

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241 1980

DISTRICT II
811 South First St. Artesia NM 88210 2835

DISTRICT III
1000 Rio Brazos Rd. Aztec, NM 87410 1693

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 S. Pacheco
Santa Fe, New Mexico 87505-6429

APPLICATION FOR DOWNHOLE COMMINGLING

Form C-107-A
New 3-12-98

APPROVAL PROCESS:

☒ Administrative ☐ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

Operator
Conoco Inc.

Address
10 Desta Dr. Ste 100W, Midland, Tx. 79705-4500

Lessee
AXI Apache K

Well No
#4

Section 3, T-26-N, R-5-W, M

County
Rio Arriba, NM

OGRID NO. 005073

Property Code

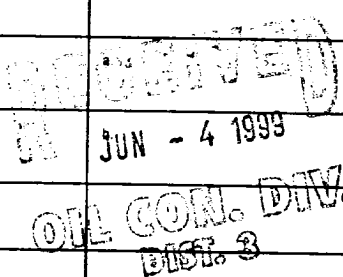
003133

API NO.

30-039-82254

Spacing Unit Lease Types: (check 1 or more)

Federal ☒ State ☐ (and/or) Fee ☐

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Blanco Pictured Cliffs, So 72439		Blanco Mesaverde 72319
2. TOP and Bottom of Pay Section (Perforations)	3772-3830'		5436-6008'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Gas & Oil - Flowing All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	a (Current) 330 b(Original) 1175		a. 575 b. 1315
6. Oil Gravity (*API) or Gas BT Content	1215		1297
7. Producing or Shut-in?	Shut-in		Producing
Production Marginal? (yes or no)	Yes		Yes
• If Shut-in give date and oil/gas/water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.	Date 6/84 Rates 14 MCFD, 0 BOPD, 0 BWPD	Date Rates	Date Rates
• If Producing, date and oil/gas/water rates of recent test (within 60 days)	Date Rates	Date Rates	Date 4/99 68 MCFD, 0 BOPD, 6 BWPD
8. Fixed Percentage Allocation Formula - % for each zone	Oil 8 % Gas 13 %	Oil % Gas %	Oil 92 % Gas 87 %

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones? ☒ Yes ☐ No
If not, have all working, overriding, and royalty interests been notified by certified mail? ☒ Yes ☐ No
Have all offset operators been given written notice of the proposed downhole commingling? ☒ Yes ☐ No

11. Will cross-flow occur? ☒ Yes ☐ No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. ☒ Yes ☐ No (If No, attach explanation)

12. Are all produced fluids from all commingled zones compatible with each others ☒ Yes ☐ No

13. Will the value of production be decreased by commingling? ☐ Yes ☒ No (If Yes, attach explanation)

14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. ☒ Yes ☐ No

15. NMOC Reference Cases for Rule 303(D) Exceptions: ORDER NO(S) _____

16. ATTACHMENTS

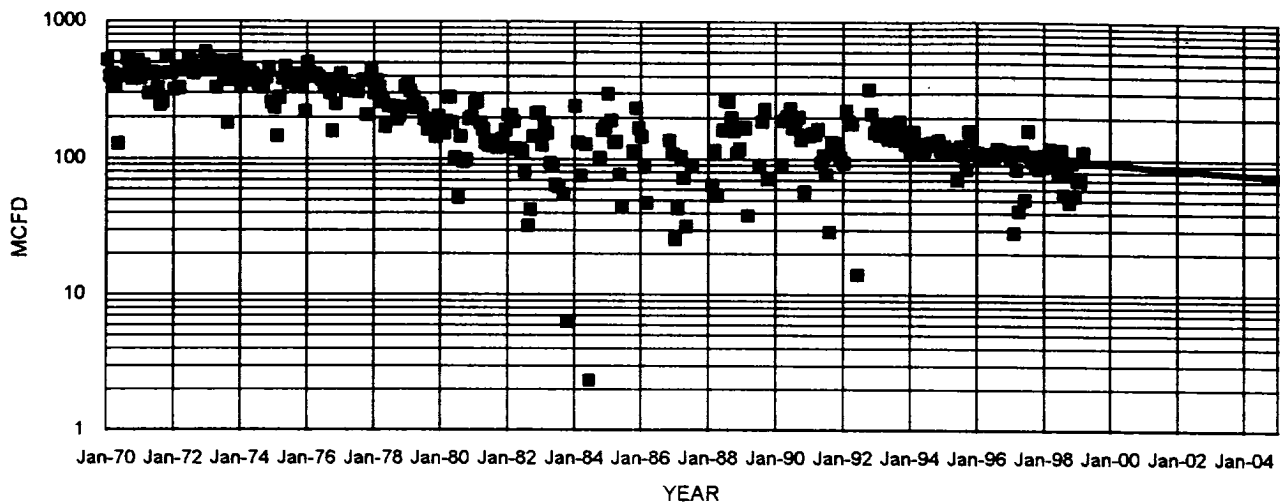
- C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
- Production curve for each zone for at least one year. (If not available, attach explanation.)
- For zones with no production history, estimated production rates and supporting data.
- Data to support allocation method or formula.
- Notification list of all offset operators.
- Notification list of working, overriding and royalty interests for uncommon interest cases.
- Any additional statements, data, or documents required to support commingling.

