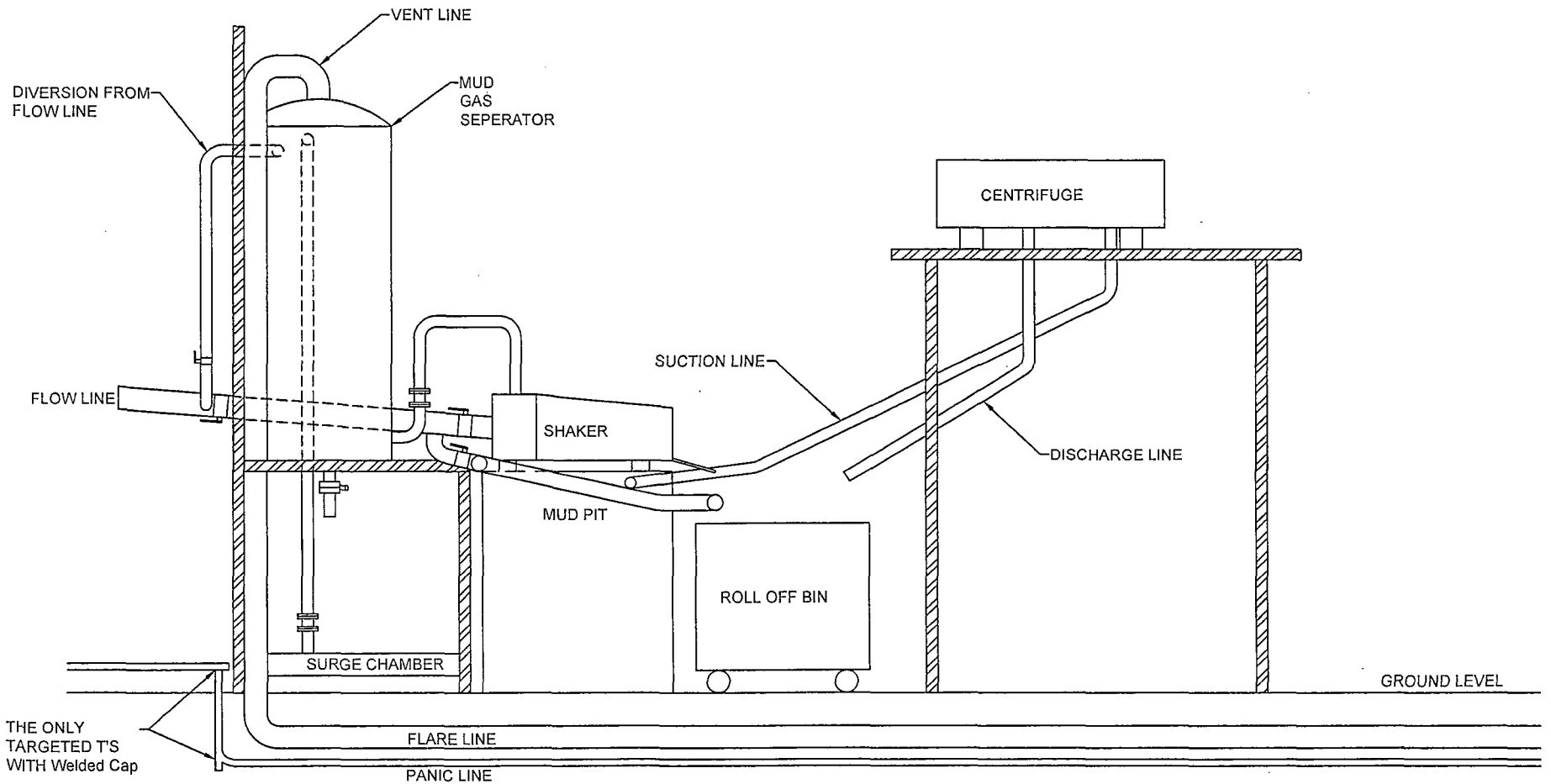


Exhibit C-1

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.

