

**HIGH CAVE KARST  
Split Estate**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD Artesia

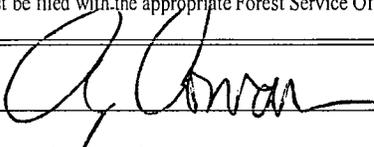
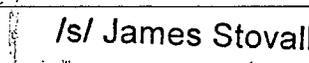
FORM APPROVED **ATS-13-792**  
OMB No. 1004-0137  
Expires October 31, 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input type="checkbox"/> DRILL <input checked="" type="checkbox"/> REENTER		5. Lease Serial No. NM-86241 & Fee	7. If Indian, Allottee or Tribe Name
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator YATES PETROLEUM CORPORATION		8. Lease Name and Well No. Hill View "AHE" Federal Com #18H	7. If Unit or CA Agreement, Name and No.
3a. Address 105 South 4th Street, Artesia, NM 88210		9. API Well No. 30-015-41710	8. Lease Name and Well No. Hill View "AHE" Federal Com #18H
3b. Phone No. (include area code) 575-748-4372		10. Field and Pool or Exploratory Undesignated Well	9. API Well No. 30-015-41710
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 660' FNL & 370' FWL, 13-20S-24E, Unit Ltr D At proposed prod. zone 660' FNL & 330' FEL, 13-20S-24E, Unit Ltr A		11. Sec., T. R. M. or Blk. and Survey or Area Section 13-T20S-R24E	
14. Distance in miles and direction from nearest town or post office* This well is approximately 32 miles southwest of Artesia, New Mexico		12. County or Parish Eddy County	13. State NM
15. Distance from proposed* 330' location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease NM-86241-880 ac., Fee 760 ac.	17. Spacing Unit dedicated to this well N2N2 of 13, T20S, R24E	
18. Distance from proposed location* approx. 2075' to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth MD 6920' & TVD 2550'	20. BLM/BIA Bond No. on file NMB000434 Nation Wide Bond NMB000920 Individual Bond	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3602' GL	22. Approximate date work will start* 06/28/2013	23. Estimated duration 65 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.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.  | 5. Operator certification   |
| 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). | 6. Such other site specific information and/or plans as may be required by the BLM.             |

25. Signature 	Name (Printed/Typed) Cy Cowan	Date 5/22/13
Title Land Regulatory Agent		
Approved by (Signature) 	Name (Printed/Typed) James Stovall	Date SEP 20 2013
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.

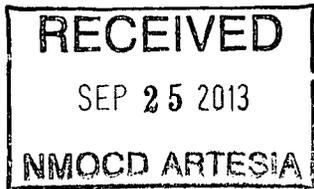
**APPROVAL FOR TWO YEARS**

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



SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

Approval Subject to General Requirements  
& Special Stipulations Attached

CERTIFICATION  
YATES PETROLEUM CORPORATION  
Hill View AHE Federal Com. #18H

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; and an someone under employment of Yates Petroleum Corporation has full knowledge of state and federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 22nd day of May 2013

Signature Cy Cowan

Name Cy Cowan

Position Title Land Regulatory Agent

Address 105 South Fourth Street, Artesia, New Mexico 88210

Telephone (575) 748-1471

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

Address (if different from above) Same as above.

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

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

DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II  
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised July 16, 2010

Submit one copy to appropriate  
District Office

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

AMENDED REPORT

API Number <b>30-015-41710</b>	Pool Code <b>97565</b>	Pool Name <b>Undesignated Yeso North Seven Rivers; 62-4650</b>
Property Code <b>12368</b>	Property Name <b>HILLVIEW AHE FED COM</b>	Well Number <b>18H</b>
OGRID No. <b>025575</b>	Operator Name <b>YATES PETROLEUM CORP.</b>	Elevation <b>3602</b>

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	13	20 S	24 E		660	NORTH	370	WEST	EDDY

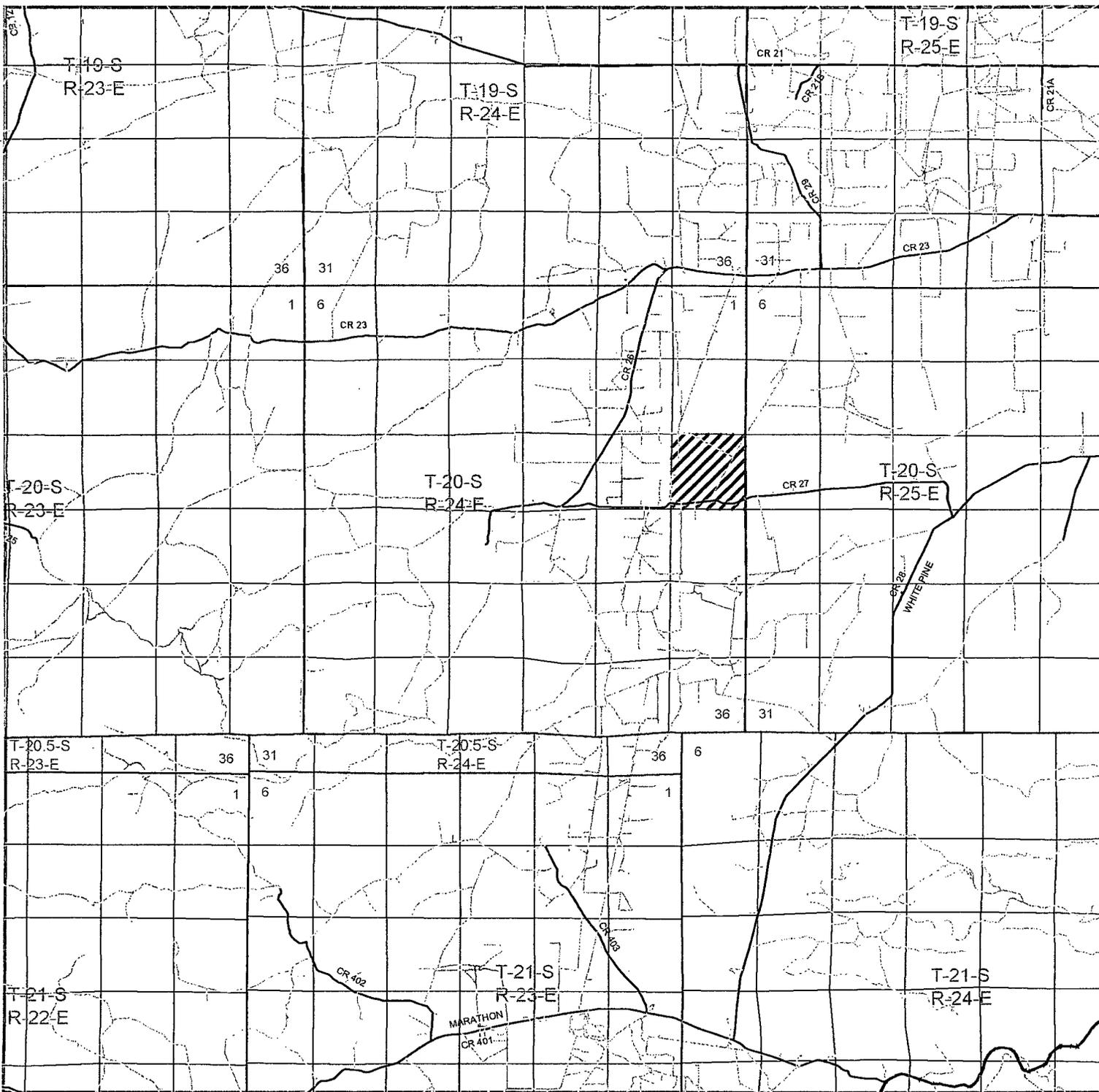
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	13	20 S	24 E		660	NORTH	330	EAST	EDDY

