

10215

MERIDIAN OIL

October 23, 1990

Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

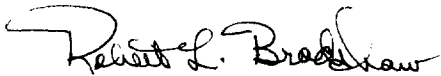
RE: APPLICATION FOR DISCOVERY ALLOWABLE AND CREATION OF A NEW POOL
PARKWAY "C" STATE COM NO. 1
EDDY COUNTY, NM

Gentlemen:

Enclosed is the Application for Discovery Allowable and Creation of a New Pool on the Parkway "C" State Com. No. 1.

If you have any questions, please contact me at (915) 686-5678 or Kevin Midkiff, Production Engineer, at (915) 686-5714.

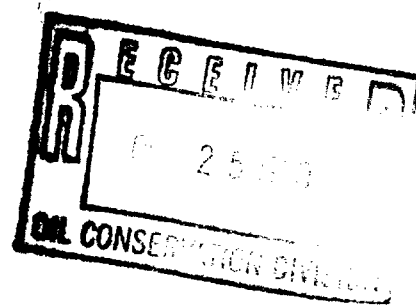
Sincerely,



Robert L. Bradshaw
Sr. Staff Env./Reg. Specialist

RLB/bn

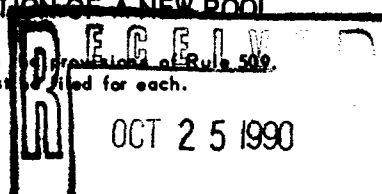
cc: Kevin Midkiff
Jerry Sparks
Don McBee
Res. Eng.
Pam Holleman
Land (2)
Jt. Int.
Prod. Svcs.
OCD - Artesia (2)



NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION FOR DISCOVERY ALLOWABLE AND CREATION OF A NEW POOL

Form C-109
 Adopted 9-1-66

NOTE: This form is to be filed and attachments made in accordance with the provisions of Rule 509.
 If discovery is claimed for more than one zone, separate forms must be filed for each.



Operator Southland Royalty Company		Address 21 Desta Drive	
Lease Name Parkway "C" State Com.		Well No. 1	County Eddy
Well Location Unit Letter F ; 1980 Feet from The north Line and 1980 Feet From the west Line of Section 15 , Township 19south , Range 29east , NMPM			
Suggested Pool Names (List in order of preference) 1. Parkway Upper Penn 2. Turkey Track Upper Penn 3. Parkway West Upper Penn			
Name of Producing Formation Cisco/Canyon (Upper Penn)		Perforations 9807-9812, 9815-9852, 9994-9999 10012-10033, 10035-10055, 10064-10092	Date of Filing Form C-104 10/19/90
Was "Affidavit of Discovery" Previously Filed For This Well in this Pool? NO		If Yes, Give Date of Filing	Date Well was Spudded 10/02/90
Total Depth 10850'		Plugged Back Depth 10250'	Depth Casing Shoe 10848'
Tubing Depth 9700'		Elevation (Gr., DF, RKB, RT, etc.) RKB = 3351'	
Oil Well Potential (Test to be taken only after all load oil has been recovered) 251 Bbls, Oil Per Day Based On 251 Bbls In 24 Hours; 1 Bbls Water Per Day Based On 1 Bbls In 24 Hours; Gas Production During Test: 969 MCF; Gas-Oil Ratio: 3860 Method Of Flowing Chk. Size 28/64			

NEAREST PRODUCTION TO THIS DISCOVERY (Includes past and present oil or gas producing areas and zones whether this discovery is based on horizontal or vertical separation):

Pool Name Turkey Tank Morrow	Name of Producing Formation Morrow	Top of Pay 11201	Bottom of Pay 11280	Currently Producing? Yes
Horizontal Distance and Direction from Subject Discovery Well to the Nearest Well in this Pool 1320' south		Vertical Distance from Subject Discovery Zone to Producing Interval this Pool 1188'		

NEAREST COMPARABLE PRODUCTION (Includes past and present oil or gas production, from this pay or formation only):

Pool Name Palrillo Upper Penn	Top of Pay 9557	Bottom of Pay 9982	Currently Producing? Yes
Horizontal Distance and Direction from Subject Discovery Well to the Nearest Well in this Comparable Pool 13,200'			

Is "County Deep" Discovery Allowable Requested for Subject Discovery Well? NO	If Yes, Give Name, Location, and Depth of Next Deepest Oil Production in this County
---	--

Is the Subject Well Multiple Completion? No	Is Discovery Allowable Requested for other Zone(s)? No	If Yes, Name all Such Formations
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LIST ALL OPERATORS OWNING LEASES WITHIN ONE MILE OF THIS WELL (Attach additional sheet if necessary)

NAME	ADDRESS
General Energy	P.O. Box 100818, Houston, Tx 77212
Hondc Oil & Gas Company	Box 2208, Roswell, NM 88202-2208
Petroleum Corp. of Delaware	Dallas, Tx Turtle Creek Centre, 3811 Turtle Creek Blvd.
Maralo, Inc.	Box 832, Midland, Tx 79702
Mitchell Energy	400 W. Illinois, Suite 1000, Midland, Tx 79701
Anadarko Petroleum Corp.	Box 2497, Midland, Tx 79702
Read & Stevens	Box 1518, Roswell, NM 88201

Attach evidence that all of the above operators have been furnished a copy of this application. Any of said operators who intends to object to the designation of the subject well as a discovery well, eligible to receive a discovery allowable, must notify the appropriate District Office and the Santa Fe Office of the Commission of such intent in writing within ten days after receiving a copy of this application.

Remarks: Rw = 0.08 ohm-meters @ 70° F

CERTIFICATION

I hereby certify that all rules and regulations of the New Mexico Oil Conservation Commission have been complied with, with respect to the subject well, and that it is my opinion that a bona fide discovery of a hitherto unknown common source of oil supply has been made in said well. I further certify that the discovery allowable for the subject well, if authorized, will be produced from the subject zone in this well only. Further, that the information given herein and attached hereto is true and complete to the best of my knowledge and belief.

Robert L. Bradshaw

Sr. Staff Env/Reg Spec.

10-23-90

Position

Date

Fina Oil & Chemical
Box 2990
Midland, Tx 79705

Tenneco Oil
Southwestern Division
P.O. Box 651080
Dallas, Tx 75265

Parkway "C" State Com. No. 1
Eddy County, NM

This is to certify that a copy of Form C-109 "Application for Discovery Allowable and Creation of a New Pool" was sent to all operators owning leases within one mile of the well. Notice was sent on October 23, 1990 to those listed on Form C-109 by Certified-Return Receipt Requested mail.

Signed 
R.L. Bradshaw
Sr. Staff Env/Reg Spec.

Date 23 October 1990

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-116
Revised 1/1/89

OIL CONSERVATION DIVISION

P.O. Box 2088

DISTRICT III

Santa Fe, New Mexico 87504-2088

1000 Rio Brazos Rd., Aztec, NM 87410

GAS - OIL RATIO TEST

Operator		Pool		County										
Meridian Oil Company		Undesignated												
Address														
21 Desta Drive, Midland, Texas 79705														
LEASE NAME		WELL NO.	LOCATION	DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST	GAS - OIL RATIO				
			U S T R											
Parlway "C" State		1	F 1980 from N. 1980 from S.	15 19S 29E	10-13-90 F	28/64	185	252	24	1	44.3	251	969	3860CF-1

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

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing

(See Rule 301, Rule 1116 & appropriate pool rules.)

Keith Norvell, Testing Manager	
Printed name and title	
October 15, 1990	(505) 397-3590
Date	Telephone No.
Pro Well Testing & Wireline, Inc.	

PRO WELL TESTING
GOR TEST

COMPANY Meridian Oil CONTACT Kevin Midkiff

LEASE Parkway "C" State WELL NO. 1

START TEST @ 8:03 A.M. ☒ P.M. ☐ DATE 10-13-90

FINISH TEST @ 8:03 A.M. ☒ P.M. ☐ DATE 10-14-90

LENGTH OF TEST 24 HOURS

METER READING @ END OF TEST 8314 BARRELS

METER READING @ START OF TEST 8062 BARRELS

TOTAL PRODUCTION DURING TEST 252 BARRELS

TANK GAUGE @ END OF TEST 5'9 1/4" (TOP) 0'3" (CUT)

282 BBLS 3 BBLS

TANK GAUGE @ START OF TEST 1'2" (TOP) 0'2" (CUT)

30 BBLS 2 BBLS

SAMPLE JAR TOP OF OIL READING _____

SAMPLE MARKS OF OIL _____

PERCENT OF OIL DURING TEST _____ %

24 HOURS TOTAL PRODUCTION 252 BBLS/DAY API GRAVITY 44.3 @ 60°F

WATER PRODUCTION 1 BBLS/DAY METER PRESS 59 PSIG

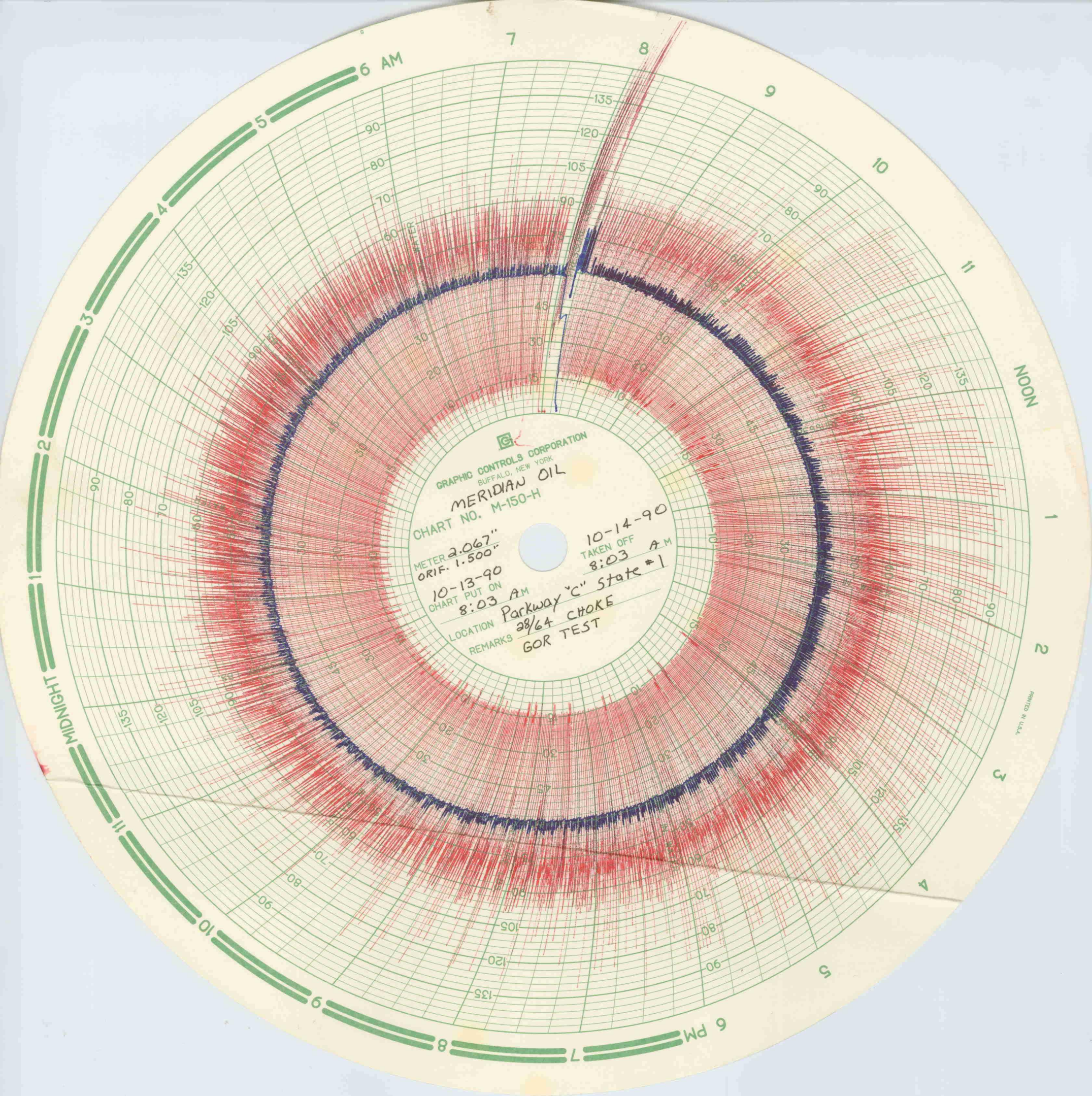
OIL PRODUCTION 251 BBLS/DAY DIFF. 52 INCHES

