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OCD-HOBBS

Form 3160-3
(April 2004)

HOBBSOCD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Split Estate

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

| | | |
|---|--|---|
| 1a Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER | | 5 Lease Serial No. NMLC 0 065525B |
| 1b Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone | | 6 If Indian, Allottee or Tribe Name N/A |
| 2 Name of Operator Apache Corporation | | 7 If Unit or CA Agreement, Name and No EBDU |
| 3a Address 6120 S. Yale, Ste 1500, Tulsa, OK 74136 | | 8. Lease Name and Well No <35023> E60u #122 |
| 3b. Phone No. (include area code) 918-491-4900 | | 9. API Well No. 30-225-39848 |
| 4 Location of Well (Report location clearly and in accordance with any State requirements *) At surface 225' FSL 330' FWL Sec 1 T21S R37E UL M At proposed prod. zone Same | | 10 Field and Pool, or Exploratory North Eunice, BTD <22900> |
| 14 Distance in miles and direction from nearest town or post office* Approx. 4.4 mi NE of Eunice, NM | | 11 Sec., T. R. M. or Blk and Survey or Area Sec 1 T21S R37E UL M |
| 15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) 225' | 16 No of acres in lease 80 | 12 County or Parish Lea |
| 17 Spacing Unit dedicated to this well 20 acres | 18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 454' +/- | 13. State NM |
| 19 Proposed Depth 7200' | 20 BLM/BIA Bond No. on file CO-1463 Nation Wide | |
| 21 Elevations (Show whether DF, KDB, RT, GL, etc) 3474' GL | 22 Approximate date work will start* 09/17/2010 | 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 | 4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2 A Drilling Plan. | 5 Operator certification |
| 3 A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

| | | |
|----------------------------|--------------------------------------|-------------------|
| 25. Signature | Name (Printed/Typed) SAMUEL SHOUN | Date 4/26/2010 |
| Title Drilling Engineer | | |

| | | |
|---------------------------------|---|---------------------|
| Approved by (Signature) | Name (Printed/Typed) FOR FIELD MANAGER | Date JUL 23 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)

KZ

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Capitan Controlled Water Basin

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

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State of New Mexico

DISTRICT I

1625 N. FRENCH DR., HOBBS, NM 88240

JUL 26 2010

Energy, Minerals and Natural Resources Department

Form C-102

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

HOBBS OIL

CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

Revised October 12, 2005
Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

| | | |
|-----------------------------------|---|---|
| API Number 30-025-39848 | Pool Code 22900 | Pool Name Eunice Blinbry - Tubb - Drinkard, North |
| Property Code 35023 | Property Name EAST BLINEBRY DRINKARD UNIT | |
| OGRID No. 873 | Operator Name APACHE CORPORATION | Well Number 122 |
| | | Elevation 3474' |

Surface Location

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| M | 1 | 21-S | 37-E | | 225 | SOUTH | 330 | WEST | LEA |

Bottom Hole Location If Different From Surface

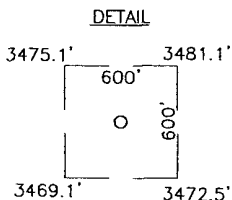
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|------------------------------|-----------------|--------------------|-----------|---------|---------------|------------------|---------------|----------------|--------|
| | | | | | | | | | |
| Dedicated Acres 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

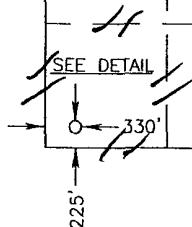
GEODETTIC COORDINATES
NAD 27 NME

Y=548180.4 N
X=872938.3 E

LAT.=32.501243° N
LONG.=103.123697° W
LAT. = 32°30'04.47" N
LONG. = 103°07'25.31" W



| | | | |
|-------------------|-------------------|-------------------|-------------------|
| LOT 4 37.10 AC | LOT 3 37.11 AC | LOT 2 37.11 AC | LOT 1 37.12 AC |
| LOT 5 40 AC | LOT 6 40 AC | LOT 7 40 AC | LOT 8 40 AC |
| LOT 12 40 AC | LOT 11 40 AC | LOT 10 40 AC | LOT 9 40 AC |
| LOT 13 40 AC | LOT 14 40 AC | LOT 15 40 AC | LOT 16 40 AC |
| 40 AC | 40 AC | 40 AC | 40 AC |



SCALE: 1" = 2000'

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.

