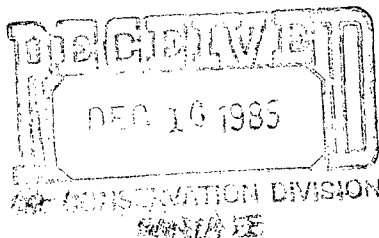




Harper Oil Company

Mid Continent Division

904 Hightower Building
Oklahoma City, Oklahoma 73102
(405) 232-3241



December 10, 1985

State of New Mexico
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501
Attn: David Catanach

Re: South Dallas #1
Section 2-10S-26E
Chaves County, New Mexico

Gentlemen:

Enclosed is information on the above-referenced well to obtain approval for downhole commingling of the Penn and Abo Zones.

If I can be of any further assistance, please feel free to contact me.

Very truly yours,

HARPER OIL COMPANY

David L. Johnson
Production Analyst

DLH/lar

Reason



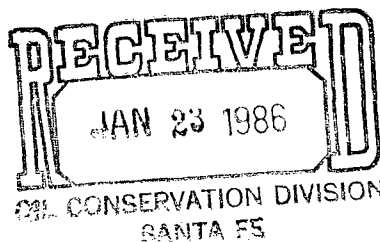
MIDCON CORP.



MidCon Central Exploration Company

A MIDCON CORP. COMPANY

Hightower Building, Suite 900
105 North Hudson
Oklahoma City, Oklahoma 73102-4803
(405) 232-3241



January 21, 1986

State of New Mexico
Attn: David Catanach
Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501

RE: South Dallas #1
Section 2-10S-26E
Chaves County, New Mexico

Gentlemen:

MidCon Central Exploration (formerly Harper Oil Company) would like to obtain approval for downhole commingling of the Penn and ABO Zones on the above-named well. Listed below is a comparison of the deliverability tests run on each run.

<u>ZONE</u>	<u>FTP</u>	<u>MCF</u>
Penn	125#	154
ABO	305#	930
Penn & ABO (Commingled)	112#	1030

The South Dallas #1 was originally completed in the Penn Zone. The well was shut-in because it was uneconomical to lay a gas line to the well. By commingling the ABO and Penn, we increase the gas volumes on the well. We have received a PAMI Gas Purchasing Contract to sell the gas from the well. PAMI is a subsidiary of Houston Natural gas in which they will purchase the gas on a percentage of proceeds basis.

In the Contract, the purchase price of the commingled zones will not be penalized by the commingling. The two zones are owned by the same Working Interest Owners in the well which is a State Lease. It is uneconomical to produce the zones separately.

If I can be of any further assistance, please feel free to contact me.

Very truly yours,

MIDCON CENTRAL EXPLORATION CO.

David L. Johnson
David L. Johnson
Production Analyst

DLJ/lar

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

Form C-122
 Revised 5-1-65

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 11-11-85	
Company Harper oil co.				Connection To Air			
Pool Wildcat				Formation Comingle ABO + PENN		Unit	
Completion Date 11-8-75		Total Depth 6560		Plug Hook TD RVP 5504		Elevation 3843.3	
Farm or Lease Name South Dallas							
Casing Size 5 1/2"		Wt. 15.5		d 4.825		Set At 6560	
Perforations: From 4941 To 6128		Well No. 1					
Tubg. Size 2 3/8"		Wt. 4.7		d 1.995		Set At 4787	
Perforations: From OPEN-ENDED To		Unit Sec. Twp. Rye. F 2 10S 26E					
Type Well - Single - Blindhead - G.G. or G.O. Multiple SINGLE						Packer Set At	
Producing Thru TUBING						County CHAVES	
Reservoir Temp. °F 60°		Mean Annual Temp. °F 60°		Baro. Press. - P _o 13.2		State New Mexico	
L 6128	H 6128	G _g .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 Ft.	Gravity Factor F _g	Super Compress. Factor, F _{sp}	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 _r	Temp. °R	T _r	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	1136	495	1.42	NIL	Dry		.6374	XXXXXX	660	349
2	1182	496	1.42	NIL						
3	1409	497	1.42	NIL						
4	1409	498	1.43	NIL						
5	1409	499	1.43	NIL						

NO.	P _r ²	P _w	P _w ²	P _r ² - P _w ²
1	1120	1069	1142.76	111.64
2	1254.4	965	931.22	323.18
3		765	585.23	669.17
4		625	390.63	863.77
5		474	224.68	1029.72

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

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

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

Absolute Open Flow	1346.4	Mcfd @ 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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NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
 Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 11-7-85	
Company HARPER OIL CO.				Name of Well TO AIR	
Pool WILDCAT				Unit ABO	
Completion Date 11-1-85		Total Depth 6560'		Flow 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: 4940 to 4950 From 4932 To 4937	
Thg. Size 2 3/8"	Wt. 4.7	d 1.995	Set At 4787	Perforations: From OPEN ENDED	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple SINGLE				Packer Set At 4787	
Producing Thru Tubing		Reservoir Temp. °F 119 @ 4941		Mean Annual Temp. °F 60°	
Baro. Press. - P _a 13.2		State N.M.			
L 4941	H 4941	G _g .7046	% CO ₂ .251	% N ₂ 21.883	% H ₂ S 2"
Prover 2"		Meter Run		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	
51				781							72 Hrs.
1.	2.000	x	3/32	750		68°	750				45 Min.
2.	2.000	x	1/8	637		70	657				30 Min.
3.	2.000	x	1/4	527		70	527				30 Min.
4.	2.000	x	3/8	305		69	305				
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft	Gravity Factor Fg	Super. Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	1410		763	.9924	1.191	1.055	134
2	2648		650	.9905	1.191	1.041	211.3
3	1.087		540	.9905	1.191	1.034	716
4	2.378		318	.9915	1.191	1.021	930.9
5							

NO.	R	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Dry	Mcf/bbl.
1	1.202	528	1.595	.899	A.P.I. Gravity of Liquid Hydrocarbons		Deg.
2	1.024	530	1.601	.922	Specific Gravity Separator Gas	.7046	X X X X X X X X
3	.8347	530	1.601	.936	Specific Gravity Flowing Fluid	X X X X X	
4	.5008	529	1.598	.960	Critical Pressure	635	P.S.I.A.
5					Critical Temperature	331	R

NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1	870	838	702.24	54.66
2		719	516.96	239.94
3		597	356.41	400.49
4		365	133.25	633.65
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.194$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.194$

And - (1) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1111.96$

Absolute Open Flow 1112 Mcfd @ 15.025

Angle of Slope θ 45°

Slope, n 1.000

Remarks: Calculated from known Bottom Hole Pressures from Kuster Gauge #56392.

Approved By Commission:	Conducted By: M.T.	Calculated By: J.D.	Checked By: J.D.
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NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form O-1
 Revised 9-1-63

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 1-11-85	
Company Harper Oil Company				Connection To Air			
Pool SOUTH DALLAS MONTANYA				Formation Penn Wildcat		Unit	
Completion Date 10-17-84		Total Depth 6560'		Plug Back TD 6521'		Elevation 3843 CL.	
Casing Size 5 1/2"		Wt. 15 1/2#		d 4.950		Set At 6560'	
Perforations: From 6106 To 6136		Farm or Lease Name South Dallas					
Thg. Size 2 3/8"		Wt. 4.7#		d 1.995		Set At 6028'	
Perforations: From OPEN-ENDED		Unit F		Sec. 2		Twp. 10S	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple SINGLE		Packer Set At 6028'		County Chaves		State New Mexico	
Producing Thru Tubing		Reservoir Temp. °F 135° @ 6121		Mean Annual Temp. °F 60°		Baro. Press. - P _g 13.2	
L 6121		H 6121		G _g .598		% CO ₂ .101	
				% N ₂ 2.687		% H ₂ S Prover	
						Meter Run 3"	
						Taps Flange	

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	
51							1495	41	PKR.	CHOKE	72 Hrs.
1.	3	x	1.00	20	48"	40°	45	42		24/64	1 Hr.
2.	3	x	1.00	20	27	40	48	45		20/64	1 Hr.
3.	3	x	1.00	20	22	40	60	47		16/64	45 Min.
4.	3	x	1.00	20	18	40	125	49		12/64	1 Hr.
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 Compress. Factor F _{sp}	Rate of Flow Q, Mcd
1	4.789	39.92	33.2	1.020	1.293	NIL	252
2	4.789	29.94	33.2	1.020	1.293	NIL	189
3	4.789	27.03	33.2	1.020	1.293	NIL	171
4	4.789	24.45	33.2	1.020	1.293	NIL	154
5							

NO.	R	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mol/bbl.	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
1	.03	500	1.45	NIL	Specific Gravity Separator Gas _____ 598	XXXXXXXXXX
2	.03	500	1.45	NIL	Specific Gravity Flowing Fluid _____ XXXXX	
3	.03	500	1.45	NIL	Critical Pressure _____ 663	P.S.I.A. _____ P.S.I.A.
4	.03	500	1.45	NIL	Critical Temperature _____ 349	R _____ R
5						

NO.	P _i ²	P _w	P _e ²	P _e ² - P _w ²
1		315.6	99.6	2202.3
2		324.3	105.2	2196.7
3		360.2	129.7	2172.2
4		431.9	186.5	2115.4
5				

(1) $\frac{P_e^2}{P_e^2 - P_w^2} = 1.045$ (2) $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^n = 1.045$

AOI = Q $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^n = .263$

Absolute Open Flow _____ 263 _____ Mcd @ 15.025	Angle of Slope @ _____ 45°	Slope, n _____ 1.00
---	----------------------------	---------------------

Remarks: Made 1 Bbl. of water during test. P_c and P_w were calculated from known BHFP measured with a Kuster Gauge.

