

c/EF

State of New Mexico
Energy, Minerals and Natural Resources Department

RECEIVED

Form C-122
Revised 4-1-91

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

JUL 31 1997

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator OXY USA				Lease or Unit Name AUTO STATE			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 21-JUL-1997		Well No. 1	
Completion Date		Total Depth 11,460		Plug Back TD 11,331		Elevation 11,351	
Csg. Size 4.5		Wt. 11.6		Set At 11,460		Perforations: From: 11,331 To: 11,351	
Tbg. Size 2 3/8		Wt. 4.7		Set At 11,227		Perforations: From: To:	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE - GAS				Packer Set At 11,232		Formation MORROW	
Producing thru TUBING				Reservoir Temp. °F 182		Mean Annual Temp. °F 50	
Baro. Press - P 11341				% CO ₂ 0.623		% N ₂ 0.71	
Gg 11341				% H ₂ S 0		Prover Meter Run 4.0	
Taps FLANGE							

FLOW DATA				TUBING DATA				CASING DATA			
NO.	Prover Line Size	Onifice 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	Duration of Flow	
SI								1892	182	92	
1.	4.03 X 2.50		108	4.8	107			1853	182	1.0	
2.	4.03 X 2.50		117	10.2	102			1833	182	1.0	
3.	4.03 X 2.50		125	19.2	101			1790	182	1.0	
4.	4.03 X 2.50		137	35.9	97			1725	182	1.0	
5.											

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor FL	Gravity Factor Fg	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.		24.12	121.2	0.9581	1.2669	1.0081	945
2.		35.41	130.0	0.9621	1.2559	1.0090	1418
3.		51.66	139.0	0.9628	1.2669	1.0095	2023
4.		73.38	150.0	0.9662	1.2559	1.0107	2722
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.	0.18	557	1.55	0.984	A.P. I. Gravity of Liquid Hydrocarbons	Deg.
2.	0.19	552	1.54	0.982	Specific Gravity Separator Gas	0.623
3.	0.21	551	1.54	0.981	Specific Gravity Flowing Fluid	XXXXXX
4.	0.22	557	1.53	0.979	Critical Pressure	574
5.					Critical Temperature	354

<u>P_c 1448</u>		<u>1</u>		<u>P_c² 2097</u>	
NO.	P _c ²	P _w	P _w ²	P _c ² - P _w ²	
1.	3518	1426	2035	52	
2.	3408	1405	1973	124	
3.	3253	1373	1885	211	
4.	3025	1325	1758	338	
5.					

$$1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{6.1051}{1} = 6.1051$$
$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.1253$$
$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{8510}{1}$$

Absolute Open Flow 8510 Mcfd @ 15.025 Angle of Slope 58 Slope, n 0.625

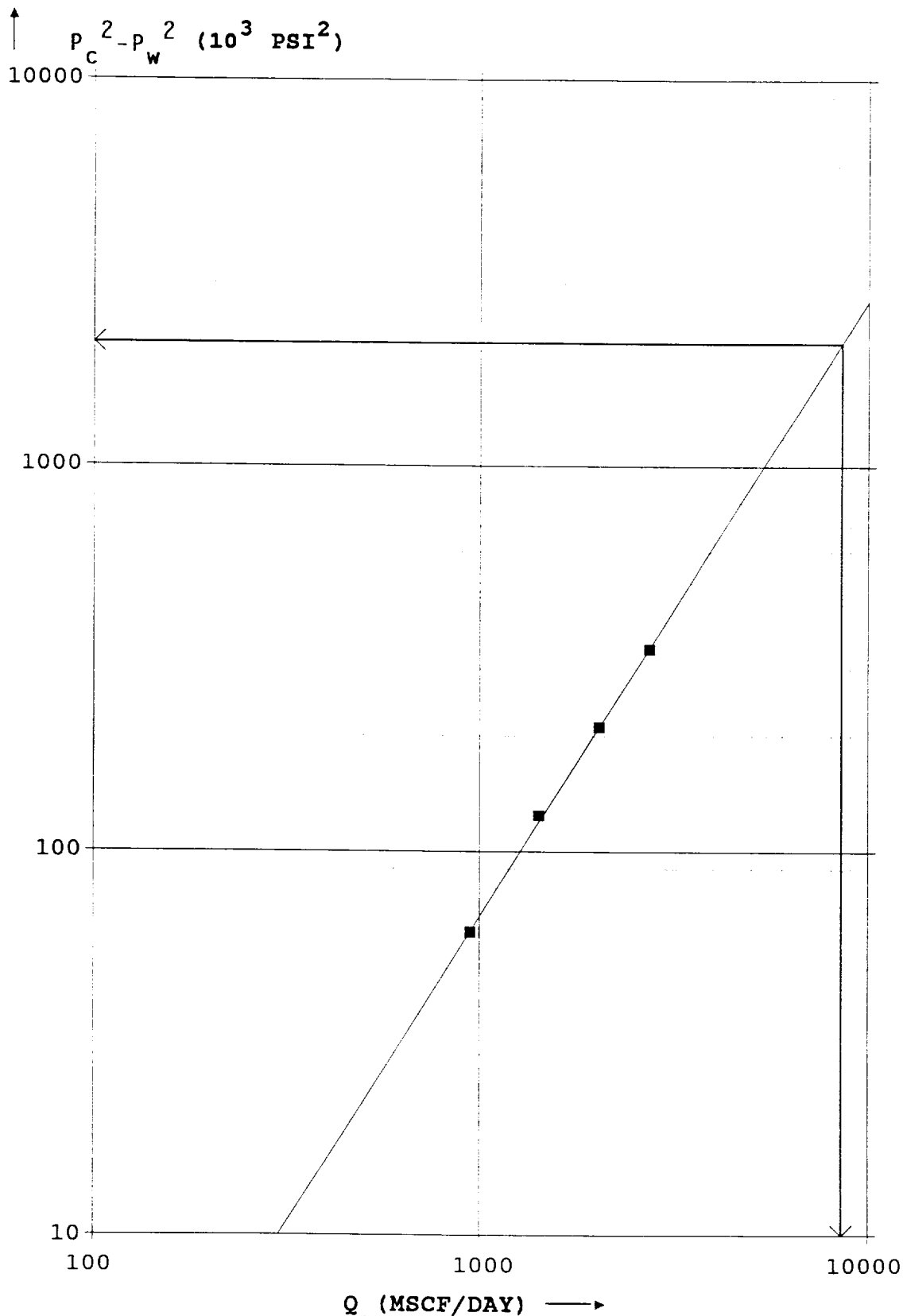
Remarks: BASED ON BOTTOMHOLE PRESSURE DATA

Approved By Division Conducted By: Larry Davis by MHA Calculated By: Mike Backhammer Checked By:

BACK PRESSURE CURVE

CLIENT: OXY USA INC.
WELL: Auto State #1

Test Date: 21-JUL-1997
County: EDDY, NM



Well Tester: Larry Davis by MHA

SCHLUMBERGER Testing

θ = 57.995 degrees
n = 0.6250
AOF = 8510.0 MSCF/DAY

REPORT NO.
078477

PAGE NO. 1

TEST DATE:
16-JUL-1997

STAR

Schlumberger Testing Data Report

Pressure Data Report

Schlumberger

COMPANY: OXY USA INC

WELL: AUTO STATE #1

TEST IDENTIFICATION

Test Type BHP-4 Point Test
Test No. 1
Formation MORROW
Test Interval (ft) 11331 to 11351

