

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

C/SF
F.1/c

RECEIVED BY

Type Test ☒ Initial DEC -3 1985 ☐ Annual ☐ Special		Test Date 11-11-85	
Company O. C. D. ARTESIA OFFICE		Connection To Air	
Pool Wildcat - <i>P. 2nd</i>		Formation ABO	
Completion Date 11-8-75		Total Depth 6560	Plug Back TD RVP 5504
		Elevation 3843.3	Farm or Lease Name South Dallas
Csg. Size 5 1/2"	Wt. 15.5	d 4.825	Set At 6560
		Perforations: From 4941 To 6128	
Tbg. Size 2 3/8"	Wt. 4.7	d 1.995	Set At 4787
		Perforations: From OPEN-ENDED To	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE			Packer Set At
Producing Thru TUBING			Baro. Press. - P _a 13.2
Reservoir Temp. °F		Mean Annual Temp. °F 60°	
State New Mexico		County CHAVES	
L 6128	H 6128	Gg .6374	% CO ₂ .088
% N ₂ 8.393	% H ₂ S	Prover	Meter Run 2"
Taps			

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											72 Hrs.
1.	2.000	X	.750	75	30	35	932	78	900		60 Min.
2.	2.000	X	1.000	78	88	36	831	78	800		60 Min.
3.	2.000	X	1.500	93	36	37	623	78	635		30 Min.
4.	2.000	X	1.500	93	42	38	420	78	540		45 Min.
5.	2.000	X	1.500	93	52	39	112	78	400		

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 Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	2.661	51.44	88.2	1.025	1.253	NIL	175.66
2	4.753	89.59	91.2	1.024	1.253	NIL	546.36
3	10.84	61.83	106.2	1.023	1.253	NIL	859.12
4	10.84	66.79	106.2	1.022	1.253	NIL	927.13
5	10.84	74.31	106.2	1.021	1.253	NIL	1030.51

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Dry	Mcf/bbl.
1	.1136	495	1.42	NIL	A.P.I. Gravity of Liquid Hydrocarbons		Deg.
2	.1182	496	1.42	NIL	Specific Gravity Separator Gas	.6374	XXXXXXXXXX
3	.1409	497	1.42	NIL	Specific Gravity Flowing Fluid	XXXXXX	
4	.1409	498	1.43	NIL	Critical Pressure	660	P.S.I.A.
5	.1409	499	1.43	NIL	Critical Temperature	349	R

P _c	1120	P _c ²	1254.4
NO.	P _t ²	P _w	P _w ²
1		1069	1142.76
2		965	931.22
3		765	585.23
4		625	390.63
5		474	224.68

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.452$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1346.4$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.452$

Absolute Open Flow	1346.4	Mcf/d @ 15.025	Angle of Slope @	45°	Slope, n	1.000
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Remarks: Calculated from known BHP Using Kuster Gauge #14659 0-3650 PSI.

Approved By Commission:	Conducted By: W.S.	Calculated By: J.D.	Checked By: J.D.
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$$\begin{array}{rcl} \text{LOG } 2000 & = & 3.301 \\ \text{LOG } 200 & = & 2.301 \\ \hline & & 1.000 \end{array}$$