Sam Shoun 4/26/2010
Signature Date
SAMUEL SHOUN
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.

GARY G. EIDSON
FEBRUARY 18, 2010
Date Surveyed
Signature & Seal of Professional Surveyor
Gary Eidson 2/25/10
Professional Surveyor

Certificate No. **GARY EIDSON 12641**
RONALD J. EIDSON 3239

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JUL 26 2010

HOBBSOCD

East Blinebry Drinkard Unit 122
DRILLING PLAN

Surface Location

225' FSL, 330' FWL

SW 1/4 of Section 1, Township 21 South, Range 37 East, UL M
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:**

| <u>FORMATION</u> | <u>DEPTH</u> |
|----------------------|--------------|
| Quaternary alluvials | Surface |
| Rustler | 1531' |
| Yates | 2820' |
| Seven Rivers | 3080' |
| Queen | 3625' |
| Grayburg | 3949' |
| San Andres | 4200' |
| Glorieta | 5465' |
| Blinebry | 5775' |
| Tubb | 6250' |
| Drinkard | 6588' |
| ABO | 6905' |
| TD | 7200' |

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

| <u>SUBSTANCE</u> | <u>DEPTH</u> |
|------------------|--|
| Oil | Blinebry @ 5775' Tubb @ 6250' Drinkard @ 6588' |
| Gas | Seven Rivers @ 3080' |
| 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:

| <u>HOLE SIZE</u> | <u>CASING SIZE</u> OD / ID | <u>GRADE</u> | <u>WEIGHT PER FOOT</u> | <u>DEPTH LENGTH</u> | <u>SACKS CEMENT</u> | <u>ESTIMATED TOC - REMARKS</u> |
|------------------|-------------------------------|-------------------|---|---------------------|---------------------|---|
| 12 1/4" | 8 5/8" 8.097" | J55 STC | 24# | 1,580' | 715 | TOC – Surface Float collar at 1,537 8.9 ppg Water-based Mud; 89 ° F Est. Static Temp; 83 ° F Est. Circ. Temp. |
| | | Safety Factors | Clps.- 1.78 Brst - 4.03 Ten.J- 6.44 | | | |
| 7 7/8" | 5 1/2" 4.892" | J-55 LTC | 17# | 1000-7,200' | 1235 | Included with above. TOC-Surface Float collar @ 7,157 Brine mud 10.1 ppg 111° F est Static Temp 100° F est Circ Temp |
| | | L-80 | 17# | 1000 | | |
| | | 17 #J-55 | | | | |
| | | LTC | Clps.-1.30 | | | |
| | | Safety | Brst.-1.41 | | | |
| | | Factors | Ten.J-2.34 | | | |
| | | 17 #L-80* | | | | |
| | | LTC | Clps.- 11.98 | | | |
| | | Safety | Brst.- 3.12 | | | |
| | | Factors | Ten.J- 2.76 | | | |

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

4. Proposed Cement Program:

| <u>CASING</u> | <u>LEAD SLURRY</u> | <u>TAIL SLURRY</u> | <u>DISPLACEMENT</u> |
|---------------|--|--|-----------------------------------|
| 8 5/8" | 500 sacks 35:65 Poz C Cmt + 3% bwoc CaCl + 0.25 lbs/sack Cello Flake + 6% bwoc Bentonite Gel Slurry Weight 12.7 ppg Slurry yield 1.88 cf/sack Mix Water 10.7 gps 846 cuft or 150.7 bbls <u>Estimated Pumping Time –</u> <u>70 BC (HH:MM) 5:00</u> | 215 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake Slurry Weight (ppg) 14.8 Slurry Yield (cf/sack) 1.35 Mix Water (gps) 6.35 270 cuft or 48.1 bbls <u>Estimated Pumping Time –</u> <u>70 BC (HH:MM)-3:15</u> | 98 bbls Fresh Water @ 8.33 ppg |

