



RCP, Inc

801 Louisiana, Ste.200
Houston, Texas 77002
(713)655-8080

Redacted

June 28, 2011

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

Test Contractor: Milbar Hydro-test Incorporated -- FY12-112 T85
Asset Owner: Pacific Gas and Electric Company -- 41497328
Construction Contractor: Snelson -- 41474005-T85
Test Section: PG&E T-85 Line 300B
Test Date: June 28, 2011
Certificate Number: RCP 61362 - T-85, L-300B

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 Milbar Hydro-test Incorporated 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 1230 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 9 hour test duration period.

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 1135 psig and the established MAOP is 1032 psig.

Pressure decreased 88 psi during the test. 10,483.20 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 2,012.00 ounces, loss, which is equivalent to a 0.53 °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,

Redacted

cc. file



Hydrostatic Test Certification

Company	Pacific Gas and Electric Company	Job Number	41497328
Construction Co.	Snelson	Job Number	41474005-T85
Hydro. Test Co.	Milbar Hydro-test Incorporated	Project No.	FY12-112 T85
Test Section	PG&E T-85 Line 300B		
File Name	RCP 61362 - T-85, L-300B		

Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION:

Test Date:

28-Jun-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-85 Line 300B
From:	44+22
To:	0+00

Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	100 ft	34.000 in.	0.505 in.	API5L-X60, DSAW, Arc Weld, Steel	1,782 psi
2	4,399 ft	34.000 in.	0.438 in.	API5L-X48, DSAW, Arc Weld, Steel	1,237 psi
3	40 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi
4	15 ft	34.000 in.	0.375 in.	API5L-X65, DSAW, Arc Weld, Steel	1,434 psi

Initial Test Conditions

Pressure at Test Point:	1,230 psig	Date/Time:	6/28/11 9:30 AM	Pipe Temperature	
Ambient Temperature:	78.0 °F	Elevation @ Test Point:	444.0 ft	Unrestrained:	82.0 °F
Pressure @ High Point (Cal/Measure):	1,224 psig	Elevation @ High Point:	459.0 ft	Restrained:	80.0 °F
Pressure @ Low Point (Cal/Measure):	1,230 psig	Elevation @ Low Point:	444.0 ft	Location:	44+22
				Location:	0+00
				Location:	44+22

Final Test Conditions

Pressure at Test Point:	1,142 psig	Date/Time:	6/28/11 6:10 PM	Pipe Temperature	
Ambient Temperature:	83.0 °F	Elevation @ Test Point:	444.0 ft	Unrestrained:	83.0 °F
Pressure @ High Point (Cal/Measure):	1,136 psig	Elevation @ High Point:	459.0 ft	Restrained:	80.0 °F
Pressure @ Low Point (Cal/Measure):	1,142 psig	Elevation @ Low Point:	444.0 ft	Location:	44+22
				Location:	0+00
				Location:	44+22

Total Fluid Injected:		Total Fluid Withdrawn:	10483.20 fluid ounces	Volume loss	
Net Change in Volume of the Test Section ± (+ Gain, - Loss):	(2,012.00) oz	loss	(0.0077)%	(0.527) °F equivalent	

Test Duration: 9 hours

Minimum Test Pressure:	1,142 psig	1,136 psig	1,142 psig
Maximum Test	1,230 psig	1,224 psig	1,230 psig
% SMYS :	99.5%	98.9%	99.5%

Minimum Test Pressure (Calculated/Measured):

1,136 psig

Maximum Allowable Operating Pressure:

DOT Part 192

Test Factor= 1.10

1,032 psig

Were leaks observed?	No	Explain:
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Acceptable Hydrostatic Test?	Yes	<p>The test segment was subjected to a spike pressure test of 1230 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 9 hour test duration period.</p> <p>No leaks were observed during the test period. The test section included 4,399 feet of buried and 155 feet of exposed pipe. Pressure lost 88 psi during the test. The buried pipe segment fluid temperature remained steady and the exposed pipe segment gained 1°F.</p> <p>10,483.20 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 2,012.00 ounces, loss, which is equivalent to a 0.53 °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>
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Remarks	Test was extended for an additional fifteen minutes to ensur the pressure and temperature charts included a full 8 continuous hours of data.
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28-Jun-11



Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41497328
Construction Co.	Snelson	Job Number	41474005-T85
Testing Co.	Milbar Hydro-test Incorporated	Project No.	FY12-112 T85
Test Section	PG&E T-85 Line 300B		
File Name	RCP 61362 - T-85, L-300B		

