Redacted

August 24, 2011

Pacific Gas and Electric Company
350 N. Wiget
Walnut Creek, CA 94598
Attention: Redacted

Test Contractor:	Redacted
Asset Owner:	Pacific Gas and Electric Company -- 41497332-3
Construction Contractor:	Redacted
Test Section:	PG&E T-76 L-1300B, MP 0.2241 - 0.459
Test Date:	August 24, 2011
Certificate Number:	RCP 61362 - T-76, L-300B, MP 0.2241 - 0.459

To whom it may concern,

This letter is to certify that the hydrostatic test performed on pipe owned by Pacific Gas and Electric Company and tested by Redacted met the requirements of the Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 1).

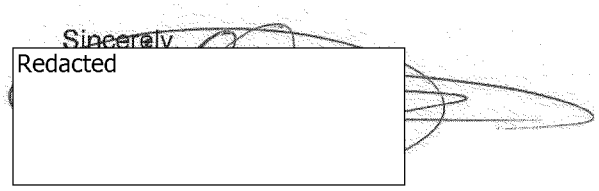
The test segment was subjected to a spike pressure test of 1008 psig for 30 minutes, without observed leakage or yielding of the pipe segment. The 30 minute spike test and subsequent pressure reduction with volume bleed was included and is part of the 8.33 hour test duration period.

This hydrostatic test was completed successfully. Pressure was maintained on the test facilities in excess of 8.33 continuous hours without evidence of a leak failure. Water was the test medium. At the highest elevation point in the test section, the calculated test pressure was 895 psig and the established MAOP is 716 psig.

Pressure decreased 67 psi during the test. 3,474.78 ounces of fluid was intentionally released from the test section Net corrected volumetric change from beginning of the test to the end of the test is calculated to be 1,192.45 ounces, gain, which is equivalent to a 1 °F change in pipe temperature and within the error attributed to the temperature measurement instrumentation utilized.

Test pressure did not remain steady even though no leaks were observed. The volumetric gain is attributed to the error characteristic of the temperature measurement instrumentation utilized.

Sincerely,



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RCP 61362 T-76 L-300B MP 0 2241- 0 459.xlsm
Letter

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Hydrostatic Test Certification

Company	Pacific Gas and Electric Company	Job Number	41497332-3
Construction Co.	[illegible]	Job Number	41497332-T-76
Hydro. Test Co.	Redacted	Project No.	FY12-112
Test Section	PG&E T-76 L-1300B, MP 0.2241 - 0.459		
File Name	RCP 61362 - T-76, L-300B, MP 0.2241 - 0.459		

Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION: Test Date: 24-Aug-11

Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 1)

This is to certify that the pipeline or pipeline section(s) described below was hydrostatically pressure tested in accordance with the following procedure:

Pipeline:	PG&E T-76 L-1300B, MP 0.2241 - 0.459		
From:	0+00	To:	10+24

Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	136 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi
2	1,096 ft	34.000 in.	0.500 in.	API5L-X52, DSAW, Arc Weld, Steel	1,529 psi
3	20 ft	4.500 in.	0.237 in.	API5L-Grade B, DSAW, Arc Weld, Steel	3,687 psi
4	20 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi

Initial Test Conditions

Pressure at Test Point:	1,009 psig	Date/Time:	8/24/11 8:10 AM	Pipe Temperature Unrestrained:	98.0 °F
Ambient Temperature:	100.0 °F			Restrained:	94.0 °F
		Elevation @ Test Point:	509.0 ft	Location:	0+00
Pressure @ High Point (Cal/Measure):	963 psig	Elevation @ High Point:	614.0 ft	Location:	10+24
Pressure @ Low Point (Cal/Measure):	1,008 psig	Elevation @ Low Point:	509.0 ft	Location:	0+00

Final Test Conditions

Pressure at Test Point:	941 psig	Date/Time:	8/24/11 4:30 PM	Pipe Temperature Unrestrained:	121.0 °F
Ambient Temperature:	119.0 °F			Restrained:	90.0 °F
		Elevation @ Test Point:	509.0 ft	Location:	0+00
Pressure @ High Point (Cal/Measure):	896 psig	Elevation @ High Point:	614.0 ft	Location:	10+24
Pressure @ Low Point (Cal/Measure):	941 psig	Elevation @ Low Point:	509.0 ft	Location:	0+00
Total Fluid Injected:				**Volume gain**	
Total Fluid Withdrawn:		3474.78 fluid ounces			
Net Change in Volume of the Test Section ± (+ Gain, - Loss):		1,192.45 oz	**gain**	0.0167%	0.997 °F equivalent

Test Duration: 8.33 hours

Minimum Test Pressure:	Test Point	925 psig	Max Elevation	880 psig	Min Elevation	925 psig
Maximum Test Pressure:		1,008 psig		963 psig		1,008 psig
% SMYS :				33.9%		40.1%
Test Segment Observed % SMYS :			Minimum	14.1%	Maximum	50.3%
Minimum Test Pressure (Calculated/Measured):						896 psig
Maximum Allowable Operating Pressure:				DOT Part 192	Test Factor= 1.25	716 psig

Were leaks observed?	No	Explain:
Acceptable Hydrostatic Test?	Yes	The test segment was subjected to a spike pressure test of 1008 psig for 30 minutes, without observed leakage or yielding of the pipe segment. The 30 minute spike test and subsequent pressure reduction with volume bleed was included and is part of the 8.33 hour test duration period. No leaks were observed during the test period. The test section included 1,116 feet of buried and 156 feet of exposed pipe. Pressure lost 67 psi during the test. The buried pipe segment lost 4°F fluid temperature and the exposed pipe segment gained 23°F. 3,474.78 ounces of fluid was intentionally released from the test section. Net corrected volumetric change from beginning of the test to the end of the test is calculated to be 1,192.45 ounces, gain, which is equivalent to a 1 °F change in pipe temperature and within the error attributed to the temperature measurement instrumentation utilized. Test pressure did not remain steady even though no leaks were observed. The volumetric gain is attributed to the error characteristic of the temperature measurement instrumentation utilized.
Remarks		

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24-Aug-11

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Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41497332-3
Construction Co.	Redacted	Job Number	41497332-T-76
Testing Co.	Redacted	Project No.	FY12-112
Test Section	PG&E T-76 L-1300B, MP 0.2241 - 0.459		0.30787037
File Name	RCP 61362 - T-76, L-300B, MP 0.2241 - 0.459		

