CASE 6072: HARVEY E. YATES COMPANY FOR POOL CREATION AND SPECIAL POOL RULES, EDDY COUNTY, NEW MEXICO

Case Number

6072

Application

Transcripts.

Small Exhibits

ETC.

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

May 16, 1980

Robert H. Strand, Attorney
Harvey E. Yates Company
P. O. Box 1933
Roswell, New Mexico 88201

Re: Case No. 6072
Order No. R-5643-A

Dear Mr. Strand:

Your request of May 6, 1980, for a 60-day extension of time to submit a plan for enhanced recovery for the Travis-Upper Pennsylvanian Pool is hereby approved.

Yours very truly,

JOE D. RAMEY
Director

JDR/RLS/fd

HEYCO

PETROLEUM PRODUCERS

HARVEY E. YATES COMPANY

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

May 6, 1980

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

Attention: Mr. Richard Stamets

Re: Case No. 6072
Order No. R-5643-A
Travis Upper
Pennsylanian Pool
Eddy County

Geneltmen:

As we discussed by telephone today, Harvey E. Yates Company hereby requests an extension of 60 days within which to submit a plan for enhanced recovery for the Travis Upper Penn Pool as required by the above referenced order.

We have within the past week spudded a well in the S/2 of Section 12, Township 18 South, Range 28 East which will test the Canyon formation which produces in three other wells in the Travis Upper Penn Pool. We feel that the information from this fourth well is necessary to prepare the enhanced recovery plan contemplated in Order R-5643-A.

As you requested, I enclose information relating to production rates and gas oil ratio as compared to one year ago. If you have any questions, please let me know.

Sincerely,

Robert H. Strand

RHS/lh
OCD-1

Enclosures

Travis State #1

		1	2	3	4	5	6
		Oil - Barrels		Gas - MCF		Gas - Oil Ratio	
		Monthly	Cumulative	Monthly	Cumulative	Cubic Ft. / Barrels	
1	August, 1979	991	991	762	762	769	769
2	September, 1979	4458	5449	2979	3741	668	687
3	October, 1979	5313	10762	6211	9952	1169	925
4	November, 1979	1962	12724	2427	12379	1237	973
5	December, 1979	-0-	12724	-0-	12379	—	973
6	January, 1980	1687	14411	793	13172	470	914
7	February, 1980	5263	19674	2793	15965	531	811
8	March, 1980	3832	23506	2193	18158	572	772
9							
10							
11							
12							
13							
14							
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5							
6							

Travis Deep Unit #2

	1	2	3	4	5	6
	Oil - Barrels		Gas - MCF		Gas-Oil Ratio	
	monthly	Cumulative	monthly	Cumulative	Cubic Ft/Barrels	
1979						
April	5632	121616	7120	145170	1264	1194
May	5829	127445	6367	151537	1092	1189
June	3529	130974	3929	155466	1113	1187
July	5084	136058	5736	161202	1128	1185
August	2771	138829	3354	164556	1210	1185
September	5050	143879	5059	169615	1002	1179
October	4475	148354	4681	174296	1046	1175
November	5535	153889	5805	180101	1049	1170
December	4862	158751	2917	183018	612	1153
January, 1980	5184	163935	5242	188320	1011	1149
February, 1980	4728	168663	5576	193896	1179	1150
March, 1980	4002	172665	3553	197449	888	1144

Travis Deep Unit #3

April, 1979	5172	71478	11766	111648	2038	1562
May	5840	77318	13221	124869	2264	1615
June	4903	82221	11051	135920	2254	1653
July	5025	87246	11123	147043	2214	1685
August	5086	92332	10780	157823	2120	1709
September	4648	96980	10326	168149	2222	1734
October	4278	101258	10685	178934	2498	1766
November	3959	105217	9594	188428	2423	1791
December	-0-	105217	-0-	188428	—	1791
January, 1980	-0-	105217	26	188454	—	1791
February	2950	108167	5977	194431	2026	1798
March	2072	110239	4670	199101	2254	1806

Case 6072

Analysis of Travis Deep Upper Penn Reservoir Performance
Section 13, T-18 S, Range 28-E, Eddy County, New Mexico

This analysis is based on Production-Pressure Performance data and PVT fluid data available of produced liquids from the Reservoir.

Historically, the initial Canyon (Cisco) Zone completion was affected in August of 1977 with the completion of the Harvey E. Yates Company Travis Deep Unit No. 2 Well. A second completion, the Harvey E. Yates Company Travis Deep Unit Well No. 3, was made in May of 1978. On April 17, 1979, the Canyon Cisco Zone was penetrated, and a drill stem test was conducted on the Harvey E. Yates Company Travis State Communitized Well No. 1 covering the entire Cisco interval, 9810 feet to 9900 feet.

The results of this test and interpretation of the production-pressure data indicates a significant reduction in the reservoir pressure further suggesting that a high degree of reservoir fluid and pressure transmissibility (communication) is indicated between the existing completed producing wells and the zone tested on April 17, 1979.

The location of the Harvey E. Yates Company Travis State Communitized Well No. 1 is 2080 feet from the West line and 1780 feet from the South line of Section 13, and is 2000 feet Southwest of the Travis Deep Unit Well No. 2. The maximum interpretive reservoir pressure from a Horner-type pressure analysis of the drill stem results indicates the current reservoir pressure at this location to be 2535 psig, approximately 1000 psig less than measured in the Travis Deep Unit Well No. 2 on December 1, 1977. The December 1, 1977 reservoir boundary pressure was 3538 psig.

Using the measured distance between the Travis Deep Unit Well No. 2 and the Travis State Communitized Well No. 1 location site, the pressure evidence suggests that the effective drainage radius of the Travis Deep Unit Well No. 2 is 2000 feet which is equivalent to a radial drainage area of 288 acres.

In February, 1978, Harvey E. Yates Company conducted an extended pressure survey to obtain additional data to attempt to evaluate the reservoir size, possible shape and reservoir boundary conditions. At February 9, 1978, the stabilized reservoir boundary pressure was projected to be 3618 psig. This was 80 psig higher than the pressure reported December 1, 1977; however, the shut-in build-up time was some 1500 hours greater than the December 1, 1977, survey period.

Utilizing production-pressure data to April 17, 1979, calculations indicate the recovery of liquids from the reservoir could approach:

	$\sum$ Oil-Bbls.	$\sum$ Gas-MCF	Reservoir Pressure
February 9, 1979	16,361	18,030	3618
April 17, 1979	188,790	251,927	2535

A Projected Reservoir Recovery Oil = $\frac{(188790-16361)(3618)}{(3618-2535)}$ + 16361 = 592,400 Barrels

Projected Ultimate Gas 4,000,000 MCF

If the primary recovery performance of this reservoir is projected to be 17.5% of initial oil-in-place, net pay of 15 feet, porosity of 6% to 6-1/2% of bulk volume and connate water saturations of 30% to 35% of pore volume, the following is computed:

Total Oil in Reservoir (Stock Tank)	3,384,000 Barrels
Total Gas in Reservoir (2608)	8,825,500 MCF
Initial Condition $\frac{(0.0625)(1-0.325)(7758)}{1.885}$	173.60 BAF
Reservoir Volume Required To Hold Oil in Place	19,490 Acre Feet
Projected Reservoir Area 15 Feet (Average Thickness)	1,300 Acres

What is optimum well spacing? This is a judgement that an individual investor must make; however, for guideline purposes, the following is presented.

Completion Cost Estimate: $42 per foot of hole drilled.

Spacing	Cost/Well	Recoverable Reserves Oil-Bbls	Recoverable Reserves Gas-MCF	Projected 8/8 Value $13.50 Oil $2.00 Gas	Investors Value Before Operations (0.80)
40 Acre	$ 420,000	19,300	129,000	$ 518,550	$ 414,840
80 Acre	420,000	38,600	258,000	1,037,100	829,680
160 Acre	420,000	77,200	516,000	2,074,200	1,659,360

Projecting reserves and economic conditions, it would appear a well density less than 80 acres would not provide a return of funds much more than the projected cost of a completion. A well on 80-acre spacing suggests a Working Interest or Operator return of approximately twice the investment; however, after allowance for royalty and operating costs, the probable future funds to an operator might provide an adequate but not necessarily an attractive investment return.

The applicant respectfully requests that proration unit size established at this time be not less than 80 acres.

Further, the applicant would agree to present all performance data at a future date for review and inspection to this Commission to judge the propriety of the 80-acre proration unit for the Travis Deep Upper Penn Field.

HARVEY E. YATES, INC.
WELL DATA AND PRODUCTION INFORMATION
TRAVIS DEEP UPPER PENN FIELD
EDDY COUNTY, NEW MEXICO
Ralph H. Viney & Associates, Inc.
Engineering Consultants

WELL DATA

Operator / Lease Name	Location	Section	Township	Range	Elevation	Total Depth	Casing Size	Weight	Depth	Cement	Producing Zone	Perforations	Completion Date	Initial Potential Test Data: Test Date	Choke Size	Oil bbls/Day	Gas MCF/Day	Water	Gravities: Oil °API	Gravities: Gas Sp. Gr.	Gas-Oil Ratio Cubic Ft/bbl	Pressures: Tubing	Pressures: Casing
Harvey E. Yates, Inc.																							
Travis Deep Unit Well No. 1	1980' FNL & 1780' FEL	13	18-S	28-E	3618' GL 3633' KB	11,270' 11,223' PB	12-3/4" 8-5/8" 5-1/2"	34# 24# 28# 17#	360' 3,500' 11,266'	425 Sks 300 Sks 950 Sks	Canyon (Cisco)	9924', 28', 31', 33' 9935', 37', 41', 44' 9950', 52', 54', 57' 9963', 65', 68', 71' 9978', 83', 94', 96' 9998', 03' 22 shots	8-18-77	8-24-77	18/64"	433	631	0	45.6	0.69	1459	960	Packer
															Production tubing string reported to be 2-3/8" EUE								
Travis Deep Unit Well No. 2	1980' FEL & 660' FNL	13	18-S	28-E	3639' GL 3654' KB	11,270' 10,904'	12-3/4" 8-5/8" 5-1/2"	50# 24# 28# 17#	376' 2,900' 11,290'	475 Sks 300 Sks 900 Sks	Canyon (Cisco)	9830-40' 6 shots 9864-75' 6 shots 9891-94' 6 shots 9911-20' 6 shots	5-16-78	5-18-78	24/64"	681	880	Some Acid Water	45.0		1292	960	Packer
															Production tubing string reported to be 2-3/8" EUE								
Travis State Com Well No. 1	1780' FEL & 2080' FNL	13	18-S	28-E																			

PRODUCTION DATA

Year	Month	Travis Deep Unit Well No. 2: Oil - Barrels Monthly	Oil - Barrels Cumulative	Gas - MCF Monthly	Gas - MCF Cumulative	Gas-Oil Ratio Cubic Feet/Barrel Monthly	Gas-Oil Ratio Cubic Feet/Barrel Cumulative	Travis Deep Unit Well No. 3: Oil - Barrels Monthly	Oil - Barrels Cumulative	Gas - MCF Monthly	Gas - MCF Cumulative	Gas-Oil Ratio Cubic Feet/Barrel Monthly	Gas-Oil Ratio Cubic Feet/Barrel Cumulative	Reservoir Totals: Oil - Barrels Monthly	Oil - Barrels Cumulative	Gas - MCF Monthly	Gas - MCF Cumulative	Gas-Oil Ratio Cubic Feet/Barrel Monthly	Gas-Oil Ratio Cubic Feet/Barrel Cumulative
1977	August	1,238	1,238	1,733	1,733	1400	1400	-	-	-	-	-	-	1,238	1,238	1,733	1,733	1400	1400
	September	6,476	7,714	7,352	9,085	1135	1178	-	-	-	-	-	-	6,476	7,714	7,352	9,085	1135	1178
	October	8,624	16,338	8,932	18,017	1035	1103	-	-	-	-	-	-	8,624	16,338	8,932	18,017	1035	1103
	November	23	16,361	-	18,017	-	1103	-	-	-	-	-	-	23	16,361	-	18,017	-	1103
	December	-	16,361	-	18,017	-	1103	-	-	-	-	-	-	-	16,361	-	18,017	-	1103
1978	January	-	16,361	13	18,030	-	1102	-	-	-	-	-	-	-	16,361	13	18,030	-	1102
	February	-	16,361	-	18,030	-	1102	-	-	-	-	-	-	-	16,361	-	18,030	-	1102
	March	6,867	23,228	8,516	26,516	1240	1143	-	-	-	-	-	-	6,867	23,228	8,516	26,516	1240	1143
	April	10,456	33,684	12,382	38,928	1184	1166	-	-	-	-	-	-	10,456	33,684	12,382	38,928	1184	1156
	May	10,593	44,277	11,096	50,024	1047	1130	1,985	1,985	2,976	2,976	1609	1609	12,578	46,262	14,072	53,000	1119	1146
	June	8,209	52,486	9,003	59,027	1098	1123	6,649	8,634	9,432	12,408	1419	1437	14,858	61,120	18,435	71,435	1241	1169
	July	6,312	58,798	8,179	67,206	1296	1143	5,465	15,099	7,989	20,397	1236	1351	11,777	73,897	16,168	87,603	1373	1186
	August	4,167	62,965	4,381	71,587	1051	1137	7,194	22,293	9,486	29,883	1318	1340	11,361	85,258	13,867	101,470	1221	1190
	September	2.081	65,046	1,920	73,507	923	1130	4,965	27,258	6,452	36,335	1300	1333	7,046	92,304	8,372	109,842	1188	1190
	October	10,974	76,020	11,665	85,365	1080	1123	9,635	36,893	14,044	50,379	1458	1366	20,609	112,913	25,709	135,744	1247	1202
	November	8,666	84,680	9,143	94,508	1055	1116	7,619	44,512	11,817	62,196	1551	1397	16,285	129,198	20,960	156,704	1287	1213
	December	7,016	91,702	8,208	102,716	1170	1120	5,764	50,276	10,350	72,546	1796	1443	12,780	141,978	18,558	175,304	1452	1234
1979	January	7,326	99,028	9,197	111,913	1255	1130	3,794	53,025	5,176	77,722	1883	1466	10,076	152,054	14,373	189,627	1427	1247
	February	8,701	107,729	15,434	127,347	1774	1182	6,436	59,461	11,321	89,043	1759	1498	15,137	167,190	26,755	216,390	1768	1294
	March	8,255	115,984	10,703	138,050	1297	1190	6,245	65,706	10,839	99,882	1736	1520	14,500	181,690	21,542	237,932	1486	1310
	April (17 days)	3,693	119,677	4,623	142,673	1252	1192	3,407	69,113	9,370	109,252	2750	1582	7,100	188,790	13,993	251,925	1971	1334

Remarks
Packer to shut off upper Morrow perforations at 10,579'. Production packer @ 9772'. Cisco Canyon treated with 250 gallons 10% acetic acid and 4000 gallons HCL.
Cisco perforations treated with 500 gallons acetic acid and 3500 gallons 15% DS-30.
DST #1 interval 9810'-9900' Upper Penn Initial hydrostatic 4473 psi, 30 mins initial flow pressure 152-217 psi; 60 mins initial shut-in pressure 2390 psi; 120 mins final flow pressure 196-370 psi; 240 min final shut in pressure 2477 psi. Final hydrostatic 4551 psi

FLUID SAMPLE DATA

Sampler Pressure	300# P.S.I.G. at Surface
Recovery: Cu. Ft. Gas	.90
cc. Oil	1250
cc. Water	
cc. Mud	
Tot. Liquid cc.	
Gravity	° API @ °F.
Gas/Oil Ratio	cu. ft./bbl.

	RESISTIVITY	CHLORIDE CONTENT
Recovery Water	@ °F.	ppm
Recovery Mud	@ °F.	ppm
Recovery Mud Filtrate	@ °F.	ppm
Mud Pit Sample	@ °F.	ppm
Mud Pit Sample Filtrate	@ °F.	ppm
Mud Weight	9.0# vis	cp

Date	4-17-79	Ticket Number	520180
Kind of Job	DST #1	Halliburton District	Artesia
Tester	[illegible] - Puckett	Witness	[illegible]
Drilling Contractor	McRAWCO #2		

EQUIPMENT & HOLE DATA

Formation Tested	Canyon Reef
Elevation	3585 Ft.
Net Productive Interval	15' Ft.
All Depths Measured From	KB - 13'
Total Depth	9900 Ft.
Main Hole/Casing Size	8 3/4
Drill Collar Length	678 I.D. 2.25"
Drill Pipe Length	9102 I.D. 3.64
Packer Depth(s)	9810-9804' Ft.
Depth Tester Valve	9780 Ft.

Cushion TYPE	AMOUNT	Depth Back Pres. Valve	Surface Choke	Bottom Choke
	None Ft.	None	Floor Manifold 7/8" 1/2"	.75

Recovered	680'	Feet of Condensate
Recovered	205'	Feet of Drilling mud
Recovered		Feet of
Recovered		Feet of
Recovered		Feet of

Mea. From Tester Valve

Remarks

TEMPERATURE	Gauge No. 1639 Depth: 9792 Ft.		Gauge No. Depth: Ft.		Gauge No. 1638 Depth: 9896 Ft.		TIME	
Est. °F.	16710 24 Hour Clock Blanked Off No		Hour Clock Blanked Off		13736 24 Hour Clock Blanked Off yes		Tool Opened 1415 P.M.	
Actual 154 °F.	Pressures		Pressures		Pressures		Opened Bypass 2145 P.M.	
	Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic	4478				4473		—	—
First Period Flow Initial	88				152		—	—
First Period Flow Final	155				217		30	
First Period Closed in	2330				2390		60	
Second Period Flow Initial	177				196		—	—
Second Period Flow Final	353				370		120	
Second Period Closed in	2446				2477		240	
Third Period Flow Initial							—	—
Third Period Flow Final								
Third Period Closed in								
Final Hydrostatic	4456				4551		—	—

Legal Location Sec. - Twp. - Rng.	13 - 18S - 28E
Lease Name	Travis Com State
Well No.	1
Test No.	1
Field Area	Turkey Track
Tested Interval	9810 - 9900 90'
County	Eddy
State	New Mexico
Lease Owner/Company Name	Harvey E. Yates

Liquid Production

B.T. Gauge Numbers			1638		Ticket Number		520180
			PRESSURE	PRESSURE			
Initial Hydrostatic			4486		Elevation		3585 ft.
Final Hydrostatic			4503		Indicated Production	1st Flow	bbls./day
1st Flow	Initial	Time	222			2nd Flow	29.0 bbls./day
	Final		202			3rd Flow	678 bbls./day
	Closed In Pressure		2425		Drill Collar Length		678 ft.
2nd Flow	Initial	Time	241		Drill Collar I.D.		2.75 in.
	Final		383		Drill Pipe Factor		01422 bbls./ft.
	Closed In Pressure		2473		Hole Size		8.75 in.
3rd Flow	Initial	Time			Footage Tested		90 ft.
	Final				Mud Weight		9.0 lbs./gal.
	Closed In Pressure				Viscosity, Oil or Water		1.2 cp
Extrapolated Static Pressure		1st	2528		Oil API Gravity		40 —
		2nd	2507		Water Specific Gravity		—
		3rd			Temperature		154 °F
Slope P/10		1st	587				
		2nd	157				
		3rd					

Remarks:

Harvey E Yates Co.
Travis Comm State #1
DST #1
9810-9900 90' 15' net

SUMMARY

PRODUCT	EQUATION	B.T. Gauge No. Depth 1638 FIRST	SECOND	THIRD	B.T. Gauge No. Depth FIRST	SECOND	THIRD	UNITS
Production	$Q = \frac{1440\ R}{t}$		29					bbls. day
Transmissability	$\frac{Kh}{\mu} = \frac{162.6\ Q}{m}$		32.44					$\frac{md.\ ft.}{cp}$
Indicated Flow Capacity	$Kh = \frac{Kh}{\mu}\ \mu$		38.92		96.25			md. ft.
Average Effective	$K = \frac{Kh}{h}$ $h = 15$		2.59		6.41			md.
Permeability	$K_1 = \frac{Kh}{h_1}$							md.
Damage Ratio	$DR = .183\ \frac{Ps - Pf}{m}$		4.27					—
Theoretical Potential w/Damage Removed	$Q_1 = Q\ DR$		123.8					bbls. day
Approx. Radius of Investigation	$b \leq \sqrt{Kt}$ or $\sqrt{Kt_0}$		18.0					ft.
	$b_1 \leq \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$							ft.
Potentiometric Surface *	$Pot. = El - GD + 2.319\ Ps$							ft.

NOTICE: These calculations are based upon information furnished by you and taken from Drill Stem Test pressure charts, and are furnished you for your information. In furnishing such calculations and evaluations based thereon, Halliburton is merely expressing its opinion. You agree that Halliburton makes no warranty express or implied as to the accuracy of such calculations or opinions, and that Halliburton shall not be liable for any loss or damage, whether due to negligence or otherwise, in connection with such calculations and opinions.

