



RCP, Inc

Redacted

June 14, 2011

Pacific Gas and Electric Company
3600 Adobe Rd
Petaluma, Ca 94954
Attention: Joel Mannie
Attention:

Test Contractor:	Contra Costa Inspection -- 40699 41174062
Asset Owner:	Pacific Gas and Electric Company -- 41474079
Construction Contractor:	ARB -- 0629-53-3500
Test Section:	PG&E T-2 Line 101
Test Date:	June 5, 2011
Certificate Number:	RCP 61362 - T-2, L-101

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

Prior to initiation of the hydrostatic test period, the test segment was subjected to a spike pressure of 752 psig for 30 minutes, without observed leakage or yielding of the pipe segment.

This hydrostatic test was completed successfully. Pressure was maintained on the test facilities in excess of 9 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 706 psig and the established MAOP is 470 psig.

Pressure decreased 42 psi during the test. 22,016.00 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 1,155.92 ounces, gain, which is equivalent to a 0.17 °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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Test 2.xlsm
Letter



Hydrostatic Test Certification

01474062

Company	Pacific Gas and Electric Company	Job Number	44474079
Construction Co.	ARB	Job Number	0629-53-3500
Hydro. Test Co.	Contra Costa Inspection	Project No.	40899
Test Section	PG&E T-2 Line 101		
File Name	RCP 61362 - T-2, L-101		

Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION: Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 3) Test Date: 5-Jun-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-2 Line 101
From:	124+50 To: 0+00

Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	146 ft	36.000 in	0.500 in	API5L-X65, DSAW, Arc Weld, Steel	1,808 psi
2	11,065 ft	36.000 in	0.350 in	API5L-X52, DSAW, Arc Weld, Steel	1,011 psi
3	310 ft	36.000 in	0.469 in	API5L-X52, DSAW, Arc Weld, Steel	1,353 psi
4	2 ft	34.000 in	0.500 in	API5L-X52, DSAW, Arc Weld, Steel	1,529 psi

Initial Test Conditions

Pressure at Test Point:	752 psig	Date/Time:	6/5/11 10:45 AM	Pipe Temperature	
Ambient Temperature:	68.0 °F	Elevation @ Test Point:	8.0 ft	Unrestrained:	67.0 °F
Pressure @ High Point (Cal/Measure):	748 psig	Elevation @ High Point:	17.0 ft	Restrained:	62.0 °F
Pressure @ Low Point (Cal/Measure):	755 psig	Elevation @ Low Point:	0.0 ft	Location:	124+50
				Location:	0+00
				Location:	112+60

Final Test Conditions

Pressure at Test Point:	710 psig	Date/Time:	6/5/11 6:00 PM	Pipe Temperature	
Ambient Temperature:	60.0 °F	Elevation @ Test Point:	8.0 ft	Unrestrained:	67.0 °F
Pressure @ High Point (Cal/Measure):	708 psig	Elevation @ High Point:	17.0 ft	Restrained:	62.0 °F
Pressure @ Low Point (Cal/Measure):	713 psig	Elevation @ Low Point:	0.0 ft	Location:	124+50
				Location:	0+00
				Location:	42+97

Total Fluid Injected:	22016.00 fluid ounces	Volume gain	
Total Fluid Withdrawn:			
Net Change in Volume of the Test Section ± (± Gain, - Loss):	1,155.92 oz gain	0.0014%	0.167 °F equivalent

Test Duration: 9 hours

Minimum Test Pressure:	710 psig	708 psig	713 psig
Maximum Test Pressure:	752 psig	748 psig	755 psig
% SMYS:	74.4%	74.0%	74.7%

Minimum Test Pressure (Calculated/Measured): 708 psig

Maximum Allowable Operating Pressure: DOT Part 192 Test Factor= 1.50 470 psig

Were leaks observed?	No	Explain:
Acceptable Hydrostatic Test?	Yes	<p>Prior to initiation of the hydrostatic test period, the test segment was subjected to a spike pressure of 752 psig for 30 minutes, without observed leakage or yielding of the pipe segment.</p> <p>No leaks were observed during the test period. The test section included 12,465 feet of buried and 140 feet of exposed pipe. Pressure lost 42 psi during the test. The buried pipe segment fluid temperature remained steady and the exposed pipe segment fluid temperature remained steady.</p> <p>22,016.00 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 1,155.92 ounces, gain, which is equivalent to a 0.17 °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 gain is attributed to the error characteristic of the temperature measurement instrumentation utilized.</p>

Remarks: Test was extended to ensure 8 continuous hours recorded after the length of time required to ramp pressure down to 710 psig. Reference test procedure.

