



RCP, Inc

801 Louisiana, Ste.200
Houston, Texas 77002
(713) 955-2000

Redacted

September 1, 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 -- 41497333-T90D
Construction Contractor:	Snelson -- 41474005 -T90D
Test Section:	PG&E T-90D L-300B, MP 499.33 - 502.62
Test Date:	August 31, 2011
Certificate Number:	RCP 61362 - T-90D, L-300B, MP 499.33 - 502.62

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 1121 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 9.17 hour test duration period.

This hydrostatic test was completed successfully. Pressure was maintained on the test facilities in excess of 9.17 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 1022 psig and the established MAOP is 681 psig.

Pressure decreased 82 psi during the test. 38,688.00 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 6,774.28 ounces, loss, which is equivalent to a 0.67 °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
Redacted

cc. file



Hydrostatic Test Certification

Company	Pacific Gas and Electric Company	Job Number	41497333-T90D
Construction Co.	Snelson	Job Number	41474005-T90D
Hydro. Test Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-90D L-300B, MP 499.33 - 502.62		
File Name	RCP 61362 - T-90D, L-300B, MP 499.33 - 502.62		

Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION:	Test Date:	31-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-90D L-300B, MP 499.33 - 502.62	
From:	447+47	To: 627+23

Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	32 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi
2	16,879 ft	34.000 in.	0.438 in.	API5L-X52, DSAW, Arc Weld, Steel	1,338 psi
3	960 ft	34.000 in.	0.383 in.	API5L-X60, DSAW, Arc Weld, Steel	1,352 psi
4	165 ft	34.000 in.	0.505 in.	API5L-X60, DSAW, Arc Weld, Steel	1,782 psi
5	40 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi

Initial Test Conditions

Pressure at Test Point:	1,121 psig	Date/Time:	8/31/11 6:05 PM	Pipe Temperature	
Ambient Temperature:	73.0 °F	Elevation @ Test Point:	30.0 ft	Unrestrained:	75.0 °F
Pressure @ High Point (Cal/Measure):	1,104 psig	Elevation @ High Point:	69.0 ft	Restrained:	72.0 °F
Pressure @ Low Point (Cal/Measure):	1,129 psig	Elevation @ Low Point:	12.0 ft	Location:	627+23
				Location:	447+47
				Location:	626+73

Final Test Conditions

Pressure at Test Point:	1,039 psig	Date/Time:	9/1/11 3:15 AM	Pipe Temperature	
Ambient Temperature:	58.0 °F	Elevation @ Test Point:	30.0 ft	Unrestrained:	68.0 °F
Pressure @ High Point (Cal/Measure):	1,022 psig	Elevation @ High Point:	69.0 ft	Restrained:	72.0 °F
Pressure @ Low Point (Cal/Measure):	1,047 psig	Elevation @ Low Point:	12.0 ft	Location:	627+23
				Location:	447+47
				Location:	626+73
Total Fluid Injected:			Volume loss		
Total Fluid Withdrawn:	38688.00 fluid ounces				
Net Change in Volume of the Test Section ± (+ Gain, - Loss):	(6,774.28) oz	loss	(0.0065)%	(0.667) °F equivalent	
Test Duration:	9.17 hours				

Minimum Test Pressure:	1,039 psig	1,022 psig	1,047 psig	
Maximum Test Pressure:	1,121 psig	1,104 psig	1,129 psig	
% SMYS :		82.5%	63.3%	
Test Segment Observed % SMYS :	Minimum	58.6%	Maximum	84.2%

Minimum Test Pressure (Calculated/Measured):	1,022 psig
Maximum Allowable Operating Pressure:	DOT Code 192, Test Facility: RCP, 100% SMYS

Were leaks observed?	No	Explain:
Acceptable Hydrostatic Test?	Yes	<p>The test segment was subjected to a spike pressure test of 1121 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 9.17 hour test duration period.</p> <p>No leaks were observed during the test period. The test section included 17,964 feet of buried and 72 feet of exposed pipe. Pressure lost 82 psi during the test. The buried pipe segment fluid temperature remained steady and the exposed pipe segment lost 7°F.</p> <p>38,688.00 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 6,774.28 ounces, loss, which is equivalent to a 0.67 °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>

Remarks	Redacted
	1-Sep-11



Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41497333-T90D
Construction Co.	Snelson	Job Number	41474005 - T90D
Testing Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-90D L-300B, MP 499.33 - 502.62		
File Name	RCP 61362 - T-90D, L-300B, MP 499.33 - 502.62		

