



RCP, Inc

801 Louisiana, Ste.200  
Houston, Texas 77002

Redacted

October 15, 2011

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

Test Contractor:	AKRI – PG&E 10-15-11
Asset Owner:	Pacific Gas and Electric Company – 414197346-4
Construction Contractor:	ARB – 0629-53-3500
Test Section:	PG&E T-26 L-132, MP 4.92 - 7.10
Test Date:	October 15, 2011
Certificate Number:	RCP 61362 - T-26 L-132, MP 4.92 - 7.10

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 AKRI met the requirements of the Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 3).

The test segment was subjected to a spike pressure test of 748 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 8.43 hour test duration period.

This hydrostatic test was completed successfully. Pressure was maintained on the test facilities in excess of 8.43 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 694 psig and the established MAOP is 462 psig.

Pressure decreased 54 psi during the test. 9,328.00 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 293.23 ounces, loss, which is equivalent to a 0.13 °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 loss is attributed to the error characteristic of the temperature measurement instrumentation utilized.

Sincerely,

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T-26 version 8.30.2011  
Letter

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### Hydrostatic Test Certification

Company	Pacific Gas and Electric Company	Job Number	414197346-4
Construction Co.	ARB	Job Number	0629-53-3500
Hydro. Test Co.	AKRI	Project No.	PG&E 10-15-11
Test Section	PG&E T-26 L-132, MP 4.92 - 7.10		
File Name	RCP 61362 - T-26 L-132, MP 4.92 - 7.10		

#### Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION: Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 3) Test Date: 15-Oct-11

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-26 L-132, MP 4.92 - 7.10  
 From: 110+88 To: 0+00

#### Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	57 ft	24.000 in.	0.375 in.	API5L-X60, DSAW, Arc Weld, Steel	1,875 psi
2	7 ft	24.000 in.	0.312 in.	API5L-X42, DSAW, Arc Weld, Steel	1,092 psi
3	10,937 ft	24.000 in.	0.281 in.	40ksmys, SM, Arc Weld, Steel	937 psi
4	6 ft	24.000 in.	0.281 in.	40ksmys, SM, Arc Weld, Steel	937 psi
5	1 ft	8.625 in.	0.280 in.	API5L-Grade B, SM, Arc Weld, Steel	2,958 psi
6	117 ft	2.375 in.	0.154 in.	API5L-Grade B, SM, Arc Weld, Steel	4,539 psi
7	3 ft	1.315 in.	0.140 in.	API5L-Grade B, SM, Arc Weld, Steel	7,452 psi
8	22 ft	24.000 in.	0.500 in.	API5L-X52, DSAW, Arc Weld, Steel	2,167 psi
9	6 ft	24.000 in.	0.312 in.	API5L-X60, SM, Arc Weld, Steel	1,560 psi

#### Initial Test Conditions

Pressure at Test Point:	748 psig	Date/Time:	10/15/11 2:04 AM	Pipe Temperature	
Ambient Temperature:	64.0 °F	Elevation @ Test Point:	43.0 ft	Unrestrained:	63.0 °F
Pressure @ High Point (Cal/Measure):	748 psig	Elevation @ High Point:	43.0 ft	Restrained:	63.0 °F
Pressure @ Low Point (Cal/Measure):	758 psig	Elevation @ Low Point:	21.0 ft	Location:	110+88
				Location:	110+88
				Location:	6+16

#### Final Test Conditions

Pressure at Test Point:	694 psig	Date/Time:	10/15/11 10:30 AM	Pipe Temperature	
Ambient Temperature:	73.0 °F	Elevation @ Test Point:	43.0 ft	Unrestrained:	65.0 °F
Pressure @ High Point (Cal/Measure):	694 psig	Elevation @ High Point:	43.0 ft	Restrained:	63.0 °F
Pressure @ Low Point (Cal/Measure):	704 psig	Elevation @ Low Point:	21.0 ft	Location:	110+88
				Location:	110+88
				Location:	6+16
Total Fluid Injected:				Volume loss	
Total Fluid Withdrawn:	9328.00 fluid ounces				
Net Change in Volume of the Test Section ± (+ Gain, - Loss):	(293.23) oz	loss	(0.0003)%	(0.130) °F equivalent	

Test Duration: 8.43 hours

Minimum Test Pressure:	694 psig	Max Elevation	694 psig	Min Elevation	704 psig
Maximum Test Pressure:	748 psig		748 psig		758 psig
% SMYS:	10.1%		39.9%		80.9%
Test Segment Observed % SMYS:	Minimum: 10.1%		Maximum: 80.9%		

Minimum Test Pressure (Calculated/Measured): 694 psig

Maximum Allowable Operating Pressure:	DOT Part 192	Test Factor= 1.50	462 psig
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Were leaks observed?	No	Explain:
Acceptable Hydrostatic Test?	Yes	<p>The test segment was subjected to a spike pressure test of 748 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 8.43 hour test duration period.</p> <p>No leaks were observed during the test period. The test section included 11,077 feet of buried and 79 feet of exposed pipe. Pressure lost 54 psi during the test. The buried pipe segment fluid temperature remained steady and the exposed pipe segment gained 2°F.</p> <p>9,328.00 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 293.23 ounces, loss, which is equivalent to a 0.13 °F change in pipe temperature and within the error attributed to the temperature measurement instrumentation utilized.</p> <p>Test pressure did not remain steady even though no leaks were observed. The volumetric loss is attributed to the error characteristic of the temperature measurement instrumentation utilized.</p>
Remarks	Pipe segment Item #3 (Test 3) associated with valve. Pipe was visually inspected for seamless. Pipe was x-rayed to determine grade. Info provided by Joe Davidson. Hard copy of test data for Pipe segment Item #3 given to Jim Stack. With report.	

