RCP

RCP, Inc

Redacted

June 28, 2011

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

Test Contractor:	Milbar Hydro-test Incorporated -- FY12-112
Asset Owner:	Pacific Gas and Electric Company -- 41497306-T63
Construction Contractor:	Snelson -- 41474005-T63
Test Section:	PG&E T-63 Line 300A
Test Date:	June 24, 2011
Certificate Number:	RCP 61362 - T-63, L-300A

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 949 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 879 psig and the established MAOP is 799 psig.

Pressure decreased 60 psi during the test. 5,379.09 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 2,073.16 ounces, gain, which is equivalent to a 1.47 °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 1,896 feet of buried and 129 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	41497306-T63
Construction Co.	Snelson	Job Number	41474005-T63
Hydro. Test Co.	Milbar Hydro-test Incorporated	Project No.	6/19/2011
Test Section	PG&E T-63 Line 300A		
File Name	RCP 61302 - T-63, L-300A		

Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION: Test Date: 24-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-63 Line 300A

From: 18+49 To: 0+00

Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	75 ft	34.000 in.	0.505 in.	API5L-X60, DSAW, Arc Weld, Steel	1,782 psi
2	287 ft	34.000 in.	0.438 in.	API5L-X48, DSAW, Arc Weld, Steel	1,237 psi
3	14 ft	34.000 in.	0.375 in.	API5L-X60, DSAW, Arc Weld, Steel	1,324 psi
4	7 ft	34.000 in.	0.375 in.	API5L-X52, DSAW, Arc Weld, Steel	1,147 psi

Initial Test Conditions

Pressure at Test Point:	949 psig	Date/Time:	6/24/11 10:25 AM	Pipe Temperature	
Ambient Temperature:	86.0 °F			Unrestrained:	84.0 °F
				Restrained:	79.0 °F
		Elevation @ Test Point:	522.0 ft	Location:	18+49
Pressure @ High Point (Cal/Measure):	939 psig	Elevation @ High Point:	544.0 ft	Location:	7+60
Pressure @ Low Point (Cal/Measure):	950 psig	Elevation @ Low Point:	520.0 ft	Location:	16+20

Final Test Conditions

Pressure at Test Point:	880 psig	Date/Time:	6/24/11 7:00 PM	Pipe Temperature	
Ambient Temperature:	86.0 °F			Unrestrained:	87.0 °F
				Restrained:	78.0 °F
		Elevation @ Test Point:	522.0 ft	Location:	18+49
Pressure @ High Point (Cal/Measure):	879 psig	Elevation @ High Point:	544.0 ft	Location:	7+60
Pressure @ Low Point (Cal/Measure):	890 psig	Elevation @ Low Point:	520.0 ft	Location:	16+20
Total Fluid Injected:		1013.03 fluid ounces		Volume gain	
Total Fluid Withdrawn:		6,392 fluid ounces			
Net Change in Volume of the Test Section ± (+ Gain, - Loss):		2,073.16 oz	gain	0.0176%	1.470 °F equivalent

Test Duration: 9 hours

Minimum Test Pressure:	Test Point	885 psig	Max Elevation	875 psig	Min Elevation	886 psig
Maximum Test Pressure:		949 psig		930 psig		950 psig
% SMYS :		99.1%		98.1%		99.2%

Minimum Test Pressure (Calculated/Measured): 879 psig

Maximum Allowable Operating Pressure: DOT Part 192 Test Factor= 1.10 799 psig

Were leaks observed?	No	Explain:
Acceptable Hydrostatic Test?	Yes	The test segment was subjected to a spike pressure test of 949 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. No leaks were observed during the test period. The test section included 1,896 feet of buried and 129 feet of exposed pipe. Pressure lost 60 psi during the test. The buried pipe segment lost 1°F fluid temperature and the exposed pipe segment gained 3°F. 5,379.09 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 2,073.16 ounces, gain, which is equivalent to a 1.47 °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 1,896 feet of buried and 129 feet of exposed pipe from a single point on the line.
Remarks		

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28-Jun-11

Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41497306-T63
Construction Co.	Snelson	Job Number	41474005-T63
Testing Co.	Milbar Hydro-test Incorporated	Project No.	FY12-112
Test Section	PG&E T-63 Line 300A		
File Name	RCP 61362 - T-63, L-300A		

