CASE 6983: HARVEY E. YATES COMPANY FOR AN NCPA DETERMINATION, LEA COUNTY, NEW MEXICO

Case No.

6983

Application

Transcripts

Small Exhibits

ETC

HEYCO **HARVEY E. YATES COMPANY**

PETROLEUM PRODUCERS

P. O. BOX 1933 SUITE 300, SECURITY NATIONAL BANK BUILDING 505/623-6601

ROSWELL, NEW MEXICO 88201

July 30, 1980

Case 6983

Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Florine Davis

Re: Application for NGPA Determination
HEYCO BETENBOUGH #1 WELL
T-13S, R-36E, Sec. 32
API Number: 30-025-20902
Catagory Requested:
102 (c)(1)(C)

Dear Ms. Davis:

Per our recent conversation enclosed for filing please find two additional copies of the above referenced Application for Ceiling Price Determination pursuant to the Natural Gas Policy Act of 1978.

Sincerely,

Robert H. Strand

Robert H. Strand

NEW MEXICO OIL CONSERVATION DIVISION
P. O. Box 2088, Santa Fe, New Mexico 87501

APPLICATION FOR WELLHEAD
PRICE CEILING CATEGORY DETERMINATION

FEE

1. FOR DIVISION USE ONLY

DATE OF: APPLICATION _____

DETERMINATION _____

CONTESTED _____

PARTICIPANTS _____

HARVEY E. YATES COMPANY

P.O. BOX 1933, Roswell, New Mexico 88201 505 /623-6601

HEYCO BETENBOUGH

#1

C 660 feet from the North line and 1980 feet from

West line, Section 32 Township 13S Range 36E NMPM.

Wildcat

LEA

11. Name and Address of Transporter(s)

El Paso Natural Gas Company, P. O. Box 1492, El Paso, Texas 79978

WELL CATEGORY INFORMATION

Check appropriate box for category sought and information submitted.

1. Category(ies) Sought (By NGPA Section No.) 102-4
2. All Applications must contain:

[X] a. C-101 APPLICATION FOR PERMIT TO DRILL, DEEPEN OR PLUG BACK

[X] b. C-105 WELL COMPLETION OR RECOMPLETION REPORT

[X] c. DIRECTIONAL DRILLING SURVEY, IF REQUIRED UNDER RULE 111

[X] d. AFFIDAVITS OF MAILING OR DELIVERY

3. NEW NATURAL GAS UNDER SEC. 102(c)(1)(B) (using 2.5 Mile or 1000 Feet Deeper Test)

[ ] a. Location Plat

4. NEW NATURAL GAS UNDER SEC. 102(c)(1)(C) (new onshore reservoir)

[X] a. C-122 Multipoint and one point back pressure test

5. NEW ONSHORE PRODUCTION WELL

[X] a. C-102 WELL LOCATION AND ACREAGE DEDICATION PLAT

[ ] b. No. of order authorizing infill program

6. STRIPPER GAS

[ ] a. C-116 GAS-OIL RATIO TEST

[ ] b. PRODUCTION CURVE FOR 12-MONTH PERIOD

[ ] c. PRODUCTION CURVE FOR THE 90-DAY PERIOD ON WHICH THE APPLICATION IS BASED

RECEIVED
JUL 31 1980
OIL CONSERVATION DIVISION
SANTA FE

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED HEREIN IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

GEORGE M. YATES
NAME OF APPLICANT (Type or Print)

Title VICE PRESIDENT

Date June 27, 1980

Signed _____

DIVISION USE ONLY

[ ] Approved

[ ] Disapproved

The information contained herein includes all of the information required to be filed by the applicant under Subpart B of Part 274.

EXAMINER

NEW MEXICO OIL CONSERVATION DIVISION
P. O. Box 2088, Santa Fe, New Mexico 87501

APPLICATION FOR WELLHEAD
PRICE CEILING CATEGORY DETERMINATION

FEE

1. FOR DIVISION USE ONLY

DATE OF: APPLICATION _____

DETERMINATION _____

CONTESTED _____

PARTICIPANTS _____

HARVEY E. YATES COMPANY

P.O. BOX 1933, Roswell, New Mexico 88201 505 /623-6601

HEYCO BETENBOUGH

#1

Wildcat

LEA

C 660 FEET FROM THE North LINE AND 1980 FEET FROM

West LINE, SECTION 32 TOWNSHIP 13S RANGE 36E NMPM.

11. Name and Address of Transporter(s)

El Paso Natural Gas Company, P. O. Box 1492, El Paso, Texas 79978

WELL CATEGORY INFORMATION

Check appropriate box for category sought and information submitted.

1. Category(ies) Sought (By NGPA Section No.) 102-4

2. All Applications must contain:

[X] a. C-101 APPLICATION FOR PERMIT TO DRILL, DEEPEN OR PLUG BACK

[X] b. C-105 WELL COMPLETION OR RECOMPLETION REPORT

[X] c. DIRECTIONAL DRILLING SURVEY, IF REQUIRED UNDER RULE 111

[X] d. AFFIDAVITS OF MAILING OR DELIVERY

3. NEW NATURAL GAS UNDER SEC. 102(c)(1)(B) (using 2.5 Mile or 1000 Feet Deeper Test)

[ ] a. Location Plat

4. NEW NATURAL GAS UNDER SEC. 102(c)(1)(C) (new onshore reservoir)

[X] a. C-122 Multipoint and one point back pressure test

5. NEW ONSHORE PRODUCTION WELL

[X] a. C-102 WELL LOCATION AND ACREAGE DEDICATION PLAT

[ ] b. No. of order authorizing infill program _____

6. STRIPPER GAS

[ ] a. C-116 GAS-OIL RATIO TEST

[ ] b. PRODUCTION CURVE FOR 12-MONTH PERIOD

[ ] c. PRODUCTION CURVE FOR THE 90-DAY PERIOD ON WHICH THE APPLICATION IS BASED

RECEIVED
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OIL CONSERVATION DIVISION
SANTA FE

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED HEREIN IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

GEORGE M. YATES
NAME OF APPLICANT (Type or Print)

Title VICE PRESIDENT

Date June 27, 1980

Signed _____

DIVISION USE ONLY

[ ] Approved

[ ] Disapproved

The information contained herein includes all of the information required to be filed by the applicant under Subpart B of Part 274.

EXAMINER

FERC-121

Form Approved
OMB No. 038-R0381

U.S. DEPARTMENT OF ENERGY
Federal Energy Regulatory Commission
Washington, D.C. 20426

APPLICATION FOR DETERMINATION OF THE MAXIMUM LAWFUL PRICE UNDER THE NATURAL GAS POLICY ACT (NGPA)

(Sections 102, 103, 107 and 108)

PLEASE READ BEFORE COMPLETING THIS FORM:

General Instructions:

Complete this form if you are applying for price classification under sections 102, 103, 107 or 108 of the NGPA. A separate application is required for each well. If any reservoir qualifies for a category which differs from the category applicable to the producing well, separate applications must be made for the producing well and the reservoir. Complete each appropriate item on the reverse side of this page. The code numbers used in items 4.0 and 6.0 can be obtained from the Buyer/Seller Code Book. If there is more than one purchaser or contract, identify the additional information in the space below. Enter any additional remarks in the space below.

Submit the completed application to the appropriate Jurisdictional Agency as listed in title 18 of the CFR, part 270.103. If there are any questions, call (202) 275-4539.

Specific Instructions for Item 2.0, Type of Determination:

Section of NGPA	Category Code	Description
102	1	New OCS Lease
102	2	New onshore well (2.5 mile test)
102	3	New onshore well (1,000 feet deeper test)
102	4	New onshore reservoir
102	5	New reservoir on old OCS Lease
103	–	New onshore production well
107	–	High cost natural gas
108	–	Stripper well

Other Purchasers/Contracts:

Contract Date (Mo. Day Yr.)	Purchaser	Buyer Code

Remarks:

FT7900806/1-2

FERC-121

1.0 API well number: (If not available, leave blank. 14 digits.)	30-025-20902
2.0 Type of determination being sought: (Use the codes found on the front of this form.)	102 Section of NGPA; 4 Category Code
3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)	feet
4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)	HARVEY E. YATES COMPANY (Name) — Seller Code P. O. Box 1933 (Street) Roswell, (City) NM (State) 88201 (Zip Code)
5.0 Location of this well: (Complete (a) or (b).) (a) For onshore wells (35 letters maximum for field name.)	Wildcat (Field Name) Lea (County) NM (State)
(b) For OCS wells:	Area Name — Block Number Date of Lease: Mo. Day Yr. — OCS Lease Number
(c) Name and identification number of this well: (35 letters and digits maximum.)	HEYCO BETENBOUGH #1
(d) If code 4 or 5 in 2.0 above, name of the reservoir: (35 letters maximum.)	
6.0 (a) Name and code number of the purchaser: (35 letters and digits maximum. If code number not available, leave blank.)	EL PASO NATURAL GAS COMPANY (Name) — Buyer Code
(b) Date of the contract:	06 12 1981 (Mo. Day Yr.)
(c) Estimated annual production:	180 MMcf.

	(a) Base Price ($/MMBTU)	(b) Tax	(c) All Other Prices (Indicate (+) or (-).)	(d) Total of (a), (b) and (c)
7.0 Contract price: (As of filing date. Complete to 3 decimal places.)	2.504	.2105	-.----	2.7145
8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)	2.504	2105	-.----	2.7145

9.0 Person responsible for this application:

George M. Yates (Name) — Vice President (Title)

Signature

July 3, 1980 (Date Application is Completed) — 505-623-6601 (Phone Number)

Agency Use Only
Date Received by Juris. Agency
Date Received by FERC

FT1900806/2-2

APPLICATION PURSUANT TO
SECTION 102(c)(1)(C) OF
THE NATURAL GAS POLICY ACT OF 1978 (NGPA)
NEW ONSHORE RESERVOIR

Well: HEYCO BETENBOUGH #1
API No.: 30-025-20902

AFFIDAVIT

STATE OF NEW MEXICO COUNTY OF LEA

BEFORE ME, the undersigned authority, duly commissioned and qualified within and for the State and County aforesaid, personally came and appeared GEORGE M. YATES, who, being by me first duly sworn, deposed and said:

That he is the Vice President of HARVEY E. YATES COMPANY the applicant for the well as described heretofore in this application, and, in that capacity, he is requesting the appropriate Jurisdictional Agency to determine the eligibility of said well for wellhead pricing purposes pursuant to the rules and regulations of said Jurisdictional Agency and the Federal Energy Regulatory Commission and pursuant to the NGPA.

That this application is made pursuant to 18 CFR 274.202 (d).

That prior to drilling said well, he caused to be made/prepared pursuant to his instructions:

(a) diligent examination of:

(1) the real property records maintained in the county where said well is situated.

(2) commercially produced ownership and well location maps maintained currently in applicant's office.

(3) commercially produced well completion records covering the applicable area and maintained currently in applicant's office.

(b) a title opinion covering the proposed proration unit prepared by an attorney experienced in oil and gas title examination, based on commercially prepared abstracts covering the county records and where applicable, the records of the appropriate State or Federal Land Management Agency. Said abstracts and title opinions are located in applicant's office.

(c) application to drill said well with the appropriate governmental agency. Said application was duly approved and copies are on file in applicant's office and a copy is attached hereto if required by the Jurisdictional Agency.

That during the drilling of said well, he caused to be made/prepared pursuant to his instructions:

(a) a daily drilling log, copies of which are on file in applicant's office. A copy of the portion of said log showing the date of reservoir penetration is attached hereto if required by the Jurisdictional agency.

(b) a directional drilling survey, if required by the appropriate regulatory agency, copies of which are on file in applicant's office and a copy of which is attached hereto.

That subsequent to completion of said well, he caused to be made/prepared pursuant to his instructions:

(a) diligent examination of:

(1) production records compiled by the appropriate state agency. Copies of said records are on file in applicant's office and the offices of said agency.

(2) examination of royalty and severance tax records to the extent they were examined during the title opinion process referred to above.

(b) a completion report which was filed with the appropriate governmental agency. Copies are on file in applicant's office and the offices of said agency, and a copy is attached hereto.

(c) a well location and acreage dedication plat filed with the appropriate governmental agency. Said dedication is on file in applicant's office and the offices of said agency and a copy is attached hereto, if required by the jurisdictional agency.

(d) a title opinion for division order purposes by an attorney experienced in oil and gas title examination utilizing abstracts as described above.

(e) monthly report of operations and production which have been filed with the appropriate governmental agency. A copy of the report showing first commercial production from the subject reservoir is attached hereto if required by the jurisdictional agency.

That he has also caused to be prepared pursuant to his instructions:

(a) location plat which locates and identifies the subject well and other wells, data from which is utilized to support this application. Copies of said location plat are on file in applicant's office and a copy is attached hereto.

(b) a summary of geological data supporting this application including the following to the extent reasonably available:

Well log section defining the top and bottom reservoir

Bottom-hole or Surface Pressure Surveys

Well Potential Tests

Formation Structure Map

Subsurface Cross-Section Chart

Gas Analysis

That the above described are the only records and data reasonably available to Applicant, and there are no other public records maintained which are relevant to this application.

That, to the best of his knowledge, information, and belief and on the basis of the results of the search and examination, he answers the following questions:

(1) Was the natural gas produced in commercial quantities from the reservoir before April 20, 1977?
Answer: NO

(2) Was the reservoir penetrated before April 20, 1979, by an old well from which natural gas or crude oil was produced in commercial quantities from any reservoir: Answer: NO

(3) In the event the answer to (2) immediately above is in the affirmative, state if natural gas could have been produced in commercial quantities from the reservoir before April 20, 1977, from any old well described in said question (2). Answer: N/A

(4) a. If the answer to (3) immediatly above is answered in the netative, were any sales and deliveries of natural gas made from any other reservoir through any old well described in (2) above prior to April 20, 1977? Answer: N/A

b. And were any sales and deliveries of natural gas made from the subject reservoir through such old well on or after April 20, 1977, and before November 9, 1987? Answer: N/A

(5) If the natural gas is to be produced through an old well, were suitable facilities for the production and delivery to a pipeline of such natural gas in existence on April 20, 1979? Answer: N/A

That based upon the search and examination described above, he has concluded that to the best of his information and knowledge, that there is substantial evidence to support a determination that the gas to be produced and for which he seeks a determination is from a new onshore reservoir, and that he has no knowledge of any other information not described in the application which is inconsistent with this conclusion.

He further states that he has mailed, or caused to be mailed, postage prepaid, copies of the completed Form FERC 121, Application for Determination of the Maximum Lawful Price Under the Natural Gas Policy Act, and any jurisdictional agency Supplemental Application form to the purchaser(s) and to the co-lessee(s) and/or working interest owners, which are listed separately.

That to the best of his knowledge and belief, all information contained in this application for category determination, pursuant to the NGPA, is true and correct including all documents, testimony and evidence submitted with the application.

Signed _____
George M. Yates
Vice President
Harvey E. Yates Company

Subscribed in my presence and duly sworn to before me, this day 8th of July, 1980.

My Commission Expires:

May 16, 1983

OFFICIAL SEAL
Signature Kay L. Owen
Notary Public
KAY L. OWEN
NOTARY PUBLIC - NEW MEXICO
Notary Bond Filed with Secretary of State
My Commission Expires 5-16-83

RHS/lh

NGPA-2 #20

INDEX OF EXHIBITS

1. Completion Report
2. Well Location and Acreage Dedication Plat
3. Geological Data
   - Well Log Sections
   - Pressure Surveys
   - Structure Map
   - Cross-Section
4. Directional Drilling Survey
5. Drilling Report Showing date of Reservoir Penetration
6. Report showing date of first Commercial Production from Reservoir
7. List of Co-Lessees, Working Interest Onwers, and Gas Purchasers

EXHIBIT 1

COMPLETION REPORT

NO. OF COPIES RECEIVED	
DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION
WELL COMPLETION OR RECOMPLETION REPORT AND LOG

Form C-105
Revised 1-1-65

5a. Indicate Type of Lease: State [ ] Fee [X]

5b. State Oil & Gas Lease No.

1a. TYPE OF WELL: Oil Well [ ] Gas Well [X] Dry [ ] Other

7a. Unit Agreement Name

1b. TYPE OF COMPLETION: New Work [X] Deepen [ ] Plug Back [ ] Different Reservoir [ ] Other Re-Entry

8. Farm or Lease Name: Heyco Betenbough

2. Name of Operator: Harvey E. Yates Company

9. Well No.: 1

3. Address of Operator: P. O. Box 1933, Roswell, New Mexico 88201

10. Field and Pool, or Wildcat: Wildcat

4. Location of Well: Unit Letter C Located 660 Feet From The North Line and 1980 Feet From The West Line of Sec. 32 Twp. 13S Rge. 36E NMPM

12. County: Lea

15. Date Spudded: 3-6-80
16. Date T.D. Reached: 5-18-80
17. Date Compl. (Ready to Prod.): 6-19-80
18. Elevations (DF, RKB, RT, GR, etc.): 3975' GR
19. Elev. Cashinghead: 3975

20. Total Depth: 13,698'
21. Plug Back T.D.: 13,050'
22. If Multiple Compl., How Many
23. Intervals Drilled By: Rotary Tools 4700' - 13,698' Cable Tools 0 - 4700

Rev. 1

24. Producing Interval(s), of this completion — Top, Bottom, Name: 12,315' - 12,900' ATOKA

25. Was Directional Survey Made: Yes

26. Type Electric and Other Logs Run: Dresser Atlas CN/CDL/DLL/MLL/GR

27. Was Well Cored: No

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

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
Exist: 13 3/8	48#	369	17 1/2"	400 sxs.	None
9 5/8	40#	4,600	12 1/4"	3,400 sxs	None
Heyco Ran: 5 1/2	17# & 20#	13,150	8 3/4"	2,100 sxs	None

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN
	- NONE -			

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2 3/8"	12,257'	12,257'

31. Perforation Record (Interval, size and number)

12,315 - 331'	17'	1/2" dia.	68 shots
12,539 - 553'	16'	1/2" dia.	64 shots
12,637 - 642'	6'	1/2" dia.	24 shots
12,855 - 860'	6'	1/2" dia.	24 shots
12,873 - 900'	28'	1/2" dia.	112 shots

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

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
12,855' - 12,900'	1000 gal - 7 1/2% MS
12,539' - 12,642'	1000 gal - 7 1/2% MS
12,315' - 12,331'	1000 gal - 7 1/2% MS
12,315' - 12,900'	75000 gal - 7 1/2% MS w/1 stg 60/40 block w/1000 SCF N2/BBL

33. PRODUCTION

Date First Production: 6-12-80
Production Method (Flowing, gas lift, pumping - Size and type pump): Flowing
Well Status (Prod. or Shut-in): Shut-in

Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
6-18-80	12	1/2"	→	trace	416	14	—

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.)
120	0	→	2	832	28	45.3

34. Disposition of Gas (Sold, used for fuel, vented, etc.): Vented

Test Witnessed By: Eddie Elliott

35. List of Attachments

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED: Jack Harden TITLE: Engineer DATE: June 25, 1980

EXHIBIT 2

WELL LOCATION AND ACREAGE DEDICATION PLAT

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-1
Effective 1-1-6

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
Harvey E. Yates Company	HEYCO Betenbough	1

Unit Letter	Section	Township	Range	County
C	32	13S	36E	Lea

Actual Footage Location of Well:

660 feet from the North line and 1980 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3975'	Mississippian	Wildcat	320

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

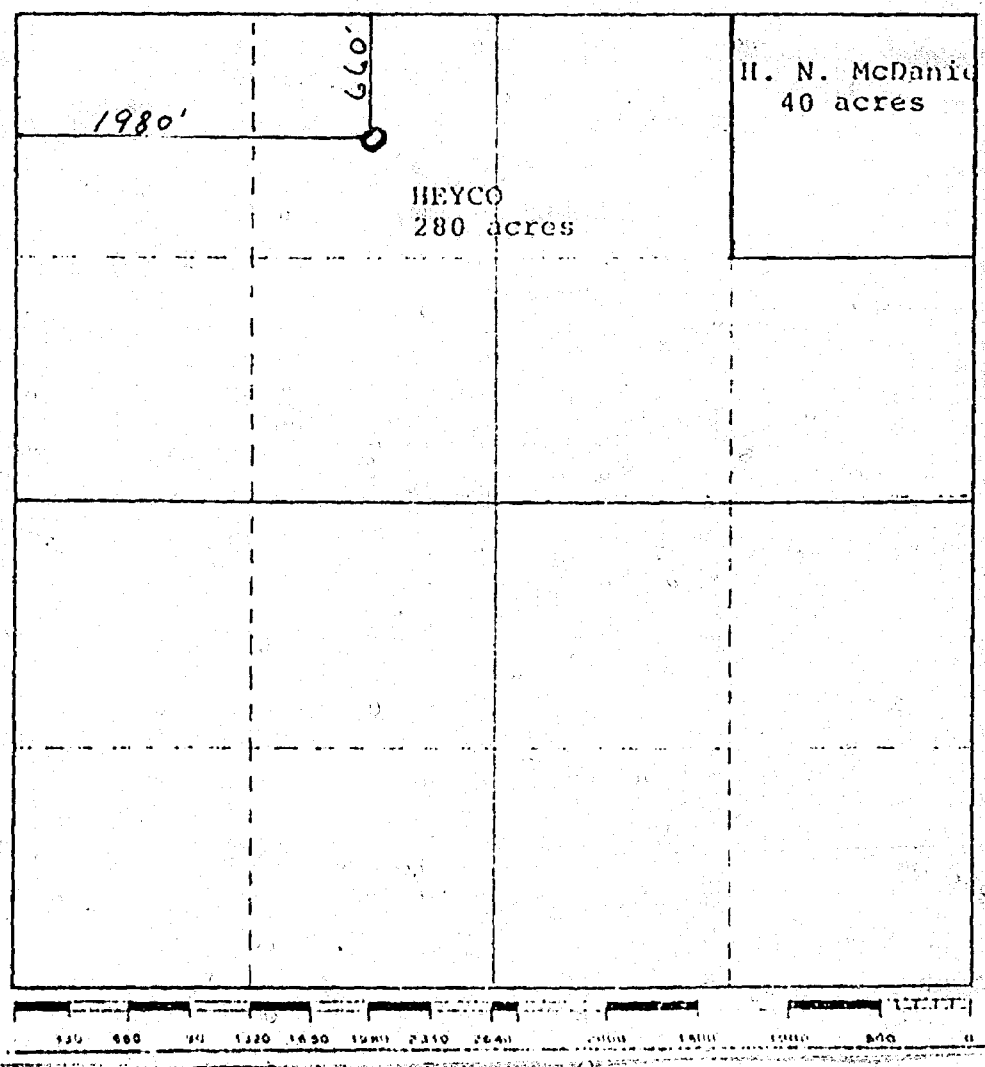
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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?

[X] Yes [ ] No If answer is "yes," type of consolidation final state approved unitization is pending.

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: [signature]

Position: Vice President

Company: Harvey E. Yates Company

Date: February 20, 1980

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.

Please see original survey

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

Certificate No.

