



RCP, Inc

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

Redacted

October 21, 2011

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

Test Contractor:	Milbar Hydro-Test Inc. – FY12-112
Asset Owner:	Pacific Gas and Electric Company – 41497327
Construction Contractor:	Snelson – 41474005 T-67A
Test Section:	PG&E T-67A , L-300A , MP 477.77 - 478.06
Test Date:	October 21, 2011
Certificate Number:	RCP 61362 - T-67A, L-300A , MP 477.77 - 478.06

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 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 1026 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 8.12 hour test duration period.

This hydrostatic test was completed successfully. Pressure was maintained on the test facilities in excess of 8.12 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 967 psig and the MAOP per 49 CFR Part 192, Subpart J can be as high as 644 psig. The MAOP established by this test is sufficient to qualify for Pacific Gas and Electric Company's desired MAOP of 631 psig.

Pressure decreased 56 psi during the test. 4,193.28 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 1,054.44 ounces, gain, which is equivalent to a 1.03 °F change in pipe temperature and larger than the anticipated 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 inherent error associated with physically attempting to measure the average temperature of 1,502 feet of buried and 102 feet of exposed pipe from a single point on the line.

Sincerely,

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# Hydrostatic Test Certification

Company:	Pacific Gas and Electric Company	Job Number	41497327
Construction Co.	Snelson	Job Number	41474005 T-67A
Hydro. Test Co.	Milbar Hydro-Test Inc.	Project No.	FY12-112
Test Section	PG&E T-67A, L-300A, MP 477.77 - 478.06		
File Name	RCP 61362 - T-67A, L-300A, MP 477.77 - 478.06		

## Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION: \_\_\_\_\_ Test Date: 21-Oct-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-67A, L-300A, MP 477.77 - 478.06

From: 15+00 To: 0+00

## Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	37 ft	34.000 in.	0.375 in.	API5L-X65, DSAW, Arc Weld, Steel	1,434 psi
2	1,502 ft	34.000 in.	0.344 in.	API5L-X52, DSAW, Arc Weld, Steel	1,052 psi
3	39 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi
4	1 ft	34.000 in.	0.375 in.	API5L-X65, DSAW, Arc Weld, Steel	1,434 psi
5	25 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi

## Initial Test Conditions

Pressure at Test Point:	1,026 psig	Date/Time:	10/21/11 10:23 AM	Pipe Temperature	
Ambient Temperature:	57.0 °F	Elevation @ Test Point:	377.0 ft	Unrestrained:	69.0 °F
Pressure @ High Point (Cal/Measure):	1,023 psig	Elevation @ High Point:	384.0 ft	Restrained:	69.0 °F
Pressure @ Low Point (Cal/Measure):	1,032 psig	Elevation @ Low Point:	364.0 ft	Location:	15+00
				Location:	0+00
				Location:	10+10

## Final Test Conditions

Pressure at Test Point:	970 psig	Date/Time:	10/21/11 6:30 PM	Pipe Temperature	
Ambient Temperature:	69.0 °F	Elevation @ Test Point:	377.0 ft	Unrestrained:	69.0 °F
Pressure @ High Point (Cal/Measure):	967 psig	Elevation @ High Point:	384.0 ft	Restrained:	69.0 °F
Pressure @ Low Point (Cal/Measure):	976 psig	Elevation @ Low Point:	364.0 ft	Location:	15+00
				Location:	0+00
				Location:	10+10

Total Fluid Injected:

Total Fluid Withdrawn: 4193.28 fluid ounces

## Volume gain

Net Change in Volume of the Test Section ± (+ Gain, - Loss): 1,054.44 oz gain 0.0113% 1.027 °F equivalent

Test Duration: 8.12 hours

Minimum Test Pressure:	961 psig	Maximum Test Pressure:	958 psig	Minimum Test Pressure (Calculated/Measured):	967 psig
Maximum Test Pressure:	1,026 psig	Test Point	1,023 psig	Maximum Allowable Operating Pressure:	1,032 psig
% SMYS:		Max Elevation	53.5%	Test Factor=	98.0%
Test Segment Observed % SMYS:		Minimum	53.5%	DOT Part 192	1.50
		Maximum	98.0%		

Minimum Test Pressure (Calculated/Measured): 967 psig

Maximum Allowable Operating Pressure: DOT Part 192 Test Factor= 1.50 644 psig

The MAOP established by this test is sufficient to qualify for Pacific Gas and Electric Company's desired MAOP of 631 psig.