Date		31-Aug-11		Test Log					
Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
					Unrestrained	Restrained			
1	8/31/11	5:26 PM	766 psig	73 °F	75 °F	72 °F	Start Spike		
2	8/31/11	5:27 PM	776 psig	73 °F	75 °F	72 °F	Inject		5,217 oz.
3	8/31/11	5:28 PM	786 psig	73 °F	75 °F	72 °F	Inject		5,781 oz.
4	8/31/11	5:29 PM	796 psig	73 °F	75 °F	72 °F	Inject		5,711 oz.
5	8/31/11	5:30 PM	806 psig	73 °F	75 °F	72 °F	Inject		5,640 oz.
6	8/31/11	5:31 PM	816 psig	73 °F	75 °F	72 °F	Inject		5,499 oz.
7	8/31/11	5:32 PM	826 psig	73 °F	75 °F	72 °F	Inject		5,781 oz.
8	8/31/11	5:33 PM	836 psig	73 °F	75 °F	72 °F	Inject		5,358 oz.
9	8/31/11	5:34 PM	846 psig	73 °F	75 °F	72 °F	Inject		6,134 oz.
10	8/31/11	5:35 PM	856 psig	73 °F	75 °F	72 °F	Inject		5,852 oz.
11	8/31/11	5:36 PM	866 psig	73 °F	75 °F	72 °F	Inject		5,781 oz.
12	8/31/11	5:37 PM	876 psig	73 °F	75 °F	72 °F	Inject		5,711 oz.
13	8/31/11	5:38 PM	886 psig	73 °F	75 °F	72 °F	Inject		5,499 oz.
14	8/31/11	5:39 PM	896 psig	73 °F	75 °F	72 °F	Inject		5,922 oz.
15	8/31/11	5:40 PM	906 psig	73 °F	75 °F	72 °F	Inject		5,993 oz.
16	8/31/11	5:41 PM	916 psig	73 °F	75 °F	72 °F	Inject		5,711 oz.
17	8/31/11	5:42 PM	926 psig	73 °F	75 °F	72 °F	Inject		5,781 oz.
18	8/31/11	5:43 PM	936 psig	73 °F	75 °F	72 °F	Inject		5,781 oz.
19	8/31/11	5:44 PM	946 psig	73 °F	75 °F	72 °F	Inject		5,570 oz.
20	8/31/11	5:45 PM	956 psig	73 °F	75 °F	72 °F	Inject		5,922 oz.
21	8/31/11	5:46 PM	966 psig	73 °F	75 °F	72 °F	Inject		5,570 oz.
22	8/31/11	5:47 PM	976 psig	73 °F	75 °F	72 °F	Inject		5,922 oz.
23	8/31/11	5:48 PM	986 psig	73 °F	75 °F	72 °F	Inject		5,852 oz.
24	8/31/11	5:49 PM	996 psig	73 °F	75 °F	72 °F	Inject		5,570 oz.
25	8/31/11	5:50 PM	1,006 psig	73 °F	75 °F	72 °F	Inject		5,922 oz.
26	8/31/11	5:51 PM	1,016 psig	73 °F	75 °F	72 °F	Inject		5,781 oz.
27	8/31/11	5:52 PM	1,026 psig	73 °F	75 °F	72 °F	Inject		5,711 oz.
28	8/31/11	5:53 PM	1,036 psig	73 °F	75 °F	72 °F	Inject		5,852 oz.
29	8/31/11	5:54 PM	1,046 psig	73 °F	75 °F	72 °F	Inject		5,852 oz.
30	8/31/11	5:55 PM	1,056 psig	73 °F	75 °F	72 °F	Inject		5,781 oz.
31	8/31/11	5:56 PM	1,066 psig	73 °F	75 °F	72 °F	Inject		
32	8/31/11	5:57 PM	1,076 psig	73 °F	75 °F	72 °F	Inject		
33	8/31/11	5:58 PM	1,086 psig	73 °F	75 °F	72 °F	Inject		
34	8/31/11	5:59 PM	1,096 psig	73 °F	75 °F	72 °F	Inject		
35	8/31/11	6:00 PM	1,106 psig	73 °F	75 °F	72 °F	Inject		
36	8/31/11	6:01 PM	1,116 psig	73 °F	75 °F	72 °F	Inject		
37	8/31/11	6:02 PM	1,121 psig	73 °F	75 °F	72 °F	Inject		
38	8/31/11	6:05 PM	1,121 psig	73 °F	75 °F	72 °F		On Test	
39	8/31/11	6:15 PM	1,121 psig	73 °F	74 °F	72 °F			
40	8/31/11	6:25 PM	1,121 psig	72 °F	74 °F	72 °F			
41	8/31/11	6:35 PM	1,121 psig	72 °F	74 °F	72 °F	End Spike		
42	8/31/11	6:40 PM	1,111 psig	72 °F	74 °F	72 °F	Bleed		4,960 oz.
43	8/31/11	6:45 PM	1,101 psig	72 °F	74 °F	72 °F	Bleed		4,960 oz.
44	8/31/11	6:50 PM	1,091 psig	72 °F	74 °F	72 °F	Bleed		4,960 oz.
45	8/31/11	6:55 PM	1,081 psig	72 °F	74 °F	72 °F	Bleed		4,960 oz.
46	8/31/11	7:00 PM	1,071 psig	72 °F	74 °F	72 °F	Bleed		4,960 oz.



Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41497333-T90D
Construction Co.	Snelson	Job Number	41474005 - T90D
Testing Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-90D L-300B, MP 499.33 - 502.62		
File Name	RCP 61362 - T-90D, L-300B, MP 499.33 - 502.62		

Date	31-Aug-11	Test Log
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Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
					Unrestrained	Restrained			
47	8/31/11	7:05 PM	1,061 psig	72 °F	74 °F	72 °F	Bleed	4,960 oz.	
48	8/31/11	7:10 PM	1,051 psig	72 °F	74 °F	72 °F	Bleed	4,960 oz.	
49	8/31/11	7:15 PM	1,043 psig	72 °F	74 °F	72 °F	Bleed	3,968 oz.	
50	8/31/11	7:30 PM	1,043 psig	70 °F	73 °F	72 °F			
51	8/31/11	7:45 PM	1,043 psig	69 °F	73 °F	72 °F			
52	8/31/11	8:00 PM	1,042 psig	69 °F	73 °F	72 °F			
53	8/31/11	8:15 PM	1,042 psig	69 °F	72 °F	72 °F			
54	8/31/11	8:30 PM	1,042 psig	68 °F	72 °F	72 °F			
55	8/31/11	8:45 PM	1,042 psig	68 °F	72 °F	72 °F			
56	8/31/11	9:00 PM	1,042 psig	68 °F	72 °F	72 °F			
57	8/31/11	9:15 PM	1,042 psig	68 °F	72 °F	72 °F			
58	8/31/11	9:30 PM	1,042 psig	67 °F	71 °F	72 °F			
59	8/31/11	9:45 PM	1,042 psig	67 °F	71 °F	72 °F			
60	8/31/11	10:00 PM	1,041 psig	66 °F	71 °F	72 °F			
61	8/31/11	10:15 PM	1,041 psig	65 °F	71 °F	72 °F			
62	8/31/11	10:30 PM	1,041 psig	64 °F	71 °F	72 °F			
63	8/31/11	10:45 PM	1,041 psig	64 °F	71 °F	72 °F			
64	8/31/11	11:00 PM	1,041 psig	64 °F	71 °F	72 °F			
65	8/31/11	11:15 PM	1,041 psig	64 °F	71 °F	72 °F			
66	8/31/11	11:30 PM	1,041 psig	63 °F	71 °F	72 °F			
67	8/31/11	11:45 PM	1,041 psig	63 °F	71 °F	72 °F			
68	9/1/11	12:00 AM	1,040 psig	62 °F	70 °F	72 °F			
69	9/1/11	12:15 AM	1,040 psig	62 °F	70 °F	72 °F			
70	9/1/11	12:30 AM	1,040 psig	61 °F	70 °F	72 °F			
71	9/1/11	12:45 AM	1,040 psig	61 °F	70 °F	72 °F			
72	9/1/11	1:00 AM	1,040 psig	62 °F	70 °F	72 °F			
73	9/1/11	1:15 AM	1,040 psig	61 °F	69 °F	72 °F			
74	9/1/11	1:30 AM	1,040 psig	60 °F	69 °F	72 °F			
75	9/1/11	1:45 AM	1,040 psig	60 °F	69 °F	72 °F			
76	9/1/11	2:00 AM	1,040 psig	59 °F	69 °F	72 °F			
77	9/1/11	2:15 AM	1,039 psig	59 °F	69 °F	72 °F			
78	9/1/11	2:30 AM	1,039 psig	59 °F	69 °F	72 °F			
79	9/1/11	2:45 AM	1,039 psig	58 °F	68 °F	72 °F			
80	9/1/11	3:00 AM	1,039 psig	58 °F	68 °F	72 °F			
81	9/1/11	3:15 AM	1,039 psig	58 °F	68 °F	72 °F	End of Test		

Spike Test		166,455.8 oz.
Hydrostatic Test	38,688.0 oz.	

Were leaks observed during the test period?	Exposed and buried pipe, no leaks observed.	High Test Pressure: 1,121 psig	Low Test Pressure: 1,039 psig
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Pipe Segment Volume Calculations

Company	Pacific Gas and Electric Company	Job Number	41497333-T90D
Construction Co.	Snelson	Job Number	41474005-T90D
Hydro. Test Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-90D L-300B, MP 499.33 - 502.62	WATER	
File Name	RCP 61362 - T-90D, L-300B, MP 499.33 - 502.62		

General Pipe Data

Description	Segment				
	1	2	3	4	5
Restrained or Unrestrained?	Unrestrained	Restrained	Restrained	Restrained	Unrestrained
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.
Wall Thickness	0.500 in.	0.438 in.	0.383 in.	0.505 in.	0.500 in.
Inside Diameter	33.000 in.	33.125 in.	33.234 in.	32.990 in.	33.000 in.
Spec./Grade	API5L-X65	API5L-X52	API5L-X60	API5L-X60	API5L-X65
Length Unrestrained	32 ft				40 ft
Length Restrained		16,879 ft	980 ft	105 ft	
Temperature - On Test	75 °F	72 °F	72.0 °F	72.0 °F	75.0 °F
Temperature - End of Test	68 °F	72 °F	72.0 °F	72.0 °F	68.0 °F
Pressure - On Test	1,121 psig	1,121 psig	1,121 psig	1,121 psig	1,121 psig
Pressure - End of Test	1,039 psig	1,039 psig	1,039 psig	1,039 psig	1,039 psig