EXHIBIT 3

GEOLOGICAL DATA

WELL LOG SECTION

PRESSURE SURVEYS

STRUCTURE MAP

CROSS-SECTION

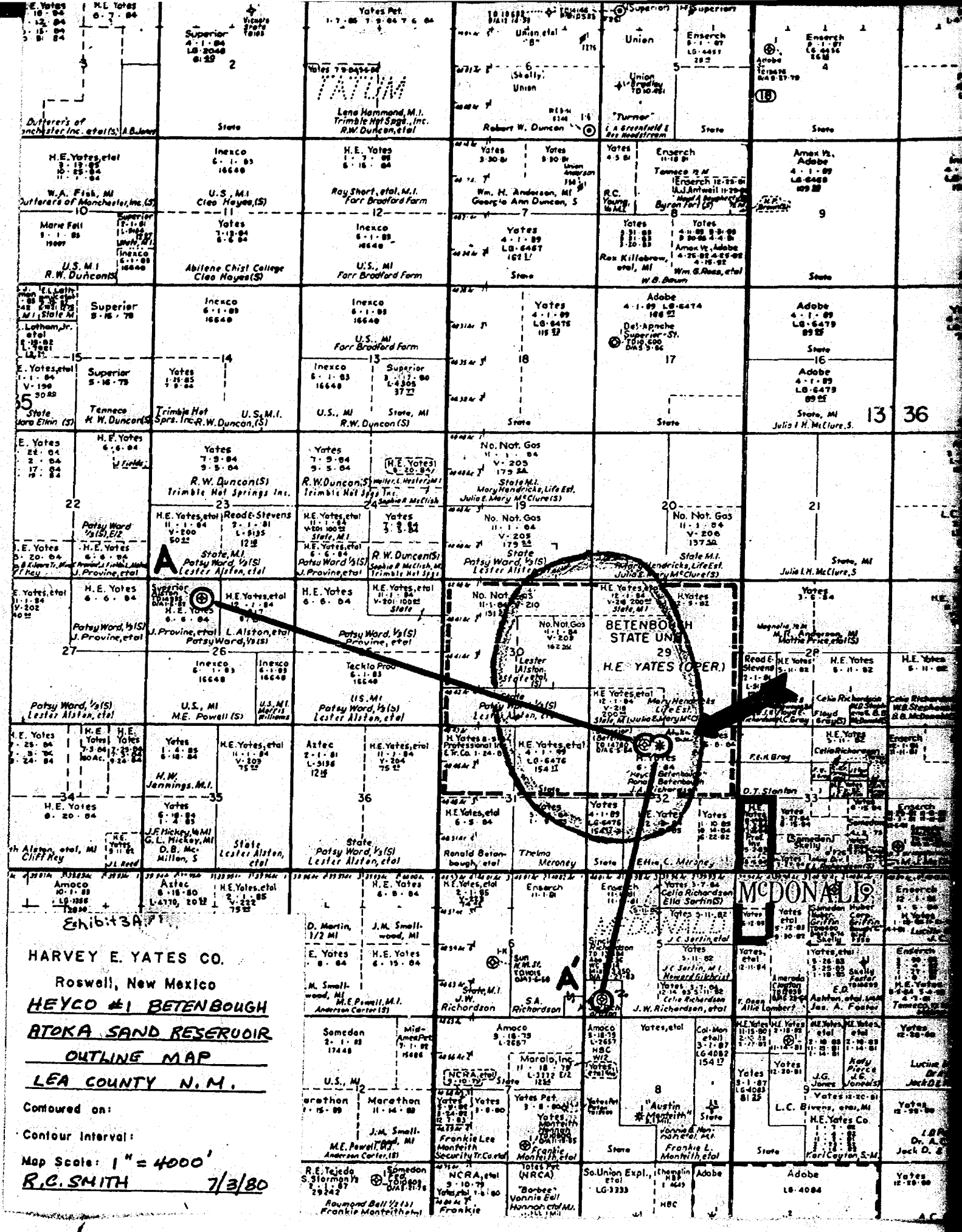


Exhibit 3A
HARVEY E. YATES CO.
Roswell, New Mexico
HEYCO #1 BETENBOUGH
ATOKA SAND RESERVOIR
OUTLINE MAP
LEA COUNTY N.M.
Contoured on:
Contour Interval:
Map Scale: 1" = 4000'
R.C. SMITH 7/3/80
BETENBOUGH STATE UNIT
H.E. YATES (OPER.)
McDONALD
A
A'

Exh. D.1 3B

HARVEY E. YATES CO.

Roswell, New Mexico

HEYCO #1 BETENBOUGH

LEA COUNTY N.M.

GEOMAP STRUCTURE

MAP, POSTED 6/1/80

Contoured on: TOP SILURO-DEVONIAN

Contour Interval: 100'

Map Scale: 1" = 8000'

R.C. SMITH 7/3/80

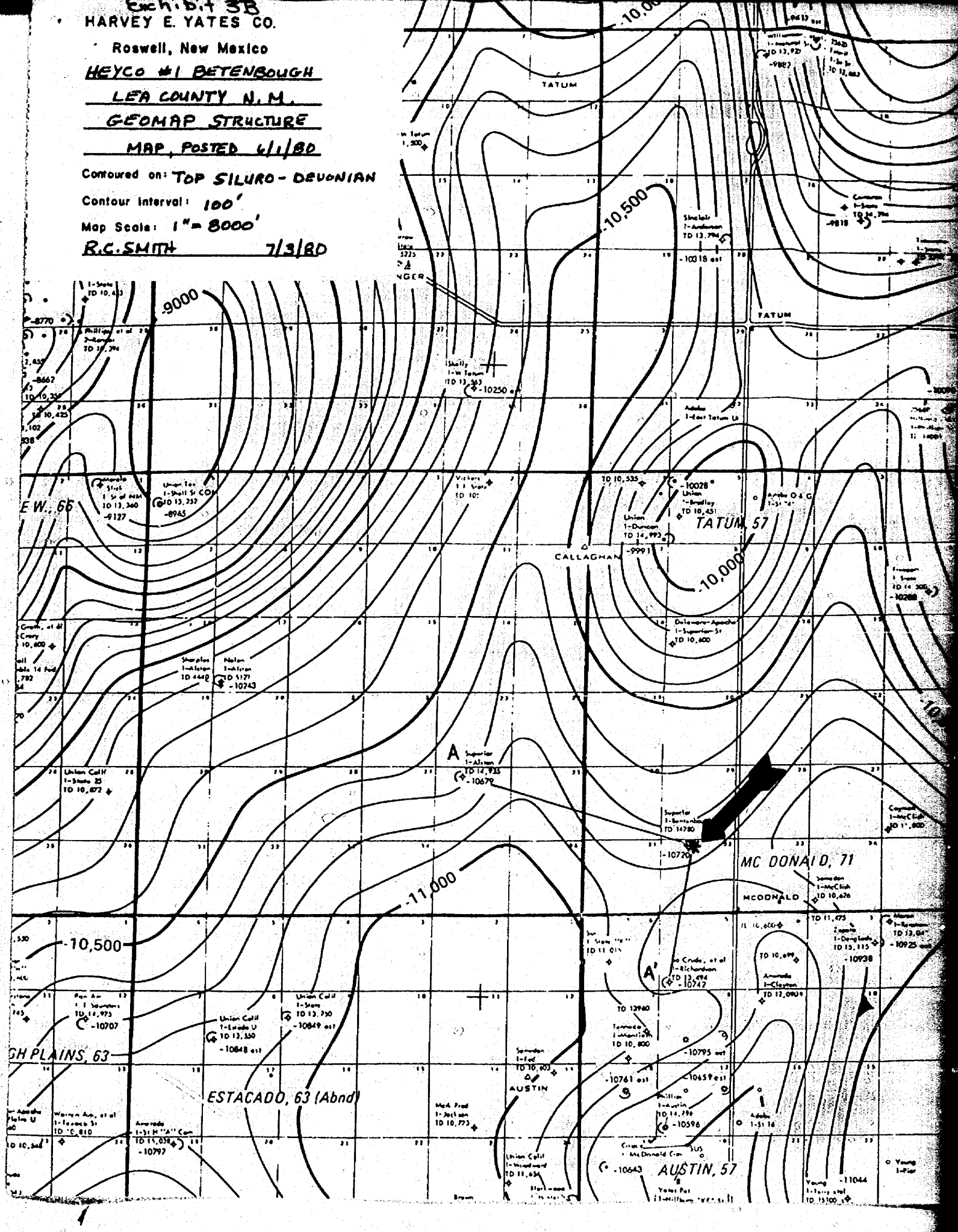


EXHIBIT 4

DIRECTIONAL DRILLING SURVEY

Eastman Whipstock
A PETROLANE COMPANY

REPORT of SUB-SURFACE DIRECTIONAL SURVEY

HEYCO
COMPANY

BETENBOUGH WELL NO. 1
WELL NAME

LEA COUNTY, NEW MEXICO
LOCATION

JOB NUMBER | TYPE OF SURVEY | DATE

SURVEY BY | OFFICE

PRELIMINARY DISTRIBUTION

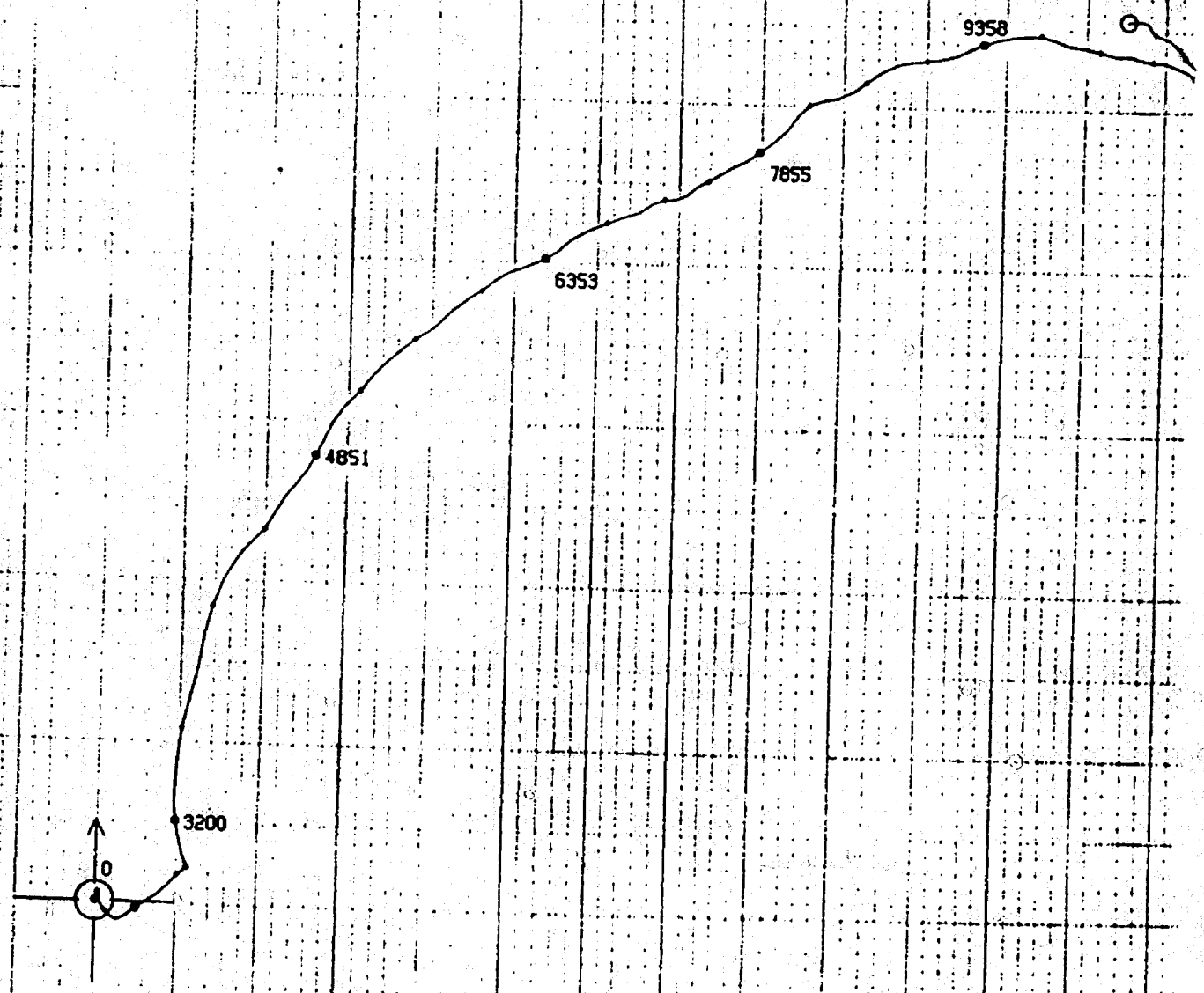
FORM P-101 R8

HEYCO
BETENBOUGH WELL NO. 1
LEA COUNTY, NEW MEXICO

EASTMAN WHIPSTOCK, INC.

HORIZONTAL PROJECTION

SCALE 1 IN. = 20 FEET
DEPTH INDICATOR: MD



FINAL STATION:
DEPTH 12080 MD. 12077.55 TVD
NORTH 111.09 EAST 125.41
CLOSURE 167.54 N 48 27 53 E

HEYCO
BETENBOUGH WELL NO.1
LEA COUNTY, NEW MEXICO

EASTMAN WHIPSTOCK, INC.

GYROSCOPIC MULTIPLE SHOT SURVEY	WT-480 G-1643
SURVEYOR: RICHARD SHIMSHACK	(0'-4600')
MAGNETIC MULTIPLE SHOT SURVEY	WT-480 S-1644
SURVEYOR: RICHARD SHIMSHACK	(4600'-9827')

VERTICAL SECTION CALCULATED IN PLANE OF PROPOSAL
DIRECTION: S 45 DEG. 0 MIN. W

RECORD OF SURVEY

RADIUS OF CURVATURE METHOD

CO
NBOUGH WELL NO.1
COUNTY, NEW MEXICO

COMPUTATION — PAGE NO.
TIME 14:22:43 DATE 18-APR-80

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
0.	0 0	0	0.00	0.00	0.00	0.00	0.00
100.	0 15	N 9 E	100.00	-0.18	0.21 N	0.03 E	0.25
200.	0 30	N 17 E	200.00	-0.73	0.85 N	0.18 E	0.25
300.	0 0	0	300.00	-1.12	1.27 N	0.31 E	0.50
400.	0 15	S 17 E	400.00	-1.01	1.06 N	0.37 E	0.25
500.	0 30	S 3 E	499.99	-0.64	0.42 N	0.49 E	0.26
600.	0 0	0	599.99	-0.35	0.02 S	0.51 E	0.50
700.	0 30	S 29 E	699.99	-0.23	0.40 S	0.72 E	0.50
800.	0 30	S 31 E	799.99	-0.00	1.15 S	1.16 E	0.02
900.	0 15	S 41 E	899.99	0.10	1.68 S	1.54 E	0.26
1000.	0 0	0	999.98	0.12	1.85 S	1.68 E	0.25
1100.	0 15	N 21 W	1099.98	-0.03	1.65 S	1.61 E	0.25
1200.	0 0	0	1199.98	-0.06	1.44 S	1.53 E	0.25
1300.	0 30	S 35 E	1299.98	0.02	1.80 S	1.78 E	0.50
1400.	0 45	S 89 E	1399.98	-0.29	2.29 S	2.71 E	0.61
1500.	0 45	N 41 E	1499.97	-1.48	1.78 S	3.86 E	0.63
1600.	1 0	N 60 E	1599.96	-2.99	0.81 S	5.04 E	0.38
1700.	1 0	N 53 E	1699.94	-4.70	0.15 N	6.49 E	0.12
1800.	1 0	N 58 E	1799.93	-6.41	1.14 N	7.93 E	0.09
1900.	1 0	N 37 E	1899.91	-8.15	2.31 N	9.21 E	0.36
2000.	0 45	N 46 E	1999.90	-9.67	3.45 N	10.22 E	0.28
2100.	0 30	N 54 E	2099.89	-10.75	4.15 N	11.05 E	0.26
2200.	0 0	0	2199.89	-11.18	4.41 N	11.41 E	0.50
2300.	0 0	0	2299.89	-11.18	4.41 N	11.41 E	0.00
2400.	0 0	0	2399.89	-11.18	4.41 N	11.41 E	0.00
2500.	0 0	0	2499.89	-11.18	4.41 N	11.41 E	0.00
2600.	0 0	0	2599.89	-11.18	4.41 N	11.41 E	0.00
2700.	0 0	0	2699.89	-11.18	4.41 N	11.41 E	0.00
2800.	0 0	0	2799.89	-11.18	4.41 N	11.41 E	0.00
2900.	0 30	N 24 W	2899.89	-11.34	4.81 N	11.23 E	0.50

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MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
3000.	1 0	N 17 W	2999.88	-11.88	6.03 N	10.77 E	0.51
3100.	1 15	N 13 W	3099.86	-12.86	7.93 N	10.26 E	0.26
3200.	1 15	N 9 W	3199.84	-14.08	10.07 N	9.85 E	0.09
3300.	1 30	N 1 W	3299.81	-15.62	12.46 N	9.64 E	0.31
3400.	2 0	N 6 E	3399.76	-17.88	15.51 N	9.77 E	0.54
3500.	1 30	N 4 E	3499.72	-20.22	18.55 N	10.04 E	0.50
3600.	2 0	N 11 E	3599.67	-22.64	21.58 N	10.43 E	0.54
3700.	2 15	N 17 E	3699.60	-25.81	25.18 N	11.33 E	0.33
3800.	2 15	N 10 E	3799.52	-29.16	28.99 N	12.25 E	0.27
3900.	2 15	N 10 E	3899.45	-32.38	32.86 N	12.93 E	0.00
4000.	2 15	N 17 E	3999.37	-35.72	36.67 N	13.85 E	0.27
4100.	1 45	N 28 E	4099.31	-38.94	39.89 N	15.18 E	0.63
4200.	1 30	N 36 E	4199.27	-41.70	42.30 N	16.68 E	0.34
4300.	1 30	N 41 E	4299.23	-44.30	44.34 N	18.31 E	0.13
4400.	1 30	N 46 E	4399.20	-46.92	46.24 N	20.11 E	0.13
4500.	1 15	N 13 E	4499.17	-49.20	48.30 N	21.28 E	0.82
4600.	1 45	N 48 E	4599.14	-51.69	50.52 N	22.58 E	1.02
4757.	1 15	N 35 E	4756.08	-55.79	53.59 N	25.30 E	0.38
4851.	1 30	N 26 E	4850.05	-57.97	55.53 N	26.44 E	0.35
4945.	1 15	N 29 E	4944.03	-60.12	57.53 N	27.48 E	0.28
5039.	1 30	N 20 E	5038.00	-62.23	59.58 N	28.42 E	0.35
5133.	1 45	N 48 E	5131.96	-64.82	61.77 N	29.89 E	0.88
5227.	1 15	N 38 E	5225.93	-67.27	63.57 N	31.57 E	0.60
5321.	1 15	N 34 E	5319.91	-69.30	65.23 N	32.78 E	0.09
5415.	1 30	N 54 E	5413.88	-71.54	66.84 N	34.33 E	0.57
5508.	1 45	N 45 E	5506.84	-74.17	68.55 N	36.34 E	0.38
5602.	1 15	N 60 E	5600.81	-76.60	70.04 N	38.28 E	0.67
5696.	2 0	N 51 E	5694.77	-79.22	71.55 N	40.48 E	0.84
5790.	1 45	N 39 E	5788.72	-82.29	73.72 N	42.65 E	0.49
5884.	1 15	N 62 E	5882.69	-84.72	75.28 N	44.54 E	0.82

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
5978.	1 0	N 55 E	5976.67	-86.52	76.24 N	46.11 E	0.30
6072.	1 30	N 49 E	6070.65	-88.55	77.51 N	47.73 E	0.55
6166.	1 15	N 70 E	6164.62	-90.72	78.64 N	49.66 E	0.59
6260.	1 30	N 68 E	6258.59	-92.78	79.45 N	51.76 E	0.27
6353.	1 15	N 65 E	6351.56	-94.86	80.34 N	53.81 E	0.28
6447.	1 0	N 47 E	6445.55	-96.66	81.37 N	55.33 E	0.46
6541.	1 30	N 47 E	6539.52	-98.71	82.77 N	56.83 E	0.53
6635.	1 45	N 78 E	6633.49	-101.22	83.98 N	59.17 E	0.96
6729.	1 15	N 58 E	6727.45	-103.48	84.90 N	61.44 E	0.76
6823.	1 15	N 83 E	6821.43	-105.31	85.58 N	63.36 E	0.58
6917.	1 30	N 59 E	6915.40	-107.33	86.31 N	65.47 E	0.66
7011.	1 0	N 50 E	7009.38	-109.35	87.50 N	67.14 E	0.57
7104.	0 45	S 85 E	7102.37	-110.57	87.91 N	68.46 E	0.76
7198.	0 45	N 81 E	7196.36	-111.47	87.96 N	69.69 E	0.19
7292.	1 15	N 56 E	7290.35	-112.96	88.55 N	71.20 E	0.69
7386.	1 0	N 48 E	7384.33	-114.79	89.69 N	72.65 E	0.31
7480.	1 0	N 82 E	7478.32	-116.31	90.37 N	74.12 E	0.62
7574.	1 0	N 34 E	7572.30	-117.86	91.22 N	75.47 E	0.87
7668.	1 0	N 80 E	7666.29	-119.43	92.09 N	76.81 E	0.83
7762.	1 15	N 49 E	7760.27	-121.15	92.87 N	78.45 E	0.69
7855.	1 15	N 56 E	7853.25	-123.16	94.11 N	80.06 E	0.16
7949.	1 30	N 53 E	7947.22	-125.38	95.42 N	81.90 E	0.28
8043.	1 15	N 40 E	8041.19	-127.63	96.96 N	83.53 E	0.42
8137.	1 15	N 38 E	8135.17	-129.67	98.56 N	84.82 E	0.05
8231.	1 15	N 53 E	8229.15	-131.71	99.99 N	86.28 E	0.35
8325.	0 45	N 83 E	8323.13	-133.21	100.60 N	87.78 E	0.75
8419.	1 30	N 76 E	8417.12	-134.73	100.93 N	89.60 E	0.81
8513.	1 0	N 52 E	8511.09	-136.65	101.83 N	91.43 E	0.76
8606.	1 15	N 54 E	8604.08	-138.46	102.93 N	92.89 E	0.27
8700.	1 30	N 56 E	8698.05	-140.68	104.22 N	94.73 E	0.27

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MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
8794.	1 15	N 70 E	8792.02	-142.82	105.24 N	96.74 E	0.44
8888.	1 0	N 89 E	8886.00	-144.33	105.58 N	98.54 E	0.47
8982.	1 15	N 77 E	8979.98	-145.79	105.80 N	100.87 E	0.36
9076.	1 15	N 89 E	9073.96	-147.40	106.05 N	102.40 E	0.28
9170.	1 15	N 60 E	9167.94	-149.17	106.59 N	104.36 E	0.67
9264.	1 0	N 71 E	9261.92	-150.89	107.36 N	106.04 E	0.35
9358.	1 0	N 67 E	9355.91	-152.39	107.94 N	107.57 E	0.07
9451.	1 0	N 74 E	9448.89	-153.85	108.49 N	109.10 E	0.13
9545.	1 0	N 80 E	9542.88	-155.25	108.85 N	110.70 E	0.11
9639.	1 15	N 84 E	9636.86	-156.72	109.11 N	112.52 E	0.28
9733.	1 30	S 86 E	9730.83	-158.34	109.15 N	114.78 E	0.37
9827.	1 0	S 59 E	9824.81	-159.28	108.54 N	116.71 E	0.81
9921.	1 0	S 78 E	9918.79	-159.93	107.94 N	118.23 E	0.35
10015.	1 15	S 89 E	10012.78	-161.08	107.73 N	120.06 E	0.35
10109.	1 15	S 65 E	10106.75	-162.16	107.27 N	122.05 E	0.55
10202.	1 15	S 86 E	10199.73	-163.18	106.77 N	124.00 E	0.49
10296.	1 0	N 87 E	10293.71	-164.47	106.75 N	125.85 E	0.30
10390.	1 0	S 57 E	10387.70	-165.28	106.34 N	127.40 E	0.66
10484.	0 45	N 72 E	10481.69	-166.12	106.15 N	128.78 E	0.84
10578.	1 0	S 66 E	10575.68	-167.06	106.08 N	130.18 E	0.71
10672.	1 0	S 70 E	10669.66	-167.70	105.47 N	131.70 E	0.07
10766.	0 45	S 61 E	10763.65	-168.20	104.87 N	133.01 E	0.30
10860.	0 45	S 38 E	10857.64	-168.30	104.08 N	133.93 E	0.32
10953.	0 30	N 1 E	10950.64	-169.00	104.33 N	134.67 E	1.27
11047.	0 15	N 53 W	11044.63	-169.19	104.86 N	134.41 E	0.43
11141.	1 0	N 44 W	11138.63	-169.13	105.54 N	133.64 E	0.80
11235.	0 45	N 37 W	11232.62	-169.24	106.63 N	132.71 E	0.29
11329.	1 0	N 27 W	11326.61	-169.56	107.84 N	131.95 E	0.31
11423.	1 0	N 69 W	11420.59	-169.48	108.92 N	130.76 E	0.76
11517.	0 15	N 69 W	11514.59	-169.06	109.28 N	129.80 E	0.80

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MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
11611.	0 45	N 71 W	11608.58	-168.71	109.56 N	129.03 E	0.53
11704.	0 30	N 16 W	11701.58	-168.74	110.27 N	128.36 E	0.66
11798.	0 30	N 42 W	11795.57	-168.96	110.98 N	127.97 E	0.24
11892.	0 30	S 69 W	11889.57	-168.56	111.16 N	127.22 E	0.60
11986.	0 30	N 71 W	11983.57	-167.98	111.15 N	126.41 E	0.36
12080.	0 45	S 65 W	12077.56	-167.24	111.10 N	125.42 E	0.56

NAL CLOSURE - DIRECTION: N 48 DEGS 28 MINS E
DISTANCE: 167.55 FEET

EXHIBIT 5

DRILLING REPORT SHOWING DATE OF RESERVOIR PENETRATION

HARVEY E. YATES COMPANY
HEYCO-BETENBOUGH (Re Entry)

660' FNL and 1980' FWL,
Sec. 32, T-13S, R-36E,
Lea County, New Mexico

4/23/80 Depth-11,320';drlg w/Navidrill; formation-li, sh and ch; drld 27', mostly cement. Totco: 64° N and 1° W @ 11,293'. Mud Wgt-9.7#; Vis-35; WL-9. 13 3/4 hrs-drlg; 6 3/4 hrs-trip; 1 1/2 hrs-totco; 1/4 hr-work BOP; 3/4 hr-repair.