Dedicated Acres <b>160</b>	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p><b>SURFACE LOCATION</b> Lot - N 32°34'45.59" Long - W 104°32'56.73" NMSPCE - N 574558.83 E 474878.65 (NAD-83)</p>	<p><b>Penetration Point</b> 664' FNL &amp; 842' FWL</p>	<p><b>Project Zone</b></p>	<p><b>Producing Zone</b></p>	<p>N 572501.11 E 479844.73</p>	<p><b>PROPOSED BOTTOM HOLE LOCATION</b> Lot - N 32°34'45.26" Long - W 104°32'02.68" NMSPCE - N 574516.72 E 479502.83 (NAD-83)</p>	<p><b>OPERATOR CERTIFICATION</b> 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.</p> <p><i>Cy Cowan</i> 5/21/13 Signature Date</p> <p>Cy Cowan Printed Name cy@yatespetroleum.com</p> <p>Email Address</p>
						<p><b>SURVEYOR CERTIFICATION</b> I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief.</p> <p>JANUARY 2013 Date Surveyed</p> <p><i>[Signature]</i> Signature &amp; Seal of Professional Surveyor</p> <p>7977 Professional No. 207243</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS 27843</p>



**HILLVIEW AHE FED COM #18H**  
 Located 660' FNL and 370' FWL  
 Section 13, Township 20 South, Range 24 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  
 basinsurveys.com

W.O. Number: DAJ 27843

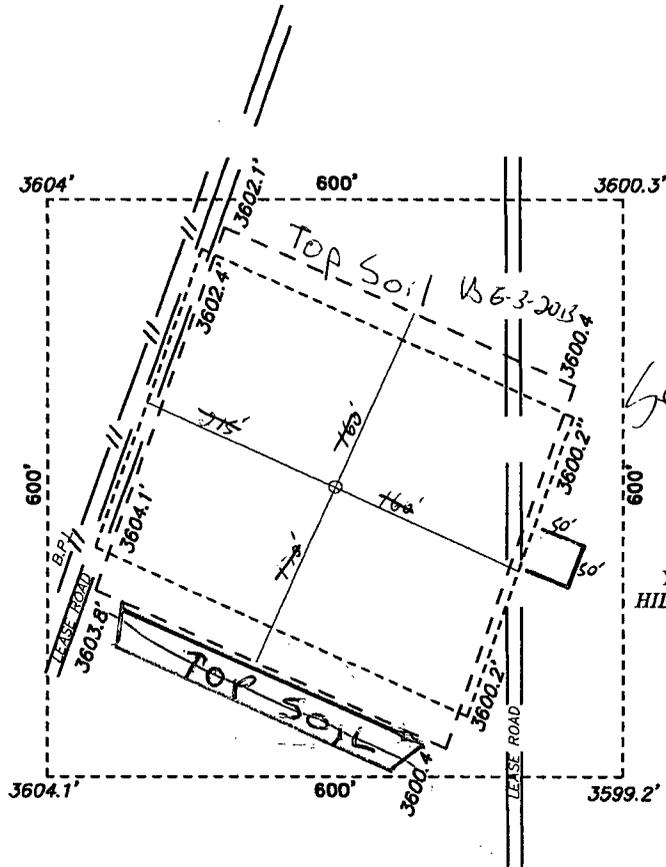
Survey Date: 01-03-2013

Scale: 1" = 2 Miles

Date: 01-08-2013

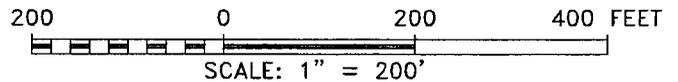
**YATES  
 PETROLEUM  
 CORP.**

SECTION 13, TOWNSHIP 20 SOUTH, RANGE 24 EAST, N.M.P.M.,  
 EDDY COUNTY, NEW MEXICO.



*See Conditions of Approval.*

YATES PETROLEUM CORP.  
 HILLVIEW AHE FED COM #18H  
 ELEV. - 3602'  
 SURFACE LOCATION  
 Lat - N 32°34'45.59"  
 Long - W 104°32'56.73"  
 NMSPE - N 574558.83  
 E 474878.65  
 (NAD-83)



DRIVING DIRECTIONS

FROM INTERSECTION OF WHITE PINE AND PICKET GO NORTH .5 MILES TO A "T" STAY LEFT PROCEED WEST 4.3 MILES TO PROPOSED LEASE ROAD.

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

W.O. Number: 27843 Drawn By: D. JONES

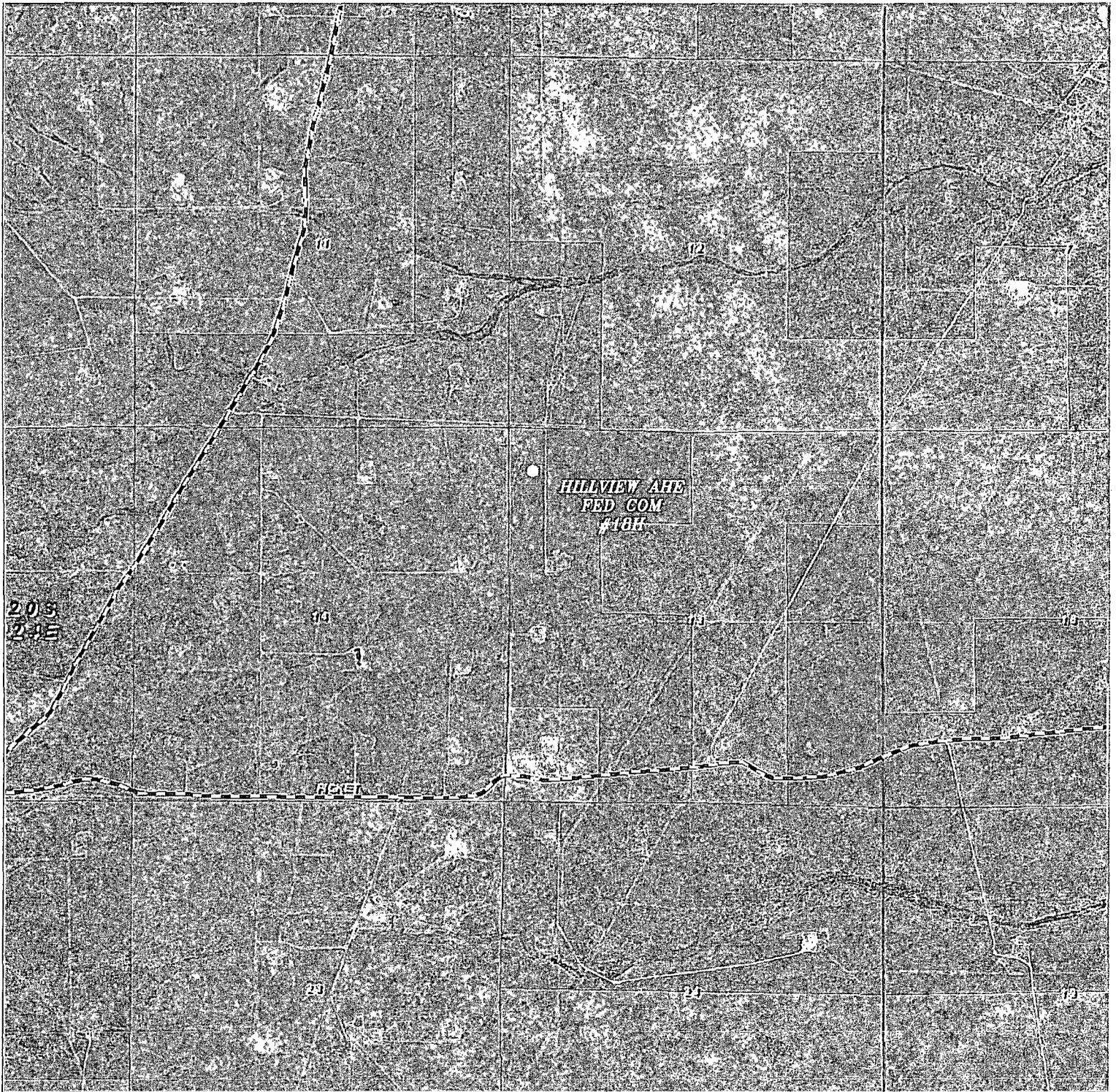
Date: 01-08-2013 Disk: DAJ 27843

**YATES PETROLEUM CORP.**

REF: HILLVIEW AHE FED COM #18H / WELL PAD TOPO

THE HILLVIEW AHE FED COM #18H LOCATED 660'  
 FROM THE NORTH LINE AND 370 FROM THE WEST LINE OF  
 SECTION 13, TOWNSHIP 20 SOUTH, RANGE 24 EAST,  
 N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 01-03-2013 Sheet 1 of 1 Sheets