Unrestrained Pipe

Sum:	Vo	3,199.04 gal 409,477 oz.		Vtp1	3,215.38 gal 411,568 oz.		Vtp2	3,216.28 gal 411,684 oz.	
Vo Unrestrained	1,422 gal				1,777 gal				
Fwp 1	1.003436				1.003436				
Fpp 1	1.003093				1.003093				
Fpt 1	1.000273				1.000273				
Fwt 1	1.001688				1.001688				
Fpwt 1 = Fpt/Fwt	0.998587				0.998587				
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	1,429.06 gal				1,786.32 gal				
Fwp 2	1.003184				1.003184				
Fpp 2	1.002857				1.002857				
Fpt 2	1.000146				1.000146				
Fwt 2	1.000803				1.000803				
Fpwt = Fpt/Fwt	0.999343				0.999343				
Vtp = Vo(Fwp)(Fpp)(Fpwt)	1,429.46 gal				1,786.82 gal				

Restrained Pipe

Sum:	Vo	804,469.30 gal 102,972,071 oz.		Vtp1	808,442.08 gal 103,480,586 oz.		Vtp2	808,088.00 gal 103,435,008 oz.	
Vo Unrestrained		755,645 gal	44,162 gal	4,662 gal					
Fwp 1		1.003436	1.003436	1.003436					
Fpp 1		1.002618	1.002994	1.002265					
Fpt 1		1.000145	1.000145	1.000145					
Fwt 1		1.001283	1.001283	1.001283					
Fpwt 1 = Fpt/Fwt		0.998863	0.998863	0.998863					
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		759,362 gal	44,396 gal	4,684 gal					
Fwp 2		1.003184	1.003184	1.003184					
Fpp 2		1.002429	1.002778	1.002102					
Fpt 2		1.000145	1.000145	1.000145					
Fwt 2		1.001283	1.001283	1.001283					
Fpwt = Fpt/Fwt		0.998863	0.998863	0.998863					
Vtp = Vo(Fwp)(Fpp)(Fpwt)		759,029 gal	44,375 gal	4,682 gal					

Combined Pipe

Sum:	Vo	807,668.34 gal 103,381,548 oz.		Vtp1	811,657.45 gal 103,892,154 oz.		Vtp2	811,302.28 gal 103,846,692 oz.	
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Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	41497333-T90D
Construction Co.	Snelson	Job Number	41474005 -T90D
Hydro. Test Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-90D L-300B, MP 499.33 - 502.62	WATER	
File Name	RCP 61362 - T-90D, L-300B, MP 499.33 - 502.62		

General Pipe Data

Description	Segment										
	1	2	3	4	5						
Restrained or Unrestrained?	Unrestrained	Restrained	Restrained	Restrained	Unrestrained						
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.						
Wall Thickness	0.500 in.	0.438 in.	0.383 in.	0.505 in.	0.500 in.						
Inside Diameter	33.000 in.	33.125 in.	33.234 in.	32.990 in.	33.000 in.						
Spec./Grade	API5L-X65	API5L-X52	API5L-X60	API5L-X60	API5L-X65						
Length Unstrained	32.00 ft				40 ft						
Length Restrained		16,879 ft	980 ft	105 ft							
Temperature - On Test	71 °F	71 °F	71 °F	71 °F	71 °F						
Temperature - End of Test	72 °F	72 °F	72 °F	72 °F	72 °F						
Pressure - On Test	1,080 psig	1,080 psig	1,080 psig	1,080 psig	1,080 psig						
Pressure - End of Test	1,080 psig	1,080 psig	1,080 psig	1,080 psig	1,080 psig						

Unrestrained Pipe

Sum:	Vo	3,199.04 gal 409,477 oz.		Vtp1	3,216.04 gal 411,654 oz.		Vtp2	3,215.74 gal 411,614 oz.	
Vo Unrestrained	1,422 gal				1,777 gal				
Fwp 1	1.003310				1.003310				
Fpp 1	1.002970				1.002970				
Fpt 1	1.000200				1.000200				
Fwt 1	1.001170				1.001170				
Fpwt 1 = Fpt/Fwt	0.999032				0.999032				
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	1,429.35 gal				1,786.69 gal				
Fwp 2	1.003310				1.003310				
Fpp 2	1.002970				1.002970				
Fpt 2	1.000218				1.000218				
Fwt 2	1.001283				1.001283				
Fpwt 2 = Fpt/Fwt	0.998937				0.998937				
Vtp 2 = Vo(Fwp)(Fpp)(Fpwt)	1,429.22 gal				1,786.52 gal				

Restrained Pipe

Sum:	Vo	804,469.30 gal 102,972,071 oz.		Vtp1	808,343.04 gal 103,467,910 oz.		Vtp2	808,264.01 gal 103,457,794 oz.	
Vo Restrained		755,645 gal	44,162 gal	4,683 gal					
Fwp 1		1.003310	1.003310	1.003310					
Fpp 1		1.002520	1.002882	1.002180					
Fpt 1		1.000133	1.000133	1.000133					
Fwt 1		1.001170	1.001170	1.001170					
Fpwt 1 = Fpt/Fwt		0.998965	0.998965	0.998965					
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		759,270 gal	44,390 gal	4,683 gal					
Fwp 2		1.003310	1.003310	1.003310					
Fpp 2		1.002524	1.002886	1.002183					
Fpt 2		1.000145	1.000145	1.000145					
Fwt 2		1.001283	1.001283	1.001283					
Fpwt 2 = Fpt/Fwt		0.998863	0.998863	0.998863					
Vtp 2 = Vo(Fwp)(Fpp)(Fpwt)		759,196 gal	44,366 gal	4,683 gal					

