

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTSUBMIT IN TRIPLICATE*
(Other instructions on
reverse side)FORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

| | | | | | |
|---|--|--|--|--|--|
| 1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> (Re-Entry) DEEPEN <input type="checkbox"/> | | | 5. LEASE DESIGNATION AND SERIAL NO. NM 87227 | | |
| b. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> | | | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME | | |
| 2. NAME OF OPERATOR Merrion Oil & Gas Corporation | | | 7. UNIT AGREEMENT NAME | | |
| 3. ADDRESS AND TELEPHONE NO. P. O. Box 840, Farmington, New Mexico 87499 | | | 8. FARM OR LEASE NAME WELL NO. Federal 12 C #1 | | |
| 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.) At surface 460' fsl & 330' fwl (SWSW) At proposed prod. zone | | | 9. AP WELL NO. 30-043-20175 | | |
| 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 20 ± miles SW of Cuba, NM | | | 10. FIELD AND POOL, OR WILDCAT Eagle Mesa Entrada | | |
| 15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drg. unit line, if any) 330' | | | 11. SEC. T. R. M. OR BLK. AND SURVEY OR AREA Section 12, T19N, R4W | | |
| 16. NO. OF ACRES IN LEASE 480 | | | 12. COUNTY OR PARISH Sandoval | | |
| 17. NO. OF ACRES ASSIGNED TO THIS WELL 40 | | | 13. STATE N.M. | | |
| 18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 200' | | | 19. PROPOSED DEPTH ≈ 6400' | | |
| 20. ROTARY OR CABLE TOOLS Rotary | | | 21. APPROX. DATE WORK WILL START* September 20, 1994 | | |
| 21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6698' GR; 6711' KB | | | 22. APPROX. DATE WORK WILL START* | | |
| 23. PROPOSED CASING AND CEMENTING PROGRAM | | | | | |

| SIZE OF HOLE | GRADE SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT |
|--------------|----------------------|-----------------|---------------|--------------------|
| 15" | 10-3/4" | 40.5# | 180' | 34 sacks |
| 8-3/4" | 7" | 23# | 5724' | 692 sacks |
| 6-1/8" | Open-hole | | | None |

Merrion proposes to re-enter and drill out cement plugs to top of bottom cement plug at 5329'. (Wellbore schematic attached.) Will isolate and repair bad spots in 7" casing by remedial cementation. Will drill out and pressure test repairs to 1000 psi. Will mill up to 40 foot casing section in 7" at kickoff point in Morrison formation (Depth not yet chosen). Will spot kick-off cement plug, dress off and mobilize directional equipment. Will RIH with motor and 6-1/8" MTB. Will orient and kick off cement plug in a Southwesterly (±S25°W) direction. Will build angle to ≈ 90° and intersect the Entrada at or near its top. Will drill a horizontal lateral up to 800 feet in length in a southwesterly direction. Following drilling, the drilling mud will be displaced with water or other completion fluid and the Entrada formation tested for sizing of a downhole pump. (Other technical details are attached.)

RECEIVED
OCT - 5 1994OIL CON. DIV.
DIST. 3

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed zone to be deepened. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED Steven S. Dunn TITLE Operations Manager DATE 8/30/94
(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

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:APPROVED BY (Original Signed) HECTOR A. VILLALOBOS AREA MANAGER RIO PUERCO RESOURCE AREA DATE OCT 3 1994

*See Instructions On Reverse Side

District I
PO Box 1988, Hobbs, NM 88241-1988
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 10, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | |
|-----------------------------------|---|---------------------------------|
| API Number <u>30-043-20175</u> | Pool Code 20430 | Pool Name Eagle Mesa Entrada |
| Property Code | Property Name Federal 12C | Well Number 1 |
| GRID No. 014634 | Operator Name Merrion Oil & Gas Coporation | Elevation 6698' GR |

¹⁰ Surface Location

| UL or lot no. | Section | Township | Range | Lot Ida | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| M | 12 | 19N | 04W | SWSW | 460 | south | 330 | west | Sandoval |

¹¹ Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Ida | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| | | | | | | | | | |

| | | | |
|------------------------------------|-------------------------------|----------------------------------|-------------------------|
| ¹² Dedicate Acres 40 | ¹³ Joint or Infill | ¹⁴ Consolidation Code | ¹⁵ Order No. |
|------------------------------------|-------------------------------|----------------------------------|-------------------------|

