Form 3160-3
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

Bureau of Land Management
Received
MAY 19 2000
Carlsbad Field Office
Carlsbad, N.M.

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NM 022535

1a. Type of Work: [X] DRILL [ ] REENTER

6. If Indian, Allotee or Tribe Name:

1b. Type of Well: [ ] Oil Well [X] Gas Well [ ] Other [ ] Single Zone [ ] Multiple Zone

7. Unit or CA Agreement Name and No.: 24177

2. Name of Operator: KERR-McGEE OIL & GAS ONSHORE LLC 12558

8. Lease Name and Well No.: FEDERAL 28 #2

3a. Address: P.O. Box 809004 DALLAS TX 75380-9004

3b. Phone No. *(include area code)*: (972) 715-4520

9. API Well No.: 30-015- 31180

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

At surface: 1900' FWL & 1750' FSL, SEC. 28, T 21 S, R 23 E Unit K

10. Field and Pool, or Exploratory: INDIAN BASIN UPPER PENN

At proposed prod. zone: 1900' FWL & 1750' FSL, SEC. 28, T 21 S, R 23 E

11. Sec., T., R., M., or Blk. and Survey or Area: SEC. 28, T 21 S, R 23 E

14. Distance in miles and direction from nearest town or post office*: 30 MILES NORTH NORTHWEST OF CARLSBAD, NEW MEXICO

12. County or Parish: EDDY

13. State: TX

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any)	16. No. of Acres in lease	17. Spacing Unit dedicated to this well
1650'	640	640
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
2000'	8000'	
21. Elevations (Show whether DF, KDB, RT, GL, etc.	**22. Approximate date work will start***	**23. Estimated duration**
3985'GR	06-15-00	30 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. Signuature	Name *(Printed/Typed)*	Date
	STEPHEN FORE	05-15-00

Title: TECHNICAL ANALYST

Approved by *(Signautre)*	Name *(Printed/Typed)*	Date
	/S/ LESLIE A. THEISS	JUN 08 2000
Title: Assistant Field Manager, Lands And Minerals	Office	APPROVED FOR 1 YEAR

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.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowlingly 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)

JUN 2000
RECEIVED
OCD - ARTESIA

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

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

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name

Property Code	Property Name	Well Number
	FEDERAL 28	2
OGRID No.	Operator Name	Elevation
	KERR-MC GEE CORPORATION	3985

Surface Location

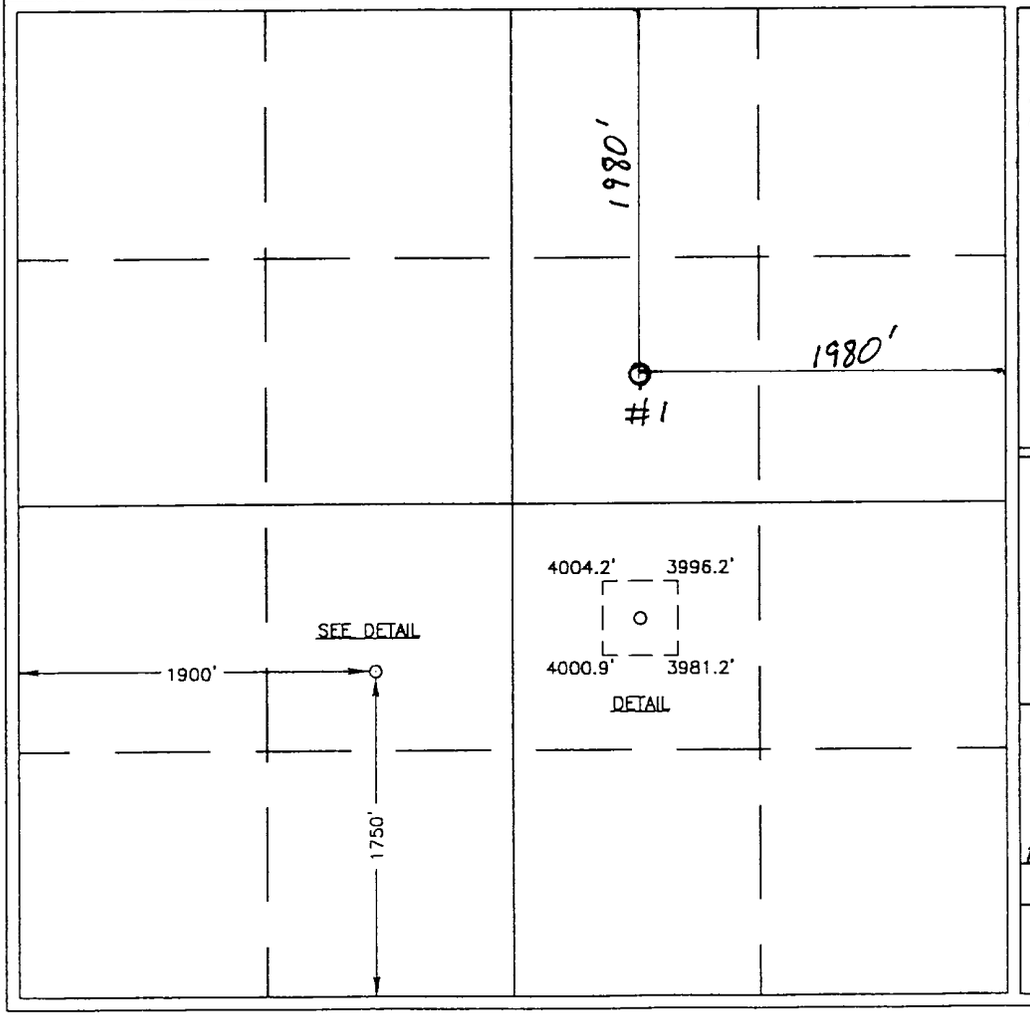
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	28	21 S	23 E		1750	SOUTH	1900	WEST	EDDY

