ATS-08-389

Form 3160-3
(April 2004)

RECEIVED
MAY 22 2008
HOBBS OCD

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

Split Estate

1a. Type of work: [XX] DRILL [ ] REENTER	5. Lease Serial No. NM-031741-A
1b. Type of Well: [X] Oil Well [ ] Gas Well [ ] Other [X] Single Zone [ ] Multiple Zone	6. If Indian, Allotee or Tribe Name ----------
2. Name of Operator APACHE CORPORATION (LANA WILLIAMS 918-491-4980) (873)	7. If Unit or CA Agreement, Name and No. ----------
3a. Address 6120 SOUTH YALE SUITE 1500 TULSA, OKLAHOMA 74136-4224	3b. Phone No. (include area code) 918-491-4980
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface 990' FSL & 2310' FEL SECTION 5 T21S-R37E Unit O At proposed prod. zone SAME	8. Lease Name and Well No. HAWK "A-5" # 7 (31036)
	9. API Well No. 30-025-38948
	10. Field and Pool, or Exploratory EUNICE MONUMENT-GRBG, SAN ANDRES
	11. Sec., T. R. M. or Blk. and Survey or Area SECTION 5 T21S-R37E
14. Distance in miles and direction from nearest town or post office* Approximately 5 miles North of Eunice New Mexico	12. County or Parish LEA CO. / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) 330'	16. No. of acres in lease 560 / 17. Spacing Unit dedicated to this well 40
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1300±'	19. Proposed Depth 4600' / 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 28 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:

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 03/19/08
Title Permit Engineer		
Approved by (Signature) /s/ James Stovall	Name (Printed/Typed) /s/ James Stovall	Date MAY 16 2008
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.

*(Instructions on page 2)

CAPITAN CONTROLLED WATER BASIN

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

SURFACE DAMAGE RELEASE

STATE OF NEW MEXICO §
§ KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF LEA §

THAT, The Millard Deck Estate, c/o Bank of America, N. A., Trustee of the Millard Deck Testamentary Trust under the Last Will and Testament of Millard Deck, P. O. Box 270, Midland, Texas 79702, (hereinafter referred to as "OWNER"), is the current surface owner of the PRIVATELY OWNED lands herein described below which are located in the Eunice Area in Lea County, New Mexico. For and in consideration of the sum of [redacted] all) to be paid by Apache Corporation of 6120 Yale St. # Two Warren Place, Suite 1500,Tulsa Ok. 74136 (hereinafter referred to as "OPERATOR"), the receipt and sufficiency of which are hereby acknowledged, OWNER does hereby RELEASE and DISCHARGE OPERATOR, its employees, agents, contractors, successors and assigns, from any and all claims, demands and causes of action for ~~detriment, injuries, damages and losses~~ of whatsoever nature that have been caused or will be caused to the surface of the Subject Property from or in connection with the drilling and/or completion of the following wells (hereinafter called "Subject Wells").

Hawk A-5 # 7
990' FSL & 2310' FEL
Section 5-T21S-R37E
Lea County New Mexico

Hawk A # 34
330' FNL & 990' FWL
Section 9-T21S-R37E
Lea County New Mexico

Operator agrees to purchase material for construction of wellpads and new roads from Owner at the rate of $3,50 per cubic yard.

In addition Operator agrees to pay the sum of [redacted] for building 643 feet [redacted] per rod) of new access road to the Hawk A-5 # 7 well.

It is understood that the consideration for this release does not cover damages for the laying of flowlines or powerlines over the Subject Property.

This Release is intended to cover all disruption of ranch operations due to surface disruption, including but not limited to, all crops, timber and grass damaged or destroyed in connection with the above described activities.

OPERATOR shall conduct all operations in a good and workman like manner and shall use all precautions to prevent any damages to said land over and above the damages contemplated herein. In the event that the well proves to be non-productive and has to be plugged and abandoned OPERATOR agrees to restore the surface as close as reasonably possible to its condition prior to commencement of drilling operations.

LESSEE agrees to account to any other party (including the surface tenant) who may be entitled to receive any portion of the aforementioned sum, and to indemnify and hold hatmless OPERATOR, its successors and assigns from any claim by any other party for damages to the above described lands and improvements, crops or other things situated thereon. LESSEE agrees to keep all of the terms and conditions of this damage settlement confidential.

OWNER, FOR ITSELF, ITS SUCCESSORS, ASSIGNS, EMPLOYEES, AGENTS, PRINCIPLES, SERVANTS, HEIRS, EXECUTORS, PERSONAL REPRESENTATIVES AND ADMINISTRATORS, HEREBY RELEASES AND FOREVER DISCHARGES APACHE AND ALL WORKING INTEREST OWNERS AND THEIR RESPECTIVE PARENT CORPORATIONS, SUBSIDIARY CORPORATIONS, ASSOCIATED AND AFFILIATED CORPORATIONS AND/OR ENTITIES, AND ALL OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, PRINCILPALS, SERVANTS, SUCCESSORS, ASSIGNS, HEIRS, ATTORNEYS, EXECUTORS AND ADMINISTRATORS FROM EVERY CLAIM, DAMAGE, ATTORNEYS FEES, EXPENSES, COSTS, DEMANDS,

RIGHTS, AND/OR CAUSE OF ACTION OF ANY KIND FOR SURFACE DAMAGES RELATING TO THE DRILLING AND COMPLETION OF THE SUBJECT WELLS ON THE SUBJECT PROPERTY.

This agreement shall be binding upon the parties hereto and their respective heirs, successors and assigns.

AGREED TO AND ACCEPTED this 28 day of March, 2008

APACHE CORPORATION

By: Harold Susan

BANK OF AMERICA, N. A. TRUSTEE OF THE MILLARD DECK TESTAMENTARY TRUST UNDER THE LAST WILL AND TESTAMENT OF MILLARD DECK, DATED AUGUST 28, 1975

By: Tim Wolters

Title Vice President

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 October 12, 2005
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
30-025-38948	23000	EUNICE MONUMENT-GRAYBURG SAN ANDRES

Property Code	Property Name	Well Number
31036	HAWK A-5	7

OGRID No.	Operator Name	Elevation
873	APACHE CORPORATION	3498'

Surface Location

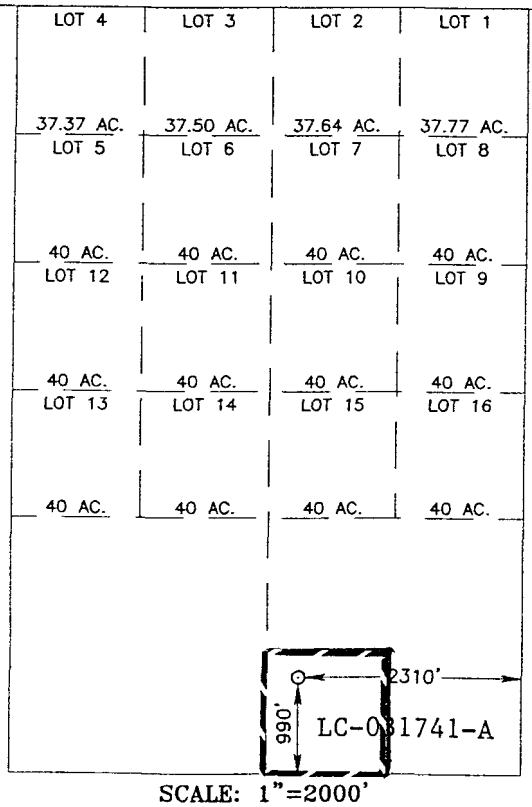
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
W	5	21-S	37-E		990	SOUTH	2310	EAST	LEA

