NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool West Jal Strawn Formation Strawn County Lea

Initial X Annual _____ Special _____ Date of Test 6-16-64 to 6-26-64

Company SKELLY OIL COMPANY Lease WEST JAL "B" Well No. 1

Unit J Sec. 17 Twp. 25 S Rge. 36 E Purchaser El Paso Natural Gas Company

Liner
~~Casing~~ 5" OD Wt. 18#N-80 I.D. 4.276" Set at 12,273' Perf. 11,959 To 12,090

Tubing 2 3/8" OD Wt. 4.7#N-80 I.D. 1.995" Set at 11,917 Perf. 11,911 To 11,917

Gas Pay: From 11,959 To 12,090 L 11,911 xG Mic .649 -GL 7730 Bar.Press. 13.2

Producing Thru: Casing _____ Tubing X Type Well SINGLE

Date of Completion: 6-3-64 Packer Model "D" @ 11,905 Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. 172° F

OBSERVED DATA

Tested Through ~~(Prover)~~ ~~(Choke)~~ (Meter) Type Taps FLANGE

No.	Flow Data (Prover) (Line) Size	Flow Data (Choke) (Orifice) Size	Flow Data Press. psig	Flow Data Diff. h_w	Flow Data Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI	6"	3"				6001				72 Hrs.
1.	6"	3"	801	4.20	58	5058	84			22 Hrs.
2.	6"	3"	779	6.75	4	4567	89			26 Hrs.
3.	6"	3"	835	6.90	3	4427	91			24 Hrs.
4.	6"	3"	835	16.00	9	3013	94			24 Hrs.
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	57.46	58.48	814.2	1.0019	1.0084	1.069	3629
2.	57.46	73.13	792.2	1.0586	1.0084	1.108	4970
3.	57.46	76.50	848.2	1.0598	1.0084	1.118	5252
4.	57.46	116.50	848.2	1.0529	1.0084	1.110	7889
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 47,584 cf/bbl.
Gravity of Liquid Hydrocarbons 52° deg.
F_c 9.936 $(1-e^{-s})$ 0.413

Specific Gravity Separator Gas .590
Specific Gravity Flowing Fluid .7711
P_c 6014 P_c^2 36,168

No.	P_w P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	5071.2	25717	36.058	1300.18	536.97	26,253.97	9914.03	5123.9	85.2
2.	4580.2	20978	49.382	2438.58	1007.13	21,985.13	14182.87	4688.8	78.0
3.	4440.2	19715	52.184	2723.17	1124.67	20,839.67	15328.33	4565.0	75.9
4.	3026.2	9158	78.385	6144.21	2537.56	11,695.56	24472.44	3419.9	56.9
5.									

Absolute Potential: 11,200 MCFPD; n .86
COMPANY SKELLY OIL COMPANY
ADDRESS P.O. Box 730, Hobbs, New Mexico
AGENT and TITLE H. E. Aab, District Superintendent
WITNESSED _____
COMPANY _____

REMARKS

BEFORE EXAMINER ~~NUTTER~~ HB
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 2764

February 1965

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Wildcat Formation Strawn County Lea

Initial XX Annual Special Date of Test 1-22-63

Company Skelly Oil Company Lease West Jal Unit Well No. 1

Unit H Sec. 20 Twp. 25S Rge. 36E Purchaser None

Casing 7" Wt. 26# I.D. 6.276 Set at 12,213 Perf. 11,736 To 11,894

Tubing 2-7/8" Wt. 6.4# I.D. 2.441 Set at 11,715 Perf. 11,711 To 11,715

Gas Pay: From 11,736 To 11,894 L 11,815 xG 0.650 -GL 7680 Bar.Press. 13

Producing Thru: Casing Tubing XX Type Well Single
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: Packer 11,700 Reservoir Temp.

OBSERVED DATA

Tested Through ~~(Prover)~~ ~~(Choke)~~ (Meter) Type Taps Flange

No.	Flow Data (Prover) (Line) Size	Flow Data (Choke) (Orifice) Size	Flow Data Press. psig	Flow Data Diff. h_w	Flow Data Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						6218	48			89
1.	3"	2.0	500	16	15	6156	68			1:45
2.	3"	2.0	510	43	10	6075	72			2:00
3.	3"	2.0	510	77	20	5995	78			2:00
4.	3"	2.25	660	58	30	5915	80			1:30
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	27.52	90.6	513	1.0463	1.0000	1.049	2737
2.	27.52	150.0	523	1.0518	1.0000	1.051	4563
3.	27.52	200.7	523	1.0408	1.0000	1.048	6025
4.	37.15	197.6	673	1.0302	1.0000	1.059	8009
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 56,282 cf/bbl. Specific Gravity Separator Gas 0.600

Gravity of Liquid Hydrocarbons 52 deg. 0.771 Specific Gravity Flowing Fluid

P_c 5.866 $(1-e^{-s})$ 0.411 P_c 6231 P_c^2 38,825 X 103

No.	P_w / P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	6169	38,057	16,055	257.8	106.0	38,163	662		
2.	6088	37,064	26,767	716.5	294.5	37,359	1466		
3.	6009	36,108	33,929	1151.2	473.1	36,581	2244		
4.	5928	35,141	46,981	2203.)	905.0	36,046	2779		
5.									

