

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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 835' fnl & 1235' fwl (nw nw)

At proposed prod. zone Same

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

22 miles South of Farmington, NM

15. Distance from Proposed Location to Nearest

Property or Lease Line, Ft 835'

16. No. of Acres in Lease

~2561 acres

17. No. of Acres Assigned to This Well

320 acres W2PK 80 W/AM

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

835'

19. Proposed Depth

~6100'

20. Rotary or Cable Tools

Rotary

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

6158' GR, 6171' RKB

22. Approximate Date Work will Start

July, 2004

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE & GRADE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	9 5/8" J55	32.3 ppf	~240' KB	~150 cuft (100% excess)
8 3/4"	7" J55	23 ppf	~4100' KB	~974 cuft (60% excess)
6 1/4"	4 1/2" J55 Liner	10.5 ppf	~6100' KB	~467 cuft (60% excess)

Merrion proposes to drill 12 1/4" hole with spud mud to ~240' and set 9 5/8" 32.3# J55 surface casing, cement to surface with ~150 cuft (100% excess). Will drill 8 3/4" hole to ~4100 KB with low solids non-dispersed mud system. May run open-hole surveys.

Will set 7" 23 ppf J55 intermediate casing from ~4100' KB to surface and cement in one stage. Will cement with 10 bbls of mud cleaner, 5 bbls of H₂O, followed by ~928 cuft Premium Lite and tail in with ~159 cuft (60% excess) Type III cement to fill from total depth to surface.

Top of 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 wait on cement minimum of 12 hours. Will rig up air equipment and air drill out with 6 1/4" bit to total depth ~6100' KB through Gallup and Dakota intervals. Will circulate hole clean and test for natural inflows. Will run open-hole surveys. Will run a 4 1/2" 10.5ppf J55 production liner from ~4000' KB to TD @ 6100' KB. Will cement with 10 bbls conditioning spacer, 5 bbl fresh water spacer followed by ~467 cuft (60% excess) of Premium Lite to bring cement above liner hanger.

The production liner will be centralized through the Dakota and Gallup intervals.

Will test Gallup and Dakota through perforated casing. Will fracture stimulate, commingle 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 2000 psig. Additional drilling technical details attached.

Gas sales tie-in will be on lease by laying line to nearest existing sales point at the Blackrock D1 location. No off-lease ROW is required for this project.

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

Steven S. Dunn

Title Drilling & Production Manager

Date March 7, 2004

(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

DATE

3/18/05

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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised June 10, 2003
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-32217	² Pool Code 26980/71599	³ Pool Name Gallegos Gallup/Basin Dakota
⁴ Property Code 34837	⁵ Property Name Blackrock D	⁶ Well Number 1R
⁷ OGRID No. 014634	⁸ Operator Name Merrion Oil & Gas Corporation	⁹ Elevation 6158'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	20	26N	11W		835'	North	1235'	West	San Juan

¹¹ 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

¹² Dedicated Acres 80-94 320.00-OK	¹³ Joint or Infill Y	¹⁴ Consolidation Code C	¹⁵ Order No. Communitization in progress
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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

	<p>5293'</p> <p>20</p> <p>5252'</p>	<p>¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>[Signature]</i> Signature</p> <p>Steven S. Dunn Printed Name Drilling & Production Manager sdunn@merrion.bz Title and E-mail Address</p> <p>8/24/04 Date</p>
		<p>¹⁸ 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 supervision, and that the same is true and correct to the best of my belief.</p> <p>02/06/04 Date of Survey</p> <p><i>[Signature]</i> Signature and Seal of Professional Surveyor</p> <p>6844 Certificate Number</p>

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS
*Do not use this form for proposals to drill or to re-enter an
abandoned well. Use Form 3160-3 (APD) for such proposals.*

5. Lease Serial No.
SF-078899

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.
Blackrock D No. 1R

9. API Well No.

10. Field and Pool, or Exploratory Area
Gallegos Gallup/Basin Dakota

11. County or Parish, State
San Juan County, New Mexico

SUBMIT IN TRIPLICATE – Other instructions on reverse side

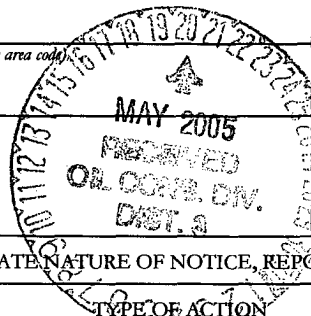
1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator
Merrion Oil & Gas Corporation

3a. Address
610 Reilly Avenue, Farmington, NM 87401

3b. Phone No. (include area code)
505.324.5300

4b. Location of Well (Footage, Sec. T., R., M., or Survey Description)
835' fml & 1235' fwl (nw nw)
Section, 20, T26n, R11W, NMPM



12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Report	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Modify APD Form</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug & Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

I am submitting a new cover for the APD package for the Blackrock D1R along with a new Well Location and Acreage Dedication Plat. Both forms submitted with the original package contain errors. The footage description for the well was incorrect. In addition, the liner cement volume proposed was incorrect on the original submission.