**HILLVIEW AHE FED COM #18H**  
 Located 660' FNL and 370' FWL  
 Section 13, Township 20 South, Range 24 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 27843

Scale: 1" = 2000'

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

**YATES**  
**PETROLEUM**  
**CORP.**



**YATES PETROLEUM CORPORATION**

Hill View AHE Federal Com #18H  
 660' FNL & 370' FWL, Surface Hole  
 660'FNL & 330' FEL, Bottom Hole  
 Section 13 -T20S-R24-E  
 Eddy County, New Mexico

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

San Andres	560'	Yeso	2186' MD-Oil	2183' TVD
KOP	2023'	Target Yeso	2767 MD-Oil	2500' TVD
Glorieta	2120'	Lateral TD	6920' MD	2550' TVD

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

Water: Approximately 400.  
 Oil or Gas: See above--All Potential Zones

3. A 3000 PSI BOP system will be nipped up on the 9 5/8" casing. Blind rams and pipe rams will be tested to 3000 PSI. Test will be conducted by an Independent Tester, utilizing a test plug in the well head. Test will be held for 10 minutes on each segment of the system tested. Any Leaks will be repaired at the time of the test. Annular preventer will be tested to 50% of rated working pressure. 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.

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	0-750'	750'
8 3/4"	7"	26#	L-80	LT&C	0-2250'	2250'
8 1/2"	5 1/2"	17#	L-80	Buttress	2250'-6920'	4670'

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

- B. CEMENTING PROGRAM:

Surface casing will be cemented with 465 sacks of Class H with Fresh water=3.352 gal/sack, D080-Dispersant=.030 gal/sack, D197-Retarder Acc=0.060 gal/sack, D206-Antifoam=0.020 gal/sack (Wt. 14.20 Yld. 1.62). Tail in 200 sacks Class C with CaCl2 (Wt. 14.80 Yld. 1.34). Cement designed with 100% excess. TOC is to surface.

YATES PETROLEUM CORPORATION  
 2011

Production Casing will be cemented from 6920' to surface with 205 sacks of 35:65:6PzC (Wt. 12.50 Yld. 2.00). Tail in 1060 sacks of PecosVILt with D112, Fluid Loss 0.4%; D151, Calcium Carbonate, 22.5 lb/sack; D-174, Extender 1.5 lb/sack; D-177, Retarder 0.01 lb/sack; D-800, Retarder 0.5 lb/sack and D46, Antifoam Agent, 0.15 lb/sack (Wt. 13.00 Yld. 1.41). Cement designed with 35% excess. TOC is to surface.

The well will be drilled vertically to 2023'. Well will then be kick off at approximately 2023' and directionally drilled at 12 degrees per 100' with an 8 3/4" hole to 2767' MD (2500' TVD'). A casing crossover will be used to connect the two different sized production casing strings when the hole size is reduced to 8 1/2" and drilled to 6920' MD (2550' TVD) where 7" casing will be set at approximately 2250' MD and 5 1/2" casing to TD at 6920' MD. Production string will be cemented to surface. Penetration point of the producing zone will be encountered at 664' FNL & 842' FWL, 13-20S-24E. Deepest TVD in the well is 2550' in the lateral.

3. Mud Program and Auxiliary Equipment:

INTERVAL	TYPE	WEIGHT	VISCOSITY	FLUID LOSS
0-750'	Fresh Water	8.60-9.20	32-34	N/C
750'-6920'	Fresh Water	8.80-9.20	28-32	N/C

Casing Design Factors: Burst 1.0 Tensile 1.8 Collapse 1.125

Sufficient mud materials(s) to maintain mud properties, control lost circulation and to contain a blowout will be available at the well site during drilling operations. Rig personnel will check mud hourly. After surface casing is set an electronic PVT system will be installed as our primary mud level monitoring system. A secondary system will be comprised of the derrick hand checking the fluid level in the pits periodically using a nut on the end of a rope hanging just above the fluid level the pit.

4. EVALUATION PROGRAM:

Samples: 30 foot samples to 750'. 10' samples 750 to 6920' (MTD).  
 Logging: Horizontal-MWD-GR.  
 Coring: None  
 DST's: None  
 Mudlogging: Yes. Out from under surface casing.

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

Anticipated BHP: Depths are TVD.

From: 0' TO: 750' Anticipated Max. BHP: 359 PSI  
 750' TO 2550' Anticipated Max. BHP: 1220 PSI

No abnormal pressures or temperatures are anticipated.

Lost Circulation Zones Anticipated: None.

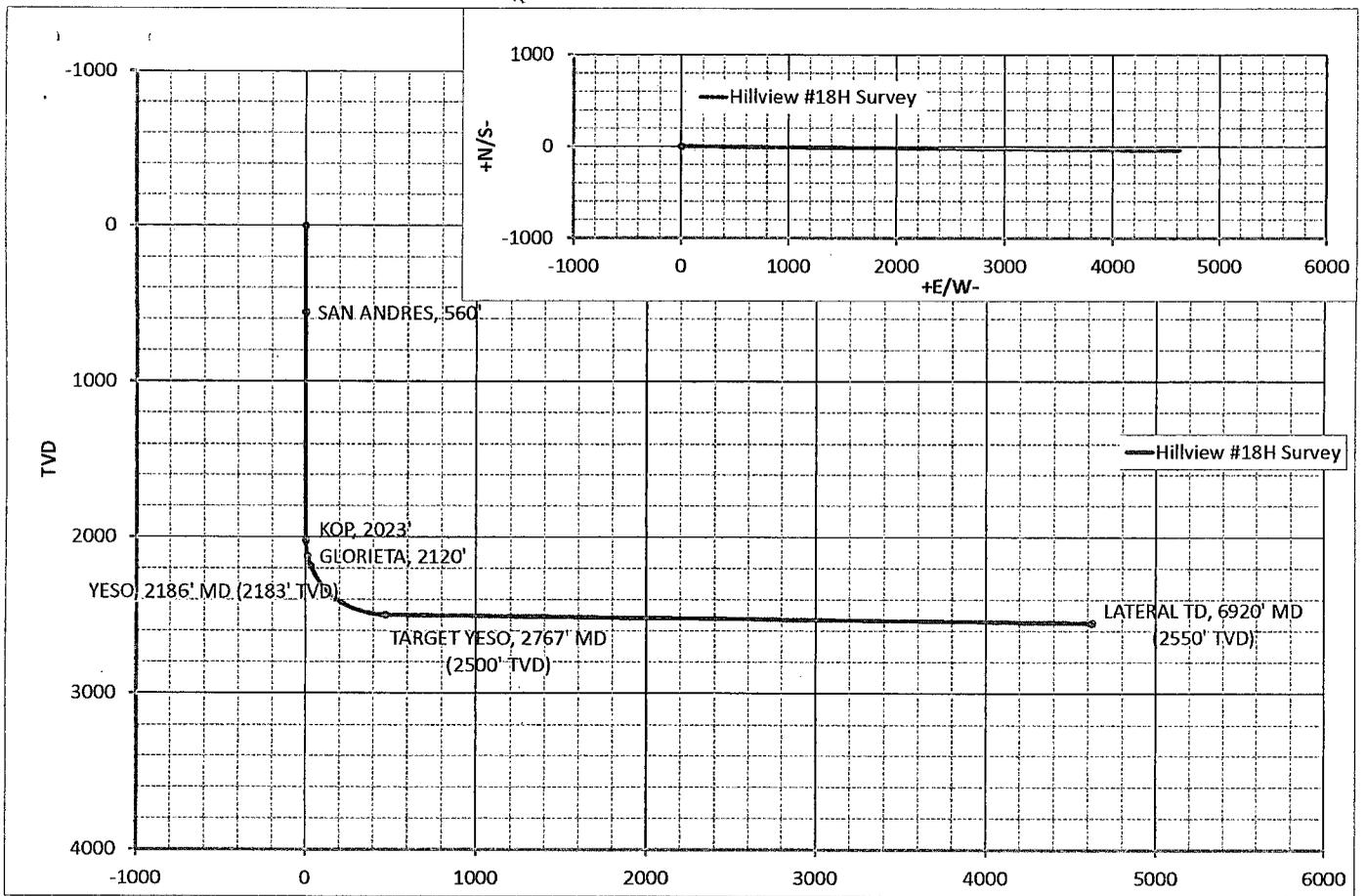
H2S Zones Anticipated: H2S is anticipated.