Were leaks observed?	No	Explain:	
Acceptable Hydrostatic Test?	Yes	Explain:	The test segment was subjected to a spike pressure test of 1026 psig for 30 minutes, without observed leakage or inhibition of the pipe segment. The 30 minute spike test and subsequent pressure reduction with volume bleed was included and is part of the 8.12 hour test duration period. No leaks were observed during the test period. The test section included 1,502 feet of buried and 102 feet of exposed pipe. Pressure lost 56 psi during the test. The buried pipe segment fluid temperature remained steady and the exposed pipe segment fluid temperature remained steady. 4,193.28 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 1,054.44 ounces, gain, which is equivalent to a 1.03 °F change in pipe temperature and larger than the anticipated 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 inherent error associated with

Remarks

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# Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41497327
Construction Co.	Snelson	Job Number	41474005 T-67A
Testing Co.	Milbar Hydro-Test Inc.	Project No.	FY12-112
Test Section	PG&E T-67A, L-300A, MP 477.77 - 478.06		
File Name	RCP 61362 - T-67A, L-300A, MP 477.77 - 478.06		

Date	21-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	10/21/11	9:54 AM	713 psig	57 °F	69 °F	69 °F	Start Spike		
2	10/21/11	9:55 AM	723 psig	57 °F	69 °F	69 °F	Inject		705 oz.
3	10/21/11	9:56 AM	733 psig	57 °F	69 °F	69 °F	Inject		635 oz.
4	10/21/11	9:57 AM	743 psig	57 °F	69 °F	69 °F	Inject		564 oz.
5	10/21/11	9:58 AM	753 psig	57 °F	69 °F	69 °F	Inject		705 oz.
6	10/21/11	9:59 AM	763 psig	57 °F	69 °F	69 °F	Inject		635 oz.
7	10/21/11	10:00 AM	773 psig	57 °F	69 °F	69 °F	Inject		635 oz.
8	10/21/11	10:01 AM	783 psig	57 °F	69 °F	69 °F	Inject		635 oz.
9	10/21/11	10:02 AM	793 psig	57 °F	69 °F	69 °F	Inject		635 oz.
10	10/21/11	10:03 AM	803 psig	57 °F	69 °F	69 °F	Inject		564 oz.
11	10/21/11	10:04 AM	813 psig	57 °F	69 °F	69 °F	Inject		635 oz.
12	10/21/11	10:05 AM	823 psig	57 °F	69 °F	69 °F	Inject		635 oz.
13	10/21/11	10:06 AM	833 psig	57 °F	69 °F	69 °F	Inject		635 oz.
14	10/21/11	10:07 AM	843 psig	57 °F	69 °F	69 °F	Inject		635 oz.
15	10/21/11	10:08 AM	853 psig	57 °F	69 °F	69 °F	Inject		635 oz.
16	10/21/11	10:09 AM	863 psig	57 °F	69 °F	69 °F	Inject		635 oz.
17	10/21/11	10:10 AM	873 psig	57 °F	69 °F	69 °F	Inject		635 oz.
18	10/21/11	10:11 AM	883 psig	57 °F	69 °F	69 °F	Inject		635 oz.
19	10/21/11	10:12 AM	893 psig	57 °F	69 °F	69 °F	Inject		564 oz.
20	10/21/11	10:13 AM	903 psig	57 °F	69 °F	69 °F	Inject		635 oz.
21	10/21/11	10:14 AM	913 psig	57 °F	69 °F	69 °F	Inject		635 oz.
22	10/21/11	10:15 AM	923 psig	57 °F	69 °F	69 °F	Inject		635 oz.
23	10/21/11	10:16 AM	933 psig	57 °F	69 °F	69 °F	Inject		635 oz.
24	10/21/11	10:17 AM	943 psig	57 °F	69 °F	69 °F	Inject		635 oz.
25	10/21/11	10:18 AM	953 psig	57 °F	69 °F	69 °F	Inject		564 oz.
26	10/21/11	10:19 AM	963 psig	57 °F	69 °F	69 °F	Inject		635 oz.
27	10/21/11	10:20 AM	973 psig	57 °F	69 °F	69 °F	Inject		635 oz.
28	10/21/11	10:21 AM	983 psig	57 °F	69 °F	69 °F	Inject		635 oz.
29	10/21/11	10:21 AM	993 psig	57 °F	69 °F	69 °F	Inject		635 oz.
30	10/21/11	10:21 AM	1,003 psig	57 °F	69 °F	69 °F	Inject		635 oz.
31	10/21/11	10:22 AM	1,013 psig	57 °F	69 °F	69 °F	Inject		635 oz.
32	10/21/11	10:22 AM	1,023 psig	57 °F	69 °F	69 °F	Inject		635 oz.
33	10/21/11	10:23 AM	1,026 psig	57 °F	69 °F	69 °F	Inject		212 oz.
34	10/21/11	10:23 AM	1,026 psig	57 °F	69 °F	69 °F	On Test		
35	10/21/11	10:33 AM	1,025 psig	59 °F	69 °F	69 °F			
36	10/21/11	10:43 AM	1,024 psig	60 °F	69 °F	69 °F			
37	10/21/11	10:53 AM	1,024 psig	61 °F	69 °F	69 °F	End Spike		
38	10/21/11	10:54 AM	1,016 psig	61 °F	69 °F	69 °F	Bleed	532 oz.	
39	10/21/11	10:55 AM	1,006 psig	61 °F	69 °F	69 °F	Bleed	666 oz.	
40	10/21/11	10:56 AM	996 psig	61 °F	69 °F	69 °F	Bleed	666 oz.	
41	10/21/11	10:57 AM	986 psig	61 °F	69 °F	69 °F	Bleed	666 oz.	
42	10/21/11	10:58 AM	976 psig	61 °F	69 °F	69 °F	Bleed	666 oz.	
43	10/21/11	10:59 AM	966 psig	61 °F	69 °F	69 °F	Bleed	666 oz.	
44	10/21/11	11:10 AM	961 psig	61 °F	70 °F	69 °F	Bleed	333 oz.	
45	10/21/11	11:15 AM	961 psig	62 °F	70 °F	69 °F			
46	10/21/11	11:30 AM	962 psig	63 °F	70 °F	69 °F			
47	10/21/11	11:45 AM	962 psig	64 °F	71 °F	69 °F			