Date 24-Aug-11

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe				
					Unrestrained	Restrained	Comment	Bleed	Inject
1	8/24/11	7:33 AM	690 psig	97 °F	96 °F	94 °F	Start Spike		
2	8/24/11	7:34 AM	700 psig	97 °F	96 °F	94 °F	Inject		347 oz.
3	8/24/11	7:35 AM	710 psig	97 °F	96 °F	94 °F	Inject		347 oz.
4	8/24/11	7:36 AM	720 psig	97 °F	96 °F	94 °F	Inject		347 oz.
5	8/24/11	7:37 AM	730 psig	97 °F	96 °F	94 °F	Inject		357 oz.
6	8/24/11	7:38 AM	740 psig	97 °F	96 °F	94 °F	Inject		347 oz.
7	8/24/11	7:40 AM	750 psig	97 °F	96 °F	94 °F	Inject		377 oz.
8	8/24/11	7:41 AM	760 psig	97 °F	96 °F	94 °F	Inject		367 oz.
9	8/24/11	7:42 AM	770 psig	97 °F	96 °F	94 °F	Inject		347 oz.
10	8/24/11	7:43 AM	780 psig	97 °F	96 °F	94 °F	Inject		347 oz.
11	8/24/11	7:44 AM	790 psig	97 °F	96 °F	94 °F	Inject		357 oz.
12	8/24/11	7:45 AM	800 psig	97 °F	96 °F	94 °F	Inject		357 oz.
13	8/24/11	7:47 AM	810 psig	97 °F	96 °F	94 °F	Inject		357 oz.
14	8/24/11	7:48 AM	820 psig	97 °F	96 °F	94 °F	Inject		357 oz.
15	8/24/11	7:49 AM	830 psig	97 °F	96 °F	94 °F	Inject		347 oz.
16	8/24/11	7:50 AM	840 psig	97 °F	96 °F	94 °F	Inject		357 oz.
17	8/24/11	7:51 AM	850 psig	97 °F	96 °F	94 °F	Inject		367 oz.
18	8/24/11	7:52 AM	860 psig	97 °F	96 °F	94 °F	Inject		367 oz.
19	8/24/11	7:54 AM	870 psig	97 °F	96 °F	94 °F	Inject		347 oz.
20	8/24/11	7:55 AM	880 psig	97 °F	96 °F	94 °F	Inject		347 oz.
21	8/24/11	7:56 AM	890 psig	97 °F	96 °F	94 °F	Inject		357 oz.
22	8/24/11	7:57 AM	900 psig	97 °F	96 °F	94 °F	Inject		337 oz.
23	8/24/11	7:58 AM	910 psig	97 °F	96 °F	94 °F	Inject		357 oz.
24	8/24/11	7:59 AM	920 psig	97 °F	96 °F	94 °F	Inject		357 oz.
25	8/24/11	8:01 AM	930 psig	97 °F	96 °F	94 °F	Inject		347 oz.
26	8/24/11	8:02 AM	940 psig	97 °F	96 °F	94 °F	Inject		357 oz.
27	8/24/11	8:03 AM	950 psig	97 °F	96 °F	94 °F	Inject		367 oz.
28	8/24/11	8:04 AM	960 psig	97 °F	96 °F	94 °F	Inject		357 oz.
29	8/24/11	8:05 AM	970 psig	97 °F	96 °F	94 °F	Inject		337 oz.
30	8/24/11	8:06 AM	980 psig	97 °F	96 °F	94 °F	Inject		377 oz.
31	8/24/11	8:08 AM	990 psig	97 °F	96 °F	94 °F	Inject		357 oz.
32	8/24/11	8:09 AM	1,000 psig	97 °F	96 °F	94 °F	Inject		337 oz.
33	8/24/11	8:10 AM	1,008 psig	97 °F	98 °F	94 °F	Inject		278 oz.
34	8/24/11	8:10 AM	1,008 psig	100 °F	98 °F	94 °F	On Test		
35	8/24/11	8:20 AM	1,008 psig	100 °F	99 °F	94 °F			
36	8/24/11	8:30 AM	1,008 psig	100 °F	99 °F	94 °F			
37	8/24/11	8:40 AM	1,007 psig	100 °F	100 °F	94 °F	End Spike		
38	8/24/11	8:58 AM	939 psig	102 °F	100 °F	94 °F	Bleed	2,411 oz.	
39	8/24/11	9:15 AM	939 psig	104 °F	102 °F	94 °F			
40	8/24/11	9:30 AM	941 psig	105 °F	103 °F	94 °F			
41	8/24/11	9:45 AM	942 psig	106 °F	103 °F	93 °F			

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Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41497332-3
Construction Co.	Redacted	Job Number	41497332-T-76
Testing Co.		Project No.	FY12-112
Test Section	PG&E T-76 L-1300B, MP 0.2241 - 0.459		
File Name	RCP 61362 - T-76, L-300B, MP 0.2241 - 0.459		

Date **24-Aug-11**

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe				
					Unrestrained	Restrained	Comment	Bleed	Inject
1	8/24/11	7:33 AM	690 psig	97 °F	96 °F	94 °F	Start Spike		
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7	8/24/11	7:40 AM	750 psig	97 °F	96 °F	94 °F	Inject		377 oz.
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9	8/24/11	7:42 AM	770 psig	97 °F	96 °F	94 °F	Inject		347 oz.
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11	8/24/11	7:44 AM	790 psig	97 °F	96 °F	94 °F	Inject		357 oz.
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14	8/24/11	7:48 AM	820 psig	97 °F	96 °F	94 °F	Inject		357 oz.
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19	8/24/11	7:54 AM	870 psig	97 °F	96 °F	94 °F	Inject		347 oz.
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23	8/24/11	7:58 AM	910 psig	97 °F	96 °F	94 °F	Inject		357 oz.
24	8/24/11	7:59 AM	920 psig	97 °F	96 °F	94 °F	Inject		357 oz.
25	8/24/11	8:01 AM	930 psig	97 °F	96 °F	94 °F	Inject		347 oz.
26	8/24/11	8:02 AM	940 psig	97 °F	96 °F	94 °F	Inject		357 oz.
27	8/24/11	8:03 AM	950 psig	97 °F	96 °F	94 °F	Inject		367 oz.
28	8/24/11	8:04 AM	960 psig	97 °F	96 °F	94 °F	Inject		357 oz.
29	8/24/11	8:05 AM	970 psig	97 °F	96 °F	94 °F	Inject		337 oz.
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32	8/24/11	8:09 AM	1,000 psig	97 °F	96 °F	94 °F	Inject		337 oz.
33	8/24/11	8:10 AM	1,008 psig	97 °F	98 °F	94 °F	Inject		278 oz.
34	8/24/11	8:10 AM	1,008 psig	100 °F	98 °F	94 °F	On Test		
35	8/24/11	8:20 AM	1,008 psig	100 °F	99 °F	94 °F			
36	8/24/11	8:30 AM	1,008 psig	100 °F	99 °F	94 °F			
37	8/24/11	8:40 AM	1,007 psig	100 °F	100 °F	94 °F	End Spike		
38	8/24/11	8:58 AM	939 psig	102 °F	100 °F	94 °F	Bleed	2,411 oz.	
39	8/24/11	9:15 AM	939 psig	104 °F	102 °F	94 °F			
40	8/24/11	9:30 AM	941 psig	105 °F	103 °F	94 °F			
41	8/24/11	9:45 AM	942 psig	106 °F	103 °F	93 °F			

