

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ROW/APD

FORM APPROVED
Budget Bureau No. 1004-0136
Expires: February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. Type of Work

DRILL ☒DEEPEN ☐

b. Type of Well

Oil Well ☐Gas Well ☒Other ☐Single Well ☒Multiple Zone ☐

2. Name of Operator

Merrion Oil & Gas Corporation

3. Address and Telephone No.

610 Reilly Ave Farmington NM 87401
ph: (505) 327-9801

4. Location of Well (Footages)

At Surface

725' fsl & 986' fwl

At proposed prod. zone

Same

5. Lease Designation and Serial No.

SF-080384-A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

Hiccup No. A2R

9. API Well No.

10. Field and Pool, or Exploratory Area
Basin Fruitland Coal11. Sec., T., R., M., or BLK.
and Survey or Area

Section 3, T26N, R12W

12. County or Parish

San Juan

13. State

NM

14. Distance in Miles and Directions from Nearest Town or Post Office

18 miles south of Farmington NM, near Chaco Plant

15. Distance from Proposed Location to Nearest

Property or Lease Line, Ft

725'

16. No. of Acres in Lease

318.9 acres

17. No. of Acres Assigned to This Well

318.9
320 acres W/2

18. Distance from Proposed Location to Nearest Well Drilling, Completed, or Applied for, on this Lease, FT

-1108'

19. Proposed Depth

-1610'

20. Rotary or Cable Tools

Rotary

21. Elevations (Show whether DF, RT, GR, etc)

6076' GR, 6081' RKB

22. Approximate Date Work will Start

As soon as permitted

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE & GRADE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
8-3/4"	7" J55	23 ppf	~120' KB	~30 sx (35 cuft)
6-1/4"	4-1/2" J55	10.5 ppf or greater	~1610' KB	~134 sx (225 cuft)

Merrion proposes to drill 8-3/4" hole with native mud to approx 120' and set 7" 23# J55 surface casing, cement to surface with ~30 sx 'B' w/ 2% CaCl2 (35 cuft). Will drill 6-1/4" hole to TD @ approx 1610' KB with low solids non-dispersed mud system. Run open hole surveys. Will set 4-1/2" 10.5 ppf or greater J55 production casing from TD to surface. Will cement with 76 sx 'B' (157 cuft) lead slurry followed by 57 sx 'B' (68 cuft) cement to fill from total depth to surface. Top of Cement should circulate to surface (will adjust volumes based upon caliper log).

A water spacer will be pumped ahead of the lead slurry to prevent mud contamination of the cement. If cement does not reach surface, a temperature log or cement bond log will be run to determine top of cement.

Will test Fruitland Coal through perforated casing. Will fracture stimulate and put on for production test. Drilling operations below surface casing will be conducted with a Bag type BOP in place, minimum working pressure 1000 psig. Additional drilling technical details attached.

A pipeline route approval is also proposed as part of this APD as per the topo map. The pipeline will run along an existing road from the location and it will tie in at the Hiccup A2 meter location.

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS"

This action is subject to technical and
procedural review pursuant to 43 CFR 3105.2
and appeal pursuant to 43 CFR 3105.4.

N ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal to deepen, give present productive zone and proposed new productive zone.

COPIES: BLM+4, WELL FILE+1

24. I hereby certify that the foregoing is true and correct

Signed

Connie S. Dinning Title Production Engineer

Date February 27, 2002

(This space for Federal or State office use)

Permit No.

Application approval does not warrant or certify that 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:

David J. Markiewicz

APPROVED BY:

TITLE

DATE

MAY 22

Change in status to

State of New Mexico
Energy, Minerals & Mining Resources Department
OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C - 102