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INTERPRETATIONS AND CALCULATIONS

LITTLE E 934-5 3M 3/64—64-9

22

RECORDING PRESSURE GAUGE CHART

Ticket No. 20180 Date 4-17-79

Company Harvey E Yates

Lease TRAVIS Penn State Well No. 1

FIELD READINGS

Device No. 1639		24 Hr. Clock No. 16710	
B. T. Gauge Depth 9792 Ft.		Estimated Gauge Depth Temperature 154 °F	
		Thousands of Inch	Pressure P.S.I.
Initial Hydro. Mud Pressure		2.03	4478
1st	Initial Flow Pressure	.04	88
	Final Flow Pressure	.07	155
	First Closed In Pressure	1.08	2380
2nd	Initial Flow Pressure	.08	177
	Final Flow Pressure	.16	353
	Second Closed In Pressure	1.11	2446
3rd	Initial Flow Pressure		
	Final Flow Pressure		
	Third Closed In Pressure		
Final Hydro. Mud Pressure		2.02	4456

FORM 892-R4

Tester Luckett

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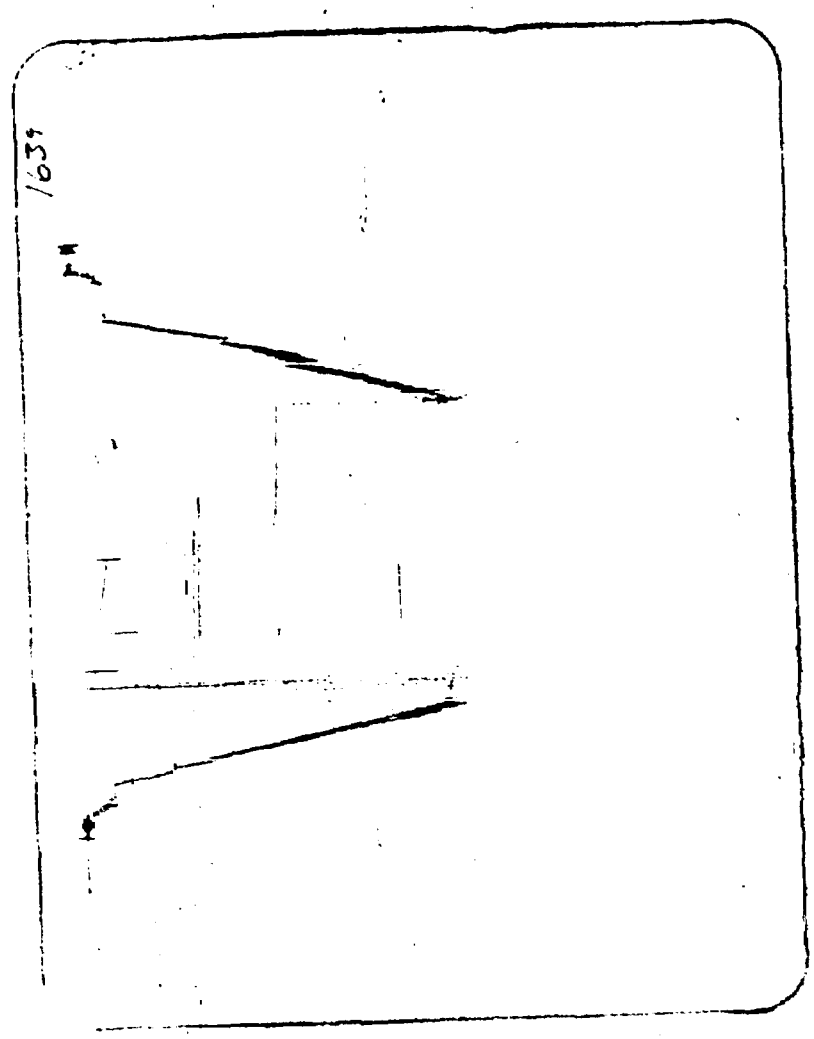
HALLIBURTON

A Halliburton Company

Photographic negative for this chart on file three years from date at Halliburton Duncan, Oklahoma 73533



22

RECORDING PRESSURE GAUGE CHART

Ticket No. 120180 Date 4-17-79

Company HARVEY E YATES

Lease TRAVIS NOM STATE Well No. 1

FIELD READINGS

Device No. 1639		24 Hr. Clock No. 16710	
B. T. Gauge Depth 9792 Ft.		Recessed Gauge Depth Temperature 98 154 °F	
		Thousands of Inch	Pressure P.S.I.
Initial Hydro. Mud Pressure		2.03	4478
1st	Initial Flow Pressure	.04	88
	Final Flow Pressure	.07	155
	First Closed In Pressure	1.08	2380
2nd	Initial Flow Pressure	.08	177
	Final Flow Pressure	.16	353
	Second Closed In Pressure	1.11	2446
3rd	Initial Flow Pressure		
	Final Flow Pressure		
	Third Closed In Pressure		
Final Hydro. Mud Pressure		2.02	4456

FORM 982-R4

Tester Puckett

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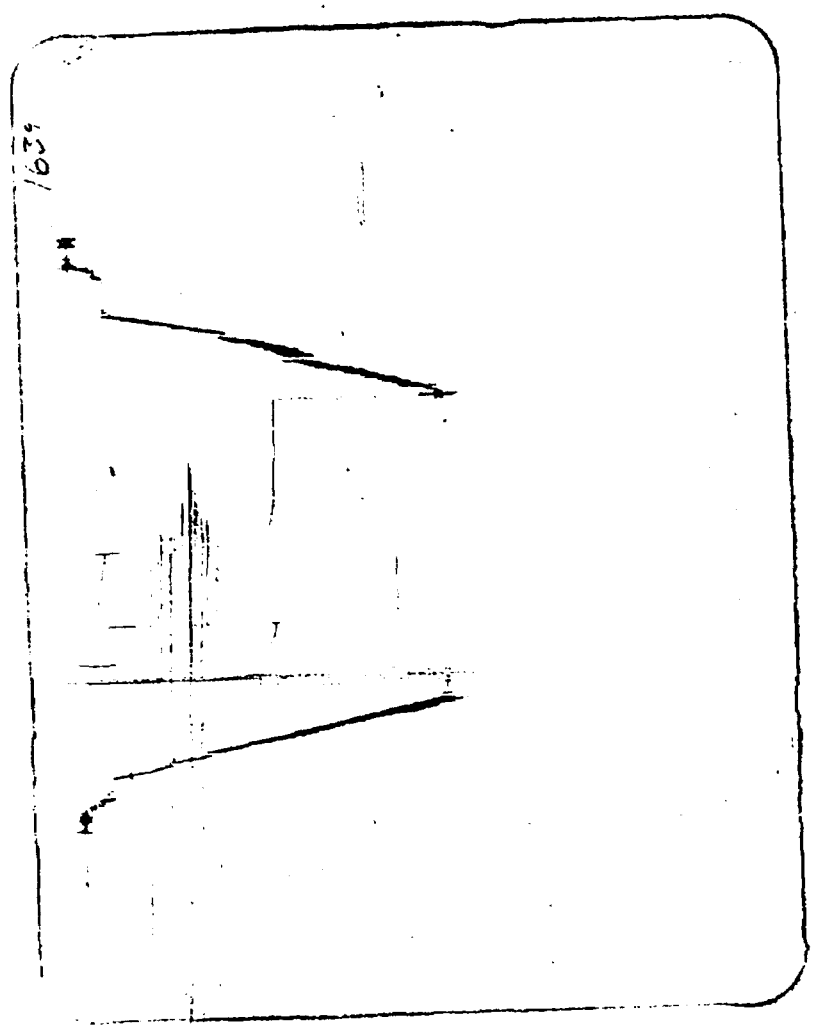
HALLIBURTON SERVICES

A Halliburton Company

Photographic negative for this chart on file three years from date at Halliburton Duncan, Oklahoma 73533



TICKET NO.

		O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	4 1/2	6.75	3.00	1'	
Water Cushion Valve					
Drill Pipe		4 1/2	3.5:6		
Drill Collars		6 1/4	2.25"	120	
Handling Sub & Choke Assembly					
Dual CIP Valve					
Dual CIP Sampler		5.00	.87	6.75"	9780
Hydro-Spring Tester	5"	5.00	.125	5'	9787
Multiple CIP Sampler					
Extension Joint					
AP Running Case	5"	5.00	3.06	4.14	9792
Hydraulic Jar	5"	5.03	1.75	5."	
VR Safety Joint	5"	5.00	1.00	2.78	
Pressure Equalizing Crossover					
Packer Assembly	#2 VR	7 3/4	1.53	5.81	9804
Distributor					
Packer Assembly	#2 VR	7 3/4	1.53	5.81	9810
Flush Joint Anchor					
Pressure Equalizing Tube					
Blanked-Off B.T. Running Case					
Drill Collars					
Anchor Pipe Safety Joint					
Packer Assembly					
Distributor					
Packer Assembly					
Anchor Pipe Safety Joint	5"	5.0	1.5"	4.3	
Side Wall Anchor					
Drill Collars		6 1/4	2.25"	62.	
~~Flush Joint Anchor~~ Perf.		5	—	17	
Blanked-Off B.T. Running Case		5"	—	4	9896
Total Depth					9900

FORM 1245R1—PRINTED IN U.S.A.

EQUIPMENT DATA

LITTLE'S 22656 3/

Casing perfs. _____ Bottom choke .75 Surf. temp. _____ °F Ticket No. 520180

Gas gravity _____ Oil gravity _____ GOR _____

Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

Date 4-17-79 Time a.m. 1415 p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
1415	—	—	—	—	Open Tool (Good Blow)
1420	3/8	7 #			Pressure Increasing
1425	3/8	10 #			" "
1430	3/8	11 #			" "
1435	3/8	13 #			" "
1437	3/8	13 #	...		Gas To Surface
1440	3/8	15 #			Pressure Increasing
1445	3/8	16 #			Close Tool
1545	3/8				Open Tool
1550	3/8	9 #			Pressure Increasing
555	3/8	10 #			" "
1600	3/8	11 #			" "
1605	3/8	11 #			Pressure Stabilizing
1610	3/8	12 #			" "
1615	3/8	12 #			Pressure Stable
1630	3/8	12 #			" "
1645	1/2	12 #			change choke from 3/8 to 1/2
1650	1/2	11 #			Pressure Decreasing
1655	1/2	10 #			" "
1700	1/2	9 #			" "
1705	1/2	8 #			" "
1710	1/2	7 #			" "
1715	1/2	7 #			Pressure Stabilized
1720	1/2	7 #			" "
1735	1/2	7 #			" "
1745	1/2	7 #			Close Tool

FORM [illegible] PRINTED IN U.S.A.

PRODUCTION TEST DATA

LITTLE'S [illegible]

Owner Harry E Yates Co. Lease, Well No. Travis Comm State #1

Ticket No. 520180 DST #1 B.T. No. 1638 B.T. Depth 9896 Clock 24

Tested interval 9810 - 9500 Clock Factor $\frac{1500}{450}$ = .00333333

Flow Period 1 Time 30 Closed in Period 1 Time 61

P	time defl	time min	log $\frac{t+\theta}{\theta}$	psi defl	psi P	P	T	T	time defl	time min	θ=30 log $\frac{t+\theta}{\theta}$	psi defl	P psi	P	T	T
0		0		.102	222					0		.093	202			
1	.0033	1		.084	183				.0033	1	1.4914	.228	496			
2	.0067	2		.080	174				.0067	2	1.204	.325	707			
3	.0100	3		.068	148				.0100	3	1.041	.429	933			
4	.0133	4		.065	141				.0133	4	.929	.556	1208			
5	.0167	5		.064	139				.0166	5	.845	.657	1427			
6	.0200	6		.064	139				.0200	6	.778	.747	1623			
7	.0233	7		.064	139				.0233	7	.723	.825	1792			
8	.0267	8		.066	144				.0266	8	.677	.876	1902			
9	.0300	9		.068	148				.0300	9	.637	.921	2000			
10	.0333	10		.070	152				.0333	10	.602	.950	2063			
11	.0367	11		.071	154				.0366	11	.571	.969	2105			
12	.0400	12		.073	159				.0399	12	.544	.986	2142			
13	.0433	13		.075	163				.0433	13	.520	.999	2170			
14	.0467	14		.076	165				.0466	14	.497	1.009	2192			
15	.0500	15		.078	170				.0499	15	.477	1.019	2213			
16	.0467	20		.083	181				.0532	16	.459	1.026	2229			
17	.0833	25		.087	189				.0566	17	.442	1.033	2244			
18	.1000	30		.093	202				.0599	18	.426	1.040	2259			
19									.0632	19	.411	1.045	2270			
20			Initial Hydrostatic						.0666	20	.398	1.050	2281			
21				2.056	4466				.0699	21	.385	1.054	2290			
22			Final Hydrostatic						.0732	22	.374	1.059	2301			
23				2.064	4503				.0765	23	.363	1.062	2307			
24									.0799	24	.352	1.066	2316			
25									.1532	25	.342	1.069	2323			

Owner _____ Lease, Well No. _____

Ticket No. _____ B.T. No. _____ B.T. Depth _____ Clock _____

Tested Interval _____ Clock Factor _____

	Closed in Period / Time								Closed in Period / Time							
P	time defl	time min	log T+0 / 0	psi defl	P psi	P	T	T	time defl	time min	log t+0 / 0	psi defl	P psi	P	T	T
1	.0665	26	333	1.0722	2329		-									
2	.0699	27	.325	1.0734	2333											
3	.0532	28	.316	1.0777	2340											
4	.0565	29	.309	1.0779	2344											
5	.0998	30	.301	1.0781	2349											
6	.1165	35	269	1.0911	2370											
7	.1331	40	.243	1.098	2386											
8	.1496	45	.222	1.104	2399											
9	.1664	50	.204	1.109	2410											
10	.1830	55	.189	1.112	2416											
11	.1997	60	.176	1.115	2423											
12	.2030	61	.174	1.116	2425											
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																

Owner _____ Lease, Well No. _____

Ticket No. _____ B.T. No. _____ B.T. Depth _____ Clock _____

Tested interval _____ Clock Factor _____

Flow Period 2 Time 120 Flow Period 2 Time

P	time defl	time min	log t÷0 0	psi defl	psi P	P	T	T	time defl	time min	log t÷0 0	psi defl	P psi	P	T	T
0		0		.111	241					26		.120	259			
1		1		.098	213					27		.121	263			
2		2		.086	187					28		.122	265			
3		3		.082	178					29		.123	267			
4		4		.082	178					30		.124	270			
5		5		.083	181					31		.124	270			
6		6		.087	189					32		.125	272			
7		7		.091	198					33		.126	274			
8		8		.096	209					34		.127	276			
9		9		.100	217					35		.127	276			
10		10		.102	222					36		.128	278			
11		11		.104	226					37		.129	281			
12		12		.105	228					38		.130	283			
13		13		.106	231					39		.130	283			
14		14		.107	233					40		.131	285			
15		15		.108	234					41		.132	287			
16		16		.109	237					42		.133	289			
17		17		.111	241					43		.133	289			
18		18		.112	244					44		.134	291			
19		19		.113	246					45		.134	291			
20		20		.114	248					46		.135	294			
21		21		.115	250					47		.136	296			
22		22		.116	252					48		.137	298			
23		23		.117	254					49		.137	298			
24		24		.118	257					50		.138	300			
25		25		.119	259					51		.138	300			

Owner _____ Lease, Well No. _____

Ticket No. _____ B.T. No. _____ B.T. Depth _____ Clock _____

Tested interval _____ Clock Factor _____

Flow Period 2 Time — Closed in Period — Time

P	time defl	time min	log $\frac{t+0}{0}$	psi defl	psi P	P	T	T	time defl	time min	log $\frac{t+0}{0}$	psi defl	P psi	P	T	T
0		52		.138	302											
1		53		.140	304											
2		54		.140	304											
3		55		.141	307											
4		56		.142	309											
5		57		.142	309											
6		58		.142	309											
7		59		.142	309											
8		60		.142	309											
9		65		.145	315											
10		70		.148	322											
11		75		.150	326											
12		80		.153	333											
13		85		.154	335											
14		90		.157	341											
15		95		.160	348											
16		100		.163	354											
17		105		.167	363											
18		110		.167	363											
19		115		.170	370											
20		120		.176	383											
21																
22																
23																
24																
25																

Owner _____ Lease, Well No. _____

Ticket No. _____ B.T. No. _____ B.T. Depth _____ Clock _____

Tested Interval _____ Clock Factor _____

Closed in Period 2 Time 239

P	time defl	time min	log $\frac{T+\theta}{\theta}$ θ=150	psi defl	P psi	P	T	T
1		0		.176	383			
2		1	2.179	.284	617			
3		2	1.881	.373	811			
4		3	1.708	.464	1009			
5		4	1.586	.558	1213			
6		5	1.491	.660	1434			
7		6	1.415	.757	1644			
8		7	1.351	.839	1822			
9		8	1.296	.897	1948			
10		9	1.247	.937	2035			
11		10	1.204	.963	2092			
12		11	1.165	.980	2129			
13		12	1.130	.994	2159			
14		13	1.098	1.007	2187			
15		14	1.069	1.015	2205			
16		15	1.041	1.023	2222			
17		16	1.016	1.030	2238			
18		17	.992	1.035	2248			
19		18	.970	1.041	2262			
20		19	.949	1.046	2272			
21		20	.929	1.050	2281			
22		21	.911	1.054	2290			
23		22	.893	1.057	2296			
24		23	.876	1.060	2303			
25		24	.860	1.064	2312			
		25	.845	1.066	2316			

Closed in Period 2 Time

time defl	time min	log $\frac{t+\theta}{\theta}$	psi defl	P psi	P	T	T
	26	.831	1.069	2323			
	27	.817	1.072	2329			
	28	.803	1.074	2333			
	29	.791	1.076	2338			
	30	.778	1.078	2342			
	31	.766	1.080	2347			
	32	.755	1.082	2351			
	33	.744	1.084	2355			
	34	.733	1.086	2360			
	35	.723	1.087	2362			
	36	.713	1.089	2366			
	37	.704	1.090	2368			
	38	.694	1.092	2373			
	39	.685	1.093	2375			
	40	.677	1.094	2377			
	41	.668	1.095	2379			
	42	.660	1.096	2381			
	43	.652	1.097	2384			
	44	.644	1.099	2388			
	45	.637	1.100	2390			
	46	.630	1.101	2392			
	47	.622	1.102	2394			
	48	.615	1.102	2394			
	49	.609	1.103	2397			
	50	.602	1.104	2399			
	51	.596	1.105	2401			

Owner _____ Lease, Well No. _____

Ticket No. _____ B.T. No. _____ B.T. Depth _____ Clock _____

Tested Interval _____ Clock Factor _____

Closed in Period 2 Time

P	time defl	time min	log $\frac{T+\theta}{\theta}$	psi defl	P psi	P	T	T
1		52	.589	1.106	2403			
2		53	.583	1.106	2403			
3		54	.577	1.107	2405			
4		55	.571	1.108	2408			
5		56	.566	1.108	2408			
6		57	.560	1.109	2410			
7		58	.555	1.109	2410			
8		59	.549	1.110	2412			
9		60	.544	1.111	2414			
10		61	.539	1.111	2414			
11		62	.534	1.112	2416			
12		63	.529	1.112	2416			
13		64	.524	1.113	2418			
14		65	.520	1.113	2418			
15		66	.515	1.114	2421			
16		67	.510	1.114	2421			
17		68	.506	1.115	2423			
18		69	.502	1.116	2425			
19		70	.497	1.116	2425			
20		71	.493	1.116	2425			
21		72	.489	1.117	2427			
22		73	.485	1.117	2427			
23		74	.481	1.117	2427			
24		75	.477	1.118	2429			
25		76	.473	1.118	2429			
		77	.470	1.118	2429			

Closed in Period 2 Time

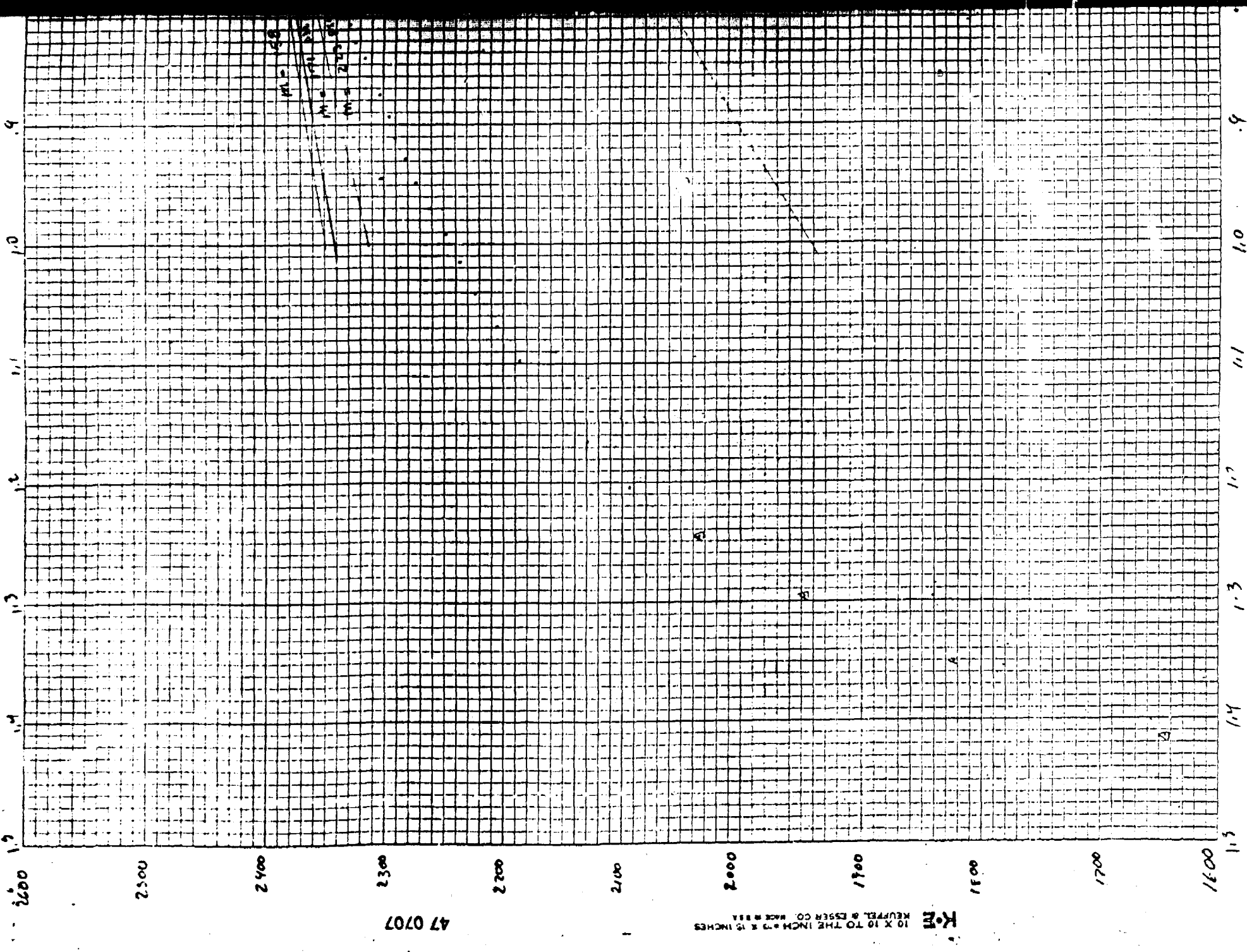
time defl	time min	log $\frac{t+\theta}{\theta}$	psi defl	P psi	P	T	T
	78	.466	1.119	2431			
	79	.462	1.119	2431			
	80	.459	1.119	2431			
	81	.4551	1.120	2434			
	82	.452	1.120	2434			
	83	.448	1.120	2434			
	84	.445	1.121	2436			
	85	.442	1.121	2436			
	86	.438	1.121	2436			
	87	.435	1.121	2436			
	88	.432	1.122	2438			
	89	.429	1.122	2438			
	90	.4260	1.122	2438			
	91	.423	1.122	2438			
	92	.4200	1.123	2440			
	93	.417	1.123	2440			
	94	.414	1.123	2440			
	95	.411	1.123	2440			
	96	.409	1.123	2440			
	97	.406	1.124	2442			
	98	.403	1.124	2442			
	99	.401	1.124	2442			
	100	.398	1.125	2445			
	101	.395	1.125	2445			
	102	.393	1.125	2445			
	103	.390	1.125	2445			