Date 24-Jun-11

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe Unrestrained	Pipe Restrained	Comment	Bleed	Inject
1	6/24/11	9:45 AM	645 psig	80 °F	83 °F	79 °F	Start Spike		
2	6/24/11	9:45 AM	655 psig	85 °F	83 °F	79 °F			743 oz.
3	6/24/11	9:45 AM	665 psig	85 °F	83 °F	79 °F			675 oz.
4	6/24/11	9:45 AM	675 psig	85 °F	83 °F	79 °F			675 oz.
5	6/24/11	9:45 AM	685 psig	85 °F	83 °F	79 °F			675 oz.
6	6/24/11	9:46 AM	695 psig	85 °F	83 °F	79 °F			743 oz.
7	6/24/11	9:47 AM	705 psig	85 °F	83 °F	79 °F			743 oz.
8	6/24/11	9:48 AM	715 psig	85 °F	83 °F	79 °F			675 oz.
9	6/24/11	9:49 AM	725 psig	85 °F	83 °F	79 °F			675 oz.
10	6/24/11	9:50 AM	735 psig	85 °F	83 °F	79 °F			743 oz.
11	6/24/11	9:51 AM	745 psig	85 °F	83 °F	79 °F			675 oz.
12	6/24/11	9:52 AM	755 psig	85 °F	83 °F	79 °F			743 oz.
13	6/24/11	9:53 AM	765 psig	85 °F	83 °F	79 °F			675 oz.
14	6/24/11	9:54 AM	775 psig	85 °F	83 °F	79 °F			675 oz.
15	6/24/11	9:55 AM	785 psig	85 °F	83 °F	79 °F			743 oz.
16	6/24/11	9:56 AM	795 psig	85 °F	83 °F	79 °F			743 oz.
17	6/24/11	9:57 AM	805 psig	85 °F	83 °F	79 °F			675 oz.
18	6/24/11	9:58 AM	815 psig	85 °F	83 °F	79 °F			743 oz.
19	6/24/11	9:59 AM	825 psig	85 °F	83 °F	79 °F			675 oz.
20	6/24/11	10:00 AM	835 psig	85 °F	83 °F	79 °F			743 oz.
21	6/24/11	10:01 AM	845 psig	85 °F	83 °F	79 °F			675 oz.
22	6/24/11	10:02 AM	855 psig	85 °F	83 °F	79 °F			743 oz.
23	6/24/11	10:03 AM	865 psig	85 °F	83 °F	79 °F			743 oz.
24	6/24/11	10:04 AM	875 psig	85 °F	83 °F	79 °F			675 oz.
25	6/24/11	10:05 AM	885 psig	85 °F	83 °F	79 °F			743 oz.
26	6/24/11	10:07 AM	895 psig	85 °F	83 °F	79 °F			743 oz.
27	6/24/11	10:09 AM	905 psig	85 °F	83 °F	79 °F			675 oz.
28	6/24/11	10:11 AM	915 psig	85 °F	84 °F	79 °F			743 oz.
29	6/24/11	10:13 AM	925 psig	85 °F	84 °F	79 °F			743 oz.
30	6/24/11	10:15 AM	935 psig	85 °F	84 °F	79 °F			675 oz.
31	6/24/11	10:25 AM	949 psig	85 °F	84 °F	79 °F	On Test		1,013 oz.
32	6/24/11	10:35 AM	949 psig	85 °F	85 °F	79 °F			
33	6/24/11	10:45 AM	949 psig	85 °F	85 °F	79 °F			
34	6/24/11	10:55 AM	949 psig	85 °F	85 °F	79 °F	End Spike		
35	6/24/11	10:56 AM	939 psig	85 °F	86 °F	79 °F	Bleed	864 oz.	
36	6/24/11	10:57 AM	929 psig	85 °F	86 °F	79 °F	Bleed	864 oz.	
37	6/24/11	10:58 AM	919 psig	85 °F	86 °F	79 °F	Bleed	864 oz.	
38	6/24/11	10:59 AM	909 psig	85 °F	86 °F	79 °F	Bleed	864 oz.	
39	6/24/11	11:00 AM	899 psig	85 °F	86 °F	79 °F	Bleed	864 oz.	
40	6/24/11	11:01 AM	889 psig	85 °F	86 °F	79 °F	Bleed	864 oz.	
41	6/24/11	11:02 AM	885 psig	85 °F	86 °F	79 °F	Bleed	346 oz.	
42	6/24/11	11:15 AM	885 psig	85 °F	86 °F	79 °F			
43	6/24/11	11:30 AM	886 psig	85 °F	87 °F	79 °F			

Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41497306-T63
Construction Co.	Snelson	Job Number	41474005-T63
Testing Co.	Milbar Hydro-test Incorporated	Project No.	FY12-112
Test Section	PG&E T-63 Line 300A		
File Name	RCP 61362 - T-63, L-300A		

Date 24-Jun-11

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe				
					Unrestrained	Restrained	Comment	Bleed	Inject
44	6/24/11	11:45 AM	886 psig	86 °F	87 °F	79 °F			
45	6/24/11	12:00 PM	887 psig	86 °F	88 °F	79 °F			
46	6/24/11	12:15 PM	888 psig	87 °F	88 °F	79 °F			
47	6/24/11	12:30 PM	889 psig	88 °F	89 °F	79 °F			
48	6/24/11	12:45 PM	890 psig	88 °F	89 °F	79 °F			
49	6/24/11	1:00 PM	891 psig	89 °F	90 °F	79 °F			
50	6/24/11	1:15 PM	892 psig	89 °F	90 °F	79 °F			
51	6/24/11	1:30 PM	894 psig	91 °F	90 °F	79 °F			
52	6/24/11	1:45 PM	894 psig	91 °F	90 °F	79 °F			
53	6/24/11	2:00 PM	895 psig	92 °F	90 °F	79 °F			
54	6/24/11	2:15 PM	896 psig	93 °F	91 °F	79 °F			
55	6/24/11	2:30 PM	897 psig	93 °F	91 °F	79 °F			
56	6/24/11	2:45 PM	898 psig	94 °F	91 °F	79 °F			
57	6/24/11	3:00 PM	899 psig	95 °F	91 °F	79 °F			
58	6/24/11	3:15 PM	899 psig	96 °F	91 °F	79 °F	Bleed	864 oz.	
59	6/24/11	3:30 PM	885 psig	98 °F	92 °F	79 °F			
60	6/24/11	3:45 PM	886 psig	98 °F	91 °F	79 °F			
61	6/24/11	4:00 PM	887 psig	98 °F	91 °F	78 °F			
62	6/24/11	4:15 PM	888 psig	98 °F	91 °F	78 °F			
63	6/24/11	4:30 PM	888 psig	99 °F	91 °F	78 °F			
64	6/24/11	4:45 PM	889 psig	99 °F	90 °F	78 °F			
65	6/24/11	5:00 PM	889 psig	97 °F	90 °F	78 °F			
66	6/24/11	5:15 PM	890 psig	99 °F	90 °F	78 °F			
67	6/24/11	5:30 PM	890 psig	99 °F	90 °F	78 °F			
68	6/24/11	5:45 PM	891 psig	98 °F	89 °F	78 °F			
69	6/24/11	6:00 PM	890 psig	97 °F	88 °F	78 °F			
70	6/24/11	6:15 PM	890 psig	97 °F	88 °F	78 °F			
71	6/24/11	6:30 PM	890 psig	97 °F	88 °F	78 °F			
72	6/24/11	6:45 PM	889 psig	96 °F	88 °F	78 °F			
73	6/24/11	7:00 PM	889 psig	96 °F	87 °F	78 °F	End of Test		

Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41497306-T63
Construction Co.	Snelson	Job Number	41474005-T63
Testing Co.	Milbar Hydro-test Incorporated	Project No.	FY12-112
Test Section	PG&E T-63 Line 300A		
File Name	RCP 61362 - T-63, L-300A		

Date: 24-Jun-11

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe				
					Unrestrained	Restrained	Comment	Bleed	Inject
							Spike Test		21,611.3 oz.
							Hydrostatic Test	6,392.1 oz.	1,013.0 oz.

Were leaks observed during the test period?	Exposed and buried pipe, no leaks observed.	High Test Pressure:	949 psig
		Low Test Pressure:	885 psig

Pipe Segment Volume Calculations

Company	Pacific Gas and Electric Company	Job Number	41497306-T63
Construction Co.	Snelson	Job Number	41474005-T63
Hydro. Test Co.	Milbar Hydro-test Incorporated	Project No.	FY12-112
Test Section	PG&E T-63 Line 300A		WATER
File Name	RCP 61362 - T-63, L-300A		

General Pipe Data

Description	Segment 1	2	3	4	5	6	7
Restrained or Unrestrained?	Unrestrained	Restrained	Unrestrained	Restrained	Restrained	Restrained	Unrestrained
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.
Wall Thickness	0.505 in.	0.438 in.	0.375 in.	0.375 in.	0.344 in.	0.313 in.	0.500 in.
Inside Diameter	32.990 in.	33.124 in.	33.250 in.	33.250 in.	33.312 in.	33.374 in.	33.000 in.
Spec /Grade	API5L-X60	API5L-X48	API5L-X60	API5L-X52	API5L-X52	API5L-X52	API5L-X60
Length Unrestrained	75 ft		14 ft				40 ft
Length Restrained		287 ft		7 ft	649 ft	953 ft	
Temperature -- On Test	84 °F	79 °F	84.0 °F	79.0 °F	79.0 °F	79.0 °F	84.0 °F
Temperature -- End of Test	87 °F	78 °F	87.0 °F	78.0 °F	78.0 °F	78.0 °F	87.0 °F
Pressure -- On Test	949 psig	949 psig	949 psig	949 psig	949 psig	949 psig	949 psig
Pressure -- End of Test	889 psig	889 psig	889 psig	889 psig	889 psig	889 psig	889 psig

Unrestrained Pipe

Sum:	Vo	5,725.73 gal / 732,894 oz.		Vtp1	5,742.88 gal / 735,089 oz.		Vtp2	5,738.22 gal / 734,493 oz.			
Vo Unrestrained	3,317 gal		631 gal				1,777 gal				
Fwp 1	1.002908		1.002908				1.002908				
Fpp 1	1.002563		1.003506				1.002610				
Fpt 1	1.000437		1.000437				1.000437				
Fwt 1	1.003044		1.003044				1.003044				
Fpwt 1 = Fpt/Fwt	0.997401		0.997401				0.997401				
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	3,328.56 gal		633.90 gal				1,782.42 gal				
Fwp 2	1.002723		1.002723				1.002723				
Fpp 2	1.002420		1.003284				1.002446				
Fpt 2	1.000491		1.000491				1.000491				
Fwt 2	1.003557		1.003557				1.003557				
Fpwt = Fpt/Fwt	0.996945		0.996945				0.996945				
Vtp = Vo(Fwp)(Fpp)(Fpwt)	3,323.89 gal		633.35 gal				1,780.98 gal				

