

ATS-08-3

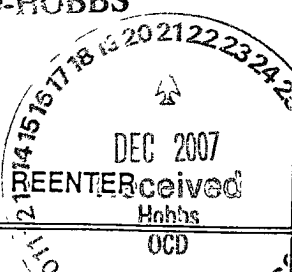
Form 3160-3
(April 2004)

OCD-HOBBS

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER



5. Lease Serial No.
NM-90161

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No. **HAWK "B-1" # 61**

9. API Well No. **30-025-38659**

10. Field and Pool, or Exploratory
EUNICE-BLINEBRY-TUBB-DRINK.N.

11. Sec., T. R. M. or Blk. and Survey or Area
SECTION 8 T21S-R37E

12. County or Parish
LEA CO.

13. State
NEW MEXICO

1a. Type of work: ☒ DRILL ☐ REENTER

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

2. Name of Operator
APACHE CORPORATION (LANA WILLIAMS 918-491-4980)

3a. Address TWO WARREN PLACE SUITE 1500
6120 SOUTH YALE, TULSA, OKLAHOMA 74136-4224 (PH-918-491-4980)

3b. Phone No. (include area code)
Unit P
UNORTHODOX LOCATION
USL-5683

4. Location of Well (Report location clearly and in accordance with any State requirements.)
At surface 170' FSL & 1180' FEL SECTION 8 T21S-R37E
At proposed prod. zone SAME

14. Distance in miles and direction from nearest town or post office*
Approximately 3 miles Northwest of Eunice New Mexico

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
170'

16. No. of acres in lease
958.25

17. Spacing Unit dedicated to this well
40

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
682'

19. Proposed Depth
6925'

20. BLM/BIA Bond No. on file
BLM-CO-1463 NATION WIDE

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3498' GL

22. Approximate date work will start*
WHEN APPROVED

23. Estimated duration
45 Days

24. Attachments

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

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

25. Signature *Joe T. Janica* Name (Printed Typed) Joe T. Janica Date 10/18/07

Title Permit Engineer
Approved by (Signature) *Is/ Don Peterson* Name (Printed Typed) Is/ Don Peterson Date DEC 19 2007

Title *FOR* 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

Under 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.

Instructions on page 2)

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

Form 3160-3
(April 2004)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 20075. Lease Serial No.
NM-901616. If Indian, Allottee or Tribe Name
-----7. If Unit or CA Agreement, Name and No.
-----8. Lease Name and Well No.
HAWK "B-1" # 61

9. API Well No.

10. Field and Pool, or Exploratory
EUNICE-BLINEBRY-TUBB-DRINK.N.11. Sec., T. R. M. or Blk. and Survey or Area
SECTION 8 T21S-R37E12. County or Parish
LEA CO.13. State
NEW MEXICO1a. Type of work: ☒ DRILL ☐ REENTER
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone2. Name of Operator
APACHE CORPORATION (LANA WILLIAMS 918-491-4980)3a. Address TWO WARREN PLACE SUITE 1500
6120 SOUTH YALE, TULSA, OKLAHOMA 74136-4224 (PH-918-491-4980)

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

At surface 170' FSL & 1180' FEL SECTION 8 T21S-R37E

At proposed prod. zone SAME

14. Distance in miles and direction from nearest town or post office*
Approximately 3 miles Northwest of Eunice New Mexico15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any) 170'16. No. of acres in lease
958.2517. Spacing Unit dedicated to this well
4018. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft. 682'19. Proposed Depth
6925'20. BLM/BIA Bond No. on file
BLM-CO-1463 NATION WIDE21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3498' GL22. Approximate date work will start*
WHEN APPROVED23. Estimated duration
45 Days

24. Attachments

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

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

5. Signature *Joe T. Janica* Name (Printed Typed) Joe T. Janica Date 10/18/07
 Title Permit Engineer

Approved by (Signature) _____ Name (Printed Typed) _____ Date _____
 Title _____ 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.

Under 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.

Instructions on page 2)

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

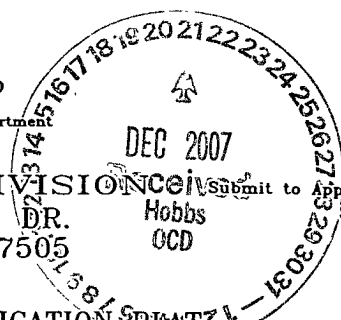
DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

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

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505



Form C-102
Revised JUNE 10, 2003
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION

☐ AMENDED REPORT

API Number 30-025-38659		Pool Code 22900	Pool Name EUNICE-BLINEBRY-TUBB-DRINKARD-NORTH
Property Code 24427	Property Name HAWK B-1		Well Number 61
OGRID No. 0873	Operator Name APACHE CORPORATION		Elevation 3498'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	8	21-S	37-E		170	SOUTH	1180	EAST	LEA

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
Dedicated Acres 40		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

L	K	J	I	DETAIL 3502.4' 3501.4' 600' 600' 3494.9' 3493.4' 170' SEE DETAIL 1180'	OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief. <i>Joe T. Janica</i> Signature Joe T. Janica Printed Name Permit Engineer Title 10/18/07 Date
SECTION 8 SECTION 17					

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

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State of New Mexico

Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

DEC 2007

Form C-102
Revised JUNE 10, 2003
Submit to: Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number		Pool Code	Pool Name
Property Code	Property Name HAWK B-1		Well Number 61
OGRID No.	Operator Name APACHE CORPORATION		Elevation 3498'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	8	21-S	37-E		170	SOUTH	1180	EAST	LEA

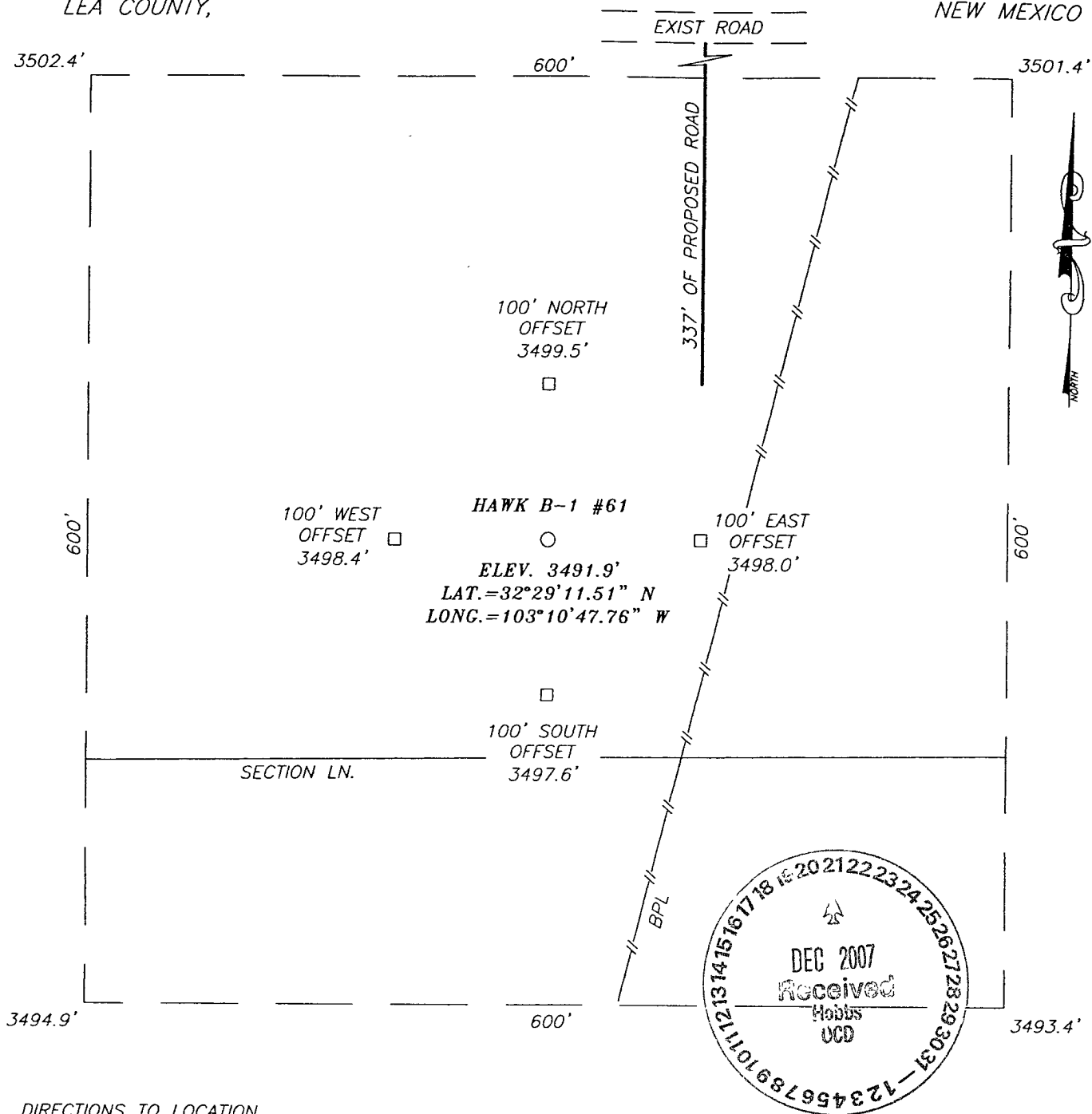
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						