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.
640			

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 the the information contained herein is true and complete to the best of my knowledge and belief.

Signature

Stephen Foree
Printed Name

Technical Analyst
Title

05-16-00
Date

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 supervison, and that the same is true and correct to the best of my belief.

MAY 12, 2000

Date Surveyed LMP

Signature & Seal of Professional Surveyor

RONALD J. EIDSON NEW MEXICO

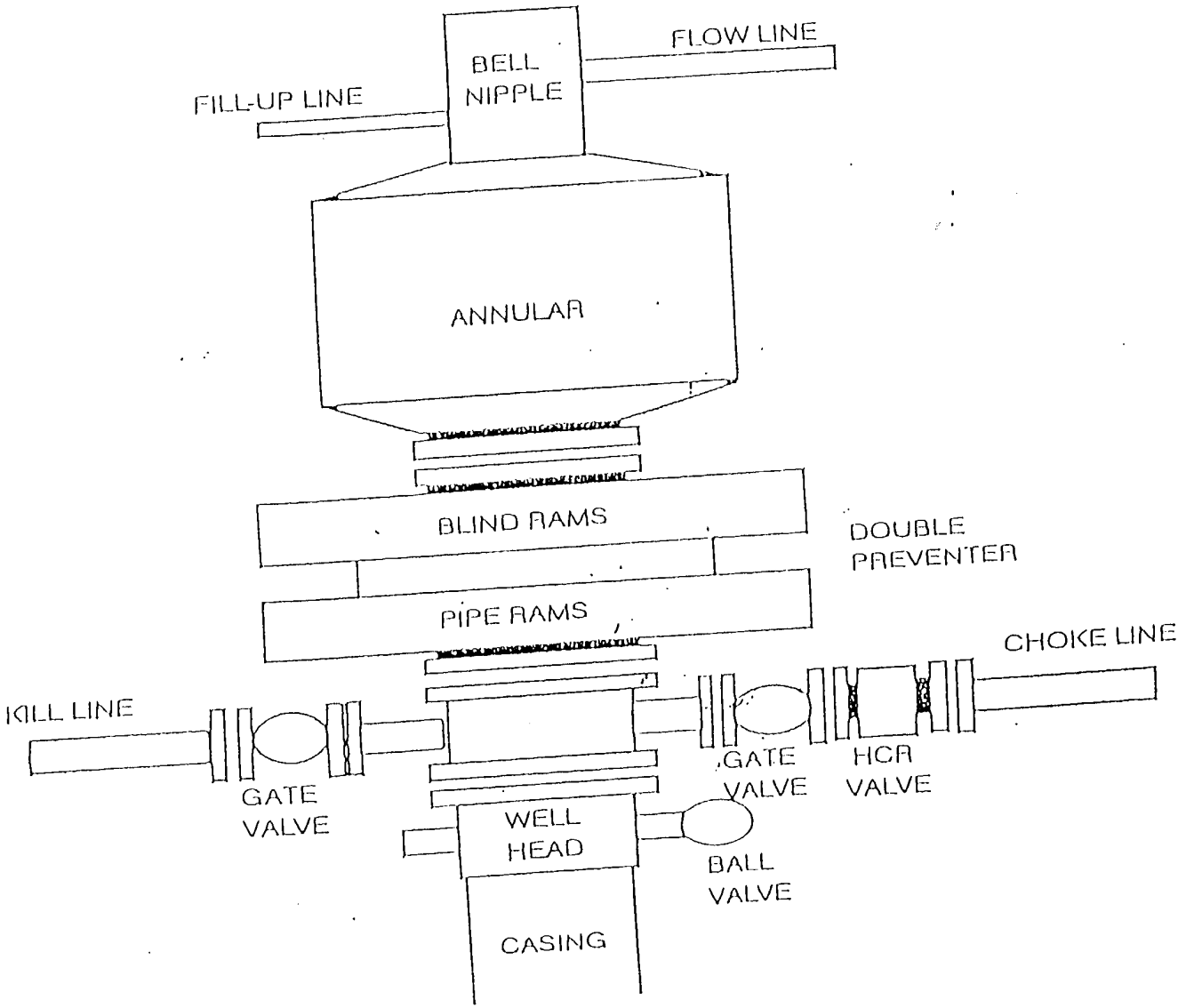
Ronald J. Eidson 5/15/2000

00-11-0610

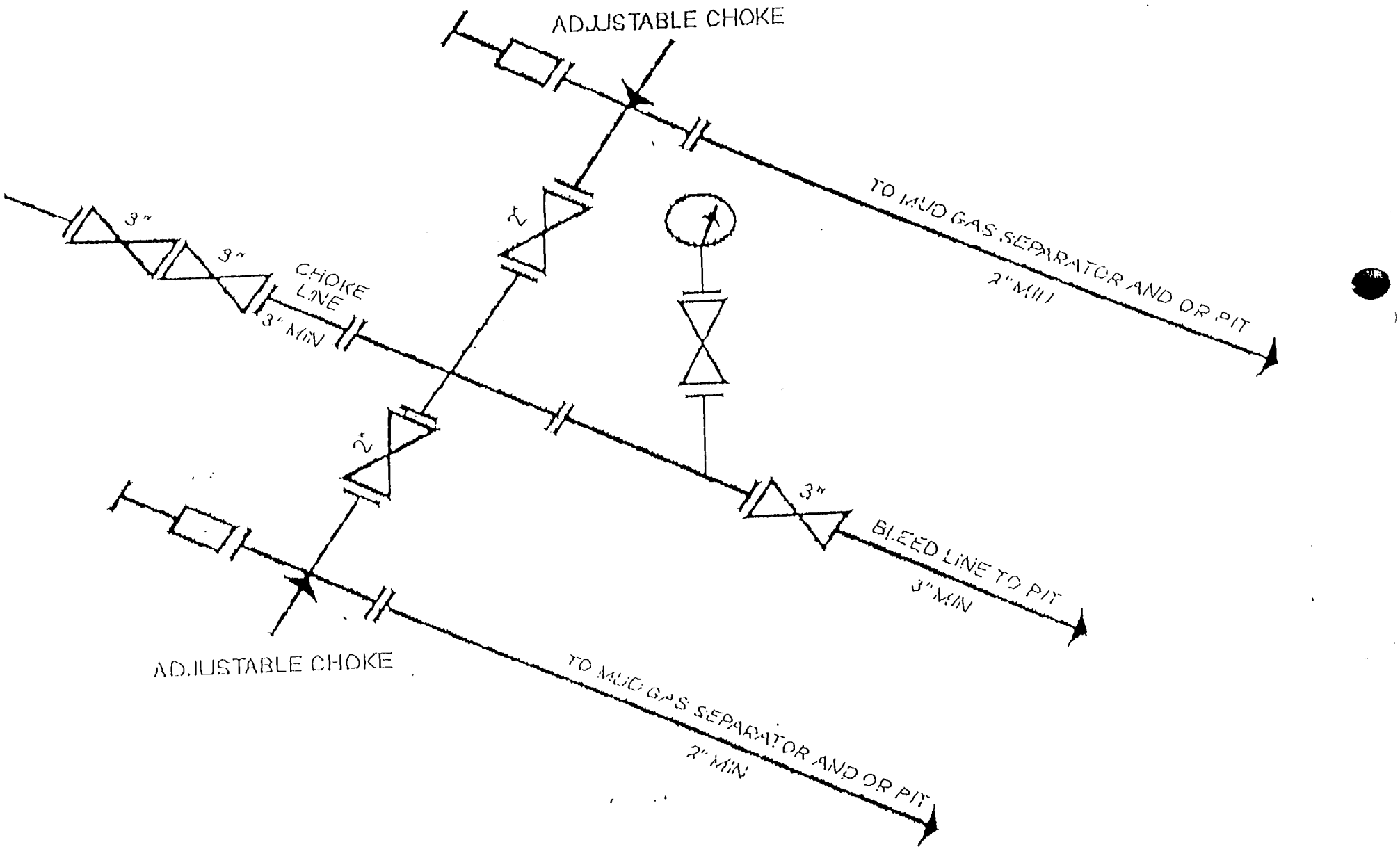
Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12641
MACON McDONALD 12185

