

CEMENT TO COVER ALL OIL,
GAS AND WATER BEARING
ZONES

15. DP If earthen pits are used in
rand / association with the drilling of this
NM 8 well, an OCD pit permit must be
obtained prior to pit construction.

Form 3160-3
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED

DEC 16 2005

COU-ARTESIA

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

5. Lease Serial No. 103591
NMNM 123591

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.
35331

8. Lease Name and Well No.
Arabian Midge Fed Dom "6" #1

9. API Well No.
30-015-34507

10. Field and Pool, or Exploratory
Wildcat Wolfcamp

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

Sec. 6, T19S, R24E

12. County or Parish
Eddy

13. State
NM

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. 5898

3a. Address
P.O. Box 2071, Midland, Texas 79702

3b. Phone No. (include area code)
(432) 684-6381 96086

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

At surface 1265 FNL & 1613 FEL

At proposed prod. zone 330 FSL & 1613 FEL

SUBJECT TO LIKE APPROVAL BY STATE

14. Distance in miles and direction from nearest town or post office*
16 miles SW of Artesia

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
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. 2907'

19. Proposed Depth
5300'

20. BLM/BIA Bond No. on file
Per Sup. from Ann Ritchie 12/1/05
BIB0005938 (EAR) NM 2503

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3783' GR

22. Approximate date work will start*
Upon Approval

23. Estimated duration
11 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)

Ann E. Ritchie

Date

11-2-05

Title
Regulatory Agent

ann.ritchie@wtor.net

Approved by (Signature)

/s/ Joe G. Lara

Name (Printed/Typed)

/s/ Joe G. Lara

Date

DEC 14 2005

Title
ACTING 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)

Roswell Controlled Water Basin

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

WITNESS : 13 3/8" CEMENT JOB

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240

State of New Mexico

Form C-102

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

Energy, Minerals, and Natural Resources Department

Revised August 15, 2000

Submit to Appropriate District Office

State Lease - 4 copies

Fee Lease - 3 copies

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

1220 South St. Francis Dr.

Santa Fe, New Mexico 87505

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-	² Pool Code 96086	³ Pool Name Wildcat Wolfcamp GAS
⁴ Property Code	⁵ Property Name ARABIAN MIDGE FED COM "6"	⁶ Well Number 1
⁷ OGRID No. 5898	⁸ Operator Name DAVID H. ARRINGTON OIL & GAS, INC.	⁹ Elevation 3783'

¹⁰ Surface Location

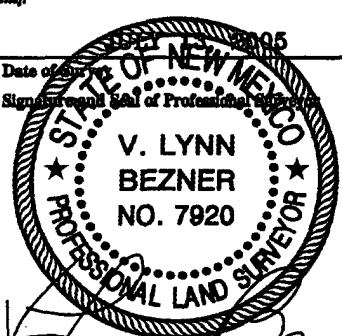
UL or lot no. B	Section 6	Township 19 SOUTH	Range 24 EAST, N.M.P.M.	Lot Idn	Feet from the 1265'	North/South line NORTH	Feet from the 1613'	East/West line EAST	County EDDY
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. 0	Section 6	Township 19 SOUTH	Range 24 EAST, N.M.P.M.	Lot Idn	Feet from the 330'	North/South line SOUTH	Feet from the 1613'	East/West line EAST	County EDDY
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¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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

<div><p>¹⁶</p><div><p>NAD 27 NM E ZONE X = 410639 Y = 616428 LAT.: N 32.6943234 LONG.: W 104.6238084</p></div><div><p>BOTTOMHOLE X = 410569 Y = 612618 LAT.: N 32.6838495 LONG.: W 104.6240021</p></div></div> <div><p>1265'</p><p>1613'</p><p>330'</p></div>	<div><h4>¹⁷ OPERATOR CERTIFICATION</h4><p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p><p><i>Ann E. Ritchie</i> Signature Ann E. Ritchie Printed Name Regulatory Agent Title 10-27-05 Date</p><h4>¹⁸ SURVEYOR CERTIFICATION</h4><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>Date of Survey: 10-27-05 Signature and Seal of Professional Surveyor:  Certificate Number: V. L. BEZNER R.P.S. #7920 JOB # 104770 / 76 NE / J.C.P.</p></div>
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David H. Arrington Oil & Gas Inc.
Arabian Midge Federal Com "6" No. 1
SHL - 1260' FNL & 1613' FEL
BHL - 330' FSL & 1613' FEL
S6, T19S, R24E
Eddy County, NM