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14-Jun-11



Dead Weight Log Sheet

Owner Company

Pacific Gas and Electric Company

Job Number
44474062

Construction Co.

ARB

Job Number
0629-53-3500

Testing Co.

Contra Costa Inspection

Project No. 40889

Test Section

PG&E T-2 Line 101

File Name

RCP 61362 - T-2, L-101

Test Log

Log No.	Test Period		Test Pressure	Temperature °F				Comment	Remarks	Bleed	Inject
	Date	Time		Ambient	Unstrained	Pipe	Restraind				
1	6/5/11	9:55 AM	513 psig	70 °F	85 °F	82 °F	82 °F	Start Spike			
2	6/5/11	9:57 AM	523 psig	70 °F	85 °F	82 °F	82 °F	Inject		5,327 oz.	
3	6/5/11	9:58 AM	533 psig	70 °F	85 °F	82 °F	82 °F	Inject		5,224 oz.	
4	6/5/11	10:01 AM	543 psig	70 °F	85 °F	82 °F	82 °F	Inject		5,019 oz.	
5	6/5/11	10:03 AM	553 psig	70 °F	85 °F	82 °F	82 °F	Inject		5,429 oz.	
6	6/5/11	10:05 AM	563 psig	70 °F	85 °F	82 °F	82 °F	Inject		4,815 oz.	
7	6/5/11	10:07 AM	555 psig	70 °F	85 °F	82 °F	82 °F	Inject		5,019 oz.	
8	6/5/11	10:09 AM	573 psig	70 °F	85 °F	82 °F	82 °F	Inject		4,917 oz.	
9	6/5/11	10:11 AM	583 psig	70 °F	85 °F	82 °F	82 °F	Inject		5,122 oz.	
10	6/5/11	10:13 AM	593 psig	70 °F	85 °F	82 °F	82 °F	Inject		5,327 oz.	
11	6/5/11	10:15 AM	603 psig	70 °F	85 °F	82 °F	82 °F	Inject		4,815 oz.	
12	6/5/11	10:17 AM	613 psig	70 °F	85 °F	82 °F	82 °F	Inject		5,224 oz.	
13	6/5/11	10:19 AM	623 psig	70 °F	85 °F	82 °F	82 °F	Inject		4,507 oz.	
14	6/5/11	10:21 AM	633 psig	70 °F	85 °F	82 °F	82 °F	Inject		5,019 oz.	
15	6/5/11	10:23 AM	643 psig	70 °F	86 °F	82 °F	82 °F	Inject		4,917 oz.	
16	6/5/11	10:25 AM	643 psig	70 °F	86 °F	82 °F	82 °F	Inject		4,610 oz.	
17	6/5/11	10:27 AM	653 psig	70 °F	86 °F	82 °F	82 °F	Inject		5,327 oz.	
18	6/5/11	10:29 AM	663 psig	70 °F	86 °F	82 °F	82 °F	Inject		4,917 oz.	
19	6/5/11	10:31 AM	673 psig	70 °F	86 °F	82 °F	82 °F	Inject		4,917 oz.	
20	6/5/11	10:33 AM	683 psig	70 °F	88 °F	82 °F	82 °F	Inject		5,122 oz.	
21	6/5/11	10:35 AM	703 psig	70 °F	88 °F	82 °F	82 °F	Inject		4,507 oz.	
22	6/5/11	10:37 AM	713 psig	69 °F	86 °F	82 °F	82 °F	Inject		5,019 oz.	
23	6/5/11	10:39 AM	723 psig	69 °F	86 °F	82 °F	82 °F	Inject		4,917 oz.	
24	6/5/11	10:41 AM	733 psig	69 °F	87 °F	82 °F	82 °F	Inject		4,815 oz.	
25	6/5/11	10:43 AM	743 psig	69 °F	87 °F	82 °F	82 °F	Inject		4,302 oz.	
26	6/5/11	10:45 AM	752 psig	68 °F	87 °F	82 °F	82 °F	On Test			
27	6/5/11	10:55 AM	762 psig	68 °F	86 °F	82 °F	82 °F				
28	6/5/11	11:05 AM	752 psig	70 °F	87 °F	82 °F	82 °F	End Spike			
29	6/5/11	11:15 AM	762 psig	68 °F	88 °F	82 °F	82 °F				
30	6/5/11	11:30 AM	747 psig	68 °F	88 °F	82 °F	82 °F	Bleed		2,621 oz.	
31	6/5/11	11:45 AM	737 psig	66 °F	89 °F	82 °F	82 °F	Bleed		5,242 oz.	
32	6/5/11	12:00 PM	725 psig	68 °F	88 °F	82 °F	82 °F	Bleed		6,280 oz.	
33	6/5/11	12:30 PM	710 psig	69 °F	88 °F	82 °F	82 °F	Bleed		7,063 oz.	
34	6/5/11	12:45 PM	710 psig	70 °F	88 °F	82 °F	82 °F	Cloud Cover			
35	6/5/11	1:00 PM	710 psig	69 °F	88 °F	82 °F	82 °F				
36	6/5/11	1:15 PM	710 psig	67 °F	82 °F	82 °F	82 °F				
37	6/5/11	1:30 PM	710 psig	68 °F	89 °F	82 °F	82 °F				
38	6/5/11	1:45 PM	710 psig	67 °F	89 °F	82 °F	82 °F				
39	6/5/11	2:00 PM	710 psig	67 °F	89 °F	82 °F	82 °F				
40	6/5/11	2:15 PM	710 psig	68 °F	89 °F	82 °F	82 °F				
41	6/5/11	2:30 PM	710 psig	68 °F	89 °F	82 °F	82 °F				
42	6/5/11	2:45 PM	710 psig	68 °F	89 °F	82 °F	82 °F				
43	6/5/11	2:45 PM	710 psig	68 °F	89 °F	82 °F	82 °F				