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

| | | | | | |
|----|--|--|--|--|--|
| 16 | | | | RECEIVED OCT 21 1994 OIL CONSERVATION DIVISION | 17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature: <u>Steven S. Dunn</u> Printed Name: Steven S. Dunn Title: Operations Manager Date: 10/20/94 |
| | | | | | 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. Date of Survey: Signature and Seal of Professional Surveyer: |
| | | | | | Certificate Number |

330'
460'

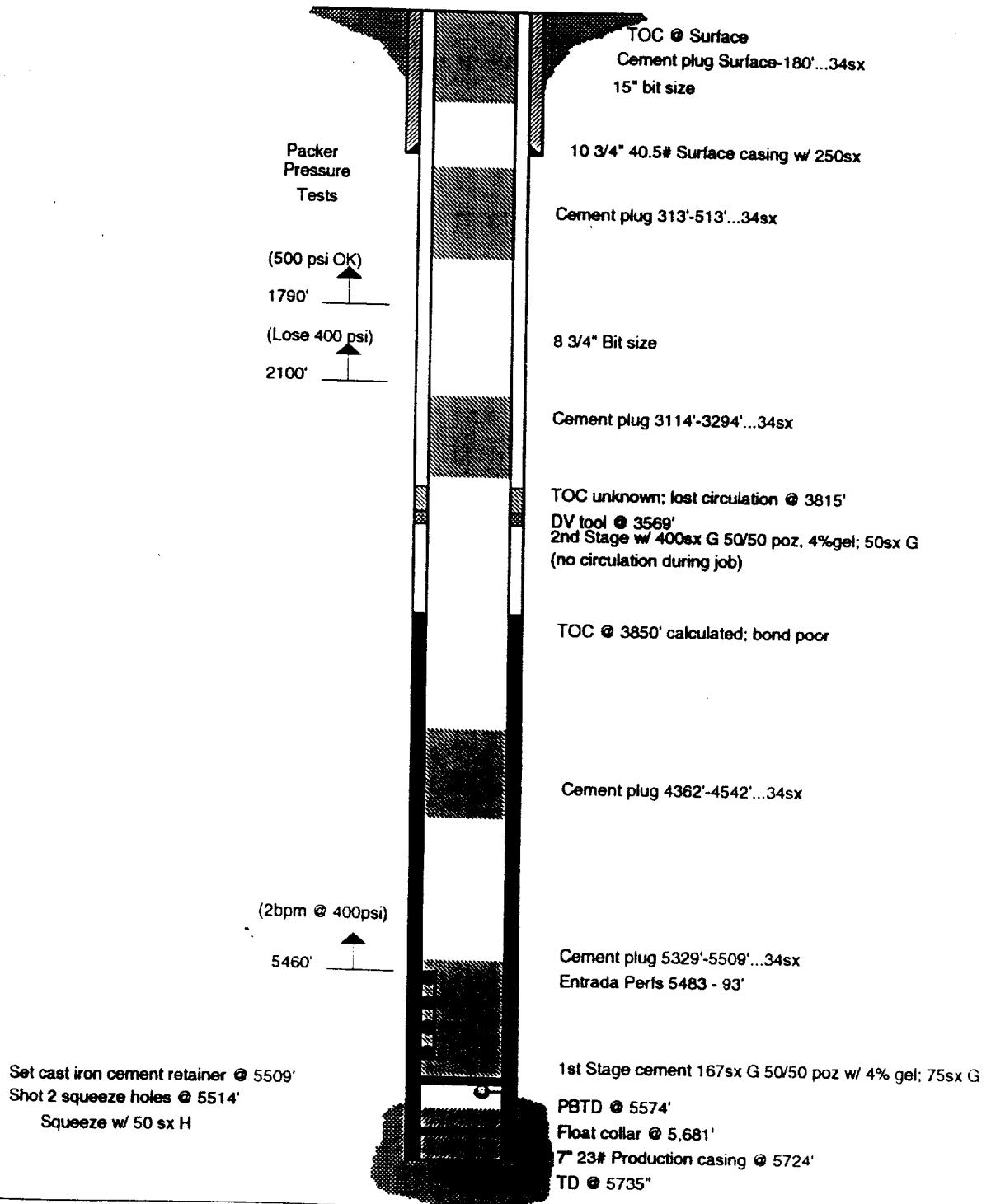
Merrion Oil & Gas Corporation

WELLBORE SCHEMATIC

FEDERAL 12 C NO. 1

Location: 460' fsl & 330' fwl
Sec 12, T19N, R4W
San Juan, New Mexico

Elevation: 6698' GL
6710' RKB



MERRION OIL & GAS CORPORATION

DRILLING TECHNICAL PROGRAM

(Attachment to Form 3160-3)