Restrained Pipe

Sum:	Vo	85,855.15 gal / 10,980,459 oz.		Vtp1	86,180.49 gal / 11,021,103 oz.		Vtp2	86,159.32 gal / 11,028,393 oz.			
Vo Unrestrained		12,848 gal		316 gal	29,384 gal	43,308 gal					
Fwp 1		1.002908		1.002908	1.002908	1.002908					
Fpp 1		1.002245		1.002621	1.002856	1.003136					
Fpt 1		1.000230		1.000230	1.000230	1.000230					
Fwt 1		1.002255		1.002255	1.002255	1.002255					
Fpwt 1 = Fpt/Fwt		0.997979		0.997979	0.997979	0.997979					
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		12,888 gal		317 gal	29,493 gal	43,482 gal					
Fwp 2		1.002723		1.002723	1.002723	1.002723					
Fpp 2		1.002104		1.002456	1.002676	1.002940					
Fpt 2		1.000218		1.000218	1.000218	1.000218					
Fwt 2		1.002122		1.002122	1.002122	1.002122					
Fpwt = Fpt/Fwt		0.998100		0.998100	0.998100	0.998100					
Vtp = Vo(Fwp)(Fpp)(Fpwt)		12,885 gal		317 gal	29,486 gal	43,471 gal					

Combined Pipe

Sum:	Vo	91,560.69 gal / 11,722,352 oz.	Vtp1	91,923.37 gal / 11,766,191 oz.	Vtp2	91,897.54 gal / 11,762,885 oz.

Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	41497306 T63
Construction Co.	Shelson	Job Number	41474005-163
Hydro. Test Co.	Milbar Hydro-test Incorporated	Project No.	FY12-112
Test Section	PG&E T-63 Line 300A		WATER
File Name	RCP 61362 - T-63, L-300A		

General Pipe Data

Description	Segment 1	2	3	4	5	6	7
Restrained or Unrestrained?	Unrestrained	Restrained	Unrestrained	Restrained	Restrained	Restrained	Unrestrained
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.
Wall Thickness	0.505 in.	0.438 in.	0.375 in.	0.375 in.	0.344 in.	0.313 in.	0.500 in.
Inside Diameter	32.990 in.	33.124 in.	33.250 in.	33.250 in.	33.312 in.	33.374 in.	33.000 in.
Spec /Grade	API5L-X60	API5L-X46	API5L-X60	API5L-X52	API5L-X52	API5L-X52	API5L-X65
Length Unstrained	75 ft		14.00 ft				40 ft
Length Restrained		287 ft		7 ft	649 ft	953 ft	
Temperature -- On Test	85 °F	78 °F	85 °F	78 °F	78 °F	78 °F	85 °F
Temperature -- End of Test	86 °F	79 °F	88 °F	79 °F	79 °F	79 °F	86 °F
Pressure -- On Test	919 psig	919 psig	919 psig	919 psig	919 psig	919 psig	919 psig
Pressure -- End of Test	919 psig	919 psig	919 psig	919 psig	919 psig	919 psig	919 psig

Unrestrained Pipe

Sum:	Vo	5,725.73 gal / 732,694 oz.		Vtp1	5,741.12 gal / 734,663 oz.		Vtp2	5,740.19 gal / 734,744 oz.
Vo Unrestrained	3,317 gal		631 gal				1,777 gal	
Fwp 1	1.002815		1.002815				1.002815	
Fpp 1	1.002501		1.003395				1.002527	
Fpt 1	1.000455		1.000455				1.000455	
Fwt 1	1.003192		1.003192				1.003192	
Fpwt 1 = Fpt/Fwt	0.997272		0.997272				0.997272	
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	3,325.55 gal		633.69 gal				1,781.68 gal	
Fwp 2	1.002815		1.002815				1.002815	
Fpp 2	1.002501		1.003395				1.002527	
Fpt 2	1.000473		1.000473				1.000473	
Fwt 2	1.003373		1.003373				1.003373	
Fpwt = Fpt/Fwt	0.997110		0.997110				0.997110	
Vtp = Vo(Fwp)(Fpp)(Fpwt)	3,325.01 gal		633.59 gal				1,781.59 gal	

Restrained Pipe

Sum:	Vo	85,855.15 gal / 10,959,459 oz.		Vtp1	86,174.94 gal / 11,030,393 oz.		Vtp2	86,154.86 gal / 11,029,102 oz.
Vo Restrained		12,848 gal		316 gal	29,384 gal	43,308 gal		
Fwp 1		1.002815		1.002815	1.002815	1.002815		
Fpp 1		1.002173		1.002537	1.002764	1.003037		
Fpt 1		1.000218		1.000218	1.000218	1.000218		
Fwt 1		1.002122		1.002122	1.002122	1.002122		
Fpwt 1 = Fpt/Fwt		0.998100		0.998100	0.998100	0.998100		
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		12,887 gal		317 gal	29,492 gal	43,479 gal		
Fwp 2		1.002815		1.002815	1.002815	1.002815		
Fpp 2		1.002177		1.002540	1.002768	1.003041		
Fpt 2		1.000230		1.000230	1.000230	1.000230		
Fwt 2		1.002255		1.002255	1.002255	1.002255		
Fpwt = Fpt/Fwt		0.997979		0.997979	0.997979	0.997979		
Vtp = Vo(Fwp)(Fpp)(Fpwt)		12,885 gal		317 gal	29,488 gal	43,474 gal		

Combined Pipe

Sum:	Vo	91,580.88 gal / 11,722,352 oz.		Vtp1	91,916.07 gal / 11,765,256 oz.		Vtp2	91,895.05 gal / 11,763,846 oz.
1 °F Change	11.02 gal		1,410.00 oz.					