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Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41497327
Construction Co.	Snelson	Job Number	41474005 T-67A
Testing Co.	Milbar Hydro-Test Inc.	Project No.	FY12-112
Test Section	PG&E T-67A , L-300A , MP 477.77 - 478.06		
File Name	RCP 61362 - T-67A, L-300A , MP 477.77 - 478.06		

Date 21-Oct-11

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
					Unrestrained	Restrained			
48	10/21/11	12:00 PM	963 psig	66 °F	71 °F	69 °F			
49	10/21/11	12:15 PM	963 psig	68 °F	71 °F	69 °F			
50	10/21/11	12:30 PM	963 psig	69 °F	72 °F	69 °F			
51	10/21/11	12:45 PM	964 psig	70 °F	72 °F	69 °F			
52	10/21/11	1:00 PM	964 psig	71 °F	72 °F	69 °F			
53	10/21/11	1:15 PM	965 psig	72 °F	72 °F	69 °F			
54	10/21/11	1:30 PM	965 psig	72 °F	73 °F	69 °F			
55	10/21/11	1:45 PM	966 psig	73 °F	73 °F	69 °F			
56	10/21/11	2:00 PM	966 psig	74 °F	73 °F	69 °F			
57	10/21/11	2:15 PM	967 psig	75 °F	73 °F	69 °F			
58	10/21/11	2:30 PM	967 psig	74 °F	73 °F	69 °F			
59	10/21/11	2:45 PM	968 psig	76 °F	73 °F	69 °F			
60	10/21/11	3:00 PM	968 psig	76 °F	73 °F	69 °F			
61	10/21/11	3:15 PM	969 psig	76 °F	73 °F	69 °F			
62	10/21/11	3:30 PM	969 psig	76 °F	72 °F	69 °F			
63	10/21/11	3:45 PM	969 psig	77 °F	72 °F	69 °F			
64	10/21/11	4:00 PM	970 psig	77 °F	71 °F	69 °F			
65	10/21/11	4:15 PM	970 psig	77 °F	71 °F	69 °F			
66	10/21/11	4:30 PM	970 psig	76 °F	71 °F	69 °F			
67	10/21/11	4:45 PM	971 psig	76 °F	71 °F	69 °F			
68	10/21/11	5:00 PM	971 psig	76 °F	70 °F	69 °F			
69	10/21/11	5:15 PM	971 psig	75 °F	70 °F	69 °F			
70	10/21/11	5:30 PM	971 psig	74 °F	70 °F	69 °F			
71	10/21/11	5:45 PM	971 psig	73 °F	70 °F	69 °F			
72	10/21/11	6:00 PM	971 psig	72 °F	70 °F	69 °F			
73	10/21/11	6:15 PM	971 psig	71 °F	70 °F	69 °F			
74	10/21/11	6:30 PM	970 psig	69 °F	69 °F	69 °F	End of Test		

Spike Test		19,740.6 oz.
Hydrostatic Test		4,193.3 oz.

Were leaks observed during the test period? Exposed and buried pipe, no leaks observed.

High Test Pressure:	1,026 psig
Low Test Pressure:	961 psig

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## Pipe Segment Volume Calculations

Company	Pacific Gas and Electric Company	Job Number	41497327
Construction Co.	Snelson	Job Number	41474005 T-67A
Hydro. Test Co.	Milbar Hydro-Test Inc.	Project No.	FY12-112
Test Section	PG&E T-67A, L-300A, MP 477.77 - 478.06	<b>WATER</b>	
File Name	RCP 61362 - T-67A, L-300A, MP 477.77 - 478.06		

General Pipe Data						
Description	Segment					
	1	2	3	4	5	
Restrained or Unrestrained?	Unrestrained	Restrained	Unrestrained	Unrestrained	Unrestrained	
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.	
Wall Thickness	0.375 in.	0.344 in.	0.500 in.	0.375 in.	0.500 in.	
Inside Diameter	33.250 in.	33.312 in.	33.000 in.	33.250 in.	33.000 in.	
Spec./Grade	API5L-X65	API5L-X52	API5L-X65	API5L-X65	API5L-X65	
Length Unrestrained	37 ft		39 ft	1 ft	25 ft	
Length Restrained		1,502 ft				
Temperature -- On Test	69 °F	69 °F	69.0 °F	69.0 °F	69.0 °F	
Temperature -- End of Test	69 °F	69 °F	69.0 °F	69.0 °F	69.0 °F	
Pressure -- On Test	1,026 psig	1,026 psig	1,026 psig	1,026 psig	1,026 psig	
Pressure -- End of Test	970 psig	970 psig	970 psig	970 psig	970 psig	

