AT5-10-142

RECEIVED
JAN 21 2010
HOBBSOCD

OCD-HOBBS

Form 3160-3
(April 2004)

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.
NMLC- 0 032096B

6 If Indian, Allotee or Tribe Name
NA

1a Type of work: ☑ DRILL ☐ REENTER

7 If Unit or CA Agreement, Name and No
EBDU NMNM 112723X

1b Type of Well ☑ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☑ Multiple Zone

8 Lease Name and Well No
EBDU #98 <35023>

2 Name of Operator
Apache Corporation <873>

9 API Well No.
30-025-39645

3a Address **6120 S. Yale, STE 1500, Tulsa, Ok 74136**

3b Phone No. *(include area code)*
918-491-4900

10 Field and Pool, or Exploratory
North Eunice, BTD

4 Location of Well *(Report location clearly and in accordance with any State requirements *)*
At surface **990FNL 330FWL Sec 12 T21S R37E UL D**
At proposed prod zone **Same**

11 Sec., T R M or Blk and Survey or Area
Sec 12 T21S R37E UL D

14 Distance in miles and direction from nearest town or post office*
Approximatly 4.5 miles NE of Eunice, NM.

12 County or Parish
Lea

13 State
NM

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any)
1043 FNL
990 FWL

16 No of acres in lease
1920

17 Spacing Unit dedicated to this well
40 acres

18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft
698

19 Proposed Depth
7200

20 BLM/BIA Bond No on file
CO- 1463 Nation Wide

21 Elevations (Show whether DF, KDB, RT, GL, etc)
3459' GL

22 Approximate date work will start*
02/20/2009

23 Estimated duration
7 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

Name *(Printed Typed)*
Curt Jones

Date
12/08/2009

Title
Drilling Engineer

Approved by *(Signature)*
/s/ Don Peterson

Name *(Printed Typed)*

Date
JAN 16 2010

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

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

RECEIVED
JAN 21 2010
HOBBSOCD

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
30-025-39645	22900	Eunice Blinebry-Tubb-Drinkard North

Property Code	Property Name	Well Number
35023	EAST BLINEBRY DRINKARD UNIT	98

OGRID No.	Operator Name	Elevation
873	APACHE CORPORATION	3459'

Surface Location

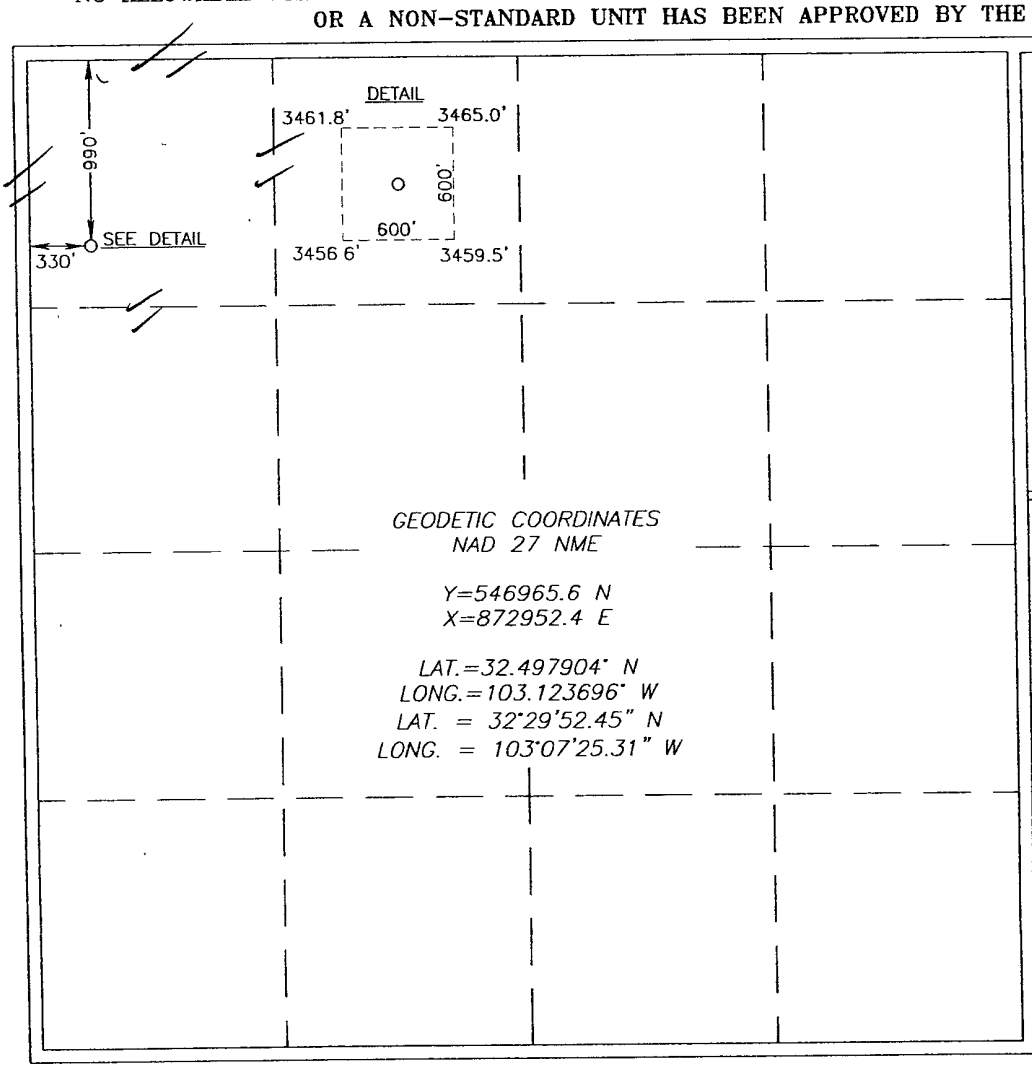
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	12	21-S	37-E		990	NORTH	330	WEST	LEA

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



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.