WELL LOCATION

Field TURKEY TRACK
County EDDY
State NEW MEXICO
Sec/Twn/Rng 8 19S 29E

COMPLETION CONFIGURATION

Total Depth (MD/TVD) (ft) 11460
Casing/Liner I.D. (in) 4.5
Hole Size (in)
Perforated Interval (ft) 11331 to 11351
Shot Density (shots/ft)
Perforation Diameter (in)
Net Pay (ft) 20

TEST STRING CONFIGURATION

Tubing Length (ft)/I.D. (in)..
Tubing Length (ft)/I.D. (in)..
Packer Depth (ft)
Gauge Depth (ft)/Type 11264/830-SLSR
Downhole Valve (Y/N)/Type

TEST CONDITIONS

Tbg/Wellhead Pressure (psi) ..
Separator Pressure (psi)

INTERPRETATION RESULTS

AOI (MCFD) 8510

ROCK/FLUID/WELLBORE PROPERTIES

CO₂/N₂/H₂S (mol%) API) 0.71/0.29/0.0
Gas Gravity 0.623

GOR (scf/STB) 0
Water Cut (%)
Viscosity (cp)
Total Compressibility (1/psi)..
Porosity (%) 10
Reservoir Temperature (F) 180
Form.Vol.Factor (bbl/STB)

PRODUCTION RATE DURING TEST: Data Report

COMMENTS:

An AOI of 8510 was calculated for the 4-point test performed 21-July-1997. This calculation was made using bottomhole pressure. No liquid production was observed during the test. Please call Diane Sykes-Bookhammer at (915) 684-0700 with any questions about this test. Thank-you for using Schlumberger companies.

WELL TEST INTERPRETATION REPORT #:078477		PAGE: 2,
CLIENT : OXY USA INC		25-JUL-97
REGION :CSD	SEQUENCE OF EVENTS	FIELD:TURKEY TRACK
DISTRICT:HOBBS		ZONE :MORROW
BASE :MIDLAND		WELL :AUTO STATE #1
ENGINEER:LARRY DAVIS		LOCATION:8 19S 29E

DATE	TIME (HR:MIN)	DESCRIPTION	ET (MINS)	BHP (PSIA)	WHP (PSIG)
=====					
16-JUL	10:49	Gradient Stop 0 Ft.	-1547	914	
16-JUL	11:02	Gradient Stop 2500 Ft.	-1534	995	
16-JUL	11:11	Gradient Stop 5000 Ft.	-1525	1076	
16-JUL	11:22	Gradient Stop 7500 Ft.	-1514	1155	
16-JUL	11:34	Gradient Stop 10000 Ft.	-1502	1231	
16-JUL	11:39	Gradient Stop 10500 Ft.	-1497	1246	
16-JUL	11:49	Gradient Stop 11259 Ft.	-1487	1267	
16-JUL	11:49	START FLOW	-1487	1267	
17-JUL	12:36	END FLOW & START SHUT-IN	0	1219	
21-JUL	08:48	END SHUT-IN	5532	1879	
21-JUL	09:15	Gradient Stop 11259 Ft.	5559	1881	
21-JUL	09:25	Gradient Stop 10500 Ft.	5569	1852	
21-JUL	09:31	Gradient Stop 10000 Ft.	5575	1833	
21-JUL	09:41	Gradient Stop 7500 Ft.	5585	1731	
21-JUL	09:48	Gradient Stop 5000 Ft.	5592	1628	
21-JUL	09:56	Gradient Stop 2500 Ft.	5600	1524	
21-JUL	10:05	Gradient Stop 0 Ft.	5609	1420	
21-JUL	10:35	START FLOW	5639	1886	
21-JUL	12:01	CHANGED CHOKE	5725		
21-JUL	12:58	CHANGED CHOKE	5782		
21-JUL	13:45	CHANGED CHOKE	5829		
21-JUL	14:31	END FLOW	5875		

WELL TEST INTERPRETATION REPORT #:078477		PAGE: 12, 25-JUL-97
CLIENT : OXY USA INC		
REGION :CSD DISTRICT:HOBBS BASE :MIDLAND ENGINEER:LARRY DAVIS	DISTRIBUTION OF REPORTS	FIELD:TURKEY TRACK ZONE :MORROW WELL :AUTO STATE #1 LOCATION:8 19S 29E

SCHLUMBERGER has sent copies of this report to the following:

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BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 078477