MCF/D 969

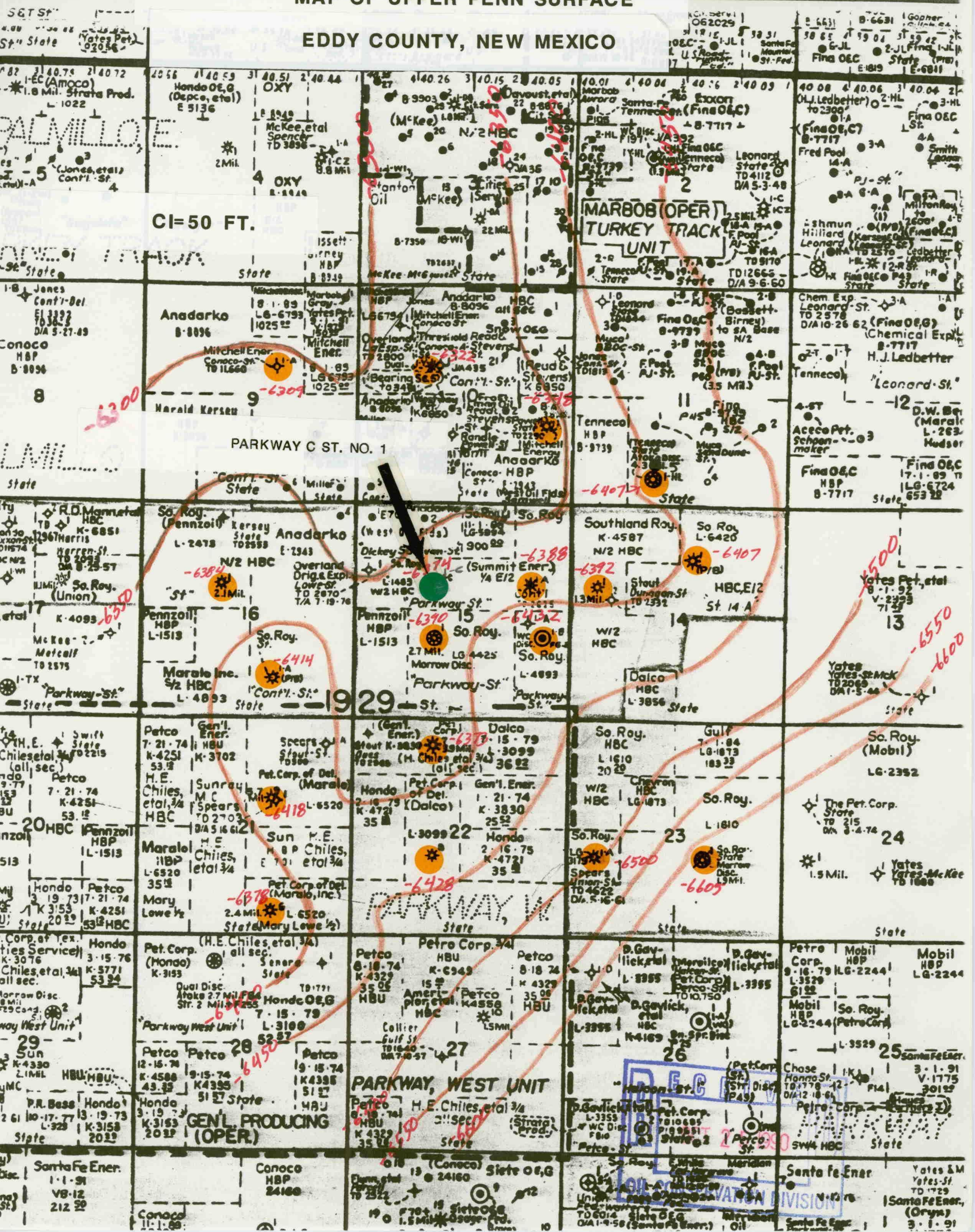
TUBING PRESSURE 185 PSIG GOR 3860 CF-1

LINE SIZE 2.067" RECORDER SIZE 150 #SPRING

PLATE SIZE 1.500" 100 # CHAMBER

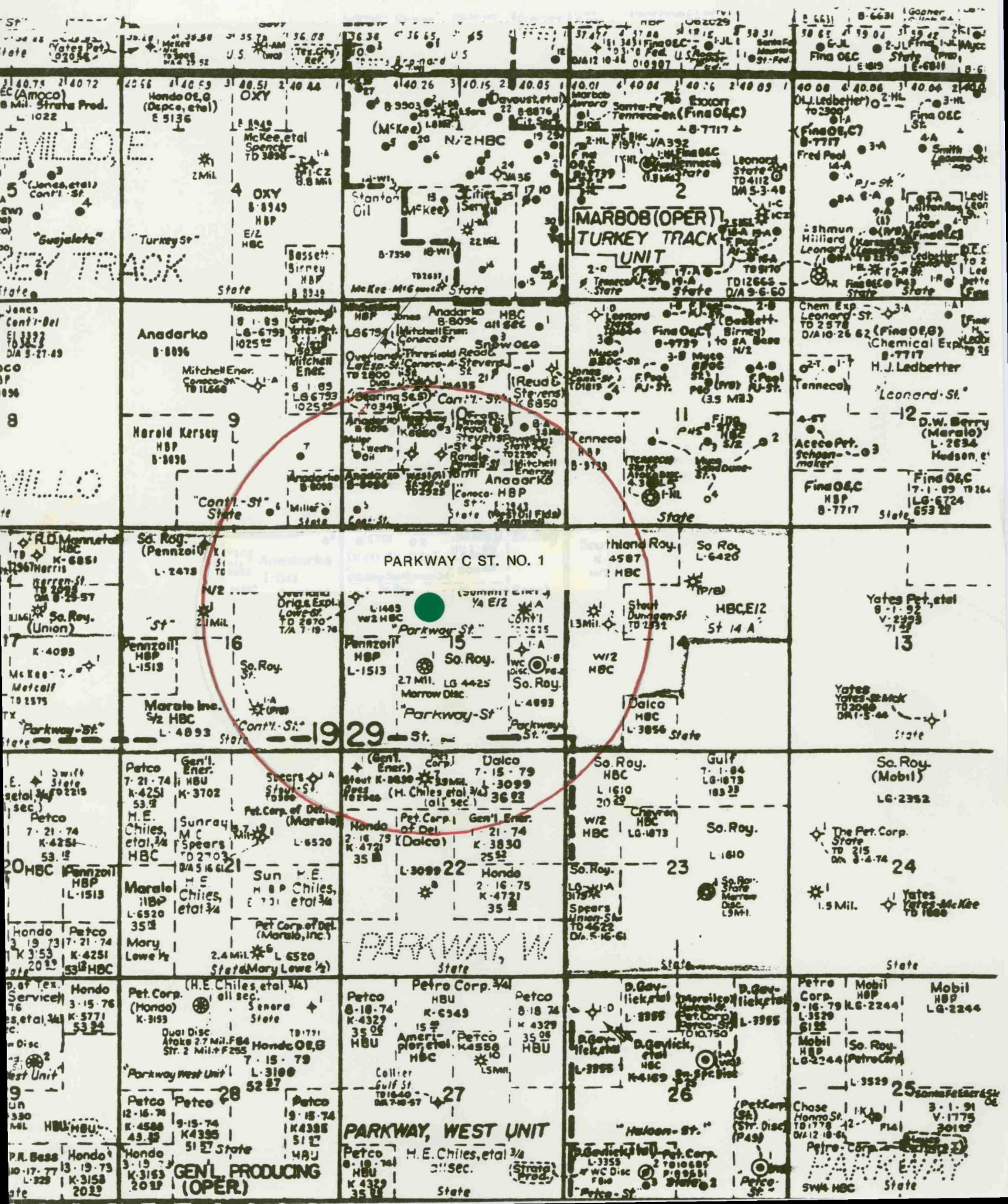


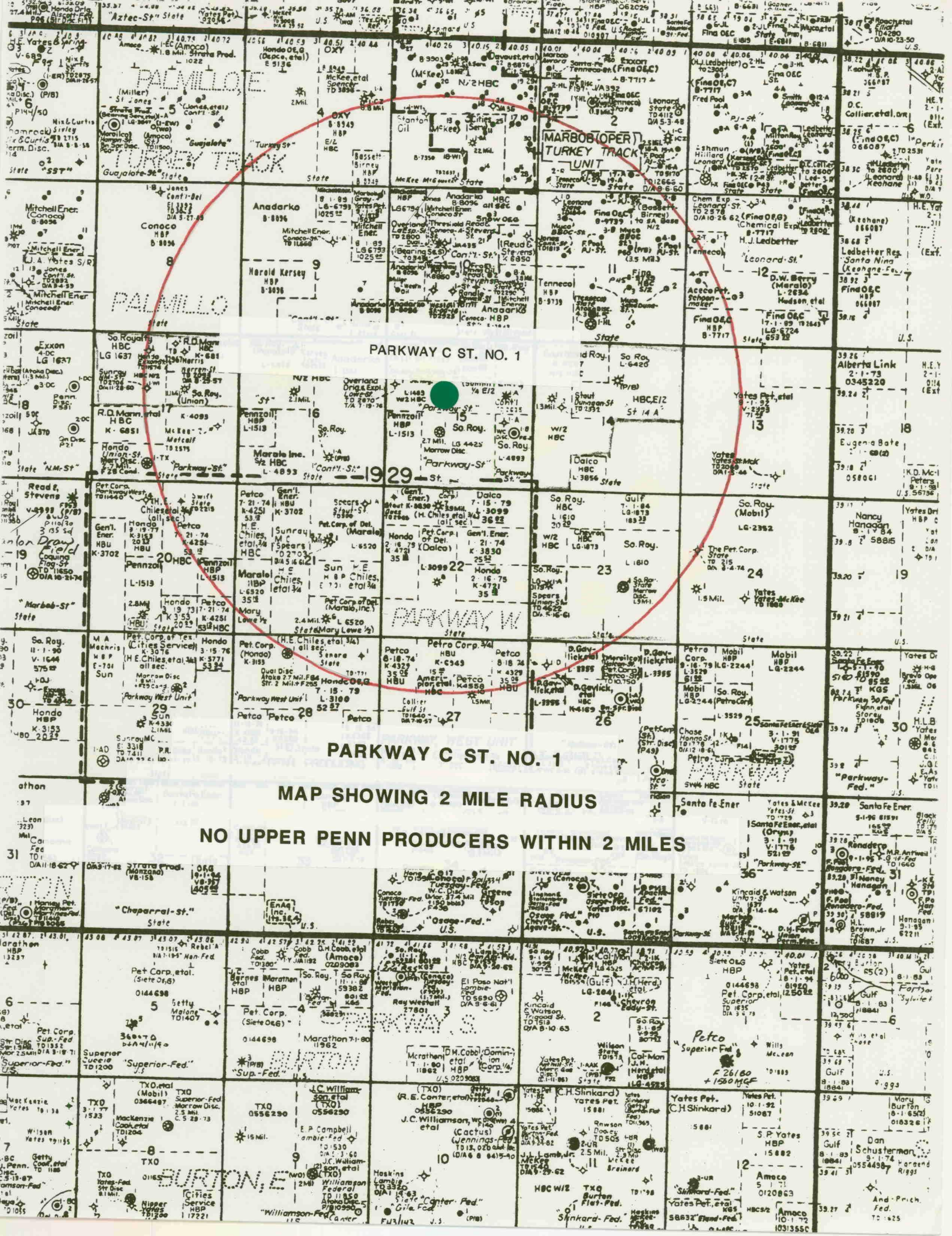
EDDY COUNTY, NEW MEXICO



PARKWAY C ST. NO. 1

MAP SHOWING ONE MILE RADIUS





COMPANY Southland Royalty
Company

WELL

Parkway "C" State #1 TEST NO.

2

COUNTY

Eddy

STATE

New Mexico

JOHNSTON-MACCO

Schlumberger

technical report

Field Report No. 38252E

 * TEST TICKET DATA PRINTOUT *

WELL IDENTIFICATION

1. WELL	:	PARKWAY "C" STATE #1
2. COMPANY	:	SOUTHLAND ROYALTY COMPANY
3.	:	1100 WALL TOWERS WEST
4.	:	MIDLAND, TEXAS 79701
5. CUSTOMER	:	
6.	:	
7.	:	
8. FIELD	:	WILDCAT
9. COUNTY	:	EDDY
10. STATE/PROV.	:	NEW MEXICO
11. LOCATION	:	S/E N/W SEC 15 T 19S R29E
12. TECHNICIAN	:	TENBRINK (HOBBS)
13. TEST APPROVED BY	:	MR. JOHNNY ELLIS
14. TEST DATE	:	8-21-81
15. DEPTH REFERENCE	:	KELLY BUSHING
16. DEPTH REFERENCE ELEVATION	:	S.L. FT

HOLE INFORMATION

1. THE HOLE IS STRAIGHT.	
2. TOTAL DEPTH	: 9855. FT
3. OPEN HOLE DIAMETER	: 7.88 IN

MUD INFORMATION

1. MUD TYPE	:	B/GEL/L000/DRISPA
2. MUD WEIGHT	:	9.8 LB/GAL
3. MUD VISCOSITY	:	36. MARSH FUNNEL SEC
4. CORRECTED WATER LOSS	:	11.0 CC/30 MIN
5. MUD RESISTIVITY	:	0.02 OHM-M
6. MUD RES. MEAS. TEMP.	:	68.0 DEG F
7. MUD FILTRATE RESISTIVITY	:	0.02 OHM-M
8. MUD FILT. RES. MEAS. TEMP.	:	62.0 DEG F
9. MUD CHLORIDES CONTENT	:	118000.0 PPM BY WEIGHT

 * TEST TICKET DATA PRINTOUT *

TEST INFORMATION

1. FIELD REPORT NUMBER : 38252E
 2. TEST TYPE : M.F.E. OPEN HOLE
 3. TEST NUMBER : 2
 4. TELEFLOW IN USE ? : NO