4/24/80 Drlg @ 11,342'; formation-li and sh; 22' of progress. Mud Wgt-8.8#; Vis-35; WL-10. Directional Survey: 2° S and 15° W @ 11,313'. 8 hrs-drlg; 13 hrs-trips; 1 3/4 hrs-directional survey; 1 1/4 hrs-reaming w/hole opener.

4/25/80 Drlg @ 11,560'; formation-li and sh; 218' of progress. Totcos: 2 3/4° @ 11,384'; 2 3/4° @ 11,455' and 3 3/4° S and 43° E @ 11,515'. Mud Wgt-8.9#; Vis-36; pH-10; WL-10; chl-127,000; KCl-5 1/2%; solids-1 1/2%. 20 1/2 hrs-drlg; 2 1/4 hrs-totcos; and 1 1/4 hrs-working stuck DP.

4/26/80 Depth-11,661' running Deviation Survey. Formation-li and sh; 101' of progress. Mud Wgt-9.1#; Vis-38; WL-10. 7 1/4 hrs-drlg; 7 hrs-trip; 2 hrs-Dev Survey; 1 1/4 hrs-work BOP; 2 1/2 hrs-repair.

4/27/80 Drlg @ 11,910'; formation li-and sh; 249' of progress. Mud Wgt-9#; Vis-39; WL-15. Totco: 4° @ 11,849'. 21 hrs-drlg; 2 1/2 hr-totco; 1/4 hr-surveying rig; 1/4 hr-work BOP.

4/28/80 Depth-12,069' on TIH. Formation-li and sh; 159' of progress. Mud Wgt-9#; Vis-38; WL-14. Totco: 3 1/2° @ 12,069'. 17 1/2 hrs-drlg; 5 hrs-trip; 1 1/4 hr-totco; 1/4 hr-work BOP.

4/29/80 Drlg @ 12,235'; formation-li and sh; 166' of progress. Mud Wgt-9#; Vis-38; WL-14. Totco: 3° @ 12,228'. 21 hrs-drlg; 2 hrs-trip; 3/4 hr-totco; 1/4 hr-work BOP.

4/30/80 Depth-12,347' circulating for DST #1. Formation-li and sh; 112' of progress. Mud Wgt-9.1; Vis-38; WL-11. Worth Well Service will run Caliper Survey to select pkr seat. 21 3/4 hrs-drlg; 2 hrs-circulating; 1/4 hr-work BOP.

5/01/80 Depth-12,347' waiting for daylight to POH w/test. Formation-li and sh. Mud Wgt-9#; Vis-36; WL-11.6. Totco: 2 3/4° @ 12,347'. 8 1/4 hrs-trip; 2 hrs-circulating; 1/4 hr-work BOP; 13 1/2 hrs-testing.

EXHIBIT 6

OPERATIONS AND PRODUCTION REPORT
(First Commercial Production From Reservoir)

No production as of date of this application

EXHIBIT 7

LIST OF CO-LESSEES, WORKING INTEREST OWNERS,

AND GAS PURCHASERS

HEYCO BETENBOUGH #1
Working Interest Owners

Northern Natural Gas Company
403 Wall Towers West
Midland, Texas 79701

Yates Petroleum Corporation
207 South Fourth Street
Artesia, New Mexico 88210

Professional Investment & Trust Co.
P. O. Box 1599
Lovington, New Mexico 88260

Maurice Hobson
Security Bank and Trust
P. O. Drawer 638
Alamogordo, New Mexico 88310

KRM Petroleum Corporation
Suite 820, 817 17th Street
Denver, Colorado 80202

Harvey E. Yates Company
Explorers Petroleum Corp.
Fred G. Yates, Inc.
Spiral, Inc.
P. O. Box 1933
Roswell, New Mexico 88201

GAS PURCHASER

El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas 79978

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
23 July 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Harvey E. Yates Company for an NGPA determination, Lea County, New Mexico.

CASE 6983

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:

Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

Robert H. Strand, Esq.
Suite 300
Security Nat'l Bank Bldg.
Roswell, New Mexico 88201

I N D E X

E X H I B I T S

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

MR. STAMETS: We'll call next Case 6983.

MR. PADILLA: Application of Harvey E. Yates Company for an NGPA determination. Lea County, New Mexico.

MR. STRAND: Mr. Examiner, we're short or exhibits, cross sections. You might refer to the ones with the application that was filed.

We'll get the others to you up here as soon as we can.

MR. STAMETS: All right.

MR. STRAND: Mr. Examiner, Robert H. Strand, attorney from Roswell, appearing for the applicant. Is Mr. Smith considered sworn and qualified?

MR. STRAMETS: Yes, Mr. Smith was previously sqorn and qualified and remains so for purposes of this case.

MR. STRAND: Mr. Examiner, the purpose of the application in Case Number 6983 is to apply for a determination under the Natural Gas Policy Act; that the HEYCO Betenbough No. 1 Well, located 660 feet from the north line and 1980 from the west line of Section 32, Township 13 South, Range 36 East, Lea County, is a new on-shore reservoir as defined in the Natural Gas Policy Act.

And I would also state for the record that this Betenbough No. 1 Well is the same well that we re-

ferred to the prior hearing on the directional drilling, so we will not present additional evidence as to the directional drilling at this time.

MR. STAMETS: Fine.

RANDOLPH C. SMITH

being called as a witness and having been previously sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. STRAND:

Q. Mr. Smith, are you familiar with the application in Case Number 6983?

A. Yes, I am.

Q. What was the original spud date of the Superior Betenbough No. 1 Well, which was re-entered by Harvey E. Yates Company?

A. The original spud date was February 29th, 1964.

Q. At what date did re-entry operations commence?

A. April 6, 1980. I'm sorry, March. It's March.

Q. March 6, 1980?

A. March 6, 1980, yes.

Q. Mr. Smith, is the well located on fee owned lands?

A. Yes, it is.

Q. And could you state the total depth drilled?

A. The total depth of the well was 13,968 feet.

Q. And the well bottomed out at what location?

A. 654 feet from the north line, 2158 feet from the west line.

Q. What is the producing formation in the well?

A. The Upper and Lower Atoka Sand.

Q. Would you describe just in brief, general geological terms the Atoka formation?

A. The Atoka formation consists of sand, shale sequences, with scattered periodic Atoka sand intervals throughout the section.

Q. Mr. Smith, what is the producing interval in the well?

A. The producing interval in this Atoka section is from 12,315 feet down through 12,900 feet.

Q. Are you familiar with the term "resevoir" as defined under the Natural Gas Policy Act of 1978?

A. Yes, I am.

Q. Mr. Smith, I refer you to Exhibit Number One. Will you please describe that exhibit?

A. Yes. Exhibit Number One is an Atoka Sand reservoir outline map with cross section A-A' on this map. The circle within the unit boundary signifies the estimated sand outline in this particular location.

Q. Is it your opinion, based on your analysis of the wells contained in the cross section, which we'll get to in a minute, that this is an approximate extent of the producing reservoir?

A. Yes, it is.

Q. I refer you to Exhibit Number Two. Would you please describe that?

A. Exhibit Number Two is a structure map made by GeoMap Company in Midland, Texas, on top of the Siluro-Devonian, contour interval of 100 feet; may scale 1 inch equals 8000 feet. Also showing the well location and cross section A-A'.

Q. I refer you to Exhibit Number Three, which is the cross section. Would you please describe that?

A. Yes, Exhibit Number Three is cross section A-A', which goes from the Superior Austin Well in 26 of 13, 35, in Lea County, through the Superior Betenbough, which is right adjacent to the re-entry log section of the Harvey E.

Yates No. 1 Betenbough, and then that's in 32 of 13, 36, and then down to A', which is the Sinclair Richardson Well in Section 5 of 14, 36.

Q. Mr. Smith, referring to all exhibits, would you please briefly describe what parameters you used to define the reservoir as you have it drawn on Exhibit Number One?

A. Yes. The basis of the parameters and the limits of this reservoir, as shown on this Exhibit Number One, is primarily based on the fact that the Superior Austin Well in Section 26, 13, 35, was spudded 9-21-61, P&A'd 1-6-62, which is the lefthand log on the cross section, which no test or attempts to complete or perforate the Atoka section were attempted.

The purpose of this well on this cross section is to show that as it stands at this date, there is no evidence of any commercial production to the west of our re-entry.

The Sinclair Richardson Well to the south, which was spudded January 28th, '63, and P&A'd 5-27-63, also indicated that there was no commercial production at the time this well -- or no thought that there was commercial production at the time this well was drilled in the Atoka section. That's the righthand log on our cross section A-A'.

There were two zones that were perforated, one in the Upper Atoka, one in the Lower. Neither one of them were classified and believed to be commercial production at this stage; therefor, they were plugged. And this also shows that there is no evidence of Atoka Sand production to the south of our re-entry at this location.

And as we move to the north there are some wells that did go to the Devonian but there were no sands present in any of these wells in the Tatum Field itself in the Atoka section.

Q. Mr. Smith, do you have any control to the east at all?

A. No, we really have no control.

Our interpretation and understanding of this reservoir is that we do not know the lateral extent, if there is any at all, and other than what we hope that's in the unit area, and that's what the outline is drawn on this Exhibit Number One.

And Exhibit Number Three shows the sands in which we perforated. The sands are colored in yellow; porosity is colored in red; perforations are marked. We tested the upper and lower sands, recovered in the Upper Atoka Sands we recovered 300 Mcf on drill stem test, gas to surface; Lower Atoka Sands, we recovered 270 Mcf.

We decided to perforate all these sands

in hopes that we could obtain some economical gas recovery.

Q. Mr. Smith, has natural gas been produced in commercial quantities in this Atoka reservoir in the past?

A. Not that I know of.

Q. Other than the original wellbore of the Superior Betenbough No. 1, which the applicant re-entered, has the reservoir as you've outlined it, been penetrated by any other old wells as defined under the Natural Gas Policy Act?

A. No, sir.

Q. With reference to the original well that Superior drilled, was that Atoka zone tested?

A. Yes. In the Superior Betenbough Well they did test both of these Upper and Lower Atoka Sands, recovered some shows of gas, but at this time they decided it was not, or would not be economically feasible to them, so they plugged the hole.

It was originally drilled as a Devonian test; was low to their prognosis. They tested these as they went down through there, but they had no future decisions to try to complete these sands.

MR. STRAND: I believe that's all the questions I have, Mr. Examiner.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Smith, on your Exhibit One you show what appears to be two wells side by side in the north half of Section 32. Are those in fact the same hole?

A. Yes, sir, they are. It's the -- the one on the right is just for clarity and the bottom hole location, but it is to the east rather than to the west there. Actually, it's only a couple hundred feet away, 180 feet away from the original hole surface location, the bottom hole location is, and they would essentially be right on top of one another, but for clarity we displayed them like that.

Q. And looking at the log of the two wells which penetrated the same section, is there considerable difference between the completed intervals as between the two wells?

A. [illegible] there's not a great amount of difference. Our well [illegible] be a little further to the east, in which the sands [illegible] little dirtier, a little tighter, a little finer; not as clean as the ones that were in the original well. The purpose of the re-entry was to penetrate some clean sands, newer sands, because of the original idea that when these were tested in the early '60s that there would be damage to the formation and we wouldn't be able to recover any gas at this time, if we just re-entered those sands themselves.

Q. Well, looking at the log from here, it

would appear that the lower section there is much bigger than the equivalent section in the original hole.

A. Well, these sands vary in thickness from location here, although they're deposited in the same place at the same time. As you move a few feet over you can get a variable in thickness, so they won't be identical, but you'll have -- they are similar sands in the very same place geographically.

Q. Getting back to my original question, it would appear to me looking at the logs, that there is considerable difference in the formation considering the proximity of the two holes.

A. Well, the zone appears to be relatively thicker in the lower section, but it thins in the upper section of the lower portion there.

Q. Well, that would be my next question. Is that actually an equivalent zone or is that zone above the equivalent looking zone in the original hole?

A. My belief and interpretation is that they are equivalent zones.

One of the things that you do see is that our sands, reading about 40 to 50 API, which is relatively dirtier than the original well, which was 20 to 30 API. So although it was a little bit thinner in the lower section, it was thicker in the upper section, and these sands were

deposited in such a way that they will be variable from well to well, but as far as the lateral extent and predictability of this reservoir, we're not quite sure.

Q. Do you feel that the original well didn't produce because the formation wasn't as permeable as the formation that you completed in, or because drilling techniques weren't sufficiently refined in order to protect the formation while it was being drilled?

A. The latter probably is the determination for that, and the price of gas at the time. Modern techniques improved procedures for drilling these wells and recover of the gas.

Q. However, a number of wells completed in the Austin Mississippian zone a few miles south, I guess the closest one being the Austin Monteith Well in Section 80 about two miles south, have you examined the records on those wells to determine if any of those were productive or are productive in the Atoka zone?

A. Yes, I have examined them, and no, they do not appear to be productive, and my interpretation has been a tight, a very impermeable, very little indications of any gas and porosity and permeability.

Q. What is the combined potential on this well? You gave the potential for each individual zone in the Atoka. What was the combined potential?

A. Well, the combined potential at this time, although we have not run a 4-point test, is believed to be around 840 Mcf a day on 1/2 inch choke.

Q. And what pressures, shut-in pressures?

A. Around 4000 pounds.

Q. Is that surface?

A. Yes, sir. No, that's bottom hole pressure.

Q. 4000. Isn't that somewhat subnormal for a depth of 12,000 feet?

A. Yes, sir, it is.

Q. How do you explain that?

A. It's a tight reservoir.

Q. How long shut-in period did you have on this 4000?

A. I believe it was around 4 or 5 hours.

Q. Do you feel that the pressure will continue to build as the well is shut-in or is that the standard of pressure in this reservoir?

A. I do not know, at this time. This is the first well in this area in which the sands have proven to have any productable accumulations and there is no real reservoir pressures or data at this time to substantiate anything else.

Q. How long has the well been shut-in now?

A. It's in the process, hopefully, of being

hooked up presently, a couple of months.

Q. You talk about being hooked up, you're talking about today or tomorrow?

A. It is my understanding it was to be today or tomorrow, yes, sir.

MR. STRAND: Within a week at the most.

Q. Okay, I was wondering if we could get some sort of a pressure on that well before it's turned into the line; at least a surface pressure, to indicate whether it's continuing to build or that's the extent of the pressure in this zone.

MR. STRAND: I'm sure we have that information back at the office.

MR. STAMETS: Okay, you can submit that after the hearing. I would appreciate it. If you're able to take the pressure -- if it's -- if it's a significant difference -- and calculate bottom hole pressure, I would appreciate it.

MR. STRAND: Mr. Smith, were Exhibits One through Three prepared by you or under your supervision?

A. Yes, they were.

MR. STRAND: Mr. Examiner, I would move the admission of Exhibits One through Three.

MR. STAMETS: These exhibits are admitted.

Q. One more question, Mr. Smith. It would

appear as though we pretty well examined every well that shows up on this map within 2, 2-1/2 miles of the well in question, is that correct?

A. That's correct, sir.

MR. STAMETS: Any other questions of this witness? He may be excused.

Anything further in this case?

The case will be taken under advisement.

(Hearing concluded.)

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6983, heard by me on 7-23 19 80.

Richard L. Stamets, Examiner
Oil Conservation Division

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

August 14, 1980

Re: CASE NO. 6983
ORDER NO. R-6442

Applicant:

Harvey E. Yates Company

Mr. Robert H. Strand, Attorney
Harvey E. Yates Company
Post Office Box 1933
Roswell, New Mexico 88201

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 6983
Order No. R-6442

APPLICATION OF HARVEY E. YATES
COMPANY FOR AN NGPA DETERMINATION,
LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on July 23, 1980, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 13th day of August, 1980, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Harvey E. Yates Company, seeks a determination by the Division, in accordance with Sections 2 (6) and 102 of the Natural Gas Policy Act of 1978, and the applicable rules of the Federal Energy Regulatory Commission, that its Betenbough Well No. 1 located in Unit C of Section 32, Township 13 South, Range 36 East, NMPM, Lea County, New Mexico, has discovered a new onshore reservoir from which natural gas was not produced in commercial quantities before April 20, 1977.

(3) That said well was completed in the Atoka formation with perforations from 12,315 feet to 12,900 feet, and a plugged-back depth of 13,050 feet after having been drilled to a total depth of 13,698 feet.

(4) That although there are several wells in the general vicinity of the subject well which have penetrated the Atoka formation, none of said wells was capable of commercial production therefrom.

(5) That the combined geological and engineering data presented in this case establishes that said Betenbough Well No. 1 has been completed in a new onshore reservoir as defined by the provisions of Section 102 of the Natural Gas Policy Act of 1978 and the applicable rules of the Federal Energy Regulatory Commission.

IT IS THEREFORE ORDERED:

(1) That the Harvey E. Yates Company Betenbough Well No. 1, located in Unit C of Section 32, Township 13 South, Range 36 East, NMPM, Lea County, New Mexico, is completed in a new onshore reservoir as defined by Sections 2 (6) and 102 of the Natural Gas Policy Act of 1978, and the applicable rules of the Federal Energy Regulatory Commission.

(2) That jurisdiction of this cause is hereby retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY
Director

S E A L

fd/

Dick

Heyco
Bertenbo #1
C-32-13-36

Case 6983
RLS

Perfs 12315-12996

Top Penn 10452
Canyon 11,308
Strown 11,626
Atoka - 12,315
Morrow 12,976
Miss Ls 13363

DICK HERE IS
JOHNS PICK ON A WELL YOU
HAD A QUESTION ON

7-29-80
John W. Runyan

HEYCO

PETROLEUM PRODUCERS

HARVEY E. YATES COMPANY

401 NORTH COLORADO • SUITE 202 • MIDLAND, TEXAS 79701 • (915) 683-6444

P.O. BOX 1933 • SUITE 300, SECURITY NATIONAL BANK BUILDING • ROSWELL, N. M. 88201 • (505) 623-6601

July 29, 1980

Mr. Richard L. Stamets
Oil Conservation Commission
P.O. Box 2088
Santa Fe, NM 87501

Re: Case No. 6983, July 23, 1980
Heyco Bentenbough #1, Sec. 32,
T-13-S, R-36-E, Lea County,
New Mexico

Dear Mr. Stamets:

In response to your request on Case No. 6983, the most recent surface shut-in tubing pressure for the Heyco Bentenbough #1 is 2500#, after 37 hours shut-in. The bottom hole pressure calculates to be 4435#.

Respectfully yours,

Randolph C. Smith

Randolph C. Smith,
Geologist

RCS/jp

cc: Bob Strand

NEW MEXICO OIL CONSERVATION DIVISION
P. O. Box 2088, Santa Fe, New Mexico 87501

APPLICATION FOR WELLHEAD
PRICE CEILING CATEGORY DETERMINATION

FEE

1. FOR DIVISION USE ONLY

DATE OF: APPLICATION _____

DETERMINATION _____

CONTESTED _____

PARTICIPANTS _____

HARVEY E. YATES COMPANY

P.O. BOX 1933, Roswell, New Mexico 88201 505 /623-6601

HEYCO BETENBOUGH

#1

Wildcat

LEA

UNIT LETTER C 660 FEET FROM THE North LINE AND 1980 FEET FROM

West LINE, SECTION 32 TOWNSHIP 13S RANGE 36E NMPM.

11. Name and Address of Transporter(s)

El Paso Natural Gas Company, P. O. Box 1492, El Paso, Texas 79978

WELL CATEGORY INFORMATION

Check appropriate box for category sought and information submitted.

