

**New Mexico Oil Conservation Division, District 2**  
**1025 N. French Drive**  
**Hobbs, NM 88240**

Form 3160-3  
 (August 1999)

**UNITED STATES**  
**DEPARTMENT OF THE INTERIOR**  
**BUREAU OF LAND MANAGEMENT**

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

FORM APPROVED  
 OMB No. 1004-0136  
 Expires November 30, 2000

5. Lease Serial No.  
**USANMM 17444**

6. If Indian, Allottee or Tribe Name

**N/A**

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

**N/A**

8. Lease Name and Well No.

**HUMU HUMU FED.COM. 34**

9. API Well No.

**30-025-35998**

10. Field and Pool, or Exploratory

**Wildcat Miss.**

11. Sec., T., R., M., or Blk. and Survey or Area

**Sec. 34, T15S-R34E**

1a. Type of Work: ☒ DRILL

☐ REENTER

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

☒ Single Zone ☐ Multiple Zone

2. Name of Operator

**David H. Arrington Oil & Gas Inc.**

3a. Address

**214 W. Texas Midland Tx 79701**

3b. Phone No. (include area code)

**915. 682. 6685**

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

At surface **1700' PBL & 950' FEL, Sec. 34, T15S-R34E, Lea Co., NM**

At proposed prod. zone **San**

14. Distance in miles and direction from nearest town or post office\*

**6 mi. west of Huntington, NM**

15. Distance from proposed\*

location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)

**950'**

16. No. of Acres in lease

**320**

17. Spacing Unit dedicated to this well

**320**

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

19. Proposed Depth

**14,200'**

20. BLM/BIA Bond No. on file

**VIB 000 5938**

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

**GL 4060'**

22. Approximate date work will start\*

**ASAP**

23. Estimated duration

**45 days**

24. Attachments

**Lea County Controlled Water Basin**

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

**Danny Hedford**

Name (Printed/Typed)

**Danny Hedford**

Date **8.02.02**

Title

**Geologist, Operations & Development**

Approved by (Signature)

**/S/ JOE G. LARA**

Name (Printed/Typed)

**/S/ JOE G. LARA**

Date **SEP 05 2002**

Title

**FIELD MANAGER**

Office

**CARLSBAD FIELD OFFICE**

Application approval does not warrant or certify the 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 1 YEAR**

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 reverse)

**APPROVAL SUBJECT TO  
 GENERAL REQUIREMENTS AND  
 SPECIAL STIPULATIONS  
 ATTACHED**

OVER. API NO. **5898**  
 PROPERTY NO. **30500**  
 POOL CODE  
 EFF. DATE **9-9-02**  
 API NO. **30-025-35998**

**SEE ATTACHED FOR  
 CONDITIONS OF  
 APPROVAL**

**KEP**

# Drilling Plan

for

David H. Arrington Oil & Gas, Inc.'s  
**HUMU HUMU FEDERAL COM "34" #1**

1700' FSL & 950' FEL (LOT I)

Section 34, T 15S-R 34E

Lea County, New Mexico

**Lease Serial # USANMMN 17444**

**Surface Formation:** Pliocene Ogallala

**Estimated Tops of Geologic Markers:**

Rustler	@	1800'
San Andres	@	4500'
Tubb	@	7300'
Wolfcamp	@	9725'
Strawn	@	11725'
Atoka	@	11975'
Morrow	@	12900'
Miss.	@	13700'
TD	@	14200'

**Estimated Depths to Water, Oil or Gas Formation:**

Water	@	180'
Oil	@	9725'
Gas	@	11975'

**Proposed Casing Program:**

Drilling will begin with a starter hole to 40' in which will be set 20" conductor pipe. Drill 17 1/2" to a depth of 400' run 13 3/8" casing to TD and circulate 700 sxs of cement to surface. Drill 12 1/4" hole to 6100' run 9 5/8" casing and circulate 500sxs of cement to surface. Drill 8 3/4" hole to TD (14200'). Run 5 1/2" casing to TD for completion and cement with 500 to 1000 sxs.

The surface and production casing strings will be tested to 1000 psi.

**Pressure Control Equipment:**

Pressure control equipment will include a 5000# WP blowout preventer stack, with Series 900 blind and pipe rams. The BOP stack will include a kill line and choke manifold tested to 1000 psi. BOP hydraulic controls will be operated at least daily. A BOP schematic is attached showing the assembly for a 5000# BOP.

**Circulating Medium:**

Arrington anticipates the following mud program:

0' - 400'	Fresh water/ Native 8.6-9.0 mdwt vis of 28-36
400' - 6100'	Fresh water/Oil/Native 9.0-9.9 mdwt vis 28-32
6100' - 9700'	Cut Brine 9.0-9.2 mdwt vis 28-29
9700' - 11,700'	Cut Brine/XCD/Starch/Starpac 9.2-9.5 mdwt vis 32-36
11,700' - 14,200'	Cut Brine/XCD/Starpac 9.4-10.0 mdwt vis 44-48

**Auxiliary Equipment:**

A full-opening safety valve, to fit the drill string in use, will be kept on the rig floor at all times.

**Testing, Logging and Coring Program:**

Samples: Samples will be caught at 30' intervals from surface to 4500' and at 10' intervals from 4500' to TD.

