

Form 3160-3
(June 2015)

ARTESIA DISTRICT

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

UNITED STATES

JUL 25 2016

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED

5. Lease Serial No.

NM-81929, NM-89129

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

Gazelle AHG Federal Com #4H

9. API Well No.

30-015-43866

10. Field and Pool, or Exploratory
Undesignated; Bone Spring 27470

11. Sec., T. R. M. or Blk. and Survey or Area

Sec. 21 SHL Sec. 22 BHL T20S-R29E

12. County or Parish
Eddy County13. State
NM1a. Type of work: ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other1c. Type of Completion: ☒ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

2. Name of Operator

Yates Petroleum Corporation

3a. Address

105 E. Castleberry, Artesia, NM 88210

3b. Phone No. (include area code)

575-748-4120

4. Location of Well (Report location clearly and in accordance with any State requirements. *)

At surface 1242' FSL & 30' FEL, Unit Letter P, Section 21

At proposed prod. zone 660' FSL & 330' FEL, Unit Letter P, Section 22

14. Distance in miles and direction from nearest town or post office*

15 miles East of Carlsbad

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

30'

16. No of acres in lease

1160.01 acres

17. Spacing Unit dedicated to this well

S2S2, 160 acres

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

4000'

19. Proposed Depth

TVD-8271', MD-13036'

20. BLM/BIA Bond No. in file

NMB 000434, NMB 000920

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

3278' GL

22. Approximate date work will start*

23. Estimated duration

30 days

24. Attachments

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

1. Well plat certified by a registered surveyor.

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 requested by the BLM.

25. Signature

Name (Printed/Typed)

Travis Hahn

Date

12/22/15

Title

Land Regulatory Agent

Approved by (Signature) /Cody Layton

Name (Printed/Typed)

JUL 15 2016

Title

Land Regulatory Agent 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.

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-8161 Fax: (575) 393-0720

DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (505) 748-1263 Fax: (505) 748-8720

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

NM OIL CONSERVATION Form C-102
ARTESIA DISTRICT Revised August 1, 2011

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

Submit one copy to appropriate District Office

RECEIVED

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-43866	Pool Code 27470	Pool Name GETTY Undesignated; Bone Springs
Property Code 12303	Property Name GAZELLE AHG FEDERAL COM	Well Number 4H
OGRID No. 025575	Operator Name YATES PETROLEUM CORPORATION	Elevation 3278

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/SOUTH LINE	Feet from the	East/EAST LINE	County
P	21	20 S	29 E		1242	SOUTH	30	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/EAST LINE	County
P	22	20 S	29 E		660	SOUTH	330	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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

SURFACE LOCATION
Lat - N 32°33'18.37"
Long - W 104°04'17.61"
NMSPC- N 565776.3
E 621991.8
(NAD-83)

PROPOSED BOTTOM HOLE LOCATION
Lat - N 32°33'12.55"
Long - W 104°03'19.36"
NMSPC- N 565201.6
E 626978.9
(NAD-83)

N: 569798.0
E: 616727.8
(NAD 83)

N: 569809.1
E: 619369.6
(NAD 83)

N: 569819.4
E: 622012.2
(NAD 83)

N: 569823.0
E: 624656.7
(NAD 83)

N: 569827.1
E: 627300.4
(NAD 83)

N: 564515.8
E: 616740.3
(NAD 83)

N: 564534.7
E: 622024.8
(NAD 83)

N: 564542.1
E: 627310.2
(NAD 83)

Production Area

Project Area

Penetration Point:
907' FSL & 465' FWL

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: *Travis Hahn* Date: *9/18/14*

Travis Hahn
Printed Name
thahn@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 supervision, and that the same is true and correct to the best of my belief.

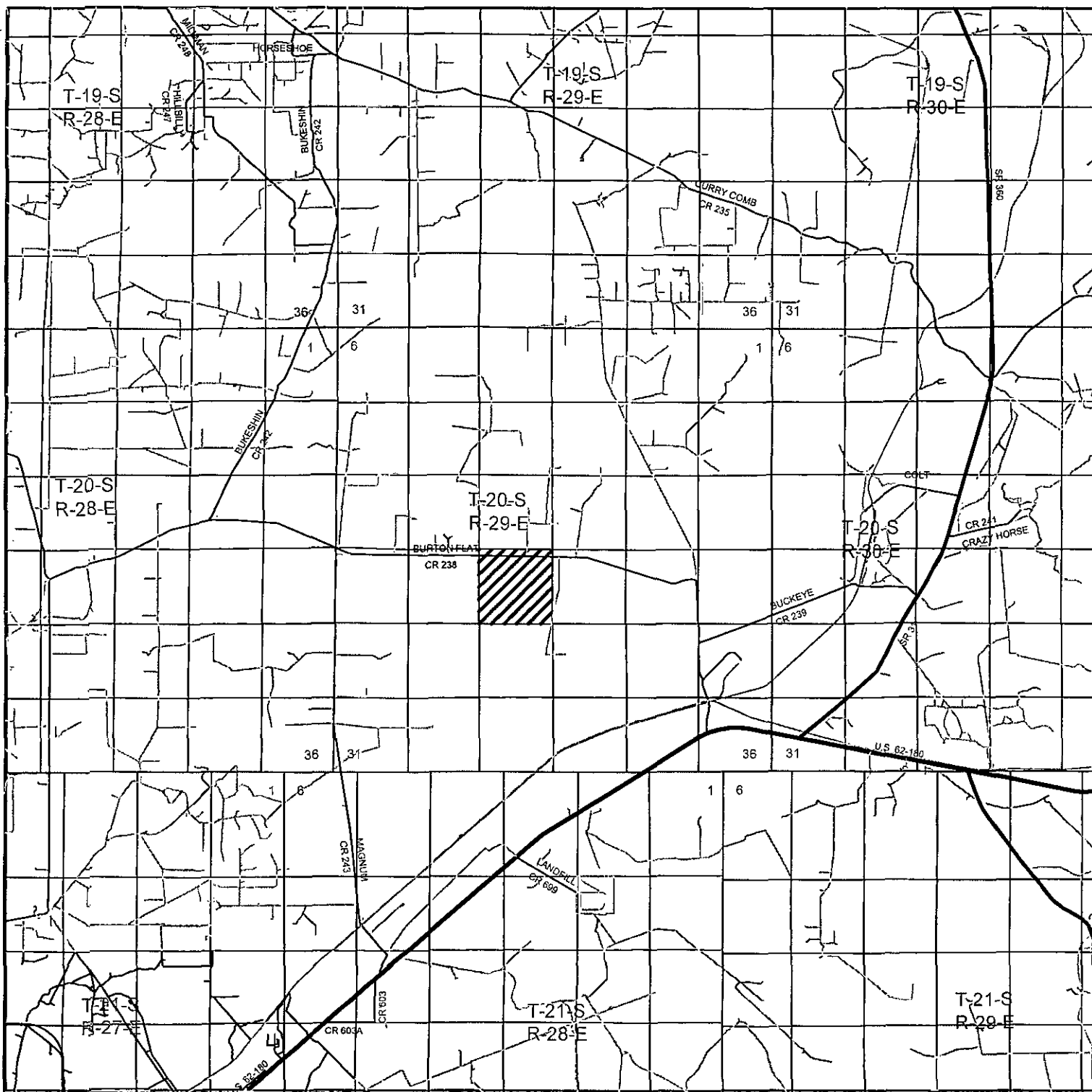
DECEMBER 30, 2013
Date Surveyed

Signature & Seal of Professional Surveyor

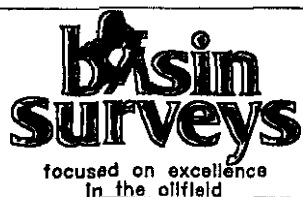
Certificate No. 7977
Professional Surveyor

Scale: 1" = 1000'
WO Num.: 29221





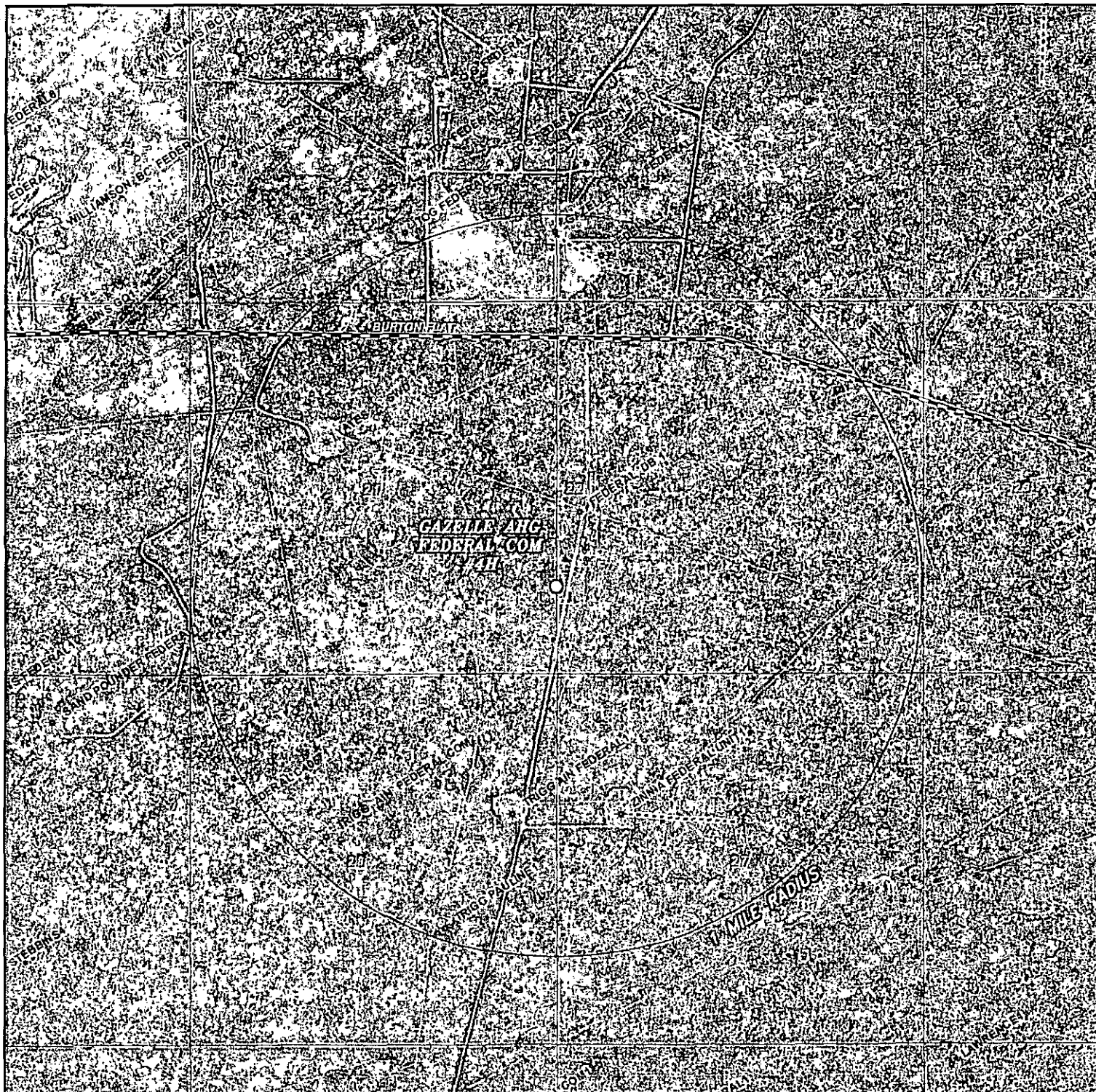
GAZELLE AHG FEDERAL COM #4H
 Located 1242' FSL and 30' FEL
 Section 21, Township 20 South, Range 29 East,
 N.M.P.M., Eddy County, New Mexico.