1. Category(ies) Sought (By NGPA Section No.) 102-4

2. All Applications must contain:

[X] a. C-101 APPLICATION FOR PERMIT TO DRILL, DEEPEN OR PLUG BACK

[X] b. C-105 WELL COMPLETION OR RECOMPLETION REPORT

[X] c. DIRECTIONAL DRILLING SURVEY, IF REQUIRED UNDER RULE 111

[X] d. AFFIDAVITS OF MAILING OR DELIVERY

3. NEW NATURAL GAS UNDER SEC. 102(c)(1)(B) (using 2.5 Mile or 1000 Feet Deeper Test)

[ ] a. Location Plat

4. NEW NATURAL GAS UNDER SEC. 102(c)(1)(C) (new onshore reservoir)

[X] a. C-122 Multipoint and one point back pressure test

5. NEW ONSHORE PRODUCTION WELL

[X] a. C-102 WELL LOCATION AND ACREAGE DEDICATION PLAT

[ ] b. No. of order authorizing infill program _____

6. STRIPPER GAS

[ ] a. C-116 GAS-OIL RATIO TEST

[ ] b. PRODUCTION CURVE FOR 12-MONTH PERIOD

[ ] c. PRODUCTION CURVE FOR THE 90-DAY PERIOD ON WHICH THE APPLICATION IS BASED

RECEIVED
JUL 31 1980
OIL CONSERVATION DIVISION
SANTA FE

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED HEREIN IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

GEORGE M. YATES
NAME OF APPLICANT (Type or Print)

Title VICE PRESIDENT

Date June 27, 1980

Signed _____

DIVISION USE ONLY

[ ] Approved

[ ] Disapproved

The information contained herein includes all of the information required to be filed by the applicant under Subpart B of Part 274.

EXAMINER

Exhibit B

FERC-121

Form Approved
OMB No. 038-R0381

U.S. DEPARTMENT OF ENERGY
Federal Energy Regulatory Commission
Washington, D.C. 20426

APPLICATION FOR DETERMINATION OF THE MAXIMUM LAWFUL PRICE UNDER THE NATURAL GAS POLICY ACT (NGPA)

(Sections 102, 103, 107 and 108)

PLEASE READ BEFORE COMPLETING THIS FORM:

General Instructions:

Complete this form if you are applying for price classification under sections 102, 103, 107 or 108 of the NGPA. A separate application is required for each well. If any reservoir qualifies for a category which differs from the category applicable to the producing well, separate applications must be made for the producing well and the reservoir. Complete each appropriate item on the reverse side of this page. The code numbers used in items 4.0 and 6.0 can be obtained from the Buyer/Seller Code Book. If there is more than one purchaser or contract, identify the additional information in the space below. Enter any additional remarks in the space below.

Submit the completed application to the appropriate Jurisdictional Agency as listed in title 18 of the CFR, part 270.103. If there are any questions, call (202) 275-4539.

Specific Instructions for Item 2.0, Type of Determination:

Section of NGPA	Category Code	Description
102	1	New OCS Lease
102	2	New onshore well (2.5 mile test)
102	3	New onshore well (1,000 feet deeper test)
102	4	New onshore reservoir
102	5	New reservoir on old OCS Lease
103	–	New onshore production well
107	–	High cost natural gas
108	–	Stripper well

Other Purchasers/Contracts:

Contract Date (Mo. Day Yr.)	Purchaser	Buyer Code

Remarks:

FT7900806/1-2

T-2

FERC-121

1.0 API well number: (If not available, leave blank. 14 digits.)	30-025-20902
2.0 Type of determination being sought: (Use the codes found on the front of this form.)	102 (Section of NGPA) — 4 (Category Code)
3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)	_____ feet
4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)	HARVEY E. YATES COMPANY (Name) — Seller Code P. O. Box 1933 (Street) Roswell, (City) — NM (State) — 88201 (Zip Code)
5.0 Location of this well: (Complete (a) or (b).) (a) For onshore wells (35 letters maximum for field name.)	Wildcat (Field Name) Lea (County) — NM (State)
(b) For OCS wells:	Area Name — Block Number Date of Lease: Mo. Day Yr. — OCS Lease Number
(c) Name and identification number of this well: (35 letters and digits maximum.)	HEYCO BETENBOUGH #1
(d) If code 4 or 5 in 2.0 above, name of the reservoir: (35 letters maximum.)	
6.0 (a) Name and code number of the purchaser: (35 letters and digits maximum. If code number not available, leave blank.)	EL PASO NATURAL GAS COMPANY (Name) — Buyer Code
(b) Date of the contract:	0 1 6 1 2 1 6 1 8 1 0 (Mo. Day Yr.)
(c) Estimated annual production:	180 MMcf.

	(a) Base Price ($/MMBTU)	(b) Tax	(c) All Other Prices (Indicate (+) or (-).)	(d) Total of (a), (b) and (c)
7.0 Contract price: (As of filing date. Complete to 3 decimal places.)	2.504	.2105	._____	2.7145
8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)	2.504	2105	._____	2.7145

9.0 Person responsible for this application:	George M. Yates (Name) — Vice President (Title) Signature July 3, 1980 (Date Application is Completed) — 505-623-6601 (Phone Number)
Agency Use Only Date Received by Juris. Agency Date Received by FERC	

FT7900806/2-2

APPLICATION PURSUANT TO
SECTION 102(c)(1)(C) OF
THE NATURAL GAS POLICY ACT OF 1978 (NGPA)
NEW ONSHORE RESERVOIR

Well: HEYCO BETENBOUGH #1
API No.: 30-025-20902

AFFIDAVIT

STATE OF NEW MEXICO COUNTY OF LEA

BEFORE ME, the undersigned authority, duly commissioned and qualified within and for the State and County aforesaid, personally came and appeared GEORGE M. YATES, who, being by me first duly sworn, deposed and said:

That he is the Vice President of HARVEY E. YATES COMPANY the applicant for the well as described heretofore in this application, and, in that capacity, he is requesting the appropriate Jurisdictional Agency to determine the eligibility of said well for wellhead pricing purposes pursuant to the rules and regulations of said Jurisdictional Agency and the Federal Energy Regulatory Commission and pursuant to the NGPA.

That this application is made pursuant to 18 CFR 274.202 (d).

That prior to drilling said well, he caused to be made/prepared pursuant to his instructions:

(a) diligent examination of:

(1) the real property records maintained in the county where said well is situated.

(2) commercially produced ownership and well location maps maintained currently in applicant's office.

(3) commercially produced well completion records covering the applicable area and maintained currently in applicant's office.

(b) a title opinion covering the proposed proration unit prepared by an attorney experienced in oil and gas title examination, based on commercially prepared abstracts covering the county records and where applicable, the records of the appropriate State or Federal Land Management Agency. Said abstracts and title opinions are located in applicant's office.

(c) application to drill said well with the appropriate governmental agency. Said application was duly approved and copies are on file in applicant's office and a copy is attached hereto if required by the Jurisdictional Agency.

That during the drilling of said well, he caused to be made/prepared pursuant to his instructions:

(a) a daily drilling log, copies of which are on file in applicant's office. A copy of the portion of said log showing the date of reservoir penetration is attached hereto if required by the Jurisdictional agency.

(b) a directional drilling survey, if required by the appropriate regulatory agency, copies of which are on file in applicant's office and a copy of which is attached hereto.

That subsequent to completion of said well, he caused to be made/prepared pursuant to his instructions:

(a) diligent examination of:

(1) production records compiled by the appropriate state agency. Copies of said records are on file in applicant's office and the offices of said agency.

(2) examination of royalty and severance tax records to the extent they were examined during the title opinion process referred to above.

(b) a completion report which was filed with the appropriate governmental agency. Copies are on file in applicant's office and the offices of said agency, and a copy is attached hereto.

(c) a well location and acreage dedication plat filed with the appropriate governmental agency. Said dedication is on file in applicant's office and the offices of said agency and a copy is attached hereto, if required by the jurisdictional agency.

(d) a title opinion for division order purposes by an attorney experienced in oil and gas title examination utilizing abstracts as described above.

(e) monthly report of operations and production which have been filed with the appropriate governmental agency. A copy of the report showing first commercial production from the subject reservoir is attached hereto if required by the jurisdictional agency.

That he has also caused to be prepared pursuant to his instructions:

(a) location plat which locates and identifies the subject well and other wells, data from which is utilized to support this application. Copies of said location plat are on file in applicant's office and a copy is attached hereto.

(b) a summary of geological data supporting this application including the following to the extent reasonably available:

Well log section defining the top and bottom reservoir

Bottom-hole or Surface Pressure Surveys

Well Potential Tests

Formation Structure Map

Subsurface Cross-Section Chart

Gas Analysis

That the above described are the only records and data reasonably available to Applicant, and there are no other public records maintained which are relevant to this application.

That, to the best of his knowledge, information, and belief and on the basis of the results of the search and examination, he answers the following questions:

(1) Was the natural gas produced in commercial quantities from the reservoir before April 20, 1977?
Answer: NO

(2) Was the reservoir penetrated before April 20, 1979, by an old well from which natural gas or crude oil was produced in commercial quantities from any reservoir: Answer: NO

(3) In the event the answer to (2) immediately above is in the affirmative, state if natural gas could have been produced in commercial quantities from the reservoir before April 20, 1977, from any old well described in said question (2). Answer: N/A

(4) a. If the answer to (3) immediatly above is answered in the netative, were any sales and deliveries of natural gas made from any other reservoir through any old well described in (2) above prior to April 20, 1977? Answer: N/A

b. And were any sales and deliveries of natural gas made from the subject reservoir through such old well on or after April 20, 1977, and before November 9, 1987? Answer: N/A

(5) If the natural gas is to be produced through an old well, were suitable facilities for the production and delivery to a pipeline of such natural gas in existence on April 20, 1979? Answer: N/A

That based upon the search and examination described above, he has concluded that to the best of his information and knowledge, that there is substantial evidence to support a determination that the gas to be produced and for which he seeks a determination is from a new onshore reservoir, and that he has no knowledge of any other information not described in the application which is inconsistent with this conclusion.

He further states that he has mailed, or caused to be mailed, postage prepaid, copies of the completed Form FERC 121, Application for Determination of the Maximum Lawful Price Under the Natural Gas Policy Act, and any jurisdictional agency Supplemental Application form to the purchaser(s) and to the co-lessee(s) and/or working interest owners, which are listed separately.

That to the best of his knowledge and belief, all information contained in this application for category determination, pursuant to the NGPA, is true and correct including all documents, testimony and evidence submitted with the application.

Signed _____
George M. Yates
Vice President
Harvey E. Yates Company

Subscribed in my presence and duly sworn to before me, this day 8th of July, 1980.

My Commission Expires:

May 16, 1983

OFFICIAL SEAL
Signature Kay L. Owen
Notary Public
KAY L. OWEN
NOTARY PUBLIC - NEW MEXICO
Notary Bond Filed with Secretary of State
My Commission Expires 5-16-83

RHS/lh

NGPA-2 #20

INDEX OF EXHIBITS

1. Completion Report
2. Well Location and Acreage Dedication Plat
3. Geological Data
   - Well Log Sections
   - Pressure Surveys
   - Structure Map
   - Cross-Section
4. Directional Drilling Survey
5. Drilling Report Showing date of Reservoir Penetration
6. Report showing date of first Commercial Production from Reservoir
7. List of Co-Lessees, Working Interest Onwers, and Gas Purchasers

EXHIBIT 1

COMPLETION REPORT

No. of Copies Received		
DISTRIBUTION		
SANTA FE		
FILE		
U.S.G.S.		
LAND OFFICE		
OPERATOR		

NEW MEXICO OIL CONSERVATION COMMISSION
WELL COMPLETION OR RECOMPLETION REPORT AND LOG

Form C-105
Revised 1-1-65

5a. Indicate Type of Lease: State [ ] Fee [X]

5b. State Oil & Gas Lease No.

1a. TYPE OF WELL: Oil Well [ ] Gas Well [X] Dry [ ] Other

1b. TYPE OF COMPLETION: New Work [X] Deep-en [ ] Plug Back [ ] Diff. Resvr. [ ] Other Re-Entry

7. Name of Operator: Harvey E. Yates Company

8. Farm or Lease Name: Heyco Betenbough

9. Well No.: 1

8. Address of Operator: P. O. Box 1933, Roswell, New Mexico 88201

10. Field and Pool, or Wildcat: Wildcat

4. Location of Well: Unit Letter C, Located 660 Feet from the North Line and 1980 Feet from the West Line of Sec. 32, Twp. 13S, Rge. 36E, NMPM

12. County: Lea

15. Date Spudded	16. Date T.D. Reached	17. Date Compl. (Ready to Prod.)	18. Elevations (DF, RKB, RT, GR, etc.)	19. Elev. Cashinghead
3-6-80	5-18-80	6-19-80	3975' GR	3975

20. Total Depth	21. Plug Back T.D.	22. If Multiple Compl., How Many	23. Intervals Drilled By	Rotary Tools	Cable Tools
13,698'	13,050'		→	4700' - 13,698'	0 - 4700

24. Producing Interval(s), of this completion - Top, Bottom, Name: 12,315' - 12,900' ATOKA

25. Was Directional Survey Made: Yes

26. Type Electric and Other Logs Run: Dresser Atlas CN/CDL/DLL/MLL/GR

27. Was Well Cored: No

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

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
Exist: 13 3/8	48#	369	17 1/2"	400 sxs.	None
9 5/8	40#	4,600	12 1/4"	3,400 sxs.	None
Heyco Ran: 5 1/2	17# & 20#	13,150	8 3/4"	2,100 sxs.	None

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN
	- N O N E -			

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2 3/8"	12,257'	12,257'

31. Perforation Record (Interval, size and number)

12,315 - 331'	17'	1/2" dia.	68 shots
12,539 - 553'	16'	1/2" dia.	64 shots
12,637 - 642'	6'	1/2" dia.	24 shots
12,855 - 860'	6'	1/2" dia.	24 shots
12,873 - 900'	28'	1/2" dia.	112 shots

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

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
12,855' - 12,900'	1000 gal - 7 1/2% MS
12,539' - 12,642'	1000 gal - 7 1/2% MS
12,315' - 12,331'	1000 gal - 7 1/2% MS
12,315' - 12,900'	75000 gal - 7 1/2% NS w/3 sta; 60/40 block w/1000 SCF N./BBL

33. PRODUCTION

Date First Production: 6-12-80

Production Method (Flowing, gas lift, pumping - Size and type pump): Flowing

Well Status (Prod. or Shut-in): Shut-in

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period →	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
6-18-80	12	1/2"		trace	416	14	

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate →	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.)
120	0		2	832	28	45.3

34. Disposition of Gas (Sold, used for fuel, vented, etc.): Vented

Test Witnessed By: Eddie Elliott

35. List of Attachments

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED: Earl Hardee TITLE: Engineer DATE: June 25, 1980

EXHIBIT 2

WELL LOCATION AND ACREAGE DEDICATION PLAT

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-1
Effective 1-1-6

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
Harvey E. Yates Company	HEYCO Betenbough	1

Unit Letter	Section	Township	Range	County
C	32	13S	36E	Lea

Actual Footage Location of Well:

660 feet from the North line and 1980 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage
3975'	Mississippian	Wildcat	320 Acres

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

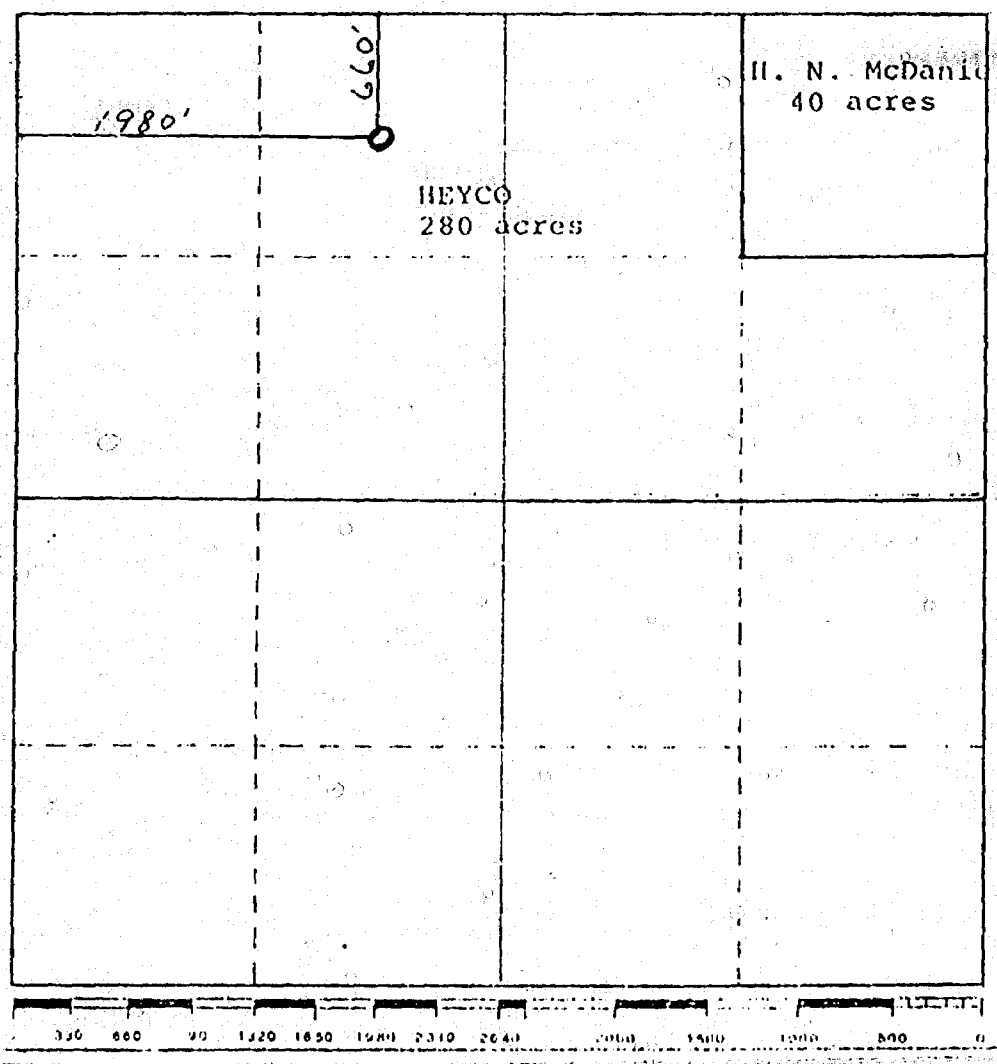
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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?

[X] Yes [ ] No If answer is "yes," type of consolidation final state approved unitization is pending.

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: Jerel G. Yates

Position: Vice President

Company: Harvey E. Yates Company

Date: February 20, 1980

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: Please see original survey

Registered Professional Engineer and/or Land Surveyor

Certificate No.

EXHIBIT 3

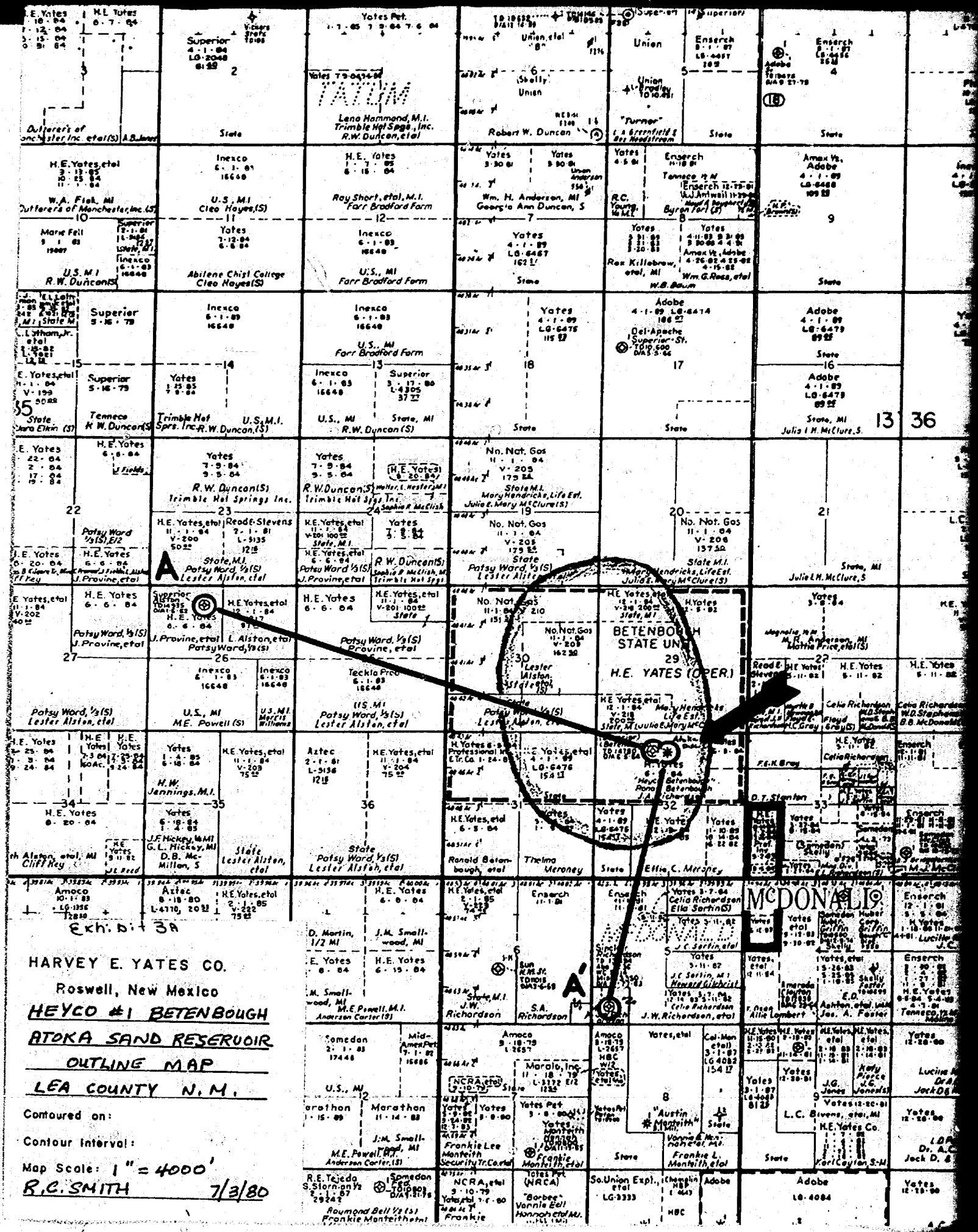
GEOLOGICAL DATA

WELL LOG SECTION

PRESSURE SURVEYS

STRUCTURE MAP

CROSS-SECTION



Exh. D-1 3A

HARVEY E. YATES CO.

Roswell, New Mexico

HEYCO #1 BETENBOUGH

ATOKA SAND RESERVOIR

OUTLINE MAP

LEA COUNTY N.M.

Contoured on:

Contour Interval:

Map Scale: 1" = 4000'

R.C. SMITH 7/3/80

Exhibit 3B

HARVEY E. YATES CO.

Roswell, New Mexico

HEYCO #1 BETENBOUGH

LEA COUNTY N.M.