INTERNAL HYDROSTATIC TEST REPORT

Customer:	Customer P.O. Number:
CACTUS DRILLING	ASSET#M10750 SO#7431

HOSE SPECIFICATIONS

Type: CHOKE & KILL	Hose Length: 35'
I.D. 4 INCHES	O.D. 8 INCHES

WORKING PRESSURE	TEST PRESSURE	BURST PRESSURE
10,000 PSI	15,000 PSI	N/A PSI

COUPLINGS

Part Number	Stem Lot Number	Ferrule Lot Number
E4.0X64WB	1Q11 LOT1	1Q11 LOT1
E4.0X64WB	1Q11 LOT1	1Q11 LOT1

Type of Coupling:	Die Size:
Swage-It	

PROCEDURE

Hose assembly pressure tested with water at ambient temperature.

TIME HELD AT TEST PRESSURE	ACTUAL BURST PRESSURE:
1	N/A PSI

Hose Assembly Serial Number:	Hose Serial Number:
74310	M10750

Comments:

Date:	Tested:	Approved:
12/2/2010	[signature]	Brent Burnett

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

March 5, 2012

Customer: Fw Texas

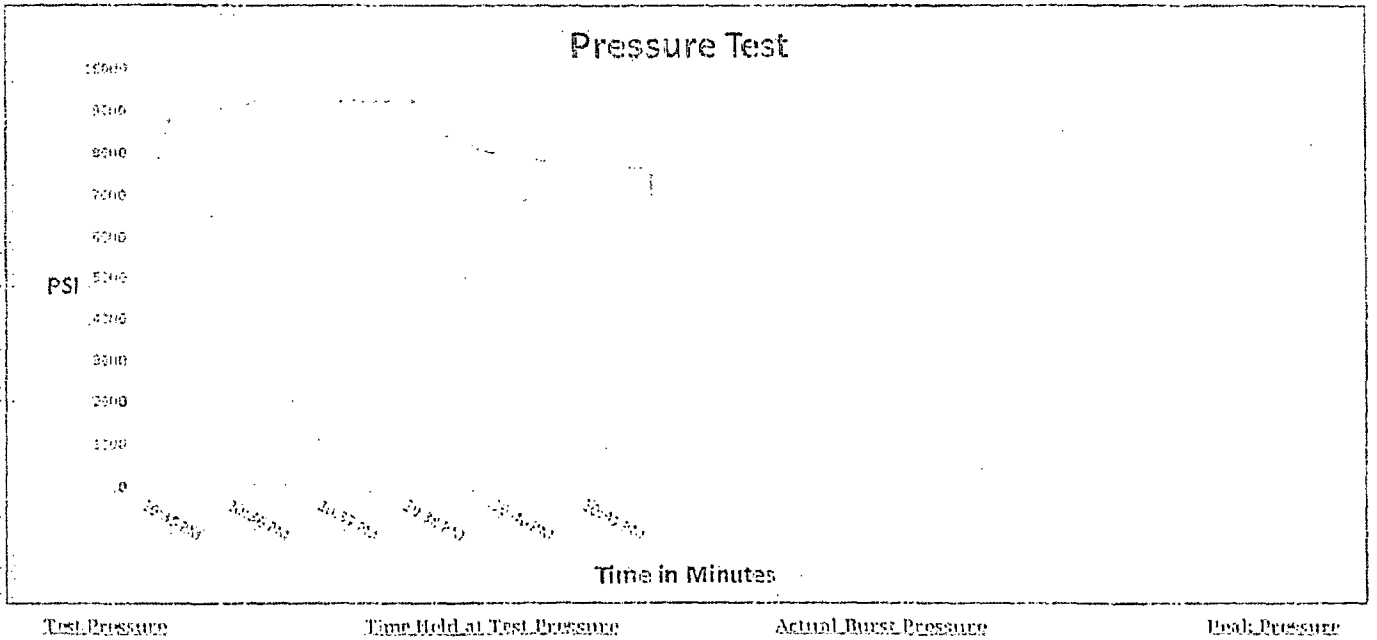
Pick Ticket #: 141521

Hose Specifications:

Hose Type	Length
Red E	50'
I.D.	O.D.
1"	4 4/5
Working Pressure	Burst Pressure
10000 PSI	Standard Safety Multiplier Applies

Verification

Type of Fitting	Coupling Method
4 1/16 5K	Swage
Die Size	Final O.D.
5.25	5 1/4
Hose Serial #	Hose Assembly Serial #
7504	141521



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
5000 PSI	5:3/4 minutes		9300 PSI