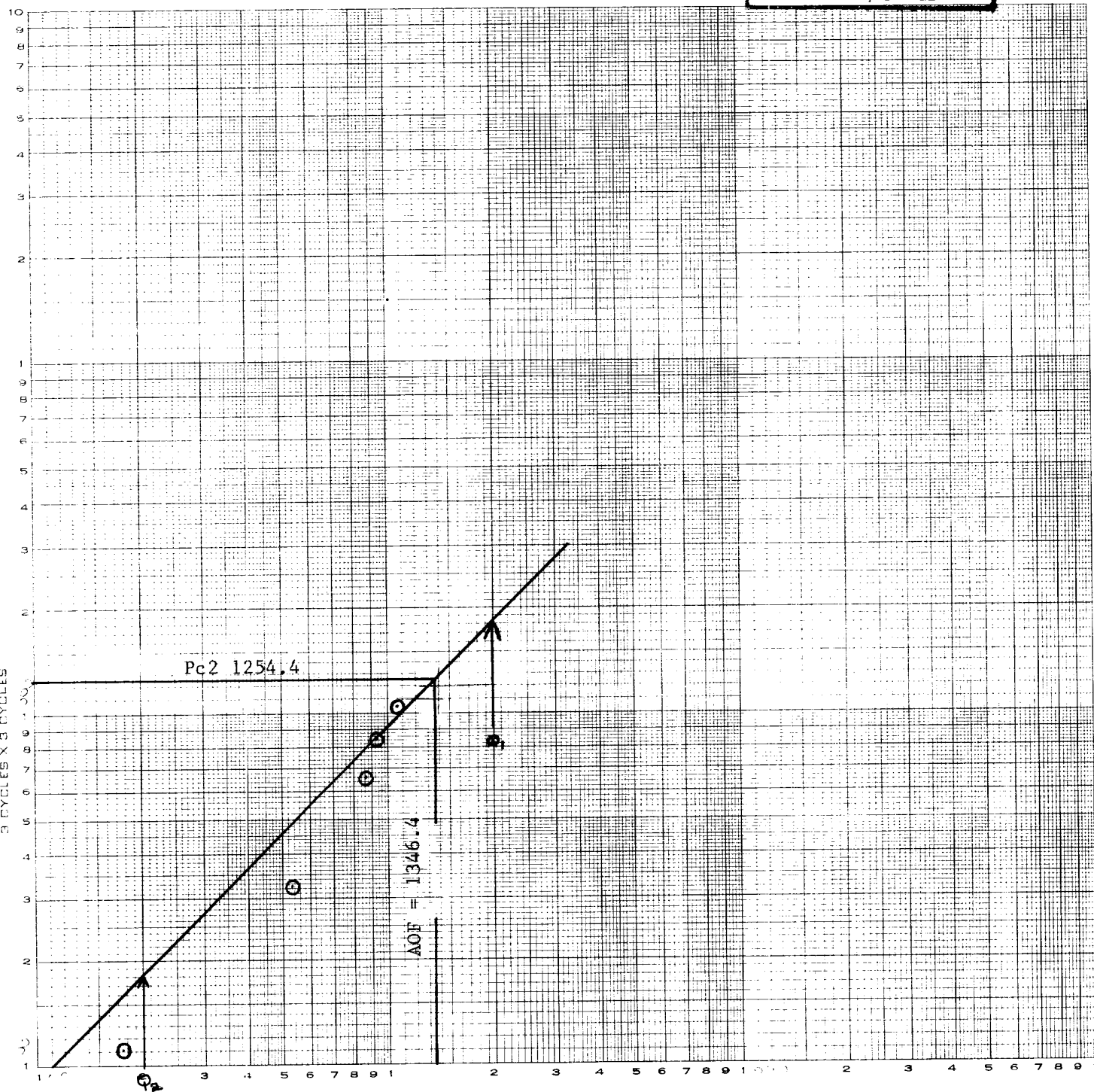
$$\begin{array}{l} Q_1 = \text{Log } 2000 \\ Q_2 = \text{Log } 200 \end{array}$$

$$\text{CAOF} = 92713 \frac{(1254.4)}{863.77} \frac{1.000}{1} = 1346.4$$

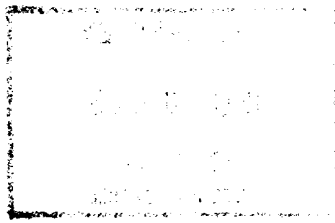
RECEIVED BY
DEC -3 1985
O. C. D.
ARTESIA, OFFICE

