

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
[DD-Directional Drilling] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Directional Drilling

☐ NSL ☐ NSP ☐ DD ☐ SD

JUN - 4 1999

Check One Only for [B] and [C]

[B] Commingling - Storage - Measurement

☒ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **INFORMATION / DATA SUBMITTED IS COMPLETE** - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

Kay Maddox
Print or Type Name

Signature

Regulatory Agent
Title

Date

6/2/99

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

Form C-107-A
New 3-12-96

APPROVAL PROCESS:
☒ Administrative ☐ Hearing
EXISTING WELLBORE
☒ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

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

Lease AXI Apache N Well No # 12 Section 11, T-25-N, R-4-W, C County Rio Arriba, NM

OGRID NO. 005073 Property Code 003136 API NO. 30-039-21436 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)	3908-3914'		6012-6084'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure	a (Current)	a.	a.
Oil Zones - Artificial Lift: Estimated Current	303		575
Gas & Oil - Flowing: Measured Current	b(Original)	b.	b.
All Gas Zones: Estimated Or Measured Original	1175		1315
6. Oil Gravity (*API) or Gas BT Content	1209		1279
7. Producing or Shut-In?	Producing		Producing
Production Marginal? (yes or no)	Yes		Yes
• If Shut-In give date and oil/gas/water rates of last production	Date Rates	Date Rates:	Date Rates
Note For new zones with no production history applicant shall be required to attach production estimates and supporting data			
• If Producing, date and oil/gas/water rates of recent test (within 60 days)	Date Rates 4/99 24 MCFD, 0 BOPD, 0 BOWD	Date Rates	Date Rates 4/99 47 MCFD, 3 BOPD, 6 BWPD
8. Fixed Percentage Allocation Formula - % for each zone	oil: 3 % Gas 37 %	oil: % Gas %	oil: 97 % Gas 63 %

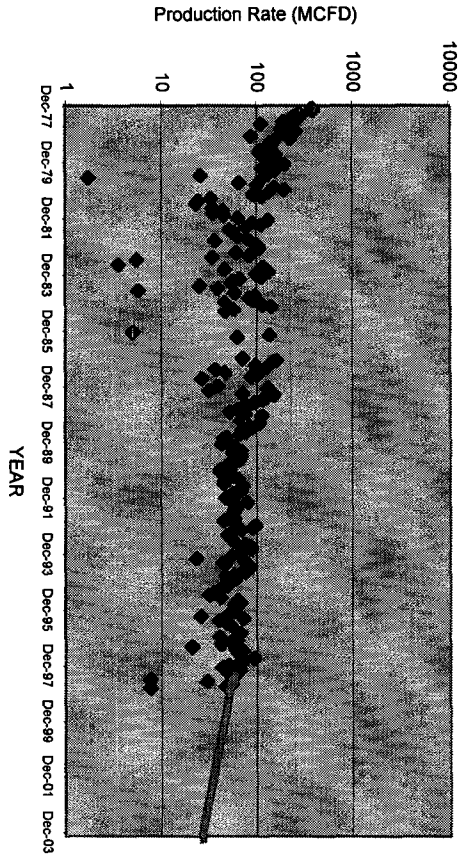
9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.
10. Are all working, overriding, and royalty interests identical 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. NMOCD 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

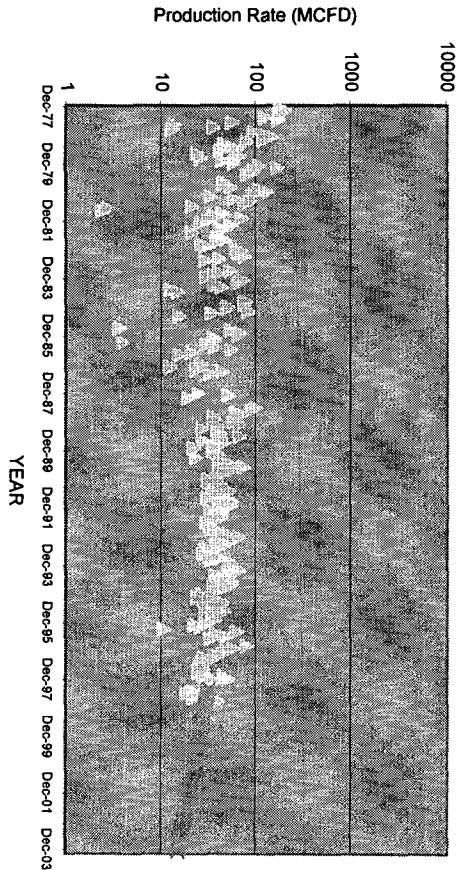
TYPE OR PRINT NAME Kay Maddox TELEPHONE NO. (915) 686-5798

AXI APACHE N 12 - MV / PC DHC
25N-4W-11C, Rio Arriba County, New Mexico



◆ MV - Actual ■ MV - Forecast

AXI APACHE N 12 - MV / PC DHC
25N-4W-11C, Rio Arriba County, New Mexico



◆ MV - Actual x PC - Forecast

MESAVERDE

Historical Data:	1st Prod - Dec-77	Projected Data:
Oil Cum:	3.847 Mbo	1/99 Qi: 49.9 Mcfd
Gas Cum:	565.4 MMcf	Decline Rate: 13.0 %
Oil Yield:	0.00680 Bbl/Mcf	