Approved By Commission:	Conducted By: W.S.	Calculated By: R.R.	Checked By: R.R.
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NEW MEXICO OIL CONSERVATION COMMISSION WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

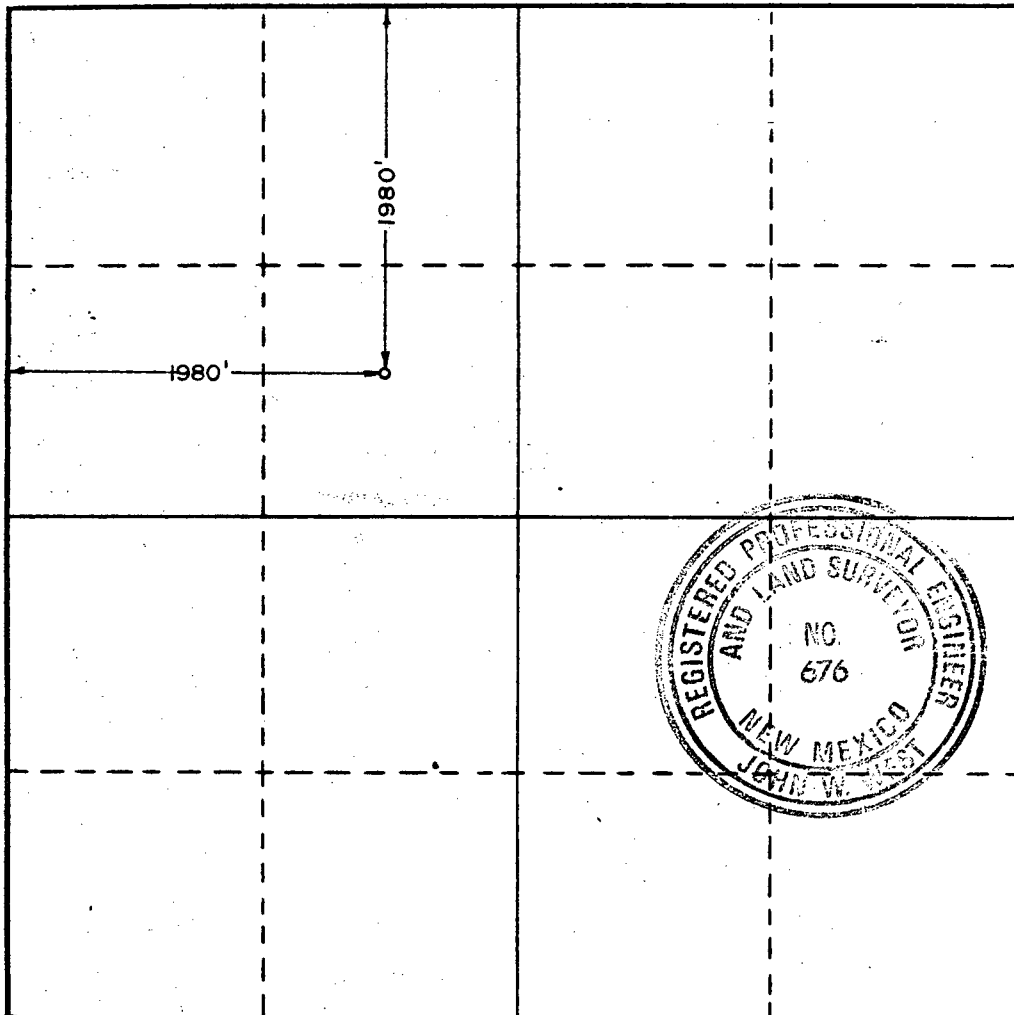
Operator HARPER OIL CO.			Lease SOUTH DALLAS		Well No. 1
Unit Letter F	Section 2	Township 10S	Range 26E	County CHAVES	
Actual Footage Location of Well:					
1980 feet from the		NORTH	line and	1980 feet from the	WEST
Ground Level Elev. 3843.3		Producing Formation MONTOYA		Pool Wildcat: Montoya	Dedicated Acreage: 320 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



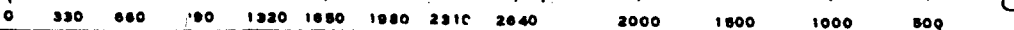
CERTIFICATION

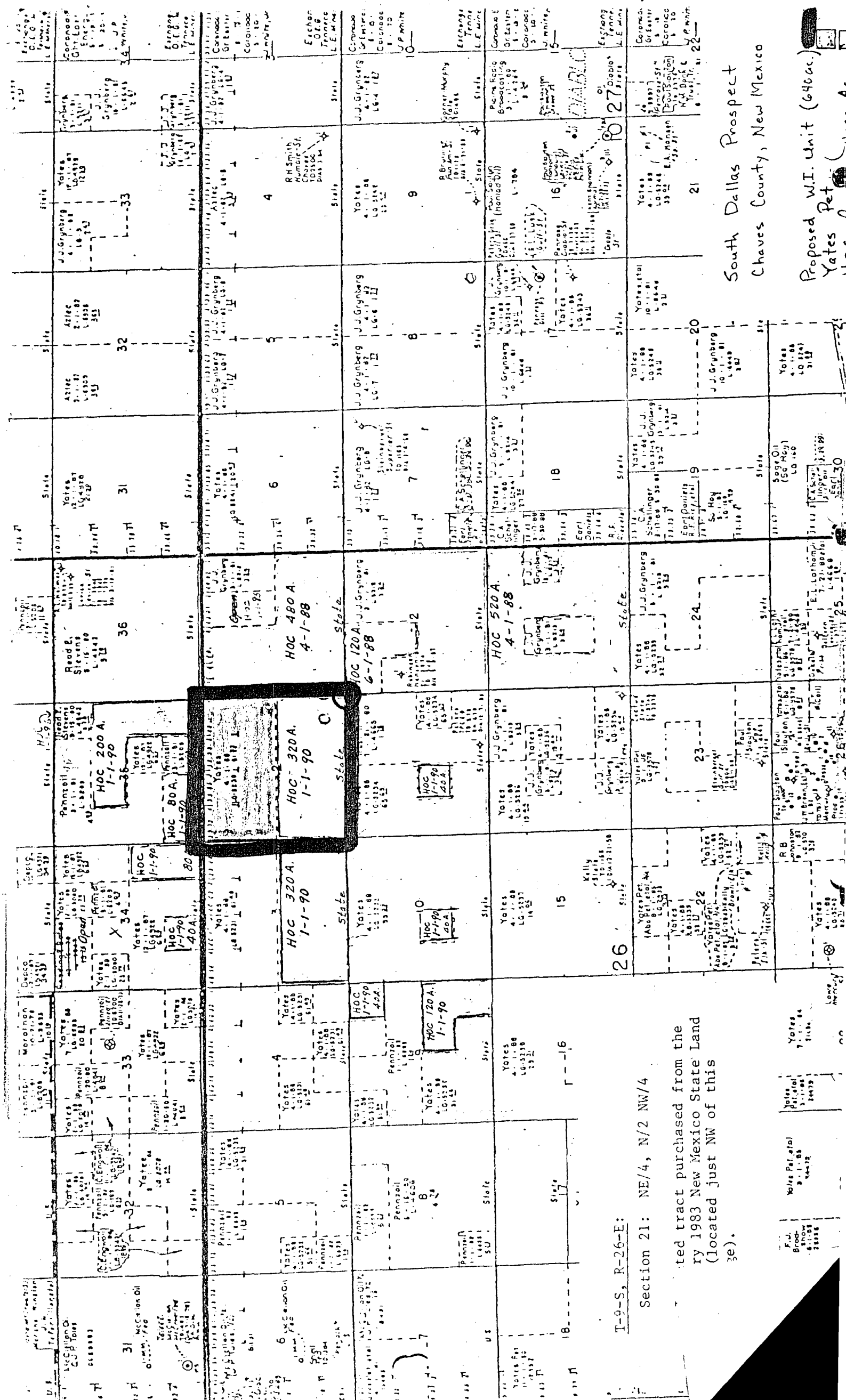
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name Don Rudham
 Position Prod. Supt.
 Company Harper Oil Co
 Date 8-17-84

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed 8/14/84
 Registered Professional Engineer and/or Land Surveyor
John W. West
 Certificate No. **JOHN W. WEST, 676**
RONALD J. EIDSON, 3239





T-9-S, R-26-E:

Section 21: NE 1/4, N/2 NW 1/4

ted tract purchased from the
ry 1983 New Mexico State Land
(located just NW of this
3e).

South Dallas Prospect
Chaves County, New Mexico

Proposed W.I. Unit (640ac.)
Yates Pet

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

Form C-122
 Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 11-11-85	
Company Harper oil co.				Connection To Air			
Pool Wildcat				Formation ABO + PENN		Unit	
Completion Date 11-8-75		Total Depth 6560		Plug Back TD RVP 5504		Elevation 3843.3	
Casing Size 5 1/2"		Wt. 15.5		d 4.825		Set At 6560	
Perforations: From 4941 To 6128		Farm or Lease Name South Dallas		Well No. 1			
Thg. Size 2 3/8"		Wt. 4.7		d 1.995		Set At 4787	
Perforations: From OPEN-ENDED To		Unit F		Sec. 2		Twp. 10S	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE		Packer Set At		County CHAVES		State New Mexico	
Producing Thru TUBING		Reservoir Temp. °F 60°		Mean Annual Temp. °F 60°		Baro. Press. - P _g 13.2	
L 6128	H 6128	G _g .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 Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	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 _r	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 XXXXX
4	.1409	498	1.43	NIL	Critical Pressure 660 P.S.I.A. _____ P.S.I.A.
5	.1409	499	1.43	NIL	Critical Temperature 349 R _____ R

P _r 1120	P _c 1254.4	(1) $\frac{P_c^2}{P_r^2 - P_w^2} = 1.452$	(2) $\left[\frac{P_c^2}{P_r^2 - P_w^2} \right]^n = 1.452$
NO	P _r 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

NO	P _r ²	P _w	P _w ²	P _r ² - P _w ²	AOF = Q $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1346.4$
1		1069	1142.76	111.64	
2		965	931.22	323.18	
3		765	585.23	669.17	
4		625	390.63	863.77	
5		474	224.68	1029.72	