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# Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	<b>COPY</b> OCT 15 2011 <b>PG &amp; E</b>	Job Number	414197346-4
Construction Co.	ARB		Job Number	0629-53-3500
Testing Co.	AKRI		Project No.	PG&E 10-15-11
Test Section	PG&E T-26 L-132, MP 4.92 - 7.10			
File Name	RCP 61362 - T-26 L-132, MP 4.92 - 7.10			

Date	15-Oct-11	<b>Test Log</b>
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Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
					Unrestrained	Restrained			
1	10/15/11	1:35 AM	510 psig	65 °F	63 °F	63 °F	Start Spike		
2	10/15/11	1:36 AM	520 psig	65 °F	63 °F	63 °F	Inject		1,905 oz.
3	10/15/11	1:37 AM	530 psig	65 °F	63 °F	63 °F	Inject		1,770 oz.
4	10/15/11	1:38 AM	540 psig	65 °F	63 °F	63 °F	Inject		1,710 oz.
5	10/15/11	1:39 AM	550 psig	65 °F	63 °F	63 °F	Inject		1,710 oz.
6	10/15/11	1:40 AM	560 psig	65 °F	63 °F	63 °F	Inject		1,875 oz.
7	10/15/11	1:41 AM	570 psig	65 °F	63 °F	63 °F	Inject		1,410 oz.
8	10/15/11	1:42 AM	580 psig	65 °F	63 °F	63 °F	Inject		1,740 oz.
9	10/15/11	1:43 AM	590 psig	65 °F	63 °F	63 °F	Inject		1,920 oz.
10	10/15/11	1:44 AM	600 psig	65 °F	63 °F	63 °F	Inject		1,740 oz.
11	10/15/11	1:45 AM	610 psig	65 °F	63 °F	63 °F	Inject		1,845 oz.
12	10/15/11	1:46 AM	620 psig	65 °F	63 °F	63 °F	Inject		1,785 oz.
13	10/15/11	1:47 AM	630 psig	65 °F	63 °F	63 °F	Inject		1,680 oz.
14	10/15/11	1:48 AM	640 psig	65 °F	63 °F	63 °F	Inject		1,785 oz.
15	10/15/11	1:49 AM	650 psig	65 °F	63 °F	63 °F	Inject		1,725 oz.
16	10/15/11	1:50 AM	660 psig	65 °F	63 °F	63 °F	Inject		1,770 oz.
17	10/15/11	1:51 AM	670 psig	65 °F	63 °F	63 °F	Inject		1,755 oz.
18	10/15/11	1:52 AM	680 psig	65 °F	63 °F	63 °F	Inject		1,800 oz.
19	10/15/11	1:53 AM	690 psig	65 °F	63 °F	63 °F	Inject		1,725 oz.
20	10/15/11	1:54 AM	700 psig	65 °F	63 °F	63 °F	Inject		1,650 oz.
21	10/15/11	1:55 AM	710 psig	65 °F	63 °F	63 °F	Inject		1,785 oz.
22	10/15/11	1:56 AM	720 psig	65 °F	63 °F	63 °F	Inject		1,815 oz.
23	10/15/11	1:57 AM	730 psig	65 °F	63 °F	63 °F	Inject		1,800 oz.
24	10/15/11	1:58 AM	740 psig	65 °F	63 °F	63 °F	Inject		1,650 oz.
25	10/15/11	1:59 AM	748 psig	65 °F	63 °F	63 °F	Inject		1,530 oz.
26	10/15/11	2:04 AM	748 psig	64 °F	63 °F	63 °F	On Test		
27	10/15/11	2:14 AM	748 psig	64 °F	63 °F	63 °F			
28	10/15/11	2:24 AM	748 psig	64 °F	63 °F	63 °F			
29	10/15/11	2:34 AM	748 psig	64 °F	63 °F	63 °F	End Spike		
30	10/15/11	2:40 AM	738 psig	64 °F	63 °F	63 °F	Bleed	1,760 oz.	
31	10/15/11	2:41 AM	728 psig	64 °F	63 °F	63 °F	Bleed	1,760 oz.	
32	10/15/11	2:42 AM	718 psig	64 °F	63 °F	63 °F	Bleed	1,760 oz.	
33	10/15/11	2:43 AM	708 psig	64 °F	63 °F	63 °F	Bleed	1,760 oz.	
34	10/15/11	2:44 AM	698 psig	64 °F	63 °F	63 °F	Bleed	1,760 oz.	
35	10/15/11	2:45 AM	695 psig	63 °F	63 °F	63 °F	Bleed	528 oz.	
36	10/15/11	3:00 AM	695 psig	62 °F	63 °F	63 °F			
37	10/15/11	3:15 AM	695 psig	63 °F	64 °F	63 °F			
38	10/15/11	3:30 AM	695 psig	63 °F	64 °F	63 °F			
39	10/15/11	3:45 AM	695 psig	62 °F	64 °F	63 °F			
40	10/15/11	4:00 AM	695 psig	61 °F	64 °F	63 °F			
41	10/15/11	4:15 AM	695 psig	61 °F	64 °F	63 °F			
42	10/15/11	4:30 AM	695 psig	62 °F	64 °F	63 °F			
43	10/15/11	4:45 AM	695 psig	60 °F	64 °F	63 °F			
44	10/15/11	5:00 AM	695 psig	61 °F	64 °F	63 °F			





# Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	414197346-4
Construction Co.	ARB	Job Number	0629-53-3500
Testing Co.	AKRI	Project No.	PG&E 10-15-11
Test Section	PG&E T-26 L-132, MP 4.92 - 7.10		
File Name	RCP 61362 - T-26 L-132, MP 4.92 - 7.10		

Date		Test Log											
Log No.	Test Period		Test Pressure	Temperature °F			Remarks						
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject				
					Unrestrained	Restrained							
45	10/15/11	5:15 AM	695 psig	61 °F	64 °F	63 °F							
46	10/15/11	5:30 AM	695 psig	60 °F	64 °F	63 °F							
47	10/15/11	5:45 AM	695 psig	60 °F	64 °F	63 °F							
48	10/15/11	6:00 AM	695 psig	60 °F	64 °F	63 °F							
49	10/15/11	6:15 AM	695 psig	60 °F	64 °F	63 °F							
50	10/15/11	6:30 AM	695 psig	60 °F	64 °F	63 °F							
51	10/15/11	6:45 AM	695 psig	60 °F	64 °F	63 °F							
52	10/15/11	7:00 AM	695 psig	60 °F	64 °F	63 °F							
53	10/15/11	7:15 AM	695 psig	60 °F	64 °F	63 °F							
54	10/15/11	7:30 AM	695 psig	59 °F	64 °F	63 °F							
55	10/15/11	7:45 AM	694 psig	60 °F	64 °F	63 °F							
56	10/15/11	8:00 AM	694 psig	61 °F	64 °F	63 °F							
57	10/15/11	8:15 AM	694 psig	62 °F	64 °F	63 °F							
58	10/15/11	8:30 AM	694 psig	63 °F	64 °F	63 °F							
59	10/15/11	8:45 AM	694 psig	63 °F	64 °F	63 °F							
60	10/15/11	9:00 AM	694 psig	65 °F	64 °F	63 °F							
61	10/15/11	9:15 AM	694 psig	66 °F	65 °F	63 °F							
62	10/15/11	9:30 AM	694 psig	67 °F	65 °F	63 °F							
63	10/15/11	9:45 AM	694 psig	66 °F	65 °F	63 °F							
64	10/15/11	10:00 AM	694 psig	69 °F	65 °F	63 °F							
65	10/15/11	10:15 AM	694 psig	75 °F	65 °F	63 °F							
66	10/15/11	10:30 AM	694 psig	73 °F	65 °F	63 °F	End of Test						
							Spike Test		41,888.0 oz.				
							Hydrostatic Test	9,328.0 oz.					
Were leaks observed during the test period?			Exposed and buried pipe, no leaks observed.			<table border="1"> <tr><td>High Test Pressure:</td><td>748 psig</td></tr> <tr><td>Low Test Pressure:</td><td>694 psig</td></tr> </table>				High Test Pressure:	748 psig	Low Test Pressure:	694 psig
High Test Pressure:	748 psig												
Low Test Pressure:	694 psig												

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## Pipe Segment Volume Calculations

Company	Pacific Gas and Electric Company	Job Number	414197346-4
Construction Co.	ARB	Job Number	0629-53-3500
Hydro. Test Co.	AKRI	Project No.	PG&E 10-15-11
Test Section	PG&E T-26 L-132, MP 4.92 - 7.10	WATER	
File Name	RCP 61362 - T-26 L-132, MP 4.92 - 7.10		

### General Pipe Data

Description	Segment								
	1	2	3	4	5	6	7	8	9
Restrained or Unrestrained?	Unrestrained	Restrained	Restrained	Restrained	Restrained	Restrained	Restrained	Unrestrained	Restrained
Outside Diameter	24.000 in.	24.000 in.	24.000 in.	24.000 in.	6.625 in.	2.375 in.	1.315 in.	24.000 in.	24.000 in.
Wall Thickness	0.375 in.	0.312 in.	0.281 in.	0.281 in.	0.280 in.	0.154 in.	0.140 in.	0.500 in.	0.312 in.
Spec./Grade	API5L-X60	API5L-X42	40ksmys	40ksmys	API5L-Grade B	API5L-Grade B	API5L-Grade B	API5L-X52	API5L-X60
Length Unrestrained	57 ft							22 ft	
Length Restrained		7 ft	10.937 ft	6 ft	1 ft	117 ft	3 ft		6 ft
Temperature - On Test	63 °F	63 °F	63.0 °F	63.0 °F	63.0 °F	63.0 °F	63.0 °F	63.0 °F	63.0 °F
Temperature - End of Test	65 °F	63 °F	63.0 °F	63.0 °F	63.0 °F	63.0 °F	63.0 °F	65.0 °F	63.0 °F
Pressure - On Test	748 psig	748 psig	748 psig	748 psig	748 psig	748 psig	748 psig	748 psig	748 psig
Pressure - End of Test	694 psig	694 psig	694 psig	694 psig	694 psig	694 psig	694 psig	694 psig	694 psig