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

SIGNATURE Kay Maddox TITLE Regulatory Agent DATE June 2, 1999

TYPE OR PRINT NAME Kay Maddox TELEPHONE NO. (915) 686-5798

**AXI APACHE K-4 MESAVERDE PRODUCTION
SECTION 3M-26N-05W, RIO ARRIBA COUNTY, NEW MEXICO**



■ MESAVERDE MCFD — FIT MCFD

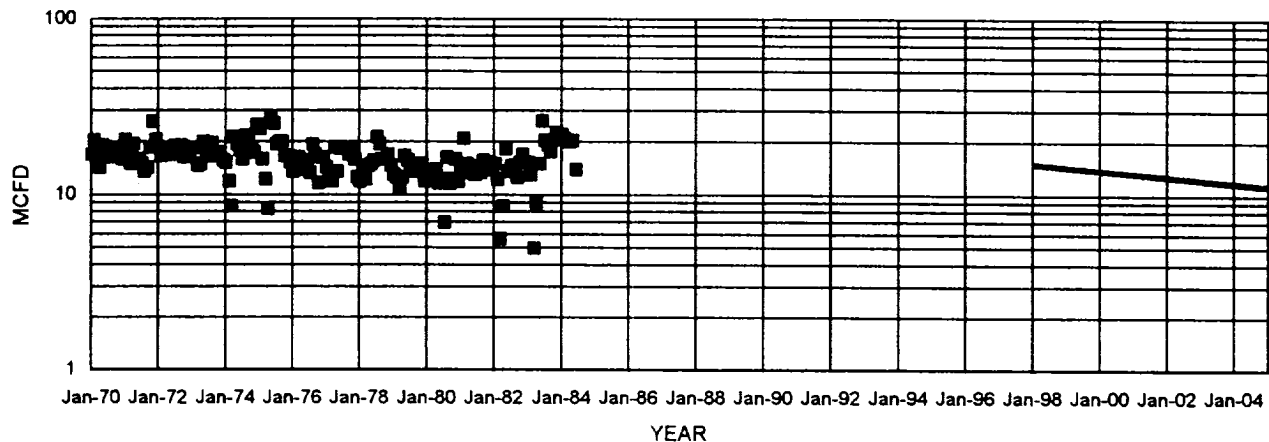
MESAVERDE HISTORICAL DATA:

OIL CUM:	6.40	1ST PROD: 07/65	MBO
GAS CUM:	2553.0	MMCF	
OIL YIELD:	0.0025	BBL/MCF	

MESAVERDE PROJECTED DATA

1/1/98 Qi:	100	MCFD
DECLINE RATE:	4.0%	(EXPONENTIAL)

**AXI APACHE K-4 PICTURED CLIFFS PRODUCTION
SECTION 3M-26N-05W, RIO ARRIBA COUNTY, NEW MEXICO**



■ PICTURED CLIFFS MCFD — FIT MCFD

PICT. CLIFFS HISTORICAL DATA:

OIL CUM:	0.2	1ST PROD: 08/65	MBO
GAS CUM:	138.8	MMCF	
OIL YIELD:	0.001	BBL/MCF	

PICTURED CLIFFS PROJECTED DATA

1/1/98 Qi:	15	MCFD
DECLINE RATE:	4.0%	(EXPONENTIAL)

FIXED COMMINGLE ALLOCATION FACTORS:

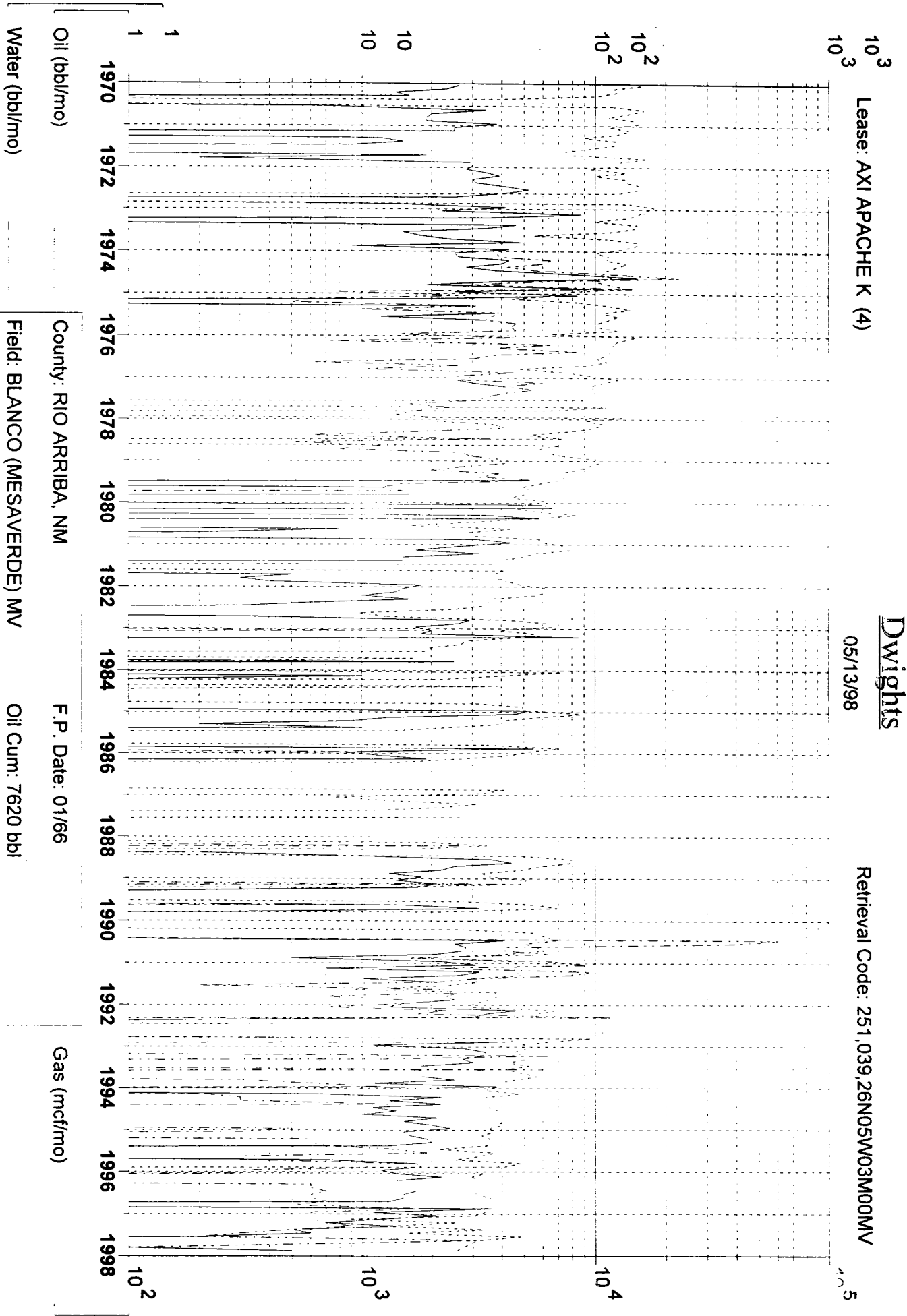
	GAS	OIL
MESAVERDE	87%	92%
PICT. CLIFFS	13%	8%

