

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

(Other instructions on reverse side)

30-045-25728

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL WELL ☒

GAS WELL ☐

OTHER

SINGLE ZONE ☒

MULTIPLE ZONE ☐

2. NAME OF OPERATOR

ARCO Oil and Gas Company, Division of Atlantic Richfield Company

3. ADDRESS OF OPERATOR

P. O. Box 5540, Denver, Colorado 80217

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface

1220' FSL & 140' FWL Unit M

At proposed prod. zone

Approx the same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

Shiprock, New Mexico approximately 10 miles northeast

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)

1220' to lease line
10,354' to unit boundary

16. NO. OF ACRES IN LEASE

2760 2685?

17. NO. OF ACRES ASSIGNED TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

857'

19. PROPOSED DEPTH

1260'

20. ROTARY OR CABLE TOOLS

Rotary

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

5349' GR

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

22. APPROX. DATE WORK WILL START*

When appr'd app'l rec'd

23.

PROPOSED CASING AND CEMENTING PROGRAM

This section is subject to administrative
appeal pursuant to 30 CFR 250.

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8"	48.0#	30'	57 sx (67.26 cu.ft.) C1 "B" + add
12-1/4"	8-5/8"	24.0#	140'	105 sx (123.9 cu.ft.) C1 "B" + add
7-7/8"	5-1/2"	14.0#	1260' or 200' below top of Gallup Sand	220 sx (377.05 cu.ft.) C1 "B" + add

Propose to drill well to sufficient depth to test the Gallup formation, setting surface and intermediate casing as above. Logging and setting production casing, perforate, test and treat if necessary, and fracture as required. Will apply to permit this well as a water injection well if it is not an economically productive oil well.

Pursuant to NTL-6, attached are: Certified Location Plat
Drilling Plan with attachments
Surface Use and Operations Plan with attachments

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. 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

W. A. Walther, Jr.

TITLE Operations Manager

DATE March 21, 1983

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

Hold C104 or C108 for NSL
Joint with HGU #208 +290

APPROVED
AS AMENDED

MAY 16 1983

JAMES F. SIMS
DISTRICT ENGINEER

ENCLOSURE

OIL CONSERVATION DIVISION

P. O. BOX 2048

Form C-107
Revised 10-1-

STATE OF NEW MEXICO

OIL AND MINERALS DEPARTMENT

SANTA FE, NEW MEXICO 87501

All distances must be from the outer boundaries of the Section.

Operator ARCO OIL & GAS COMPANY		Lease HORSESHOE GALLUP		Well No. 298
Unit Letter M	Section 33	Township 31N	Range 16W	County San Juan
Actual Footage Location of Well: 1190 feet from the South line and 215 feet from the West line				
Ground Level Elev: 5347	Producing Formation Gallup		Pool Horseshoe	Dedicated Acreage: 40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.

2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

RECEIVED

MAY 17 1983

OIL CON. DIV.

DIST. 3

Sec.

33

215'

1190'

Scale: 1"=1000'

CERTIFICATION

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

Name **W.A. Walther, Jr.**

Position

Operations Manager

Company **ARCO Oil and Gas Company**
Div of Atlantic Richfield Company

Date

April 18, 1983

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 knowledge and belief.

Date Surveyed

April 8, 1983

Registered Professional Engineer
and Land Surveyor

Fred B. Kerr Jr.

Certificate No. 4500

3950

All distances must be from the outer boundaries of the Section.

Operator ARCO OIL & GAS COMPANY			Lease HORSESHOE GALLUP UNIT B		Well No. 298
Unit Letter M	Section 33	Township 31N	Range 16W	County San Juan	
Actual Footage Location of Well: 1220 feet from the South line and 140 feet from the West line					
Ground Level Elev: 5349	Producing Formation Gallup Sand		Pool Gallup		Dedicated Acreage: NA UNIT 40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

		<p>33</p>	

Scale: 1"=1000'

CERTIFICATION

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

W.A. Walther, Jr.
Name **W.A. Walther, Jr.**
Position **Operations Manager**
Company **ARCO Oil and Gas Company**
Division of **Atlantic Richfield**
Date **March 17, 1983**

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 knowledge and belief.

Date Surveyed **February 18, 1983**
Registered Professional Engineer and Land Surveyor
Fred B. Kerr Jr.
Certificate No. **3950**

TEN POINT DRILLING PLAN

Attach to APD Form 9-331-C
ARCO Oil and Gas Company
Horseshoe Gallup Unit "B" #298
Section 33-31N-16W
San Juan County, New Mexico