Signature 12-8-09 Date

Curt Jones
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.

RONALD J. EIDSON
NOVEMBER 3, 2009
NEW MEXICO
3239

Date Surveyed LA

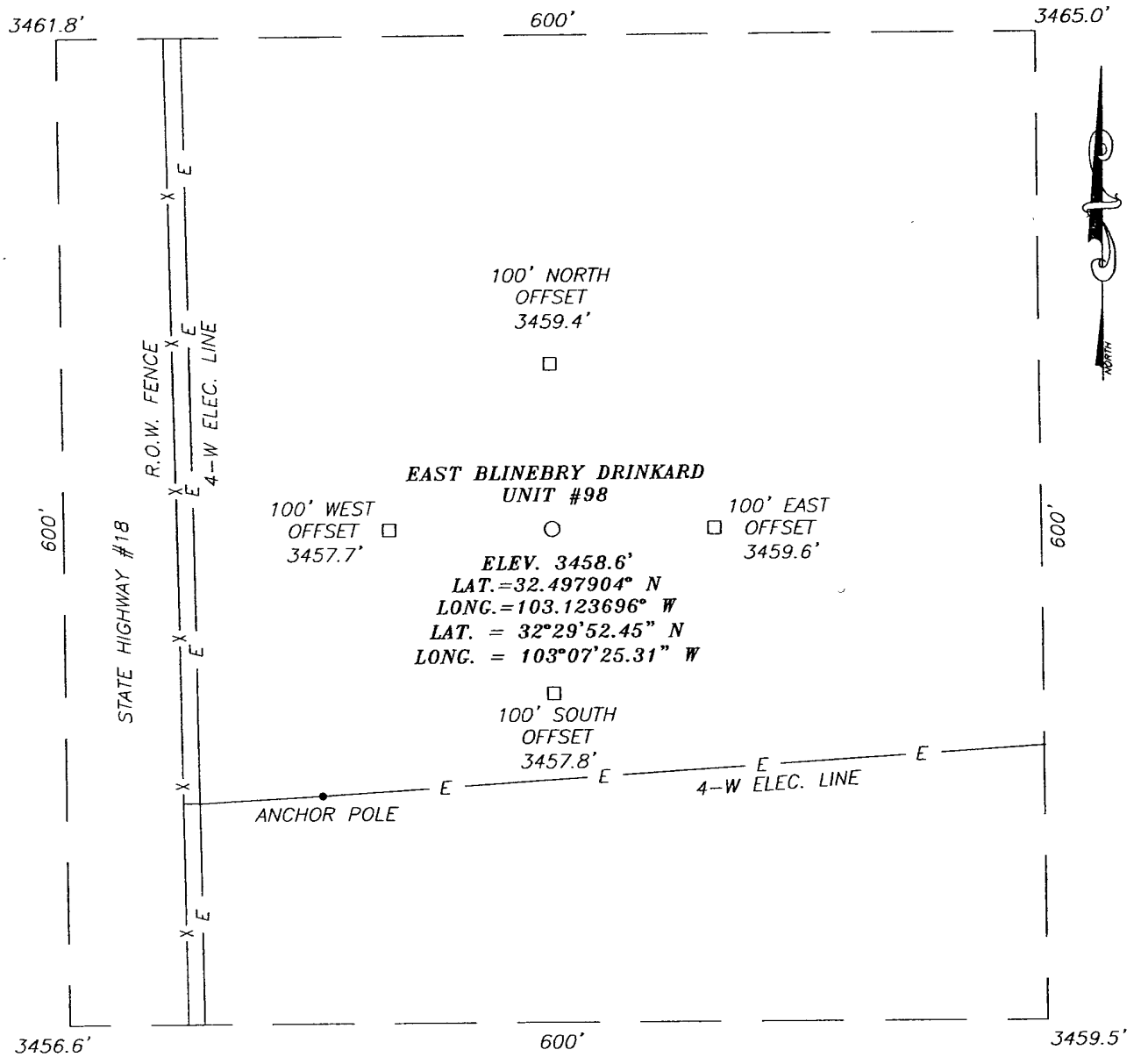
Signature & Seal of Professional Surveyor

Ronald J. Eidson 11-12-09

09.11.0994

Certificate No. GARY EIDSON 12641
RONALD J. EIDSON 3239

SECTION 12, TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF STATE HWY. #18 AND STATE HWY. #207, GO SOUTH ON ST. HWY. #18 APPROX. 1.5 MILES. TURN LEFT AND GO EAST APPROX. 300 FEET. THIS LOCATION IS 600 FEET SOUTH OF LEASE ROAD.

