RCP

RCP, Inc

Redacted

August 25, 2011

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

Test Contractor:	Contra Costa Inspection Co. -- T-10 8/25/2011
Asset Owner:	Pacific Gas and Electric Company -- 41482858
Construction Contractor:	ARB -- 0629-53-3500
Test Section:	PG&E T-10 L-105C, MP 0.00 - 1.77
Test Date:	August 25, 2011
Certificate Number:	RCP 61362 - T-10, L-105C, MP 0.00 - 1.77

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 Co. 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 670 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 8.17 hour test duration period.

This hydrostatic test was completed successfully. Pressure was maintained on the test facilities in excess of 8.17 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 630 psig and the established MAOP is 420 psig.

Pressure decreased 36 psi during the test. 7,193.60 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 1,885.91 ounces, gain, which is equivalent to a 0.91 °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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cc. file

Hydrostatic Test Certification

Company	Pacific Gas and Electric Company	Job Number	41482658
Construction Co.	ARB	Job Number	0629-53-3500
Hydro. Test Co.	Contra Costa Inspection Co.	Project No.	T-10 8/25/2011
Test Section	PG&E T-10 L-105C, MP 0.00 - 1.77		
File Name	RCP 61362 - T-10, L-105C, MP 0.00 - 1.77		

Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION: Test Date: 25-Aug-11

Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 3)

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-10 L-105C, MP 0.00 - 1.77

From: 0+00 To: 91+40

Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	27 ft	24.000 in.	0.375 in.	API5L-X60, DSAW, Arc Weld, Steel	1,875 psi
2	24 ft	22.000 in.	0.375 in.	API5L-X65, ERW-HF, Arc Weld, Steel	2,216 psi
3	8,268 ft	24.000 in.	0.313 in.	API5L-Grade B, SM, Arc Weld, Steel	911 psi
4	916 ft	24.000 in.	0.250 in.	API5L-X42, DSAW, Arc Weld, Steel	875 psi
5	169 ft	22.000 in.	0.313 in.	API5L-Grade B, SM, Arc Weld, Steel	994 psi
6	14 ft	6.625 in.	0.280 in.	API5L-Grade B, SM, Arc Weld, Steel	2,958 psi
7	22 ft	24.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	2,708 psi
8	3 ft	20.000 in.	0.375 in.	API5L-X65, ERW-HF, Arc Weld, Steel	2,438 psi

Initial Test Conditions

Pressure at Test Point:	670 psig	Date/Time:	8/25/11 8:40 AM	Pipe Temperature Unrestrained:	63.0 °F
Ambient Temperature:	62.0 °F			Restrained:	60.0 °F
		Elevation @ Test Point:	20.0 ft	Location:	0+00
Pressure @ High Point (Cal/Measure):	666 psig	Elevation @ High Point:	29.0 ft	Location:	91+40
Pressure @ Low Point (Cal/Measure):	673 psig	Elevation @ Low Point:	14.0 ft	Location:	58+61

Final Test Conditions

Pressure at Test Point:	634 psig	Date/Time:	8/25/11 4:50 PM	Pipe Temperature Unrestrained:	68.0 °F
Ambient Temperature:	72.0 °F			Restrained:	60.0 °F
		Elevation @ Test Point:	20.0 ft	Location:	0+00
Pressure @ High Point (Cal/Measure):	630 psig	Elevation @ High Point:	29.0 ft	Location:	91+40
Pressure @ Low Point (Cal/Measure):	637 psig	Elevation @ Low Point:	14.0 ft	Location:	58+61
Total Fluid Injected:				Volume gain	
Total Fluid Withdrawn:	7193.60 fluid ounces				
Net Change in Volume of the Test Section ± (+ Gain, - Loss):	1,885.91 oz	gain		0.0070%	0.909 °F equivalent

Test Duration: 8.17 hours

Minimum Test Pressure:	Test Point	622 psig	Max Elevation	618 psig	Min Elevation	625 psig
Maximum Test Pressure:		670 psig		656 psig		673 psig
% SMYS :		24.7%		67.0%		
Test Segment Observed % SMYS :			Minimum	22.6%	Maximum	76.3%
					Minimum Test Pressure (Calculated/Measured):	630 psig
Maximum Allowable Operating Pressure:				DOT Part 192	Test Factor= 1.50	420 psig

Were leaks observed?	No	Explain:
Acceptable Hydrostatic Test?	Yes	The test segment was subjected to a spike pressure test of 670 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 8.17 hour test duration period. No leaks were observed during the test period. The test section included 9,353 feet of buried and 90 feet of exposed pipe. Pressure lost 38 psi during the test. The buried pipe segment fluid temperature remained steady and the exposed pipe segment gained 5°F. 7,193.60 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 1,885.91 ounces, gain, which is equivalent to a 0.91 °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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25-Aug-11

Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41482858
Construction Co.	ARB	Job Number	0629-53-3500
Testing Co.	Contra Costa Inspection Co.	Project No.	T-10 8/25/2011
Test Section	PG&E T-10 L-105C, MP 0.00 - 1.77		
File Name	RCP 61362 - T-10, L-105C, MP 0.00 - 1.77		