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.
40			

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



SCALE: 1"=2000'

GEODETIC COORDINATES
NAD 27 NME
Y=548726.5 N
X=854459.0 E
LAT.=32.503305° N
LONG.=103.183606° W
LAT.=32°30'11.90" N
LONG.=103°11'00.98" W

OPERATOR CERTIFICATION

I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Joe T. Janica
Signature

03/19/08
Date

Joe T. Janica
Printed Name

SURVEYOR CERTIFICATION

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

DECEMBER 19, 2007
Date Surveyed DSS

Signature & Seal of Professional Surveyor

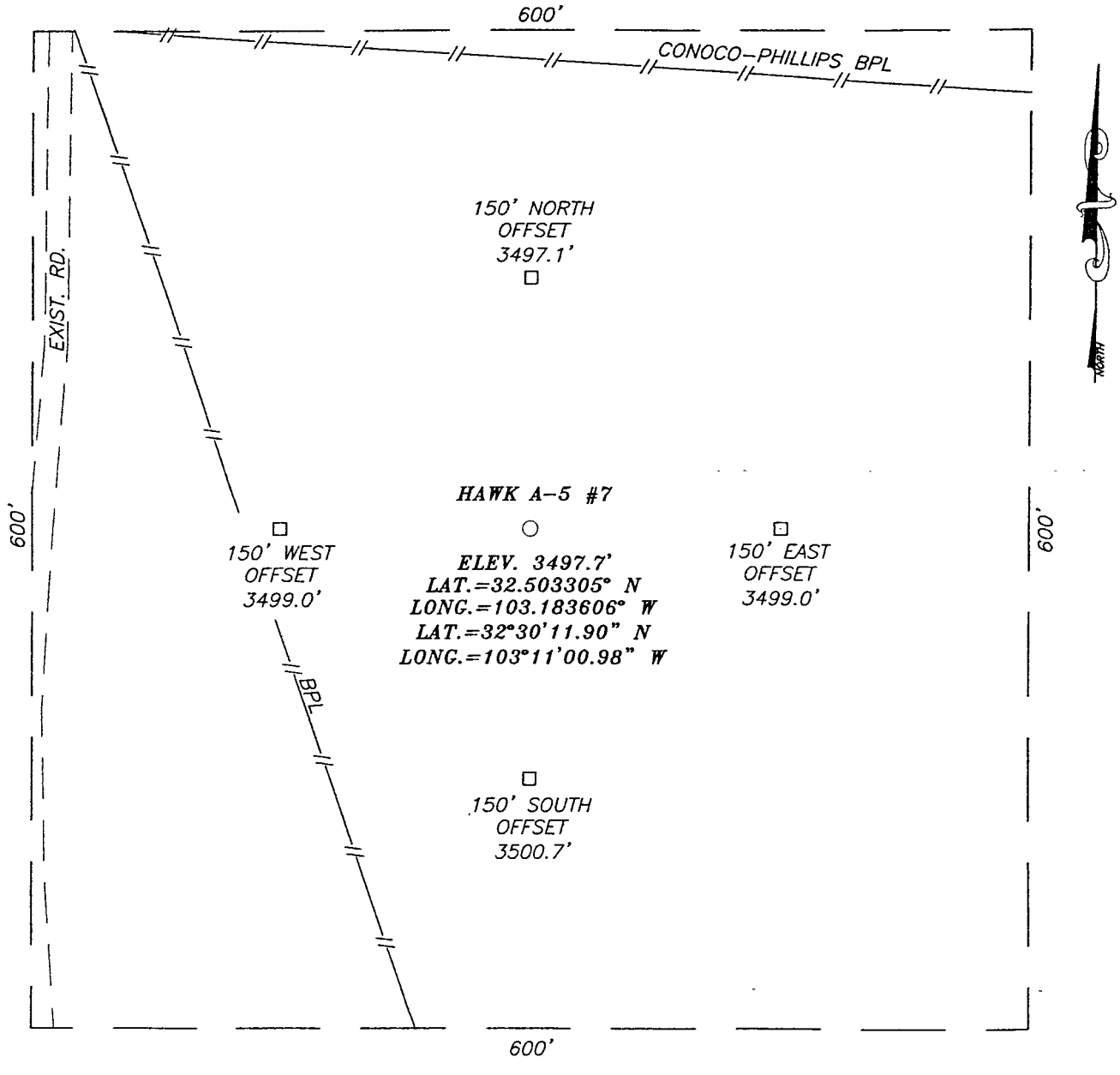
Ronald J. Eidson 01/07/08

07.11.1759

Certificate No. GARY EIDSON 12641
RONALD J. EIDSON 3239

SECTION 5, TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M.,

LEA COUNTY, . NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF COUNTY ROAD E33 (N. TURNER ROAD) AND COUNTY ROAD E34 (HILL ROAD), GO NORTHWEST ON HILL ROAD APPROX. 0.5 MILES. TURN RIGHT AND GO NORTH 0.2 MILES. THIS LOCATION IS APPROX. 295 FEET EAST.

100 0 100 200 Feet

Scale:1"=100'

