RCVD FEB6'07
OIL CONS. DIV.
DIST. 3

Form 3160-3
(July 1992)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

# APPLICATION FOR PERMIT TO DRILL OR DEEPEN

2006 SEP 28 AM 11 40

RECEIVED
070 FARMINGTON NM

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~~ 324-5326

4. Location of Well (Footages)
At Surface: 1858' fnl & 904' fel (se ne)
At proposed prod. zone: Same

5. Lease Designation and Serial No.
NM-03877

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation
NMNM-073860

8. Well Name and No.
Fifield Com No. 1Z

9. API Well No.
30-045-33975

10. Field and Pool, or Exploratory Area
Basin Dakota

11. Sec., T., R., M., or BLK. and Survey or Area
H Section 5, T29N, R11W

14. Distance in Miles and Directions from Nearest Town or Post Office
Approximately 7 miles east/northeast of Farmington, NM

12. County or Parish: San Juan
13. State: NM

| 15. Distance from Proposed Location to Nearest Property or Lease Line, Ft (Also to nearest drlg. unit line, if any) | 16. No. of Acres in Lease | 17. No. of Acres Assigned to This Well |
|---|---|---|
| 666' | 320 acres | ~~293.68~~ ~~320~~ acres N/2 |
| **18. Distance from Proposed Location To Nearest Well Drilling, Completed, Or Applied for, on this Lease, FT** | **19. Proposed Depth** | **20. Rotary or Cable Tools** |
| 237' (P&A) | ~6750' | Rotary |
| **21. Elevations (Show whether DF, RT, GR, etc)** | | **22. Approximate Date Work will Start** |
| 5764' GR, 5776' RKB | | October 20, 2006 |

## PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | SIZE & GRADE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT |
|---|---|---|---|---|
| 12 ¼" | 8 ⅝" J55 | 24 ppf | ~320' KB | ~278 cuft (100% excess) |
| 7 ⅞" | 4 ½" J55 | 11.6 ppf | ~6750' KB | ~2273 cuft |
| | | | | |

Merrion proposes to drill 12 ¼" hole with spud mud to ~320' and set 8 ⅝" 24# J55 surface casing, cement to surface with ~201 sx, 278 cuft (100% excess). Will drill 7 ⅞" hole to ~6750' KB with low solids non-dispersed mud system. May run open-hole surveys.

Will set 4 ½", 11.6 ppf J55 production casing from ~6750' KB to surface and cement in three stages. Will cement first stage with 10 bbls of mud cleaner, 5 bbls of $H_2O$, followed by ~235sx (466 cuft) Premium Lite High Strength cement and tail in with ~137 sx (189 cuft) Type III cement filling from total depth to stage tool at 4700'. Cement second stage w/ 450sx (892 cuft) Premium Lite High Strength cement filling from DV tool @ ±4700' to DV tool @ ±2150'. Cement third stage from DV tool @ ±2150' w/ 220sx (436 cuft) Premium Lite High Strength and tail in w/ 210sx (290 cuft) Type III cement filling from DV tool to surface.

Top of third stage Cement should circulate to surface (will adjust volumes based upon caliper log if available). If cement does not reach surface, a temperature log or cement bond log will be run to determine top of cement. A cementing chronology will be recorded and submitted to the BLM after completion of the job.

Will test Basin Dakota through perforated casing. Will fracture stimulate and put on for production test. Drilling operations below surface casing will be conducted with a double ram BOP with a rotating head for air drilling in place, minimum working pressure 1000 psig. Additional drilling technical details attached.

Gas sales tie-in will be on lease approximately 190' from location. Access will require approximately 289' of new road on lease.

File pit permit application prior to constructing location.