PICTURED CLIFFS

Historical Data:	1st Prod - Dec-77	Projected Data:
Oil Cum:	0.06 Mbo	1/99 Qi: 28.9 Mcfd
Gas Cum:	341.14 MMcf	Decline Rate: 13.0 %
Oil Yield:	0.00018 Bbl/Mcf	

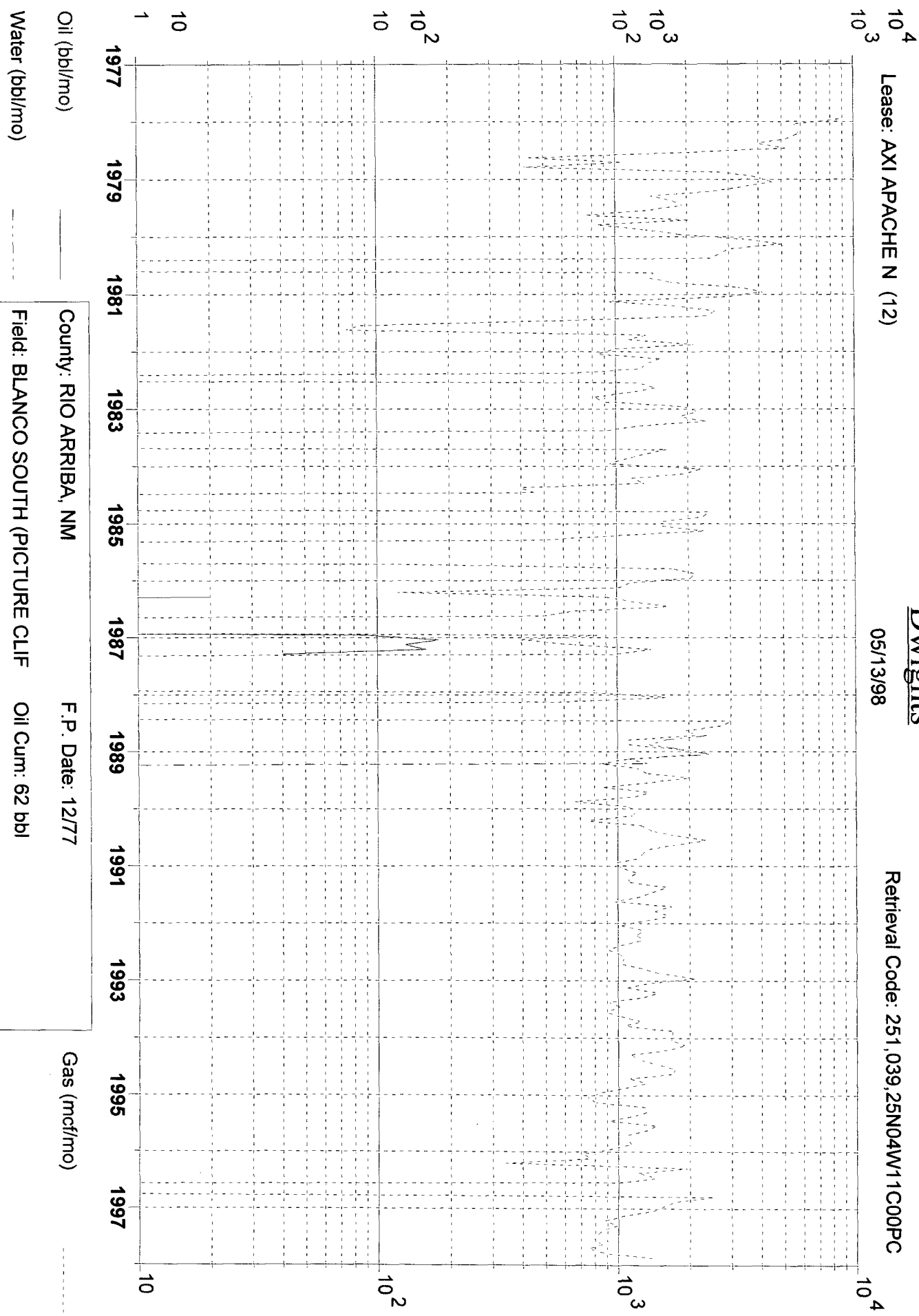
Fixed Commingle Allocation Factors:

	GAS	OIL
Mesaverde	63%	97%
Pictured Cliffs	37%	3%

Lease: AXI APACHE N (12)