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

Tested By: Donnie McLemore

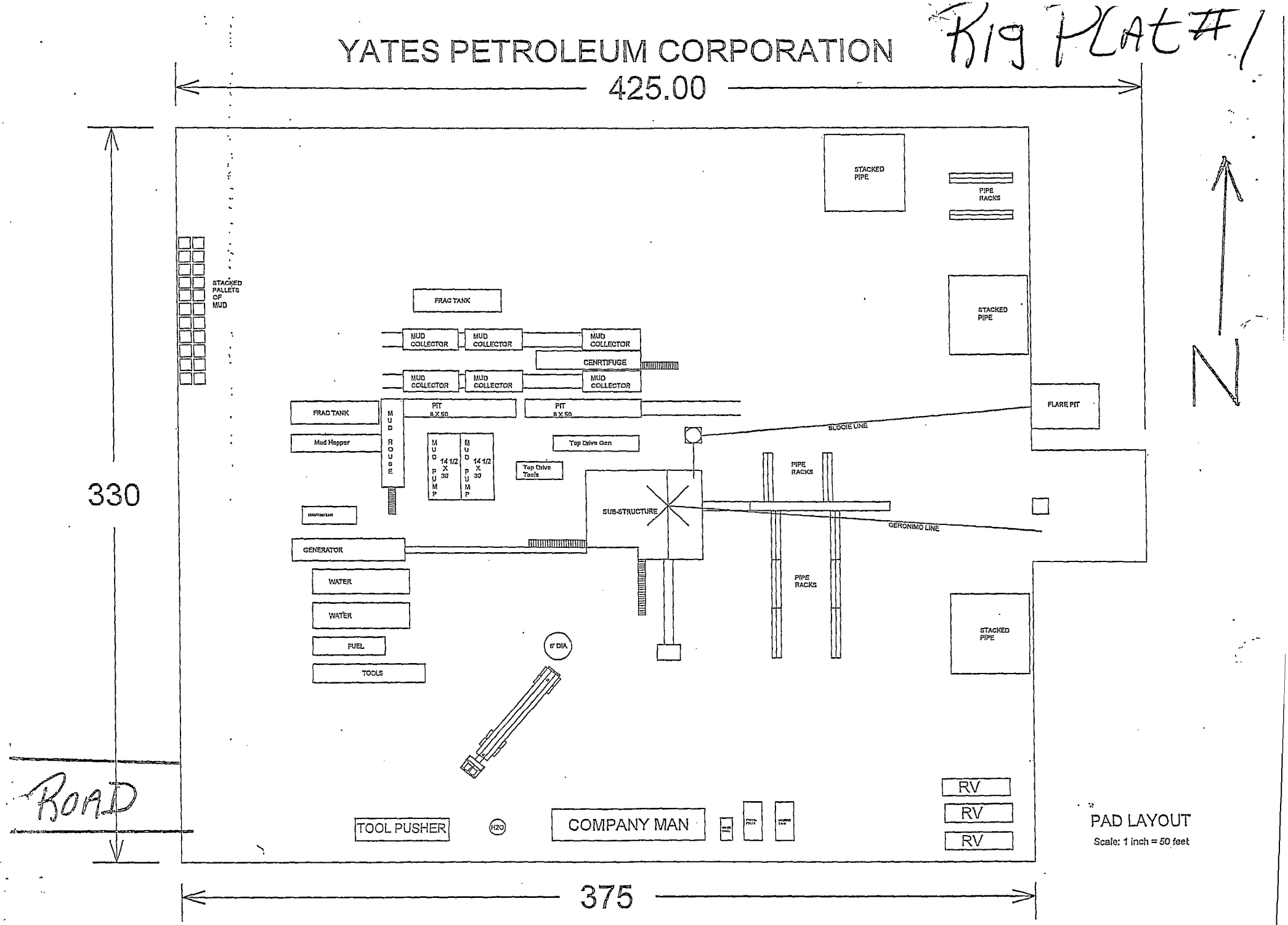
Donnie mclemore

Approved By: Brent Burnett

Brent Burnett

YATES PETROLEUM CORPORATION

Rig Plat #1



PAD LAYOUT

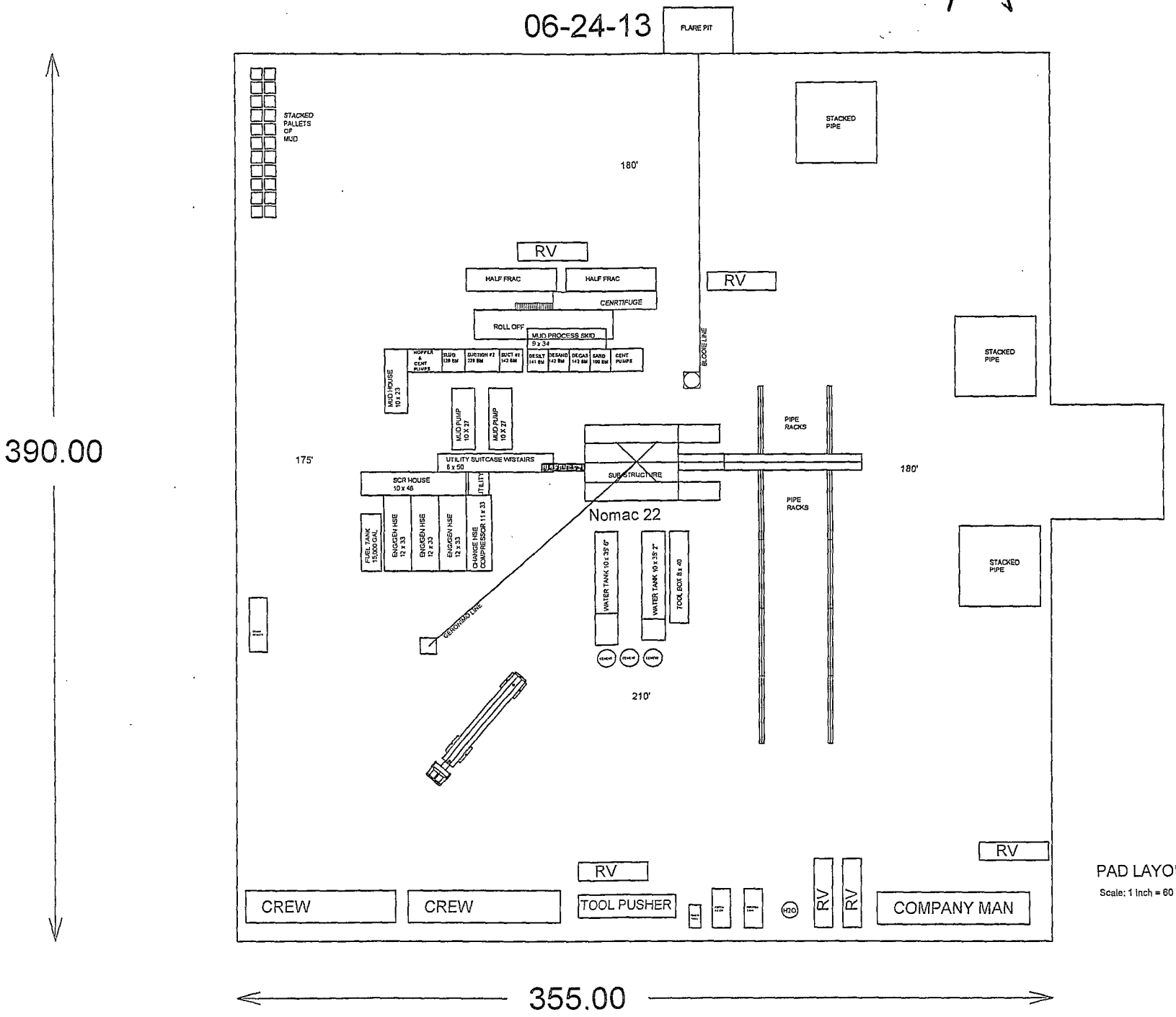
Scale: 1 inch = 50 feet

YATES PETROLEUM CORPORATION

Rig Plat 2

Nomac 22

06-24-13

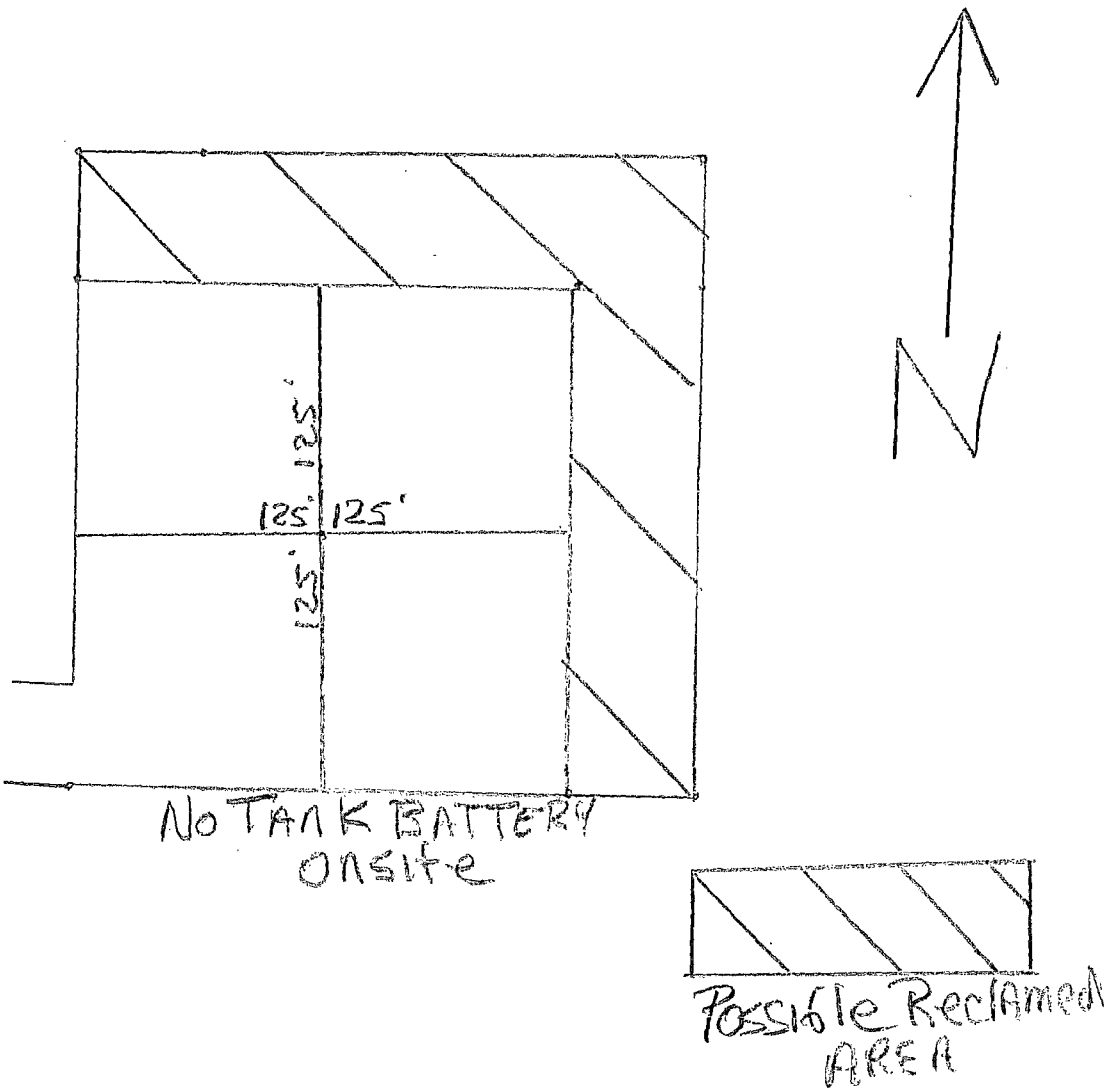


PAD LAYOUT

Scale: 1 inch = 60 feet

Reclamation Plat

Sosa
Federal #4H



MULTI-POINT SURFACE USE AND OPERATIONS PLAN
YATES PETROLEUM CORPORATION
Sosa Federal #4H
1980' FNL and 330' FWL Surface Hole Location
1980' FNL and 330' FEL Bottom Hole Location
Section 15, T26S-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 t
hat 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 wellsite is located approximately 35 miles southeast of Carlsbad, New Mexico and the access route to the location is indicated in red and green on Exhibit.

DIRECTIONS:

Go south of Carlsbad on Highway 285 for approximately 28.5 miles to Whitehorn Road (CR-725). Turn east on Whitehorn Road and go approximately 5.6 miles. The proposed well location is on the left side of the county road. No new road will be needed to access the location.

