Form 3160-3
(March 2012)

OCD Artesia

13-829

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

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. LC-045818-B
	6. If Indian, Allotee or Tribe Name N/A
	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. Hastie "AXH" Federal #2H
2. Name of Operator YATES PETROLEUM CORPORATION	9. API Well No. 30-015-43213
3a. Address 105 South Fourth Street, Artesia, NM 88210 / 3b. Phone No. (include area code) 575-748-4372	10. Field and Pool, or Exploratory Red Lake Shores' GLR-Yeso
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface Ut. Ltr. P, 540' FSL & 230' FEL, Section 17, T17S-R28E, SESE. At proposed prod. zone Ut. Ltr. M, 400' FSL & 330' FWL, Section 17, T17S-R28E, SWSW	11. Sec., T. R. M. or Blk. and Survey or Area Section 17, T17S-R28E,
14. Distance in miles and direction from nearest town or post office* approximately 15 miles east of Artesia, 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) 400'	16. No. of acres in lease LC-045818-B-960ac. / 17. Spacing Unit dedicated to this well S2S2 of Section 17, T17S-R28E
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. ~~1000'~~ 1500	19. Proposed Depth ~~7932~~ 8130 Pilot hole 4000'. Horazontal 3540' TVD & ~~7932~~ MD / 20. BLM/BIA Bond No. on file Nationwide Bond #NM-B000434 Individual Bond NMB000920
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3596' GL	22. Approximate date work will start* 11/25/2013 / 23. Estimated duration 60 Days

24. Attachments

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

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

25. Signature	Name (Printed/Typed) Cy Cowan	Date 8/13/14
Title Land Regulatory Agent		
Approved by (Signature) Steve Caffey	Name (Printed/Typed)	Date JUN 30 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)

Roswell Controlled Water Basin

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 06 2015

RECEIVED

7/14/15

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

CERTIFICATION
YATES PETROLEUM CORPORATION

Hastie AXH Federal #2-H
400' FSL & 330' FEL, SHL, Sec. 17-17S-28E
400' FSL & 330' FWL, BHL, Sec. 17-17S-28E
Eddy County, New Mexico

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; that I have 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 the company I represent, is 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 1st day of November, 2013.

Printed Name Cy Cowan

Signature

Position Title Land Regulatory Agent

Address 105 South Fourth Street, Artesia, NM 88210

Telephone 575-748-4372

E-mail (optional) cy@yatespetroleum.com

Field Representative (if not above signatory) Tim Bussell

Address (if different from above) Same

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

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
1217 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

1217 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
30-015-43213	97130	Red Lake Shores Glorieta-Yeso

Property Code	Property Name	Well Number
28979	HASTIE AXH FEDERAL	2H

OGRID No.	Operator Name	Elevation
025575	YATES PETROLEUM CORP.	3592

Surface Location

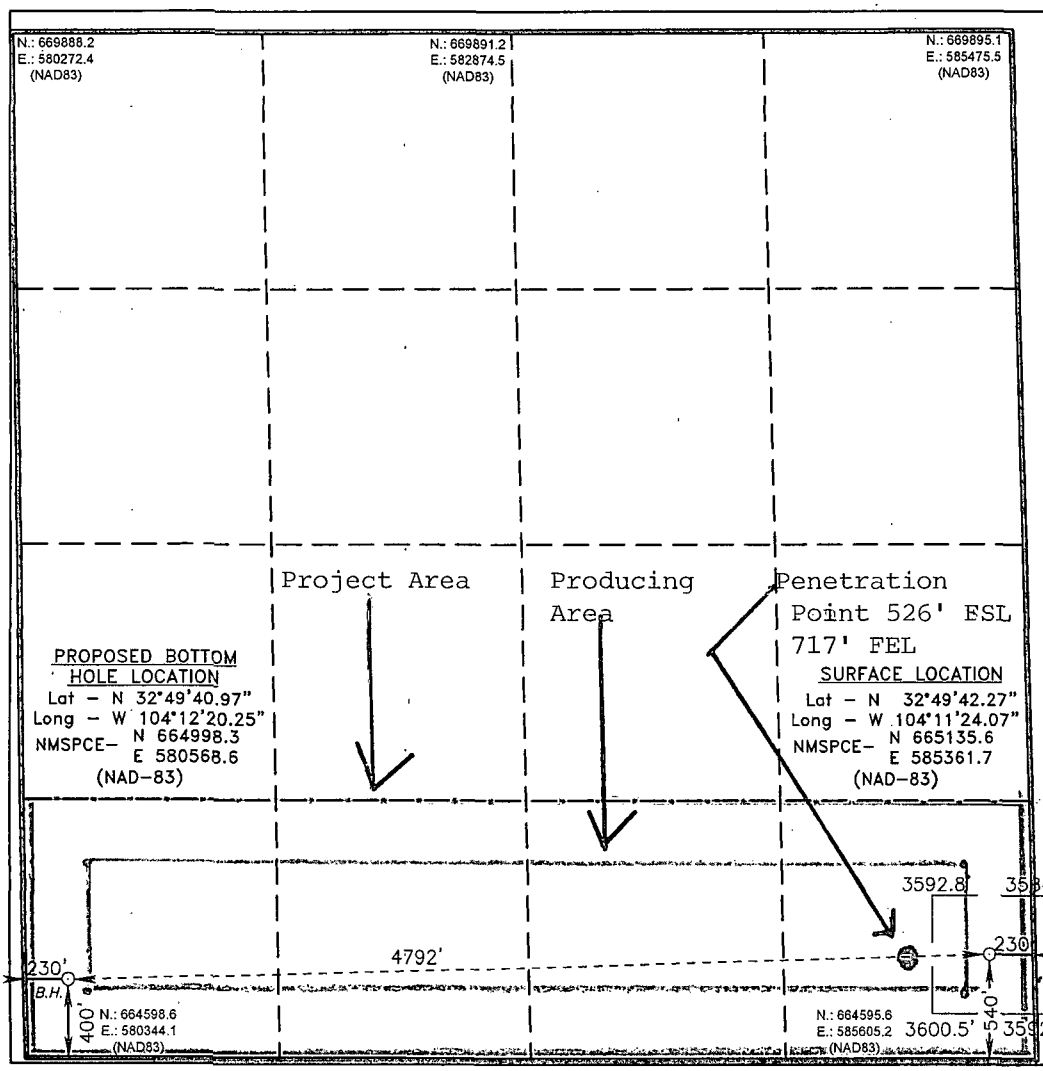
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	17	17 S	28 E		540	SOUTH	230	EAST	EDDY

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
M	17	17 S	28 E		400	SOUTH	230	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.

Signature 8/13/14 Date

Cy Cowan
Printed Name

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.

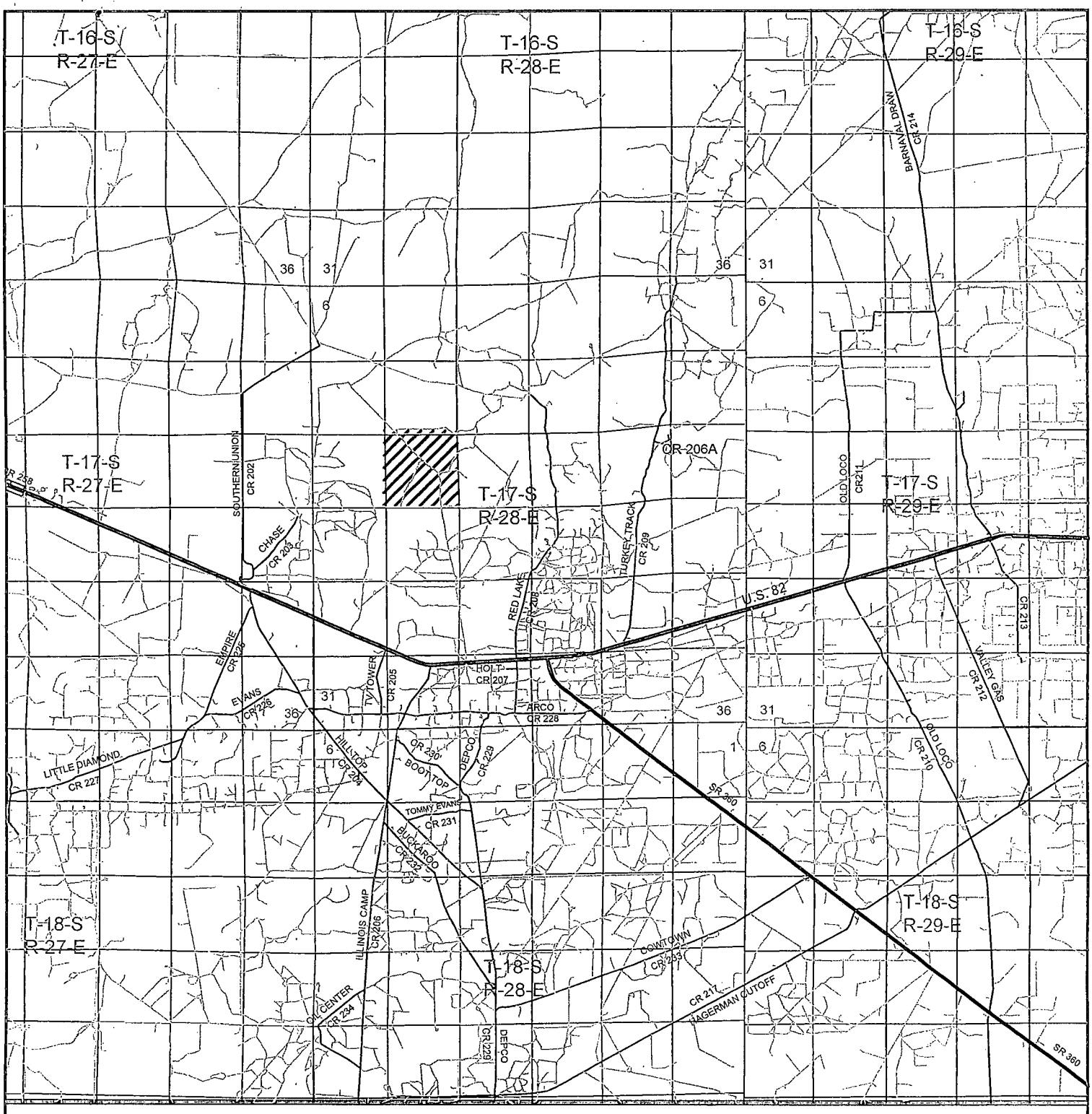
JUNE 03, 2014
Date Surveyed

Signature & Seal of Professional Surveyor

NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR BASIN SURVEYS

Certificate No. Gary L. Jones 7977

0' 500' 1000' 1500' 2000'
SCALE: 1" = 1000'
WO Num.: 30536



HASTIE AXH FEDERAL #2H
Located 540' FSL and 230' FEL
Section 17, Township 17 South, Range 28 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