Dwights
05/13/98

Retrieval Code: 251,039,25N04W11C00PC



County: RIO ARriba, NM

F.P. Date: 12/77

Field: BLANCO SOUTH (PICTURE CLIF

Oil Cum: 62 bbl

Reservoir: PICTURE CLIFFS

Gas Cum: 330.8 mmcf

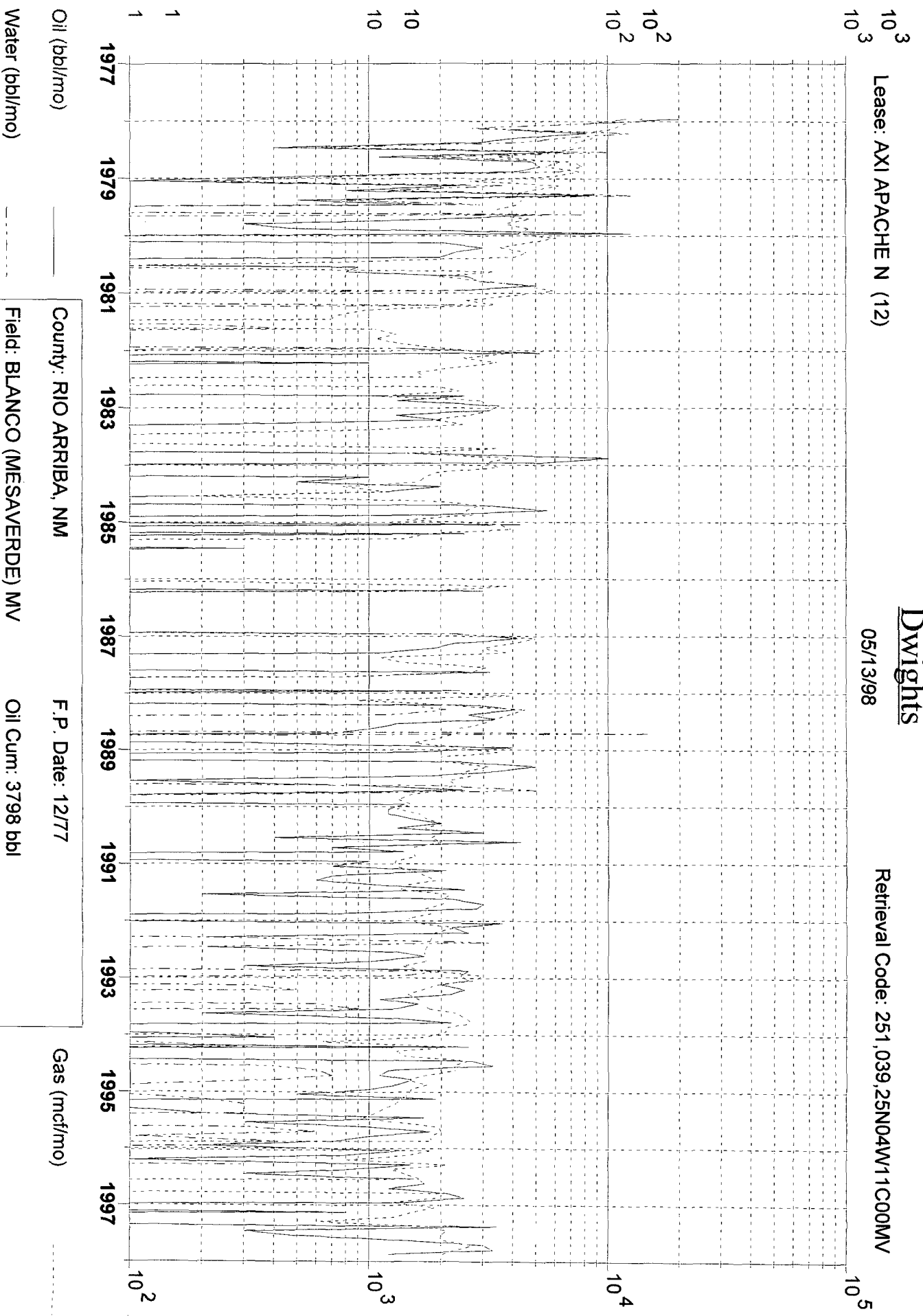
Operator: CONOCO INC

Location: 11C 25N 4W

Lease: AXI APACHE N (12)

Dwights
05/13/98

Retrieval Code: 251,039,25N04W11C00MV



Oil (bbl/mo)

Water (bbl/mo)

Gas (mcf/mo)

County: RIO ARriba, NM	F.P. Date: 12/77
Field: BLANCO (MESAVERDE) MV	Oil Cum: 3798 bbl
Reservoir: MESAVERDE	Gas Cum: 551.3 mmcf
Operator: CONOCO INC	Location: 11C 25N 4W

**NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACERAGE DEDICATION PLAT**

All distances must be from the outer boundaries of the Section

Operator CONTINENTAL OIL COMPANY		Lease AXI APACHE "N"		Well No 12
Unit Letter C	Section 11	Township 25 NORTH	Range 4 WEST	County RIO ARriba
Actual Footage Location of Well 1190 feet from the NORTH line and 1850 feet from the WEST line.				
Ground Level Elev 7383	Producing Formation Mesa Verde	Pool Blanco Mesa Verde	Dedicated Acreage: 320 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?