RCP

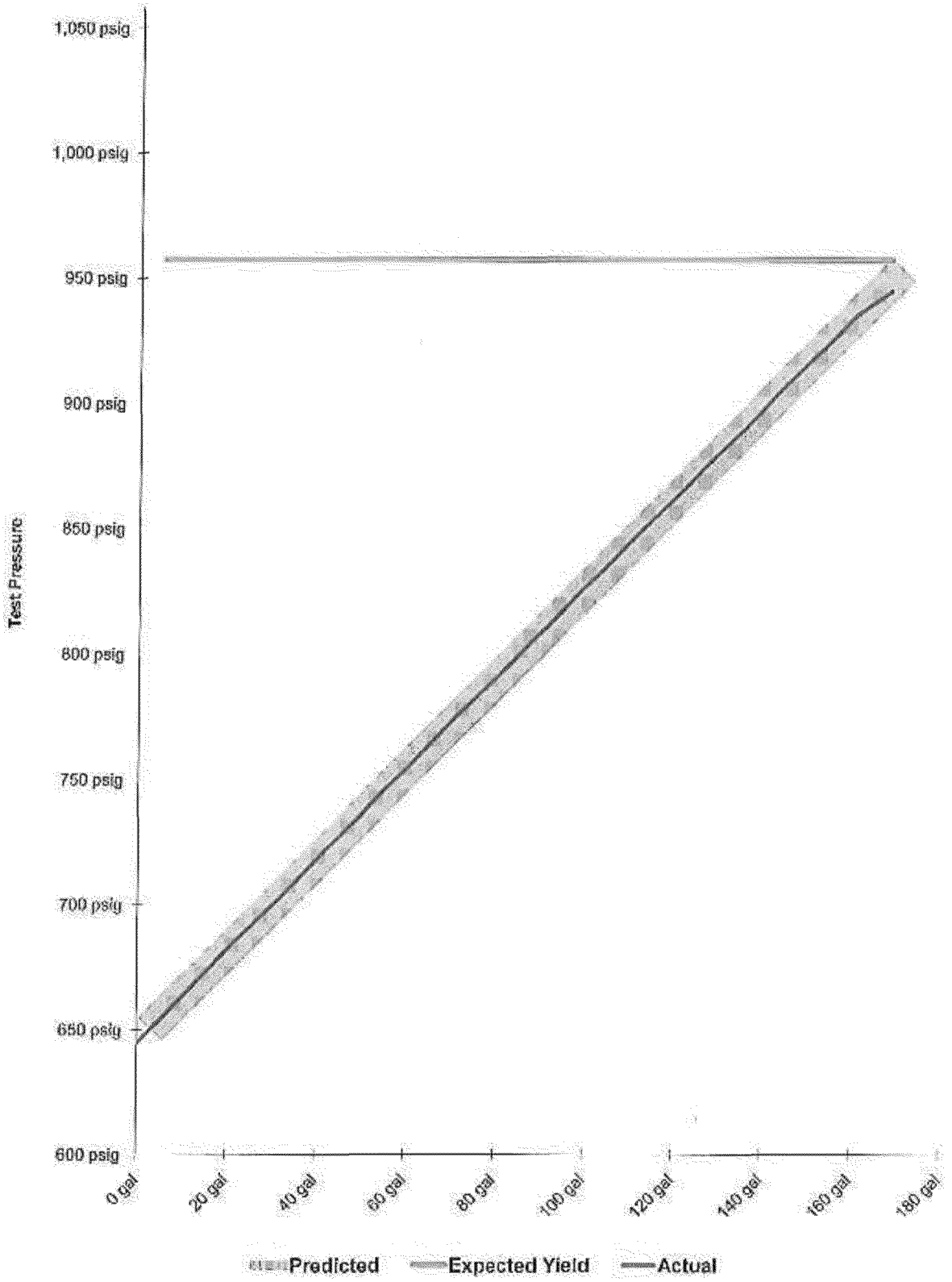
Hydrostatic Test Pipe Data Table

Pipe Type	Length	Restrained / Unrestrained	Outside Diameter	Wall Thickness	Specification & Grade	Pipe Yield Pressure	Material	Joint Type	Seam Type
1	75 ft	Unrestrained	34.000 in.	0.505 in.	API5L-X60	1,782 psig	Steel	Arc Weld	DSAW
2	287 ft	Restrained	34.000 in.	0.438 in.	API5L-X48	1,237 psig	Steel	Arc Weld	DSAW
3	14 ft	Unrestrained	34.000 in.	0.375 in.	API5L-X60	1,324 psig	Steel	Arc Weld	DSAW
4	7 ft	Restrained	34.000 in.	0.375 in.	API5L-X52	1,147 psig	Steel	Arc Weld	DSAW
5	649 ft	Restrained	34.000 in.	0.344 in.	API5L-X52	1,052 psig	Steel	Arc Weld	DSAW
6	953 ft	Restrained	34.000 in.	0.313 in.	API5L-X52	957 psig	Steel	Arc Weld	DSAW
7	40 ft	Unrestrained	34.000 in.	0.500 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	3600 Adobe Rd Petaluma, Ca 94954 Attention: Joel Mannie	41497306-T63
Construction Company	Snelson	Job Number
Address	601 West State Street Sedro-Woolley, WA 98284 Attention: Redacted	41474005-T63
Hydrostatic Test Co.	Milbar Hydro-test Incorporated	Project No.
Address	P.O. Box 7701 Shreveport, Louisiana 71137-7701	FY12-112
Test Section	PG&E T-63 Line 300A From: 18+49 To: 0+00	
File Name	RCP 61362 - T-63, L-300A	