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Pipe Segment Volume Calculations

Company	Pacific Gas and Electric Company	Job Number	41497332-3
Construction Co.	Redacted	Job Number	41497332-T-76
Hydro. Test Co.		Project No.	FY12-112
Test Section	PG&E T-76 L-1300B, MP 0.2241 - 0.459		WATER
File Name	RCP 61362 - T-76, L-300B, MP 0.2241 - 0.459		

General Pipe Data

Description	Segment 1	2	3	4
Restrained or Unrestrained?	Unrestrained	Restrained	Restrained	Unrestrained
Outside Diameter	34.000 in.	34.000 in.	4.500 in.	34.000 in.
Wall Thickness	0.500 in.	0.500 in.	0.237 in.	0.500 in.
Inside Diameter	33.000 in.	33.000 in.	4.026 in.	33.000 in.
Spec./Grade	API5L-X65	API5L-X52	API5L-Grade B	API5L-X65
Length Unrestrained	136 ft			20 ft
Length Restrained		1,096 ft	20 ft	
Temperature -- On Test	98 °F	94 °F	94.0 °F	98.0 °F
Temperature -- End of Test	121 °F	90 °F	90.0 °F	121.0 °F
Pressure -- On Test	1,008 psig	1,008 psig	1,008 psig	1,008 psig
Pressure -- End of Test	941 psig	941 psig	941 psig	941 psig

Unrestrained Pipe

Sum:	Vo	6,931.25 gal / 887,200 oz.	Vtp1	6,937.86 gal / 888,046 oz.	Vtp2	6,904.04 gal / 883,717 oz.
Vo Unrestrained	6,043 gal		889 gal			
Fwp 1	1.003089		1.003089			
Fpp 1	1.002772		1.002772			
Fpt 1	1.000692		1.000692			
Fwt 1	1.005607		1.005607			
Fpwt 1 = Fpt/Fwt	0.995112		0.995112			
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	6,048.39 gal		889.47 gal			
Fwp 2	1.002883		1.002883			
Fpp 2	1.002588		1.002588			
Fpt 2	1.001110		1.001110			
Fwt 2	1.010562		1.010562			
Fpwt = Fpt/Fwt	0.990647		0.990647			
Vtp = Vo(Fwp)(Fpp)(Fpwt)	6,018.91 gal		885.13 gal			

Restrained Pipe

Sum:	Vo	48,709.71 gal / 6,234,843 oz.		Vtp1	48,751.01 gal / 6,240,129 oz.	Vtp2	48,766.99 gal / 6,242,175 oz.
Vo Unrestrained		48,696 gal	13 gal				
Fwp 1		1.003089	1.003089				
Fpp 1		1.002140	1.000642				
Fpt 1		1.000411	1.000411				
Fwt 1		1.004797	1.004797				
Fpwt 1 = Fpt/Fwt		0.995635	0.995635				
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		48,738 gal	13 gal				
Fwp 2		1.002883	1.002883				
Fpp 2		1.001992	1.000593				
Fpt 2		1.000363	1.000363				
Fwt 2		1.004064	1.004064				
Fpwt = Fpt/Fwt		0.996314	0.996314				
Vtp = Vo(Fwp)(Fpp)(Fpwt)		48,754 gal	13 gal				

Combined Pipe

Sum:	Vo	55,640.96 gal / 7,122,043 oz.	Vtp1	55,688.86 gal / 7,128,175 oz.	Vtp2	55,671.03 gal / 7,125,892 oz.

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Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	41497332-3
Construction Co.	Redacted	Job Number	41497332-T-76
Hydro. Test Co.		Project No.	FY12-112
Test Section	PG&E T-76 L-1300B, MP 0.2241 - 0.459		WATER
File Name	RCP 61362 - T-76, L-300B, MP 0.2241 - 0.459		

General Pipe Data

Description	Segment 1	2	3	4							
Restrained or Unrestrained?	Unrestrained	Restrained	Restrained	Unrestrained							
Outside Diameter	34.000 in.	34.000 in.	4.500 in.	34.000 in.							
Wall Thickness	0.500 in.	0.500 in.	0.237 in.	0.500 in.							
Inside Diameter	33.000 in.	33.000 in.	4.026 in.	33.000 in.							
Spec./Grade	API5L-X65	API5L-X52	API5L-Grade B	API5L-X65							
Length Unstrained	136.00 ft			20 ft							
Length Restrained		1,096 ft	20 ft								
Temperature -- On Test	109 °F	91 °F	91 °F	109 °F							
Temperature -- End of Test	110 °F	92 °F	92 °F	110 °F							
Pressure -- On Test	974 psig	974 psig	974 psig	974 psig							
Pressure -- End of Test	974 psig	974 psig	974 psig	974 psig							

Unrestrained Pipe

Sum:	Vo	6,931.25 gal / 887,200 oz.		Vtp1	6,919.66 gal / 885,716 oz.		Vtp2	6,918.07 gal / 885,513 oz.				
Vo Unrestrained	6,043 gal			889 gal								
Fwp 1	1.002984			1.002984								
Fpp 1	1.002679			1.002679								
Fpt 1	1.000892			1.000892								
Fwt 1	1.008254			1.008254								
Fpwt 1 = Fpt/Fwt	0.992698			0.992698								
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	6,032.52 gal			887.14 gal								
Fwp 2	1.002984			1.002984								
Fpp 2	1.002679			1.002679								
Fpt 2	1.000910			1.000910								
Fwt 2	1.008504			1.008504								
Fpwt = Fpt/Fwt	0.992470			0.992470								
Vtp = Vo(Fwp)(Fpp)(Fpwt)	6,031.14 gal			886.93 gal								