GEOMAP STRUCTURE

MAP, POSTED 6/1/80

Contoured on: TOP SILURO-DEVONIAN

Contour Interval: 100'

Map Scale: 1" = 8000'

R.C. SMITH 7/3/80

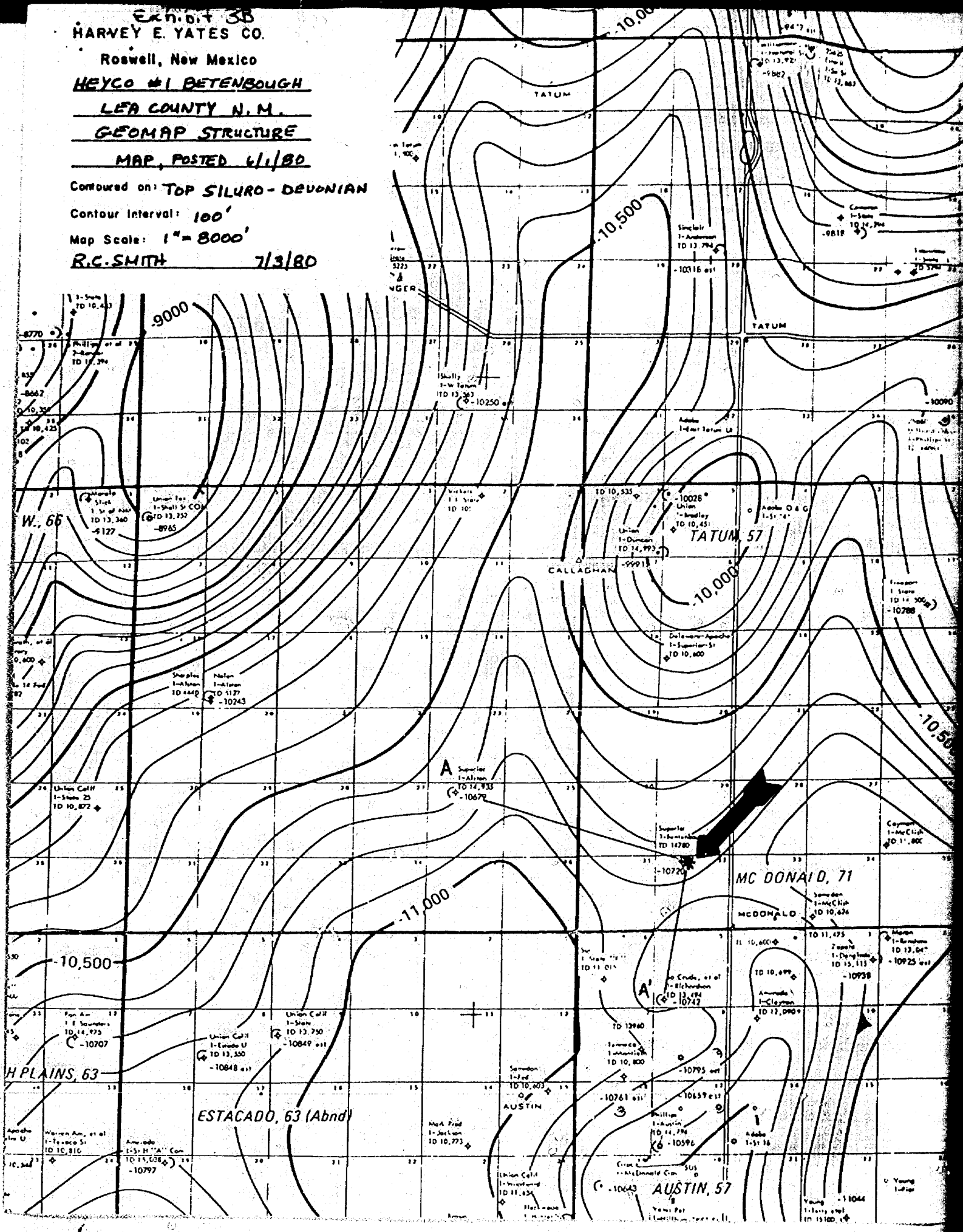


EXHIBIT 4

DIRECTIONAL DRILLING SURVEY

Eastman Whipstock
A PETROLANE COMPANY

REPORT of SUB-SURFACE DIRECTIONAL SURVEY

HEYCO
COMPANY

BETENBOUGH WELL NO. 1
WELL NAME

LEA COUNTY, NEW MEXICO
LOCATION

JOB NUMBER | TYPE OF SURVEY | DATE

SURVEYOR | OFFICE

PRELIMINARY DISTRIBUTION

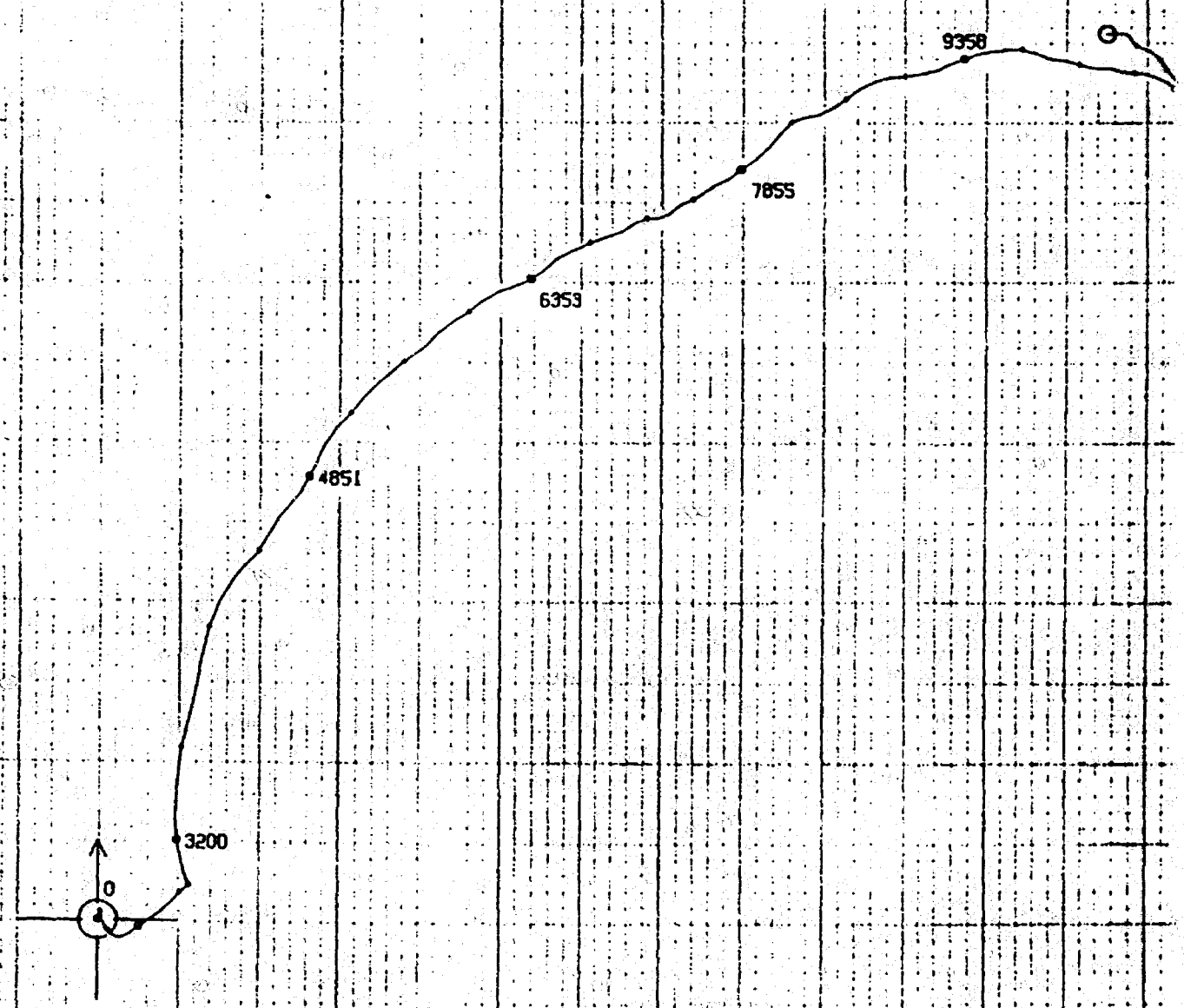
FORM D-301 R2

HEYCO
BETENBOUGH WELL NO. 1
LEA COUNTY, NEW MEXICO

EASTMAN WHIPSTOCK, INC.

HORIZONTAL PROJECTION

SCALE 1 IN. = 20 FEET
DEPTH INDICATOR: MD



FINAL STATION:
DEPTH 12080 MD. 12077.55 TVD
NORTH 111.09 EAST 125.41
CLOSURE 167.54 N 48 27 53 E

HEYCO
BETENBOUGH WELL NO.1
LEA COUNTY, NEW MEXICO

EASTMAN WHIPSTOCK, INC.

GYROSCOPIC MULTIPLE SHOT SURVEY	WT-480 G-1643
SURVEYOR: RICHARD SHIMSHACK	(0'-4600')
MAGNETIC MULTIPLE SHOT SURVEY	WT-480 S-1644
SURVEYOR: RICHARD SHIMSHACK	(4600'-9827')

VERTICAL SECTION CALCULATED IN PLANE OF PROPOSAL
DIRECTION: S 45 DEG. 0 MIN. W

RECORD OF SURVEY

RADIUS OF CURVATURE METHOD

NBOUGH WELL NO.1
OUNTY, NEW MEXICO

COMPUTATION — PAGE NO.
TIME 14:22:43 DATE 18-APR-80

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
0.	0 0	0	0.00	0.00	0.00	0.00	0.00
100.	0 15	N 9 E	100.00	-0.18	0.21 N	0.03 E	0.25
200.	0 30	N 17 E	200.00	-0.73	0.85 N	0.18 E	0.25
300.	0 0	0	300.00	-1.12	1.27 N	0.31 E	0.50
400.	0 15	S 17 E	400.00	-1.01	1.06 N	0.37 E	0.25
500.	0 30	S 3 E	499.99	-0.64	0.42 N	0.49 E	0.26
600.	0 0	0	599.99	-0.35	0.02 S	0.51 E	0.50
700.	0 30	S 29 E	699.99	-0.23	0.40 S	0.72 E	0.50
800.	0 30	S 31 E	799.99	-0.00	1.15 S	1.16 E	0.02
900.	0 15	S 41 E	899.99	0.10	1.68 S	1.54 E	0.26
1000.	0 0	0	999.98	0.12	1.85 S	1.68 E	0.25
1100.	0 15	N 21 W	1099.98	-0.03	1.65 S	1.61 E	0.25
1200.	0 0	0	1199.98	-0.06	1.44 S	1.53 E	0.25
1300.	0 30	S 35 E	1299.98	0.02	1.80 S	1.78 E	0.50
1400.	0 45	S 89 E	1399.98	-0.29	2.29 S	2.71 E	0.61
1500.	0 45	N 41 E	1499.97	-1.48	1.78 S	3.86 E	0.63
1600.	1 0	N 60 E	1599.96	-2.99	0.81 S	5.04 E	0.38
1700.	1 0	N 53 E	1699.94	-4.70	0.15 N	6.49 E	0.12
1800.	1 0	N 58 E	1799.93	-6.41	1.14 N	7.93 E	0.09
1900.	1 0	N 37 E	1899.91	-8.15	2.31 N	9.21 E	0.36
2000.	0 45	N 46 E	1999.90	-9.67	3.45 N	10.22 E	0.28
2100.	0 30	N 54 E	2099.89	-10.75	4.15 N	11.05 E	0.26
2200.	0 0	0	2199.89	-11.18	4.41 N	11.41 E	0.50
2300.	0 0	0	2299.89	-11.18	4.41 N	11.41 E	0.00
2400.	0 0	0	2399.89	-11.18	4.41 N	11.41 E	0.00
2500.	0 0	0	2499.89	-11.18	4.41 N	11.41 E	0.00
2600.	0 0	0	2599.89	-11.18	4.41 N	11.41 E	0.00
2700.	0 0	0	2699.89	-11.18	4.41 N	11.41 E	0.00
2800.	0 0	0	2799.89	-11.18	4.41 N	11.41 E	0.00
2900.	0 30	N 24 W	2899.89	-11.34	4.81 N	11.23 E	0.50

YCO
TENBOUGH WELL NO.1
A COUNTY, NEW MEXICO

COMPUTATION TIME 14:22:43 DATE 18-APR-80 PAGE NO.

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
3000.	1 0	N 17 W	2999.88	-11.88	6.03 N	10.77 E	0.51
3100.	1 15	N 13 W	3099.86	-12.86	7.93 N	10.26 E	0.26
3200.	1 15	N 9 W	3199.84	-14.08	10.07 N	9.85 E	0.09
3300.	1 30	N 1 W	3299.81	-15.62	12.46 N	9.64 E	0.31
3400.	2 0	N 6 E	3399.76	-17.88	15.51 N	9.77 E	0.54
3500.	1 30	N 4 E	3499.72	-20.22	18.55 N	10.04 E	0.50
3600.	2 0	N 11 E	3599.67	-22.64	21.58 N	10.43 E	0.54
3700.	2 15	N 17 E	3699.60	-25.81	25.18 N	11.33 E	0.33
3800.	2 15	N 10 E	3799.52	-29.16	28.99 N	12.25 E	0.27
3900.	2 15	N 10 E	3899.45	-32.38	32.86 N	12.93 E	0.00
4000.	2 15	N 17 E	3999.37	-35.72	36.67 N	13.85 E	0.27
4100.	1 45	N 28 E	4099.31	-38.94	39.89 N	15.18 E	0.63
4200.	1 30	N 36 E	4199.27	-41.70	42.30 N	16.68 E	0.34
4300.	1 30	N 41 E	4299.23	-44.30	44.34 N	18.31 E	0.13
4400.	1 30	N 46 E	4399.20	-46.92	46.24 N	20.11 E	0.13
4500.	1 15	N 13 E	4499.17	-49.20	48.30 N	21.28 E	0.82
4600.	1 45	N 48 E	4599.14	-51.69	50.52 N	22.58 E	1.02
4737.	1 15	N 35 E	4736.08	-55.79	53.59 N	25.30 E	0.38
4851.	1 30	N 26 E	4850.05	-57.97	55.53 N	26.44 E	0.35
4945.	1 15	N 29 E	4944.03	-60.12	57.53 N	27.48 E	0.28
5039.	1 30	N 20 E	5038.00	-62.23	59.58 N	28.42 E	0.35
5133.	1 45	N 48 E	5131.96	-64.82	61.77 N	29.89 E	0.88
5227.	1 15	N 38 E	5225.93	-67.27	63.57 N	31.57 E	0.60
5321.	1 15	N 34 E	5319.91	-69.30	65.23 N	32.78 E	0.09
5415.	1 30	N 54 E	5413.88	-71.54	66.84 N	34.33 E	0.57
5508.	1 45	N 45 E	5506.84	-74.17	68.55 N	36.34 E	0.38
5602.	1 15	N 60 E	5600.81	-76.60	70.04 N	38.28 E	0.67
5696.	2 0	N 51 E	5694.77	-79.22	71.55 N	40.48 E	0.84
5790.	1 45	N 39 E	5788.72	-82.29	73.72 N	42.65 E	0.49
5884.	1 15	N 62 E	5882.69	-84.72	75.28 N	44.54 E	0.82

CO
ENBOUGH WELL NO.1
COUNTY, NEW MEXICO

COMPUTATION PAGE NO.
TIME DATE
14:22:43 18-APR-80

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
5978.	1 0	N 55 E	5976.67	-86.52	76.24 N	46.11 E	0.30
6072.	1 30	N 49 E	6070.65	-88.55	77.51 N	47.73 E	0.55
6166.	1 15	N 70 E	6164.62	-90.72	78.64 N	49.66 E	0.59
6260.	1 30	N 68 E	6258.59	-92.78	79.45 N	51.76 E	0.27
6353.	1 15	N 65 E	6351.56	-94.86	80.34 N	53.81 E	0.28
6447.	1 0	N 47 E	6445.55	-96.66	81.37 N	55.33 E	0.46
6541.	1 30	N 47 E	6539.52	-98.71	82.77 N	56.83 E	0.53
6635.	1 45	N 78 E	6633.49	-101.22	83.98 N	59.17 E	0.96
6729.	1 15	N 58 E	6727.45	-103.48	84.90 N	61.44 E	0.76
6823.	1 15	N 83 E	6821.43	-105.31	85.58 N	63.36 E	0.58
6917.	1 30	N 59 E	6915.40	-107.33	86.31 N	65.47 E	0.66
7010.	1 0	N 50 E	7009.38	-109.35	87.50 N	67.14 E	0.57
7104.	0 45	S 85 E	7102.37	-110.57	87.91 N	68.46 E	0.76
7198.	0 45	N 81 E	7196.36	-111.47	87.96 N	69.69 E	0.19
7292.	1 15	N 56 E	7290.35	-112.96	88.55 N	71.20 E	0.69
7386.	1 0	N 48 E	7384.33	-114.79	89.69 N	72.65 E	0.31
7480.	1 0	N 82 E	7478.32	-116.31	90.37 N	74.12 E	0.62
7574.	1 0	N 34 E	7572.30	-117.86	91.22 N	75.47 E	0.87
7668.	1 0	N 80 E	7666.29	-119.43	92.09 N	76.81 E	0.83
7762.	1 15	N 49 E	7760.27	-121.15	92.87 N	78.45 E	0.69
7855.	1 15	N 56 E	7853.25	-123.16	94.11 N	80.06 E	0.16
7949.	1 30	N 53 E	7947.22	-125.38	95.42 N	81.90 E	0.28
8043.	1 15	N 40 E	8041.19	-127.63	96.96 N	83.53 E	0.42
8137.	1 15	N 38 E	8135.17	-129.67	98.56 N	84.82 E	0.05
8231.	1 15	N 53 E	8229.15	-131.71	99.99 N	86.28 E	0.35
8325.	0 45	N 83 E	8323.13	-133.21	100.60 N	87.78 E	0.75
8419.	1 30	N 76 E	8417.12	-134.73	100.93 N	89.60 E	0.81
8513.	1 0	N 52 E	8511.09	-136.65	101.83 N	91.43 E	0.76
8606.	1 15	N 54 E	8604.08	-138.46	102.93 N	92.89 E	0.27
8700.	1 30	N 56 E	8698.05	-140.68	104.22 N	94.73 E	0.27

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
8794.	1 15	N 70 E	8792.02	-142.82	105.24 N	96.74 E	0.44
8888.	1 0	N 89 E	8886.00	-144.33	105.58 N	98.54 E	0.47
8982.	1 15	N 77 E	8979.98	-145.79	105.80 N	100.37 E	0.36
9076.	1 15	N 89 E	9073.96	-147.40	106.05 N	102.40 E	0.28
9170.	1 15	N 60 E	9167.94	-149.17	106.59 N	104.36 E	0.67
9264.	1 0	N 71 E	9261.92	-150.89	107.36 N	106.04 E	0.35
9358.	1 0	N 67 E	9355.91	-152.39	107.94 N	107.57 E	0.07
9451.	1 0	N 74 E	9448.89	-153.85	108.49 N	109.10 E	0.13
9545.	1 0	N 80 E	9542.88	-155.25	108.85 N	110.70 E	0.11
9639.	1 15	N 84 E	9636.86	-156.72	109.11 N	112.52 E	0.28
9733.	1 30	S 86 E	9730.83	-158.34	109.15 N	114.78 E	0.37
9827.	1 0	S 59 E	9824.81	-159.28	108.54 N	116.71 E	0.81
9921.	1 0	S 78 E	9918.79	-159.93	107.94 N	118.23 E	0.35
10015.	1 15	S 89 E	10012.78	-161.08	107.73 N	120.06 E	0.35
10109.	1 15	S 65 E	10106.75	-162.16	107.27 N	122.05 E	0.55
10202.	1 15	S 86 E	10199.73	-163.18	106.77 N	124.00 E	0.49
10296.	1 0	N 87 E	10293.71	-164.47	106.75 N	125.85 E	0.30
10390.	1 0	S 57 E	10387.70	-165.28	106.34 N	127.40 E	0.66
10484.	0 45	N 72 E	10481.69	-166.12	106.15 N	128.78 E	0.84
10578.	1 0	S 66 E	10575.68	-167.06	106.08 N	130.18 E	0.71
10672.	1 0	S 70 E	10669.66	-167.70	105.47 N	131.70 E	0.07
10766.	0 45	S 61 E	10763.65	-168.20	104.87 N	133.01 E	0.30
10860.	0 45	S 38 E	10857.64	-168.30	104.08 N	133.93 E	0.32
10953.	0 30	N 1 E	10950.64	-169.00	104.33 N	134.67 E	1.27
11047.	0 15	N 53 W	11044.63	-169.19	104.86 N	134.41 E	0.43
11141.	1 0	N 44 W	11138.63	-169.13	105.54 N	133.64 E	0.80
11235.	0 45	N 37 W	11232.62	-169.24	106.63 N	132.71 E	0.29
11329.	1 0	N 27 W	11326.61	-169.56	107.84 N	131.95 E	0.31
11423.	1 0	N 69 W	11420.59	-169.48	108.92 N	130.76 E	0.76
11517.	0 15	N 69 W	11514.59	-169.06	109.28 N	129.80 E	0.80

YCO
TENBOUGH WELL NO.1
A COUNTY, NEW MEXICO

COMPUTATION PAGE NO.
TIME DATE
14:22:43 18-APR-80

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
11611.	0 45	N 71 W	11608.58	-168.71	109.56 N	129.03 E	0.53
11704.	0 30	N 16 W	11701.58	-168.74	110.27 N	128.36 E	0.66
11798.	0 30	N 42 W	11795.57	-168.96	110.98 N	127.97 E	0.24
11892.	0 30	S 69 W	11889.57	-168.56	111.16 N	127.22 E	0.60
11986.	0 30	N 71 W	11983.57	-167.98	111.15 N	126.41 E	0.36
12080.	0 45	S 65 W	12077.56	-167.24	111.10 N	125.42 E	0.56

FINAL CLOSURE - DIRECTION: N 48 DEGS 28 MINS E
DISTANCE: 167.55 FEET

EXHIBIT 5

DRILLING REPORT SHOWING DATE OF RESERVOIR PENETRATION

Moranco #7

HARVEY E. YATES COMPANY
HEYCO-BETENBOUGH (Re Entry)

660' FNL and 1980' FWL,
Sec. 32, T-13S, R-36E,
Lea County, New Mexico

4/23/80 Depth-11,320';drlg w/Navidril; formation-li, sh and ch; drld 27', mostly cement. Totco: 64° N and 1° W @ 11,293'. Mud Wgt-9.7#; Vis-35; WL-9. 13 3/4 hrs-drlg; 6 3/4 hrs-trip; 1 1/2 hrs-totco; 1/4 hr-work BOP; 3/4 hr-repair.

4/24/80 Drlg @ 11,342'; formation-li and sh; 22' of progress. Mud Wgt-8.8#; Vis-35; WL-10. Directional Survey: 2° S and 15° W @ 11,318'. 8 hrs-drlg; 13 hrs-trips; 1 3/4 hrs-directional survey; 1 1/4 hrs-reaming w/hole opener.

4/25/80 Drlg @ 11,560'; formation-li and sh; 218' of progress. Totcos: 2 3/4° @ 11,384'; 2 3/4° @ 11,455' and 3 3/4° S and 43° E @ 11,515'. Mud Wgt-8.9#; Vis-36; pH-10; WL-10; chl-127,000; KCl-5 1/2%; solids-1 1/2%. 20 1/2 hrs-drlg; 2 1/4 hrs-totcos; and 1 1/4 hrs-working stuck DP.

4/26/80 Depth-11,661' running Deviation Survey. Formation-li and sh; 101' of progress. Mud Wgt-9.1#; Vis-38; WL-10. 7 1/4 hrs-drlg; 7 hrs-trip; 2 hrs-Dev Survey; 1 1/4 hrs-work BOP; 2 1/2 hrs-repair.

4/27/80 Drlg @ 11,910'; formation li-and sh; 249' of progress. Mud Wgt-9#; Vis-39; WL-15. Totco: 4° @ 11,849'. 21 hrs-drlg; 2 1/2 hr-totco; 1/4 hr-surveying rig; 1/4 hr-work BOP.