DST and Cores: At discretion of well site geologist in Wolfcamp, Cisco, Strawn, Atoka and Morrow.

Logging: Anticipate Neutron-Density, Gamma-Ray, and Dual Laterlog

**Abnormal Pressures, Temperatures or Hydrogen Sulfide:**

It is possible that H<sub>2</sub>S will be encountered in the San Andres, however, the casing and cement program should alleviate potential danger. Bottom-hole pressure is not expected to exceed 6500#.

**Anticipated Starting Date:**

Drilling will commence upon approval. Drilling and completion operations will last approximately 40 days.

# Surface Use Plan

for

David H. Arrington Oil & Gas, Inc.'s

## **HUMU HUMU FEDERAL COM "34" #1**

1700 FSL & 950 FEL (LOT I)

Section 34, T 15S- R 34E

Lea County, New Mexico

### **Lease Serial # USANMNM 17444**

For the Bureau's use in evaluating the above-captioned well, this plan is submitted with the Form 3160-3 APD. The purposes of this report are to:

1. describe the location of the proposed well,
2. highlight the construction and operation activities, and,
3. to provide a complete appraisal of the environmental effects and the magnitude of the necessary surface disturbances.

#### **Location:**

The subject is located approx. 6 miles west of the Lovington city limits. The attached plats show the Humu Humu Fed. Com "34" #1 as it has been staked in Section 34. The "Existing Lease Road" is shown on the attached Survey Plats and Topo Map. **With submission of this Application, we are requesting usage approval for the Existing Lease Road (shown in GREEN) and NEW Lease Road (shown in RED) as shown in the attached Plats and Maps.** The New Lease Road proposed in Section 34 extends 1501'. All access roads will be completed for use as described below.

#### **Existing Roads:**

##### **Driving Directions:**

- From the city limits of Lovington go west on County Road 119 (Gum Road) approximately six (6) miles.
- then north .45 miles on lease road
- the location is approximately 1501' east of this location.

#### **Planned Access Road:**

- A. Length and Width: All lease roads will be graded in compliance with BLM standards and made a uniform width of 20', including shoulders. As shown in the attached Plats, there is New Lease road proposed in Section 34 that extends 1501' in an east-west direction.
- B. Surfacing Material: The new access road will be constructed of material-in-place. If additional caliche is necessary it will be purchased from a local provider

- C. Maximum Grade: Less than 1%
- D. Turnouts: No traffic turnouts are necessary.
- E. Drainage Design: The road will be constructed, or resurfaced with a 4" crown at the centerline.
- F. Culverts: None necessary.
- G. Cuts and Fills: The well pad will require essentially no cut and fill. Earthen berms will be constructed in accordance with BLM requirements.
- H. Gates/Cattle guards: One new cattle guard may be necessary at the junction of the existing lease road and the proposed new road.
- I. Right-of-Way: There are no right-of-way applications necessary.

**Location of Existing Wells:**

Several wells have been productive in the immediate area. The Abernathy, Caswell Farms #1 is located in the SE4 of section 35, T15S-R34E. This well was completed in 1982 and produces from the Townsend Permo Penn Pool. The Permian Resources, Lovington Plains #1, located in the NW4 of section 1, T16S-R34E, was completed in 1983 and produces from the Eidson Morrow Pool. The Santa Fe Energy, Maxwell Trust "26" #1, located in section 26, T15S-R34E, was completed in 1995 and also produces from the Eidson Morrow Pool.

**Location of Existing And/Or Proposed Facilities:**

If the well is productive, production, storage and measurement facilities will be constructed on a well pad in a manner consistent with the design of that shown in the attached "Tank Battery Schematic."

**Location and Type of Water Supply:**

Water for drilling operations will be purchased from local sources currently producing or a commercial water hauler.

**Source of Construction Materials:**

Whenever possible, Arrington plans to use material-in-place for construction. If necessary, caliche for surfacing the road and pad will be obtained from a privately owned pit and hauled to the location. Without prior approval, there are no plans to use caliche from Public Lands.

**Methods of Handling Waste Disposal:**

Drill cuttings will be disposed of in the drilling pits.

Drilling fluids will be allowed to evaporate in the drilling pits until dry.

Produced Water from any tests will be disposed of in the drilling pits.

Produced Oil from any tests will be stored in test tanks until sold.

Human waste will be handled, treated and disposed of by licensed professionals.

#### **Well Site Layout:**

The 400' x 400' area in which the drill site will be located, has been surveyed and flagged. Tentative plans have the 300' x 200' drilling pad situated as shown in the attached "Drilling Rig Pad Schematic."

#### **Plans for Restoration of the Surface:**

After the conclusion of drilling and completion operations, all unnecessary equipment and material will be removed. Prior to filling, any unguarded pits containing fluids will be fenced. Afterwards, when the pits are filled, the location will be cleared of all trash and scrap materials, and the well site will be left in as aesthetically pleasing a condition as possible.

In the event the well is non-productive, the disturbed area will be rehabilitated to Agency requirements as expeditiously as possible.

#### **Other Information:**

Topography: The regional terrain is pasture land with the drill site and access road essentially level.

Soil: The soil at the well site is sandy clay loam with associated gravel.

Flora and Fauna: Flora consists of range grasses with some yucca and mesquite, while fauna includes reptiles, rodents and birds.