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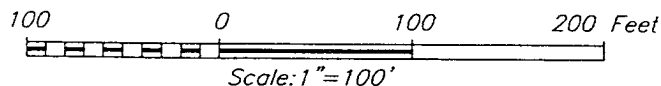
	OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.	
	Signature _____ Printed Name _____ Title _____ Date _____	
	SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field 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.	
	JANUARY 19, 2006 Date Surveyed _____ JR Signature & Seal of Professional Surveyor _____ 06.11.0075 Certificate No. GARY EIDSON 12641	

SECTION 8, TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

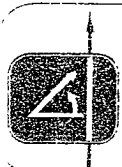
FROM THE INTERSECTION OF ST. HWY. #207 CO. RD. E-34 (HILL RD.) GO NW ON CO. RD. E-34 APPROX. 0.9 MILES. TURN LEFT (WEST) AND GO APPROX. 0.6 MILES TO A PROPOSED ROAD SURVEY. FOLLOW PROPOSED ROAD SURVEY SOUTH APPROX. 340' TO THIS LOCATION.



APACHE CORPORATION

HAWK B-1 #61 WELL
 LOCATED 170 FEET FROM THE SOUTH LINE
 AND 1180 FEET FROM THE EAST LINE OF SECTION 8,
 TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M.,
 LEA COUNTY, NEW MEXICO.

Survey Date: 1/19/06	Sheet 1 of 1 Sheets
W.O. Number: 06.11.0075	Dr By: J.R.
Date: 1/25/06	Disk: CD#6
06110075	Scale: 1"=100'



PROVIDING SURVEYING SERVICES
 SINCE 1946
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO
 HOBBS, N.M. 88240
 (505) 393-3117

0112131415161718192021222324252627282930

A

DEC 2007

Received

Hobbs

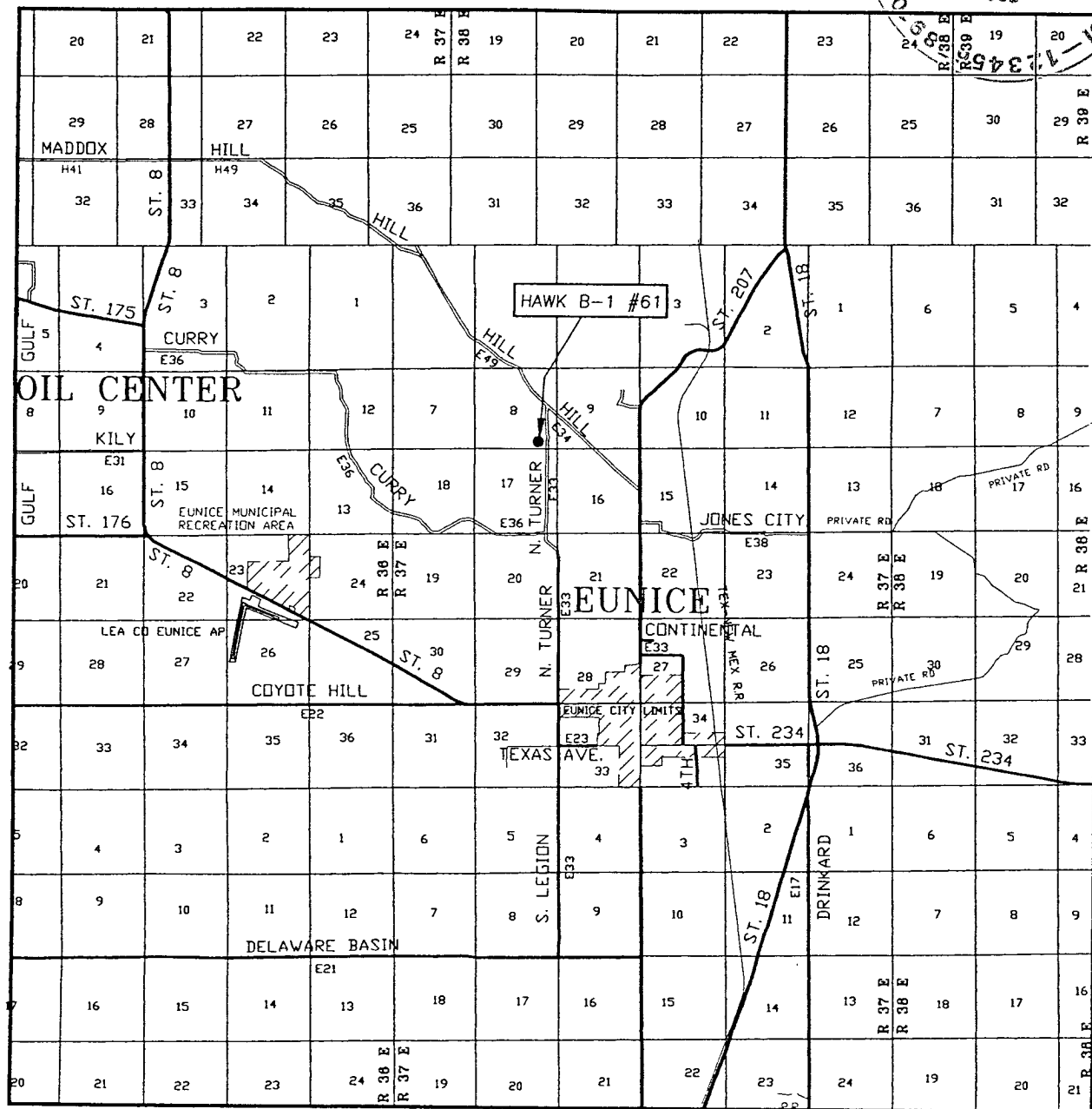
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2007-12-31 19:34