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

0 1 MI 2 MI 3 MI 4 MI
 SCALE: 1" = 2 MILES
 W.O. Number: KAN 29221
 Survey Date: 12-30-2013
 YELLOW TINT - USA LAND
 BLUE TINT - STATE LAND
 NATURAL COLOR - FEE LAND





GAZELLE AHG FEDERAL COM #4H
 Located 1242' FSL and 30' FEL
 Section 21, Township 20 South, Range 29 East,
 N.M.P.M., Eddy County, New Mexico.

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 basinsurveys.com

0' 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

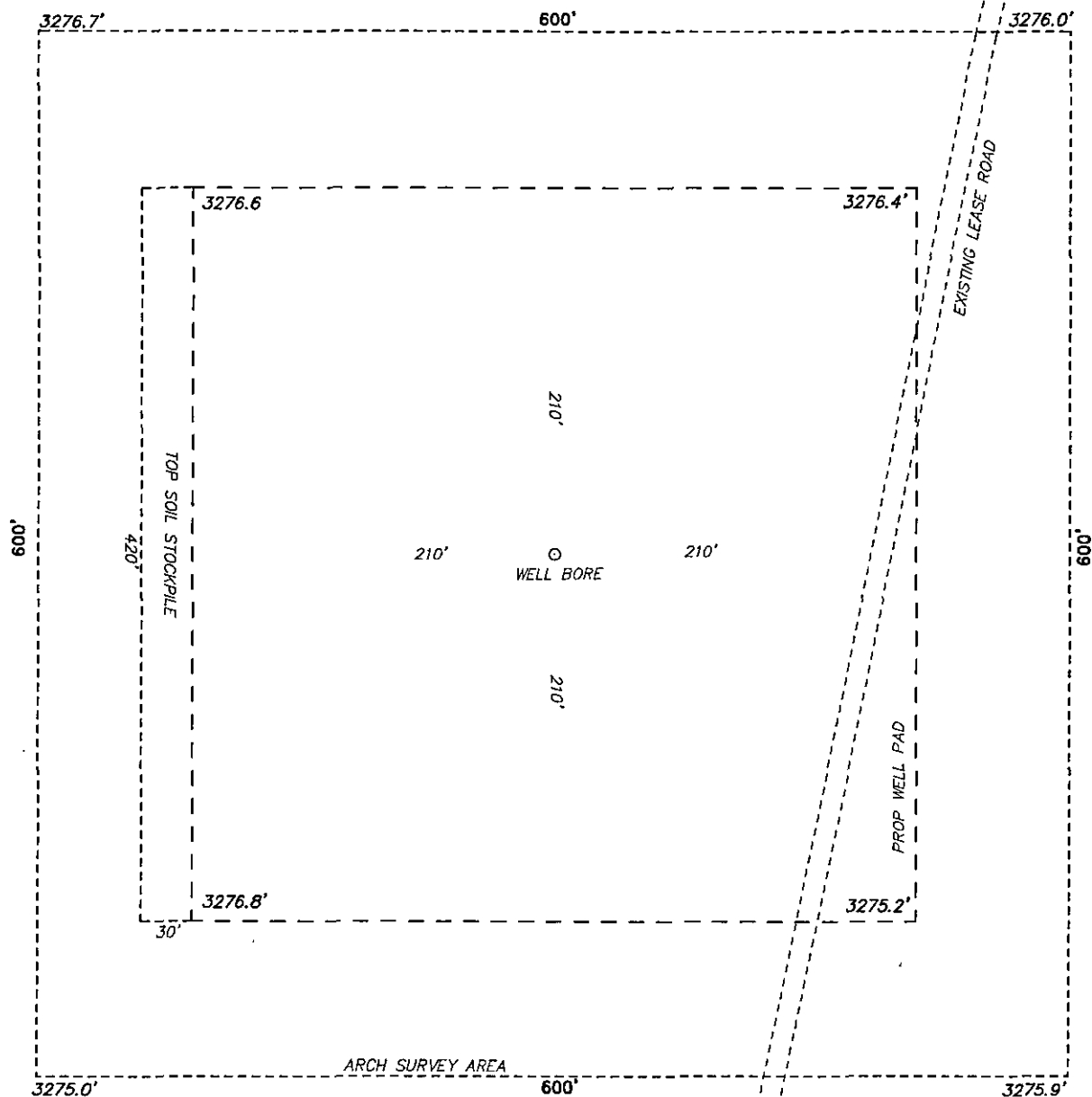
W.O. Number: KAN 29221

Survey Date: 12-30-2013

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



SECTION 21, TOWNSHIP 20 SOUTH, RANGE 29 EAST. N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



SCALE: 1" = 100'



YATES PETROLEUM CORPORATION

REF: GAZELLE AHG FEDERAL COM #4H / WELL PAD TOPO

THE GAZELLE AHG FEDERAL COM #4H LOCATED 1242' FROM
THE SOUTH LINE AND 30' FROM THE EAST LINE OF
SECTION 21, TOWNSHIP 20 SOUTH, RANGE 29 EAST.

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

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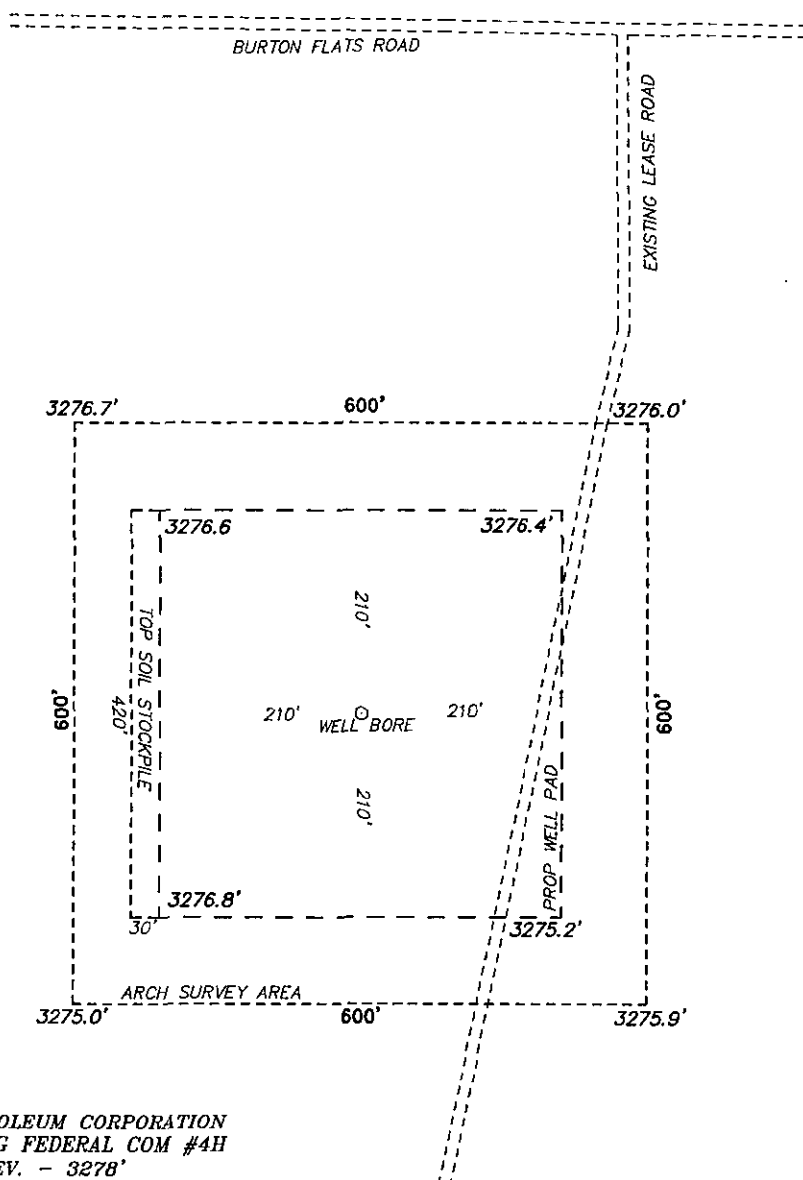
Drawn By: K. NORRIS

Date: 01-06-2014

Survey Date: 12-30-2013

Sheet 1 of 1 Sheets

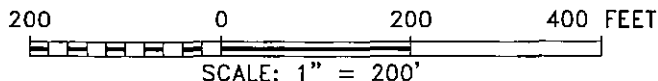
SECTION 21, TOWNSHIP 20 SOUTH, RANGE 29 EAST. N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



YATES PETROLEUM CORPORATION
GAZELLE AHG FEDERAL COM #4H
ELEV. - 3278'

Lat - N 32°33'18.37"
Long - W 104°04'17.61"
NMSPEC - N 565776.3
E 621991.8
(NAD-83)

CARLSBAD, NM IS ±17 MILES TO THE SOUTHWEST OF LOCATION.



Directions to Location:

FROM HWY 180 AND BURTON FLATS GO 2.1 MILES
NORTH, TURN LEFT AND GO WEST 1.9 MILES, TURN
LEFT AND GO SOUTH 0.6 MILES, PROPOSED
LOCATION ON RIGHT.



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basinsurveys.com



REF: GAZELLE AHG FEDERAL COM #4H / WELL PAD TOPO

THE GAZELLE AHG FEDERAL COM #4H LOCATED 1242' FROM
THE SOUTH LINE AND 30' FROM THE EAST LINE OF
SECTION 21, TOWNSHIP 20 SOUTH, RANGE 29 EAST.