Owner _____ Lease, Well No. _____

Ticket No. _____ B.T. No. _____ B.T. Depth _____ Clock _____

Tested Interval _____ Clock Factor _____

P	Closed in Period 2 Time: time defl	time min	log T+0 / 0	psi defl	P psi	P	T	T	Closed in Period 2 Time: time defl	time min	log t+0 / 0	psi defl	P psi	P	T	T
1		104	.388	1.126	2447					170	.275	1.134	2464			
2		105	.385	1.126	2447					175	.269	1.134	2464			
3		106	.383	1.126	2447					180	.263	1.135	2466			
4		107	.381	1.126	2447					185	.258	1.135	2466			
5		108	.378	1.127	2449					190	.253	1.135	2466			
6		109	.376	1.127	2449					195	.248	1.135	2466			
7		110	.374	1.127	2449					200	.243	1.136	2469			
8		111	.371	1.127	2449					205	.239	1.136	2469			
9		112	.369	1.127	2449					210	.234	1.137	2471			
10		113	.367	1.127	2449					215	.230	1.137	2471			
11		114	.365	1.127	2449					220	.226	1.137	2471			
12		115	.363	1.128	2451					225	.222	1.137	2471			
13		116	.360	1.128	2451					230	.218	1.137	2471			
14		117	.358	1.128	2451					235	.214	1.138	2473			
15		118	.356	1.128	2451					239	.212	1.138	2473			
16		119	354	1.128	2451											
17		120	.352	1.129	2453											
18		125	.342	1.129	2453											
19		130	333	1.130	2455											
20		135	.325	1.130	2455											
21		140	.316	1.131	2458											
22		145	.309	1.132	2460											
23		150	.301	1.132	2460											
24		155	.294	1.133	2460											
25		160	.287	1.133	2460											
		165	.281	1.134	2464											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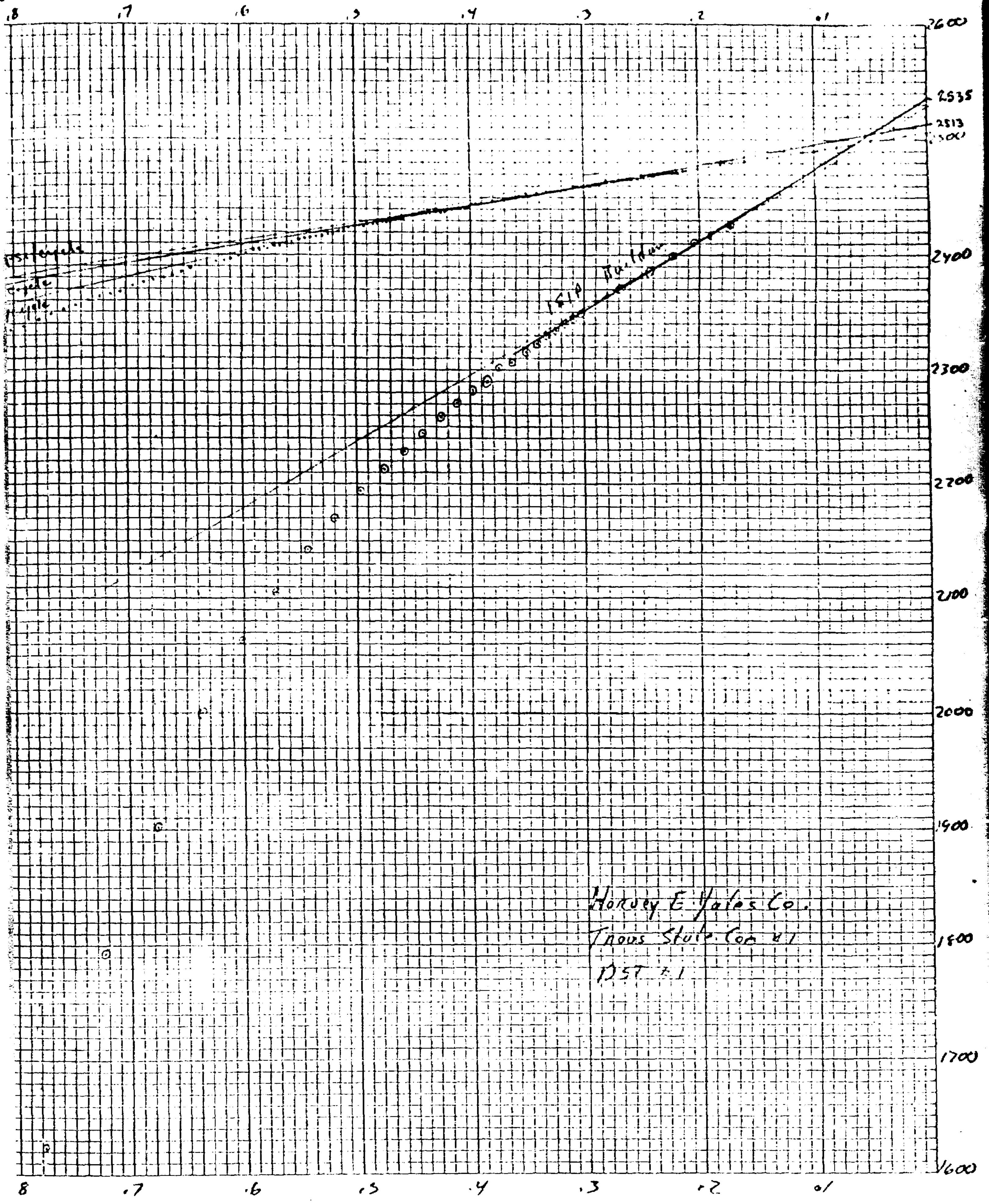
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Harvey E Yates Co.
Travis State Com #1
DST #1

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
State Land Office Building
Santa Fe, New Mexico
25 April 1979

EXAMINER HEARING

IN THE MATTER OF:

Case 6072 being reopened pursuant to the provisions of Order No. R-5643 with order created the Travis-Upper Pennsylvanian Pool, Eddy County, New Mexico.

CASE 6072

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 for the Division
State Land Office Bldg.
Santa Fe, New Mexico 87503

For the Applicant: Robert Strand, Esq.
Roswell, New Mexico 88201

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
1010 Paseo Pinos (505) 471-2462
Santa Fe, New Mexico 87501

I N D E X

RALPH VINEY

E X H I B I T S

MR. STAMETS: Call now Case 6072.

MR. PADILLA: In the matter of Case 6072 being reopened pursuant to the provisions of Order No. R-5643, which order created the Travis-Upper Pennsylvanian Pool, Eddy County, New Mexico.

MR. STAMETS: Call for appearances in this case.

MR. STRAND: Mr. Examiner, Harvey E. Yates Company wishes to enter an appearance in this case and we have one witness.

MR. STAMETS: Any other appearances? I'd like to have the witness stand and be sworn at this time.

(Witness sworn.)

MR. STRAND: Mr. Examiner, I'm Robert Strand representing Harvey E. Yates Company.

Mr. Examiner, if I might make a brief statement before we start.

The original order in Case Number 6072 was entered approximately a year ago, setting out the Travis-Upper Pennsylvanian Pool and providing for 80-acre spacing in that pool, and the case has been reopened to determine whether the spacing should revert to standard 40-acre spacing, should remain at the 80-acre spacing, or whatever larger spacing may be applicable.

And it's our purpose here today to present

evidence to show that in fact the pool should continue to be developed on the present 80-acre spacing, at least at this time.

RALPH VINEY

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

DIRECT EXAMINATION

BY MR. STRAND:

Q. Please state your full name.

A. My name is Ralph Viney.

Q. Mr. Viney, where do you live and what is your occupation?

A. I'm located in Midland and I have a consulting engineering business and engineering consulting firm.

Q. Mr. Viney, have you been retained by Harvey E. Yates Company to present testimony here today?

A. Yes, sir.

Q. Have you previously testified before the Division?

A. Yes, sir.

Q. Are your qualifications a matter of record before the Division?

A. Yes, sir.

MR. STRAND: Mr. Examiner, are Mr. Viney's qualifications acceptable?

MR. STAMETS: They are.

Q. (Mr. Strand continuing.) Mr. Viney, are you familiar with the order that was previously entered in case Number 6072 on February 14th, 1978?

A. Yes, sir.

Q. Mr. Viney, I would like you to refer to what has been marked as Exhibit Number One. Is this a land plat showing the locations of the wells which have penetrated the Cisco formation in the area of the Travis-Upper Penn Pool?

A. These are the same wells reported to be completed and penetrating the Travis-Penn-Cisco zone.

Q. Mr. Viney, the original order sets the horizontal limits of this pool at the northeast quarter, and the plat shows the Travis Deep Unit No. 2, the Travis Deep Com No. 3 Wells as being in the northeast quarter. Does the Travis State Com No. 1 Well, situated in the southwest quarter also penetrate a common source of supply?

A. Yes, sir, it appears that this is also in the Cisco Canyon zone at about 9810 feet.

Q. Mr. Viney, did I provide this plat to you from the records of Harvey E. Yates Company for our presentation here today?

A. Yes, sir.

Q. Mr. Viney, have you analyzed pressure data and other engineering data relating to the Travis-Upper Penn Pool and Cisco formation in the area that you have testified to, which is relevant to the issue of what the spacing should be?

A. Yes, sir.

Q. Would you summarize that data, please, and the conclusions you have drawn therefrom?

A. Yes, sir. In the conclusions or in the summary of the data we have and are including it and presenting it to this Commission as Exhibit Two.

On April 17th of this year the well located in the southeast quarter of Section 13, Township 18, 28 East, penetrated the Cisco zone and at that time a drill stem test pressure was conducted immediately upon entry and penetration of the zone. The purpose of that was to obtain as near a virgin pressure unaffected or affected by communication by the other wells, whatever the case may be.

So on the basis of that, and we have included this analysis in our Exhibit Two.

Historically, the Canyon zone completed, was affected in 19 -- in August of 1977 when Mr. Yates completed his No. 2 Well in the northeast quarter of Section 13. The No. 3 Well was completed in the north half of the

northeast quarter in May of '78, and of course this well was drill stem tested, just as the Travis Com in the southwest quarter on April the 17th of this year and this month.

The location of this well is approximately 2000 feet southwest of the No. 2 Well located in the northeast quarter of Section 13, and the pressure, the drill stem pressure extrapolated to the normal engineering methods indicates that the boundary pressure at or near or in the Com Well in the southwest quarter is 2535 pounds. This is approximately 1000 pounds below the initial pressure recorded in the No. 2 Well.

I am deviating slightly from the information presented in the text, but it is all presented orderly.

Based on the differential of pressure loss communication, either pressure transmissibility or pressure and fluid transmissibility do occur. The distance between the drill stem tested well and the No. 2 Well is 2000 feet and if drainage is radial, then the No. 2 Well could be concluded to be draining 288 acres.

It would appear from the logs that we have analyzed, the pressure data that has been ongoing, that this reservoir pay thickness is approximately 15 feet thick, and on the basis of the performance, production pressure performance to date, we would state the size of the reservoir

using engineering analytical and empirical techniques to be approximately 1500 acres in size, contain approximately 19,000 acre feet, and hold -- the initial reservoir probably held 3,400,000 barrels of oil and 8,900,000 Mcf of gas.

Now, on the basis of the recent pressure information we analyzed the economics of spacing pattern, and you'll note on page two of Exhibit Two we have set a 40-acre spacing pattern. The cost to develop, complete a well in this area runs approximately $42.00 a feet. At 10,000 feet this is $420,000. And if we assume that every well in the area, every 40-acre well would recover its share of the 40/1500 ratio of the reserves, a well on 40 acres would have a 8/8ths future value of about 518,000 and 414,000 to the working interests, and this is before any operating costs.

On an 80-acre spacing you'll notice the same figure provides an investor return before operations of $830,000 estimated.

Projecting reserves and economic conditions, it would appear a well density less than 80 acres would not provide a return of funds much more than projected cost of a completion. A well on 80-acre spacing suggests a working interest or operator's return of approximately twice the investment; however, after allowances for royalties, over-rides, operating costs, the probable future funds to an

operator might provide an adequate but not necessarily an attractive investment return.

The applicant respectfully requests the proration size -- unit size established at this time be not less than 80 acres and further the applicant would agree to present all performance data at a future date for review and inspection to this Commission to judge the propriety of the 80-acre proration unit for the Travis Deep-Upper Penn Field.

The additional exhibit sheet enclosed shows the well and production data and before the Travis State Com Well, we do not have, of course, any pipe data, but just comments on the drill stem test. The production is shown by wells and some analysis of that production. Copies of the drill stem test material that were presented by the service company have been copied and are made a part of this exhibit. All of the material is self-explanatory.

Q. Mr. Viney, is it then your professional opinion that spacing units exceeding 40-acres in size are necessary to most efficiently develop this area?

A. I would say that you would need acres spacing at least 80 acres in size, yes, sir.

Q. And is it your opinion that such 80-acre spacing, if it is left in effect in this pool, will prevent the drilling of unnecessary wells, prevent waste, and other-

wise protect correlative rights?

A. Yes, sir.

MR. STRAND: That's all we have, Mr. Examiner.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Viney, just estimating here, what you've shown on what you expect to recover, roughly 600,000 barrels, and you put oil in the reservoir at 3,300,000, more or less, that's a recovery factor of something less than 20 percent.

A. About 17-1/2 percent, yes, sir.

Q. How does that compare with other Upper Pennsylvanian oil reservoirs?

A. Well, this will compare a little more than other reservoirs, Mr. Stamets, for the simple reason it's a very volatile oil. We had a bubble point of about 3900 pounds on this crude. Solution gas/oil ratio is about 2600-to-1, and it has a very high flash condition. We made a PVT sample of the crude. And for this reason we feel that it will probably be a little less than normal Pennsylvanian crude because Pennsylvanian crude do not have this 46 to 50 gravity -- normal 56 -- 45 to 50 gravity range.

Q. Is that the liquid gravity in this pool?

A. Yes, sir, the produced gravity is 45.6.

Q. Could a large share of this oil, larger share

of this oil be recovered by some sort of pressure maintenance project or injection of gas?

A. Yes, sir.

Q. Is that an economical prospect?

A. Yes, sir.

Q. Does Yates Petroleum plan to do this?

A. I can't answer that question. Let me say, I've discussed the possibility and we think that possibly with a combination of CO_2 and nitrogen that 50 to 60 percent of the in place, original in place oil, could be recovered.

Q. 50 to 60 percent.

A. Yes, sir.

Q. That's a substantial increase in the oil recovery.

Mr. Viney, I would imagine -- I haven't looked it up, but I would imagine that the allowable for these wells is based on 80-acre proration units.

A. Yes, sir, it's in the 355,000 for that depth range, Mr. Stamets.

Q. I wonder if the Division returned that allowable -- what are the wells making now? What's their potential?

A. Well, you'll notice on the bottom of the page, expanded fold-out page, you'll notice the current production, which is up to date through the 17th day of April. You'll

notice that the wells are -- they're averaging approximately, the No. 2 Well is averaging approximately 225 barrels of liquid a day, and 10,000 Mcf a month, or 350 Mcf per day.

The No. 3 Well, which is the north well in Section 13, say from March again, is averaging just a little over 200 barrels of liquid and, again, about 275 Mcf of gas.

Q. What's the status of the -- of the No. 1 Well, this brand new well?

A. Yes, sir, it's -- it is the communitized acreage well in the southwest quarter.

Q. What sort of action could the Division take to encourage the institution of this pressure maintenance project?

A. Donate money. No, I mean -- I think this encouragement -- in the January Petroleum Reservoir -- Petroleum Engineer, you will -- there is an article whereby CO_2 and nitrogen have been used very completely by Standard in Wyoming to flood what they call black oil, which turned out to be 45 gravity crude, and we are now putting in a recycling on a crude condensate area just outside of Midland on 54 gravity, where we're using nitrogen entirely, and the recovery vaporization of the crude in a lab cell showed about 94 to 95 percent complete revaporization of all the crude into the nitrogen.

The nitrogen is being used for two reasons,

availability and its relatively low cost, and physically it has the same characteristics as natural gas. Now, it does create one problem where you are extracting using plant products, that you have to have a nitrogen removal, and in this case it would also call for nitrogen removal where this gas is being sold down a pipeline, but a certain amount of this nitrogen removal can be diluted to come to 4 or 5 percent of the contract requirements, but most gas companies are going to police this fairly actively.

No, it is a viable method but our costs are going to run roughly Seventy Cents an Mcf for the total injected gas and that is the cost of injection and the cost of the nitrogen removal, and overall the probably average price would be, what, Fifty Cents, because nitrogen injection is not continued after you completely resaturate the liquids and vaporize and put it in a vapor form. If we could take this above the bubble point, I would recommend a reservoir such as this be pressured to about 4000, 4100 pounds, and allow all the oil to go into the vapor stage or into the gaseous form.

Q. Is there some point in the future beyond which this would become uneconomical to -- to go in with this nitrogen process?

A. No, sir, not some point. There is a point where there is no need to further inject nitrogen because

you will then be getting a percentage of nitrogen in the produced well in excess of your actual wet gas reservoir -- I mean the volume of the wet gas from the reservoir, and then at that point you have completely resaturated and contacted the oil reservoir or the oil wet column, then just forget your nitrogen injection and go to blowdown with normal nitrogen removal. This is the normal process.

Q. Do you feel that the reservoir is pretty well defined at this point or is there an opportunity for more wells in your opinion?

A. In our opinion there's opportunity for more wells and also the necessity, possibly, for the conduct of drilling one to two and maybe even three more wells to delineate and before those wells are -- total wells are drilled, it would be suggested that the operator conduct additional buildup tests so that we can readily define the shape, or the additional shape, of the reservoir.

Q. What period of time do you feel should be given to reservoir evaluation, further development, before pressure maintenance should be considered?

A. I cannot answer the operator's opinion there, and maybe Mr. Strand can, but at this point I think that with the declining pressures, reservoir pressures, that we are going to also have a loss of energy, lifting energy, and I think we're going to have a question here of how we're

going to get the reservoir liquids out, and there's only one method in this type of volatile oil, usually, is gas lifting, and this requires an extensive situation. Pumping is not too satisfactory in this light a crude.

Q. Do you feel some sort of decision will be made within six months?

A. I would think that twelve months would be better and I do think that the operator themselves could be activated because of the economics of their own production to earlier action. I think this is going to come about.

Q. You think that the reduction in the allowable to 40-acre allowable might hurry the operator to make this decision at an earlier date?

A. In my opinion, I don't think the reduction because of the, maybe, proration, as you're proposing, necessarily would provide the prod to get this information, because they're getting it as fast as they can, and I think it's going to take some time to complete these additional wells and to run the pressures.

As we stated in here, we have one extended builup test as far as 2400 hours. We were able to find the shape of this reservoir on two to three -- two boundaries. We know what the shape looks like. That was not made a part of this hearing. With the additional wells we feel that we can confirm these boundaries of our earlier studies

and with additional -- with additional wells to the north or elsewhere in this reservoir, I think we can then come fairly close to arriving at the probable shape and linear -- or the linear distances of this reservoir, but I don't think six months or maybe a slap on the hand by reduction to 40-acre allowables is really necessary, because I don't think even if you did, they wouldn't have -- they couldn't get the information to come back to you and make a valid decision.

MR. STRAND: Mr. Examiner, if I might state for the record, that -- and on behalf of Harvey E. Yates Company, that we have retained Mr. Viney not only for this hearing but also to advise us from an engineering standpoint as to how this reservoir may be best developed, and I'm certain it's a company policy that we're going to develop it fully and we're going to develop it and if he recommends that we institute a pressure maintenance program of some type, I'm quite sure that we're going to follow his recommendations.

But it's our feeling at this time that we should leave the 80-acre spacing with the present allowable until we do have some more information. But we do intend to fully develop the reservoir and do it on a timely basis.

Q. Mr. Viney, is it safe to say that if the reservoir is produced to depletion under the current process

without any pressure maintenance project, that oil will be wasted, left in the ground, that could have otherwise been produced?

A. Not necessarily so, no, sir.

Q. And why is that?

A. Based on revaporization removal of black crudes with gas, with nitrogen, CO_2, and other such situations that we've been looking at in the last couple years, we're finding that 91 to 94 percent of such crude left in the sand is put back into the vapor stage if we bring the pressure of the cell high enough, and this reservoir is nothing more than just a laboratory cell once it's -- the gas is applied in there and, of course, you're going to have leaks in cells; you're going to have leaks in reservoirs, but this is normal, and we should not lose any gas.

Now, what we could do is lose a level of cash flow, and I think the operator is going to be more concerned about keeping his cash flow level down than maybe the timely loss of reserves versus planning a system whereby he can get all those reserves.

Now, we've got to recognize economics are very, very volatile, and I can understand that I would like to produce, maybe, this oil five years in the future.

MR. STAMETS: Are there any other questions of the witness? He may be excused.

MR. VINEY: Thank you.

MR. STAMETS: Anything further in this case?

MR. STRAND: Yes, Mr. Examiner, I would move the admission of Exhibits One and Two.

MR. STAMETS: These exhibits will be admitted.

MR. STRAND: Nothing further.

MR. STAMETS: And the case will be taken under advisement.

(Hearing concluded.)

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
[illegible]
Santa Fe, New Mexico 87501

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
1010 Plaza Blanca (505) 471-2465
Santa Fe, New Mexico 87501

REPORTER'S CERTIFICATE

I, SALLY WALTON BOYD, a Court Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability, knowledge, and skill, from my notes taken at the time of the hearing.

Sally W. Boyd CSR
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. 6072 heard by me on 4-25 19 79.

Richard L. Stamets, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

JERRY APODACA
GOVERNOR

NICK FRANKLIN
SECRETARY

May 2, 1979

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

Re: CASE NO. 6072
ORDER NO. R-5643-A

Mr. Robert H. Strand
Harvey E. Yates Company
P. O. Box 1933
Roswell, New Mexico 88201

Applicant:

Harvey E. Yates Company

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 OCC x
Artesia OCC x
Aztec OCC

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. 6072 (Reopened)
Order No. R-5643-A

IN THE MATTER OF CASE 6072 BEING REOPENED PURSUANT TO THE PROVISIONS OF ORDER NO. R-5643, WHICH ORDER ESTABLISHED SPECIAL RULES AND REGULATIONS FOR THE TRAVIS-UPPER PENNSYLVANIAN POOL, EDDY COUNTY, NEW MEXICO, INCLUDING A PROVISION FOR 80-ACRE PRORATION UNITS.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on April 25, 1979, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 2nd day of May, 1979, 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 by Order No. R-5643, dated February 14, 1978, temporary special rules and regulations were promulgated for the Travis-Upper Pennsylvanian Pool, Eddy County, New Mexico, establishing temporary 80-acre spacing units.