Spike Pressure Test
Stress Strain Curve -- PG&E T-63 Line 300A



RCP

Actual Pressure Volume Plot Data			Predicted Pressure Volume Plot Data	Slope	
Pressure	Strokes	Gallons	Gallons	Actual	Predicted
645 psig	0	0.00 gal		0	0.00 gal
655 psig	11	5.80 gal	5.55 gal	0.580	0.555
665 psig	21	11.08 gal	11.10 gal	0.528	0.555
675 psig	31	16.36 gal	16.65 gal	0.528	0.555
685 psig	41	21.63 gal	22.20 gal	0.528	0.555
695 psig	52	27.44 gal	27.75 gal	0.580	0.555
705 psig	63	33.24 gal	33.30 gal	0.580	0.555
715 psig	73	38.52 gal	38.85 gal	0.528	0.555
725 psig	83	43.79 gal	44.40 gal	0.528	0.555
735 psig	94	49.60 gal	49.95 gal	0.580	0.555
745 psig	104	54.87 gal	55.50 gal	0.528	0.555
755 psig	115	60.68 gal	61.06 gal	0.580	0.555
765 psig	125	65.95 gal	66.61 gal	0.528	0.555
775 psig	135	71.23 gal	72.16 gal	0.528	0.555
785 psig	146	77.03 gal	77.72 gal	0.580	0.555
795 psig	157	82.84 gal	83.27 gal	0.580	0.555
805 psig	167	88.11 gal	88.82 gal	0.528	0.555
815 psig	178	93.92 gal	94.38 gal	0.580	0.555
825 psig	188	99.19 gal	99.93 gal	0.528	0.555
835 psig	199	105.00 gal	105.49 gal	0.580	0.556
845 psig	209	110.27 gal	111.04 gal	0.528	0.556
855 psig	220	116.08 gal	116.60 gal	0.580	0.556
865 psig	231	121.88 gal	122.15 gal	0.580	0.556
875 psig	241	127.16 gal	127.71 gal	0.528	0.556
885 psig	252	132.96 gal	133.27 gal	0.580	0.556
895 psig	263	138.76 gal	138.82 gal	0.580	0.556
905 psig	273	144.04 gal	144.38 gal	0.528	0.556
915 psig	284	149.84 gal	149.94 gal	0.580	0.556
925 psig	295	155.65 gal	155.50 gal	0.580	0.556
935 psig	305	160.92 gal	161.06 gal	0.528	0.556
945 psig	320	168.84 gal	166.61 gal	0.791	0.556
949 psig		168.84 gal	168.84 gal	0.000	0.556
949 psig		168.84 gal	168.84 gal	0.000	0.000
949 psig		168.84 gal	168.84 gal	0.000	0.000
949 psig		168.84 gal	168.84 gal	0.000	0.000
949 psig		168.84 gal	168.84 gal	0.000	0.000
949 psig		168.84 gal	168.84 gal	0.000	0.000
949 psig		168.84 gal	168.84 gal	0.000	0.000
949 psig		168.84 gal	168.84 gal	0.000	0.000
949 psig		168.84 gal	168.84 gal	0.000	0.000
949 psig		168.84 gal	168.84 gal	0.000	0.000
949 psig		168.84 gal	168.84 gal	0.000	0.000
949 psig		168.84 gal	168.84 gal	0.000	0.000
949 psig		168.84 gal	168.84 gal	0.000	0.000

Spike Pressure Test
Stress Strain Curve -- PG&E T-63 Line 300A

Pump gal per stroke	0.080 gal/stroke
Pump Piston Diameter	3.000 in
Pump Piston Stroke	6.00 in
Pump Cylinders	3 ea
Volume check gal per stroke	0.528 gal/stroke
Volume Released (gallons)	43.19 gal
Pressure Reduced (psi)	64 psi
Maximum2	180 gal
Minimum2	0 gal
Maximum1	1,058 psig
Minimum1	600 psig
Gallons/Stroke Used	0.528 gal/stroke
Predicted Gallons/Stroke	0.528 gal/stroke
Pressure Increment	10 psi
Max Pressure	949 psig
Buried Pipe Temperature	79 °F
Exposed Pipe Temperature	83 °F

ASME B31.8 Appendix N-5

Average Actual Elastic Slope	0.556
Average Predicted Elastic Slope	0.555
Code Prescribed Minimum Yield Slope (less 10%) B31.8 N-5 (c)(2)	1.056
Established Minimum Yield Pressure B31.8 N-5 (c)(2)	945 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