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 Dead Weight Sheet



Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number <i>41171062</i> -41474079
Construction Co.	ARB	Job Number 0629-53-3500
Testing Co.	Contra Costa Inspection	Project No. 40699
Test Section	PG&E T-2 Line 101	
File Name	RCP 81362 - T-2, L-101	

Date **5-Jun-11**

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
					Unrestrained	Restrained			
44	6/5/11	3:00 PM	710 psig	66 °F	69 °F	62 °F			
45	6/5/11	3:15 PM	710 psig	66 °F	69 °F	62 °F	Cloud Cover		
46	6/5/11	3:30 PM	710 psig	66 °F	69 °F	62 °F			
47	6/5/11	3:45 PM	710 psig	66 °F	69 °F	62 °F			
48	6/5/11	4:00 PM	710 psig	66 °F	68 °F	62 °F			
49	6/5/11	4:15 PM	710 psig	65 °F	68 °F	62 °F			
50	6/5/11	4:30 PM	710 psig	65 °F	68 °F	62 °F			
51	6/5/11	4:45 PM	710 psig	64 °F	68 °F	62 °F			
52	6/5/11	5:00 PM	710 psig	64 °F	68 °F	62 °F			
53	6/5/11	5:15 PM	710 psig	66 °F	68 °F	62 °F			
54	6/5/11	5:30 PM	710 psig	67 °F	68 °F	62 °F			
55	6/5/11	5:45 PM	710 psig	67 °F	68 °F	62 °F			
56	6/5/11	6:00 PM	710 psig	67 °F	68 °F	62 °F			
57	6/5/11	6:15 PM	710 psig	66 °F	67 °F	62 °F			
58	6/5/11	6:30 PM	710 psig	65 °F	67 °F	62 °F			
59	6/5/11	6:45 PM	710 psig	62 °F	67 °F	62 °F			
60	6/5/11	7:00 PM	710 psig	62 °F	67 °F	62 °F	Cloud Cover		
61	6/5/11	7:15 PM	710 psig	62 °F	67 °F	62 °F			
62	6/5/11	7:30 PM	710 psig	62 °F	67 °F	62 °F			
63	6/5/11	7:45 PM	710 psig	61 °F	67 °F	62 °F			
64	6/5/11	8:00 PM	710 psig	60 °F	67 °F	62 °F	End of Test		
Spike Test									119,135.8 oz.
Hydrostatic Test							22,016.0 oz.		

Were leaks observed during the test period?

Exposed and buried pipe, no leaks observed.

High Test Pressure:	752 psig
Low Test Pressure:	710 psig



Pipe Segment Volume Calculations

4474079

Company:	Pacific Gas and Electric Company	Job Number:	4474079
Construction Co.:	ARG	Job Number:	0629-63-3630
Hydro. Test Co.:	Contra Costa Inspection	Project No.:	40699
Test Section:	PG&E T-21 line 101	WATER	
File Name:	RCP 61362 - T-2, L-101		