Please substitute the attached pages for the same pages in the APD package.

Sorry for the inconvenience.

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

Name (Printed/Typed)
Steven S. Dunn

Signature

Title
Drilling & Production Manager

Date
August 24, 2004

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Conditions of approval, if any, are attached. Approval of this notice 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.

Title
APM

Office
F&O

Date
5-18-05

Title 18 USC Section 1001 and Title 43 USC 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.

NMOCD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
Budget Bureau No. 1004-0136
Expires: February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

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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

1620' fml & 1085' fwl (nw nw)
835' 1235'

At proposed prod. zone

Same

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

22 miles South of Farmington, NM

15. Distance from Proposed Location to Nearest Property or Lease Line, Ft

880'

16. No. of Acres in Lease

~2561 acres

17. No. of Acres Assigned to This Well

320 acres

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

880'

19. Proposed Depth

-6100'

20. Rotary or Cable Tools

Rotary

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

6158' GR, 6171' RKB

22. Approximate Date Work will Start

July, 2004

5. Lease Designation and Serial No.
SF-078899

6. If Indian, Allottee or Tribe Name

17. If Unit or CA, Agreement Designation

8. Well Name and No.

Blackrock D No. 1R

9. API Well No.

3004532217

10. Field and Pool, or Exploratory Area
Gallegos Gallup11. Sec., T., R., M., or BLK.
and Survey or Area

Section 20, T26N, R11W

12. County or Parish
San Juan13. State
NM

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE & GRADE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	9 3/4" J55	32.3 ppf	~240' KB	~150 cuft (100% excess)
8 3/4"	7" J55	23 ppf	~4100' KB	~974 cuft (60% excess)
6 1/4"	4 1/2" J55 Liner	10.5 ppf	~6100' KB	~174 cuft (60% excess)

Merrion proposes to drill 12 1/4" hole with spud mud to ~240' and set 9 3/4" 32.3# J55 surface casing, cement to surface with ~150 cuft (100% excess). Will drill 8 3/4" hole to ~4100 KB with low solids non-dispersed mud system. May run open-hole surveys.

Will set 7" 23 ppf J55 intermediate casing from ~4100' KB to surface and cement in one stage. Will cement with 10 bbls of mud cleaner, 5 bbls of H₂O, followed by ~928 cuft Premium Lite and tail in with ~159 cuft (60% excess) Type III cement to fill from total depth to surface.

Top of 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 wait on cement minimum of 12 hours. Will rig up air equipment and air drill out with 6 1/4" bit to total depth ~ 6100' KB through Gallup and Dakota intervals. Will circulate hole clean and test for natural inflows. Will run open-hole surveys. Will run a 4 1/2" 10.5ppf J55 production liner from ~4000' KB to TD @ 6100' KB. Will cement with 10 bbls conditioning spacer, 5 bbl fresh water spacer followed by ~284 cuft (60% excess) of Premium Lite to bring cement above liner hanger.

The production liner will be centralized through the Dakota and Gallup intervals.

Will test Gallup and Dakota through perforated casing. Will fracture stimulate, commingle 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 2000 psig. Additional drilling technical details attached.

Gas sales tie-in will be on lease by laying line to nearest existing sales point at the Blackrock D1 location. No off-lease ROW is required for this project.

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

COPIES: BLM(6) WELL FILE+1

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

Signed

Steven S. Dunn

Title Drilling & Production Manager

Date March 7, 2004

(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

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

NM100D

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

MERRION OIL & GAS CORPORATION

DRILLING TECHNICAL PROGRAM

(Attachment to Form 3160-3)

Blackrock D No. 1R

835' fnl & 1235' fwl (nw nw)
Section 20, T26N, R11W, NMPM
San Juan County, New Mexico

1. ESTIMATED FORMATION TOPS:

<u>Formation</u>	<u>Depth-MD</u>	<u>Formation</u>	<u>Depth-MD</u>
Undiff. Tertiary	Surface	Menefee	2730'
Ojo Alamo	300'	Point Lookout	3885'
Kirtland	450'	Mancos	4080'
Fruitland	1120'	Gallup	4910'
Pictured Cliffs	1370'	Graneros	5850'
Lewis	1520'	Dakota	5942'
La Ventana	2230'	Total Depth	6100'

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 2000 psi. Maximum anticipated bottomhole pressure = 1769-psi. Well Control Anticipated Surface Pressure (ASP) = $1769\text{-psi} - (0.22 * 6100) = 427$ 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 1000 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 0.29 psi/ft gradient and formation fracture initiation pressures are anticipated to exceed the maximum mud weight of 9.2 ppg except through the depleted Gallup and Dakota pay intervals where air drilling will be used.