Restrained Pipe

Sum:	Vo	48,709.71 gal / 6,234,843 oz.		Vtp1	48,766.39 gal / 6,242,098 oz.		Vtp2	48,758.63 gal / 6,241,105 oz.				
Vo Restrained		48,696 gal	13 gal									
Fwp 1		1.002984	1.002984									
Fpp 1		1.002062	1.000613									
Fpt 1		1.000375	1.000375									
Fwt 1		1.004260	1.004260									
Fpwt 1 = Fpt/Fwt		0.996131	0.996131									
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		48,753 gal	13 gal									
Fwp 2		1.002984	1.002984									
Fpp 2		1.002065	1.000617									
Fpt 2		1.000387	1.000387									
Fwt 2		1.004436	1.004436									
Fpwt = Fpt/Fwt		0.995969	0.995969									
Vtp = Vo(Fwp)(Fpp)(Fpwt)		48,745 gal	13 gal									

Combined Pipe

Sum:	Vo	55,640.96 gal / 7,122,043 oz.		Vtp1	55,686.05 gal / 7,127,814 oz.		Vtp2	55,676.70 gal / 7,126,618 oz.				
1 °F Change	9.35 gal		1,196.36 oz.									

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Hydrostatic Test Pipe Data Table

Pipe Type	Length	Restrained / Unrestrained	Outside Diameter	Wall Thickness	Specification & Grade	Pipe Yield Pressure	Material	Joint Type	Seam Type
1	136 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSAW
2	1,096 ft	Restrained	34.000 in.	0.5000 in.	API5L-X52	1,529 psig	Steel	Arc Weld	DSAW
3	20 ft	Restrained	4.500 in.	0.2370 in.	API5L-Grade B	3,687 psig	Steel	Arc Weld	DSAW
4	20 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSAW

Hydrostatic Test Project Owner & Participants

Owner Company	Pacific Gas and Electric Company	Job Number
Address	350 N. Wiget	41497332-3
	Walnut Creek, CA 94598	
	Attention: Redacted	
Construction Company	Redacted	Job Number
Address		41497332-T-76
Hydrostatic Test Co.		Project No.
Address		FY12-112
Test Section	PG&E T-76 L-1300B, MP 0.2241 - 0.459	
	Redacted From: 0+00	
	To: 10+24	
File Name	RCP 61362 - T-76, L-300B, MP 0.2241 - 0.459	

Part II – Test Data (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)

Note: Minimum test pressure and duration are not to be charged without written approval.

Time and Date Test Pressure Reached	8/24/11 8:10 AM	Elevation at Test Point	509 ft	Min. Required Test Press At Test Point (1)	920.50 psig	Max. Allowable Test Press at Test Point (4)	1,008.00 psig
Time and Date Test Ended	8/24/11 4:30 PM	Max. Elevation in Test Section	614 ft	Min. Indicated Test Pressure (2)	925.00 psig	Max. Indicated Test Pressure (5)	1,008.00 psig
Actual Duration of Test	8 hours 20 minutes	Min. Elevation in Test Section	509 ft	Min. Test Pressure at Max. Elevation (3)	879.50 psig	Max. Test Pressure at Min. Elevation (6)	1,008.00 psig

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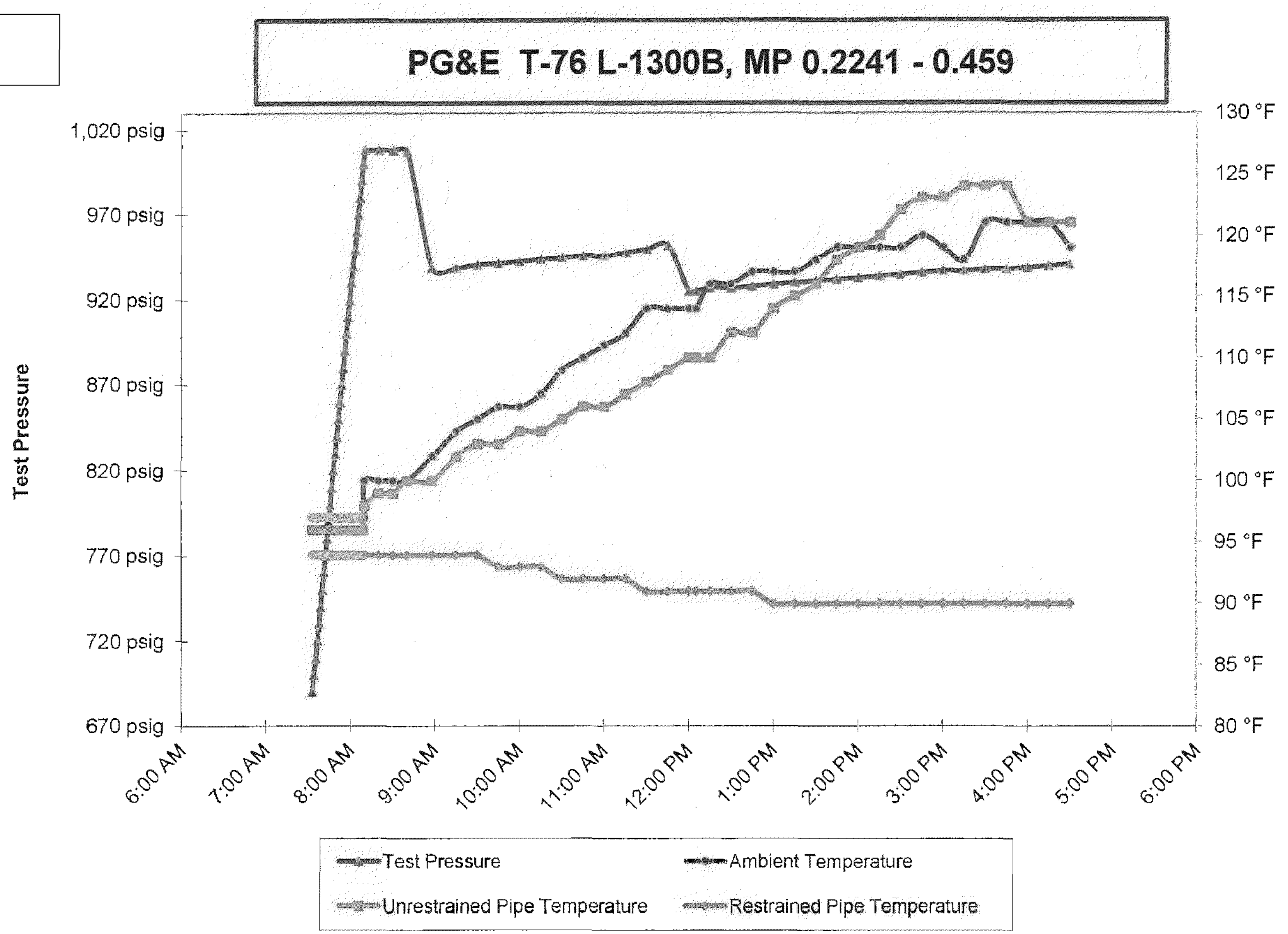

