

NEW MEXICO OIL CONSERVATION COMMISSION
One-point Back Pressure Test for Gas Wells
(Deliverability)

Case No. 1360
Exhibit 5-B
Form C-122-C
4-1-54

Pool Blinebry Formation Blinebry County Lea
Initial _____ Annual _____ Special x Date of test 11-25 to 12-5-57
Company Gulf Oil Corporation Lease Leonard "E" Well No. 4
Unit 1 Sec. 16 Twp. 21S Rge. 37E Purchaser Permian Basin Pipeline Co.
Casing 7 Wt. 23 I.D. 6.366 Set at 6645 Perf. 5660 To 5720
Tubing 2 Wt. 4.7 I.D. 1.995 Set at 6312 Perf. _____ To _____
Gas Pay: From 5585 To 5720 L 5660 x G .695 = GL _____ Bar.Press. 13.2
Producing Thru: Casing x Tubing _____ Type Well G. G. Dual
Single- Bradenhead-G.G. or G.O. Dual

FLOW DATA

Started		Taken		Duration Hours	Type Taps	Line Size	Orifice Size	Static Press.	Differ- ential	Flow Temp.
Date	time	Date	time							
11-26-57	AM	12-5-57	AM	217.75		4	1.50	588.4	4.7	78
	PM		PM							

FLOW CALCULATIONS

Static Pressure P_f	Differ- ential h_w	Meter Extension $\sqrt{P_f h_w}$	24-Hour Coeff- icient	Gravity Factor F_g	Temp. Factor F_t	Compress- ability F_{pv}	Rate of Flow MCF/Da. @ 15.025 psia Q
601.6	4.7	53.18	15.26	.9292	.9831	1.059	785

SHUT-IN DATA

Shut-in		Press. Taken		Duration Hours	Wellhead Pressure (P_c) psia		W.H. Working Pressure (P_w) and (P_t) psia	
Date	Time	Date	Time		Tubing	Casing	Tubing	Casing
11-25-57	AM	11-26-57	AM	24	1448.4			643.7
	PM		PM					

FLOW DATA

FRICTION CALCULATIONS(if necessary)

DELIVERABILITY CALCULATIONS

P_w _____ P_c _____ $P_w + P_c$ _____

$1 - \frac{P_w}{P_c}$ _____ $1 + \frac{P_w}{P_c}$ _____ $\left(1 - \frac{P_w}{P_c}\right) \left(1 + \frac{P_w}{P_c}\right) = M$ _____

$.36 + M$ _____ Log _____ $x (n)$ _____ = _____ +

SUMMARY

P_c = _____ psia

Q = _____ MCF/Da.

P_w = _____ psia

P_d = _____ psia

D = _____ MCF/Da.

COMPANY Gulf Oil Corporation

ADDRESS Box 2167, Hobbs, N.M.

AGENT and TITLE W. L. Smith, Gas Tester

WITNESSED Joe Horton

COMPANY Permian Basin Pipeline Co.

Log Q = _____

Log D = _____

Antilog = _____ = D

REMARKS

Line pressure fluctuated from 677 to 577#. Unable to get accurate well head stabilization.

INSTRUCTIONS

This form is to be used for reporting deliverability tests in the designated Dry Gas Pools of Lea County as ordered by New Mexico Oil Conservation Commission Directive dated March 15, 1954, which directive was provided for by Orders R-365-A through R-376-A. For details regarding this test please refer to the above mentioned Directive.

NOMENCLATURE

Q = Actual 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_d = Deliverability pressure; 80 % of 72 hour individual wellhead shut-in pressure (P_c). 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

D = Deliverability at Deliverability pressure (P_d) MCF/da. @ 15.025 psia and 60° F.

p_f = Static meter pressure, psia.

h_w = Differential meter pressure, inches water.

F_g = Gravity correction factor.

F_t = Flowing temperature correction factor.

F_{pv} = Supercompressibility factor.

n = Slope of back pressure curve.

DELIVERABILITY FORMULA

$$D = Q \left[\frac{.36}{\left(1 - \frac{P_w}{P_c} \right) \left(1 + \frac{P_w}{P_c} \right)} \right]^n$$

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 .

PRODUCTION BY MONTHS - HARRY LEONARD "E" WELL NO. 4
BLINERY POOL, LEA COUNTY, NEW MEXICO

Case No. 1360
Exhibit 5-C

<u>MONTH-YEAR</u>	<u>UNDERPRODUCTION MCF</u>	<u>DAYS OPERATED</u>	<u>PRODUCTION MCF</u>	<u>CURRENT ALLOWABLE-MCF</u>
Dec. 54	2,951 (Ex)	26	35,900	52,029
Jan. 55	2,339	27	28,455	33,745
Feb. 55	4,415 (Ex)	24	23,068	16,314
Mar. 55	6,619	27	27,021	38,055
Apr. 55	3,491	29	27,522	24,394
May 55	6,601 (Ex)	23	19,149	9,057
June 55	17,860 (Ex)	29	26,493	15,234
July 55	9,277 (Ex)	2	2,478	11,061
Aug. 55	9,039	0	0	18,316
Sept. 55	22,888	4	3,416	17,265
Oct. 55	40,266	4	1,928	19,266
Nov. 55	34,345	24	28,072	22,191
Dec. 55	32,986	26	26,690	25,331
Jan. 56	34,640	31	32,603	34,257
Feb. 56	38,372	29	28,653	31,539
Mar. 56	43,755	29	26,881	33,110
Apr. 56	40,549	27	28,660	25,454
May 56	39,709	21	19,700	18,860
June 56	36,325	29	28,823	25,439
July 56	31,439	25	23,252	18,366
Aug. 56	27,117	20	22,162	17,840
Sept. 56	10,569	28	15,683	23,414
Oct. 56	19,869	14	15,213	13,497
Nov. 56	5,631	25	25,949	11,711
Dec. 56	1,612	20	20,363	16,344
Jan. 57	12,585	16	16,898	27,871
Feb. 57	5,521	25	25,430	18,366
Mar. 57	23,269	0	0	17,748
Apr. 57	38,287	4	3,413	18,431
May 57	35,264	11	10,305	7,282
June 57	8,090	26	26,246	2,788
July 57	10,456	9	8,755	11,121
Aug. 57	22,077	12	10,118	21,739
Sept. 57	40,343	0	0	18,266
Oct. 57	47,767	10	8,404	15,828
Nov. 57	44,067	27	22,823	19,123