COMPANY : OXY USA INC

INSTRUMENT NO. SLSR-885

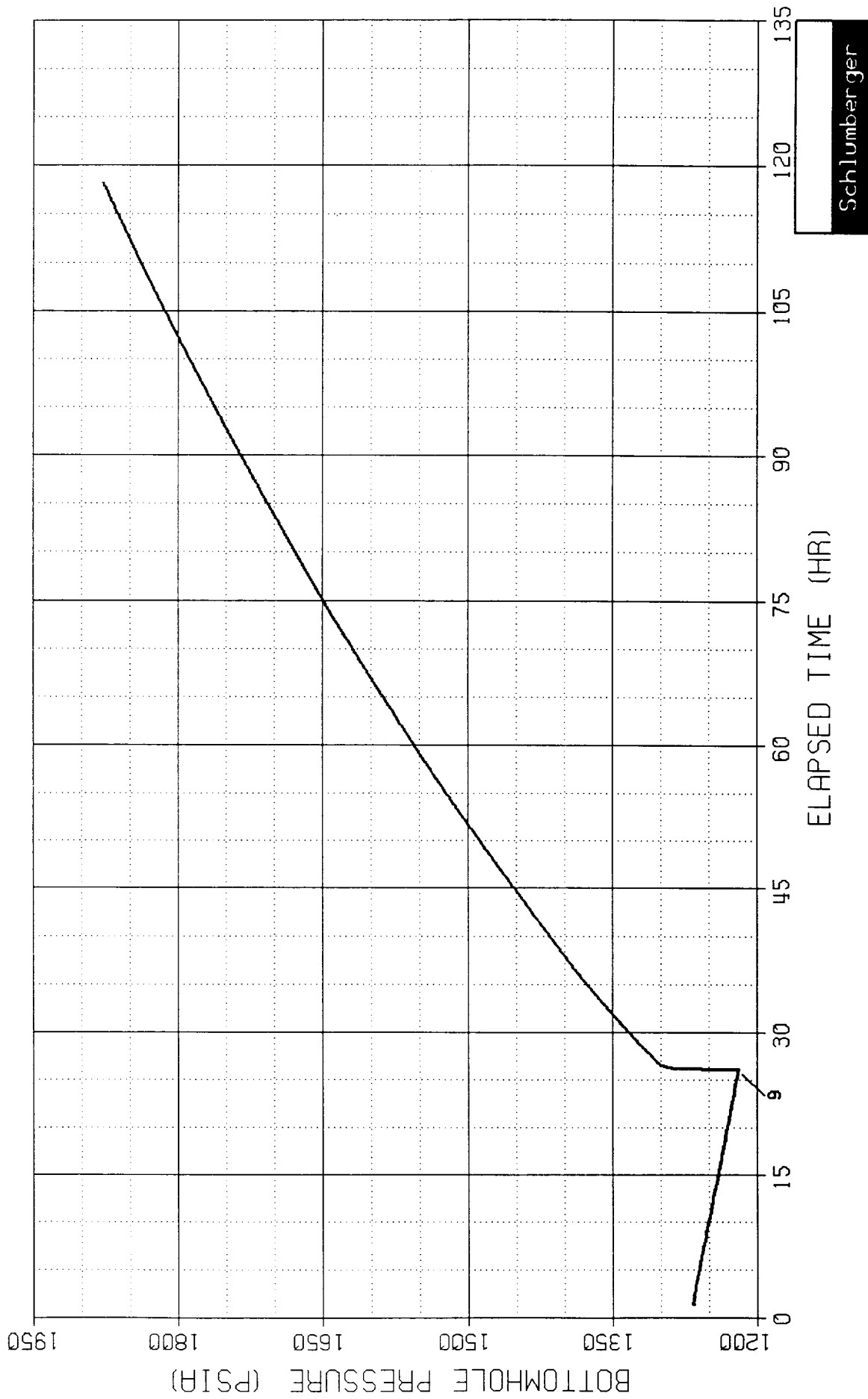
WELL : AUTO STATE #1

DEPTH : 11259 FT

CAPACITY : 10000 PSI

Electronic Pressure Data

PORT OPENING : INSIDE



BOTTOMHOLE TEMPERATURE LOG

FIELD REPORT NO. 078477

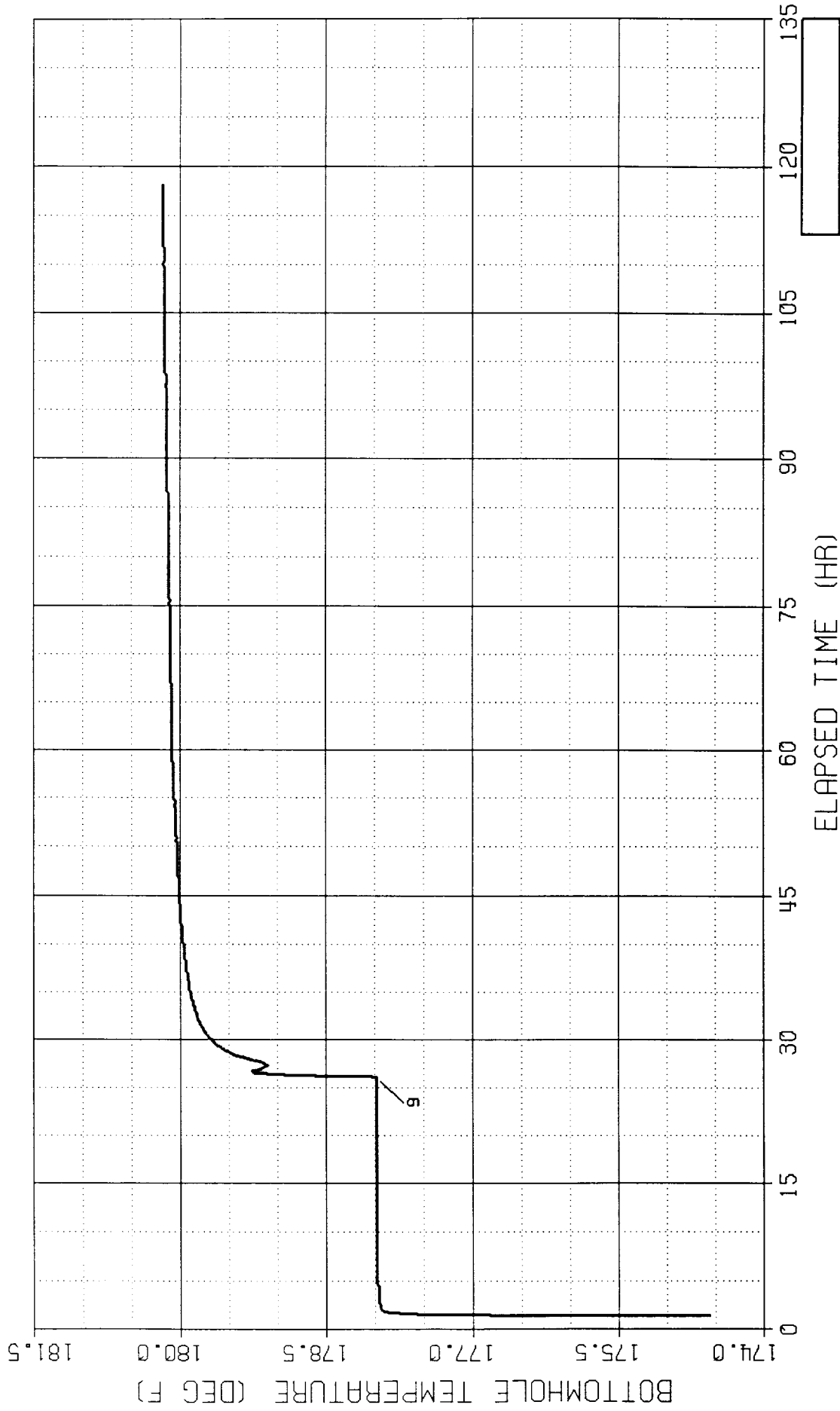
COMPANY : OXY USA INC

INSTRUMENT NO. SLSR-885

WELL : AUTO STATE #1

DEPTH : 11259 FT

Electronic Temperature Data

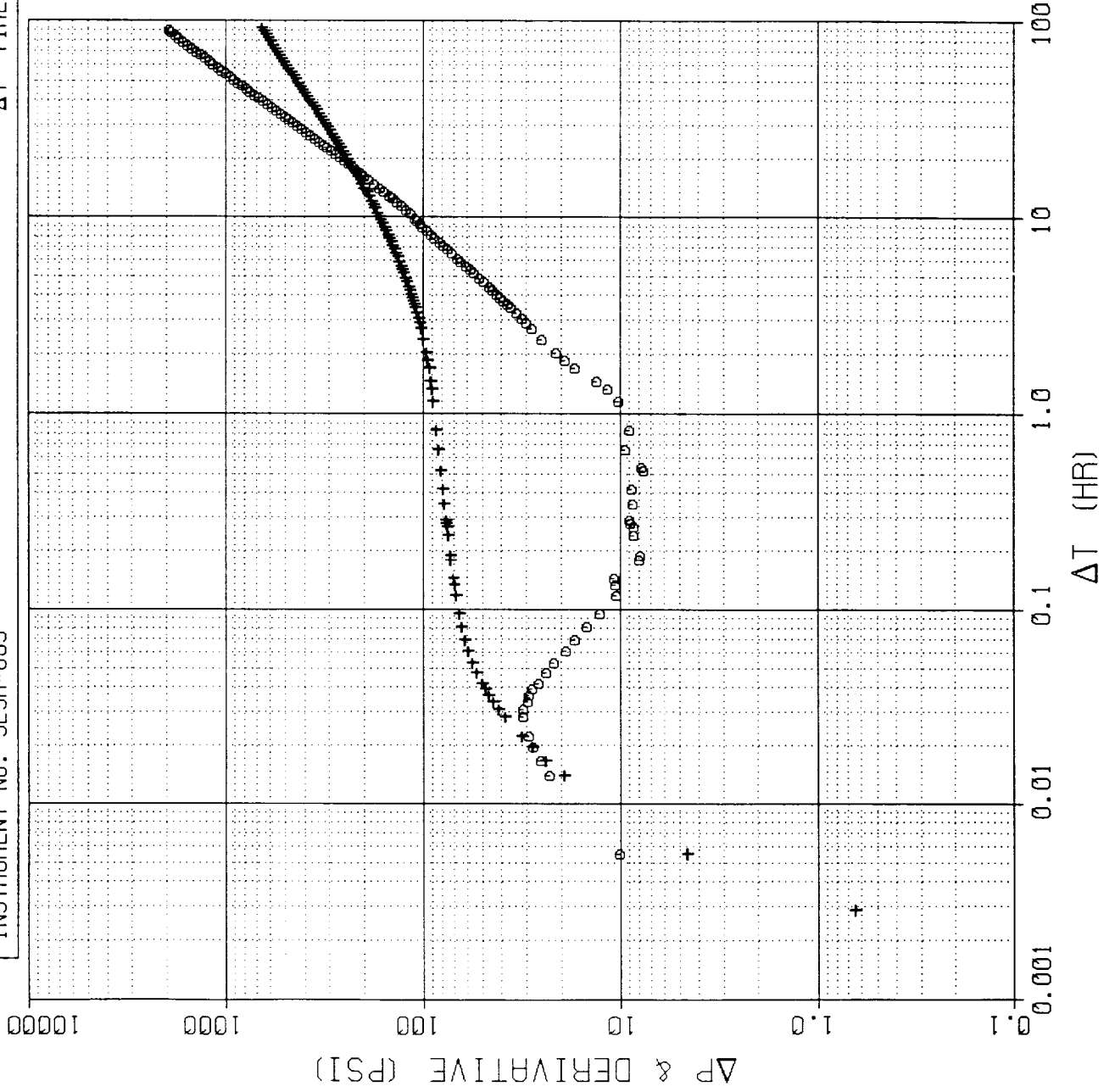


Schlumberger

LOG LOG PLOT

COMPANY : OXY USA INC
WELL : AUTO STATE #1
FIELD REPORT NO. 078477
INSTRUMENT NO. SLSR-885

SHUTIN #1 : PRODUCING TIME (T_p): 24.79 HR
FINAL FLOW PRESSURE (P_{wf}): 1219 PSIA
PLOT ELAPSED TIME RANGE: 26.13 TO 118.32 HR
 ΔT TIME RANGE: 0.00 TO 92.20 HR



 ** WELL TEST DATA PRINTOUT **

COMPANY: OXY USA INC
 WELL: AUTO STATE #1

FIELD REPORT NO. 078477
 INSTRUMENT NO. SLSR-885

RECORDER CAPACITY: 10000 PSI PORT OPENING: INSIDE DEPTH: 11259 FT

LABEL POINT INFORMATION

#	TIME OF DAY HH:MM:SS	DATE DD-MMM	EXPLANATION	ELAPSED TIME, HR	BOT HOLE PRESSURE PSIA	BOT HOLE TEMP. DEG F	DEPTH FT
1	10:49:59	16-JUL	GRADIENT STOP	0.344	913.83	91.22	0.0
2	11:02:09	16-JUL	GRADIENT STOP	0.546	995.12	85.33	2500.0
3	11:11:49	16-JUL	GRADIENT STOP	0.708	1075.87	96.40	5000.0
4	11:22:29	16-JUL	GRADIENT STOP	0.885	1154.56	121.10	7500.0
5	11:34:09	16-JUL	GRADIENT STOP	1.080	1230.51	154.27	10000.0
6	11:39:59	16-JUL	GRADIENT STOP	1.177	1245.54	165.36	10500.0