Date		28-Jun-11		Test Log					
Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
				Unrestrained	Restrained				
1	6/28/11	8:48 AM	840 psig	78 °F	80 °F	80 °F	Start Spike		
2	6/28/11	8:49 AM	850 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
3	6/28/11	8:50 AM	860 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
4	6/28/11	8:51 AM	870 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
5	6/28/11	8:52 AM	880 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
6	6/28/11	8:53 AM	890 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
7	6/28/11	8:54 AM	900 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
8	6/28/11	8:55 AM	910 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
9	6/28/11	8:56 AM	920 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
10	6/28/11	8:57 AM	930 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
11	6/28/11	8:58 AM	940 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
12	6/28/11	8:59 AM	950 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
13	6/28/11	9:00 AM	960 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
14	6/28/11	9:01 AM	970 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
15	6/28/11	9:02 AM	980 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
16	6/28/11	9:03 AM	990 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
17	6/28/11	9:04 AM	1,000 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
18	6/28/11	9:05 AM	1,010 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
19	6/28/11	9:06 AM	1,020 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
20	6/28/11	9:07 AM	1,030 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
21	6/28/11	9:08 AM	1,040 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
22	6/28/11	9:09 AM	1,050 psig	78 °F	80 °F	80 °F	Inject		1,551 oz.
23	6/28/11	9:10 AM	1,060 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
24	6/28/11	9:11 AM	1,070 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
25	6/28/11	9:12 AM	1,080 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
26	6/28/11	9:13 AM	1,090 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
27	6/28/11	9:14 AM	1,100 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
28	6/28/11	9:15 AM	1,110 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
29	6/28/11	9:16 AM	1,120 psig	78 °F	80 °F	80 °F	Inject		1,551 oz.
30	6/28/11	9:17 AM	1,130 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
31	6/28/11	9:18 AM	1,140 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
32	6/28/11	9:19 AM	1,150 psig	78 °F	80 °F	80 °F	Inject		1,481 oz.
33	6/28/11	9:20 AM	1,160 psig	78 °F	82 °F	80 °F	Inject		1,481 oz.
34	6/28/11	9:21 AM	1,170 psig	78 °F	82 °F	80 °F	Inject		1,481 oz.
35	6/28/11	9:22 AM	1,180 psig	78 °F	82 °F	80 °F	Inject		1,551 oz.
36	6/28/11	9:23 AM	1,190 psig	78 °F	82 °F	80 °F	Inject		1,410 oz.
37	6/28/11	9:24 AM	1,200 psig	78 °F	82 °F	80 °F	Inject		1,481 oz.
38	6/28/11	9:25 AM	1,210 psig	78 °F	82 °F	80 °F	Inject		1,551 oz.
39	6/28/11	9:26 AM	1,220 psig	78 °F	82 °F	80 °F	Inject		1,481 oz.
40	6/28/11	9:28 AM	1,230 psig	78 °F	82 °F	80 °F	Inject		1,481 oz.
41	6/28/11	9:30 AM	1,230 psig	78 °F	82 °F	80 °F	On Test		
42	6/28/11	9:40 AM	1,229 psig	80 °F	82 °F	80 °F			
43	6/28/11	9:50 AM	1,229 psig	80 °F	85 °F	80 °F			



Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41497328
Construction Co.	Snelson	Job Number	41474005-T85
Testing Co.	Milbar Hydro-test Incorporated	Project No.	FY12-112 T85
Test Section	PG&E T-85 Line 300B		
File Name	RCP 61362 - T-85, L-300B		