LOGARITHMIC
MADE IN U.S.A.
Pc2-Pw2 in thousands

NO. 340R-L33 DIETZEN GRAPH PAPER
LOGARITHMIC
3 CYCLES X 3 CYCLES



$Q = \text{MCF/DAY}$



**NEW-TEX
LAB**

PHONE 505/393-3561

P. O. BOX 1161

611 W. SNYDER

HOBBS, NEW MEXICO 88240

ANALYSIS CERTIFICATE

CLIENT: JOHN WEST ENGINEERING
ADDRESS: 412 N DAL PASO
CITY, STATE: HOBBS, NM 88240

ANALYSIS NUMBER: 8289
DATE OF RUN: 11 12 85
DATE SECURED: 11 11 85

SAMPLE IDENT: HARPER OIL CO - SOUTH DALLAS WELL #1
SAMPLING PRESS: SAMPLING TEMP:

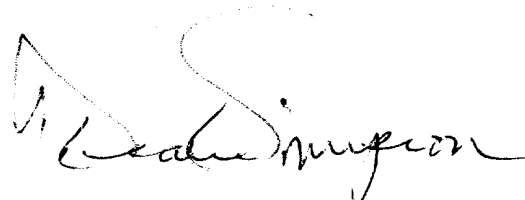
***** GAS ANALYSIS *****

	MOLE PERCENT	GAL/ MCF
NITROGEN	8.393	
CARBON DIOXIDE	0.088	
METHANE	85.968	
ETHANE	3.420	0.912
PROPANE	0.989	0.271
ISO-BUTANE	0.196	0.064
NORMAL BUTANE	0.341	0.107
ISO-PENTANE	0.098	0.036
NORMAL PENTANE	0.126	0.046
HEXANES	0.381	0.156
TOTAL	100.000	1.592

PROPANE GPM:	0.27	BUTANES GPM:	0.17
ETHANE GPM:	0.91	PENTANES PLUS GPM:	0.24

SPECIFIC GRAV (CALC): 0.6374
MOLE WEIGHT: 18.46

HHV-BTU/CU FT	PRESSURE (PSIA)	WET	DRY
14.696		981	999
14.650		978	996
14.730		984	1001
14.735		984	1001



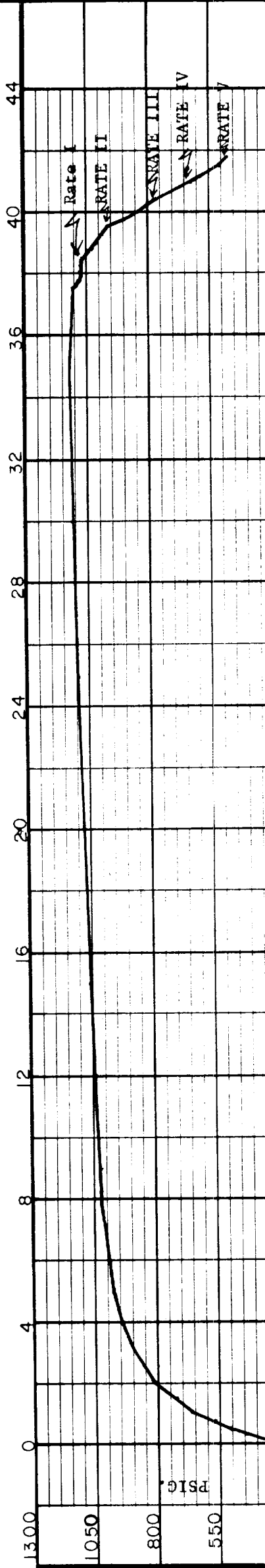
DEANE SIMPSON

TEST DATE: NOVEMBER 9 to 11, 1985
TEST DEPTH: 5485 FEET

ELEMENT NO: 14659
RANGE: 0-3650 PSI
CLOCK NO: E-14075
RANGE: 0-72 Hrs.

NOTE: See tabulation of times and pressures on attached sheet.

TIME IN HOURS



HARPER OIL COMPANY

SOUTH DALLAS NO. 1

BOTTOM HOLE PRESSURE BUILD-UP TEST AND BOTTOM
HOLE 4-POINT TEST.

JOHN W. WEST ENGINEERING CO. HOBBS, NEW MEXICO

Date: 11-13-85 Drawn by: bsm Scale: as shown

HARPER OIL COMPANY
 SOUTH DALLAS NO. 1
 BOTTOM HOLE PRESSURE BUILD-UP TEST
 AND 4-POINT BACK PRESSURE TEST.
 TABULATION OF TIMES AND PRESSURES.

