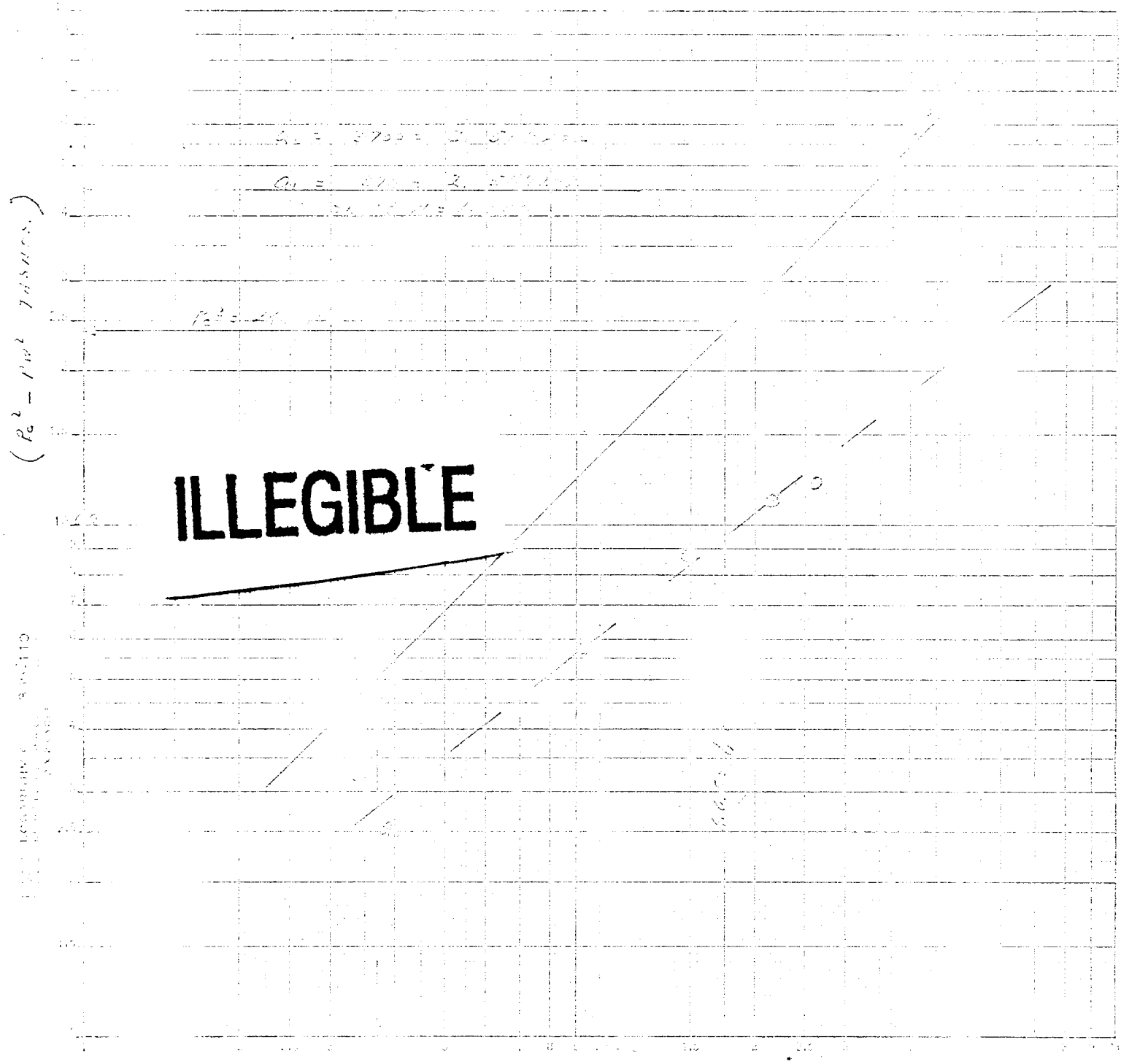
ODESSA NATURAL GAS CO.

CARLSON FEDERAL #1

F - 13 - 25 - 37

LEA COUNTY, N. MEX.

8-19-62



ILLEGIBLE

EW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

.TI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Justis** Formation **Glorietta** County **Lea**

Initial **X** Annual _____ Special _____ Date of Test **3-14-62**

Company **Odessa Natural Gasoline Co.** Lease **Federal Carlson** Well No. **1**

Unit **F** Sec. **13** Twp. **25-S** Rge. **37-E** Purchaser **None**

Casing **4-1/2"** Wt. **9.5#** I.D. **10.5#** Set at **2400'** Perf. **4780-4810 & 4700 -4760'** To **2460'**

Tubing **2"** Wt. **4.7#** I.D. _____ Set at **4635'** Perf. **Open end** To _____

Gas Pay: From **4700** To **4810** L **4635** xG **0.65** -GL _____ Bar.Press. **13.2**

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

Date of Completion: **3-1-62** Packer **None** 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						1506		1536		72
1.	3"	1.500	375	12.00	101	930		1397		3
2.	3"	1.500	570	20.00	100	873		1220		3
3.	3"	1.500	570	42.00	102	715		1119		3
4.	3"	1.500	570	62.00	105	680		1082		3
5.	3"	1.500	570	4.00	105	854		1209		21

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.	14.36	68.25		.9627	.9608	1.028	931.9
2.	14.36	108.00		.9636	.9608	1.045	1499
3.	14.36	156.51		.9618	.9608	1.045	2169
4.	14.36	190.15		.9592	.9608	1.045	2629
5.	14.36	48.30		.9592	.9608	1.045	668.0

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio * **41,700** cf/bbl. Specific Gravity Separator Gas ____
Gravity of Liquid Hydrocarbons _____ deg. Specific Gravity Flowing Fluid ____
P_c **Measured** $(1-e^{-s})$ _____ P_c **1549.2** P_c^2 **2400.0**
Gas H_2O Ratio = 6,960

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.	943.2	889.6				1823.0	577.0	1350.2	0.6092
2.	886.2	785.3				1520.8	879.2	1233.2	0.5724
3.	728.2	530.3				1281.9	1118.2	1132.2	0.5026
4.	693.2	480.5				1199.5	1200.5	1095.2	0.4477
5.	867.2	752.0				1493.8	906.2	1222.2	0.5601

Absolute Potential: **1,750** MCFPD; n **1.000**
COMPANY **Odessa Natural Gasoline Company, Agent for El Paso Natural Gas Company**
ADDRESS **Box 3908, Odessa, Texas**
AGENT and TITLE **L. N. Dunnavant, Production Supt.**
WITNESSED **R. E. Medford, Odessa Natural Gasoline Co. & J. B. Murray, El Paso Natural Gas Co.**
COMPANY **Odessa Natural Gasoline Company**

REMARKS

***Oil recovered is frac oil.**

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.