General Pipe Data

Description	Segment							
	1	2	3	4	5	6	7	8
Restrained or Unrestrained?	Unrestrained	Restrained	Restrained	Restrained	Restrained	Restrained	Restrained	Restrained
Outside Diameter	35.000 in.	35.000 in.	35.000 in.	34.000 in.	34.000 in.	36.000 in.	34.000 in.	34.000 in.
Wall Thickness	0.500 in.	0.350 in.	0.469 in.	0.500 in.	0.375 in.	0.422 in.	0.344 in.	0.437 in.
Inside Diameter	35.000 in.	35.300 in.	35.062 in.	33.000 in.	33.250 in.	35.156 in.	33.312 in.	33.126 in.
Spec./Grade	API 5L X52	API 5L X52	API 5L X52	API 5L X52	API 5L X46	API 5L X52	API 5L X52	API 5L X52
Length Unrestrained	146 ft							
Length Restrained		11,053 ft	310 ft	2 ft	225 ft	520 ft	324 ft	19 ft
Temperature - On Test	87 °F	82 °F	62.0 °F	62.0 °F	62.0 °F	62.0 °F	62.0 °F	62.0 °F
Temperature - End of Test	67 °F	82 °F	62.0 °F	62.0 °F	62.0 °F	62.0 °F	62.0 °F	62.0 °F
Pressure - On Test	752 psig	752 psig	752 psig	752 psig	752 psig	752 psig	752 psig	752 psig
Pressure - End of Test	710 psig	710 psig	710 psig	710 psig	710 psig	710 psig	710 psig	710 psig

Unrestrained Pipe

Sum:	Vo	Vp1		Vp2	
	7,297.66 gal	7,325.85 gal		7,324.01 gal	
	934,024 oz.	937,709 oz.		937,474 oz.	
Vo Unrestrained	7,297 gal				
Fwp 1	1.002303				
Fpp 1	1.002193				
Fpt 1	1.000127				
Fwt 1	1.000381				
Fpwt 1 = Fpt/Fwt	0.999447				
Vp1 = Vo(Fwp)(Fpp)(Fpwt)	7,325.85 gal				
Fwp 2	1.002174				
Fpp 2	1.002071				
Fpt 2	1.000127				
Fwt 2	1.000681				
Fpwt 2 = Fpt/Fwt	0.999447				
Vp2 = Vo(Fwp)(Fpp)(Fpwt)	7,324.01 gal				

Restrained Pipe

Sum:	Vo	Vp1		Vp2	
	630,076.67 gal	632,861.51 gal		632,700.38 gal	
	80,640,814 oz.	81,006,274 oz.		80,995,849 oz.	
Vo Unrestrained	562,549 gal	15,549 gal	89 gal	10,149 gal	26,222 gal
Fwp 1	1.002303	1.002303	1.002303	1.002303	1.002303
Fpp 1	1.002309	1.001713	1.001513	1.002030	1.001808
Fpt 1	1.003024	1.000024	1.000024	1.000024	1.000024
Fwt 1	1.000181	1.000181	1.000181	1.000181	1.000181
Fpwt 1 = Fpt/Fwt	0.999844	0.999844	0.999844	0.999844	0.999844
Vp1 = Vo(Fwp)(Fpp)(Fpwt)	565,057 gal	15,040 gal	89 gal	10,191 gal	26,328 gal
Fwp 2	1.002174	1.002174	1.002174	1.002174	1.002174
Fpp 2	1.002179	1.001617	1.001429	1.001817	1.001801
Fpt 2	1.003024	1.000024	1.000024	1.000024	1.000024
Fwt 2	1.000181	1.000181	1.000181	1.000181	1.000181
Fpwt 2 = Fpt/Fwt	0.999844	0.999844	0.999844	0.999844	0.999844
Vp2 = Vo(Fwp)(Fpp)(Fpwt)	594,912 gal	15,605 gal	89 gal	10,189 gal	26,322 gal

Combined Pipe

Sum:	Vo	Vp1		Vp2	
	637,373.73 gal	640,187.36 gal		640,024.40 gal	
	81,583,838 oz.	81,943,933 oz.		81,923,123 oz.	



Pipe Segment Volume Allowance Calculations

4/17/2012

Company	Pacific Gas and Electric Company	Job Number	4474075
Construction Co.	ARB	Job Number	0629-53-3500
Hydro. Test Co.	Contra Costa Inspection	Project No.	40699
Test Section	PG&E T-2 Line 101	WATER	
File Name	RCP 01382 - T-2 L-101		

