



RCP, Inc

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

Redacted

July 28, 2012

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

Test Contractor:	Milbar Hydro-Test Inc. -- FY13-115 Test 102F
Asset Owner:	Pacific Gas and Electric Company -- 41622649 Test 2
Construction Contractor:	Michels Corporation -- 41622649 Test 2
Test Section:	PG&E T-102F-12, L-118A , MP 58.21 - 58.74
Test Date:	June 29, 2012
Certificate Number:	RCP 61362A - PG&E T-102F-12, L-118A , MP 58.21 - 58.74

To whom it may concern,

This letter is to certify that the Water test performed on pipe owned by Pacific Gas and Electric Company and tested by Milbar Hydro-Test Inc. 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 939 psig for 15 minutes, without observed leakage or yielding of the pipe segment. The 15 minute spike test and subsequent pressure reduction with volume bleed was included and is part of the 1.5 hour test duration period.

This Hydrostatic Pressure test was completed successfully. Pressure was maintained on the test facilities in excess of 1.5 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 868 psig and the MAOP supported by the test, per DOT Part 192 Subpart J, can be as high as 523 psig. The MAOP established by this test is sufficient to qualify for Pacific Gas and Electric Company's desired MAOP of 500 psig.

Pressure decreased 61 psi during the test. 272.00 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 154.29 ounces, loss, which is equivalent to a 0.99 °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 Pressure Test Certification

Company	Pacific Gas and Electric Company	Job Number	41622649 Test 2
Construction Co.	Michels Corporation	Job Number	41622649 Test 2
Hydro. Test Co.	Milbar Hydro-Test Inc.	Project No.	FY13-115 Test 102F
Test Section	PG&E T-102F-12, L-118A, MP 58.21 - 58.74	Test Fluid = Water	
File Name	RCP 61362A - PG&E T-102F-12, L-118A, MP 58.21 - 58.74		

Water Test Pressure

APPLICABLE CODE FOR CERTIFICATION:	Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 3)	Test Date:	29-Jun-12
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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-102F-12, L-118A, MP 58.21 - 58.74
From:	27+98
To:	0+00

Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS	
1	101	45.6 ft	8.625 in.	0.188 in.	API5L-X52, ERW-HF, Arc Weld, Steel	2,267 psi
2	1	1,539.4 ft	8.625 in.	0.188 in.	API5L-X42, ERW-HF, Arc Weld, Steel	1,831 psi
3	2	1,192.2 ft	8.625 in.	0.215 in.	API5L-Grade B, SM, Arc Weld, Steel	1,745 psi
4	TH	4.8 ft	8.625 in.	0.500 in.	API5L-Grade B, SM, Arc Weld, Steel	4,058 psi
5	TH	4.8 ft	8.625 in.	0.500 in.	API5L-Grade B, SM, Arc Weld, Steel	4,058 psi

Initial Test Conditions

Pressure at Test Point:	939 psig	Date/Time:	6/29/12 10:18 AM	Pipe Temperature	
Ambient Temperature:	74.0 °F	Elevation @ Test Point:	173.0 ft	Unrestrained:	71.0 °F
Pressure @ High Point (Cal/Measure):	936 psig	Elevation @ High Point:	181.0 ft	Restrained:	91.0 °F
Pressure @ Low Point (Cal/Measure):	943 psig	Elevation @ Low Point:	164.0 ft	Location:	27+98
				Location:	0+00
				Location:	27+98

Final Test Conditions

Pressure at Test Point:	878 psig	Date/Time:	6/29/12 11:48 AM	Pipe Temperature	
Ambient Temperature:	78.0 °F	Elevation @ Test Point:	173.0 ft	Unrestrained:	77.0 °F
Pressure @ High Point (Cal/Measure):	875 psig	Elevation @ High Point:	181.0 ft	Restrained:	92.0 °F
Pressure @ Low Point (Cal/Measure):	882 psig	Elevation @ Low Point:	164.0 ft	Location:	27+98
				Location:	0+00
				Location:	27+98

Total Fluid Injected:		Volume loss	
Total Fluid Withdrawn:	272.00 fluid ounces		
Net Change in Volume of the Test Section ± (+ Gain, - Loss):	(154.29) oz	loss	(0.0157)% (0.992) °F equivalent

Test Duration: 1.50 hours						
Minimum Test Pressure:	872 psig	Test Point	Max Elevation	868 psig	Min Elevation	875 psig
Maximum Test Pressure:	940 psig			936 psig		943 psig
% SMYS:	23.2%			23.1%		51.6%
Test Segment Observed % SMYS:		Minimum	23.1%	Maximum	53.9%	

DOT Part 192 Maximum Allowable Operating Pressure	D ₁	Design MAOP	T _r	Minimum Test Pressure (Calculated/Measured)	Test MAOP	MAOP
	0.5	872 psig	1.5	868 psig	523 psig	523 psig