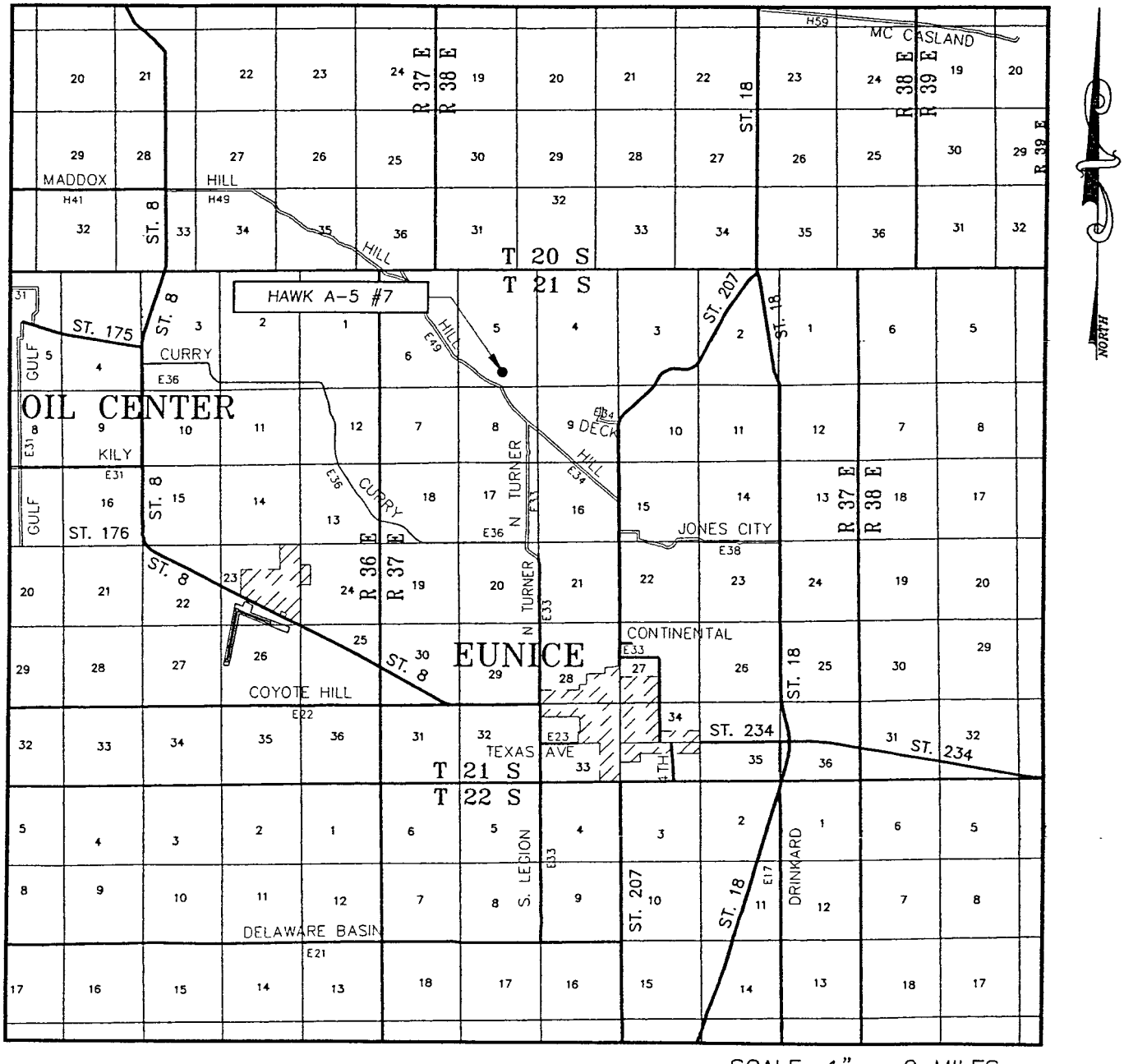
PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

APACHE CORPORATION

HAWK A-5 #7 WELL
LOCATED 990 FEET FROM THE SOUTH LINE
AND 2310 FEET FROM THE EAST LINE OF SECTION 5,
TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

Survey Date: 12/19/07	Sheet 1 of 1 Sheets		
W.O. Number: 07.11.1759	Dr By: DSS	Rev 1:	
Date: 1/03/08	Disk: .	07111759	Scale:1"=100'

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 5 TWP. 21-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 990' FSL & 2310' FEL

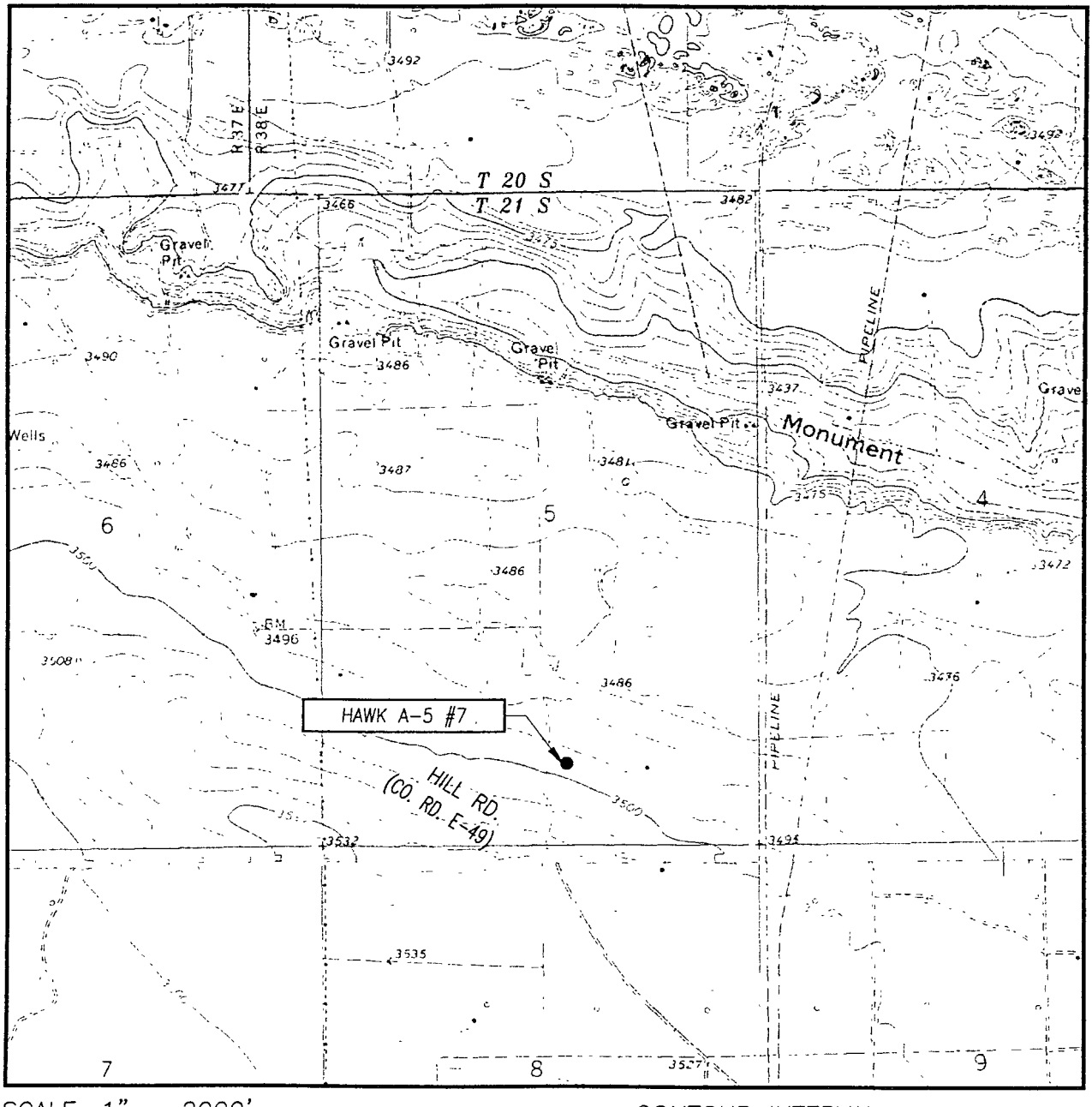
ELEVATION 3498'

OPERATOR APACHE CORPORATION

LEASE HAWK A-5

PROVIDING SURVEYING SERVICES
SINCE 1946
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. 5 TWP. 21-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 990' FSL & 2310' FEL

ELEVATION 3498'

OPERATOR APACHE CORPORATION

LEASE HAWK A-5

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

APPLICATION TO DRILL

APACHE CORPORATION
HAWK "A-5" # 7
UNIT "W" SECTION 5
T21S-R37E LEA CO. NM

In response to questions asked under Section II of Bulliten NTL-6, the following information on the above will be provided.