Date		Test Log							
28-Jun-11									
Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
					Unrestrained	Restrained			
44	6/28/11	10:00 AM	1,229 psig	82 °F	86 °F	80 °F	End Spike		
45	6/28/11	10:10 AM	1,219 psig	82 °F	86 °F	80 °F	Bleed	1,248 oz.	
46	6/28/11	10:11 AM	1,210 psig	82 °F	86 °F	80 °F	Bleed	1,123 oz.	
47	6/28/11	10:12 AM	1,200 psig	82 °F	86 °F	80 °F	Bleed	1,248 oz.	
48	6/28/11	10:13 AM	1,190 psig	82 °F	86 °F	80 °F	Bleed	1,248 oz.	
49	6/28/11	10:14 AM	1,180 psig	84 °F	86 °F	80 °F	Bleed	1,248 oz.	
50	6/28/11	10:15 AM	1,170 psig	84 °F	86 °F	80 °F	Bleed	1,248 oz.	
51	6/28/11	10:16 AM	1,160 psig	84 °F	87 °F	80 °F	Bleed	1,248 oz.	
52	6/28/11	10:17 AM	1,150 psig	85 °F	88 °F	80 °F	Bleed	1,248 oz.	
53	6/28/11	10:25 AM	1,145 psig	85 °F	89 °F	80 °F	Bleed	624 oz.	
54	6/28/11	10:40 AM	1,145 psig	87 °F	89 °F	80 °F			
55	6/28/11	10:55 AM	1,145 psig	87 °F	90 °F	80 °F	Hot		
56	6/28/11	11:10 AM	1,145 psig	87 °F	91 °F	80 °F			
57	6/28/11	11:25 AM	1,145 psig	87 °F	91 °F	80 °F			
58	6/28/11	11:40 AM	1,145 psig	87 °F	92 °F	80 °F	Hot		
59	6/28/11	11:55 AM	1,145 psig	86 °F	92 °F	80 °F			
60	6/28/11	12:10 PM	1,145 psig	86 °F	92 °F	80 °F			
61	6/28/11	12:25 PM	1,145 psig	86 °F	92 °F	80 °F	Hot		
62	6/28/11	12:40 PM	1,145 psig	86 °F	93 °F	80 °F			
63	6/28/11	12:55 PM	1,145 psig	85 °F	91 °F	80 °F			
64	6/28/11	1:10 PM	1,144 psig	85 °F	89 °F	80 °F			
65	6/28/11	1:25 PM	1,144 psig	84 °F	88 °F	80 °F	Cloud Cover		
66	6/28/11	1:40 PM	1,144 psig	86 °F	92 °F	80 °F			
67	6/28/11	1:55 PM	1,144 psig	86 °F	92 °F	80 °F			
68	6/28/11	2:10 PM	1,145 psig	87 °F	93 °F	80 °F			
69	6/28/11	2:25 PM	1,145 psig	87 °F	93 °F	80 °F	Cloud Cover		
70	6/28/11	2:40 PM	1,145 psig	88 °F	94 °F	80 °F			
71	6/28/11	2:55 PM	1,145 psig	87 °F	94 °F	80 °F			
72	6/28/11	3:10 PM	1,145 psig	86 °F	95 °F	80 °F			
73	6/28/11	3:25 PM	1,145 psig	87 °F	95 °F	80 °F			
74	6/28/11	3:40 PM	1,145 psig	87 °F	95 °F	80 °F	Cloud Cover		
75	6/28/11	3:55 PM	1,145 psig	88 °F	96 °F	80 °F			
76	6/28/11	4:10 PM	1,145 psig	88 °F	95 °F	80 °F			
77	6/28/11	4:25 PM	1,145 psig	86 °F	92 °F	80 °F			
78	6/28/11	4:40 PM	1,145 psig	85 °F	88 °F	80 °F			
79	6/28/11	4:55 PM	1,144 psig	85 °F	86 °F	80 °F			
80	6/28/11	5:10 PM	1,144 psig	84 °F	85 °F	80 °F	Cloud Cover		
81	6/28/11	5:25 PM	1,143 psig	84 °F	84 °F	80 °F			
82	6/28/11	5:40 PM	1,143 psig	83 °F	83 °F	80 °F			
83	6/28/11	5:55 PM	1,142 psig	83 °F	83 °F	80 °F			
84	6/28/11	6:10 PM	1,142 psig	83 °F	83 °F	80 °F	End of Test		



Pipe Segment Volume Calculations

Company	Pacific Gas and Electric Company	Job Number	41497328
Construction Co.	Snelson	Job Number	41474005-T85
Hydro. Test Co.	Milbar Hydro-test Incorporated	Project No.	FY12-112 T85
Test Section	PG&E T-85 Line 300B	WATER	
File Name	RCP 61362 - T-85, L-300B		

General Pipe Data

Description	Segment											
	1	2	3	4								
Restrained or Unrestrained?	Unrestrained	Restrained	Unrestrained	Unrestrained								
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	34.000 in.								
Wall Thickness	0.505 in.	0.438 in.	0.500 in.	0.375 in.								
Inside Diameter	32.990 in.	33.124 in.	33.000 in.	33.250 in.								
Spec./Grade	API5L-X60	API5L-X48	API5L-X65	API5L-X65								
Length Unrestrained	100 ft		40 ft	15 ft								
Length Restrained		4,399 ft										
Temperature -- On Test	82 °F	80 °F	82.0 °F	82.0 °F								
Temperature -- End of Test	83 °F	80 °F	83.0 °F	83.0 °F								
Pressure -- On Test	1,230 psig	1,230 psig	1,230 psig	1,230 psig								
Pressure -- End of Test	1,142 psig	1,142 psig	1,142 psig	1,142 psig								