 5. SSDR OR J-300 IN USE ? : NO
 6. SPRD IN USE ? : NO
 7. PTSDL IN USE ? : NO

TEST STRING INFORMATION

#	COMPONENT NAME	EFFECTIVE		FLOW PATH	J/M CODE
		I.D. (IN)	O.D. (IN)	LENGTH (FT)	
1	DRILL PIPE	3.80	4.50	9258.	
2	DRILL COLLARS	2.24	6.25	510.	
3	TOOL STRING	0.94	5.00	87.	

TEST STRING PLACEMENT

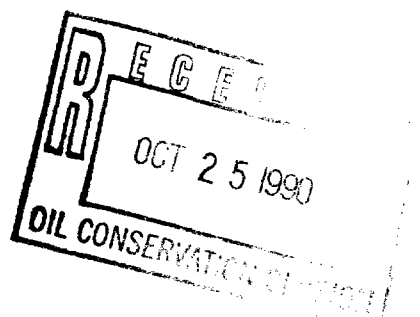
1. TEST TYPE CODE 1 - DN BOTTOM
 2. PACKER DEPTHS : 9792. FT & 9802. FT

TEST ZONE DESCRIPTION

	FORMATION NAME	PRODUCTION ZONE			POROSITY (%)
		TOP (FT)	BOTTOM (FT)	THICKNESS (FT)	
1				53.	10.

TEST CONDITIONS

1. BOTTOMHOLE CHOKE(S) EFF. INTERNAL DIA. : 0.94 IN



 * TEST TICKET DATA PRINTOUT *

TEST TOOL SAMPLE CHAMBER RECOVERY DATA

SAMPLE PRESSURE : 540. PSIG
 OIL GRAVITY : 47.0 DEG. API @ 62.0 DEG F
 GAS/OIL RATIO : 1166. FT3/BBL
 GAS/LIQUID RATIO : 1166. FT3/BBL

SAMPLE CHAMBER CONTENTS

FLUID	VOLUME	RESISTIVITY		CHLORIDES
GAS	4.40 FT3			
OIL	600.0 CC			
WATER	CC	OHM-M @	DEG F	PPM
MUD	CC	OHM-M @	DEG F	
TOTAL LIQUID	600.0 CC			

RECOVERY INFORMATION

DESCRIPTION	FEET	% OIL		% H2O	% OTH	API		RESISTIVITY		CHL PPM
		DEG.	DEG.F			OHM-M	DEG.F			
1 OIL	1000	100				47	64			
2 DRILLING FLUID	100				100			0.02	68	128000.

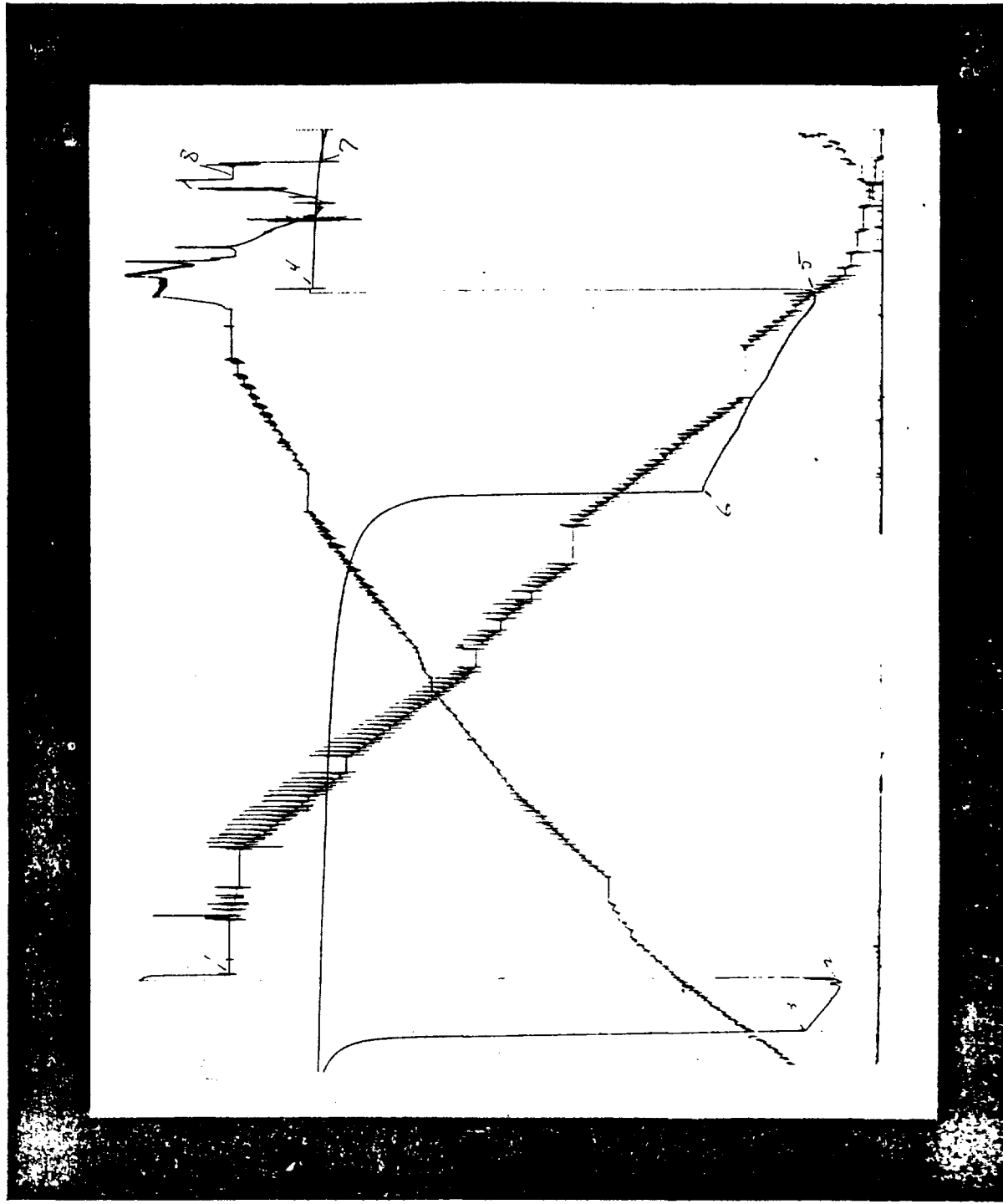
SURFACE INFORMATION

DESCRIPTION	TIME	PRESSURE	CHOKESIZE
1 SET PACKER (8-21-81)	0232	-	1/4
2 OPENED TOOL	0234	30H	"
3	0240	115"	"
4 VERY, VERY STRONG BLOW, GAS TO SURFACE	0247	190H	"
5 CLOSED FOR INITIAL SHUT-IN	0250	-	-
6 FINISHED SHUT-IN	0350	-	-
7 RE-OPENED TOOL	0352	-	-
8	0358	80H	1/4"
9	0401	100H	1/2"
10	0405	110H	"
11	0417	90H	"
12 VERY, VERY STRONG BLOW, OIL TO SURFACE	0418	"	"
13	0423	105H	"
14	0427	120H	"
15	0436	140H	"