KERR McGEE CORPORATION

BOP STACK FOR A 3,000 PSI WORKING PRESSURE FOR SURFACE USE



Attachment I. Diagrams of Choke Manifold Equipment



I-2 3M Choke Manifold Equipment -- Configuration of chokes may vary

MAY 8, 2000

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATORS

KERR McGEE OIL & GAS ONSHORE LLC
P.O. BOX 809004
DALLAS, TEXAS 75380-9004

THE UNDERSIGNED ACCEPTS ALL APPLICABLE TERMS, CONDITIONS, STIPULATIONS, AND RESTRICTIONS CONCERNING OPERATIONS CONDUCTED ON THE LEASED LAND OR PORTION THEREOF, AS DESCRIBED BELOW:

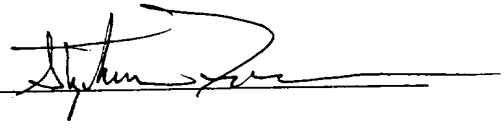
WELL: FEDERAL 28

LEASE NO.: NM-022535

LEGAL DESCRIPTION OF LAND: SEC. 28, T 21 S, R 23 E

FORMATION: INDIAN BASIN UPPER PENN

BOND COVERAGE: KERR-McGEE OIL & GAS ONSHORE LLC - STATE APPROVED

AUTHORIZED SIGNATURE 

Title: TECHNICAL ANALYST

Date: MAY 8, 2000

DRILLING PROGRAM

In compliance with OOGO NO. 1

Kerr-McGee Oil & Gas Onshore LLC.
Federal 28 #2
Sec. 28, T21S, R23E
1900' fwl & 1750' fsl
Eddy County, New Mexico

1) **Estimated Tops of Important Geologic Markers:**

Quaternary	surface
Base Bone Springs	5,340'
Wolfcamp	5,620'
Upper Penn (Cisco)*	7,098'

2) **Estimated Depth of Anticipated Water, Oil, Gas, or Minerals:**
Formations possibly productive with oil or gas are indicated with an asterisk(*) in above section.

3) **Minimum Specifications for Pressure Control Equipment:**
All equipment will be consistent with OOGO No.2 and API RP 53.

BOP and Auxiliary Equipment:

BOP & choke manifold will be 3M systems and will be setup as indicated on attached exhibits.

Accumulator volume will be sufficient to provide an open and closing of preventers with 50% reserve.

A drill pipe full opening safety valve will be kept on the rig floor in the open position at all times during drilling operations.

An upper and lower kelly cock will be used.

Test Procedure and Drills:

Ram type preventers will be tested to 70 % of casing burst pressure.

Annular preventer will be tested to 1500 psi

Approved close-in procedure to be posted on the rig floor.

Each rig crew will hold a weekly bop drill.


N

4) Casing and Cementing Program:

Casing size	interval	weight	grade	connection	Design Factors Coll.,Burst,Ten.
9-5/8"	0-1,300'	36 #	K-55	ST&C	3.32,13.7,9.04
7"	0-5,500'	23#	J-55	LT&C	1.24,2.82,1.68
	5,500'-7,800'	26#	J-55	LT&C	1.22,3.22,5.70

Collapse design considers maximum anticipated mud weight at string T.D. with casing fully evacuated. Burst design uses 0.44 psi/ft for bottom hole pressure and assumes maximum surface pressure as .45 times this number. Tension design considers weight of string in air.