Unrestrained Pipe

Sum:	Vo	6,894.26 gal 882,466 oz.	Vtp1	6,928.21 gal 886,811 oz.	Vtp2	6,923.76 gal 886,242 oz.
Vo Unrestrained	4,440 gal		1,777 gal	677 gal		
Fwp 1	1.003772		1.003772	1.003772		
Fpp 1	1.003348		1.003383	1.004544		
Fpt 1	1.000400		1.000400	1.000400		
Fwt 1	1.002725		1.002725	1.002725		
Fpwt 1 = Fpt/Fwt	0.997682		0.997682	0.997682		
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	4,461.72 gal		1,785.83 gal	680.66 gal		
Fwp 2	1.003501		1.003501	1.003501		
Fpp 2	1.003108		1.003141	1.004219		
Fpt 2	1.000419		1.000419	1.000419		
Fwt 2	1.002868		1.002868	1.002868		
Fpwt = Fpt/Fwt	0.997557		0.997557	0.997557		
Vtp = Vo(Fwp)(Fpp)(Fpwt)	4,458.90 gal		1,784.70 gal	680.17 gal		

Restrained Pipe

Sum:	Vo	196,924.01 gal 25,206,273 oz.	Vtp1	197,808.44 gal 25,319,481 oz.	Vtp2	197,715.27 gal 25,307,555 oz.
Vo Unrestrained		196,924 gal				
Fwp 1		1.003772				
Fpp 1		1.002894				
Fpt 1		1.000242				
Fwt 1		1.002418				
Fpwt 1 = Fpt/Fwt		0.997829				
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		197,808 gal				
Fwp 2		1.003501				
Fpp 2		1.002692				
Fpt 2		1.000242				
Fwt 2		1.002418				
Fpwt = Fpt/Fwt		0.997829				
Vtp = Vo(Fwp)(Fpp)(Fpwt)		197,715 gal				

Combined Pipe

Sum:	Vo	203,818.27 gal 26,088,738 oz.	Vtp1	204,736.66 gal 26,206,292 oz.	Vtp2	204,639.04 gal 26,193,797 oz.
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Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	41497328
Construction Co.	Snelson	Job Number	41474005-T85
Hydro. Test Co.	Milbar Hydro-test Incorporated	Project No.	FY12-112 T85
Test Section	PG&E T-85 Line 300B	WATER	
File Name	RCP 61362 - T-85, L-300B		

General Pipe Data

Description	Segment							
	1	2	3	4				
Restrained or Unrestrained?	Unrestrained	Restrained	Unrestrained	Unrestrained				
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	34.000 in.				
Wall Thickness	0.505 in.	0.438 in.	0.500 in.	0.375 in.				
Inside Diameter	32.990 in.	33.124 in.	33.000 in.	33.250 in.				
Spec./Grade	API5L-X60	API5L-X48	API5L-X65	API5L-X65				
Length Unstrained	100.00 ft		40.00 ft	15 ft				
Length Restrained		4,399 ft						
Temperature -- On Test	82 °F	79 °F	82 °F	82 °F				
Temperature -- End of Test	83 °F	80 °F	83 °F	83 °F				
Pressure -- On Test	1,186 psig	1,186 psig	1,186 psig	1,186 psig				
Pressure -- End of Test	1,186 psig	1,186 psig	1,186 psig	1,186 psig				

Unrestrained Pipe

Sum:	Vo	Vtp1		Vtp2	
		6,894.26 gal 882,466 oz.		6,926.42 gal 886,582 oz.	
Vo Unrestrained	4,440 gal		1,777 gal	677 gal	
Fwp 1	1.003636		1.003636	1.003636	
Fpp 1	1.003228		1.003262	1.004382	
Fpt 1	1.000400		1.000400	1.000400	
Fwt 1	1.002725		1.002725	1.002725	
Fpwt 1 = Fpt/Fwt	0.997682		0.997682	0.997682	
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	4,460.59 gal		1,785.38 gal	680.46 gal	
Fwp 2	1.003636		1.003636	1.003636	
Fpp 2	1.003228		1.003262	1.004382	
Fpt 2	1.000419		1.000419	1.000419	
Fwt 2	1.002868		1.002868	1.002868	
Fpwt = Fpt/Fwt	0.997557		0.997557	0.997557	
Vtp = Vo(Fwp)(Fpp)(Fpwt)	4,460.03 gal		1,785.15 gal	680.37 gal	

Restrained Pipe

Sum:	Vo	Vtp1		Vtp2	
		196,924.01 gal 25,206,273 oz.		197,790.83 gal 25,317,227 oz.	
Vo Restrained		196,924 gal			
Fwp 1		1.003636			
Fpp 1		1.002789			
Fpt 1		1.000230			
Fwt 1		1.002255			
Fpwt 1 = Fpt/Fwt		0.997979			
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		197,791 gal			
Fwp 2		1.003636			
Fpp 2		1.002793			
Fpt 2		1.000242			
Fwt 2		1.002418			
Fpwt = Fpt/Fwt		0.997829			
Vtp = Vo(Fwp)(Fpp)(Fpwt)		197,762 gal			

Combined Pipe

Sum:	Vo	Vtp1		Vtp2	
		203,818.27 gal 26,088,738 oz.		204,717.25 gal 26,203,808 oz.	
1 °F Change	29.84 gal		3,820.12 oz.		



