

CASE 6457: HARVEY E. YATES COMPANY FOR
A NEW ONSHORE RESERVOIR DETERMINATION,
EBBY COUNTY, NEW MEXICO

WIS N

CASE NO.

6457

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,
ETC.

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. 6457
Order No. R-6031

APPLICATION OF HARVEY E. YATES COMPANY
FOR A NEW ONSHORE RESERVOIR DETERMINATION,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on February 14, 1979, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 26th day of June, 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 the applicant, Harvey E. Yates Company, seeks a determination by the Division, in accordance with Sections 2(c) and 102 of the Natural Gas Policy Act of 1978, and the applicable rules of the Federal Energy Regulatory Commission, that its Empire South Deep Unit Well No. 13, located in Unit N of Section 30, Township 17 South, Range 29 East, NMPM, Eddy County, New Mexico, has discovered a new onshore reservoir from which natural gas was not produced in commercial quantities before April 20, 1977.

(3) That said well was completed in an upper Morrow sand designated by the applicant as the "B-4 Sand" on April 7, 1977, with perforations from 10,665 feet to 10,677 feet, and a plugged-back depth of 10,960 feet after having been drilled to a total depth of 11,060 feet.

(4) That said well was first connected to a gas transmission facility on July 26, 1977.

(5) That the B-4 Sand in which the subject well is completed is a part of a narrow lenticular shallow water sandbar deposit trending Northeast/Southwest.

(6) That there are similar parallel lenticular B-4 sandbars in the general area, all trending in a Northeast/Southwest direction, and separated from each other by lanes in which the B-4 sands are not present.

(7) That the geological evidence in this case indicates that the subject well is completed in a different B-4 sandbar than the other Morrow gas wells in the area which also produce from a B-4 sandbar.

(8) That the available pressure information indicates that the B-4 sandbar in which the subject well is completed is not in communication with, but is separated from, the nearest parallel B-4 sandbar and therefore constitutes a separate reservoir.

(9) That the subject well was the first well drilled into and completed to commercially produce from the aforesaid separate reservoir, and therefore qualifies as producing new natural gas from a new onshore reservoir pursuant to the provisions of Section 102(c) of the Natural Gas Policy Act of 1978 and the applicable rules of the Federal Energy Regulatory Commission.

IT IS THEREFORE ORDERED:

(1) That the Harvey E. Yates Company Empire South Deep Unit Well No. 13, located in Unit N of Section 30, Township 17 South, Range 29 East, NMPM, Eddy County, New Mexico, is completed in a new onshore reservoir as defined by Sections 2(c) and 102(c) of the Natural Gas Policy Act of 1978 and the applicable rules of the Federal Energy Regulatory Commission.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


JOE D. RAMEY
Director

S E A L
fd/

HEYCO

PETROLEUM PRODUCERS



HARVEY E. YATES COMPANY

P. O. BOX 1933

SUITE 300, SECURITY NATIONAL BANK BUILDING

505/623-6601

ROSWELL, NEW MEXICO 88201

December 8, 1978

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

DEC 12 1978

DATE

Case 6457

Re: South Empire Deep Unit #13
Section 30: T17S, R29E
State Lease #B-7596
Eddy County, New Mexico

Gentlemen:

Enclosed for filing please find Application for Wellhead Price
Ceiling Category Determination (Form C-132) on the above captioned
well.

Sincerely yours,


George M. Yates

SJ/me
Enclosures

cc: El Paso Natural Gas Co.
Working Interest Owners

Type Test		<input checked="" type="checkbox"/> Initial		<input type="checkbox"/> Annual		<input type="checkbox"/> Special		Test Date		5-17-77			
Company				Harvey E. Yates Co. Inc.				Connection				None	
Pool				Undesignated				Formation				Morrow	
Completion Date				4-7-77				Total Depth				11060 KB	
Csg. Size				5 1/2				Perforations:				From 10665 To 10677	
Thg. Size				2 7/8				Perforations:				From To	
Type Well - Single - Dradhead - G.C. or G.O. Multiple				Single				Packer Set At				10590.30	
Producing Thru				Tubing				Reservoir Temp. °F				178 • 10550	
Mean Annual Temp. °F				70				Baro. Press. - P _a				13.2	
L				H				Cg				0.647	
10671				10671				% CO ₂				0.03	
% N ₂				% H ₂ S				Prover				Metal Run	
X				X				Flange				X	