Date 25-Aug-11

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe				
					Unrestrained	Restrained	Comment	Bleed	Inject
1	8/25/11	8:13 AM	457 psig	62 °F	63 °F	60 °F	Start Spike		
2	8/25/11	8:14 AM	467 psig	62 °F	63 °F	60 °F	Inject		2,206 oz.
3	8/25/11	8:15 AM	477 psig	62 °F	63 °F	60 °F	Inject		735 oz.
4	8/25/11	8:16 AM	487 psig	62 °F	63 °F	60 °F	Inject		1,458 oz.
5	8/25/11	8:17 AM	497 psig	62 °F	63 °F	60 °F	Inject		1,383 oz.
6	8/25/11	8:18 AM	507 psig	62 °F	63 °F	60 °F	Inject		1,451 oz.
7	8/25/11	8:19 AM	517 psig	62 °F	63 °F	60 °F	Inject		1,623 oz.
8	8/25/11	8:20 AM	527 psig	62 °F	63 °F	60 °F	Inject		1,716 oz.
9	8/25/11	8:21 AM	537 psig	62 °F	63 °F	60 °F	Inject		1,647 oz.
10	8/25/11	8:22 AM	547 psig	62 °F	63 °F	60 °F	Inject		1,559 oz.
11	8/25/11	8:23 AM	557 psig	62 °F	63 °F	60 °F	Inject		1,549 oz.
12	8/25/11	8:24 AM	567 psig	62 °F	63 °F	60 °F	Inject		1,515 oz.
13	8/25/11	8:26 AM	577 psig	62 °F	63 °F	60 °F	Inject		1,535 oz.
14	8/25/11	8:28 AM	587 psig	62 °F	63 °F	60 °F	Inject		1,520 oz.
15	8/25/11	8:30 AM	597 psig	62 °F	63 °F	60 °F	Inject		1,466 oz.
16	8/25/11	8:31 AM	607 psig	62 °F	63 °F	60 °F	Inject		1,486 oz.
17	8/25/11	8:32 AM	617 psig	62 °F	63 °F	60 °F	Inject		1,466 oz.
18	8/25/11	8:33 AM	627 psig	62 °F	63 °F	60 °F	Inject		1,422 oz.
19	8/25/11	8:34 AM	637 psig	62 °F	63 °F	60 °F	Inject		1,491 oz.
20	8/25/11	8:35 AM	647 psig	62 °F	63 °F	60 °F	Inject		1,383 oz.
21	8/25/11	8:36 AM	657 psig	62 °F	63 °F	60 °F	Inject		1,432 oz.
22	8/25/11	8:38 AM	667 psig	62 °F	63 °F	60 °F	Inject		1,334 oz.
23	8/25/11	8:39 AM	670 psig	62 °F	63 °F	60 °F	Inject		397 oz.
24	8/25/11	8:40 AM	670 psig	62 °F	63 °F	60 °F	On Test		
25	8/25/11	8:50 AM	670 psig	62 °F	63 °F	60 °F			
26	8/25/11	9:00 AM	670 psig	62 °F	63 °F	60 °F			
27	8/25/11	9:10 AM	670 psig	62 °F	63 °F	60 °F	End Spike		
28	8/25/11	9:11 AM	660 psig	62 °F	63 °F	60 °F	Bleed	1,499 oz.	
29	8/25/11	9:12 AM	650 psig	62 °F	63 °F	60 °F	Bleed	1,499 oz.	
30	8/25/11	9:13 AM	640 psig	62 °F	63 °F	60 °F	Bleed	1,499 oz.	
31	8/25/11	9:17 AM	630 psig	62 °F	63 °F	60 °F	Bleed	1,499 oz.	
32	8/25/11	9:18 AM	622 psig	62 °F	63 °F	60 °F	Bleed	1,199 oz.	
33	8/25/11	9:20 AM	622 psig	62 °F	63 °F	60 °F			
34	8/25/11	9:35 AM	622 psig	62 °F	63 °F	60 °F			
35	8/25/11	9:50 AM	622 psig	63 °F	63 °F	60 °F			
36	8/25/11	10:05 AM	623 psig	62 °F	63 °F	60 °F			
37	8/25/11	10:20 AM	622 psig	62 °F	63 °F	60 °F			
38	8/25/11	10:35 AM	624 psig	63 °F	63 °F	60 °F			
39	8/25/11	10:50 AM	624 psig	62 °F	63 °F	60 °F			
40	8/25/11	11:05 AM	625 psig	64 °F	63 °F	60 °F			
41	8/25/11	11:20 AM	625 psig	64 °F	63 °F	60 °F			
42	8/25/11	11:35 AM	625 psig	65 °F	64 °F	60 °F			
43	8/25/11	11:50 AM	626 psig	65 °F	64 °F	60 °F			
44	8/25/11	12:05 PM	626 psig	65 °F	64 °F	60 °F			

Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41482858
Construction Co.	ARB	Job Number	0629-53-3500
Testing Co.	Contra Costa Inspection Co.	Project No.	T-10 8/25/2011
Test Section	PG&E T-10 L-105C, MP 0.00 - 1.77		
File Name	RCP 61362 - T-10, L-105C, MP 0.00 - 1.77		