Cementing

9-5/8" Attempt to cement to surface in one stage using:

1st Lead:	200 sx Class H + 5 pps gilsonite + 12% CalSeal + 1% CC
2nd Lead:	1090 sx Light C + 5 pps gilsonite + 2% CC
Tail:	205 sx class C + 2% CC

Hole size	14-3/4"		
cmt yield/wt:	1st lead	1.56 cu.ft./sk	14.5 ppg
cmt yield/wt:	2nd lead	1.92 cu.ft./sk	12.6 ppg
cmt yield/wt:	tail	1.34 cu. Ft./sx.	14.8 ppg
excess:	100%		

7" Cement in one stage with 160 sx 65:35:6 Poz:H:Gel + 10% gilsonite, tailed with 200 sx class H w/ 0.6% fla

hole size		8-3/4"	
cmt yield:	lead	2.23 cu.ft./sk	12.1 ppg
cmt yield:	tail	1.18 cu. Ft./sx.	15.6 ppg
top of lead	5000' (excess: 50%)		
top of tail	6500' (excess: 50%)		

note: cement volumes will be adjusted by fluid caliper on the 9-5/8" and electric caliper on the 7" string. Cement types and additives may change based on actual downhole conditions.

5) Type and Characteristics Proposed Circulating Medium:

from	to	type	wt.	Vis	wl
0	6,000'	fw/gel/lime	8.4-8.6	28-30	nc
6,000'	7,800'	fw/gel/poylmer	8.5-8.7	32-34	<15

No abnormal pressures are anticipated, however, sufficient quantities of mud materials shall be maintained for the purpose of assuring well control. Loss of circulation will be the primary concern, thus an adequate store of lost circulation material shall be maintained. Visual monitoring equipment shall be in place in the pits to detect volume changes.

6) Anticipated Testing, Logging and Coring

No drill stem tests are planned but tests could be run if determined necessary to evaluate the well.

Open Hole Logging Program:

DLL/MSFL/GR	T.D.-BSC
Den-Neu/Cal/PE/GR	T.D.-4,500'
Imaging Tool	T.D.-7,000'

Mud logging unit to be in service from 5,000' to T.D.

7) Expected Bottom Hole Pressure and Potential Hazards

Expected BHP = 1100 psi (per offset well information)

No abnormal temperatures or pressures are anticipated.
Potential H2S in Upper Penn. An H2S Drilling Operations Plan has been attached.

8) Additional Information

Anticipate starting operations on or before June 3, 2000

SURFACE USE PROGRAM

In compliance with OOGO NO. 1

Kerr-McGee Oil & Gas Onshore LLC.
Federal 28 #2
Sec. 28, T21S, R23E
1900' fwl & 1750' fsl
Eddy County, New Mexico

1) Existing Roads

The proposed wellsite and existing roads to proposed location are shown in Exhibit #1. The directions to this well are as follows:

From Carlsbad, New Mexico proceed north on highway 285 for 12.2 miles to the intersection of Highway 137. Take Hwy 137 west, proceed 9 miles to intersection of county road 401 (Marathon Road). Turn right on county road 401 and go ~ 8.5 miles, turn left (south) on lease road though Federal 28 #1 location and go south southwest approx. 2000' to location of Federal 28 #2.

2) Planned Access Roads

The proposed location will utilize only existing roads.

3) Location of Existing Wells

Existing wells within a one-mile radius are shown on exhibit #1.

4) Location of Existing and/or Proposed Facilities

A. Existing facilities within a one-mile radius of the proposed location can be seen on exhibit #1. These existing facilities include oil and gas wells and their respective batteries.

B. If the proposed well is completed and productive, plans are to install a 5400 3 stage compressor and a three phase separator at the well pad and no additional surface disturbance will occur. The proposed gas and liquid lines will follow the lease road to Federal 28 #1 battery and will be transferred to Marathon gathering system.

5) Location and Type of Water Supply

Water will be purchased from a commercial water hauler and trucked to the proposed wellsite.

6) Source of Construction Materials

Calcite for construction the proposed well location and access road will be determined and discussed during onsite with the BLM.