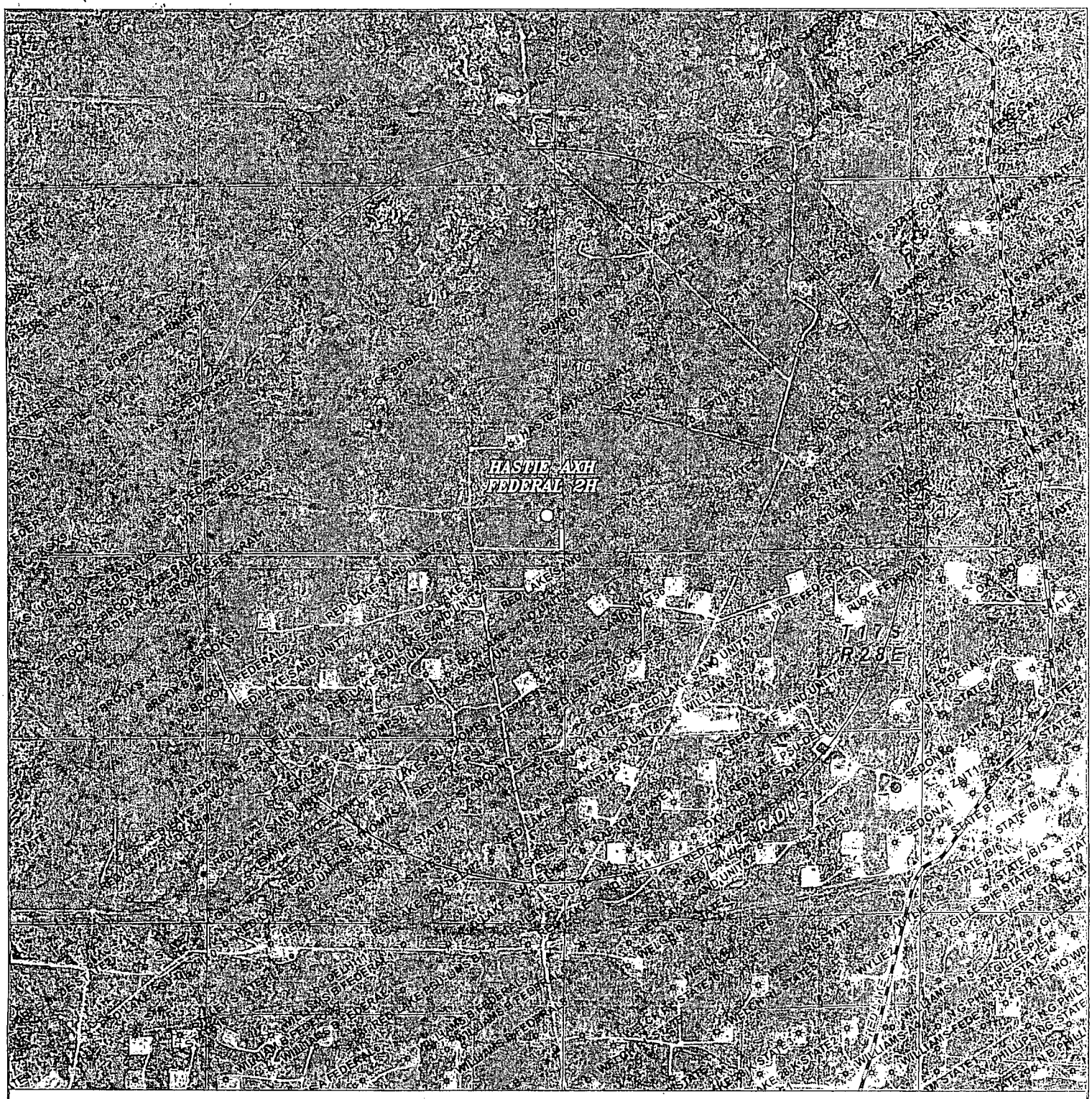
W.O. Number: KAN 30536

Survey Date: 06-03-2014

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

N

YATES PETROLEUM CORPORATION



HASTIE AXH FEDERAL #2H
Located 540' FSL and 230' FEL
Section 17, Township 17 South, Range 28 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' 1000' 2000' 3000' 4000'
SCALE: 1" = 2000'

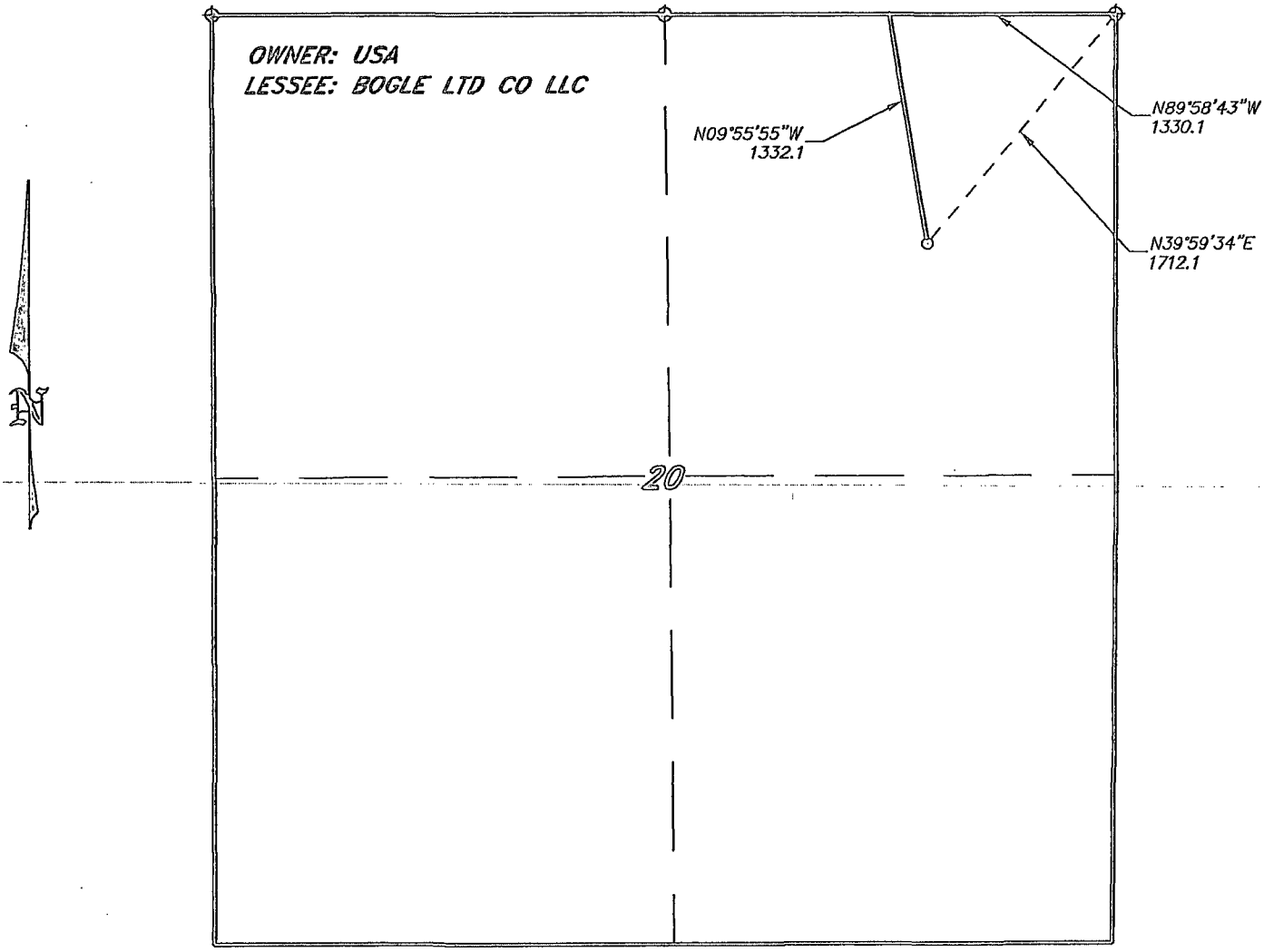
W.O. Number: KAN 30536

Survey Date: 06-03-2014

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

GATES PETROLEUM CORPORATION

SECTION 20, TOWNSHIP 17 SOUTH, RANGE 28 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



LEGAL DESCRIPTION

A STRIP OF LAND 14.0 FEET WIDE, LOCATED IN SECTION 20, TOWNSHIP 17 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 7.0 FEET LEFT AND RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