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI							3056	70	Pkr		
1.	3"	X	1.250	510	9	92	2430	70	Pkr		60 min.
2.	3"	X	1.250	515	17	92	2287	70	Pkr		60 min.
3.	3"	X	1.250	520	37	88	2013	70	Pkr		60 min.
4.	3"	X	1.250	525	72	85	1663	70	Pkr		60 min.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super. Compres. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	7.577	68.621	523.2	0.9706	1.243	1.044	654.9
2	7.577	94.760	528.2	0.9706	1.243	1.044	904.3
3	7.577	140.458	533.2	0.9741	1.243	1.046	1347.9
4	7.577	196.851	538.2	0.9768	1.243	1.047	1896.1
5							

NO.	R _f	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	.78	552	1.48	0.918	27.366	56.0	0.647	X X X X X	670	374
2	.79	552	1.48	0.918						
3	.80	548	1.47	0.914						
4	.80	545	1.46	0.912						
5										

NO.	P _f	P _s	P _s ²	P _f ² - P _s ²	(1) $\frac{P_c^2}{P_s^2 - P_w^2} = 1.5422985$	(2) $\left[\frac{P_c^2}{P_s^2 - P_w^2} \right]^n = 1.5422985$
1	3850.2	14824	5212			
2	3601.2	12969	7067			
3	3175.2	10082	9954			
4	2654.2	7045	12991			
5						

Absolute Open Flow		2924.4		Mcfd @ 15.025		Angle of Slope @		45°		Slope, n		1.0000			
Remarks: BHP measured with Amerada RPG-3 gauge serial No. 12468N 0-6000 psi															
Approved By Commission:				Conducted By:				Calculated By:				Checked By:			
				Tefteller, Inc.				G. W. Taylor							

CASE 6454: Application of Doyle Hartman for approval of infill drilling and two non-standard proration units, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a finding that the drilling of a well to be located 1980 feet from the South and East lines of Section 9, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the existing proration unit which cannot be so drained by the existing well, the El Paso Prichard Well No. 1, located in Unit G of Section 9. Applicant further seeks approval of a 160-acre non-standard gas proration unit comprising the SE/4 of Section 9 for the new well and a 160-acre non-standard unit comprising the NE/4 of said Section 9 for the El Paso well.

CASE 6432: (Continued and Readvertised)

Application of John Yuronka for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Langlie Mattix Pool underlying the NE/4 NW/4 and the SE/4 NW/4 of Section 29, Township 24 South, Range 37 East, Lea County, New Mexico, to form two 40-acre units, each 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 wells 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 wells and a charge for risk involved in drilling said wells.

CASE 6435: (Continued and Readvertised)

Application of Amerada Hess Corporation for approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a finding that the drilling of its W. A. Weir "B" Well No. 3 located in Unit B of Section 26, Township 19 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well, and further seeks approval of a waiver of existing well-spacing requirements.

CASE 6419: (Continued from January 31, 1979, Examiner Hearing)

Application of Yates Petroleum Corporation for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Lanning JC Well No. 1 located in Unit B of Section 7, Township 18 South, Range 26 East, Eagle Creek Field, Eddy County, New Mexico, to produce gas from the Strawn formation through the casing-tubing annulus and from the Morrow formation through tubing.

CASE 6423: (Continued from January 31, 1979, Examiner Hearing)

Application of Yates Petroleum Corporation for an unorthodox well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Jackson AT Well No. 9 located 660 feet from the South and West lines of Section 13, Township 17 South, Range 25 East, Eddy County, New Mexico, to test the Wolfcamp, Pennsylvanian, and Mississippian formations, the S/2 of said Section 13 to be dedicated to the well.