100 0 100 200 Feet
Scale:1"=100'

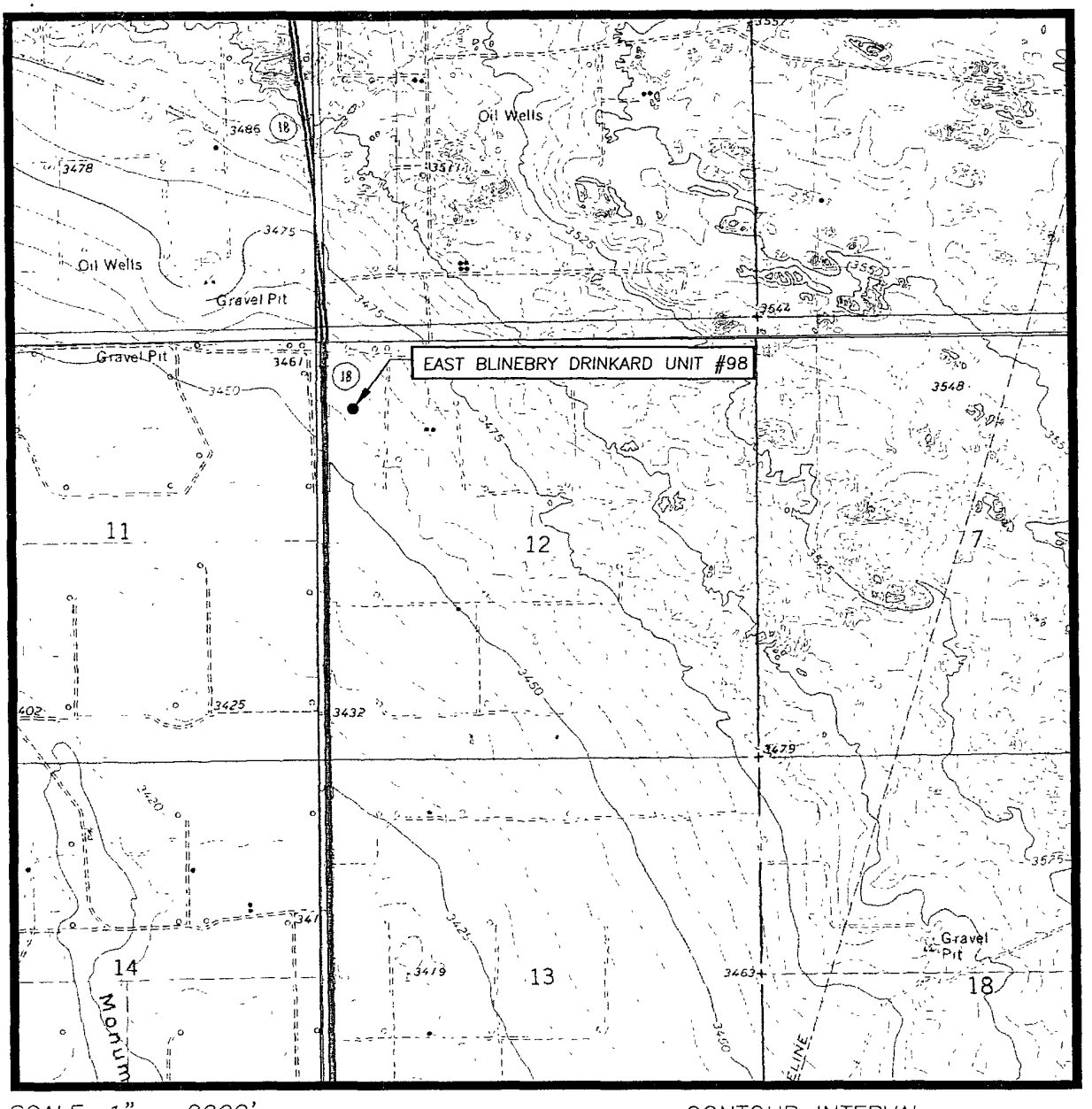
PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

APACHE CORPORATION

EAST BLINEBRY DRINKARD UNIT #98 WELL
LOCATED 990 FEET FROM THE NORTH LINE
AND 330 FEET FROM THE WEST LINE OF SECTION 12,
TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

Survey Date: 11/3/09	Sheet 1 of 1 Sheets		
W.O. Number: 09.11.0994	Dr By: LA		Rev 1:N/A
Date: 11/11/09		09110994	Scale:1"=100'

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
EUNICE NE, N.M. – 5'
EUNICE, N.M. – 10'
HOBBS SW, N.M. – 5'
HOBBS SE, N.M. – 5'

SEC. 12 TWP. 21–S RGE. 37–E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 990' FNL & 330' FWL

ELEVATION 3459'