7	11:49:39	16-JUL	GRADIENT STOP	1.338	1266.78	174.11	11259.0
8	11:49:39	16-JUL	START FLOW	1.338	1266.78	174.11	
9	12:36:49	17-JUL	END FLOW & START SHUT-IN	26.124	1219.01	177.98	
10	8:48:49	21-JUL	END SHUT-IN	118.324	1878.69	180.18	
11	9:15:19	21-JUL	GRADIENT STOP	118.766	1880.95	180.18	11259.0
12	9:25:39	21-JUL	GRADIENT STOP	118.938	1852.35	177.01	10500.0
13	9:31:59	21-JUL	GRADIENT STOP	119.044	1832.53	171.64	10000.0
14	9:41:09	21-JUL	GRADIENT STOP	119.196	1731.43	150.69	7500.0
15	9:48:59	21-JUL	GRADIENT STOP	119.327	1628.03	126.73	5000.0
16	9:56:29	21-JUL	GRADIENT STOP	119.452	1524.32	104.58	2500.0
17	10:05:09	21-JUL	GRADIENT STOP	119.596	1420.38	87.93	0.0
18	10:35:49	21-JUL	START FLOW	120.108	1886.06	167.05	
19	12:01:39	21-JUL	CHANGED CHOKE	121.538	1849.30	179.51	
20	12:58:09	21-JUL	CHANGED CHOKE	122.480	1819.82	178.92	
21	13:45:19	21-JUL	CHANGED CHOKE	123.266	1777.13	178.39	
22	14:31:29	21-JUL	END FLOW	124.035	1713.05	177.48	

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME, HR	END ELAPSED TIME, HR	DURATION HR	START PRESSURE PSIA	END PRESSURE PSIA	INITIAL PRESSURE PSIA
1	1.338	26.124	24.786	1266.78	1219.01	1266.78
2	120.108	124.035	3.928	1886.06	1713.05	1886.06

SUMMARY OF SHUTIN PERIODS

PERIOD	START ELAPSED TIME, HR	END ELAPSED TIME, HR	DURATION HR	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, HR
1	26.124	118.324	92.200	1219.01	1878.69	1219.01	24.786