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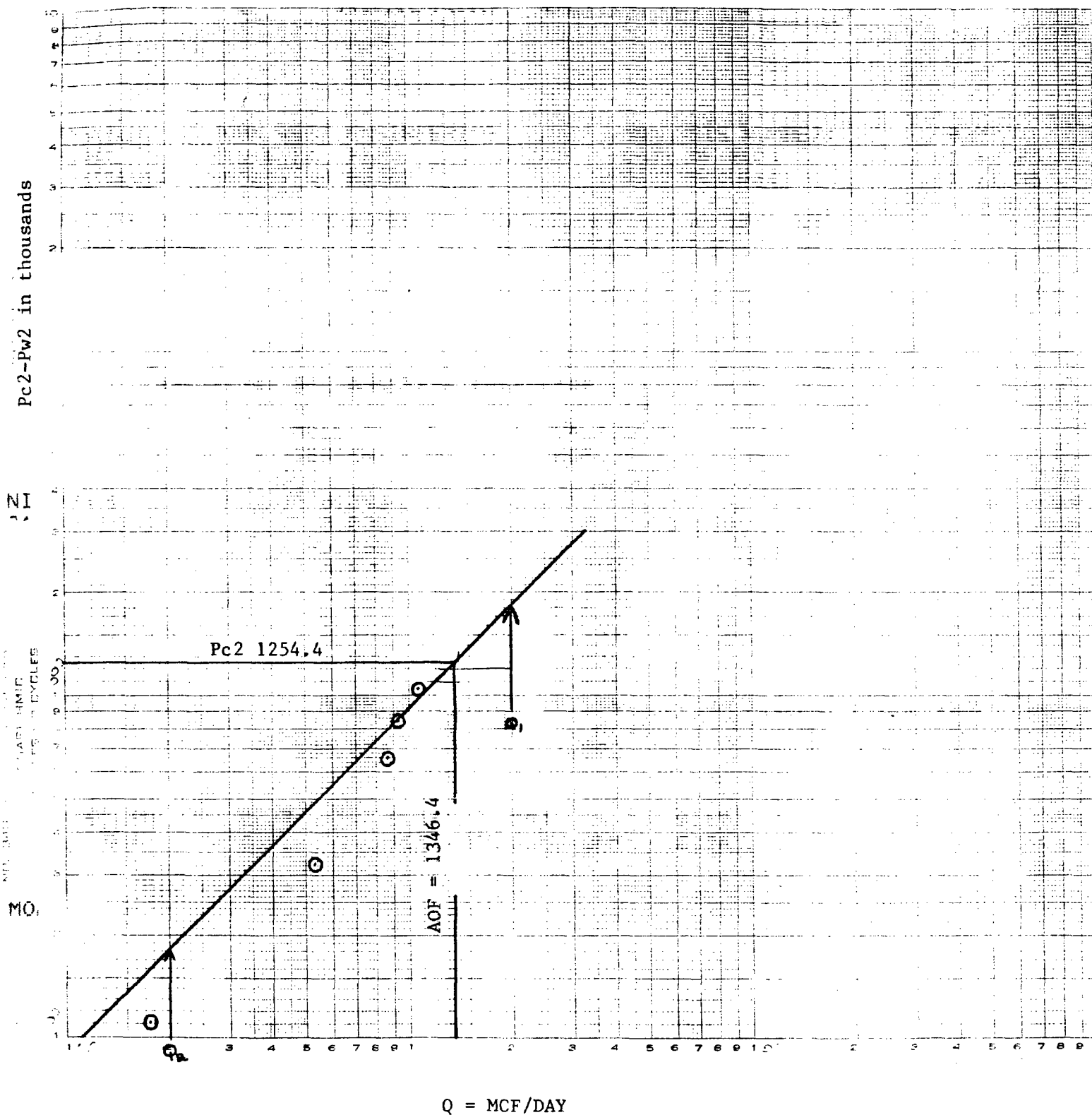
Remarks: Calculated from known BHP Using Kuster Gauge #14659 0-3650 PSI

Approved By Commission:	Conducted By: W.S.	Calculated By: J.D.	Checked By: J.D.
-------------------------	-----------------------	------------------------	---------------------

$$\begin{array}{rcl} \log 2000 & = & 3.301 \\ \log 200 & = & 2.301 \\ \hline & & 1.000 \end{array}$$

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

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



**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:

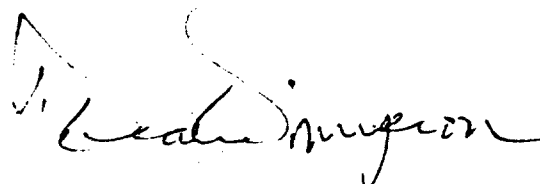
***** GAS ANALYSIS *****

	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

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

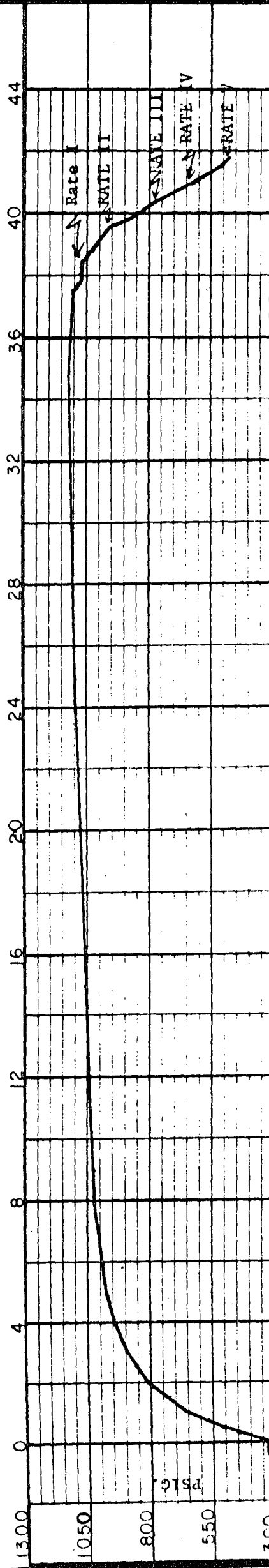


TEST DATE: NOVEMBER 9 to 11, 1985
TEST DEPTH: 5485 FEET

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

1-16-85 SITP 1495# DWT, SIBPH 1738#

Time	Choke Size	Rate(MCF)	BPH	Surface Pressure
1 hr	24/64	252	345	70
1 hr	20/65	189	355	50
1 hr	16/64	171	396	60
1 hr	12/64	154	478	120

Produced 2 BW, AOF 263 MCFPD, SI, drop from report until FA.

10-31-85 MIRU PBCP Well Service Rig # 4, SITP 2000#, bleed down to 50#, RU, pmp 15 bbls 2% KCL down tbg, ND wellhead, unseat pkr, circ hole, w/165 bbls 2% KCL, POOH w/92 jts plus subs, 2-3/8" 4.7# J-55 (6057.95') tbg & pkr, PU Baker Model C RBP, TIH, LD 16 jts tbg, set RBP @ 5504', PU, set pkr, test RBP to 1000#, OK, release pressure, TOOH, RU wireline, this a.m. prep to perf Abo.
DWC: \$3150 CWC: \$3150

A30
11-1-85 TIH, perf 2 SPF 4940-50 and 4932-37, 34 holes, RD & MO CRC Wireline, PU Model R double grip pkr, TIH w/152 jts 2-3/3" tbg, LD 17 jts to 4950.27', MIRU D.well, spot 100 gals 7-1/2% acid, PU & LD 5 jts 2-3/8" tbg to 4787.27', ND BOP, set pkr w/14 pts, NU wellhead, test annulus to 500#, OK, test surface lines to 6000#, held safety meeting, break down perfs, 900# @ 1/2 BPM, increased rate, pmpd 1500 gals 7-1/2% HCL w/500 SCF nitrogen/bbl, max. pressure 1655#, avg. 1365 @ 4.5 BPM, ISDP 1100#, 5", 10", 15" 800#, 30" 575#, drop 56 balls, had two 100# increases, did not ball off, TLTR 80 BLW & AW, RD Dowell, open well, flowed 15" & died, RU swb, FL 1st run 600', made 6 runs, 6th run from SN, no rec., had gas blow between swb runs, 50 BLTR, SIFN, this a.m., prep to frac.

11-2-85 This a.m. SITP 900#, blew well dwn in 9", no fluid, all gas, NU tree saver, tst lines & held safety meeting, press ann. to 750#, pmd pad, frac as follows:

Gal.	PPG	Sand	Rate	Press
6000	Pad	-	4.5	2000
1000	1	20/40	5.1	5500
2000	1-1/2	20/40	5.5	6100
3000	2	20/40	5.7	6500
4000	2-1/2	20/40	6.0	6500
4000	3	20/40	6.3	6300
flushed w/5 bbls			4.5	6100

TLTR 132 bbls, max press 6650, avg 5.37 BPM @ 6250 psig, ISDP 3000#, 5" - 2100#, 10" - 2050, 15" - 200, RD Dowell, SWIFN, used total 32,000# 20/40 sd.

DWC: \$21,670

CWC: \$24,820

11-2-85 13 hr SITP 1200 psig, open well, blew dwn to 200 psig in 2", flowed well on variety chokes, rec 30 BLW, LTR 102 BW.

11-4-85 SITP 915 psig, open well on 32/64" ck, flowed 6 hrs, FTP 65-70 psig, rec 15 BLW, flowed well total 11 hrs, SWIFN, this a.m. SITP 810 psig, open on 32/64" ck, blw dwn in 8" to 70 psig.

DWC: \$1300

DWC: \$26,120

11-5-85 Increase to 3/4" blew dwn to 0, strong blow, flowed well total 13 hrs w/good gas blow, rec 1 BLW, 86 BLTR, SWIFN, this a.m. SITP 720#, open on 3/4" ck, blew dwn to 0# in 9".

DWC: \$1100

CWC: \$27,220

11-6-85 SITP 720#, open, blew dwn in 9", open on 3/4" ck, RU swb, unable to get in.
RD swb, flowed 9 hrs, 0#, SWI, SDFN.
DCC: \$800 CCC: \$28,020

11-7-85 ONSITP (13 hrs) 700 psig, open well on 3/4" ck, tbg press. 0# w/strong blow, RU swb, PU 1 1-1/2" X 28' sinker bar, unable to get dwn, PU 2 1-1/2" X 22' sinker bars, TIH w/swb to SN, TOOH, no fluid rec., RD swb, put well on various cks for 1 hr as follows:

Time	Choke	FTP
10 a.m.-11 a.m.	24/64"	100 psig
11-12	20/64"	125
12-1	16/64"	200
1-2	12/64"	310
2-3	8/64"	350

SWIFN, prep to run BHP bomb.
DCC: \$800

CCC: \$28,820

11-8-85 TIH w/BHP bomb, 6 hrs SI BHP 718# @ 4941, ran 24 hr SI press 874#, POOH w/bomb, prep to run 4 pt. test.

11-9-85 ONSITP 600#, open well, blew dwn to 200#, unseat pkr, NU BOP, TOOH, LD pkr, TIH w/ret. tool & 169 jts 2-3/8" J-55 4.7# (521.40'), 1 perf sub (4.10'), SN (1.10'), 168 jts 2-3/8" 4.7# J-55 tbg (5504.05'), end of tbg 6030.65', ND BOP, NU tree, RU swb., FL 1700' 1st run depth 2900'

FL	Run	Run Depth
2000'	2nd	3200'
2200'	3rd	4000'
2000'	4th	4000'

Rec 20 BLW, 0# on tbg, 40# on csg, SWIFN.