* TEST TICKET DATA PRINTOUT *

	DESCRIPTION	TIME	PRESSURE	CHOKE SIZE
16		0437	160#	"
17		0443	210#	"
18	OIL, GAS CUT FLUID FLOW	0444	240#	"
19		0447	280#	"
20		0451	305#	"
21	CLOSED FOR FINAL SHUT-IN	0452	-	-
22	FINISHED SHUT-IN	0752	-	-
23	PULLED PACKER LOOSE	0755	-	-
24	STARTED REVERSING	0801	200#	-
25	FINISHED REVERSING	0836	-	-

FIELD REPORT NO.: 38252E CAPACITY: 6400#
INSTRUMENT NO.: J-389 NUMBER OF REPORTS: 5



BOTTOMHOLE PRESSURE LOG

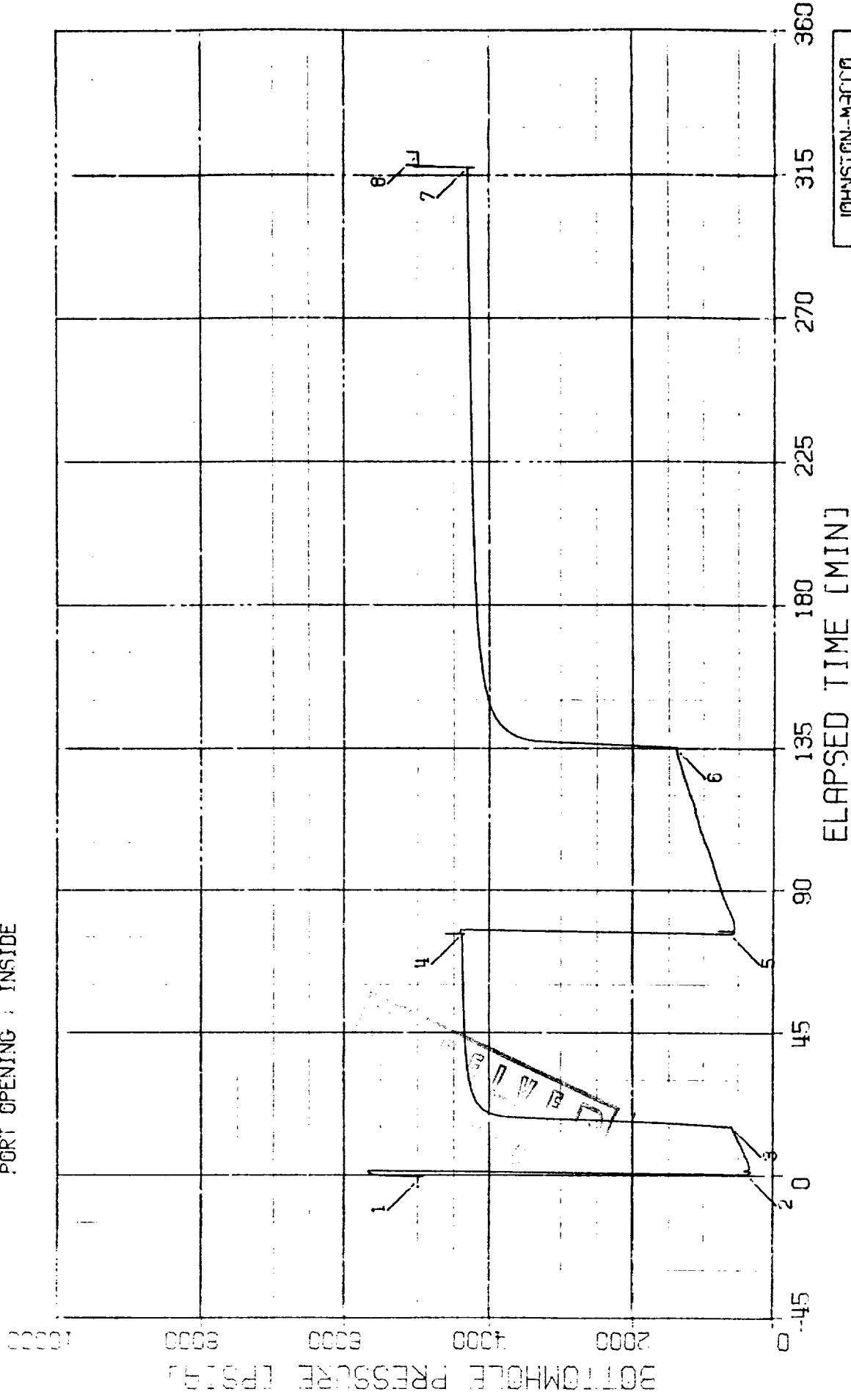
FIELD REPORT NO. 38252E COMPANY : SOUTHLAND ROYALTY COMPANY

INSTRUMENT NO. J-398 WELL : PARKWAY "C" STATE #1

DEPTH : 9843 FT

CAPACITY : 6400 PSI

PORT OPENING : INSIDE



JOHNSTON-MACCO
SCHLUMBERGER

 * WELL TEST DATA PRINTOUT *

FIELD REPORT # : 38252E

COMPANY : SOUTHLAND ROYALTY COMPANY
 WELL : PARKWAY "C" STATE #1

INSTRUMENT # : J-398
 CAPACITY (PSID) : 6400.
 DEPTH (FT) : 9843.0
 PORT OPENING : INSIDE
 TEMPERATURE (DEG F) : 152.0

LABEL POINT INFORMATION

#	TIME OF DAY HH:MM:SS	DATE DD-MM	EXPLANATION	ELAPSED TIME, MIN	BOT HOLE PRESSURE PSIA
1	2:32: 8	21-AU	HYDROSTATIC MUD	-1.86	4986
2	2:34: 0	21-AU	START FLOW	0.00	367
3	2:49:11	21-AU	END FLOW & START SHUT-IN	15.18	583
4	3:49:42	21-AU	END SHUT-IN	75.70	4382
5	3:49:53	21-AU	START FLOW	75.89	607
6	4:48:36	21-AU	END FLOW & START SHUT-IN	134.60	1389
7	7:51: 0	21-AU	END SHUT-IN	317.00	4311
8	7:55:25	21-AU	HYDROSTATIC MUD	321.42	4987

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
1	0.00	15.18	15.18	367	583
2	75.89	134.60	58.71	607	1389

SUMMARY OF SHUTIN PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	15.18	75.70	60.52	583	4382	583	15.18
2	134.60	317.00	182.40	1389	4311	1389	73.89

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM			
*****	*****	*****	*****	*****
2:34:00	21-AU	0.00	0.00	367
2:39:00	21-AU	5.00	5.00	371
2:44:00	21-AU	10.00	10.00	474
2:49:00	21-AU	15.00	15.00	579
2:49:11	21-AU	15.18	15.18	583

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 583

PRODUCING TIME [MIN] = 15.18

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM					
*****	*****	*****	*****	*****	*****	*****
2:49:11	21-AU	15.18	0.00	583	0	
2:50:11	21-AU	16.18	1.00	1400	817	1.209
2:51:11	21-AU	17.18	2.00	2416	1832	0.934
2:52:11	21-AU	18.18	3.00	3627	3044	0.782
2:53:11	21-AU	19.18	4.00	3964	3381	0.681
2:54:11	21-AU	20.18	5.00	4052	3469	0.606
2:55:11	21-AU	21.18	6.00	4108	3525	0.548
2:56:11	21-AU	22.18	7.00	4150	3566	0.501
2:57:11	21-AU	23.18	8.00	4180	3597	0.462
2:58:11	21-AU	24.18	9.00	4205	3621	0.429
2:59:11	21-AU	25.18	10.00	4224	3640	0.401
3: 1:11	21-AU	27.18	12.00	4253	3670	0.355
3: 3:11	21-AU	29.18	14.00	4275	3692	0.319
3: 5:11	21-AU	31.18	16.00	4292	3708	0.290
3: 7:11	21-AU	33.18	18.00	4305	3722	0.266
3: 9:11	21-AU	35.18	20.00	4315	3731	0.245
3:11:11	21-AU	37.18	22.00	4323	3740	0.228
3:13:11	21-AU	39.18	24.00	4330	3747	0.213
3:15:11	21-AU	41.18	26.00	4336	3752	0.200
3:17:11	21-AU	43.18	28.00	4342	3758	0.188
3:19:11	21-AU	45.18	30.00	4346	3763	0.178
3:24:11	21-AU	50.18	35.00	4356	3772	0.156
3:29:11	21-AU	55.18	40.00	4363	3780	0.140
3:34:11	21-AU	60.18	45.00	4368	3785	0.126
3:39:11	21-AU	65.18	50.00	4373	3790	0.115
3:44:11	21-AU	70.18	55.00	4376	3794	0.106
3:49:11	21-AU	75.18	60.00	4381	3798	0.098
3:49:42	21-AU	75.70	60.52	4382	3798	0.097

TEST PHASE : FLOW PERIOD # 2

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
*****	*****	*****	*****	*****
3:49:53	21-AU	75.89	0.00	607
3:54:53	21-AU	80.89	5.00	577
3:59:53	21-AU	85.89	10.00	681
4: 4:53	21-AU	90.89	15.00	763
4: 9:53	21-AU	95.89	20.00	836
4:14:53	21-AU	100.89	25.00	902
4:19:53	21-AU	105.89	30.00	990
4:24:53	21-AU	110.89	35.00	1063
4:29:53	21-AU	115.89	40.00	1121
4:34:53	21-AU	120.89	45.00	1203
4:39:53	21-AU	125.89	50.00	1281
4:44:53	21-AU	130.89	55.00	1351
4:48:36	21-AU	134.60	58.71	1389

ILLEGIBLE

TEST PHASE : SHUTIN PERIOD # 2

FINAL FLOW PRESSURE [PSIA] = 1389

PRODUCING TIME [MIN] = 73.89

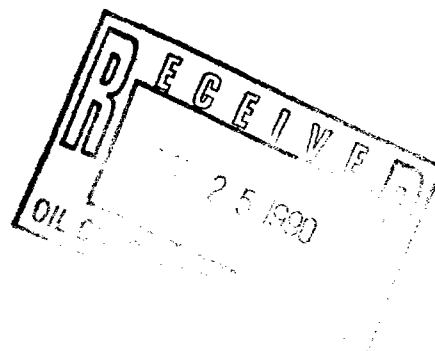
TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HÖRNER TIME
*****	*****	*****	*****	*****	*****	*****
4:48:36	21-AU	134.60	0.00	1389	0	
4:49:36	21-AU	135.60	1.00	1923	535	1.874
4:50:36	21-AU	136.60	2.00	2866	1477	1.579
4:51:36	21-AU	137.60	3.00	3460	2071	1.409
4:52:36	21-AU	138.60	4.00	3612	2224	1.289
4:53:36	21-AU	139.60	5.00	3697	2308	1.198
4:54:36	21-AU	140.60	6.00	3763	2374	1.124
4:55:36	21-AU	141.60	7.00	3817	2428	1.063
4:56:36	21-AU	142.60	8.00	3860	2472	1.010
4:57:36	21-AU	143.60	9.00	3896	2507	0.964
4:58:36	21-AU	144.60	10.00	3923	2535	0.924
5: 0:36	21-AU	146.60	12.00	3967	2578	0.855
5: 2:36	21-AU	148.60	14.00	4001	2612	0.798
5: 4:36	21-AU	150.60	16.00	4027	2638	0.750
5: 6:36	21-AU	152.60	18.00	4046	2660	0.708
5: 8:36	21-AU	154.60	20.00	4067	2679	0.672
5:10:36	21-AU	156.60	22.00	4083	2695	0.639
5:12:36	21-AU	158.60	24.00	4096	2709	0.611
5:14:36	21-AU	160.60	26.00	4111	2725	0.585
5:16:36	21-AU	162.60	28.00	4126	2740	0.561
5:18:36	21-AU	164.60	30.00	4134	2748	0.539
5:23:36	21-AU	169.60	35.00	4157	2781	0.493
5:28:36	21-AU	174.60	40.00	4174	2808	0.457
5:33:36	21-AU	179.60	45.00	4187	2821	0.432
5:38:36	21-AU	184.60	50.00	4201	2835	0.407