Ponds and Streams: There are no ponds or streams near the well site.

Residences and Other Structures: There are no occupied dwellings within the subject section.

Archaeological, Historical and Other Cultural Sites: An Archaeological evaluation by Mesa Field Services of Carlsbad, New Mexico has been completed and presented to the BLM as a separate report.

Land Use: The area surrounding the well site is semi-arid rangeland used for grazing.

# **Hydrogen Sulfide Drilling Operations Plan**

for

David H. Arrington Oil & Gas, Inc.'s

**HUMU HUMU FEDERAL COM "34" #1**

1700 FSL & 950 FEL (LOT I)

Section 34, T 15S- R 34E

Lea County, New Mexico

**Lease Serial # USANMMN 17444**

## **ONE - 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:

- The hazards and characteristics of hydrogen sulfide (H<sub>2</sub>S);
- The proper use and maintenance of personal protective equipment and life support systems;
- The proper use of H<sub>2</sub>S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds; and,
- The proper techniques of first aid and rescue procedures.

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

- The effects of H<sub>2</sub>S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements;
- Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- The contents and requirements of the H<sub>2</sub>S Drilling Operations Plan.

There will be an initial training session just prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500') and weekly H<sub>2</sub>S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H<sub>2</sub>S Drilling Operations Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

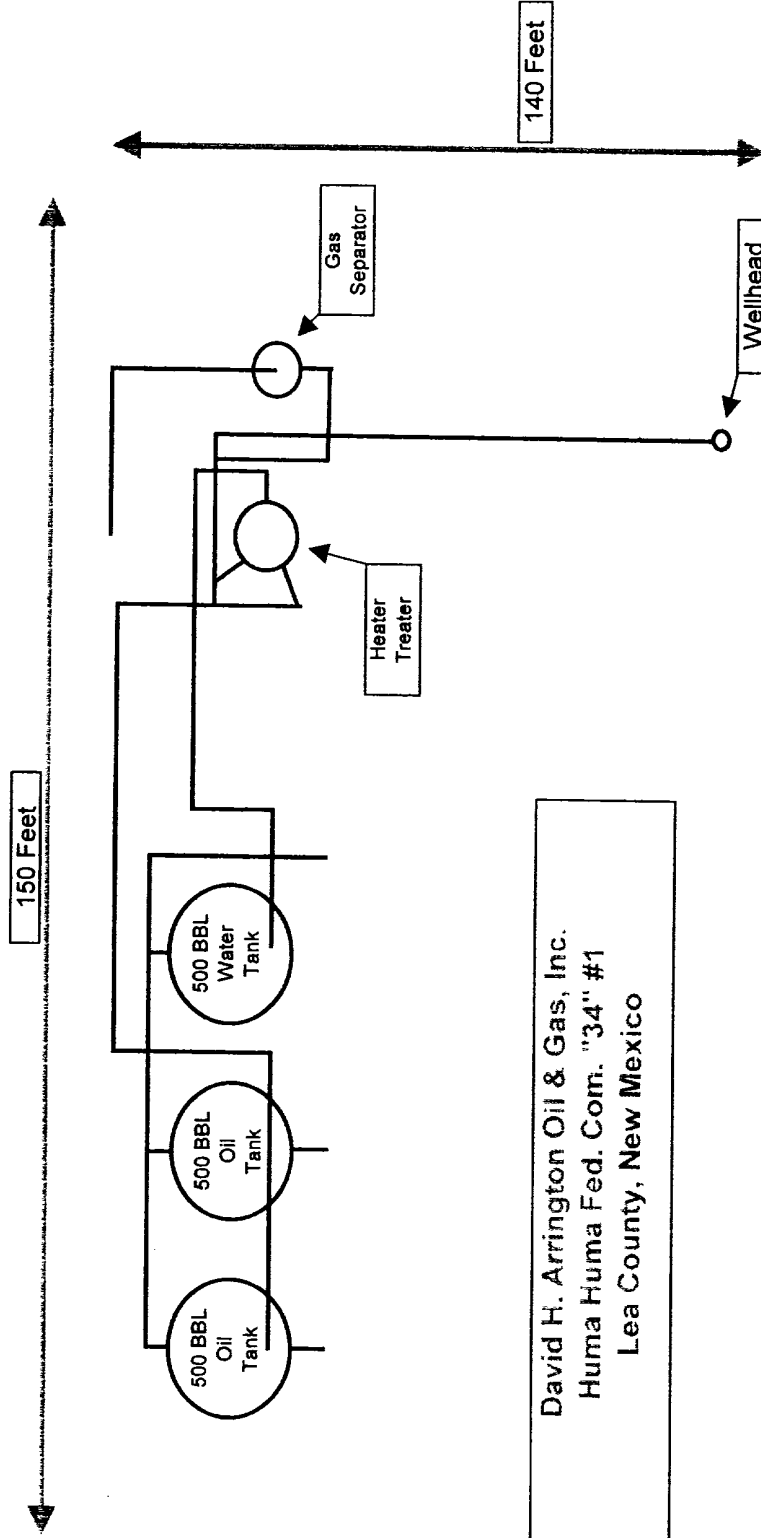
## **TWO - H<sub>2</sub>S Safety Equipment and Systems:**

**NOTE:** All H<sub>2</sub>S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or, three days prior to penetration of the first zone containing, or reasonably expected to contain, H<sub>2</sub>S.