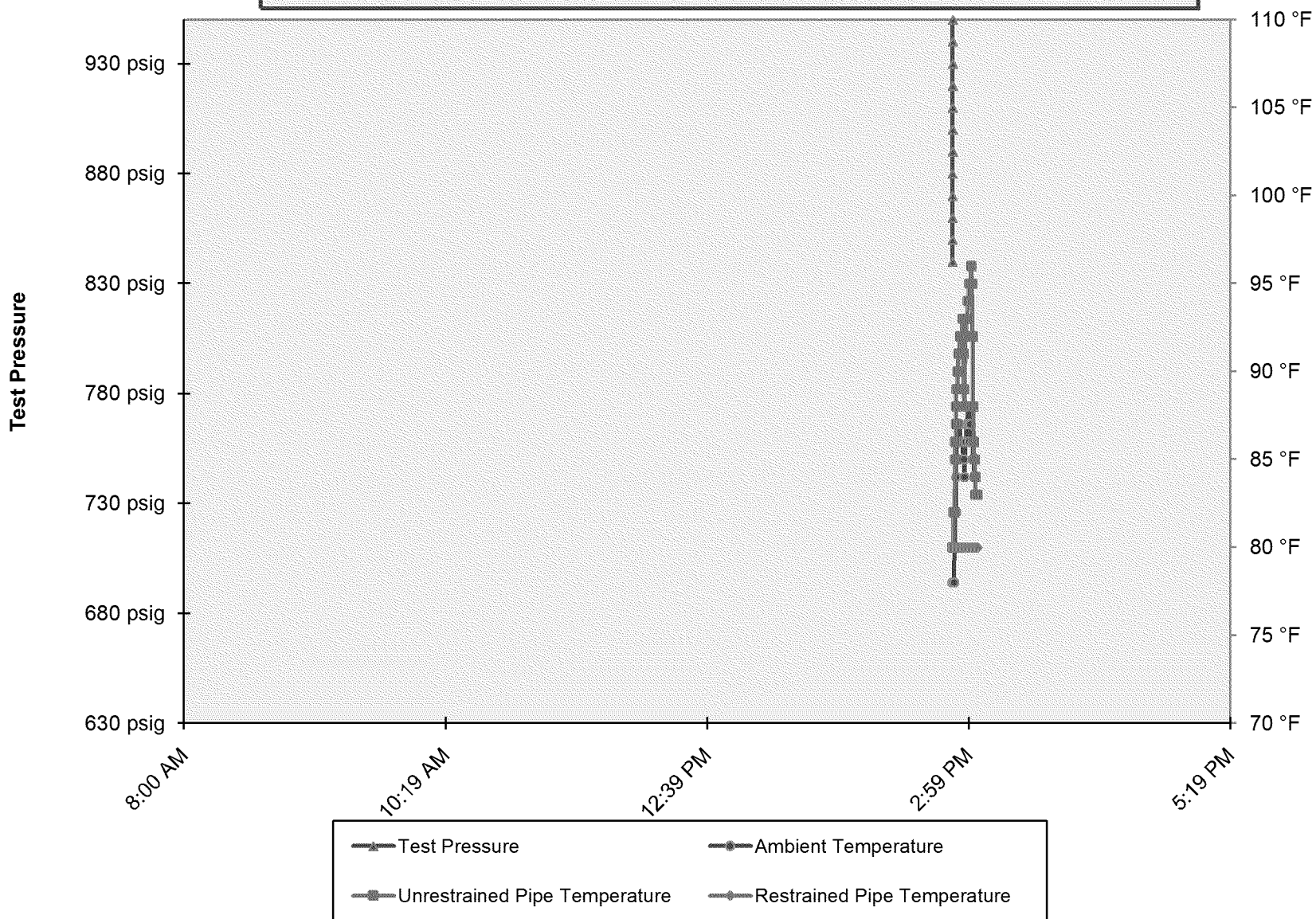
Hydrostatic Test Pipe Data Table

Pipe Type	Length	Restrained / Unrestrained	Outside Diameter	Wall Thickness	Specification & Grade	Pipe Yield Pressure	Material	Joint Type	Seam Type
1	100 ft	Unrestrained	34.000 in.	0.5050 in.	API5L-X60	1,782 psig	Steel	Arc Weld	DSAW
2	4,399 ft	Restrained	34.000 in.	0.4380 in.	API5L-X48	1,237 psig	Steel	Arc Weld	DSAW
3	40 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSAW
4	15 ft	Unrestrained	34.000 in.	0.3750 in.	API5L-X65	1,434 psig	Steel	Arc Weld	DSAW