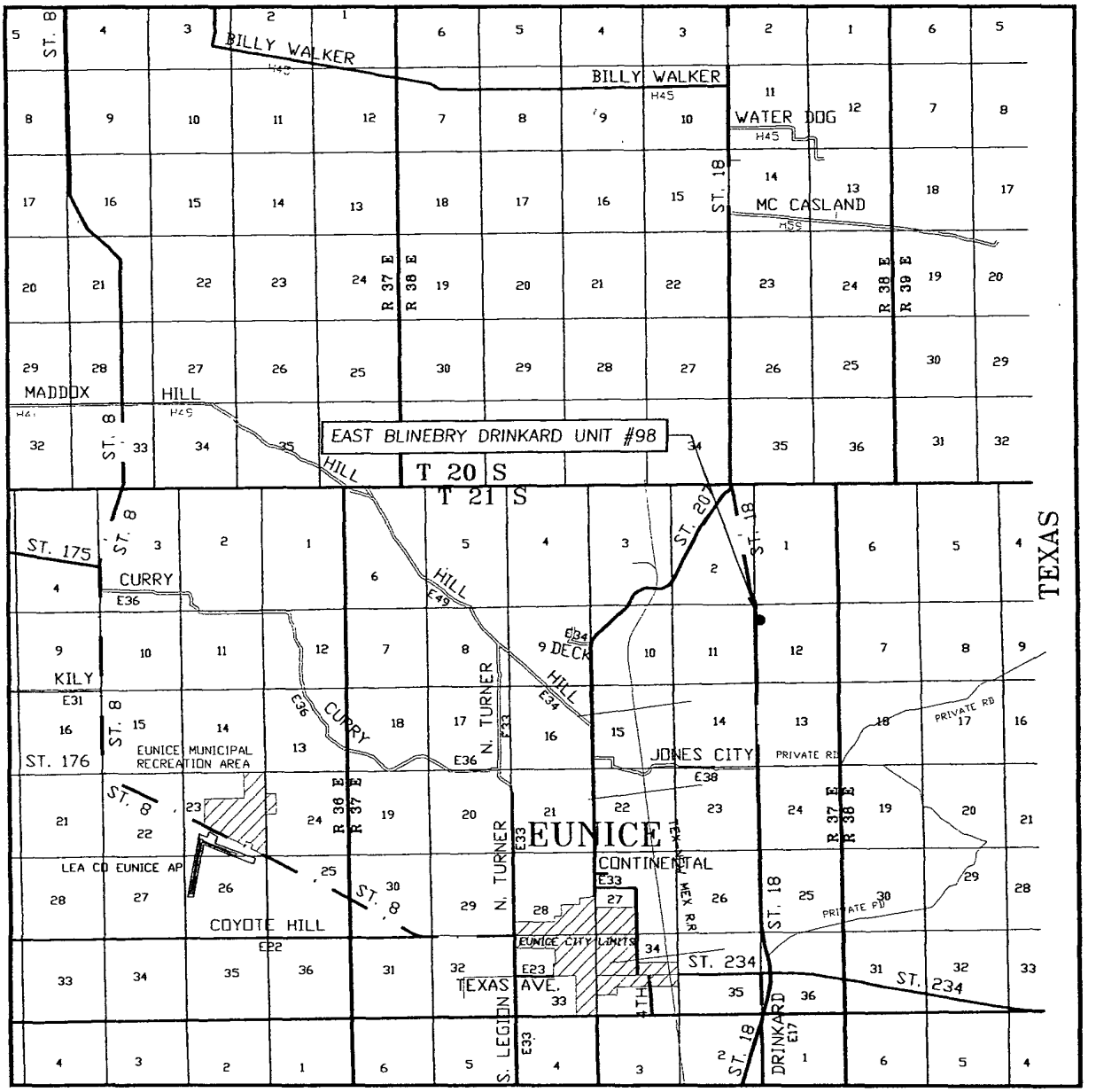
OPERATOR APACHE CORPORATION

LEASE EAST BLINEBY DRINKARD UNIT

U.S.G.S. TOPOGRAPHIC MAP
EUNICE, N.M.