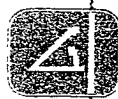
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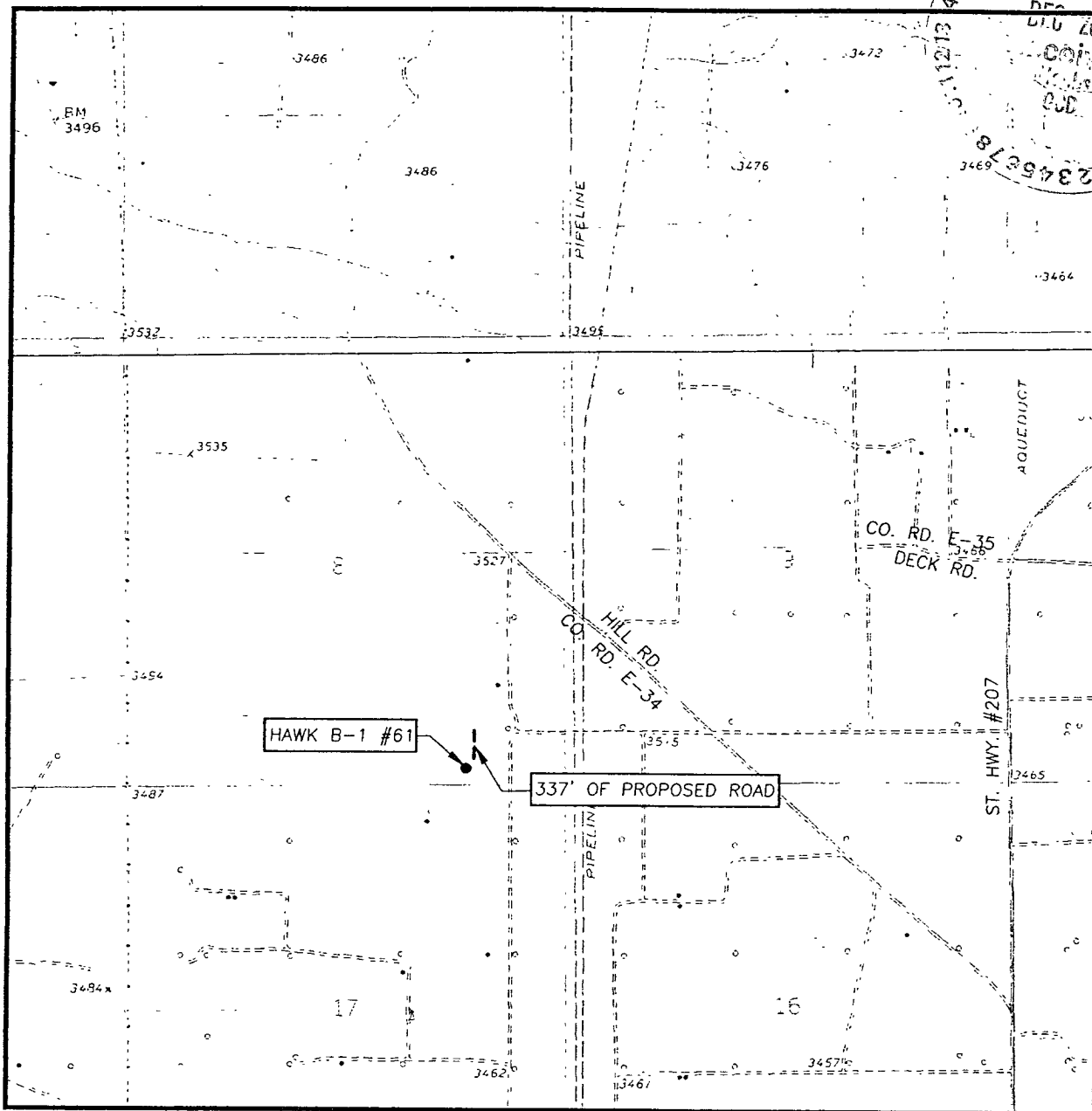


SEC. 8 TWP. 21-S RGE. 37-E
SURVEY _____ N.M.P.M. _____
COUNTY LEA STATE NEW MEXICO
DESCRIPTION 170' FSL & 1180' FEL
ELEVATION 3498'
OPERATOR APACHE CORPORATION
LEASE HAWK B-1



JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
HOBBS SW, N.M. - 5'
EUNICE, N.M. - 10'

SEC. 8 TWP. 21-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

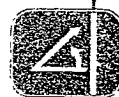
DESCRIPTION 170' FSL & 1180' FEL

ELEVATION 3498'

OPERATOR APACHE CORPORATION

LEASE HAWK B-1

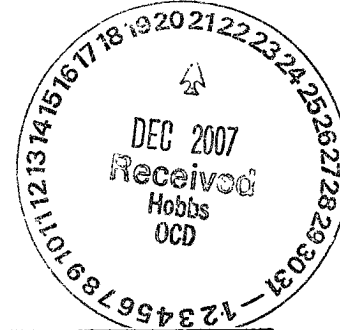
U.S.G.S. TOPOGRAPHIC MAP
HOBBS SW, N.M.



PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

B. Proposed Cement Program

CASING	LEAD SLURRY	TAIL SLURRY	DISPLACEMENT
8 5/8"	400 sacks 35.65 Poz: Class C Cement + 2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.003 gps FP-6L + 6% bwoc Bentonite gel 752 Vol. Cu Ft 1.94 Vol. Factor Slurry Weight (ppg) 12.7 Slurry Yield (cf/sack) 1.88 Amount of Mix Water (gps) 10.7; <u>Estimated Pumping Time – 70 BC (HH:MM)-4:00;</u>	200 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water 270 Vol. Cu Ft 1.94 Vol. Factor Slurry Weight (ppg) 14.8 Slurry Yield (cf/sack) 1.35 Amount of Mix Water (gps) 6.35 Estimated Pumping Time – 70 BC (HH:MM)-3:00;	80 bbls Fresh Water @ 8.33 ppg



8 5/8" Casing: Volume Calculations:

1260 ft	x	0.4127 cf/ft	with 100% excess	=	1040.0 cf
40 ft		x 0.8214 cf/ft	with 0% excess	=	32.8 cf
40 ft	x	0.3576 cf/ft	with 0% excess	=	14.3 cf (inside pipe)
TOTAL SLURRY VOLUME					= 1087.1 cf
					= 193.6 bbls

Spacer 20.0 bbls Water @ 8.33 ppg

CASING	LEAD SLURRY	TAIL SLURRY	DISPLACEMENT
5 1/2"	950 sacks (50:50) Poz (Fly Ash): Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.003 gps FP-6L + 10% bwoc Bentonite 2318 Vol. Cu Ft 2.66 Vol. Factor Slurry Weight (ppg) 11.8 Slurry Yield (cf/sack) 2.44 Amount of Mix Water (gps) 14.07; Amount of Mix Fluid (gps) 14.07 <u>Estimated Pumping Time – 70 BC (HH:MM)-4:00;</u>	450 sacks (50:50) Poz (Fly Ash): Class C Cement + 5% bwow Sodium Chloride + 0.003 gps FP-6L 581 Vol. Cu Ft 1.84 Vol. Factor Slurry Weight (ppg) 14.2 Slurry Yield (cf/sack) 1.29 Amount of Mix Water (gps) 5.91; Amount of Mix Fluid (gps) 5.91; Estimated Pumping Time – 70 BC (HH:MM)-3:00;	160 bbls 2% Kcl Water @ 8.43 ppg

5 1/2" Casing: Volume Calculations:

1300 ft	x	0.1926 cf/ft	with 0% excess	=	250.4 cf
3725 ft	x	0.1733 cf/ft	with 159% excess	=	1672 cf
1900 ft	x	0.1733 cf/ft	with 85% excess	=	609.0 cf
40 ft	x	0.1305 cf/ft	with 0% excess	=	5.2 cf (inside pipe)
TOTAL SLURRY VOLUME					= 2536.60 cf
					= 451.75 bbls

All slurries will be tested prior to loading to confirm thickening times and a lab report furnished to Apache. Fluid loss will be tested and reported on slurries with fluid loss additives. Lab test report will be furnished prior to pumping cement.