☐ AMENDED REPORT

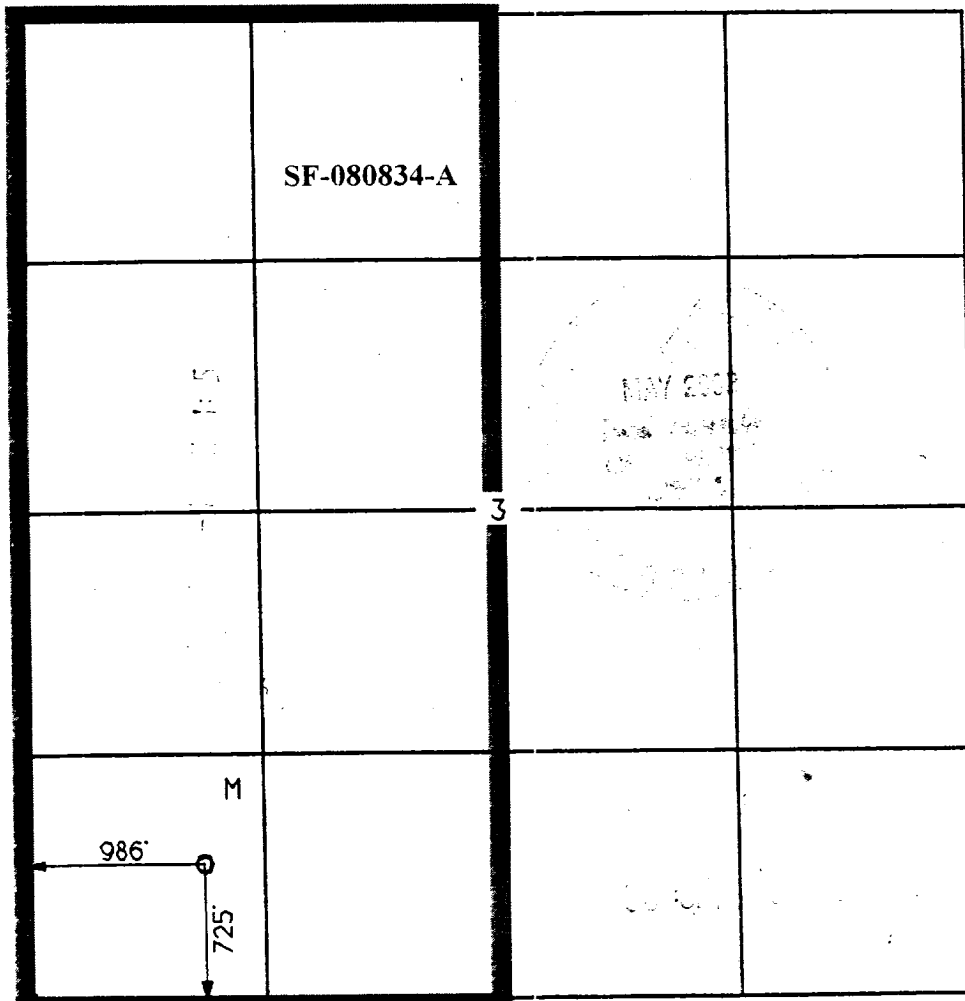
WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number 30-045-31009	Pool Code 71629	Pool Name Basin Fruitland Coal
Property Code 26785	71629 Property Name HICCUP A	
OGRI No. 014634	Operator Name MERRION OIL & GAS	
		Well Number 2 R
		Elevation 6076'

Surface Location									
UL or Lot M	Sec. 3	Twp. 26 N.	Rge. 12 W.	Lot Ltr. SWSW	Feet from 725'	North/South SOUTH	Feet from 986'	East/West WEST	County SAN JUAN

Bottom Hole Location if Different From Surface									
UL or Lot	Sec.	Twp.	Rge.	Lot Ltr.	Feet from	North/South	Feet from	East/West	County
Dedication 318.9		Joint ?		Consolidation		Order No.			