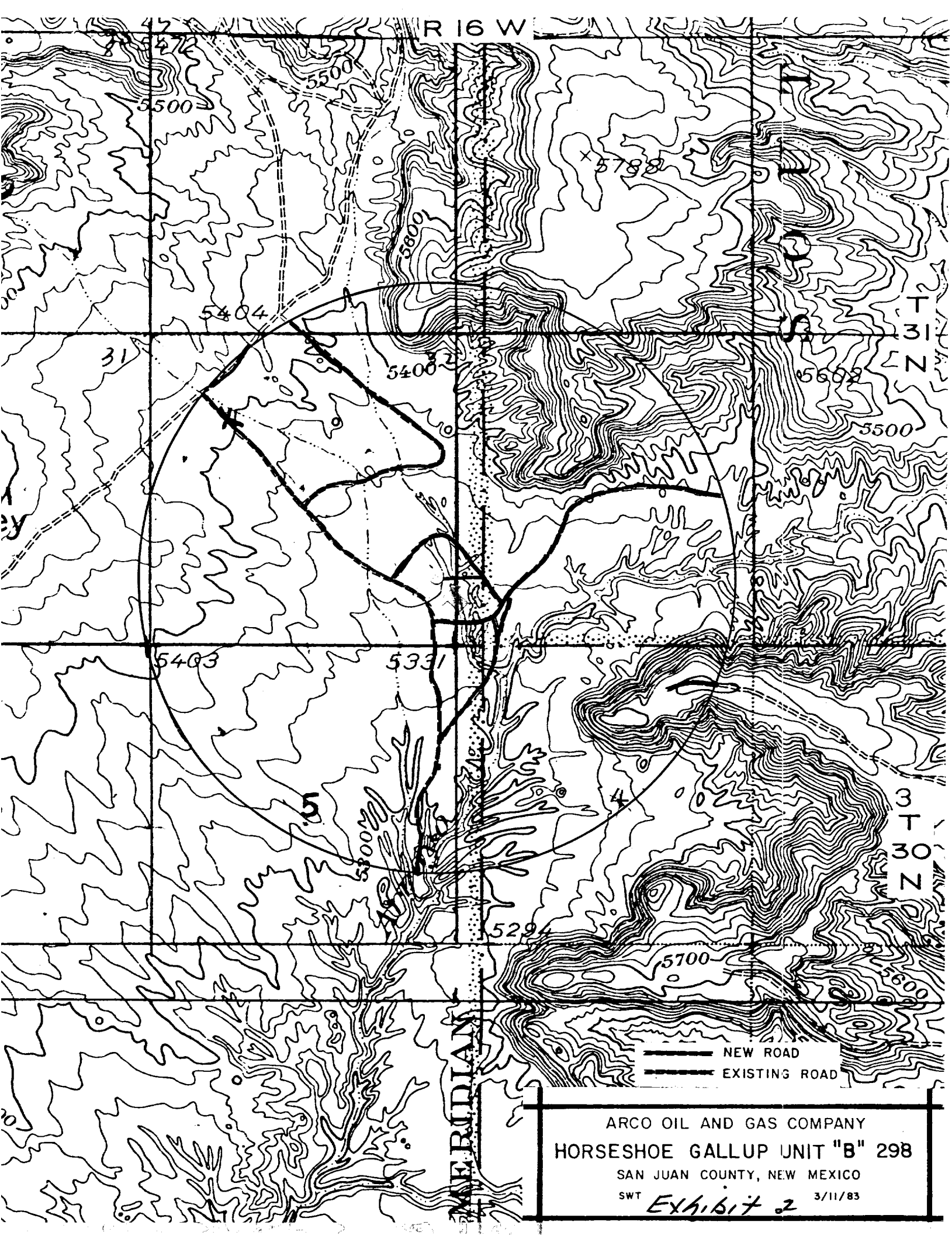
1. Surface Geological Formation: Upper Mancos Shale
2. Estimated Tops of Geological Markers: Gallup Sand - 1054'
3. Estimated Tops of Possible Water, Oil, Gas or Minerals:
Sands in Upper Mancos Shale Fm - 0-1054' Water
Gallup Sands - 1054-TD Oil and/or Water

4. Proposed Casing Program:

<u>Casing</u>	<u>Hole Size</u>	<u>Interval</u>	<u>Section Length</u>	<u>Size OD</u>	<u>Weight Grade and Joint</u>	<u>New Used</u>
Conductor	17-1/2"	0- 30'	30'	13-3/8"	48#,H-40,STC	New or Used
Surface	12-1/4"	30- 140'	110'	8-5/8"	24#,K-55,STC	New
Intermediate		----- None -----				
Production	7-7/8"	140-1260' or +200' below top of Gallup Sd	1120'	5-1/2"	14#,K-55,STC	New
Liner		----- None -----				

Cement Program:

Conductor	Cement w/57 sx Cl "B" + 3% CaCl ₂ . Yield = 1.18 cu ft/sx. Cement w/100% volumetric excess.
Surface	Cement w/105 sx Cl "B" + 2% CaCl ₂ + 1/4#/sx Flocele. Yield = 1.18 cu ft/sx. Cement w/100% open hole volumetric excess.
Intermediate	None
Production	Cement w/10 bbls mud flush (or 200' annular column) foll'd w/145 sx Cl "B" + 12-1/2#/sx Gilsonite + 6% gel + 3/4% CFR-2 (top slurry @ surface). Yield = 1.99 cu ft/sx, foll'd w/75 sx Cl "B" + 1/4#/sx Flocele + 2% CaCl ₂ . Yield = 1.18 cu ft/sx. Use calipered hole ID to calculate lead and tail slurry volumes.



ARCO OIL AND GAS COMPANY
HORSESHOE GALLUP UNIT "B" 298
SAN JUAN COUNTY, NEW MEXICO
SWT *Exhibit 2* 3/11/83

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

15. ELEVATIONS (SHOW DF, KDB, AND WD)
5347' GL

(other) CHANGES IN APD

U. S. GEOLOGICAL SURVEY
FARMINGTON, N. M.

OIL CON. DIV.
DIST. 3

- NMOCG

Joint with H64 #208 + 290