V. A. Proposed Mud Program

<u>DEPTH</u>	<u>MUD PROPERTIES</u>	<u>REMARKS</u>
0 - 1,300'	Weight: 8.6 - 9.6 ppg Viscosity: 34 - 36 sec/qt pH: NC Filtrate: NC	Spud with a Conventional New Gel/Lime "Spud mud". Use NewGel and native solids to maintain a sufficient viscosity to keep the hole clean. Mix Paper one-two sacks every 100 feet drilled to minimize wall cake build up on water sands and to control seepage loss. At TD of interval, mix in pre-mix pit, 100 barrels of system fluid, NewGel viscosity of 60 sec/100cc, add 0.25 ppb of Super Sweep.
1300' - 5600'	Weight: 9.9 - 10.1 ppg Viscosity: 28 - 29 sec/qt pH: 9-10 Filtrate: NC	Drill out from under the surface casing with Brine Water. Paper should be added at 2 bags after every 100' drilled to control seepage losses. Use Lime to maintain pH at 9-10. Mix one gallon of New-55 at flowline every 250 feet drilled to promote solids settling. Sweep hole with 5-ppb of Super Sweep every 500 feet.
5600' - TD	Weight: 9.9 - 10.1 ppg Viscosity: 30 - 40 sec/qt pH: 9-10 Filtrate: 8-15 cm/30 min	From 5600' to Total Depth, it is recommended the system be restricted to the working pits. Adjust and maintain pH with Caustic Soda. Treat system with Newcide to prevent bacterial degradation of organic materials. Mix Starch (yellow) to control API filtrate at <15cc.

VI. Proposed Control Equipment:

Will install on the 8 5/8" surface casing a 9" x 3000 psi WP Double Ram BOP and will test before drilling out of surface casing. As expected pressures will not exceed 2000 psi, we request a waiver of the remote control requirement on the accumulator of the 3M BOP and a variance to run a 2M BOP, if available. See Exhibit "H" for BOP layout.

VII. Auxiliary Equipment:

9" x 3000 psi double BOP/blind & pipe ram (2M BOP if available)
4 1/2" x 3000 psi Kelly valve
9" x 3000 psi mud cross - H₂S detector on production hole
Gate-type safety valve 3" choke line from BOP to manifold
2" adjustable chokes - 3" blowdown line

VIII. A. Testing Program: None planned

B. Logging Program: The following logs may be run:

CNL, LDT, GR, CAL, DLL, MSFL, NGT, Sonic from TD-1300'
CNL, GR from TD-Surface

C. Coring Program: None planned

D. Mudlogging Program: None planned

IX. No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered, however, the proposed mud program will be modified to increase the mud-weight. The estimated maximum bottom hole pressure is 2400 psi.

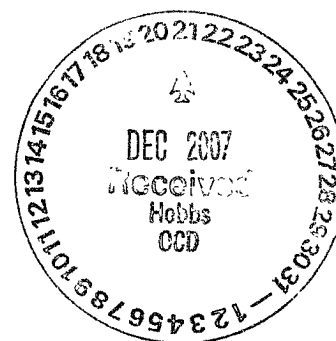
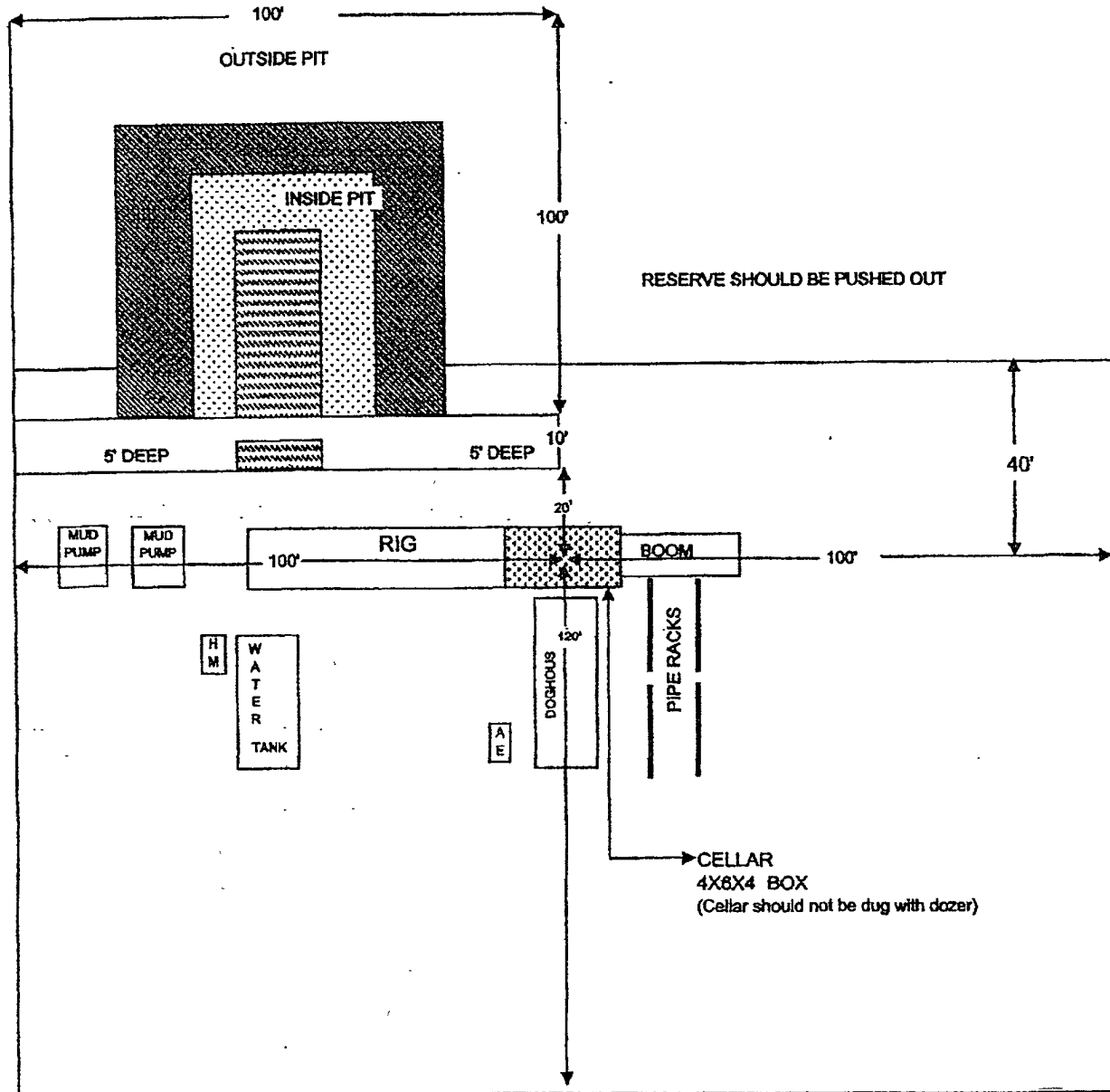


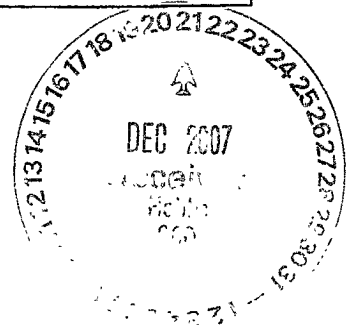
Exhibit G
CapStar Drilling, Inc.
LOCATION SPECIFICATIONS AND RIG LAYOUT
FOR EARTH PITS

Rig #8



Cellar can be 4X4X4 if using a screw-on wellhead
 Working Pits dug 5' below ground level