### Unrestrained Pipe

Sum:	Vo	1,731.96 gal 221,691 oz.		Vip1	1,738.67 gal 222,560 oz.		Vip2	1,737.88 gal 222,448 oz.	
Vo Unrestrained	1,257 gal							475 gal	
Fwp 1	1.002290							1.002290	
Fpp 1	1.001932							1.001434	
Fot 1	1.000055							1.000055	
Fwt 1	1.000267							1.000267	
Fpwt 1 = Fp/Fwt	0.999788							0.999788	
Vip 1 = Vo(Fwp)(Fpp)(Fpwt)	1,262.18 gal							476.80 gal	
Fwp 2	1.002125							1.002125	
Fpp 2	1.001793							1.001330	
Fot 2	1.000091							1.000091	
Fwt 2	1.000467							1.000467	
Fpwt = Fp/Fwt	0.999624							0.999624	
Vip = Vo(Fwp)(Fpp)(Fpwt)	1,261.58 gal							476.29 gal	

### Restrained Pipe

Sum:	Vo	245,577.48 gal 31,433,915 oz.		Vip1	246,551.41 gal 31,558,580 oz.		Vip2	246,477.04 gal 31,548,061 oz.	
Vo Unrestrained		156 gal	245,131 gal	134 gal	2 gal	20 gal	0 gal	134 gal	
Fwp 1		1.002290	1.002290	1.002290	1.002290	1.002290	1.002290	1.002290	
Fpp 1		1.001711	1.001903	1.001903	1.000502	1.000315	1.000179	1.001711	
Fot 1		1.000036	1.000036	1.000036	1.000036	1.000036	1.000036	1.000036	
Fwt 1		1.000267	1.000267	1.000267	1.000267	1.000267	1.000267	1.000267	
Fpwt 1 = Fp/Fwt		0.999769	0.999769	0.999769	0.999769	0.999769	0.999769	0.999769	
Vip 1 = Vo(Fwp)(Fpp)(Fpwt)		157 gal	246,103 gal	135 gal	2 gal	20 gal	0 gal	134 gal	
Fwp 2		1.002125	1.002125	1.002125	1.002125	1.002125	1.002125	1.002125	
Fpp 2		1.001588	1.001767	1.001767	1.000467	1.000293	1.000166	1.001588	
Fot 2		1.000036	1.000036	1.000036	1.000036	1.000036	1.000036	1.000036	
Fwt 2		1.000267	1.000267	1.000267	1.000267	1.000267	1.000267	1.000267	
Fpwt = Fp/Fwt		0.999769	0.999769	0.999769	0.999769	0.999769	0.999769	0.999769	
Vip = Vo(Fwp)(Fpp)(Fpwt)		157 gal	246,029 gal	135 gal	2 gal	20 gal	0 gal	134 gal	

### Combined Pipe

Sum:	Vo	247,309.42 gal 31,655,608 oz.		Vip1	248,290.08 gal 31,781,130 oz.		Vip2	248,214.92 gal 31,771,509 oz.	
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## Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	414197346-4
Construction Co.	ARB	Job Number	0829-53-3500
Hydro. Test Co.	AKRI	Project No.	PG&E 10-15-11
Test Section	PG&E T-26 L-132, MP 4.92 - 7.10		
File Name	RCP 61362 - T-26 L-132, MP 4.92 - 7.10		WATER

### General Pipe Data

Description	Segment								
	1	2	3	4	5	6	7	8	9
Restrained or Unrestrained?	Unrestrained	Restrained	Restrained	Restrained	Restrained	Restrained	Restrained	Unrestrained	Restrained
Outside Diameter	24.000 in.	24.000 in.	24.000 in.	24.000 in.	6.625 in.	2.375 in.	1.315 in.	24.000 in.	24.000 in.
Wall Thickness	0.375 in.	0.312 in.	0.281 in.	0.281 in.	0.280 in.	0.154 in.	0.140 in.	0.500 in.	0.312 in.
Spec./Grade	API5L-X60	API5L-X42	40ksmys	40ksmys	API5L-Grade B	API5L-Grade B	API5L-Grade B	API5L-X52	API5L-X60
Length Unrestrained	57.00 ft							22 ft	
Length Restrained		7 ft	10.937 ft	6 ft	1 ft	117 ft	3 ft		6 ft
Temperature - On Test	63 °F	62 °F	62 °F	62 °F	62 °F	62 °F	62 °F	63 °F	62 °F
Temperature - End of Test	64 °F	63 °F	63 °F	63 °F	63 °F	63 °F	63 °F	64 °F	63 °F
Pressure - On Test	721 psig	721 psig	721 psig	721 psig	721 psig	721 psig	721 psig	721 psig	721 psig
Pressure - End of Test	721 psig	721 psig	721 psig	721 psig	721 psig	721 psig	721 psig	721 psig	721 psig