PG&E T-76 L-1300B, MP 0.2241 - 0.459
Test Pressure
1,020 psig
970 psig
920 psig
870 psig
820 psig
770 psig
720 psig
670 psig
130 °F
125 °F
120 °F
115 °F
110 °F
105 °F
100 °F
95 °F
90 °F
85 °F
80 °F
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
Test Pressure
Ambient Temperature
Unrestrained Pipe Temperature
Restrained Pipe Temperature

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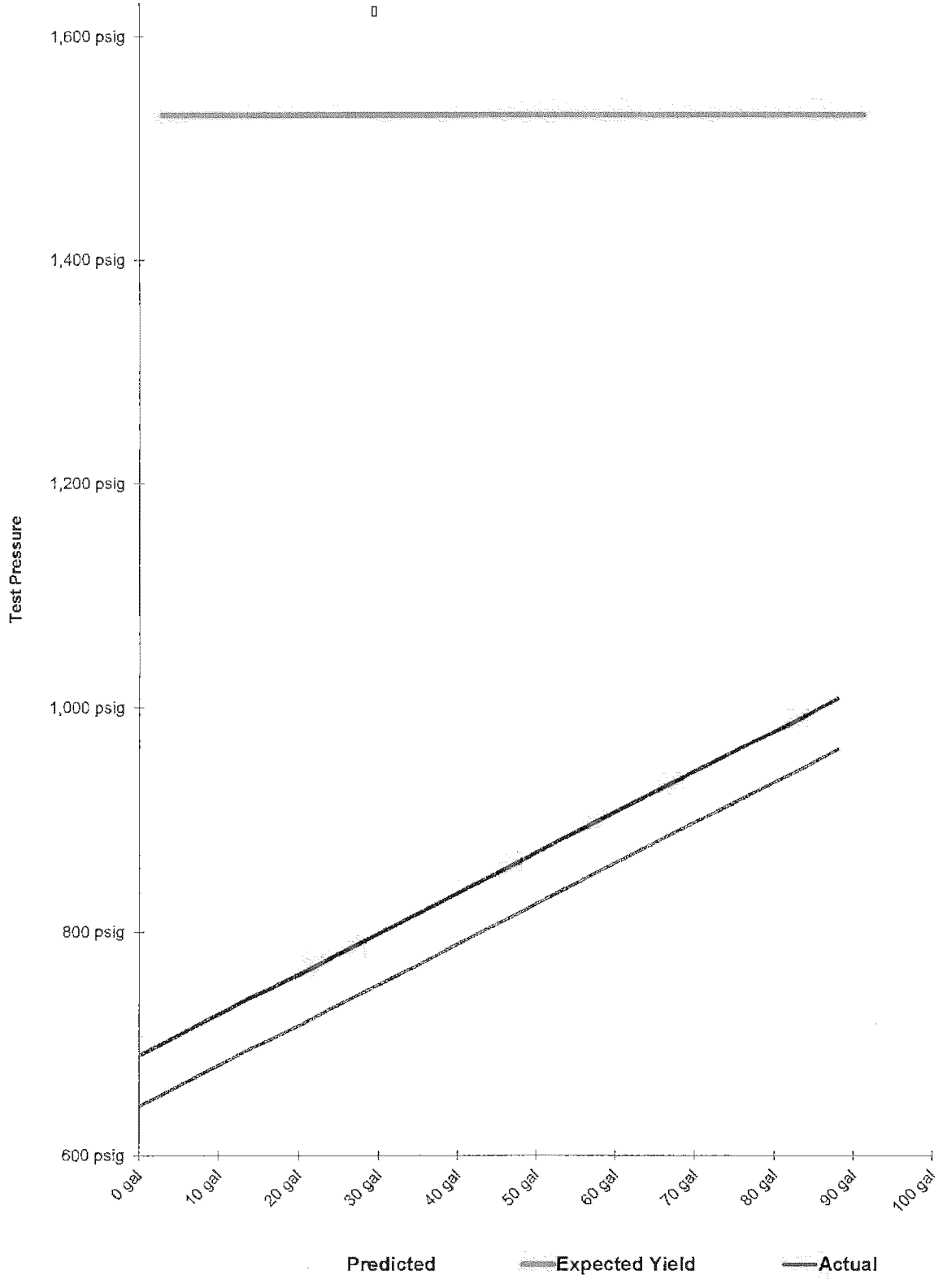
Spike Pressure Test
Stress Strain Curve -- PG&E T-76 L-1300B, MP 0.2241 - 0.459