Combined Pipe

Sum:	Vo	807,668.34 gal 103,381,548 oz.		Vtp1	811,559.09 gal 103,879,563 oz.		Vtp2	811,479.75 gal 103,869,408 oz.	
1 °F Change	79.34 gal		10,154.95 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	32 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSAW
2	16,879 ft	Restrained	34.000 in.	0.4375 in.	API5L-X52	1,338 psig	Steel	Arc Weld	DSAW
3	980 ft	Restrained	34.000 in.	0.3830 in.	API5L-X60	1,352 psig	Steel	Arc Weld	DSAW
4	105 ft	Restrained	34.000 in.	0.5050 in.	API5L-X60	1,782 psig	Steel	Arc Weld	DSAW
5	40 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSAW

Hydrostatic Test Project Owner & Participants

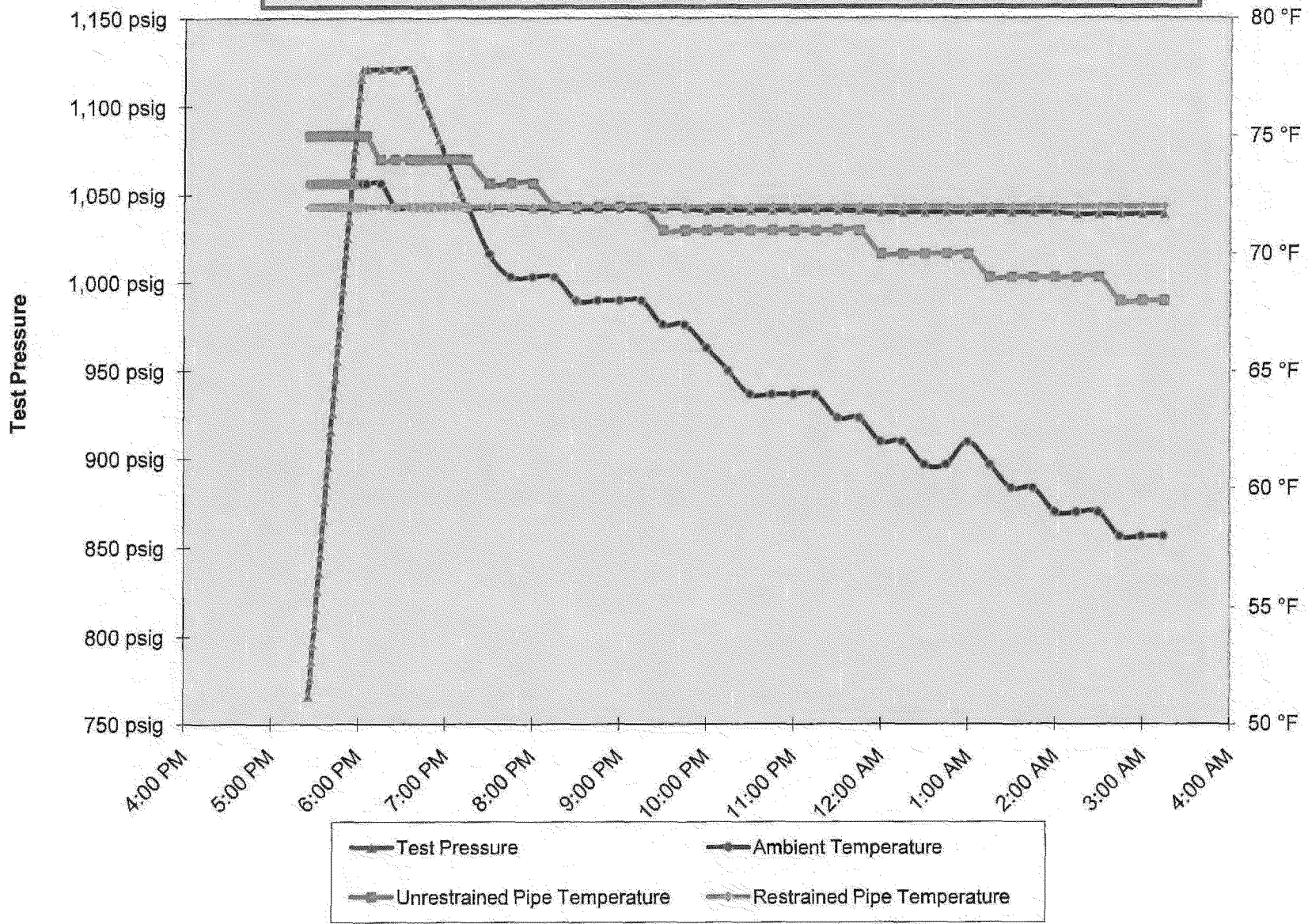
Owner Company	Pacific Gas and Electric Company	Job Number
Address	350 N. Wiget Walnut Creek, CA 94598 Attention: Redacted	41497333-T90D
Construction Company	Snelson	Job Number
Address	601 West State Street Sedro-Wooley, WA 98284 Attention: Redacted	41474005 -T90D
Hydrostatic Test Co.	Milbar hydro-test inc.	Project No.
Address	P O Box 7701 Shreveport, La. 71137-7701	FY12-112
Test Section	PG&E T-90D L-300B, MP 499.33 - 502.62 From: 447+47 To: 627+23	
File Name	RCP 61362 - T-90D, L-300B, MP 499.33 - 502.62	