Unrestrained Pipe								
Vo	4,557.65 gal		Vtp1	4,583.04 gal		Vtp2	4,581.46 gal	
	583,379 oz.			586,629 oz.			586,427 oz.	
Vo Unrestrained	1,669 gal		1,733 gal	45 gal	1,111 gal			
Fwp 1	1.003144		1.003144	1.003144	1.003144			
Fpp 1	1.003791		1.002822	1.003791	1.002822			
Fpt 1	1.000164		1.000164	1.000164	1.000164			
Fwt 1	1.000929		1.000929	1.000929	1.000929			
Fpwt 1 = Fpt/Fwt	0.999236		0.999236	0.999236	0.999236			
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	1,679.26 gal		1,741.83 gal	45.39 gal	1,116.56 gal			
Fwp 2	1.002972		1.002972	1.002972	1.002972			
Fpp 2	1.003584		1.002668	1.003584	1.002668			
Fpt 2	1.000164		1.000164	1.000164	1.000164			
Fwt 2	1.000929		1.000929	1.000929	1.000929			
Fpwt = Fpt/Fwt	0.999236		0.999236	0.999236	0.999236			
Vtp = Vo(Fwp)(Fpp)(Fpwt)	1,678.63 gal		1,741.27 gal	45.37 gal	1,116.20 gal			

Restrained Pipe								
Vo	68,003.38 gal		Vtp1	68,368.94 gal		Vtp2	68,346.00 gal	
	8,704,433 oz.			8,751,224 oz.			8,748,288 oz.	
Vo Unrestrained		68,003 gal						
Fwp 1		1.003144						
Fpp 1		1.003046						
Fpt 1		1.000109						
Fwt 1		1.000929						
Fpwt 1 = Fpt/Fwt		0.999181						
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		68,369 gal						
Fwp 2		1.002972						
Fpp 2		1.002882						
Fpt 2		1.000109						
Fwt 2		1.000929						
Fpwt = Fpt/Fwt		0.999181						
Vtp = Vo(Fwp)(Fpp)(Fpwt)		68,346 gal						

Combined Pipe								
Vo	72,561.03 gal		Vtp1	72,951.98 gal		Vtp2	72,927.46 gal	
	9,287,812 oz.			9,337,853 oz.			9,334,714 oz.	

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## Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	41497327
Construction Co.	Snelson	Job Number	41474005 T-67A
Hydro. Test Co.	Milbar Hydro-Test Inc.	Project No.	FY12-112
Test Section	PG&E T-67A, L-300A, MP 477.77 - 478.06	<b>WATER</b>	
File Name	RCP 61362 - T-67A, L-300A, MP 477.77 - 478.06		

General Pipe Data							
Description	Segment						
	1	2	3	4	5		
Restrained or Unrestrained?	Unrestrained	Restrained	Unrestrained	Unrestrained	Unrestrained		
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.		
Wall Thickness	0.375 in.	0.344 in.	0.500 in.	0.375 in.	0.500 in.		
Inside Diameter	33.250 in.	33.312 in.	33.000 in.	33.250 in.	33.000 in.		
Spec./Grade	API5L-X65	API5L-X52	API5L-X65	API5L-X65	API5L-X65		
Length Unstrained	37 ft		39 ft	1 ft	25 ft		
Length Restrained		1,502 ft					
Temperature – On Test	68 °F	68 °F	68 °F	68 °F	68 °F		
Temperature – End of Test	69 °F	69 °F	69 °F	69 °F	69 °F		
Pressure – On Test	998 psig	998 psig	998 psig	998 psig	998 psig		
Pressure – End of Test	998 psig	998 psig	998 psig	998 psig	998 psig		
Unrestrained Pipe							
Vo	4,557.65 gal 583,379 oz.		Vtp1	4,582.74 gal 586,591 oz.		Vtp2	4,582.25 gal 586,528 oz.
Vo Unrestrained	1,669 gal		1,733 gal	45 gal	1,111 gal		
Fwp 1	1.003058		1.003058	1.003058	1.003058		
Fpp 1	1.003687		1.002745	1.003687	1.002745		
Fpt 1	1.000146		1.000146	1.000146	1.000146		
Fwt 1	1.000803		1.000803	1.000803	1.000803		
Fpwt 1 = Fpt/Fwt	0.999343		0.999343	0.999343	0.999343		
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	1,679.13 gal		1,741.74 gal	45.38 gal	1,116.50 gal		
Fwp 2	1.003058		1.003058	1.003058	1.003058		
Fpp 2	1.003687		1.002745	1.003687	1.002745		
Fpt 2	1.000164		1.000164	1.000164	1.000164		
Fwt 2	1.000929		1.000929	1.000929	1.000929		
Fpwt = Fpt/Fwt	0.999236		0.999236	0.999236	0.999236		
Vtp = Vo(Fwp)(Fpp)(Fpwt)	1,678.95 gal		1,741.55 gal	45.38 gal	1,116.38 gal		
Restrained Pipe							
Vo	68,003.38 gal 8,704,433 oz.		Vtp1	68,364.99 gal 8,750,719 oz.		Vtp2	68,357.47 gal 8,749,756 oz.
Vo Restrained		68,003 gal					
Fwp 1		1.003058					
Fpp 1		1.002960					
Fpt 1		1.000097					
Fwt 1		1.000803					
Fpwt 1 = Fpt/Fwt		0.999294					
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		68,365 gal					
Fwp 2		1.003058					
Fpp 2		1.002964					
Fpt 2		1.000109					
Fwt 2		1.000929					
Fpwt = Fpt/Fwt		0.999181					
Vtp = Vo(Fwp)(Fpp)(Fpwt)		68,357 gal					
Combined Pipe							
Vo	72,561.03 gal 9,287,812 oz.		Vtp1	72,947.74 gal 9,337,310 oz.		Vtp2	72,939.72 gal 9,336,284 oz.
1 °F Change	8.02 gal		1,026.54 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 T
1	37 ft	Unrestrained	34.000 in.	0.3750 in.	API5L-X65	1,434 psig	Steel	Arc Weld	DSA
2	1,502 ft	Restrained	34.000 in.	0.3440 in.	API5L-X52	1,052 psig	Steel	Arc Weld	DSA
3	39 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSA
4	1 ft	Unrestrained	34.000 in.	0.3750 in.	API5L-X65	1,434 psig	Steel	Arc Weld	DSA
5	25 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSA

### 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	41497327
Construction Company	Snelson	Job Number
Address	601 West State Street Sedro-Wooley, WA 98284 Attention: Jeff Elliot	41474005 T-67A
Hydrostatic Test Co.	Milbar Hydro-Test Inc.	Project No.
Address	P O Box 7701 Shreveport, La. 71137-7701	FY12-112
Test Section	PG&E T-67A , L-300A , MP 477.77 - 478.06 From: 15+00 To: 0+00	
File Name	RCP 61362 - T-67A, L-300A , MP 477.77 - 478.06	

### 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.

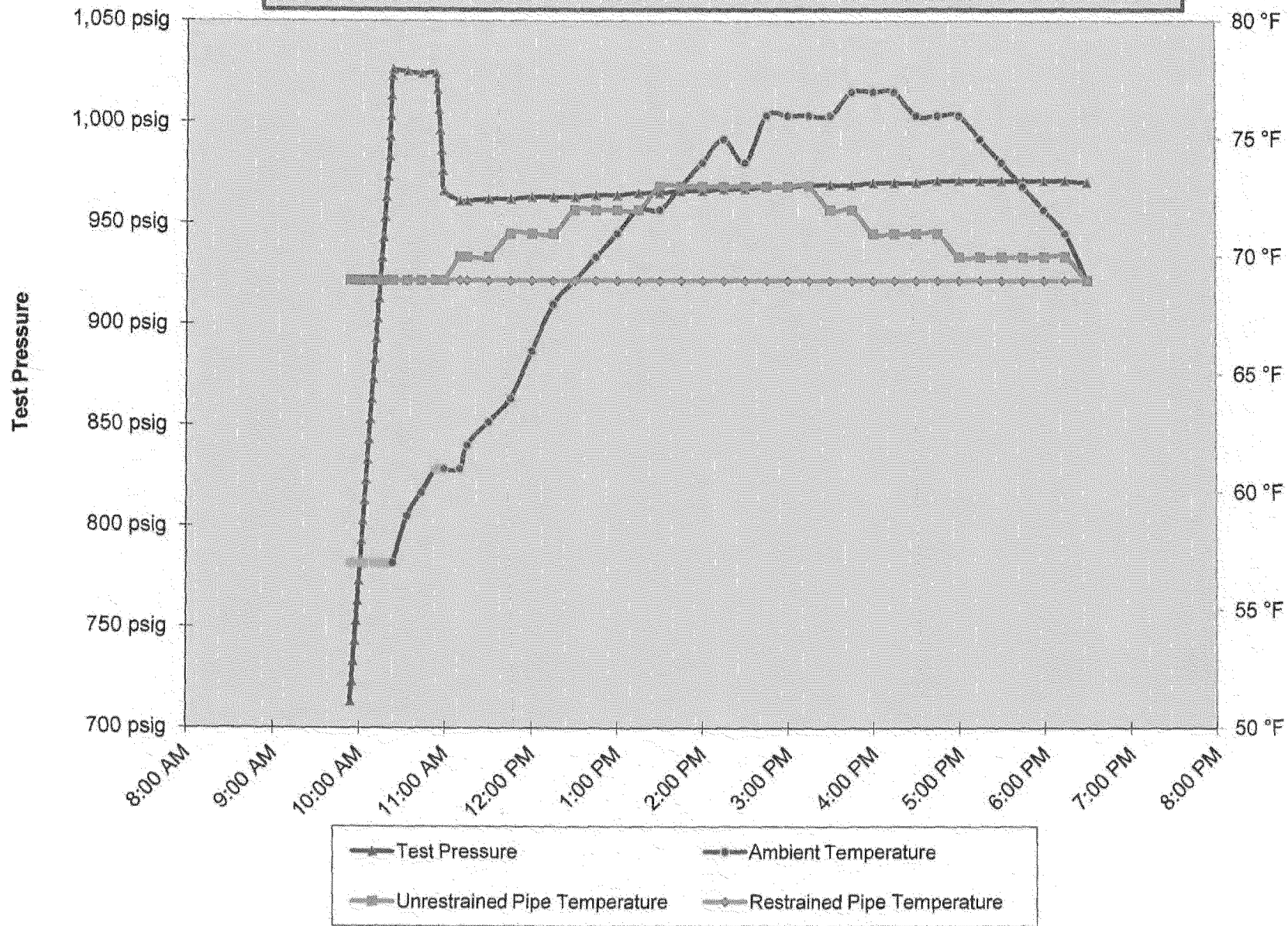
Time and Date Test Pressure Reached	10/21/11 10:23 AM	Elevation at Test Point	377 ft	Min. Required Test Press At Test Point (1)	950.03 psig	Max. Allowable Test Press at Test Point (4)	1,029.37 psig
Time and Date Test Ended	10/21/11 6:30 PM	Max. Elevation in Test Section	384 ft	Min. Indicated Test Pressure (2)	961.00 psig	Max. Indicated Test Pressure (5)	1,026.00 psig
Actual Duration of Test	8 hours 7 minutes	Min. Elevation in Test Section	364 ft	Min. Test Pressure at Max. Elevation (3)	957.97 psig	Max. Test Pressure at Min. Elevation (6)	1,031.63 psig