ONSITP (13 hrs) 660#, csg 660#, open well, blew dwn tbg to 0 in 30", csg press 77#, RU swb, FL 1st run 2200', run depth 3400'

FL	Run Depth
1900	3100
2200	3400
2400	3600
1900	3100

well kicked off, flowing, flowed 5 hrs on 24/64"ck, rec 77 BLW, RU, TIH w/BHP bomb, SWI.

11-11-85 SI, prep to

11-12-85 RD & MO Well Service, Ran 4. tst, TOOH BHP bomb, SWI, waiting on pipe line connection.
DWC: \$200 CWC: \$300,620

South Dallas
Drilling Report
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11-19-85 Results of 4 point tst.

Abo Perfs 4932-4950: SITP 781 psig.

Line	Size	Choke	Tbg press	Flow Rate (MCFPD)
2.00	X	3/32	750	134
2.00	X	1/8	657	211.3
2.00	X	1/4	527	716.
2.00	X	3/8	305	930.9

CAOF 1112 MCFD, Sg .7046, BTU @ 14,735-87 (dry)

POOH w/bomb, T1H w/tbg tst both Penn and Abo formation together.

Line	Size	Choke	Press	Rate
2.000		.750	932	175.66
2.000		1.000	831	546.36
2.000		1.50	623	859.12
2.000		1.50	420	927.13
2.000		1.50	112	1030.51

CAOF 1346.4 MCFD, SI WO PL

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

Form C-122
Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 11-7-85	
Company HARPER OIL CO.				Connection TO AIR	
Pool WILDCAT				Unit ABO	
Completion Date 11-1-85		Total Depth 6560'		Elevation 3843.3	
Csg. Size 5 1/2"		Wt. 15.5		Perforations: 4940 to 4950	
Thg. Size 2 3/8"		Wt. 4.7		Perforations: 4932 To 4937	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple SINGLE		Packer Set At 4787		Well No. 1	
Producing Thru Tubing		Reservoir Temp. °F 119 @ 4941		Mean Annual Temp. °F 60°	
Baro. Press. - P _a 13.2		County Chaves		State N.M.	
L 4941	H 4941	G _g .7046	% CO ₂ .251	% N ₂ 21.883	% H ₂ S
Prover 2"		Meter Run		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				781							72 Hrs.
1.	2.000	x	3/32	750		68°	750				45 Min.
2.	2.000	x	1/8	637		70	657				30 Min.
3.	2.000	x	1/4	527		70	527				30 Min.
4.	2.000	x	3/8	305		69	305				
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mc/d
1	.1410		763	.9924	1.191	1.055	134
2	.2648		650	.9905	1.191	1.041	211.3
3	1.087		540	.9905	1.191	1.034	716
4	2.378		318	.9915	1.191	1.021	930.9
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mc/d
1	1.202	528	1.595	.899	Dry A.P.I. Gravity of Liquid Hydrocarbons _____ Deq. Specific Gravity Separator Gas .7046 Specific Gravity Flowing Fluid X X X X X Critical Pressure 635 P.S.I.A. Critical Temperature 331 R	X X X X X X X X X X	134
2	1.024	530	1.601	.922			
3	.8347	530	1.601	.936			
4	.5008	529	1.598	.960			
5							

NO.	P _c	P _w	P _c ²	P _w ²	P _c ² - P _w ²
1	870	838	756.9	702.24	54.66
2		719		516.96	239.94
3		597		356.41	400.49
4		365		133.25	633.65
5					

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.194$$

$$A \cdot Q = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1111.96$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.194$$

Absolute Open Flow	1112	Mc/d @ 15.025	Angle of Slope θ	45°	Slope, n	1.000
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Remarks: Calculated from known Bottom Hole Pressures from Kuster Gauge #56392.

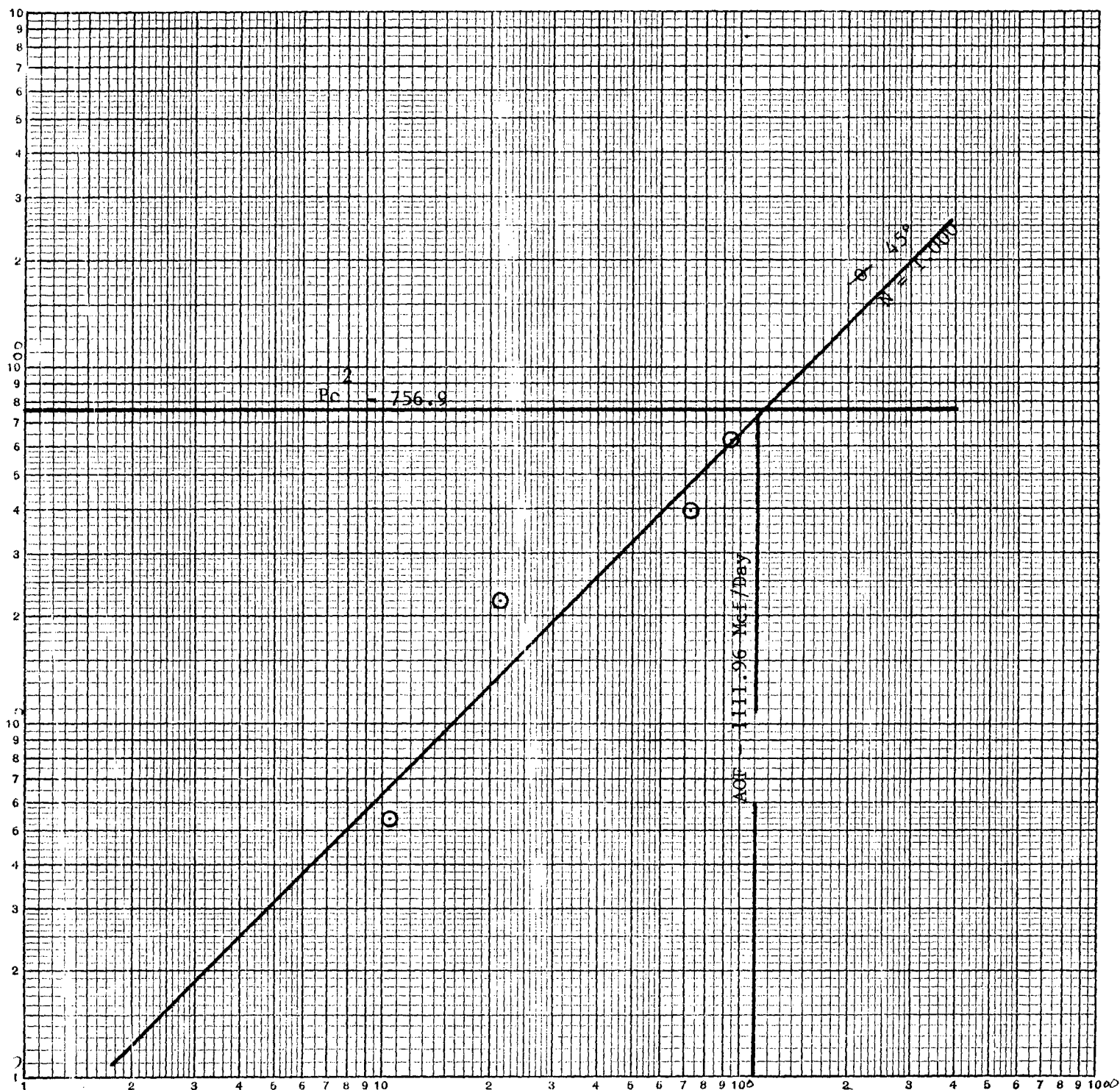
Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	M.T.	J.D.	J.D.

NOVEMBER 7, 1985

$$\begin{array}{rcl} \log - 2000 & 3.301 & \\ \log - 200 & 2.301 & \\ \hline N & = 1.000 & \end{array}$$

$$\begin{array}{l} Q1 = \log 2000 \\ Q2 = \log 200 \end{array}$$

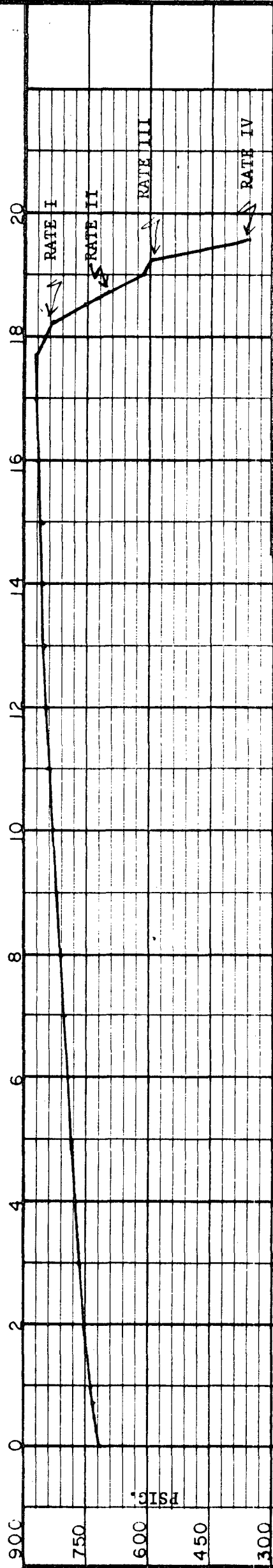
$$\text{CAOF} = 930.9 \frac{(756.9)}{633.65} 1.000 = 1111.96$$



TEST DATE: NOVEMBER 6 to 7, 1985
TEST DEPTH: 4941 FEET
ELEMENT NO: 56392
RANGE: 0-1500 PSI
CLOCK NO: 27521
RANGE: 0-24 Hours

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 4-POINT
BACK PRESSURE TEST.

JOHN W. WEST ENGINEERING CO. HOBBBS, NEW MEXICO

Date: 11-7-85 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 6 to 7, 1985
 TEST DEPTH: 4941 FEET
 ELEMENT NO: 56392 (0-1500 PSI)
 OPERATOR: M.T.