TEST CONDUCTED BY:
 JOHN WEST ENGINEERING COMPANY

TEST DATE: NOVEMBER 9 to 11, 1985
 TEST DEPTH: 5485 FEET
 ELEMENT NO: 14659 (0-3650 PSI
 OPERATOR: W.S.

<u>DATE</u>	<u>TIME</u>	<u>CUM HRS./MIN.</u>	<u>PSIG @ 5485 FEET</u>
11-9-85	6:30 P.M.		331 gauge reached 5485 Feet
	7:00 P.M.	00 Hrs. 00 Min.	331 Shut-In, Begin Build-up
	7:15 P.M.	00 15	446
	7:30 P.M.	00 30	502
	7:45 P.M.	00 45	563
	8:00 P.M.	01 00	653
	8:30 P.M.	01 30	726
	9:00 P.M.	02 00	814
	9:30 P.M.	02 30	857
	10:00 P.M.	03 00	897
11-9-85	11:00 P.M.	04 00	945
11-10-85	12:00 A.M.	05 00	971
	1:00 A.M.	06 00	989
	2:00 A.M.	07 00	1002
	3:00 A.M.	08 00	1016
	4:00 A.M.	09 00	1026
	5:00 A.M.	10 00	1035
	7:00 A.M.	12 00	1047
	10:00 A.M.	15 00	1062
	3:00 P.M.	20 00	1082
11-10-85	8:00 P.M.	25 00	1097
11-11-85	1:00 A.M.	30 00	1109
	6:00 A.M.	35 00	1120
11-11-85	8:30 A.M.	37 30	1104
11-11-85	8:30 A.M.	00 Hrs. 00 Min.	1104 Begin 4-Point.
	8:45 A.M.	00 15	1086
	9:00 A.M.	00 30	1084
	9:15 A.M.	00 45	1080
	9:30 A.M.	01 00	1069 End Rate I
	9:45 A.M.	01 15	1031
	10:00 A.M.	01 30	1011
	10:15 A.M.	01 45	993
	10:30 A.M.	02 00	965 End Rate II
	10:45 A.M.	02 15	895
	11:00 A.M.	02 30	846
	11:15 A.M.	02 45	796
	11:30 A.M.	03 00	765 End Rate III
	11:45 A.M.	03 15	682
	12:00 Noon	03 30	625 End Rate IV
	12:15 P.M.	03 45	575
	12:30 P.M.	04 00	504
11-11-85	12:45 P.M.	04 15	474 End Rate V

HARPER OIL COMPANY

Well Completion Schematic

Well SOUTH DALLAS #1

Location SECTION 2-10S-26E

County/State CHAVES CO., NEW MEXICO

Field WILDCAT

Date 11-19-85

☒ Original Completion

☒ Present Completion

☐ Suggested Completion

Well Class GAS

Permanent Well Bore Data

13³/₈" 48 # K-55 Buttnass Casing →
Set @ 261' Cmt'd w/ 776 SKS

8⁵/₈" 28 # 5-80 K-55 CS6 Set @ 1206'
Cmt'd w/ 825 SKS →

ABO PERFS: 4932'-4937'
4940'-4950' →
34 holes ACIDIZE & FRAC'D

PENNSYLVANIAN PERFS: 6106'-6123'
6131'-6136' →
88 holes ACIDIZE & FRAC'D

5¹/₂" 15.5 # K-55 CS6 Set @ 6560' →
Cmt'd w/ 1250 SKS

Data On This Completion

GL-3843.3' KB-3855.3' DF-3884.3'

PRODUCTION STRING:

TIH w/ 16 Jcs. 2³/₈" J-55
4.7 # tbg. (521.40'); 1-Perf.
SUB (4.10'); SN (1.10'); 168 Jcs. 2³/₈" 4.7 # J-55
tbg. (5504.05').

TOTAL - 6030.65'

TD-6560'