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



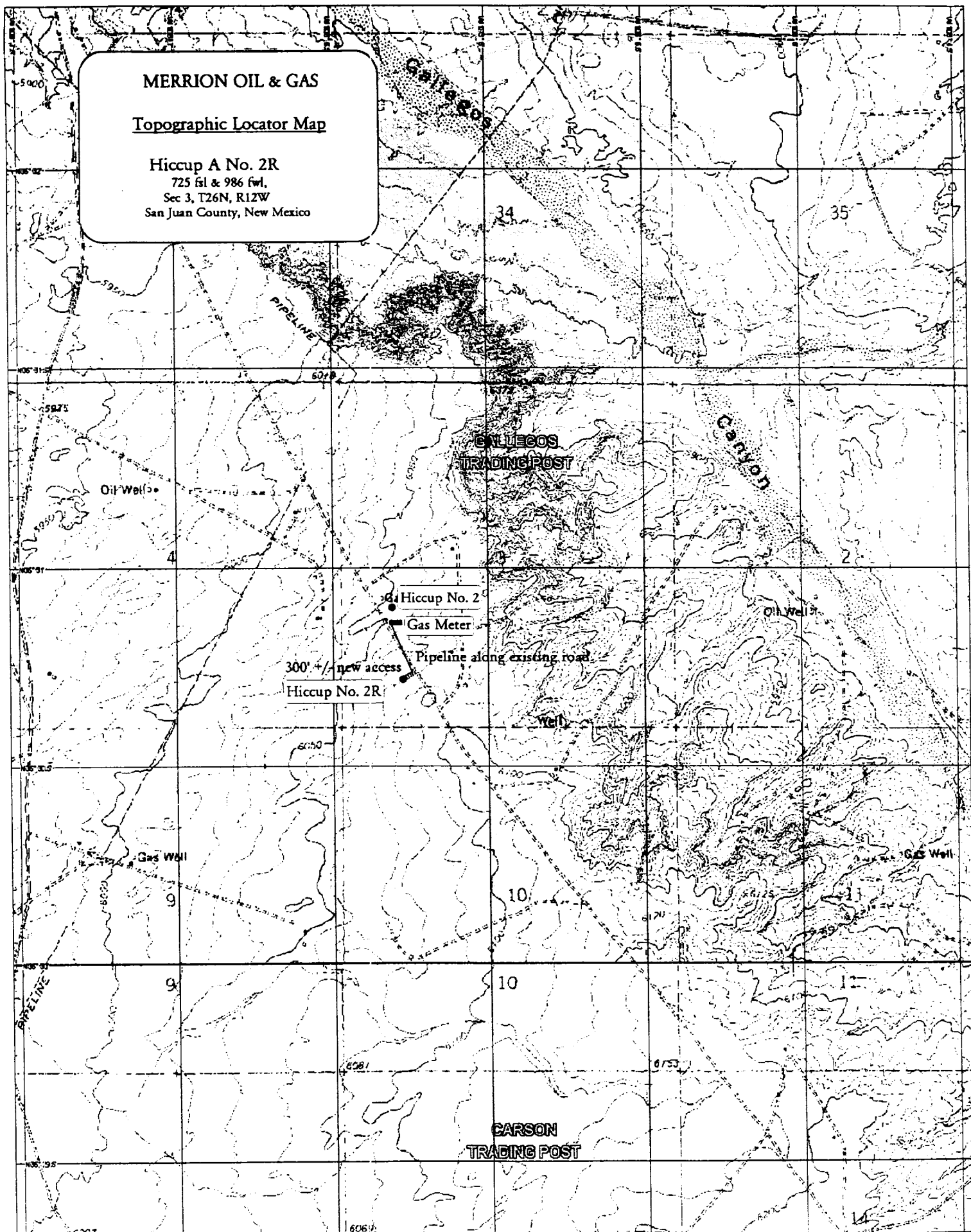
OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature	
Printed Name Connie S. Dinning	
Title Production Engineer	
Date February 13, 2002	
SURVEYOR CERTIFICATION I hereby certify that the well location on this 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. Date of Survey	
Signature and Seal of Professional Surveyor <div style="text-align: center;"> </div>	

MERRION OIL & GAS

Topographic Locator Map

Hiccup A No. 2R

725 fsl & 986 fwl,
Sec 3, T26N, R12W
San Juan County, New Mexico



MERRION OIL & GAS CORPORATION

DRILLING TECHNICAL PROGRAM

(Attachment to Form 3160-3)

Hiccup A No. 2R

725' fsl & 986' fwl (sw sw)
Section 3, T26N, R12W, NMPM
San Juan County, New Mexico

1. ESTIMATED FORMATION TOPS:

<u>FORMATION</u>	<u>DEPTH KB</u>	<u>EST PSI</u>
Undifferentiated Tertiary	Surface	
Ojo Alamo	175'	
Kirtland Shale	358'	
Fruitland	1052'	
Main Fruitland Coal	1340'	348 psi
Pictured Cliffs	1360'	354 psi
Total Depth	~1610'	