NOTIFY AZTEC OCD 24 hrs
IN TIME TO WITNESS cag & cementing

IN 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 September 5, 2006

(This space for Federal or State office use)

Permit No. _____ Approval Date _____

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:

APPROVED BY: _____ TITLE AFM DATE 2/2/07

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

B 2/6/07 NMOCD

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED

2006 SEP 28 AM 11 40

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

| API Number | Pool Code | Pool Name |
|---|---|---|
| 30-045-33975 | 71559 | Basin Dakota |

| Property Code | Property Name | Well Number |
|---|---|---|
| 22343 | FIFIELD COM | 1Z |

| OGRID No. | Operator Name | Elevation |
|---|---|---|
| 014634 | MERRION OIL & GAS | 5764' |

Surface Location

| UL or Lot | Sec. | Twp. | Rge. | Lot Idn. | Feet from> | North/South | Feet from> | East/West | County |
|---|---|---|---|---|---|---|---|---|---|
| H | 5 | 29 N. | 11 W. | | 1858' | NORTH | 904' | EAST | SAN JUAN |

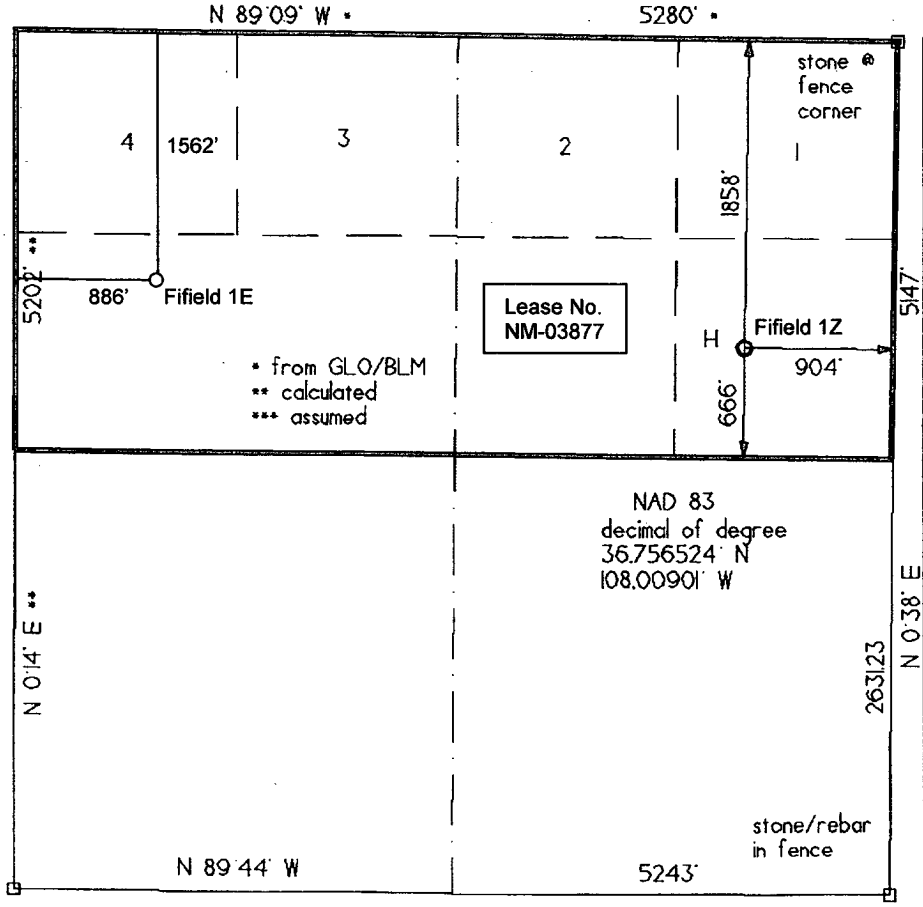
Bottom Hole Location If Different From Surface

| UL or Lot | Sec. | Twp. | Rge. | Lot Idn. | Feet from> | North/South | Feet from> | East/West | County |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

| Dedication | Joint ? | Consolidation | Order No. |
|---|---|---|---|
| ~~320~~ N/2 160 | N | | |