### Unrestrained Pipe

Sum:	Vo	1,731.96 gal		Vtp1	1,738.42 gal		Vtp2	1,738.26 gal	
		221,691 oz.			222,517 oz.			222,497 oz.	
Vo Unrestrained	1,257 gal								475 gal
Fwp 1	1.002208								1.002208
Fpp 1	1.001863								1.001863
Fpt 1	1.000055								1.000055
Fwt 1	1.000287								1.000287
Fpwt 1 = Fpt/Fwt	0.999788								0.999788
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	1,261.98 gal								476 gal
Fwp 2	1.002208								1.002208
Fpp 2	1.001863								1.001863
Fpt 2	1.000073								1.000073
Fwt 2	1.000375								1.000375
Fpwt 2 = Fpt/Fwt	0.999698								0.999698
Vtp 2 = Vo(Fwp)(Fpp)(Fpwt)	1,261.87 gal								476 gal

### Restrained Pipe

Sum:	Vo	245,577.46 gal		Vtp1	246,531.70 gal		Vtp2	246,514.22 gal	
		31,433,915 oz.			31,556,057 oz.			31,553,820 oz.	
Vo Restrained	156 gal	245,131 gal	134 gal	2 gal	20 gal	0 gal			134 gal
Fwp 1	1.002208	1.002208	1.002208	1.002208	1.002208	1.002208	1.002208		1.002208
Fpp 1	1.001846	1.001831	1.001831	1.000481	1.000301	1.000169			1.001846
Fpt 1	1.000024	1.000024	1.000024	1.000024	1.000024	1.000024			1.000024
Fwt 1	1.000181	1.000181	1.000181	1.000181	1.000181	1.000181			1.000181
Fpwt 1 = Fpt/Fwt	0.999844	0.999844	0.999844	0.999844	0.999844	0.999844			0.999844
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	157 gal	246,084 gal	135 gal	2 gal	20 gal	0 gal			134 gal
Fwp 2	1.002208	1.002208	1.002208	1.002208	1.002208	1.002208			1.002208
Fpp 2	1.001649	1.001835	1.001835	1.000485	1.000304	1.000172			1.001649
Fpt 2	1.000036	1.000036	1.000036	1.000036	1.000036	1.000036			1.000036
Fwt 2	1.000267	1.000267	1.000267	1.000267	1.000267	1.000267			1.000267
Fpwt 2 = Fpt/Fwt	0.999769	0.999769	0.999769	0.999769	0.999769	0.999769			0.999769
Vtp 2 = Vo(Fwp)(Fpp)(Fpwt)	157 gal	246,066 gal	135 gal	2 gal	20 gal	0 gal			134 gal

### Combined Pipe

Sum:	Vo	247,309.42 gal		Vtp1	248,270.11 gal		Vtp2	248,252.48 gal	
		31,655,606 oz.			31,778,574 oz.			31,776,318 oz.	
1 °F Change	17.63 gal		2,256.72 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	57 ft	Unrestrained	24.000 in.	0.3750 in.	API5L-X60	1,875 psig	Steel	Arc Weld	DSAW
2	7 ft	Restrained	24.000 in.	0.3120 in.	API5L-X42	1,092 psig	Steel	Arc Weld	DSAW
3	10,937 ft	Restrained	24.000 in.	0.2810 in.	40ksmys	937 psig	Steel	Arc Weld	SM
4	6 ft	Restrained	24.000 in.	0.2810 in.	40ksmys	937 psig	Steel	Arc Weld	SM
5	1 ft	Restrained	6.625 in.	0.2800 in.	API5L-Grade B	2,958 psig	Steel	Arc Weld	SM
6	117 ft	Restrained	2.375 in.	0.1540 in.	API5L-Grade B	4,539 psig	Steel	Arc Weld	SM
7	3 ft	Restrained	1.315 in.	0.1400 in.	API5L-Grade B	7,452 psig	Steel	Arc Weld	SM
8	22 ft	Unrestrained	24.000 in.	0.5000 in.	API5L-X52	2,167 psig	Steel	Arc Weld	DSAW
9	6 ft	Restrained	24.000 in.	0.3120 in.	API5L-X60	1,560 psig	Steel	Arc Weld	SM

### Hydrostatic Test Project Owner & Participants

Owner Company	Pacific Gas and Electric Company	Job Number
Address	350 N. Wiget Walnut Creek, CA 94598 Attention: Redacted	414197346-4
Construction Company	ARB	Job Number
Address	1875 Loveridge Road Antioch, CA 94565 Attention: Redacted	0629-53-3500
Hydrostatic Test Co.	AKRI	Project No.
Address	1414 Valhalla Drive Bakerfield, CA 93309 Attention: Redacted	PG&E 10-15-11
Test Section	PG&E T-26 L-132, MP 4.92 - 7.10 From: 110+88 To: 0+00	
File Name	RCP 61362 - T-26 L-132, MP 4.92 - 7.10	

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 changed without written approval.			
Time and Date Test Pressure Reached	10/15/11 2:04 AM	Elevation at Test Point	43 ft	Min. Required Test Press At Test Point (1)	680.00 psig	Max. Allowable Test Press at Test Point (4)	750.47 psig
Time and Date Test Ended	10/15/11 10:30 AM	Max. Elevation in Test Section	43 ft	Min. Indicated Test Pressure (2)	694.00 psig	Max. Indicated Test Pressure (5)	748.00 psig
Actual Duration of Test	8 hours 26 minutes	Min. Elevation in Test Section	21 ft	Min. Test Pressure at Max. Elevation (3)	694.00 psig	Max. Test Pressure at Min. Elevation (6)	757.53 psig