1. LOCATION: 990' FSL & 2310' FEL SECTION 5 T21S-R37E LEA CO. NM

2. ELEVATION ABOVE SEA LEVEL: 3498' GL.

3. GEOLOGICAL NAME OF SURFACE FORMATION: Quaternery Aeolian Deposits.

4. DRILLING TOOLS AND ASSOCIATED EQUIPMENT: Conventional rotary drilling rig using drilling mud as a circulating medium for solids removal from hole.

5. PROPOSED DRILLING DEPTH: 4600'

6. ESTIMATED TOPS OF GEOLOGICAL FORMATIONS:

Rustler Anhydrite	1321'	Grayburg	3796'
Yates	2730'	San Andres	4077'
Seven Rivers	2949'	TD	4600'
Queen	3507'		

7. POSSIBLE MINERAL BEARING FORMATIONS:

Grayburg	"A"	Oil	3796'
	"B"	Oil	3917'
	"C"	Oil	4021'

8. CASING PROGRAM:

HOLE SIZE	INTERVAL	OD OF CASING	WEIGHT	THREAD	COLLAR	GRADE	CONDITION
26"	0-40	20"	NA	NA	NA	Conductor	New
12¼"	0-~~1300~~ 1345'*	8 5/8"	24#	8-R	ST&C	J-55	New
7 7/8"	0-4600'	5½"	17#	8-R	LT&C	J-55	New

See COA 2

Casing design Factors:

Collapse 1.125 Burst 1.0 Body yield 1.5 . Joint strength 8-R 1.8
Butt 1.6

* or 25' into the Rustler Anhydrite

APPLICATION TO DRILL

APACHE CORPORATION
HAWK "A-5" # 7
UNIT "W" SECTION 5
T21S-R37E LEA CO. NM

9. CASING CEMENTING & SETTING DEPTHS:

20 "	Conductor	Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
8 5/8"	Surface	Set 1350'± or at least 25' into the Anhydrite 8 5/8" 24# J-55 ST&C casing. Cement with 500 Sx. of 35/65 Class "C" POZ cement + 2% CaCl, + .25# Celo Flakes/Sx. + 6% Bentonite Yield 1.8, tail in with 200 Sx. of Class "C" cement + .125# Celo-Flakes/Sx. + 2% CaCl Yield 1.3, circulate cement to surface.
5½"	Production	Set 4600' of 5½" 17# J-55 LT&C casing. Cement with 500 Sx. of 50/50 Class "C" POZ, + 5% NaCl, + .003 gps FP-6L Yield 1.84, circulate cement to surface.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 900 Series 3000 PSI working pressure B.O.P. consisting of an annular bag type preventor, middle blind rams, and bottom pipe rams. This B.O.P. will be nippled up on the 8 5/8" casing and tested by a third party to API specifications before drilling out from under the surface casing. The B.O.P. will be operated at least once in each 24 hour period while drilling and the blind rams will be operated when out of the hole on trips. Full opening stabbing valve and kelly cock will be utilized. Exhibit "E" also shows a 3" 5000 PSI choke manifold with dual adjustable chokes with a 3" blow down line. No abnormal pressures of abnormal temperatures are expected while drilling this well.

11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE SYSTEM
See COA 40-~~1350'~~ 1345	8.6-9.2	34-36	NC	Fresh water Spud Mud add paper as required to control seepage. Maintain viscosity to clean the hole.
~~1350~~-4100' 1345	9.0-10.4	32-34	NC	Brine water when drilling out from under surface casing add paper as required to control seepage, use high viscosity sweeps to clean hole.
4100-TD	10.0-10.4	34-36	15-20 cc or less	Same as above using Starch to control water loss as required to prevent formation damage.

See attached mud program for detail.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run open hole logs, DST's and casing the water loss may have to be altered to meet these needs.

12. LOGGING, CORING, AND TESTING PROGRAM:

A. Open hole logs: Dual Laterolog, CNL, LDT, MSFL, NGT, Sonic, Gamma Ray and Caliper from TD back to the 8 5/8" casing shoe. CNL, Gamma Ray to be run from the 8 5/8" casing shoe back to surface.

B Mud logger will be rigged up on the hole from 3000' to TD.

C. No DST's or cores are planned at this time.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H^2S in this area. If H^2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 1550 PSI, and Estimated BHT 125°.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 15 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flowlines in order to place well on production.

15. OTHER FACETS OF OPERATIONS:

After running casing, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The Grayburg San Andres formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialed as an oil well.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H_2S safety instructor to the following:

   A. Characteristics of H_2S
   B. Physical effects and hazzards
   C. Proper use of safety equipment and life support systems.
   D. Principle and operation of H_2S detectors, warning system and briefing areas.
   E. Evacuation procedure, routes and first aid.
   F. Proper use of 30 minute pressure demand air pack.

2. H_2S Detection and Alarm Systems

   A. H_2S 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, H_2S 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 seperator will be brought into service along with H_2S scavengers if necessary.

HAWK A-5 # 7

DRILLING PROGRAM

The geological surface formation is recent Permian with quaternary alluvium and other surficial deposits.

Formatted: Bullets and Numbering

Estimated Tops of Geological Markers:

FORMATION	DEPTH
Quaternary alluvials	Surface
Rustler	1321'
Yates	2730'
Seven Rivers	2949'
Queen	3507'
Grayburg	2796'
San Andres	4077'
TD	4600'

Estimated depths at which water, oil, gas, or other mineral-bearing formations are expected to be encountered:

SUBSTANCE	DEPTH
Oil	Grayburg A @ 3796'
	Grayburg B @ 3917'
	Grayburg C @ 4021'
Gas	None anticipated
Fresh Water	None anticipated

All fresh water and prospectively valuable minerals (as described by BLM) encountered during drilling will be recorded by depth and adequately protected. All oil and gas shows within zones of correlative rights will be tested to determine commercial potential.

Proposed Casing Program:

HOLE SIZE	CASING SIZE OD / ID	GRADE	WEIGHT PER FOOT	DEPTH	SACKS CEMENT	ESTIMATED TOC - REMARKS
12 ¼"	8 5/8" 8.097"	J55 STC	24#	1,300'	700	TOC - Surface 8.9 ppg Water-based Mud; 89 ° F Est. Static Temp; 83 ° F Est. Circ. Temp.
7 7/8"	5 ½" 4.892"	J55 LTC	17#	4,600'	800	TOC – Surface Float Collar set @ 4500'/ 10.10 ppg Brine Mud; 123 ° F Est. Static Temp; 104 ° F Est. Circ. Temp.