8 5/8" Casing: Volume Calculations:

| | | | | |
|----------|---|----------------------------|--------------------|----------------------|
| 1,580 ft | x | 0.4127 cf/ft | with 100% excess = | 1304.1 cf |
| 43 ft | x | 0.3576 cf/ft | with 0% excess = | 15.4cf (inside pipe) |
| | | TOTAL SLURRY VOLUME | = | 1319.5 cf |
| | | | = | 235.0 bbls |
| | | | Plan = | 240.0 bbls |

Spacer 20.0 bbls Water @ 8.33 ppg

| <u>CASING</u> | <u>LEAD SLURRY</u> | <u>TAIL SLURRY</u> | <u>DISPLACEMENT</u> |
|---------------|------------------------------|--------------------------------|---------------------|
| 5 1/2" | 925 sacks (35:65) Poz: Class | 310 sacks (50:50) Poz :Class C | 167 bbls 2% Kcl |

| | | |
|---------------------------------|---------------------------------|------------------|
| C Cement + 5% bwow | Cement + 5% bwow Sodium | Water @ 8.43 ppg |
| Sodium Chloride + 0.13 | Chloride + 0.13 lb/sk Cello | |
| lbs/sack Cello Flake + 3 lbs/sk | Flake +3 lbs/sk LCM-1 + 2% | |
| LCM-1 + 6% bwoc Bentonite | bwoc Bentonite + 0.2%bwoc | |
| + 0.5% bwoc BA-10A + 0.5% | Sodium Metasilicate + 0.45% | |
| bwoc FL-52A | bwoc FL-52A | |
| Slurry Weight (ppg) 12.8 | Slurry Weight (ppg) 14.2 | |
| Slurry Yield (cf/sack) 1.90 | Slurry Yield (cf/sack) 1.30 | |
| Mix Water (gps) 9.83; | Mix Water (gps) 5.59; | |
| 1,710 cuft or 304.5 bbls | 390 cuft or 69.5 bbls | |
| <u>Estimated Pumping Time</u> | <u>Estimated Pumping Time –</u> | |
| 70 BC (HH:MM) 4:34 | 70 BC (HH:MM)-3:41 | |

| <u>5 ½" Casing: Volume Calculations:</u> | | | | |
|--|---|--------------|------------------|-----------------------|
| 1,580 ft | x | 0.1926 cf/ft | with 0% excess | = 304.3 cf |
| 4,120 ft | x | 0.1733 cf/ft | with 100% excess | = 1428.0 cf |
| 1,500 ft | x | 0.1733 cf/ft | with 40% excess | = 363.9 cf |
| 43 ft | x | 0.1305 cf/ft | with 0% excess | = 5.6 cf(inside pipe) |
| TOTAL SLURRY VOLUME | | | | = 2101.8 cf |
| | | | | = 374.3 bbls |
| Plan | | | | = 385 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.