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

VICINITY MAP



SEC. 12 TWP. 21-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

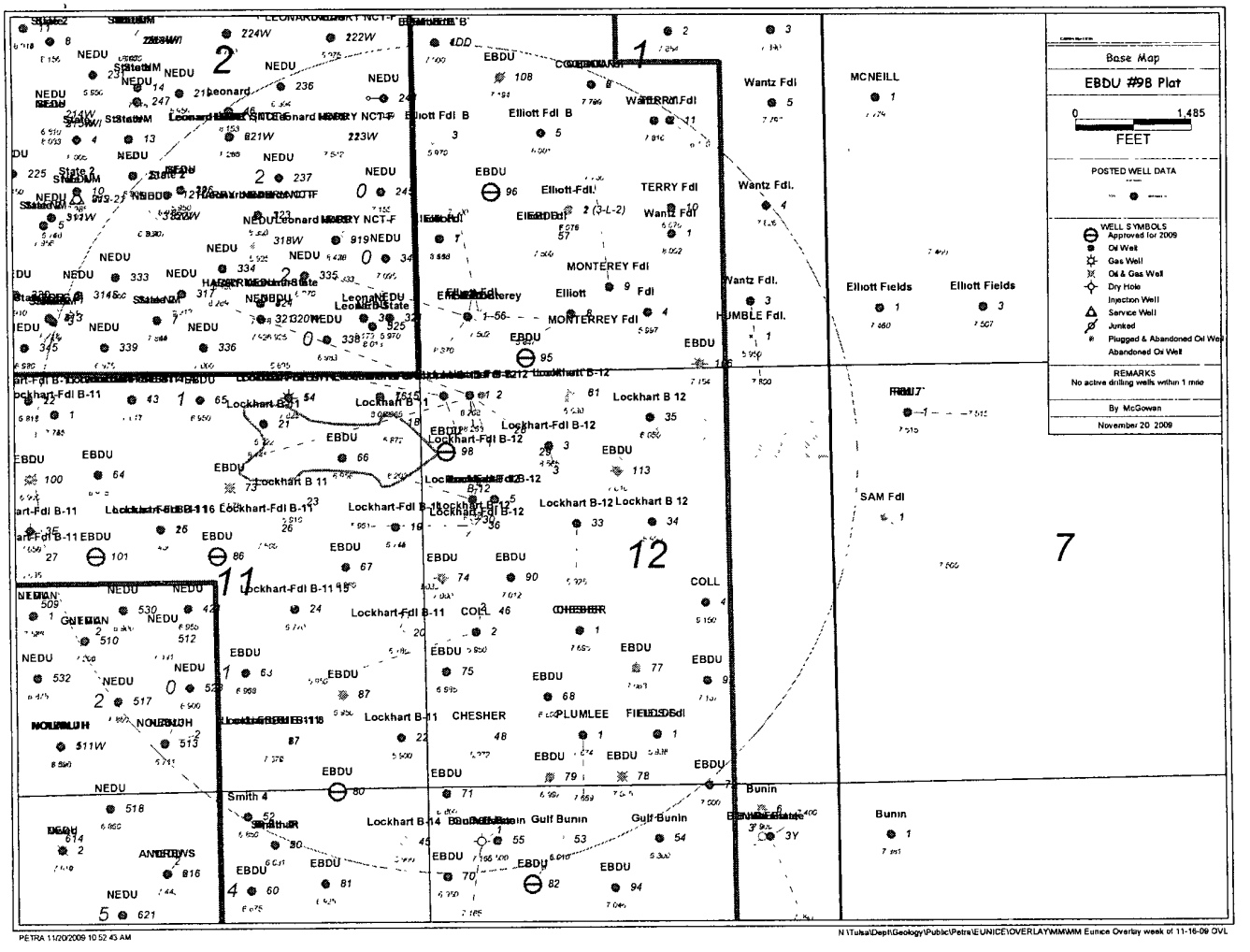
DESCRIPTION 990' FNL & 330' FWL

ELEVATION 3459'

OPERATOR APACHE CORPORATION

LEASE NORTHEAST DRINKARD UNIT

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


Base Map
EBDU #98 Plat
0
1,485
FEET
POSTED WELL DATA
WELL SYMBOLS
Approved for 2009
Oil Well
Gas Well
Oil & Gas Well
Dry Hole
Injection Well
Service Well
Junked
Plugged & Abandoned Oil Well
Abandoned Oil Well
REMARKS
No active drilling wells within 1 mile
By McGowan
November 20 2009
MONTEREY Fdl
TERRY Fdl
Wantz Fdl
Wantz Fdl.
MCNEILL
Elliott Fields
Elliott Fields
HUMBLE Fdl.
SAM Fdl
Lockhart Fdl B-11
Lockhart B 12
Lockhart B 11
Lockhart-Fdl B-12
Lockhart-Fdl B-11
CHESHER
PLUMLEE
COLL
Gulf Bunin
Bunin
Smith 4
EBDU
NEDU
1
2
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12
PETRA 11/20/2009 10:52:43 AM
N:\Tulsa\Dept\Geology\Public\Petra\EUNICE\OVERLAY\MMMM Eunice Overlay week of 11-16-09 OVL

EXHIBIT 'D'

East Blinebry Drinkard Unit 98
DRILLING PLAN

Surface Location
990' FNL, 330' FWL
NW 1/4 of Section 12, Township 21 South, Range 37 East, UL D
Lea County, New Mexico

DRILLING PROGRAM

1. **The geological surface formation** is recent Permian with quaternary alluvium and other superficial deposits.

2. **Estimated Tops of Geological Markers:**

FORMATION	DEPTH
Quaternary alluvials	Surface
Rustler	1300'
Yates	2645'
Seven Rivers	2897'
Queen	3450'
Grayburg	3785'
San Andres	4033'
Glorieta	5242'
Blinebry	5686'
Tubb	6168'
Drinkard	6482'
ABO	6769'
TD	7200'

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

SUBSTANCE	DEPTH
Oil	Blinebry @ 5686' Tubb @ 6168' Drinkard @ 6482'
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.

3. **Proposed Casing Program:**

HOLE SIZE	CASING SIZE OD / ID	GRADE	WEIGHT PER FOOT	DEPTH LENGTH	SACKS CEMENT	ESTIMATED TOC - REMARKS
				See COA		
12 ¼"	8 5/8" 8.097"	J55 STC	24#	~~1,300'~~ 1470'	650	TOC – Surface Float collar at 1,257
		Safety Factors	Clps.- 2.28 Brst - 4.9 Ten.J- 7.82			8.9 ppg Water-based Mud; 89 ° F Est. Static Temp; 83 ° F Est. Circ. Temp.
7 7/8"	5 ½" 4.892"	J-55 LTC	17#	1000-7,200'	1200	Included with above.
		L-80	17#	1000		TOC-Surface Float collar @ 7,157
		17 #J-55 LTC Safety Factors	Clps.-1.30 Brst.-1.41 Ten.J-2.34			Brine mud 10.1 ppg 112° F est Static Temp 101° F est Circ Temp
		17 #L-80* LTC Safety Factors	Clps.- 11.98 Brst.- 14.74 Ten.J- 2.8			

All casing will be new and API approved. * L-80 Run on top for possible completion pressures.

4. **Proposed Cement Program:**

CASING	LEAD SLURRY	TAIL SLURRY	DISPLACEMENT
8 5/8"	450 sacks 35:65 Poz C Cmt 3% bwoc CaCl + 0.25 lbs/sack Cello Flake + 6% bwoc Bentonite Gel	200 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake	80.07 bbls Fresh Water @ 8.33 ppg
	Slurry Weight 12.7 ppg	Slurry Weight (ppg) 14.8	
	Slurry yield 1.88 cf/sack	Slurry Yield (cf/sack) 1.35	
	Mix Water 10.7 gps	Mix Water (gps) 6.35	
	846 cuft or 150.7 bbls	270 cuft or 48.1 bbls	
	Estimated Pumping Time – 70 BC (HH:MM) 5:00	Estimated Pumping Time – 70 BC (HH:MM)-3:15	

8 5/8" Casing: Volume Calculations:

1,300 ft	x	0.4127 cf/ft	with	100% excess	=	1073 cf
43 ft	x	0.3576 cf/ft	with	0% excess	=	15.4cf (inside pipe)
		TOTAL SLURRY VOLUME			=	1088.4 cf
					=	193.8 bbls
				Plan	=	198.8 bbls

Spacer 20.0 bbls Water @ 8.33 ppg

CASING	LEAD SLURRY	TAIL SLURRY	DISPLACEMENT
5 ½"	900 sacks (35:65) Poz: Class C Cement + 5% bwow Sodium Chloride + 0.13 lbs/sack Cello Flake + 3 lbs/sk LCM-1 + 6% bwoc Bentonite + 0.5% bwoc BA-10A + 0.5% bwoc FL-52A Slurry Weight (ppg) 12.8 Slurry Yield (cf/sack) 1.90 Mix Water (gps) 9.83; 1,710 cuft or 304.5 bbls Estimated Pumping Time – 70 BC (HH:MM)-4:34;	300 sacks (50:50) Poz :Class C Cement + 5% bwow Sodium Chloride + 0.13 lb/sk Cello Flake +3 lbs/sk LCM-1 + 2% bwoc Bentonite + 0.2%bwoc Sodium Metasilicate + 0.45% bwoc FL-52A Slurry Weight (ppg) 14.2 Slurry Yield (cf/sack) 1.30 Mix Water (gps) 5.59; 390 cuft or 69.5 bbls Estimated Pumping Time – 70 BC (HH:MM)-3:41	164.0 bbls 2% Kcl Water @ 8.43 ppg

5 ½" Casing: Volume Calculations:

1,300 ft	x	0.1926 cf/ft	with	0% excess	=	250.4 cf
3,700 ft	x	0.1733 cf/ft	with	100% excess	=	1282.4 cf
2,200 ft	x	0.1733 cf/ft	with	40% excess	=	533.8 cf
43 ft	x	0.1305 cf/ft	with	0% excess	=	5.6 cf (inside pipe)
	TOTAL SLURRY VOLUME				=	2072.16 cf
					=	369 bbls
				Plan	=	374 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.

5. **Proposed Pressure Control Equipment:**

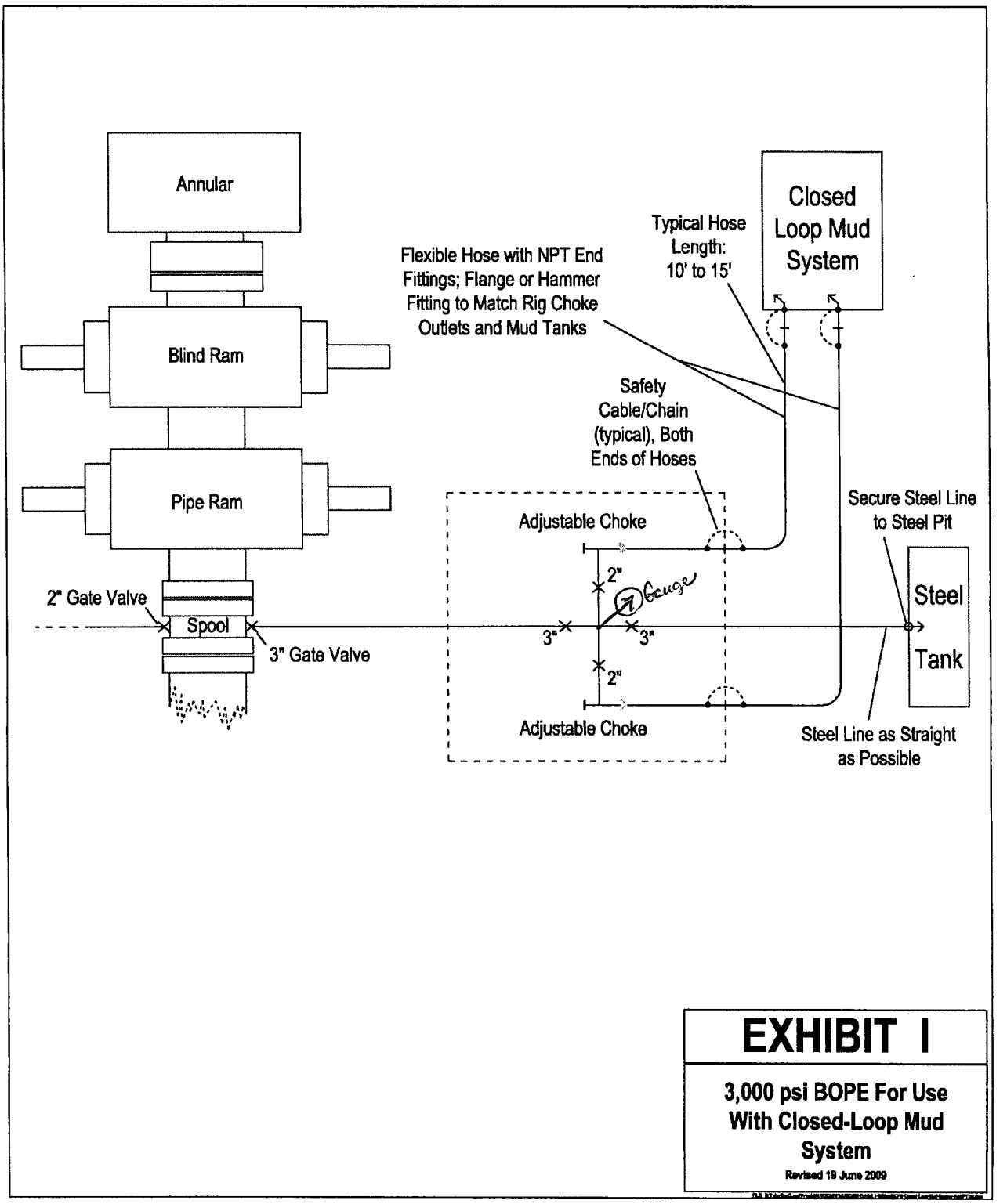
Will install on the 8 5/8" surface casing a 9" x 3000 psi WP Double Ram BOP with Annular, and will test using a 3rd party tester before drilling out of surface casing. **As maximum anticipated surface pressures do not exceed 2,000 psi, we will test the BOPE as a 2,000 psi system.** Bottom hole pressure calculations are included below. See Exhibit I, 3,000 psi BOPE attached.