TEST PHASE: FLOW PERIOD # 1

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, HR	DELTA TIME, HR	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA
11:49:39	16-JUL	1.338	0.000	174.11	1266.78
11:55:19	16-JUL	1.433	0.094	176.34	1266.15
12:01:29	16-JUL	1.535	0.197	177.35	1266.70
12:07:39	16-JUL	1.638	0.300	177.73	1266.39
12:16:29	16-JUL	1.785	0.447	177.87	1265.75
12:22:49	16-JUL	1.891	0.553	177.91	1265.84
12:32:49	16-JUL	2.057	0.719	177.94	1265.28
12:44:29	16-JUL	2.252	0.914	177.94	1265.02
12:50:09	16-JUL	2.346	1.008	177.94	1265.45
12:57:49	16-JUL	2.474	1.136	177.94	1264.98
13:03:39	16-JUL	2.571	1.233	177.94	1264.55
13:10:39	16-JUL	2.688	1.350	177.96	1264.63
13:24:49	16-JUL	2.924	1.586	177.96	1263.92
13:30:49	16-JUL	3.024	1.686	177.96	1263.84
13:39:19	16-JUL	3.166	1.828	177.96	1263.72
13:44:59	16-JUL	3.260	1.922	177.96	1263.34
13:50:59	16-JUL	3.360	2.022	177.96	1263.26
13:56:09	16-JUL	3.446	2.108	177.96	1263.18
14:09:39	16-JUL	3.671	2.333	177.96	1262.54
14:24:29	16-JUL	3.919	2.581	177.96	1262.34
14:31:19	16-JUL	4.032	2.694	177.96	1261.93
14:49:29	16-JUL	4.335	2.997	177.96	1261.59
14:59:59	16-JUL	4.510	3.172	177.96	1260.88
15:10:49	16-JUL	4.691	3.353	177.98	1260.80
15:17:19	16-JUL	4.799	3.461	177.98	1260.65
15:25:39	16-JUL	4.938	3.600	177.98	1260.03
15:31:49	16-JUL	5.041	3.703	177.98	1259.97
15:40:49	16-JUL	5.191	3.853	177.98	1259.87
15:51:59	16-JUL	5.377	4.039	177.98	1259.21
16:08:09	16-JUL	5.646	4.308	177.98	1259.01
16:14:59	16-JUL	5.760	4.422	177.98	1258.51
16:32:19	16-JUL	6.049	4.711	177.98	1258.16
16:40:59	16-JUL	6.194	4.856	177.98	1257.62
16:52:29	16-JUL	6.385	5.047	177.98	1257.39
17:00:39	16-JUL	6.521	5.183	177.98	1257.27
17:06:59	16-JUL	6.627	5.289	177.98	1256.81
17:12:39	16-JUL	6.721	5.383	177.98	1256.40
17:19:59	16-JUL	6.844	5.506	177.98	1256.48
17:32:49	16-JUL	7.058	5.720	177.98	1255.93
17:37:49	16-JUL	7.141	5.803	177.98	1255.67
17:48:29	16-JUL	7.319	5.981	177.98	1255.61
17:57:09	16-JUL	7.463	6.125	177.98	1255.16
18:03:49	16-JUL	7.574	6.236	177.98	1254.74
18:14:29	16-JUL	7.752	6.414	177.98	1254.76
18:26:39	16-JUL	7.955	6.617	177.98	1254.01
18:36:39	16-JUL	8.121	6.783	177.98	1253.88
18:42:39	16-JUL	8.221	6.883	177.98	1253.81
18:53:39	16-JUL	8.405	7.067	177.98	1253.08
18:58:49	16-JUL	8.491	7.153	177.98	1253.09
19:04:19	16-JUL	8.583	7.245	177.98	1253.11
19:16:49	16-JUL	8.791	7.453	177.98	1252.42

TEST PHASE: FLOW PERIOD # 1

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, HR	DELTA TIME, HR	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA
19:27:59	16-JUL	8.977	7.639	177.98	1252.23
19:34:09	16-JUL	9.080	7.742	177.98	1252.17
19:39:09	16-JUL	9.163	7.825	177.98	1251.79
19:44:19	16-JUL	9.249	7.911	177.98	1251.40
19:53:19	16-JUL	9.399	8.061	177.98	1251.33
19:59:19	16-JUL	9.499	8.161	177.98	1251.33
20:07:19	16-JUL	9.633	8.295	177.98	1250.88
20:12:59	16-JUL	9.727	8.389	177.98	1250.49
20:19:09	16-JUL	9.830	8.492	177.98	1250.46
20:27:09	16-JUL	9.963	8.625	177.98	1250.49
20:37:09	16-JUL	10.130	8.792	177.98	1249.71
20:45:39	16-JUL	10.271	8.933	177.98	1249.59
20:53:39	16-JUL	10.405	9.067	177.98	1249.55
20:59:29	16-JUL	10.502	9.164	177.98	1249.11
21:05:59	16-JUL	10.610	9.272	177.98	1248.72
21:19:59	16-JUL	10.844	9.506	177.98	1248.64
21:30:59	16-JUL	11.027	9.689	177.98	1247.84
21:40:09	16-JUL	11.180	9.842	177.98	1247.82
21:46:49	16-JUL	11.291	9.953	177.98	1247.74
21:57:39	16-JUL	11.471	10.133	177.98	1246.95
22:06:09	16-JUL	11.613	10.275	177.98	1246.89
22:12:39	16-JUL	11.721	10.383	177.98	1246.88
22:20:29	16-JUL	11.852	10.514	177.98	1246.33
22:32:19	16-JUL	12.049	10.711	177.98	1246.01
22:39:49	16-JUL	12.174	10.836	177.98	1246.02
22:48:39	16-JUL	12.321	10.983	177.98	1245.37
22:58:59	16-JUL	12.494	11.156	177.98	1245.16
23:04:29	16-JUL	12.585	11.247	177.98	1245.16
23:17:09	16-JUL	12.796	11.458	177.98	1244.32
23:28:49	16-JUL	12.991	11.653	177.98	1244.33
23:41:09	16-JUL	13.196	11.858	177.98	1243.53
23:53:09	16-JUL	13.396	12.058	177.98	1243.38
0:01:19	17-JUL	13.533	12.194	177.98	1243.12
0:06:29	17-JUL	13.619	12.281	177.98	1242.77
0:12:29	17-JUL	13.719	12.381	177.98	1242.48
0:20:29	17-JUL	13.852	12.514	177.98	1242.54
0:35:29	17-JUL	14.102	12.764	177.98	1241.73
0:41:39	17-JUL	14.205	12.867	177.98	1241.69
0:49:39	17-JUL	14.338	13.000	177.98	1241.71
1:01:29	17-JUL	14.535	13.197	177.98	1240.85
1:09:49	17-JUL	14.674	13.336	177.98	1240.87
1:15:49	17-JUL	14.774	13.436	177.98	1240.83
1:24:39	17-JUL	14.921	13.583	177.98	1240.22
1:34:09	17-JUL	15.080	13.742	177.98	1240.03
1:42:19	17-JUL	15.216	13.878	177.98	1240.04
1:47:59	17-JUL	15.310	13.972	177.98	1239.61
1:53:49	17-JUL	15.408	14.069	177.98	1239.23
2:02:59	17-JUL	15.560	14.222	177.98	1239.29
2:13:09	17-JUL	15.730	14.392	177.98	1238.80
2:23:59	17-JUL	15.910	14.572	177.98	1238.48
2:30:59	17-JUL	16.027	14.689	177.98	1238.44