FEDERAL 12 C No. 1 Horizontal Redrill

460' fsl & 330' fwl (SWSW)

Section 12, T19N, R4W

Sandoval County, New Mexico

1. ESTIMATED FORMATION TOPS:

| <u>FORMATION</u> | <u>VERTICAL DEPTH</u> |
|------------------|-----------------------|
| Lewis Shale | Surface |
| Cliff House | 450' |
| Point Lookout | 2255' |
| Mancos | 2402' |
| Gallup | 3244' |
| Dakota | 4490' |
| Morrison | 4618' |
| Summerville | 5452' |
| Entrada | 5483' |

2. WELL CONTROL SYSTEM

A. BOP SYSTEM

Proposed blowout preventer system (schematic drawings attached) is a series 900 double ram with choke and kill manifold, and will be used in 2M service.

B. WORKING PRESSURE

Minimum required working pressure rating for BOP stack is 2000 psi. Rationale for this rating is as follows:

$$\begin{aligned} &\text{Max anticipated bottomhole pressure (MABHP):} \\ &\quad \text{MABHP} = 0.433 \text{ psi/ft} \times 5,500' \text{ TVD} \\ &\quad = 2,382 \text{ psi} \\ &\text{Anticipated surface pressure (ASP):} \\ &\quad \text{ASP} = \text{MABHP} - (0.22 \text{ psi/ft} \times \text{TVD}) \\ &\quad = 2,382 \text{ psi} - (0.22 \text{ psi/ft} \times 5,500') \\ &\quad = 7172 \text{ psi} \end{aligned}$$

MERRION OIL & GAS CORPORATION

SURFACE USE AND OPERATIONS PLAN

Pursuant to NTL-6
(Attachment to Form 3160-1)

FEDERAL 12 C No. 1 Horizontal Redrill

460' fsl & 330' fwl (SWSW)

Section 12, T19N, R4W

Sandoval County, New Mexico

1. EXISTING ROADS

- A. The proposed well site and elevation plats are attached.
- B. Directions: Take NM 197 west from Cuba, New Mexico 15-1/2 miles to Johnson Trading Post. Right on paved road that tees off. 2-1/2 miles, left into Central Battery on Hilltop.
- C. All roads to location are indicated on attached maps.
- D. Improvement and maintenance: Maintenance will be performed as required to keep existing roads in same or better condition.

2. PLANNED ACCESS ROADS

No new or upgraded access road is required. (Shown on topographic map enclosed.)