The MAOP established by this test is sufficient to qualify for Pacific Gas and Electric Company's desired MAOP of 500 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 939 psig for 15 minutes, without observed leakage or yielding of the pipe segment. The 15 minute spike test and subsequent pressure reduction with volume bleed was included and is part of the 1.5 hour test duration period.</p> <p>No leaks were observed during the test period. The test section included 2,731 feet of buried and 55 feet of exposed pipe. Pressure lost 61 psi during the test. The buried pipe segment gained 1°F fluid temperature and the exposed pipe segment gained 6°F.</p> <p>272.00 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 154.29 ounces, loss, which is equivalent to a 0.99 °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	
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Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41622649 Test 2
Construction Co.	Michels Corporation	Job Number	41622649 Test 2
Testing Co.	Milbar Hydro-Test Inc.	Project No.	FY13-115 Test 102F
Test Section	PG&E T-102F-12, L-118A, MP 58.21 - 58.74	Test Fluid = Water	
File Name	RCP 61362A - PG&E T-102F-12, L-118A, MP 58.21 - 58.74		

Date	29-Jun-12	Test Log
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Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
					Unrestrained	Restrained			
1	6/29/12	9:37 AM	644 psig	70 °F	69 °F	91 °F	Start Spike		
2	6/29/12	9:38 AM	654 psig	70 °F	69 °F	91 °F	Inject		47 oz.
3	6/29/12	9:39 AM	664 psig	70 °F	69 °F	91 °F	Inject		42 oz.
4	6/29/12	9:40 AM	674 psig	70 °F	69 °F	91 °F	Inject		47 oz.
5	6/29/12	9:41 AM	684 psig	70 °F	69 °F	91 °F	Inject		43 oz.
6	6/29/12	9:42 AM	694 psig	70 °F	69 °F	91 °F	Inject		44 oz.
7	6/29/12	9:43 AM	704 psig	70 °F	69 °F	91 °F	Inject		44 oz.
8	6/29/12	9:44 AM	714 psig	70 °F	69 °F	91 °F	Inject		44 oz.
9	6/29/12	9:45 AM	724 psig	70 °F	70 °F	91 °F	Inject		44 oz.
10	6/29/12	9:46 AM	734 psig	70 °F	70 °F	91 °F	Inject		44 oz.
11	6/29/12	9:47 AM	744 psig	70 °F	70 °F	91 °F	Inject		44 oz.
12	6/29/12	9:48 AM	754 psig	70 °F	70 °F	91 °F	Inject		44 oz.
13	6/29/12	9:49 AM	764 psig	70 °F	70 °F	91 °F	Inject		45 oz.
14	6/29/12	9:50 AM	774 psig	70 °F	70 °F	91 °F	Inject		44 oz.
15	6/29/12	9:51 AM	784 psig	70 °F	70 °F	91 °F	Inject		45 oz.
16	6/29/12	9:53 AM	794 psig	70 °F	70 °F	91 °F	Inject		44 oz.
17	6/29/12	9:55 AM	804 psig	70 °F	70 °F	91 °F	Inject		44 oz.
18	6/29/12	9:57 AM	814 psig	70 °F	70 °F	91 °F	Inject		44 oz.
19	6/29/12	9:58 AM	824 psig	70 °F	70 °F	91 °F	Inject		46 oz.
20	6/29/12	10:00 AM	834 psig	70 °F	70 °F	91 °F	Inject		45 oz.
21	6/29/12	10:01 AM	844 psig	70 °F	70 °F	91 °F	Inject		44 oz.
22	6/29/12	10:03 AM	854 psig	70 °F	70 °F	91 °F	Inject		44 oz.
23	6/29/12	10:04 AM	864 psig	70 °F	70 °F	91 °F	Inject		45 oz.
24	6/29/12	10:06 AM	874 psig	70 °F	70 °F	91 °F	Inject		45 oz.
25	6/29/12	10:07 AM	884 psig	70 °F	70 °F	91 °F	Inject		44 oz.
26	6/29/12	10:09 AM	894 psig	70 °F	70 °F	91 °F	Inject		45 oz.
27	6/29/12	10:10 AM	904 psig	70 °F	70 °F	91 °F	Inject		45 oz.
28	6/29/12	10:12 AM	914 psig	70 °F	70 °F	91 °F	Inject		45 oz.
29	6/29/12	10:14 AM	924 psig	70 °F	71 °F	91 °F	Inject		45 oz.
30	6/29/12	10:16 AM	934 psig	70 °F	71 °F	91 °F	Inject		45 oz.
31	6/29/12	10:17 AM	939 psig	70 °F	71 °F	91 °F	Inject		24 oz.
32	6/29/12	10:18 AM	939 psig	74 °F	71 °F	91 °F	On Test		
33	6/29/12	10:20 AM	939 psig	74 °F	71 °F	91 °F			
34	6/29/12	10:25 AM	940 psig	74 °F	71 °F	91 °F			
35	6/29/12	10:30 AM	940 psig	74 °F	72 °F	91 °F			
36	6/29/12	10:35 AM	940 psig	74 °F	72 °F	91 °F	End Spike		
37	6/29/12	10:48 AM	872 psig	75 °F	72 °F	92 °F	Bleed Spike	272 oz.	
38	6/29/12	10:50 AM	872 psig	75 °F	72 °F	92 °F			
39	6/29/12	10:55 AM	873 psig	75 °F	73 °F	92 °F			
40	6/29/12	11:00 AM	873 psig	76 °F	73 °F	92 °F			
41	6/29/12	11:05 AM	874 psig	76 °F	73 °F	92 °F			
42	6/29/12	11:10 AM	874 psig	76 °F	74 °F	92 °F			
43	6/29/12	11:15 AM	875 psig	76 °F	74 °F	92 °F			
44	6/29/12	11:20 AM	875 psig	77 °F	75 °F	92 °F			
45	6/29/12	11:25 AM	876 psig	77 °F	75 °F	92 °F			
46	6/29/12	11:30 AM	876 psig	77 °F	75 °F	92 °F			
47	6/29/12	11:35 AM	877 psig	78 °F	76 °F	92 °F			
48	6/29/12	11:40 AM	877 psig	78 °F	77 °F	92 °F			
49	6/29/12	11:45 AM	877 psig	78 °F	77 °F	92 °F			
50	6/29/12	11:48 AM	878 psig	78 °F	77 °F	92 °F	End of Test		



Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41622649 Test 2
Construction Co.	Michels Corporation	Job Number	41622649 Test 2
Testing Co.	Milbar Hydro-Test Inc.	Project No.	FY13-115 Test 102F
Test Section	PG&E T-102F-12, L-118A, MP 58.21 - 58.74	Test Fluid = Water	
File Name	RCP 61362A - PG&E T-102F-12, L-118A, MP 58.21 - 58.74		

Date	29-Jun-12	<h2>Test Log</h2>
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Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
					Unrestrained	Restrained			
							Spike Test		1,322 oz.
							Hydrostatic Test	272.0 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>940 psig</td> </tr> <tr> <td>Low Test Pressure:</td> <td>872 psig</td> </tr> </table>	High Test Pressure:	940 psig	Low Test Pressure:	872 psig
High Test Pressure:	940 psig					
Low Test Pressure:	872 psig					



Pipe Segment Volume Calculations

Company	Pacific Gas and Electric Company	Job Number	41622649 Test 2
Construction Co.	Michels Corporation	Job Number	41622649 Test 2
Hydro. Test Co.	Milbar Hydro-Test Inc.	Project No.	FY13-115 Test 102F
Test Section	PG&E T-102F-12, L-118A , MP 58.21 - 58.74	WATER	
File Name	RCP 61362A - PG&E T-102F-12, L-118A , MP 58.21 - 58.74		

General Pipe Data						
Description	Segment					
	1	2	3	4	5	
Restrained or Unrestrained?	Unrestrained	Restrained	Restrained	Unrestrained	Unrestrained	
Outside Diameter	8.625 in.	8.625 in.	8.625 in.	8.625 in.	8.625 in.	
Wall Thickness	0.188 in.	0.188 in.	0.215 in.	0.500 in.	0.500 in.	
Inside Diameter	8.249 in.	8.249 in.	8.195 in.	7.625 in.	7.625 in.	
Spec./Grade	API5L-X52	API5L-X42		API5L-Grade B	API5L-Grade B	
Length Unrestrained	46 ft			5 ft	5 ft	
Length Restrained		1,538 ft	1,192 ft			
Temperature -- On Test	71 °F	91 °F	91.0 °F	71.0 °F	71.0 °F	
Temperature -- End of Test	77 °F	92 °F	92.0 °F	77.0 °F	77.0 °F	
Pressure -- On Test	939 psig	939 psig	939 psig	939 psig	939 psig	
Pressure -- End of Test	878 psig	878 psig	878 psig	878 psig	878 psig	

Unrestrained Pipe							
Vo	149.13 gal		Vtp1	149.65 gal		Vtp2	149.50 gal
	19,089 oz.			19,155 oz.			19,136 oz.
Vo Unrestrained	127 gal			11 gal	11 gal		
Fwp 1	1.002877			1.002877	1.002877		
Fpp 1	1.001717			1.000597	1.000597		
Fpt 1	1.000200			1.000200	1.000200		
Fwt 1	1.001170			1.001170	1.001170		
Fpwt 1 = Fpt/Fwt	0.999032			0.999032	0.999032		
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	127.06 gal			11.30 gal	11.30 gal		
Fwp 2	1.002689			1.002689	1.002689		
Fpp 2	1.001605			1.000558	1.000558		
Fpt 2	1.000309			1.000309	1.000309		
Fwt 2	1.001966			1.001966	1.001966		
Fpwt = Fpt/Fwt	0.998347			0.998347	0.998347		
Vtp = Vo(Fwp)(Fpp)(Fpwt)	126.93 gal			11.29 gal	11.29 gal		

Restrained Pipe							
Vo	7,537.69 gal		Vtp1	7,539.85 gal		Vtp2	7,536.66 gal
	964,824 oz.			965,101 oz.			964,693 oz.
Vo Unrestrained		4,271 gal	3,267 gal				
Fwp 1		1.002877	1.002877				
Fpp 1		1.001361	1.001197				
Fpt 1		1.000375	1.000375				
Fwt 1		1.004260	1.004260				
Fpwt 1 = Fpt/Fwt		0.996131	0.996131				
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		4,273 gal	3,267 gal				
Fwp 2		1.002689	1.002689				
Fpp 2		1.001284	1.001130				
Fpt 2		1.000387	1.000387				
Fwt 2		1.004436	1.004436				
Fpwt = Fpt/Fwt		0.995969	0.995969				
Vtp = Vo(Fwp)(Fpp)(Fpwt)		4,271 gal	3,266 gal				

Combined Pipe							
Vo	7,686.82 gal		Vtp1	7,689.50 gal		Vtp2	7,686.17 gal
	983,914 oz.			984,256 oz.			983,829 oz.



Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	41622649 Test 2
Construction Co.	Michels Corporation	Job Number	41622649 Test 2
Hydro. Test Co.	Milbar Hydro-Test Inc.	Project No.	FY13-115 Test 102F
Test Section	PG&E T-102F-12, L-118A, MP 58.21 - 58.74	WATER	
File Name	RCP 61362A - PG&E T-102F-12, L-118A, MP 58.21 - 58.74		

General Pipe Data							
Description	Segment						
	1	2	3	4	5		
Restrained or Unrestrained?	Unrestrained	Restrained	Restrained	Unrestrained	Unrestrained		
Outside Diameter	8.625 in.	8.625 in.	8.625 in.	8.625 in.	8.625 in.		
Wall Thickness	0.188 in.	0.188 in.	0.215 in.	0.500 in.	0.500 in.		
Inside Diameter	8.249 in.	8.249 in.	8.195 in.	7.625 in.	7.625 in.		
Spec./Grade	API5L-X52	API5L-X42		API5L-Grade B	API5L-Grade B		
Length Unstrained	46 ft			5 ft	5 ft		
Length Restrained		1,538 ft	1,192 ft				
Temperature -- On Test	73 °F	91 °F	91 °F	73 °F	73 °F		
Temperature -- End of Test	74 °F	92 °F	92 °F	74 °F	74 °F		
Pressure -- On Test	908 psig	908 psig	908 psig	908 psig	908 psig		
Pressure -- End of Test	908 psig	908 psig	908 psig	908 psig	908 psig		

Unrestrained Pipe							
Vo	149.13 gal		Vtp1	149.59 gal		Vtp2	149.58 gal
	19,089 oz.			19,148 oz.			19,146 oz.
Vo Unrestrained	127 gal			11 gal	11 gal		
Fwp 1	1.002782			1.002782	1.002782		
Fpp 1	1.001660			1.000577	1.000577		
Fpt 1	1.000237			1.000237	1.000237		
Fwt 1	1.001423			1.001423	1.001423		
Fpwt 1 = Fpt/Fwt	0.998815			0.998815	0.998815		
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	127.01 gal			11.29 gal	11.29 gal		
Fwp 2	1.002782			1.002782	1.002782		
Fpp 2	1.001660			1.000577	1.000577		
Fpt 2	1.000255			1.000255	1.000255		
Fwt 2	1.001542			1.001542	1.001542		
Fpwt = Fpt/Fwt	0.998715			0.998715	0.998715		
Vtp = Vo(Fwp)(Fpp)(Fpwt)	127.00 gal			11.29 gal	11.29 gal		

Restrained Pipe							
Vo	7,537.69 gal		Vtp1	7,538.84 gal		Vtp2	7,537.64 gal
	984,824 oz.			964,971 oz.			964,818 oz.
Vo Restrained		4,271 gal	3,267 gal				
Fwp 1		1.002782	1.002782				
Fpp 1		1.001320	1.001161				
Fpt 1		1.000375	1.000375				
Fwt 1		1.004260	1.004260				
Fpwt 1 = Fpt/Fwt		0.996131	0.996131				
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		4,272 gal	3,267 gal				
Fwp 2		1.002782	1.002782				
Fpp 2		1.001324	1.001165				
Fpt 2		1.000387	1.000387				
Fwt 2		1.004436	1.004436				
Fpwt = Fpt/Fwt		0.995969	0.995969				
Vtp = Vo(Fwp)(Fpp)(Fpwt)		4,271 gal	3,266 gal				

Combined Pipe							
Vo	7,686.82 gal		Vtp1	7,688.43 gal		Vtp2	7,687.22 gal
	983,914 oz.			984,120 oz.			983,964 oz.
1 °F Change	1.21 gal		155.49 oz.				