TEST PHASE: FLOW PERIOD # 1

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, HR	DELTA TIME, HR	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA
2:40:49	17-JUL	16.191	14.853	177.98	1237.71
2:48:39	17-JUL	16.321	14.983	177.98	1237.77
2:54:19	17-JUL	16.416	15.078	177.98	1237.69
3:03:09	17-JUL	16.563	15.225	177.98	1237.03
3:17:19	17-JUL	16.799	15.461	177.98	1236.97
3:25:39	17-JUL	16.938	15.600	177.98	1236.37
3:36:29	17-JUL	17.119	15.781	177.98	1236.23
3:41:39	17-JUL	17.205	15.867	177.98	1236.21
3:48:49	17-JUL	17.324	15.986	177.98	1235.69
3:54:19	17-JUL	17.416	16.078	177.98	1235.36
4:01:09	17-JUL	17.530	16.192	177.98	1235.42
4:07:39	17-JUL	17.638	16.300	177.98	1235.36
4:15:49	17-JUL	17.774	16.436	177.98	1234.76
4:26:09	17-JUL	17.946	16.608	177.98	1234.67
4:31:59	17-JUL	18.044	16.706	177.98	1234.58
4:44:59	17-JUL	18.260	16.922	177.98	1233.74
4:51:29	17-JUL	18.369	17.031	177.98	1233.77
4:58:39	17-JUL	18.488	17.150	177.98	1233.78
5:06:29	17-JUL	18.619	17.281	177.98	1233.22
5:17:59	17-JUL	18.810	17.472	177.98	1232.99
5:23:59	17-JUL	18.910	17.572	177.98	1232.99
5:33:19	17-JUL	19.066	17.728	177.98	1232.35
5:42:19	17-JUL	19.216	17.878	177.98	1232.21
5:49:09	17-JUL	19.330	17.992	177.98	1232.22
5:59:49	17-JUL	19.507	18.169	177.98	1231.48
6:06:59	17-JUL	19.627	18.289	177.98	1231.42
6:15:19	17-JUL	19.766	18.428	177.98	1231.38
6:27:09	17-JUL	19.963	18.625	177.98	1230.48
6:33:59	17-JUL	20.077	18.739	177.98	1230.51
6:40:49	17-JUL	20.191	18.853	177.98	1230.50
6:47:19	17-JUL	20.299	18.961	177.98	1230.02
7:01:59	17-JUL	20.544	19.206	177.98	1229.68
7:07:09	17-JUL	20.630	19.292	177.98	1229.65
7:14:09	17-JUL	20.746	19.408	177.98	1229.11
7:27:19	17-JUL	20.966	19.628	177.98	1228.85
7:33:09	17-JUL	21.063	19.725	177.98	1228.80
7:40:59	17-JUL	21.194	19.856	177.98	1228.25
7:47:49	17-JUL	21.307	19.969	177.98	1227.96
7:59:19	17-JUL	21.499	20.161	177.98	1228.02
8:08:59	17-JUL	21.660	20.322	177.98	1227.30
8:17:59	17-JUL	21.810	20.472	177.98	1227.19
8:24:49	17-JUL	21.924	20.586	177.98	1227.24
8:35:09	17-JUL	22.096	20.758	177.98	1226.53
8:43:59	17-JUL	22.244	20.906	177.98	1226.45
8:49:39	17-JUL	22.338	21.000	177.98	1226.46
9:02:09	17-JUL	22.546	21.208	177.98	1225.67
9:09:49	17-JUL	22.674	21.336	177.98	1225.64
9:17:29	17-JUL	22.802	21.464	177.98	1225.64
9:25:19	17-JUL	22.932	21.594	177.98	1225.12
9:31:09	17-JUL	23.030	21.692	177.98	1224.70
9:38:59	17-JUL	23.160	21.822	177.98	1224.79

TEST PHASE: FLOW PERIOD # 1

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, HR	DELTA TIME, HR	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA
9:44:09	17-JUL	23.246	21.908	177.98	1224.79
9:50:09	17-JUL	23.346	22.008	177.98	1224.39
10:05:29	17-JUL	23.602	22.264	177.98	1223.99
10:10:59	17-JUL	23.694	22.356	177.98	1223.95
10:17:29	17-JUL	23.802	22.464	177.98	1223.49
10:23:59	17-JUL	23.910	22.572	177.98	1223.10
10:30:29	17-JUL	24.019	22.681	177.98	1223.16
10:36:29	17-JUL	24.119	22.781	177.98	1223.16
10:48:19	17-JUL	24.316	22.978	177.98	1222.34
10:56:39	17-JUL	24.455	23.117	177.98	1222.32
11:02:59	17-JUL	24.560	23.222	177.98	1222.32
11:10:49	17-JUL	24.691	23.353	177.98	1221.79
11:23:49	17-JUL	24.907	23.569	177.98	1221.50
11:30:09	17-JUL	25.013	23.675	177.98	1221.46
11:39:59	17-JUL	25.177	23.839	177.98	1220.78
11:48:59	17-JUL	25.327	23.989	177.98	1220.66
11:55:59	17-JUL	25.444	24.106	177.98	1220.69
12:04:29	17-JUL	25.585	24.247	177.98	1220.09
12:11:19	17-JUL	25.699	24.361	177.98	1219.97
12:19:29	17-JUL	25.835	24.497	177.98	1219.82
12:31:29	17-JUL	26.035	24.697	177.98	1219.27
12:36:49	17-JUL	26.124	24.786	177.98	1219.01

TEST PHASE: SHUTIN PERIOD # 1

 FINAL FLOW PRESSURE = 1219.01 PSIA
 PRODUCING TIME = 24.786 HR

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, HR	DELTA TIME, HR	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORN TIME
12:36:49	17-JUL	26.124	0.000	177.98	1219.01	0.00	
12:37:39	17-JUL	26.138	0.014	177.98	1238.17	19.16	3.2535
12:38:29	17-JUL	26.152	0.028	178.03	1257.20	38.19	2.9501
12:39:09	17-JUL	26.163	0.039	178.07	1267.24	48.23	2.8057
12:39:59	17-JUL	26.177	0.053	178.14	1274.80	55.79	2.6722
12:40:59	17-JUL	26.194	0.070	178.25	1280.03	61.02	2.5534
12:41:39	17-JUL	26.205	0.081	178.30	1282.38	63.37	2.4898
12:42:29	17-JUL	26.219	0.095	178.39	1284.54	65.53	2.4204
12:43:49	17-JUL	26.241	0.117	178.52	1287.02	68.01	2.3293
12:45:29	17-JUL	26.269	0.145	178.65	1289.20	70.19	2.2369
12:47:29	17-JUL	26.302	0.178	178.79	1291.19	72.18	2.1473
12:51:09	17-JUL	26.363	0.239	178.93	1293.80	74.79	2.0203
12:52:49	17-JUL	26.391	0.267	179.01	1294.69	75.68	1.9729
12:54:09	17-JUL	26.413	0.289	179.04	1295.39	76.38	1.9386
12:57:49	17-JUL	26.474	0.350	179.11	1297.03	78.02	1.8562
13:01:39	17-JUL	26.538	0.414	179.19	1298.47	79.46	1.7846
13:07:49	17-JUL	26.641	0.517	179.24	1300.41	81.40	1.6900
13:16:19	17-JUL	26.782	0.658	179.26	1302.60	83.59	1.5871
13:26:29	17-JUL	26.952	0.828	179.17	1304.70	85.69	1.4905
13:46:39	17-JUL	27.288	1.164	179.10	1307.41	88.40	1.3482
13:56:59	17-JUL	27.460	1.336	179.13	1308.85	89.84	1.2912