(3) That pursuant to the provisions of Order No. R-5643, this case was reopened to allow the operators in the subject pool to appear and show cause why the Travis-Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.

(4) That while the evidence presented establishes that one well in the Travis-Upper Pennsylvanian Pool can drain and develop 80 acres, the evidence demonstrated that normal methods of operation will result in a relatively low rate of recovery from said pool.

(5) That the operators in said Travis-Upper Pennsylvanian Pool should prepare a plan for pool development which will result in the greater ultimate recovery therefrom and present such plan to the Director of the Division within 12 months after the date of this order.

(6) That upon the failure of the operators to present such plan to the Director, or if the Director determines such plan to be inadequate, this case should be reopened to allow the operators in the subject pool to appear and show cause why the Travis-Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.

(7) That under the conditions set out in Findings Nos. (5) and (6) above, the Special Rules and Regulations promulgated by Order No. R-5643 have afforded and will afford to the owner of each property in the pool the opportunity to produce his just and equitable share of the gas in the pool.

(8) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, the Special Rules and Regulations promulgated by Order No. R-5643 should be continued in full force and effect until further order of the Division.

IT IS THEREFORE ORDERED:

(1) That the Special Rules and Regulations governing the Travis-Upper Pennsylvanian Pool, Eddy County, New Mexico, promulgated by Order No. R-5643, are hereby continued in full force and effect until further order of the Division.

(2) That the operators in said Travis-Upper Pennsylvanian Pool shall prepare a plan for pool development which will result in the greater ultimate recovery therefrom and present such plan to the Director of the Division within 12 months after the date of this order.

(3) That upon the failure of the operators to present such plan to the Director, or if the Director determines such plan to be inadequate, this case shall be reopened to allow the operators in the subject pool to appear and show cause why the Travis-Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.

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

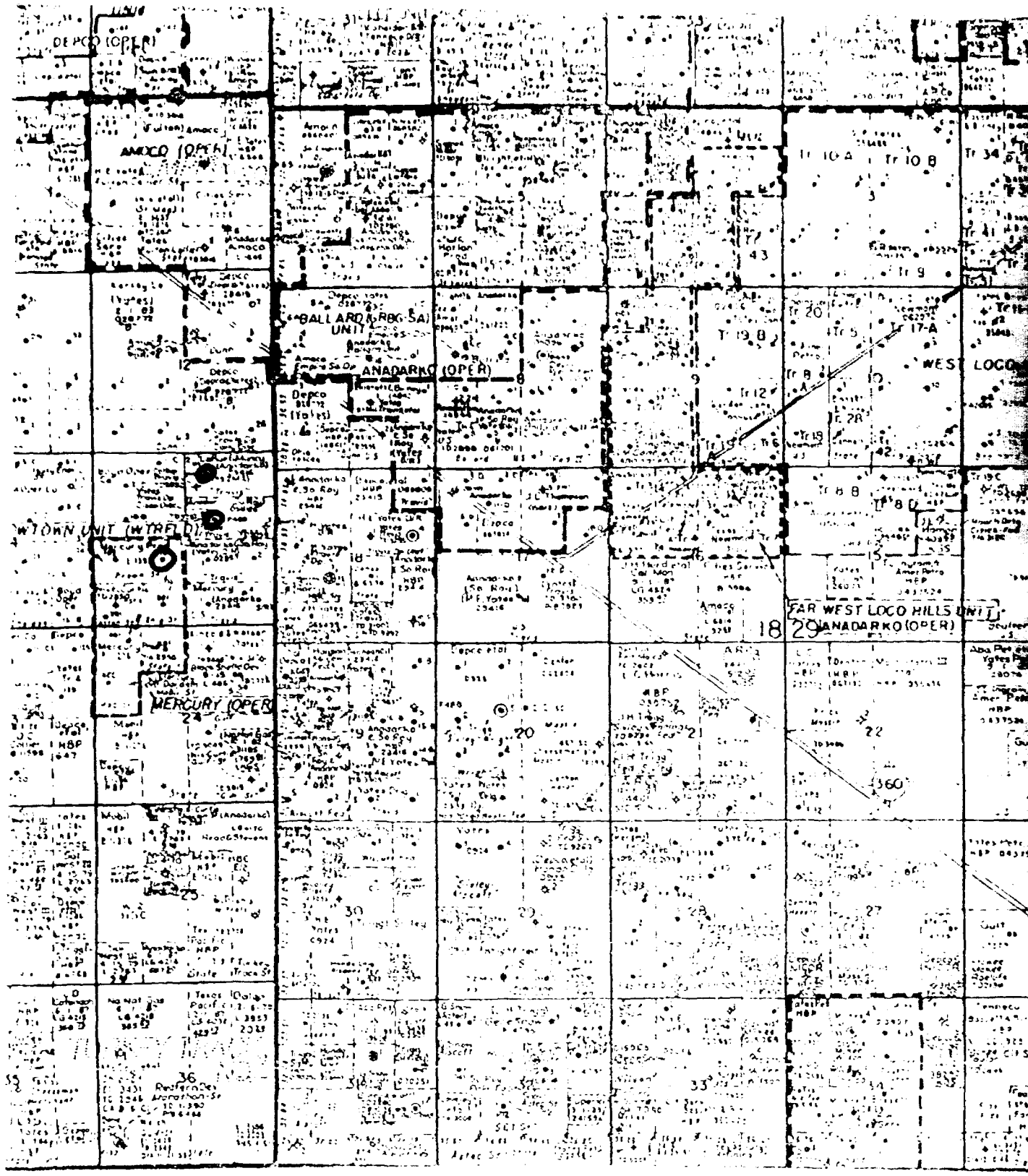
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY,
Director

S E A L

dr/



- TRAVIS DEEP UNIT #2
  1980' FNL & 1780' FEL
  Sec. 13, T-18S, R-28E

- TRAVIS DEEP COM #3
  1980' FEL & 660' FNL
  Sec. 13, T-18S, R-28E

- TRAVIS STATE COM #1
  1980' FNL & 1980' FSL
  Sec. 13, T-18S, R-28E

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 1
CASE NO. 6072
Submitted by HEYCO
Hearing Date 4/25/75

Analysis of Travis Deep Upper Penn Reservoir Performance
Section 13, T-18 S, Range 28-E, Eddy County, New Mexico

This analysis is based on Production-Pressure Performance data and PVT fluid data available of produced liquids from the Reservoir.

Historically, the initial Canyon (Cisco) Zone completion was affected in August of 1977 with the completion of the Harvey E. Yates Company Travis Deep Unit No. 2 Well. A second completion, the Harvey E. Yates Company Travis Deep Unit Well No. 3, was made in May of 1978. On April 17, 1979, the Canyon Cisco Zone was penetrated, and a drill stem test was conducted on the Harvey E. Yates Company Travis State Communitized Well No. 1 covering the entire Cisco interval, 9810 feet to 9900 feet.

The results of this test and interpretation of the production-pressure data indicates a significant reduction in the reservoir pressure further suggesting that a high degree of reservoir fluid and pressure transmissibility (communication) is indicated between the existing completed producing wells and the zone tested on April 17, 1979.

The location of the Harvey E. Yates Company Travis State Communitized Well No. 1 is 2080 feet from the West line and 1780 feet from the South line of Section 13, and is 2000 feet Southwest of the Travis Deep Unit Well No. 2. The maximum interpretive reservoir pressure from a Horner-type pressure analysis of the drill stem results indicates the current reservoir pressure at this location to be 2535 psig, approximately 1000 psig less than measured in the Travis Deep Unit Well No. 2 on December 1, 1977. The December 1, 1977 reservoir boundary pressure was 3538 psig.

Using the measured distance between the Travis Deep Unit Well No. 2 and the Travis State Communitized Well No. 1 location site, the pressure evidence suggests that the effective drainage radius of the Travis Deep Unit Well No. 2 is 2000 feet which is equivalent to a radial drainage area of 288 acres.

In February, 1978, Harvey E. Yates Company conducted an extended pressure survey to obtain additional data to attempt to evaluate the reservoir size, possible shape and reservoir boundary conditions. At February 9, 1978, the stabilized reservoir boundary pressure was projected to be 3618 psig. This was 80 psig higher than the pressure reported December 1, 1977; however, the shut-in build-up time was some 1500 hours greater than the December 1, 1977, survey period.

Utilizing production-pressure data to April 17, 1979, calculations indicate the recovery of liquids from the reservoir could approach:

	$\sum$ Oil-Bbls.	$\sum$ Gas-MCF	Reservoir Pressure
February 9, 1979	16,361	18,030	3618
April 17, 1979	188,790	251,927	2535

A Projected Reservoir Recovery Oil = $\frac{(188790-16361)(3618)}{(3618-2535)} + 16361 = 592,400$ Barrels

Projected Ultimate Gas 4,000,000 MCF

If the primary recovery performance of this reservoir is projected to be 17.5% of initial oil-in-place, net pay of 15 feet, porosity of 6% to 6-1/2% of bulk volume and connate water saturations of 30% to 35% of pore volume, the following is computed:

Total Oil in Reservoir (Stock Tank)	3,384,000 Barrels
Total Gas in Reservoir (2608)	8,825,500 MCF
Initial Condition $\frac{(0.0625)(1-0.325)(7758)}{1.885}$	173.60 BAF
Reservoir Volume Required To Hold Oil in Place	19,490 Acre Feet
Projected Reservoir Area 15 Feet (Average Thickness)	1,300 Acres

What is optimum well spacing? This is a judgement that an individual investor must make; however, for guideline purposes, the following is presented.

Completion Cost Estimate: $42 per foot of hole drilled.

Spacing	Cost/Well	Recoverable Reserves Oil-Bbls	Recoverable Reserves Gas-MCF	Projected 8/8 Value $13.50 Oil $2.00 Gas	Investors Value Before Operations (0.80)
40 Acre	$ 420,000	19,300	129,000	$ 518,550	$ 414,840
80 Acre	420,000	38,600	258,000	1,037,100	829,680
160 Acre	420,000	77,200	516,000	2,074,200	1,659,360

Projecting reserves and economic conditions, it would appear a well density less than 80 acres would not provide a return of funds much more than the projected cost of a completion. A well on 80-acre spacing suggests a Working Interest or Operator return of approximately twice the investment; however, after allowance for royalty and operating costs, the probable future funds to an operator might provide an adequate but not necessarily an attractive investment return.

The applicant respectfully requests that proration unit size established at this time be not less than 80 acres.

Further, the applicant would agree to present all performance data at a future date for review and inspection to this Commission to judge the propriety of the 80-acre proration unit for the Travis Deep Upper Penn Field.

HARVEY E. YATES, INC.
WELL DATA AND PRODUCTION INFORMATION
TRAVIS DEEP UPPER PENN FIELD
EDDY COUNTY, NEW MEXICO
Ralph H. Viney & Associates, Inc.
Engineering Consultants

WELL DATA

Operator / Lease Name	Location	Section	Township	Range	Elevation	Total Depth	Casing Size	Weight	Depth	Cement	Producing Zone	Perforations	Completion Date	Initial Potential Test Data: Test Date	Choke Size	Oil Bbls/Day	Gas MCF/Day	Water	Gravities: Oil °API	Gravities: Gas Sp.Gr.	Gas-Oil Ratio Cubic Feet/Bbl.	Pressures (PSIG): Tubing	Pressures (PSIG): Casing
Harvey E. Yates, Inc.																							
Travis Deep Unit Well No. 2	1980' FNL & 1780' FEL	13	18-S	28-E	3618' GL 3633' KB	11,270' 11,223' PB	12-3/4" 8-5/8" 5-1/2"	34# 24# 28# 17#	360' 3,500' 11,268'	425 Sks 300 Sks 950 Sks	Canyon (Cisco)	9924', 28', 31', 33' 9935', 37', 41', 44' 9950', 52', 54', 57' 9963', 65', 68', 71' 9978', 83', 94', 96' 9998', 03' 22 shots	8-18-77	8-24-77	18/64"	433	631	0	45.6	0.8[illegible]	1[illegible]	[illegible]	[illegible]
														Production tubing string reported to be 2-3/8" EUE									
Travis Deep Unit Well No. 3	1980' FEL & 660' FNL	13	18-S	28-E	3639' GL 3654' KB	11,270' 10,904'	12-3/4" 8-5/8" 5-1/2"	50# 24# 28# 17#	376' 2,900' 11,290'	475 Sks 300 Sks 900 Sks	Canyon (Cisco)	9830-40' 6 shots 9864-75' 6 shots 9891-94' 6 shots 9911-20' 6 shots	5-16-78	5-13-78	24/64"	684	889	Some Acid Water	45.6		1[illegible]	[illegible]	Packer
														Production tubing string reported to be 2-7/8" EUE									
Travis State Com Well No. 1	1780' FSL & 2080' FWL	13	18-S	28-E																			

PRODUCTION DATA

Year	Month	Travis Deep Unit Well No. 2: Oil - Barrels Monthly	Oil - Barrels Cumulative	Gas - MCF Monthly	Gas - MCF Cumulative	Gas-Oil Ratio Cubic Feet/Barrel Monthly	Gas-Oil Ratio Cubic Feet/Barrel Cumulative	Travis Deep Unit Well No. 3: Oil - Barrels Monthly	Oil - Barrels Cumulative	Gas - MCF Monthly	Gas - MCF Cumulative	Gas-Oil Ratio Cubic Feet/Barrel Monthly	Gas-Oil Ratio Cubic Feet/Barrel Cumulative	Reservoir Totals: Oil - Barrels Monthly	Oil - Barrels Cumulative	Gas - MCF Monthly	Gas - MCF Cumulative	Gas-Oil Ratio Cubic Feet/Barrel Monthly	Gas-Oil Ratio Cubic Feet/Barrel Cumulative
1977	August	1,238	1,238	1,733	1,733	1400	1400	-	-	-	-	-	-	1,238	1,238	1,733	1,733	1400	1400
	September	6,476	7,714	7,352	9,085	1135	1178	-	-	-	-	-	-	6,476	7,714	7,352	9,085	1135	1178
	October	8,624	16,338	8,932	18,017	1035	1103	-	-	-	-	-	-	8,624	16,338	8,932	18,017	1035	1103
	November	23	16,361	-	18,017	-	1103	-	-	-	-	-	-	23	16,361	-	18,017	-	1103
	December	-	16,361	-	18,017	-	1103	-	-	-	-	-	-	-	16,361	-	18,017	-	1103
1978	January	-	16,361	13	18,030	-	1102	-	-	-	-	-	-	-	16,361	13	18,030	-	1102
	February	-	16,361	-	18,030	-	1102	-	-	-	-	-	-	-	16,361	-	18,030	-	1102
	March	6,867	23,228	8,516	26,546	1240	1143	-	-	-	-	-	-	6,867	23,228	8,516	26,546	1240	1143
	April	10,456	33,684	12,362	38,928	1184	1156	-	-	-	-	-	-	10,456	33,684	12,362	38,928	1184	1156
	May	10,593	44,277	11,096	50,024	1047	1130	1,985	1,985	2,976	2,976	1609	1609	12,578	46,262	14,072	53,000	1119	1146
	June	8,209	52,486	9,003	59,027	1098	1125	6,649	8,634	9,432	12,408	1419	1437	14,858	61,120	18,435	71,435	1241	1169
	July	6,312	58,798	6,179	65,206	1296	1143	6,465	15,099	7,980	20,397	1236	1351	12,777	73,897	16,168	85,603	1265	1158
	August	4,167	62,965	4,581	71,587	1051	1137	7,194	22,293	9,486	29,883	1318	1346	11,361	85,258	13,867	101,470	1221	1190
	September	2,081	65,046	1,020	72,607	923	1130	4,865	27,158	6,452	36,335	1300	1338	7,046	92,304	8,732	109,842	1239	1190
	October	10,974	76,020	11,858	85,365	1080	1123	9,635	36,793	14,044	50,379	1458	1369	20,609	112,913	25,902	135,744	1257	1202
	November	8,666	84,686	9,143	94,508	1055	1116	7,619	44,412	11,817	62,196	1551	1397	16,285	129,198	20,960	156,705	1287	1213
	December	7,010	91,702	8,208	102,716	1170	1120	3,764	50,176	10,350	72,546	1786	1443	12,780	141,978	18,558	175,264	1452	1234
1979	January	7,326	99,028	9,197	111,913	1255	1130	2,794	53,025	5,178	77,722	1863	1466	10,075	152,053	14,373	189,636	1427	1247
	February	8,701	107,729	10,454	127,347	1774	1182	6,436	59,461	11,321	89,043	1759	1498	15,137	167,190	26,755	216,392	1768	1294
	March	8,255	115,984	10,703	138,050	1297	7190	6,245	65,706	10,839	99,882	1736	1520	14,500	181,690	21,542	237,934	1486	1310
	April (17 days)	3,893	119,877	4,623	142,673	1252	1192	3,407	69,113	9,370	109,252	2750	1582	7,100	188,790	13,993	251,927	1971	1334

Remarks
Packer to shut off upper Morrow perforations at 10,579'. Production packer @ 9772', Cisco Canyon treated with 250 gallons 10% acetic acid and 4000 gallons HCL.
Cisco perforations treated with 500 gallons acetic acid and 3500 gallons 15% I -30.
DST #1: interval 9810'-9900' Upper Penn Initial hydrostatic 4473 psi, 30 mins initial flow pressures 152-217 psi; 60 mins initial shut-in pressure 2390 psi; 120 mins final flow pressure 196-270 psi; 240 min final shut in pressure 2477 psi. Final hydrostatic 4551 psi

FLUID SAMPLE DATA	
Sampler Pressure 300# P.S.I.G. at Surface	Date 4-17-79 · Ticket Number 520180
Recovery: Cu. Ft. Gas .90	Kind of Job DST #1 · Halliburton District Artesia
cc. Oil 1250	Tester Raines – Puckett · Witness Peck Hardee
cc. Water	Drilling Contractor McRawco #2
cc. Mud	
Tot. Liquid cc.	

EQUIPMENT & HOLE DATA

Formation Tested	Canyon Reef
Elevation	3585 Ft.
Net Productive Interval	15' Ft.
All Depths Measured From	KB – 13'
Total Depth	9900 Ft.
Main Hole/Casing Size	8 3/4
Drill Collar Length	678 I.D. 2.25"
Drill Pipe Length	9102 I.D. 3.64
Packer Depth(s)	9810–9804' Ft.
Depth Tester Valve	9780 Ft.

Gravity ______ ° API @ ______ °F.
Gas/Oil Ratio ______ cu. ft./bbl.

	RESISTIVITY	CHLORIDE CONTENT
Recovery Water	@ °F.	ppm
Recovery Mud	@ °F.	ppm
Recovery Mud Filtrate	@ °F.	ppm
Mud Pit Sample	@ °F.	ppm
Mud Pit Sample Filtrate	@ °F.	ppm
Mud Weight 9.0#	vis	cp

Cushion TYPE · AMOUNT None Ft. · Depth Back Pres. Valve None · Surface Choke Floor Manifold 3/4" 1/2" · Bottom Choke .75

Recovered 680' Feet of Condensate
Recovered 205' Feet of Drilling mud
Recovered Feet of
Recovered Feet of
Recovered Feet of

Meas. From Tester Valve

Remarks

TEMPERATURE	Gauge No. 1639 Depth: 9792 Ft.		Gauge No. Depth: Ft.		Gauge No. 1638 Depth: 9896 Ft.		TIME	
	16710 24 Hour Clock		Hour Clock		13736 24 Hour Clock		Tool Opened 1415 P.M.	
Est. °F.	Blanked Off No		Blanked Off		Blanked Off yes		Opened Bypass 2145 P.M.	
Actual 154 °F.	Pressures		Pressures		Pressures			
	Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic	4478				4473		—	—
First Period Flow Initial	88				152		—	—
First Period Flow Final	155				217		30	
First Period Closed in	2380				2390		60	
Second Period Flow Initial	177				196		—	—
Second Period Flow Final	353				370		150'	
Second Period Closed in	2446				2477		240	
Third Period Flow Initial							—	—
Third Period Flow Final								
Third Period Closed in								
Final Hydrostatic	4456				4551		—	—

FORM 1 ... PRINTED IN U.S.A.

FORMATION TEST DATA

LITTLE'S 32956 3/73

Legal Location Sec. - Twp. - Rng.: 13–18S–28E
Lease Name: Travis Com State
Well No.: 1
Test No.: 1
Tested Interval: 9810–9900' 90'
Field Area: Turkey Track
County: Eddy
Lease Owner/Company Name: Harvey E. Yates
State: N. Mexico

Liquid Production

B.T. Gouge Numbers			1638		Ticket Number		520180
			PRESSURE	PRESSURE			
Initial Hydrostatic			4486		Elevation		3585 ft.
Final Hydrostatic			4503		Indicated Production	1st Flow	bbls./day
1st Flow	Initial	Time	222			2nd Flow	29.0 bbls./day
	Final		202			3rd Flow	678 bbls./day
	Closed In Pressure		2425		Drill Collar Length		678 ft.
2nd Flow	Initial	Time	241		Drill Collar I.D.		2.25 in.
	Final		383		Drill Pipe Factor		.01422 bbls./ft.
	Closed In Pressure		2473		Hole Size		8.75 in.
3rd Flow	Initial	Time			Footage Tested		90 ft.
	Final				Mud Weight		9.0 lbs./gal.
	Closed In Pressure				Viscosity, Oil or Water		1.2 cp
Extrapolated Static Pressure		1st	2528		Oil API Gravity		40 —
		2nd	2507		Water Specific Gravity		—
		3rd			Temperature		154 °F
Slope P/10		1st	587				
		2nd	157				
		3rd					

Remarks:
Harvey E Yates Co.
Travis Corner State #1
DST #1
9810-9900 90' 15' net

SUMMARY

B.T. Gouge No. — Depth 1638

B.T. Gouge No. — Depth

PRODUCT	EQUATION	FIRST	SECOND	THIRD	FIRST	SECOND	THIRD	UNITS
Production	$Q = \frac{1440\ R}{t}$		29					bbls. day
Transmissability	$\frac{Kh}{\mu} = \frac{162.6\ Q}{m}$		32.44					md. ft. / cp
Indicated Flow Capacity	$Kh = \frac{Kh}{\mu}\ \mu$		38.92		96.25			md. ft.
Average Effective	$K = \frac{Kh}{h}$ $h = 15$		2.59		6.41			md.
Permeability	$K_1 = \frac{Kh}{h_1}$							md.
Damage Ratio	$DR = .183\ \frac{Ps - Pf}{m}$		4.27					—
Theoretical Potential w/Damage Removed	$Q_1 = Q\ DR$		123.8					bbls. day
Approx. Radius of Investigation	$b \leftrightarrows \sqrt{Kt}$ or $\sqrt{Kt_0}$		18.0					ft.
	$b_1 \leftrightarrows \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$							ft.
Potentiometric Surface *	$Pot. = El - GD + 2.319\ Ps$							ft.