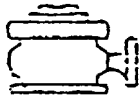
1. **Well Control Equipment:**
  - Flare line with flare igniter;
  - Choke manifold with one remote hydraulic choke installed;
  - Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit;
  - Auxiliary equipment to include an Annular Preventer.
2. **Protective equipment for essential personnel:**
  - The designated safety expert will provide 5-minute escape units located in the doghouse, and 30-minute air units at briefing areas.
3. **H2S detection and monitoring equipment:**
  - Three portable H2S monitors will be positioned on location for the best coverage and response. These units have warning lights and audible sirens when triggered by H2S levels > 20 PPM.
  - One portable SO2 monitor will be positioned near flare line during H2S flaring operations.
4. **Visual warning systems:**
  - Wind direction indicators will be placed in accordance with the directives issued by the designated H2S expert.
  - Caution/Danger signs shall be posted on roads providing direct access to the location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be legible from the immediate location.
5. **Mud Program:**
  - The mud program will minimize the volume of H2S circulated to the surface. Proper mud weight safe drilling practices, and, if necessary, the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.
6. **Metallurgy:**
  - All drill strings, casing, tubing, wellhead, blowout preventers, drilling spools kill lines, choke manifold and line valves shall be suitable for H2S service.
  - All elastomers used for packing and seals shall be H2S trimmed.
7. **Communications:**
  - Radio and telephone communications will be available in company vehicles and rig doghouse.
8. **Well Testing:**
  - Drill stem testing will be performed with a minimum number of personnel necessary to safely and adequately conduct the test. The drill stem testing of any known formation that contains H2S will be conducted during daylight hours.