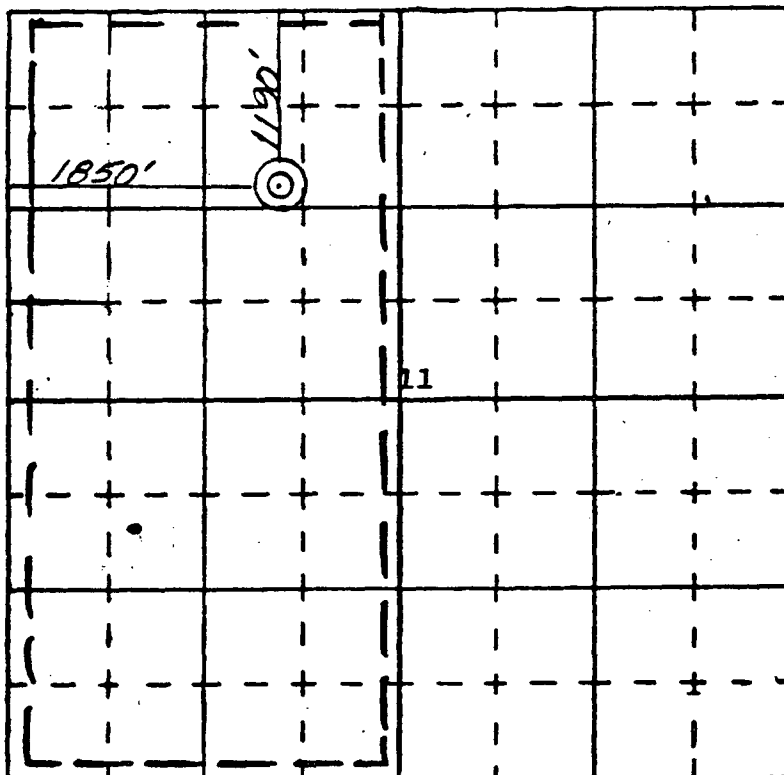
() Yes () No If answer is "yes," type of consolidation

If answer is "no," list the owners and tract descriptions which have actually 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
Wm. A. Butterfield
Position
ADMIN. SUPERV.
Company
Continental Oil Co.
Date
3-16-77

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.

17 February 1977
Date Surveyed
James P. Leese
Registered Professional Engineer
and/or Land Surveyor **James P. Leese**

1463
Certificate No.

**NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACERAGE DEDICATION PLAT**

All distances must be from the outer boundaries of the Section

Operator CONTINENTAL OIL COMPANY		Lease AXI APACHE "N"		Well No 12	
Unit Letter C	Section 11	Township 25 NORTH	Range 4 WEST	County RIO ARriba	
Actual Footage Location of Well 1190 feet from the NORTH line and 1850 feet from the WEST line.					
Ground Level Elev. 7383	Producing Formation Pictured Cliffs South Blanco			Dedicated Acreage 160 Acres	

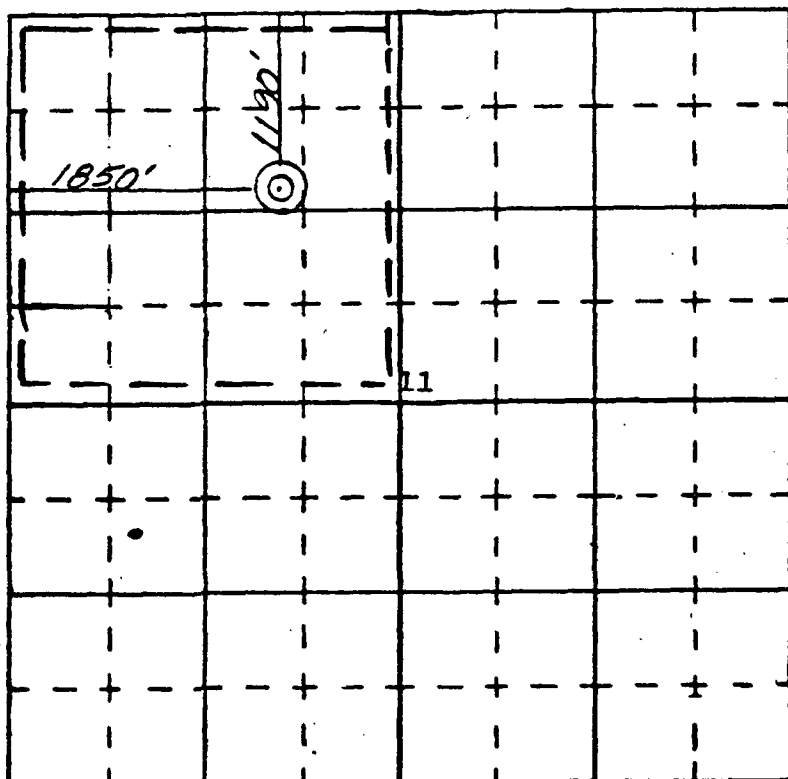
1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is 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 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 Wm. A. Dutleyfield
 Position ADMIN. SUPERV.
 Company Continental Oil Co.
 Date 3-16-77

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 17 February 1977
James P. Leese
 Registered Professional Engineer
 and/or Land Surveyor **James P. Leese**

1463
 Certificate No.

June 2, 1999

AXI Apache N # 12
Section 11, T-25-N, R-4-W, C
API # 30-039-21436
Rio Arriba, NM

RE: Application to Downhole Commingle (C107A)

Offset Operators:

M&W Petroleum Corp.
200 Post Oak Blvd. STE 100
Houston, TX 77056-4400

Burlington Resources
PO Box 4289
Farmington, NM 87499

Chace Oil Co.
5577 S. Lewis
Tulsa, OK 74105

Robert L. Bayless
PO Box 168
Farmington, NM 87499

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

AXI Apache N12

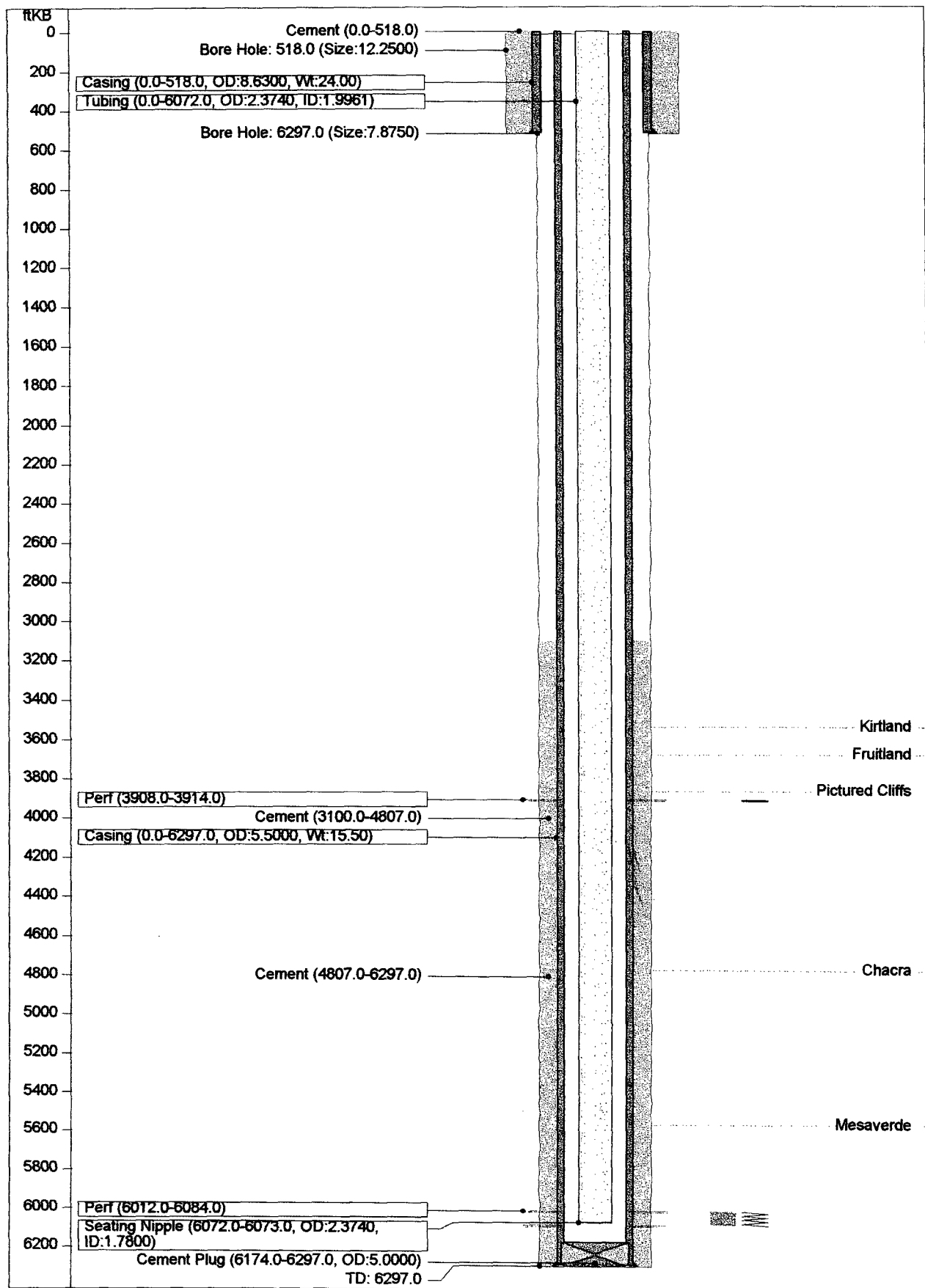
Economic/Rate Justification for Down Hole Commingling

Approval is requested to down hole commingle the existing zones in the subject well. The AXI Apache N12 has 5 1/2" production casing. It is dually completed using a 1.66" tubing string for the Picture Cliffs and a 2.375" tubing string for the Mesa Verde. Both zones produce some liquids and are producing well below the minimum critical rate required to unload liquids from the well bore. Although the Mesa Verde is being plunger lifted at this time, the Picture Cliffs zone is not and plunger lifting the Picture Cliffs using the existing 1.66" tubing is impractical. To optimize production it is recommended to pull the existing equipment from the well, and produce both zones using plunger lift in a single 2 3/8" tubing string. The expected production increase is estimated at 30 MCFD.