NOTE: ALL PRODUCTION DATA FROM DWIGHTS ENERGYDATA

Lease: AXI APACHE K (4)

Dwights
05/13/98

Retrieval Code: 251,039,26N05W03M00MV



Oil (bbl/mo)

Water (bbl/mo)

County: RIO ARRIBA, NM

Field: BLANCO (MESAVERDE) MV

Reservoir: MESAVERDE

Operator: CONOCO INC

F.P. Date: 01/66

Oil Cum: 7620 bbl

Gas Cum: 2510 mmcf

Location: 3M 26N 5W

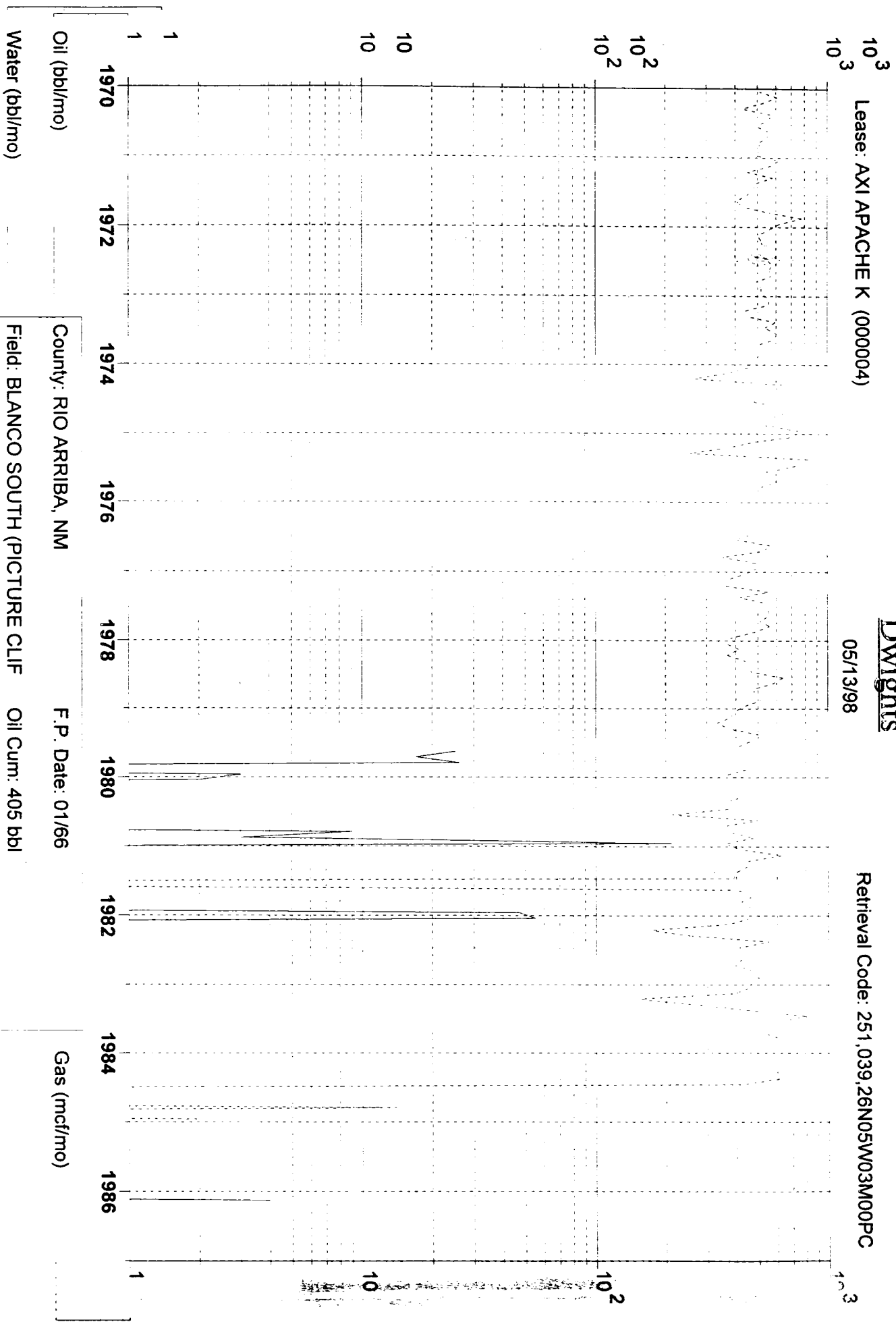
Gas (mcf/mo)

Dwights

Lease: AXI APACHE K (000004)

05/13/98

Retrieval Code: 251,039,26N05W03M00PC



Oil (bbl/mo)

Water (bbl/mo)