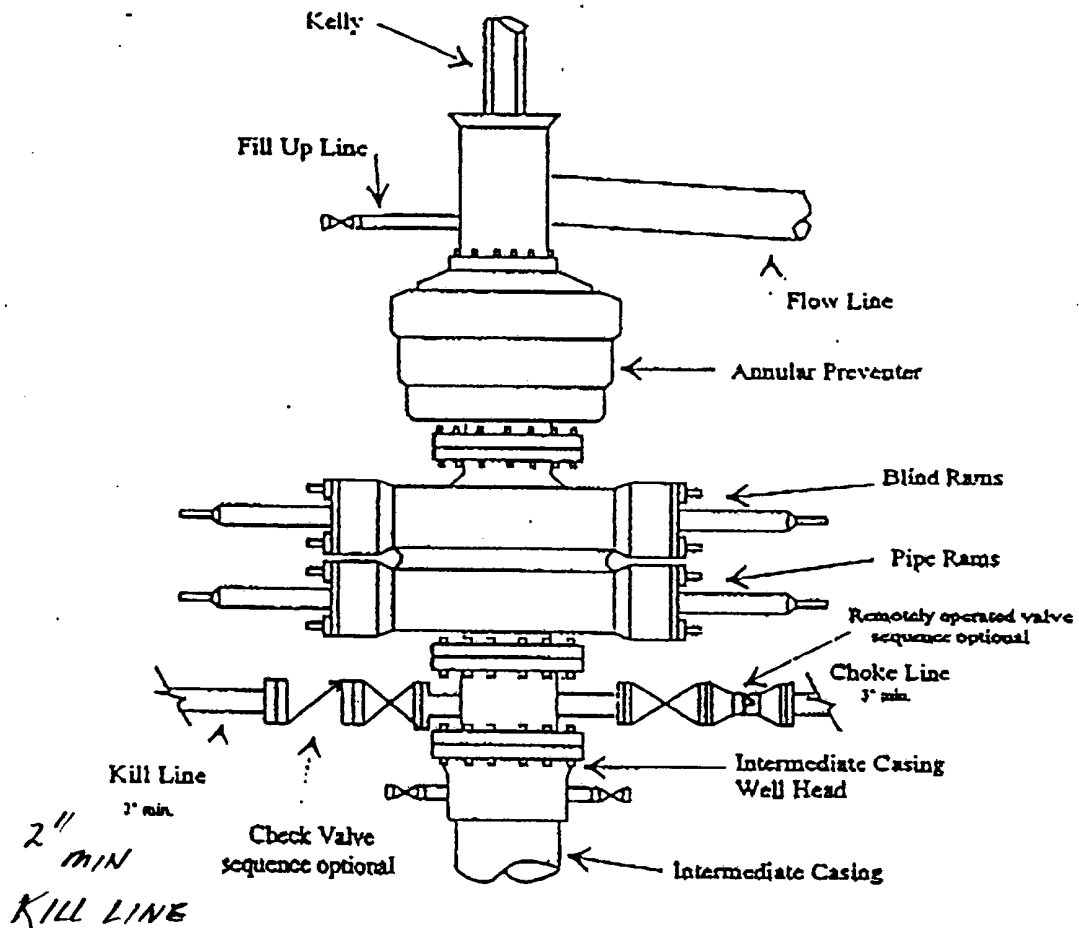
# TYPICAL TANK BATTERY SCHEMATIC



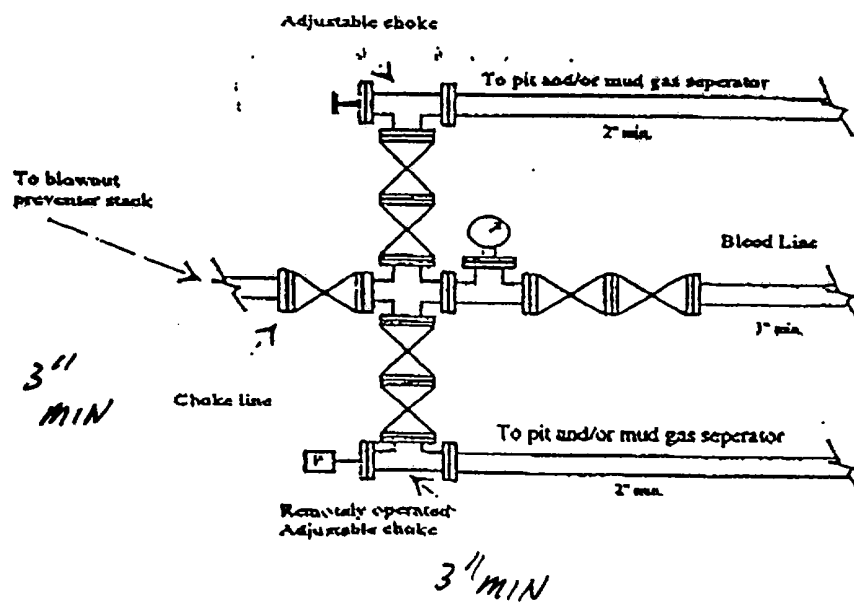
David H. Arrington Oil & Gas, Inc.  
Huma Huma Fed. Com. "34" #1  
Lea County, New Mexico



David H. Arrington Oil & Gas, Inc.  
 Typical 5,000 psi Pressure System  
 Schematic  
 Annular with Double Ram Preventer Stack



Typical 5,000 psi choke manifold assembly with at least these minimum features



GG  
 8/13/02

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 August 15, 2000

Submit to Appropriate District Office

State Lease - 4 copies

Fee Lease - 3 copies

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-025-35998	<sup>2</sup> Pool Code ✓	<sup>3</sup> Pool Name Wildcat; Miss.
<sup>4</sup> Property Code 30500	<sup>5</sup> Property Name HUMU HUMU FED COM "34"	
<sup>7</sup> OGRID No. 5898	<sup>8</sup> Operator Name DAVID H. ARRINGTON OIL & GAS, INC.	<sup>6</sup> Well Number 1
		<sup>9</sup> Elevation 4060'