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

YATES PETROLEUM CORPORATION

Gazelle AHG Federal Com #4H

1242' FSL & 30' FEL, Section 21 – T20S – R29E Surface Hole

660' FSL & 330' FEL, Section 22 – T20S – R29E Bottom Hole

Eddy County, New Mexico

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

Rustler	556'	Brushy Canyon	4486' Oil
Top of Salt	656'	Bone Springs Lime	6046'
Base of Salt	1276'	Avalon Sand	6201' Oil
Tansill	1326'	Middle Avalon	6331' Oil
Yates	1406' Oil	Lower Avalon	6636' Oil
Capitan Reef	1866' Water	1 st Bone Springs/SD	7136' Oil
Delaware	3146'	2 nd Bone Springs/SD	7856' Oil
Cherry Canyon	3346' Oil	2 nd Bone Springs/SD Target	8171'
		Base 2 nd Bone Springs	8281'

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

Water: Approx: 0' - 580' & 1750' – 3400'

Oil or Gas: See above--All Potential Zones

3. Pressure Control Equipment: 3000 PSI BOPE with a 13.625" opening will be installed on the 13.375" casing and a 5000 PSI BOPE with a 13.625" opening will be installed on the 9.625" casing. Pressure tests to 3000 PSI and 5000 PSI held for 30 minutes will be conducted before drilling out from under all casing strings, which are set and cemented in place. Test will be conducted by an Independent Tester, utilizing a test plug in the well head. Test will be held for 10 minutes on each segment of the system tested. Any leaks will be repaired at the time of test. Annular preventer will be tested to 50% of rated working pressure. Accumulator system will be inspected for correct pre charge pressures, and proper functionality, prior to connection to the BOP system. Blowout Preventer controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. See Exhibit.

4. Auxiliary Equipment:

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

5. The Proposed Casing and Cementing Plan:

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

Hole Size	Casing Size	Wt./Ft	Grade	Coupling	Interval	Length
26"	20"	94#	J-55	Buttress Thread	0'-580'	580'
17.5"	13.375"	54.50#	J-55	ST&C	0'-80'	80'
17.5"	13.375"	48#	H-40	ST&C	80'-1200'	1120'
17.5"	13.375"	54.50#	J-55	ST&C	1200'-1750'	550'
12.25"	9.625"	36#	J-55/K-55	ST&C	0'-3200'	3200'
8.75"	5.5"	17#	P-110	Buttress Thread	0'-8536'	8536'
8.5"	5.5"	17#	P-110	Buttress Thread	8536'-13036'	4500'

See
d/c

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

B. CEMENTING PROGRAM:

Surface casing: Lead with 715 sacks of Class 35:65:6 PozC (Wt. 12.5, Yld 2.0, H2O gal/sack is 11.0). Tail in will be 235 sacks of Class C +2% CaCl (Wt. 14.8, Yld 1.34, H2O gal/sack is 6.3) Designed with 100% excess, TOC-Surface.

Intermediate Casing 1 (0'-1750'): Lead with 1075 sacks of Class PozC 35:65:6 (Wt. 12.5, Yld 2.0, H2O gal/sack is 205); tail in with 205 sacks of Class C + 2% CaCl2 (Wt. 14.8, Yld 1.34, H2O gal per/sack is 6.3). Designed with 100% excess, TOC-Surface.

Intermediate Casing 2 (0'-3200'): Lead with 860 sacks of Class PozC 35:65:6 (Wt. 12.5, Yld. 2.0, H2O gal/sack is 11.0); tail in with 210 sacks of Class C + 2% CaCl2 (Wt. 14.8, Yld. 1.34, H2O gal/sack is 6.3). Designed with 100% excess, TOC-Surface.

Production Casing (One stage from 1600'-13036'): Lead with 750 sacks of class Lite Crete (Wt. 9.7, Yld. 2.46, H2O gal/sack is 8.98) with additions of 0.03 gal/sack retarder, 0.2% anti-foam, 0.1% dispersant, and 39 lbs/sack extender; tail in with 1415 sacks of Pecos Valley Lite (Wt. 13.5, Yld. 1.35, H2O gal/sack is 6.3). 30% CaCO, 3.2% Expansion additive, 2% Antifoam, .8% Retarder, 15 Fluid loss. TOC- 1600' Designed with 35% excess.

Pilot hole will be drilled to 8500'. Well will then be plugged back with a 200' isolation plug (Isolation plug being 100 sacks of Class H [Wt. 17.5, Yld. 0.94] with additives of Fresh water = 3.352 gal/sk, D080-Dispersant = .030 gal/sk, D197-Retarder Acc = 0.070 gal/sk, D206-Antifoam = 0.020 gal/sk.) on the bottom and a 500'-600' kick off plug (Kick off plug being 300 to 360 sacks of Class H [Wt. 17.5, Yld. 0.94] with additives of Fresh water = 3.352 gal/sk, D080-Dispersant = .030 gal/sk, D197-Retarder Acc = 0.060 gal/sk, D206-Antifoam = 0.020 gal/sk.) to be set at approximately 7599'. Well will be directionally drilled at 12 degrees per 100' with a 8.75" hole to 8536' MD (8171' TVD) hole will then be reduced to an 8.5" and drilled to 13036' MD (8271' TVD) where 5.5" casing will be set and cemented in a single stage. Penetration point of producing zone will be encountered at 907' FSL & 465' FEL, Section 22 - T19S - R30E. Deepest TVD is 8500' in the pilot hole and 8271' in the lateral.

6. Mud Program and Auxiliary Equipment:

Interval	Type	Weight	Viscosity	Fluid Loss
0-580'	Fresh Water	8.6-9.2	32-34	N/C
580'-1750'	Brine Water	10.0-10.2	28-29	N/C
1750'-3400'	Fresh Water	8.6-9.2	32-34	N/C
3400'-8500'	Cut Brine	8.8-9.2	28-32	N/C
7599'-13036'	Cut Brine	8.8-9.2	28-32	N/C

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blow out will be available at the well site during drilling operations. Mud will be checked hourly by rig personnel.

7. EVALUATION PROGRAM:

Samples: 30' samples to 3000'. 10' samples 3000' to TD.

Logging: GR Neutron TD to surface, Denisty TD to intermediate casing, Laterolog TD to intermediate casing, CMR TD to intermediate casing; Schlumberger tools platform/HRLA/CMR

Coring: As warranted.

DST's: As warranted.

Mudlogging: From surface casing to TD

8. Abnormal Conditions, Bottom hole pressure and potential hazards:
Anticipated BHP:
- | | | | | |
|-------------|-----------|-----------------------|------|-----|
| From: 0 | TO: 580' | Anticipated Max. BHP: | 277 | PSI |
| From: 580' | TO: 1750' | Anticipated Max. BHP: | 928 | PSI |
| From: 1750' | TO: 3200' | Anticipated Max. BHP: | 1531 | PSI |
| From: 3200' | TO: 8500' | Anticipated Max. BHP: | 4066 | PSI |
| From: 7599' | TO: 8271' | Anticipated Max. BHP: | 3957 | PSI |
- No abnormal pressures or temperatures are anticipated.
Lost Circulation Zones Anticipated: Possible in Capitan Reef
H2S is not anticipated.
9. ANTICIPATED STARTING DATE:
Plans are to drill this well as soon as possible after receiving approval. It should take approximately 65 days to drill the well with completion taking another 30 days.



COMPANY: Yates Petroleum
WELL: Gazelle Ahg Fed Com #4H
COUNTY: Eddy County, N.M. NAD 83
DATUM: North American Datum 1983

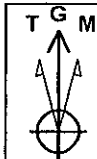


RIG: McVay #8
GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 7.31°

OFFICE: 936.582.7296

GEODETIC ZONE: New Mexico Eastern Zone
GL 3278+18 @ 3296.5usft (McVay #8)
GROUND ELEVATION: 3296.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 565776.30 621991.80 32° 33' 18.371 N 104° 4' 17.613 W

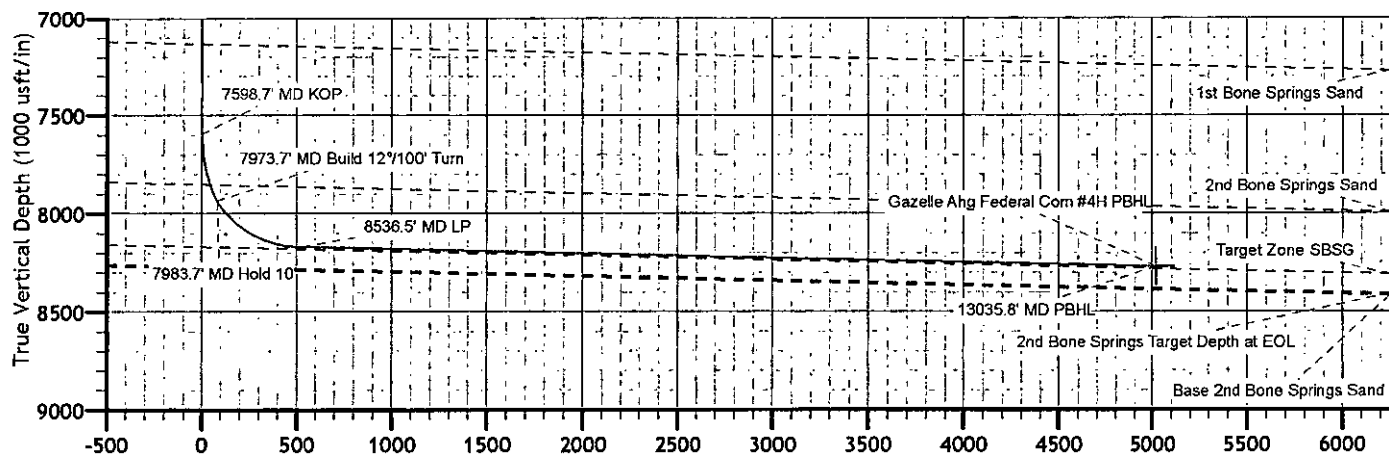
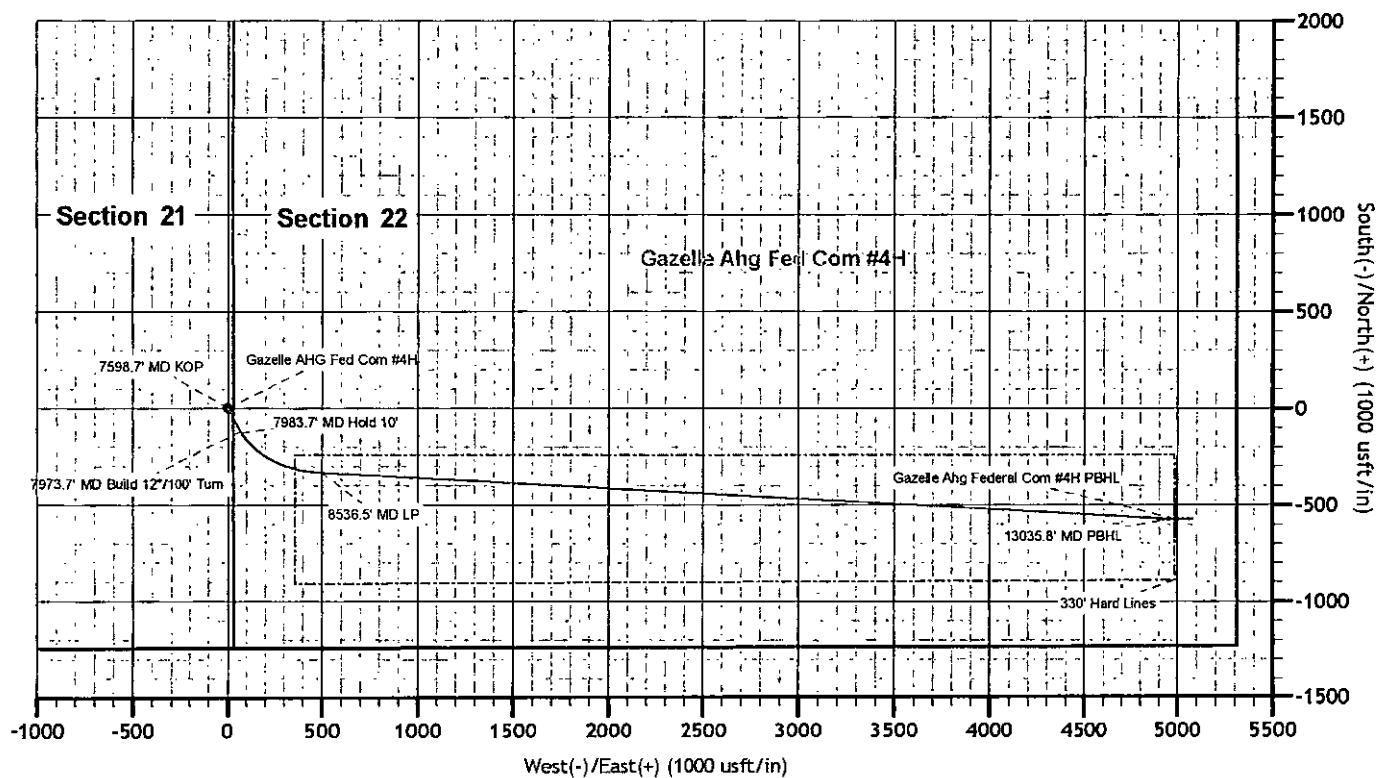