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

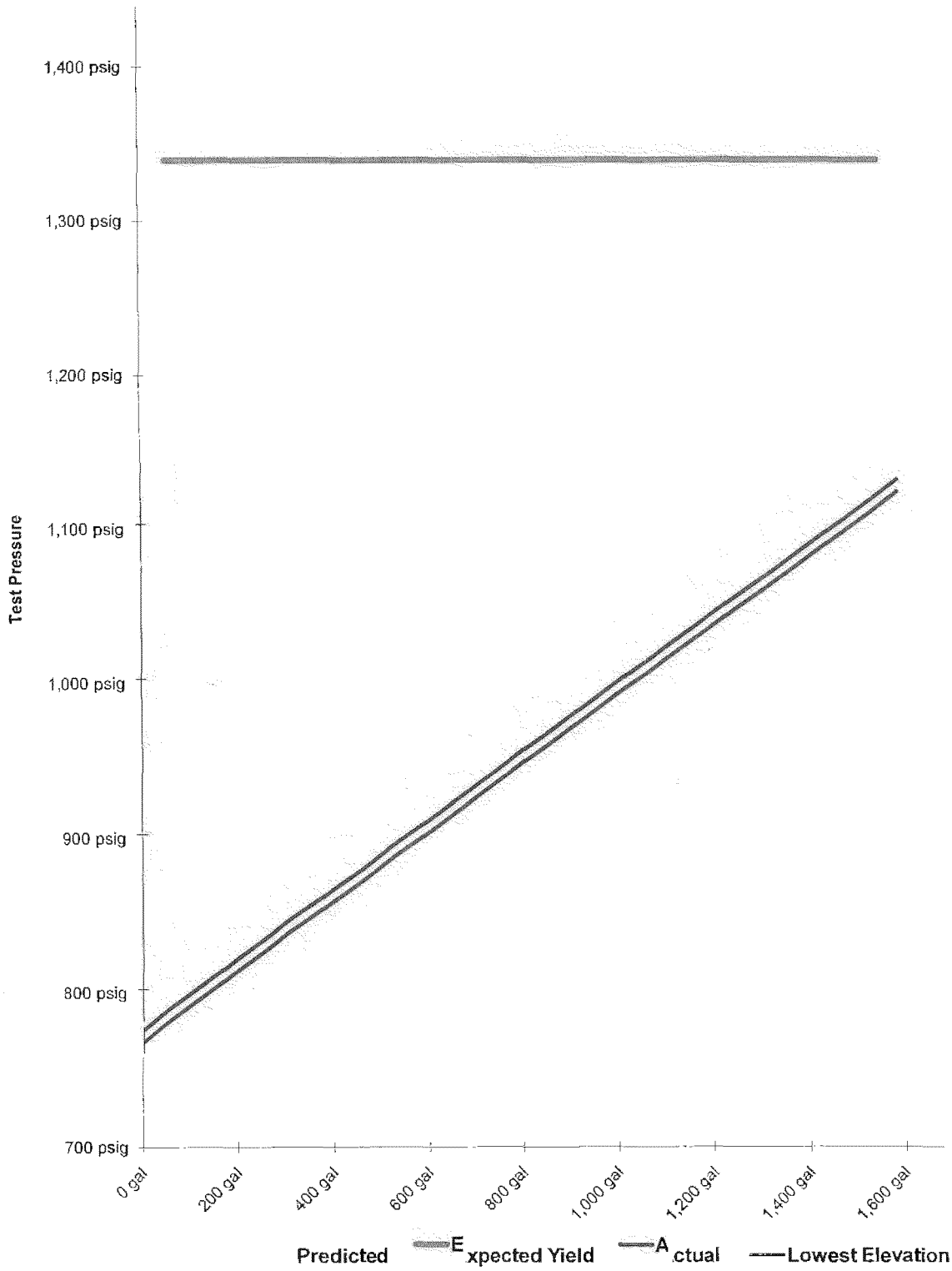
Note: Minimum test pressure and duration are not to be changed without written approval.