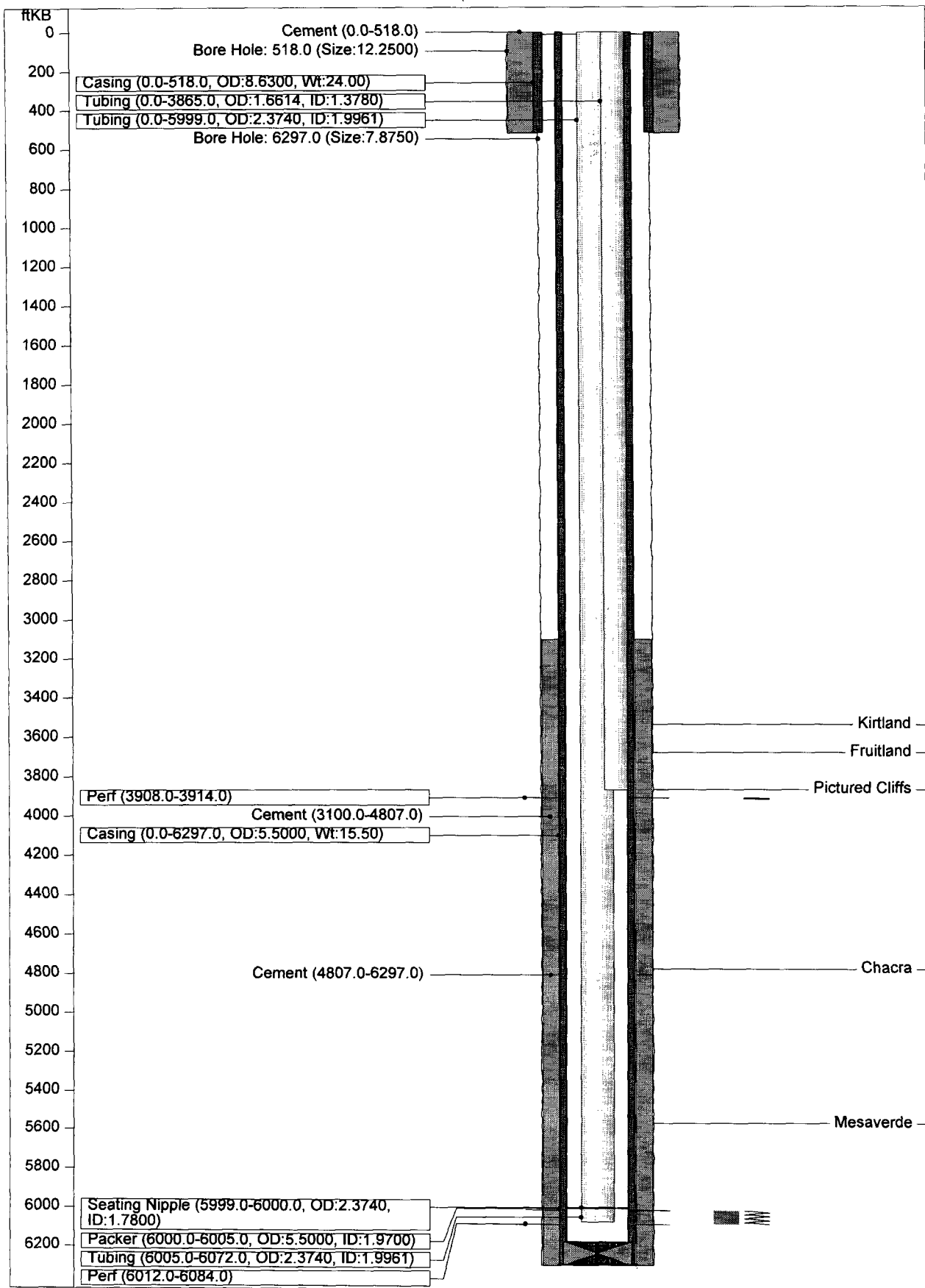
The single larger tubing string will not only allow for more efficient plunger operation, but will eliminate the cost to install a second plunger lift system and save approximately \$2000 per year in plunger lift operating expenses.

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.