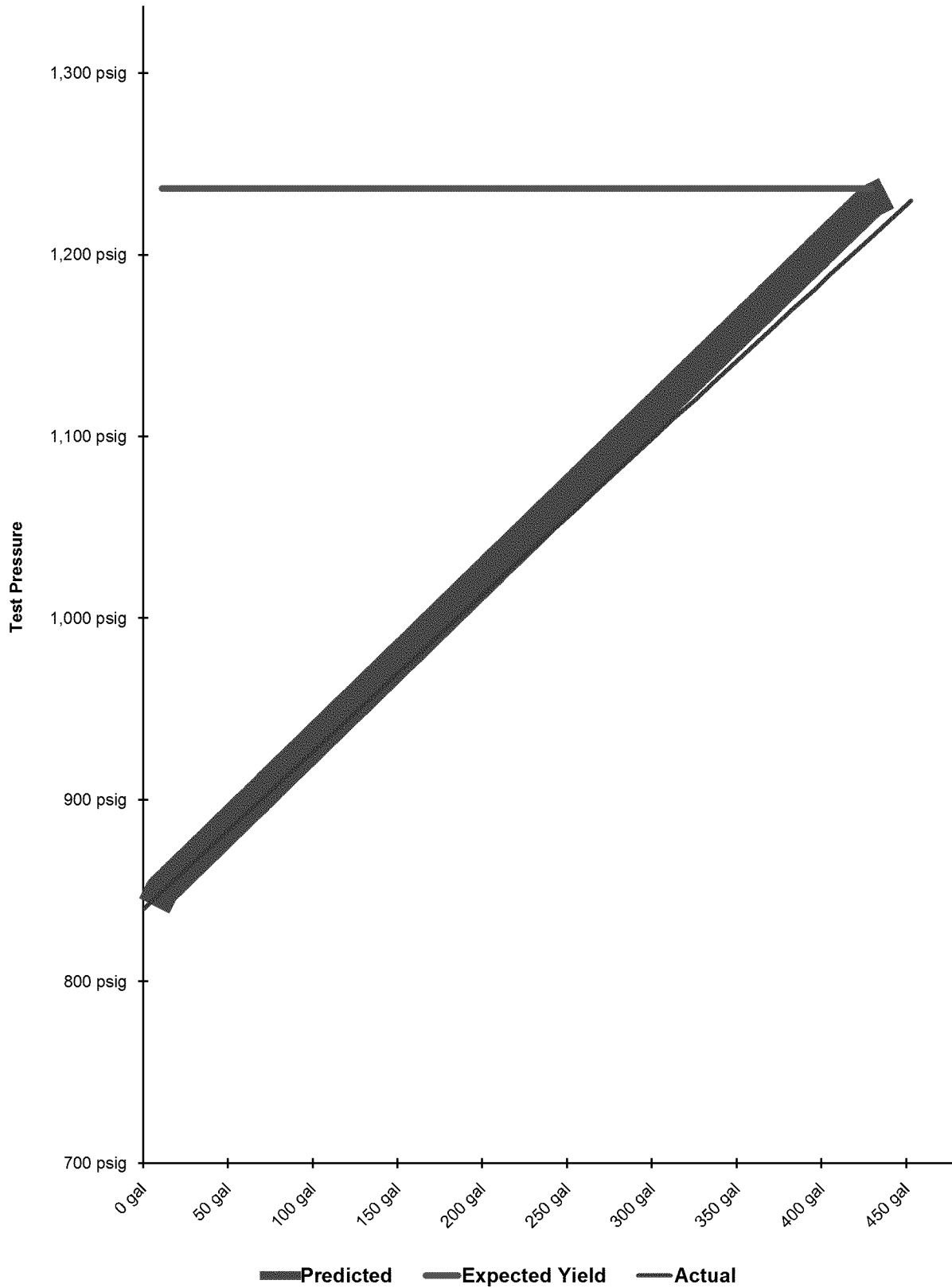
Hydrostatic Test Project Owner & Participants

Owner Company	Pacific Gas and Electric Company	Job Number
Address	3600 Adobe Rd Petaluma, Ca 94954 Attention: Redacted	41497328
Construction Company	Snelson	Job Number
Address	601 West State Street Sedro-Woolley, WA 98284 Attention: Redacted	41474005-T85
Hydrostatic Test Co.	Milbar Hydro-test Incorporated	Project No.
Address	P.O. Box 7701 Shreveport, Louisiana 71137-7701	FY12-112 T85
Test Section	PG&E T-85 Line 300B From: 44+22 To: 0+00	
File Name	RCP 61362 - T-85, L-300B	