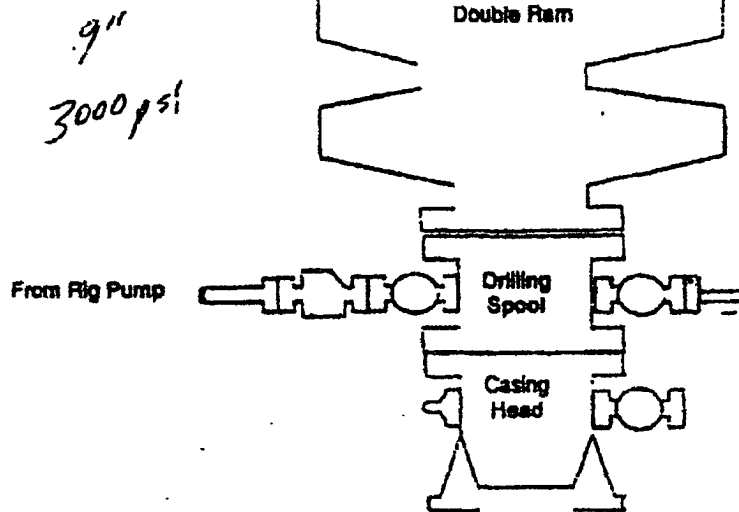
Location Specs



BOP Schematic

*Note: If BOP is equipped w/ side outlets below the rams, a spool is not required.

3000 psi WP Double Ram
Blow-out Preventor. Must be tested
to 1000 psi prior to drilling out
8-5/8" surface casing.



Minimum 2" nominal
to choke manifold

Choke Manifold Schematic

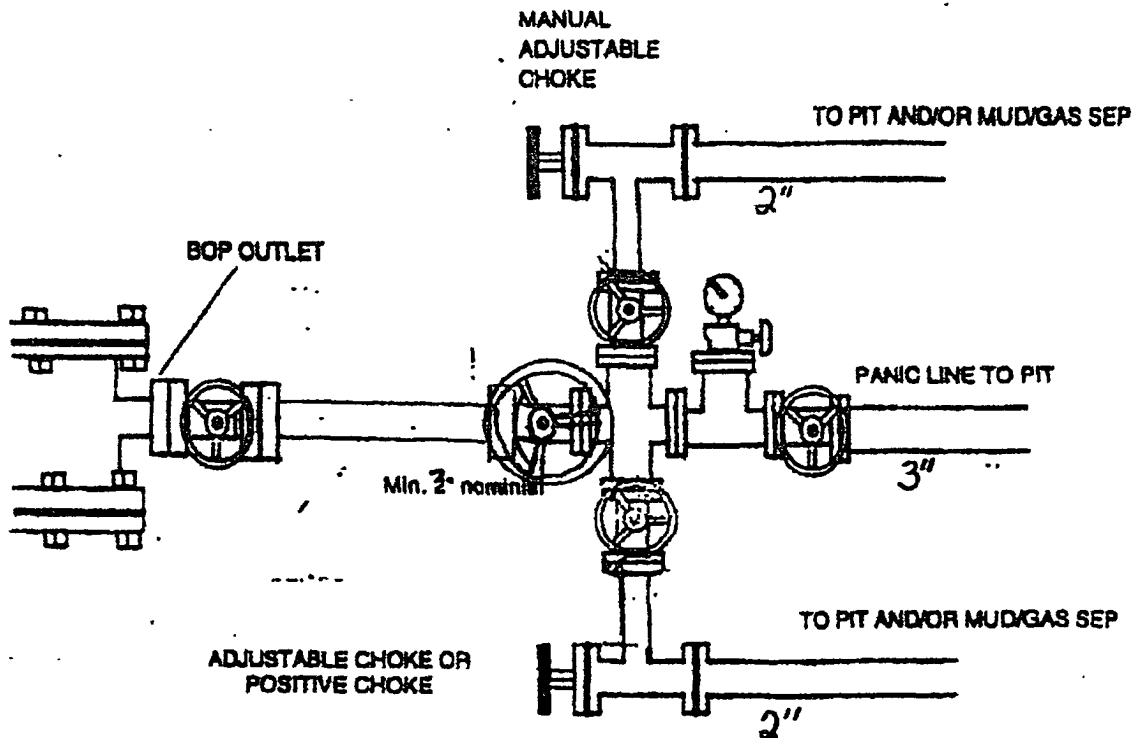


EXHIBIT "B"
Hawk B-1 #61

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

No H₂S is anticipated.



HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H₂S safety instructor to the following:
 - A. Characteristics of H₂S
 - B. Physical effects and hazards
 - C. Proper use of safety equipment and life support systems.
 - D. Principle and operation of H₂S detectors, warning system and briefing areas.
 - E. Evacuation procedure, routes and first aid.
 - F. Proper use of 30 minute pressure demand air pack.
2. H₂S Detection and Alarm Systems
 - A. H₂S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.
3. Windsock and/or wind streamers
 - A. Windsock at mudpit area should be high enough to be visible.
 - B. Windsock at briefing area should be high enough to be visible.
 - C. There should be a windsock at entrance to location.
4. Condition Flags and Signs
 - A. Warning sign on access road to location.
 - B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H₂S present in dangerous concentration. Only emergency personnel admitted to location.
5. Well control equipment
 - A. See exhibit "E"
6. Communication
 - A. While working under masks chalkboards will be used for communication.
 - B. Hand signals will be used where chalk board is inappropriate.
 - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephoned will be available at most drilling foreman's trailer or living quarters.
7. Drillstem Testing
 - A. Exhausts will be watered.
 - B. Flare line will be equipped with an electric ignitor or a propane pilot light in case gas reaches the surface.
 - C. If location is near any dwelling a closed D.S.T. will be performed.



HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

8. Drilling contractor supervisor will be required to be familiar with the effects H_2S has on tubular goods and other mechanical equipment.
9. If H_2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H_2S scavengers if necessary.

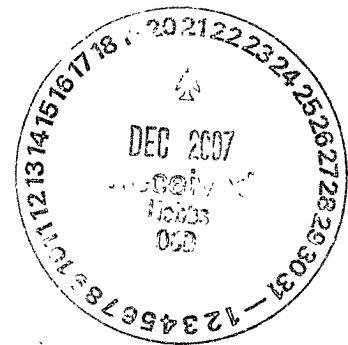


EXHIBIT "C"

SURFACE USE AND OPERATIONS PLAN
CULTURAL RESOURCES SURVEY
APPROXIMATE REHABILITATION SCHEDULE

LOCALITY: HAWK B-1 #61
OPERATOR: APACHE CORPORATION

LOCATION: SE $\frac{1}{4}$ SE $\frac{1}{4}$ OF SECTION 8, T21S-R37E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SUBMITTED TO:

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE
620 E. GREENE ST
CARLSBAD, NM 88220
TELEPHONE (505) 234-5972

This plan is submitted to provide permitting agencies with information necessary to allow an appraisal of the environmental effects associated with the proposed drilling operations. Within the context of typical drilling operations, this plan provides for protection of surface resources and other environmental components. This plan has been developed in conformity with the United States Geological Survey NTL-6 guidelines, Bureau of Land Management Oil and Gas Order No. 1, and in connection and consultation with the private surface owner of record, if other than the United States of America, as well as the Roswell District Office for the Bureau of Land Management and the United States Department of the Interior personnel.