6-28-11

Redacted RCP Inc. Date

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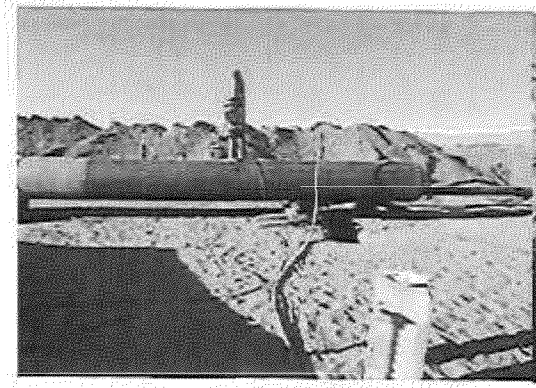
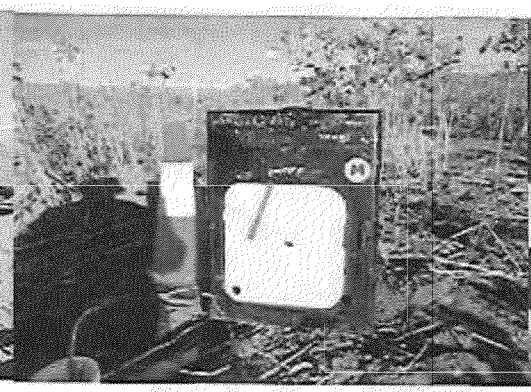
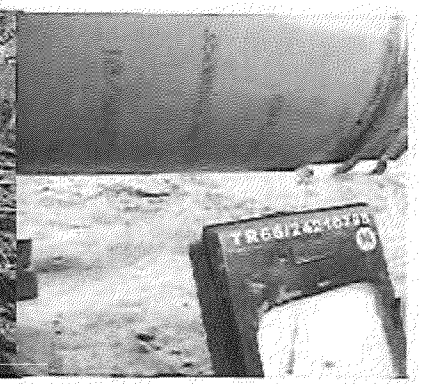
RCP



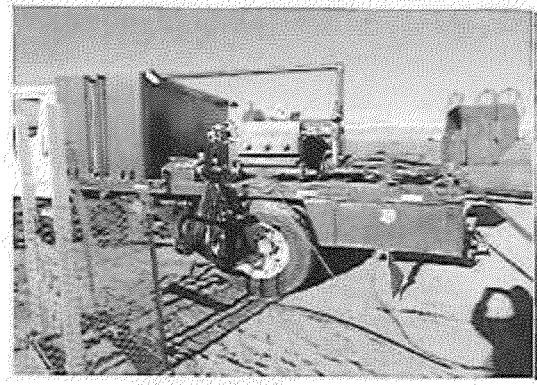
Test Header Location A



Restrained Temp. Chart

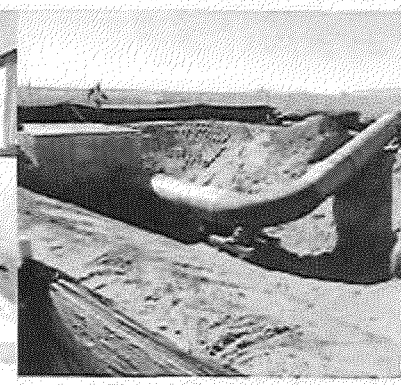


Unrestrained Temp. Cl

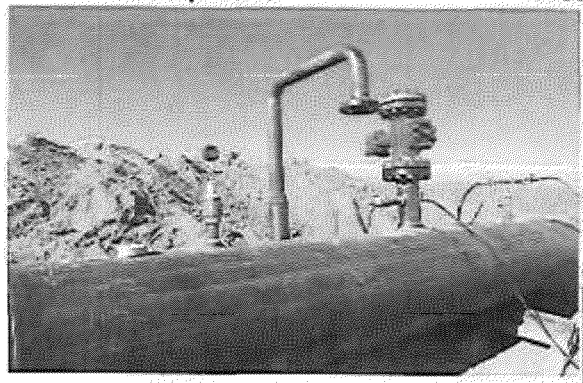


Pump Truck

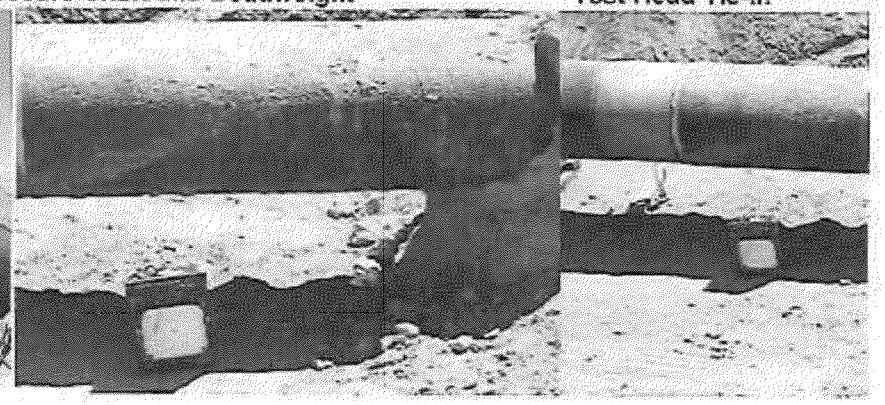
Pressure Chart and Deadweight



Test Head Tie-in



Test Head Valve



Test End

Test End

RCP

Hydrostatic Test Log Sheet

Owner Company	PACIFIC GAS & ELECTRIC	Job Number	414973 06 - 763
Construction Co.	SHELSON	Job Number	4147 4005 - 763
Testing Co.	MILBAR	Job Number	FY 12-112

Test Section

	Name	Station (0+00)	Elevation (Feet)
Test Location		18+49	522
Begin		18+49	522
End		0+00	524
High Elevation		7+60	544
Low Elevation		16+20	520