Bottom Hole Pressure Calculations

The maximum anticipated bottom hole pressure is calculated by multiplying the depth of the well by 0.44. The maximum anticipated surface pressure is calculated assuming a partially evacuated hole with a pressure gradient of 0.22 psi/ft.

For the EBDU #98 the maximum anticipated bottom hole pressure is 7200 x 0.44 psi/ft=3168 psi.

The maximum anticipated surface pressure for the EBDU #98 assuming a partially evacuated hole is 7,200' x 0.22 psi/ft = 1584 psi.


Annular
Blind Ram
Pipe Ram
2" Gate Valve
Spool
3" Gate Valve
Flexible Hose with NPT End Fittings; Flange or Hammer Fitting to Match Rig Choke Outlets and Mud Tanks
Typical Hose Length: 10' to 15'
Closed Loop Mud System
Safety Cable/Chain (typical), Both Ends of Hoses
Adjustable Choke
2"
Gauge
3"
3"
2"
Adjustable Choke
Secure Steel Line to Steel Pit
Steel Tank
Steel Line as Straight as Possible
EXHIBIT I
3,000 psi BOPE For Use With Closed-Loop Mud System
Revised 19 June 2009

6. **Proposed Mud Program**

DEPTH	MUD PROPERTIES	REMARKS
0 – ~~1,300'~~ 1470' See COA	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.
~~1,300'~~ – 7,000'	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.
7,000' – TD	Weight: 10.0 – 10.4 ppg Viscosity: 34 – 36 sec/qt pH: 9-10 Filtrate: 15-20 cm/30 min	From 7,000' 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.

7. **Auxiliary Well Control and Monitoring Equipment:**

a. 4 1/2" x 3000 psi Kelly valve
b. H_2S detection equipment will be rigged up and functional and breathing apparatus will be on location before drilling out of 8 5/8" surface casing.

8. **Evaluation Program:** See COA

Open Hole Logging:

The following logs may be run:

CNL, Litho Density, GR, CAL, Dual Laterolog/MSFL, Sonic from TD-1300'
CNL, GR from TD-Surface

Mudlogging Program:

There are no plans to utilize a mud logging service on this well.

9. **Potential Hazards:**
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 3,168 psi, estimated BHT is 112°F.
No H_2S is anticipated. See Public Protection Plan for Hydrogen Sulfide (H_2S) attached.

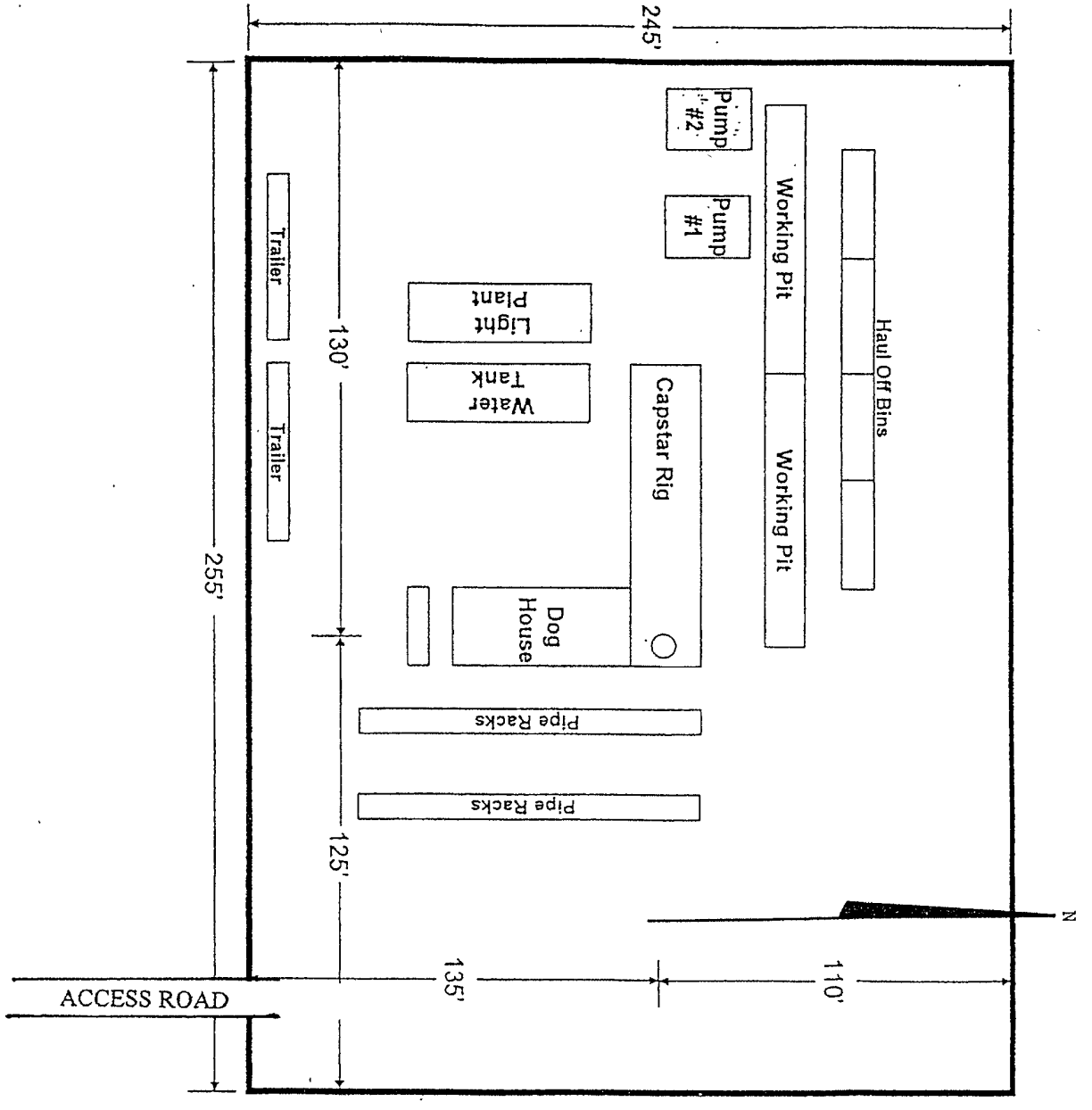
10. **Anticipated Starting Date:**
Road and location construction will begin after the BLM has approved the APD, the NMOCD has issued a drilling permit, and Apache Corporation management determines the well to be economically advantageous to drill. Drilling will begin when a rig becomes available following completion of the location construction and access roads.