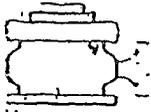
6. ANTICIPATED STARTING DATE:

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

## Survey/Planning Report

Operator	Yates Petroleum Corp.	Northing		Date	14-Mar-13				
Dir. Co.	Yates Petroleum Corp.	Easting		System	2 - St. Plane				
Well Name	Hillview #18H Survey	Elevation		Datum	1983 - NAD83				
Location	Sec. 13, 20S-24E	Latitude		Zone	4302 - Utah Central				
Rig		Longitude		Scale Fac.					
Job		Units	Feet	Converg.					
MD	INC	AZI	TVD	+N/S	+E/W	VS@90.52°	BR	TR	DLS
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
560.00	0.00	0.00	560.00	0.00	0.00	0.00	0.00	0.00	0.00
560: SAN ANDRES, 560'									
2022.56	0.00	90.52	2022.56	0.00	0.00	0.00	0.00	4.48	0.00
2022.56: KOP, 2023'									
2100.00	9.29	90.52	2099.66	-0.06	6.27	6.27	12.00	0.00	12.00
2120.69	11.78	90.52	2120.00	-0.09	10.05	10.05	12.00	0.00	12.00
2120.69: GLORIETA, 2120'									
2186.18	19.63	90.52	2183.00	-0.25	27.76	27.76	12.00	0.00	12.00
2186.18: YESO, 2186' MD (2183' TVD)									
2200.00	21.29	90.52	2195.94	-0.30	32.59	32.59	12.00	0.00	12.00
2300.00	33.29	90.52	2284.65	-0.71	78.36	78.36	12.00	0.00	12.00
2400.00	45.29	90.52	2361.90	-1.29	141.57	141.58	12.00	0.00	12.00
2500.00	57.29	90.52	2424.32	-2.00	219.46	219.47	12.00	0.00	12.00
2600.00	69.29	90.52	2469.18	-2.81	308.63	308.64	12.00	0.00	12.00
2700.00	81.29	90.52	2494.52	-3.69	405.17	405.19	12.00	0.00	12.00
2766.81	89.31	90.52	2499.99	-4.29	471.70	471.72	12.00	0.00	12.00
2766.81: TARGET YESO, 2767' MD (2500' TVD)									
6919.77	89.31	90.52	2550.00	-42.11	4624.18	4624.37	0.00	0.00	0.00
6919.77: LATERAL TD, 6920' MD (2550' TVD)									

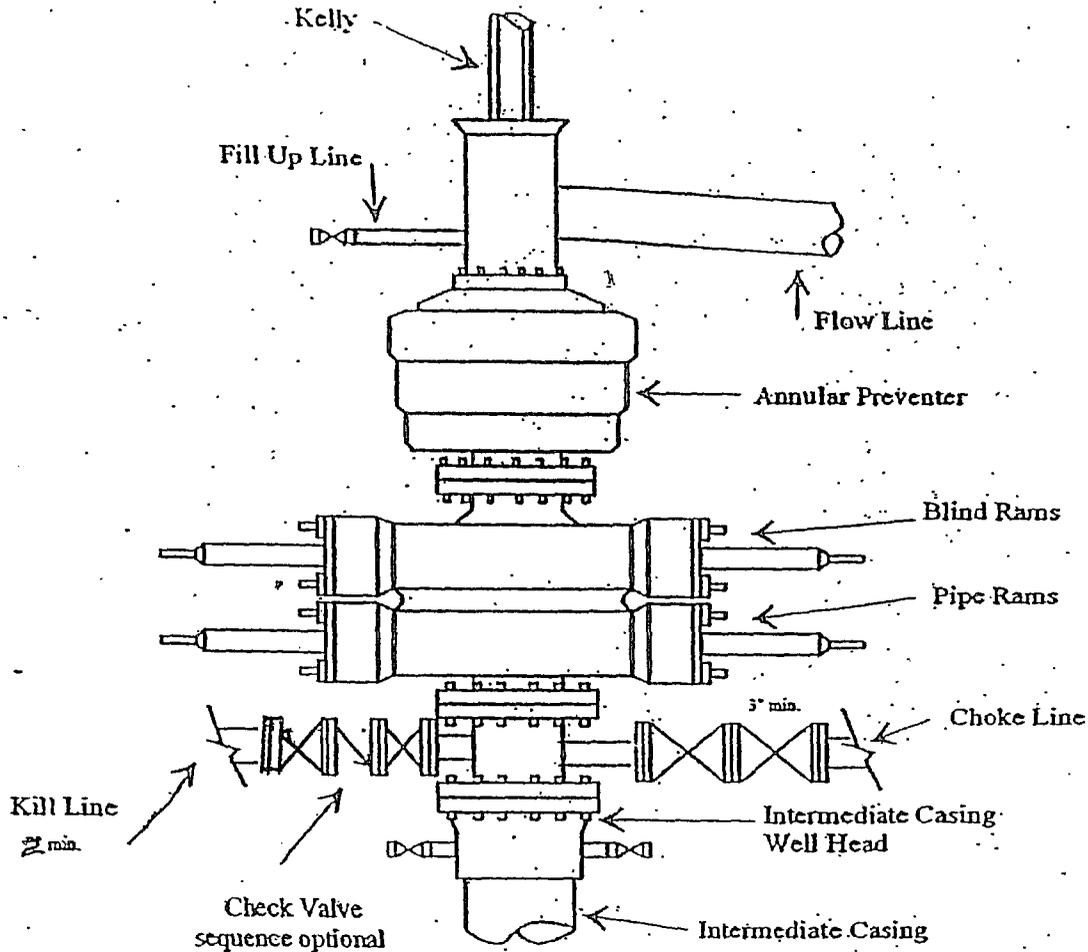




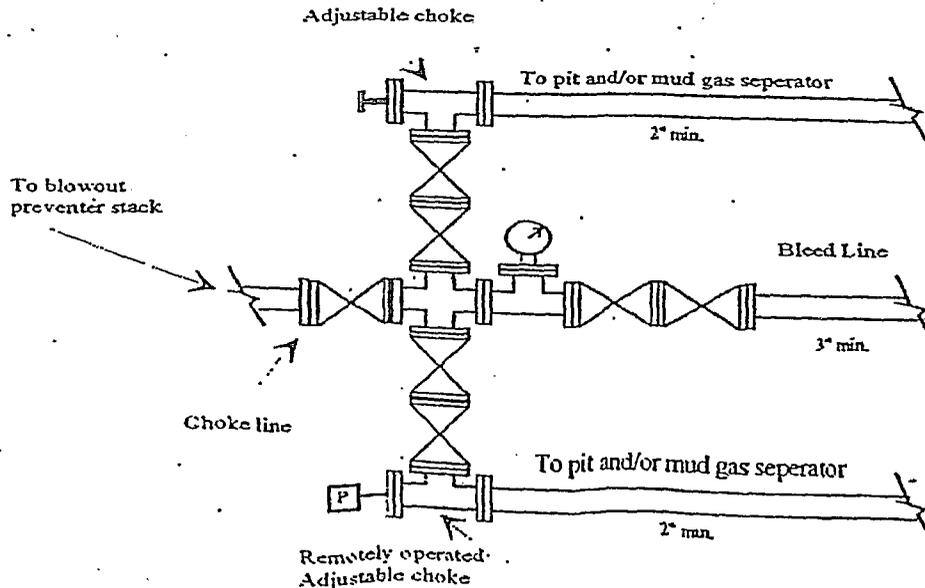
Yates Petroleum Corporation  
 Typical 3,000 psi Pressure System  
 Schematic  
 Annular with Double Ram Preventer Stack