Hydrostatic Pressure Test Pipe Data Table

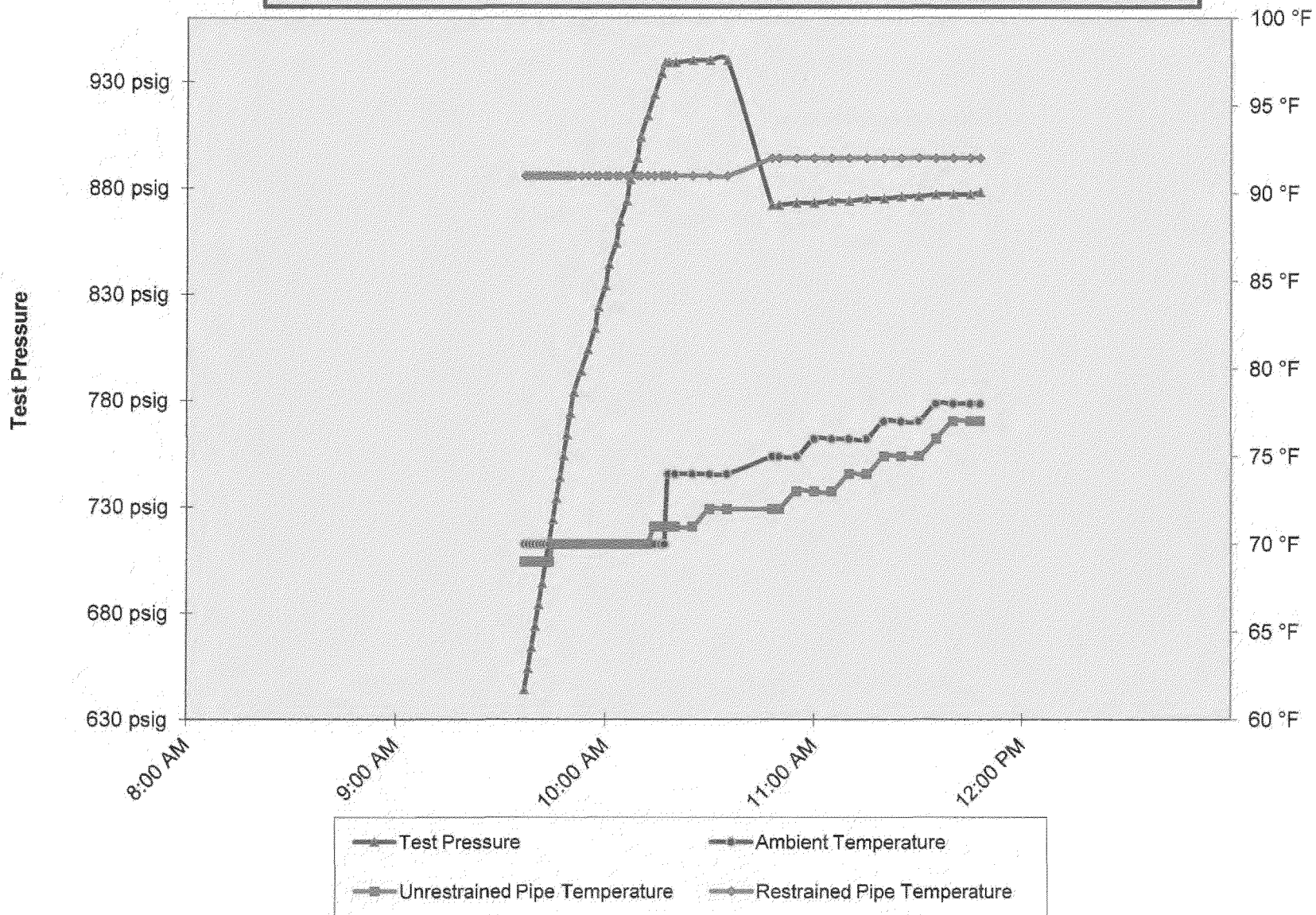
Pipe Type	Length	Restrained / Unrestrained	Outside Diameter	Wall Thickness	Specification & Grade	Pipe Yield Pressure	Material	Joint Type	Seam Type	
1	101	45.60 ft	Unrestrained	8.625 in.	0.1880 in.	API5L-X52	2,267 psig	Steel	Arc Weld	ERW-HF
2	1	1,538.40 ft	Restrained	8.625 in.	0.1880 in.	API5L-X42	1,831 psig	Steel	Arc Weld	ERW-HF
3	2	1,192.20 ft	Restrained	8.625 in.	0.2150 in.	API5L-Grade B	1,745 psig	Steel	Arc Weld	SM
4	TH	4.75 ft	Unrestrained	8.625 in.	0.5000 in.	API5L-Grade B	4,058 psig	Steel	Arc Weld	SM
5	TH	4.75 ft	Unrestrained	8.625 in.	0.5000 in.	API5L-Grade B	4,058 psig	Steel	Arc Weld	SM