Pipe Data

Section	Length (ft.)	O. D. (in.)	W.T. (in.)	Restrained (ft.)	Unrestrained (ft.)	Grade	Seam/Joint Type
1	78	34	0.505		78	X60	DSAW / ARC WELD
2	12	34	0.500	12		X46	DSAW / ARC WELD
3	287	34	0.438	285		X48	DSAW / ARC WELD
4	14	34	0.375		14	X60	DSAW / ARC WELD
5	7	34	0.375	7		X52	DSAW / ARC WELD
6	679	34	0.344	679		X52	DSAW / ARC WELD
7	953	34	0.3125	953		X52	DSAW / ARC WELD
8	40	34	0.500		40	X65	DSAW / ARC WELD
9							
10							
11							

Test Period

	Date	Time
Begin	6-24-11	10:25 AM
End	6-24-11	7:00 P.M

Test Medium

- [x] Water
- [ ] Nitrogen
- [ ] Other

Test Instrumentation

Description	Calibration Checked	Serial Number	Date Calibrated/Certified	Installation Correct
Dead Weight Pressure Tester		7850	6-17-11	[x] Yes
Pressure Recorder	[x] Yes	624086	6-17-11	[x] Yes
Ambient Temperature Recorder	[x] Yes	62A081	6-17-11	[x] Yes
Restrained Pipe Temperature Recorder	[x] Yes	202E-21834	6-17-11	[x] Yes
Unrestrained Pipe Temperature Recorder	[x] Yes	2A2E47478	6-17-11	[x] Yes

Hydrostatic Test Log

Log No.	Time	Test Pressure (psig)	Temperature (°F) Ambient	Temperature (°F) Pipe Restrained	Temperature (°F) Pipe Unrestrained	Volume (☐ Ounces ☐ Gallons) Bleed	Volume (☐ Ounces ☐ Gallons) Inject	Comments	Model Check: Is test good?
1	7:15	105							
2	8:03	105							☐ Yes ☐ No
3	8:40	1045	80					593 STROKES	☐ Yes ☐ No
4	8:55	1045	81						☐ Yes ☐ No
5	9:10	1045							☐ Yes ☐ No
6	9:25	1045							☐ Yes ☐ No
7	9:40	1045	82						☐ Yes ☐ No
8	9:48	1045							☐ Yes ☐ No
9	10:25	949	83	79	84			SPIKE	☐ Yes ☐ No
10	10:35	949	83	79	85				☐ Yes ☐ No
11	10:45	949	83	79	85				☐ Yes ☐ No

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Hydrostatic Test Log

Log No.	Time	Test Pressure (psig)	Temperature (°F)			Volume ☐ Ounces ☐ Gallons		Comments	Model Check: Is test good?
			Ambient	Pipe					
				Restrained	Unrestrained	Bleed	Inject		
12	10:55	949	83	79	86				☐ Yes ☐ No
13	11:00	949	83	79	86			END SPIKE	☐ Yes ☐ No
14	11:13	885	85	79	86			LEAK CHECK	☐ Yes ☐ No
15	11:30	886	85	79	87				☐ Yes ☐ No
16	11:45	886	86	79	87				☐ Yes ☐ No
17	12:00	887	86	79	86				☐ Yes ☐ No
18	12:15	888	87	79	88				☐ Yes ☐ No
19	12:30	889	88	79	89				☐ Yes ☐ No
20	12:45	890	88	79	89				☐ Yes ☐ No
21	1:00	891	89	79	90				☐ Yes ☐ No
22	1:15	892	89	79	90				☐ Yes ☐ No
23	1:30	893	90	79	90				☐ Yes ☐ No
24	1:45	894	91	79	90				☐ Yes ☐ No
25	2:00	895	92	79	90				☐ Yes ☐ No
26	2:15	896	93	79	91				☐ Yes ☐ No
27	2:30	897	93	79	91				☐ Yes ☐ No
28	2:45	898	94	79	91				☐ Yes ☐ No
29	3:00	899	95	79	91				☐ Yes ☐ No
30	3:15	900	96	79	91			BLEED	☐ Yes ☐ No
31	3:27	885	98	79	92	9.5 GAL		STOP BLEED	☐ Yes ☐ No
32	3:30	885	98	79	92				☐ Yes ☐ No
33	3:45	886	98	79	91				☐ Yes ☐ No
34	4:00	887	98	78	91				☐ Yes ☐ No
35	4:15	888	98	78	91				☐ Yes ☐ No
36	4:30	888	99	78	91				☐ Yes ☐ No
37	4:45	889	99	78	90				☐ Yes ☐ No
38	5:00	889	100	78	90				☐ Yes ☐ No
39	5:15	890	99	78	90				☐ Yes ☐ No
40	5:30	890	99	78	90				☐ Yes ☐ No
41	5:45	891	98	78	89				☐ Yes ☐ No
42	6:00	890	97	78	88				☐ Yes ☐ No
43	6:15	890	97	78	88				☐ Yes ☐ No
44	6:30	890	97	78	88				☐ Yes ☐ No
45	6:45	889	96	78	88				☐ Yes ☐ No
46	7:00	889	96	78	87			OFF Test End	☐ Yes ☐ No
47									☐ Yes ☐ No
48									☐ Yes ☐ No

Was a leak observed during test Period? ☐ Yes ☐ No

If "Yes", Explain:

High Test Pressure: 949

Low Test Pressure: 885

Certification:

Date: 6-24-2011

Test Supervisor: Redacted
Signature

Company Representative: Redacted
Signature Redacted

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