2. PLANNED ACCESS ROAD:

A. Go south of Carlsbad on Highway 285 for approximately 28.5 miles to Whitehorn Road (CR-725). Turn east on Pronghorn Road and go approximately 5.6 miles. The proposed well location is on the left side of the county road. 92.8 w road will be needed to access the location.
B. The road will be crowned and ditched to a 2% slope from the tip of the crown to the edge of the driving surface.
C Ditches will be 3' wide with a 3:1 slopes.
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 wellsite.
B. Exhibit shows existing wells within a one-mile radius of the proposed wellsite.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

A. There are production facilities on this lease at the present time.
B. There will not be a tank battery located on this well pad. In the event that the well is productive, production from the well will be sent visa flowline to the Sosa Federal #1 Battery located in the SE/SE/4 of Section 15. If the well is productive oil, a gas or diesel self-contained unit will be used to provide the necessary power. No power will be required if the well is productive of gas.

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. 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 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:

   The dirt contractor will acquire any materials from the closest source at the time of construction of the well pad.

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 landfill. Burial on site is not approved.

8. ANCILLARY FACILITIES:

   None.

   A. 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.
   B. Please note exhibits Rig Size #1 and Rig Size #2 show the relative location and dimensions of the well pad, location of the drilling equipment, pulling unit orientation and access road approach. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the "Pit Rule" 19.15.17 NMAC.
   C. A 600' x 600' area has been staked and flagged.

9. WELLSITE LAYOUT:

   A. An Exhibit shows the relative location and dimensions of the well pad, the closed loop mud system, location of the drilling equipment, rig orientation and access road approach. The proposed well location will be approximately 350' x 300'.
   B. The closed loop system will be constructed, maintained and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division—the "Pit Rule" 19.15.17 NMAC.
   C. A 600' x 600' area has been previously staked and flagged for archaeological purposes; refer to arc report on file.

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

11. SURFACE OWNERSHIP: Federal Surface, Administered by 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.

(Exhibits Attached)
Exhibit A Topographic Map and Road Plat
Exhibit B BOP Schematic
Exhibit C Location Layout
Exhibit C-1 Closed Loop System Diagram
Exhibit D One Mile Radius

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Yates Petroleum Corporation**
LEASE NO.:	**NMNM-44532**
WELL NAME & NO.:	**Sosa Federal 4H**
SURFACE HOLE FOOTAGE:	**1980' FNL & 0330' FWL**
BOTTOM HOLE FOOTAGE	**1980' FNL & 0330' FEL**
LOCATION:	**Section 15, T. 26 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. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

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

B. TOPSOIL

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

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

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

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

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

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

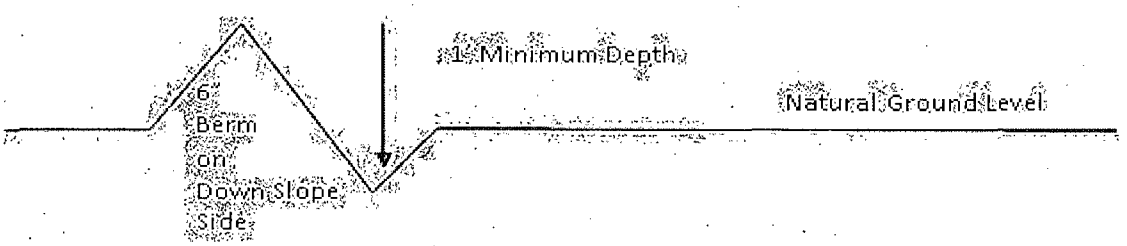
Ditching
Ditching shall be required on both sides of the road.

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

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattleguards
An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguards that are in place and are utilized during lease operations.