Drilling Plan

1. Ground Elevation above Sea Level: 3783'

2. Proposed drilling depth: 5300' TVD

3. Estimated tops of geological markers:

Tubb	3050'
Abo Shale	3720'
Abo Reef	3860'
Abo/Wolf Pay	4800'
Wolfcamp	5130'

4. Possible mineral bearing formations:

Abo/Wolfcamp Oil

5. Casing Program

Hole size	Interval	OD of Casing	Weight	Thread	Grade	TOC
17-1/2"	40' - 350'	13-3/8"	48#	8rd	H40	Surf
12-1/4"	350' - 1,350'	9-5/8"	40#	8rd	J55	Surf
8-3/4"	1,350' - 5,400'	5-1/2"	17#	8rd	L80	Surf
7-7/8"	5,400' - 8,800' (5200' TVD)	5-1/2"	17#	8rd	L80	Surf

6. Cementing and Setting Depth

13-3/8"	Surface	350'	Lead: Premium Plus + 2% CaCl ₂ + 3% Econolite + ¼ pps Flocele Tail: Premium Plus + 2% CaCl ₂ + ¼ pps Flocele.
9-5/8"	Intermediate	1,350'	Lead: Interfill "C" + ¼ pps Flocele Tail: Premium Plus + 1% CaCl ₂
5-1/2"	Production	8,800'	Lead: Interfill C + ¼ pps Flocele Tail: Premium Cement + 100% Acid Soluble Additive + 0.6% Halad-344 + 0.8% Econolite + 0.2% HR-55

7. Pressure Control Equipment: After setting 9-5/8" casing and installing 5000 psi casing head, NU 11" 5000 psi double ram BOP and 5000 psi annular BOP, and test with clear fluid to 3000 psi using rig pumps.