BOP-3

Exhibit

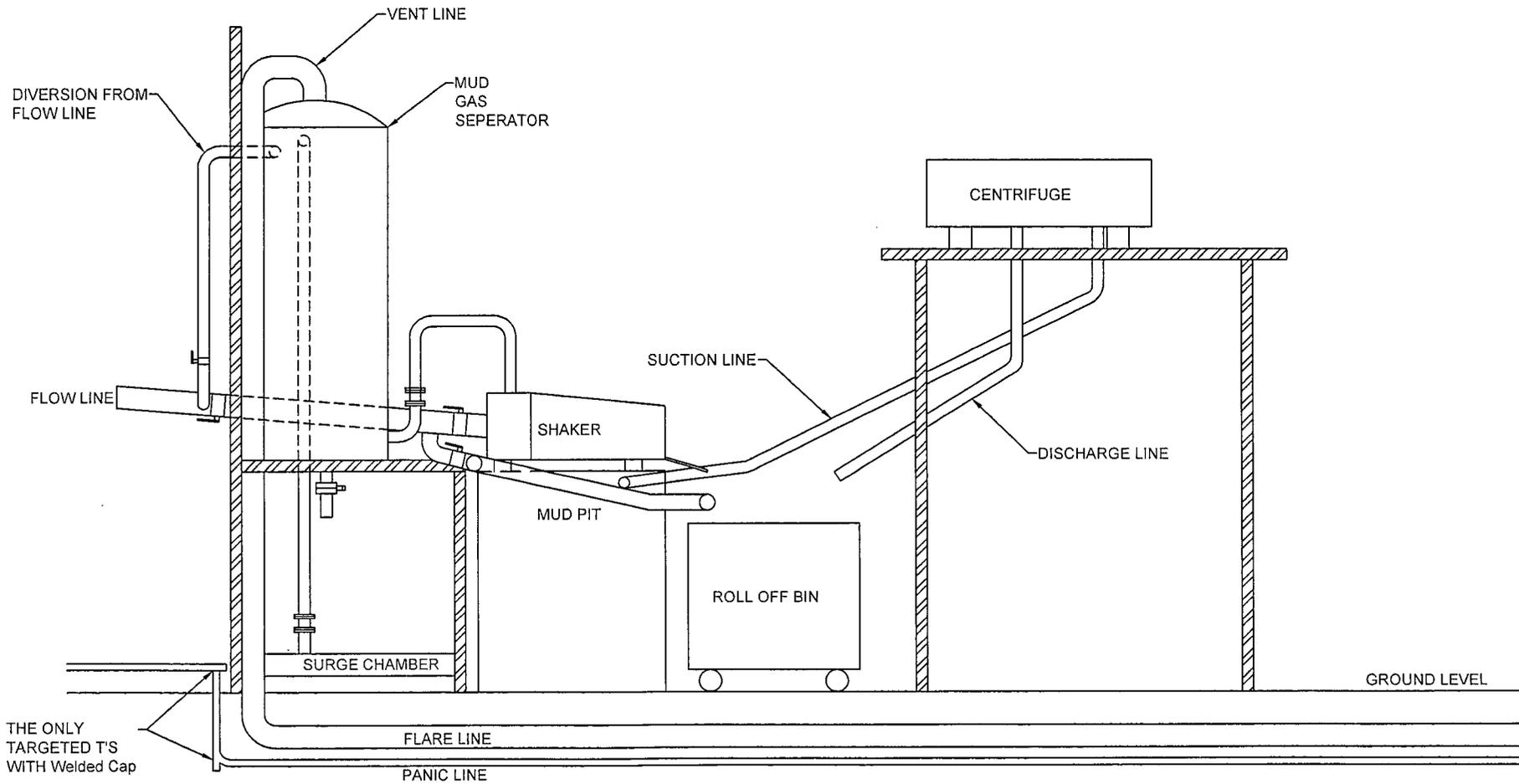


Typical 3,000 psi choke manifold assembly with at least these minimum features



# YATES PETROLEUM CORPORATION

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



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

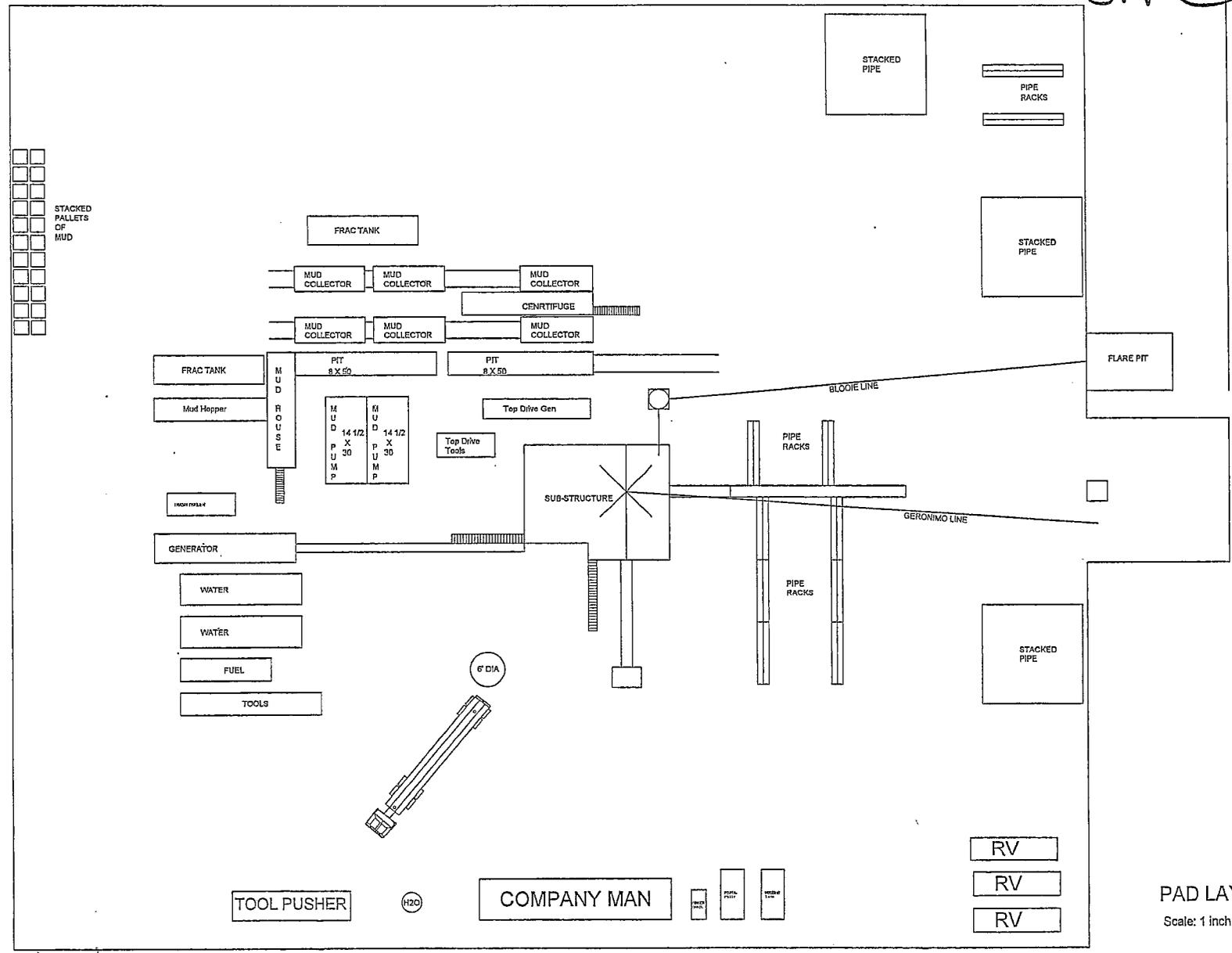
Exhibit

425.00

PAD Site



330



ROAD

375

PAD LAYOUT  
Scale: 1 inch = 50 feet

# **Yates Petroleum Corporation**

**105 S. Fourth Street  
Artesia, NM 88210**

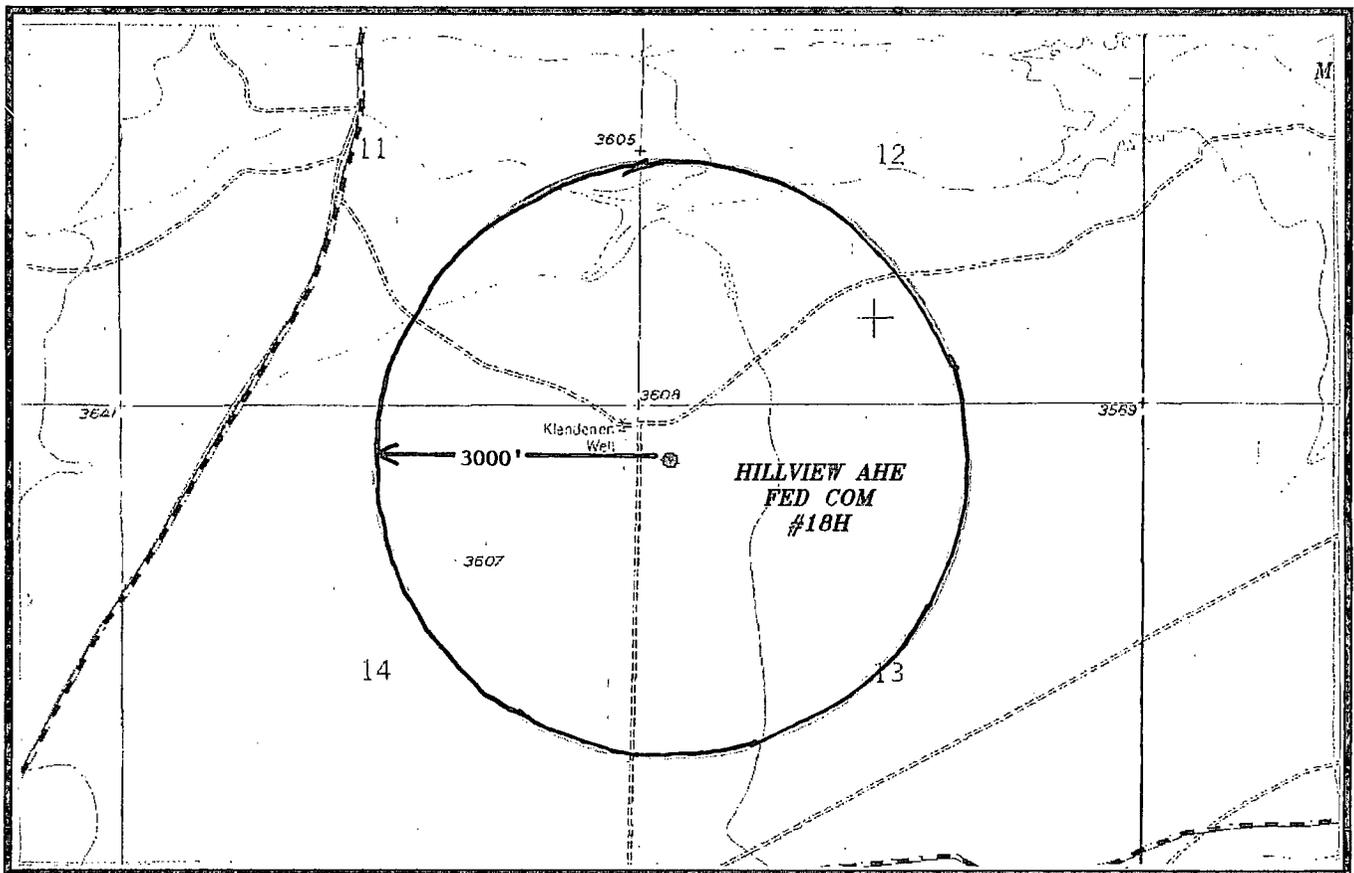
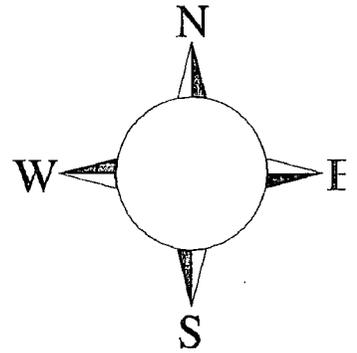
## **Hydrogen Sulfide (H<sub>2</sub>S) Contingency Plan**

**For**

**Hill View "AHE" Federal Com #18-H  
660' FNL and 370' FWL  
Section 13, T-20-S, R-24-E  
Eddy County, NM**

## Hill View "AHE" Federal Com #18-H

This is an open drilling site. H<sub>2</sub>S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H<sub>2</sub>S, including warning signs, wind indicators and H<sub>2</sub>S monitor.



Assumed 100 ppm ROE = 3000'

100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.

## Emergency Procedures

In the case of a release of gas containing H<sub>2</sub>S, 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<sub>2</sub>S, measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H<sub>2</sub>S 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<sub>2</sub>). 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<sub>2</sub>S and SO<sub>2</sub>

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H <sub>2</sub> S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO <sub>2</sub>	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
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**