Proposed Cement Program:

CASING	LEAD SLURRY	TAIL SLURRY	DISPLACEMENT
8 5/8"	500 sacks 35:65 Poz:Class C Cement + 2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 6% bwoc Bentonite gel 940 Vol. Cu Ft 1.8 Vol. Factor Slurry Weight (ppg) 12.7 Slurry Yield (cf/sack) 1.88 Amount of Mix Water (gps) 10.7; Estimated Pumping Time – 70 BC (HH:MM)-5:00;	200 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water 270 Vol. Cu Ft 1.3 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)-3:15;	83.5 bbls Fresh Water @ 8.33 ppg

8 5/8" Casing: Volume Calculations:

1,350 ft	x	0.4127 cf/ft	with	100% excess	=	1,113.8 cf
40 ft	x	0.3576 cf/ft	with	0% excess	=	14.3 cf (inside pipe)
		TOTAL SLURRY VOLUME			=	1,128.1 cf
					=	200.9 bbls

Spacer 20.0 bbls Water @ 8.33 ppg

CASING	LEAD SLURRY	TAIL SLURRY	DISPLACEMENT
5 ½"	500 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 1,270 Vol. Cu Ft 2.66 Vol. Factor Slurry Weight (ppg) 11.8 Slurry Yield (cf/sack) 2.54 Amount of Mix Water (gps) 14.72; Amount of Mix Fluid (gps) 14.72 Estimated Pumping Time – 70 BC (HH:MM)-4:00;	300 sacks (50:50) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride +0.003 gps FP-6L 405 Vol. Cu Ft 1.84 Vol. Factor Slurry Weight (ppg) 14.2 Slurry Yield (cf/sack) 1.35 Amount of Mix Water (gps) 6.34; Amount of Mix Fluid(gps) 6.34; Estimated Pumping Time – 70 BC (HH:MM)-3:00;	106.0 bbls 2% Kcl Water @ 8.43 ppg

5 ½" Casing: Volume Calculations:

1,350 ft	x	0.1926 cf/ft	with	0% excess	=	259.9 cf
2,150 ft	x	0.1733 cf/ft	with	130% excess	≡	819.1 cf
~~1,100 ft~~	~~x~~	~~0.1733 cf/ft~~	~~with~~	~~80% excess~~	~~=~~	~~342.9 cf~~
40 ft	x	0.1305 cf/ft	with	0% excess	=	5.2 cf(inside pipe)
		TOTAL SLURRY VOLUME			=	1,427.1 cf
					=	254.2 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

DEPTH	MUD PROPERTIES	REMARKS
0 – 1,350'	Weight: 8.6 – 9.2 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.
1.350' – 4,100'	Weight: 9.0 – 10.4 ppg Viscosity: 32 – 34 sec/qt pH: NC 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. Mix one gallon of New-55 at flowline every 250 feet drilled to promote solids settling. Sweep hole with 3-ppb of Super Sweep every 500 feet.
4,100' – TD	Weight: 10.0 – 10.4 ppg Viscosity: 34 – 36 sec/qt pH: 9-10 Filtrate: 15-20 cm/30 min	From 3,900' 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-20cc.

Proposed Control Equipment:

Will install on the 8 5/8" surface casing a 9" x 3000 psi WP Double Ram BOP and will test using a 3rd party tester before drilling out of surface casing.

Auxiliary Equipment:

9" x 3000 psi double BOP/blind & pipe ram
41/2" x 3000 psi Kelly valve
9" x 3000 psi mud cross – H_2S detector on production hole
Gate-type safety valve 3" choke line from BOP to manifold
2" adjustable chokes – 3" blowdown line

Logging Program:

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The following logs may be run:
CNL, LDT, GR, CAL, DLL, MSFL, NGT, Sonic from TD-1350'
CNL, GR from TD-Surface

Mudlogging Program: Mud logger to be on e the well from 3,000' to TD.

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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 1,550 psi.

Bottom Hole Pressure Calculations
Since January 1, 2003, Apache has drilled 80 Graybug wells in the Eunice Area. Data gained from those wells have demonstrated that:

1. All the wells have been completed as pumping oil wells.
2. The environment of deposition of the reservoir carbonate facies was extremely variable. Compartmentalized reservoirs are expected. Every wellbore will contain some pay zones that are at, or near, original pressure and some that are drawn down to various extents.
3. Pressures obtained from wireline tests conducted in wells drilled in 2003 and 2004 were not as expected. Pay zones expected to be drawn down often were not and those expected to be at original pressure often were not.
4. Continuity of pay zones determined from log analysis and correlation of those pay zones is much less than 50%.

Apache estimates bottom hole pressure by multiplying the median depth of perforations in the Grayburg by 0.44, then subtracting a few hundred pounds based upon number of and cumulative production from nearby offsets.

For example:
Hawk A-34

Expected median depth of perforations:	3950*0.44=1750
Reduction due to offset production:	200
Expected bottom hole pressure:	1550

Hydrogen Sulfide Drilling Operations Plan

No H_2S is anticipated.

Surface Location

SE ¼ of Section 5, Township 21 South, Range 37 East, N.M.P.M.
Lea County, New Mexico
990' FSL, 2.310' FEL, Unit W

Bottom Hole Location

SE ¼ of Section 5, Township 21 South, Range 37 East, N.M.P.M.
Lea County, New Mexico
990' FSL, 2310' FEL, Unit W

Leases Issued: LC-031741-A

Operating Rights

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

Acres in Lease

Township 21 South, Range 37 East
Section 4: W/2SW/4
Section 5: SE/4
Section 8: NE/4, N/2NW/4
Section 9: W/2NW/4

Total Acres: 560.00

Acres Dedicated to Well:

There are 40.00 acres dedicated to this well, which takes in the UL W of Section 5, Township 21 South, Range 37 East, N.M.P.M., Lea County, New Mexico.

Driving Directions

From the intersection of County Road # E33 (N. Turner Road) and County Road E34 (Hill Road), go northwest on Hill Road approximately 0.5 miles. Turn right and go north 0.2 miles. This location is approximately 295' East.

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.

Method of Handling Waste Material

We will be utilizing a closed-loop mud system, all drill cuttings and fluids will be hauled off to a licensed disposal location.
Water produced during operations will be collected in tanks until hauled to an approved disposal system.
Oil produced during operation will be stored in tanks until sold.
Apache Corporation will comply with current laws and regulations pertaining to the disposal of human waste.
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.

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Surface Ownership

The surface is owned by the Millerd Deck Estate , c/o Bank of America NA, attention Tim Wolters, PO Box 270, Midland, TX 79701, 432-685-2064. Minerals are owned by the U S Department of Interior and is administered by The Bureau of Land Management.