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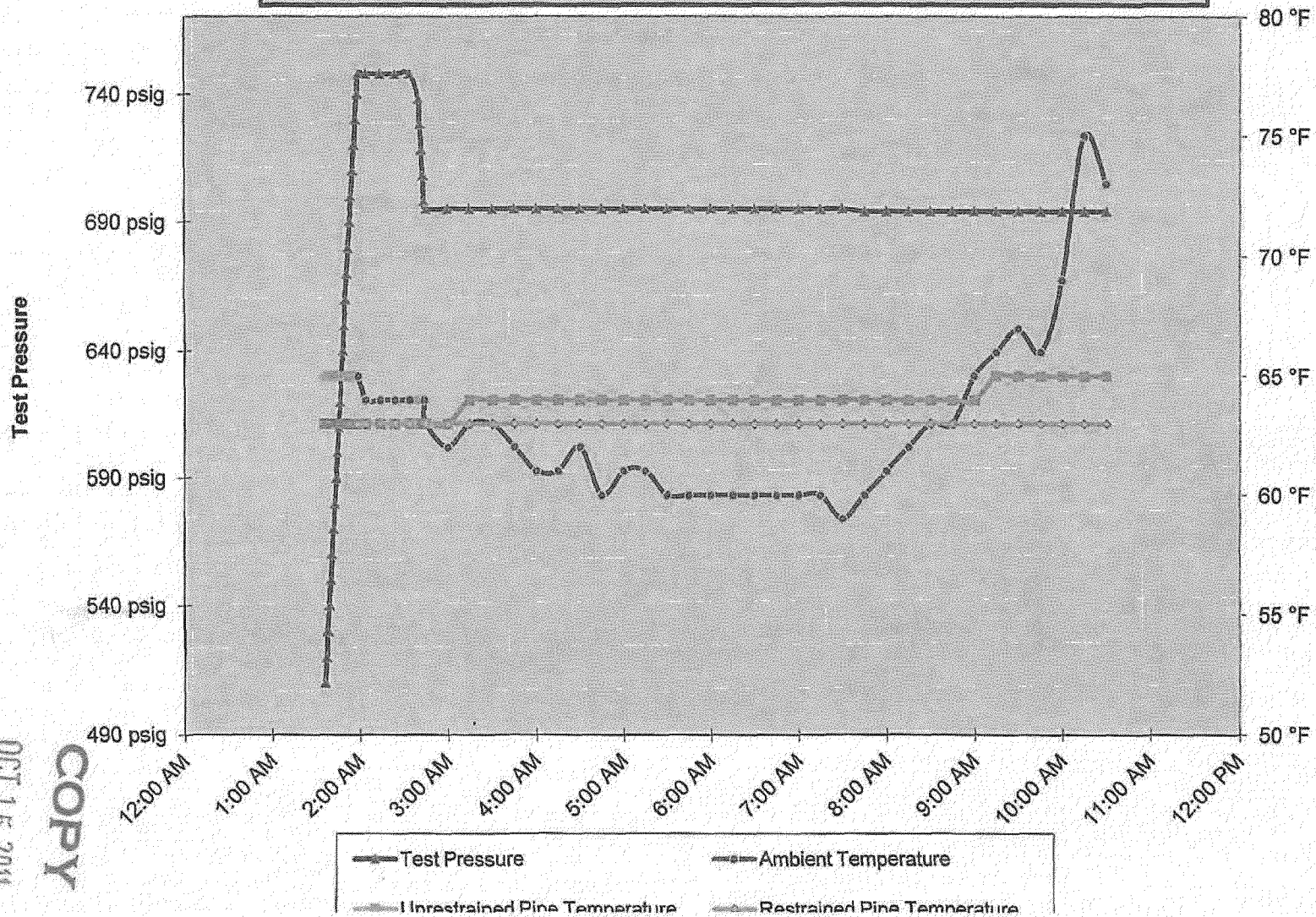
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T-26 version 8.30.2011