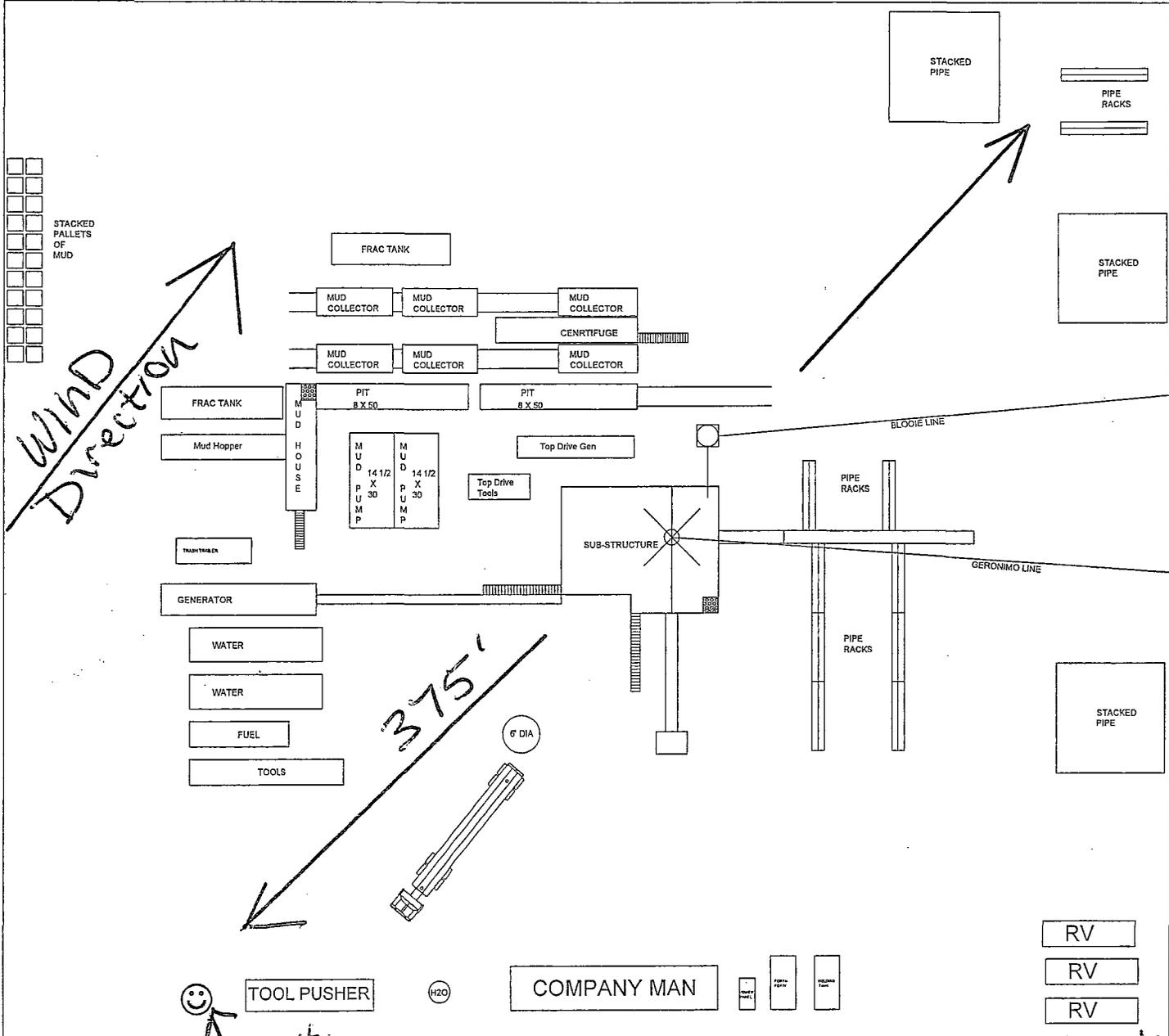
State Police .....	885-3137
City Police.....	885-2111
Sheriff's Office.....	887-7551
Ambulance.....	911
Fire Department.....	885-2111
LEPC (Local Emergency Planning Committee).....	887-3798
US Bureau of Land Management .....	887-6544
New Mexico Emergency Response Commission (Santa Fe)	(505)476-9600
24 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, Albuquerque, NM .....	(505) 842-4433
S B Air Med Svc 2505 Clark Carr Loop SE, Albuquerque, NM .....	(505) 842-4949

# YATES PETROLEUM CORPORATION

Hill View AHE  
FED. Com. 18A



WIND Direction

H2S PLAT

#2 Briefing Area

375'

150'

- ☺ Safe Briefing Area with caution signs and breathing equipment
- ☒ Wind Direction Indicators
- ⊗ H2S Monitor with alarm at the bell nipple

PAD LAYOUT  
Scale: 1 inch = 50 feet

#1 Briefing Site

#2 Driveway

# 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 (H<sub>2</sub>S).
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H<sub>2</sub>S 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 H<sub>2</sub>S on metal components. If high tensile tubular are to be used, personnel will 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 H<sub>2</sub>S Drilling Operations Plan and H<sub>2</sub>S Contingency Plan.

There will be an initial training session just prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500 feet) and weekly H<sub>2</sub>S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H<sub>2</sub>S Drilling Operation Plan and the H<sub>2</sub>S 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 (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  
9308  
ARTESIA POLICE DEPT. 575-746-5000  
9285  
EDDY CO. SHERIFF DEPT. 575-746-9888  
396-1196

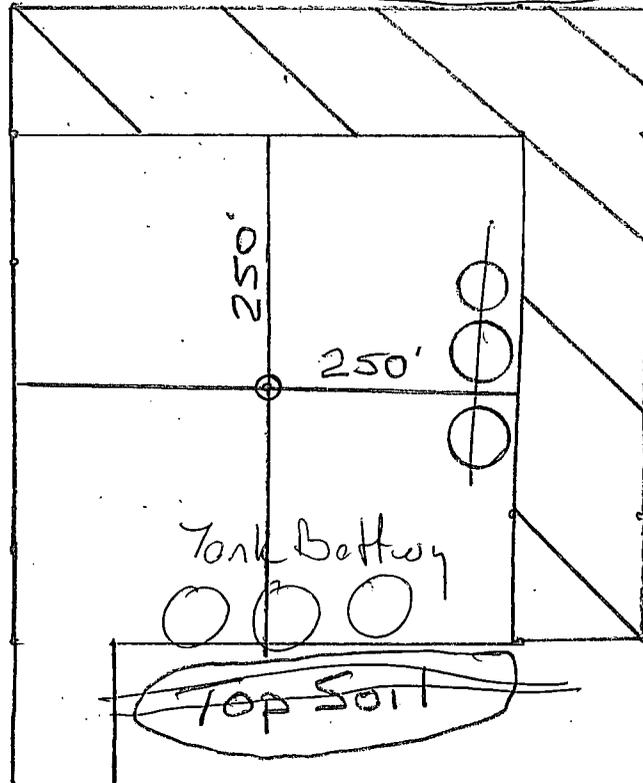
LEA COUNTY EMERGENCY

HOBBS FIRE DEPT. 575-397-  
HOBBS POLICE DEPT. 575-397-  
LEA CO. SHERIFF DEPT. 575-

Hill View AHE  
FED Com #18H

# RECLAMATION PLAT

~~Top Soil~~  
Not to Scale



Changes made to  
reflect what was  
discussed at onsite.  
12-6-3-2013



Possible  
Reclaimed  
AREA

12-6-3-2013

MULTI-POINT SURFACE USE AND OPERATIONS PLAN  
YATES PETROLEUM CORPORATION  
Hill View AHE Federal Com. #18H  
660' FNL & 370' FWL, Surface Hole  
660' FNL & 330' FEL, Bottom Hole  
Section 13-T20S-R24E  
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 30 miles southwest of Artesia, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

DIRECTIONS: Go south of Artesia on Highway 285 for approximately 17.7 miles to the intersection of Highway 285 and White Pine Road. Turn right on White Pine Road and go approximately 3.8 miles to Pickett Road. Turn right on Pickett Road and go approximately 4.1 miles. There will be a caliche pit on the right side of the road. On the west side of the caliche pit turn right on an existing lease road and go .8 of a mile to the southwest corner of the proposed well location.

2. PLANNED ACCESS ROAD:

- A. ~~There will not be any new access road.~~ *Up grade 2-track road. (2-7-3-2013)*
- B. The existing roads will be 14 feet in width (driving surface) and will be adequately drained to control runoff and soil erosion.
- C. The existing road will be upgraded. Traffic turnouts may be needed.
- D. The route of the road is visible.
- E. Existing roads will be maintained in the same or better condition.

3. LOCATION OF EXISTING WELL:

- A. There is drilling activity within a one-mile radius of the well site.
- B. The Exhibit shows existing wells within a one-mile radius of the proposed well site.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

- A. There are production facilities on this lease at the present time.
- B. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad. If the well is productive oil, a gas or diesel self-contained unit will be used to provide the necessary power until an electric line can be built, if needed.

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is planned to drill the proposed well with a brine 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.

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is planned to drill the proposed well with a brine 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:

The dirt contractor will be responsible for finding a source of material for construction of road and pad and will obtain any permits that may be required.