Time and Date Test Pressure Reached	8/31/11 6:05 PM	Elevation at Test Point	30 ft	Min. Required Test Press At Test Point (1)	1,020.90 psig	Max. Allowable Test Press at Test Point (4)	1,122.20 psig
Time and Date Test Ended	9/1/11 3:15 AM	Max. Elevation in Test Section	69 ft	Min. Indicated Test Pressure (2)	1,039.00 psig	Max. Indicated Test Pressure (5)	1,121.00 psig
Actual Duration of Test	9 hours 10 minutes	Min. Elevation in Test Section	12 ft	Min. Test Pressure at Max. Elevation (3)	1,022.10 psig	Max. Test Pressure at Min. Elevation (6)	1,128.80 psig

PG&E T-90D L-300B, MP 499.33 - 502.62



Spike Pressure Test
Stress Strain Curve -- PG&E T-90D L-300B, MP 499.33 - 502.62

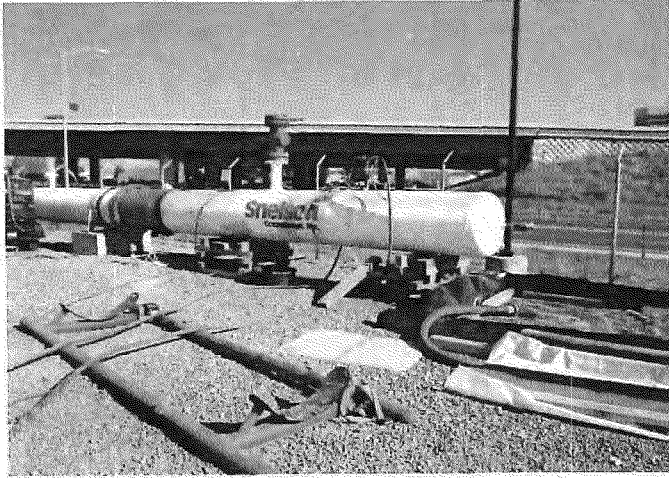




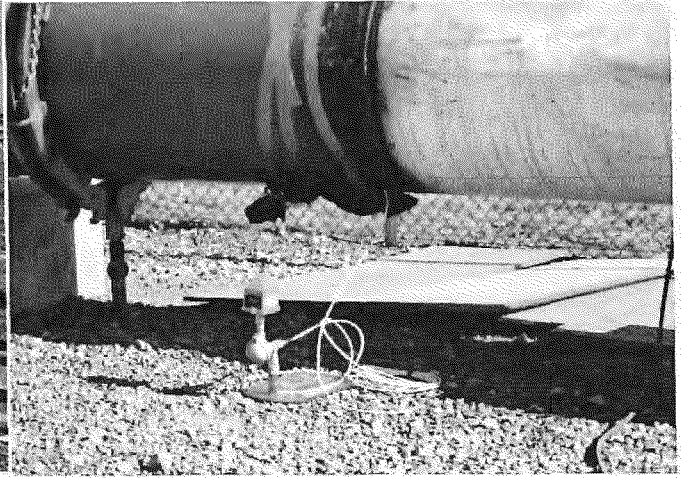
Actual Pressure Volume Plot Data			Predicted Pressure Volume Plot Data	Slope		Spike Pressure Test Stress Strain Curve -- PG&E T-90D L-300B, MP 499.33 - 502.62	
Pressure	Strokes	Gallons	Gallons	Actual	Predicted		
766 psig	0	0.00 gal		0	0.000	Pump gal per stroke	0.551 gal/stroke
776 psig	74	40.76 gal	43.57 gal	4.076	4.357	Pump Piston Diameter	3.000 in
786 psig	156	85.92 gal	87.15 gal	4.517	4.358	Pump Piston Stroke	6.00 in
796 psig	237	130.54 gal	130.73 gal	4.461	4.358	Pump Cylinders	3 ea
806 psig	317	174.60 gal	174.31 gal	4.406	4.358	Volume check gal per stroke	0.476 gal/stroke
816 psig	395	217.57 gal	217.90 gal	4.296	4.358	Volume Released (gallons)	38.75 gal
826 psig	477	262.73 gal	261.48 gal	4.517	4.359	Pressure Reduced (psi)	10 psi
836 psig	553	304.59 gal	305.07 gal	4.186	4.359	Maximum2	1,680 gal
846 psig	640	352.51 gal	348.66 gal	4.792	4.359	Minimum2	0 gal
856 psig	723	398.23 gal	392.26 gal	4.572	4.360	Maximum1	1,439 psig
866 psig	805	443.39 gal	435.86 gal	4.517	4.360	Minimum1	700 psig
876 psig	886	488.01 gal	479.46 gal	4.461	4.360	Gallons/Stroke Used	0.551 gal/stroke
886 psig	964	530.97 gal	523.06 gal	4.296	4.360	Predicted Gallons/Stroke	0.535 gal/stroke
896 psig	1046	577.24 gal	566.67 gal	4.627	4.361	Pressure Increment	10 psi
906 psig	1133	624.05 gal	610.27 gal	4.682	4.361		
916 psig	1214	668.67 gal	653.89 gal	4.461	4.361	Max Pressure	1,121 psig
926 psig	1296	713.84 gal	697.50 gal	4.517	4.361		
936 psig	1378	759.00 gal	741.12 gal	4.517	4.362	Buried Pipe Temperature	64 °F
946 psig	1457	802.51 gal	784.74 gal	4.351	4.362		
956 psig	1541	848.78 gal	828.36 gal	4.627	4.362	Exposed Pipe Temperature	71 °F
966 psig	1620	892.29 gal	871.98 gal	4.351	4.362		
976 psig	1704	938.56 gal	915.61 gal	4.627	4.363	ASME B31.8 Appendix N-5	
986 psig	1787	984.28 gal	959.24 gal	4.572	4.363		
996 psig	1866	1,027.79 gal	1,002.87 gal	4.351	4.363	Average Actual Elastic Slope	4.484
1,006 psig	1950	1,074.06 gal	1,046.51 gal	4.627	4.364		
1,016 psig	2032	1,119.22 gal	1,090.14 gal	4.517	4.364	Average Predicted Elastic Slope	4.362
1,026 psig	2113	1,163.84 gal	1,133.78 gal	4.461	4.364		
1,036 psig	2196	1,209.55 gal	1,177.43 gal	4.572	4.364	Code Prescribed Minimum Yield Slope (less 10%) B31.8 N-5 (c)(2)	8.520
1,046 psig	2279	1,255.27 gal	1,221.07 gal	4.572	4.365		
1,056 psig	2361	1,300.44 gal	1,264.72 gal	4.517	4.365	Established Minimum Yield Pressure B31.8 N-5 (c)(2)	1,121 psig
1,066 psig	2443	1,345.60 gal	1,308.37 gal	4.517	4.365		
1,076 psig	2525	1,390.77 gal	1,352.03 gal	4.517	4.365	Maximum Allowed Volume (After Slope Deviation) B31.8 N-5 (c)(2)	418 gal
1,086 psig	2607	1,435.93 gal	1,395.68 gal	4.517	4.366		
1,096 psig	2689	1,481.10 gal	1,439.34 gal	4.517	4.366	Volume (After Slope Deviation) B31.8 N-5 (c)(2)	0 gal
1,106 psig	2772	1,526.81 gal	1,483.00 gal	4.572	4.366		
1,116 psig	2853	1,571.43 gal	1,526.67 gal	4.461	4.366		
1,121 psig	2892	1,592.91 gal	1,548.50 gal	4.296	4.367		
1,121 psig		1,592.91 gal	1,548.50 gal	0.000	0.000		
1,121 psig		1,592.91 gal	1,548.50 gal	0.000	0.000		
1,121 psig		1,592.91 gal	1,548.50 gal	0.000	0.000		
1,121 psig		1,592.91 gal	1,548.50 gal	0.000	0.000		
1,121 psig		1,592.91 gal	1,548.50 gal	0.000	0.000		
1,121 psig		1,592.91 gal	1,548.50 gal	0.000	0.000		
1,121 psig		1,592.91 gal	1,548.50 gal	0.000	0.000		
1,121 psig		1,592.91 gal	1,548.50 gal	0.000	0.000		
1,121 psig		1,592.91 gal	1,548.50 gal	0.000	0.000		