Date 25-Aug-11

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe				
					Unrestrained	Restrained	Comment	Bleed	Inject
45	8/25/11	12:20 PM	627 psig	65 °F	65 °F	60 °F			
46	8/25/11	12:35 PM	627 psig	66 °F	65 °F	60 °F			
47	8/25/11	12:50 PM	628 psig	66 °F	65 °F	60 °F			
48	8/25/11	1:05 PM	628 psig	67 °F	65 °F	60 °F			
49	8/25/11	1:20 PM	628 psig	68 °F	65 °F	60 °F			
50	8/25/11	1:35 PM	629 psig	69 °F	65 °F	60 °F			
51	8/25/11	1:50 PM	629 psig	69 °F	66 °F	60 °F			
52	8/25/11	2:05 PM	630 psig	69 °F	66 °F	60 °F			
53	8/25/11	2:20 PM	630 psig	71 °F	66 °F	60 °F			
54	8/25/11	2:35 PM	631 psig	71 °F	66 °F	60 °F			
55	8/25/11	2:50 PM	631 psig	71 °F	67 °F	60 °F			
56	8/25/11	3:05 PM	632 psig	72 °F	67 °F	60 °F			
57	8/25/11	3:20 PM	632 psig	71 °F	67 °F	60 °F			
58	8/25/11	3:35 PM	632 psig	72 °F	67 °F	60 °F			
59	8/25/11	3:50 PM	633 psig	72 °F	68 °F	60 °F			
60	8/25/11	4:05 PM	633 psig	72 °F	68 °F	60 °F			
61	8/25/11	4:20 PM	633 psig	72 °F	68 °F	60 °F			
62	8/25/11	4:35 PM	634 psig	72 °F	68 °F	60 °F			
63	8/25/11	4:50 PM	634 psig	72 °F	68 °F	60 °F	End of Test		
							Spike Test		31,771.7 oz.
							Hydrostatic Test	7,193.6 oz.	

Were leaks observed during the test period?	Exposed and buried pipe, no leaks observed.	High Test Pressure:	670 psig
		Low Test Pressure:	622 psig

Pipe Segment Volume Calculations

Company	Pacific Gas and Electric Company	Job Number	41482858
Construction Co.	ARB	Job Number	0629-53-3500
Hydro. Test Co.	Contra Costa Inspection Co.	Project No.	T-10 8/25/2011
Test Section	PG&E T-10 L-105C, MP 0.00 - 1.77		WATER
File Name	RCP 61362 - T-10, L-105C, MP 0.00 - 1.77		

General Pipe Data

Description	Segment 1	2	3	4	5	6	7	8
Restrained or Unrestrained?	Unrestrained	Unrestrained	Restrained	Restrained	Restrained	Unrestrained	Unrestrained	Unrestrained
Outside Diameter	24.000 in.	22.000 in.	24.000 in.	24.000 in.	22.000 in.	6.625 in.	24.000 in.	20.000 in.
Wall Thickness	0.375 in.	0.375 in.	0.313 in.	0.250 in.	0.313 in.	0.280 in.	0.500 in.	0.375 in.
Inside Diameter	23.250 in.	21.250 in.	23.375 in.	23.500 in.	21.375 in.	6.065 in.	23.000 in.	19.250 in.
Spec./Grade	API5L-X60	API5L-X65	API5L-Grade B	API5L-X42	API5L-Grade B	API5L-Grade B	API5L-X65	API5L-X65
Length Unrestrained	27 ft	24 ft				14 ft	22 ft	3 ft
Length Restrained			8,268 ft	916 ft	169 ft			
Temperature -- On Test	63 °F	63 °F	60.0 °F	60.0 °F	60.0 °F	63.0 °F	63.0 °F	63.0 °F
Temperature -- End of Test	68 °F	68 °F	60.0 °F	60.0 °F	60.0 °F	68.0 °F	68.0 °F	68.0 °F
Pressure -- On Test	670 psig	670 psig	670 psig	670 psig	670 psig	670 psig	670 psig	670 psig
Pressure -- End of Test	634 psig	634 psig	634 psig	634 psig	634 psig	634 psig	634 psig	634 psig

Unrestrained Pipe

Sum:	Vo	1,578.85 gal / 202,093 oz.	Vtp1	1,584.17 gal / 202,774 oz.	Vtp2	1,583.16 gal / 202,645 oz.
Vo Unrestrained	595 gal	442 gal		21 gal	475 gal	45 gal
Fwp 1	1.002051	1.002051		1.002051	1.002051	1.002051
Fpp 1	1.001731	1.001592		1.000605	1.001284	1.001433
Fpt 1	1.000055	1.000055		1.000055	1.000055	1.000055
Fwt 1	1.000267	1.000267		1.000267	1.000267	1.000267
Fpwt 1 = Fpt/Fwt	0.999788	0.999788		0.999788	0.999788	0.999788
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	597.61 gal	443.68 gal		21.06 gal	476.31 gal	45.51 gal
Fwp 2	1.001941	1.001941		1.001941	1.001941	1.001941
Fpp 2	1.001638	1.001497		1.000572	1.001215	1.001358
Fpt 2	1.000146	1.000146		1.000146	1.000146	1.000146
Fwt 2	1.000803	1.000803		1.000803	1.000803	1.000803
Fpwt = Fpt/Fwt	0.999343	0.999343		0.999343	0.999343	0.999343
Vtp = Vo(Fwp)(Fpp)(Fpwt)	597.22 gal	443.40 gal		21.05 gal	476.02 gal	45.48 gal

Restrained Pipe

Sum:	Vo	208,105.35 gal / 26,637,485 oz.	Vtp1	208,856.85 gal / 26,733,677 oz.	Vtp2	208,816.39 gal / 26,728,498 oz.
Vo Unrestrained		184,316 gal	20,639 gal	3,150 gal		
Fwp 1		1.002051	1.002051	1.002051		
Fpp 1		1.001520	1.001910	1.001390		
Fpt 1		1.000000	1.000000	1.000000		
Fwt 1		1.000000	1.000000	1.000000		
Fpwt 1 = Fpt/Fwt		1.000000	1.000000	1.000000		
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		*184,975 gal*	*20,721 gal*	*3,161 gal*		
Fwp 2		1.001941	1.001941	1.001941		
Fpp 2		1.001439	1.001808	1.001315		
Fpt 2		1.000000	1.000000	1.000000		
Fwt 2		1.000000	1.000000	1.000000		
Fpwt = Fpt/Fwt		1.000000	1.000000	1.000000		
Vtp = Vo(Fwp)(Fpp)(Fpwt)		184,939 gal	20,717 gal	3,161 gal		

Combined Pipe

Sum:	Vo	209,684.20 gal / 26,839,577 oz.	Vtp1	210,441.02 gal / 26,936,451 oz.	Vtp2	210,399.55 gal / 26,931,143 oz.

Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	41462858
Construction Co.	ARB	Job Number	0629-53-3500
Hydro. Test Co.	Contra Costa Inspection Co.	Project No.	T-10 8/25/2011
Test Section	PG&E T-10 L-105C, MP 0.00 - 1.77		WATER
File Name	RCP 61362 - T-10, L-105C, MP 0.00 - 1.77		

General Pipe Data

Description	Segment 1	2	3	4	5	6	7	8
Restrained or Unrestrained?	Unrestrained	Unrestrained	Restrained	Restrained	Restrained	Unrestrained	Unrestrained	Unrestrained
Outside Diameter	24.000 in.	22.000 in.	24.000 in.	24.000 in.	22.000 in.	6.625 in.	24.000 in.	20.000 in.
Wall Thickness	0.375 in.	0.375 in.	0.313 in.	0.250 in.	0.313 in.	0.280 in.	0.500 in.	0.375 in.
Inside Diameter	23.250 in.	21.250 in.	23.375 in.	23.500 in.	21.375 in.	6.065 in.	23.000 in.	19.250 in.
Spec./Grade	API5L-X60	API5L-X65	API5L-Grade B	API5L-X42	API5L-Grade B	API5L-Grade B	API5L-X65	API5L-X65
Length Unstrained	27.00 ft	24.00 ft				14 ft	22 ft	3 ft
Length Restrained			8,268 ft	916 ft	169 ft			
Temperature -- On Test	65 °F	65 °F	59 °F	59 °F	59 °F	65 °F	65 °F	65 °F
Temperature -- End of Test	66 °F	66 °F	60 °F	60 °F	60 °F	66 °F	66 °F	66 °F
Pressure -- On Test	652 psig	652 psig	652 psig	652 psig	652 psig	652 psig	652 psig	652 psig
Pressure -- End of Test	652 psig	652 psig	652 psig	652 psig	652 psig	652 psig	652 psig	652 psig

Unrestrained Pipe

Sum:	Vo	1,578.85 gal / 202,093 oz.	Vtp1	1,583.78 gal / 202,721 oz.	Vtp2	1,583.61 gal / 202,702 oz.
Vo Unrestrained	595 gal	442 gal		21 gal	475 gal	45 gal
Fwp 1	1.001996	1.001996		1.001996	1.001996	1.001996
Fpp 1	1.001684	1.001539		1.000588	1.001250	1.001395
Fpt 1	1.000091	1.000091		1.000091	1.000091	1.000091
Fwt 1	1.000467	1.000467		1.000467	1.000467	1.000467
Fpwt 1 = Fpt/Fwt	0.999624	0.999624		0.999624	0.999624	0.999624
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	597.45 gal	443.57 gal		21.06 gal	476.19 gal	45 gal
Fwp 2	1.001996	1.001996		1.001996	1.001996	1.001996
Fpp 2	1.001684	1.001539		1.000588	1.001250	1.001395
Fpt 2	1.000109	1.000109		1.000109	1.000109	1.000109
Fwt 2	1.000582	1.000582		1.000582	1.000582	1.000582
Fpwt = Fpt/Fwt	0.999527	0.999527		0.999527	0.999527	0.999527
Vtp = Vo(Fwp)(Fpp)(Fpwt)	597.39 gal	443.52 gal		21.06 gal	476.15 gal	45 gal

Restrained Pipe

Sum:	Vo	208,105.35 gal / 26,637,485 oz.	Vtp1	208,852.68 gal / 26,733,143 oz.	Vtp2	208,836.62 gal / 26,731,087 oz.
Vo Restrained		184,316 gal	20,639 gal	3,150 gal		
Fwp 1		1.001996	1.001996	1.001996		
Fpp 1		1.001476	1.001855	1.001349		
Fpt 1		0.999988	0.999988	0.999988		
Fwt 1		0.999907	0.999907	0.999907		
Fpwt 1 = Fpt/Fwt		1.000081	1.000081	1.000081		
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		184,971 gal	20,720 gal	3,161 gal		
Fwp 2		1.001996	1.001996	1.001996		
Fpp 2		1.001479	1.001859	1.001353		
Fpt 2		1.000000	1.000000	1.000000		
Fwt 2		1.000000	1.000000	1.000000		
Fpwt = Fpt/Fwt		1.000000	1.000000	1.000000		
Vtp = Vo(Fwp)(Fpp)(Fpwt)		184,957 gal	20,719 gal	3,161 gal		

Combined Pipe

Sum:	Vo	209,684.20 gal / 26,839,577 oz.	Vtp1	210,436.44 gal / 26,935,864 oz.	Vtp2	210,420.23 gal / 26,933,789 oz.
1 °F Change	16.22 gal	2,075.55 oz.				