General Pipe Data

Description	Segment							
	1	2	3	4	5	6	7	8
Restrained or Unrestrained?	Unrestrained	Restrained	Restrained	Restrained	Restrained	Restrained	Restrained	Restrained
Outside Diameter	36.000 in	36.000 in	36.000 in	34.000 in	34.000 in	36.000 in	34.000 in	34.000 in
Wall Thickness	0.500 in	0.360 in	0.469 in	0.500 in	0.375 in	0.422 in	0.344 in	0.437 in
Inside Diameter	35.000 in	35.360 in	35.062 in	33.000 in	33.250 in	35.156 in	33.312 in	33.126 in
Spec/Grade	API5L-X52	API5L-X52	API5L-X52	API5L-X52	API5L-X48	API5L-X52	API5L-X52	API5L-X52
Length Unrestrained	146.00 ft							
Length Restrained		11,065 ft	310 ft	2 ft	225 ft	520 ft	324 ft	10 ft
Temperature - On Test	66 °F	61 °F	61 °F	61 °F	61 °F	61 °F	61 °F	61 °F
Temperature - End of Test	67 °F	62 °F	62 °F	62 °F	62 °F	62 °F	62 °F	62 °F
Pressure - On Test	731 psig	731 psig	731 psig	731 psig	731 psig	731 psig	731 psig	731 psig
Pressure - End of Test	731 psig	731 psig	731 psig	731 psig	731 psig	731 psig	731 psig	731 psig

Unrestrained Pipe

Sum:	Vo	7,297.06 gal 934,024 oz.		Vp1	7,325.52 gal 937,657 oz.		Vp2	7,324.93 gal 937,591 oz.	
Vo Unrestrained	7,297 gal								
Fwp 1	1.002236								
Fpp 1	1.002132								
Fpt 1	1.003109								
Fwt 1	1.003582								
Fpw1 = Fpt/Fwt	0.998527								
Vp1 = Vo(Fwp)/(Fpp)(Fpw)	7,325.52 gal								
Fwp 2	1.002238								
Fpp 2	1.002132								
Fpt 2	1.003127								
Fwt 2	1.003691								
Fpw2 = Fpt/Fwt	0.999447								
Vp2 = Vo(Fwp)/(Fpp)(Fpw)	7,324.93 gal								

Restrained Pipe

Sum:	Vo	630,076.67 gal 80,849,614 oz.		Vp1	632,834.41 gal 81,002,605 oz.		Vp2	632,780.94 gal 80,995,961 oz.	
Vo Restrained		562,549 gal	15,549 gal	89 gal	10,149 gal	26,222 gal	14,600 gal	851 gal	
Fwp 1		1.002236	1.002238	1.002236	1.002236	1.002239	1.002239	1.002239	
Fpp 1		1.002240	1.001661	1.001467	1.001970	1.001851	1.002151	1.001664	
Fpt 1		1.003012	1.003012	1.003012	1.003012	1.003012	1.003012	1.003012	
Fwt 1		1.003090	1.003080	1.003060	1.003080	1.003080	1.003090	1.003080	
Fpw1 = Fpt/Fwt		0.999932	0.999932	0.999932	0.999932	0.999932	0.999932	0.999932	
Vp1 = Vo(Fwp)/(Fpp)(Fpw)		595,032 gal	15,808 gal	89 gal	10,191 gal	26,327 gal	14,733 gal	854 gal	
Fwp 2		1.002238	1.002238	1.002236	1.002236	1.002238	1.002238	1.002238	
Fpp 2		1.002244	1.001665	1.001471	1.001973	1.001854	1.002154	1.001668	
Fpt 2		1.003024	1.003024	1.003024	1.003024	1.003024	1.003024	1.003024	
Fwt 2		1.003181	1.003181	1.003181	1.003181	1.003181	1.003181	1.003181	
Fpw2 = Fpt/Fwt		0.999844	0.999844	0.999844	0.999844	0.999844	0.999844	0.999844	
Vp2 = Vo(Fwp)/(Fpp)(Fpw)		564,884 gal	15,807 gal	89 gal	10,190 gal	26,325 gal	14,731 gal	854 gal	

Combined Pipe

Sum:	Vo	637,373.73 gal 81,583,838 oz.		Vp1	640,159.93 gal 81,940,472 oz.		Vp2	640,165.87 gal 81,933,562 oz.	
1" Clumps	54.06 gal		5,919.57 oz.						