Pipe

RCP

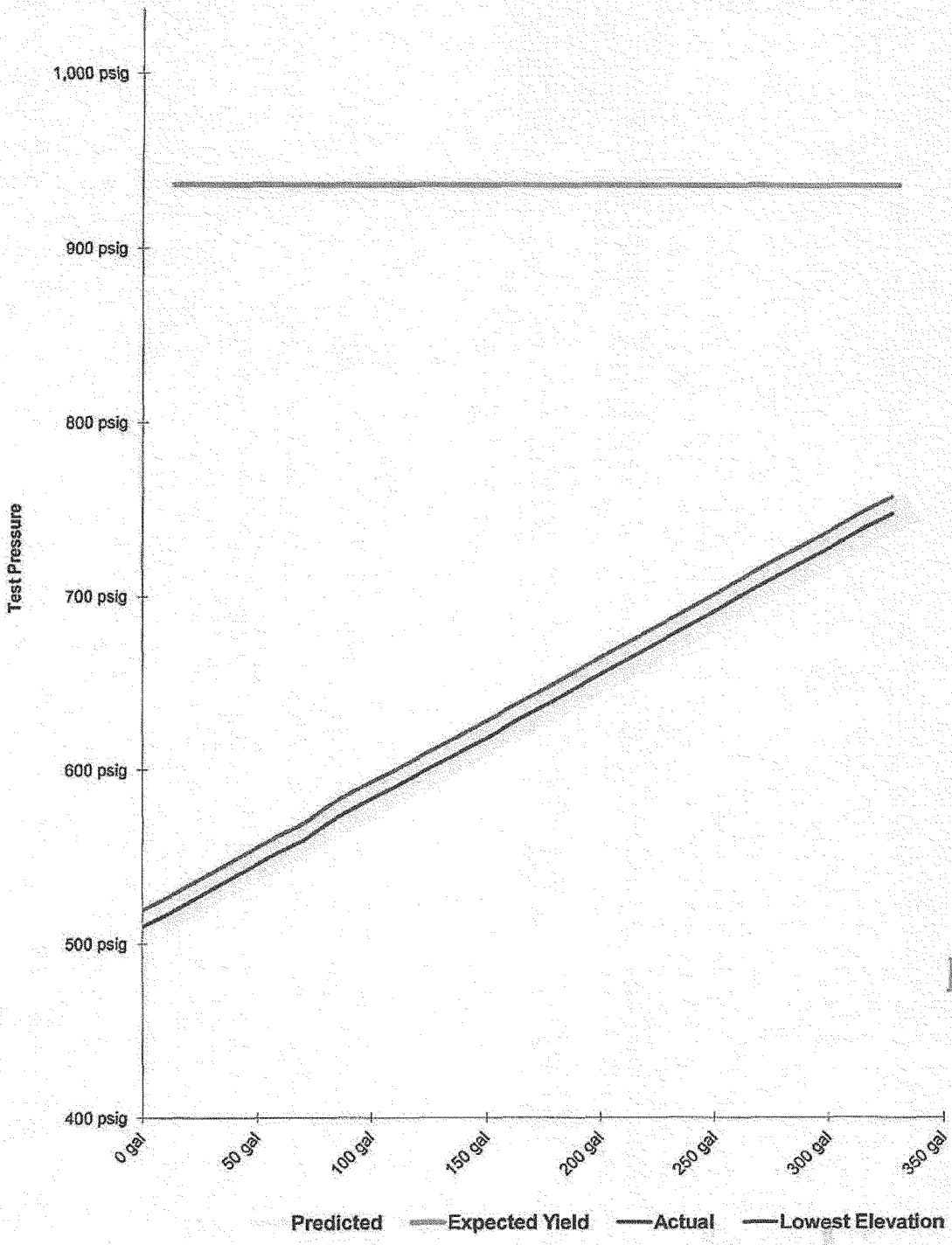
PG&E T-26 L-132, MP 4.92 - 7.10



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**Spike Pressure Test  
Stress Strain Curve – PG&E T-26 L-132, MP 4.92 - 7.10**