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PG&E T-67A , L-300A , MP 477.77 - 478.06



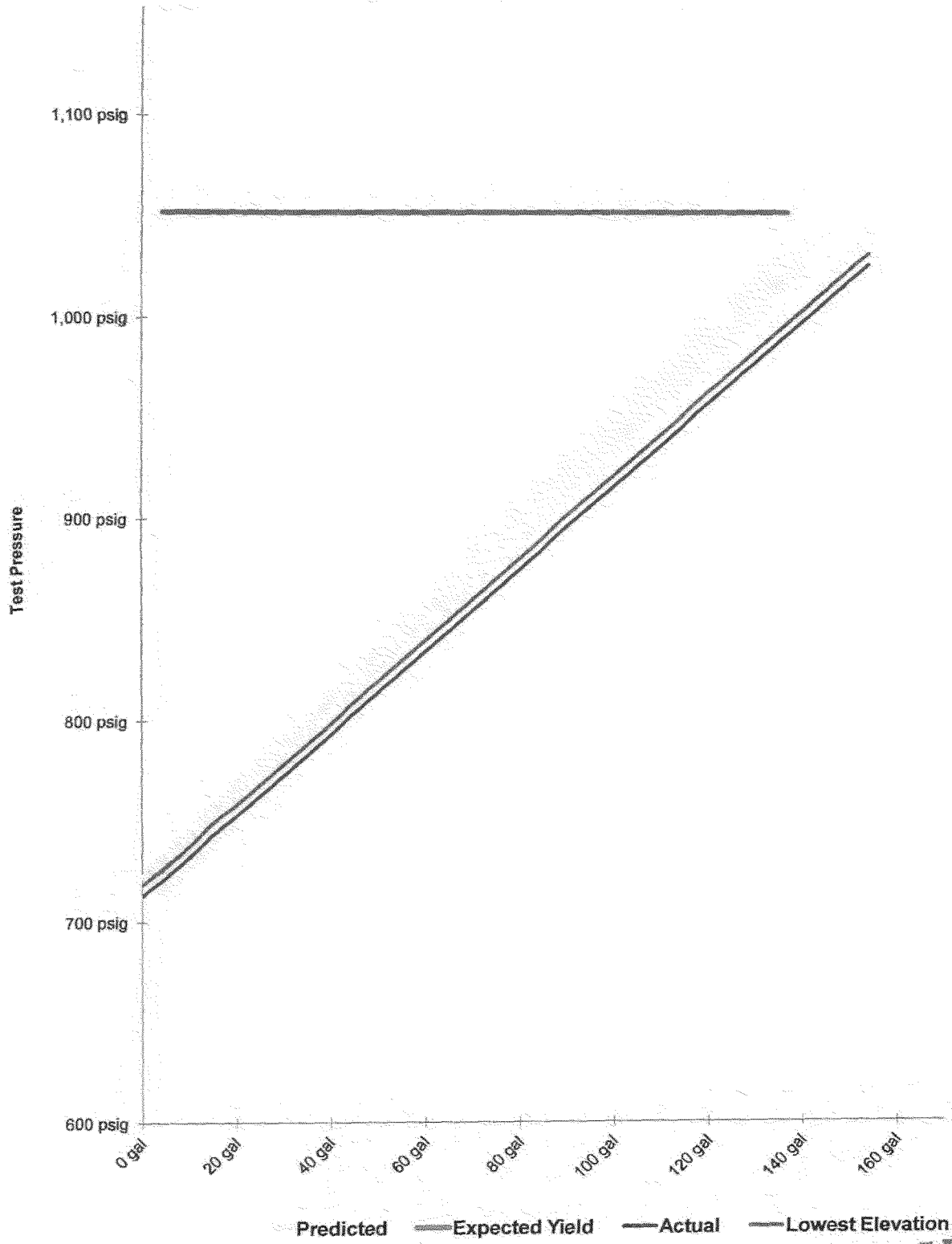
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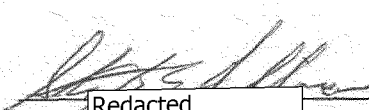