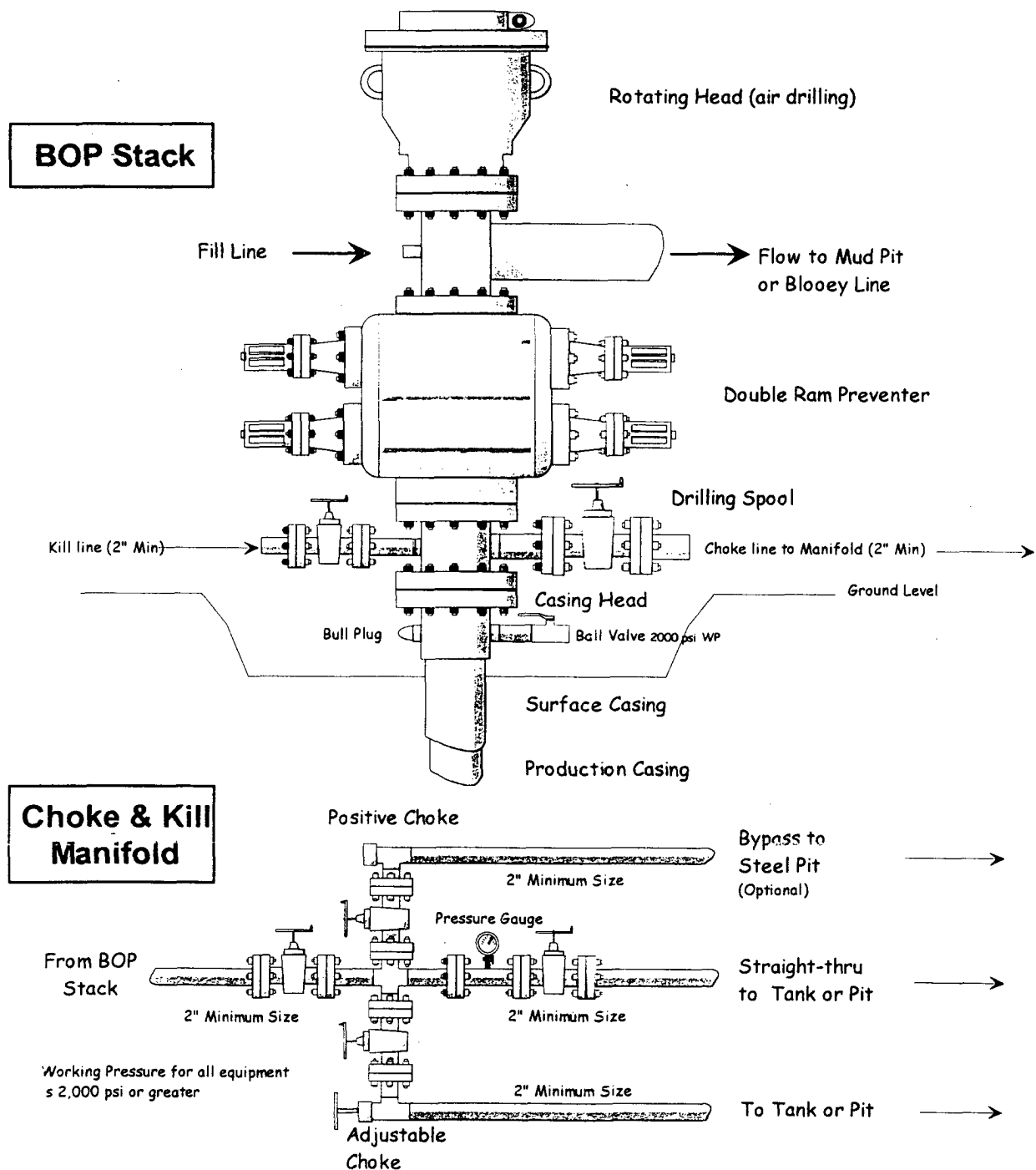
3. DRILLING MUD PROGRAM

- A. A 12 1/4" surface hole will be drilled with fresh water system, lime and gel added to provide viscosity as needed.
- B. An 8 3/4" hole will be drilled to ~ 4100' 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



Lost circulation materials will be stored on location.

Mud weighting materials will 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 - 240'	Native	< 9.0	35-55	NA
240' - 4100'±	LSND	8.6-9.2	28-45	NA
4100' - 6100'±	Air	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 in this area.
- 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 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, neutron-density log may be run in the intermediate casing hole across zones of interest. In addition, an induction-density log will be run from total depth back to intermediate casing.
- 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	9 5/8" 32.3 ppf J55	Surface	240 ft ±
2	7" 23 ppf J55	Surface	4100 ft ±
3	4 1/2" 10.5 ppf J55	4000 ft ±	6100 ft ±

Merrion requests that a variance be granted to allow us to set surface casing at the proposed depth of ± 240' 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 ~ 0.29 psi/ft.