RCP

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	27 ft	Unrestrained	24.000 in.	0.3750 in.	API5L-X60	1,875 psig	Steel	Arc Weld	DSAW
2	24 ft	Unrestrained	22.000 in.	0.3750 in.	API5L-X65	2,216 psig	Steel	Arc Weld	ERW-HF
3	8,268 ft	Restrained	24.000 in.	0.3125 in.	API5L-Grade B	911 psig	Steel	Arc Weld	SM
4	916 ft	Restrained	24.000 in.	0.2500 in.	API5L-X42	875 psig	Steel	Arc Weld	DSAW
5	169 ft	Restrained	22.000 in.	0.3125 in.	API5L-Grade B	994 psig	Steel	Arc Weld	SM
6	14 ft	Unrestrained	6.625 in.	0.2800 in.	API5L-Grade B	2,958 psig	Steel	Arc Weld	SM
7	22 ft	Unrestrained	24.000 in.	0.5000 in.	API5L-X65	2,708 psig	Steel	Arc Weld	DSAW
8	3 ft	Unrestrained	20.000 in.	0.3750 in.	API5L-X65	2,438 psig	Steel	Arc Weld	ERW-HF

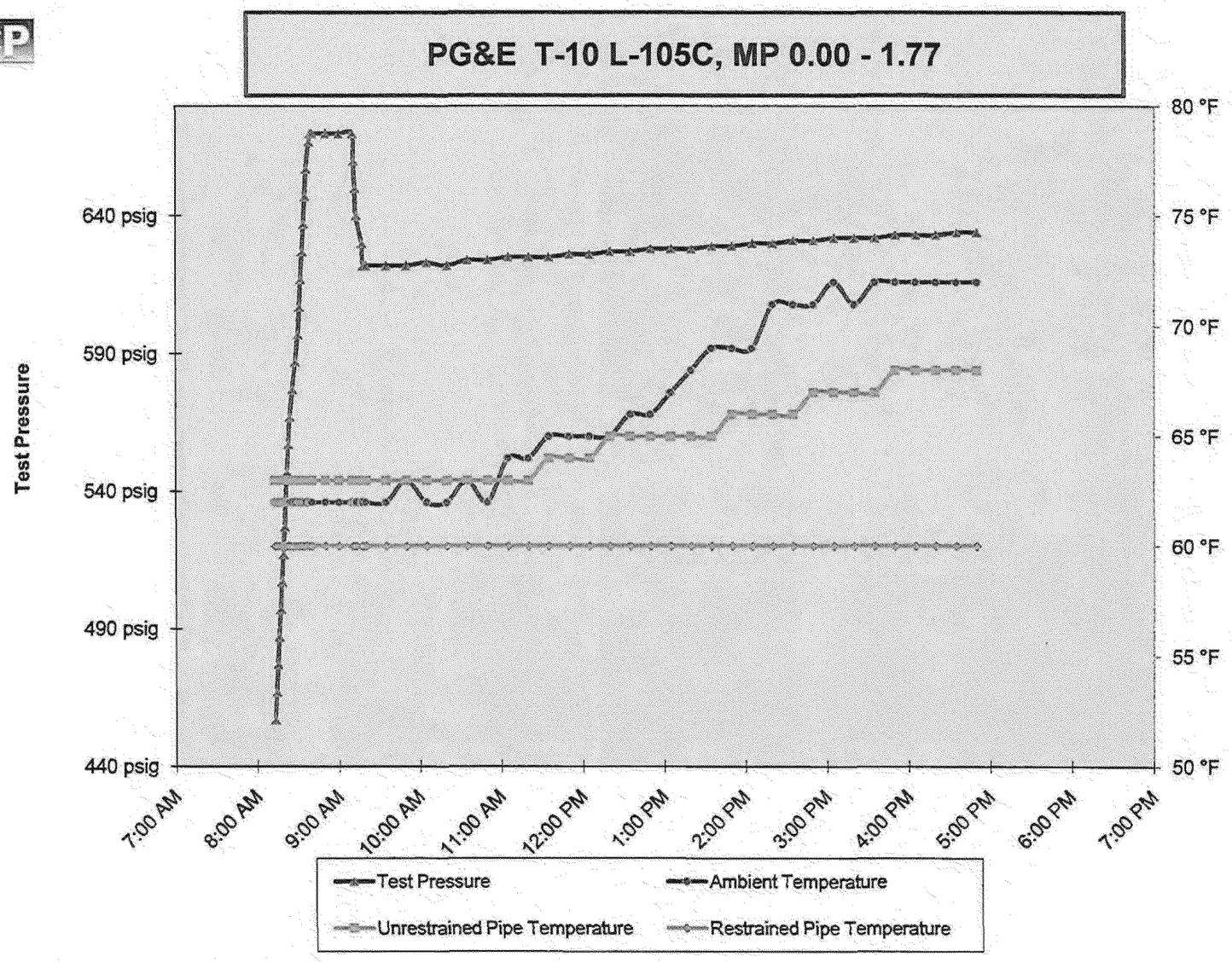
Hydrostatic Test Project Owner & Participants

Owner Company	Pacific Gas and Electric Company	Job Number
Address	350 N. Wiget Walnut Creek, CA 94598 Attention: Redacted	41482858
Construction Company	ARB	Job Number
Address	1875 Loveridge Road Antioch, CA 94565 Attention: Redacted	0629-53-3500
Hydrostatic Test Co.	Contra Costa Inspection Co.	Project No.
Address	2820 LaJolla Drive Atnitioch, CA 94565 Attention: Redacted	T-10 8/25/2011
Test Section	PG&E T-10 L-105C, MP 0.00 - 1.77 From: 0+00 To: 91+40	
File Name	RCP 61362 - T-10, L-105C, MP 0.00 - 1.77	