PG&E T-85 Line 300B



**Spike Pressure Test
Stress Strain Curve -- PG&E T-85 Line 300B**

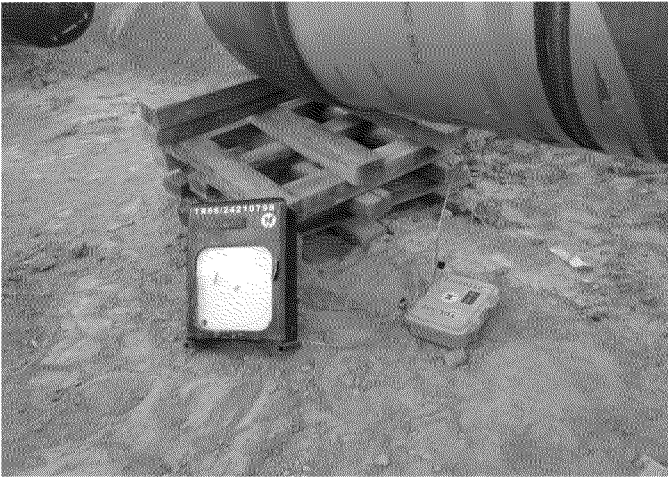




Actual Pressure Volume Plot Data			Predicted Pressure Volume Plot Data	Slope		Spike Pressure Test Stress Strain Curve -- PG&E T-85 Line 300B	
Pressure	Strokes	Gallons	Gallons	Actual	Predicted		
840 psig	0	0.00 gal		0	0.00 gal	Pump gal per stroke	0.551 gal/stroke
850 psig	21	11.57 gal	10.99 gal	1.157	1.099	Pump Piston Diameter	3.000 in
860 psig	42	23.13 gal	21.99 gal	1.157	1.100	Pump Piston Stroke	6.00 in
870 psig	63	34.70 gal	32.99 gal	1.157	1.100	Pump Cylinders	3 ea
880 psig	84	46.27 gal	43.98 gal	1.157	1.100	Volume check gal per stroke	0.463 gal/stroke
890 psig	105	57.83 gal	54.98 gal	1.157	1.100	Volume Released (gallons)	82.88 gal
900 psig	126	69.40 gal	65.98 gal	1.157	1.100	Pressure Reduced (psi)	85 psi
910 psig	147	80.97 gal	76.98 gal	1.157	1.100	Maximum2	480 gal
920 psig	168	92.53 gal	87.98 gal	1.157	1.100	Minimum2	0 gal
930 psig	189	104.10 gal	98.98 gal	1.157	1.100	Maximum1	1,337 psig
940 psig	210	115.67 gal	109.98 gal	1.157	1.100	Minimum1	700 psig
950 psig	231	127.23 gal	120.98 gal	1.157	1.100	Gallons/Stroke Used	0.551 gal/stroke
960 psig	252	138.80 gal	131.98 gal	1.157	1.100	Predicted Gallons/Stroke	0.522 gal/stroke
970 psig	273	150.37 gal	142.98 gal	1.157	1.100	Pressure Increment	10 psi
980 psig	294	161.93 gal	153.99 gal	1.157	1.100		
990 psig	315	173.50 gal	164.99 gal	1.157	1.100	Max Pressure	1,230 psig
1,000 psig	336	185.07 gal	175.99 gal	1.157	1.100		
1,010 psig	357	196.64 gal	187.00 gal	1.157	1.101	Buried Pipe Temperature	80 °F
1,020 psig	378	208.20 gal	198.01 gal	1.157	1.101		
1,030 psig	399	219.77 gal	209.01 gal	1.157	1.101	Exposed Pipe Temperature	86 °F
1,040 psig	420	231.34 gal	220.02 gal	1.157	1.101		
1,050 psig	442	243.45 gal	231.03 gal	1.212	1.101	ASME B31.8 Appendix N-5	
1,060 psig	463	255.02 gal	242.04 gal	1.157	1.101		
1,070 psig	484	266.59 gal	253.05 gal	1.157	1.101	Average Actual Elastic Slope	1.161
1,080 psig	505	278.15 gal	264.06 gal	1.157	1.101	Average Predicted Elastic Slope	1.101
1,090 psig	526	289.72 gal	275.07 gal	1.157	1.101	Code Prescribed Minimum Yield Slope (less 10%) B31.8 N-5 (c)(2)	2.206
1,100 psig	547	301.29 gal	286.08 gal	1.157	1.101	Established Minimum Yield Pressure B31.8 N-5 (c)(2)	1,230 psig
1,110 psig	568	312.85 gal	297.09 gal	1.157	1.101	Maximum Allowed Volume (After Slope Deviation) B31.8 N-5 (c)(2)	418 gal
1,120 psig	590	324.97 gal	308.10 gal	1.212	1.101		
1,130 psig	611	336.54 gal	319.12 gal	1.157	1.101	Volume (After Slope Deviation) B31.8 N-5 (c)(2)	0 gal
1,140 psig	632	348.10 gal	330.13 gal	1.157	1.101		
1,150 psig	653	359.67 gal	341.15 gal	1.157	1.101		
1,160 psig	674	371.24 gal	352.16 gal	1.157	1.102		
1,170 psig	695	382.81 gal	363.18 gal	1.157	1.102		
1,180 psig	717	394.92 gal	374.20 gal	1.212	1.102		
1,190 psig	737	405.94 gal	385.21 gal	1.102	1.102		
1,200 psig	758	417.51 gal	396.23 gal	1.157	1.102		
1,210 psig	780	429.62 gal	407.25 gal	1.212	1.102		
1,220 psig	801	441.19 gal	418.27 gal	1.157	1.102		
1,230 psig	822	452.76 gal	429.29 gal	1.157	1.102		
1,230 psig		452.76 gal	429.29 gal	0.000	0.000		
1,230 psig		452.76 gal	429.29 gal	0.000	0.000		
1,230 psig		452.76 gal	429.29 gal	0.000	0.000		
1,230 psig		452.76 gal	429.29 gal	0.000	0.000		
1,230 psig		452.76 gal	429.29 gal	0.000	0.000		