PART #1:

- 1) Surface Location:
SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 8, Township 21 South, Range 37 East, N.M.P.M.
Lea County, New Mexico
170' FSL, 1180' FEL, Unit P
See attached Exhibits "D" and "E"
- 2) Bottom Hole Location:
SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 8, Township 21 South, Range 37 East, N.M.P.M.
Lea County, New Mexico
170' FSL, 1180' FEL, Unit P
See attached Exhibits "D" and "E"
- 3) Leases Issued: NM-90161
- 4) Record Lessee:

Apache Corporation	50%
BP America	25%
Chevron USA	25%



- 5) Acres in Lease:
Township 21 South, Range 37 East, NMPM
Section 4: Lots 3, 6
Section 6: E $\frac{1}{2}$ SE $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$
Section 8: E $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$
Section 9: E $\frac{1}{2}$ NW $\frac{1}{4}$, S $\frac{1}{2}$

Township 20 South, Range 37 East, NMPM
Section 13: SW $\frac{1}{4}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$

Township 20 South, Range 38 East, NMPM
Section 30: Lot 1

Total Acres: 958.25

6) Acres Dedicated to Well:

There are 40.00 acres dedicated to this well, which takes in the Unit P of Section 8, Township 21 South, Range 37 East, N.M.P.M., Lea County, New Mexico.

PART #2:

1) Existing Roads:

Exhibits "E-1" & "E-2" comprise maps showing the proposed well site in relation to existing roads. From the intersection of Highway 8 and loop road 207 in Eunice, New Mexico, go 2.7 miles north on Loop 207. Turn left (west) on Hill Road and go 1.4 of a mile and turn left (south) on Turner Road. Go 0.3 of a mile south and then turn right (west), go 0.1 of a mile and turn left (south) to location as illustrated on Exhibit "E-2".

2) Planned Access:

- A. Length and Width: A new, 337-foot access road, 14' wide, will be constructed from the existing lease/access road to the well site. 30' will be provided in the turns. Application for a buried pipeline will be made if it becomes necessary.
- B. Construction: The existing roads will be lightly graded and topped with compacted caliche as needed.
- C. Turnouts: None required.
- D. Culverts: None required.
- E. Cuts and Fills: As needed.
- F. Gates and Cattleguards: None required.

3) Location of Existing Wells:

Exhibit "F" shows existing wells within a 1-mile radius of the proposed well.

4) Location of Existing and/or Proposed Facilities:

- A. There are production facilities within the area of the Hawk B-1 lease.
- B. If the oil well proves to be commercial, any necessary production facilities will be installed on the drilling pad, and flow lines will be installed along the proposed and existing roads to the production facilities and storage tanks. See Exhibit "E-3" for flow-line route.

5) Location and Type of Water Supply:

Apache Corporation plans to drill the proposed well with fresh and brine water which will be transported by truck over proposed and existing access roads.

6) Source of Construction Materials:

Caliche for surfacing access roads and the wellsite pad will be obtained from the location itself or from BLM pits in the area.

7) Method of Handling Waste Material:

- A. Drill cuttings will be disposed of in the reserve pits.
- B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.
- C. All pits will be fenced with normal fencing materials to prevent livestock from entering the area.
- D. Water produced during operations will be collected in tanks until hauled to an approved disposal system.
- E. Oil produced during operation will be stored in tanks until sold.



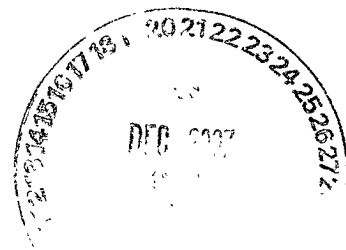
- F. Apache Corporation will comply with current laws and regulations pertaining to the disposal of human waste.
- G. All waste materials will be contained to prevent scattering by the wind and will be removed from the well site within 30 days after drilling and/or completion operations are finished.
- 8) Ancillary Facilities: None planned.
- 9) Well Site Layout:
- A. Exhibit "G" shows the relative location and dimensions of the well pad, reserve pits, and major rig components. The pad and pit area have been staked and flagged.
- B. Mat Size: 150' x 210' plus reserve pits as shown on Exhibit "G".
- C. Cut & Fill: Only minor leveling of the drilling site is anticipated.
- D. The surface will be topped with compacted caliche and the reserve pits will be lined with 12 mil plastic.
- 10) Plans for Restoration of the Surface:
- A. After completion of drilling and/or completion operations, all equipment and other material, not needed for operations, will be removed. Pits will be filled and the location cleaned of all trash and junk to leave the well site in as aesthetically pleasing a condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- C. If the proposed well is non-productive, Apache Corporation will comply with all rehabilitation and/or vegetation requirements of the Bureau of Land Management, and such rehabilitation will be accomplished as expeditiously as possible. All pits will be filled and leveled within 90 days after abandonment.
- 11) Other Information:
- A. Topography: The wellsite and access road are located in the Querecho Plains and are relatively flat.
- B. Soil: The proposed location, access road and production facilities consist of sandy soil. Slope in the proposed area ranges from zero (0) to five (5) degrees.
- C. Flora and Fauna: Vegetation is one of a grassland environment and a scrub-grass, scrub disclimax community. The wildlife consists of rabbits, coyotes, rattlesnakes, lizards, dove, quail and other wildlife typical of the semi-arid desert land.
- D. Ponds and Streams: There are no ponds, lakes, streams or feeder creeks in the immediate area.
- E. Residences and Other Structures: There are no occupied residences or other structures on or near the proposed location.
- F. Land Use: The land is used for grazing cattle.
- G. Surface Ownership: The surface is owned by the Millard Deck Estate, c/o Bank of America NA, attention Tim Wolters. P. O. Box 270, Midland, TX 79701, 432-685-2064. A surface damage agreement between Apache Corporation and the Millard Deck Estate was executed by both parties on August 11, 2006.
- H. Archaeological, Historical, and Other Cultural Sites:
- Don Clifton, Archaeological Consultant, of Pep, New Mexico, will be conducting an archaeological survey of the proposed well which covers the drilling location, production facilities, and access road, including a corridor along said access road for power and flow lines. His report will be filed under separate cover.
- I. Senior Representative (Manager, Engineering & Production):
- Ross Murphy
Apache Corporation
Suite 1500 - Two Warren Place
6120 South Yale Avenue
Tulsa, Oklahoma 74136
(918) 491-4834

Project (Operations Engineer):

Kevin Mayes
Apache Corporation
Suite 1500 – Two Warren Place
6120 South Yale Avenue
Tulsa, Oklahoma 74136
(918) 491-4972

Drilling Operations (Operations Engineer):

Terry Gilbert
Apache Corporation
Suite 1500 – Two Warren Place
6120 South Yale Avenue
Tulsa, Oklahoma 74136
(918) 491-4801



CERTIFICATION

I HEREBY CERTIFY THAT I OR PERSONS UNDER MY SUPERVISION HAVE INSPECTED THE PROPOSED DRILL SITE AND THE ACCESS ROAD ROUTES, THAT I AM FAMILIAR WITH THE CONDITIONS THAT CURRENTLY EXIST, AND THAT THE STATEMENTS MADE IN THIS PLAN ARE TO THE BEST OF MY KNOWLEDGE ARE TRUE AND CORRECT, AND THAT THE WORK ASSOCIATED WITH THE OPERATIONS PROPOSED HEREIN WILL BE PERFORMED BY APACHE CORPORATION ITS CONTRACTORS OR ITS SUB-CONTRACTORS IS IN CONFORMANCE WITH THIS PLAN AND THE TERMS AND THE CONDITIONS UNDER WHICH IT IS APPROVED. THIS STATEMENT IS SUBJECT TO THE PROVISIONS OF U.S.C. 1001 FOR THE FILING OF A FALSE STATEMENT.