Azimuths to Grid North
True North: -0.14°
Magnetic North: 7.31°

Magnetic Field
Strength: 48442.0snT
Dip Angle: 60.33°
Date: 8/27/2014
Model: IGRF2010

PLAN SECTIONS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	7598.7	0.00	0.00	7598.7	0.0	0.0	0.00	0.00	0.0	
3	7973.7	45.00	150.00	7936.3	-121.1	69.9	12.00	150.00	83.3	
4	7983.7	45.00	150.00	7943.4	-127.2	73.5	0.00	0.00	87.5	
5	8536.5	88.73	93.05	8171.0	-335.0	495.4	12.00	-66.18	530.5	
6	13035.8	88.73	93.05	8271.0	-574.7	4987.1	0.00	0.00	5020.1	Gazelle Ahg Federal Com #4H PBHL



NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 25 2016

RECEIVED

Yates Petroleum

Eddy County , N.M. NAD 83

Gazelle Ahg Fed Com #4H

Gazelle Ahg Fed Com #4H

Original Hole

Plan: Plan #1

Standard Planning Report

28 August, 2014

Stryker Directional Planning Report

Database:	Stryker_EDM	Local Co-ordinate Reference:	Well Gazelle Ahg Fed Com #4H
Company:	Yates Petroleum	TVD Reference:	GL 3278+18 @ 3296.5usft (McVay #8)
Project:	Eddy County , N.M. NAD 83	MD Reference:	GL 3278+18 @ 3296.5usft (McVay #8)
Site:	Gazelle Ahg Fed Com #4H	North Reference:	Grid
Well:	Gazelle Ahg Fed Com #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #1		

Project	Eddy County , N.M. NAD 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Gazelle Ahg Fed Com #4H			
Site Position:		Northing:	565,776.30 usft	Latitude: 32° 33' 18.371 N
From:	Map	Easting:	621,991.80 usft	Longitude: 104° 4' 17.613 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.14 °

Well	Gazelle Ahg Fed Com #4H			
Well Position	+N/-S	0.0 usft	Northing: 565,776.30 usft	Latitude: 32° 33' 18.371 N
	+E/-W	0.0 usft	Easting: 621,991.80 usft	Longitude: 104° 4' 17.613 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level: 3,296.0 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/27/2014	7.45	60.33	48,442

Design	Plan #1			
Audit Notes:				
Version:		Phase:	PROTOTYPE	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	96.57

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
7,598.7	0.00	0.00	7,598.7	0.0	0.0	0.00	0.00	0.00	0.00	
7,973.7	45.00	150.00	7,936.3	-121.1	69.9	12.00	12.00	0.00	150.00	
7,983.7	45.00	150.00	7,943.4	-127.2	73.5	0.00	0.00	0.00	0.00	
8,536.5	88.73	93.05	8,171.0	-335.0	495.4	12.00	7.91	-10.30	-66.18	
13,035.8	88.73	93.05	8,271.0	-574.7	4,987.1	0.00	0.00	0.00	0.00	Gazelle Ahg Federa

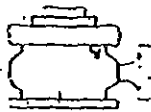
Stryker Directional

Planning Report

Database:	Stryker_EDM	Local Co-ordinate Reference:	Well Gazelle Ahg Fed Com #4H
Company:	Yates Petroleum	TVD Reference:	GL 3278+18 @ 3296.5usft (McVay #8)
Project:	Eddy County , N.M. NAD 83	MD Reference:	GL 3278+18 @ 3296.5usft (McVay #8)
Site:	Gazelle Ahg Fed Com #4H	North Reference:	Grid
Well:	Gazelle Ahg Fed Com #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #1		

Planned Survey

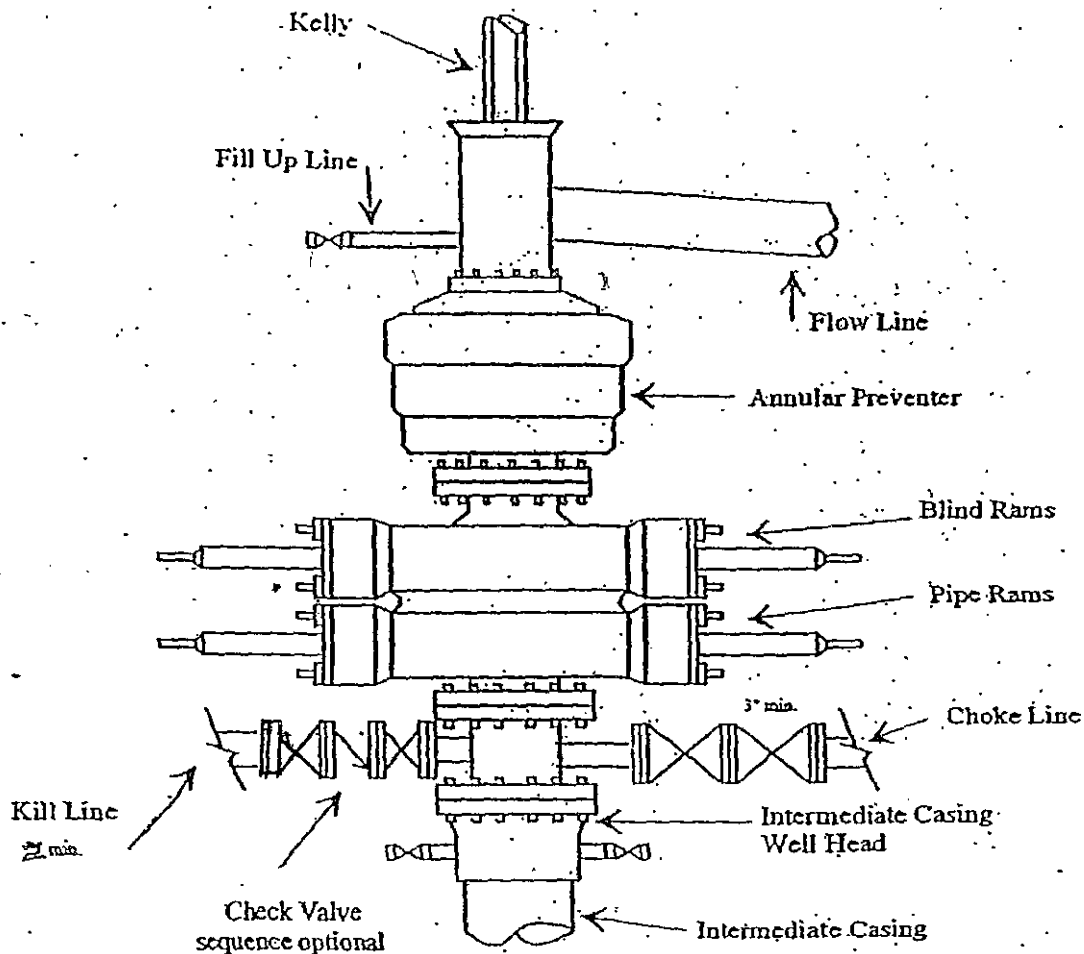
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
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1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
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2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
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4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
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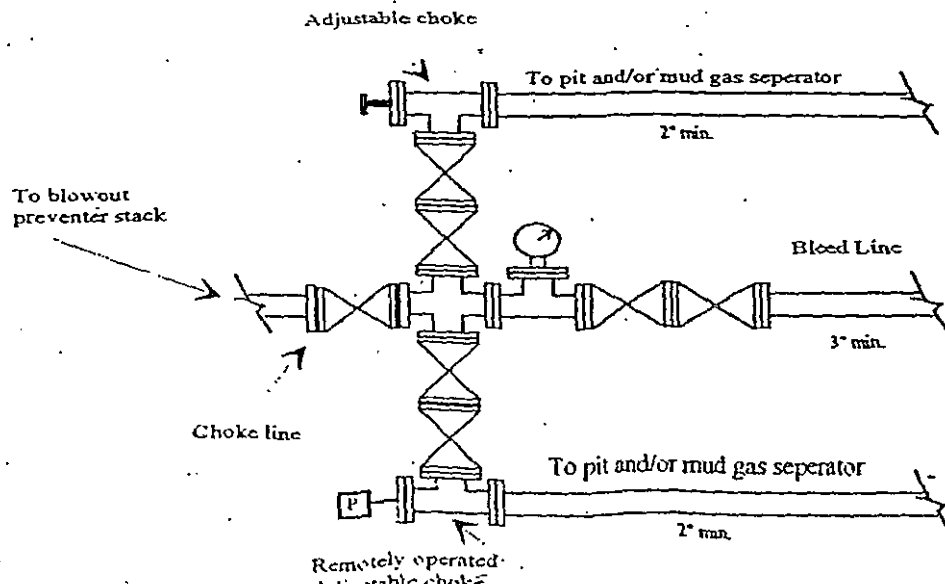
Yates Petroleum Corporation