293.68

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: September 7, 2006

## 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: 5-10-06

Signature and Seal of Professional Surveyor

GERALD G. HUDDLESTON
NEW MEXICO
6844
REGISTERED LAND SURVEYOR

LS 6844

# MERRION OIL & GAS CORPORATION

# DRILLING TECHNICAL PROGRAM

(Attachment to Form 3160-3)

***Fifield No. 1Z***

1858' fnl & 904' fel (se ne)
Section 5, T29N, R11W, NMPM
San Juan County, New Mexico

## 1. *ESTIMATED FORMATION TOPS:*

| ***Formation*** | ***Depth-MD*** |
|---|---|
| Undiff. Tertiary | Surface |
| Ojo Alamo | 673' |
| Kirtland | 763' |
| Fruitland | 1476' |
| Pictured Cliffs | 2005' |
| Lewis | 2196' |
| Cliffhouse | 3693' |
| Menefee | 3731' |
| Pt Lookout | 4333' |
| Mancos Shale | 4700' |
| Gallup | 5587' |
| Greenhorn | 6317' |
| Dakota | 6500' |
| Total Depth | 6750' |

## 2. *WELL CONTROL SYSTEM*

A. Proposed blowout preventer system (schematic drawing follows) is a double-ram type preventer, and will be used in 2000 psi service.

B. Minimum required working pressure rating for BOP stack is 1000 psi. Maximum anticipated bottomhole pressure = 1755 psi. Well Control Anticipated Surface Pressure (ASP) = 1755 psi - (0.22 * 6750') = 270 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. Ram type preventer will be tested to 2000 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 the enclosed schematic drawing). Working pressure for choke manifold is greater than 2000 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 on the rig floor. A Kelly cock valve will be installed.

E. Anticipated formation pressures average 0.26 psi/ft gradient and formation fracture initiation pressures are anticipated to exceed the maximum mud weight of 9.2 ppg.