2. WELL CONTROL SYSTEM

- A. Proposed blowout preventer system (schematic drawings attached) is a Bag type preventer, and will be used in 1000 psi service. Merrion requests a waiver from O&G Order No. 2 requirements for 2M service because the well is shallow and low pressure, with the surface pressure not expected to exceed ~320 psig at the wellhead. Such moderate conditions lower any chance of uncontrolled gas flow.
- B. Minimum required working pressure rating for BOP stack is 1000 psi. Maximum anticipated bottomhole pressure = 419 psi. Well Control Anticipated Surface Pressure (ASP) = 419 psi - (0.22 * 1610') = 65 psi, assuming a partially gas cut column per BLM guidelines.
- C. BOP pressure testing will be conducted at time of installation and prior to drillout of surface casing shoe. Bag type preventer will be tested to 250 psi. The BOPs will be activated on each trip for a bit and recorded in the driller's log. A choke manifold will be installed (Refer to schematic drawing). Working pressure for choke manifold is minimum 1000 psi. In addition, a kill line from the mud pump will be installed.
- D. Stabbing valves for drill pipe and drill collars will be available. Merrion requests an exception to the requirement for an upper kelly cock valve to be utilized during drilling; pull-down type rig to be used will not allow use of kelly cock valve.
- E. Anticipated formation pressures average 0.26 psi/ft gradient and formation fracture pressures are anticipated to exceed the maximum mud weight of 9.1 ppg.

3. DRILLING MUD PROGRAM

- A. A 8-3/4" surface hole will be drilled with fresh water system, lime and gel added to provide viscosity as needed.
- B. A 6-1/4" hole will be drilled to total depth utilizing a low solids non-dispersed mud system. Additives such as starch, cmc, and others will be used to control mud characteristics as necessary. No materials of a hazardous nature will be added to the drilling fluid in hazardous quantities. Lost circulation materials will not be stored on location. Mud weighting materials will not be stored on location.

<u>INTERVAL</u>	<u>MUD SYSTEM</u>	<u>WEIGHT #/GAL</u>	<u>VISCOSITY SEC/QT</u>	<u>WATER LOSS CC</u>
0 - 120'	Native	< 9.0	35-55	NA
120' - 1610' ± LSND	8.6-9.1	28-45	NA	

Maximum anticipated mud weight is 9.1 lb./gal (0.47 psi/ft).

- C. Mud trip monitoring will be done visually.

4. HAZARDS

- A. Abnormal Pressure is not expected to be a problem in this area.
- B. Lost circulation is not expected to be a problem in this area.
- C. No H₂S is expected. However, should H₂S be found during drilling, detection and warning equipment will be installed.
- D. Unintentional hole deviation is not expected to be a problem. Single shot surveys giving hole inclination will be run a minimum of every 500 feet.

5. LOGGING AND TESTING

- A. An Induction, Density Log will be run from TD across zones of interest.
- B. Drill stem tests will not be run.
- C. No coring is anticipated.
- D. A mud logging unit may be used during drilling.

6. CASING PROGRAM

- A. Casing:

	<u>Description</u>	<u>Top</u>	<u>Bottom</u>
1	7" 23# J55	Surface	120 ft ±
2	4-1/2" 10.5# J55	Surface	1610 ft ±

Merrion requests that a variance be granted to allow us to set surface casing at the proposed depth of ± 120' because this setting depth has been shown to be adequate as demonstrated by the innumerable wells that have been previously drilled in the area without incident. In addition, the potential for a gas kick is very low. Estimated formation pore pressure gradient is ~0.26 psi/ft.

- B. A proposed wellbore schematic is attached.

Merrion Oil & Gas Corporation
Wellbore Schematic

Hiccup A No. 2R

Proposed Wellbore Configuration

Location: 1820' fsl & 820' fwl (nw sw)
Sec 3, T26N, R12W, NMPM
San Juan County, New Mexico

Date: February 13, 2002

Elevation: 6076' GL
6081' RKB

Prepared by: Connie S. Dinning

Cretaceous

Undif Tertiary - Surface

Top of Cmt @ Surface

Surface Bit Size - 8-3/4"

Ojo Alamo - 175'

7" 23# Surface @ 120' KB w/ 30 sx Class H, circ to surface

Kirtland - 358'

Fruitland - 1052'

Bit Size 6-1/4"

2-3/8" EUE 4.7# J55 Prod Tubing, tail jt, SN, @ +/- 1375' KB

Fruitland Coal - 1340'

Fruitland Coal Perforations: 1340' - 1360', 3 spf, total 60 holes

Pictured Cliffs - 1360'

4-1/2" 11.6# J55 LTC Production Csg @ 1610' w/ 76 sx (157 cuft)
Class H w/ 2% Sodium Metasilicate followed by 57 sx (68 cf) Class H

TD @ 1610' KB PBD @ 1570' KB