SECTION 20 = 1332.1 FEET = 80.73 RODS = 0.25 MILES = 0.43 ACRES

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

GARY L. JONES N.M.P.S. No. 7977
TEXAS REGISTERED PROFESSIONAL LAND SURVEYOR No. 5074

1000 0 1000 2000 FEET

YATES PETROLEUM CORPORATION

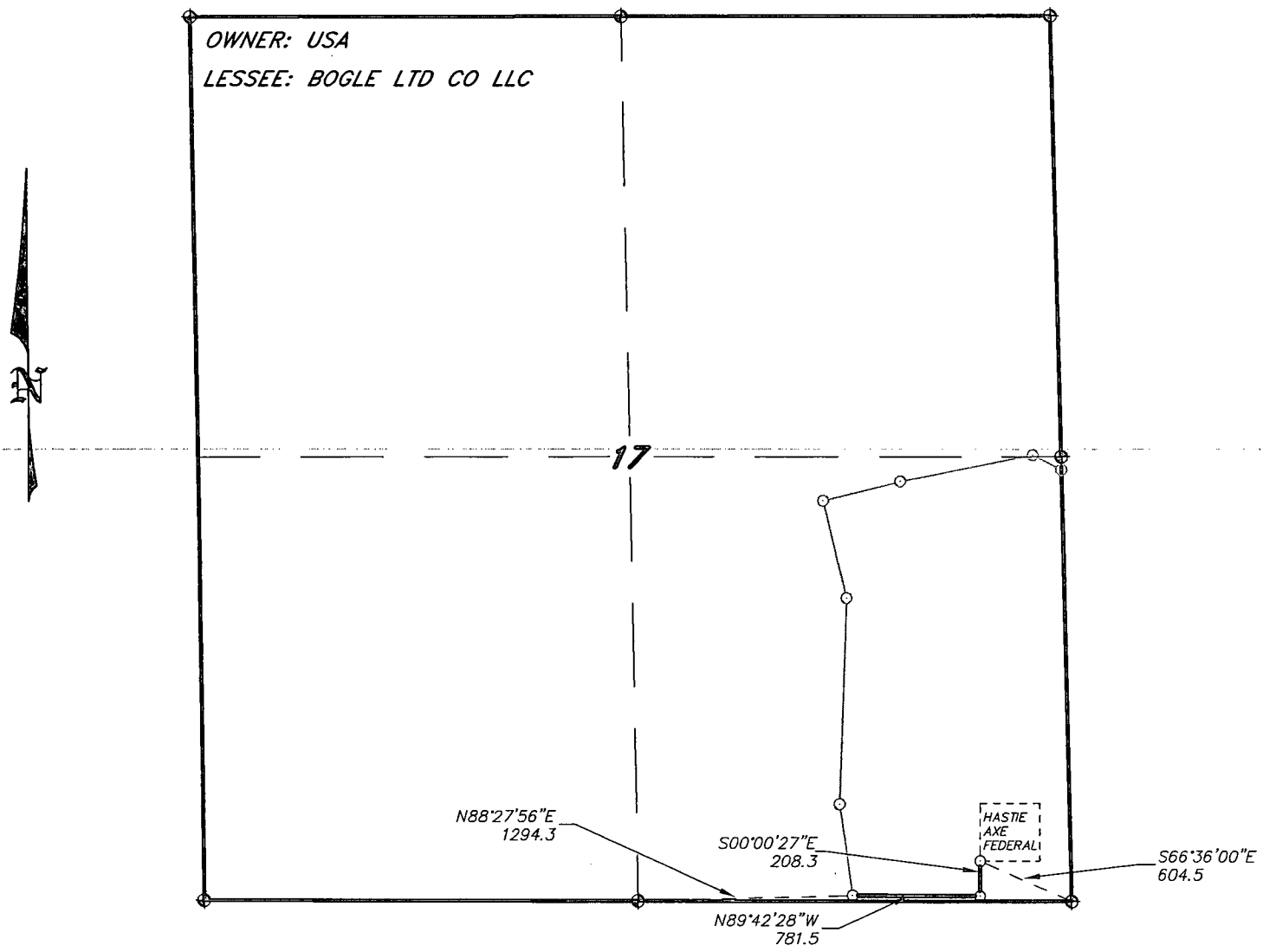
REF : PROPOSED LEASE ROAD TO Hastie AXH Federal #2H

PROPOSED LEASE ROAD CROSSING USA LAND IN
SECTION 20, TOWNSHIP 17 SOUTH, RANGE 28 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Basin Surveys
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: 29337 | Drawn By: K. NORRIS | Date: 09-23-2013 | Survey Date: 09-06-2013 | Sheet 1 of 2 Sheets

SECTION 17, TOWNSHIP 17 SOUTH, RANGE 28 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



LEGAL DESCRIPTION

A STRIP OF LAND 14.0 FEET WIDE, LOCATED IN SECTION 17, TOWNSHIP 17 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 7.0 FEET LEFT AND RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

SECTION 33 = 989.8 FEET = 59.99 RODS = 0.19 MILES = 0.32 ACRES

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

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

1000 0 1000 2000 FEET

YATES PETROLEUM CORPORATION

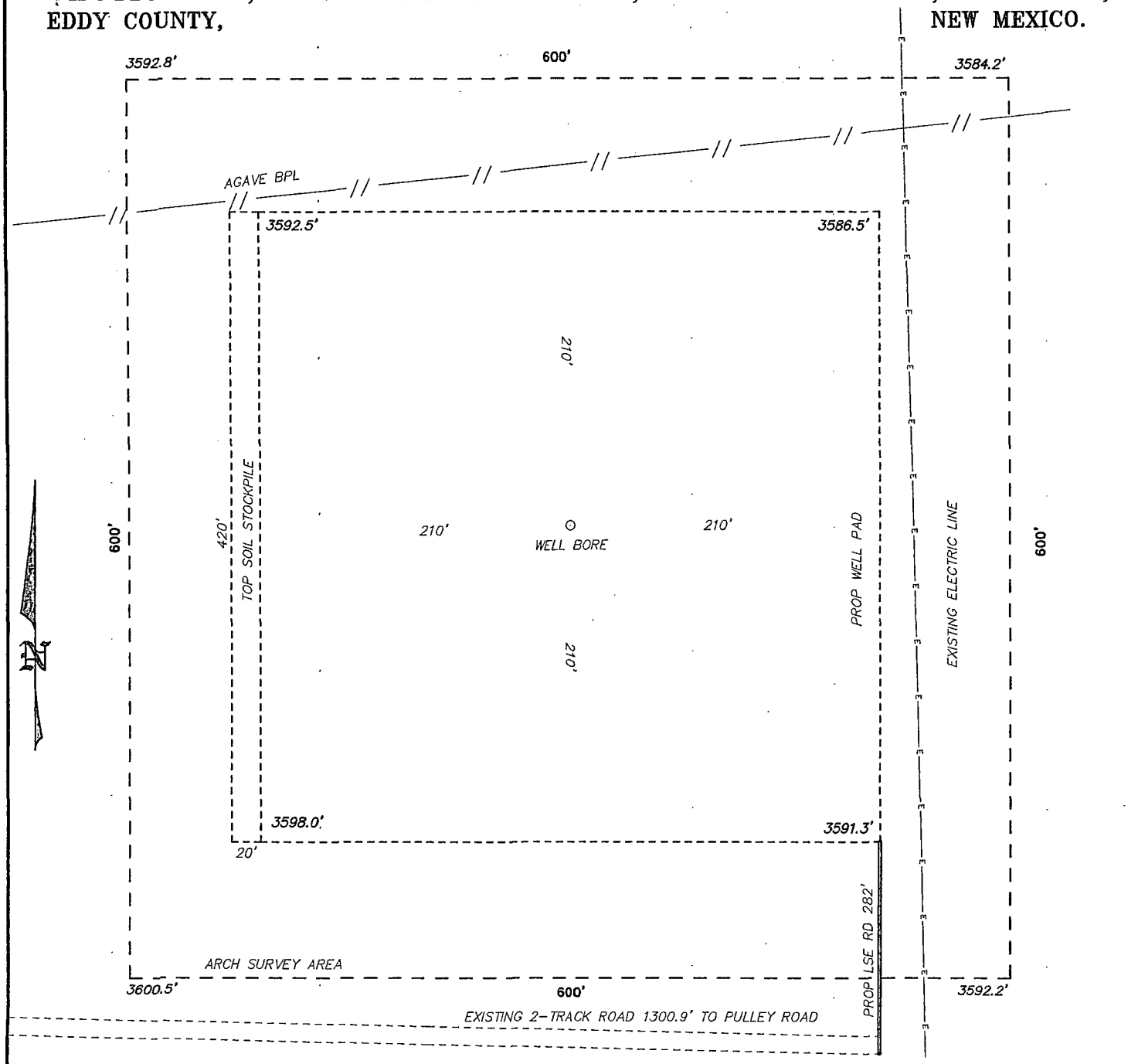
REF: PROPOSED LEASE ROAD TO HASTIE AXE FEDERAL #2H

PROPOSED LEASE ROAD CROSSING USA LAND IN SECTION 17, TOWNSHIP 17 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

basin
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: 29337	Drawn By: K. NORRIS	Date: 09-23-2013	Survey Date: 09-06-2013	Sheet 1 of 1 Sheets

SECTION 17, TOWNSHIP 17 SOUTH, RANGE 28 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



100 0 100 200 FEET

SCALE: 1" = 100'

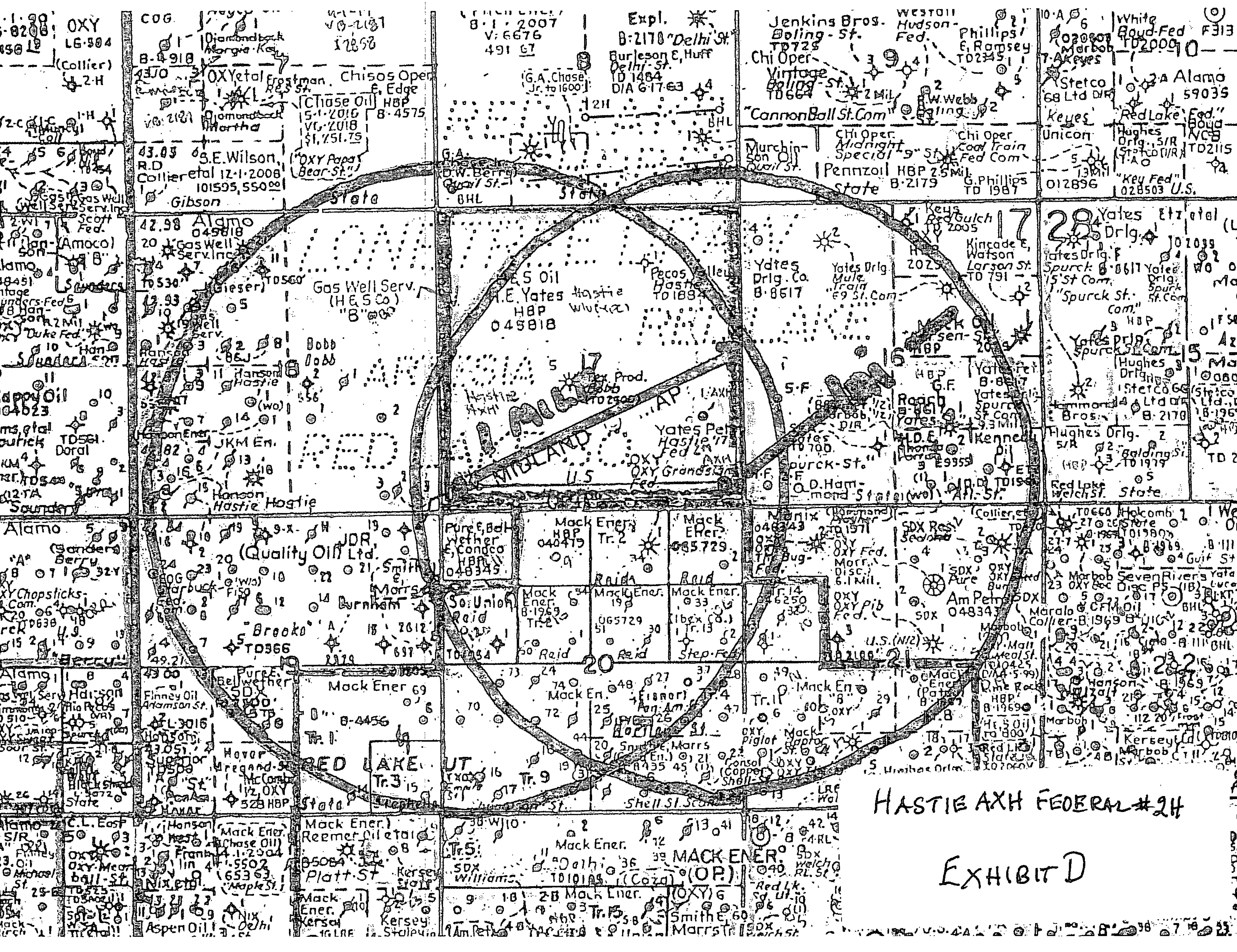
YATES PETROLEUM CORPORATION

REF: HASTIE AXH FEDERAL #2H / WELL PAD TOPO

THE HASTIE AXH FEDERAL #2H LOCATED 540' FROM THE SOUTH LINE AND 230' FROM THE EAST LINE OF SECTION 17, TOWNSHIP 17 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