7) **Methods of Handling Waste Disposal**

A. Drill cuttings will be disposed of in the reserve pit.

B. Drilling fluids will be allowed to evaporate.

C. Water produced during tests will be disposed of in the reserve pits. Oil produced during tests will be stored in a test tank until sold. Gas will be flared.

D. Salts and chemicals will be deposited in the reserve pit.

E. A portable septic tank will be used at the location for the disposal of human waste. Waste will be disposed of at an approved site.

F. Thrash, waste paper, garbage and junk will be contained in trash trailer and hauled to an approved land fill.

G. All trash and debris will be buried or removed from the wellsite after finishing drilling and/or completion operations.

8) **Ancillary Facilities**

none required

9) **Wellsite Layout**

A. Exhibit #2 shows the general location and dimensions of the well location, mud pits, reserve pit, burn pit, and the area of location for major rig components.

B. Leveling of the wellsite will be required, no significant cut or fills will be necessary.

C. The reserve pit will be plastic lined.

10) **Plans for Reclamation of the Surface**:

A. After completion of drilling and testing program, all equipment and other material not needed for operations will be removed. Pits will be filled and the location cleaned of all thrash and junk.

B. Any unguarded pits containing fluids will be fenced until they are filled.

C. Agreement between drilling contractor and BLM to stack the drilling rig on location will be the responsibility of the drilling contractor.

D. After abandonment of the well, surface restoration will be in accordance with the requirements of the surface management agency. Pits will be filled and location will be cleaned. The pit area, well pad surface location will be ripped to promote re-vegetation.

11) Surface Ownership

Mineral Owner:
Bureau of Land Management
P.O. Box 1778
Carlsbad, NM 88220

Surface Owner:
Bureau of Land Management

12) Other Information

A. Topography: land surface is gently sloping with silty clay loam and sporadic limestone outcrops. Vegetation consists of yucca, desert sumac, juniper, prickly pear, and various grama.

The ground level elevation of the wellsite is 4,000'

B. Soil: silty clay loam

C. Ponds and streams: the proposed location is on a hillside above an intermittent stream.

D. Archaeological Survey: A cultural resource inventory has been conducted by an investigator from Desert West Archaeological Services, Inc. The archaeological clearance report is attached.

E. Land use: grazing

13) Lessee's or Operator's Representative and Certification

Dusty Kinchen

972/715-4093 (office)

817/483-4747 (home)

Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by **Kerr-McGee Oil & Gas Onshore LLC** and it's contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

M. E. (Dusty) Kinchen
Drilling Engineer

05/08/2000
date

KERR McGEE OIL & GAS ONSHORE LLC

H_2S DRILLING OPERATIONS PLAN

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.

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 and the Public Protection Plan.

There will be an initial training session involving all permanently assigned supervisory personnel and each and all rig crews participating in drilling operations on the well. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan. This Plan shall be available at the wellsite. All personnel will be required to carry documentation that they have received the proper training.

II. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H_2S.

1) Well Control Equipment

   (a) Flare line with electronic igniter or continuous pilot.

   (b) Choke manifold with a minimum of one remote choke.

   (c) Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.

   (d) Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head, and flare gun with flares.

2) Protective equipment for essential personnel:

   (a) SCBA 30-minute air packs and 5-minute escape units at briefing areas and doghouse.

3) H_2S detection and monitoring equipment:

   (a) 1 - monitor with 3 sensors (location of sensors diagrammed on location plat). These units have warning lights and audible alarms when H_2S levels of 20 ppm are reached.

4) Visual warning systems:

   (a) Wind direction indicators as shown on location plat.

   (b) "Caution"/"Danger" signs shall be posted on roads providing direct access to the location *(see attached)*. Bilingual signs will be used, when appropriate.

5) Mud program:

   (a) The mud program has been 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 the hazards when penetrating H_2S bearing zones expected to present a problem.

   (b) A mud-gas separator will be used.

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 seals shall be H_2S trim.

7) Communication:

   (a) Radio communications on rig and in company vehicles including cellular telephone and 2-way radio.

   (b) Land line (telephone) communications at Gas Plant approximately 3 miles away.