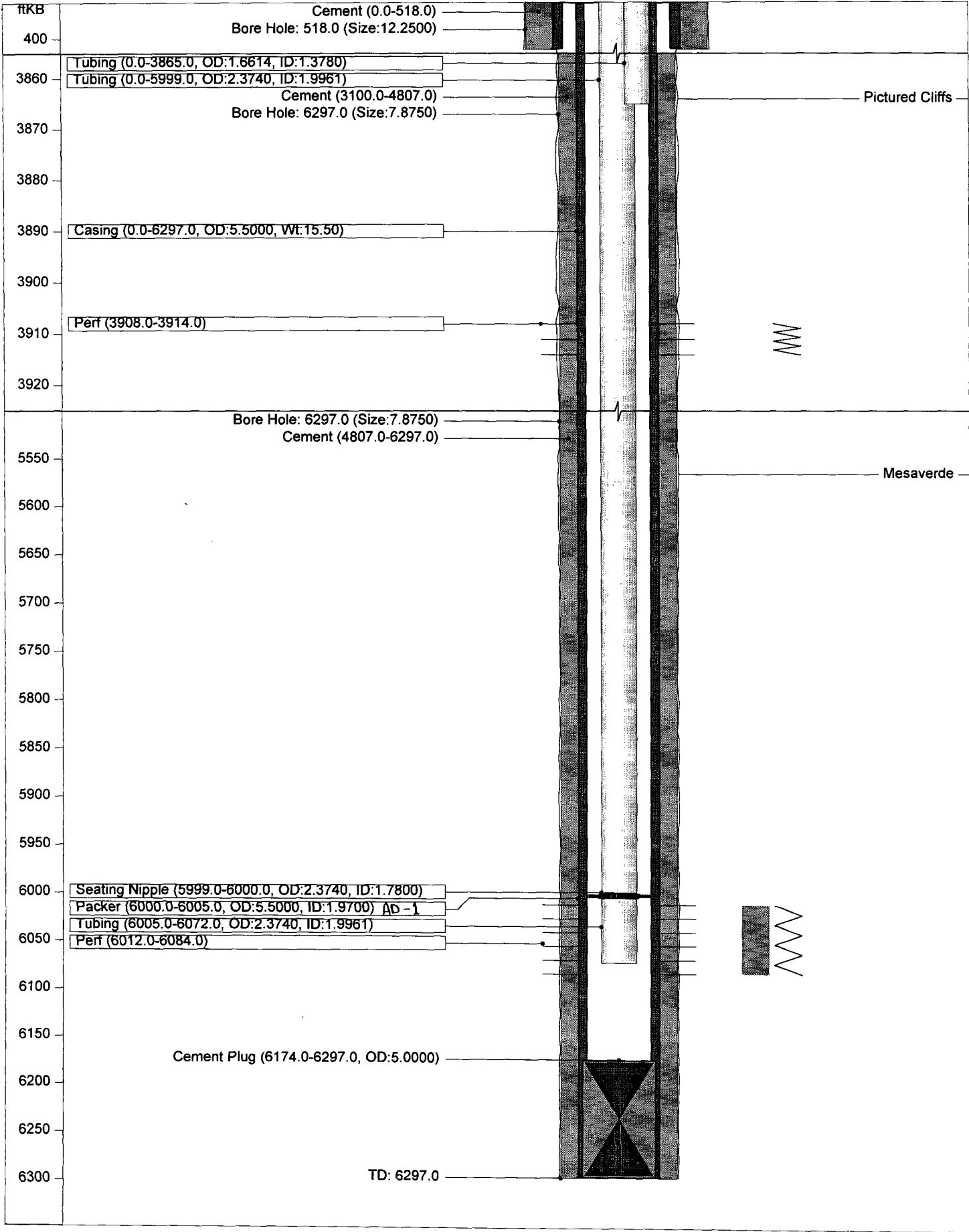
AXI APACHE N 12 (Post DHC Work)



AXI APACHE N 12 (LFW 9/30/97)



AXI APACHE N 12 (LFW 9/30/97)



AXI APACHE N 12 (LFW 9/30/97)

API Code		300392143600		Field Code		676398740		
TD		6297.0 ftkB		Basin		SAN JUAN BASIN		
PBTD		6174.0 ftkB		Basin Code		580		
State		New Mexico		Permit		13-Jun-77		
County		RIO ARriba		Spud		26-Jun-77		
District		San Juan O.U.		Finish Drl		05-Jul-77		
Permit No.				Completion		29-Aug-77		
TD Measured		6297 ftkB		Abandon				
Reservoir		Mesaverde/Pictured Cliffs						
Field		BLANCO MV/ BLANCO SOUTH PC						
Location								
Meridian		NM		Top Latitude		36.41786		
Twnship		25N		Top Longitude		107.224		
Range		4W		Top NS Distance		1190.0 ft N		
Section		11		Top EW Distance		1850.0 ft W		
Quarter		NE NW		Bottom Latitude		0		
				Bottom Longitude		0		
				Btm NS Distance		0.0 ft		
				Btm EW Distance		0.0 ft		
Elevations								
KB		7395.0 ft		Cas Fing		0.0 ft		
Grd		7383.0 ft		Tub Head		0.0 ft		
KB-Grd		12.0 ft						
Bore Hole Data								
		Depth (ftKB)				Size (in)		
		518.0				12.2500		
		6297.0				7.8750		
Casing String - Surface Casing								
Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments	
8.6300 in Casing	518.0	12	8.1000	24.00	K-55	ST&C		
Casing String - Production Casing								
Item (in)	Btm (ftKB)	Jnts	ID	Wt	Grd	Thd	Comments	
5.5000 in Casing	6297.0	186	4.9500	15.50	J-55	ST&C		
Casing Cement								
Casing String	Top (ftKB)	Amount (sx)	Comments					
Surface Casing	0.0	320	Cement circ					
Production Casing	3100.0	370	TOC by est. Pump thru DV @ 4807"					
Production Casing	4807.0	405	TOC by est, 1st stg: Open and circ thru DV @ 4807" for 4 hrs					
Other (plugs, equip., etc.) - Plug Backs								
Date	Item	Int (ftKB)		Comments				
14-Jul-77	Cement Plug	6174.0 - 6297.0						
Perforations								
Date	Int	Shots (/ft)	Type	Comments				
15-Jul-77	6012.0 - 6084.0	1.0		@ 6012-24', 6042-54', 6068-84'. (40 shots) In 100 G 7 1/2% HCL NEFE				
13-Aug-77	3908.0 - 3914.0	1.0		6 shots. In 100 G 7 1/2% HCL NEFE				
Stimulations & Treatments								
Date	Type	Zone	Int	Fluid	Comments			
15-Jul-77	Acid Squeeze	MV (PLO)	6012.0 - 6084.0	7 1/2% HCL	BD w/ 1,500 G + 52 BS. AIR= 8 bpm @ 3100#			
16-Jul-77	Fracture	MV (PLO)	6012.0 - 6084.0	Water	Frac w/ 43,050 G Treated water + 117,500# 20/40 sd. AIR= 33 bpm @ 200# ISIP Vacuum			
14-Aug-77	Fracture	Pictured Cliffs	3908.0 - 3914.0	70 Q Foam	Frac w/ 38,850 G + 52,500# 20/40 sd. AIR= 25 bpm @ 2550#. (amount of N2 used N/A) ISIP N/A			
Tubing String - Tubing (PC)								
Item (in)	Top (ftKB)	Len (ft)	Jnts	ID (in)	Wt	Grd	Thd	Comments
1.6614 in Tubing	0.0	3865.0	122	1.3780	2.33	IJ	10rd	Land @ 3865' w/ Pin Collar on bottom.
Tubing String - Tubing (MV)								
Item (in)	Top (ftKB)	Len (ft)	Jnts	ID (in)	Wt	Grd	Thd	Comments
2.3740 in Tubing	0.0	5999.0	186	1.9961	4.70	J-55	8rd EUE	
2.3740 in Seating Nipple	5999.0	1.0		1.7800	0.00		8rd EUE	
5.5000 in Packer	6000.0	5.0		1.9700	0.00		8rd EUE	Model AD-1
2.3740 in Tubing	6005.0	67.0	2	1.9961	4.70	J-55	8rd EUE	Land @ 6072'
Formation/Horizon Tops								
Top (ftKB)		Formation						
3536.0		Kirtland						
3677.0		Fruitland						