**Spike Pressure Test**  
**Stress Strain Curve -- PG&E T-67A , L-300A , MP 477.77 - 478.06**



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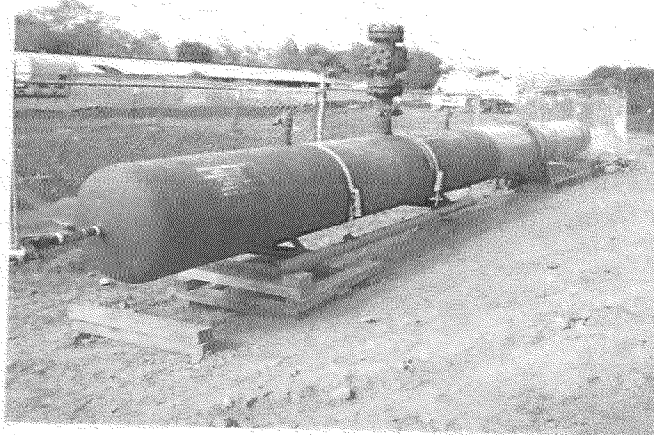
Actual Pressure Volume Plot Data			Predicted Pressure Volume Plot Data	Slope		Spike Pressure Test Stress Strain Curve -- PG&E T-67A , L-300A , MP 477.77 - 478.06	
Pressure	Strokes	Gallons	Gallons	Actual	Predicted		
713 psig	0	0.00 gal		0	0.000	39250	0.551 gal/stroke
723 psig	10	5.51 gal	4.37 gal	0.551	0.437	Pump Piston Diameter	3.000 in
733 psig	19	10.47 gal	8.74 gal	0.496	0.437	Pump Piston Stroke	6.00 in
743 psig	27	14.87 gal	13.11 gal	0.441	0.437	Pump Cylinders	3 ea
753 psig	37	20.38 gal	17.48 gal	0.551	0.437	Volume check gal per stroke	0.581 gal/stroke
763 psig	46	25.34 gal	21.85 gal	0.496	0.437	Volume Released (gallons)	5.20 gal
773 psig	55	30.29 gal	26.22 gal	0.496	0.437	Pressure Reduced (psi)	10 psi
783 psig	64	35.25 gal	30.59 gal	0.496	0.437	Maximum2	170 gal
793 psig	73	40.21 gal	34.96 gal	0.496	0.437	Minimum2	0 gal
803 psig	81	44.61 gal	39.33 gal	0.441	0.437	Maximum1	1,153 psig
813 psig	90	49.57 gal	43.70 gal	0.496	0.437	Minimum1	600 psig
823 psig	99	54.53 gal	48.07 gal	0.496	0.437	Gallons/Stroke Used	0.551 gal/stroke
833 psig	108	59.49 gal	52.44 gal	0.496	0.437	Predicted Gallons/Stroke	0.489 gal/stroke
843 psig	117	64.44 gal	56.81 gal	0.496	0.437	Pressure Increment	10 psi
853 psig	126	69.40 gal	61.19 gal	0.496	0.437	Max Pressure	1,026 psig
863 psig	135	74.36 gal	65.56 gal	0.496	0.437	Buried Pipe Temperature	74 °F
873 psig	144	79.32 gal	69.93 gal	0.496	0.437	Exposed Pipe Temperature	84 °F
883 psig	153	84.27 gal	74.30 gal	0.496	0.437		
893 psig	161	88.68 gal	78.68 gal	0.441	0.437		
903 psig	170	93.64 gal	83.05 gal	0.496	0.437		
913 psig	179	98.59 gal	87.43 gal	0.496	0.437		
923 psig	188	103.55 gal	91.80 gal	0.496	0.437		
933 psig	197	108.51 gal	96.17 gal	0.496	0.437		
943 psig	206	113.46 gal	100.55 gal	0.496	0.437	<b>ASME B31.8 Appendix N-5</b>	
953 psig	214	117.87 gal	104.92 gal	0.441	0.437	Average Actual Elastic Slope	0.494
963 psig	223	122.83 gal	109.30 gal	0.496	0.438	Average Predicted Elastic Slope	0.437
973 psig	232	127.79 gal	113.67 gal	0.496	0.438	Code Prescribed Minimum Yield Slope (less 10% B31.8 N-5 (c)(2)	0.939
983 psig	241	132.74 gal	118.05 gal	0.496	0.438	Established Minimum Yield Pressure B31.8 N-5 (c)(2)	1,026 psig
993 psig	250	137.70 gal	122.43 gal	0.496	0.438	Maximum Allowed Volume (After Slope Deviation) B31.8 N-5 (c)(2)	418 gal
1,003 psig	259	142.66 gal	126.80 gal	0.496	0.438	Volume (After Slope Deviation) B31.8 N-5 (c)(2)	0 gal
1,013 psig	268	147.61 gal	131.18 gal	0.496	0.438		
1,023 psig	277	152.57 gal	135.55 gal	0.496	0.438		
1,026 psig	280	154.22 gal	136.87 gal	0.551	0.438		
1,026 psig		154.22 gal	136.87 gal	0.000	0.000		
1,026 psig		154.22 gal	136.87 gal	0.000	0.000		
1,026 psig		154.22 gal	136.87 gal	0.000	0.000		
1,026 psig		154.22 gal	136.87 gal	0.000	0.000		
1,026 psig		154.22 gal	136.87 gal	0.000	0.000		
1,026 psig		154.22 gal	136.87 gal	0.000	0.000		
1,026 psig		154.22 gal	136.87 gal	0.000	0.000		
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1,026 psig		154.22 gal	136.87 gal	0.000	0.000		
1,026 psig		154.22 gal	136.87 gal	0.000	0.000		
1,026 psig		154.22 gal	136.87 gal	0.000	0.000		