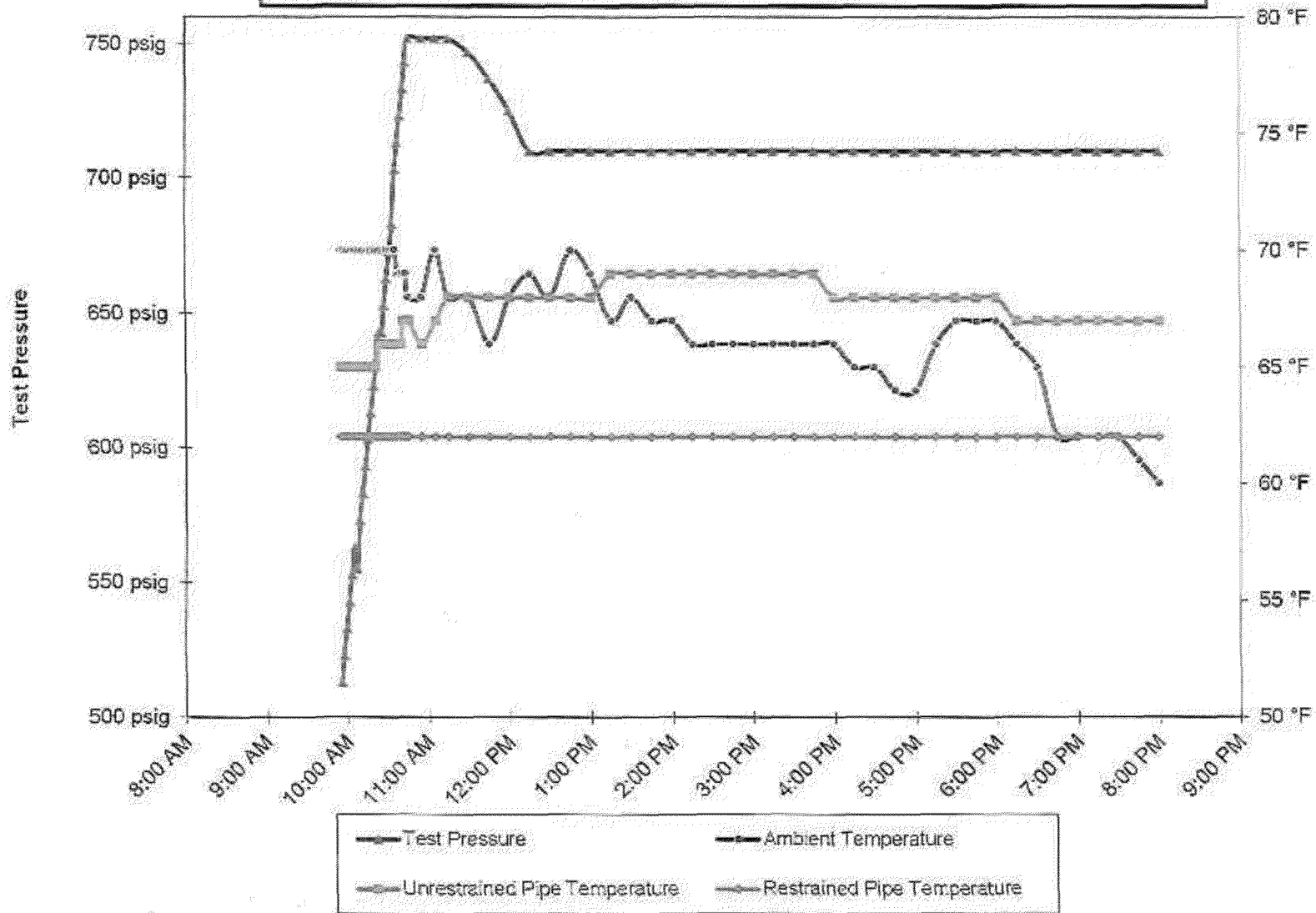
Hydrostatic Test Pipe Data Table

Pipe Type	Length	Restrained / Unrestrained	Outside Diameter	Wall Thickness	Specification & Grade	Pipe Yield Pressure	Material	Joint Type	Seam Type
1	146 ft	Unrestrained	36.000 in.	0.5000 in.	API5L-X65	1,806 psig	Steel	Arc Weld	DSAW
2	11,065 ft	Restrained	36.000 in.	0.3500 in.	API5L-X52	1,011 psig	Steel	Arc Weld	DSAW
3	310 ft	Restrained	36.000 in.	0.4690 in.	API5L-X52	1,355 psig	Steel	Arc Weld	DSAW
4	2 ft	Restrained	34.000 in.	0.5000 in.	API5L-X52	1,529 psig	Steel	Arc Weld	DSAW
5	225 ft	Restrained	34.000 in.	0.3750 in.	API5L-X46	1,015 psig	Steel	Arc Weld	DSAW
6	520 ft	Restrained	36.000 in.	0.4220 in.	API5L-X52	1,219 psig	Steel	Arc Weld	DSAW
7	324 ft	Restrained	34.000 in.	0.3440 in.	API5L-X52	1,052 psig	Steel	Arc Weld	DSAW
8	19 ft	Restrained	34.000 in.	0.4370 in.	API5L-X52	1,337 psig	Steel	Arc Weld	DSAW