AXI APACHE N 12 (LFW 9/30/97)

Formation/Horizon Tops (con't)				
Top (ftKB)		Formation		
3864.0		Pictured Cliffs		
4774.0		Chacra		
5566.0		Mesaverde		
Logs Run				
Date	Type	Int	Company	Comments
05-Jul-77	IND	512.0 - 6280.0	Schlumberger	
05-Jul-77	DEN/NEU	3500.0 - 6278.0	Schlumberger	
14-Jul-77	GR-C	5800.0 - 6174.0	Blue Jet	
General Notes				
Date	Note			
05-Aug-77	Initial Potential: Mesaverde: F 2344 MCFGPD on 3/4 ck; Pictured Cliffs: F 1171 MCFGPD on			
29-Aug-77	Initial Potential: Pictured CLiffs: F 1171 MCFD AOF TP 760# CP 760#			

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other instructions 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. SERV. ☐ Other _____

2. NAME OF OPERATOR

Continental Oil Company

3. ADDRESS OF OPERATOR

Box 460, Hobbs, N.M. 88240.

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

At surface 1190' FNL & 1850' FNL OF SEC. 11

At top prod. interval reported below

Same

Same

14. PERMIT NO.

DATE ISSUED

15. DATE SPUDDED

6-26-77

16. DATE T.D. REACHED

7-4-77

17. DATE COMPL. (Ready to prod.)

18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*

7383 GR

19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD

6297'

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

6174'

22. IF MULTIPLE COMPL., HOW MANY*

2

23. INTERVALS DRILLED BY

ROTARY TOOLS

Rotary

CABLE TOOLS

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

3908'-3914' South Blanco Pictured Cliffs

25. WAS DIRECTIONAL SURVEY MADE

Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN

SPIES GR CAL FDC

27. WAS WELL CORED

No.

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

CASINO SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 7/8	24#	518'	12 1/2"	370 SX	=
5 1/2"	15.5#	6297'	7 7/8"	405 SX	=

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
—	—	—	—	—	2 3/8	3865'	6000'

31. PERFORATION RECORD (Interval, size and number)

3908'-3914' w/1 JSPF
South Blanco Pictured Cliffs

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
3908-3914	52,500# Sand + 925 Bbls Foam

33.* PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
8-12-77		Flowing				Shut-in Pending Pipeline Conn.	
DATE OF TEST	HOURS TESTED	CHOKED SIZE	MOD'N. FOR TEST PERIOD	OIL—BSL.	GAS—MCF.	WATER—BSL.	GAS-OIL RATIO
8-29-77	24	3/4"	→		1171		
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BSL.	GAS—MCF.	WATER—BSL.	OIL GRAVITY-API (CORR.)	
		→				RECEIVED	

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

TEST WITNESSED BY

D.L. Moore

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

W. D. Butterfield

TITLE

APPROV. SUPV.

DATE

9-2-77

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

USGS-Durango (6), GAS CO. N.M. (2), EXXON, MTL, BEA, File 0220021