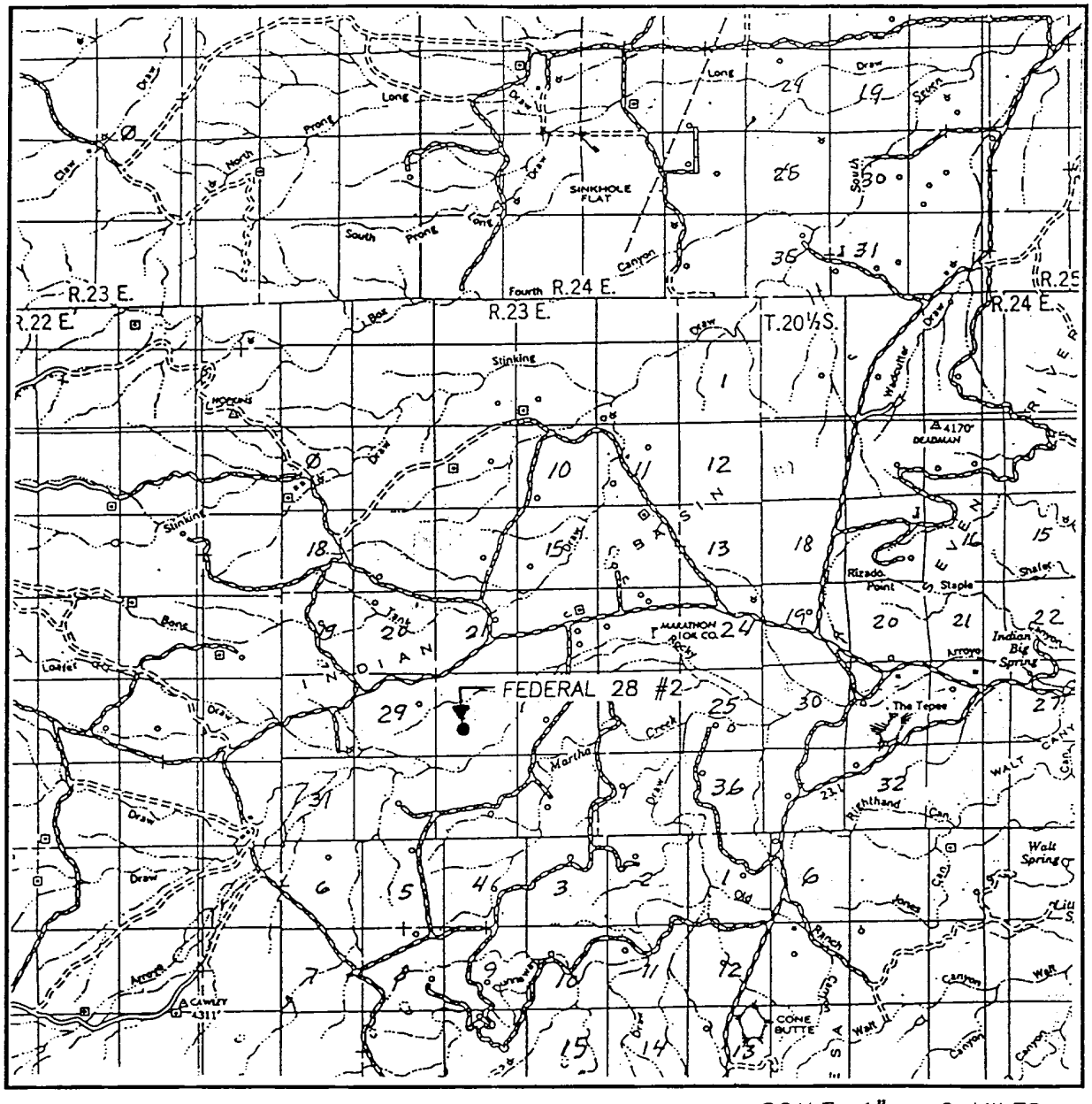
8) Well testing:

   (a) There are no plans to open hole test this well. However, in the event that testing should occur, drill stem testing will be performed with a minimum number of personnel in the immediate vicinity which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to surface. All drill stem testing operations conducted in an H_2S environment will use the closed chamber method of testing.

9) H_2S Service Company:

   (a) The company handling the H_2S safety services will be Indian Fire and Safety, Inc. out of Hobbs, New Mexico.