County: RIO ARRIBA, NM

Field: BLANCO SOUTH (PICTURE CLIF

F.P. Date: 01/66

Oil Cum: 405 bbl

Gas (mcf/mo)

Reservoir: PICTURE CLIFFS

Gas Cum: 138.8 mmcf

Operator: CONOCO INC

Location: 3M 26N 5W

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-55

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

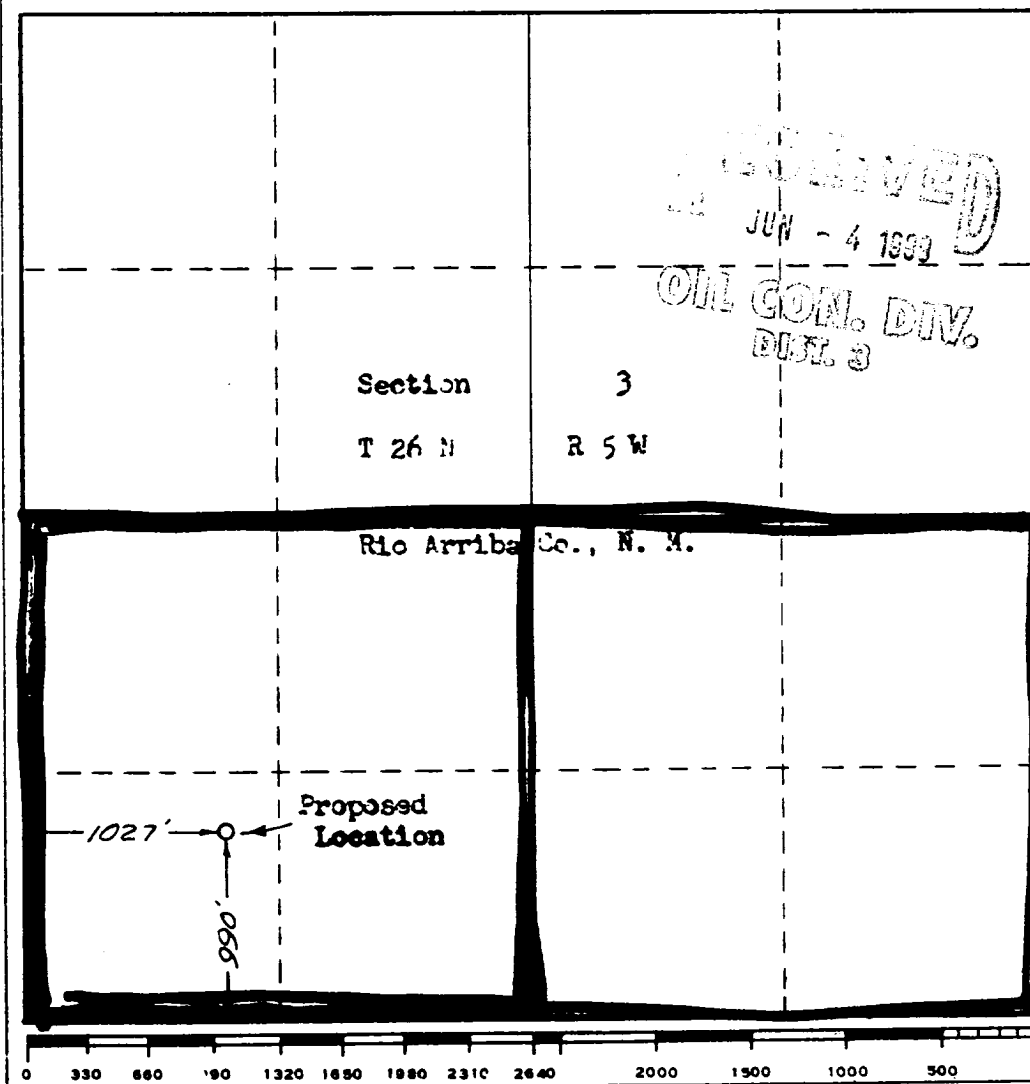
Operator Continental Oil Company			Lease AXI Apache "K"			Well No. 4
Unit Letter M	Section 3	Township 26N	Range 5W	County Rio Arriba		
Actual Footage Location of Well: 990 feet from the South line and 1027 feet from the West line						
Ground Level Elev. 7119'	Producing Formation Pictured Cliffs Mesa Verde		Pool So. Blanco Pictured Cliffs Blanco Mesa Verde	Dedicated Acreage: 160 - PC (Red) 320 - MV (Blue)		

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.



CERTIFICATION

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

Name **ORIGINAL SIGNED BY:**
H. D. FALEY

Position
District Manager

Company
Continental Oil Company

Date
6-23-65

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

June 3, 1965

Registered Professional Engineer and/or Land Surveyor

Frederick H. Reed

Certificate No.

N. M. # 3795

June 2, 1999

AXI Apache K #4
Section 3, T-26-N, R-5-W, M
API # 30-039-82254
Rio Arriba, NM

RE: Application to Downhole Commingle (C107A)

Notification of Offset Operators:

Burlington Resources
PO Box 4289
Farmington, NM 87499

Amoco
PO Box 800
Denver, CO 80201

A copy of the C-107A Application has been sent to the above listed parties.