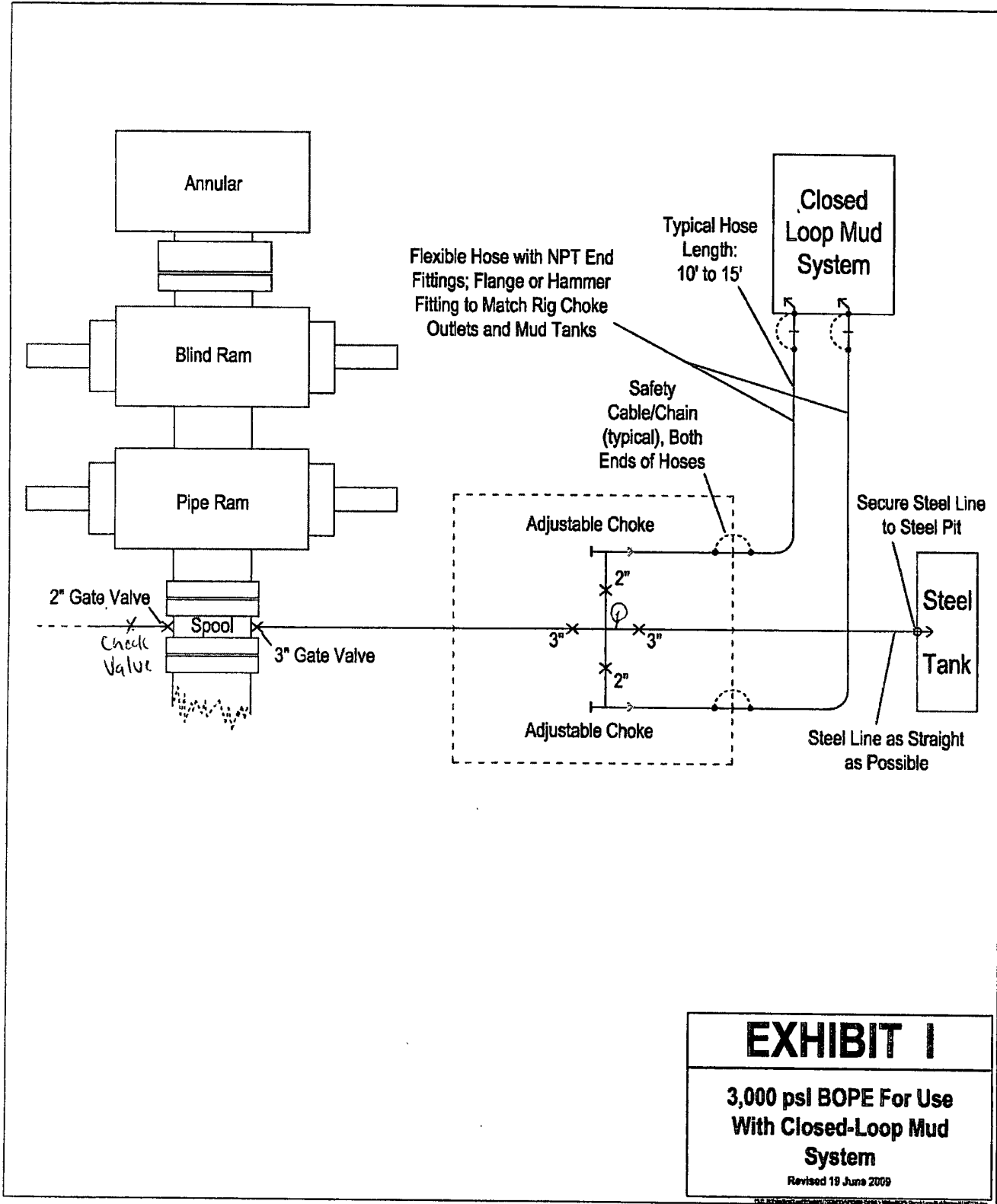
Bottom Hole Pressure Calculations

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

The maximum anticipated surface pressure for the EBDU #122 assuming a partially evacuated hole is 7,200' x 0.22 psi/ft = 1584 psi.

Exhibit I



6. **Proposed Mud Program**

| <u>DEPTH</u> | <u>MUD PROPERTIES</u> | <u>REMARKS</u> |
|-----------------|---|--|
| 0 – 1,580' | 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. |
| 1,580' – 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:**

- 4 1/2" x 3000 psi Kelly valve
- H₂S 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:**

Open Hole Logging:

The following logs may be run:

CNL, Litho Density, GR, CAL, Dual Laterolog/MSFL, Sonic from TD-1580'
CNL, GR from TD-Surface

Mudlogging Program:

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

See
COA

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 111°F.