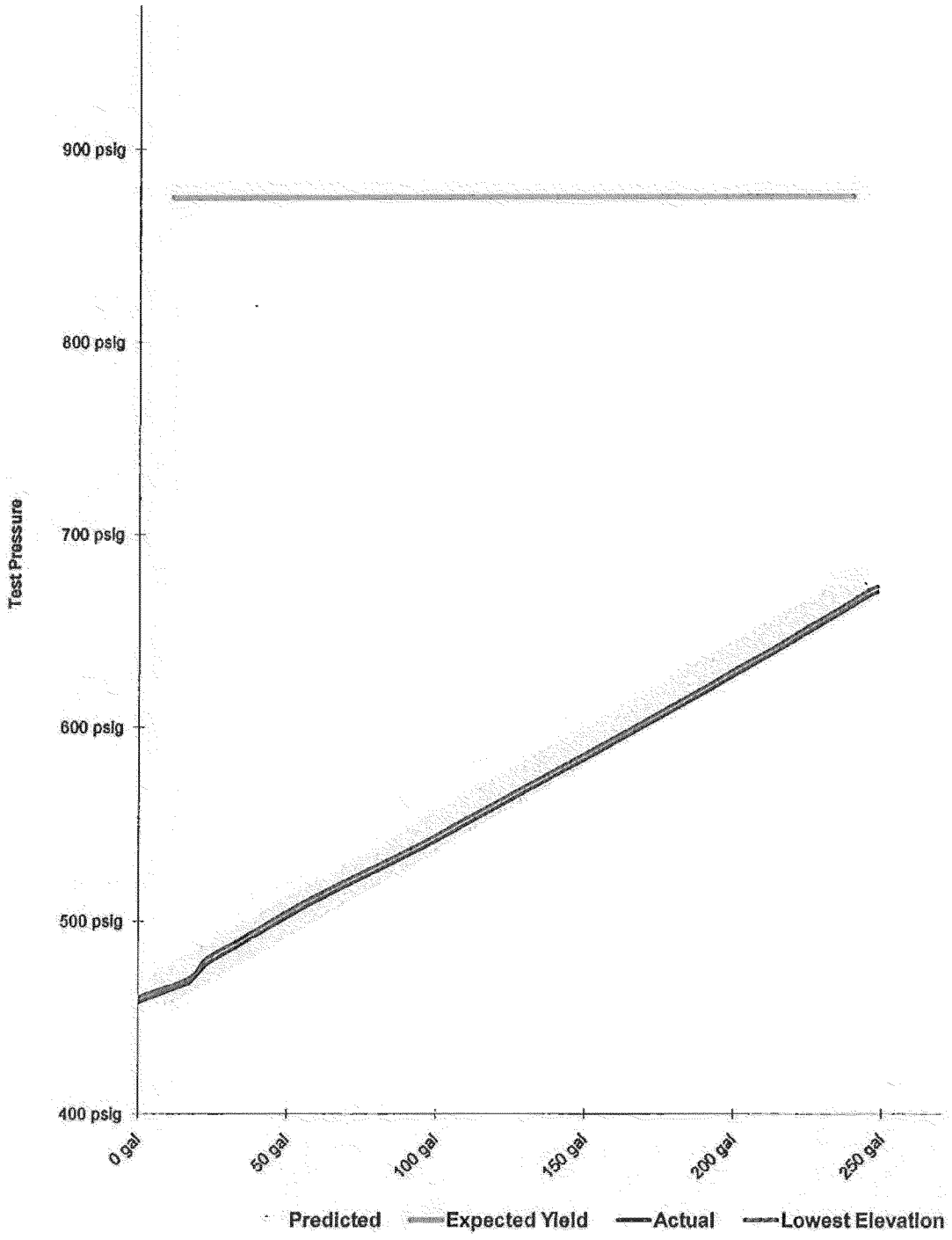
Part II – Test Data (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)

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

Time and Date Test Pressure Reached	8/25/11 8:40 AM	Elevation at Test Point	20 ft	Min. Required Test Press At Test Point (1)	608.90 psig	Max. Allowable Test Press at Test Point (4)	677.40 psig
Time and Date Test Ended	8/25/11 4:50 PM	Max. Elevation in Test Section	29 ft	Min. Indicated Test Pressure (2)	622.00 psig	Max. Indicated Test Pressure (5)	670.00 psig
Actual Duration of Test	8 hours 10 minutes	Min. Elevation in Test Section	14 ft	Min. Test Pressure at Max. Elevation (3)	618.10 psig	Max. Test Pressure at Min. Elevation (6)	672.60 psig