Hydrostatic Test Project Owner & Participants

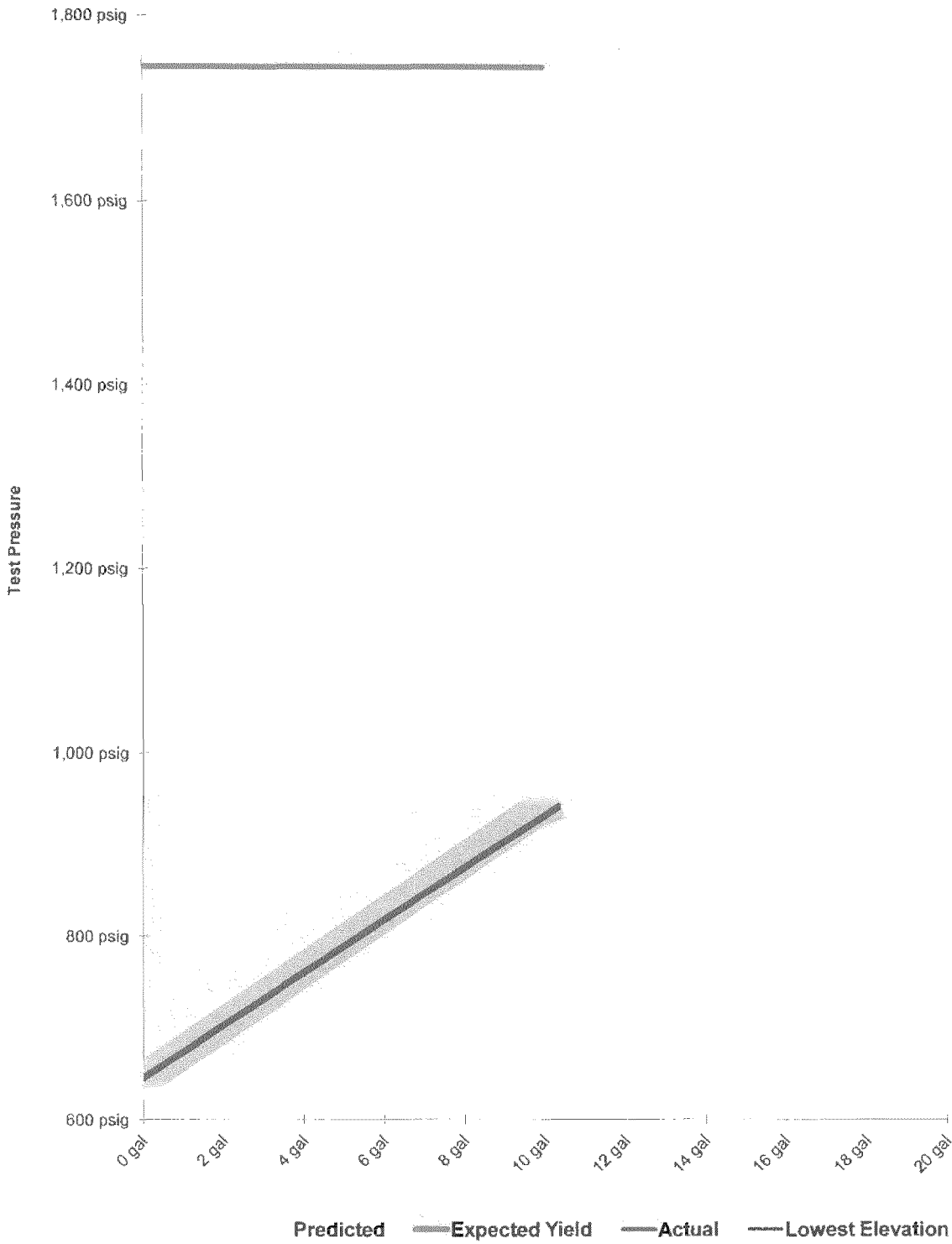
Owner Company	Pacific Gas and Electric Company	Job Number	
Address	350 N. Wiget Walnut Creek, CA 94598 Attention: Scott Clapp		41622649 Test 2
Construction Company	Michels Corporation	Job Number	
Address	817 West Main Street Brownsville, Wisconsin 53006		41622649 Test 2
Hydrostatic Test Co.	Milbar Hydro-Test Inc.	Project No.	
Address	P O Box 7701 Shreveport, La. 71137-7701		FY13-115 Test 102F
Test Section	PG&E T-102F-12, L-118A, MP 58.21 - 58.74 From: 27+98 To: 0+00		
File Name	RCP 61362A - PG&E T-102F-12, L-118A, MP 58.21 - 58.74		