## 3. *DRILLING MUD PROGRAM*

A. A 12 ¼" surface hole will be drilled with fresh water system, lime and gel added to provide viscosity as needed.

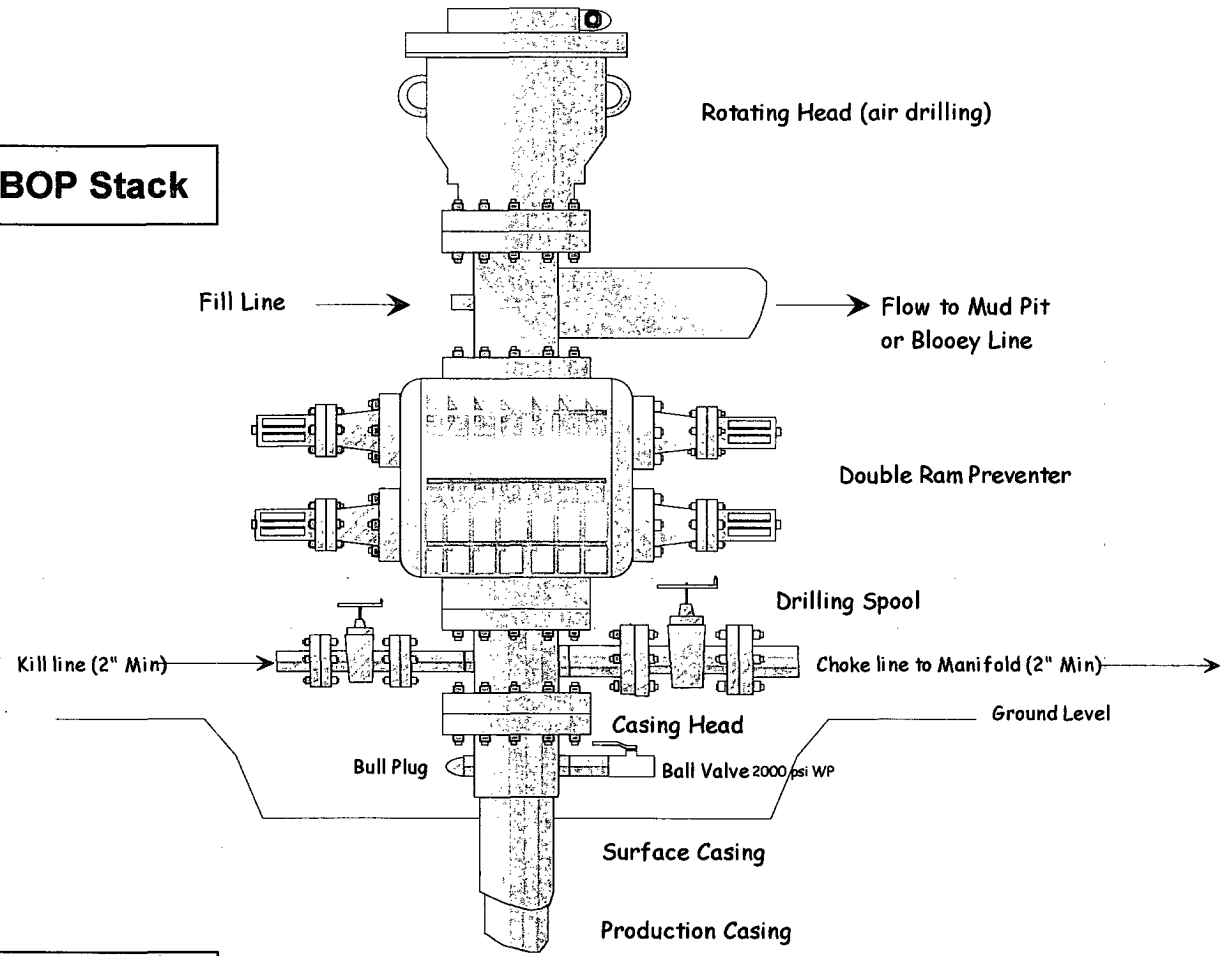
B. A 7 ⅞" hole will be drilled to ~ 6750' utilizing a low solids non-dispersed mud system. Additives such as starch, cmc, and others will be used to control mud characteristics as necessary. No materials of a hazardous nature will be added to the drilling fluid in hazardous quantities.

# Merrion Oil & Gas Corporation

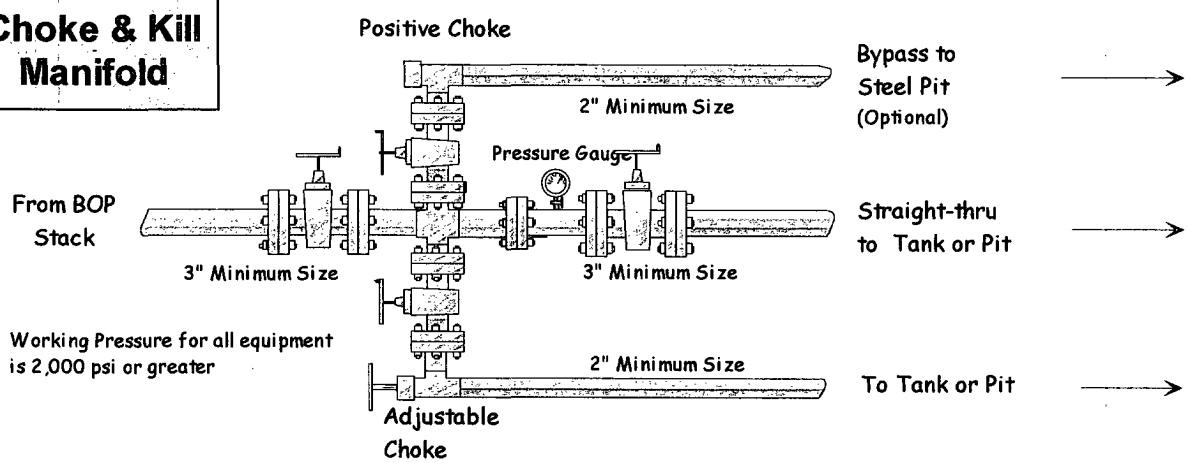
## Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

**BOP Stack**




**Choke & Kill Manifold**




Lost circulation materials will be stored on location.