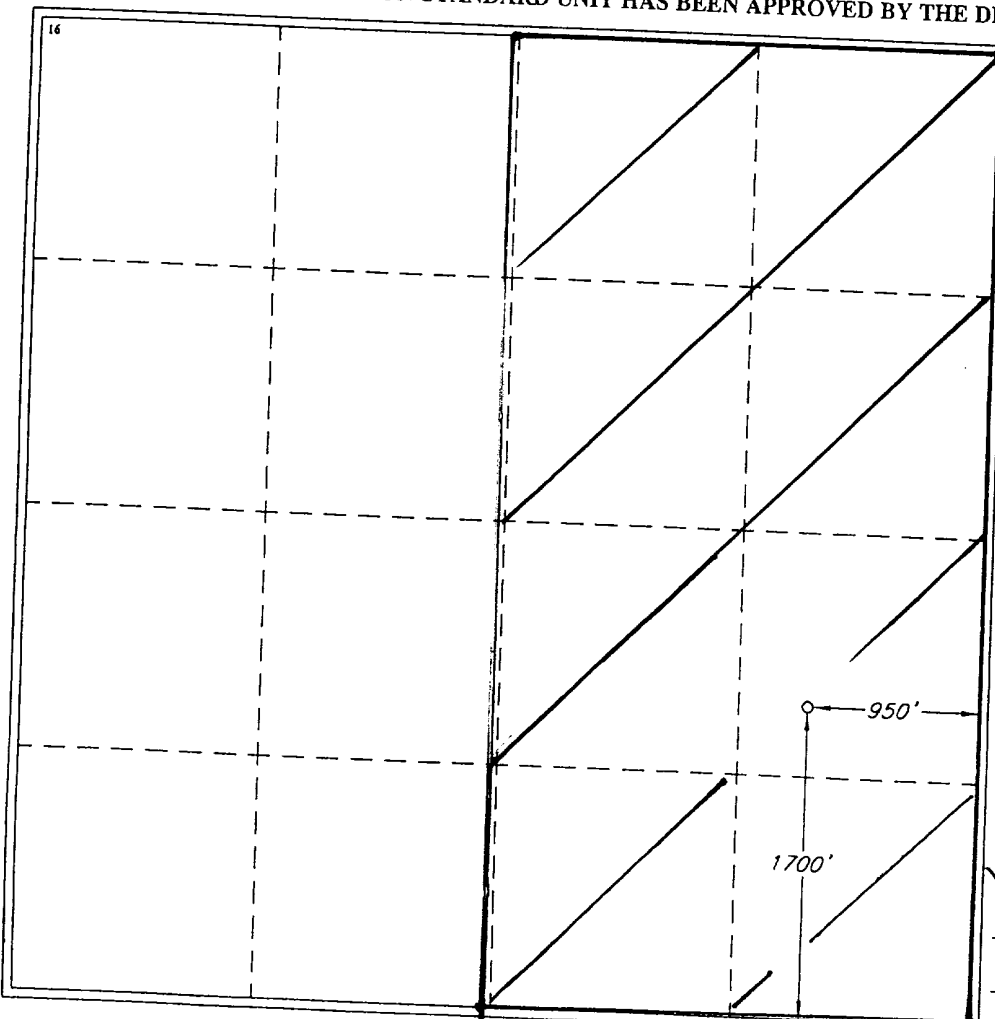
### <sup>10</sup> Surface Location

UL or lot no. I	Section 34	Township 15 SOUTH	Range 34 EAST, N.M.P.M.	Lot Idn	Feet from the 1700'	North/South line SOUTH	Feet from the 950'	East/West line EAST	County LEA
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### <sup>11</sup> Bottom Hole Location If Different From Surface

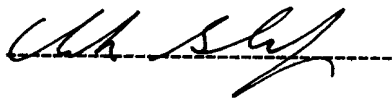
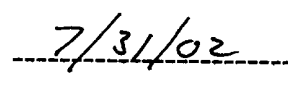
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<sup>12</sup> Dedicated Acres 360	<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.					

