

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

5. Lease Designation and Serial No.
NM-106653

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

Cookie Dough No. 1

9. API Well No.

30-039-29209

10. Field and Pool, or Exploratory Area

Gavilan PC/Basin Fruitland

11. Sec., T., R., M., or BLK.
and Survey or Area

Section 24, T24N, R2W

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 1935' fnl & 1490' fel (sw ne)

At proposed prod. zone Same

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

Approximately 3.5 miles southeast of Lindrith, NM

12. County or Parish

Rio Arriba

13. State

NM

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

705'

16. No. of Acres in Lease

320 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

370' (P&A)

19. Proposed Depth

-3470'

20. Rotary or Cable Tools

Rotary

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

7386' GR, 7391' RKB

22. Approximate Date Work will Start

June 30, 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	~3220' KB	~774 cuft (60% excess)
6 1/4"	4 1/2" J55 Liner	11.6 ppf	~3470' KB	~81 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 ~3220' KB with low solids non-dispersed mud system. May run open-hole surveys.

Will set 7" 23 ppf J55 intermediate casing from ~3220' KB to surface and cement in one stage. Will cement with 10 bbls of mud cleaner, 5 bbls of H₂O, followed by ~616 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 1/2" bit to total depth ~ 3470' KB through Pictured Cliffs interval. Will circulate hole clean and test for natural inflows. Will run open-hole surveys. Will run a 4 1/2" 11.6 ppf J55 production liner from ~3120' KB to TD @ 3470' KB. Will cement with 10 bbls conditioning spacer, 5 bbl fresh water spacer followed by ~81 cuft (60% excess) of Premium Lite to bring cement above liner hanger.

The production liner will be centralized through the Pictured Cliffs and Basin Fruitland intervals.

Will test PC and Fruitland 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 600' from 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

Connie S. Dinning

Title Production Engineer

Date May 18, 2004

(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:

Approval Date

Assistant Field Manager

APPROVED BY:

/s/ David R. Sitzler

TITLE

DATE

AUG 17 2004

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

Form C - 102

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number 30-039-29209	Pool Code 71629	Pool Name Basin Fruitland
Property Code 34253	Property Name COOKIE DOUGH	Well Number 1
OGRO No. 014634	Operator Name MERRION OIL & GAS	Elevation 7386'

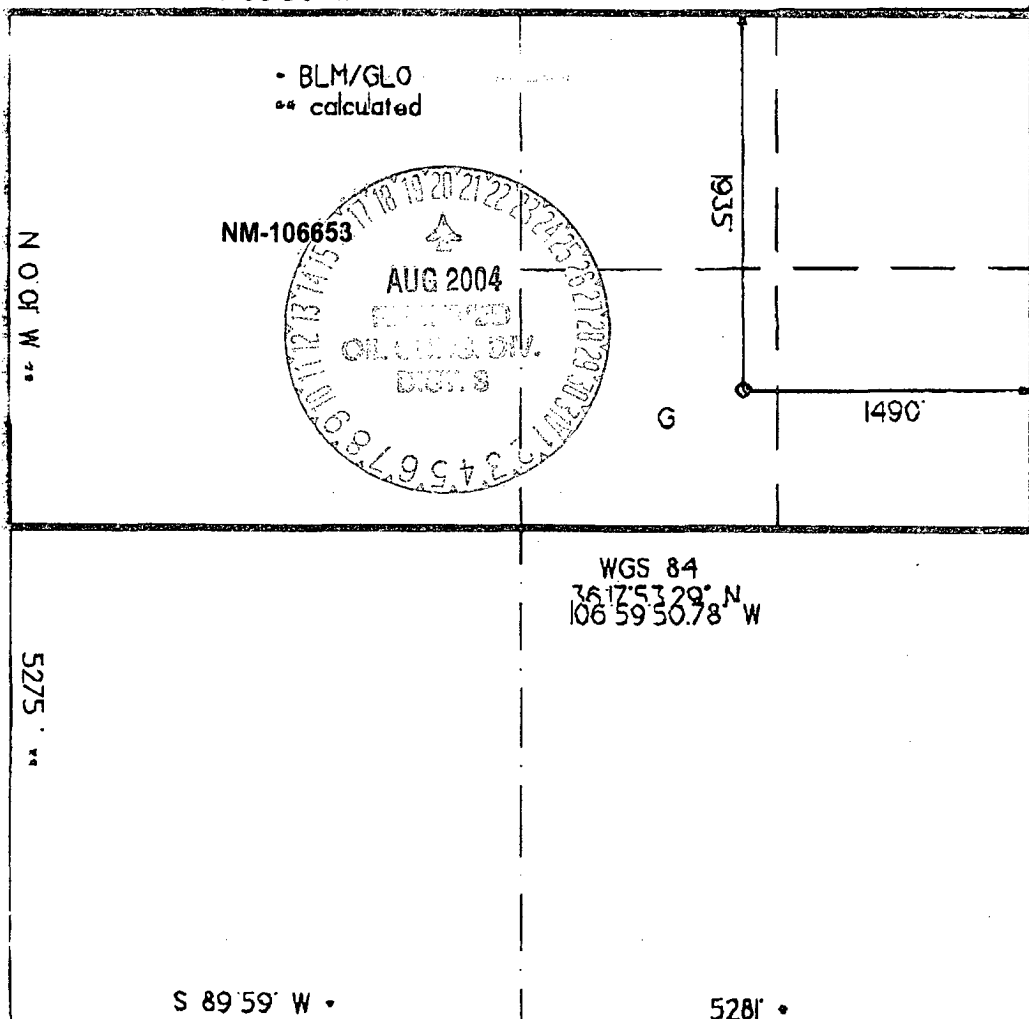
Surface Location									
U. or Lor.	Sec.	Twp.	Rge.	Lot Ltr.	Feet From	North/South	Feet From	East/West	County
G	24	24 N.	2 W.	SW NE	1935'	NORTH	1490'	EAST	RIO ARriba