4/28/80 Depth-12,069' on TIH. Formation-li and sh; 159' of progress. Mud Wgt-9#; Vis-38; WL-14. Totco: 3 1/2° @ 12,069'. 17 1/2 hrs-drlg; 5 hrs-trip; 1 1/4 hr-totco; 1/4 hr-work BOP.

4/29/80 Drlg @ 12,235'; formation-li and sh; 166' of progress. Mud Wgt-9#; Vis-38; WL-14. Totco: 3° @ 12,228'. 21 hrs-drlg; 2 hrs-trip; 3/4 hr-totco; 1/4 hr-work BOP.

4/30/80 Depth-12,347' circulating for DST #1. Formation-li and sh; 112' of progress. Mud Wgt-9.1; Vis-38; WL-11. Worth Well Service will run Caliper Survey to select pkr seat. 21 3/4 hrs-drlg; 2 hrs-circulating; 1/4 hr-work BOP.

5/01/80 Depth-12,347' waiting for daylight to POH w/test. Formation-li and sh. Mud Wgt-9#; Vis-36; WL-11.6. Totco: 2 3/4° @ 12,347'. 8 1/4 hrs-trip; 2 hrs-circulating; 1/4 hr-work BOP; 13 1/2 hrs-testing.

EXHIBIT 6

OPERATIONS AND PRODUCTION REPORT
(First Commercial Production From Reservoir)

No production as of date of this application

EXHIBIT 7

LIST OF CO-LESSEES, WORKING INTEREST OWNERS,

AND GAS PURCHASERS

HEYCO BETENBOUGH #1
Working Interest Owners

Northern Natural Gas Company
403 Wall Towers West
Midland, Texas 79701

Yates Petroleum Corporation
207 South Fourth Street
Artesia, New Mexico 88210

Professional Investment & Trust Co.
P. O. Box 1599
Lovington, New Mexico 88260

Maurice Hobson
Security Bank and Trust
P. O. Drawer 638
Alamogordo, New Mexico 88310

KRM Petroleum Corporation
Suite 820, 817 17th Street
Denver, Colorado 80202

Harvey E. Yates Company
Explorers Petroleum Corp.
Fred G. Yates, Inc.
Spiral, Inc.
P. O. Box 1933
Roswell, New Mexico 88201

GAS PURCHASER

El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas 79978

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
23 July 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Harvey E. Yates Company for an NGPA determination, Lea County, New Mexico.

CASE 6983

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:

Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

Robert H. Strand, Esq.
Suite 300
Security Nat'l Bank Bldg.
Roswell, New Mexico 88201

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

I N D E X

E X H I B I T S

MR. STAMETS: We'll call next Case 6983.

MR. PADILLA: Application of Harvey E. Yates Company for an NGPA determination. Lea County, New Mexico.

MR. STRAND: Mr. Examiner, we're short or exhibits, cross sections. You might refer to the ones with the application that was filed.

We'll get the others to you up here as soon as we can.

MR. STAMETS: All right.

MR. STRAND: Mr. Examiner, Robert H. Strand, attorney from Roswell, appearing for the applicant. Is Mr. Smith considered sworn and qualified?

MR. STRAMETS: Yes, Mr. Smith was previously sqorn and qualified and remains so for purposes of this case.

MR. STRAND: Mr. Examiner, the purpose of the application in Case Number 6983 is to apply for a determination under the Natural Gas Policy Act; that the HEYCO Betenbough No. 1 Well, located 660 feet from the north line and 1980 from the west line of Section 32, Township 13 South, Range 36 East, Lea County, is a new on-shore reservoir as defined in the Natural Gas Policy Act.

And I would also state for the record that this Betenbough No. 1 Well is the same well that we re-

ferred to the prior hearing on the directional drilling, so we will not present additional evidence as to the directional drilling at this time.

MR. STAMETS: Fine.

RANDOLPH C. SMITH

being called as a witness and having been previously sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. STRAND:

Q Mr. Smith, are you familiar with the application in Case Number 6983?

A Yes, I am.

Q What was the original spud date of the Superior Betenbough No. 1 Well, which was re-entered by Harvey E. Yates Company?

A The original spud date was February 29th, 1964.

Q At what date did re-entry operations commence?

A April 6, 1980. I'm sorry, March. It's March.

Q March 6, 1980?

A March 6, 1980, yes.

Q. Mr. Smith, is the well located on fee owned lands?

A. Yes, it is.

Q. And could you state the total depth drilled?

A. The total depth of the well was 13,968 feet.

Q. And the well bottomed out at what location?

A. 654 feet from the north line, 2158 feet from the west line.

Q. What is the producing formation in the well?

A. The Upper and Lower Atoka Sand.

Q. Would you describe just in brief, general geological terms the Atoka formation?

A. The Atoka formation consists of sand, shale sequences, with scattered periodic Atoka sand intervals throughout the section.

Q. Mr. Smith, what is the producing interval in the well?

A. The producing interval in this Atoka section is from 12,315 feet down through 12,900 feet.

Q. Are you familiar with the term "resevoir" as defined under the Natural Gas Policy Act of 1978?

A. Yes, I am.

Q. Mr. Smith, I refer you to Exhibit Number One. Will you please describe that exhibit?

A. Yes. Exhibit Number One is an Atoka Sand reservoir outline map with cross section A-A' on this map. The circle within the unit boundary signifies the estimated sand outline in this particular location.

Q. Is it your opinion, based on your analysis of the wells contained in the cross section, which we'll get to in a minute, that this is an approximate extent of the producing reservoir?

A. Yes, it is.

Q. I refer you to Exhibit Number Two. Would you please describe that?

A. Exhibit Number Two is a structure map made by GeoMap Company in Midland, Texas, on top of the Siluro-Devonian, contour interval of 100 feet; may scale 1 inch equals 8000 feet. Also showing the well location and cross section A-A'.

Q. I refer you to Exhibit Number Three, which is the cross section. Would you please describe that?

A. Yes, Exhibit Number Three is cross section A-A', which goes from the Superior Austin Well in 26 of 13, 35, in Lea County, through the Superior Betenbough, which is right adjacent to the re-entry log section of the Harvey E.

Yates No. 1 Betenbough, and then that's in 32 of 13, 36, and then down to A', which is the Sinclair Richardson Well in Section 5 of 14, 36.

Q. Mr. Smith, referring to all exhibits, would you please briefly describe what parameters you used to define the reservoir as you have it drawn on Exhibit Number One?

A. Yes. The basis of the parameters and the limits of this reservoir, as shown on this Exhibit Number One, is primarily based on the fact that the Superior Austin Well in Section 26, 13, 35, was spudded 9-21-61, P&A'd 1-6-62, which is the lefthand log on the cross section, which no test or attempts to complete or perforate the Atoka section were attempted.

The purpose of this well on this cross section is to show that as it stands at this date, there is no evidence of any commercial production to the west of our re-entry.

The Sinclair Richardson Well to the south, which was spudded January 28th, '63, and P&A'd 5-27-63, also indicated that there was no commercial production at the time this well -- or no thought that there was commercial production at the time this well was drilled in the Atoka section. That's the righthand log on our cross section A-A'.

There were two zones that were perforated, one in the Upper Atoka, one in the Lower. Neither one of them were classified and believed to be commercial production at this stage; therefor, they were plugged. And this also shows that there is no evidence of Atoka Sand production to the south of our re-entry at this location.

And as we move to the north there are some wells that did go to the Devonian but there were no sands present in any of these wells in the Tatum Field itself in the Atoka section.

Q. Mr. Smith, do you have any control to the east at all?

A. No, we really have no control.

Our interpretation and understanding of this reservoir is that we do not know the lateral extent, if there is any at all, and other than what we hope that's in the unit area, and that's what the outline is drawn on this Exhibit Number One.

And Exhibit Number Three shows the sands in which we perforated. The sands are colored in yellow; porosity is colored in red; perforations are marked. We tested the upper and lower sands, recovered in the Upper Atoka Sands we recovered 300 Mcf on drill stem test, gas to surface; Lower Atoka Sands, we recovered 270 Mcf.

We decided to perforate all these sands

in hopes that we could obtain some economical gas recovery.

Q. Mr. Smith, has natural gas been produced in commercial quantities in this Atoka reservoir in the past?

A. Not that I know of.

Q. Other than the original wellbore of the Superior Betenbough No. 1, which the applicant re-entered, has the reservoir as you've outlined it, been penetrated by any other old wells as defined under the Natural Gas Policy Act?

A. No, sir.

Q. With reference to the original well that Superior drilled, was that Atoka zone tested?

A. Yes. In the Superior Betenbough Well they did test both of these Upper and Lower Atoka Sands, recovered some shows of gas, but at this time they decided it was not, or would not be economically feasible to them, so they plugged the hole.

It was originally drilled as a Devonian test; was low to their prognosis. They tested these as they went down through there, but they had no future decisions to try to complete these sands.

MR. STRAND: I believe that's all the questions I have, Mr. Examiner.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Smith, on your Exhibit One you show what appears to be two wells side by side in the north half of Section 32. Are those in fact the same hole?

A. Yes, sir, they are. It's the -- the one on the right is just for clarity and the bottom hole location, but it is to the east rather than to the west there. Actually, it's only a couple hundred feet away, 180 feet away from the original hole surface location, the bottom hole location is, and they would essentially be right on top of one another, but for clarity we displayed them like that.

Q. And looking at the log of the two wells which penetrated the same section, is there considerable difference between the completed intervals as between the two wells?

A. No, there's not a great amount of difference. Our well tends to be a little further to the east, in which the sands are a little dirtier, a little tighter, a little finer; not as clean as the ones that were in the original well. The purpose of the re-entry was to penetrate some clean sands, newer sands, because of the original idea that when these were tested in the early '60s that there would be damage to the formation and we wouldn't be able to recover any gas at this time, if we just re-entered those sands themselves.

Q. Well, looking at the log from here, it

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

would appear that the lower section there is much bigger than the equivalent section in the original hole.

A. Well, these sands vary in thickness from location here, although they're deposited in the same place at the same time. As you move a few feet over you can get a variable in thickness, so they won't be identical, but you'll have -- they are similar sands in the very same place geographically.

Q. Getting back to my original question, it would appear to me looking at the logs, that there is considerable difference in the formation considering the proximity of the two holes.

A. Well, the zone appears to be relatively thicker in the lower section, but it thins in the upper section of the lower portion there.

Q. Well, that would be my next question. Is that actually an equivalent zone or is that zone above the equivalent looking zone in the original hole?

A. My belief and interpretation is that they are equivalent zones.

One of the things that you do see is that our sands, reading about 40 to 50 API, which is relatively dirtier than the original well, which was 20 to 30 API. So although it was a little bit thinner in the lower section, it was thicker in the upper section, and these sands were

deposited in such a way that they will be variable from well to well, but as far as the lateral extent and predictability of this reservoir, we're not quite sure.

Q. Do you feel that the original well didn't produce because the formation wasn't as permeable as the formation that you completed in, or because drilling techniques weren't sufficiently refined in order to protect the formation while it was being drilled?

A. The latter probably is the determination for that, and the price of gas at the time. Modern techniques improved procedures for drilling these wells and recover of the gas.

Q. However, a number of wells completed in the Austin Mississippian zone a few miles south, I guess the closest one being the Austin Monteith Well in Section 80 about two miles south, have you examined the records on those wells to determine if any of those were productive or are productive in the Atoka zone?

A. Yes, I have examined them, and no, they do not appear to be productive, and my interpretation has been a tight, a very impermeable, very little indications of any gas and porosity and permeability.

Q. What is the combined potential on this well? You gave the potential for each individual zone in the Atoka. What was the combined potential?

A. Well, the combined potential at this time, although we have not run a 4-point test, is believed to be around 840 Mcf a day on 1/2 inch choke.

Q. And what pressures, shut-in pressures?

A. Around 4000 pounds.

Q. Is that surface?

A. Yes, sir. No, that's bottom hole pressure.

Q. 4000. Isn't that somewhat subnormal for a depth of 12,000 feet?

A. Yes, sir, it is.

Q. How do you explain that?

A. It's a tight reservoir.

Q. How long shut-in period did you have on this 4000?

A. I believe it was around 4 or 5 hours.

Q. Do you feel that the pressure will continue to build as the well is shut-in or is that the standard of pressure in this reservoir?

A. I do not know, at this time. This is the first well in this area in which the sands have proven to have any productable accumulations and there is no real reservoir pressures or data at this time to substantiate anything else.

Q. How long has the well been shut-in now?

A. It's in the process, hopefully, of being

hooked up presently; a couple of months.

Q. You talk about being hooked up, you're talking about today or tomorrow?

A. It is my understanding it was to be today or tomorrow, yes, sir.

MR. STRAND: Within a week at the most.

Q. Okay, I was wondering if we could get some sort of a pressure on that well before it's turned into the line; at least a surface pressure, to indicate whether it's continuing to build or that's the extent of the pressure in this zone.

MR. STRAND: I'm sure we have that information back at the office.

MR. STAMETS: Okay, you can submit that after the hearing. I would appreciate it. If you're able to take the pressure -- if it's -- if it's a significant difference -- and calculate bottom hole pressure, I would appreciate it.

MR. STRAND: Mr. Smith, were Exhibits One through Three prepared by you or under your supervision?

A. Yes, they were.

MR. STRAND: Mr. Examiner, I would move the admission of Exhibits One through Three.

MR. STAMETS: These exhibits are admitted.

Q. One more question, Mr. Smith. It would

appear as though we pretty well examined every well that shows up on this map within 2, 2-1/2 miles of the well in question, is that correct?

A. That's correct, sir.

MR. STAMETS: Any other questions of this witness? He may be excused.

Anything further in this case?

The case will be taken under advisement.

(Hearing concluded.)

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Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

_____

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. _____, heard by me on _____ 19____.

_____, Examiner
Oil Conservation Division

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

HEYCO

PETROLEUM PRODUCERS

HARVEY E. YATES COMPANY

P. O. BOX 1933 SUITE 300, SECURITY NATIONAL BANK BUILDING 505-623-6601
ROSWELL, NEW MEXICO 88201

July 3, 1980

Case 6983

Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

RECEIVED
JUL 17 1980
OIL CONSERVATION DIVISION
SANTA FE

Re: Application for NGPA
Determination
HEYCO BETENBOUGH #1 WELL
T-13S, R-36E, Sec. 32
API Number: 30-025-20902
Catagory Requested:
102 (c)(1)(C)

Gentlemen:

Enclosed for filing is the above referenced Application for Ceiling Price Determination pursuant to the Natural Gas Policy Act of 1978.

An extra copy of this letter is enclosed and we will appreciate your returning the same showing the date of filing.

Sincerely,

Robert H. Strand

NGPA #1-21

Date of filing _____

NEW MEXICO OIL CONSERVATION DIVISION
P. O. Box 2088, Santa Fe, New Mexico 87501

APPLICATION FOR WELLHEAD
PRICE CEILING CATEGORY DETERMINATION

Kind of Lease	FEE

1. FOR DIVISION USE ONLY

DATE OF: APPLICATION _____

DETERMINATION _____

CONTESTED _____

PARTICIPANTS _____

HARVEY E. YATES COMPANY	HEYCO BETENBOUGH
P.O. BOX 1933, Roswell, New Mexico 88201 505 /623-6601	#1
C 660 North 1980	Wildcat
West 32 13S 36E	LEA

11. Name and Address of Transporter(s)

El Paso Natural Gas Company, P. O. Box 1492, El Paso, Texas 79978

WELL CATEGORY INFORMATION

Check appropriate box for category sought and information submitted.

1. Category(ies) Sought (By NGPA Section No.) 102-4

2. All Applications must contain:

[X] a. C-101 APPLICATION FOR PERMIT TO DRILL, DEEPEN OR PLUG BACK

[X] b. C-105 WELL COMPLETION OR RECOMPLETION REPORT

[X] c. DIRECTIONAL DRILLING SURVEY, IF REQUIRED UNDER RULE 111

[X] d. AFFIDAVITS OF MAILING OR DELIVERY

3. NEW NATURAL GAS UNDER SEC. 102(c)(1)(B) (using 2.5 Mile or 1000 Feet Deeper Test)

[ ] a. Location Plat

4. NEW NATURAL GAS UNDER SEC. 102(c)(1)(C) (new onshore reservoir)

[X] a. C-122 Multipoint and one point back pressure test

5. NEW ONSHORE PRODUCTION WELL

[X] a. C-102 WELL LOCATION AND ACREAGE DEDICATION PLAT

[ ] b. No. of order authorizing infill program _____

6. STRIPPER GAS

[ ] a. C-116 GAS-OIL RATIO TEST

[ ] b. PRODUCTION CURVE FOR 12-MONTH PERIOD

[ ] c. PRODUCTION CURVE FOR THE 90-DAY PERIOD ON WHICH THE APPLICATION IS BASED

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED HEREIN IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

GEORGE M. YATES
NAME OF APPLICANT (Type or Print)

Title VICE PRESIDENT

Date June 27, 1980

Signed _____

DIVISION USE ONLY

[ ] Approved

[ ] Disapproved

The information contained herein includes all of the information required to be filed by the applicant under Subpart B of Part 274.

_____
EXAMINER

Exhibit B

FERC-121

Form Approved
OMB No. 038-R0381

U.S. DEPARTMENT OF ENERGY
Federal Energy Regulatory Commission
Washington, D.C. 20426

APPLICATION FOR DETERMINATION OF THE MAXIMUM LAWFUL PRICE UNDER THE NATURAL GAS POLICY ACT (NGPA)

(Sections 102, 103, 107 and 108)

PLEASE READ BEFORE COMPLETING THIS FORM:

General Instructions:

Complete this form if you are applying for price classification under sections 102, 103, 107 or 108 of the NGPA. A separate application is required for each well. If any reservoir qualifies for a category which differs from the category applicable to the producing well, separate applications must be made for the producing well and the reservoir. Complete each appropriate item on the reverse side of this page. The code numbers used in items 4.0 and 6.0 can be obtained from the Buyer/Seller Code Book. If there is more than one purchaser or contract, identify the additional information in the space below. Enter any additional remarks in the space below.

Submit the completed application to the appropriate Jurisdictional Agency as listed in title 18 of the CFR, part 270.103. If there are any questions, call (202) 275-4539.

Specific Instructions for Item 2.0, Type of Determination:

Section of NGPA	Category Code	Description
102	1	New OCS Lease
102	2	New onshore well (2.5 mile test)
102	3	New onshore well (1,000 feet deeper test)
102	4	New onshore reservoir
102	5	New reservoir on old OCS Lease
103	–	New onshore production well
107	–	High cost natural gas
108	–	Stripper well

Other Purchasers/Contracts:

Contract Date (Mo. Day Yr.)	Purchaser	Buyer Code

Remarks:

FT790080S/1-2

APPLICATION PURSUANT TO
SECTION 102(c)(1)(C) OF
THE NATURAL GAS POLICY ACT OF 1978 (NGPA)
NEW ONSHORE RESERVOIR

Well: HEYCO BETENBOUGH #1
API No.: 30-025-20902

AFFIDAVIT

STATE OF NEW MEXICO COUNTY OF LEA

BEFORE ME, the undersigned authority, duly commissioned and qualified within and for the State and County aforesaid, personally came and appeared GEORGE M. YATES, who, being by me first duly sworn, deposed and said:

That he is the Vice President of HARVEY E. YATES COMPANY the applicant for the well as described heretofore in this application, and, in that capacity, he is requesting the appropriate Jurisdictional Agency to determine the eligibility of said well for wellhead pricing purposes pursuant to the rules and regulations of said Jurisdictional Agency and the Federal Energy Regulatory Commission and pursuant to the NGPA.

That this application is made pursuant to 18 CFR 274.202 (d).

That prior to drilling said well, he caused to be made/prepared pursuant to his instructions:

(a) diligent examination of:

(1) the real property records maintained in the county where said well is situated.

(2) commercially produced ownership and well location maps maintained currently in applicant's office.

(3) commercially produced well completion records covering the applicable area and maintained currently in applicant's office.

(b) a title opinion covering the proposed proration unit prepared by an attorney experienced in oil and gas title examination, based on commercially prepared abstracts covering the county records and where applicable, the records of the appropriate State or Federal Land Management Agency. Said abstracts and title opinions are located in applicant's office.

(c) application to drill said well with the appropriate governmental agency. Said application was duly approved and copies are on file in applicant's office and a copy is attached hereto if required by the Jurisdictional Agency.

T-2

FERC-121

1.0 API well number: (If not available, leave blank. 14 digits.)	30-025-20902
2.0 Type of determination being sought: (Use the codes found on the front of this form.)	102 (Section of NGPA) — 4 (Category Code)
3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)	_____ feet
4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)	HARVEY E. YATES COMPANY (Name) — Seller Code P. O. Box 1933 (Street) Roswell, (City) — NM (State) — 88201 (Zip Code)
5.0 Location of this well: (Complete (a) or (b).) (a) For onshore wells (35 letters maximum for field name.)	Wildcat (Field Name) Lea (County) — NM (State)
(b) For OCS wells:	Area Name — Block Number Date of Lease: Mo. Day Yr. — OCS Lease Number
(c) Name and identification number of this well: (35 letters and digits maximum.)	HEYCO BETENBOUGH #1
(d) If code 4 or 5 in 2.0 above, name of the reservoir: (35 letters maximum.)	
6.0 (a) Name and code number of the purchaser: (35 letters and digits maximum. If code number not available, leave blank.)	EL PASO NATURAL GAS COMPANY (Name) — Buyer Code
(b) Date of the contract:	01 6 12 16 18 10 (Mo. Day Yr.)
(c) Estimated annual production:	180 MMcf.

	(a) Base Price ($/MMBTU)	(b) Tax	(c) All Other Prices (Indicate (+) or (-).)	(d) Total of (a), (b) and (c)
7.0 Contract price: (As of filing date. Complete to 3 decimal places.)	2.504	.2105	.___	2.7145
8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)	2.504	2105	.___	2.7145

9.0 Person responsible for this application:	George M. Yates (Name) — Vice President (Title) Signature July 3, 1980 (Date Application is Completed) — 505-623-6601 (Phone Number)
Agency Use Only Date Received by Juris. Agency	
Date Received by FERC	

FT7900806/2-2

That during the drilling of said well, he caused to be made/prepared pursuant to his instructions:

(a) a daily drilling log, copies of which are on file in applicant's office. A copy of the portion of said log showing the date of reservoir penetration is attached hereto if required by the Jurisdictional agency.

(b) a directional drilling survey, if required by the appropriate regulatory agency, copies of which are on file in applicant's office and a copy of which is attached hereto.

That subsequent to completion of said well, he caused to be made/prepared pursuant to his instructions:

(a) diligent examination of:

(1) production records compiled by the appropriate state agency. Copies of said records are on file in applicant's office and the offices of said agency.

(2) examination of royalty and severance tax records to the extent they were examined during the title opinion process referred to above.

(b) a completion report which was filed with the appropriate governmental agency. Copies are on file in applicant's office and the offices of said agency, and a copy is attached hereto.

(c) a well location and acreage dedication plat filed with the appropriate governmental agency. Said dedication is on file in applicant's office and the offices of said agency and a copy is attached hereto, if required by the jurisdictional agency.

(d) a title opinion for division order purposes by an attorney experienced in oil and gas title examination utilizing abstracts as described above.

(e) monthly report of operations and production which have been filed with the appropriate governmental agency. A copy of the report showing first commercial production from the subject reservoir is attached hereto if required by the jurisdictional agency.

That he has also caused to be prepared pursuant to his instructions:

(a) location plat which locates and identifies the subject well and other wells, data from which is utilized to support this application. Copies of said location plat are on file in applicant's office and a copy is attached hereto.