NO ALLOWABLE WELL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<sup>16</sup> 	<h3><sup>17</sup> OPERATOR CERTIFICATION</h3> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p>Signature: <i>David Ledford</i></p> <p>Printed Name: DAVID LEDFORD</p> <p>Title: GEOLOGIST, O &amp; G</p> <p>Date: 8-02-02</p>
	<h3><sup>18</sup> SURVEYOR CERTIFICATION</h3> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>JUNE 21, 2002</p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor</p> <p><i>[Signature]</i></p> <p>Certificate Number: V. L. BEZNER</p> <p>R.P.S. #7920</p> <p>JOB #82510 / 96 NW / J.C.P.</p>

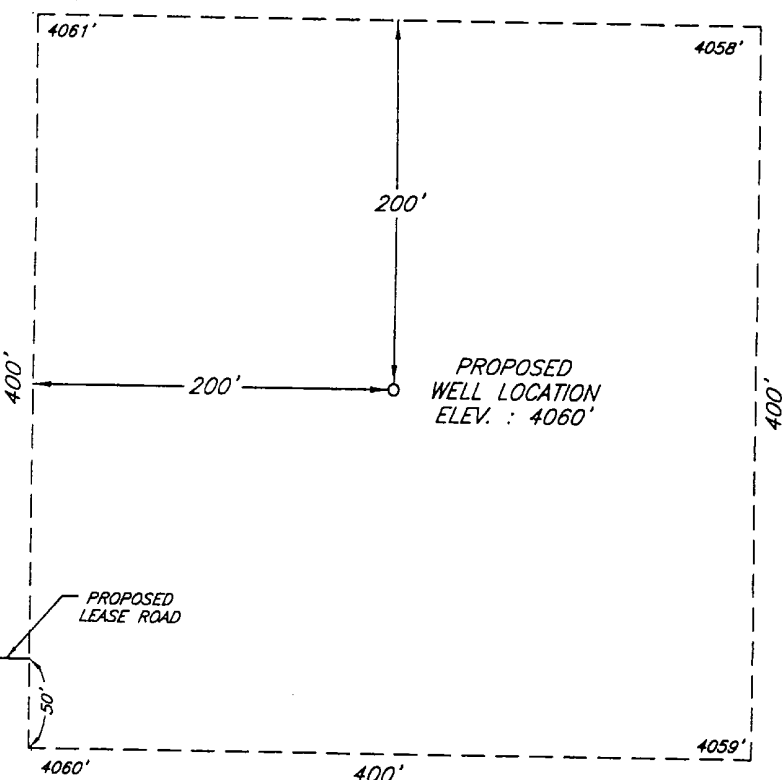
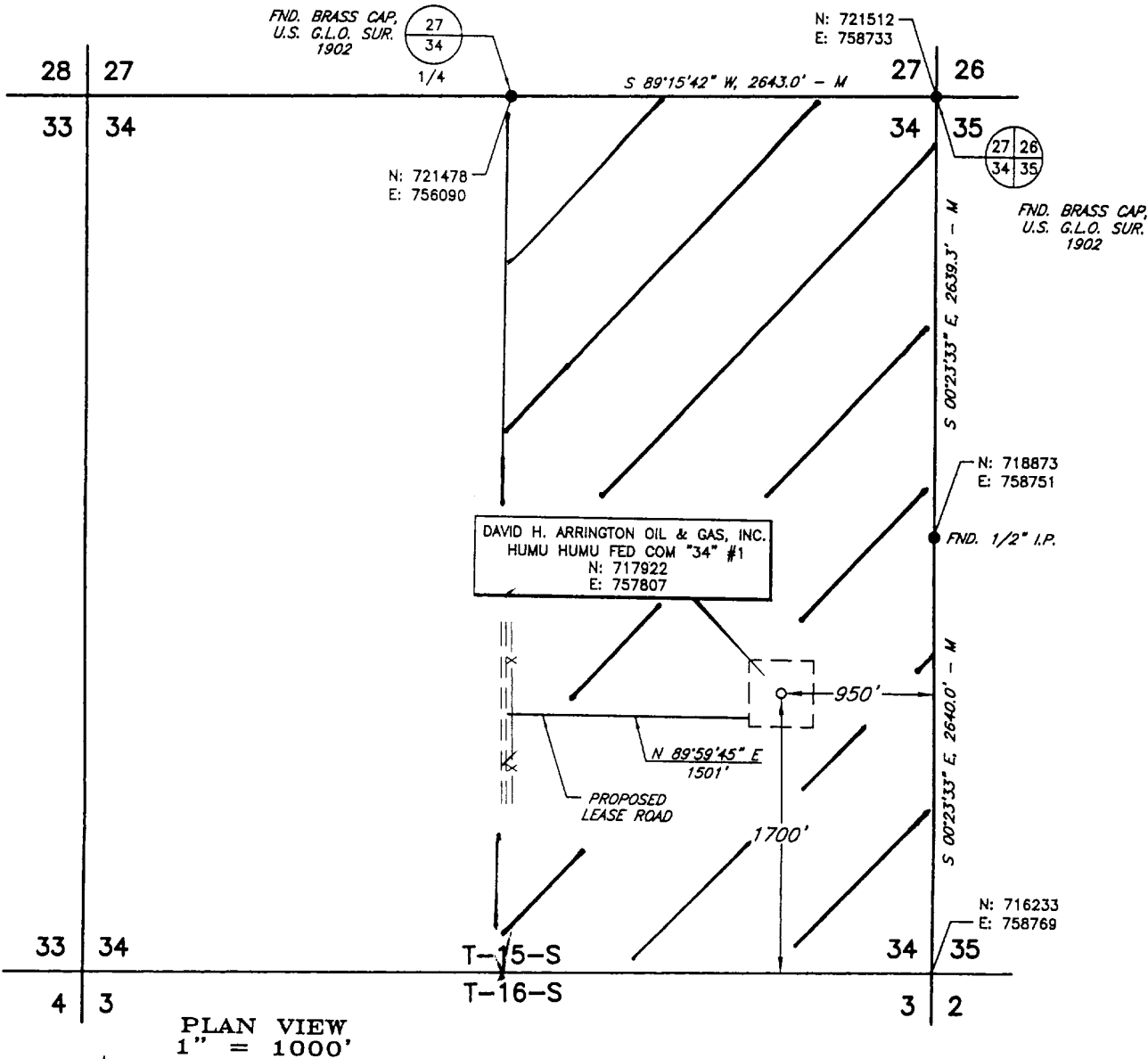
## **SURFACE AGREEMENT**