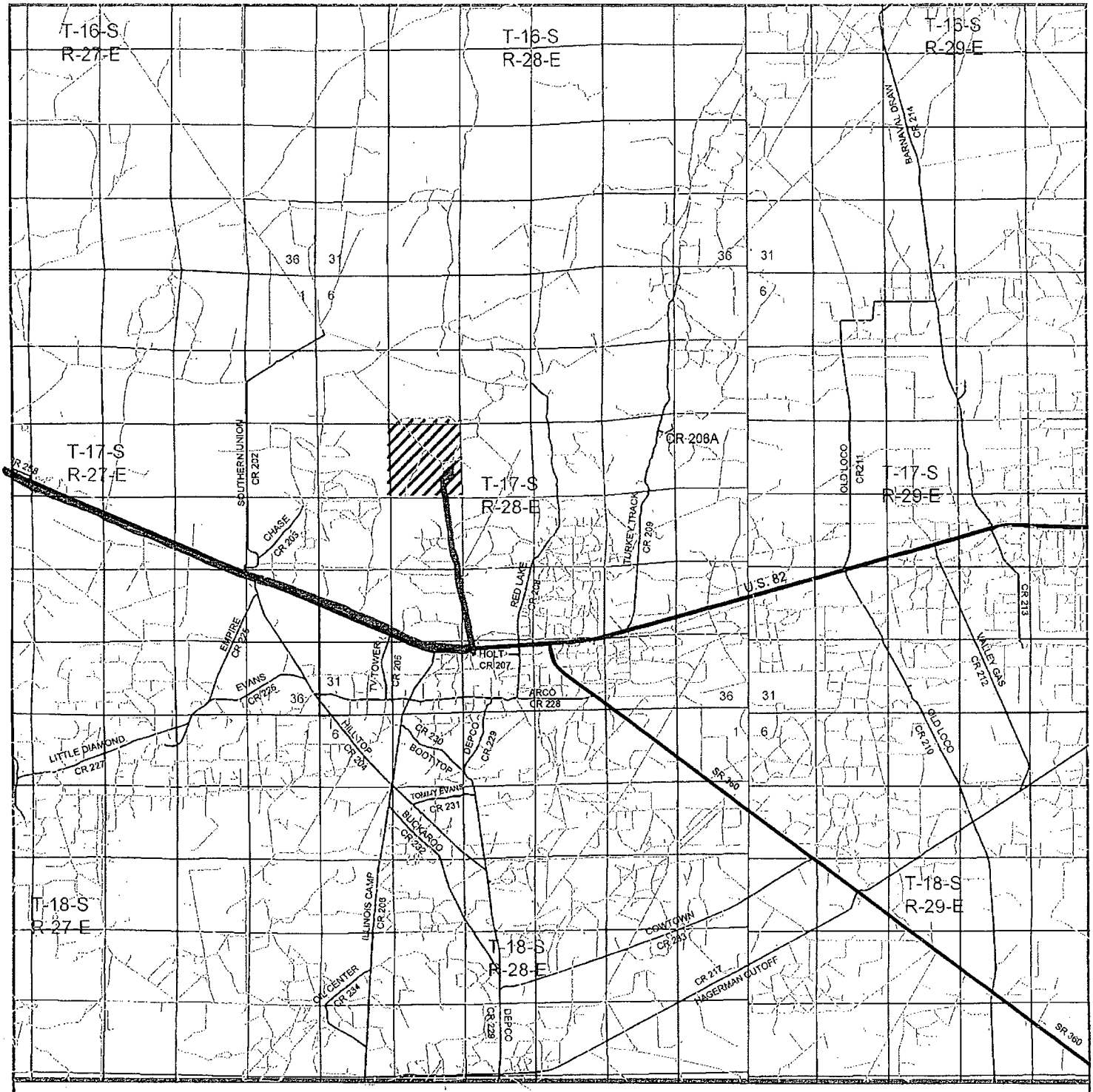
Basin Surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: 30536	Drawn By: K. NORRIS	Date: 06-04-2014	Survey Date: 06-03-2014	Sheet 1 of 1 Sheets



HASTIE AXH FEDERAL #2H

EXHIBIT D



HASTIE AXH FEDERAL #2H
Located 400' FSL and 330' FEL
Section 17, Township 17 South, Range 28 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:	DAJ 28272
Survey Date:	03-16-2013
Scale:	1" = 2 Miles
Date:	03-19-2013

N

YATES PETROLEUM CORP.

YATES PETROLEUM CORPORATION
Hastie "AXH" Federal #2H
540 FSL &230 FEL, Surface Hole
400'FSL & 230' FWL, Bottom Hole
Section 17 –T17S-R28E
Eddy County, New Mexico

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

Tansil	280'	Kick-0ff Point	3062'	
Yates	400'	Glorieta	3330'	3347' MD
Seven Rivers	1110'	Yeso	3500'--Oil	3616' MD
Queen	1150'	Yeso Target	3550'--Oil	3822' MD
Grayburg	1580'	Pilot Hole TD	4000'	
San Andres	1930'	Lateral TD	3450'	8130' MD

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

Water: Approximately 100'
Oil or Gas: See above--All Potential Zones

See COA

3. Pressure Control Equipment: 3000 PSI BOPE with a 13.625" opening will be installed on the 9 5/8" and the 5 1/2" casing. Test will be conducted by an independent tester, utilizing a test plug in the well head. BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes on each segment of the system tested if test is done with a test plug and 30 minutes without a test plug. Blind rams and pipe rams will be tested to the rated pressure of the BOP. Any leaks will be repaired at the time of the test. Annular preventers will be tested to 50% of rated pressure. Accumulator system will be inspected for correct pre charge pressures, and proper functionality, prior to connection to the BOP system. Tests will be conducted before drilling out from under all casing strings, which are set and cemented in place. Blowout Preventer controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. See Exhibit B.

Low press. test 1st

Accumulator system will be inspected for correct pre charge pressures, and proper functionality. Prior to connection to the BOP system.

Auxiliary Equipment:

4. 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.

THE PROPOSED CASING AND CEMENTING PROGRAM:

A. Casing Program: (Casing All New)

HOLE SIZE	CASING SIZE	WT/FT	GRADE	COUPLING	INTERVAL	LENGTH
14 3/4"	9 5/8"	36#	J-55	LT&C	0'-500'	500'
7 7/8"	5 1/2"	17#	L-80	Buttress	0'-8130'	8130'

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

See COA

Pilot hole will be drilled to 4000'. Well will then be plugged back with a 200' isolation plug from 3800' to 3062' with 84 sacks Class H with D909 Cement 94lb/sack Lbs/Sack; Weighting Agent; D031 Lbs/Barrel, Spacer (Wt. 14.8 Yld. 1.34 Wtr 6.20). Cement designed with 10% excess and a 600' kickoff plug 2750' to 3350' with 360 sacks of Class H Neat with D080-0.1 Gal/Sack, Dispersant; D177-0.03 Gal/Sack, Retarder; D206-0.02 Gal/Sack, Antifoam (Wt. 0.94 Yld. 17.5 Wtr 3.466 gal/sack). Cement designed with 35% excess. The well will then be kicked off at approximately 3062' and directionally drilled at 12 degrees per 100' with a 7 7/8" hole to EOC at 3822' MD (3540' TVD). Hole size will remain the same to 7 7/8" as we continue to TD at 8130' MD

(3450' TVD) where 5 1/2"casing will be set and cemented to surface. Deepest TVD in the well is 4000' in the pilot hole. The last 100 will not be produced. It will consist of the float shoe and float collar. Our last perf will not cross the 330' hardline. Penetration point of producing zone will be encountered at 526' FSL & 717' FEL, 17-17S-28E. Deepest TVD in the well is 4000' in the pilot hole. Deepest TVD in the lateral is 3540.

B. CEMENTING PROGRAM:

Surface casing from 0' to 500'. Lead with 205 sacks 35:65:6PzC (Wt. 12.5 Yld. 2.00 Wtr 11 gal/sack). Tail in with 205 sacks 35/50 PozC (Wt. 14.20 Yld. 1.34 Wtr 6.20 gal/sack). Cement designed with 100% excess. TOC-surface.

See COA

Production Casing will be cemented to surface: Lead with 350 sacks of 35:65:6PzC (Wt. 12.5 Yld. 2.00 Wtr 11 gal/sack. Tail in with 660 sacks of Pecos Valley Lite with D112 fluid loss 0.4%, D151-Calcium Carbonate 22.5 lbs/sack, D174-Extender 2.5 lb/sack, D177-Retarder 0.01 lb/sack, D800-Retarder 0.6 lb/sack, D046-antifoam agent 0.15 lb/sack (Wt 13.00 Yld. 1.82 Wtr 9.3 gal/sack). Cement designed with 35% excess. TOC- surface.

5. Mud Program and Auxiliary Equipment:

INTERVAL	TYPE	WEIGHT	VISCOSITY	FLUID LOSS
0'- 500'	Fresh Water	8.50-8.70	32-34	N/C
500'-4000'	Fresh Water (pilot hole)	8.50-8.70	28-32	N/C
3962'-8130'	Fresh Water (curve & lateral	8.50-8.70	28-32	N/C

Casing Design Factors: Burst 1.0 Tensile 1.8 Collapse 1.125

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: — See COA

Samples: 30 foot samples 1000' to TD.
Logging: CNL/LDT/NGT from curve back to intermediate casing.
CNL/GR from curve back to surface.
DLL-MSFL from curve back to intermediate casing
Coring: None
DST's: None
Mudlogging: Out from under surface casing to TD.

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

Anticipated BHP: Depths are TVD.

From:	0'	TO:	500'	Anticipated Max. BHP:	226 PSI
From	500'	TO	3540'	Anticipated Max. BHP:	1601 PSI
From	1000'	TO	4000'	Anticipated Max. BHP Pilot Hole	1810 PSI

No abnormal pressures or temperatures are anticipated.

Lost Circulation Zones Anticipated: None.