(b) a summary of geological data supporting this application including the following to the extent reasonably available:

Well log section defining the top and bottom reservoir

Bottom-hole or Surface Pressure Surveys

Well Potential Tests

Formation Structure Map

Subsurface Cross-Section Chart

Gas Analysis

That the above described are the only records and data reasonably available to Applicant, and there are no other public records maintained which are relevant to this application.

That, to the best of his knowledge, information, and belief and on the basis of the results of the search and examination, he answers the following questions:

(1) Was the natural gas produced in commercial quantities from the reservoir before April 20, 1977?
Answer: NO

(2) Was the reservoir penetrated before April 20, 1979, by an old well from which natural gas or crude oil was produced in commercial quantities from any reservoir: Answer: NO

(3) In the event the answer to (2) immediately above is in the affirmative, state if natural gas could have been produced in commercial quantities from the reservoir before April 20, 1977, from any old well described in said question (2). Answer: N/A

(4) a. If the answer to (3) immediatly above is answered in the netative, were any sales and deliveries of natural gas made from any other reservoir through any old well described in (2) above prior to April 20, 1977? Answer: N/A

b. And were any sales and deliveries of natural gas made from the subject reservoir through such old well on or after April 20, 1977, and before November 9, 1987? Answer: N/A

(5) If the natural gas is to be produced through an old well, were suitable facilities for the production and delivery to a pipeline of such natural gas in existence on April 20, 1979? Answer: N/A

That based upon the search and examination described above, he has concluded that to the best of his information and knowledge, that there is substantial evidence to support a determination that the gas to be produced and for which he seeks a determination is from a new onshore reservoir, and that he has no knowledge of any other information not described in the application which is inconsistent with this conclusion.

He further states that he has mailed, or caused to be mailed, postage prepaid, copies of the completed Form FERC 121, Application for Determination of the Maximum Lawful Price Under the Natural Gas Policy Act, and any jurisdictional agency Supplemental Application form to the purchaser(s) and to the co-lessee(s) and/or working interest owners, which are listed separately.

That to the best of his knowledge and belief, all information contained in this application for category determination, pursuant to the NGPA, is true and correct including all documents, testimony and evidence submitted with the application.

Signed _____
George M. Yates
Vice President
Harvey E. Yates Company

Subscribed in my presence and duly sworn to before me, this day 8th of July, 1980.

My Commission Expires:

May 16, 1983

Notary Public

OFFICIAL SEAL
Signature Kay L. Owen
KAY L. OWEN
NOTARY PUBLIC - NEW MEXICO
Notary Bond Filed with Secretary of State
My Commission Expires 5-16-83

RHS/lh

NGPA-2 #20

INDEX OF EXHIBITS

1. Completion Report
2. Well Location and Acreage Dedication Plat
3. Geological Data
   - Well Log Sections
   - Pressure Surveys
   - Structure Map
   - Cross-Section
4. Directional Drilling Survey
5. Drilling Report Showing date of Reservoir Penetration
6. Report showing date of first Commercial Production from Reservoir
7. List of Co-Lessees, Working Interest Onwers, and Gas Purchasers

EXHIBIT 1

COMPLETION REPORT

No. of Copies Received	
DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

Form C-105
Revised 1-1-65

5a. Indicate Type of Lease: State [ ] Fee [X]

5b. Gas Lease No.

1. a. Type of Well: Oil Well [ ] Gas Well [X] Dry [ ] Other

b. Type of Completion: New Well [X] Work Over [ ] Deep-en [ ] Plug Back [ ] Diff. Resvr. [ ] Other Re-Entry

2. Name of Operator: Harvey E. Yates Company

3. Address of Operator: P. O. Box 1933, Roswell, New Mexico 88201

4. Location of Well: Unit Letter C, Located 660 Feet from the North Line and 1980 Feet from the West Line of Sec. 32, Twp. 13S, Rge. 36E, NMPM

7. Farm or Lease Name: Heyco Betenbough

8. Well No.: 1

9. Pool, or Wildcat: Wildcat

10. County: Lea

15. Date Spudded	16. Date T.D. Reached	17. Date Compl. (Ready to Prod.)	18. Elevations (DF, RKB, RT, GR, etc.)	19. Elev. Cashinghead
3-6-80	5-18-80	6-19-80	3975' GR	3975

20. Total Depth	21. Plug Back T.D.	22. If Multiple Compl., How Many	23. Intervals Drilled By	Rotary Tools	Cable Tools
13,698'	13,050'		→	4700' - 13,698'	Rev. 1 0 - 470

24. Producing Interval(s), of this completion - Top, Bottom, Name

12,315' - 12,900' ATOKA

25. Was Directional Survey Made: Yes

26. Type Electric and Other Logs Run: Dresser Atlas CN/CDL/DLL/MLL/GR

27. Was Well Cored: No

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

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
Exist: 13 3/8	48#	369	17 1/2"	400 sxs	None
9 5/8	40#	4,600	12 1/4"	3,400 sxs	None
Heyco Ran: 5 1/2	17# & 20#	13,150	8 3/4"	2,100 sxs	None

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN
	- N O N E -			

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2 3/8"	12,257'	12,257'

31. Perforation Record (Interval, size and number)

12,315 - 331'	17'	1/2" dia.	68 shots
12,539 - 553'	16'	1/2" dia.	64 shots
12,637 - 642'	6'	1/2" dia.	24 shots
12,855 - 860'	6'	1/2" dia.	24 shots
12,873 - 900'	28'	1/2" dia.	112 shots

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

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
12,855'- 12,900'	1000 gal - 7 1/2% MS
12,539'- 12,642'	1000 gal - 7 1/2% MS
12,315'- 12,331'	1000 gal - 7 1/2% MS
12,315'- 12,900'	75000 gal - 7 1/2% MS w/3 stag 60/40 block w/1000 SCF N2/BBL

33. PRODUCTION

Date First Production: 6-12-80

Production Method (Flowing, gas lift, pumping - Size and type pump): Flowing

Well Status (Prod. or Shut-in): Shut-in

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period →	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
6-18-80	12	1/2"		trace	416	14	

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate →	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.)
120	0		2	832	28	45.3

34. Disposition of Gas (Sold, used for fuel, vented, etc.): Vented

35. List of Attachments

Test Witnessed By: Eddie Elliott

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED: Dick Hardee TITLE: Engineer DATE: June 25, 1980

EXHIBIT 2

WELL LOCATION AND ACREAGE DEDICATION PLAT

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-1
Effective 1-1-65

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
Harvey E. Yates Company	HEYCO Betenbough	1

Unit Letter	Section	Township	Range	County
C	32	13S	36E	Lea

Actual Footage Location of Well:

660 feet from the North line and 1980 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage
3975'	Mississippian	Wildcat	320 Acres

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

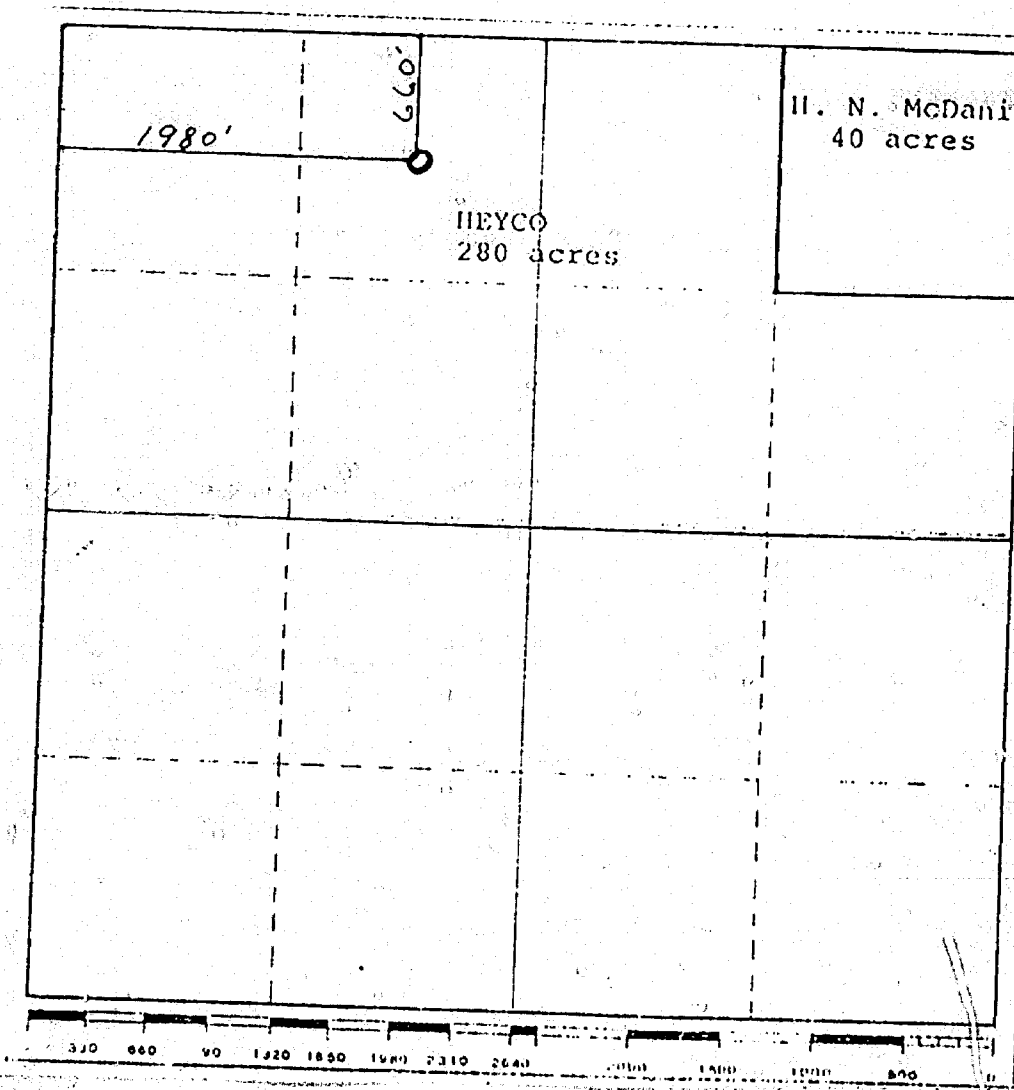
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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?

[X] Yes [ ] No If answer is "yes," type of consolidation final state approved unitization is pending.

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: [signature]

Position: Vice President

Company: Harvey E. Yates Company

Date: February 20, 1980

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: Please see original survey

Registered Professional Engineer and/or Land Surveyor

Certificate No.

EXHIBIT 3

GEOLOGICAL DATA

WELL LOG SECTION

PRESSURE SURVEYS

STRUCTURE MAP

CROSS-SECTION

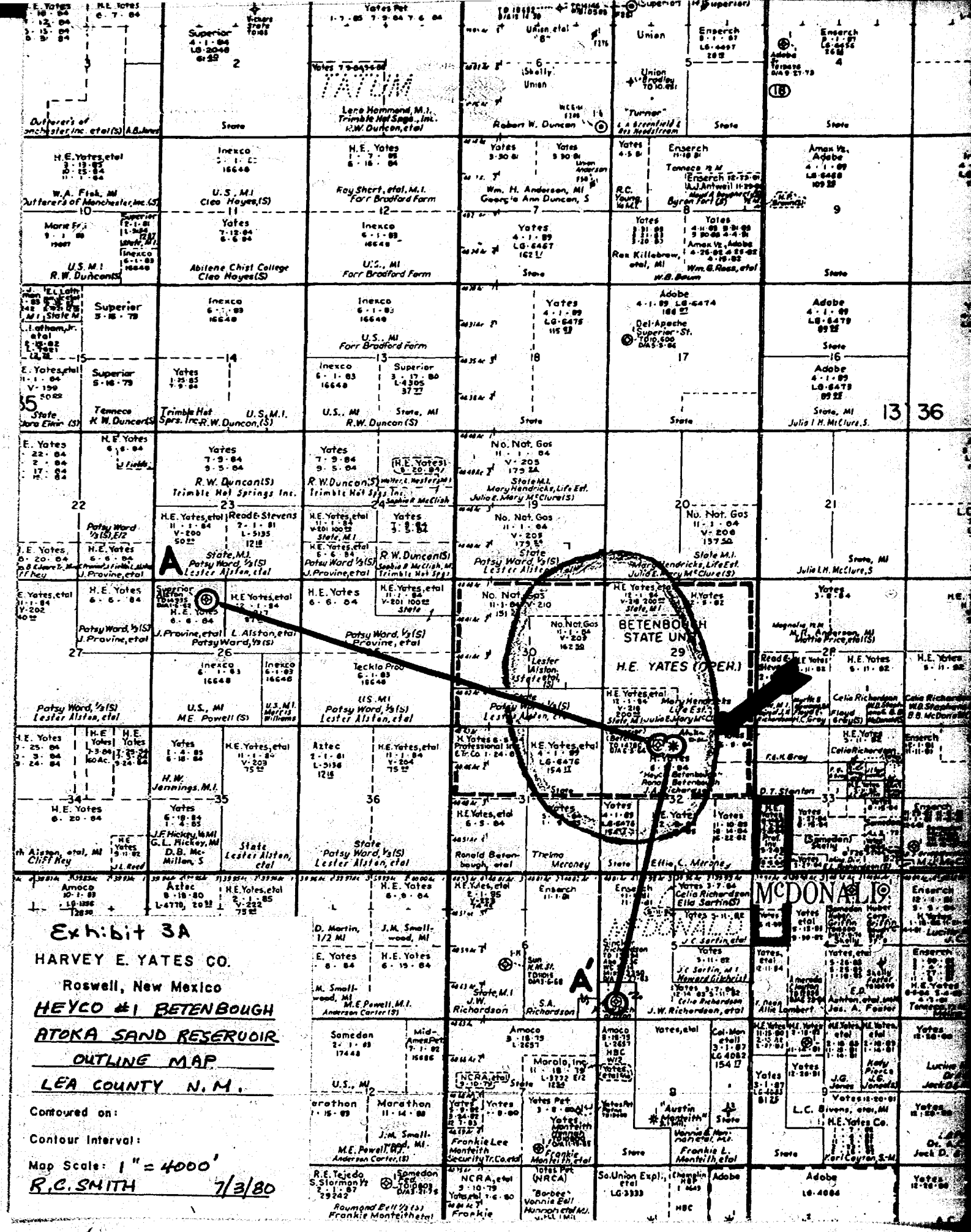

BETENBOUGH STATE UNIT
H.E. YATES (OPER.)
McDONALD
A
A'
Exhibit 3A
HARVEY E. YATES CO.
Roswell, New Mexico
HEYCO #1 BETENBOUGH
ATOKA SAND RESERVOIR
OUTLINE MAP
LEA COUNTY N.M.
Contoured on:
Contour Interval:
Map Scale: 1" = 4000'
R.C. SMITH 7/3/80

Exhibit 38

HARVEY E. YATES CO.

Roswell, New Mexico

HEYCO #1 BETENBOUGH

LEA COUNTY N.M.

GEOMAP STRUCTURE

MAP, POSTED 6/1/80

Contoured on: TOP SILURO-DEVONIAN

Contour Interval: 100'

Map Scale: 1" = 8000'

R.C. SMITH 7/3/80

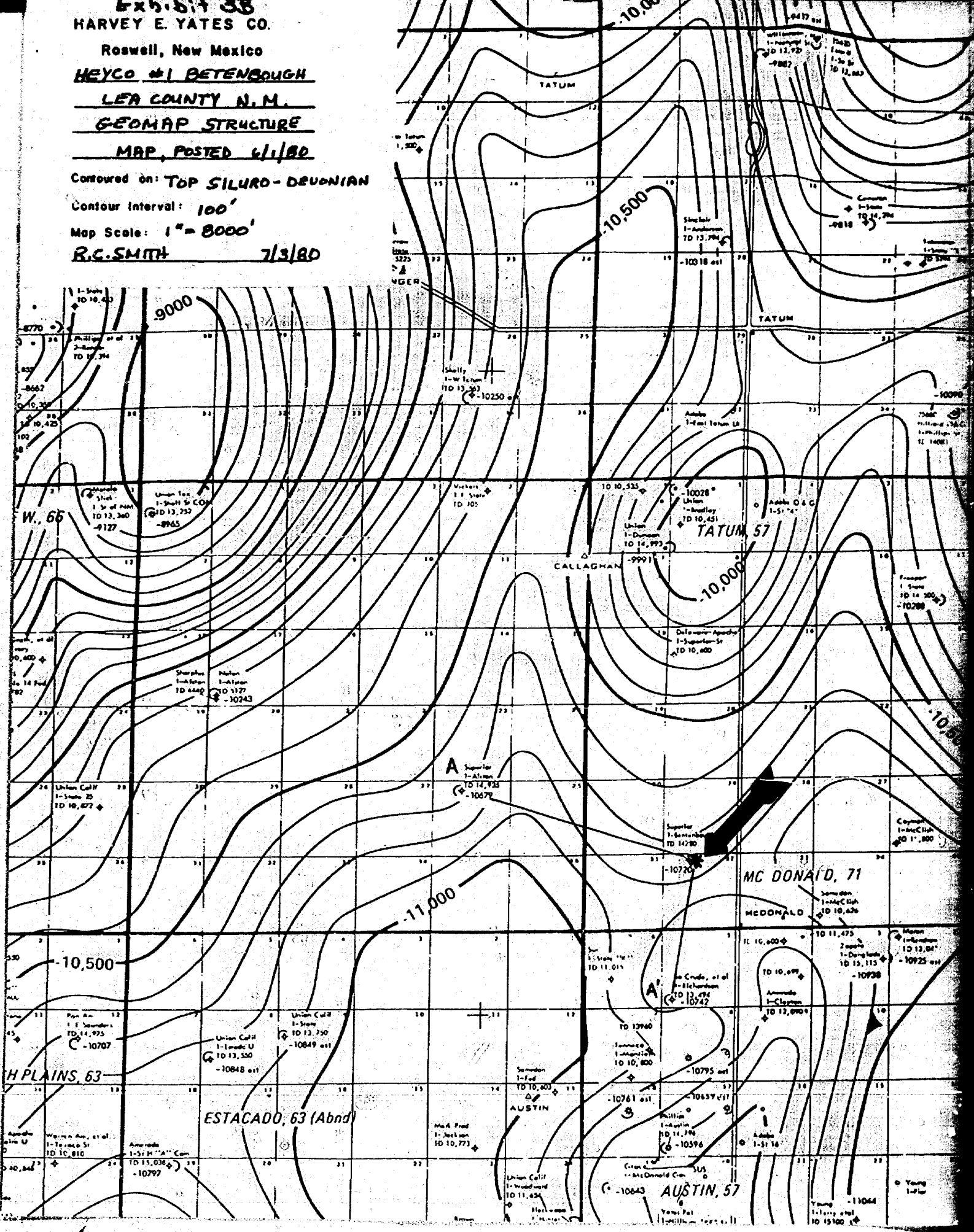


EXHIBIT 4

DIRECTIONAL DRILLING SURVEY

Eastman Whipstock
A PETROLANE COMPANY

REPORT of SUB-SURFACE DIRECTIONAL SURVEY

HEYCO
COMPANY

BETENBOUGH WELL NO. 1
WELL NAME

LEA COUNTY, NEW MEXICO
LOCATION

JOB NUMBER

TYPE OF SURVEY

DATE

SURVEYED BY

OFFICE

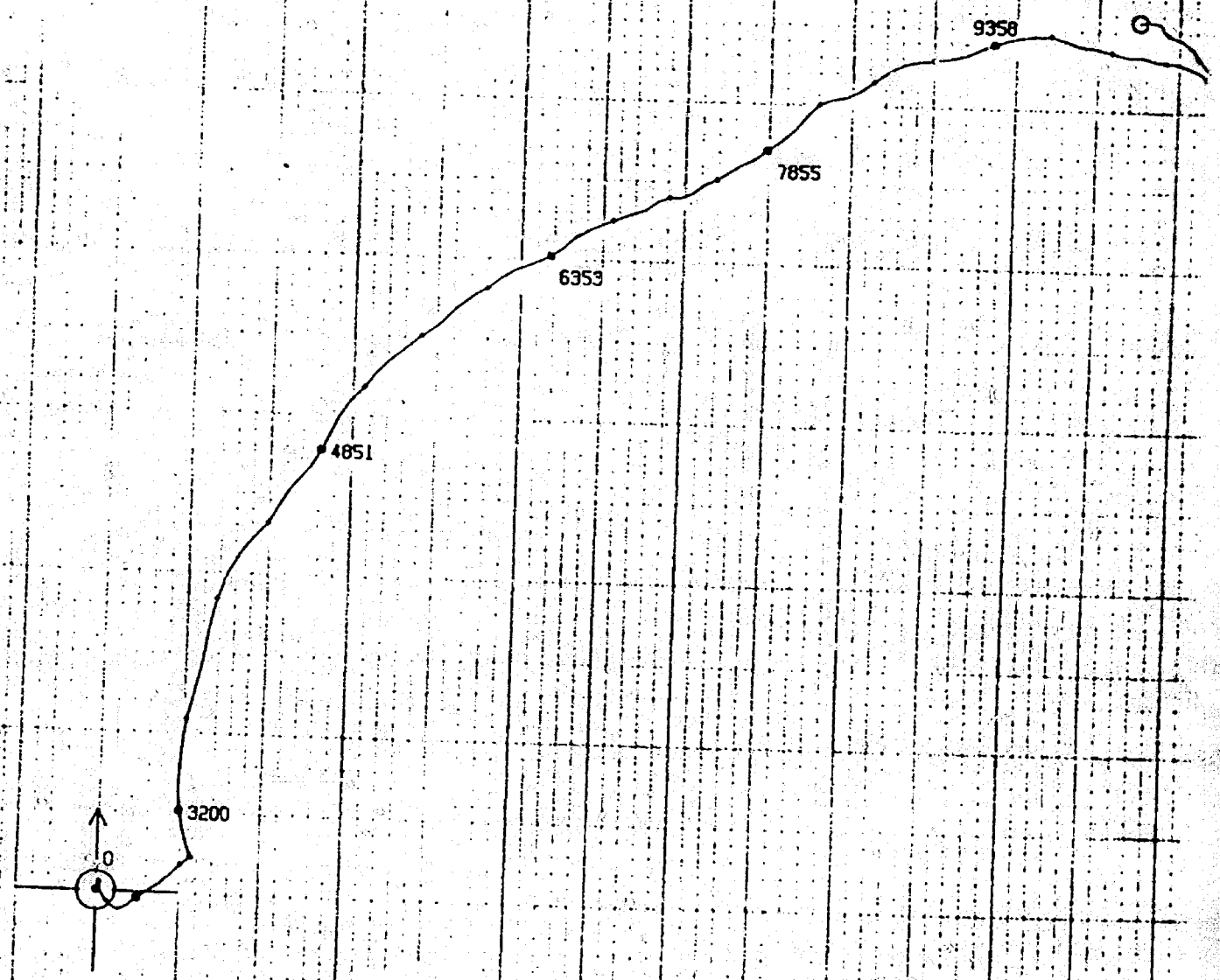
PRELIMINARY DISTRIBUTION

FORM 8-301 R2

HEYCO
BETENBOUGH WELL NO. 1
LEA COUNTY, NEW MEXICO

EASTMAN WHIPSTOCK, INC.