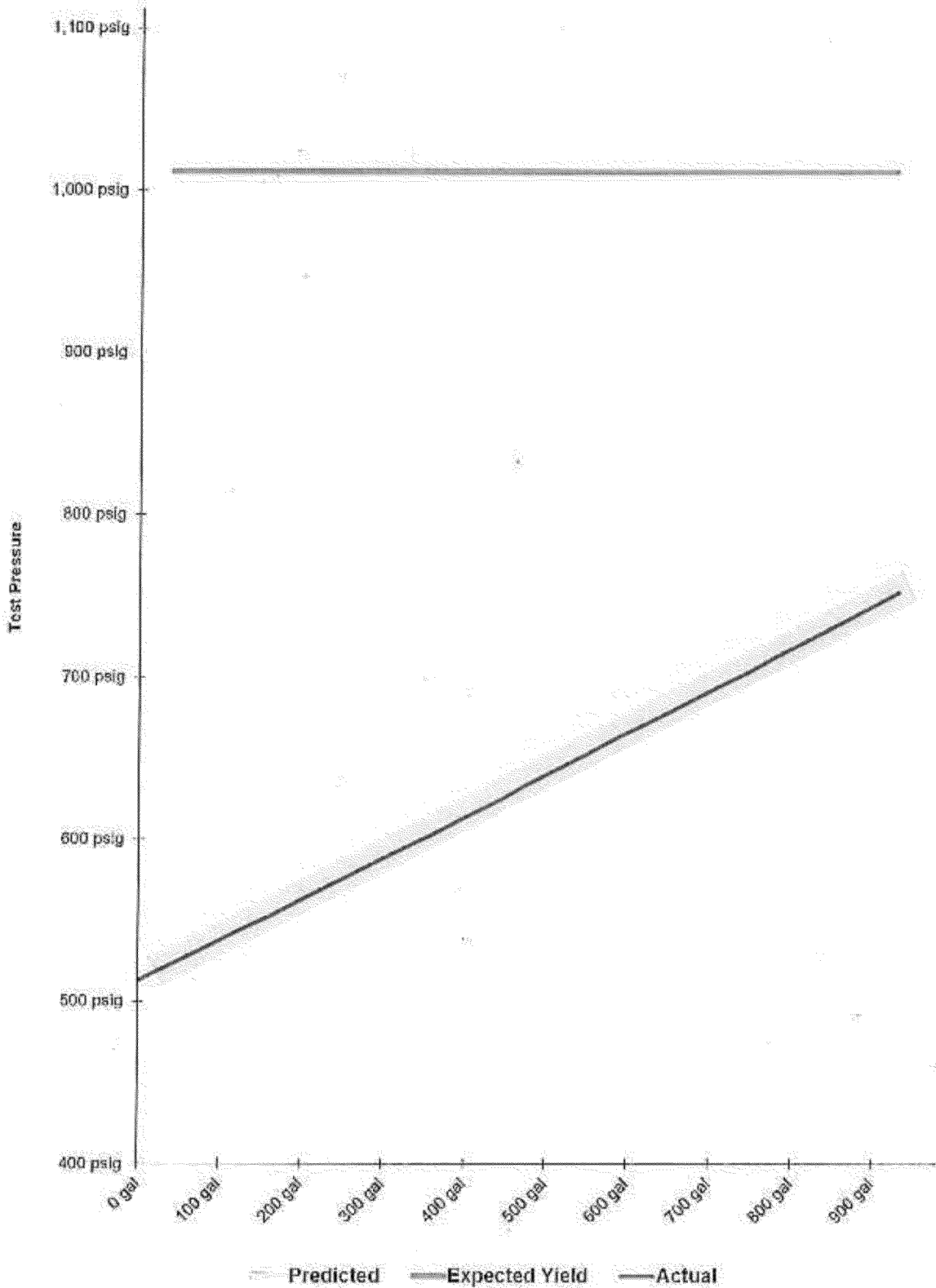
Hydrostatic Test Project Owner & Participants

Owner Company	Pacific Gas and Electric Company		Job Number
Address	3600 Adobe Rd Petaluma, Ca 94954 Attention: Joel Mannie		41474079
Construction Company	ARB		Job Number
Address	1875 Loveridge Road Pittsburg, CA 94565 Attention: Redacted		0629-53-3500
Hydrostatic Test Co.	Contra Costa Inspection		Project No.
Address	2820 Lajolla Drive Anitoch, CA 94531		6/5/2011
Test Section	PG&E T-2 Line 101		
	From:	124+50	
	To:	0+00	
File Name	RCP 61362 - T-2, L-101		