H2S Zones Anticipated: H2S is Possible

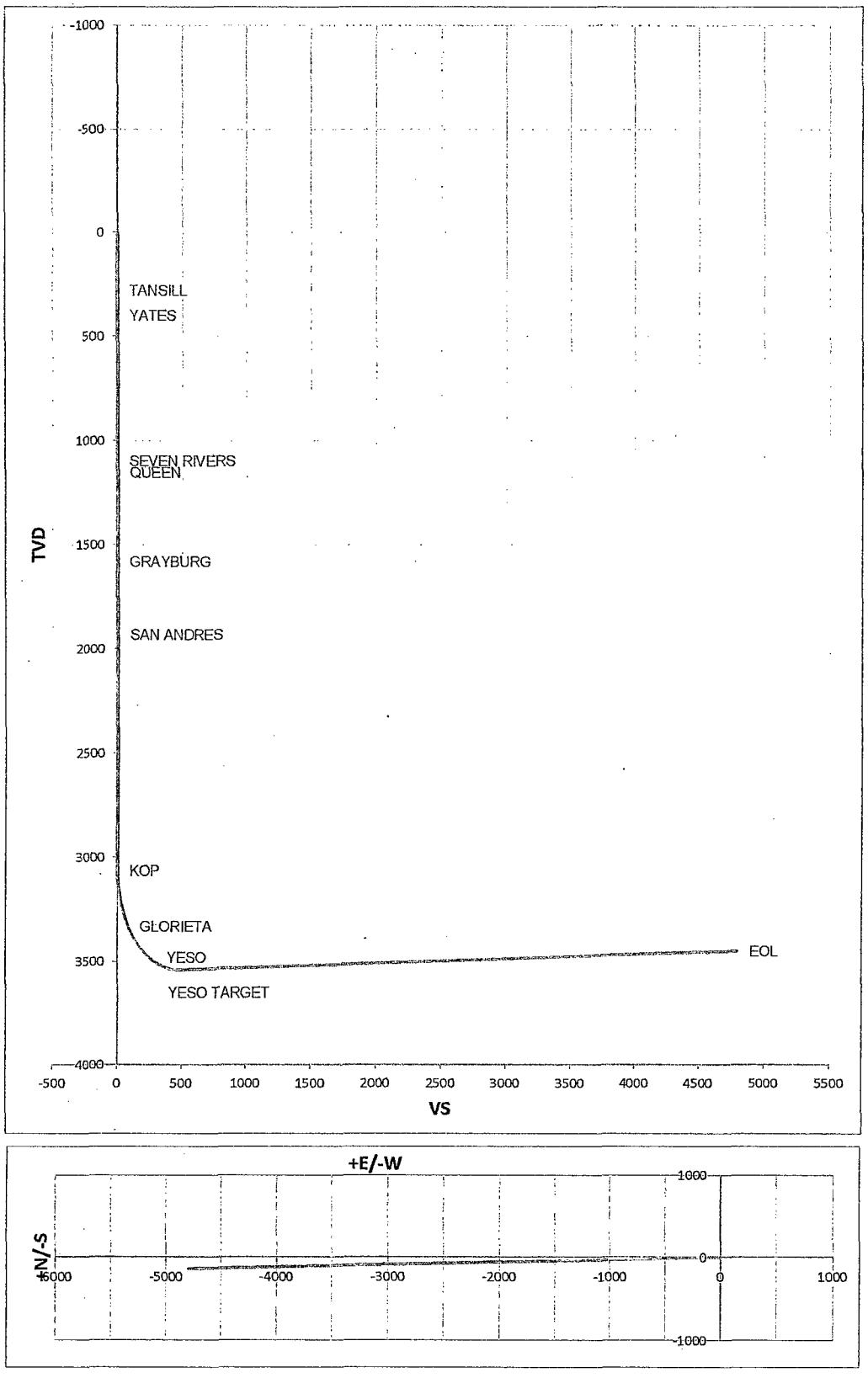
8. ANTICIPATED STARTING DATE:

Plans are to ~~re-enter~~ drill this well as a horizontal well after drilling a lateral 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:	Hastie AXH Federal #2H	**Tgt N/-S:**	-137.30		
		Tgt E/-W:	-4793.10	**EOC TVD/MD:**	3539.83 / 3822.43
Surface Location:	Section 17 , Township 17S Range 28E	**VS:**	4795.07		
Bottom Hole Location:	Section 17 , Township 17S Range 28E	**VS Az:**	268.36	**EOL TVD/MD:**	3450.00 / 8130.08

MD	Inc	Azi	TVD	+N/-S	+E/-W	VS	DLS	Comments
0	0	0	0	0	0	0	0	
280.00	0.00	0.00	280.00	0.00	0.00	0.00	0.00	TANSILL
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	YATES
1110.00	0.00	0.00	1110.00	0.00	0.00	0.00	0.00	SEVEN RIVERS
1150.00	0.00	0.00	1150.00	0.00	0.00	0.00	0.00	QUEEN
1580.00	0.00	0.00	1580.00	0.00	0.00	0.00	0.00	GRAYBURG
1930.00	0.00	0.00	1930.00	0.00	0.00	0.00	0.00	SAN ANDRES
3062.47	0.00	0.00	3062.47	0.00	0.00	0.00	0.00	KOP
3075.00	1.50	268.36	3075.00	0.00	-0.16	0.16	12.00	
3100.00	4.50	268.36	3099.96	-0.04	-1.47	1.47	12.00	
3125.00	7.50	268.36	3124.82	-0.12	-4.09	4.09	12.00	
3150.00	10.50	268.36	3149.51	-0.23	-8.00	8.00	12.00	
3175.00	13.50	268.36	3173.96	-0.38	-13.19	13.20	12.00	
3200.00	16.50	268.36	3198.11	-0.56	-19.66	19.67	12.00	
3225.00	19.50	268.36	3221.88	-0.78	-27.38	27.40	12.00	
3250.00	22.50	268.36	3245.22	-1.04	-36.34	36.35	12.00	
3275.00	25.50	268.36	3268.05	-1.33	-46.50	46.52	12.00	
3300.00	28.50	268.36	3290.32	-1.66	-57.85	57.87	12.00	
3325.00	31.50	268.36	3311.97	-2.02	-70.34	70.37	12.00	
3346.45	34.07	268.36	3330.00	-2.35	-81.95	81.98	12.00	GLORIETA
3350.00	34.50	268.36	3332.93	-2.40	-83.95	83.99	12.00	
3375.00	37.50	268.36	3353.16	-2.83	-98.64	98.68	12.00	
3400.00	40.50	268.36	3372.58	-3.28	-114.37	114.41	12.00	
3425.00	43.50	268.36	3391.16	-3.76	-131.09	131.14	12.00	
3450.00	46.50	268.36	3408.83	-4.26	-148.76	148.82	12.00	
3475.00	49.50	268.36	3425.56	-4.79	-167.33	167.40	12.00	
3500.00	52.50	268.36	3441.29	-5.35	-186.75	186.82	12.00	
3525.00	55.50	268.36	3455.98	-5.93	-206.96	207.05	12.00	
3550.00	58.50	268.36	3469.59	-6.53	-227.92	228.01	12.00	
3575.00	61.50	268.36	3482.09	-7.15	-249.56	249.66	12.00	
3600.00	64.50	268.36	3493.44	-7.79	-271.82	271.93	12.00	
3615.76	66.39	268.36	3500.00	-8.20	-286.13	286.25	12.00	YESO
3625.00	67.50	268.36	3503.60	-8.44	-294.65	294.77	12.00	
3650.00	70.50	268.36	3512.56	-9.11	-317.98	318.11	12.00	
3675.00	73.50	268.36	3520.28	-9.79	-341.74	341.88	12.00	
3700.00	76.50	268.36	3526.75	-10.48	-365.88	366.03	12.00	
3725.00	79.50	268.36	3531.95	-11.18	-390.32	390.48	12.00	
3750.00	82.50	268.36	3535.86	-11.89	-415.00	415.17	12.00	
3775.00	85.50	268.36	3538.47	-12.60	-439.85	440.03	12.00	
3800.00	88.50	268.36	3539.78	-13.31	-464.80	464.99	12.00	
3822.43	91.19	268.36	3539.83	-13.96	-487.22	487.42	12.00	YESO TARGET
8130.08	91.19	268.36	3450.00	-137.30	-4793.10	4795.07	0.00	EOL