8. Proposed Mud Circulating System

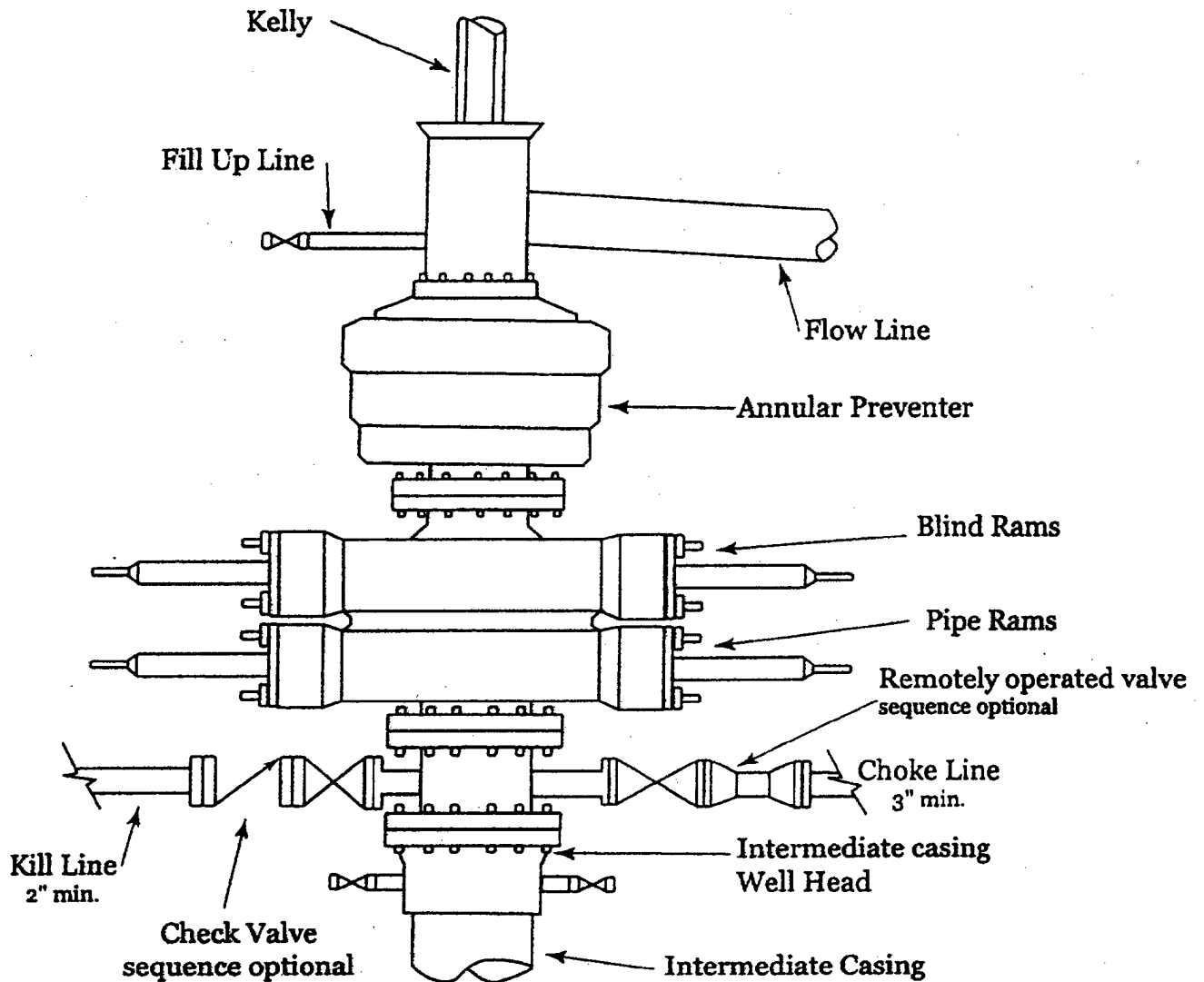
Interval	Mud Wt.	Visc.	FL	Type Mud System
40' – 350'	8.5 – 8.6	32 – 34	NC	Fresh water gel/lime slurry. Spot LCM pill for losses. If not regained, dry drill to depth.
350' – 1,350'	8.7 – 8.8	30 – 32	NC	Drill out w/ FW. Add paper for seepage. If losses occur, utilize 15-25 lb/bbl LCM material to regain losses.
1,350' – 5200'	8.4 – 9.3	28 -34	<12	Fresh water. Use paper and high viscosity sweeps for seepage and hole cleaning. At ~ 3,600' add brine to mud. At ~4,600' utilize starch/aquapac system.
4,800' – 8,800'	9.1 – 9.3	32 – 50	15	XCD polymer system. Use DCS surfactant while drilling curve. Sweep w/ 29-30 viscosity sweeps every 200' – 500'.

Proposed Drilling Plan:

Drill pilot hole to +5300'. Log well. Plug back to +4500'. Dress off to KOP+4800'. Kickoff well w/ 15°/100' BR to inclination 90°. If drilling hole conditions are favorable, reduce hole size from 8 ¾" to 7 7/8". Drill lateral to ± 8800'. Run and cement 5 ½" liner.

If hole conditions in the curve deteriorate, then 7" casing will be run thru end of curve section. Lateral will be drilled w/ 6 1/8" hole. Run 4 ½" liner and cement.

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



Thirteen Point Plan for Surface Use
(Additional data for form 3160-3)

David H. Arrington Oil & Gas, Inc.

Arabian Midge Federal Com "6", Well #1

SL: 1260' FNL & 1613' FEL; BHL: 330' FSL & 1613' FEL

Section 6, T19S, R24E, Eddy County, NM

Undesignated Wolfcamp/Abo - oil

NMNM 123591

1. **EXISTING ROADS – VICINITY MAP, Topographic Land Surveyors**
The road log to the location is as follows:
Distance and direction – from Artesia go 13 miles south on Highway 285.
Thence West on paved road 12.2 miles
Thence North 1.7 miles
Thence West 1.3 miles to the Southeast corner of Section 6.
2. **PLANNED ACCESS ROAD** —Approximately 300' of new E-W access road will be built from the existing NE-SW main caliche road to the west. All lease roads will be graded in compliance with BLM standards and made a uniform width of 20', including shoulders.
3. **LOCATION OF EXISTING WELLS** – The Colt Midge Federal Com 6, #2 is located in the W/2 of Section 6; the Arabian Midge Federal Com 6, Well #1 is located in the E/2.
4. **LOCATION OF EXISTING OR PROPOSED FACILITIES** – This well will require new production facilities to be located in the NW/4 of Section 6, T19S, R24E, Eddy Cty.
5. **LOCATION AND TYPE OF WATER SUPPLY** - All water (fresh or otherwise) needed for the drilling and completion of this well will be purchased from a commercial source and trucked to the location via the existing and proposed access road. No water source wells will be drilled, and no surface water will be utilized.
6. **SOURCE OF CONSTRUCTION MATERIALS** - Construction material (caliche) required for the preparation of the drill site is available from a local source approximately 5 miles away. It is not anticipated that a significant amount of material will be required as the terrain is relatively flat. Transportation will be over the existing roads.