NOTICE: These calculations are based upon information furnished by you and taken from Drill Stem Test pressure charts, and are furnished you for your information. In furnishing such calculations and evaluations based thereon, Halliburton is merely expressing its opinion. You agree that Halliburton makes no warranty express or implied as to the accuracy of such calculations or opinions, and that Halliburton shall not be liable for any loss or damage, whether due to negligence or otherwise, in connection with such calculations and opinions.

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INTERPRETATIONS AND CALCULATIONS

LITTLE S 834'S 9M 3/69—64-9

22

RECORDING PRESSURE GAUGE CHART

Ticket No. 520180 Date 4-17-79

Company HARVEY E YATES

Lease TRAVIS COM STATE Well No. 1

FIELD READINGS

Device No. 1639		24 Hr. Clock No. 16710	
B. T. Gauge Depth 9792 Ft.		Estimated Gauge Depth Temperature 154 °F	95
		Thousands of Inch	Pressure P.S.I.
Initial Hydro. Mud Pressure		2.03	4478
1st	Initial Flow Pressure	.04	88
1st	Final Flow Pressure	.07	155
1st	First Closed In Pressure	1.08	2380
2nd	Initial Flow Pressure	.08	177
2nd	Final Flow Pressure	.16	353
2nd	Second Closed In Pressure	1.11	2446
3rd	Initial Flow Pressure		
3rd	Final Flow Pressure		
3rd	Third Closed In Pressure		
Final Hydro. Mud Pressure		2.02	4456

FORM 892-R4

Tester Smith

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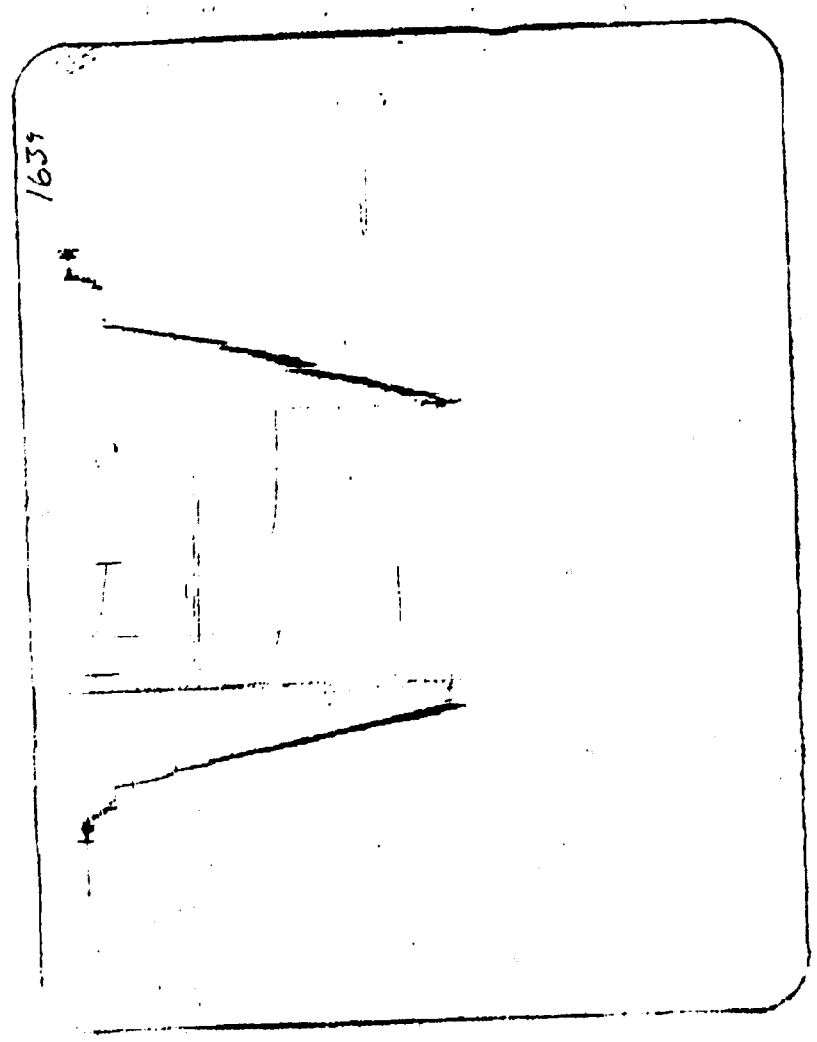
Photographic negative for this chart on file three years from date at Halliburton Duncan, Oklahoma 73533



22

RECORDING PRESSURE GAUGE CHART

Ticket No. 20180 Date 4-17-79

Company HARVEY E YATES

Lease TRAVIS COM STATE Well No. 1

FIELD READINGS

Device No. 1639		24 Hr. Clock No. 16710	
B. T. Gauge Depth 9792 Ft.		Reimaged Gauge Depth 9792 Temperature 154 °F	
		Thousands of Inch	Pressure P.S.I.
Initial Hydro. Mud Pressure		2.03	4478
1st	Initial Flow Pressure	.04	88
1st	Final Flow Pressure	.07	155
1st	First Closed In Pressure	1.08	2380
2nd	Initial Flow Pressure	.08	177
2nd	Final Flow Pressure	.16	353
2nd	Second Closed In Pressure	1.11	2446
3rd	Initial Flow Pressure		
3rd	Final Flow Pressure		
3rd	Third Closed In Pressure		
Final Hydro. Mud Pressure		2.02	4456

FORM 892-R4

Tester Puckett

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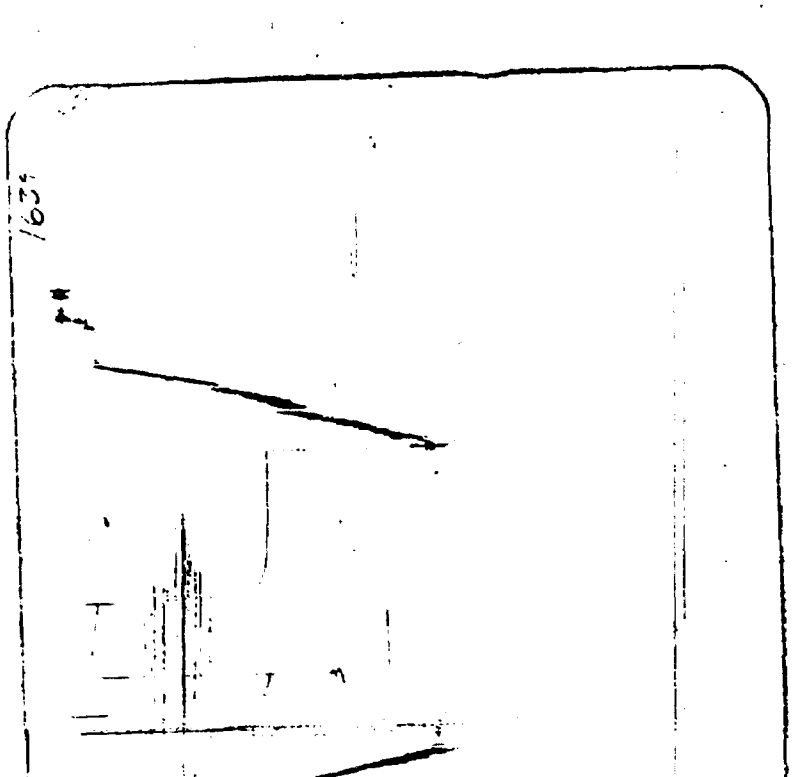
HALLIBURTON SERVICES

A Halliburton Company

Photographic negative for this chart on file three years from date at Halliburton Duncan, Oklahoma 73533



TICKET NO.

		O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	4½	6.75	3.00	1'	
Water Cushion Valve					
Drill Pipe		4½	3.5:6		
Drill Collars		6¼	2.25"	120	
Handling Sub & Choke Assembly					
Dual CIP Valve					
Dual CIP Sampler		5.00	.87	6.75"	9780
Hydro-Spring Tester	5"	5.00	.75"	5'	9787
Multiple CIP Sampler					
Extension Joint					
AP Running Case	5"	5.00	3.06	4.14	9792
Hydraulic Jar	5"	5.03	1.75	5."	
VR Safety Joint	5"	5.00	1.00	2.78	
Pressure Equalizing Crossover					
Packer Assembly	#2 VR	7 3/4	1.53	5.81	9804
Distributor					
Packer Assembly	#2 VR	7 3/4	1.53	5.81	9810
Flush Joint Anchor					
Pressure Equalizing Tube					
Blanked-Off B.T. Running Case					
Drill Collars					
Anchor Pipe Safety Joint					
Packer Assembly					
Distributor					
Packer Assembly					
Anchor Pipe Safety Joint	5"	5.0	1.5"	4.3	
Side Wall Anchor					
Drill Collars		6¼	2.25"	12.	
~~Flush Joint Anchor~~ Perf.		5	—	17	
Blanked-Off B.T. Running Case		5"	—	4	9896
Total Depth					9900

FORM 1561—PRINTED IN U.S.A.

EQUIPMENT DATA

LITTLE'S 92356 3/

Casing perfs. _____ Bottom choke .75 Surf. temp. _____ °F Ticket No. S20180

Gas gravity _____ Oil gravity _____ GOR _____

Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

Date 4-17-79 Time a.m. 1415 p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
1415	—	—	—	—	Open Tool (Good Blow)
1420	3/8	7 #			Pressure Increasing
1425	3/8	10 #			" "
1430	3/8	11 #			" "
1435	3/8	13 #			" "
1437	3/8	13 #	...		Gas To Surface
1440	3/8	15 #			Pressure Increasing
1445	3/8	16 #			Close Tool
1545	3/8				Open Tool
1550	3/8	9 #			Pressure Increasing
555	3/8	10 #			" "
1600	3/8	11 #			" "
1605	3/8	11 #			Pressure Stabilizing
1610	3/8	12 #			" "
1615	3/8	12 #			Pressure Stable
1630	3/8	12 #			" "
1645	1/2	12 #			Change choke from 3/8 to 1/2
1650	1/2	11 #			Pressure Decreasing
1655	1/2	10 #			" "
1700	1/2	9 #			" "
1705	1/2	8 #			" "
1710	1/2	7 #			" "
1715	1/2	7 #			Pressure Stabilized
1720	1/2	7 #			" "
1735	1/2	7 #			" "
1745	1/2	7 #			Close Tool

FORM 1966 PRINTED IN U.S.A.

PRODUCTION TEST DATA

LITTLE'S 72366 3/

Owner Rocky E Yates Co. Lease, Well No. Travis Comm St Lo #1

Ticket No. S20180 DST #1 B.T. No. 1638 B.T. Depth 9896 Clock 24

Tested interval 9510 - 9900 Clock Factor $\frac{1500}{450}$ = .00333333

Flow Period 1 Time 30 Closed in Period 1 Time 61

P	time defl	time min	log $\frac{t+\theta}{\theta}$	psi defl	psi P	P	T	T	time defl	time min	θ=30 log $\frac{t+\theta}{\theta}$	psi defl	P psi	P	T	T
0		0		.102	222					0		.053	202			
1	.0033	1		.084	183				.0033	1	1.4914	.228	496			
2	.0067	2		.060	174				.0067	2	1.204	.325	707			
3	.0100	3		.068	148				.0100	3	1.041	.429	933			
4	.0133	4		.065	141				.0133	4	.929	.556	1208			
5	.0167	5		.064	139				.0166	5	.845	.657	1427			
6	.0200	6		.064	139				.0200	6	.778	.747	1623			
7	.0233	7		.064	139				.0233	7	.723	.825	1792			
8	.0267	8		.066	144				.0266	8	.677	.876	1902			
9	.0300	9		.068	148				.0300	9	.637	.921	2000			
10	.0333	10		.070	152				.0333	10	.602	.950	2063			
11	.0367	11		.071	154				.0366	11	.571	.969	2105			
12	.0400	12		.073	159				.0399	12	.544	.986	2142			
13	.0433	13		.075	163				.0433	13	.520	.999	2170			
14	.0467	14		.076	165				.0466	14	.497	1.009	2192			
15	.0500	15		.078	170				.0499	15	.477	1.019	2213			
16	.0667	20		.083	181				.0532	16	.459	1.026	2229			
17	.0833	25		.087	189				.0566	17	.442	1.033	2244			
18	.1000	30		.093	202				.0599	18	.426	1.040	2259			
19									.0632	19	.411	1.045	2270			
20			Initial Hydrostatic						.0666	20	.398	1.050	2281			
21				2.056	4486				.0699	21	.385	1.054	2290			
22			Final Hydrostatic						.0732	22	.374	1.059	2301			
23				2.064	4503				.0765	23	.363	1.062	2307			
24									.0799	24	.352	1.066	2316			
25									.0832	25	.342	1.069	2323			

Owner _____ Lease, Well No. _____

Ticket No. _____ B.T. No. _____ B.T. Depth _____ Clock _____

Tested Interval _____ Clock Factor _____

	Closed in Period / Time								Closed in Period Time							
P	time defl	time min	log T+0 / 0	psi defl	P psi	P	T	T	time defl	time min	log t+0 / 0	psi defl	P psi	P	T	T
1	.0665	26	333	1.072	2329		-									
2	.0699	27	.325	1.074	2333											
3	.0732	28	.316	1.077	2340											
4	.0765	29	309	1.079	2344											
5	.0998	30	301	1.081	2349											
6	.1165	35	269	1.091	2370		-									
7	.1331	40	.243	1.098	2386											
8	.1496	45	.222	1.104	2399											
9	.1664	50	.204	1.109	2410											
10	.1830	55	.189	1.112	2416											
11	.1997	60	.176	1.115	2423											
12	.2030	61	.174	1.116	2425											
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																

Owner _____ Lease, Well No. _____

Ticket No. _____ B.T. No. _____ B.T. Depth _____ Clock _____

Tested interval _____ Clock Factor _____

Flow Period 2 Time 120 Flow Period 2 Time

	time defl	time min	log t+0/0	psi defl	psi P	P	T	T	time defl	time min	log t+0/0	psi defl	P psi	P	T	T
P																
0		0		.111	241					26		.120	259			
1		1		.098	213					27		.121	263			
2		2		.086	187					28		.122	265			
3		3		.082	178					29		.123	267			
4		4		.082	178					30		.124	270			
5		5		.083	181					31		.124	270			
6		6		.087	189					32		.125	272			
7		7		.091	198					33		.126	274			
8		8		.096	209					34		.127	276			
9		9		.100	217					35		.127	276			
10		10		.102	222					36		.128	278			
11		11		.104	226					37		.129	281			
12		12		.105	228					38		.130	283			
13		13		.106	231					39		.130	283			
14		14		.107	233					40		.131	285			
15		15		.108	234					41		.132	287			
16		16		.109	237					42		.133	289			
17		17		.111	241					43		.133	289			
18		18		.112	244					44		.134	291			
19		19		.113	246					45		.134	291			
20		20		.114	248					46		.135	294			
21		21		.115	250					47		.136	296			
22		22		.116	252					48		.137	298			
23		23		.117	254					49		.137	298			
24		24		.118	257					50		.138	300			
25		25		.119	259					51		.138	300			

Tester _____ Lease, Well No. _____

Ticket No. _____ B.T. No. _____ B.T. Depth _____ Clock _____

Tested interval _____ Clock Factor _____

Flow Period 2 Time — Closed in Period — Time

	time defl	time min	log t+0/0	psi defl	psi P	P	T	T	time defl	time min	log t+0/0	psi defl	P psi	P	T	T
0		52		.138	302											
1		53		.140	304											
2		54		.140	304											
3		55		.141	307											
4		56		.142	309											
5		57		.142	309											
6		58		.142	309											
7		59		.142	309											
8		60		.142	309											
9		65		.145	315											
10		70		.148	322											
11		75		.150	326											
12		80		.153	333											
13		85		.154	335											
14		90		.157	341											
15		95		.160	348											
16		100		.163	354											
17		105		.167	363											
18		110		.167	363											
19		115		.170	370											
20		120		.176	383											
21																
22																
23																
24																
25																

Owner _____ Lease, Well No. _____

Ticket No. _____ B.T. No. _____ B.T. Depth _____ Clock _____

Tested Interval _____ Clock Factor _____

Closed in Period 2 Time 239 | Closed in Period 2 Time

P	time defl	time min	log $\frac{T+\theta}{\theta}$ θ=150	psi defl	P psi	P	T	T	time defl	time min	log $\frac{t+\theta}{\theta}$	psi defl	P psi	P	T	T
1		0		.176	383					26	.831	1.069	2323			
2		1	2.179	.284	617					27	.817	1.072	2329			
3		2	1.881	.373	811					28	.803	1.074	2333			
4		3	1.708	.464	1009					29	.791	1.076	2338			
5		4	1.586	.558	1213					30	.778	1.078	2342			
6		5	1.491	.660	1434					31	.766	1.080	2347			
7		6	1.415	.757	1644					32	.755	1.082	2351			
8		7	1.351	.839	1822					33	.744	1.084	2355			
9		8	1.296	.897	1948					34	.733	1.086	2360			
10		9	1.247	.937	2035					35	.723	1.087	2362			
11		10	1.204	.963	2092					36	.713	1.089	2366			
12		11	1.165	.980	2129					37	.704	1.090	2368			
13		12	1.130	.994	2159					38	.694	1.092	2373			
14		13	1.098	1.007	2187					39	.685	1.093	2375			
15		14	1.069	1.015	2205					40	.677	1.094	2377			
16		15	1.041	1.023	2222					41	.668	1.095	2379			
17		16	1.016	1.030	2238					42	.660	1.096	2381			
18		17	.992	1.035	2248					43	.652	1.097	2384			
19		18	.970	1.041	2262					44	.644	1.099	2388			
20		19	.949	1.046	2272					45	.637	1.100	2390			
21		20	.929	1.050	2281					46	.630	1.101	2392			
22		21	.911	1.054	2290					47	.622	1.102	2394			
23		22	.893	1.057	2296					48	.615	1.102	2394			
24		23	.876	1.060	2303					49	.609	1.103	2397			
25		24	.860	1.064	2312					50	.602	1.104	2399			
		25	.845	1.066	2316					51	.596	1.105	2401			

Owner _____ Lease, Well No. _____

Ticket No. _____ B.T. No. _____ B.T. Depth _____ Clock _____

Tested Interval _____ Clock Factor _____

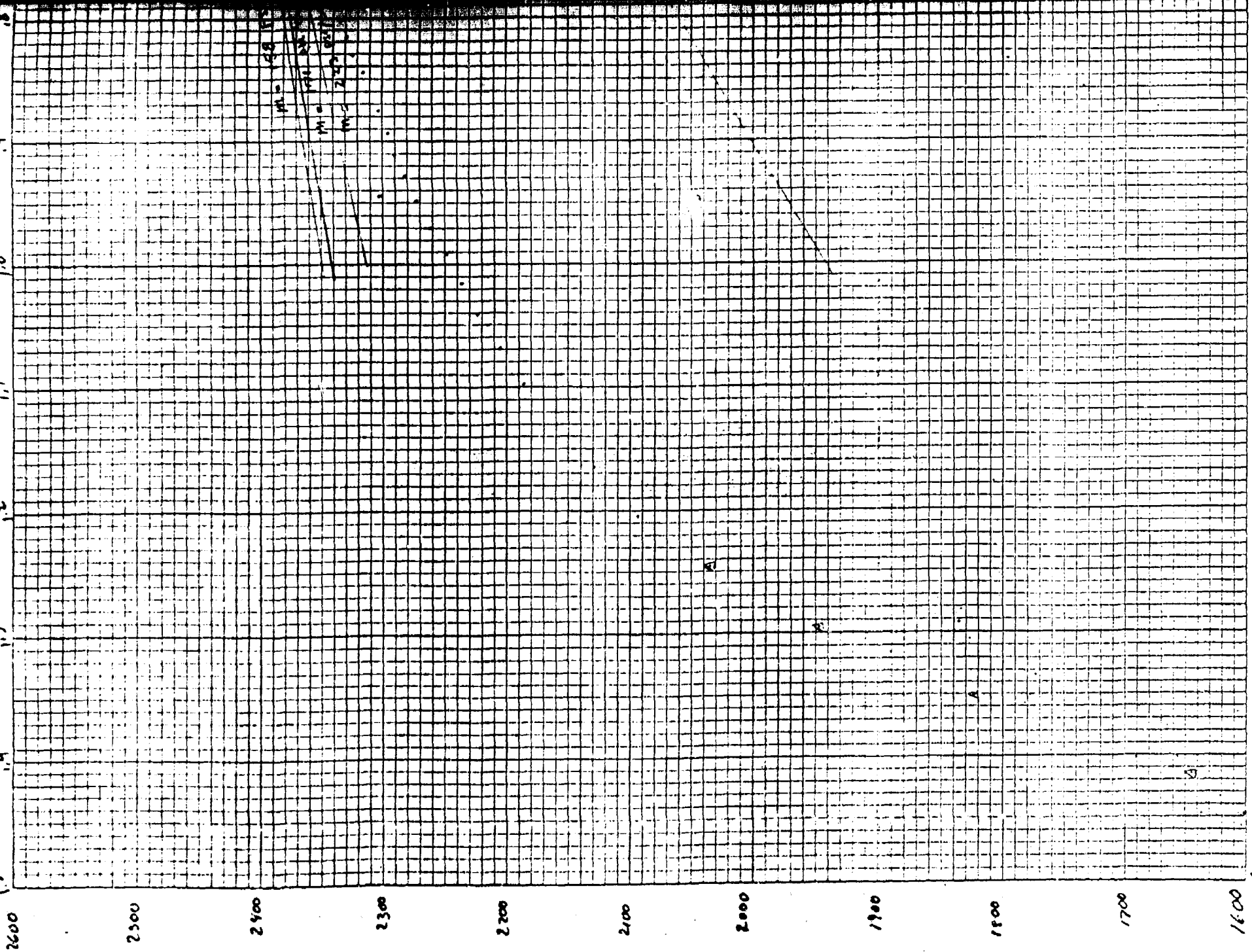
	Closed in Period 2 Time								Closed in Period 2 Time							
P	time defl	time min	log $\frac{T+\theta}{\theta}$	psi defl	P psi	P	T	T	time defl	time min	log $\frac{t+0}{0}$	psi defl	P psi	P	T	T
1		52	.589	1.106	2403					78	.466	1.119	2431			
2		53	.583	1.106	2403					79	.462	1.119	2431			
3		54	.577	1.107	2405					80	.459	1.119	243			
4		55	.571	1.108	2408					81	.4551	1.120	2434			
5		56	.566	1.108	2408					82	.452	1.120	2434			
6		57	.560	1.109	2410					83	.448	1.120	2434			
7		58	.555	1.109	2410					84	.445	1.121	2436			
8		59	.549	1.110	2412					85	.442	1.121	2436			
9		60	.544	1.111	2414					86	.438	1.121	243			
10		61	.539	1.111	2414					87	.435	1.121	2436			
11		62	.534	1.112	2416					88	.432	1.122	2438			
12		63	.529	1.112	2416					89	.429	1.122	2438			
13		64	.524	1.113	2418					90	.4260	1.122	2438			
14		65	.520	1.113	2418					91	.423	1.122	2438			
15		66	.515	1.114	2421					92	.4200	1.123	2440			
16		67	.510	1.114	2421					93	.417	1.123	2440			
17		68	.506	1.115	2423					94	.414	1.123	2440			
18		69	.502	1.116	2425					95	.411	1.123	2440			
19		70	.497	1.116	2425					96	.409	1.123	2440			
20		71	.493	1.116	2425					97	.406	1.124	2442			
21		72	.489	1.117	2427					98	.403	1.124	2442			
22		73	.485	1.117	2427					99	.401	1.124	2442			
23		74	.481	1.117	2427					100	.398	1.125	2445			
24		75	.477	1.118	2429					101	.395	1.125	2445			
25		76	.473	1.118	2429					102	.393	1.125	2445			
		77	.470	1.118	2429					103	.390	1.125	2445			