<u>DATE</u>	<u>TIME</u>	<u>CUM HRS./MIN.</u>	<u>PSIG @ 4941 FEET</u>
11-06-85	8:15 P.M.	00 Hrs. 00 Min.	718 gauge reached 4941 feet
	8:30 P.M.	00 15	724
	8:45 P.M.	00 30	727
	9:00 P.M.	00 45	731
	9:15 P.M.	01 00	737
	10:15 P.M.	02 00	750
11-06-85	11:15 P.M.	03 00	764
11-07-85	12:15 A.M.	04 00	775
	1:15 A.M.	05 00	785
	2:15 A.M.	06 00	795
	3:15 A.M.	07 00	805
	4:15 A.M.	08 00	812
	5:15 A.M.	09 00	820
	6:15 A.M.	10 00	827
	7:15 A.M.	11 00	834
	8:15 A.M.	12 00	841
	9:15 A.M.	13 00	847
	10:15 A.M.	14 00	854
	11:15 A.M.	15 00	859
	12:15 P.M.	16 00	864
	1:15 P.M.	17 00	870
11-07-85	2:00 P.M.	17 45	874
11-07-85	2:00 P.M.	00 Hrs. 00 Min.	874 Open Choke
	2:15 P.M.	00 15	849
	2:30 P.M.	00 30	838 End Rate I
	2:45 P.M.	00 45	752
	3:00 P.M.	01 00	719 End Rate II
	3:15 P.M.	01 15	614
	3:30 P.M.	01 30	597 End Rate III
	3:45 P.M.	01 45	400
11-07-85	4:00 P.M.	02 00	365 End Rate IV

Gauge off bottom, end of test.

NEW-TEX LAB

PHONE 505/393-3561

P. O. BOX 1161

611 W. SNYDER

HOBBS, NEW MEXICO 88240

ANALYSIS CERTIFICATE

CLIENT: JOHN WEST ENGINEERING ANALYSIS NUMBER: 8272
ADDRESS: 412 N DAL PASO DATE OF RUN: 11 8 85
CITY, STATE: HOBBS, NM 88240 DATE SECURED: 11 7 85

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

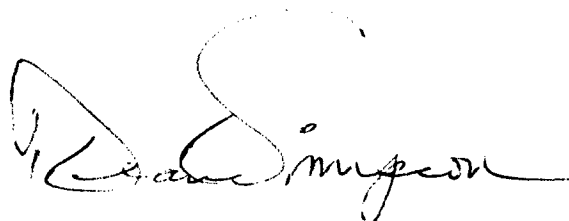
***** GAS ANALYSIS *****

	MOLE PERCENT	GAL/ MCF
NITROGEN	21.883	
CARBON DIOXIDE	0.251	
METHANE	71.306	
ETHANE	3.667	0.978
PROPANE	1.494	0.410
ISO-BUTANE	0.250	0.082
NORMAL BUTANE	0.492	0.155
ISO-PENTANE	0.148	0.054
NORMAL PENTANE	0.155	0.056
HEXANES	0.354	0.145
TOTAL	100.000	1.880

PROPANE GPM: 0.41 BUTANES GPM: 0.24
ETHANE GPM: 0.98 PENTANES PLUS GPM: 0.26

SPECIFIC GRAV (CALC): 0.7046
MOLE WEIGHT: 20.41

HHV-BTU/CU FT	PRESSURE (PSIA)	WET	DRY
	14.696	861	876
	14.650	858	874
	14.730	863	878
	14.735	863	879



Harper Oil Company

Mid Continent Division
904 Hightower Building
Oklahoma City, Oklahoma 73102
(405) 232-3241

South Dallas #1

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10-6-84 RDRT. TD 6560' (0') (23), Ran 161 jts. 5 1/2" K-55 LT&C 15.50# (6532.98'); float collar (1.53'); 1 jt. 5 1/2" K-55 LT&C 15.50# (40.17'); shoe (.90'). Total 6575.58'. Shoe set @ 6560'. Circ. casing. RU Dowell. Cmt. w/1050 sx Lite w/2% CaCl, 1/4#/sk. celloflake. Tail in w/200 sx Class C w/2% CaCl, 1/4#/sk. salt. PD @ 8:53 AM 10/5/84. Checked plug. RD Dowell. Released rig @ 12:00 Noon 10/5/84.

10-7-84

thru

10-8-84 RD & MORT. W.O. Completion.

10-9-84 MORT. Prep to set anchors.

10-10-84

thru

10-15-84 W.O. Completion.

10-16-84 MIRU, prep to complete.

10-17-84 PU bit, casing scraper. PU & tally 200 jts. 2 3/8" J-55 tubing. TIH, tag @ 6521'. PU, circ. hole w/2% KCL. POH. LD 12 jts. tubing. Finish TOH w/tbg. SDFN. DWC \$2414. TWC \$337,679.

10-18-84 MI & RU Vann Wireline. Ran CCL-VDL-GR, had good cement bond thruout pay intervals. TOC @ 2950'. RD Wireline. PU packer, (Model "R"), BHA. TIH w/188 jts. 2 3/8" K-55 4.7# tubing. RU Vann. Ran Correlation Log, POH. RD Vann Wireline. LD 5 jts. Spaced out. Set packer @ 6029.65' w/18 pts. Set nipple @ 6025.06'. NU tree. Tested annulus w/600#. NU flowline. Dropped ball. Perf. 6106'-23', 6131'-36', 4 JSPF, 88 holes. Recorded firing of gun, had small blow after perfs, no pressure, left well open 1 hr. SWI, no pressure. SWION, 10 hr. SITP 350#. DC \$14,531. TC \$362,210.

10-19-84 Opened well, blew down on 12/64" ch. to 20 psi in 30 mins. SI for 1 1/2 hrs. SITP 170 psi. Opened well on 12/64" ch. 1 1/2 hrs., FTP 22#, gas would burn. RU swab, FL @ 200' above S.N. Made 4 swab runs, no recovery. MI Dowell. Test lines & annulus to 1000#. Start acid w/acid on formation. Pressure increased to 2700# @ 3 1/2 BPM. Broke to 2250#, avg. 2250# @ 3 1/2 BPM. Flush acid w/2% KCL. Load rec. 54 BL (Cont'd)



MIDCON CORP.

Harper Oil Company

Continent Division

904 Hightower Building

Oklahoma City, Oklahoma 73102

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South Dallas #1 - Cont'd

10-19-84 (Cont'd)

& acid water, ISDP 1400#, 5" 1200#, 10" 1100#, 15" 1000#. RD & MO Dowell. Open on 1/4" ch., blew down in 10 mins. RU swab, FL on 1st run @ surface. Made total 7 runs. On 7th run from SN no recovery. Recovered total 32 BLW. Have 22 BLW to recover. Well flowed on 16/64" ch. 3 hrs., gas would burn, FTP 45#, SWIFN. DC \$2803. TC \$355,013.

10-20-84 MI & RU test equipment. Put well to test unit @ 7:00 PM 10/19/84. This AM, FTP 155 psig on 14/64" ch., meter run 4" x 1", gas rate 165 MCFPD, 1.1 BLW (20.9 BLW to recover).

10-21-84 FTP 145 psig, 14/64" ch., 1 BLW, 174 MCF.

10-22-84 FTP 140 psig, no fluid last 24 hrs., 174 MCF. DWC \$400. TWC \$360,413.

10-23-84 FTP 145 psig, gas rate 174 MCF. Open on 3/4" ch. MI & RU Wireline. TIH, release Vann gun @ 6062'. TIH to 6300'. POH. RD Wireline. 1 hr. SITP 800 psig. Open well on 3/4" ch., FTP 100 psig, made total 4 swab runs, no fluid recovered. SIFN. This AM, prep to MI frac equipment. DWC \$16,599. TWC \$362,072.

10-24-84 SI, unable to get frac equipment to location due to rain.

10-25-84

thru

10-26-84 SI due to weather.

10-27-84

thru

10-29-84 SITP 1900 psig. Prep to frac.

10-30-84 MI & RU Dowell. SITP 1900 psig. Opened well, blew down to 500 psig. NU tree saver. Test lines. Pressure annulus to 500 psig, okay. Increase pressure to 1000 psig, held safety meeting. Start frac as follows: Pump 1000 gals. 7 1/2% MSR 100, TP 1650 psig @ 4 BPM, increased rate to 15 BPM w/acid on formation @ 5600 psi, broke to 5500 psi. Start Stratafrac II pad as follows: 4000 gals. @ 15 BPM @ 5500#; 2000 gals. @ 15 BPM @ 5400#, 1#/gal. 20-40 sand; 3000 gals. @ 15 BPM @ 5390#, 2#/gal. 20-40 sand; 3500 gals. @ 15 BPM @ 4750#, 3#/gal. 20-40 sand; Drop 25 ball sealers. Pump 1000 gals. acid w/balls spaced in acid. Pump 420 gals. 2% KCL water spacer. Pump 4000 gals. @ 15 BPM @ 5500#; 2000 gals. w/1#/gal. 20-40 sand @ 15 BPM @



MIDCON CORP.

Harper Oil Company

Mid Continent Division

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South Dallas #1 - Cont'd

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10-30-84 (Cont'd)

4750#; 3000 gals. w/2#/gal. 20-40 sand @ 15 BPM @ 5500#; 3500 gals. w/3#/gal. 20-40 sand @ 15 BPM @ 5800#; 1000 gals. 7 1/2% MSR w/420 gals. 2% KCL spacer. Pump 4000 gals. @ 13 BPM @ 5800#; 2000 gals. w/1#/gal. 20-40 sand @ 13 BPM @ 5500#; 3000 gals. w/2#/gal. 20-40 sand @ 13 BPM @ 5400#; 3500 gals. w/3#/gal. 20-40 sand @ 13 BPM @ 5650#. Start flush w/30 bbls. 2% KCL, 5000 psi. ISDP 2500#, 5" 2350#, 10" 2250#, 15" 2250#. Max. press. 6250 psi, avg. rate 13.4 BPM @ 4970#. Total load to recover 1057 BLW. Total sand used 60,000# 20-40 sand. RD & MO Dowell. SWIFN. DWC \$32,807. TWC \$394,879.