7. METHODS FOR HANDLING WASTE DISPOSAL -

- Drill cuttings will be disposed into drilling pits after fluids have evaporated.
- The drilling pits will be lined with a 12+mil biodegradable plastic liner, and buried as per regulatory requirements. The pits will be located on the drill site.
- Receptacles for solid wastes (paper, plastic, etc) will be provided and equipped to prevent scattering by wind, animals, etc. This waste will be hauled to an approved landfill site.
- Any other waste generated by the drilling, completion, testing of this well will be removed from the site within 30 days of the completion of drilling or testing operations.
- A Porta-John will be provided for the crews. This will be properly maintained during the drilling operations and removed upon completion of the well.

8. ANCILLARY FACILITIES - The drilling, completion, and/or testing of this well will require temporary test facilities.

9. WELLSITE LAYOUT - Attached, as "Drilling Pad Layout" is the plat showing the anticipated orientation of the drilling rig and the pad. The approx. 400' x 400' area in which the drill site will be located has been surveyed and flagged. Approximately 5" of topsoil will be stockpiled on the east side of the location for rehabilitation purposes.

10. PLANS FOR SURFACE RESTORATION - Reclamation of the surface location will be in accordance with the requirements set forth by the BLM. As stated earlier all waste generated by this operation will be disposed of in an approved manner, and the site restored as closely as possible to its pre-operation appearance. Due to the topography of the area no problems are anticipated in achieving this status and no erosion or other detrimental effects are expected as a result of this operation.

11. OTHER INFORMATION - The surface ownership of the drill site and the access routes are under the control/ownership of:

Bureau of Land Management
P. O. Box 1778
Carlsbad, New Mexico 88221-1778
505-234-5972

The BLM representative for this area is Barry Hunt who can be reached at the above number, or 505-361-4078.

The site was archaeologically surveyed in July 2005. Michael Stowe, the registered archeological surveyor, should forward a copy of that report to the BLM.

Drilling contractor: Patterson UTI Drilling: 432 682-9401

12. **OPERATORS REPRESENTATIVE** - David H. Arrington Oil & Gas, Inc. is covered by Nationwide Bond No. UIB0005938. David H. Arrington Oil & Gas, Inc. is represented by:

✓ Mark Ellerby, Company Operations & Drilling Engineer (432.559.1216)
mobile #

David H. Arrington Oil & Gas, Inc.
P.O. Box 2071
Midland, TX 79702
432 684-7193 - office (ext. 351)

13. **OPERATORS CERTIFICATION**

I hereby certify that I, Mark Ellerby, Operations Engineer, have inspected the proposed drill site and access route and that I am familiar with the conditions that currently exist; that the statements made in the APD package are to the best of my knowledge true and correct; and that the work associated with operations herein will be performed by David H. Arrington Oil & Gas, Inc. and its contractors and subcontractors in conformity with the terms and conditions of this APD package. I also certify responsibility for the operations conducted on that portion of the leased lands associated with this application with bond coverage being provided under a BLM nationwide bond.

This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Name and title: Mark E. Ellerby, Operations/Drilling Engineer,

Signature: Mark E. Ellerby

Date: 11-02-05

.....

.....

November 1, 2005

Mr. Bryan Arrant, Geologist
New Mexico Oil Conservation Division
1301 W. Grand Avenue
Artesia, NM 88210

RE: David H. Arrington Oil & Gas, Inc., Arabian Midge Federal Com "6", Well #1
E/2, Section 6, T19S, R24E, Eddy County, New Mexico

Dear Mr. Arrant,

Please see attached the calculations as per the estimated maximum H₂S concentrations that might be encountered during the drilling and anticipated completion in the Wolfcamp formation. There was no concentration of H₂S encountered during the drilling of the offsetting Green Wooley-Booger Federal "5", Well #1, as per drilling personnel at David H. Arrington Oil & Gas, Inc.