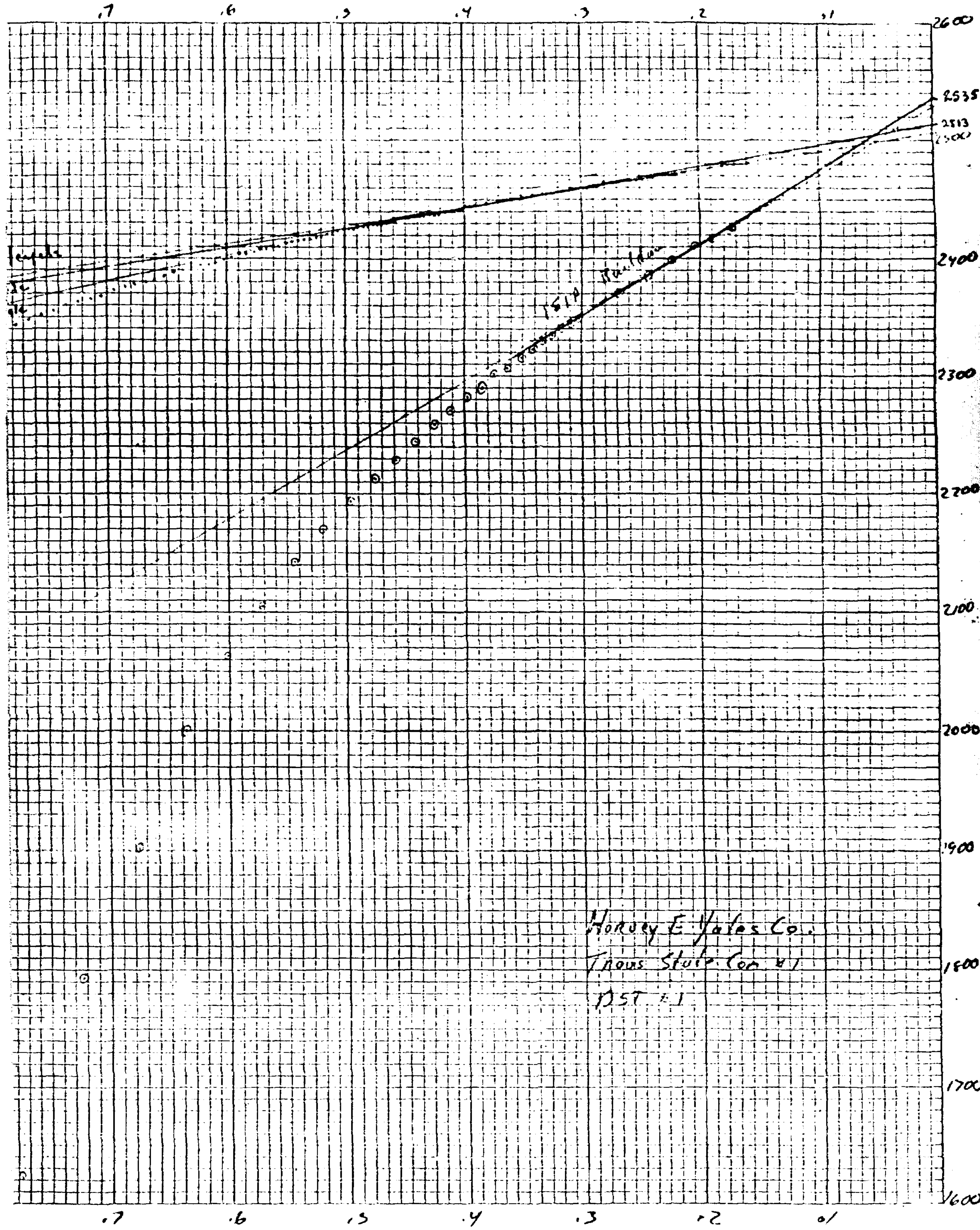
Owner _____ Lease, Well No. _____

Ticket No. _____ B.T. No. _____ B.T. Depth _____ Clock _____

Tested Interval _____ Clock Factor _____

	Closed in Period 2 Time								Closed in Period 2 Time							
P	time defl	time min	log T+0 / 0	psi defl	P psi	P	T	T	time defl	time min	log t+0 / 0	psi defl	P psi	P	T	T
1		104	.388	1.126	2447					170	.275	1.134	2464			
2		105	.385	1.126	2447					175	.269	1.134	2464			
3		106	.383	1.126	2447					180	.263	1.135	2466			
4		107	.381	1.126	2447					185	.258	1.135	2466			
5		108	.378	1.127	2449					190	.253	1.135	2466			
6		109	.376	1.127	2449					195	.248	1.135	2466			
7		110	.374	1.127	2449					200	.243	1.136	2469			
8		111	.371	1.127	2449					205	.239	1.136	2469			
9		112	.369	1.127	2449					210	.234	1.137	2471			
10		[illegible]	.367	1.127	2449					215	.230	1.137	2471			
11		[illegible]	.365	1.127	2449					220	.226	1.137	2471			
12		115	.363	1.128	2451					225	.222	1.137	2471			
13		116	.360	1.128	2451					230	.218	1.137	2471			
14		117	.358	1.128	2451					235	.214	1.138	2473			
15		118	.356	1.128	2451					239	.212	1.138	2473			
16		119	.354	1.128	2451											
17		120	.352	1.129	2453											
18		125	.342	1.129	2453											
19		130	.333	1.130	2455											
20		135	.325	1.130	2455											
21		140	.316	1.131	2458											
22		145	.309	1.132	2460											
23		150	.301	1.132	2460											
24		155	.294	1.133	2460											
25		160	.287	1.133	2460											
		165	.281	1.134	2464											

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Harvey E. Yates Co.
Thomas State Com #1
DST #1

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
State Land Office Building
Santa Fe, New Mexico
28 March 1979

EXAMINER HEARING

IN THE MATTER OF:

Case 6072 being reopened pursuant to the provisions of Order No. R-5643, which order created the Travis-Upper Pennsylvanian Pool, Eddy County, New Mexico.

CASE 6072

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Lynn Teschendorf, Esq.
Legal Counsel for the Division
State Land Office Bldg.
Santa Fe, New Mexico 87503

MR. STAMETS: Call next Case 6072.

MS. TESCHENDORF: Case 6072. In the matter of Case 6072 being reopened pursuant to the provisions of Order No. R-5643, which order created the Travis-Upper Penn Pool. The case should be continued to the April 25th Examiner Hearing.

MR. STAMETS: Okay, this case will be so continued.

(Hearing concluded.)

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
1010 Plaza Blanca (505) 471-2465
Santa Fe, New Mexico 87501

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
3010 Plaza Blanca (505) 471-4463
Santa Fe, New Mexico 87501

REPORTER'S CERTIFICATE

I, SALLY WALTON BOYD, a Court Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability, knowledge, and skill, from my notes taken at the time of the hearing.

Sally W. Boyd

Sally W. Boyd, C.S.R.

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. _____
CASE NO. _____
Submitted by _____
Hearing Date _____

I hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6072, heard by me on 3-28 1979.

Richard L. Stamets, Examiner
Oil Conservation Division

Dockets Nos. 18-79 and 20-79 are tentatively set for hearing on May 9 and 23, 1979. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 25, 1979

9 A.M. - OIL CONSERVATION DIVISION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

CASE 6525: In the matter of the hearing called by the Oil Conservation Division on its own motion to amend the Special Rules for the Tubb Gas Pool in Lea County, New Mexico, to provide for the classification of wells as oil wells and gas wells on the basis of gas-oil ratios rather than on the basis of liquid gravity as at present.

CASE 6526: In the matter of the hearing called by the Oil Conservation Division on its own motion to consider a procedure for the adoption of findings, when applicable and pursuant to the Federal Natural Gas Policy Act, that another well is necessary to effectively and efficiently drain that portion of its proration unit which cannot be so drained by any existing well, and that existing well spacing requirements are waived. The proposed procedure would provide a system whereby such findings could be issued administratively without the necessity for public hearing.

CASE 6527: Application of Tenneco Oil Company for two non-standard oil proration units, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of two 80-acre non-standard oil proration units, the first comprising the N/2 NW/4, the other the N/2 NE/4, of Section 12, Township 9 South, Range 34 East, Vada-Pennsylvanian Pool, Lea County, New Mexico, said units to be dedicated to applicant's Ward Insall Wells Nos. 1 and 2, respectively, located in Units D and A of said Section 12.

CASE 6528: Application of Bass Enterprises Production Co. for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for an unorthodox Morrow test well location to be drilled 660 feet from the North and West lines of Section 10, Township 21 South, Range 32 East, Lea County, New Mexico, the W/2 of said Section 10 to be dedicated to the well.

CASE 6529: Application of Amoco Production Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the S/2 of Section 22, Township 23 South, Range 28 East, Eddy County, New Mexico, to be dedicated to its Brantley Gas Com. Well No. 1 located in Unit K of said Section 22. 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 6530: Application of Amoco Production Company for unorthodox gas well locations, temporary injection of produced gas, and to vent gas, Union and Harding Counties, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox locations in the Tubb formation of its State FI Well No. 3, located 1315 feet from the South line and 1980 feet from the East line of Section 36, Township 20 North, Range 34 East, Union County, and its Heimann Well No. 5, located 660 feet from the South line and 1315 feet from the West line of Section 3, Township 19 North, Range 33 East, Harding County. Applicant further seeks authority to conduct pressure interference tests, including authority to vent gas produced from the State FI Well No. 1 for a period not to exceed 45 days and to inject produced gas into its Heimann Well No. 4 located in Unit K of Section 34, Township 20 North, Range 33 East, for a period not to exceed six months.

CASE 6531: Application of Getty Oil Company for an unorthodox gas well location and simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to simultaneously dedicate its Baker B Well No. 6 at an unorthodox location 510 feet from the South and West lines of Section 10, Township 22 South, Range 37 East, Lea County, New Mexico, and its Baker B Well No. 15 located in Unit L of said Section 10, the current unit well, to the existing proration unit.

CASE 6532: Application of Northwest Production Corporation for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Tapacito-Pictured Cliffs and Blanco Mesaverde production in the wellbore of its Jicarilla 117E Well No. 5 located in Unit N of Section 28, Township 26 North, Range 3 West, Rio Arriba County, New Mexico.

CASE 6072: (Continued from March 28, 1979, Examiner Hearing)

In the matter of Case 6072 being reopened pursuant to the provisions of Order No. R-5643 which order created the Travis-Upper Pennsylvanian Pool, Eddy County, New Mexico, with provisions for 80-acre spacing. All interested parties may appear and show cause why the Travis-Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
State Land Office Building
Santa Fe, New Mexico
14 March 1979

EXAMINER HEARING

IN THE MATTER OF:

Case 6072 being reopened pursuant to Division Order No. R-5643, which order created the Travis-Upper Penn Pool.

CASE 6072

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Lynn Teschendorf, Esq.
Legal Counsel for the Division
State Land Office Bldg.
Santa Fe, New Mexico 87503

MR. NUTTER: We'll call next Case Number 6072.

MS. TESCHENDORF: Case 6072. In the matter of Case 6072 being reopened pursuant to Division Order No. R-5643, which order created the Travis-Upper Penn Pool.

This case is to be continued to the March 28th Examiner Hearing.

MR. NUTTER: At the request of the applicant Case Number 6072 will be continued to the Examiner Hearing scheduled to be held at this same place at 9:00 o'clock a. m. March 28th, 1979.

(Hearing concluded.)

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
3010 Plaza Blanca (505) 471-9465
Santa Fe, New Mexico 87501

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a court reporter, DO HEREBY CERTIFY that the foregoing and attached 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, knowledge, and skill, from my notes taken at the time of the hearing.

Sally W. Boyd

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. 6077 heard by me on 3/14 19 79.

, Examiner
Oil Conservation Division

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
5050 Plaza Blanca (505) 471-2465
Santa Fe, New Mexico 87501

HEYCO

PETROLEUM PRODUCERS

HARVEY E. YATES COMPANY

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

March 20, 1979

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

Attn: Mr. Dan Nutter

Re: Case #6072
Travis - Upper
Penn. Pool

Dear Dan:

As we discussed by telephone this morning HEYCO desires that the above referenced case be continued until the hearing scheduled for April 25, 1979, when we expect to have additional engineering data available. Thank you.

Sincerely,

Robert H. Strand

RHS/cj

CASE 6509: Application of Harvey E. Yates Company for pool creation and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order creating a new gas pool in the Yates formation for its Depco Federal Well No. 1 located in Unit D of Section 19, Township 18 South, Range 29 East, Eddy County, New Mexico, and for promulgation of special pool rules, including provision for 80-acre gas well spacing.

CASE 6480: (Continued from February 28, 1979, Examiner Hearing)

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 or in the alternative a new onshore production well determination for its State 22 Well No. 1 located in Unit P of Section 22, Township 18 South, Range 35 East, Queen formation, Lea County, New Mexico.

CASE 6482: (Continued from February 28, 1979, Examiner Hearing)

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 or in the alternative a new onshore production well determination for its Mobil 27 State Well No. 1 located in Unit A of Section 27, Township 18 South, Range 35 East, Queen formation, Lea County, New Mexico.

CASE 6072: (Continued from March 14, 1979, Examiner Hearing)

In the matter of Case 6072 being reopened pursuantto the provisions of Order No. R-5643 which order created the Travis-Upper Pennsylvanian Pool, Eddy County, New Mexico, with provisions for 80-acre spacing. All interested parties may appear and show cause why the Travis-Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.

CASE 6492: (Continued from March 14, 1979, Examiner Hearing)

Application of Yates Petroleum Corporation for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the San Andres formation underlying the NE/4 NW/4 of Section 13, Township 17 South, Range 25 East, Eddy County, New Mexico, 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 6510: Application of Yates Petroleum Corporation for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location for the Wolfcamp through Mississippian formations of its Rio Pecos Federal "KO" Well No. 1, to be located 660 feet from the North line and 1300 feet from the East line of Section 28, Township 18 South, Range 27 East, Eddy County, New Mexico, the E/2 of said Section 28 to be dedicated to the well.

CASE 6511: Application of Yates Petroleum Corporation for a dual completion and downhole commingling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion of its Tom Brown "GO" Com. Well No. 1 located in Unit C of Section 22, Township 17 South, Range 26 East, Kennedy Farms Field, Eddy County, New Mexico, to produce gas from the Lower Morrow formation through tubing and to commingle and produce the Strawn and Upper Morrow zones in the annulus of said well.

CASE 6512: Application of Yates Petroleum Corporation for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Hilliard "BF" Federal Well No. 2, to be located 330 feet from the North line and 2310 feet from the West line of Section 14, Township 21 South, Range 22 East, to test the Wolfcamp through Mississippian formations, Eddy County, New Mexico, the W/2 of said Section 14 to be dedicated to the well.

CASE 6513: Application of Yates Petroleum Corporation for downhole commingling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Atoka and Morrow production in the wellbore of its Stebbins GQ Fed. Well No. 1 located in Unit B of Section 20, Township 20 South, Range 29 East, East Burton Flats Field, Eddy County, New Mexico.

CASE 6514: Application of Yates Petroleum Corporation for downhole commingling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of North Burton Flats-Atoka and East Burton Flats-Morrow production in the wellbore of its Williamson BC Fed. Well No. 4 located in Unit K of Section 7, Township 20 South, Range 29 East, Eddy County, New Mexico.

HEYCO **HARVEY E. YATES COMPANY**

PETROLEUM PRODUCERS

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

March 9, 1979

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

Attn: Mr. Dan Nutter

Re: Case #6072
Travis Upper Penn
Pool - Spacing Rules
Docket 11-79

Dear Dan:

Pursuant to our telephone conversation this morning, Harvey E. Yates Company hereby requests that Case No. 6072 set for examiner hearing on March 14, 1979 be continued and heard on the March 28, 1979 Docket.

Sincerely,

Robert H. Strand

RHS/cj

CASE 6072: (Reopened and Readvertised)

In the matter of Case 6072 being reopened pursuant to the provisions of Order No. R-5643 which order created the Travis-Upper Pennsylvanian Pool, Eddy County, New Mexico, with provisions for 80-acre spacing. All interested parties may appear and show cause why the Travis-Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.

CASE 6493: Application of Merrion & Bayless for gas well commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the surface commingling, prior to measurement, of Pictured Cliffs production from the Hi Roll Wells Nos. 1 and 2 located in Units O and K of Section 35, Township 27 North, Range 13 West, San Juan County, New Mexico.

CASE 6494: Application of Morris R. Antweil for an unorthodox gas well location and simultaneous dedication, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of his Mesa Macho Well No. 1 located in Unit O of Section 24, Township 20 South, Range 27 East, Morrow formation, Eddy County, New Mexico, the E/2 of said Section 24 to be simultaneously dedicated to the aforesaid well and to applicant's Macho Norte Well No. 1 located in Unit G of Section 24.

CASE 6495: Application of Amax Chemical Corporation for the amendment of Order No. R-111-A, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-111-A to extend the boundaries of the Potash-Oil Area by the inclusion of certain lands in Sections 23 and 24, Township 19 South, Range 29 East, Sections 1, 4, 5, 6, 7, 11, 12, 13, 14, 19, 20, 23, 24, and 29, Township 19 South, Range 30 East, and Sections 7, 8, 17, 18, and 19, Township 19 South, Range 31 East, all in Eddy County, New Mexico.

CASE 6496: Application of Llano, Inc. for rescission of pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the rescission of Order No. R-3006, which promulgated 640-acre spacing for the Grama Ridge-Morrow Gas Pool, Lea County, New Mexico. Applicant proposes that said pool be developed and operated under 320-acre spacing and well location requirements.

CASE 6497: Application of Llano, Inc. for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be located 1650 feet from the South line and 660 feet from the East line of Section 34, Township 21 South, Range 34 East, Grama Ridge-Morrow Gas Pool, Lea County, New Mexico, the E/2 of said Section 34 to be dedicated to the well.

CASE 6498: Application of Pogo Producing Company to limit application of pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks to limit the application of the Grama Ridge-Morrow Gas Pool Rules to the horizontal limits of said pool, being all of Sections 2, 3, 4, and 10, Township 22 South, Range 34 East and Sections 33 and 34, Township 21 South, Range 34 East, Lea County, New Mexico.

CASE 6499: In the matter of the hearing called by the Oil Conservation Division on its own motion for an order creating and extending horizontal limits and contracting vertical limits of certain pools in Chaves, Eddy, Lea, and Roosevelt Counties, New Mexico:

(a) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Antelope Sink-Morrow Gas Pool. The discovery well is Maddox Energy Corporation State 32 Well No. 1 located in Unit I of Section 32, Township 18 South, Range 24 East, NMPM. Said pool would comprise:

TOWNSHIP 18 SOUTH, RANGE 24 EAST, NMPM
Section 32: E/2

(b) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Baldridge Canyon-Morrow Gas Pool. The discovery well is W. A. Moncrief, Jr., Baldridge Canyon Com Well No. 1 located in Unit G of Section 13, Township 24 South, Range 24 East, NMPM. Said pool would comprise:

TOWNSHIP 24 SOUTH, RANGE 24 EAST, NMPM
Section 13: E/2

(c) CREATE a new pool in Eddy County, New Mexico, classified as an oil pool for Delaware production and designated as the Burton Flat-Delaware Pool. The discovery well is Yates Petroleum Corporation Stonewall EP State Well No. 3 located in Unit N of Section 19, Township 20 South, Range 28 East, NMPM. Said pool would comprise:

TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM
Section 19: SW/4

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 6072
Order No. R-5643

NOMENCLATURE

APPLICATION OF HARVEY E. YATES CO.
FOR POOL CREATION AND SPECIAL POOL
RULES, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 16, 1977, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 14th day of February, 1978, the Commission, a quorum being present, 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 Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Harvey E. Yates Co., seeks the creation of a new oil pool for Upper Pennsylvanian production in Eddy County, New Mexico.

(3) That the applicant also seeks the promulgation of special rules for said pool, including a provision for 80-acre proration units.

(4) That the evidence presently available indicates that applicant's Travis Deep Well No. 2, located in Unit G of Section 13, Township 18 South, Range 28 East, Eddy County, New Mexico, has discovered a separate common source of supply which should be designated the Travis-Upper Pennsylvanian Pool; that the vertical limits of said pool should be the Upper Pennsylvanian formation and that the horizontal limits of said pool should be as follows:

TOWNSHIP 18 SOUTH, RANGE 28 EAST, NMPM
Section 13: NE/4

(5) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, temporary special rules and regulations providing for 80-acre spacing units should be promulgated for the Travis-Upper Pennsylvanian Pool.

(6) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(7) That the temporary special rules and regulations should be established for a one-year period in order to allow the operators in the subject pool to gather reservoir information to establish the area that can be efficiently and economically drained and developed by one well.