AXI Apache K 4

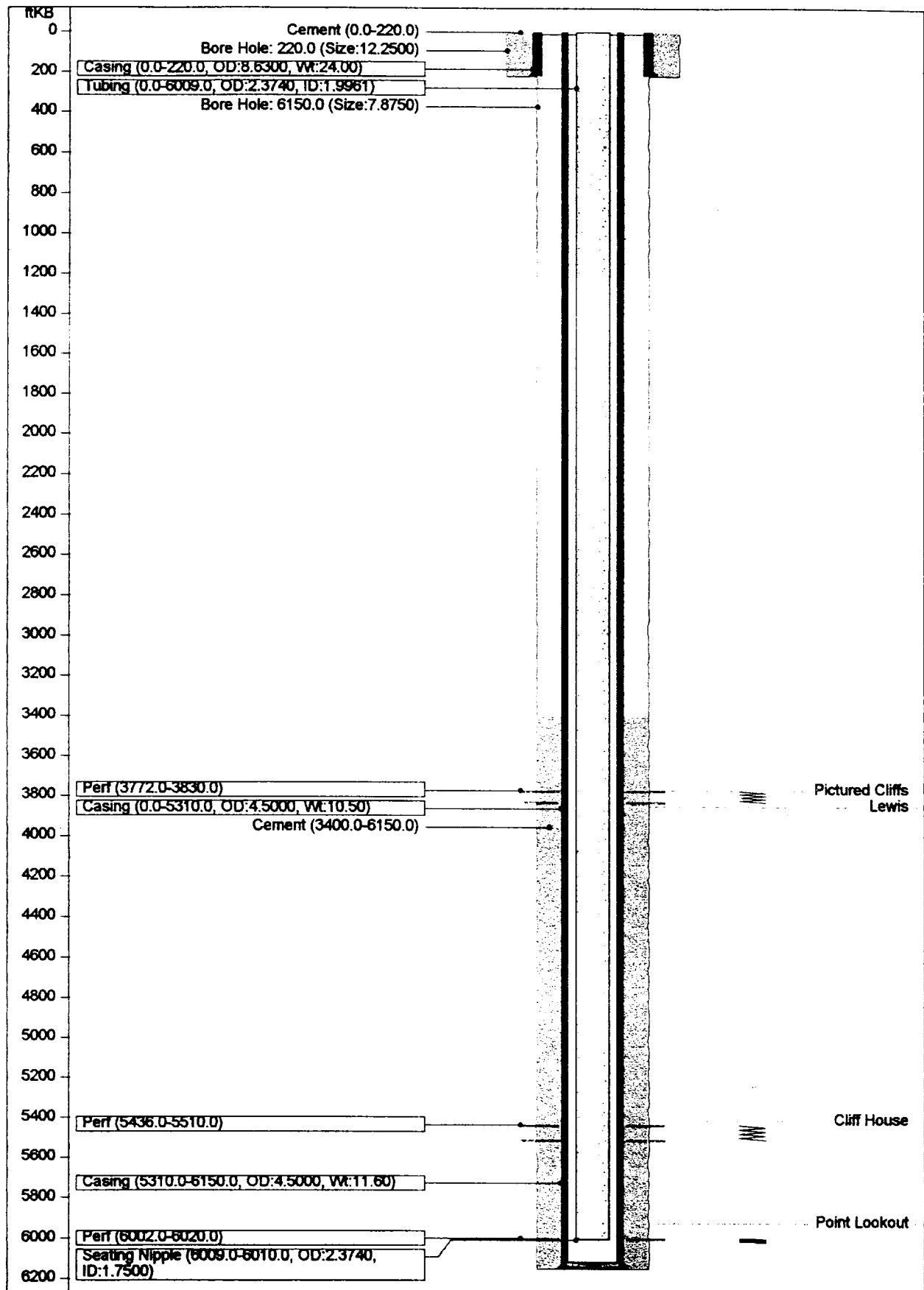
Economic/Rate Justification for Down Hole Commingling

Approval is requested to down hole commingle the existing zones in the subject well. The AXI Apache K 4 has 4 1/2" production casing. It is completed using a 2.375" tubing string for the Mesa Verde. The Picture Cliffs zone is open above a packer but is not currently capable of producing up the tubing casing annulus. Both zones have produced some liquids and produce well below the minimum critical rate required to unload liquids from the well bore. The current rates allow liquids to accumulate in the wellbore, thereby preventing maximum production from this well. A sliding sleeve assembly in the tubing string across from the Picture Cliffs zone prevents the use of plunger lift on the Mesa Verde zone. To optimize production it is recommended to pull the existing equipment from the well, and produce it using plunger lift in a single 2 3/8" tubing string. The expected production increase is estimated at 50 MCFD.