Fence Requirement
Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

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

Construction Steps

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

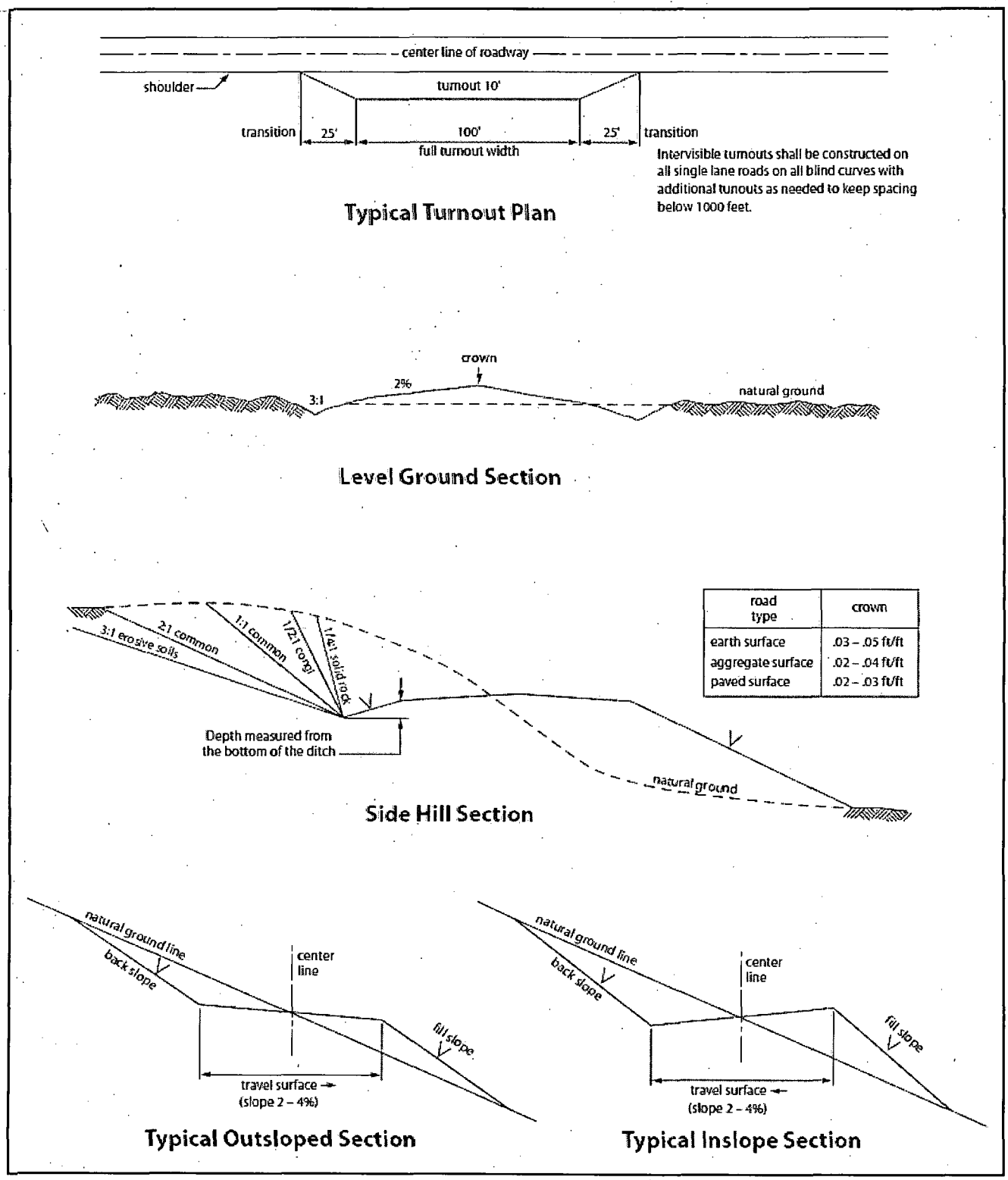


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VI. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

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

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

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

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

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

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

Wait on cement (WOC) for Potash Areas:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.

Wait on cement (WOC) for Water Basin:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

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

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

High Cave/Karst
Possibility of water flows in the Salado and Castile.
Possibility of lost circulation in the Rustler and Delaware.

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

1. The **13-3/8** inch surface casing shall be set at approximately **400** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 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.

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing, which shall be set at approximately **2900** feet, is:

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

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

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

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

Operator has proposed DV tool at depth of 7000'. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.

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 to surface. If cement does not circulate, contact the appropriate BLM office. **Excess calculates to <u>negative</u> 15% - Additional cement will be required.**

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API 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. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

    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 **9-5/8** intermediate casing shoe shall be **5000 (5M)** psi. **5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including

lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (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 test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

d. The results of the test shall be reported to the appropriate BLM office.

e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

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

E. WASTE MATERIAL AND FLUIDS

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

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

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VII. 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).

VIII. 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 3, for Shallow 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
Plains Bristlegrass (Setaria magrostachya)	1.0
Green Spangletop (Leptochloa dubia)	2.0
Side oats Grama (Bouteloua curtipendula)	5.0

*Pounds of pure live seed:

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