TEST PHASE: SHUTIN PERIOD # 1

FINAL FLOW PRESSURE = 1219.01 PSIA

PRODUCING TIME = 24.786 HR

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, HR	DELTA TIME, HR	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
14:03:49	17-JUL	27.574	1.450	179.15	1309.78	90.77	1.2575
14:18:29	17-JUL	27.819	1.695	179.22	1312.01	93.00	1.1939
14:28:49	17-JUL	27.991	1.867	179.29	1313.65	94.64	1.1547
14:38:49	17-JUL	28.157	2.033	179.35	1315.24	96.23	1.1202
14:58:59	17-JUL	28.494	2.370	179.46	1318.50	99.49	1.0592
15:17:39	17-JUL	28.805	2.681	179.51	1321.47	102.46	1.0106
15:28:59	17-JUL	28.994	2.870	179.55	1323.24	104.23	0.9840
15:38:19	17-JUL	29.149	3.025	179.58	1324.69	105.68	0.9635
16:38:19	17-JUL	30.149	4.025	179.69	1333.88	114.87	0.8548
17:39:09	17-JUL	31.163	5.039	179.76	1342.98	123.97	0.7723
18:45:19	17-JUL	32.266	6.142	179.82	1352.72	133.71	0.7021
19:46:09	17-JUL	33.280	7.156	179.85	1361.55	142.54	0.6497
20:46:59	17-JUL	34.294	8.170	179.89	1370.24	151.23	0.6057
21:47:29	17-JUL	35.302	9.178	179.91	1378.73	159.72	0.5683
22:47:59	17-JUL	36.310	10.186	179.92	1386.89	167.88	0.5357
23:48:29	17-JUL	37.319	11.195	179.94	1394.76	175.75	0.5071
0:48:59	18-JUL	38.327	12.203	179.94	1402.55	183.54	0.4816
1:49:29	18-JUL	39.335	13.211	179.96	1410.25	191.24	0.4588
3:04:59	18-JUL	40.594	14.470	179.98	1419.74	200.73	0.4334
4:05:29	18-JUL	41.602	15.478	179.98	1427.29	208.28	0.4152
5:05:59	18-JUL	42.610	16.486	180.00	1434.80	215.79	0.3985
6:06:29	18-JUL	43.619	17.495	180.00	1442.22	223.21	0.3832
7:06:59	18-JUL	44.627	18.503	180.01	1449.57	230.56	0.3691
8:07:29	18-JUL	45.635	19.511	180.01	1456.88	237.87	0.3561
9:07:59	18-JUL	46.644	20.520	180.01	1464.10	245.09	0.3440
10:08:29	18-JUL	47.652	21.528	180.03	1471.30	252.29	0.3327
11:08:59	18-JUL	48.660	22.536	180.03	1478.45	259.44	0.3222
12:09:29	18-JUL	49.669	23.545	180.03	1485.56	266.55	0.3123
13:16:59	18-JUL	50.794	24.670	180.03	1493.41	274.40	0.3021
14:21:59	18-JUL	51.877	25.753	180.05	1500.91	281.90	0.2928
15:22:29	18-JUL	52.885	26.761	180.05	1507.84	288.83	0.2847
16:22:59	18-JUL	53.894	27.770	180.05	1514.72	295.71	0.2771
17:23:29	18-JUL	54.902	28.778	180.07	1521.55	302.54	0.2698
18:23:59	18-JUL	55.910	29.786	180.07	1528.33	309.32	0.2630
19:24:29	18-JUL	56.919	30.795	180.07	1535.08	316.07	0.2565
20:25:49	18-JUL	57.941	31.817	180.07	1541.85	322.84	0.2502
21:26:59	18-JUL	58.960	32.836	180.09	1548.61	329.60	0.2442
22:27:29	18-JUL	59.969	33.845	180.09	1555.21	336.20	0.2386
23:27:59	18-JUL	60.977	34.853	180.09	1561.78	342.77	0.2333
0:28:29	19-JUL	61.985	35.861	180.09	1568.32	349.31	0.2282
1:28:59	19-JUL	62.994	36.870	180.09	1574.80	355.79	0.2233
2:37:19	19-JUL	64.132	38.008	180.09	1582.09	363.08	0.2180
3:43:19	19-JUL	65.232	39.108	180.09	1589.07	370.06	0.2132
4:43:49	19-JUL	66.241	40.117	180.09	1595.41	376.40	0.2089
5:44:19	19-JUL	67.249	41.125	180.10	1601.73	382.72	0.2049
6:44:49	19-JUL	68.257	42.133	180.10	1608.03	389.02	0.2009
7:45:19	19-JUL	69.266	43.142	180.10	1614.24	395.23	0.1972
8:53:59	19-JUL	70.410	44.286	180.10	1621.31	402.30	0.1930
10:00:39	19-JUL	71.521	45.397	180.10	1628.11	409.10	0.1892
11:05:59	19-JUL	72.610	46.486	180.10	1634.69	415.68	0.1856