Spike Pressure Test
Stress Strain Curve -- PG&E T-10 L-105C, MP 0.00 - 1.77



RCP

Spike Pressure Test
Stress Strain Curve -- PG&E T-10 L-105C, MP 0.00 - 1.77

Actual Pressure Volume Plot Data			Predicted Pressure Volume Plot Data	Slope	
Pressure	Strokes	Gallons	Gallons	Actual	Predicted
458 psig	0	0.00 gal		0	0.000
468 psig	450	17.24 gal	11.31 gal	1.724	1.131
478 psig	600	22.98 gal	22.62 gal	0.575	1.131
488 psig	897	34.36 gal	33.93 gal	1.138	1.131
498 psig	1179	45.16 gal	45.24 gal	1.080	1.131
508 psig	1475	56.50 gal	56.55 gal	1.134	1.131
518 psig	1806	69.18 gal	67.86 gal	1.268	1.131
528 psig	2156	82.59 gal	79.18 gal	1.341	1.131
538 psig	2492	95.46 gal	90.49 gal	1.287	1.131
548 psig	2810	107.64 gal	101.81 gal	1.218	1.131
558 psig	3126	119.74 gal	113.12 gal	1.210	1.132
568 psig	3435	131.58 gal	124.44 gal	1.184	1.132
578 psig	3748	143.57 gal	135.75 gal	1.199	1.132
588 psig	4058	155.44 gal	147.07 gal	1.187	1.132
598 psig	4357	166.90 gal	158.39 gal	1.145	1.132
608 psig	4660	178.50 gal	169.71 gal	1.161	1.132
618 psig	4959	189.95 gal	181.03 gal	1.145	1.132
628 psig	5249	201.06 gal	192.35 gal	1.111	1.132
638 psig	5553	212.71 gal	203.67 gal	1.164	1.132
648 psig	5835	223.51 gal	214.99 gal	1.080	1.132
658 psig	6127	234.69 gal	226.31 gal	1.119	1.132
668 psig	6399	245.11 gal	237.63 gal	1.042	1.132
670 psig	6480	248.22 gal	239.90 gal	1.551	1.132
670 psig		248.22 gal	239.90 gal	0.000	0.000
670 psig		248.22 gal	239.90 gal	0.000	0.000
670 psig		248.22 gal	239.90 gal	0.000	0.000
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670 psig		248.22 gal	239.90 gal	0.000	0.000
670 psig		248.22 gal	239.90 gal	0.000	0.000

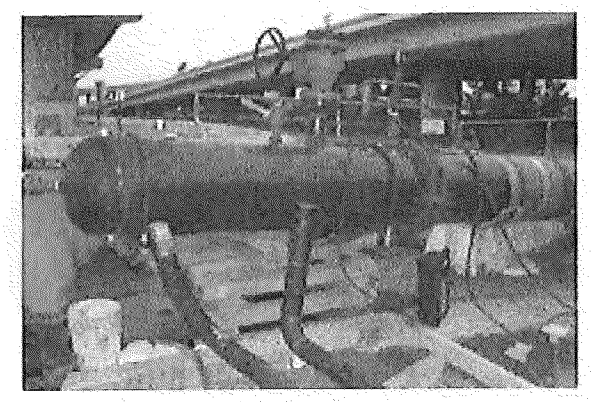
Pump gal per stroke	0.056 gal/stroke
Pump Piston Diameter	1.250 in
Pump Piston Stroke	3.50 in
Pump Cylinders	3 ea
Volume check gal per stroke	0.038 gal/stroke
Volume Released (gallons)	56.20 gal
Pressure Reduced (psi)	48 psi
Maximum2	270 gal
Minimum2	0 gal
Maximum1	975 psig
Minimum1	400 psig
Gallons/Stroke Used	0.038 gal/stroke
Predicted Gallons/Stroke	0.037 gal/stroke
Pressure Increment	10 psi
Max Pressure	670 psig
Buried Pipe Temperature	60 °F
Exposed Pipe Temperature	63 °F

ASME B31.8 Appendix N-5

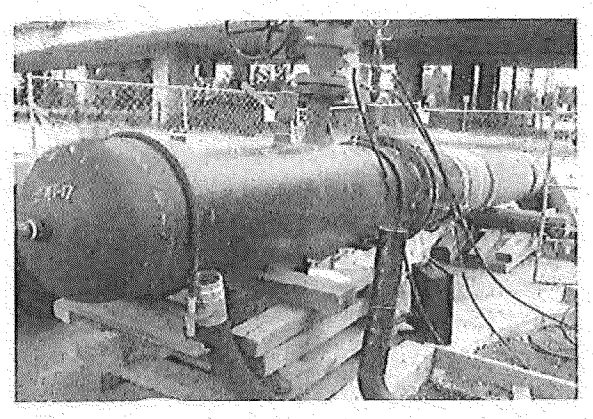
Average Actual Elastic Slope	1.167
Average Predicted Elastic Slope	1.132
Code Prescribed Minimum Yield Slope (less 10%) B31.8 N-5 (c)(2)	2.218
Established Minimum Yield Pressure B31.8 N-5 (c)(2)	670 psig
Maximum Allowed Volume (After Slope Deviation) B31.8 N-5 (c)(2)	418 gal
Volume (After Slope Deviation) B31.8 N-5 (c)(2)	0 gal