3. LOCATION OF EXISTING WELLS

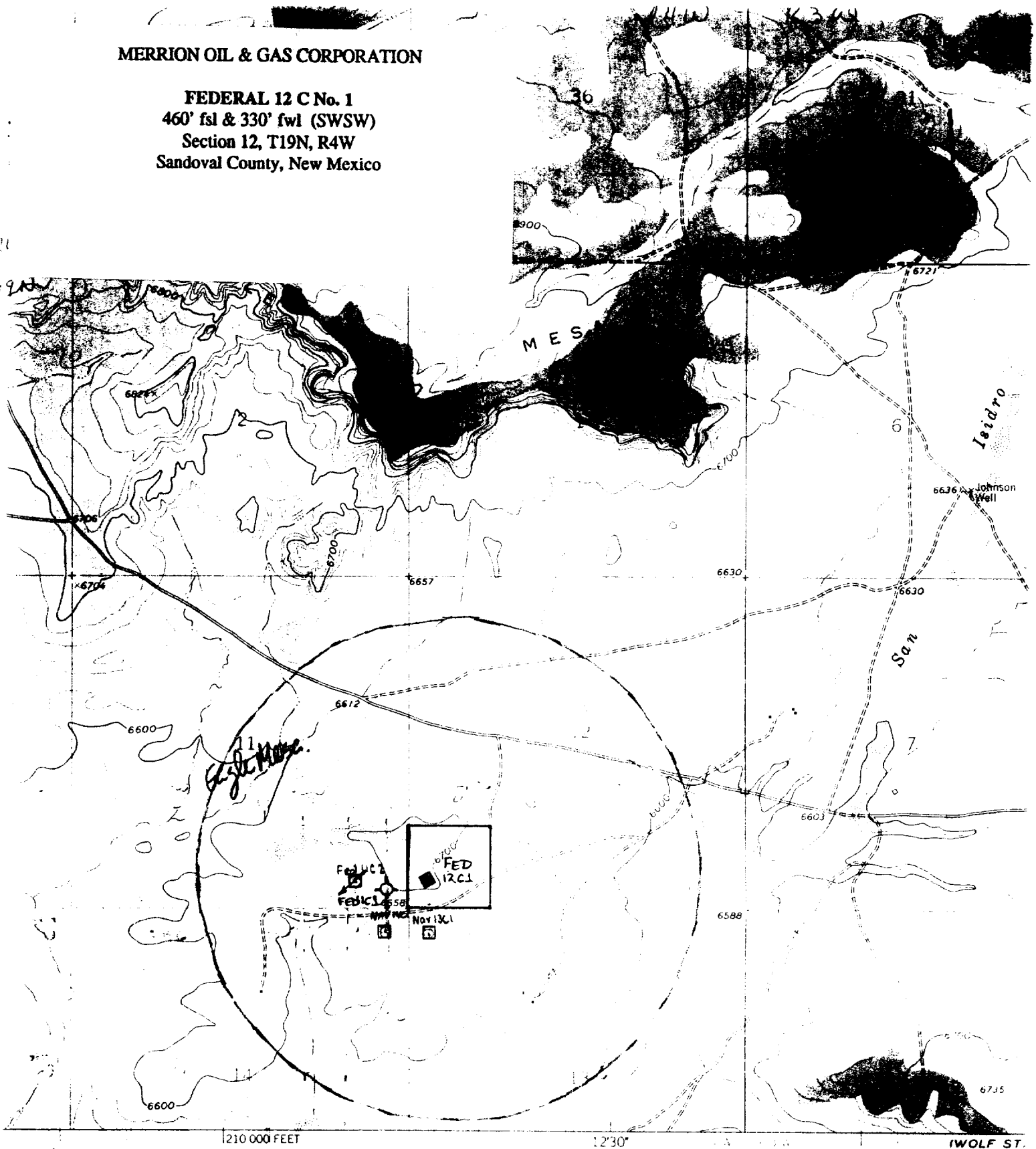
For all known existing wells within one mile radius of location, see attached lease/well location map.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

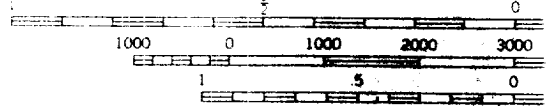
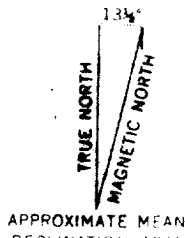
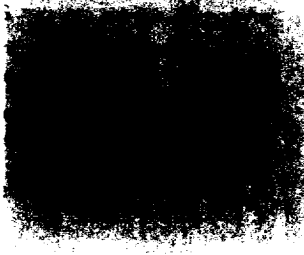
- A. Within a one mile radius of location, the following existing facilities are owned or controlled by lessee/operator:
 - 1) Tank Batteries: Eagle Mesa Field
 - 2) Production Facilities: Eagle Mesa Field
 - 3) Oil Gathering Lines: Eagle Mesa Field
 - 4) Gas Gathering Lines: None
 - 5) Injection Lines: None
 - 6) Disposal Lines: Eagle Mesa Field
- B. If production is obtained, no new production facilities will be required:
 - 1) Any necessary pits will be fenced on three sides during drilling and the fourth side upon completion.
 - 2) Rehabilitation whether well is productive or dry, will be made on all unused areas in accordance with BLM or appropriate agency recommendations.

MERRION OIL & GAS CORPORATION

FEDERAL 12 C No. 1
460' fsl & 330' fwl (SWSW)
Section 12, T19N, R4W
Sandoval County, New Mexico



Published by the Geological Survey



CONTOUR INTERVAL
DATUM IS MEAN S