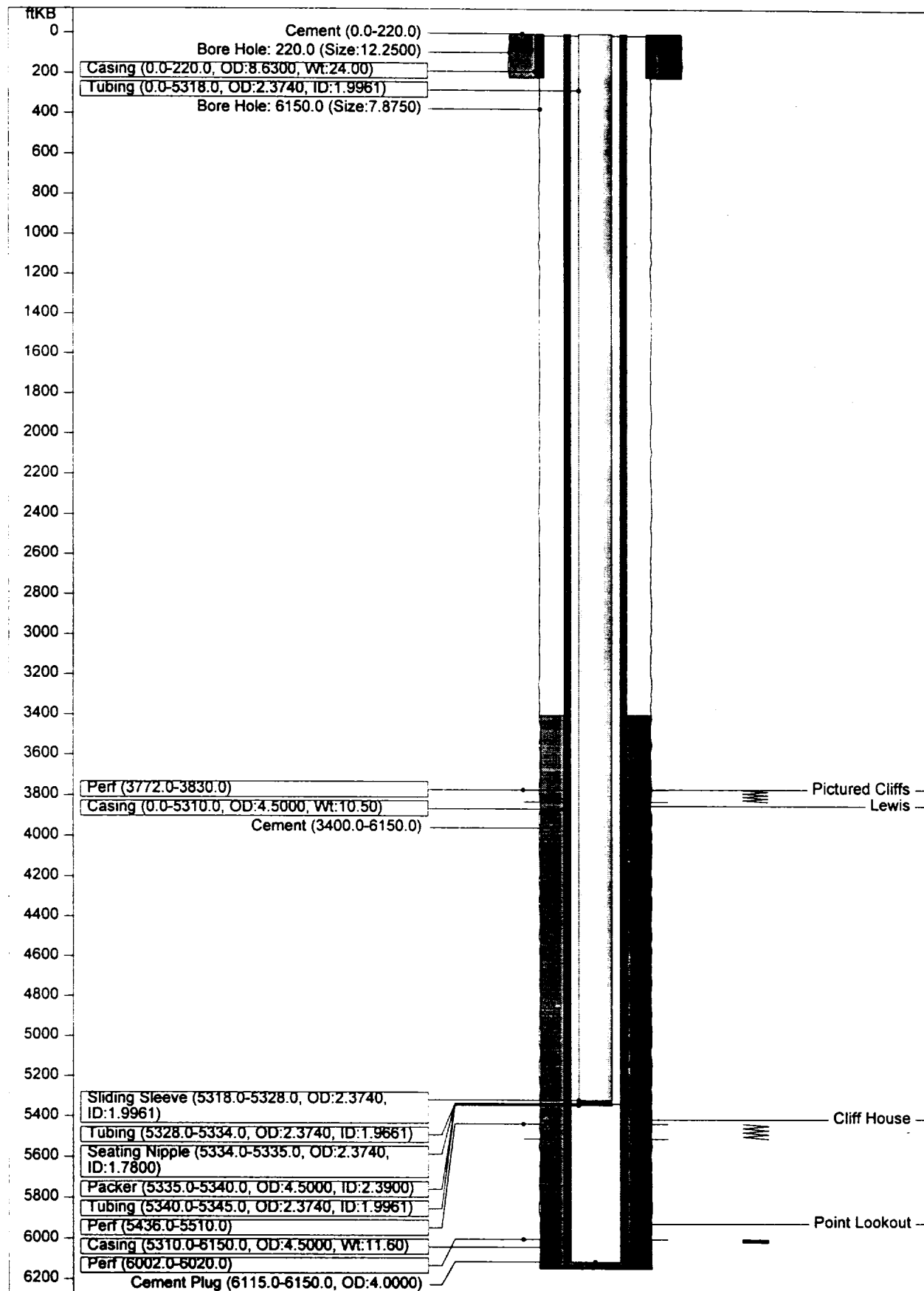
The use of a single tubing string with out a sliding sleeve and packer will allow plunger lift to remove liquid from the wellbore and maximize production from all commingled zones.

Production from these zones is established by ample production history. A production plot is attached showing best fit projections of future production for each zone. Form 107A shows the fixed percentage formula for allocation of production from each zone.

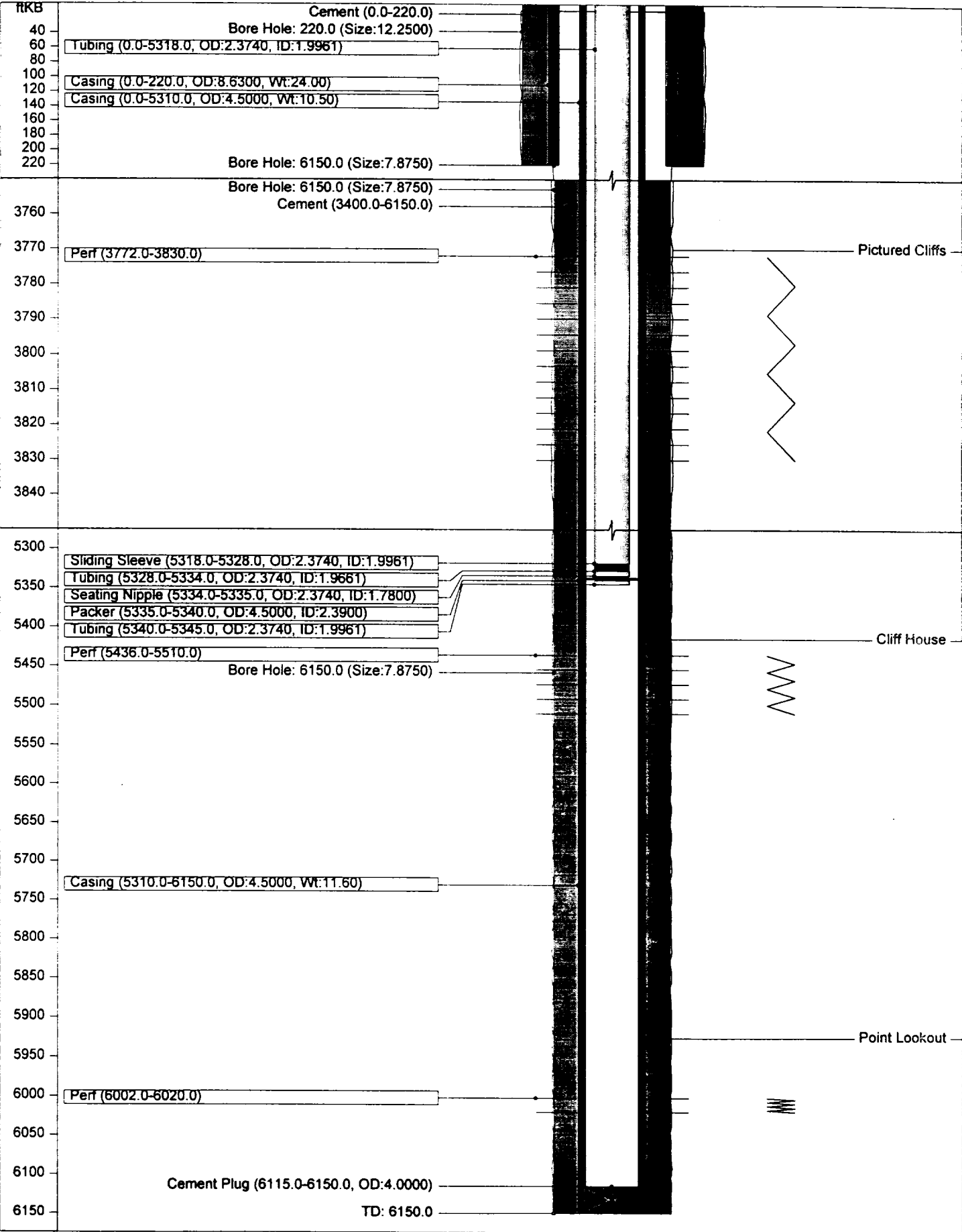
AXI APACHE K 4 (Post DHC)