TEST PHASE : SHUTIN PERIOD # 2

FINAL FLOW PRESSURE LPD1AD 1389

PRODUCING TIME (MIN) = 75.29

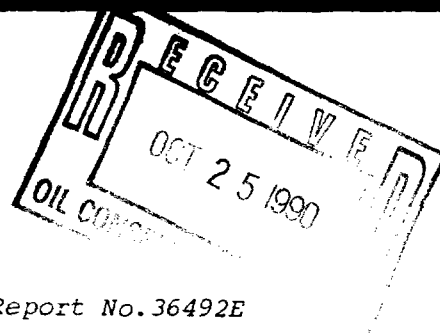
TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
*****	*****	*****	*****	*****	*****	*****
5:45:36	21-AU	189.60	55.00	4217	2823	0.370
5:48:36	21-AU	194.60	60.00	4220	2831	0.349
5:53:36	21-AU	199.60	65.00	4228	2839	0.330
5:58:36	21-AU	204.60	70.00	4234	2846	0.313
6: 3:36	21-AU	209.60	75.00	4241	2852	0.298
6: 8:36	21-AU	214.60	80.00	4247	2858	0.284
6:13:36	21-AU	219.60	85.00	4251	2863	0.272
6:18:36	21-AU	224.60	90.00	4256	2867	0.260
6:23:36	21-AU	229.60	95.00	4260	2871	0.250
6:28:36	21-AU	234.60	100.00	4265	2876	0.240
6:33:36	21-AU	239.60	105.00	4269	2880	0.231
6:38:36	21-AU	244.60	110.00	4273	2884	0.223
6:43:36	21-AU	249.60	115.00	4277	2888	0.216
6:48:36	21-AU	254.60	120.00	4281	2892	0.208
6:53:36	21-AU	259.60	125.00	4284	2896	0.202
6:58:36	21-AU	264.60	130.00	4287	2898	0.195
7: 3:36	21-AU	269.60	135.00	4290	2901	0.190
7: 8:36	21-AU	274.60	140.00	4292	2904	0.184
7:13:36	21-AU	279.60	145.00	4295	2906	0.179
7:18:36	21-AU	284.60	150.00	4298	2909	0.174
7:23:36	21-AU	289.60	155.00	4300	2912	0.169
7:28:36	21-AU	294.60	160.00	4303	2914	0.165
7:33:36	21-AU	299.60	165.00	4306	2917	0.161
7:38:36	21-AU	304.60	170.00	4307	2919	0.157
7:43:36	21-AU	309.60	175.00	4309	2920	0.153
7:48:36	21-AU	314.60	180.00	4310	2922	0.149
7:51: 0	21-AU	317.00	182.40	4311	2922	0.148



JOHNSTON

Schlumberger

**computerized
data
analysis**



Field Report No. 36492E

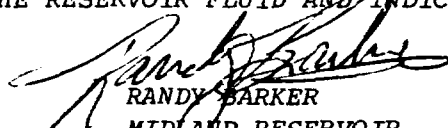
COMPUTERIZED DATA ANALYSIS

September 3, 1981

GENTLEMEN:

THE ENCLOSED TEST APPEARS TO BE A GOOD MECHANICAL DRILL STEM TEST DURING WHICH THE TOOLS DID FUNCTION PROPERLY. THE FORMATION DID PRODUCE ENOUGH RESERVOIR FLUID FOR PROPER IDENTIFICATION. RESERVOIR PRESSURE DRAWDOWN WAS SUFFICIENT AND ADEQUATE SHUT-IN BUILD-UPS DID OCCUR FOR RELIABLE QUANTITATIVE ANALYSIS. RESERVOIR PARAMETERS WERE CALCULATED BY THE MCKINLEY METHOD.

1. FLOW RATE: A FLOW RATE OF 224 BBL/DAY OF OIL WAS NOTED DURING THIS TEST.
2. RESERVOIR PRESSURE: EXTRAPOLATION OF THE INITIAL SHUT-IN PRESSURE BUILD-UP INDICATES A MAXIMUM RESERVOIR PRESSURE OF 4173 P.S.I.A. AT RECORDER DEPTH.
3. PERMEABILITY: THE CALCULATED TRANSMISSIBILITY FACTOR OF 16.35 MD.-FT./CP INDICATES AN AVERAGE EFFECTIVE PERMEABILITY TO OIL OF .1033 MD. FOR THE REPORTED 53 FOOT NET INTERVAL. THE CALCULATIONS WERE BASED ON A MCKINLEY SLOPE OF 3342 P.S.I./LOG CYCLE OBTAINED FROM THE FINAL SHUT-IN BUILD-UP PLOT. IT WAS ASSUMED FOR THESE CALCULATIONS: (A) THE 46.2°API AT 60°F. OIL CONTAINED 922 CU.FT./BBL. OF ORIGINAL DISSOLVED GAS, (B) VISCOSITY .3351 CP., (C) FORMATION VOLUME FACTOR 1.5 BBL/BBL. THESE FIGURES WERE OBTAINED FROM THE AVAILABLE TECHNICAL LITERATURE.
4. WELLBORE DAMAGE: THE CALCULATED DAMAGE RATIO OF .3489 INDICATES THAT A STIMULATED WELLBORE WAS PRESENT AT THE TIME AND CONDITIONS OF THIS TEST. THIS VALUE INFERS THAT THE RATE OF PRODUCTION OBSERVED AT THE FORMATION FACE DURING THIS TEST SHOULD DECREASE.
5. RADIUS OF INVESTIGATION: THE CALCULATED RADIUS OF INVESTIGATION OF THIS TEST IS 16.52 FEET BASED ON AN ASSUMED POROSITY OF 10%, COMPRESSIBILITY OF 9.513×10^{-6} , AND OTHER ASSUMPTIONS MADE IN NUMBER 3 ABOVE.
6. GENERAL COMMENTS: THE FORMATION EXHIBITS THE CHARACTERISTICS OF RELATIVELY LOW PERMEABILITY EFFECTIVE TO THE RESERVOIR FLUID AND INDICATES THE PRESENCE OF A STIMULATED WELLBORE.


RANDY BARKER
MIDLAND RESERVOIR
EVALUATION DEPARTMENT

SOUTHLAND ROYALTY COMPANY
PARKWAY "C" STATE #1; EDDY COUNTY, NEW MEXICO
TEST #3; 10036' TO 10108'
LOCATION: SE NW SEC. 15, T-17-S. R-29-E

In making any interpretation, our employees will give Customer the benefit of their best judgment as to the correct interpretation. Nevertheless, since all interpretations are opinions based on inferences from electrical, mechanical, or other measurements, we cannot, and do not guarantee the accuracy or correctness of any interpretation. Schlumberger will not be liable or responsible, except in the case of gross or willful negligence or due to the negligence, acts, damages or expenses incurred or sustained by Schlumberger.

Reservoir Engineering Data



Recorder No. J-398

Field Report No. 36492E

Damage Ratio	DR	.3489	Effective Transmissibility Wellbore (oil)	$\frac{Kh}{\mu}$	30.24	$\frac{Md-ft.}{Cp.}$
Maximum Reservoir Pressure Initial Shut-in	P_o	4173 P.S.I.A.	Effective Transmissibility Formation (oil)	$\frac{Kh}{\mu}$	16.35	$\frac{Md-ft.}{Cp.}$
Slope of Shut-in Curve McKinley	M	3342 PSI/log cycle	Flow Rate Oil	Q	224	Bbl./day
Potentiometric Surface (Datum Plane, Sea Level)	PS	---- ft.	Pressure Gradient		.4133	PSI. ft.
Productivity Index	PI	--- Bbl./day/PSI	Gas Oil Ratio	GOR	922	CF/Bbl.
Radius of Investigation		16.52 ft.	K (Effective to Oil)		.1033	Md.

Assumptions made for Calculations for Liquid Recoveries

- Q is averaged at a constant rate.
- P_i is formation flowing pressure at a constant rate.
- Formation flow is taken as single phase flow.
If gas is produced at surface, phase separation is assumed to have occurred in drill pipe.
- Radial flow is assumed.
- For the purpose of calculating EDR where specific reservoir parameters are not available it is assumed that:

Effective permeability, K, will fall between 1 to 200 md
 Formation porosity, ϕ , will fall between 0.1 to 0.3
 Fluid compressibility, c, will fall between 10^{-4} to 10^{-6}
 Fluid viscosity, μ , will fall between 0.05 to 50 cp.
 Well bore radius, r_w , will fall between 3' to 4'.

Which gives an average value for the function $\log \frac{K}{\phi \mu c r_w^2}$ of 5.5

- Other standard radial flow, equilibrium assumptions.

Empirical Equations:

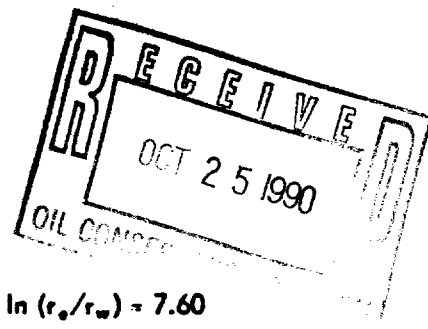
1. $EDR = \frac{P_o - P_i}{M(\log T + 2.65)}$ where $M = \frac{P_i - P_{10}}{\log Cycle}$

2. Transmissibility $\frac{Kh}{\mu\beta} = \frac{162.6 Q}{M}$

3. DST J = $\frac{Q}{P_o - P_i}$ Theoretical J = $\frac{7.08 \times 10^{-4} Kh}{\mu\beta \ln(r_o/r_w)}$ Assumed $\ln(r_o/r_w) = 7.60$