CASE 6424: (Continued from January 31, 1979, Examiner Hearing)

Application of Yates Petroleum Corporation for an unorthodox well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Superior Fed. KJ Well No. 1 located 990 feet from the North and West lines of Section 7, Township 20 South, Range 29 East, Eddy County, New Mexico, to test the Wolfcamp and Pennsylvanian formations, the N/2 of said Section 7 to be dedicated to the well.

CASE 6455: Application of Yates Petroleum Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for its North Texas Hills Unit Area comprising 5,120 acres, more or less, of Federal, state, and fee lands in Township 21 South, Range 21 East, Eddy County, New Mexico.

CASE 6456: Application of Harvey E. Yates Company for a new onshore reservoir determination, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination for its Loco Hills Welch Well No. 1 located in Unit D of Section 9, Township 18 South, Range 29 East, Morrow formation, Eddy County, New Mexico.

CASE 6457: Application of Harvey E. Yates Company for a new onshore reservoir determination, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination for its Empire South Deep Unit Well No. 13 located in Unit N of Section 30, Township 17 South, Range 29 East, Morrow formation, Eddy County, New Mexico.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
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CONSIDERING:

CASE NO. 6457
Order No. R-6031

APPLICATION OF HARVEY E. YATES COMPANY
FOR A NEW ONSHORE RESERVOIR DETERMINATION,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on February 14, 1979, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 26th day of June, 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 the applicant, Harvey E. Yates Company, seeks a determination by the Division, in accordance with Sections 2(c) and 102 of the Natural Gas Policy Act of 1978, and the applicable rules of the Federal Energy Regulatory Commission, that its Empire South Deep Unit Well No. 13, located in Unit N of Section 30, Township 17 South, Range 29 East, NMPN, Eddy County, New Mexico, has discovered a new onshore reservoir from which natural gas was not produced in commercial quantities before April 20, 1977.

(3) That said well was completed in an upper Morrow sand designated by the applicant as the "B-4 Sand" on April 7, 1977, with perforations from 10,665 feet to 10,677 feet, and a plugged-back depth of 10,960 feet after having been drilled to a total depth of 11,060 feet.

(4) That said well was first connected to a gas transmission facility on July 26, 1977.

-2-

Case No. 6457
Order No. R-6031

(5) That the B-4 Sand in which the subject well is completed is a part of a narrow lenticular shallow water sandbar deposit trending Northeast/Southwest.

(6) That there are similar parallel lenticular B-4 sandbars in the general area, all trending in a Northeast/Southwest direction, and separated from each other by lanes in which the B-4 sands are not present.

(7) That the geological evidence in this case indicates that the subject well is completed in a different B-4 sandbar than the other Morrow gas wells in the area which also produce from a B-4 sandbar.

(8) That the available pressure information indicates that the B-4 sandbar in which the subject well is completed is not in communication with, but is separated from, the nearest parallel B-4 sandbar and therefore constitutes a separate reservoir.

(9) That the subject well was the first well drilled into and completed to commercially produce from the aforesaid separate reservoir, and therefore qualifies as producing new natural gas from a new onshore reservoir pursuant to the provisions of Section 102(c) of the Natural Gas Policy Act of 1978 and the applicable rules of the Federal Energy Regulatory Commission.