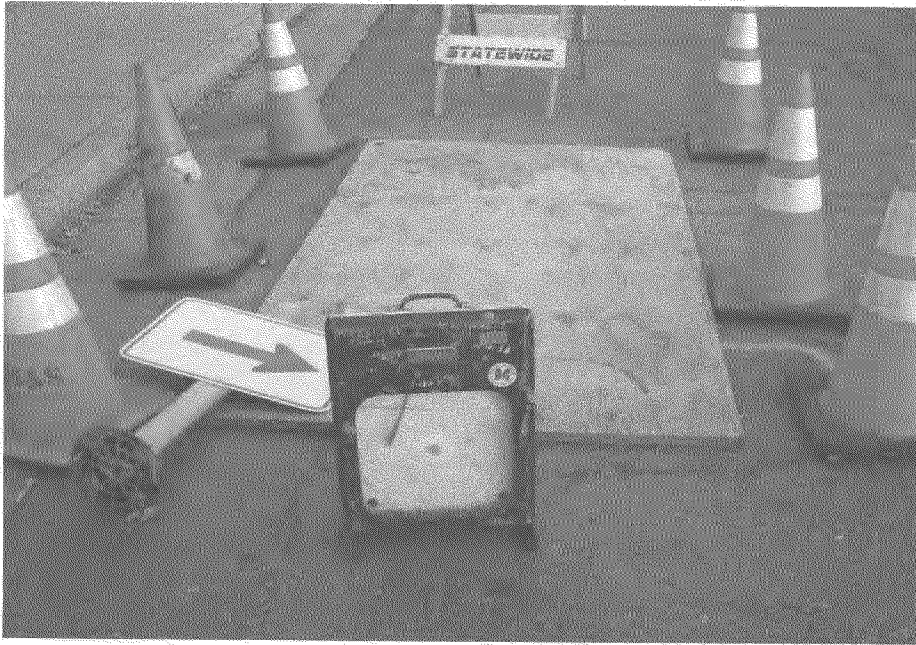
Part II - Test Data (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)				Note: Minimum test pressure and duration are not to be changed without written approval.			
Time and Date Test Pressure Reached	6/29/12 10:18 AM	Elevation at Test Point	173 ft	Min. Required Test Press At Test Point (1)	853 psig	Max. Allowable Test Press at Test Point (4)	941 psig
Time and Date Test Ended	6/29/12 11:48 AM	Max. Elevation in Test Section	181 ft	Min. Indicated Test Pressure (2)	872 psig	Max. Indicated Test Pressure (5)	940 psig
Actual Duration of Test	1 hours 30 minutes	Min. Elevation in Test Section	164 ft	Min. Test Pressure at Max. Elevation (3)	868 psig	Max. Test Pressure at Min. Elevation (6)	943 psig
Test Fluid:	Water		Test Fluid Density	62.4000 lb/ft ³			
Hydrostatic Test Date:	6/29/12 9:37 AM		Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 3)				
Pacific Gas and Electric Company's desired MAOP				500 psig			
Elevation @ Test Point:	173 ft		Location:	27+98			
Elevation @ High Point:	181 ft		Location:	0+00			
Elevation @ Low Point:	164 ft		Location:	27+98			
Minimum Test Pressure At Maximum Elevation		850 psig		Maximum Test Pressure at Minimum Elevation		945 psig	
75% Hold Pressure	641 psig	Minimum Test Pressure	854 psig	Target Test Pressure	872 psig	Spike Test Pressure	939 psig
		Maximum Test Pressure	891 psig				

PG&E T-102F-12, L-118A , MP 58.21 - 58.74

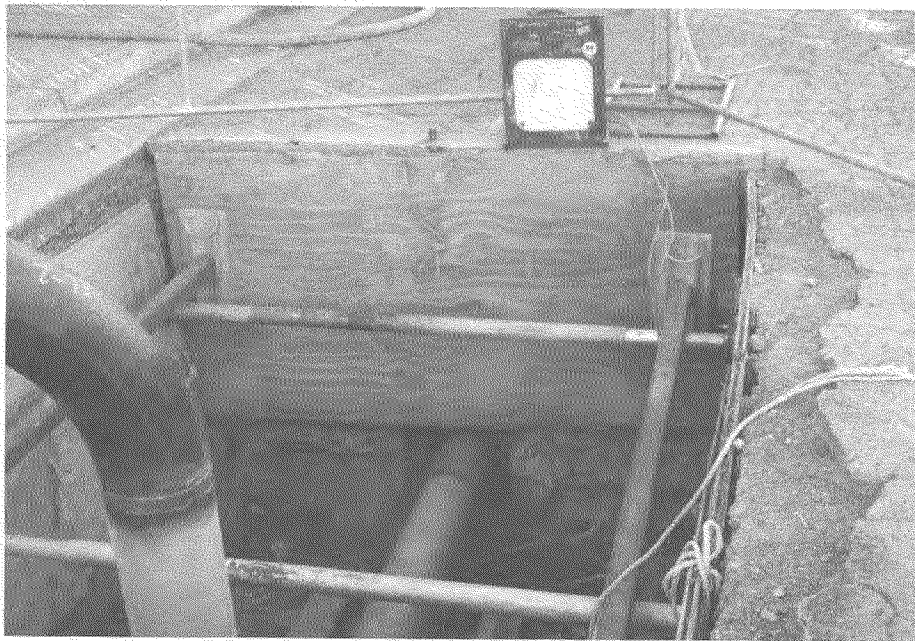


Spike Pressure Test
Stress Strain Curve -- PG&E T-102F-12, L-118A , MP 58.21 - 58.74