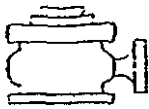
BOP-3

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



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

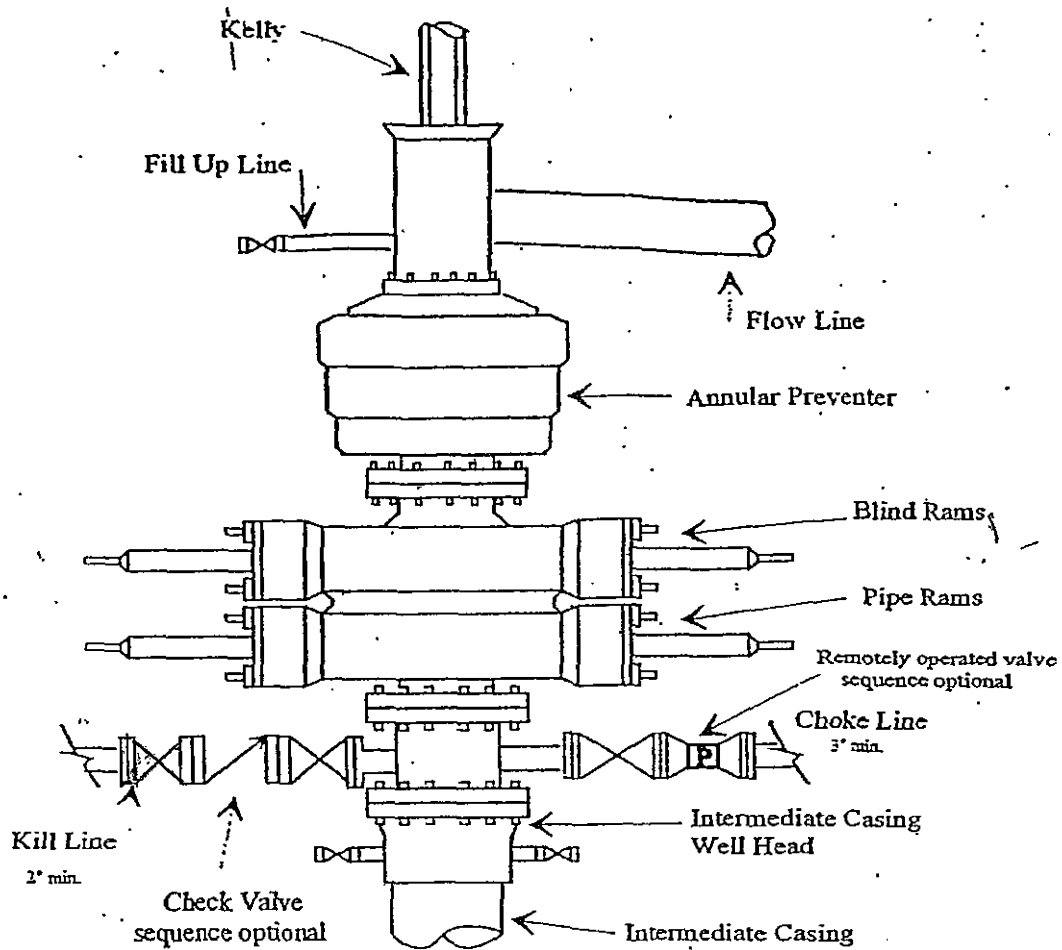




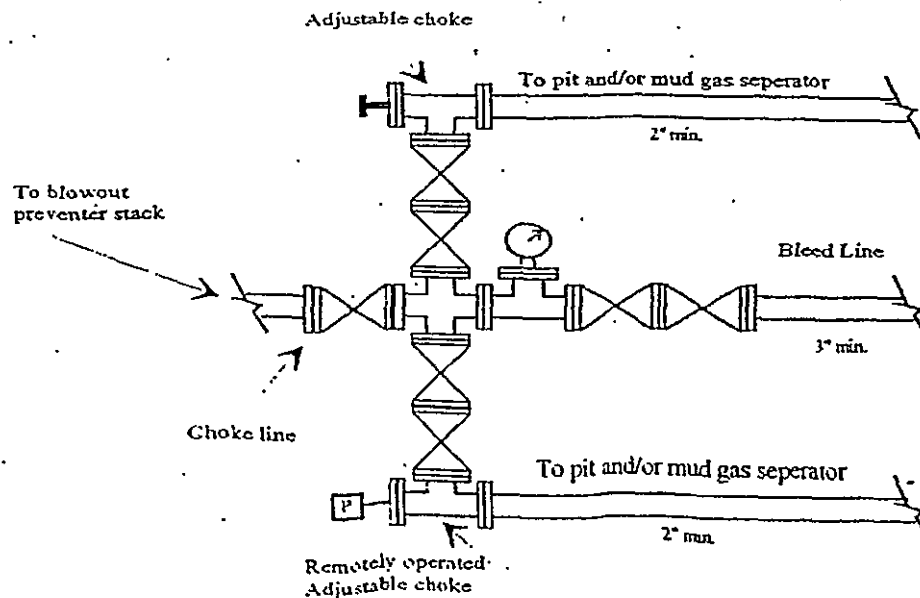
Yates Petroleum Corporation

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

BOP-4

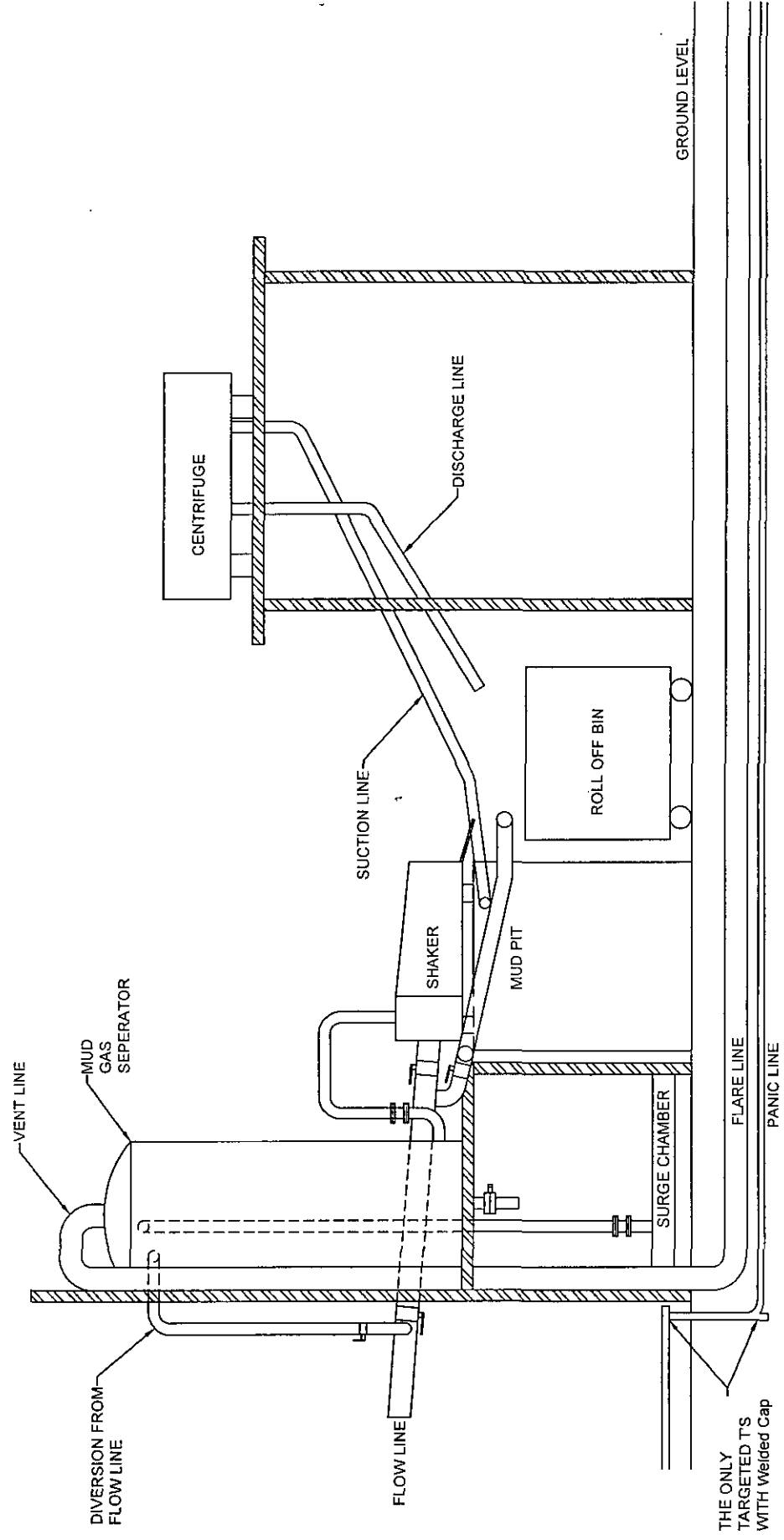


Typical 5,000 psi choke manifold assembly with at least these minimum features



YATES PETROLEUM CORPORATION

Piping from Choke Manifold
to the Closed Loop Drilling Mud System



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.