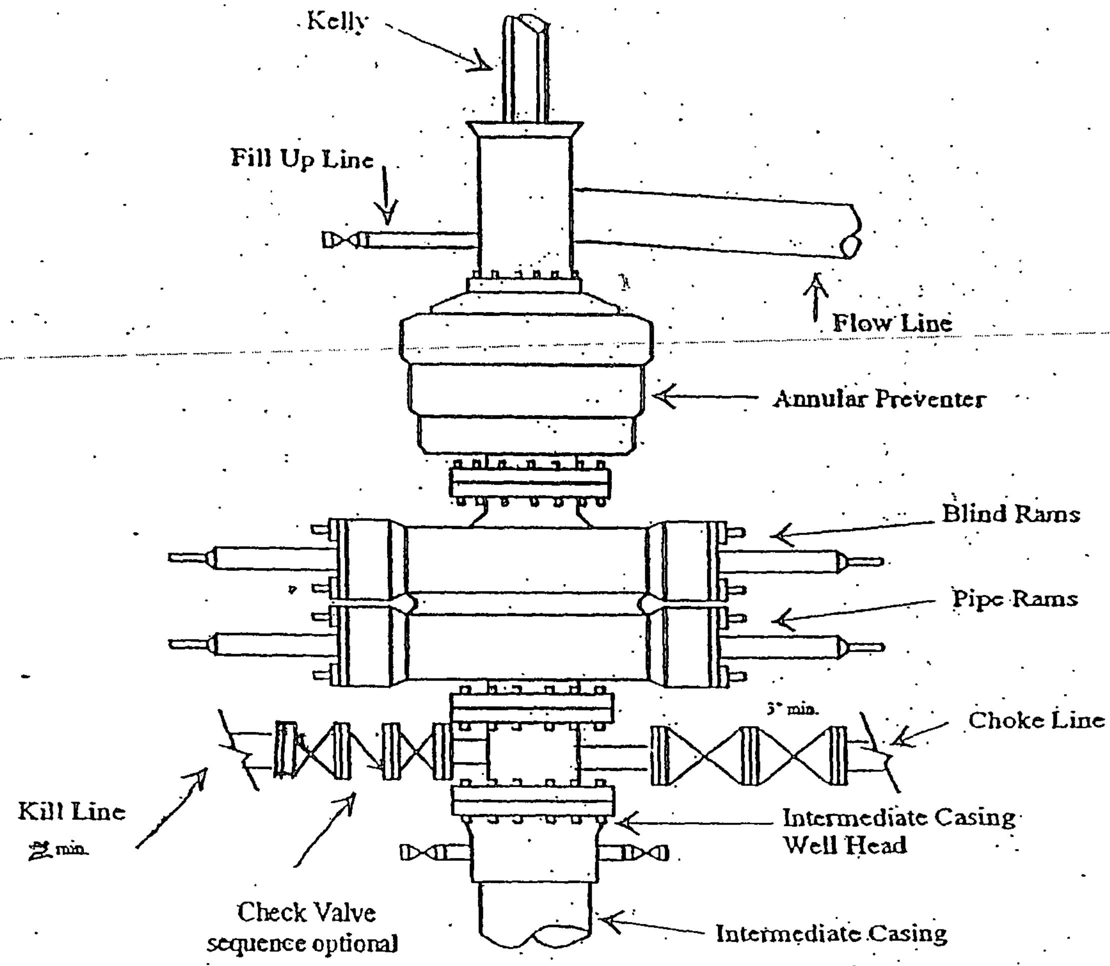
Hastie AXH Federal #2H



BOP-3

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

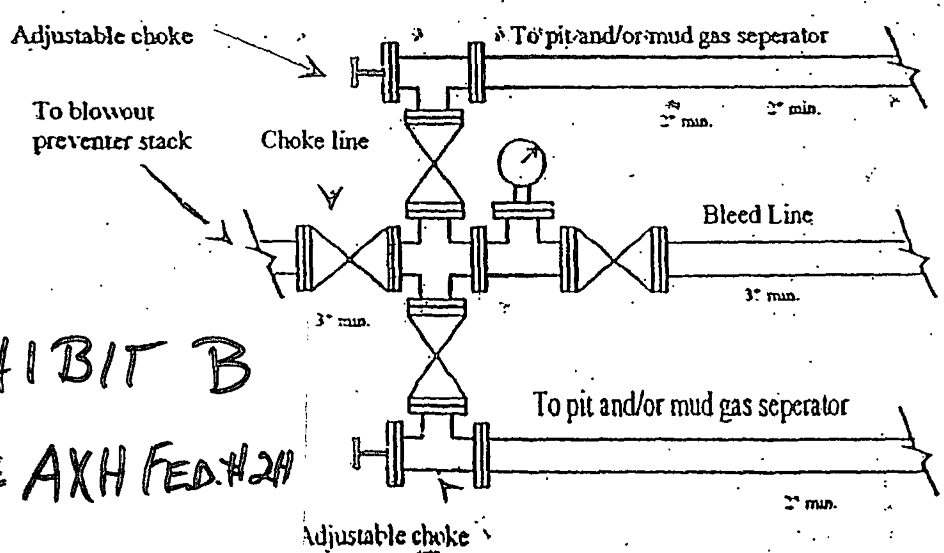
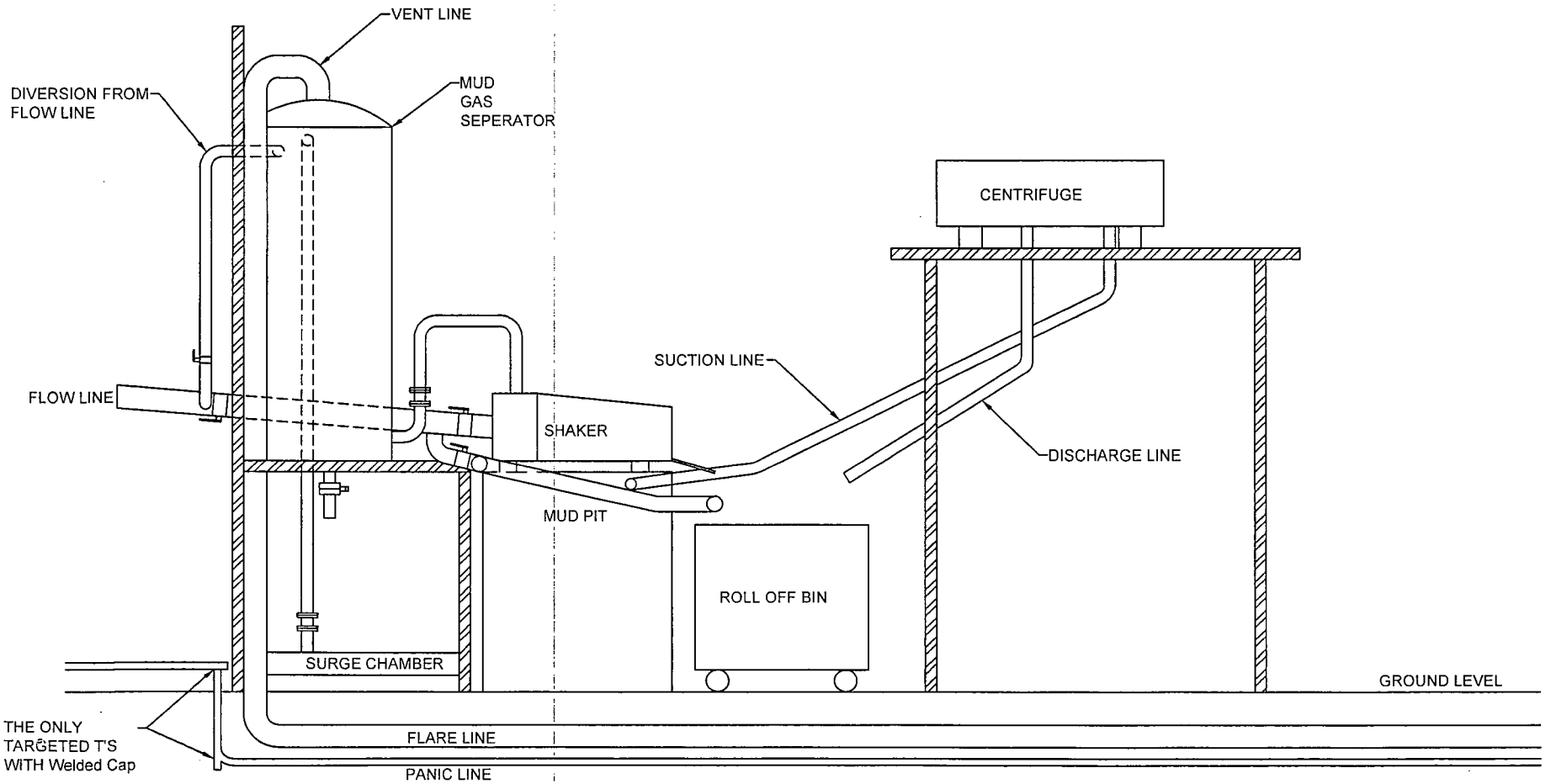