(8) That this case should be reopened at an examiner hearing in March, 1979, at which time the operators in the subject pool should be prepared to appear and show cause why the Travis-Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.

IT IS THEREFORE ORDERED:

(1) That a new pool in Eddy County, New Mexico, classified as an oil pool for Upper Pennsylvanian production, is hereby created and designated the Travis-Upper Pennsylvanian Pool, with vertical limits comprising the Upper Pennsylvanian formation, and horizontal limits comprising the following-described area:

TOWNSHIP 18 SOUTH, RANGE 28 EAST, NMPM
Section 13: NE/4

(2) That temporary Special Rules and Regulations for the Travis-Upper Pennsylvanian Pool, Eddy County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
TRAVIS-UPPER PENNSYLVANIAN POOL

RULE 1. Each well completed or recompleted in the Travis-Upper Pennsylvanian Pool or in the Upper Pennsylvanian formation within one mile thereof, and not nearer to or within the limits of another designated Upper Pennsylvanian oil pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located on a standard unit containing 80 acres, more or less, consisting of the N/2, S/2, E/2, or W/2 of a governmental quarter section; provided however,

that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections in the unit.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit comprising a governmental quarter-quarter section or lot, or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Land Surveys. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well shall be located within 150 feet of the center of a governmental quarter-quarter section or lot.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

RULE 6. Top unit allowable for a standard proration unit (79 through 81 acres) shall be based on a depth bracket allowable of 355 barrels per day, and in the event there is more than one well on an 80-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 80 acres.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the Travis-Upper Pennsylvanian Pool or in the Upper Pennsylvanian formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Artesia District office of the Commission in writing of the name and location of the well on or before April 1, 1978.

(2) That, pursuant to Paragraph A. of Section 65-3-14.5, NMSA 1953, contained in Chapter 271, Laws of 1969, existing wells in the Travis-Upper Pennsylvanian Pool shall have dedicated thereto 80 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C. of said Section 65-3-14.5, existing wells may have non-standard spacing or proration units established by the Commission and dedicated thereto.

Failure to file new Forms C-102 with the Commission dedicating 80 acres to a well or to obtain a non-standard unit approved by the Commission within 60 days from the date of this order shall subject the well to cancellation of allowable. Until said Form C-102 has been filed or until a non-standard unit has been approved, and subject to said 60-day limitation, each well presently drilling to or completed in the Travis-Upper Pennsylvanian Pool or in the Upper Pennsylvanian formation within one mile thereof shall receive no more than one-half of a standard allowable for the pool.

(3) That this case shall be reopened at an examiner hearing in March, 1979, at which time the operators in the subject pool should be prepared to appear and show cause why the Travis-Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

PHIL R. LUCERO, Chairman

EMERY C. ARNOLD, Member

JOE D. RAMEY, Member & Secretary

S E A L

jr/

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 · SANTA FE
87501

DIRECTOR
JOE D. RAMEY

LAND COMMISSIONER
PHIL R. LUCERO

STATE GEOLOGIST
EMERY C. ARNOLD

February 15, 1978

Mr. A. J. Losee
Losee & Carson
Attorneys at Law
Post Office Box 239
Artesia, New Mexico 88210

Re: CASE NO. 6072
ORDER NO. R-5643

Applicant:

Harvey E. Yates Company

Dear Sir:

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

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC

Other

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 16, 1977

EXAMINER HEARING

IN THE MATTER OF:

Application of Harvey E. Yates Company for pool creation and special pool rules, Eddy County, New Mexico. — CASE 6072

BEFORE: Richard L. Stamets, Examiner.

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission: Lynn Teschendorf, Esq.
Legal Counsel for the Commission
State Land Office Building
Santa Fe, New Mexico

For the Applicant: A. J. Losee, Esq.
LOSEE & CARSON
Attorneys at Law
300 American Home Building
Artesia, New Mexico

I N D E X

EXHIBIT INDEX

MR. STAMETS: The hearing will please come to order. Call at this time Case 6072.

MS. TESCHENDORF: Case 6072, application of Harvey E. Yates Company for pool creation and special pool rules, Eddy County, New Mexico.

MR. LOSEE: A. J. Losee, Losee and Carson, appearing on behalf of the applicant and I have one witness to be sworn.

(THEREUPON, the witness was sworn.)

EDDIE M. MAHFOOD

was called as a witness by the applicant, and having been first duly sworn, testified upon his oath as follows, to-wit:

DIRECT EXAMINATION

BY MR. LOSEE:

Q. State your name, your residence and occupation?

A. Eddie Mahfood, Artesia, Professional Engineer.

Q. Have you previously testified before the Commission and had your qualifications as an engineer accepted?

A. Yes, I have.

MR. LOSEE: Are his qualifications acceptable?

MR. STAMETS: They are.

Q. (Mr. Losee continuing.) Would you explain, briefly, the purpose of this application in Case 6072?

A. We are trying to establish eighty-acre spacing and we are going to do so with a pressure build up analysis.

Q. That's to create a new pool for canyon production, also?

A. That is correct.

Q. Please refer to what has been marked as Exhibit One and explain what is portrayed by this exhibit?

A. This is a lease map showing the well in question. It is located nineteen eighty from the north and seventeen eighty from the east in Section 13 of 18, 28.

Q. And Harvey E. Yates Company is the operator of the well?

A. Yes.

Q. Now, would you give some data on the drilling of this Travis Deep Unit Well No. 2?

A. This well was drilled as a Morrow test to eleven two seventy and there was no Morrow pay in it so it was plugged back and completed in the canyon -- there may be some question if it was the Cisco Canyon but I think the Oil Commission calls it the canyon.

Q. Where is the well perforated?

A. It was perforated at ninety-eight twenty-four to to ninety-nine oh three.

Q. Did they take a drill stem of this test of this well?

A. Yes, the drill stem number four was at the interval

ninety-eight twenty to ninety-nine forty-eight.

Q. Would you explain the results of this drill stem?

A. The well was open for sixty minutes and shut in three hours and open for ninety minutes and was shut in for six hours and we had some gas service in the first thirty-four minute period flowing one hundred fifty M.C.F. a day, after sixty minutes.

In the second period it flowed three hundred and potentialed at two hundred twenty-five M.C.F. a day.

We got twenty-six hundred feet of gas cut oil and fluid.

Q. Would you please refer to what has been marked as Exhibit Two and explain what it is shown by this exhibit?

A. Exhibit Two is a C & L Density Log with the limestone porosity shown on the log.

The log shows the perforations at ninety-eight twenty-four to ninety-nine oh three.

As I have stated just now this is a limestone porosity log with the rock, itself, is a dumortized limestone which would result in a higher porosity than the interpretation of this log is.

Q. Please refer to --

A. Excused me -- one more thing, there is an interval of approximately one hundred and ten feet, goes into one hundred and ten feet, approximately, and there is eighty feet of

porosity in excess of three or four percent and in the calculations which will be discused later we are assuming feet. I'll go into that further, later.

Q. All right. Refer to Exhibit Three and identify it, please.

A. Exhibit Three is a resistivity log and there are three curves there, the RXO log, the Shallow Laterolog and the Deep Laterolog. The perforation is shown ninety-eight twenty-four to ninety-nine oh three. The green would be the separation between the RXO and the Shallow Laterolog and the yellow would be the separation between the Shallow and the Deep Laterolog which indicates permeability.

This log is introduced primarily to establish the water saturation of thirty percent assumed in our calculations.

Q. Please refer to what has been marked as Exhibit Four and identify it?

A. Exhibit Four is a pressure build up curve. It is a plot of pressure, bottom hole pressure, versus dimensionless time.

This plot is measured as P.S. per cycle. The cycle being from the interval one to ten and ten to a hundred. It would be hours over hours. It has no identity.

Q. Do you wish to go further and explain?

A. Okay. We are using this plot to establish a drainage

radius for the well.

The well has flowed for one hundred and thirty-seven hours and averaged four hundred and thirty-two barrels a day during this period and it was shut in with a bomb in the hole for a hundred and seventy hours.

So, the plotted build up -- each pressure reading over -- well, let's take one of those intervals there and we get readings of one of our intervals there and we calculate dimensionless time which is the time the well was closed plus the time that it was shut in -- by the time it was shut in.

The plot will give you some straight lines, being the one drawn -- being the two straight lines on there -- I could draw three straight lines in there.

I show the dimensionless time was three which is the one hundred and seventy-two hours of shut in time and the pressure wave was bouncing back from nine hundred and eighteen feet.

Dimensionless time, two, which would be equivalent to one hundred and thirty hours, the pressure wave was bouncing back from twelve hundred and thirty-three feet.

At the end of the test period we were looking at a hundred and seventy-hours and and RD of fourteen hundred and ten feet.

Now, these calculations assume that the first line,

that's fifty P.S.I. per cycle, is representative of the permeability of the rock.

We call that slope M, and M is a function established by the engineeers for many years now. You will find it for a reference -- you might look in the Advances of Well Test Analysis by Robert Eralougher. It's pages eighteen and nineteen and you wil find a formula to use as the calculations.

Anyway, that platted curve there is the best -- is indicative of the best permeability in the well. And if we use that permeability we get these radius, or radii, of nine eighteen in seventy-two hours where it hit one boundary and one hundred and thirty hours you hit the second boundary and nobody expects four boundaries but so far we only see two boundaries in there.

So, I would conclude that we are looking at a fairly large reservoir. It is not limited to the spacing.

On the pessimistic side if we use that mass curve which reads two oh two P.S.I. per cycle we would have to conclude we did not reach a boundary but at the end of our investigation at the end of that one hundred and seventy hours was only six hundred and sixty-feet. That is the pessimistic side.

Q. Please refer to what has been marked as exhibit -- do you have something further you would like to explain with respect to this?

A. No.

Q. Refer to Exhibit Five and explain what is protrayed on this exhibit?

A. This is a computer printout of the bottom hole pressures and the times and the dimensionless times as computed by Test Telev, an engineering firm, in Midland, Texas.

Q. This picks each of the preceding pressure build up analysis is, in effect, in part a summary of this data?

A. Yes. It is a graphical illustration of this datum on the printout.

Q. Turn to Exhibit Six and explain what is portrayed on this exhibit?

A. Exhibit Six shows the calculations we went through to determine the drainage area and we used this formula of R over sub D, the radius drainage, is equal to point oh two nine and the square root of the second permeability, K times T, which is the hours of shut in divided by the effective porosity and the effective vicosity and total compressibility of the fluid in the reservoir.

By going through these calculations we came up with the data that as I stated earlier that one boundary was at nine hundred and eighteen feet and the other was at sub thirty-three and the third boundary we are not sure that we have found it, yet.

If you consider eighty acres being a circle the radius of the circle would be ten fifty-three feet. If we use that

best permeability, that fifty P.S.I. per cycle slope, we would see that this eighty acres would have been reached in four point two days and the well was actually produced almost six days and we feel that we are draining eighty acres or better.

Q. From this data do you have an opinion of whether or not this well can reasonably be expected to drain eighty acres?

A. Yes, I do.

Q. And that opinion is that it will drain eighty acres.

A. Yes.

Q. Mr. Mahfood, are there any other oil pools in southeast New Mexico that are presently on eighty or greater spacing?

A. Yes, there are. The North Bagley Pennsylvanian; the East Morton Wolfcamp are one hundred and sixties; the ~~Shape~~ Tine Papolotis Penn and the West ~~Trade~~ Tine Papolotis Penn -- I beg your pardon. The last two aren't one hundred and sixties but the first two are.

Q. Now, in connection with the special pool rules and the location of the wells within these eighties you might note that the Middle Lane Pennsylvanian Pool provides that each pool be located not nearer than three hundred thirty feet to any quarter-quarter section. Is that spacing

satisfactory with the operator of the well location?

A. I would think so.

Q. Were Exhibits One through Six prepared by you or under your direction?

A. Under my direction and also by me.

MR. LOSEE: Move the introduction of Exhibits through Six.

MR. STAMETS: These exhibits will be admitted.

MR. LOSEE: Rest applicant's case at this time.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Mahfood, since there seems to be some problem with determining exactly what formation this is would Yates be willing to clarify this matter with the District Supervisor and advise the Examiner of the proper formation designation?

A. Yes, sir, I believe so.

Q. Okay. As far as the eighty acre tracts I presume it would be your desire to be able to dedicate those as the north half, south half, east half or west half of the quarter section?

A. Yes.

Q. Now, for purposes of getting proper drainage, adequate drainage, should the Commission consider requiring that the well be located no closer than six-sixty to the end

line of these eighty acre tracts to avoid the situation where we have wells drilled six hundred sixty feet apart, you know, at the ends of two eighties?

A. Well, this is a geology problem -- if we set it six-sixty from the point to point then we have to come for a non-standard location, then.

I am not sure that we want to do that.

Q. Of course, I was thinking of the situation where you have indicated that it will drain an eighty acre tract and you ought to be able to sure enough drain an eighty acre tract.

I wondered when you located a three-thirty from the end boundary if you are really draining eight acres?

MR. LOSEE: I think three-thirty from the side boundary line and six-sixty from the end, I think is what you are saying, and I think that will be satisfactory, yes.

Q. (Mr. Stamets continuing.) Okay. Do you have a proposed name for this pool?

A. Travis Canyon.

Q. Now, is that Travis Canyon like a deep hole in the ground or are you thinking of a Travis Canyon formation? Was it going to the the Tavis Canyon, canyon?

A. No just the Travis Canyon.

Q. Okay, so whatever we decide the formation will be it will be Travis?

A. Yes.

Q. That will simplify everything. Are there any other questions of the witness?

MR. LOSEE: I don't have anything further.

MR. STAMETS: The witness may be excused. Is there anything further in this case? We will take the case under advisement.

(THEREUPON, the witness was excused and the case concluded.)

REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings to the best of my knowledge, skill and ability.

Sidney F. Morrish, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6072 heard by me on 11-16, 1977.

New Mexico Oil Conservation Commission, Examiner

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 26, 1977

EXAMINER HEARING

IN THE MATTER OF:

Application of Harvey E. Yates Company for pool creation and special pool rules, Eddy County, New Mexico.

CASE 6072

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission: Lynn Teschendorf, Esq.
Legal Counsel for the Commission
State Land Office Building
Santa Fe, New Mexico

MR. NUTTER: Call Case No. 6072.

MS. TESCHENDORF: Case 6072, Application of Harvey E. Yates Company for pool creation and special pool rules, Eddy County, New Mexico. The request of the applicant in this case, they would like it continued to the November 16th Examiner Hearing.

MR. NUTTER: Case No. 6072 will be continued to the examiner hearing scheduled to be held at this same place at nine o'clock a.m., November 16th, 1972.

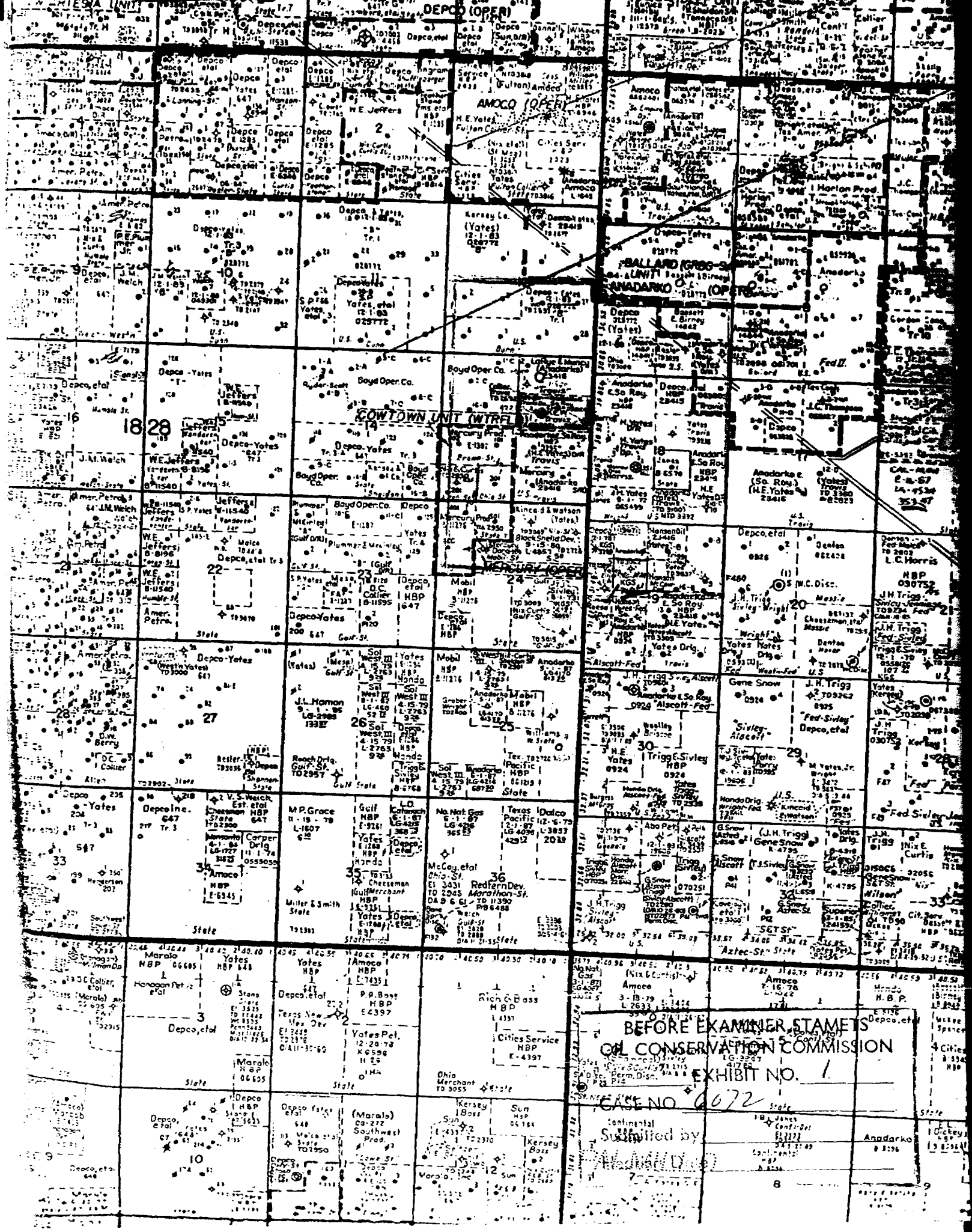
REPORTER'S CERTIFICATE

I, SALLY WALTON BOYD, a Certified Shorthand Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceeding, to the best of my knowledge, skill, and ability.

Sally Walton Boyd
Sally Walton Boyd, CSR

I ... the foregoing is
a ... in
the ... No. 6072
heard by me on 10/26, 1977.

..., Examiner
New Mexico Oil Conservation Commission


DEPCO (OPER)
AMOCO (OPER)
COWTOWN UNIT (WTRF)
MERCURY (OPER)
BALLARD (GRBG-SA) UNIT
ANADARKO (OPER)
BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 1
CASE NO. 6072
Submitted by
Hearing Date

CALIPER DIAM. IN INCHES

6 — 16

GAMMA RAY API UNITS

0 — 100

100 — 200

HEYCO - Travis [redacted] Deep #2
1980/N 1780/E 13 13S 28E
Eddy Co

CORRECTION GRAMS/CC

Use this scale when correction curve is presented in Track 2

0 — +.25

BULK DENSITY GRAMS/CC

2.0 — 2.5 — 3

1.0 — 1.5 — 2

CNL POROSITY—%

30 — 20 — 10 — 0 — -

LRO

7824
28
31
33
35
37
41
44
50
52
54
57
63
65
68
71
78
83
94
96
98
9900
03

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. [redacted] 2
CASE NO. 6022
Submitted by
Dated

GAMMA RAY API UNITS
0 100
100 200

CALIPER DIAM. IN INCHES
6 16

DEPTH

RESISTIVITY OHMS M² M

HEYCO - Travis Fed Deep #2
1980/N 1220/E 13 18S 28E

SHALLOW LATEROLOG - LLs
0.2 1.0 10 100 1000 2

DEEP LATEROLOG - LLD
0.2 1.0 10 100 1000 2

HEYCO
TRAVIS FED DEEP #2

Casing

GR

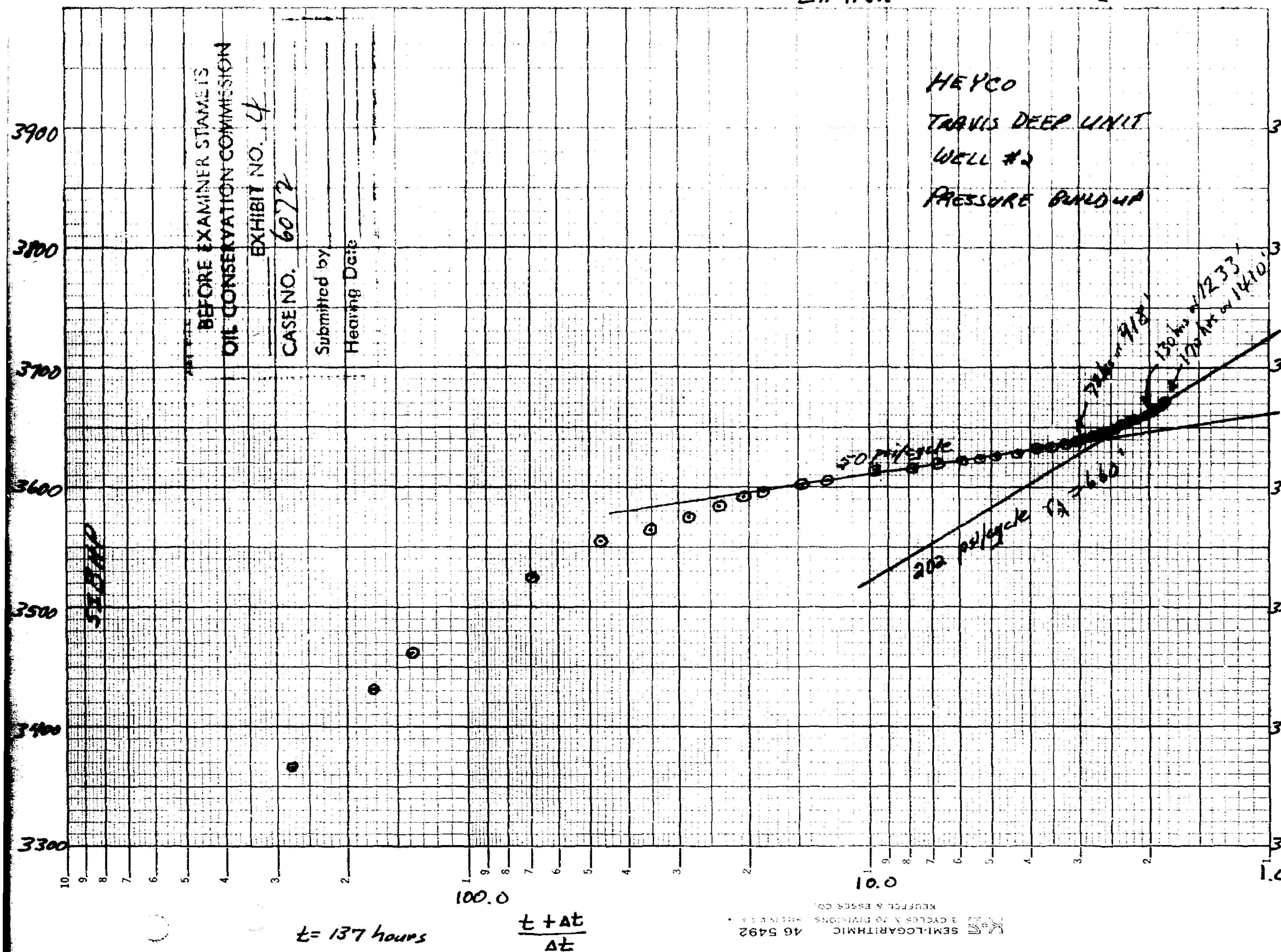
Caliper

9800

9824
28
31
33
35
37
41
44
50
52
54
57
63
65
68
71
78
83
94
96
98
9900
03

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 6092

Exhibit # Case #



TRAVIS DEEP UNIT
WELL NO. 2 BUILDUP
HARVEY E YATES

PRESSURE BUILD-UP ANALYSIS

POINTS USED	RADIUS FELT,FT	SLOPE PSI/CYC	K (MDS)	P.I. B/D/PSI	COMPL. EFF., %	SIBHP PSIG	AVG. P PSIG
1- 6	119.	262.2	13.72	0.46	177.8	3550.	4007.
6-14	315.	92.9	38.70	0.67	98.5	3614.	3710.
14-32	1031.	65.2	55.15	0.71	74.9	3657.	3673.
32-37	1153.	202.1	17.80	0.66	199.5	3672.	3723.