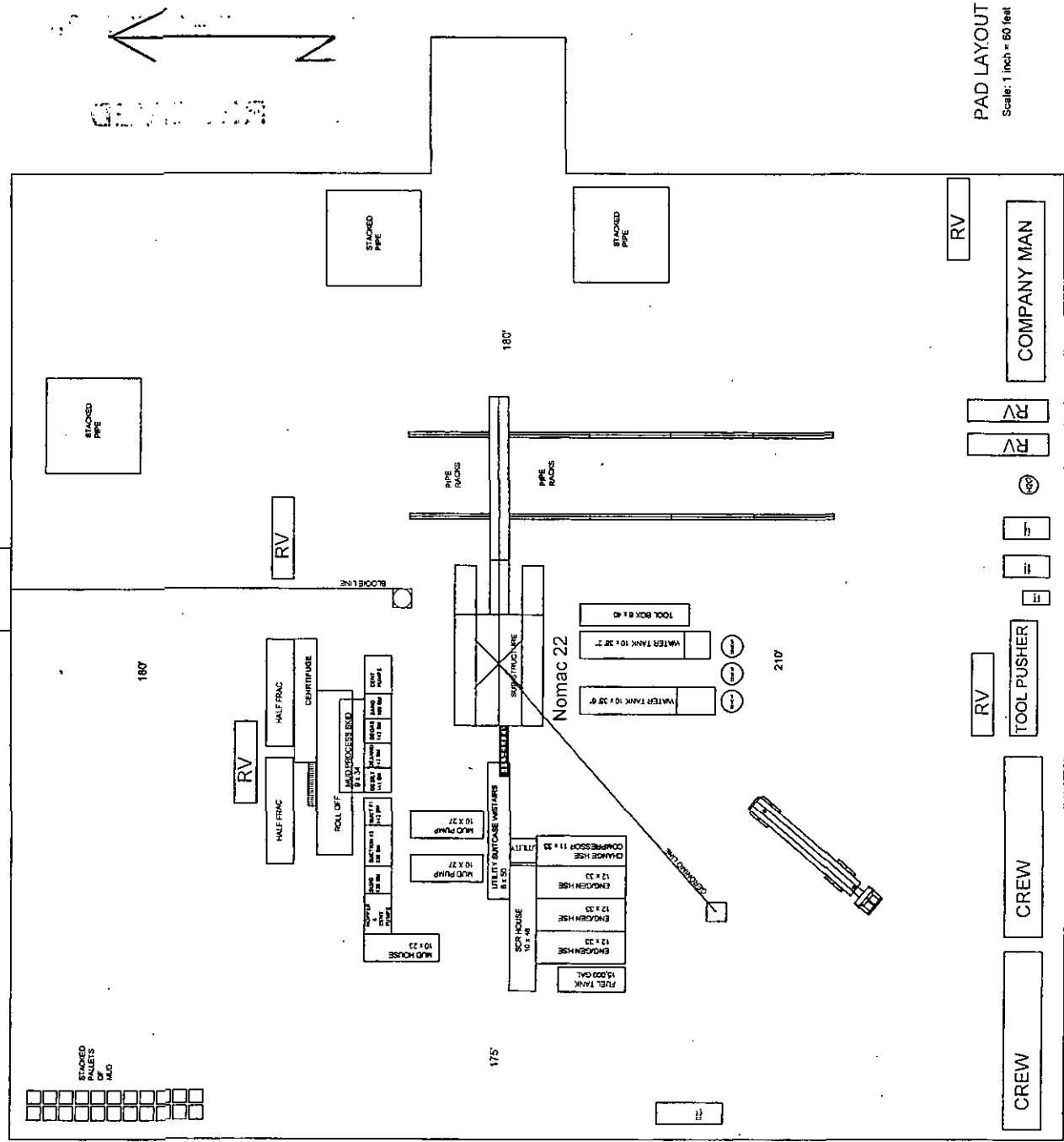
Closure Plan

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

Nomac 22

06-24-13

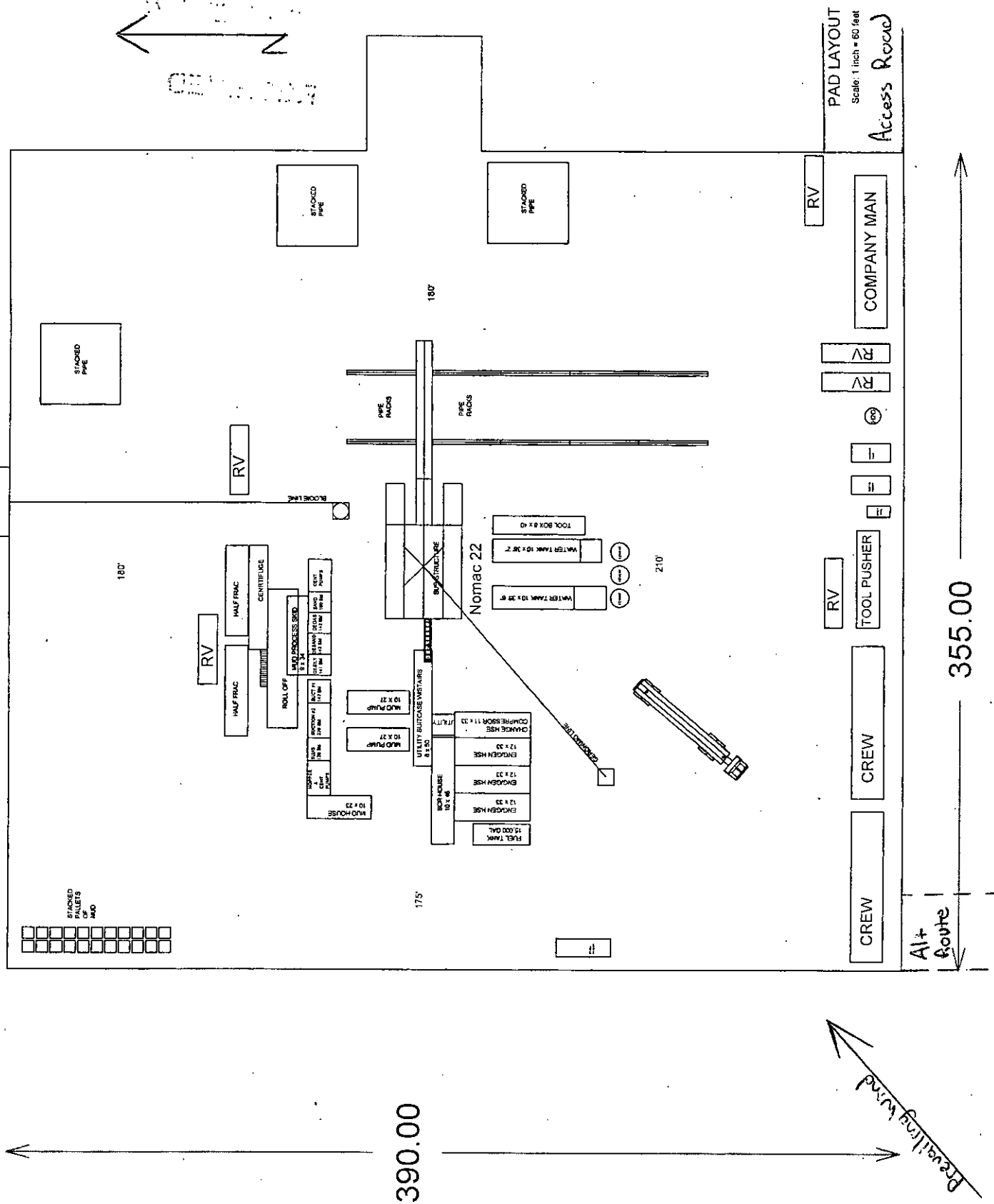


PAD LAYOUT
Scale: 1 inch = 50 feet

Nomac 22

06-24-13

FLARE PTT



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

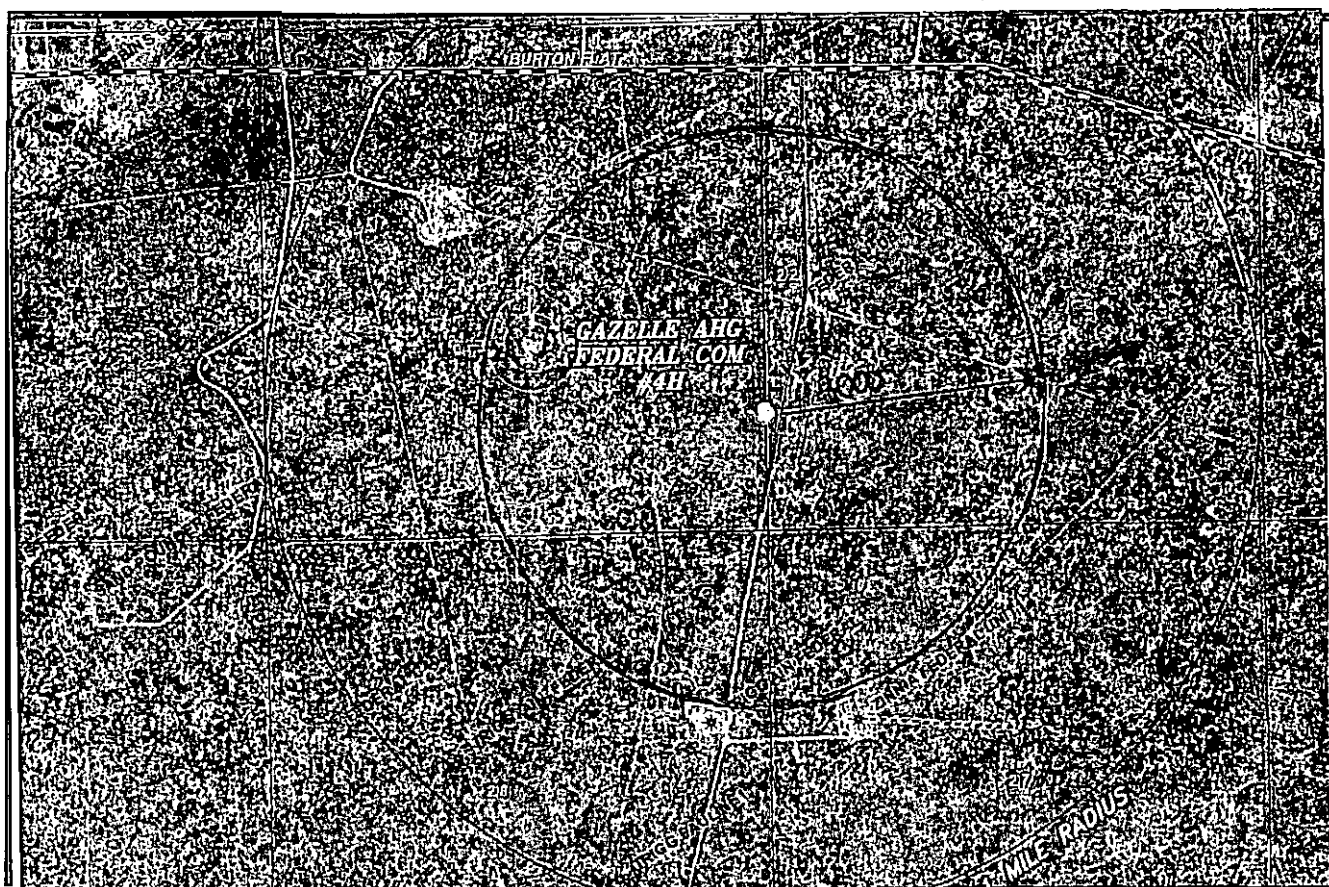
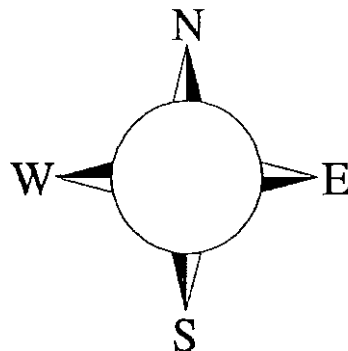
Hydrogen Sulfide (H₂S) Contingency Plan

For

**Gazelle AHG Federal Com #4H
1242' FSL & 30' FEL
Section 21, T20S-R29E
Eddy County NM**

Gazelle AHG Federal Com. #4H

This is an open drilling site. H₂S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H₂S, including warning signs, wind indicators and H₂S 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 H₂S, 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 H₂S, measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H₂S 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 (SO₂). 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 H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	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
Wade Bennett/Prod Superintendent	(575) 748-4236
LeeRoy Richards/Assistant Prod Superintendent	(575) 748-4228
Mike Larkin/Drilling	(575) 748-4222
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) 746-3569
Flight For Life -4000 24th St, Lubbock, TX	(806) 743-9911
Aerocare -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

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
- 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 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. H2S detection and monitoring equipment:

- A. 1 portable H2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 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 firm.