OPERATORS REPRESENTATIVES

BEFORE CONSTRUCTION

JOE T. JANICA

TIERRA EXPLORATION, INC.
P. O. BOX 2188
HOBBS, NEW MEXICO 88241
PHONE 505-391-8503
CELL 505-390-1598

DURING AND AFTER CONSTRUCTION

HAROLD SWAIN

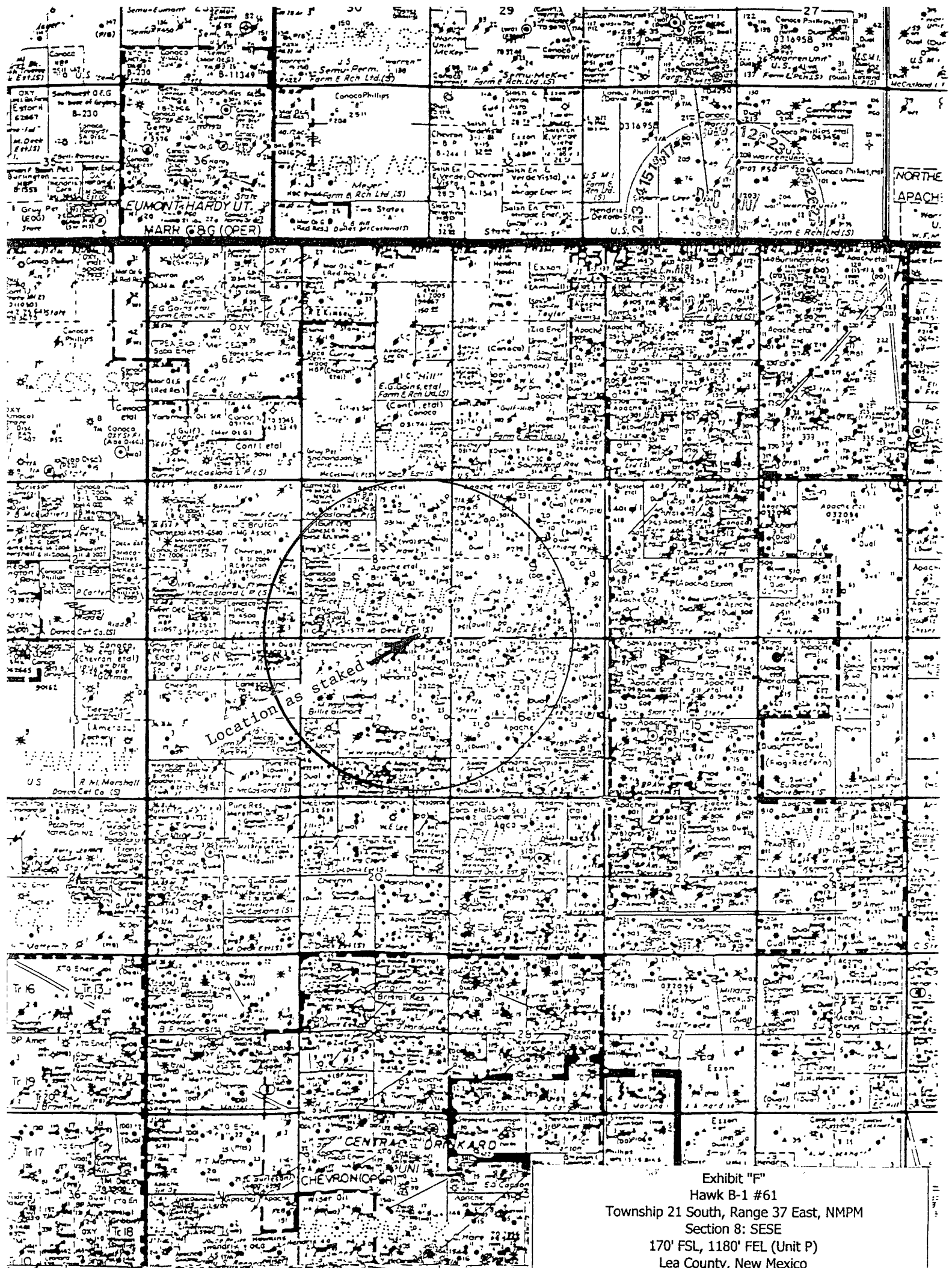
APACHE CORPORATION
6120 SOUTH YALE
SUITE 1500
TULAS, OKLAHOMA 74136-4224
PHONE 432-527-3311
CELL PH. 505-390-4368

NAME; JOE JANICA

TITLE; PERMIT ENGINEER

DATE; 12/14/07





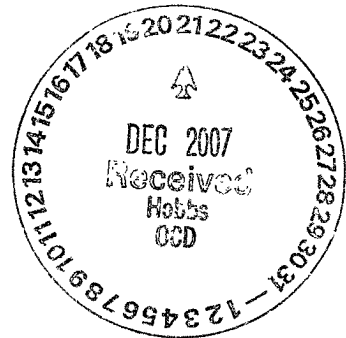
PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Apache Corporation
LEASE NO.:	NMNM90161
WELL NAME & NO.:	Hawk B-1 No 61
SURFACE HOLE FOOTAGE:	170' FSL & 1180' FEL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 8, T. 21 S., R 37 E., NMPM
COUNTY:	Lea County, New Mexico

TABLE OF CONTENTS

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

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☐ **Special Requirements**
 - Cave/Karst
 - VRM
 - Cultural
- ☒ **Construction**
 - Notification
 - Topsoil
 - Reserve Pit
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines



-
- ☐ **Reserve Pit Closure/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

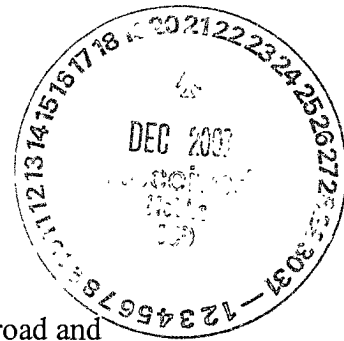
If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able 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. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Hobbs Field Station at (505) 393-3612 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

There is no measurable soil on this well pad to stockpile. No topsoil stockpile is required.

C. RESERVE PITS

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

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 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. 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 thirty (30) 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.

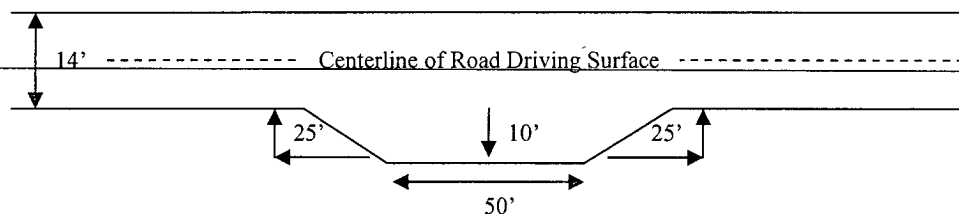
Ditching

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:

Standard Turnout – Plan View



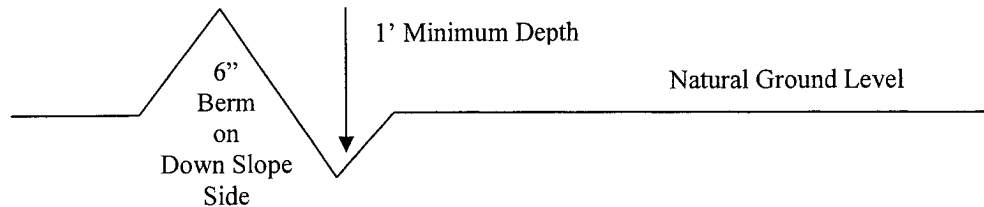
Drainage

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:

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

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.