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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):

Sam Hampton

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

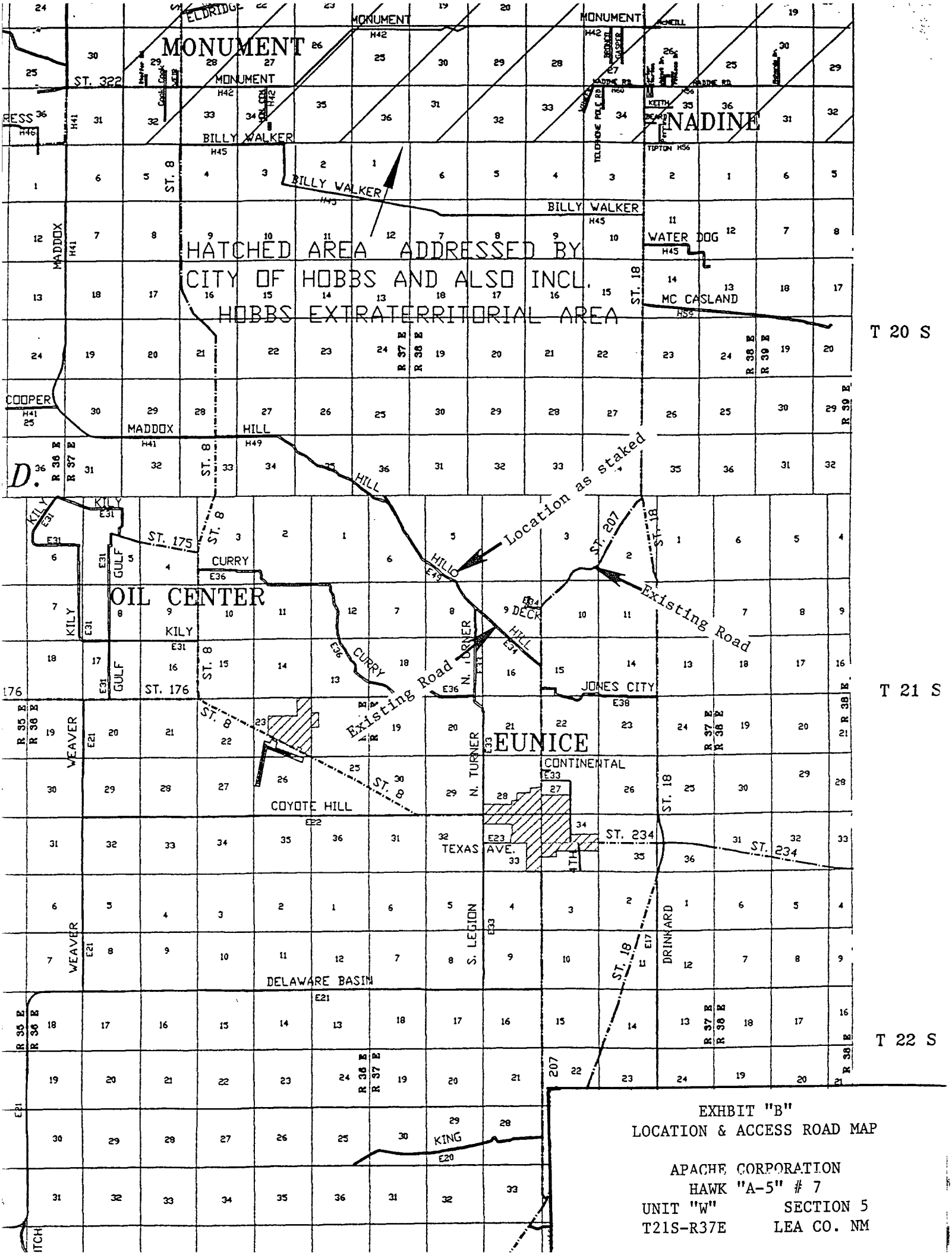
HAROLD SWAIN

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

NAME; JOE JANICA Joe T. Janica

TITLE; PERMIT ENGINEER

DATE; 03/19/08



EXHBIT "B"