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Actual Pressure Volume Plot Data			Predicted Pressure Volume Plot Data	Slope	
Pressure	Strokes	Gallons	Gallons	Actual	Predicted
690 psig	0	0.00 gal		0	0.000
700 psig	35	2.71 gal	2.88 gal	0.271	0.288
710 psig	70	5.43 gal	5.75 gal	0.271	0.288
720 psig	105	8.14 gal	8.63 gal	0.271	0.288
730 psig	141	10.93 gal	11.51 gal	0.279	0.288
740 psig	176	13.65 gal	14.39 gal	0.271	0.288
750 psig	214	16.59 gal	17.27 gal	0.295	0.288
760 psig	251	19.46 gal	20.14 gal	0.287	0.288
770 psig	286	22.17 gal	23.02 gal	0.271	0.288
780 psig	321	24.89 gal	25.90 gal	0.271	0.288
790 psig	357	27.68 gal	28.78 gal	0.279	0.288
800 psig	393	30.47 gal	31.66 gal	0.279	0.288
810 psig	429	33.26 gal	34.54 gal	0.279	0.288
820 psig	465	36.05 gal	37.42 gal	0.279	0.288
830 psig	500	38.77 gal	40.30 gal	0.271	0.288
840 psig	536	41.56 gal	43.18 gal	0.279	0.288
850 psig	573	44.43 gal	46.06 gal	0.287	0.288
860 psig	610	47.30 gal	48.94 gal	0.287	0.288
870 psig	645	50.01 gal	51.82 gal	0.271	0.288
880 psig	680	52.72 gal	54.70 gal	0.271	0.288
890 psig	716	55.51 gal	57.58 gal	0.279	0.288
900 psig	750	58.15 gal	60.46 gal	0.264	0.288
910 psig	786	60.94 gal	63.34 gal	0.279	0.288
920 psig	822	63.73 gal	66.22 gal	0.279	0.288
930 psig	857	66.45 gal	69.10 gal	0.271	0.288
940 psig	893	69.24 gal	71.99 gal	0.279	0.288
950 psig	930	72.11 gal	74.87 gal	0.287	0.288
960 psig	966	74.90 gal	77.75 gal	0.279	0.288
970 psig	1000	77.53 gal	80.63 gal	0.264	0.288
980 psig	1038	80.48 gal	83.51 gal	0.295	0.288
990 psig	1074	83.27 gal	86.40 gal	0.279	0.288
1,000 psig	1108	85.91 gal	89.28 gal	0.264	0.288
1,008 psig	1136	88.08 gal	91.59 gal	0.271	0.288
1,008 psig		88.08 gal	91.59 gal	0.000	0.000
1,008 psig		88.08 gal	91.59 gal	0.000	0.000
1,008 psig		88.08 gal	91.59 gal	0.000	0.000
1,008 psig		88.08 gal	91.59 gal	0.000	0.000
1,008 psig		88.08 gal	91.59 gal	0.000	0.000
1,008 psig		88.08 gal	91.59 gal	0.000	0.000
1,008 psig		88.08 gal	91.59 gal	0.000	0.000
1,008 psig		88.08 gal	91.59 gal	0.000	0.000
1,008 psig		88.08 gal	91.59 gal	0.000	0.000
1,008 psig		88.08 gal	91.59 gal	0.000	0.000
1,008 psig		88.08 gal	91.59 gal	0.000	0.000

Spike Pressure Test
Stress Strain Curve -- PG&E T-76 L-1300B, MP 0.2241 - 0.459

Pump gal per stroke	0.138 gal/stroke
Pump Piston Diameter	1.500 in
Pump Piston Stroke	6.00 in
Pump Cylinders	3 ea
Volume check gal per stroke	0.078 gal/stroke
Volume Released (gallons)	26.31 gal
Pressure Reduced (psi)	95 psi
Maximum2	100 gal
Minimum2	0 gal
Maximum1	1,630 psig
Minimum1	600 psig
Gallons/Stroke Used	0.078 gal/stroke
Predicted Gallons/Stroke	0.081 gal/stroke
Pressure Increment	10 psi
Max Pressure	1,008 psig
Buried Pipe Temperature	94 °F
Exposed Pipe Temperature	96 °F

ASME B31.8 Appendix N-5

Average Actual Elastic Slope	0.277
Average Predicted Elastic Slope	0.288
Code Prescribed Minimum Yield Slope (less 10%) B31.8 N-5 (c)(2)	0.526
Established Minimum Yield Pressure B31.8 N-5 (c)(2)	1,008 psig
Maximum Allowed Volume (After Slope Deviation) B31.8 N-5 (c)(2)	418 gal
Volume (After Slope Deviation) B31.8 N-5 (c)(2)	0 gal

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8/24/2011
Date

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Test Piping

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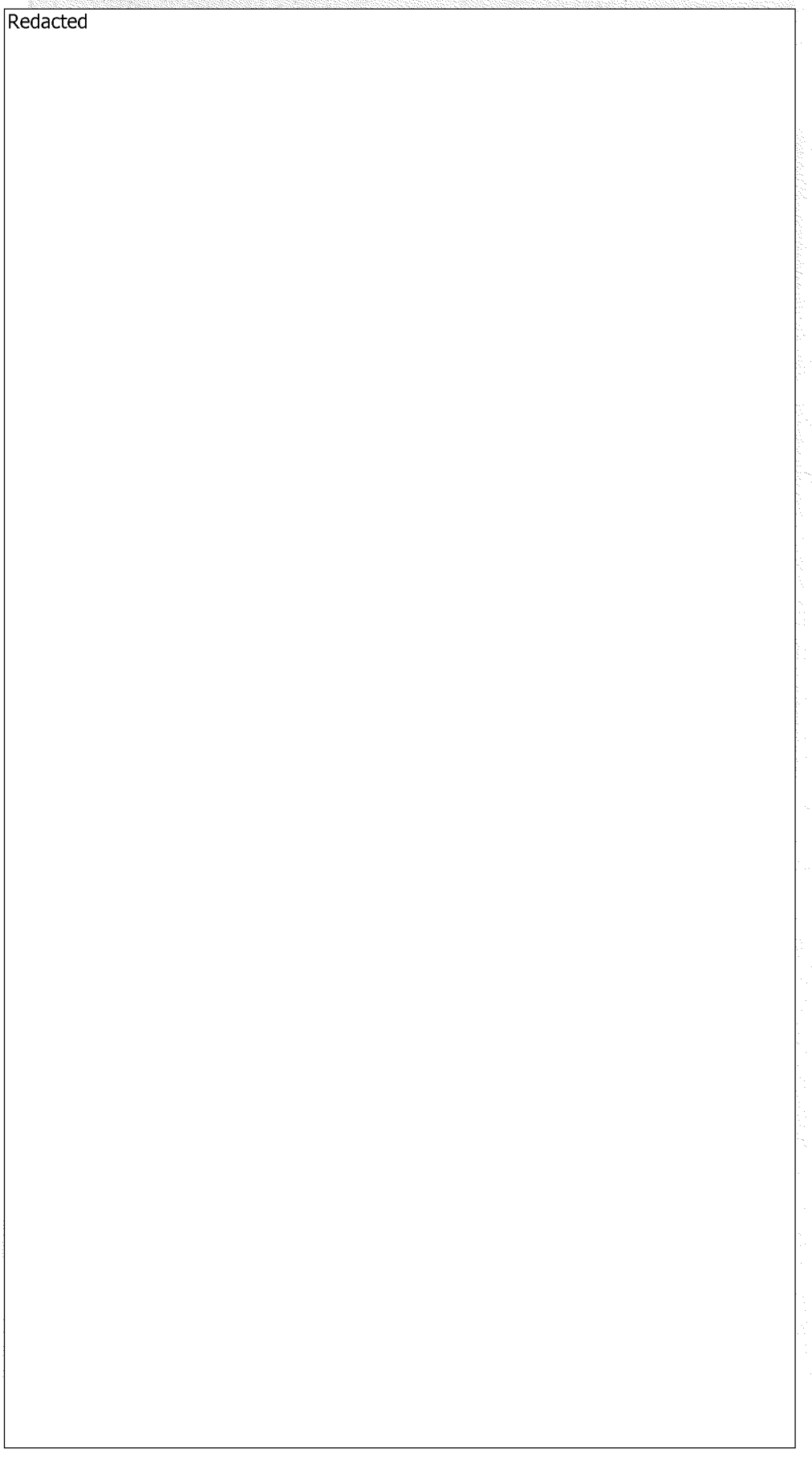