An agreement has been reached between David H. Arrington Oil & Gas Inc. and Olane Caswell (the surface owner) for ROW, damages, and water usage for the Huma Huma Federal Com 34-1. Compensation for access to the location will be made prior to spudding the well.

Chuck Sledge  
Operations Manager  
David H. Arrington Oil & Gas Inc.

PLAT SHOWING PROPOSED  
WELL LOCATION AND LEASE ROAD IN  
SECTION 34, T-15-S, R-34-E, N.M.P.M.  
LEA COUNTY, NEW MEXICO

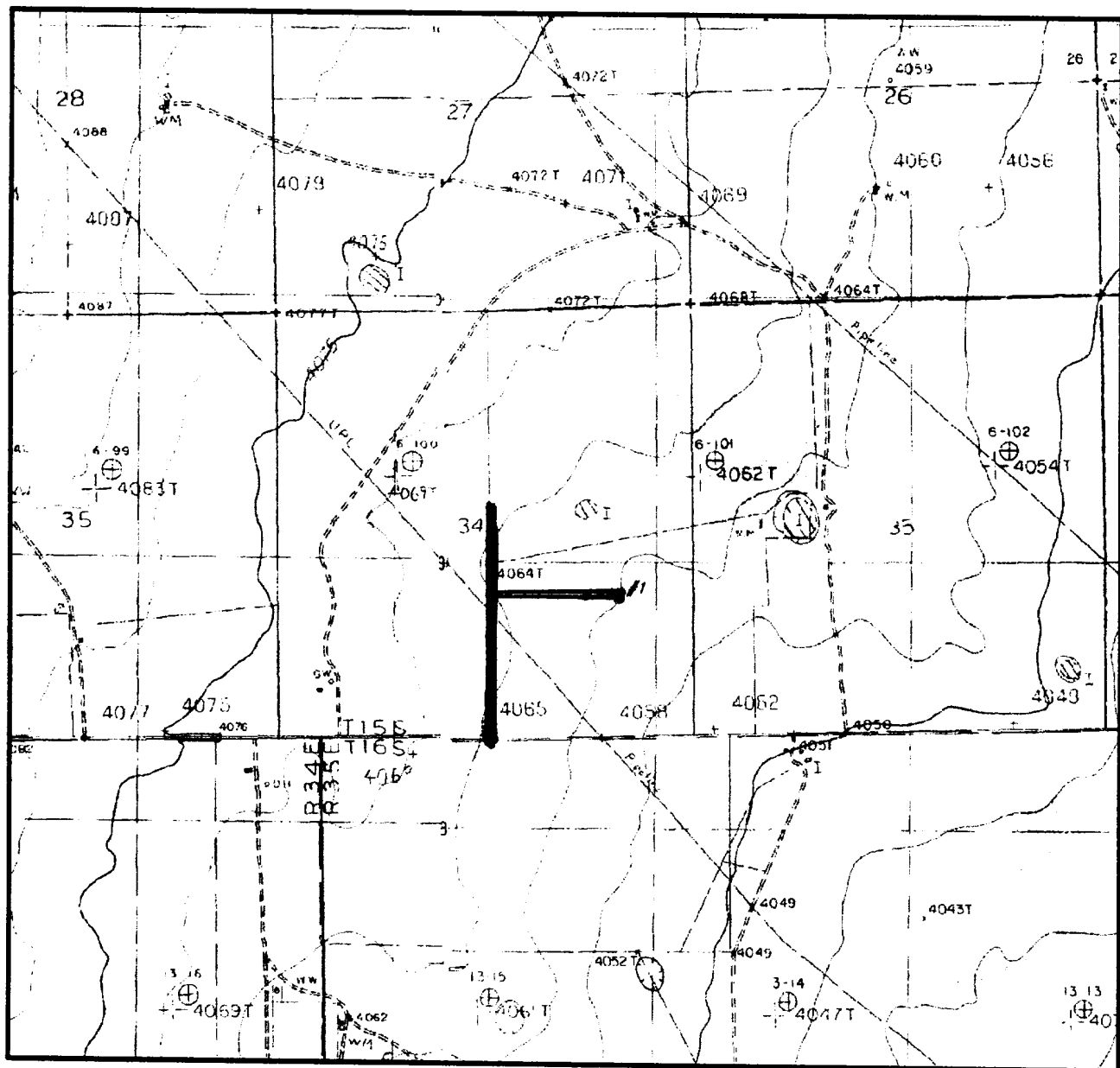


I, V. L. BEZNER, A PROFESSIONAL SURVEYOR IN THE  
STATE OF NEW MEXICO AND AUTHORIZED AGENT OF  
TOPOGRAPHIC LAND SURVEYORS, HEREBY CERTIFY THIS  
PLAT TO BE A TRUE REPRESENTATION OF A SURVEY  
PERFORMED IN THE FIELD UNDER MY SUPERVISION,  
THAT I AM RESPONSIBLE FOR THE SURVEY, THAT THIS  
SURVEY IS TRUE AND CORRECT TO THE BEST OF MY  
KNOWLEDGE AND BELIEF AND THAT THIS PLAT AND FIELD  
SURVEY UPON WHICH IT IS BASED MEET THE MINIMUM  
STANDARDS FOR SURVEYING IN NEW MEXICO  
(RULE 500.6 EASEMENT SURVEYING)

V. L. BEZNER, P.S. NO. 7920  
241 LAND SURVEYOR

				DAVID H. ARRINGTON OIL & GAS, INC.				SCALE: 1" = 1000'			
								DATE: JUNE 21, 2002			
NO.	REVISION	DATE	BY	SURVEYING AND MAPPING BY TOPOGRAPHIC LAND SURVEYORS MIDLAND, TEXAS				JOB NO.: 82510-F			
SURVEYED BY: W.J.K.								QUAD NO.: 96 NW			
DRAWN BY: J.C.P.								SHEET : 1 OF 1			
APPROVED BY: V.L.B.											

LOCATION & ELEVATION VERIFICATION MAP



SCALE : 1" = 2000' CONTOUR INTERVAL 5 FEET

SECTION 34 TWP 15-S RGE 34-E  
SURVEY NEW MEXICO PRINCIPAL MERIDIAN  
COUNTY LEA STATE NM  
DESCRIPTION 1700' FSL & 950' FEL  
ELEVATION 4060'

OPERATOR DAVID H. ARRINGTON OIL & GAS, INC.  
LEASE HUMU HUMU FED COM "34" #1

U.S.G.S. TOPOGRAPHIC MAP  
LOVINGTON NW, NEW MEXICO

LAT. N 32°58'15"  
LONG. W 103°29'34"

N

This location has been very carefully staked on the ground according to the best official survey records, maps, and other data available to us.  
Review this plat and notify us immediately of any possible discrepancy.

TOPOGRAPHIC LAND SURVEYORS  
*Surveying & Mapping for the Oil & Gas Industry*

1307 N. HOBART  
PAMPA, TX. 79065  
(800) 658-6382

6709 N. CLASSEN BLVD.  
OKLAHOMA CITY, OK. 73116  
(800) 654-3219

2903 N. BIG SPRING  
MIDLAND, TX. 79705  
(800) 767-1653

UNITED STATES DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
Roswell Field Office  
2909 West Second Street  
Roswell, New Mexico 88201-1287

Statement Accepting Responsibility for Operations

Operator Name: David H. Arrington Oil & Gas, Inc.  
Street or Box: 214 W. Texas  
City, State : Midland, TX  
Zip Code : 79701

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Lease No.: USANMMNM # 17444

Legal Description of Land:

SE 4 of Section 34, T15S-R34E, Lea Co., NM

Formation(s) (if applicable):

MISSISSIPPIAN

Bond Coverage (State if individually bonded or another's bond):  
INDIVIDUALLY - ON FILE

BLM Bond File No.: VIB 000 5938

Authorized Signature: *Dy Hedford*

Title: Geologist, Operations & Development

Date: 8.7.02