Representative and Emergency Contacts

Senior Representative (Manager, Engineering & Production):
Ross Murphy
Apache Corporation
6120 South Yale Avenue
Suite 1500
Tulsa, Oklahoma 74136
(918) 491-4834

Project (Operations Engineer):
Darrin Steed
Apache Corporation
6120 South Yale Avenue
Suite 1500
Tulsa, Oklahoma 74136
(918) 491-4842

Drilling Operations (Operations Engineer):
Curt Jones
Apache Corporation
6120 South Yale Avenue
Suite 1500
Tulsa, Oklahoma 74136
(918) 491-4828



RIG LAY OUT PLAT

APACHE CORPORATION

EXHIBIT 'E'

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN
APACHE CORP. – PERMIAN BASIN **revised 4/9/2009**

This Hydrogen Sulfide Drilling Operations Plan shall be implemented prior to drilling out from under casing (surface or intermediate) set above potential H_2S bearing formations.

I. Hydrogen Sulfide Training

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

1. The hazards and characteristics of hydrogen sulfide (H_2S).
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

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

1. The effects of H_2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H_2S Drilling Operations Plan and the Public Protection Plan.

All personnel entering a location posted with the potential of Hydrogen Sulfide shall be required to carry documentation that they have received the proper training. (Training certificate typically valid for 1 year after training)

II. Site Specific Information:

Upon installation of H2S Safety Equipment and Systems on a well, and prior to drilling out of casing above potential Hydrogen Sulfide bearing formations a briefing with all personnel on location shall be held. The briefing should include a review of H_2S Drilling Operations Plan and the Public Protection Plan. This briefing should include site specific elements such as;

- Identification of the briefing areas.
- Discussion of rig orientation and prevailing wind direction.

- Identification of access roads, including secondary egress.
- Confirmation that all personnel have current training.
- Formation tops of potential H2S bearing formations.

The H_2S Drilling Operations Plan and the Public Protection Plan shall be available at the well site.

III. H_2S Safety Equipment and Systems

1. Well Control Equipment that will be installed prior to drilling out of casing above potential Hydrogen Sulfide bearing formations:
   A. Choke manifold with a minimum of one adjustable choke.
   B At least one choke line must be directed away from the drilling unit and secured at the end. (For closed-loop operations this should be directed to containment bin at the back edge of the location.)
   C Blind rams and pipe rams to accommodate all pipe sizes
   D Annular preventor
   E Properly sized closing unit.

1.1 Well control equipment to be available to install as needed should H2S be encountered;
   A Flare line with electronic igniter or continuous pilot.
   B Mud gas separator
   C Flare gun with flares.
   D One portable S02 monitor positioned near flare line.

2. Protective equipment for essential personnel:
   A. 30-minute air pack units located in the dog house and at briefing areas.

3. H_2S detection and monitoring equipment:
   A. Two portable H_2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H_2S levels of 20 ppm are reached.

4. Visual warning systems:
   A. Wind direction indicators.
   B. Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

5. Mud program:
   A. The mud program shall be designed to minimize the volume of H_2S circulated to the surface. Proper mud weight, safe drilling practices, and the use of H_2S scavengers will minimize hazards when penetrating H_2S-bearing zones.
   B. A mud-gas separator and an H_2S gas buster will be utilized as required if H2S is encountered.

6. Metallurgy:
   A. All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H_2S service.
   B. All elastomers used for packing and seals shall be H_2S trim.

7. Communication:
   A. Communications shall be available on the rig site and in company vehicles. Communications equipment may include one or more of the following; land lines, satellite phones, cellular telephone and 2-way radios.