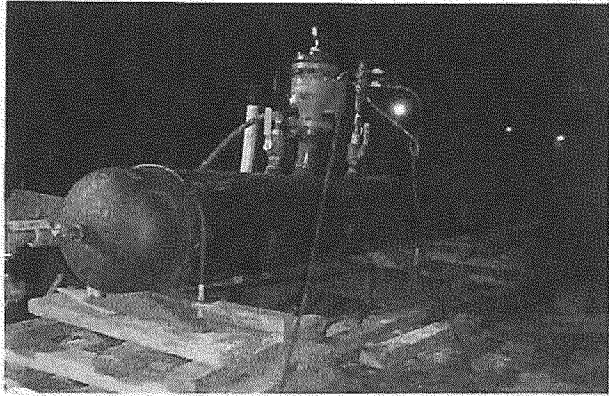


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Actual Pressure Volume Plot Data			Predicted Pressure Volume Plot Data	Slope		Spike Pressure Test Stress Strain Curve -- PG&E T-26 L-132, MP 4.92 - 7.10	
Pressure	Strokes	Gallons	Gallons	Actual	Predicted		
510 psig	0	0.00 gal		0	0.000	Pump gal per stroke	0.067 gal/stroke
520 psig	127	14.89 gal	13.85 gal	1.489	1.385	Pump Piston Diameter	1.375 in
530 psig	245	28.72 gal	27.70 gal	1.383	1.385	Pump Piston Stroke	3.50 in
540 psig	359	42.08 gal	41.56 gal	1.336	1.385	Pump Cylinders	3 ea
550 psig	473	55.44 gal	55.41 gal	1.336	1.385	Volume check gal per stroke	0.117 gal/stroke
560 psig	598	70.09 gal	69.27 gal	1.465	1.385	Volume Released (gallons)	13.75 gal
570 psig	692	81.11 gal	83.12 gal	1.102	1.386	Pressure Reduced (psi)	10 psi
580 psig	808	94.71 gal	96.98 gal	1.360	1.386	Maximum2	350 gal
590 psig	938	109.71 gal	110.84 gal	1.500	1.386	Minimum2	0 gal
600 psig	1052	123.30 gal	124.69 gal	1.360	1.386	Maximum1	1,037 psig
610 psig	1175	137.72 gal	138.55 gal	1.442	1.386	Minimum1	400 psig
620 psig	1294	151.67 gal	152.41 gal	1.395	1.386	Gallons/Stroke Used	0.117 gal/stroke
630 psig	1408	164.80 gal	166.27 gal	1.313	1.386	Predicted Gallons/Stroke	0.118 gal/stroke
640 psig	1525	178.75 gal	180.14 gal	1.395	1.386	Pressure Increment	10 psi
650 psig	1640	192.22 gal	194.00 gal	1.348	1.386	Max Pressure	748 psig
660 psig	1758	206.05 gal	207.86 gal	1.383	1.386	Buried Pipe Temperature	63 °F
670 psig	1875	219.77 gal	221.73 gal	1.371	1.386	Exposed Pipe Temperature	63 °F
680 psig	1995	233.83 gal	235.59 gal	1.407	1.387	ASME B31.8 Appendix N-5	
690 psig	2110	247.31 gal	249.46 gal	1.348	1.387		
700 psig	2220	260.21 gal	263.32 gal	1.289	1.387	Average Actual Elastic Slope	1.376
710 psig	2339	274.15 gal	277.19 gal	1.395	1.387	Average Predicted Elastic Slope	1.386
720 psig	2460	288.34 gal	291.06 gal	1.418	1.387	Code Prescribed Minimum Yield Slope (less 10%) B31.8 N-5 (c)(2)	2.614
730 psig	2580	302.40 gal	304.93 gal	1.407	1.387	Established Minimum Yield Pressure B31.8 N-5 (c)(2)	748 psig
740 psig	2690	315.29 gal	318.80 gal	1.289	1.387	Maximum Allowed Volume (After Slope Deviation) B31.8 N-5 (c)(2)	418 gal
748 psig	2792	327.25 gal	329.90 gal	1.494	1.387	Volume (After Slope Deviation) B31.8 N-5 (c)(2)	0 gal
748 psig		327.25 gal	329.90 gal	0.000	0.000	<div style="border: 1px solid black; width: 150px; height: 50px; display: flex; align-items: center; justify-content: center;"> <span>Redacted</span> </div>	
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748 psig		327.25 gal	329.90 gal	0.000	0.000		
748 psig		327.25 gal	329.90 gal	0.000	0.000		
748 psig		327.25 gal	329.90 gal	0.000	0.000		
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748 psig		327.25 gal	329.90 gal	0.000	0.000		
748 psig		327.25 gal	329.90 gal	0.000	0.000		
748 psig		327.25 gal	329.90 gal	0.000	0.000		
748 psig		327.25 gal	329.90 gal	0.000	0.000	10/15/2011	
748 psig		327.25 gal	329.90 gal	0.000	0.000	Date	

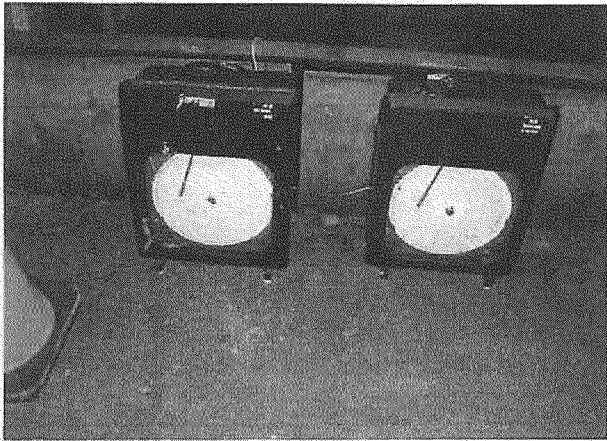
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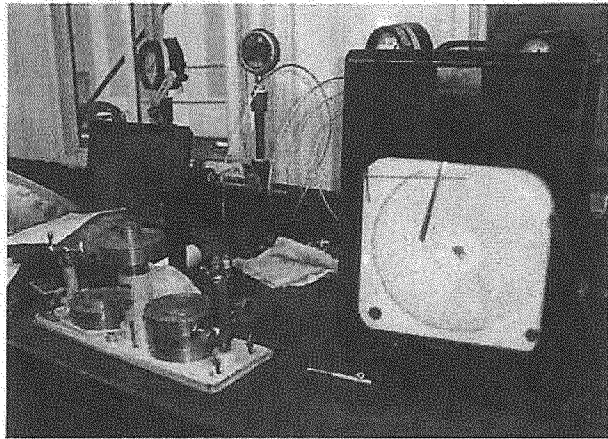
Test T-26 Test Head



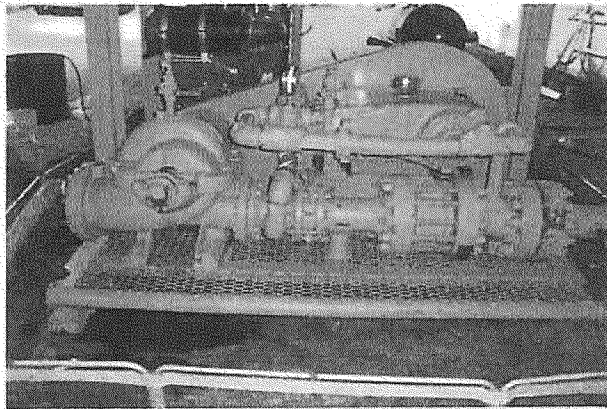
Test T-26 Test Head Tie In



Test T-26 Restrained & Unrestrained Temp. Rec.



Test T-26 Deadweight & Pressure Chart



Test T-26 Pump



Test T-26 Test End

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