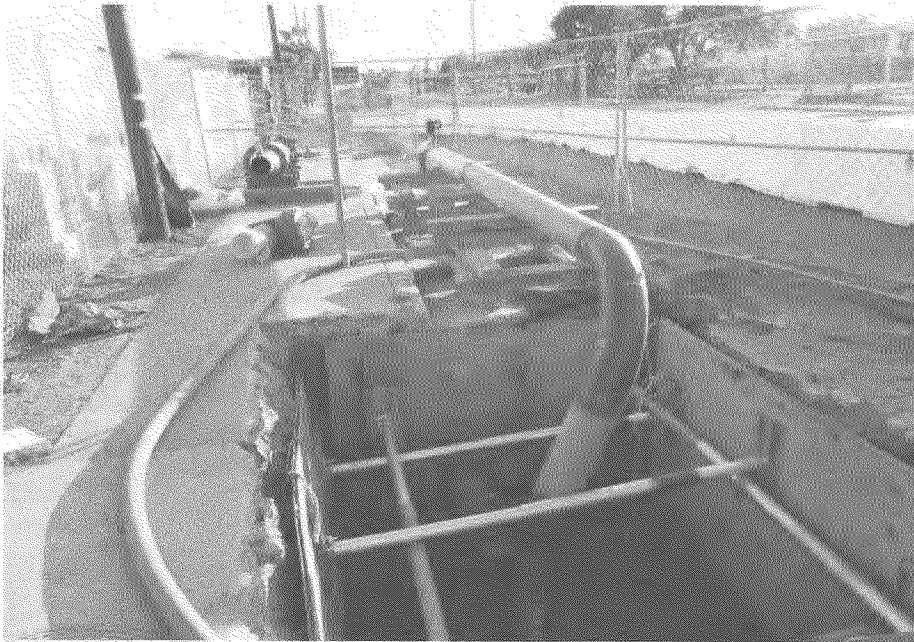




Test 102F-12 Loc.B remote restrained pipe temp. recorder



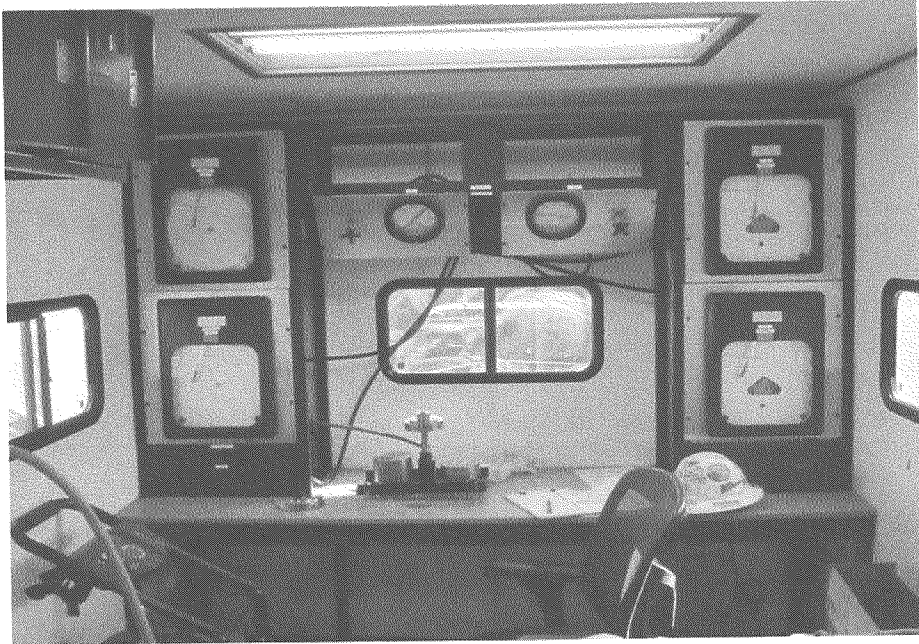
Test 102F-12 dual pen temp. recorder for restrained and unrestrained pipe temp.



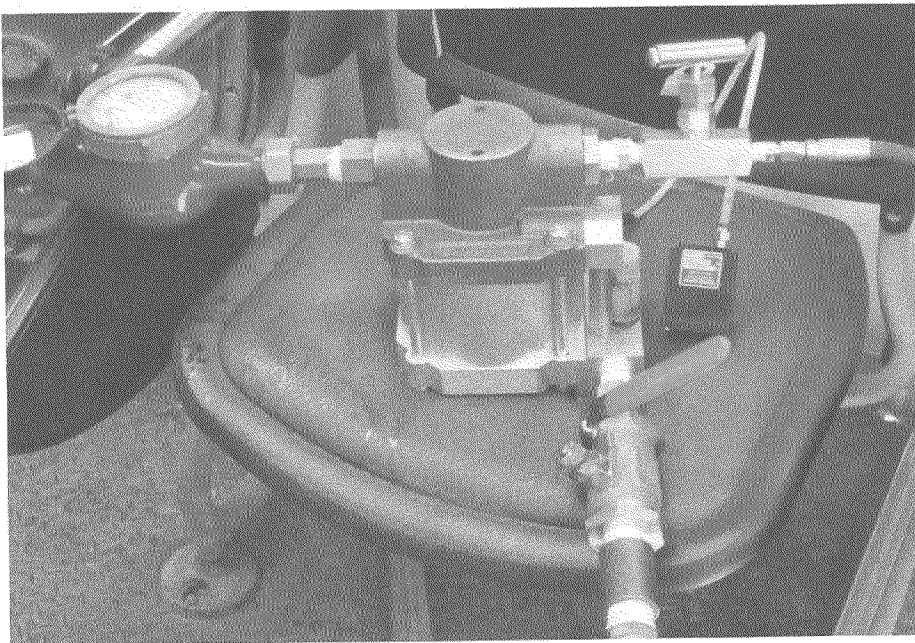
Test 102F-12 Loc. A riser and test head



Test 102F-12 Loc. B riser and test head



Test 102F-12 temp. and pressure recorders inside test trailer



Test 102F-12 Loc. B small volume air driven pump used for test