Mud weighting materials will be stored on location.

| *INTERVAL* | *MUD SYSTEM* | *WEIGHT #/GAL* | *VISCOSITY SEC/QT* | *WATER LOSS CC* |
|---|---|---|---|---|
| 0 – 320' | Native | < 9.0 | 35-55 | NA |
| 320' – 6750'± | LSND | 8.6-9.2 | 28-45 | NA |

Maximum anticipated mud weight is 9.2 lb/gal (0.48 psi/ft).

C. Mud trip monitoring will be done visually.

## 4. *HAZARDS*

A. Abnormal Pressure is not expected to be a problem because there are no known overpressured formations in this wellbore. The 9.2 ppg mudweight should be sufficient to control any pressures encountered.

B. Lost circulation is not expected to be a problem in this area . Lost circulation materials will be stored on location and mud weights will be controlled.

C. No $H_2S$ is expected. However, should $H_2S$ 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. A gamma ray, induction, neutron-density log may be run across zones of interest or in the entire wellbore.

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:

| | Description | Top | Bottom |
|---|---|---|---|
| 1 | 8 5/8" 24 ppf J55 | Surface | 320 ft ± -Minimum |
| 2 | 4 ½" 11.6 ppf J55 | Surface | 6750 ft ± |

B. For a proposed wellbore schematic see below:

# Merrion Oil & Gas Corporation
# Wellbore Schematic
## Fifield Com #1Z

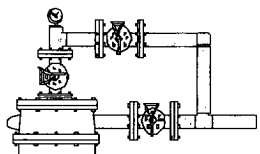
*Proposed Wellbore Configuration*

Location: 1858' fnl & 904' fel (se ne)
Sec 5, T29N, R11W NMPM
San Juan Co, New Mexico

Prepared: September 5, 2006

Elevation: 5790' GL
5802' KB

By: Connie Dinning



Top of Cmt @ Surface

Tertiary

Surface - Undif Tertiary

Bit Size 12 1/4"

8 5/8", 24#, J-55 Surface Csg @ 320' KB w/ 201 sx (278 cu ft) Type III Cement.

Bit Size 7 7/8"

Ojo Alamo - 673'

Kirtland - 763'

Fruitland -1476'

Pictured Cliffs - 2005'

Lewis - 2196'

DV Tool @ 2150'. Cmt 3rd stg w/ 220 sx (436 cu ft) Premium Lit High Strength cement, tail in w/ 210 sx (290 cu ft) Type III Cemer

Cretaceous

Cliffhouse - 3693'

Menefee - 3731'

Pt Lookout - 4333'

Mancos Shale - 4700'

DV Tool @ 4700'. Cmt 2nd stg w / 450 sx (892 cu ft) Premium Lite High Strength Cement

2-3/8", 4.7# EUE J55 Tubing @ +/-6670' KB

Gallup - 5587'

Greenhorn - 6317'

Dakota - 6500'

4 1/2" 11.6# J55 Production Csg @ 6750'.
Cmt w / 235 sx (466 cu ft) Cement w / Premium Lite High Strength, tail in w / 137 sx (189 cu ft) Type III Cement

**TD @ 6750'KB** PBTD @ 6710'KB

**4-1/2" capacity = .0155 Bbl/ft**
**2-3/8" capacity = .00387 bbl/ft**
**Annular capacity = .0101 bbl/ft**