AXI APACHE K 4 (LFW 9/12/92)



AXI APACHE K 4 (LFW 9/12/92)



AXI APACHE K 4 (LFW 9/12/92)

AXI APACHE K 4 (LFW 9/12/92)

API Code	300398225400	Field Code	676398740					
TD	6150.0 ftKB	Basin	SAN JUAN BASIN					
PBTD	6115.0 ftKB	Basin Code	580					
State	New Mexico	Permit	01-Jul-65					
County	RIO ARRIBA	Spud	20-Jul-65					
District	San Juan O.U.	Finish Drl	30-Jul-65					
Permit No.		Completion	17-Aug-65					
TD Measured	6150 ftKB	Abandon						
Reservoir	Mesaverde/Pictured Cliffs							
Field	BLANCO MV/BLANCO SOUTH PC							
Location								
Meridian	NM	Top Latitude	36.51157					
Twnship	26N	Top Longitude	107.3513					
Range	5W	Top NS Distance	990.0 ft S					
Section	3	Top EW Distance	1027.0 ft W					
Quarter	SW SW	Bottom Latitude	0					
		Bottom Longitude	0					
		Btm NS Distance	0.0 ft					
		Btm EW Distance	0.0 ft					
Elevations								
KB	7128.0 ft	Cas Flng	0.0 ft					
Grd	7119.0 ft	Tub Head	0.0 ft					
KB-Grd	9.0 ft							
Bore Hole Data								
	Depth (ftKB)		Size (in)					
	220.0		12.2500					
	6150.0		7.8750					
Casing String - Surface Casing								
Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments	
8.6300 in Casing	220.0	6	8.1000	24.00	J-55	ST&C		
Casing String - Production Casing								
Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments	
4.5000 in Casing	5310.0	165	4.0500	10.50	J-55	ST&C		
4.5000 in Casing	6150.0	26	4.0000	11.60	N-80	ST&C		
Casing Cement								
Casing String	Top (ftKB)	Amount (sx)	Comments					
Surface Casing	0.0	150	Cement circ					
Production Casing	3400.0	350	TOC unknown. Est 3400'. DV @ 3950'. 1st stg: 250 sxs, 2nd stg: 100 sxs.					
Other (plugs, equip., etc.) - Plug Backs								
Date	Item	Int (ftKB)	Comments					
03-Aug-65	Cement Plug	6115.0 - 6150.0						
Perforations								
Date	Int	Shots (/ft)	Type	Comments				
05-Aug-65	5436.0 - 5510.0	1.0		@ 5436-44', 5463-68', 5472-76', 5490-5510'.				
05-Aug-65	6002.0 - 6020.0	2.0		@ 6002-08', 6010-20'.				
06-Aug-65	3772.0 - 3830.0	2.0		@ 3772-81', 3809-14', 3822-30'.				
Stimulations & Treatments								
Date	Type	Zone	Int	Fluid	Comments			
05-Aug-65	Fracture	MV (CH)	5436.0 - 5510.0	Water	Frac w/ 44,600 G treated water + 20,000# 20/40 + 35,000# 10/20 sd. AIR= 45 bpm @ 2000#. ISIP 400# (dropped 20 BS during Frac job)			
05-Aug-65	Fracture	MV (PLO)	6002.0 - 6020.0	Water	Frac w/ 24,900 G treated water + 5,000# 20/40 + 20,000# 10/20 sd. AIR= 55 bpm @ 1600#. ISIP 200# (dropped 10 BS during Frac job)			
06-Aug-65	Fracture	Pictured Cliffs	3772.0 - 3830.0	Water	Frac w/ 24,870 G treated water + 15,000# 20/40 + 20,000# 10/20 sd. AIR= 55 bpm @ 1600#. ISIP 200#.			
Tubing String - Primary Tubing								
Item (in)	Top (ftKB)	Len (ft)	Jnts	ID (in)	Wt	Grd	Thd	Comments
2.3740 in Tubing	0.0	5318.0	170	1.9961	4.70	J-55	8rd EUE	
2.3740 in Sliding Sleeve	5318.0	10.0		1.9961	4.70	J-55	8rd EUE	
2.3740 in Tubing	5328.0	6.0		1.9661	4.70	J-55	8rd EUE	6' Sub
2.3740 in Seating Nipple	5334.0	1.0		1.7800	0.00			
4.5000 in Packer	5335.0	5.0		2.3900	0.00			Baker Model "D" packer.
2.3740 in Tubing	5340.0	5.0		1.9961	0.00	J-55	8rd EUE	5' Prod Tbg. Landed @ 5345'
Formation/Horizon Tops								
	Top (ftKB)	Formation						
	3770.0	Pictured Cliffs						
	3850.0	Lewis						

AXI APACHE K 4 (LFW 9/12/92)