There is currently no offset drilling, no residences or public roads within 1/4 mile of this location to the best of my knowledge.

Please let us know if you need any further information or notification concerning the application to drill of the Arabian Midge Federal Com "6", Well #1. Thank you.

Yours truly,



Ann E. Ritchie, Regulatory Agent
David H. Arrington Oil & Gas, Inc.
P.O. Box 2071
Midland, TX 79702
(432) 684-7193
ann.ritchie@wtor.net

attachment

cc: Arrington file/Midland

	Hydrogen Sulfide Calculation					
	David H. Arrington Oil & Gas, Inc.					
	Section 6, T19S, R24E, Eddy County, NM - Wolfcamp test					
	Data	Description				
	10	H2S Concentration - PPM				
		Maximum Escape Volume - MCF/Day				
	3	100 PPM Radius of Exposure				
	1	500 PPM Radius of Exposure				

Hydrogen Sulfide Drilling Operations Plan

For

David H. Arrington Oil & Gas, Inc.
Arabian Midge Federal Com "6", Well #1
E/2 Section 6, T19S, R24E
Eddy County, New Mexico

ONE: Hydrogen Sulfide Training

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

- The hazards & characteristics of H₂S
- The proper use & maintenance of personal protective equipment and Life support systems;
- The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures & prevailing winds; and,
- The proper techniques of first aid and rescue contact procedures

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

- The effects of H₂S 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 H₂S Drilling Operations Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500') and periodic H₂S and well control drills for all personnel in each crew. The initial training session should include a review of the site specific Drilling Operations Plan. This plan is to be available at the well site.

TWO: H₂S Safety Equipment and Systems


NOTE: All H₂S 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 a known zone containing or reasonably expected to contain H₂S.

1. Well Control Equipment:

- Flare line with flare igniter;
- Choke manifold with one remote hydraulic choke installed;
- Blind rams & 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.

CONDITIONS OF APPROVAL - DRILLING

Operator's Name: DAVID H. ARRINGTON OIL & GAS, INC. 
Well Name & No. 1 – ARABIAN MIDGE FEDERAL COM 6
Location: 1265' FNL & 1613' FEL – SEC 6 – T19S – R24E – EDDY COUNTY (SHL)
330' FSL & 1613' FEL – SEC 6 – T19S – R24E – EDDY COUNTY (BHL)
Lease: NM-103591

I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 234-5909 or (505) 361-2822 (After hours) - for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: 13-3/8 inch 9-5/8 inch 5-1/2 inch liner (Note: This is a directional well – If hole conditions deteriorate in the curve portion of the hole 7 inch casing will be run through the end of the curve section and a 4-1/2 inch liner will be run in the lateral portion.

C. BOP tests

2. **H₂S gas has been reported in the area but not quantified.** The Operator has an H₂S Plan in place should H₂S gas be encountered.

3 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.

4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

6. A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.

II. CASING:

1. The 13-3/8 inch surface casing shall be set at 350 feet, below usable water and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is circulate cement to the surface. This portion of the hole shall be drilled with fresh water or fresh water mud.

3. The minimum required fill of cement behind the 5-1/2 inch production liner is cement shall extend upward to the top of the liner at approximately 5400 feet.

III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 9-5/8 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.
2. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling the surface and intermediate casing shall be 2000 psi. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling below the 9-5/8 inch casing shall be 3000 psi.
3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.
 - The tests shall be done by an independent service company.
 - The results of the test shall be reported to the appropriate BLM office.
 - Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
 - Testing must be done in a safe workman-like manner. Hard line connections shall be required.
 - BOPE must be tested prior to drilling into the Wolfcamp Formation by an independent service company.

IV. DRILLING MUD:

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp Formation, and shall be used until production casing is run and cemented. Monitoring equipment shall consist of the following:

1. Recording pit level indicator to indicate volume gains and losses.
2. Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.
3. Flow-sensor on the flow line to warn of abnormal mud returns from the well.