7. Communication:

- A. Radio communications in company vehicles including cellular telephone and 2-way radio.
- B. Land line (telephone) communication at the Office.

8. Well testing:

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operation conducted in an H2S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

EXHIBIT**WARNING****YOU ARE ENTERING AN H2S AREA****AUTHORIZED PERSONNEL ONLY**

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED
- 2. HARD HATS REQUIRED
- 3. SMOKING IN DESIGNATED AREAS ONLY
- 4. BE WIND CONSCIOUS AT ALL TIMES
- 5. CHECK-IN WITH YATES PETROLEUM FOREMAN AT

YATES PETROLEUM CORPORATION**1-575-748-4221****1-575-365-5695****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

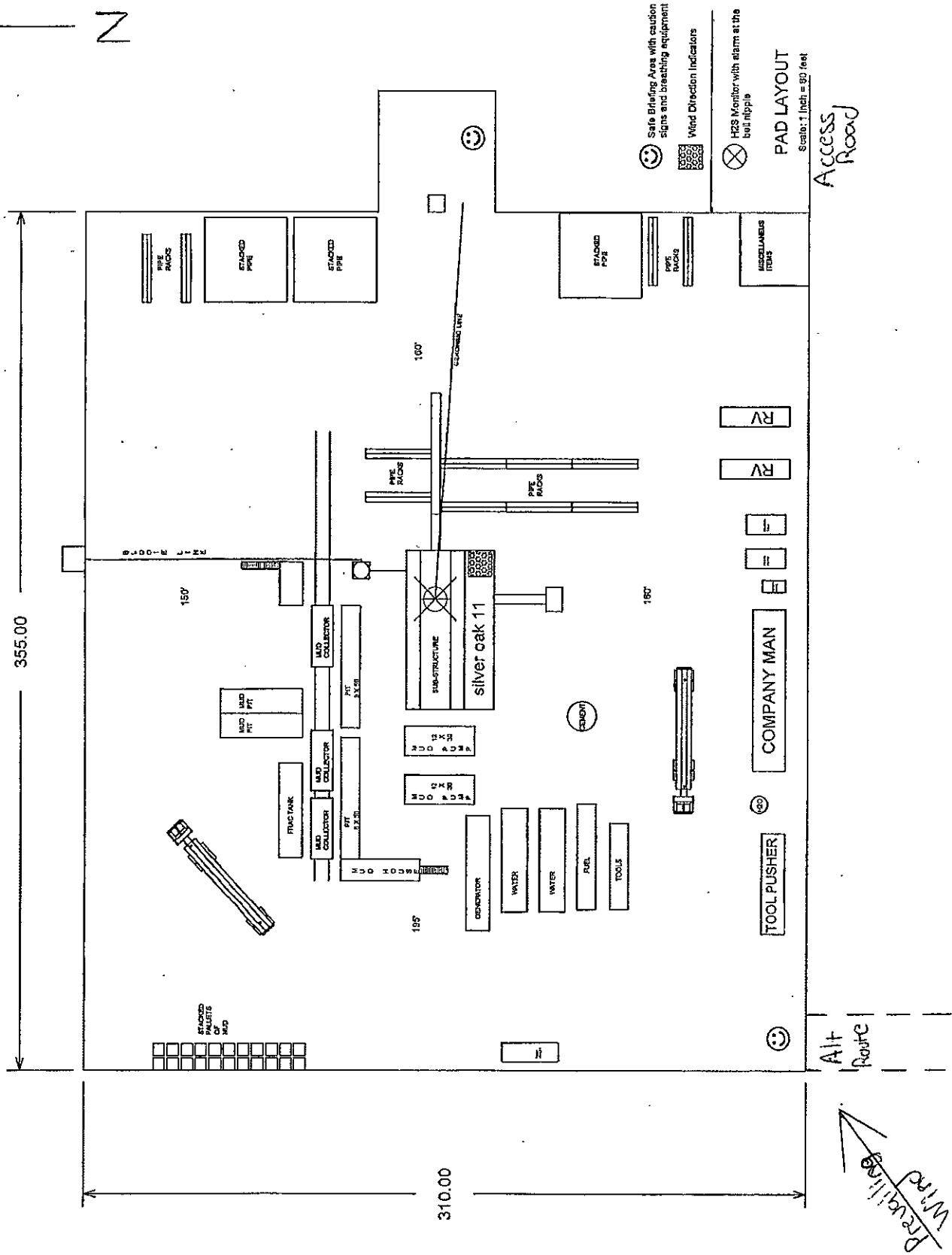
HOBBS FIRE DEPT. 575-397-9308

HOBBS POLICE DEPT. 575-397-9285

LEA CO. SHERIFF DEPT. 575-396-1196

YATES PETROLEUM CORPORATION

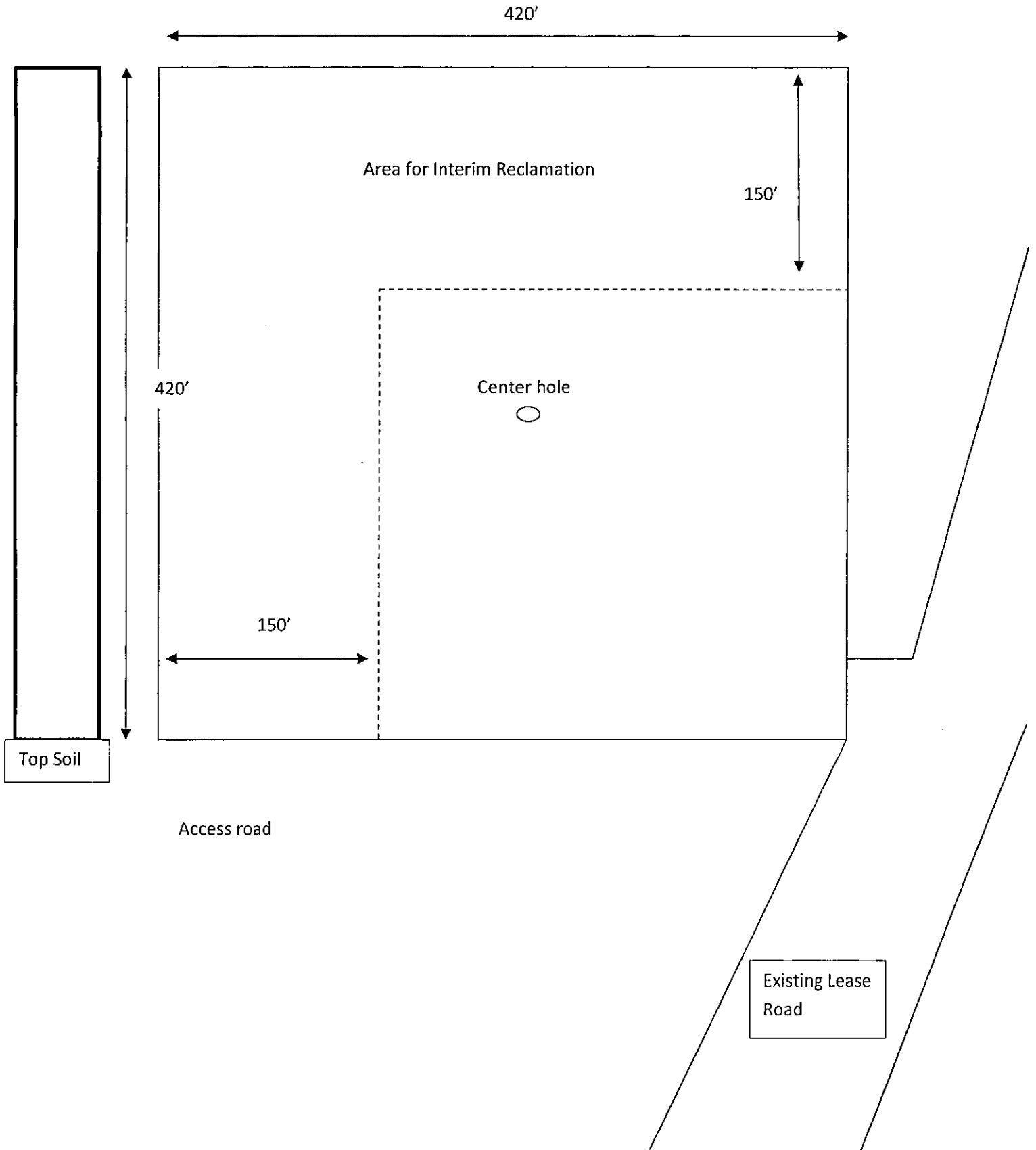
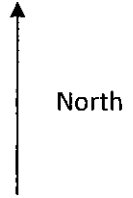
SILVER OAK RIG #11



Gazelle AHG Federal Com. #4H

Interim Reclamation Well Pad Layout

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



Plans for Interim and Final Surface Reclamation.

1. Well location will be contoured to resemble the original topography as closely as possible. Surface reclamation measures will be taken to avoid new erosion on the well location and the area surrounding the well location. These measures will be overseen by Yates' personnel following a structured plan for the reclamation of each individual site.
2. Major drainage systems will be avoided as determined at the onsite with the BLM. Minor drainages may be rerouted around the well site within the 600' x 600' cleared area to avoid moving the well location.
3. Segregation of topsoil or like soils will be placed in low lift rows rather than in a stockpile just off the caliche well pad. Placement of these lift rows will be determined at the BLM onsite or at the time of construction by Yates Personnel.
4. Yates will use prudent oil field practices when constructing well locations and related facilities. Yates personnel will determine the size of the well location needed for safe working conditions for personnel during all aspects on the drilling and production process.
5. Back fill requirements for above ground reserve pits will be met by using cut, fill, and contouring of available top soil and like soils from the pit area. Should additional material be needed it will be brought in from a BLM approved source.
6. All topsoil will be spread over the area reclaimed during interim reclamation using a front end loader. For final reclamation enough topsoil will be evenly distributed between the interim reclaimed area and the final reclaimed area. This method of soil stabilization should help maintain the productivity and viability of the topsoil.
7. Soil treatments will be determined at the time of final reclamation by Yates' Environmental Specialist or other designated personnel to meet BLM final reclamation goals.
8. Reseeding of disturbed areas will be accordance with the seed mixtures attached to the approved APD as Conditions of Approval. Planting and soil preparation will be done during the rainy season between June 1st and September 1st.
9. Yates' personnel will control weeds during the productive period through final abandonment of the well. Yates may also use the option to hire a third party to be in charge of weed control or participate in the Chaves Soil and Water District program to pool monies for weed control.
10. Well pads, roads and related facilities with caliche or other surfacing material will be picked up or turned over at the time of final abandonment. These materials may be used on other projects in the area if possible or placed back in the caliche pit or other designated site. Buried pipelines will be left in place after being bled down and purged. Above surface support equipment will be removed or cut down below plow depth and removed. Pipeline right-of-ways will be reseeded according to BLM Best Management Practices.