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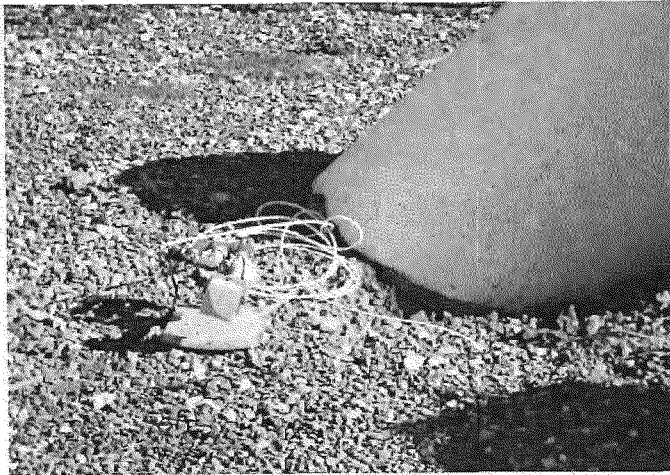
9-1-11
Date



Test T-90D Test Head



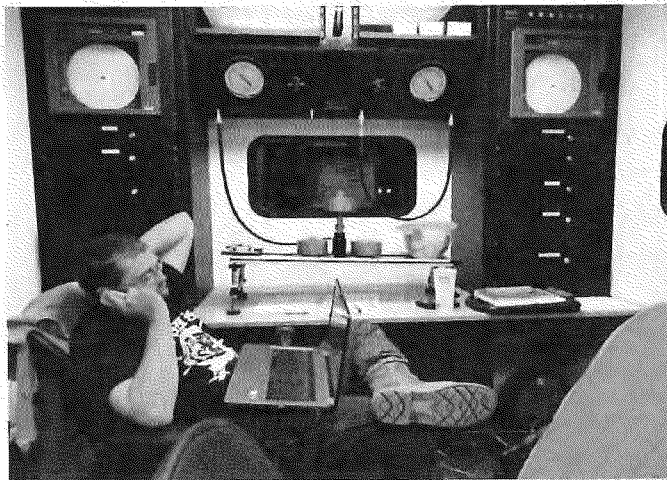
Test T-90D Unrestrained Temp. Transmitter



Test T-90D Restrained Temp. Transmitter



Test T-90D Pump Truck



Test T-90D Dead Weight Tester



Test T-90D Test End



Test T-90D Test End