EXHIBIT B

HASTIE AXH FED #2H

YATES PETROLEUM CORPORATION

Piping from Choke Manifold
to the Closed Loop Drilling Mud System



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

Yates Petroleum Corporation
Closed Loop System

Equipment Design Plan

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

Operation Plan

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

Closure Plan

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

YATES PETROLEUM CORPORATION

Hastie AXH Fed 2H

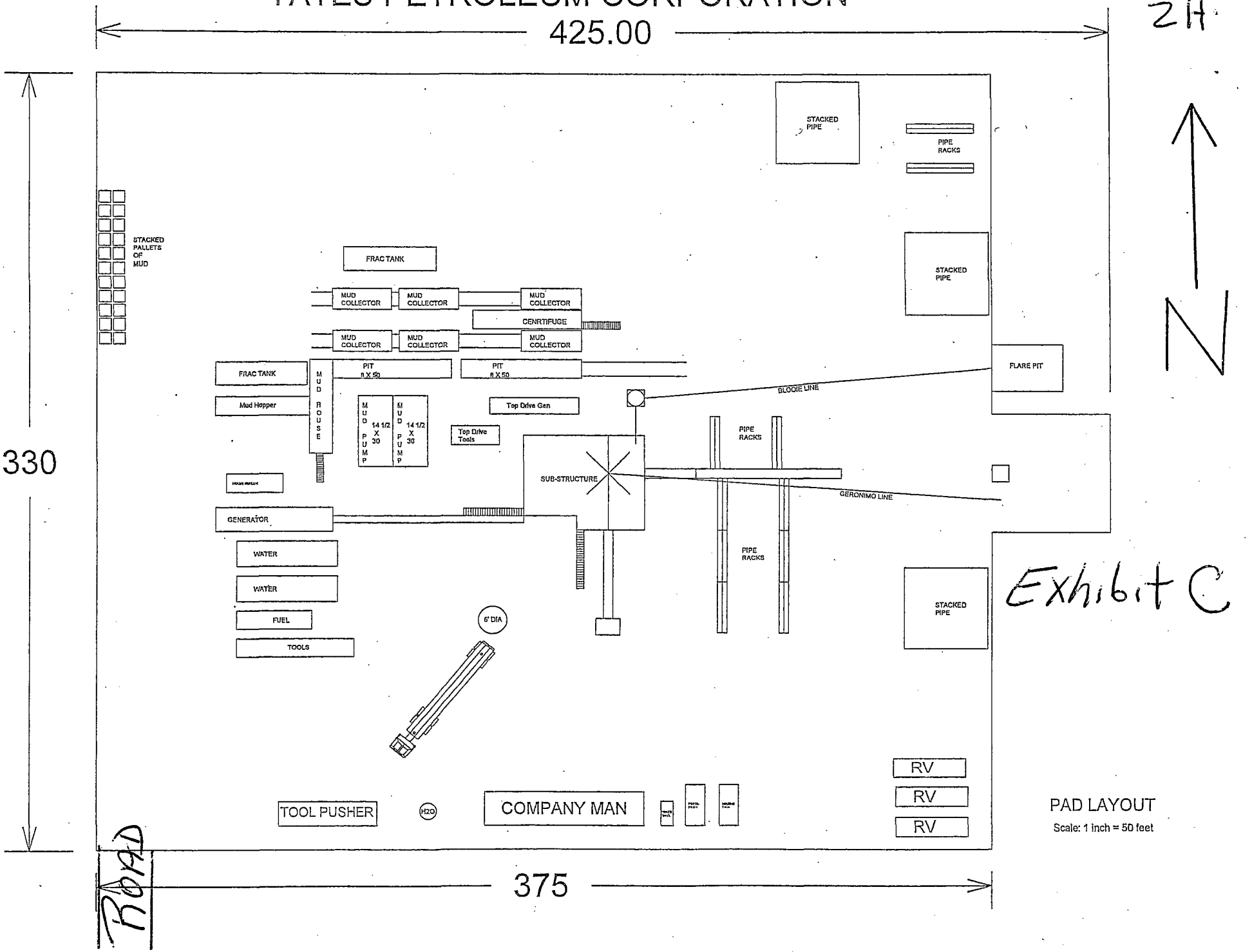


Exhibit C

PAD LAYOUT

Scale: 1 inch = 50 feet

Yates Petroleum Corporation
105 S. Fourth Street
Artesia, NM 88210

Hydrogen Sulfide (H_2S) Contingency Plan

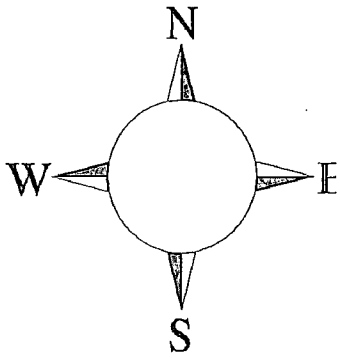
For

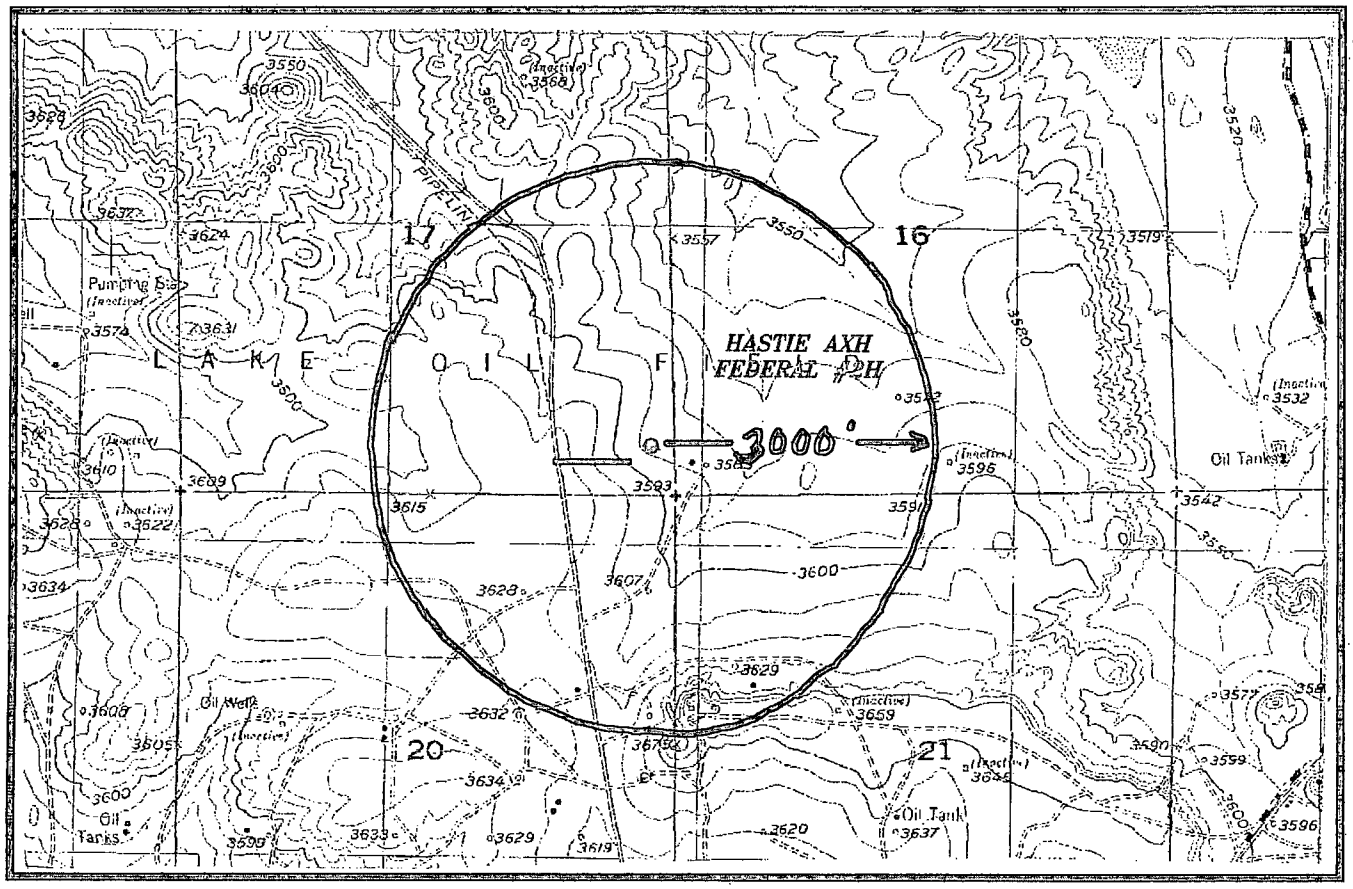
Hastie "AXH" Federal #2-H

400' FSL and 330' FEL Surface Hole Location
4000' FSL and 330' FWL Bottom Hole Location
Section 17, T-17S, R-28E
Eddy County NM

Hastie "AXH" Federal #2-H

This is an open drilling site. H_2S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H_2S, including warning signs, wind indicators and H_2S monitor.





Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

Emergency Procedures

In the case of a release of gas containing H_2S, the first responder(s) must isolate the area and prevent entry by other persons into the 100 ppm ROE. Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

All responders must have training in the detection of H_2S, measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H_2S monitors and air packs in order to control the release. Use the "buddy system' to ensure no injuries during the response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentr-ation
Hydrogen Sulfide	**H_2S**	**1.189 Air = 1**	**10 ppm**	**100 ppm/hr**	**600 ppm**
Sulfur Dioxide	**SO_2**	**2.21 Air = 1**	**2 ppm**	**N/A**	**1000 ppm**

Contacting Authorities

YPC personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. YPC Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

Yates Petroleum Corporation Phone Numbers

YPC Office ..... (575) 748-1471
Jim Brown/Operations Manager ..... (575) 748-4524
LeeRoy Richards/Prod Superintendent ..... (575) 748-4228
Joe Chavez/Assistant Prod Superintendent (575) 748-4212
Bruce Noles/Drilling ..... (575) 748-4224
Paul Hanes/Prod. Foreman/Roswell ..... (575) 624-2805
Tim Bussell/Drilling Superintendent ..... (575) 748-4221
Artesia Answering Service ..... (575) 748-4302
(During non-office hours)

Agency Call List

Eddy County (575)

Artesia

State Police 746-2703
City Police 746-2703
Sheriff's Office 746-9888
Ambulance 911
Fire Department 746-2701
LEPC (Local Emergency Planning Committee) 746-2122
NMOCD 748-1283

Carlsbad

State Police 885-3137
City Police 885-2111
Sheriff's Office 887-7551
Ambulance 911
Fire Department 885-2111
LEPC (Local Emergency Planning Committee) 887-3798
US Bureau of Land Management 887-6544
New Mexico Emergency Response Commission (Santa Fe) (505)476-9600
24 HR ..... (505) 827-9126
New Mexico State Emergency Operations Center ..... (505) 476-9635
National Emergency Response Center (Washington, DC) ...(800) 424-8802

Other

Boots & Coots IWC .....1-800-256-9688 or (281) 931-8884
Cudd Pressure Control.....(915) 699-0139 or (915) 563-3356
Halliburton .....(575) 746-2757
B. J. Services.....(575) 746-35
Flight For Life -4000 24th St, Lubbock, TX .....(806) 743-9911Aerocare -Rr 3
Box 49f , Lubbock, TX .....(806) 747-8923
Med Flight Air Amb 2301 Yale Blvd SE #D3, Albuq, NM .....(505) 842-4433
S B Air Med Svc 2505 Clark Carr Loop SE, Albuq, NM .....(505) 842-4949

Yates Petroleum Corporation

Hastie AXH Federal #2-H

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H2S).
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H2S on metal components. If high tensile tubular are to be used, personnel well be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H2S Drilling Operations Plan and H2S Contingency Plan.

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operation Plan and the H2S Contingency Plan. **The location of this well does not require a Public Protection Plan.**

II. H2S SAFETY EQUIPMENT AND SYSTEMS

NOTE: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H2S.

1. Well Control Equipment:

A. Flare line

B. Choke manifold will have a remotely operated adjustable choke system.

C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit

D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

2. Protective equipment for essential personnel:

A. Mark II Survive Air (or equivalent) 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. H2S detection and monitoring equipment:

A. 3 portable H2S monitors positioned at: Shale Shaker, Bell Nipple, and Rig Floor. These units have warning lights and audible sirens when H2S levels of 10 PPM are reached.

4. Visual warning systems:

A. Wind direction indicators as shown on well site diagram (attached).

B. Caution/Danger signs (attached) shall be posted on roads providing direct access to location. Signs will be painted with high visibility yellow with black lettering of a sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. Mud program:

A. The mud program has been designed to minimize the volume of H2S circulated to the surface. Proper mud weight, safe drilling practices and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

6. Metallurgy:

A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

B. All elastomers used for packing and seals shall be H2S trim.

7. Communication:

A. Cellular communications in company vehicles.

B. Land line (telephone) communication at the Office.

8. Well testing:

A. There will be no drill stem testing.

EXHIBIT

DANGER

POISONS GAS

HYDROGEN SULFIDE

NORMAL OPERATIONS
(GREEN)

CAUTION POTENTIAL DANGER
(YELLOW)

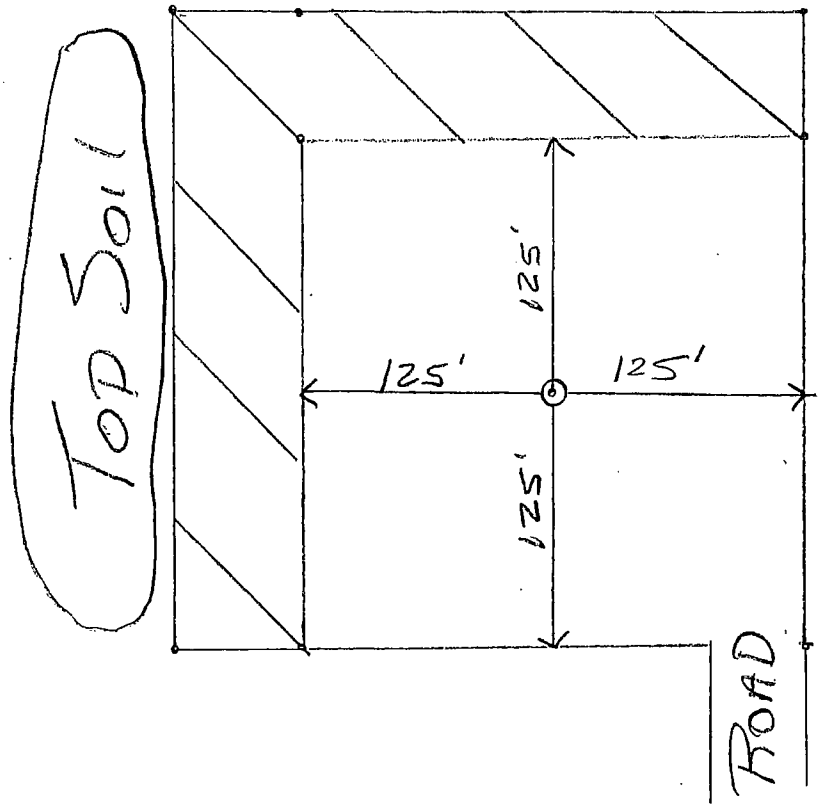
DANGER POISONS GAS ENCOUNTERED
(RED) AUTHORIZED PERSONAL ONLY.
LOCATION SECURED.
1-575-746-1096
1-877-879-8899