YATES PETROLEUM CORPORATION
Surface Use Plan of Operations
Gazelle AHG Federal Com. #4H
1242' FSL and 30' FEL, Section 21, T20S – R29E Surface Hole
660' FSL and 330' FEL, Section 22, T20S – R29E Bottom Hole

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 attached is a portion of the BLM map showing the well and roads in the vicinity of the proposed location. The proposed wellsite is located approximately 42 miles, southeast of Artesia, New Mexico and the access route to the location is indicated in blue on Exhibit attached.

DIRECTIONS:

Go east of Carlsbad, NM on Highway 62/180 for approximately 16 miles to the intersection of 62/180 and CR 238 (Burton Flat Road). Turn left (North) onto CR 238 and go approximately 2.1 miles. CR 238 (blacktop) will turn left (West) here, continue for 1.9 miles. Turn left (South) here and continue for approximately 3168'. The location will be on the right side of the road.

2. PLANNED ACCESS ROAD:

- A. The proposed new access will be approximately 50' feet in length from the point of origin to the southeast corner of the drilling pad.
- B. The new road will be 30 feet in width with 16 feet in width (driving surface) and will be adequately drained to control runoff and soil erosion.
- C. The new road will be bladed with drainage on both sides if needed. No traffic turnouts will be needed.
- D. The route of the road is visible.
- E. Existing roads will be maintained in the same or better condition.

3. LOCATION OF EXISTING WELL:

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

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

- A. We are planning to run a flowline to an existing production site.
- B. If the well is productive oil, a gas or diesel self-contained unit will be used to provide the necessary power until an electric line can be built, if needed. Power should not be required if the well is productive of gas.
- C. Should a Pipeline Right-Of-Way be required it will be filed under a separate application and/or by 3rd party if applicable.

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 attached.

6. SOURCE OF CONSTRUCTION MATERIALS:

- A. Dirt contractor will locate nearest pit and obtain any permits and materials needed for construction.

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. Drill cuttings will be collected in tanks until hauled to an approved disposal system.
- B. A 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 finalized.
- 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 attached shows the relative location and dimensions of the well pad, the closed loop design plan, the location of the drilling equipment, orientation and access road approach of three of the rigs Yates Petroleum is currently using. It is yet to be determined which drilling rig will drill this well, a 420' x 420' area has been staked, all drilling rigs being used by Yates Petroleum Corporation at this time will fit within these dimensions. At the time the determination is made a Sundry notice will be submitted with the appropriate information. (Approximately 3.5 acres)
- B. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the "Pit Rule" 19.15.17 NMAC.
- C. A 600' x 600' area has been staked and flagged.

10. PLANS FOR RESTORATION:

- A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing a condition as possible.
- B. If the proposed well is plugged and abandoned, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible.

11. SURFACE OWNERSHIP: Federal

Minerals: USA-Federal-NM-82902
Administered by: Bureau of Land Management
Carlsbad Field Office
620 E. Greene Street
Carlsbad, NM 88220-6292

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.

CERTIFICATION
YATES PETROLEUM CORPORATION
Gazelle AHG Federal Com. #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 the operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 25 day of September 2014

Signature 

Name Travis Hahn

Position Title Land Regulatory Agent

Address 105 South Fourth Street, Artesia, New Mexico 88210

Telephone (575) 748-4120

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

JUL 25 2016

**PECOS DISTRICT
CONDITIONS OF APPROVAL**

RECEIVED

OPERATOR'S NAME:	Yates Petroleum Corp
LEASE NO.:	NM81929
WELL NAME & NO.:	4H-Gazelle AHG Federal Com
SURFACE HOLE FOOTAGE:	1242'/S & 30'/E
BOTTOM HOLE FOOTAGE:	660'/S & 330'/E
LOCATION:	Section 22, T. 20 S., R. 29 E., NMPM
COUNTY:	Eddy County, New Mexico

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

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Cave/Karst
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- ☐ **Construction**
 - Notification
 - Topsoil
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 - Cement Requirements
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- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

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

Leak Detection System:

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

Automatic Shut-off Systems:

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

Cave/Karst Subsurface Mitigation

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

Rotary Drilling with Fresh Water:

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

Directional Drilling:

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

Lost Circulation:

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

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

assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

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

Pressure Testing:

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

Watershed Drainages:

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.
- Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.
- Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control.

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

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

G. ON LEASE ACCESS ROADS**Road Width**

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

Surfacing

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

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

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

Crowning

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

Ditching

Ditching shall be required on both sides of the road.

Turnouts

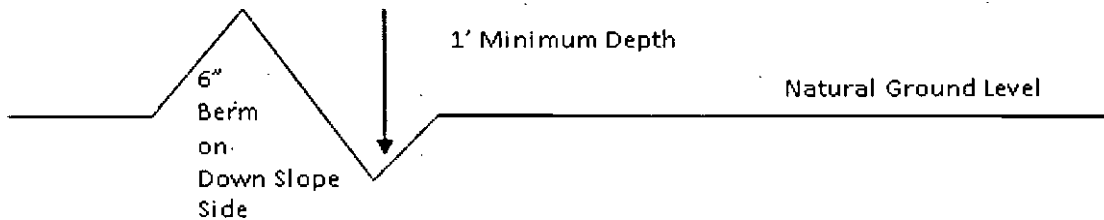
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattleguards

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

Fence Requirement

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

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

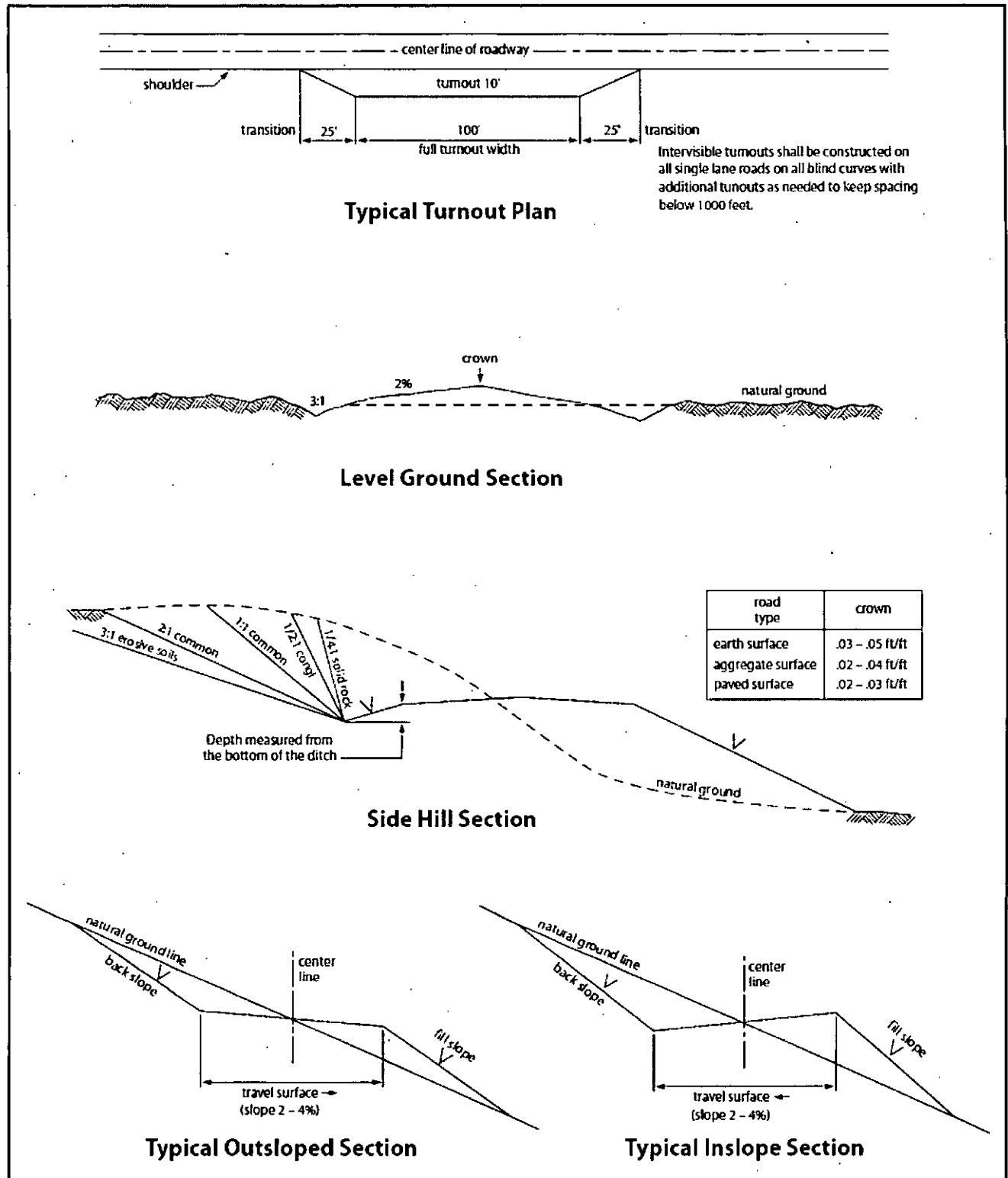


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Eddy County**

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

1. Hydrogen Sulfide (H₂S) monitors shall be installed prior to drilling out the surface shoe. **If H₂S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements**, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size 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.

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

High Cave/Karst

Capitan Reef

Possibility of water flows in the Artesia Group, Salado, and Rustler.

Possibility of lost circulation in the Artesia Group.

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 **20** 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 13-3/8 inch 1st intermediate casing, which shall be set at approximately 1680 feet (**below the Yates and above the Capitan Reef**), 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 and potash.**

3. The minimum required fill of cement behind the 9-5/8 inch 2nd intermediate casing is:

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

Centralizers required through the curve and a minimum of one every other joint.

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

- ☒ Cement should tie-back at least **50 feet above the Capitan Reef**. Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**

5. 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 13-3/8 1st intermediate casing shoe shall be **3000 (3M) psi**
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 2nd intermediate casing shoe shall be **5000 (5M) psi**.
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
 - 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.

CLN 070816

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 enclosure 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 Enclosures

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

Containment Structures

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

Painting Requirement

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

IX. INTERIM RECLAMATION

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

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

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored

interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

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

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

X. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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 shall 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 shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed shall be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre shall be doubled. The seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may 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 lovegrass (<i>Eragrostis intermedia</i>)	0.5
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sideoats grama (<i>Bouteloua curtipendula</i>)	5.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

*Pounds of pure live seed:

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

NMOCD CONDITION OF APPROVAL

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