Bottom Hole Location if Different From Surface									
U. or Lor.	Sec.	Twp.	Rge.	Lot Ltr.	Feet From	North/South	Feet From	East/West	County

Dedication 320 F6	Joint ?	Consolidation	Order No.
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NO ALLOWABLE WILL ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

S 89°56' W • 5283' •



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 Dinning	
Title Production Engineer	
Date May 17, 2004	
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 	

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

Form C - 102

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number	Pool Code 77360	Pool Name Gavilan Pictured Cliffs
Property Code	Property Name COOKIE DOUGH	Well Number 1
OGED No. 014634	Operator Name MERRION OIL & GAS	Elevation 7386'

Surface Location									
UL or Lot	Sec.	Twp.	Rge.	Lot Ltr.	Feet From	North/South	Feet From	East/West	County
G	24	24 N.	2 W.	SW NE	1935'	NORTH	1490'	EAST	RIO ARriba

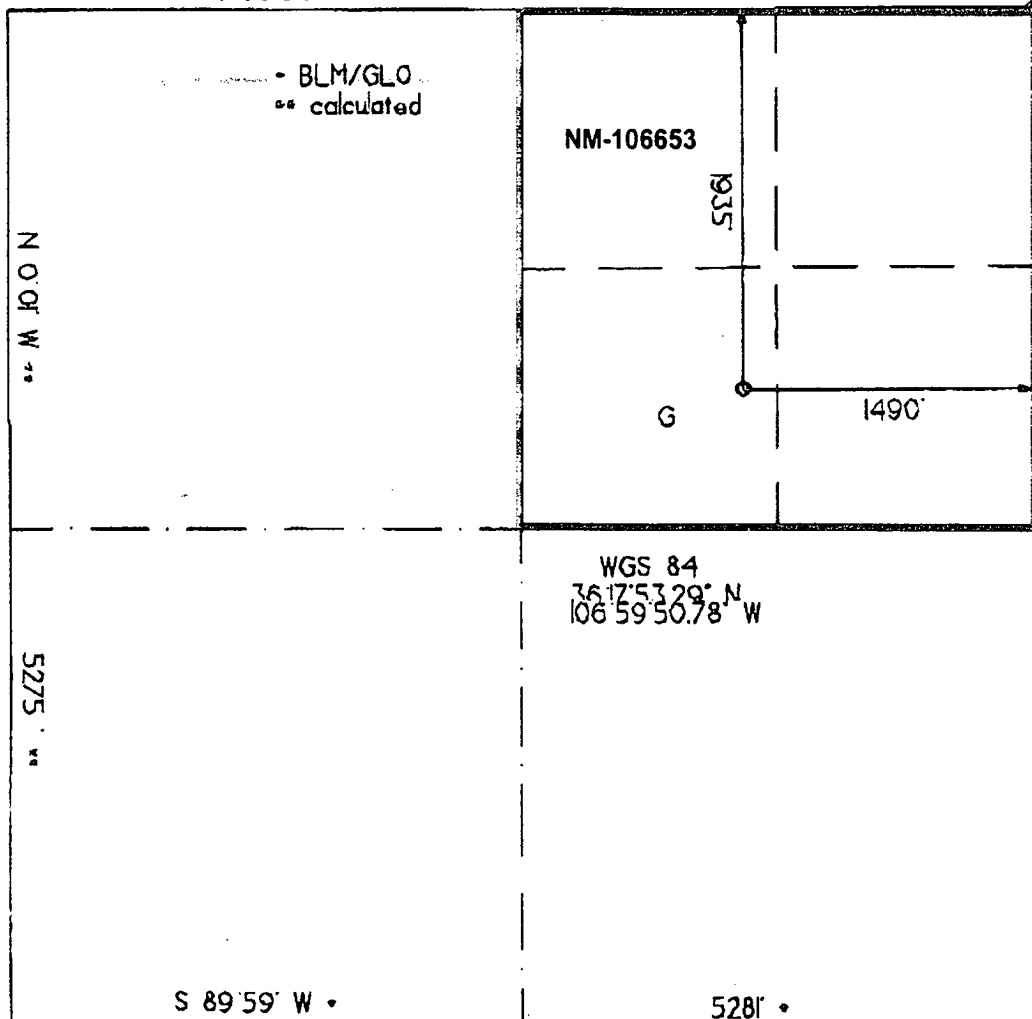
Bottom Hole Location if Different From Surface									
UL or Lot	Sec.	Twp.	Rge.	Lot Ltr.	Feet From	North/South	Feet From	East/West	County

Dedication 320 16pc	Joint ?	Consolidation	Order No.
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S 89°56' W •

5283' •



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature

[Signature]

Printed Name

Connie Dinning

Title

Production Engineer

Date

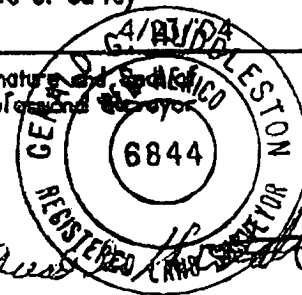
May 17, 2004

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.