PG&E T-2 Line 101



Spike Pressure Test
Stress Strain Curve -- PG&E T-2 Line 101



Actual Pressure Volume Plot Data			Predicted Pressure Volume Plot Data		Stop		Spike Pressure Test Stress Strain Curva -- PG&E T-2 Line 101																
Pressure	Strokes	Gallons	Gallons	Gallons	Actual	Predicted	Pump gal. per stroke	Pump Piston Diameter	Pump Piston Stroke	Pump Cylinders	Volume check gal per stroke	Volume Released (gallons)	Pressure Reduced (psi)	Maximum ²	Minimum ²	Maximum ¹	Minimum ¹	Gallons/Stroke Used	Predicted Gallons/Stroke	Pressure Increment	Max Pressure	Buried Pipe Temperature	Exposed Pipe Temperature
513 psig	0	0.00 gal	0.00 gal	0	0	0.00 gal	0.080 gal/stroke																
523 psig	520	41.02 gal	39.78 gal	4.162	4.162	3.876		1.375 in															
533 psig	1030	82.43 gal	77.51 gal	4.092	4.092	3.876		4.15 in															
543 psig	1520	121.05 gal	116.27 gal	3.921	3.921	3.876		3 ea															
553 psig	2050	164.06 gal	155.03 gal	4.242	4.242	3.876																	
563 psig	2520	201.68 gal	193.80 gal	3.761	3.761	3.876																	
573 psig	3010	240.89 gal	232.57 gal	3.921	3.921	3.877																	
583 psig	3490	279.30 gal	271.34 gal	3.841	3.841	3.877																	
593 psig	3990	319.32 gal	310.11 gal	4.001	4.001	3.877																	
603 psig	4510	360.94 gal	348.88 gal	4.162	4.162	3.877																	
613 psig	4980	398.55 gal	387.66 gal	3.761	3.761	3.878																	
623 psig	5490	439.36 gal	426.44 gal	4.092	4.092	3.878																	
633 psig	5930	474.56 gal	465.22 gal	3.521	3.521	3.878																	
643 psig	6420	513.79 gal	504.00 gal	3.921	3.921	3.878																	
653 psig	6900	552.21 gal	542.79 gal	3.841	3.841	3.879																	
663 psig	7350	589.22 gal	581.58 gal	3.601	3.601	3.879																	
673 psig	7870	629.84 gal	620.37 gal	4.162	4.162	3.879																	
683 psig	8350	668.25 gal	658.16 gal	3.841	3.841	3.879																	
693 psig	8830	706.66 gal	697.95 gal	3.841	3.841	3.880																	
703 psig	9330	746.88 gal	736.75 gal	4.001	4.001	3.880																	
713 psig	9770	781.89 gal	775.55 gal	3.521	3.521	3.880																	
723 psig	10260	821.11 gal	814.38 gal	3.921	3.921	3.880																	
733 psig	10740	859.52 gal	853.16 gal	3.841	3.841	3.880																	
743 psig	11210	897.14 gal	891.97 gal	3.761	3.761	3.881																	
752 psig	11630	930.75 gal	926.90 gal	3.735	3.735	3.881																	
752 psig		930.75 gal	926.90 gal	0.000	0.000	0.000																	
752 psig		930.75 gal	926.90 gal	0.000	0.000	0.000																	
752 psig		930.75 gal	926.90 gal	0.000	0.000	0.000																	
752 psig		930.75 gal	926.90 gal	0.000	0.000	0.000																	
752 psig		930.75 gal	926.90 gal	0.000	0.000	0.000																	
752 psig		930.75 gal	926.90 gal	0.000	0.000	0.000																	
752 psig		930.75 gal	926.90 gal	0.000	0.000	0.000																	
752 psig		930.75 gal	926.90 gal	0.000	0.000	0.000																	
752 psig		930.75 gal	926.90 gal	0.000	0.000	0.000																	
752 psig		930.75 gal	926.90 gal	0.000	0.000	0.000																	
752 psig		930.75 gal	926.90 gal	0.000	0.000	0.000																	
752 psig		930.75 gal	926.90 gal	0.000	0.000	0.000																	
752 psig		930.75 gal	926.90 gal	0.000	0.000	0.000																	
752 psig		930.75 gal	926.90 gal	0.000	0.000	0.000																	

ASME B31.8 Appendix N-5

Average Actual Elastic Slope

Average Predicted Elastic Slope

Code Prescribed Minimum Yield Slope (less 10% B31.8 N-5 (c)(2))

Established Minimum Yield Pressure B31.8 N-5 (c)(2)

Maximum Allowed Volume (After Slope Deviation) B31.8 N-5 (c)(2)

Volume (After Slope Deviation) B31.8 N-5 (c)(2)

Redacted

Redacted P. E.

6/14/2011

Date

Redacted

Redacted

Redacted