Absolute Potential: 310,000 MCFPD; n 35.5 deg. 0.7133

COMPANY Skelly Oil Company

ADDRESS P.O. Box 38, Hobbs, New Mexico

AGENT and TITLE J. E. Cole District Superintendent

WITNESSED J. I. Moritz - Production Engineer

COMPANY Skelly Oil Company

REMARKS

SKELLY OIL CO.
EXHIBIT NO. 5

INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

NOMENCLATURE

Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w). MCF/da. @ 15.025 psia and 60° F.

P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater. psia

P_w = Static wellhead working pressure as determined at the end of flow period. (Casing if flowing thru tubing, tubing if flowing thru casing.) psia

P_t = Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia

P_f = Meter pressure, psia.

h_w = Differential meter pressure, inches water.

F_g = Gravity correction factor.

F_t = Flowing temperature correction factor.

F_{pv} = Supercompressability factor.

n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t.

NEW MEXICO OIL CONSERVATION COMMISSION

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COMPANY Skelly Oil Company

ADDRESS P.O. Box 38, Hobbs, New Mexico

AGENT and TITLE J. E. Cook District Superintendent

WITNESSED J. I. Moritz - Production Engineer

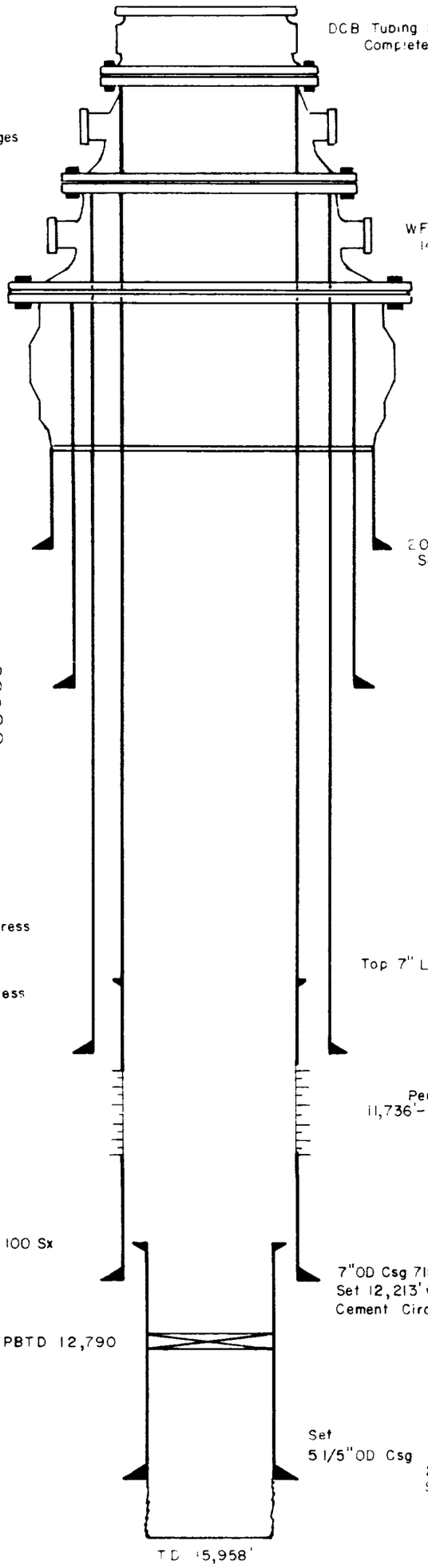
COMPANY Skelly Oil Company

REMARKS

SKELLY OIL CO.
EXHIBIT NO. 5

Case 2764

WEST JAL UNIT NO. 1
LEA COUNTY, NEW MEXICO



DCB Tubing Spool will be added when well Completed 9"X11" 10,000lb

WF Csg Head Spool S/1500 11"X14" 10,000 lb w/2/2" Flanges

WF Csg Head Spool S/1500 14"X20" 5000lb w/2/3" Flanges

WF Csg Housing Slip on S/900 20" 3000 lb w/2/3" outlets

20"O.D Csg 94 lb H-40 Set 869' w/1630 Sx Cement Circulated

13 3/8" O.D. Csg
908' 72 lb N-80
323' 72 lb S-80
1698' 61 lb S-80
1734' 68 lb S-80
1537' 72 lb S-80
Set 6300' w/ 3206 Sx
Top Cement 100'

9 5/8" Csg 1581' 53.5 lb P-110 Buttress
550' 53.5 lb S-95
993' 47 lb S-95
3944' 43.5 lb S-95
2933' 47 lb S-110 Buttress
Set 11,732 w/ 775 Sx
Top Cement 7475'

Top 7" Liner 11,473'

Perf 11,736'-11,894'

Top 5 1/2" Liner 12,032' Squeeze 100 Sx

7"OD Csg 718' 26lb P-110
Set 12,213' w/ 185 Sx
Cement Circulated

PBTD 12,790

Set
5 1/5"OD Csg 447' 20lb P-110
2898' 17lb P-110
Set 15,400' w/450 Sx

TD 15,958'

SKELLY OIL COMPANY
EXHIBIT NO. 4