James E. Knight

Date



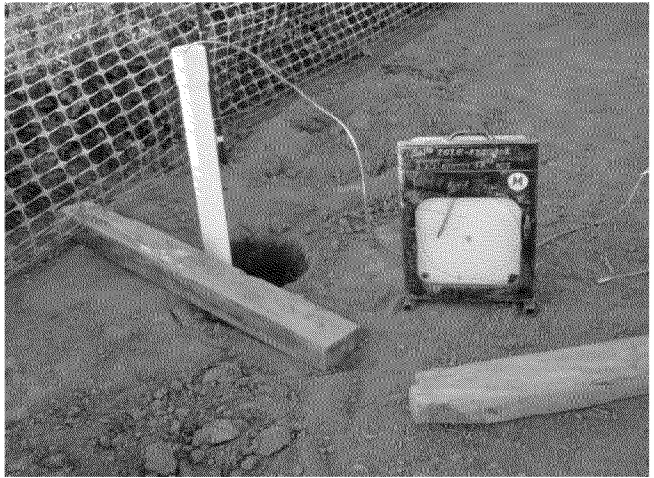
temp. recorder at test site on unrestrained pipe
Location A , test 85



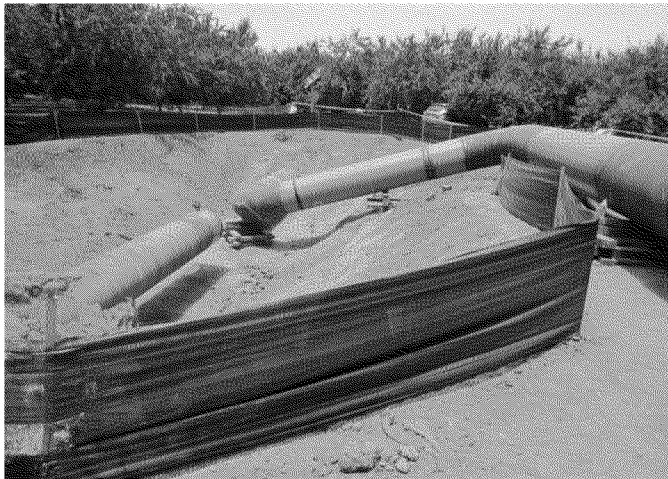
test head piping at location A, test 85



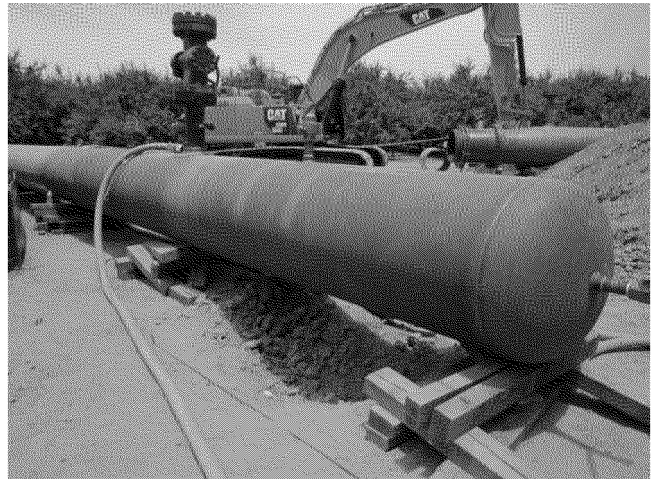
temp. recorder on restrained pipe at location A
test 85



remote temp. recorder on restrained pipe
Location A, test 85



test header at Location B test 85



test head at location B test 85