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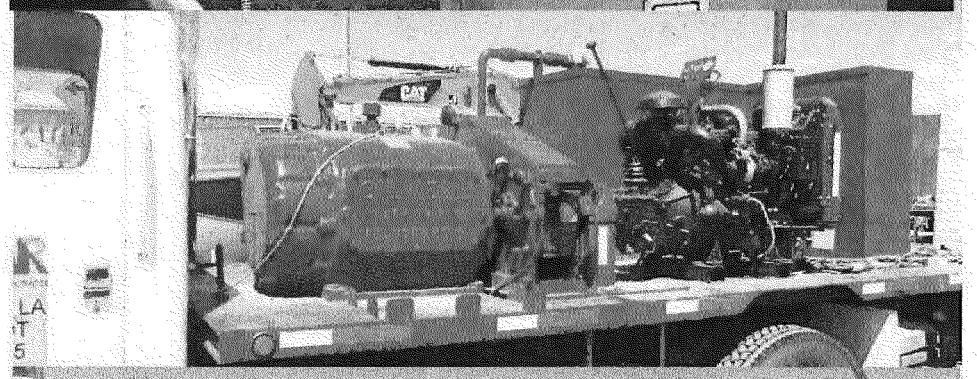

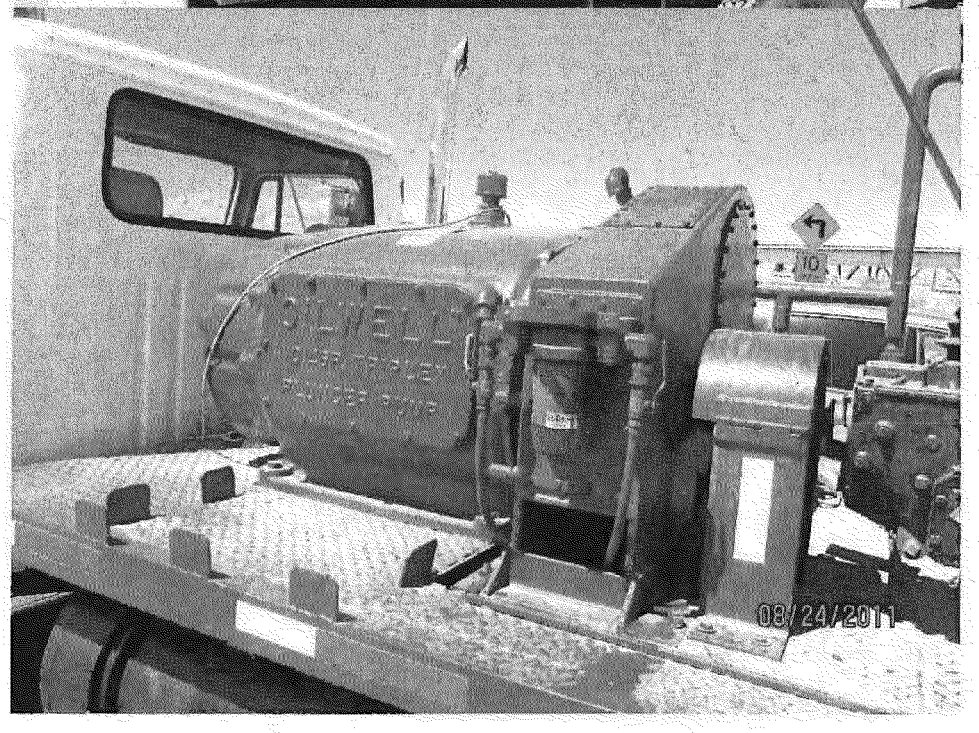

Pressure Pump

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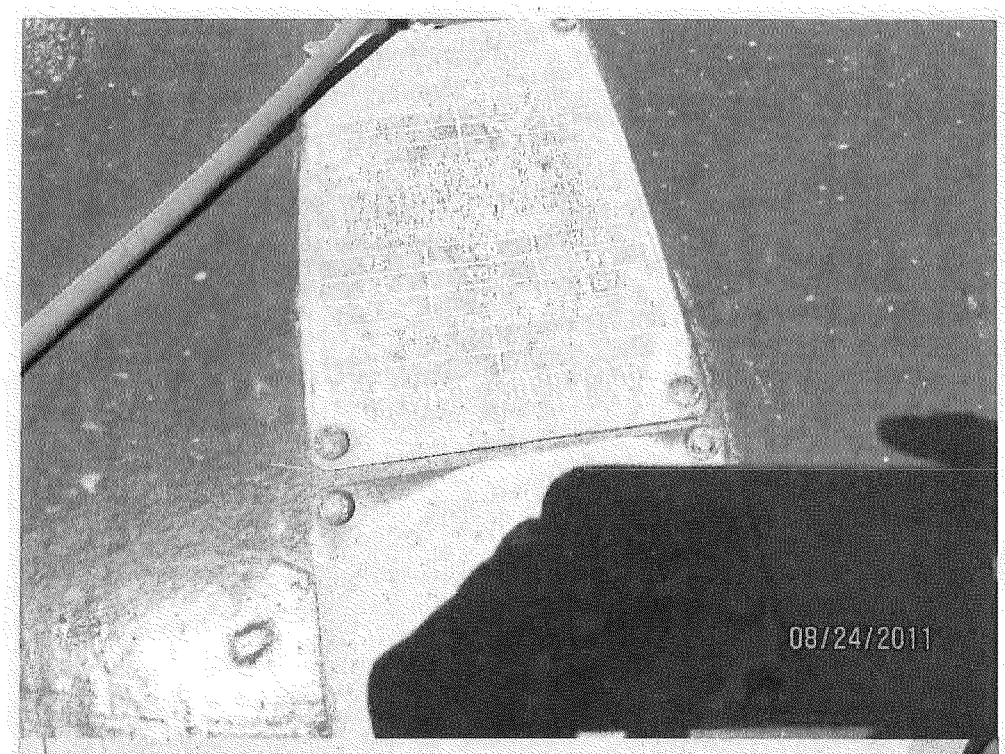
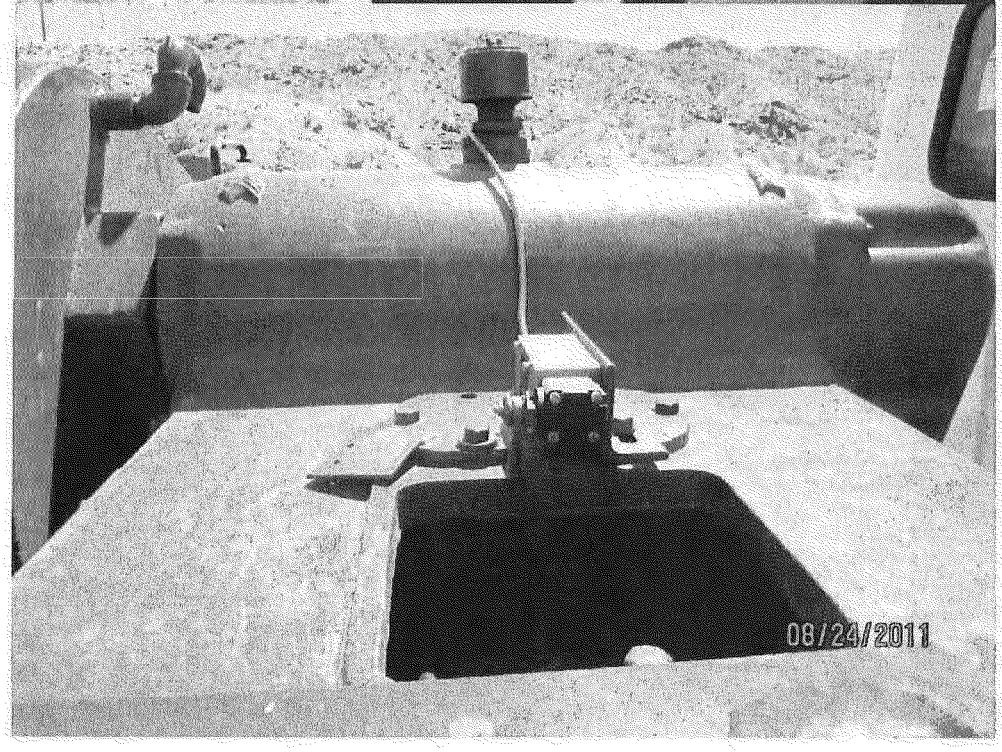