No H₂S is anticipated. See Public Protection Plan for Hydrogen Sulfide (H₂S) 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):

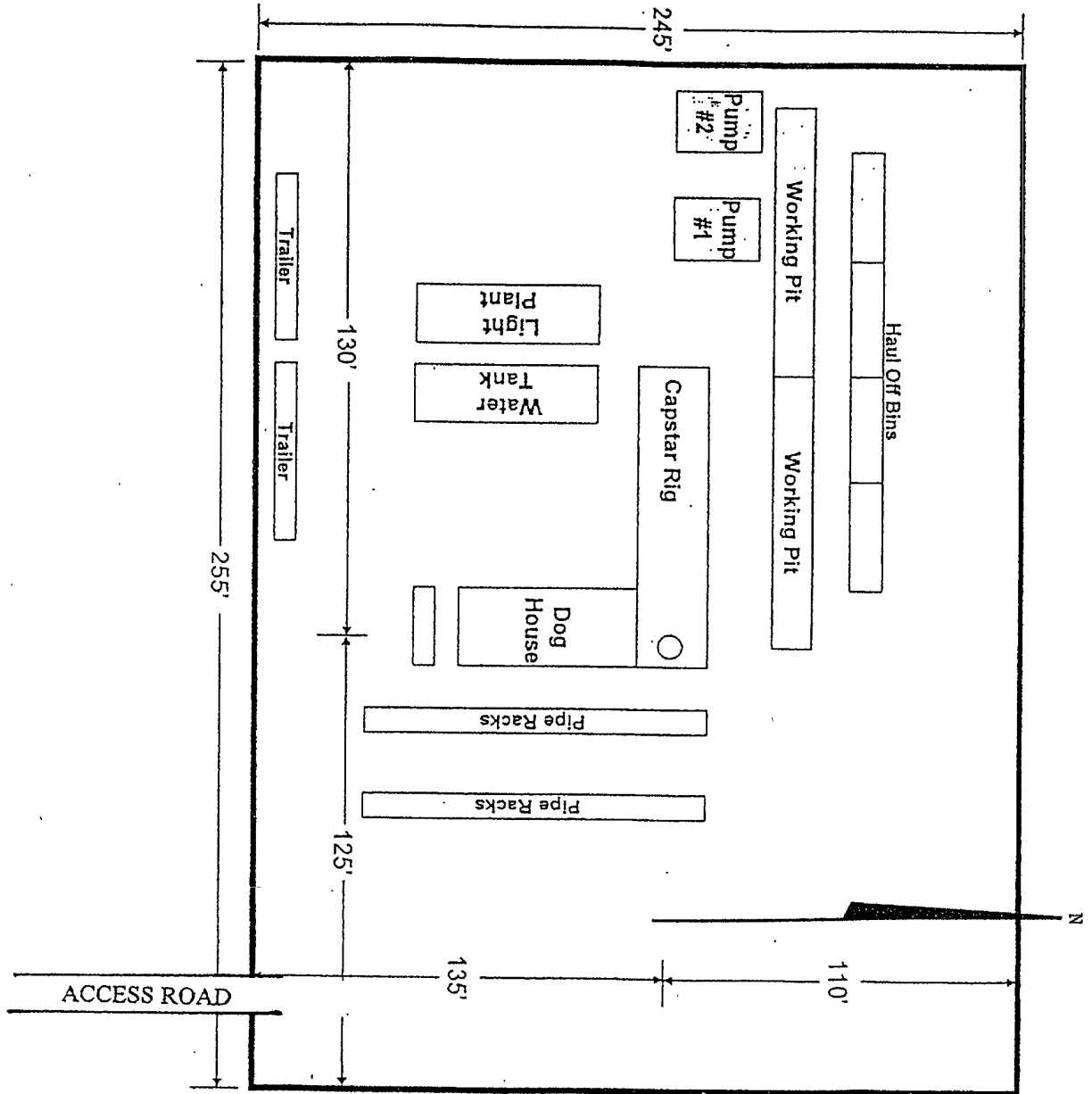
Ross Murphy
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Drilling Operations (Operations Engineer):

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6120 South Yale Avenue
Suite 1500
Tulsa, Oklahoma 74136
(918) 491-4865



RIG LAY OUT PLAT
APACHE CORPORATION

EXHIBIT 'E'