LOCATION & ACCESS ROAD MAP

APACHE CORPORATION
HAWK "A-5" # 7
UNIT "W" SECTION 5
T21S-R37E LEA CO. NM

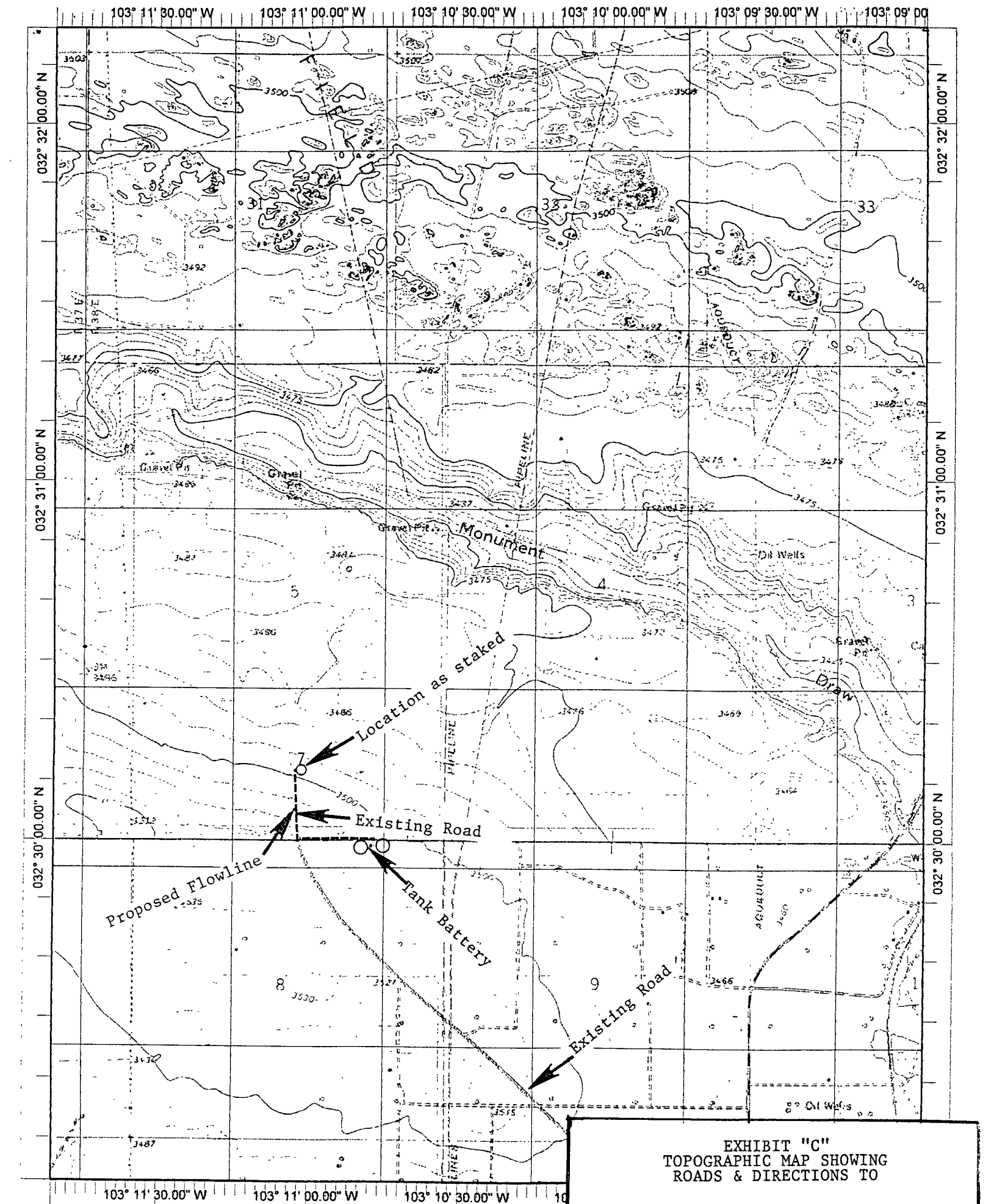


EXHIBIT "C"
TOPOGRAPHIC MAP SHOWING
ROADS & DIRECTIONS TO

APACHE CORPORATION
HAWK "A-5" # 7
UNIT "W" SECTION 5
T21S-R37E LEA CO. NM

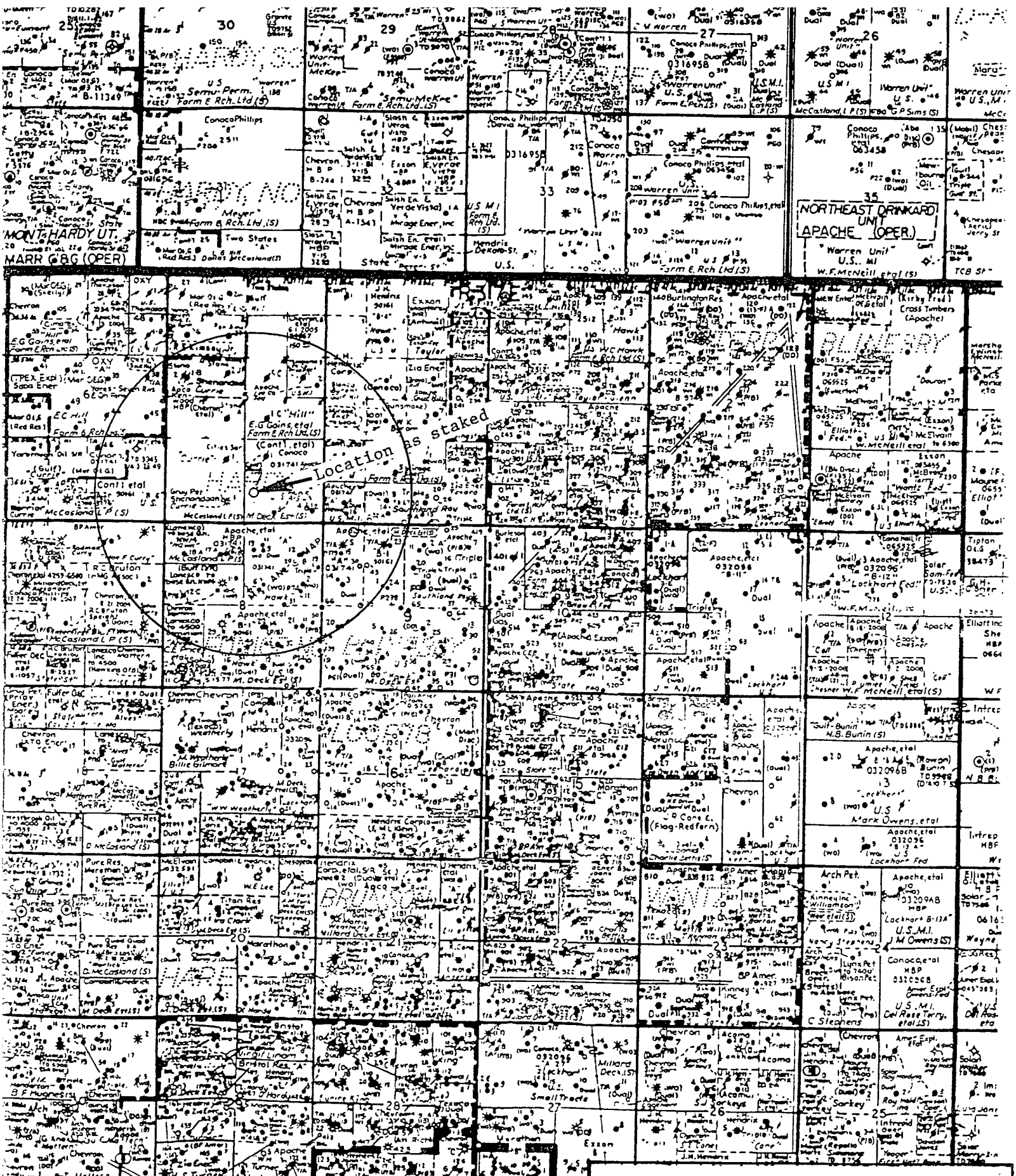
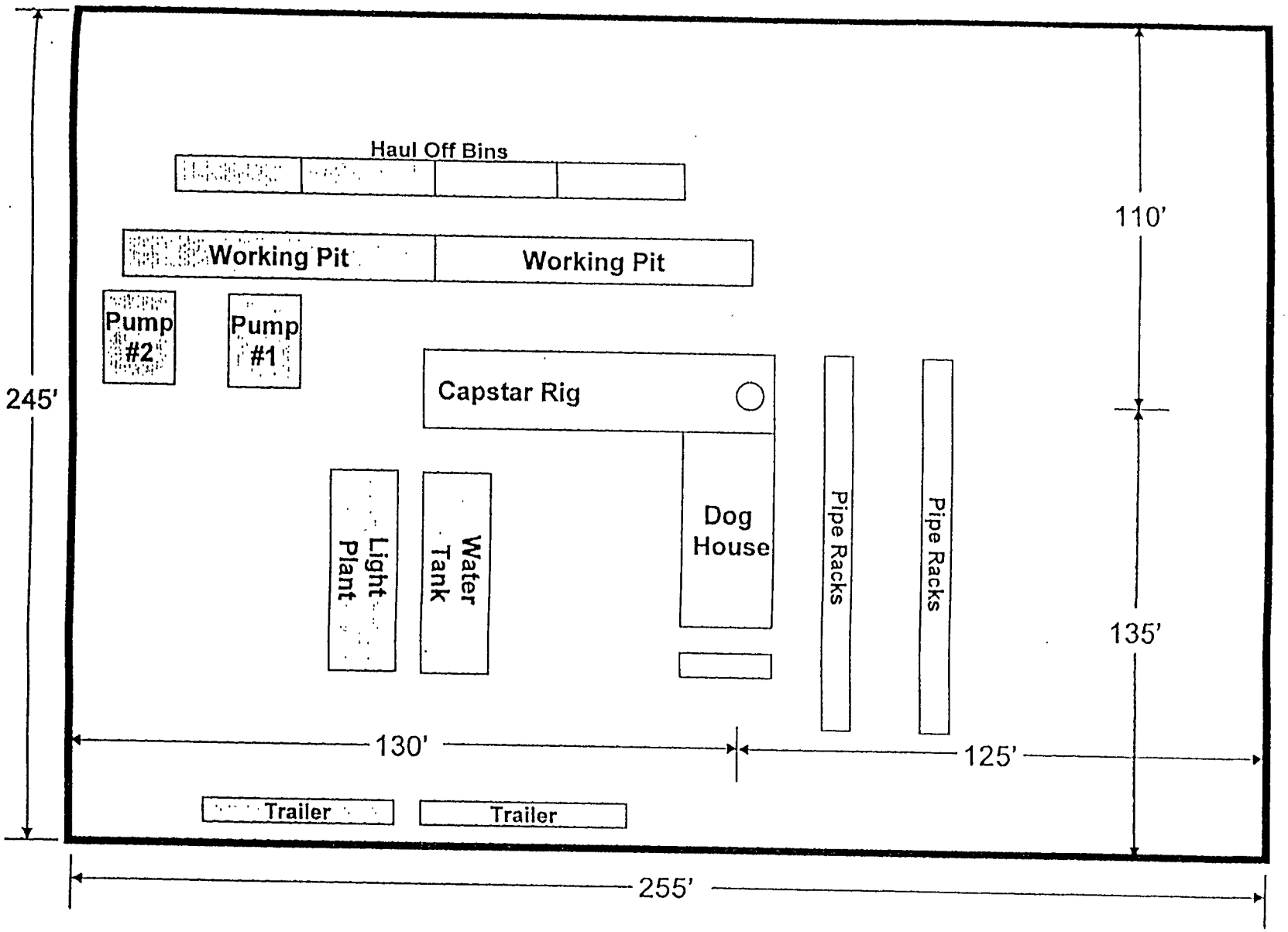