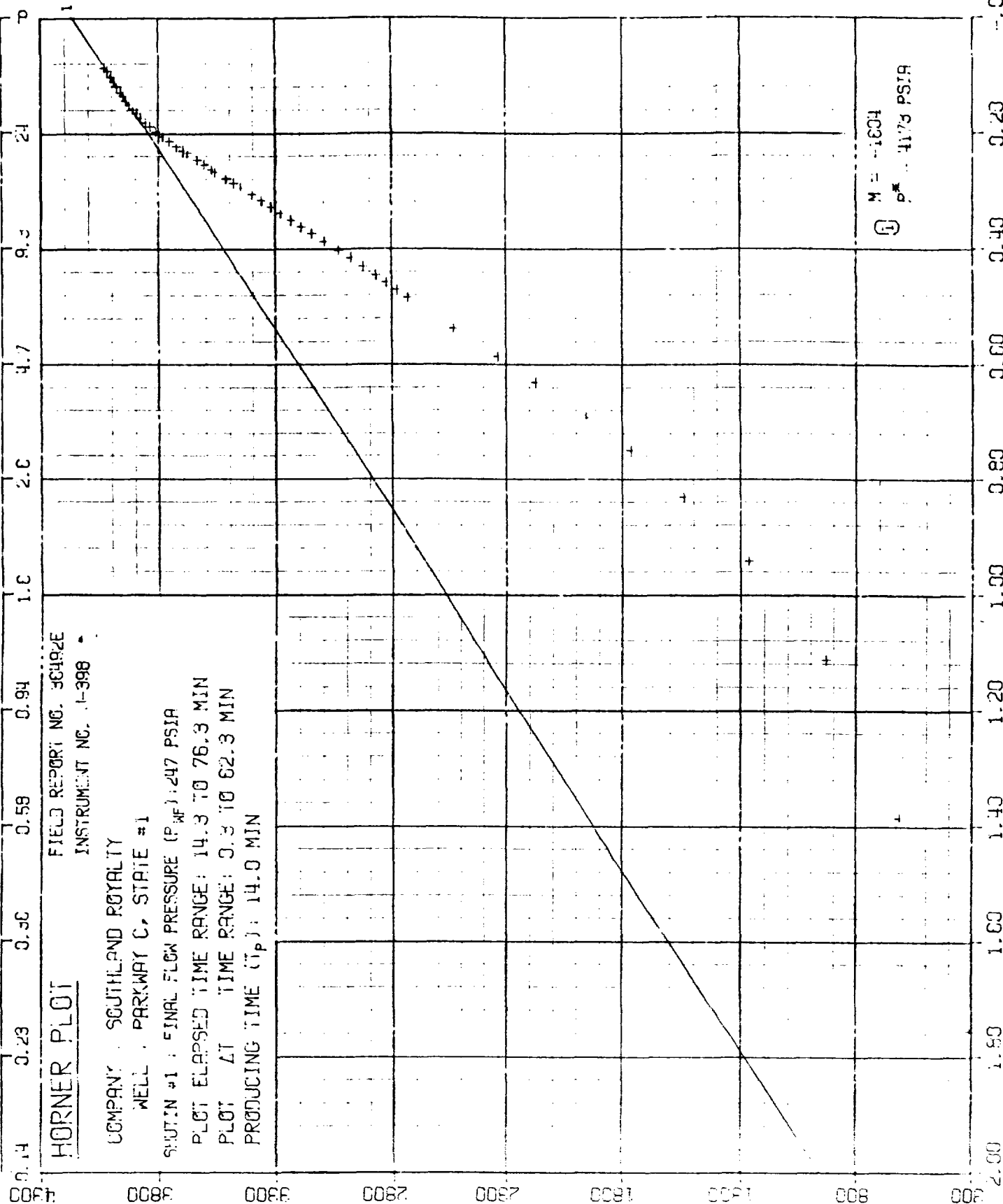
4. P.S. = $[P_o \times 2.309 ft./PSI]$ - [Recorder depth to sea level.]

5. Radius of investigation, $r_i = \sqrt{\frac{Kt}{40\phi\mu c}}$ where t = time in days



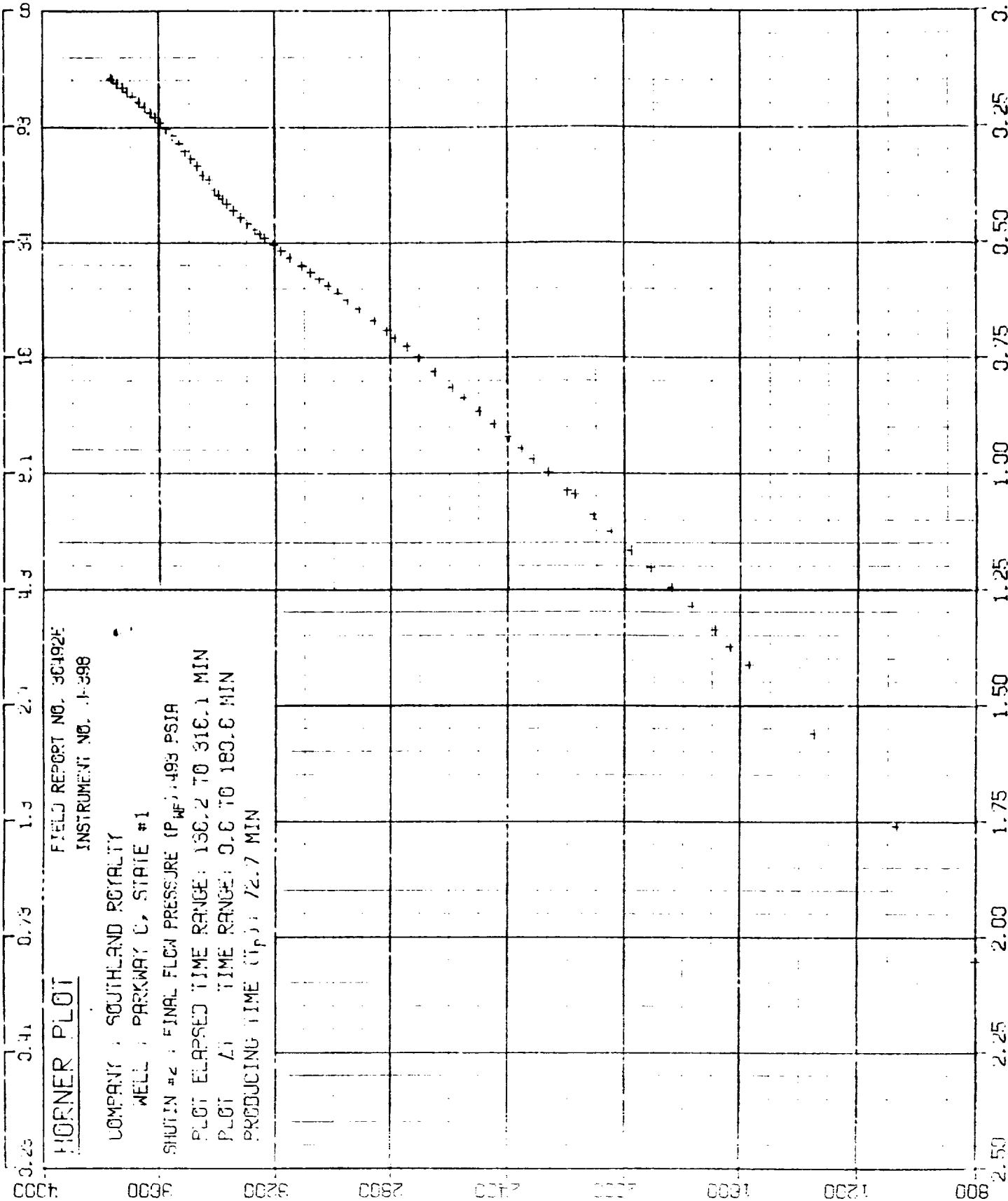
In making any interpretation, our employees will give Customer the benefit of their best judgment as to the correct interpretation. Nevertheless, since all interpretations are opinions based on inferences from electrical, mechanical or other measurements, we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not be liable or responsible, except in the case of gross or wilful negligence on our part, for any loss, costs, damages or expenses incurred or sustained by Customer resulting from any interpretation made by any of our agents or employees.

AT (MIN)



JOHNSTON-MACCO

ΔT (MIN)



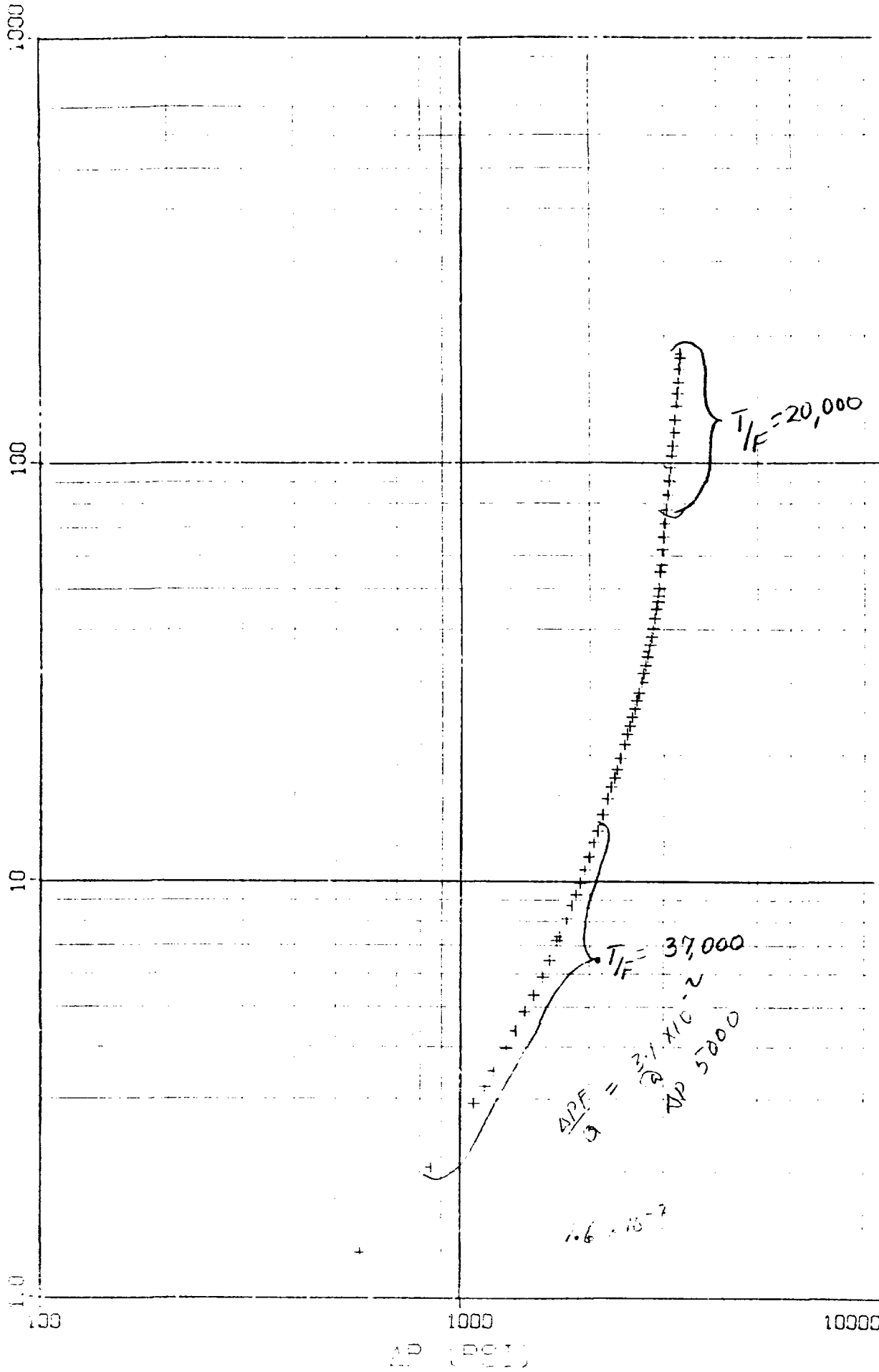
JOHNSTON-MALLOG
SCHLUMBERGER

LOG LOG PLOT

COMPANY : SOUTHLAND ROYALTY
WELL : PARKWAY C, STATE #1
FIELD REPORT NO. 30492E
INSTRUMENT NO. 1-398

SHUTIN #2 :
FINAL FLOW PRESSURE (P_{WF}) : 493 PSIA
PLOT ELAPSED TIME RANGE : 136.8 TO 316.1 MIN
PLOT ΔT TIME RANGE : 1.3 TO 180.6 MIN