POINT	PRESSURE	CORRECTED PRESSURE@	DT (HOURS)	(T+DT)/DT	CORRECTED (T+DT)/DT@@
1	3175.	3175.	0.10	1370.873	1370.873
2	3367.	3367.	0.50	274.975	274.975
3	3431.	3431.	0.80	172.234	172.234
4	3462.	3462.	1.00	137.987	137.987
5	3526.	3526.	2.00	69.494	69.494
6	3550.	3550.	3.00	46.662	46.662
7	3565.	3565.	4.00	35.247	35.247
8	3576.	3576.	5.00	28.397	28.397
9	3584.	3584.	6.00	23.831	23.831
10	3591.	3591.	7.00	20.570	20.570
11	3595.	3595.	8.00	18.123	18.123
12	3602.	3602.	10.00	14.699	14.699
13	3607.	3607.	12.00	12.416	12.416
14	3614.	3614.	16.00	9.562	9.562
15	3617.	3617.	20.00	7.849	7.849
16	3620.	3620.	24.00	6.708	6.708
17	3622.	3622.	28.00	5.892	5.892
18	3624.	3624.	32.00	5.281	5.281
19	3626.	3626.	36.00	4.805	4.805
20	3629.	3629.	42.00	4.262	4.262
21	3632.	3632.	48.00	3.854	3.854
22	3634.	3634.	54.00	3.537	3.537
23	3637.	3637.	60.00	3.283	3.283
24	3639.	3639.	66.00	3.076	3.076
25	3641.	3641.	72.00	2.903	2.903
26	3643.	3643.	78.00	2.756	2.756
27	3645.	3645.	84.00	2.631	2.631
28	3647.	3647.	90.00	2.522	2.522
29	3649.	3649.	96.00	2.427	2.427
30	3651.	3651.	100.00	2.370	2.370
31	3654.	3654.	110.00	2.245	2.245
32	3657.	3657.	120.00	2.142	2.148
33	3660.	3660.	130.00	2.054	2.054
34	3663.	3663.	140.00	1.978	1.978
35	3666.	3666.	150.00	1.913	1.913
36	3669.	3669.	160.00	1.856	1.856
37	3672.	3672.	170.00	1.806	1.806

@ CORRECTED FOR AFTERFLOW
@@ CORRECTED FOR SUPERPOSITION

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 6072
Submitted by
Hearing Date

HEYCO
Travis Fed Deep # 2
13-18S-28E

EXHIBIT # CASE #

DRAINAGE RADIUS FORMULA

$$r_d = .029\sqrt{\frac{kt}{\phi\mu c_t}} \quad ; \quad t = 1189\,\frac{\phi\mu c r_d^2}{k}$$

t = time to reach r_d, hrs

k = perm., established by Horner plot and curve slope $k = (162.6\, q\, \mu_o B_o)/mh$

q = flow rate prior to shut In = 432 BOPD

μ_o = viscosity of oil = 1.219 cps

ϕ = avg porosity = 11%

c_t = total system compressibility = $S_o c_o + S_w c_w + c_f$

S_o = oil saturation = 70% ($S_{gas} = 0$)

c_o = oil compressibility = $50 \times 10^{-6}\,psi^{-1}$

S_w = wtr saturation = 30%

c_w = wtr compressibility = $3.0 \times 10^{-6}\,psi^{-1}$

c_f = formation compressibility = $5.0 \times 10^{-6}\,psi^{-1}$

B_o = oil formation volume factor = 1.68

h = thickness = 40'

m = slope Best: 50 psi/cycle
Worst: 202 psi/cycle

k = perm as below:

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 6
CASE NO. 6022
Submitted by
Hearing Date

RESULTS

	SLOPE (psi/cycle)	k (md)	80 ACRE CIRCLE (1053' = r_d)	1980' = r_d	
BEST	50	71.9	4.2 days	14.8 days	time to reach r_d
WORST	202	17.8	16.9 days	59.8 days	" " " "

CASE 6061: (Continued from October 12, 1977, Examiner Hearing)

Application of Yates Petroleum Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for its Stinking Draw Unit Area comprising 2,881 acres, more or less, of Federal and State lands in Township 21 South, Range 22 East, Eddy County, New Mexico.

CASE 5983: (Continued from October 12, 1977, Examiner Hearing)

Application of Yates Petroleum Corporation for the amendment of Order No. R-5445, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-5445 to provide for a 200 percent risk factor for drilling the unit well rather than 20 percent. Said order pooled the N/2 of Section 19, Township 20 South, Range 25 East, Eddy County, New Mexico.

CASE 6072: (Continued from October 26, 1977, Examiner Hearing)

Application of Harvey E. Yates Company for pool creation and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new oil pool for Canyon production for its Travis Deep Unit Well No. 2, located in Unit G of Section 13, Township 18 South, Range 28 East, Eddy County, New Mexico, and the promulgation of special rules therefor, including a provision for 80-acre spacing.

CASE 6086: Application of Yates Petroleum Corporation for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying the E/2 of Section 21, Township 17 South, Range 26 East, Eddy County, New Mexico, 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 6087: Application of Yates Petroleum Corporation for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Ralph Nix "IT" Well No. 1 to be located 660 feet from the South line and 990 feet from the East line of Section 13, Township 20 South, Range 24 East, Eddy County, New Mexico, the S/2 of said Section 13 to be dedicated to the well.

CASE 6088: Application of Yates Petroleum Corporation for a dual completion, downhole commingling, and salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of East Eagle Creek Atoka-Morrow, Eagle Creek-Strawn and Eagle Creek Permo-Penn production in the wellbore of its Mitchell "IN" Well No. 2 located in Unit I of Section 23, Township 17 South, Range 25 East, Eddy County, New Mexico, and to dually complete said well in such a manner as to permit disposal of produced salt water into the Devonian formation thru tubing and production of the aforesaid commingled zones thru the casing-tubing annulus.

CASE 5981: (Continued from October 12, 1977, Examiner Hearing)

Application of W. A. Moncrief, Jr., for pool creation and special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of an oil pool for Upper-Pennsylvanian production for his State Well No. 1 located in Unit E of Section 26, Township 16 South, Range 33 East, Lea County, New Mexico, and the promulgation of special rules therefor, including a provision for 80-acre spacing.

CASE 6076: (Continued from October 26, 1977, Examiner Hearing)

Application of E. L. Latham, Jr., Roy G. Barton, Jr., and R. L. Foree for a gas well curtailment and gas pool prorationing, Chaves County, New Mexico. Applicants, in the above-styled cause, seek an order temporarily shutting in, or limiting production from the La Rue and Muncy Nola Well No. 1, located in Unit O of Section 3, Township 14 South, Range 28 East, Sams Ranch Grayburg Gas Pool, Chaves County, New Mexico. Applicants further request that the Commission institute gas prorationing in said pool retroactively to date of first production and direct the gas purchaser(s) in said pool to take ratably from all wells in said pool.

BEFORE THE NEW MEXICO

OIL CONSERVATION COMMISSION

IN RE THE APPLICATION OF
HARVEY E. YATES COMPANY
FOR POOL CREATION AND SPECIAL
POOL RULES, EDDY COUNTY,
NEW MEXICO.

NO. 6072

A P P L I C A T I O N

Comes now Harvey E. Yates Company, by its attorneys, and applies to the Commission for the creation of a pool with special pool rules in Eddy County, New Mexico, and in support states:

1. Applicant is the owner and operator of the Travis Deep Unit Well No. 2 located in Unit G, Section 13, Township 18 South, Range 28 East, N.M.P.M., Eddy County, New Mexico.

2. The above well is at the present time an undesignated Devonian well.

3. Applicant asks for the promulgation of special pool rules for the well, including a provision for an 80-acre spacing.

4. Special pool rules are necessary to prevent waste, conserve hydrocarbons, prevent drilling of unnecessary wells and to protect correlative rights.

Applicant asks that this matter be set before this Commission or one of its examiners as may be convenient.

LOSEE & CARSON, P.A.
Post Office Drawer 239
Artesia, New Mexico 88210

JASPER & BUELL

By _____
Sumner G. Buell
Post Office Box 1626
Santa Fe, New Mexico 87501

Case 6072

Application of Harvey E Yates Co. for pool creation and special pool rules, Eddy County, New Mexico.

Applicant, in the above-styled cause, seeks the creation of a new oil pool for Canyon production for its Travis Deep Unit Well No 2, located in Unit G of Section 13, Township 18 South, Range 28 East, Eddy County, New Mexico, and the promulgation of special rules therefor, including a provision for 80-acre spacing.

Called in by Jerry Lasca

11:45 am 10/4/77; written appl to follow.

Wants on 10/26 docket

Called 10/14 re written appl
deadline is Monday the 17th

Joel Carson said he will have an application in by Monday or a request for continuance

Dockets Nos. 36-77 and 37-77 are tentatively set for hearing on November 16 and 30, 1977. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - OCTOBER 26, 1977

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or Richard L. Stamets, Alternate Examiner:

CASE 6052: (Continued from October 12, 1977 Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Western Energy Corporation and all other interested parties to appear and show cause why the Ute Well No. 2 located in Unit O of Section 23, Township 31 North, Range 16 West, San Juan County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

CASE 6047: (Continued from October 12, 1977 Examiner Hearing)

Application of Continental Oil Company for capacity allowable, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a capacity allowable for its Pearl "B" Wells Nos. 5 and 6, located in Units M and O, respectively, of Section 25, Township 17 South, Range 32 East, and its Pearl "B" Well No. 7 located in Unit M of Section 30, Township 17 South, Range 33 East, Maljamar Grayburg-San Andres Pool, Lea County, New Mexico.

CASE 6071: Application of Dewey Sparger for an oil treating plant permit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority for the construction and operation of an oil treating plant permit for the purpose of treating oil at a site in the NW/4 SW/4 of Section 5, Township 18 South, Range 39 East, Lea County, New Mexico.

CASE 6072: Application of Harvey E. Yates Company for pool creation and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new oil pool for Canyon production for its Travis Deep Unit Well No. 2, located in Unit G of Section 13, Township 18 South, Range 28 East, Eddy County, New Mexico, and the promulgation of special rules therefor, including a provision for 80-acre spacing.

CASE 6073: Application of Cities Service Company for two unorthodox gas well locations, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox locations of its Government AD Well No. 2 located 2310 feet from the North line and 660 feet from the West line, and its Government AE Well No. 1 located 2310 feet from the South line and 1980 feet from the East line, both in Section 27, Township 21 South, Range 27 East, Burton Flat Field, Eddy County, New Mexico, the N/2 and S/2 of said Section 27 to be dedicated, respectively, to said wells.

CASE 6074: Application of Amerada Hess Corporation for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of South Blanco-Pictured Cliffs and Otero-Chacra production in the wellbores of its Jicarilla Apache "A" Well No. 8 located in Unit N of Section 26 and its Jicarilla Apache "F" Well No. 12 located in Unit B of Section 22, both in Township 25 North, Range 5 West, Rio Arriba County, New Mexico.

CASE 6075: Application of Amoco Production Company for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its South Mattix Unit Well No. 30 located 330 feet from the South and East lines of Section 15, Township 24 South, Range 37 East, Fowler-Upper Yeso Pool, Lea County, New Mexico.

CASE 6076: Application of E. L. Latham, Jr., Roy G. Barton, Jr., and R. L. Foree for a gas well curtailment and gas pool prorationing, Chaves County, New Mexico. Applicants, in the above-styled cause, seek an order temporarily shutting in, or limiting production from the La Rue and Muncy Nola Well No. 1, located in Unit O of Section 8, Township 14 South, Range 28 East, Sams Ranch Grayburg Gas Pool, Chaves County, New Mexico. Applicants further request that the Commission institute gas prorationing in said pool retroactively to date of first production and direct the gas purchaser(s) in said pool to take ratably from all wells in said pool.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

6072

CASE NO. ~~5473~~
Order No. ~~R-5039~~ R-5643

Harvey E. Yates

APPLICATION OF ~~MESA PETROLEUM~~ CO.
FOR POOL CREATION AND SPECIAL
POOL RULES, [redacted] COUNTY, NEW MEXICO.

NOMENCLATURE

Eddy

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on ~~May 14, 1975,~~ November 16, 1993, at Santa Fe, New Mexico, before Examiner ~~Daniel S. Nutter~~. RLS

NOW, on this ~~22nd day of May, 1975,~~ the Commission, a quorum being present, 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 Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Harvey E. Yates ~~Mesa Petroleum~~ Co., seeks the creation of a new oil pool for ~~Drinkard~~ Upper Pennsylvanian production in Eddy ~~Lea~~ County, New Mexico.

(3) That the applicant also seeks the promulgation of special rules for said pool, including a provision for 80-acre proration units.

(4) That the evidence presently available indicates that ~~the West Knowles Well No. 1, located in Unit P of Section 34, Township 16 South, Range 37 East, NMPM, Lea County, New Mexico,~~ has discovered a separate common source of supply which should ~~be designated the West Knowles-Drinkard~~ Pool; that the ~~vertical~~ Upper Pennsylvanian vertical limits of said pool should be the ~~Drinkard~~ formation ~~as found on the log of said West Knowles Well No. 1 from 8200 to 8600 feet~~, and that the horizontal limits of said pool should be as follows:

applicant's Travis Deep Well No. 2, located in Unit G of Section 13, Township 18 South, Range 28 East, Eddy County, New Mexico; Travis-Upper Pennsylvanian

~~TOWNSHIP~~ 16 SOUTH, RANGE 37 EAST, NMPM
~~Section 34: SE/4~~
~~Section 35: SW/4~~

Township 18 South, Range 28 East, NMPM
Section 13: NE/4

(5) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, temporary special rules and regulations providing for 80-acre spacing units should be promulgated for the ~~West Knowles-Drinkard Pool~~. Travis-Upper Pennsylvanian Pool.

(6) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(7) That the temporary special rules and regulations should be established for a one-year period in order to allow the operators in the subject pool to gather reservoir information to establish the area that can be efficiently and economically drained and developed by one well.

(8) That this case should be reopened at an examiner hearing in ~~May, 1976~~ March, 1979, at which time the operators in the subject pool should be prepared to appear and show cause why the ~~West Knowles-Drinkard~~ Travis-Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.

IT IS THEREFORE ORDERED:

(1) That a new pool in ~~Lea~~ Eddy County, New Mexico, classified as an oil pool for ~~Drinkard~~ Upper Pennsylvanian production, is hereby created and designated the ~~West Knowles-Drinkard~~ Travis-Upper Pennsylvanian Pool, with vertical limits comprising the ~~Drinkard~~ Upper Pennsylvanian formation ~~as found on the log of the West Knowles Well No. 1, located in Unit P of Section 34, Township 16 South, Range 37 East, NMPM, from 8200 feet to 8600 feet~~, and horizontal limits comprising the following-described area:

TOWNSHIP ~~35~~ 18 SOUTH, RANGE ~~37~~ 28 EAST, NMPM
~~Section 34: SE/4~~ Section 13: NE/4
~~Section 35: SW/4~~

(2) That temporary Special Rules and Regulations for the ~~West Knowles-Drinkard Pool, Lea~~ Travis-Upper Pennsylvanian Pool, Eddy County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
~~WEST KNOWLES-DRINKARD~~ TRAVIS-UPPER PENNSYLVANIAN POOL

RULE 1. Each well completed or recompleted in the ~~West Knowles Drinkard~~ Travis Upper Pennsylvanian Pool or in the ~~Drinkard~~ Upper Pennsylvanian formation within one mile thereof, and not nearer to or within the limits of another designated ~~Drinkard~~ Upper Pennsylvanian oil pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located on a standard unit containing 80 acres, more or less, consisting of the N/2, S/2, E/2, or W/2 of a governmental quarter section; provided however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections in the unit.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit comprising a governmental quarter-quarter section or lot, or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Land Surveys. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well shall be located within 150 feet of the center of a governmental quarter-quarter section or lot.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

RULE 6. Top unit allowable for a standard proration unit (79 through 81 acres) shall be based on a depth bracket allowable ~~of 310~~ of 355 barrels per day, and in the event there is more than one well on an 80-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 80 acres.

Travis Upper Pennsylvanian

Upper Pennsylvanian

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the ~~West Knowles-Drinkard~~ Pool or in the ~~Drinkard~~ formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the ~~Hobbs~~ District Office of the Commission in writing of the name and location of the well on or before ~~July 1, 1975~~. April 1, 1978

(2) That, pursuant to Paragraph A. of Section 65-3-14.5, NMSA 1953, contained in Chapter 271, Laws of 1969, existing wells in the ~~West Knowles Drinkard~~ Pool shall have dedicated thereto 80 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C. of said Section 65-3-14.5, existing wells may have non-standard spacing or proration units established by the Commission and dedicated thereto.

Failure to file new Forms C-102 with the Commission dedicating 80 acres to a well or to obtain a non-standard unit approved by the Commission within 60 days from the date of this order shall subject the well to cancellation of allowable. Until said Form C-102 has been filed or until a non-standard unit has been approved, and subject to said 60-day limitation, each well presently drilling to or completed in the ~~West Knowles-Drinkard~~ Pool or in the ~~Drinkard~~ formation within one mile thereof shall receive no more than one-half of a standard allowable for the pool.

(3) That this case shall be reopened at an examiner hearing in ~~May~~ March, 1979, at which time the operators in the subject pool should be prepared to appear and show cause why the ~~West Knowles-Drinkard~~ Pool should not be developed on 40-acre spacing units.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary

DONE at Santa Fe, New Mexico, on the day and year herein-above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

I. R. TRUJILLO, Chairman

PHIL R. LUCERO, Member

S E A L

A. L. PORTER, Jr., Member & Secretary

dr/

ROUGH

dr/

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. 6072 (Reopened)

Order No. R- 5643-A

IN THE MATTER OF CASE 6072 BEING REOPENED PURSUANT TO THE PROVISIONS OF ORDER NO. R- 5643, WHICH ORDER ESTABLISHED SPECIAL RULES AND REGULATIONS FOR THE TRAVIS-UPPER PENNSYLVANIAN POOL ~~GAS POOL~~, EDDY COUNTY, NEW MEXICO, INCLUDING A PROVISION FOR 80 -ACRE PRORATION UNITS.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on ~~March 14~~ April 25, 19 79, at Santa Fe, New Mexico, before Examiner ~~Daniel S. Nutter~~ LRS.

NOW, on this ____ day of ~~March~~ May, 19 79, 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 by Order No. R-5643, dated February 14, 19 78, temporary special rules and regulations were promulgated for the Travis-Upper Pennsylvanian ~~Gas~~ Pool, Eddy County, New Mexico, establishing temporary 80 -acre spacing units.

(3) That pursuant to the provisions of Order No. R-5643, this case was reopened to allow the operators in the subject pool to appear and show cause why the Travis-Upper Pennsylvanian ~~Gas~~ Pool should not be developed on 40 -acre spacing units.

(4) That the evidence presented establishes that one well in the Travis-Upper Pennsylvanian ~~Gas~~ Pool ~~can efficiently and economically~~ can drain and develop 80 acres, the evidence demonstrated that normal methods of operation will result in a relatively low rate of recovery from said pool.

(5) That the operators in said Travis-Upper Pennsylvanian pool should prepare a plan for pool development which will result in the greater ultimate recovery therefrom and present such plan to the Director of the Division within 12 months after the date of this order.

(6) That upon the failure of the operators to present such plan to the Director, or if the Director determines such plan to be inadequate this case should be reopened to allow the operators in the subject pool to appear and show cause why the Travis - Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.

(7) That under the conditions set out in Findings No (5) and No (6) above, the Special Rules and Regulations promulgated by Order No. R-5643 have afforded and will afford to the owner of each property in the pool the opportunity to produce his just and equitable share of the gas in the pool.

(8) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, the Special Rules and Regulations promulgated by Order No. R-5643 should be continued in full force and effect until further order of the ~~Commission~~ Division.

IT IS THEREFORE ORDERED:

(1) That the Special Rules and Regulations governing the Travis-Upper Pennsylvanian ~~Gas~~ Pool, Eddy County, New Mexico, promulgated by Order No. R-5643, are hereby continued in full force and effect until further order of the Division.

(2)(3)

(4) That jurisdiction of this cause is 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.

(2) That the operators in said Travis-Upper Pennsylvanian pool shall prepare a plan for pool development which will result in the greater ultimate recovery therefrom and present such plan to the Director of the Division within 12 months after the date of this order.

(3) That upon the failure of the operators to present such plan to the Director, or if the Director determines such plan to be inadequate this case shall be reopened to allow the operators in the subject pool to appear and show cause why the Travis - Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.