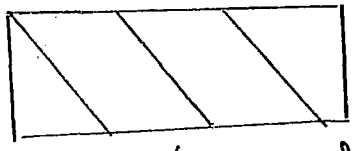
EDDY COUNTY EMERGENCY NUMBERS
ARTESIA FIRE DEPT. 575-746-5050
ARTESIA POLICE DEPT. 575-746-5000
EDDY CO. SHERIFF DEPT. 575-746-9888

LEA COUNTY EMERGENCY NUMBERS
HOBBS FIRE DEPT. 575-397-9308
HOBBS POLICE DEPT. 575-397-9285
LEA CO. SHERIFF DEPT. 575-396-1196

HASTE AXH
FEDERAL #2H

RECLAMATION PLAT





RECLAIMED AREA

MULTI-POINT SURFACE USE AND OPERATIONS PLAN
Yates Petroleum Corporation
Hastie AXH Federal #2H
400' FSL and 330' FEL Surface Hole Location
400' FNL and 330' FWL Bottom Hole Location
Section 17, T-17S-R28E
Eddy County, New Mexico

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

1. EXISTING ROADS:

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

DIRECTIONS:

Go east of Artesia on Highway 82 for approximately 13 miles. Approximately at this point there will be a cattleguard on the left side of Highway 82. Turn left here crossing the cattleguard and go approximately 1 mile to a fork in the lease road. Take the left fork in the road and go 1 mile. The new access road will start going to the right following an old lease road that goes along a powerline for approximately 800 feet. The road will then turn left and go approximately 300 feet to the southwest corner of the proposed well location.

2. PLANNED ACCESS ROAD.

A. The proposed new access will go southwest for approximately .2 of a mile to the southwest corner of the proposed well location. The road will lie in a west to east direction.
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 well site.
B. Exhibit D shows existing wells within a one-mile radius of the proposed well site.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES
A. There are production facilities on this lease at the present time
B. In the event that the well is productive, the necessary production facilities will be constructed on this well location. 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.

MULTI-POINT SURFACE USE AND OPERATIONS PLAN
Yates Petroleum Corporation
Hastie AXH Federal #2H
400' FSL and 330' FEL Surface Hole Location
400' FNL and 330' FWL Bottom Hole Location
Section 17, T-17S-R28E
Eddy County, New Mexico

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

1. EXISTING ROADS:

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

DIRECTIONS:

Go east of Artesia on Highway 82 for approximately 13 miles. Approximately at this point there will be a cattleguard on the left side of Highway 82. Turn left here crossing the cattleguard and go approximately 1 mile to a fork in the lease road. Take the left fork in the road and go 1 mile. The new access road will start going to the right following an old lease road that goes along a powerline for approximately 800 feet. The road will then turn left and go approximately 300 feet to the southwest corner of the proposed well location.

2. PLANNED ACCESS ROAD.

A. The proposed new access will go southwest for approximately .2 of a mile to the southwest corner of the proposed well location. The road will lie in a west to east direction.
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 well site.
B. Exhibit D shows existing wells within a one-mile radius of the proposed well site.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES
A. There are production facilities on this lease at the present time
B. In the event that the well is productive, the necessary production facilities will be constructed on this well location. 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 Exhibit A.

6. SOURCE OF CONSTRUCTION MATERIALS:

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

7. METHODS OF HANDLING WASTE DISPOSAL:

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

8. ANCILLARY FACILITIES: None.

9. WELLSITE LAYOUT:

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

10. PLANS FOR RESTORATION:

A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the 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.

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

11. SURFACE OWNERSHIP:
Federal Lands under the supervision of the Carlsbad BLM. .

12. OTHER INFORMATION:

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

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

11. SURFACE OWNERSHIP:

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

Mineral Estate: Federal Lease NM-27276
Bureau of Land Management
620 East Greene Street, Carlsbad, NM 88220

12. OTHER INFORMATION:

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

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Yates Petroleum**
LEASE NO.:	**NMLC-045818B**
WELL NAME & NO.:	**Hastie AXH Federal 2H**
SURFACE HOLE FOOTAGE:	**0540' FSL & 0230' FEL**
BOTTOM HOLE FOOTAGE	**0400' FSL & 0230' FWL**
LOCATION:	**Section 17, T. 17 S., R 28 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)

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

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

Cave and 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 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.

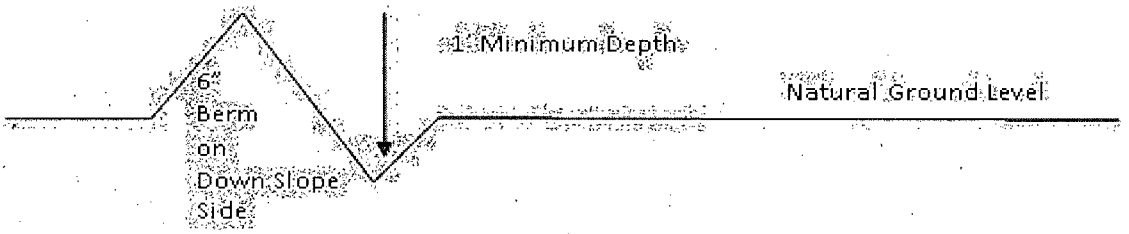
Ditching
Ditching shall be required on both sides of the road.

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:

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

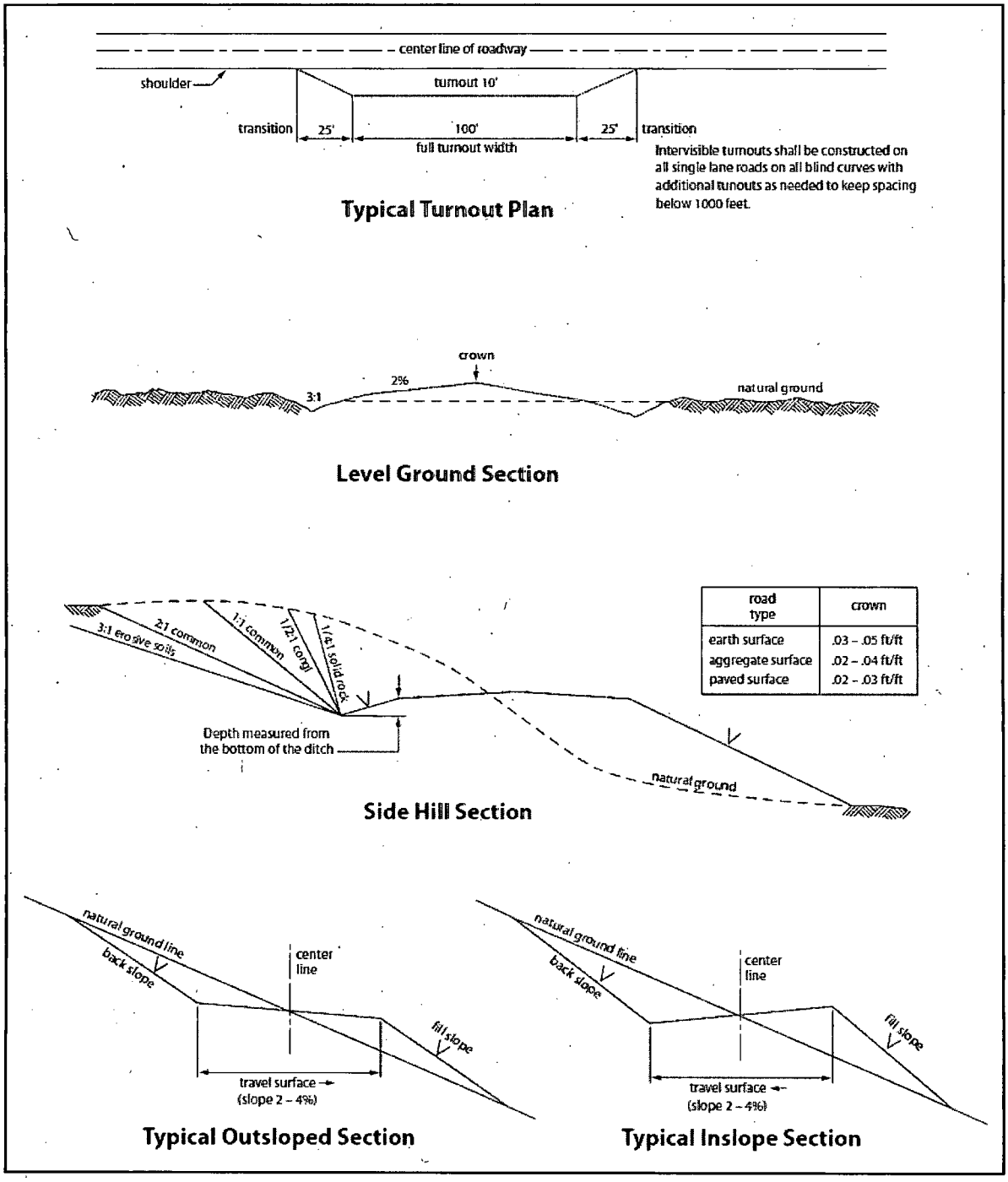


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

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

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

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

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

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

B. CASING

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

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

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

Wait on cement (WOC) for 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.

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

Possible water flows in the Artesia Group.
Possible lost circulation in the Artesia Group, Grayburg, and San Andres.

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

ON TWO STRING DESIGN WHERE THE SURACE CASING HAD A SUCCESSFUL CEMENT JOB; IF LOST CIRCULATION (TOTAL LOSS) OCCURS WHILE DRILLING THE PRODUCTION (7-7/8") HOLE, THE CEMENT PROGRAM FOR THE PRODUCTION (5-1/2") CASING WILL NEED TO BE MODIFIED AND THE BLM IS TO BE CONTACTED PRIOR TO RUNNING THE CASING. A DV TOOL WILL BE REQUIRED.

1. The **9-5/8** inch surface casing shall be set at approximately **500** feet and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run

to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

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

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

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

Pilot hole is required to have a plug at the bottom of the hole. If two plugs are set, the BLM is to be contacted (575-393-3612) prior to tag of bottom plug, which must be a minimum of 200' in length. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug.

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

   ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Additional cement shall be required as excess calculates to 0%.**

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

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

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

3. 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 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.

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.

JAM 010714/EGF 021715

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

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

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

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

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

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

B. PIPELINES (not applied for in APD)

C. ELECTRIC LINES (not applied for in APD)

IX. INTERIM RECLAMATION

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

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

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

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

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

X. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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

Seed Mixture 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