Pressure Pump
Nameplate



Pressure Pump
Stroke Counter

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Test Trailer Location

Test Trailer

Dead Weight Pressure Guage, Pressure Recorder Chart & Anbient Temperature Chart

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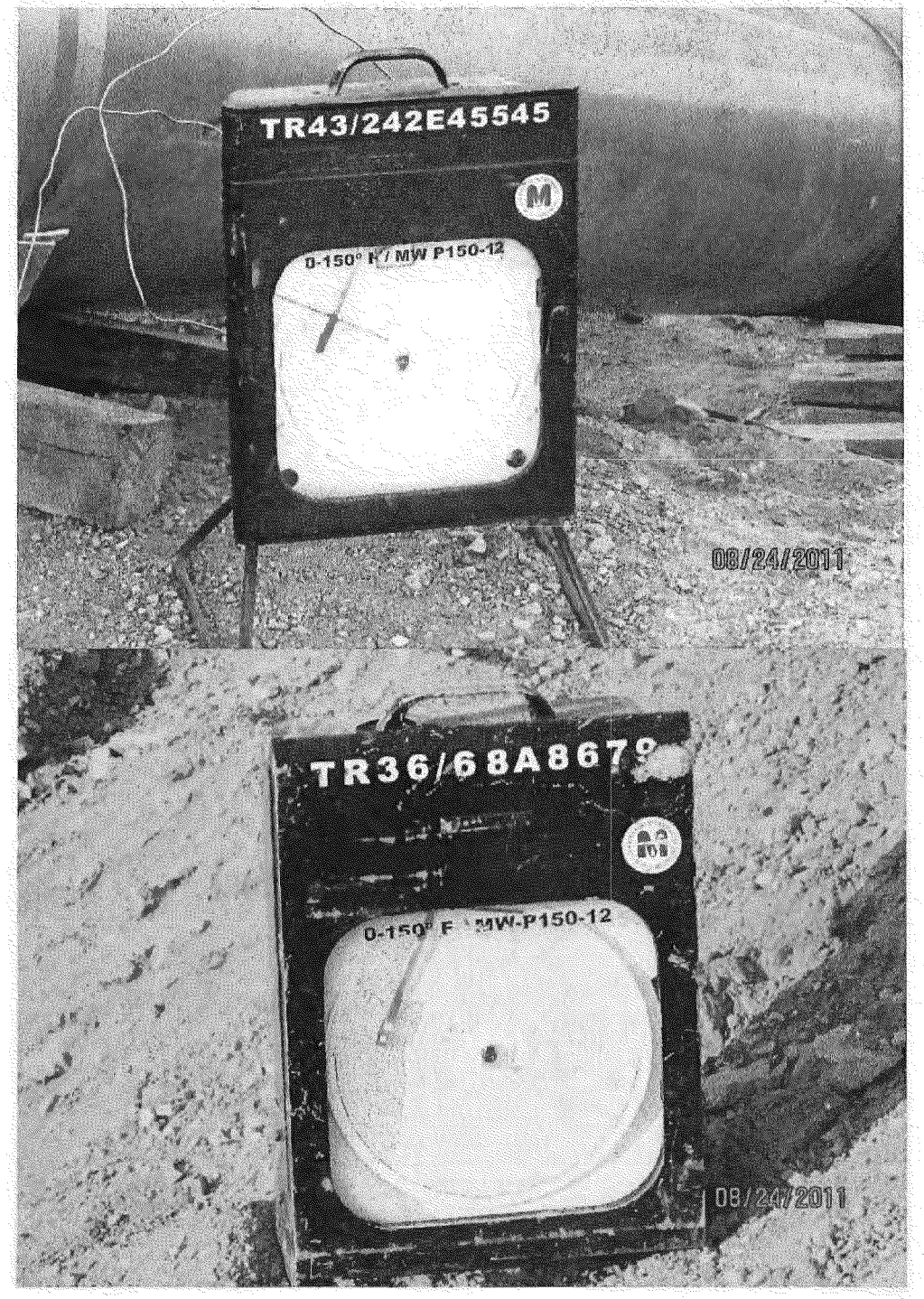

Unrestrained Pipe Temperature Recording Chart

Restrained Pipe Temperature Recording Chart