10-31-84 22 hr. SITP 1690 psig. Open well on 16/64" ch. @ 7:47 AM, pressures as follows: 7:57-1500#; 8:17-1100#; 8:22-975#; 8:27-700#; 8:37-590#; 8:47-420#; 8:57-200#; 9:02-100#. Flowed on 16/64" ch., 100 psig until 12:00. Pressure decreased to 0#. Open on 3/4" ch., flowed by heads. RU swab, FL on 1st run @ surface. Made total 12 swab runs as follows: #1 @ 1500', FL 0'; #2 @ 1800', FL 300'; #3 @ 2700', FL @ 1200'; #4 @ 3000', FL 1500'; #5 @ 3200', FL 1700'; #6 @ 3200', FL 1700'; #7 @ 3200', FL 1700'; #8 @ 2900', FL 1400'; #9 @ 2500', FL 1000'; #10 @ 3000', FL 1500'; #11 @ 3400', FL 1900'; #12 @ 3800', FL 2300'. Rec. total 376 BLW. Lack 700 BL to recover. SDFN. DWC \$1920. TWC \$396,799.

11-01-84 Overnite SITP 1100 psig. Open well, blew down in 5 mins. RU swab, FL 1st run 1000'. Made 12 runs, gas would burn between runs 13-16. Run swab from SN, rec. 49 BLW, well flowing by heads on 45/64" ch. from 2:PM till 5:PM. Decreased choke to 32/64", gas flare 10-15', TP increased to 100 psig at 12:Midnite. At 6:00 AM, FTP 100 psig on 32/64" ch., rec. 149 BLW. Lack 551 BLW to recover.

11-02-84 Flowed well on 32/64" ch., TP decreased to 35 psig, making 1/2" stream of water, flare 10-15'. SI for pressure build up. DWC \$1100. TWC \$399,669.

11-03-84 Overnite SITP 1740 psig. Open on 16/64" ch., 4 hr. FTP 1000 psig, made 4 slugs of water. SI 6 hrs. TP 1265 psig, blew down to 600 psig, SION.



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- 11-04-84 Overnite SITP 1725 psig. Open well, blew down on 16/64" ch., pressure 1000 psig in 2 1/2 hrs. Open on 1" ch., pressure 300 psig, made slug of water. SWI. RD & MO Well Service Unit. 6 hr. SITP 1695 psig. Open on 16/64" ch., flowed 1 hr., made water in slugs. SI 4 hrs. TP 1390 psig. SION.
- 11-05-84 SITP 1765 psig. Open on 18/64" ch., water to surface in 15 mins., pressure 400 psig, increased to 700 psig in 30 mins. Flowed well 1 hr. SION. DWC \$850. TWC \$400,519.
- 11-06-84 SITP 1765#. Open on 18/64" ch., made water in 12 mins., FTP in 30" 200#, increased to 350# w/fine mist of water. SIFN.
- 11-07-84 Overnite SITP 1780 psig. Open on 12/64" ch. @ 7:50 AM. Made slug @ 8:10 AM. Open on 16/64" ch., FTP 1080 psig @ 8:50 AM, FTP 350#, flowed well until 2:30 PM. Increased choke to 32/64", FTP 100 psig, making fine mist of water. SWIFN @ 4:30 PM.
- 11-08-84 SITP 1780 psig. Open on 16/64" ch., FTP in 5" 1360#, 10" 1185 psig, 1 hr. 100 psig. Flowed well on 16/64" ch. SIFN.
- 11-09-84 SITP 1785 psig, 12/64" ch. FTP dec. 400# on 16/64" ch., water, increased to 18/64" ch. for 3 hrs. FTP 150 psig. SWI, SDON. Flowed well total 6 hrs.
- 11-10-84 SITP 1780 psig.
- 11-11-84 SITP 1800 psig. Open on 24/64" ch., 30" FTP 500 psig. Made head of water, flowed 1 1/2 hrs. SWI.
- 11-12-84 SITP 1800 psig. DROP FROM REPORT until further activity.



MIDCON CORP.

South Dallas #1 - Cont'd

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RETURNED TO DRILLING REPORT.

- 11-14-84 SITP 1800#. Open on 16/64" ch. for 1 1/2 hrs., TP decreased to 100#, made 4 heads of water, water is LW. SIFN.
- 11-15-84 SITP 1800 psig. Opened well on 14/64" ch. Made heads of water in 20 mins., FTP decreased to 225 psig in 2 hrs. Flowed total of 4 1/2 hrs. on 14/64" ch., fine mist of water. SIFN.
- 11-16-84 SITP 1800 psig. Open on 14/64" ch., TP decreased to 400 psig in 1 1/2 hrs. Made head of water, pressure stabilized @ 200 psig. Making heads, flowed 3 hrs. SWI.
- 11-17-84 SITP 1825#. Open on 14/64" ch., FTP in 1 hr. 800 psig, 2 hrs. 400 psi, made heads of water, flowed total 4 1/2 hrs., FTP 225 psig. SWI.
- 11-18-84 SITP 1825#. Open on 14/64" ch. 4 hrs., FTP decr. to 200 psig in 1 1/2 hrs. SDON.
- 11-19-84 SITP 1850 psig. Open on 12/64" ch., FTP in 1 hr. 800 psig, 2 hrs. 500 psig. Left open for 11 hrs. Choke froze. SIFN.
- 11-20-84 SITP 1845 psig. Open on 14/64" ch., heads of water in 27 mins., FTP 500 psig. Increased choke to 24/64". 1 hr. FTP 150 psig.
- 11-21-84 SITP 1800 psig. Open on 14/64" ch., 1 hr. FTP 500 psig. Increased choke to 16/64", 3 hr. FTP 150#, flowed well total 8 1/2 hrs. SIFN.
- 11-22-84 SITP 1720#. Open on 14/64" ch. Made heads in 1/2 hr. Flowed total 8 hrs., FTP 150 psig. SIFN.
- 11-23-84 SITP 1685#. Open on 14/64" ch., flowed total 9.5 hrs., FTP 150 psig.
- 11-24-84 SITP 1600 psig. Open on 14/64" ch., FTP in 30 mins. 710 psig, 1 hr. 320 psig, SI 5", TP 1500 psig. Open on 14/64" ch. Left open 1 hr., no water.
- 11-25-84
&
11-26-84
thru
11-27-84 Unable to get to location due to rain.
- 11-28-84 96 hr. SITP 1850 psig, open well on 14/64" ch. FTP in 1 hr. 400 psig, left open 3 hrs., no water, FTP 150 psig. SIFN.



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11-29-84 SITP 1800 psig. Open on 14/64" ch., FTP in 1 hr. 400#. Open to 16/64" ch., flowed well 2 hrs., FTP 100#, made heads of water. SIFN.

11-30-84 SITP 1800 psig. Open on 14/64" ch., FTP in 1 hr. 325#. Open to 18/64" ch., FTP 175#, made fine mist of water w/heads. SIFN.

12-01-84 SITP 1735#. Open on 16/64" ch., 20" FTP 585#, 30" 320#, heads of water. Open choke to 32/64", in 1 hr. FTP 310#, down to 100 psig in 2 hrs. SWI.

12-02-84 SITP 1695#. Open on 18/64" ch., water in 22 mins., FTP 310#. Left on 16/64" ch., FTP 200#, flowed total 9.75 hrs., FTP 100#, making heads of water. SDFN.

12-03-84 SITP 1520#. Open on 18/64" ch., in 25" FTP 395#. Open on 24/64" ch., in 40 mins. FTP 320#, water hit. Made heads of water for 1 hr., FTP 195#. Flowed 2 hrs. on 24/64" ch., FTP 100# at end. SDFN.

12-04-84 SITP 1600#. Open on 24/64" ch., water in 39", FTP in 1 1/2 hrs. 110 psig. SWI for 4 hrs. SITP 1350#. Open on 16/64" ch., flowed 50 mins., water hit in heads. Open choke to 40/64" ch. for 2 hrs., FTP 100 psig. SIFN.

12-05-84 SITP 1575#. Open on 16/64" ch., 10" FTP 700#; 18/64" ch., 10" TP 350#. Changed choke to 24/64", water in heads 20" (frac). Flowed 2 hrs., TP 120#. SIFN.

12-06-84 SITP 1595#. Did not flow test well due to weather conditions.

12-07-84

thru

12-11-84 SI

12-12-84 SITP 1675 psig. Opened well on 14/64" ch. w/1675#, 5" 1385#, 10" 1185#, 20" 960#, 25" 815#, no fluid. Opened to 16/64" ch., 30" 550#, 35" 400#, no fluid. Opened to 18/64" ch., 40" 250#, 45" 210#, no fluid. Opened to 24/64" ch., 50" 125#, 60" 110#, 61" 110#, Water hit in heads, then made a mist for 2 hrs. SIFN.

12-13-84 SITP 1650 psig.



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12-14-84 TP 1660 psig. Open on 18/64" ch., flowed well pressure as follows:
5" 18/64" ch., 800#; 10" 18/64" ch., 450#; 15" 18/64" ch., 350#; 20"
18/64" ch. 300#; 25" 18/64" ch., 250#, water to surface in heads.
Flowed 1 hr. 35 mins. (2 hrs. total), FTP stabilized @ 200 psig. SDFN.

12-15-84

&

12-16-84 SI.

12-17-84 SITP 1670 psig. Open on 18/64" ch. Water to surface in 35 mins. in
heads, flowed for 1 1/2 hrs., FTP 200#. SDFN.

12-18-84

thru

12-23-84 SI due to road conditions.

12-24-84 SITP 170)#. Open on 24/64" ch. 5" 950#, 10" 435#, 15" 300#, 20" 210#,
25" 180#, 30" 150#, 33" 135# water to surface, 40" 115#. Flowed 2
hrs. FTP stab. @ 115 psig w/fine stream of water. SWI, SDON.

12-25-84 SITP 1645#. Open on 20/64" ch. water in 35 mins. Flowed 2 hrs. FTP
115#. SWI, SDON.

12-26-84 SITP 1650#. Open on 20/64" ch. water in heads in 10 mins., flowed 1
hr. FTP 300 psig. SWI, SDON.

12-27-84 SITP 1650#. Open on 20/64" ch. water in 10 mins., flowed 1 hr. FTP
200 psig, SWI, SDON.

12-28-84

thru

1-03-85 SI.

1-04-85 SITP 1695#, open on 20/64" ch. water to surface in 10", FTP 185# in
30 mins., flowed 1 hr. SI.

1-05-85 SITP 1695#. Open on 20/64" ch., water to surface in 10 mins., FTP
185# in 30 mins., flowed 1 hr. SI.

1-06-85 22 hr. SITP 1605#. Open on 20/64" ch., water in 10 mins., FTP in 1
hr. 100 psig, SWI.

1-07-85 23 hr. SITP 1600 psig. Open on 20/64" ch., water in heads in 15
mins., FTP stable in 40 mins., FTP 150#. SWI.