7. METHODS OF HANDLING WASTE DISPOSAL:

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

8. ANCILLARY FACILITIES: None.

9. WELLSITE LAYOUT:

- A. A closed loop system will be used to drill this well. *See Exhibit Pad Site*
- ~~B. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the “Pit Rule” 19.15.17 NMAC.~~
- ~~C. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.~~
- ~~D. Oil produced during operations will be stored in tanks until sold.~~
- ~~E. Current laws and regulations pertaining to the disposal of human waste will be complied with.~~
- ~~F. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not approved.~~

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. Unguarded pits, if any, containing fluids will be fenced until they have dried and have been leveled.
- C. 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. All pits, if any, will be filled level after they have evaporated and dried. Pit reclamation will meet 19.15.17 requirements.

11. SURFACE OWNERSHIP:

Private surface owned by COG Operating LLC.  
2208 West Main Street  
Artesia, NM 88210

A surface access and damage agreement was met with Mr. Jimbob Burnett of COG Operating.  
Mr. Burnett can be reached at (575) 748-6940.

Federal Minerals: Lease numbers NM-86241

Lands: Bureau of Land Management  
620 East Greene Street  
Carlsbad, New Mexico 88220.

Other Minerals: Fee

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.

# PECOS DISTRICT CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	<b>Yates Petroleum Corporation</b>
<b>LEASE NO.:</b>	<b>NMNM-86241</b>
<b>WELL NAME &amp; NO.:</b>	<b>Hill View AHE Federal Com 18H</b>
<b>SURFACE HOLE FOOTAGE:</b>	<b>0660' FNL &amp; 0370' FWL</b>
<b>BOTTOM HOLE FOOTAGE:</b>	<b>0660' FNL &amp; 0330' FEL</b>
<b>LOCATION:</b>	<b>Section 13, T. 20 S., R 24 E., NMPM</b>
<b>COUNTY:</b>	<b>Eddy County, New Mexico</b>

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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**
  - Aplomado Falcon
  - Communitization Agreement
- Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- Road Section Diagram**
- Drilling**
  - Cement Requirements
  - H2S Requirements
  - High Cave/Karst
  - Logging Requirements
  - Waste Material and Fluids
- Production (Post Drilling)**
  - Well Structures & Facilities
  - Pipelines
  - Electric Lines
- Interim Reclamation**
- Final Abandonment & Reclamation**

## **I. GENERAL PROVISIONS**

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

## **II. PERMIT EXPIRATION**

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

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

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

## **IV. NOXIOUS WEEDS**

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

## V. SPECIAL REQUIREMENT(S)

In order to minimize impacts to aplomado falcon, the following Conditions of Approval will apply:

- No yuccas or trees over 5 feet in height will be damaged, to protect nesting structures.
- All active raptor nests will be avoided by a minimum of 400 meters by all activities or curtail activities until fledging is complete. All inactive raptor nests will be avoided by a minimum of 200 meters by all activities.
- Well pad size will not exceed a configuration of 117,000 sq ft or be 300x390 ft pad..
- All roads associated with well development will not exceed 30 ft in width
- Reserve pits for drilling and disposal are not allowed unless the pit can be effectively netted to the satisfaction of the BLM. Steel tank circulation system must be used if the reserve pit is not netted.
- All unused portions of the well pad associated with producing wells will be reclaimed following the abandoned well protocol below
- Final abandonment protocol: Remove all caliche from well pads and roads that are plugged and abandoned. Reclamation will consist of disking, mulching, seeding with a drill (See seed mixture below), and application of water to encourage seed germination.

Buffalograss ( <i>Buchloe dactyloides</i> )	4 lbs/acre
Blue grama ( <i>Bouteloua gracilis</i> )	1 lbs/acre
Cane bluestem ( <i>Bothriochloa barbinodis</i> )	5 lbs/acre
Sideoats grama ( <i>Bouteloua curtipendula</i> )	5 lbs/acre
Plains bristlegrass ( <i>Setaria macrostachya</i> )	6 lbs/acre

### **Drilling:**

#### **Communitization Agreement**

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

### **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 pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad. All sides will be bermed.

#### **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 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.

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

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

Tanks are required for drilling operations: No Pits.

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

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

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

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

Surfacing of the well pad is not required.

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

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

### **F. 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 enclosure fencing design, refer to BLM's Oil and Gas Gold Book, Enclosure 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**

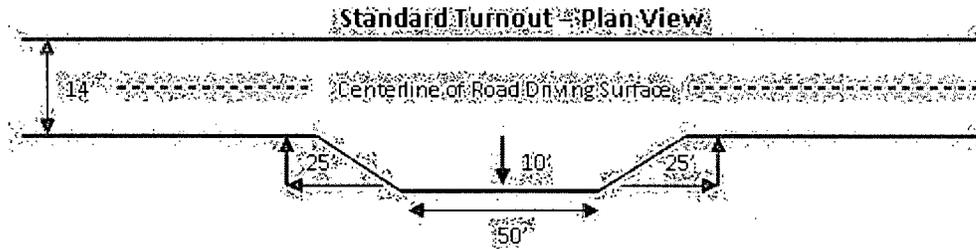
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

### **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 be constructed on all blind curves. Turnouts shall conform to the following diagram:

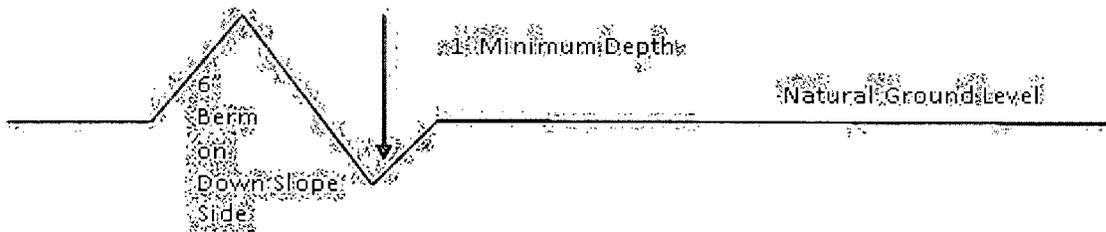


**Drainage**

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

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

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



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

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

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

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

**Culvert Installations**

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

**Cattleguards**

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

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

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

**Fence Requirement**

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

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

**Public Access**

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



## 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 has been reported as a hazard in formations deeper than the proposed depth. It is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide. If Hydrogen Sulfide is encountered, report measurements 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 top and bottom of Salt are to be recorded on the Completion Report.**

### B. CASING

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

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

**Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. See individual casing strings for details regarding lead cement slurry requirements.**

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

**Possibility of water flows in the Artesia group and Bone Spring.  
Possibility of lost circulation in the Grayburg, San Andres, and Bone Spring.**

**HIGH CAVE/KARST – CONTINGENCY CASING WILL BE REQUIRED IF LOST CIRCULATION OCCURS WHILE DRILLING THE SURFACE HOLE. THE SURFACE HOLE WILL HAVE TO BE REAMED AND A LARGER CASING INSTALLED. IF LOST CIRCULATION OCCURS WHILE DRILLING THE 8-3/4” HOLE, THE CEMENT PROGRAM FOR THE 7 X 5-1/2” CASING WILL NEED TO BE MODIFIED AND THE BLM IS TO BE CONTACTED PRIOR TO RUNNING THE CASING. 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 WILL NOT BE PERMITTED. A DV TOOL WILL BE REQUIRED.**

1. The 9-5/8 inch surface casing shall be set at approximately 750 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.

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

2. The minimum required fill of cement behind the 7 X 5-1/2 inch production casing is:

Cement to surface. If cement does not circulate, contact the appropriate BLM office.

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 071713**

## 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).

Seed Mixture , for Aplomado Falcon

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 regulator to ensure proper depth of planting where drilling is possible. The seed mixture will 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). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

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

<u>Species</u>	Lb/Acre
Buffalograss (Buchloe dactyloides)	4 lbs/acre
Blue grama (Bouteloua gracilis)	1 lbs/acre
Cane bluestem (Bothriochloa barbinodis)	5 lbs/acre
Sideoats grama (Boutelou curtispindula)	5 lbs/acre
Plains bristlegrass (Setaria macrostachya)	6 lbs/acre

\*Pounds of pure live seed:

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