HORIZONTAL PROJECTION
SCALE 1 IN. = 20 FEET
DEPTH INDICATOR: MD



FINAL STATION:
DEPTH 12080 MD. 12077.55 TVD
NORTH 111.09 EAST 125.41
CLOSURE 167.54 N 48 27 53 E

HEYCO
BETENBOUGH WELL NO. 1
LEA COUNTY, NEW MEXICO

EASTMAN WHIPSTOCK, INC.

GYROSCOPIC MULTIPLE SHOT SURVEY	WT-480 G-1643
SURVEYOR: RICHARD SHIMSHACK	(0'-4600')
MAGNETIC MULTIPLE SHOT SURVEY	WT-480 S-1644
SURVEYOR: RICHARD SHIMSHACK	(4600'-9827')

VERTICAL SECTION CALCULATED IN PLANE OF PROPOSAL
DIRECTION: S 45 DEG. 0 MIN. W

RECORD OF SURVEY

RADIUS OF CURVATURE METHOD

NBOUGH WELL NO.1
COUNTY, NEW MEXICO

COMPUTATION — PAGE NO.
TIME 14:22:43 DATE 18-APR-80

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
0.	0 0	0	0.00	0.00	0.00	0.00	0.00
100.	0 15	N 9 E	100.00	-0.18	0.21 N	0.03 E	0.25
200.	0 30	N 17 E	200.00	-0.73	0.85 N	0.18 E	0.25
300.	0 0	0	300.00	-1.12	1.27 N	0.31 E	0.50
400.	0 15	S 17 E	400.00	-1.01	1.06 N	0.37 E	0.25
500.	0 30	S 3 E	499.99	-0.64	0.42 N	0.49 E	0.26
600.	0 0	0	599.99	-0.35	0.02 S	0.51 E	0.50
700.	0 30	S 29 E	699.99	-0.23	0.40 S	0.72 E	0.50
800.	0 30	S 31 E	799.99	-0.00	1.15 S	1.16 E	0.02
900.	0 15	S 41 E	899.99	0.10	1.68 S	1.54 E	0.26
1000.	0 0	0	999.98	0.12	1.85 S	1.68 E	0.25
1100.	0 15	N 21 W	1099.98	-0.03	1.65 S	1.61 E	0.25
1200.	0 0	0	1199.98	-0.06	1.44 S	1.53 E	0.25
1300.	0 30	S 35 E	1299.98	0.02	1.80 S	1.78 E	0.50
1400.	0 45	S 89 E	1399.98	-0.29	2.29 S	2.71 E	0.61
1500.	0 45	N 41 E	1499.97	-1.48	1.78 S	3.86 E	0.63
1600.	1 0	N 60 E	1599.96	-2.99	0.81 S	5.04 E	0.38
1700.	1 0	N 53 E	1699.94	-4.70	0.15 N	6.49 E	0.12
1800.	1 0	N 58 E	1799.93	-6.41	1.14 N	7.93 E	0.09
1900.	1 0	N 37 E	1899.91	-8.15	2.31 N	9.21 E	0.36
2000.	0 45	N 46 E	1999.90	-9.67	3.45 N	10.22 E	0.28
2100.	0 30	N 54 E	2099.89	-10.75	4.15 N	11.05 E	0.26
2200.	0 0	0	2199.89	-11.18	4.41 N	11.41 E	0.50
2300.	0 0	0	2299.89	-11.18	4.41 N	11.41 E	0.00
2400.	0 0	0	2399.89	-11.18	4.41 N	11.41 E	0.00
2500.	0 0	0	2499.89	-11.18	4.41 N	11.41 E	0.00
2600.	0 0	0	2599.89	-11.18	4.41 N	11.41 E	0.00
2700.	0 0	0	2699.89	-11.18	4.41 N	11.41 E	0.00
2800.	0 0	0	2799.89	-11.18	4.41 N	11.41 E	0.00
2900.	0 30	N 24 W	2899.89	-11.34	4.81 N	11.23 E	0.50

YCO
TENBOUGH WELL NO.1
A COUNTY, NEW MEXICO

COMPUTATION TIME 14:22:43 DATE 18-APR-80 PAGE NO.

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
3000.	1 0	N 17 W	2999.88	-11.88	6.03 N	10.77 E	0.51
3100.	1 15	N 13 W	3099.86	-12.86	7.93 N	10.26 E	0.26
3200.	1 15	N 9 W	3199.84	-14.08	10.07 N	9.85 E	0.09
3300.	1 30	N 1 W	3299.81	-15.62	12.46 N	9.64 E	0.31
3400.	2 0	N 6 E	3399.76	-17.88	15.51 N	9.77 E	0.54
3500.	1 30	N 4 E	3499.72	-20.22	18.55 N	10.04 E	0.50
3600.	2 0	N 11 E	3599.67	-22.64	21.58 N	10.43 E	0.54
3700.	2 15	N 17 E	3699.60	-25.81	25.18 N	11.33 E	0.33
3800.	2 15	N 10 E	3799.52	-29.16	28.99 N	12.25 E	0.27
3900.	2 15	N 10 E	3899.45	-32.38	32.86 N	12.93 E	0.00
4000.	2 15	N 17 E	3999.37	-35.72	36.67 N	13.85 E	0.27
4100.	1 45	N 28 E	4099.31	-38.94	39.89 N	15.18 E	0.63
4200.	1 30	N 36 E	4199.27	-41.70	42.30 N	16.68 E	0.34
4300.	1 30	N 41 E	4299.23	-44.30	44.34 N	18.31 E	0.13
4400.	1 30	N 46 E	4399.20	-46.92	46.24 N	20.11 E	0.13
4500.	1 15	N 13 E	4499.17	-49.20	48.30 N	21.28 E	0.82
4600.	1 45	N 48 E	4599.14	-51.69	50.52 N	22.58 E	1.02
4757.	1 15	N 35 E	4756.08	-55.79	53.59 N	25.30 E	0.38
4851.	1 30	N 26 E	4850.05	-57.97	55.53 N	26.44 E	0.35
4945.	1 15	N 29 E	4944.03	-60.12	57.53 N	27.48 E	0.28
5039.	1 30	N 20 E	5038.00	-62.23	59.58 N	28.42 E	0.35
5133.	1 45	N 48 E	5131.96	-64.82	61.77 N	29.89 E	0.88
5227.	1 15	N 38 E	5225.93	-67.27	63.57 N	31.57 E	0.60
5321.	1 15	N 34 E	5319.91	-69.30	65.23 N	32.78 E	0.09
5415.	1 30	N 54 E	5413.88	-71.54	66.84 N	34.33 E	0.57
5508.	1 45	N 45 E	5506.84	-74.17	68.55 N	36.34 E	0.38
5602.	1 15	N 60 E	5600.81	-76.60	70.04 N	38.28 E	0.67
5696.	2 0	N 51 E	5694.77	-79.22	71.55 N	40.48 E	0.84
5790.	1 45	N 39 E	5788.72	-82.29	73.72 N	42.65 E	0.49
5884.	1 15	N 62 E	5882.69	-84.72	75.28 N	44.54 E	0.82

CO
ENBOUGH WELL NO. 1
COUNTY, NEW MEXICO

COMPUTATION TIME 14:22:43 DATE 18-APR-80 PAGE NO.

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
5978.	1 0	N 55 E	5976.67	-86.52	76.24 N	46.11 E	0.30
6072.	1 30	N 49 E	6070.65	-88.55	77.51 N	47.73 E	0.55
6166.	1 15	N 70 E	6164.62	-90.72	78.64 N	49.66 E	0.59
6260.	1 30	N 68 E	6258.59	-92.78	79.45 N	51.76 E	0.27
6353.	1 15	N 65 E	6351.56	-94.86	80.34 N	53.81 E	0.28
6447.	1 0	N 47 E	6445.55	-96.66	81.37 N	55.33 E	0.46
6541.	1 30	N 47 E	6539.52	-98.71	82.77 N	56.83 E	0.53
6635.	1 45	N 78 E	6633.49	-101.22	83.98 N	59.17 E	0.96
6729.	1 15	N 58 E	6727.45	-103.48	84.90 N	61.44 E	0.76
6823.	1 15	N 83 E	6821.43	-105.31	85.58 N	63.36 E	0.58
6917.	1 30	N 59 E	6915.40	-107.33	86.31 N	65.47 E	0.66
7011.	1 0	N 50 E	7009.38	-109.35	87.50 N	67.14 E	0.57
7104.	0 45	S 85 E	7102.37	-110.57	87.91 N	68.46 E	0.76
7198.	0 45	N 81 E	7196.36	-111.47	87.96 N	69.69 E	0.19
7292.	1 15	N 56 E	7290.35	-112.96	88.55 N	71.20 E	0.69
7386.	1 0	N 48 E	7384.33	-114.79	89.69 N	72.65 E	0.31
7480.	1 0	N 82 E	7478.32	-116.31	90.37 N	74.12 E	0.62
7574.	1 0	N 34 E	7572.30	-117.86	91.22 N	75.47 E	0.87
7668.	1 0	N 80 E	7666.29	-119.43	92.09 N	76.81 E	0.83
7762.	1 15	N 49 E	7760.27	-121.15	92.87 N	78.45 E	0.69
7855.	1 15	N 56 E	7853.25	-123.16	94.11 N	80.06 E	0.16
7949.	1 30	N 53 E	7947.22	-125.38	95.42 N	81.90 E	0.28
8043.	1 15	N 40 E	8041.19	-127.63	96.96 N	83.53 E	0.42
8137.	1 15	N 38 E	8135.17	-129.67	98.56 N	84.82 E	0.05
8231.	1 15	N 53 E	8229.15	-131.71	99.99 N	86.28 E	0.35
8325.	0 45	N 83 E	8323.13	-133.21	100.60 N	87.78 E	0.75
8419.	1 30	N 76 E	8417.12	-134.73	100.93 N	89.60 E	0.81
8513.	1 0	N 52 E	8511.09	-136.65	101.83 N	91.43 E	0.76
8606.	1 15	N 54 E	8604.08	-138.46	102.93 N	92.89 E	0.27
8700.	1 30	N 56 E	8698.05	-140.68	104.22 N	94.73 E	0.27

YCO
TENBOUGH WELL NO. 1
A COUNTY, NEW MEXICO

COMPUTATION PAGE NO.
TIME 14:22:43 DATE 18-APR-80

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
8794.	1 15	N 70 E	8792.02	-142.82	105.24 N	96.74 E	0.44
8888.	1 0	N 89 E	8886.00	-144.33	105.58 N	98.54 E	0.47
8982.	1 15	N 77 E	8979.98	-145.79	105.80 N	100.37 E	0.36
9076.	1 15	N 89 E	9073.96	-147.40	106.05 N	102.40 E	0.28
9170.	1 15	N 60 E	9167.94	-149.17	106.59 N	104.36 E	0.67
9264.	1 0	N 71 E	9261.92	-150.89	107.36 N	106.04 E	0.35
9358.	1 0	N 67 E	9355.91	-152.39	107.94 N	107.57 E	0.07
9451.	1 0	N 74 E	9448.89	-153.85	108.49 N	109.10 E	0.13
9545.	1 0	N 80 E	9542.88	-155.25	108.85 N	110.70 E	0.11
9639.	1 15	N 84 E	9636.86	-156.72	109.11 N	112.52 E	0.28
9733.	1 30	S 86 E	9730.83	-158.34	109.15 N	114.78 E	0.37
9827.	1 0	S 59 E	9824.81	-159.28	108.54 N	116.71 E	0.81
9921.	1 0	S 78 E	9918.79	-159.93	107.94 N	118.23 E	0.35
10015.	1 15	S 89 E	10012.78	-161.08	107.73 N	120.06 E	0.35
10109.	1 15	S 65 E	10106.75	-162.16	107.27 N	122.05 E	0.55
10202.	1 15	S 86 E	10199.73	-163.18	106.77 N	124.00 E	0.49
10296.	1 0	N 87 E	10293.71	-164.47	106.75 N	125.85 E	0.30
10390.	1 0	S 57 E	10387.70	-165.28	106.34 N	127.40 E	0.66
10484.	0 45	N 72 E	10481.69	-166.12	106.15 N	128.78 E	0.84
10578.	1 0	S 66 E	10575.68	-167.06	106.08 N	130.18 E	0.71
10672.	1 0	S 70 E	10669.66	-167.70	105.47 N	131.70 E	0.07
10766.	0 45	S 61 E	10763.65	-168.20	104.87 N	133.01 E	0.30
10860.	0 45	S 38 E	10857.64	-168.30	104.08 N	133.93 E	0.32
10953.	0 30	N 1 E	10950.64	-169.00	104.33 N	134.67 E	1.27
11047.	0 15	N 53 W	11044.63	-169.19	104.86 N	134.41 E	0.43
11141.	1 0	N 44 W	11138.63	-169.13	105.54 N	133.64 E	0.80
11235.	0 45	N 37 W	11232.62	-169.24	106.63 N	132.71 E	0.29
11329.	1 0	N 27 W	11326.61	-169.56	107.84 N	131.95 E	0.31
11423.	1 0	N 69 W	11420.59	-169.48	108.92 N	130.76 E	0.76
11517.	0 15	N 69 W	11514.59	-169.06	109.28 N	129.80 E	0.80

YCO
TENBOUGH WELL NO.1
COUNTY, NEW MEXICO

COMPUTATION TIME 14:22:43 DATE 18-APR-80 PAGE NO.

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOG LEG SEVERITY DG/100FT
11611.	0 45	N 71 W	11608.58	-168.71	109.56 N	129.03 E	0.53
11704.	0 30	N 16 W	11701.58	-168.74	110.27 N	128.36 E	0.66
11798.	0 30	N 42 W	11795.57	-168.96	110.98 N	127.97 E	0.24
11892.	0 30	S 69 W	11889.57	-168.56	111.16 N	127.22 E	0.60
11986.	0 30	N 71 W	11983.57	-167.98	111.15 N	126.41 E	0.36
12080.	0 45	S 65 W	12077.56	-167.24	111.10 N	125.42 E	0.56

FINAL CLOSURE - DIRECTION: N 48 DEGS 28 MINS E
DISTANCE: 167.55 FEET

EXHIBIT 5

DRILLING REPORT SHOWING DATE OF RESERVOIR PENETRATION

HARVEY E. YATES COMPANY
HEYCO-BETENBOUGH (Re Entry)

660' FNL and 1980' FWL,
Sec. 32, T-13S, R-36E,
Lea County, New Mexico

4/23/80 Depth-11,320'; drlg w/Navidril; formation-li, sh and ch; drld 27', mostly cement. Totco: 64° N and 1° W @ 11,293'. Mud Wgt-9.7#; Vis-35; WL-9. 13 3/4 hrs-drlg; 6 3/4 hrs-trip; 1 1/2 hrs-totco; 1/4 hr-work BOP; 3/4 hr-repair.

4/24/80 Drlg @ 11,342'; formation-li and sh; 22' of progress. Mud Wgt-8.8#; Vis-35; WL-10. Directional Survey: 2° S and 15° W @ 11,313'. 8 hrs-drlg; 13 hrs-trips; 1 3/4 hrs-directional survey; 1 1/4 hrs-reaming w/hole opener.

4/25/80 Drlg @ 11,560'; formation-li and sh; 218' of progress. Totcos: 2 3/4° @ 11,384'; 2 3/4° @ 11,455' and 3 3/4° S and 43° E @ 11,515'. Mud Wgt-8.9#; Vis-36; pH-10; WL-10; chl-127,000; KCl-5 1/2%; solids-1 1/2%. 20 1/2 hrs-drlg; 2 1/4 hrs-totcos; and 1 1/4 hrs-working stuck DP.

4/26/80 Depth-11,661' running Deviation Survey. Formation-li and sh; 101' of progress. Mud Wgt-9.1#; Vis-38; WL-10. 7 1/4 hrs-drlg; 7 hrs-trip; 2 hrs-Dev Survey; 1 1/4 hrs-work BOP; 2 1/2 hrs-repair.

4/27/80 Drlg @ 11,910'; formation li-and sh; 249' of progress. Mud Wgt-9#; Vis-39; WL-15. Totco: 4° @ 11,849'. 21 hrs-drlg; 2 1/2 hr-totco; 1/4 hr-surveying rig; 1/4 hr-work BOP.

4/28/80 Depth-12,069' on TIH. Formation-li and sh; 159' of progress. Mud Wgt-9#; Vis-38; WL-14. Totco: 3 1/2° @ 12,069'. 17 1/2 hrs-drlg; 5 hrs-trip; 1 1/4 hr-totco; 1/4 hr-work BOP.

4/29/80 Drlg @ 12,235'; formation-li and sh; 166' of progress. Mud Wgt-9#; Vis-38; WL-14. Totco: 3° @ 12,228'. 21 hrs-drlg; 2 hrs-trip; 3/4 hr-totco; 1/4 hr-work BOP.

4/30/80 Depth-12,347' circulating for DST #1. Formation-li and sh; 112' of progress. Mud Wgt-9.1; Vis-38; WL-11. Worth Well Service will run Caliper Survey to select pkr seat. 21 3/4 hrs-drlg; 2 hrs-circulating; 1/4 hr-work BOP.

5/01/80 Depth-12,347' waiting for daylight to POH w/test. Formation-li and sh. Mud Wgt-9#; Vis-36; WL-11.6. Totco: 2 3/4° @ 12,347'. 8 1/4 hrs-trip; 2 hrs-circulating; 1/4 hr-work BOP; 13 1/2 hrs-testing.

EXHIBIT 6

OPERATIONS AND PRODUCTION REPORT
(First Commercial Production From Reservoir)

No production as of date of this application

EXHIBIT 7

LIST OF CO-LESSEES, WORKING INTEREST OWNERS,

AND GAS PURCHASERS

HEYCO BETENBOUGH #1
Working Interest Owners

Northern Natural Gas Company
403 Wall Towers West
Midland, Texas 79701

Yates Petroleum Corporation
207 South Fourth Street
Artesia, New Mexico 88210

Professional Investment & Trust Co.
P. O. Box 1599
Lovington, New Mexico 88260

Maurice Hobson
Security Bank and Trust
P. O. Drawer 638
Alamogordo, New Mexico 88310

KRM Petroleum Corporation
Suite 820, 817 17th Street
Denver, Colorado 80202

Harvey E. Yates Company
Explorers Petroleum Corp.
Fred G. Yates, Inc.
Spiral, Inc.
P. O. Box 1933
Roswell, New Mexico 88201

GAS PURCHASER

El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas 79978

623-6601

Called in by Bob Strand
July 1, 1980

Harvey E. Yates Company
NGPA Determination
New Onshore Reservoir

Heyco Betenbough #1-C
Section 32, T13S, R36E
Lea County

Mississippian

CASE 6982: In the matter of the hearing called by the Oil Conservation Division on its own motion to permit Aminoil USA to appear and show cause why its 1980 Plan of Operation/Development for its Willow Lake Unit Area, Eddy County, New Mexico, should not be disapproved.

CASE 6901: (Continued from June 25, 1980, Examiner Hearing)

Application of Harvey E. Yates Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp thru Mississippian formations underlying the E/2 of Section 19, Township 14 South, Range 36 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6954: (Continued from July 9, 1980, Examiner Hearing)

Application of Harvey E. Yates Company for amendment of Order No. R-6303, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-6303 which authorized the directional drilling of a well, the surface location of which is 660 feet from the North line and 1980 feet from the West line of Section 32, Township 13 South, Range 36 East. Applicant seeks approval for the bottom hole location of the well at a point 654 feet from the North line and 2158 feet from the West line of said Section 32.

CASE 6921: (Continued from July 9, 1980, Examiner Hearing)

Application of Harvey E. Yates Company for complusory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp-Mississippian formations underlying the S/2 of Section 33, Township 13 South, Range 36 East, to be dedicated to a well to be drilled at an unorthodox location 660 feet from the South line and 990 feet from the East line of Section 33. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

CASE 6983: Application of Harvey E. Yates Company for an NGPA determination, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination in the Mississippian formation for its Betenbough Well No. 1 located in Unit C of Section 32, Township 13 South, Range 36 East.

CASE 6984: Application of Harvey E. Yates Company for designation of a tight formation, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the designation of the Mississippian formation underlying Townships 13, 14, and 15 South, Ranges 35 and 36 East, containing 138,240 acres, more or less, as a tight formation pursuant to Section 107 of the Natural Gas Policy Act and 18 CFR Section 271.701-705.

CASE 6929: (Readvertised)

Application of Consolidated Oil & Gas, Inc. for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blanco Mesaverde and Basin-Dakota production in the wellbore of its NCRA Well No. 1-E located in Unit G of Section 22, Township 26 North, Range 7 West, by using the Dakota gas for gas lift of Mesaverde liquids after metering on the surface.

CASE 6985: In the matter of the hearing called by the Oil Conservation Division on its own motion for an order extending certain pools in McKinley, Rio Arriba, San Juan, and Sandoval Counties, New Mexico:

(a) EXTEND the Aztec-Farmington Pool in San Juan County, New Mexico, to include therein:

TOWNSHIP 30 NORTH, RANGE 11 WEST, NMPM
Section 18: SE/4

(b) EXTEND the Aztec-Fruitland Pool in San Juan County, New Mexico, to include therein:

TOWNSHIP 29 NORTH, RANGE 11 WEST, NMPM
Section 34: W/2

(c) EXTEND the Aztec-Pictured Cliffs Pool in San Juan County, New Mexico, to include therein:

TOWNSHIP 29 NORTH, RANGE 10 WEST, NMPM
Section 1: SW/4

TOWNSHIP 30 NORTH, RANGE 10 WEST, NMPM
Section 35: S/2

ROUGH

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

dr/

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 6983

Order No. R-6442

APPLICATION OF HARVEY E. YATES COMPANY FOR AN NGPA DETERMINATION, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on July 23, 1980, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this _____ day of July, 1980, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Harvey E. Yates Company, seeks a determination by the Division, in accordance with Sections 2 (6) and 102 of the Natural Gas Policy Act of 1978, and the

applicable rules of the Federal Energy Regulatory Commission, that its Betenbough Well No. 1 located _____ in Unit C of Section 32, Township 13 South, Range 36 East NMPM, Lea County, New Mexico, has discovered a new onshore reservoir from which natural gas was not produced in commercial quantities before April 20, 1977.

(3) That said well was completed in the ~~Mississippian~~ Atoka formation with perforations from 12 315 feet to 12900 feet, and a plugged-back depth of 13050 feet after having been drilled to a total depth of 13698 feet.

(4) That although there are several wells in the general vicinity of the subject well which have penetrated ~~and are or were completed~~ in the ~~Mississippian~~ Atoka formation, none of said wells was capable of commercial production therefrom. ~~pressures and productive capacity encountered in said Betenbough Well No. 1 as compared to said wells are completely distinctive and are indicative of an undrained reservoir.~~

(5) That the combined geological and engineering data presented in this case establishes that said Betenbough Well No. 1 has been completed in a new onshore reservoir as defined by the provisions of Section 102 of the Natural Gas Policy Act of 1978 and the applicable rules of the Federal Energy Regulatory Commission.

IT IS THEREFORE ORDERED:

(1) That the Harvey E. Yates Company Betenbough Well No. 1 located in Unit C of Section 32, Township 13 South, Range 36 East, NMPM, Lea County, New Mexico, is completed in a new onshore reservoir as defined by Sections 2 (6) and 102 of the Natural Gas Policy Act of 1978, and the applicable rules of the Federal Energy Regulatory Commission.

(2) That jurisdiction of this cause is hereby retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.