ΔT (MIN)



 * TEST TICKET DATA PRINTOUT *

WELL IDENTIFICATION

1. WELL	:	PAKWAY C. STATE #1
2. COMPANY	:	SOUTHLAND ROYALTY COMPANY
3.	:	1100 WALL TOWERS WEST
4.	:	MIDLAND, TEXAS 79701
5. CUSTOMER	:	SAME
6.	:	
7.	:	
8. FIELD	:	TURKEY TRACK
9. COUNTY	:	EDDY
10. STATE/PROV.	:	NEW MEXICO
11. LOCATION	:	S/E N/W SEC 15 - T19S - R 29E
12. TECHNICIAN	:	SERIK (HOBBS)
13. TEST APPROVED BY	:	MR. WAYNE BRUBBS
14. TEST DATE	:	8-24-81
15. DEPTH REFERENCE	:	KELLY BUSHING
16. DEPTH REFERENCE ELEVATION	:	S.L. FT

HOLE INFORMATION

1. THE HOLE IS STRAIGHT.	
2. TOTAL DEPTH	: 10108. FT
3. OPEN HOLE DIAMETER	: 7.88 IN

MUD INFORMATION

1. MUD TYPE	:	B/BEL, DRISPAO
2. MUD WEIGHT	:	9.7 LB/GAL
3. MUD VISCOSITY	:	36. MARSH FUNNEL SEC
4. CORRECTED WATER LOSS	:	11.0 CC/30 MIN
5. MUD RESISTIVITY	:	0.30 OHM-M
6. MUD RES. MEAS. TEMP.	:	80.0 DEG F
7. MUD FILTRATE RESISTIVITY	:	0.30 OHM-M
8. MUD FILT. RES. MEAS. TEMP.	:	80.0 DEG F
9. MUD CHLORIDES CONTENT	:	120000.0 PPM BY WEIGHT

 * TEST TICKET DATA PRINTOUT *

TEST INFORMATION

1. FIELD REPORT NUMBER : 36492E
 2. TEST TYPE : NFE OPEN HOLE
 3. TEST NUMBER : 3
 4. TELEFLOW IN USE ? : NO
 5. SSDR OR J-300 IN USE ? : NO
 6. SPRO IN USE ? : NO
 7. PISDL IN USE ? : NO

TEST STRING INFORMATION

#	COMPONENT NAME	EFFECTIVE		FLOW PATH	J/M CODE
		I.D. (IN)	O.D. (IN)	LENGTH (FT)	
1	DRILL PIPE	3.80	4.50	9476.	
2	DRILL COLLARS	2.24	6.25	523.	
3	TOOL STRING	0.94	5.00	109.	

TEST STRING PLACEMENT

1. TEST TYPE CODE 1 - DN BOTTOM
 2. PACKER DEPTHS : 10030. FT & 10036. FT

TEST ZONE DESCRIPTION

	FORMATION NAME	PRODUCTION ZONE			POROSITY (%)
		TOP (FT)	BOTTOM (FT)	THICKNESS (FT)	
1				53.	10.

TEST CONDITIONS

1. BOTTOMHOLE CHOKER(S) EFF. INTERNAL DIA. : 0.94 IN

 * TEST TICKET DATA PRINTOUT *

TEST TOOL SAMPLE CHAMBER RECOVERY DATA

SAMPLE PRESSURE : 250. PSIG
 OIL GRAVITY : DEG. API @ DEG F
 GAS/OIL RATIO : 922. FT3/BBL
 GAS/LIQUID RATIO : 922. FT3/BBL

SAMPLE CHAMBER CONTENTS

FLUID	VOLUME	RESISTIVITY	CHLORIDES
GAS	5.80 FT3		
OIL	1000.0 CC		
WATER	CC	OHM-M @ DEG F	PPM
MUD	200.0 CC	0.30 OHM-M @ 80.0 DEG F	120000 PPM
TOTAL LIQUID	1200.0 CC		

RECOVERY INFORMATION

DESCRIPTION	FEET	% OIL	% H2O	DTH	API DEG.	RESISTIVITY OHM-M	CHL PPM
1 OIL		100			42.6 60		
2 OIL CUT DRILLING FLUID		50		50	42.6 60	0.45 80	110000.
3 DRILLING FLUID				100		0.30 80	120000.

SURFACE INFORMATION

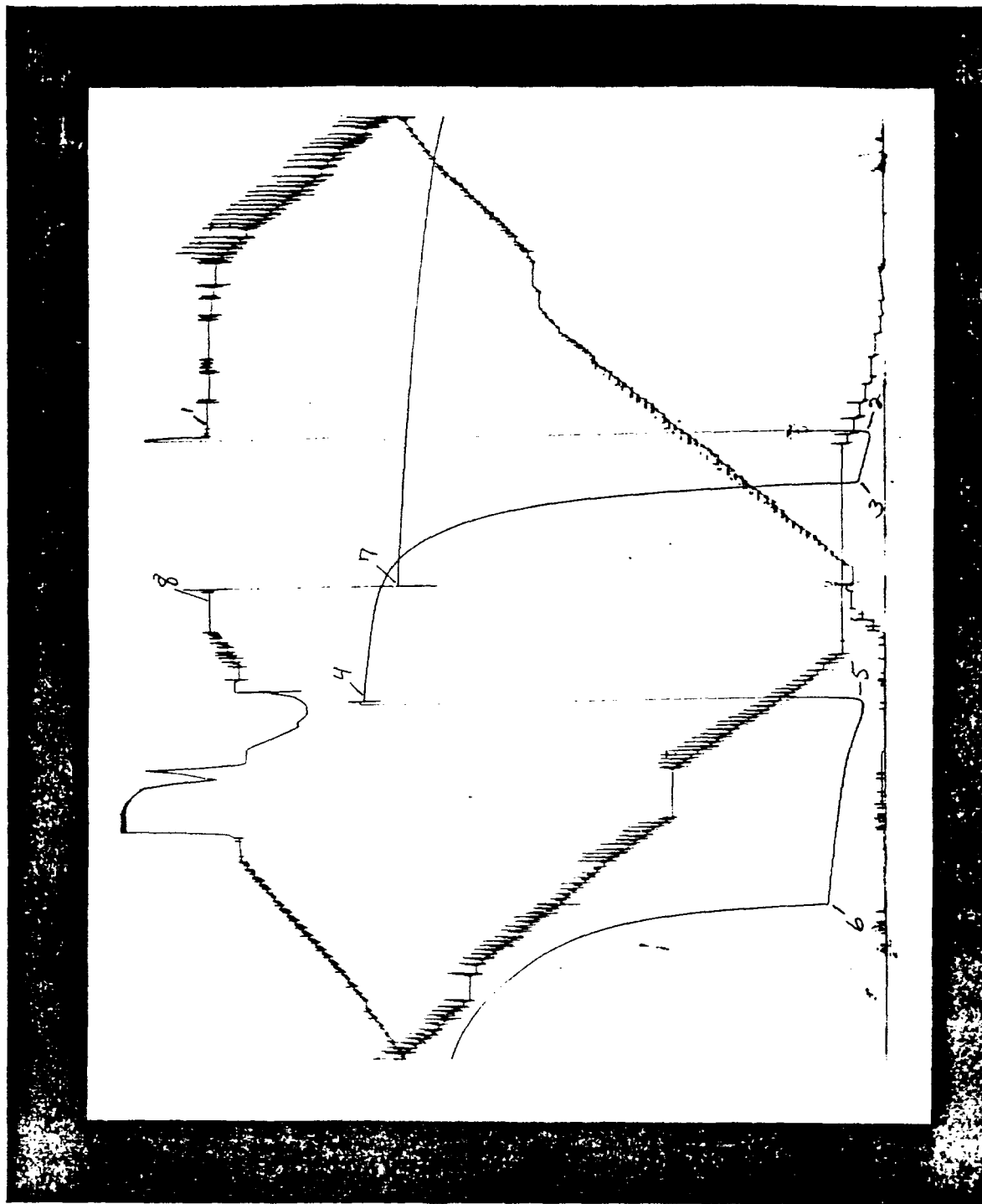
DESCRIPTION	TIME	PRESSURE	CHOKER SIZE
1 SET PACKER (8-24-81)	1425	-	-
2 OPENED TOOL, STRONG BLOW	1428	-	178"
3 CLOSED FOR INITIAL SHUT-IN	1435	44#	"
4 FINISHED SHUT-IN	1543	-	"
5 RE-OPENED TOOL	1544	-	"
6	1546	12#	"
7	1548	22#	"
8	1554	53#	"
9	1559	66"	"
10	1604	75#	178"
11	1612	79#	"
12	1614	83#	"
13	1619	90#	"
14	1624	92#	"

ILLEGIBLE

* TEST TICKET DATA PRINTOUT *

	DESCRIPTION	TIME	PRESSURE	CHOKE SIZE
15		1629	94#	"
16		1634	97#	"
17		1639	100#	"
18	CLOSED FOR FINAL SHUT-IN	1644	-	-
19	FINISHED SHUT-IN	1744	-	-
20	PULLED PACKER LOOSE	1746	-	-
21	STARTED REVERSING	2020	800#	-
22	FINISHED REVERSING	2100	-	-