IT IS THEREFORE ORDERED:

(1) That the Harvey E. Yates Company Empire South Deep Unit Well No. 13, located in Unit N of Section 30, Township 17 South, Range 29 East, NMPM, Eddy County, New Mexico, is completed in a new onshore reservoir as defined by Sections 2(c) and 102(c) of the Natural Gas Policy Act of 1978 and the applicable rules of the Federal Energy Regulatory Commission.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



JOE D. RAMEY
Director

ROUGH

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. 6457

Order No. R-6031

APPLICATION OF HARVEY E. YATES
COMPANY FOR A NEW ON-SHORE
RESERVOIR DETERMINATION,
EDDY COUNTY, NEW MEXICO

ORDER OF THE DIVISION

BY THE DIVISION:

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

NOW, on this June day of June, 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 the applicant, Harvey E. Yates Company, seeks a determination by the Division, in accordance with Sections 2(c) and 102 of the Natural Gas Policy Act of 1978, and the applicable rules of the Federal Energy Regulatory Commission, that its Empire South Deep Unit Well No. 13, located in Unit N of Section 30, Township 17 South, Range 29 East, NMPM, Eddy County, New Mexico, has discovered a new onshore reservoir from which natural gas was not produced in commercial quantities before April 20, 1977.

(3) That said well was completed in an upper Morrow sand designated by the applicant as the "B-4 Sand" on April 7, 1977, with perforations from 10,665 feet to 10,677 feet, and a plugged back depth of 10,960 feet after having been drilled to a total depth of 11,060 feet.

~~(4) That there are several Morrow gas wells within a 2.5 mile radius of the subject well, but the aforesaid B-4 Sand is not present in most of these wells.~~

(5) That the B-4 Sand in ^{which} the subject well ^{is completed} is a part of a narrow lenticular shallow water sandbar deposit trending Northeast/Southwest.

(6) That there are similar parallel lenticular B-4 sandbars in the general area, all trending in a Northeast/Southwest direction, and separated from each other by lanes in which the B-4 sands are not present.

(8) That the available pressure information indicates that the B-4 sandbar in which the subject well is completed is not in communication with, but is separated from, the nearest parallel B-4 sandbar and therefore constitutes a separate reservoir.

(4) That said well was first connected to a gas transmission facility on July 26, 1977.

(7) That the geological evidence in this case indicates that the subject well is completed in a different B-4 sandbar than the other Morrow gas wells in the area which also produce from a B-4 sandbar.

(9) That the subject well was the first well drilled into and completed to commercially produce from the aforesaid separate reservoir, and therefore qualifies as producing new natural gas from a new onshore reservoir pursuant to the provisions of Section 102(c) of the Natural Gas Policy Act of 1978 and the applicable rules of the Federal Energy Regulatory Commission.

IT IS THEREFORE ORDERED:

(1) That the Harvey E. Yates Company Empire South Deep Unit Well No. 13, located in Unit N of Section 30, Township 17 South, Range 29 East, NMPM, Eddy County, New Mexico, is completed in a new onshore reservoir as defined by Sections 2(c) and 102(c) of the Natural Gas Policy Act of 1978 and the applicable rules of the Federal Energy Regulatory Commission.

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

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

Exhibit #1

Location plat, scale of 1" = 2,000' showing location of the South Empire Deep Unit #13 Well located in Section 30, Township 17 South, Range 29 East, N.M.P.M., Eddy County, New Mexico.

The plat show a circle with a radius of $2\frac{1}{2}$ miles centered on the South Empire #13 Well. All wells within $2\frac{1}{2}$ miles of the subject well which penetrate the Morrow sediments and were drilled or drilling prior to commencement of the subject well are designated and connected by a dashed line which forms the Structural Cross-Section designated in Exhibit 2.

Exhibit #2

Structural Cross-Section chart of wells within $2\frac{1}{2}$ miles of the South Empire Deep Unit #13 penetrating the Morrow sediments as shown on Exhibit #1. The South Empire #13 is indicated by an arrow at the top of the Cross-Section.

Geological Interpretation

The South Empire #13 produces gas from an upper Morrow sand at a depth of 10,663'. This sand is approximately 15 feet thick and consists of a clean medium to coarse grain quartz sand. Which has not been found producing in any other wells delineated on the Cross-Section. Therefore, it can be concluded that the South Empire #13 well produces from a reservoir separate and distinct from any within $2\frac{1}{2}$ miles of said well.