EXHIBIT "F"
ONE MILE RADIUS MAP

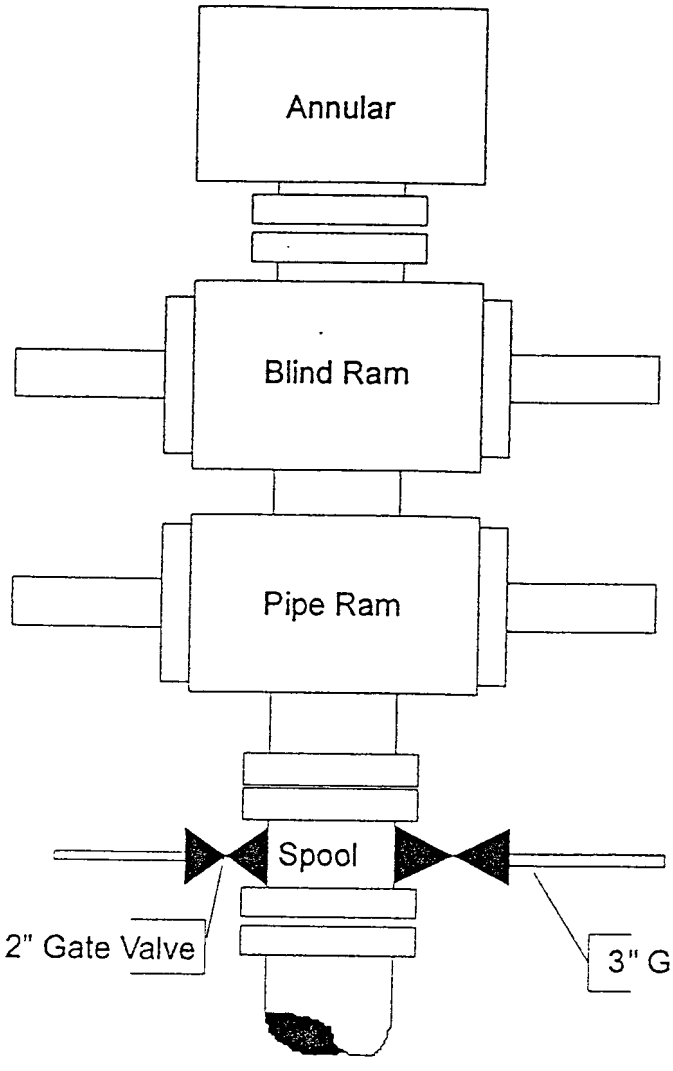
APACHE CORPORATION
HAWK "A-5" # 7
UNIT "W" SECTION 5
T21S-R37E LEA CO. NM

EXHIBIT "G"
RIG LAY OUT PLAT

APACHE CORPORATION
HAWK "A-5" # 7
UNIT "W" - SECTION 5
T21S-R37E LEA CO. NM



3000psi -
BOPE



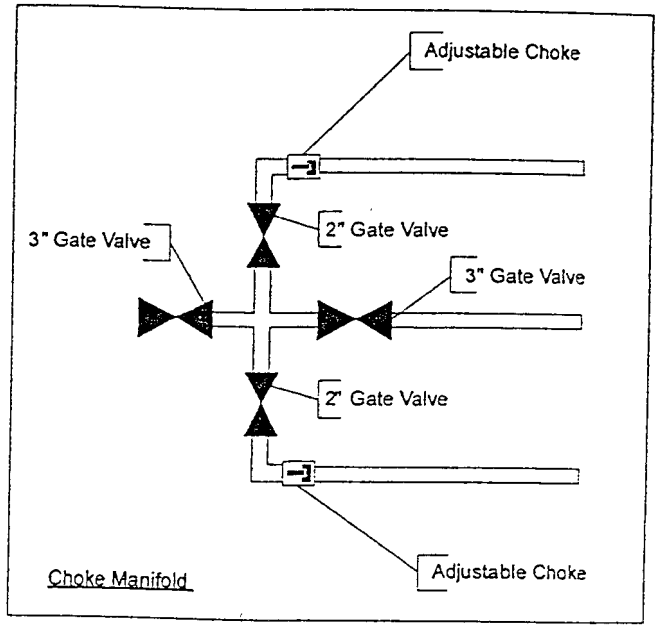


EXHIBIT "H"
SKETCH OF BOP & CHOKE MANIFOLD

APACHE CORPORATION
HAWK "A-5" # 7
UNIT "W" SECTION 5
T21S-R37E LEA CO. NM

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Apache Corporation
LEASE NO.:	LC-031741-A
WELL NAME & NO.:	Hawk A-5 No 7
SURFACE HOLE FOOTAGE:	990' FSL & 2310' FEL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 5, 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.

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

The operator has applied for a closed-loop system. 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.

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. BOP/BOPE tests

☒ **Lea County**
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 393-3612

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a possible hazard. It has been reported in adjacent Sections 3, 8 and 10. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

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

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work.

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

Possible lost circulation in Glorieta Formation

1. The **8-5/8** inch surface casing shall be set at **approximately 1345 feet** (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **Fresh water mud shall be used as the drilling medium to this depth.**

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing

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.

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 cementing will be done prior to drilling out that string.

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

   ☒ Cement to surface. If cement does not circulate see B.1.a-d above.

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. 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.

D. DRILL STEM TEST

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

LB 5/5/08

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.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **25** feet.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

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.

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.

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 bye 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:

Species	lb/acre
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent gemination = 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.