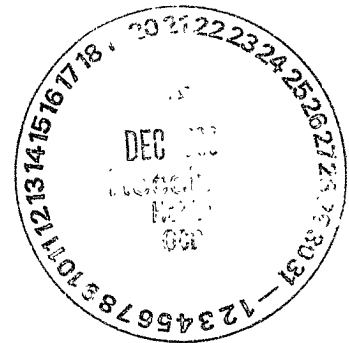
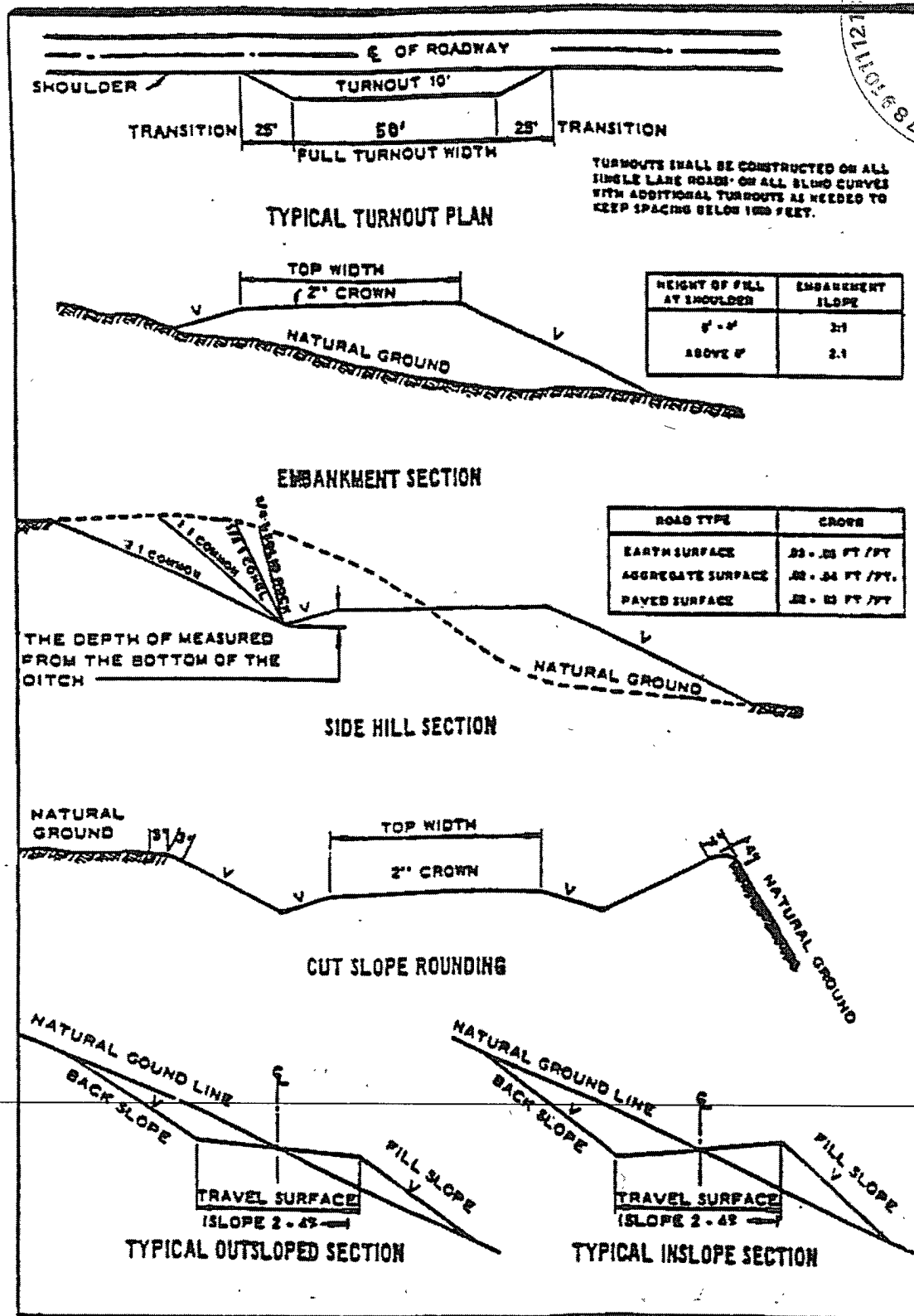


Figure 1 – Cross Sections and Plans For Typical Road Sections





VI. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

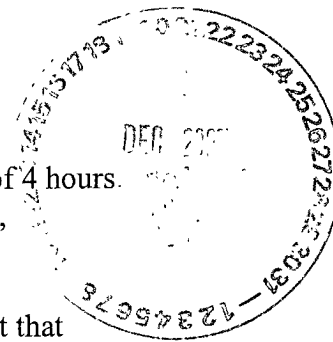
☒ **Lea County**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(505) 393-3612

1. A Hydrogen Sulfide (H₂S) Drilling Plan should be activated 500 feet prior to drilling into the **Blaine** formation. **Hydrogen Sulfide has been reported measuring 200-800 ppm in gas streams and 400-130,000 ppm in STVs.**
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.
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 are located, this does not include the dog house or stairway area.

B. CASING

1. The **13-3/8** inch surface casing shall be set **a minimum of 25 feet into the Rustler Anhydrite at approximately 1350** feet and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - b. Wait on cement (WOC) time 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. (This is to include the lead cement).

- 
- 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 action will be done prior to drilling out that string.

Possible lost circulation in the Glorietta.

- 2. The minimum required fill of cement behind the 5-1/2 inch production casing is:
 - ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.
- 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. **Operator has supplied information based on the BHP in offset wells that the BHP will not exceed 2000 psi. Therefore, a 2M system is approved.**
- 2. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. 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.
 - d. ~~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.~~

Engineer on call phone (after hours): Carlsbad: (575) 706-2779
WWI 120607

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

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

Containment Structures

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

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, Munsell Soil Color Chart # 5Y 4/2

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the APD and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

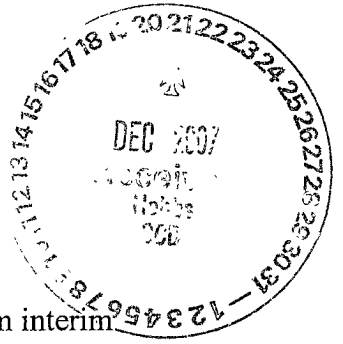
Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.)

~~Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the~~ reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the



release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
- b. Activities of other parties including, but not limited to:
 - (1) Land clearing.
 - (2) Earth-disturbing and earth-moving work.
 - (3) Blasting.
 - (4) Vandalism and sabotage.
- c. Acts of God.



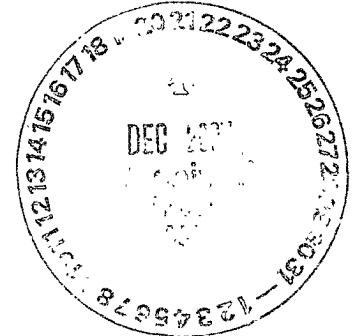
The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder 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 will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

(March 1989)



VIII. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

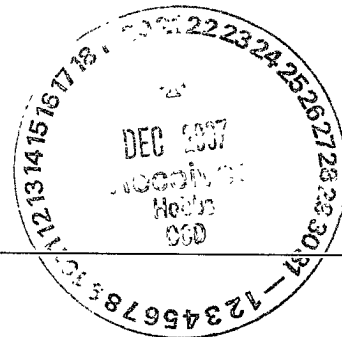
During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

At the time reserve pits are to be reclaimed, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions 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 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.

B. RESERVE PIT CLOSURE

The reserve pit, when dried and closed, shall be recontoured, all trash removed, and reseeded as follows:



Seed Mixture 1, for Loamy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

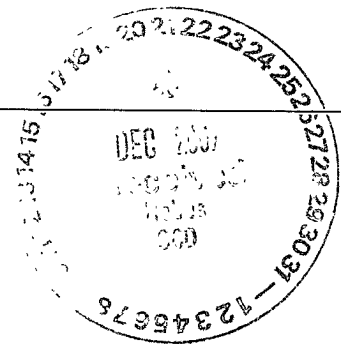
Seed will be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the 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>	<u>lb/acre</u>
Plains lovegrass (<i>Eragrostis intermedia</i>)	0.5
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sideoats grama (<i>Bouteloua curtipendula</i>)	5.0

*Pounds of pure live seed:

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



X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.