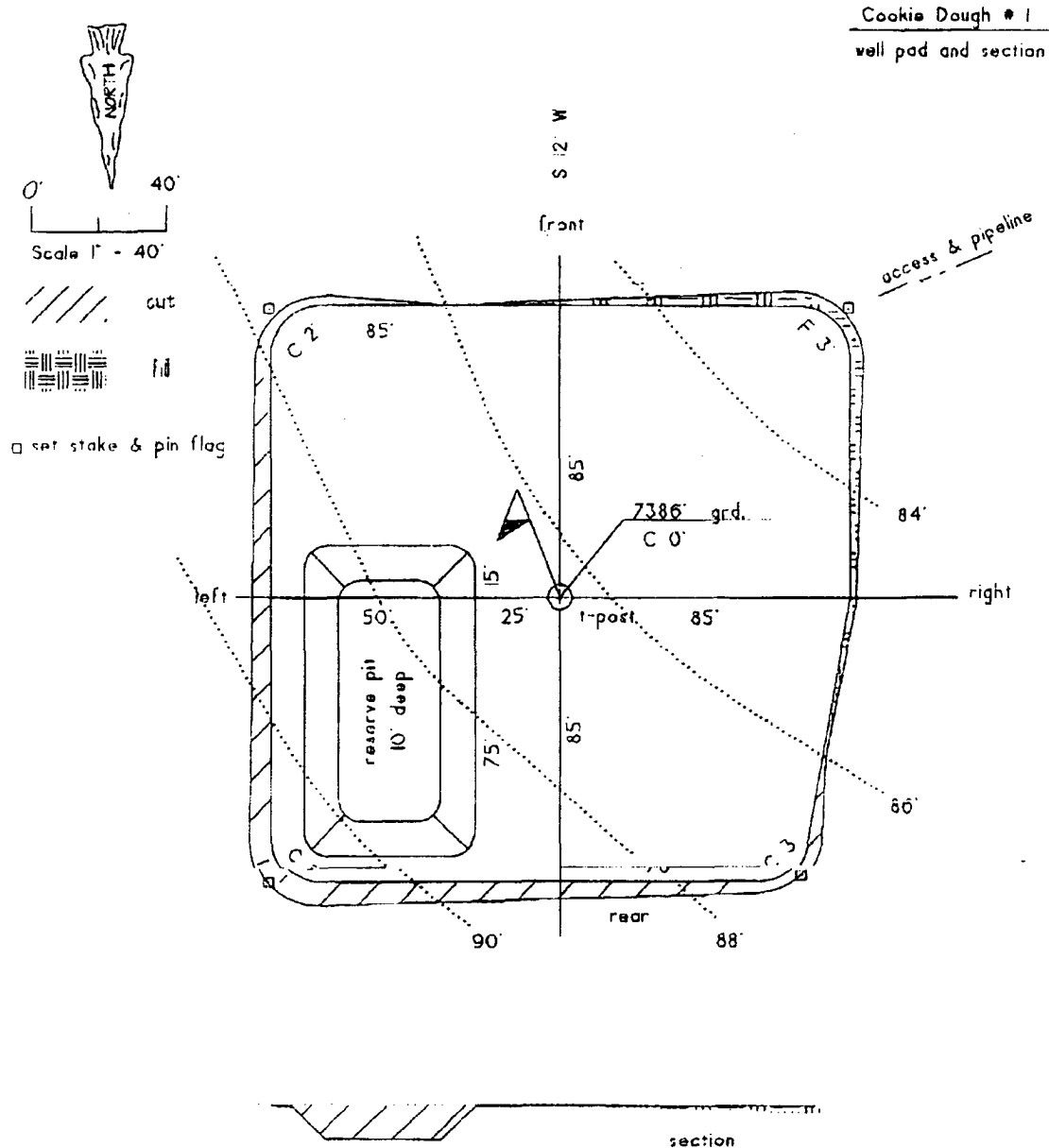
Date of Survey

Signature and Seal of Professional Surveyor



6. CONSTRUCTION MATERIALS

- A. No construction materials are needed for drilling and access roads into the drilling location. The existing surface materials will be sufficient and will be provided by the Dirt Contractor as needed.



- C. No surface materials for construction of access roads are required.
- D. All major access roads presently exist as shown on topographic map.

MERRION OIL & GAS CORPORATION

DRILLING TECHNICAL PROGRAM

(Attachment to Form 3160-3)

Cookie Dough No. 1

1935' fml & 1490' fel (sw ne)
Section 24, T24N, R2W, NMPM
Rio Arriba County, New Mexico

1. **ESTIMATED FORMATION TOPS:**

<u>Formation</u>	<u>Depth-MD</u>
Undiff. Tertiary	Surface
Nacimiento	1614'
Ojo Alamo	2937'
Kirtland	3064'
Fruitland	3234'
Pictured Cliffs	3320'
Total Depth	3470'

2. **WELL CONTROL SYSTEM**

- A. Proposed blowout preventer system (schematic drawing follows) is a double-ram type preventer, and will be used in 1000 psi service.
- B. Minimum required working pressure rating for BOP stack is 2000 psi. Maximum anticipated bottomhole pressure = 902 psi. Well Control Anticipated Surface Pressure (ASP) = $902 \text{ psi} - (0.22 * 3470') = 139 \text{ psi}$, 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 500 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 except through the depleted Pictured Cliffs pay interval 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 1/4" hole will be drilled to ~ 3220' 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 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' – 3220'±LSND	8.6-9.2	28-45	NA	
3220' – 3470'±	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 because air drilling will be utilized through potential lost circulation zones.
- 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	3220 ft ±
3	4 1/2" 11.6 ppf J55	3120 ft ±	3470 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

Merrion Oil & Gas Corporation

Well Control Equipment Schematic for 1M Service

Attachment to Drilling Technical Program