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South Dallas #1 - Cont'd

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- 1-08-85 SITP 1620#, 24 hrs., open on 24/64" ch. Water in mist in 40 mins., FTP in 1 hr. 150 psig. SWI.
- 1-09-85 SITP 1600#, 24 hrs. Open on 20/64" ch., had water in 9 mins., FTP in 1 hr. 150 psig, SWI.
- 1-10-85 SITP 1610#, open on 30/64" ch., 3/8" stream of water in 30 mins., flowed 1 1/2 hrs., FTP 150 psig, SWI.
- 1-11-85 SITP 1600#.
- 1-12-85 RU to run 4 pt. test. SITP 1495# DWT. SI for PBU test.
- 1-13-85
thru
- 1-14-85 SI for PBU test.
- 1-15-85 SI for 4 pt. test. SITP 1495# (DWT), SIBP 1738#, 1" plate. 24/64" ch. 70# surface pressure (DW), 1444# BHP, 252 MCF. 20/64" ch. 50# surface pressure (DW), 1502# BHP, 189 MCF. 16/64" ch. 60# surface pressure (DW), 1543# BHP, 171 MCF. 12/64" ch. 112# surface pressure (DW), 1555# BHP, 154 MCF. Each flowed 1 hr. intervals. Produced 2 BW during test. AOF 385 MCFPD. Flowed total of 7 hrs.
- 1-16-85 SITP 1495 (DWT), SI BHP 1738.

<u>Time</u>	<u>Choke Size</u>	<u>Rate (MCF)</u>	<u>BPH</u>	<u>Surface Pressure</u>
1 hr.	24/64	252	345	70
1 hr.	20/65	189	355	50
1 hr.	16/64	171	396	60
1 hr.	12/64	154	478	112

Produced 2 BW, AOF 263 MCFPD. SI. DROPPED FROM REPORT UNTIL FURTHER ACTIVITY.



MIDCON CORP.

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

Form C-122
 Revised 9-1-63

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 1-11-85	
Company Harper Oil Company				Connection To Air	
Pool SOUTH DALLAS MONTANYA				Formation Penn Wildcat	
Completion Date 10-17-84		Total Depth 6560'		Plug Back TD 6521'	
				Elevation 3843 GL.	
Farm or Lease Name South Dallas				Well No. 1	
Cas. Size 5 1/2"	Wt. 15 1/2 #	d 4.950	Set At 6560'	Perforations: From 6106 To 6136	
Tub. Size 2 3/8"	Wt. 4.7 #	d 1.995	Set At 6028'	Perforations: From OPEN-ENDED To	
Type Well - Single - Drdhead - G.G. or G.O. Multiple SINGLE				Packer Set At 6028'	
Producing Thru Tubing		Reservoir Temp. °F 135° @ 6121		Mean Annual Temp. °F 60°	
				Baro. Press. - P ₀ 13.2	
County Chaves				State New Mexico	
L 6121	H 6121	G _g 598	% CO ₂ .101	% N ₂ 2.687	% H ₂ S
Prover				Meter Run 3"	
				Taps Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							1495	41	PKR.	CHOKE	72 Hrs.
1.	3	x	1.00	20	48"	40°	45	42		24/64	1 Hr.
2.	3	x	1.00	20	27	40	48	45		20/64	1 Hr.
3.	3	x	1.00	20	22	40	60	47		16/64	45 Min.
4.	3	x	1.00	20	18	40	125	49		12/64	1 Hr.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super. Compress. Factor, Fpv	Rate of Flow Q, Mcf
1	4.789	39.92	33.2	1.020	1.293	NIL	252
2	4.789	29.94	33.2	1.020	1.293	NIL	189
3	4.789	27.03	33.2	1.020	1.293	NIL	171
4	4.789	24.45	33.2	1.020	1.293	NIL	154
5							

NO.	R	Temp. °R	T _r	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	.03	500	1.45	NIL			598	XXXXXXX	663	349
2	.03	500	1.45	NIL				XXXXX		
3	.03	500	1.45	NIL						
4	.03	500	1.45	NIL						
5										

NO.	P _i ²	P _w	P _w ²	P _e ² - P _w ²
1	1517.2	315.6	99.6	2202.3
2	2301.9	324.3	105.2	2196.7
3		360.2	129.7	2172.2
4		431.9	186.5	2115.4
5				

(1) $\frac{P_e^2}{P_e^2 - P_w^2} = 1.045$

(2) $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^n = 1.045$

AOFP = Q $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^n = .263$

Absolute Open Flow 263 Mcfd @ 15.025

Angle of Slope @ 45°

Slope, n 1.00

Remarks: Made 1 Bbl. of water during test. P_c and P_w were calculated from known BHP measured with a Kuster Gauge.

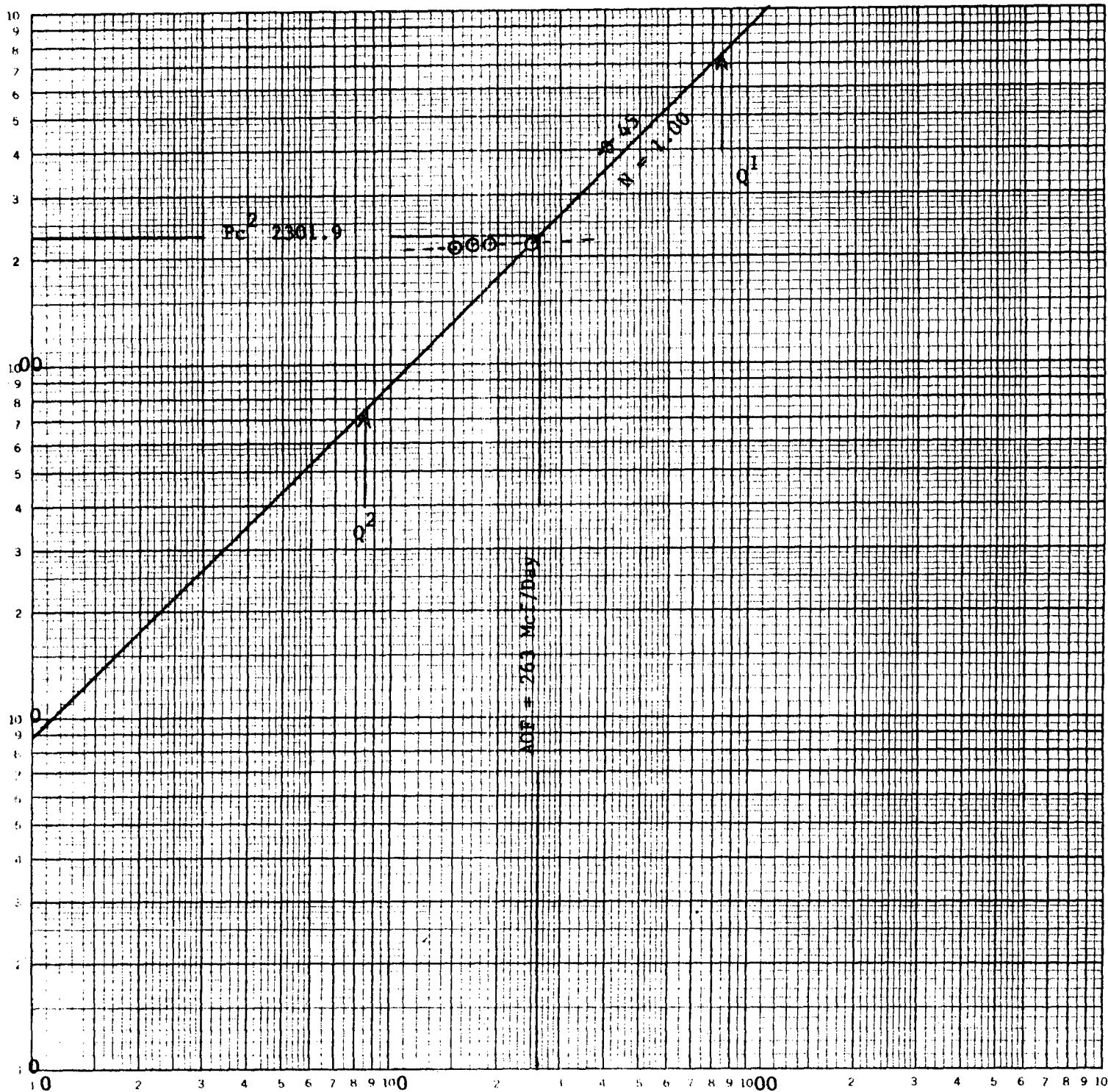
Approved by Commission:	Conducted By: W.S.	Calculated By: R.R.	Checked By: R.R.
-------------------------	--------------------	---------------------	------------------

$$\text{CAOF} = 252 \frac{(2301.9)}{(2202.3)} 1.00 = 263 \text{ Mcf/Day}$$

$$\begin{aligned} Q_1 &= 850 = 2.929419 \\ Q_2 &= 85 = 1.929419 \\ N &= 1.000000 \end{aligned}$$

46 7400

K.E. LOGARITHMIC 3 X 3 CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.