Formation/Horizon Tops (con't)				
Top (ftKB)		Formation		
5415.0		Cliff House		
5926.0		Point Lookout		
Logs Run				
Date	Type	Int	Company	Comments
30-Jul-65	IND	200.0 - 6146.0	Lane Wells	
05-Aug-65	GR-C	3300.0 - 6146.0	Lane Wells	
General Notes				
Date	Note			
17-Aug-65	Initial Potential: F 818 MCFGPD on 3/4 in ck, CP 67; F 3265 MCFGPD on 3/4 in ck, TP 260			

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See cover in-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other ☐b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐

2. NAME OF OPERATOR

Continental Oil Company

3. ADDRESS OF OPERATOR

P. O. Box 1621, Durango, Colorado

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

At surface

990' FSL, 1027' FWL

At top prod. interval reported below

At total depth

14. PERMIT NO. DATE ISSUED

15. DATE SPUDDED 7-20-65 16. DATE T.D. REACHED 7-30-65 17. DATE COMPL. (Ready to prod.) 8-17-65 18. ELEVATIONS (DF, RKB, RT, GR, ETC.) * 7119' GR, 7128' DF 19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD 6150' 21. PLUG, BACK T.D., MD & TVD 6115' 22. IF MULTIPLE COMPL., HOW MANY? 2 23. INTERVALS DRILLED BY 0-6150' 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD) *

3002'-08' Point Lookout

5436'-5510' Cliff House

25. WAS DIRECTIONAL SURVEY MADE No

26. TYPE ELECTRIC AND OTHER LOGS RUN IES, GR-Correlation 27. WAS WELL CORRED No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
3 5/8"	24#	220'	12 1/4"	150 sacks cement	none
4 1/2"	11.6# & 10.5#	6150'	7 7/8"	350 sacks cement	none

29. LINER RECORD 30. TUBING RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)

6010-20', 6002-08'

2 - 3/8" jets/foot

5436-44', 5463-68', 5472-76', 5490-5510'

42 holes - 3/8" jets

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD) AMOUNT AND KIND OF MATERIAL USED

6002-08' 25,000# sd, 24,900 gals water & 150# "ADOMITE AQUA" additive

5436-5510' 55,000# sd, 44,600 gals water & 500# "ADOMITE AQUA" additive

33. PRODUCTION

DATE FIRST PRODUCTION 8-16-65 PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing WELL STATUS (Producing or shut-in) SI-Awaiting Connection

DATE OF TEST 8-17-65 HOURS TESTED 1 CHOKES SIZE 3/4" PROD'N. FOR TEST PERIOD OIL—BBL. GAS—MCF. WATER—BBL. GAS-OIL RATIO 136

FLOW. TUBING PRESS. 260# CASING PRESSURE CALCULATED 24-HOUR RATE OIL—BBL. GAS—MCF. WATER—BBL. OIL GRAVITY-API (CORR.) 3265

34. COMPOSITION OF GAS (Sold, used for fuel, vented, etc.) TEST WITNESSED BY J. M. Galovich

35. LIST OF ATTACHMENTS Sold-Southern Union Gas Company

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Assistant District Manager DATE 9-24-65

* (See instructions and spaces for Additional Data on Reverse Side)

UNITED STATES DISTRICT COURT

NEW MEXICO

USGS(2) NMOC(2) DRB JRH Humble

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.6.

5. LEASE DESIGNATION AND SERIAL NO.

151

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Jicarilla Apache

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

AXI Apache "K"

9. WELL NO.

4

10. FIELD AND POOL, OR WILDCAT

So. Blanco Pictured Cliffs

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

Sec. 3, T26N, R5W - NMPM

12. COUNTY OR PARISH

Rio Arriba

13. STATE

New Mexico

1a. TYPE OF WELL:

OIL WELL ☐GAS WELL ☒DRY ☐Other ☐

b. TYPE OF COMPLETION:

NEW WELL ☒WORK OVER ☐DEEP-EN ☐PLUG BACK ☐DIFF. RESVR. ☐Other ☐

2. NAME OF OPERATOR

Continental Oil Company

3. ADDRESS OF OPERATOR

P. O. Box 1621, Durango, Colorado

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

At surface

990' FSL, 1027' FWL

At top prod. interval reported below

At total depth

14. PERMIT NO.

DATE ISSUED

15. DATE SPUDDED

7-20-65

16. DATE T.D. REACHED

7-30-65

17. DATE COMPL. (Ready to prod.)

8-17-65

18. ELEVATIONS (DF, RES, ST, GR, ETC.)*

7119' GR, 7128' DF

19. ELEV. CASING HEAD

20. TOTAL DEPTH, MD & TVD

6150'

21. PLUG, BACK T.D., MD & TVD

6115'

22. IF MULTIPLE COMPL., HOW MANY*

2

23. INTERVALS DRILLED BY

ROTARY TOOLS

0-6150'

CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

3772'-3830' Pictured Cliffs

25. WAS DIRECTIONAL SURVEY MADE

No

26. TYPE ELECTRIC AND OTHER LOGS RUN

IES, GR-Correlation

27. WAS WELL CORED

No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	24#	220'	12 1/4"	150 sacks cement	none
4 1/2"	11.6# & 10.5#	6150'	7-7/8"	350 sacks cement	none

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
							5340'

31. PERFORATION RECORD (Interval, size and number)

3822-30', 3809-14', 3772-81'
2 dynajets/foot

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
3772-3830'	35,000# sd, 24,870 gals. water & 200# "ADOMITE AQUA" additive.

33. PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
8-16-65		Flowing				SI-Awaiting Connection	
DATE OF TEST	HOURS TESTED	CHOKED SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
8-17-65	1	3/4"	→		34		
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
	67#	→		818			

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

Sold Southern Union Gas Company

TEST WITNESSED BY

J. M. Galovich

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

Paul W. Smith

TITLE

Assistant District Manager

DATE

9-24-65

*(See Instructions and Spaces for Additional Data on Reverse Side)