Redacted

8/25/2011
Date

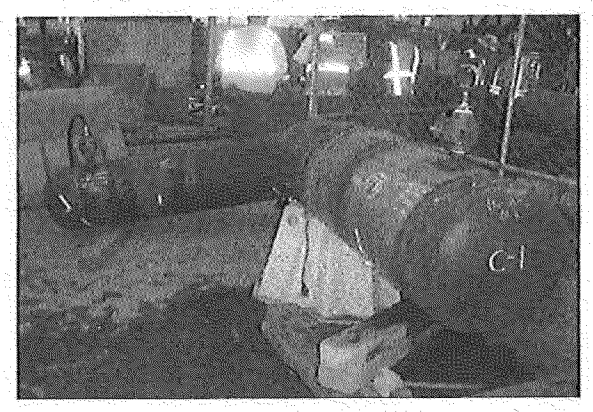


Test Location:Test Head T-10



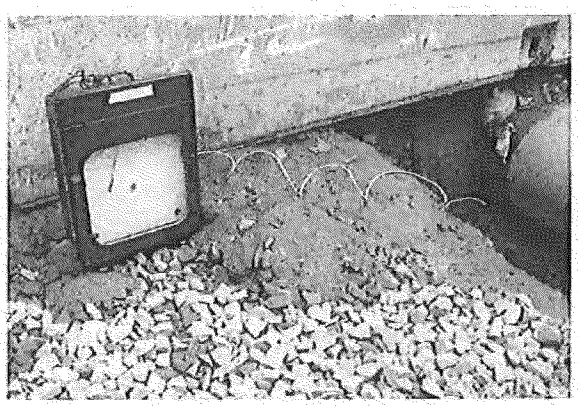
Test Location: Segment Header

Test Location: Pipeline Connects (Loc A)



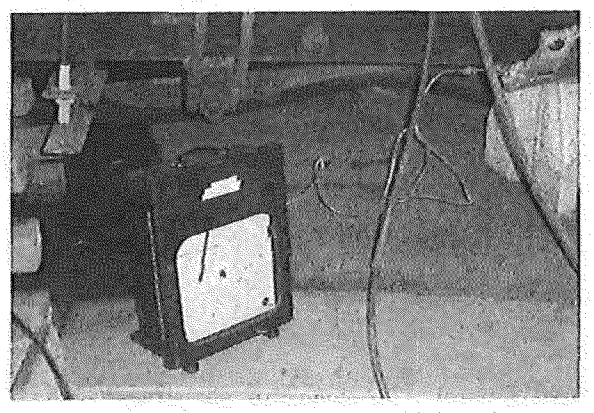
Test Location: Spool Piece for Tie-In (Loc A)

Injection pump

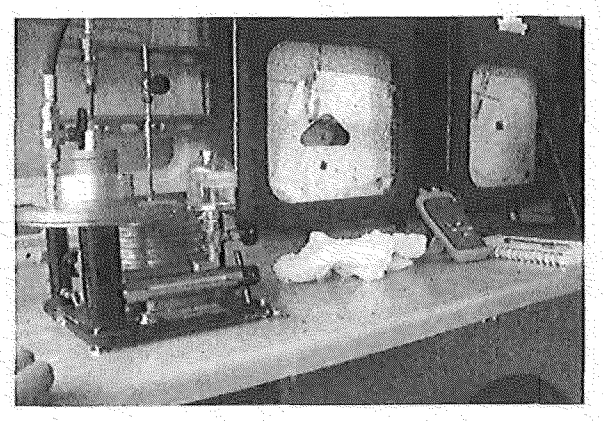


Restrained Temp Recorder (Loc A)

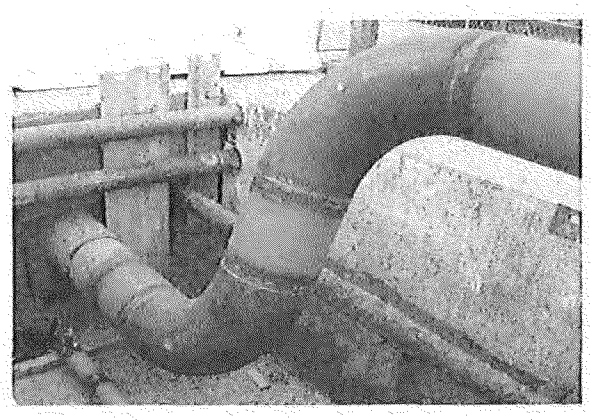
RCP



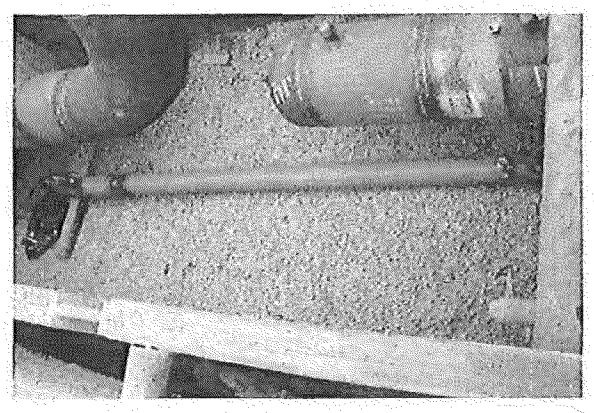
Unrestrained Temp Recorder (Loc A)



Deadweight, Temp Fluke and Pressure Recorder

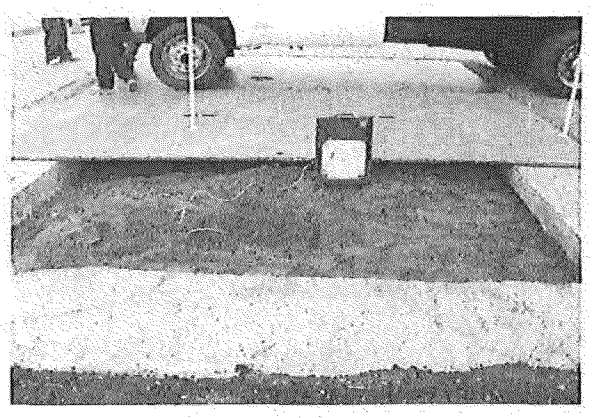


Test Location: Pipeline Connects (Loc B)



6" X 9"4" Pipe Section (Loc B)

Test Location: Test End



Restrained Temp Recorder (Loc C)