Q = Mcf/Day

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURES (P_w or P_s)

Form C-122F
Adopted 9-1-85

FROM KNOWN BOTTOM HOLE PRESSURE (P_s or P_w)

COMPANY Harper Oil Co. LEASE South Dallas WELL NO. 1 DATE 1-11-85
LOCATION: Unit F Section 2 Township 10 S Range 26 E
L 6121 H 6121 LH 1.00 G .598 % CO₂ .101 % N₂ 2.687 % H₂S

GH 36660 P_{CT} 6663 T_{CT} 349

RATES

#1

#2

#3

#4

LINE	1	2	3	4	5	6	7	8
T _w (W.H. °R)	534	534	534	534	534	534	534	534
T _s (B.H. °R)	595	595	595	595	595	595	595	595
T = $\frac{T_w + T_s}{2}$	564	564	564	564	564	564	564	564
Z (Est.)	.960	.959	.956	.958	.951	.954	.943	.945
TZ	541.9	541.3	539.7	540.8	536.8	538.5	532.3	532.5
GH/TZ	6.75	6.701	6.78	6.77	6.82	6.80	6.88	6.86
e ^S (Table XIV)	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29
P _f or P _s	358.2	358.2	368.2	368.2	409.2	409.2	491.2	491.2
P _f ² or P _s ²	128.3	128.3	135.6	135.6	167.4	167.4	241.3	241.3
P _C ² = P _f ² /e ^s or P _w ² = P _s ² /e ^s	99.6	99.6	105.1	105.2	129.7	129.8	186.4	186.5
P _C or P _w	315.6	315.6	324.2	324.3	360.1	360.2	431.8	431.9
P = $\frac{P_w + P_s}{2}$ or $\frac{P_C + P_f}{2}$	336.9	336.9	346.2	346.3	384.6	384.7	461.5	461.6
P _r = (P/P _{CT})	.51	.51	.52	.52	.58	.58	.70	.70
T _r = (T/T _{CT})	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62
Z (Table XI)	.959	.959	.958	.958	.954	.954	.945	.945

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURES (P_c or P_w)

Form C-122F
Adopted 9-1-65

FROM KNOWN BOTTOM HOLE PRESSURE (P_f or P_s)

COMPANY Harper Oil Co. LEASE South Dallas WELL NO. 1 DATE 1-11-85

LOCATION: Unit F Section 2 Township 10S Range 26E

L 6621 H 6621 LH 1.00 G .598 % CO₂ .101 % N₂ 2.687 % H₂S

GH 3660 P_{CT} 663 T_{CT} 349

TABLE IX & X

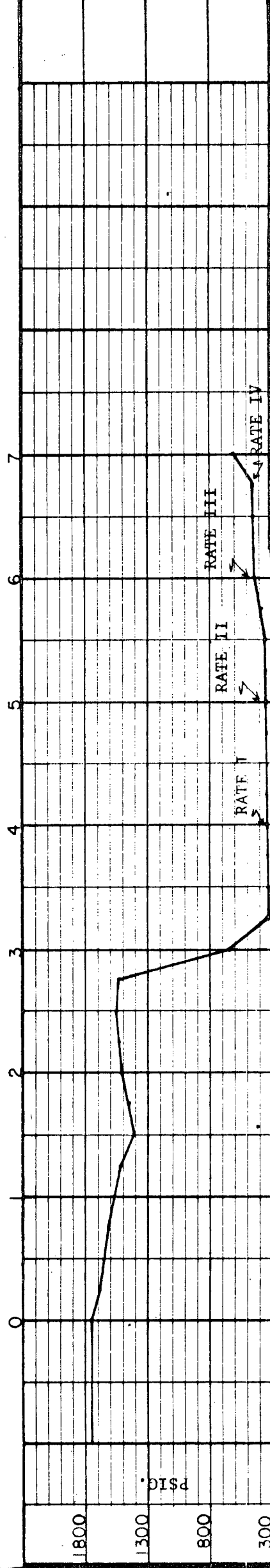
Shut in

LINE	1	2	3	4	5	6	7	8
1	T_w (W.H. °R)	534	534					
2	T_s (B.H. °R)	595	595					
3	$T = \frac{T_w + T_s}{2}$	564	564					
4	Z (Est.)	.835	.841					
5	TZ	471.4	474.7					
6	GH/TZ	7.76	7.71					
7	e^S (Table XIV)	1.34	1.34					
8	P_f or P_s	1753.2	1753.2					
9	P_f^2 or P_s^2	3073.7	3073.7					
10	$P_c^2 = P_f^2/e^S$ or $P_w^2 = P_s^2/e^S$	2297.2	2302.0					
11	P_c or P_w	1515.7	1517.2					
12	$P = \frac{P_w + P_s}{2}$ or $\frac{P_c + P_f}{2}$	1634.4	1635.2					
13	$P_r = (P/P_{CT})$	2.47	2.47					
14	$T_r = (T/T_{CT})$	1.62	1.62					
15	Z (Table XI)	.841	.841					

TEST DATE: JANUARY 11, 1985
TEST DEPTH: 6121 FEET
ELEMENT NO: 17773
RANGE: 0-3900 PSI
CLOCK NO: B-13032
RANGE: 0-12 Hours

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

TIME IN HOURS



HARPER OIL CO.

SOUTH DALLAS NO. 1

4-POINT BACK PRESSURE TEST.

JOHN W. WEST ENGINEERING CO. HOBBS, NEW MEXICO

Date: 1-15-85 Drawn by: bsm Scale: as shown

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

TEST CONDUCTED BY:
JOHN WEST ENGINEERING COMPANY

TEST DATE: JANUARY 11, 1985
TEST DEPTH: 6121 FEET
ELEMENT NO: 17773 (0-3900 PSI)
OPERATOR: W.S.

<u>DATE</u>	<u>TIME</u>	<u>CUM HRS./MIN.</u>	<u>PSIG @ 6121 FEET</u>
1-11-85	11:00 A.M.		1740 gauge reached 6121'
	12:00 Noon	00 Hrs. 00 Min.	1737 Open Well
	12:15 P.M.	00 15	1699
	12:30 P.M.	00 30	1673
	12:45 P.M.	00 45	1619
	1:00 P.M.	01 00	1594
	1:15 P.M.	01 15	1531
	1:30 P.M.	01 30	1430
	1:45 P.M.	01 45	1471
	2:00 P.M.	02 00	1516
	2:15 P.M.	02 15	1537
	2:30 P.M.	02 30	1562
	2:45 P.M.	02 45	1547
	3:00 P.M.	00 Hrs. 00 Min.	658 Begin 4-point Test.
	3:15 P.M.	00 15	324
	3:30 P.M.	00 30	329
	3:45 P.M.	00 45	339
	4:00 P.M.	01 00	345 End Rate I
	4:15 P.M.	01 15	345
	4:30 P.M.	01 30	345
	4:45 P.M.	01 45	345
	5:00 P.M.	02 00	355 End Rate II
	5:15 P.M.	02 15	374
	5:30 P.M.	02 30	386
	5:45 P.M.	02 45	396 End Rate III
	6:00 P.M.	03 00	448
	6:15 P.M.	03 15	460
	6:30 P.M.	03 30	472
	6:45 P.M.	03 45	478 End Rate IV
1-11-85	7:00 P.M.	04 00	606 Gauge out, end of test.

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: 5581
DATE OF RUN: 1 12 85
DATE SECURED: 1 11 85

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

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

	MOLE PERCENT	GAL/ MCF
NITROGEN	2.687	
CARBON DIOXIDE	0.101	
METHANE	92.804	
ETHANE	3.191	0.851
PROPANE	0.615	0.169
ISO-BUTANE	0.131	0.043
NORMAL BUTANE	0.192	0.060
ISO-PENTANE	0.130	0.048
NORMAL PENTANE	0.085	0.031
HEXANES	0.064	0.026
TOTAL	100.000	1.228

PROPANE GPM:	0.17	BUTANES GPM:	0.10
ETHANE GPM:	0.85	PENTANES PLUS GPM:	0.11

SPECIFIC GRAV (CALC): 0.5979
MOLE WEIGHT: 17.32

HHV-BTU/CU FT	PRESSURE (PSIA)	WET	DRY
14.696		1013	1032
14.650		1010	1028
14.730		1016	1034
14.735		1016	1034

DEANE SIMPSON





Harper Oil Company
Mid Continent Division

DATE: August 28, 1985

AFE NO: _____

AUTHORIZATION FOR EXPENDITURE

WELL NAME & NO: South Dallas # 1

PROSPECT/LEASE NO: South Dallas

LOCATION: 1980' FWL & 1980' FNL, Sec 2, T10S R26E FIELD: Wildcat

COUNTY: Chaves

STATE: New Mexico

PTD (Recompletion)

REQUESTED BY: Rick Ricketts

PREPARED BY: Ray Belden

OBJECTIVE:

171	172	Intangible Expenses	Dry Hole	Completion	Total
006		Damages, Right of Way, Permit			
011		Conductor Pipe Services			
005		Location, Road Work, & Clean Up			
002		Mobilization/Demobilization, etc.			
001		Drilling Rig - Daywork			
001		- Footage			
001		- Turnkey			
	101	Completion Rig	*****	8,000	8,000
003		Fuel		-	-
004		Water		2,000	2,000
007		Drilling Fluids			
009		Bits, Coreheads, Drlg. Tools			
010	103	Rentals		3,500	3,500
012	102	Cementing			
013	107	Contract Labor			
014	105	Logging& Perforating		1,100	1,100
015	110	Supervision & Overhead		1,500	1,500
024	114	Transportation			
026	104	Special Services(DST's, etc)			
016	111	Miscellaneous			
025		Plug & Abandonment			
	106	Stimulation	*****	30,000	30,000
	108	Non-Controlled Equipment	*****		
Total Intangible Expenses				46,100	46,100
Tangible Expenditures					
		Conductor Csg.		*****	
		Surface Csg.		*****	
		Intermediate Csg.		*****	
		Wellhead	*****		
		Production Csg.	*****		
		Liner	*****		
		Tubing	*****		
		Downhole Equipment	*****		
		Artificial Lift	*****		
		Production Facilities	*****		
		Miscellaneous			
Total Tangible Expenses				46,100	46,100
TOTAL WELL COST ESTIMATE					

COMPANY NAME	% W.I.	% COST	DRY HOLE COSTS	COMPLETION COSTS	TOTAL COSTS

APPROVAL:

HARPER OIL COMPANY

By: [Signature] Title

Date

YATES PETROLEUM CORPORATION - 12.5%

By: [Signature] Date 9-25-85

YATES DRILLING COMPANY - 12.5%

By: [Signature] Date 9-25-85

Date

MYCO INDUSTRIES, INC. - 12.5%

By: [Signature] Date 9-25-85

ABO PETROLEUM CORPORATION - 12.5%

By: [Signature] Date 9-25-85

HARPER OIL COMPANY

Well Completion Schematic

Well SOUTH DALLAS #1
Location SECTION 2-105-26E
County/State CHAVES CO., NEW MEXICO
Field WILDCAT

Date 11-19-85

- ☒ Original Completion
☒ Present Completion
☐ Suggested Completion

Permanent Well Bore Data

13 3/8" 68# K-55 Buttress Casing
Set @ 361' Cml'd w/ 776 SKS

8 5/8" 28# S-80 K-55 CS6 Set @ 1206'
Cml'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

5 1/2" 15.5# K-55 CS6 Set @ 6560'
Cml'd w/ 1250 SKS

Well Class GAS

Data On This Completion

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

PRODUCTION STRING:

TIH w/ 16 Jcs. 2 3/8" J-55
4.7# tbg. (521.40'); 1-Perf.
SUB (4.10'); SN (1.10'); 168 Jcs. 2 3/8" 4.7# J-55
tbg. (5504.05').
TOTAL - 6030.65'