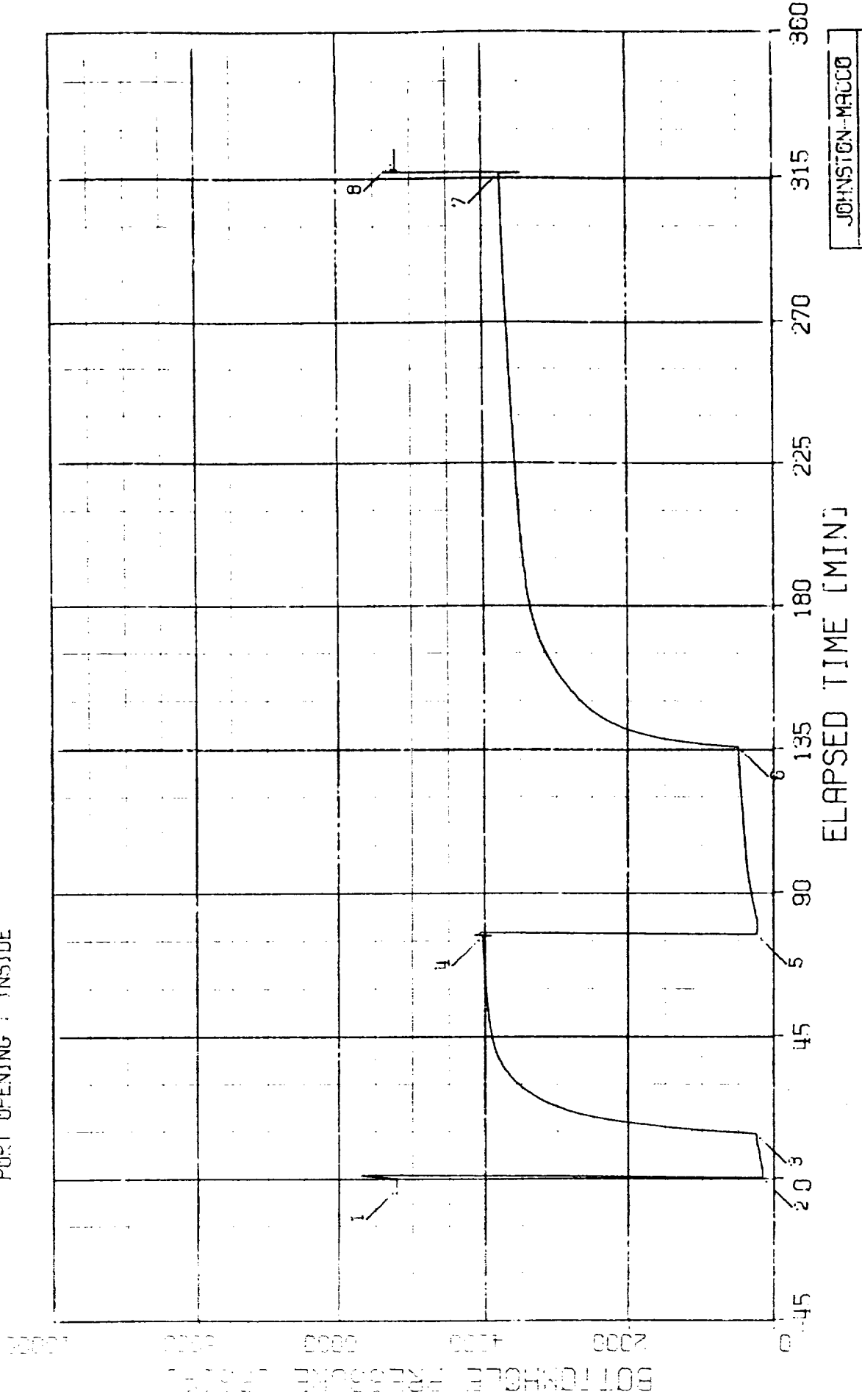
FIELD REPORT NO.: 36492E CAPACITY: 6400#
INSTRUMENT NO.: J-398 NUMBER OF REPORTS: 5



RECEIVED
OCT 25 1990
OIL CONSERVATION DISTRICT

BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 36492E COMPANY : SOUTHLAND ROYALTY
 INSTRUMENT NO. J-398 WELL : PARKWAY C, STATE #1
 DEPTH : 10096 FT
 CAPACITY : 6400 PSI
 PORT OPENING : INSIDE



JOHNSTON-MACCO
 SCHLUMBERGER

 * WELL TEST DATA PRINTOUT *

FIELD REPORT # : 36492E
 COMPANY : SOUTHLAND ROYALTY
 WELL : PARKWAY C, STATE #1

INSTRUMENT # : J-398
 CAPACITY (PSI) : 6400.
 DEPTH (FT) : 10096.0
 PORT OPENING : INSIDE
 TEMPERATURE (DEG F) : 158.0

LABEL POINT INFORMATION

	TIME OF DAY	DATE		ELAPSED TIME, MIN	BOT HOLE PRESSURE PSIA
#	HH:MM:SS	DD-MM	EXPLANATION		
1	11:24:30	24-AU	HYDROSTATIC MUD	-3.50	5212
2	11:33:00	24-AU	START FLOW	0.00	167
3	11:42:11	24-AU	END FLOW & START SHUT-IN	14.02	247
4	12:44:17	24-AU	END SHUT-IN	76.28	4033
5	12:44:50	24-AU	START FLOW	76.84	238
6	13:43:30	24-AU	END FLOW & START SHUT-IN	135.50	493
7	16:44:04	24-AU	END SHUT-IN	316.06	3768
8	16:48:11	24-AU	HYDROSTATIC MUD	320.19	5199

SUMMARY OF FLOW PERIODS

	START ELAPSED PERIOD	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
1	0.00	14.02	14.02	167	247
2	76.84	135.50	58.66	238	493

SUMMARY OF SHUTIN PERIODS

	START ELAPSED PERIOD	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	14.02	76.28	62.26	247	4033	247	14.02
2	135.50	316.06	180.56	493	3768	493	72.68

ILLEGIBLE

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BDT HOLE PRESSURE PSIA
11:28: 0	24-AU	0.00	0.00	167
11:33: 0	24-AU	5.00	5.00	182
11:38: 0	24-AU	10.00	10.00	219
11:42: 1	24-AU	14.02	14.02	247

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE (PSIA) = 247

PRODUCING TIME (MIN) = 14.02

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BDT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
11:42: 1	24-AU	14.02	0.00	247	0	
11:43: 1	24-AU	15.02	1.00	838	591	1.177
11:44: 1	24-AU	16.02	2.00	1352	1105	0.904
11:45: 1	24-AU	17.02	3.00	1755	1508	0.754
11:46: 1	24-AU	18.02	4.00	2092	1845	0.654
11:47: 1	24-AU	19.02	5.00	2367	2120	0.580
11:48: 1	24-AU	20.02	6.00	2586	2339	0.523
11:49: 1	24-AU	21.02	7.00	2762	2515	0.478
11:50: 1	24-AU	22.02	8.00	2899	2652	0.440
11:51: 1	24-AU	23.02	9.00	3020	2773	0.408
11:52: 1	24-AU	24.02	10.00	3128	2881	0.381
11:54: 1	24-AU	26.02	12.00	3296	3048	0.338
11:56: 1	24-AU	28.02	14.00	3429	3182	0.301
11:58: 1	24-AU	30.02	16.00	3541	3294	0.273
12: 0: 1	24-AU	32.02	18.00	3630	3383	0.250
12: 2: 1	24-AU	34.02	20.00	3704	3457	0.231
12: 4: 1	24-AU	36.02	22.00	3763	3516	0.214
12: 6: 1	24-AU	38.02	24.00	3811	3564	0.200
12: 8: 1	24-AU	40.02	26.00	3847	3600	0.187
12:10: 1	24-AU	42.02	28.00	3874	3627	0.176
12:12: 1	24-AU	44.02	30.00	3897	3650	0.167
12:17: 1	24-AU	49.02	35.00	3938	3691	0.146
12:22: 1	24-AU	54.02	40.00	3964	3717	0.130
12:27: 1	24-AU	59.02	45.00	3984	3737	0.118
12:32: 1	24-AU	64.02	50.00	4001	3754	0.107
12:37: 1	24-AU	69.02	55.00	4013	3766	0.099
12:42: 1	24-AU	74.02	60.00	4026	3779	0.091
12:44: 1	24-AU	76.28	62.26	4033	3786	0.088

ILLEGIBLE

TEST PHASE : FLOW PERIOD # 2

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
12:44:50	24-AU	76.84	0.00	238
12:49:50	24-AU	81.84	5.00	236
12:54:50	24-AU	86.84	10.00	288
12:59:50	24-AU	91.84	15.00	328
13: 4:50	24-AU	96.84	20.00	360
13: 9:50	24-AU	101.84	25.00	382
13:14:50	24-AU	106.84	30.00	400
13:19:50	24-AU	111.84	35.00	418
13:24:50	24-AU	116.84	40.00	434
13:29:50	24-AU	121.84	45.00	450
13:34:50	24-AU	126.84	50.00	465
13:39:50	24-AU	131.84	55.00	481
13:43:30	24-AU	135.50	58.66	493

ILLEGIBLE

TEST PHASE : SHUTIN PERIOD # 2

FINAL FLOW PRESSURE (PSIA) = 493

PRODUCING TIME (MIN) = 72.66

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORN TIME
13:43:30	24-AU	135.50	0.00	493	0	
13:44:30	24-AU	136.50	1.00	948	455	1.267
13:45:30	24-AU	137.50	2.00	1329	835	1.572
13:46:30	24-AU	138.50	3.00	1588	1094	1.402
13:47:30	24-AU	139.50	4.00	1776	1282	1.283
13:48:30	24-AU	140.50	5.00	1930	1436	1.191
13:49:30	24-AU	141.50	6.00	2061	1568	1.118
13:50:30	24-AU	142.50	7.00	2156	1662	1.056
13:51:30	24-AU	143.50	8.00	2256	1763	1.004
13:52:30	24-AU	144.50	9.00	2335	1841	0.958
13:53:30	24-AU	145.50	10.00	2406	1912	0.917
13:55:30	24-AU	147.50	12.00	2529	2035	0.849
13:57:30	24-AU	149.50	14.00	2629	2136	0.792
13:59:30	24-AU	151.50	16.00	2716	2223	0.744
14: 1:30	24-AU	153.50	18.00	2799	2306	0.701
14: 3:30	24-AU	155.50	20.00	2871	2378	0.662
14: 5:30	24-AU	157.50	22.00	2938	2445	0.624
14: 7:30	24-AU	159.50	24.00	2999	2506	0.605
14: 9:30	24-AU	161.50	26.00	3054	2560	0.579
14:11:30	24-AU	163.50	28.00	3104	2610	0.557
14:13:30	24-AU	165.50	30.00	3152	2658	0.534
14:15:30	24-AU	167.50	32.00	3248	2754	0.488
14:17:30	24-AU	169.50	34.00	3319	2825	0.451
14:19:30	24-AU	171.50	36.00	3411	2917	0.411
14:21:30	24-AU	173.50	38.00	3511	3017	0.371

TEST PHASE : SHUTIN PERIOD # 2

FINAL FLOW PRESSURE (PSIA) = 493

PRODUCING TIME (MIN) = 32.63

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	ROT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNERS TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
14:38:30	24-AU	190.50	55.00	3432	2938	0.366
14:43:30	24-AU	195.50	60.00	3465	2971	0.345
14:48:30	24-AU	200.50	65.00	3468	2994	0.326
14:53:30	24-AU	205.50	70.00	3509	3018	0.309
14:58:30	24-AU	210.50	75.00	3517	3034	0.294
15: 3:30	24-AU	215.50	80.00	3545	3052	0.281
15: 8:30	24-AU	220.50	85.00	3562	3069	0.268
15:13:30	24-AU	225.50	90.00	3578	3085	0.257
15:18:30	24-AU	230.50	95.00	3593	3099	0.247
15:23:30	24-AU	235.50	100.00	3607	3113	0.237
15:28:30	24-AU	240.50	105.00	3620	3127	0.228
15:33:30	24-AU	245.50	110.00	3633	3140	0.220
15:38:30	24-AU	250.50	115.00	3645	3151	0.213
15:43:30	24-AU	255.50	120.00	3657	3163	0.206
15:48:30	24-AU	260.50	125.00	3669	3175	0.199
15:53:30	24-AU	265.50	130.00	3680	3187	0.193
15:58:30	24-AU	270.50	135.00	3691	3198	0.187
16: 3:30	24-AU	275.50	140.00	3701	3208	0.182
16: 8:30	24-AU	280.50	145.00	3711	3217	0.176
16:13:30	24-AU	285.50	150.00	3719	3226	0.172
16:18:30	24-AU	290.50	155.00	3728	3235	0.167
16:23:30	24-AU	295.50	160.00	3736	3243	0.163
16:28:30	24-AU	300.50	165.00	3744	3251	0.159
16:33:30	24-AU	305.50	170.00	3752	3259	0.155
16:38:30	24-AU	310.50	175.00	3760	3266	0.151
16:43:30	24-AU	315.50	180.00	3762	3274	0.147
16:44: 4	24-AU	316.06	180.56	3768	3274	0.147

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