- B. For a proposed wellbore schematic see the following page.

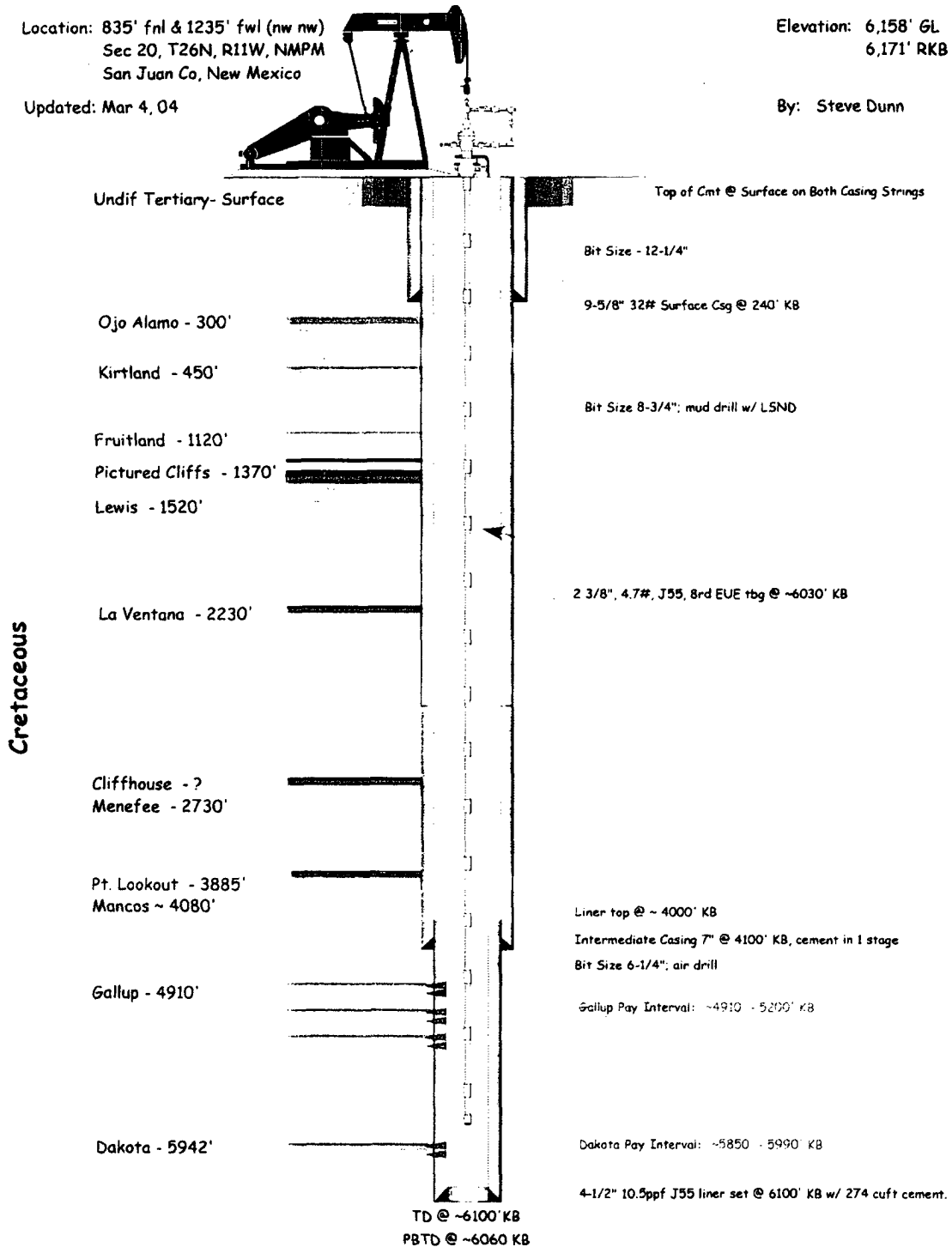
Merrion Oil & Gas Corporation
Wellbore Schematic
Blackrock D No. 1R
Proposed Wellbore Configuration

Location: 835' fnl & 1235' fwl (nw nw)
 Sec 20, T26N, R11W, NMPM
 San Juan Co, New Mexico

Updated: Mar 4, 04

Elevation: 6,158' GL
 6,171' RKB

By: Steve Dunn



Blackrock D # 1 R
well pad & section



0' 50'

Scale 1" = 50'

front

山
々
々

cut
slopes

fill

- set stake/pin flag

drain

proposed pipeline & access

pipeline ?

right

rear.

Cross section