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 28 TWP. 21-S RGE. 23-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1750' FSL & 1900' FWL

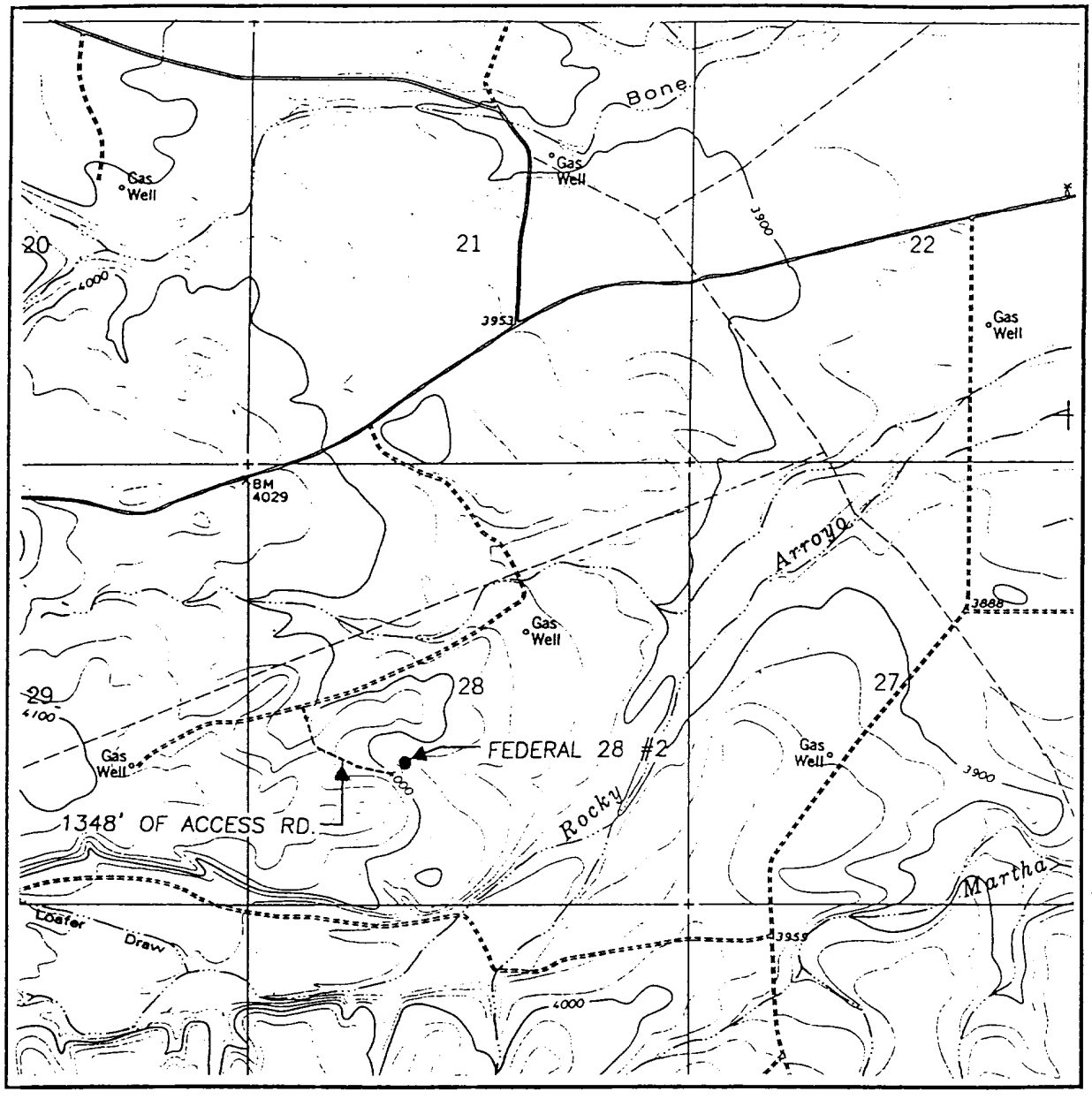
ELEVATION 3985

OPERATOR KERR-MC GEE CORPORATION

LEASE FEDERAL 28

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
MARTHA CREEK, N.M. – 20'

SEC. 28 TWP. 21-S RGE. 23-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1750' FSL & 1900' FWL

ELEVATION 3985

OPERATOR KERR-MC GEE CORPORATION

LEASE FEDERAL 28

U.S.G.S. TOPOGRAPHIC MAP
MARTHA CREEK, N.M.

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117