TEST PHASE: SHUTIN PERIOD # 1

FINAL FLOW PRESSURE = 1219.01 PSIA
PRODUCING TIME = 24.786 HR

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, HR	DELTA TIME, HR	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
12:06:29	19-JUL	73.619	47.495	180.10	1640.78	421.77	0.1824
13:06:59	19-JUL	74.627	48.503	180.10	1646.85	427.84	0.1793
14:07:29	19-JUL	75.635	49.511	180.10	1652.85	433.84	0.1763
15:07:59	19-JUL	76.644	50.520	180.12	1658.84	439.83	0.1734
16:08:19	19-JUL	77.649	51.525	180.12	1664.74	445.73	0.1706
17:11:59	19-JUL	78.710	52.586	180.12	1671.00	451.99	0.1677
18:12:29	19-JUL	79.719	53.595	180.12	1676.85	457.84	0.1651
19:12:59	19-JUL	80.727	54.603	180.12	1682.70	463.69	0.1625
20:13:29	19-JUL	81.735	55.611	180.12	1688.53	469.52	0.1601
21:13:59	19-JUL	82.744	56.620	180.12	1694.30	475.29	0.1577
22:14:29	19-JUL	83.752	57.628	180.12	1700.00	480.99	0.1554
23:21:39	19-JUL	84.871	58.747	180.12	1706.34	487.33	0.1529
0:30:39	20-JUL	86.021	59.897	180.12	1712.78	493.77	0.1504
1:31:39	20-JUL	87.038	60.914	180.14	1718.46	499.45	0.1483
2:32:09	20-JUL	88.046	61.922	180.14	1724.08	505.07	0.1462
3:32:39	20-JUL	89.055	62.930	180.14	1729.66	510.65	0.1442
4:33:09	20-JUL	90.063	63.939	180.14	1735.21	516.20	0.1423
5:33:39	20-JUL	91.071	64.947	180.14	1740.71	521.70	0.1404
6:34:09	20-JUL	92.080	65.955	180.14	1746.19	527.18	0.1386
7:34:39	20-JUL	93.088	66.964	180.14	1751.63	532.62	0.1368
8:35:09	20-JUL	94.096	67.972	180.14	1757.08	538.07	0.1350
9:35:39	20-JUL	95.105	68.980	180.14	1762.45	543.44	0.1333
10:36:09	20-JUL	96.113	69.989	180.14	1767.81	548.80	0.1317
11:36:39	20-JUL	97.121	70.997	180.14	1773.11	554.10	0.1300
12:37:09	20-JUL	98.130	72.006	180.14	1778.38	559.37	0.1285
13:37:39	20-JUL	99.138	73.014	180.16	1783.69	564.68	0.1269
14:38:09	20-JUL	100.146	74.022	180.16	1788.95	569.94	0.1254
15:38:39	20-JUL	101.155	75.030	180.16	1794.16	575.15	0.1240
16:39:09	20-JUL	102.163	76.039	180.16	1799.33	580.32	0.1225
17:50:09	20-JUL	103.346	77.222	180.16	1805.43	586.42	0.1209
18:50:39	20-JUL	104.355	78.230	180.16	1810.51	591.50	0.1195
19:51:09	20-JUL	105.363	79.239	180.16	1815.64	596.63	0.1182
20:51:39	20-JUL	106.371	80.247	180.16	1820.70	601.69	0.1169
21:52:09	20-JUL	107.380	81.256	180.16	1825.71	606.70	0.1156
22:52:39	20-JUL	108.388	82.264	180.16	1830.74	611.73	0.1144
23:53:09	20-JUL	109.396	83.272	180.16	1835.73	616.72	0.1132
0:53:39	21-JUL	110.405	84.280	180.16	1840.68	621.67	0.1120
1:54:09	21-JUL	111.413	85.289	180.16	1845.60	626.59	0.1108
2:54:39	21-JUL	112.421	86.297	180.18	1850.50	631.49	0.1097
4:02:49	21-JUL	113.558	87.433	180.18	1855.98	636.97	0.1084
5:03:19	21-JUL	114.566	88.442	180.18	1860.83	641.82	0.1073
6:03:49	21-JUL	115.574	89.450	180.18	1865.69	646.68	0.1062
7:04:19	21-JUL	116.583	90.458	180.18	1870.44	651.43	0.1052
8:04:49	21-JUL	117.591	91.467	180.18	1875.22	656.21	0.1041
8:48:49	21-JUL	118.324	92.200	180.18	1878.69	659.68	0.1034

TEST PHASE: FLOW PERIOD # 2

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, HR	DELTA TIME, HR	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA
10:35:49	21-JUL	120.108	0.000	167.05	1886.06
10:40:49	21-JUL	120.191	0.083	173.48	1879.29
10:46:09	21-JUL	120.280	0.172	177.10	1879.22
10:51:59	21-JUL	120.377	0.269	178.86	1879.05
10:58:19	21-JUL	120.483	0.375	179.56	1872.96
11:06:19	21-JUL	120.616	0.508	179.85	1873.10
11:14:29	21-JUL	120.752	0.644	179.94	1873.69
11:19:49	21-JUL	120.841	0.733	179.91	1862.39
11:27:39	21-JUL	120.971	0.864	179.80	1859.71
11:35:39	21-JUL	121.105	0.997	179.73	1850.87
11:45:09	21-JUL	121.263	1.155	179.62	1850.12
11:53:29	21-JUL	121.402	1.294	179.56	1849.72
12:01:39	21-JUL	121.538	1.430	179.51	1849.30
12:06:39	21-JUL	121.621	1.514	179.42	1826.76
12:13:39	21-JUL	121.738	1.630	179.26	1822.01
12:19:49	21-JUL	121.841	1.733	179.15	1821.62
12:33:49	21-JUL	122.074	1.967	179.01	1821.53
12:50:59	21-JUL	122.360	2.253	178.93	1819.67
12:56:09	21-JUL	122.446	2.339	178.92	1819.77
13:01:29	21-JUL	122.535	2.428	178.88	1795.99
13:06:49	21-JUL	122.624	2.517	178.74	1786.67
13:13:39	21-JUL	122.738	2.630	178.59	1784.58
13:21:39	21-JUL	122.871	2.764	178.50	1779.54
13:27:59	21-JUL	122.977	2.869	178.43	1779.22
13:34:19	21-JUL	123.083	2.975	178.41	1778.67
13:42:19	21-JUL	123.216	3.108	178.39	1777.39
13:47:19	21-JUL	123.299	3.192	178.38	1758.36
13:52:39	21-JUL	123.388	3.280	178.16	1728.16
13:57:59	21-JUL	123.477	3.369	177.93	1722.81
14:04:29	21-JUL	123.585	3.478	177.73	1719.98
14:09:49	21-JUL	123.674	3.567	177.62	1718.60
14:16:59	21-JUL	123.794	3.686	177.55	1716.51
14:25:29	21-JUL	123.935	3.828	177.49	1714.38
14:31:29	21-JUL	124.035	3.928	177.48	1713.05

GRADIENT PLOT

FIELD REPORT NO. 078477
INSTRUMENT NO. SLSR-885

COMPANY : OXY USA INC

WELL : AUTO STATE #1

DEPTH REFERENCE : Kelly Bushing

Static Gradient--X Flowing Gradient--O

PRESSURE (PSIA)

900

1050

1200

1350

1500

1650

1800

1950

2100

0

1500

3000

4500

6000

7500

9000

10500

12000

13500

15000

DEPTH (FT)

Schlumberger

 ** WELL TEST DATA PRINTOUT **

COMPANY: OXY USA INC
 WELL: AUTO STATE #1

FIELD REPORT NO. 078477
 INSTRUMENT NO. SLSR-885

RECORDER CAPACITY: 10000 PSI
 DEPTH REFERENCE: KB

GRADIENT INFORMATION

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, HR	DEPTH FROM REF. FT	PRESSURE AT DEPTH PSIA	PRES. GRADIENT PSI/FT	TEMPERATURE AT DEPTH DEG F	TEMP. GRADIENT DEG F/FT
10:49:59	16-JUL	0.344	0.0	913.83		91.22	
11:02:09	16-JUL	0.546	2500.0	995.12	0.0325	85.33	-0.00236
11:11:49	16-JUL	0.708	5000.0	1075.87	0.0323	96.40	0.00443
11:22:29	16-JUL	0.885	7500.0	1154.56	0.0315	121.10	0.00988
11:34:09	16-JUL	1.080	10000.0	1230.51	0.0304	154.27	0.0133
11:39:59	16-JUL	1.177	10500.0	1245.54	0.0301	165.36	0.0222
11:49:39	16-JUL	1.338	11259.0	1266.78	0.0280	174.11	0.0115
9:15:19	21-JUL	118.766	11259.0	1880.95		180.18	
9:25:39	21-JUL	118.938	10500.0	1852.35	0.0377	177.01	0.00418
9:31:59	21-JUL	119.044	10000.0	1832.53	0.0396	171.64	0.0107
9:41:09	21-JUL	119.196	7500.0	1731.43	0.0404	150.69	0.00838
9:48:59	21-JUL	119.327	5000.0	1628.03	0.0414	126.73	0.00958
9:56:29	21-JUL	119.452	2500.0	1524.32	0.0415	104.58	0.00886
10:05:09	21-JUL	119.596	0.0	1420.38	0.0416	87.93	0.00666