  
Redacted 10-21-11  
Date

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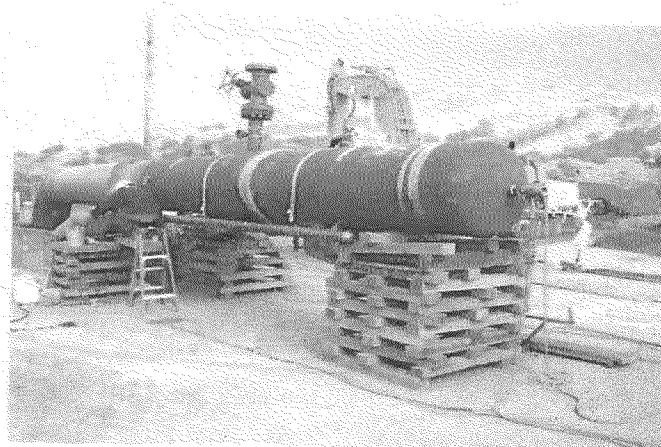
T67A- Test Header



T-67A Test Header Assembly



T-67A Test Head Pipe Connect

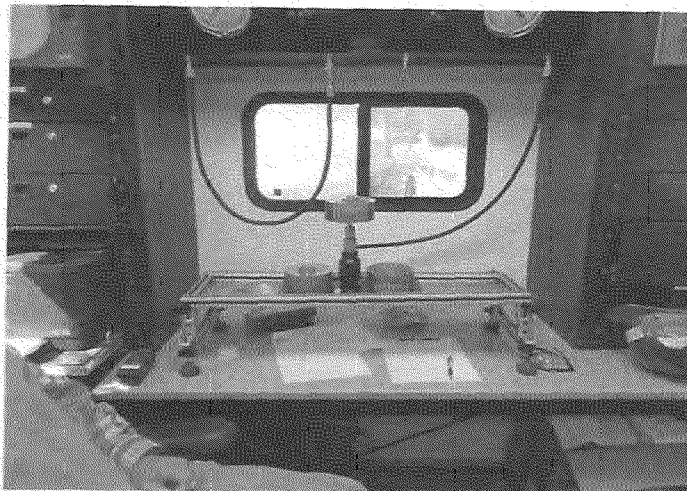


T-67A Test End

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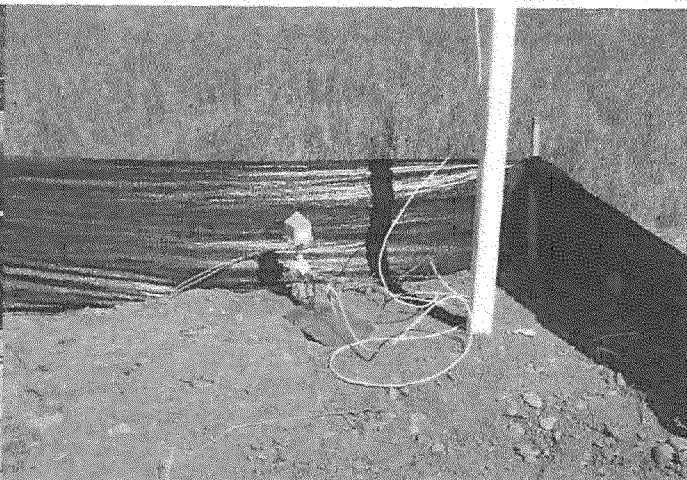
T-67A Deadweight Tester



T-67A Pump Truck



T-67A Unrestrained and Alternate Restrained Temp. Rec.



T-67A Restrained Temp. Rec.

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