



RCP, Inc

Redacted

September 23, 2011

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

Test Contractor: Contra Costa Inspection Co. -- T-16 9/20/2011  
Asset Owner: Pacific Gas and Electric Company -- 41497370-T16  
Construction Contractor: ARB -- 0629-53-3500  
Test Section: PG&E T-16 L-105N, MP 28.13 - 28.64  
Test Date: September 23, 2011  
Certificate Number: RCP 61362 - T-16, L-105N, MP 28.13 - 28.64

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 Contra Costa Inspection Co. 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 372 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 8.08 hour test duration period.

This hydrostatic test was completed successfully. Pressure was maintained on the test facilities in excess of 8.08 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 339 psig and the established MAOP is 226 psig.

Pressure decreased 2 psi during the test. No fluid was intentionally injected or released from the test section. Net corrected volumetric change from beginning of the test to the end of the test is calculated to be 1,623.66 ounces, loss, which is equivalent to a 1.12 °F change in pipe temperature and larger than the anticipated error attributed to the temperature measurement instrumentation utilized.

Test pressure remained steady and no leaks were observed. The volumetric loss is attributed to the inherent error associated with physically attempting to measure the average temperature of 2,744 feet of buried and 30 feet of exposed pipe from a single point on the line. It is improbable that pipe temperature would track exactly with a physical leak,

Sincerely,

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### Hydrostatic Test Certification

Company	Pacific Gas and Electric Company	Job Number	41497370-T16
Construction Co.	ARB	Job Number	0629-53-3500
Hydro. Test Co.	Contra Costa Inspection Co.	Project No.	T-16 9/20/2011
Test Section	PG&E T-16 L-105N, MP 28.13 - 28.64		
File Name	RCP 61362 - T-16, L-105N, MP 28.13 - 28.64		

#### Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION: Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 3) Test Date: 23-Sep-11

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-16 L-105N, MP 28.13 - 28.64  
 From: 0+00 To: 26+76

#### Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	6 ft	34.000 in.	0.375 in.	API5L-X65, DSAW, Arc Weld, Steel	1,434 psi
2	2,692 ft	34.000 in.	0.344 in.	API5L-X52, DSAW, Arc Weld, Steel	1,052 psi
3	30 ft	2.375 in.	0.154 in.	API5L-Grade B, SM, Arc Weld, Steel	4,539 psi
4	22 ft	1.315 in.	0.113 in.	API5L-Grade B, SM, Arc Weld, Steel	6,015 psi
5	22 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi
6	2 ft	34.000 in.	0.500 in.	API5L-X60, DSAW, Arc Weld, Steel	1,765 psi

#### Initial Test Conditions

Pressure at Test Point:	341 psig	Date/Time:	9/23/11 12:10 PM	Pipe Temperature	
Ambient Temperature:	82.0 °F	Elevation @ Test Point:	26.0 ft	Unrestrained:	66.0 °F
Pressure @ High Point (Cal/Measure):	341 psig	Elevation @ High Point:	26.0 ft	Restrained:	63.0 °F
Pressure @ Low Point (Cal/Measure):	345 psig	Elevation @ Low Point:	17.0 ft	Location:	0+00
				Location:	0+00
				Location:	23+14

#### Final Test Conditions

Pressure at Test Point:	339 psig	Date/Time:	9/23/11 8:15 PM	Pipe Temperature	
Ambient Temperature:	66.0 °F	Elevation @ Test Point:	26.0 ft	Unrestrained:	66.0 °F
Pressure @ High Point (Cal/Measure):	339 psig	Elevation @ High Point:	26.0 ft	Restrained:	64.0 °F
Pressure @ Low Point (Cal/Measure):	343 psig	Elevation @ Low Point:	17.0 ft	Location:	0+00
				Location:	0+00
				Location:	23+14

Total Fluid Injected:		Volume loss	
Total Fluid Withdrawn:			
Net Change in Volume of the Test Section ± (+ Gain, - Loss):	(1,623.66) oz	loss	(0.0103)% (1,119) °F equivalent

Test Duration: 8.08 hours

Minimum Test Pressure:	339 psig	Max Elevation	339 psig	Min Elevation	343 psig
Maximum Test Pressure:	341 psig		341 psig		345 psig
% SMYS:			17.8%		32.8%
Test Segment Observed % SMYS:	Minimum	5.7%	Maximum	32.8%	

Minimum Test Pressure (Calculated/Measured): 339 psig

Maximum Allowable Operating Pressure: DOT Part 192 Test Factor= 1.50 226 psig

Were leaks observed? **No**

Acceptable Hydrostatic Test? **Yes**

The test segment was subjected to a spike pressure test of 372 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 8.08 hour test duration period.

No leaks were observed during the test period. The test section included 2,744 feet of buried and 30 feet of exposed pipe. Pressure lost 2 psi during the test. The buried pipe segment gained 1°F fluid temperature and the exposed pipe segment fluid temperature remained steady.

No fluid was intentionally injected or released from the test section. Net corrected volumetric change from beginning of the test to the end of the test is calculated to be 1,623.66 ounces, loss, which is equivalent to a 1.12 °F change in pipe temperature and larger than the anticipated error attributed to the temperature measurement instrumentation utilized.

Test pressure remained steady and no leaks were observed. The volumetric loss is attributed to the inherent error associated with physically attempting to measure the average temperature of 2,744 feet of buried and 30 feet of exposed pipe from a single point on the line. It is improbable that pipe temperature would track exactly with a physical leak, resulting in a steady pressure profile; therefore, the observed steady pressure suggests that pipe temperature remained steady as well.

Remarks: Test start time was adjusted to 12:10 p.m. due to restrained pipe temperature change. Conclusion is that the water in the test segment had not stabilized completely. Test end was extended till 8:10 p.m. to ensure 8 continuous hours for successful test.

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23-Sep-11



# Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41497370-T16
Construction Co.	ARB	Job Number	0629-53-3500
Testing Co.	Contra Costa Inspection Co.	Project No.	T-16 9/20/2011
Test Section	PG&E T-16 L-105N, MP 28.13 - 28.64		
File Name	RCP 61362 - T-16, L-105N, MP 28.13 - 28.64		

Date 23-Sep-11

## Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
					Unrestrained	Restrained			
1	9/23/11	10:00 AM	253 psig	75 °F	65 °F	62 °F	Start Spike		
2	9/23/11	10:01 AM	263 psig	75 °F	65 °F	62 °F	Inject		1,618 oz.
3	9/23/11	10:02 AM	273 psig	75 °F	65 °F	62 °F	Inject		957 oz.
4	9/23/11	10:03 AM	283 psig	75 °F	65 °F	62 °F	Inject		971 oz.
5	9/23/11	10:04 AM	293 psig	75 °F	65 °F	62 °F	Inject		943 oz.
6	9/23/11	10:05 AM	303 psig	75 °F	65 °F	62 °F	Inject		971 oz.
7	9/23/11	10:06 AM	313 psig	75 °F	65 °F	62 °F	Inject		943 oz.
8	9/23/11	10:07 AM	323 psig	75 °F	65 °F	62 °F	Inject		886 oz.
9	9/23/11	10:08 AM	333 psig	75 °F	65 °F	62 °F	Inject		858 oz.
10	9/23/11	10:09 AM	343 psig	75 °F	65 °F	62 °F	Inject		858 oz.
11	9/23/11	10:10 AM	353 psig	75 °F	65 °F	62 °F	Inject		788 oz.
12	9/23/11	10:11 AM	363 psig	75 °F	65 °F	62 °F	Inject		900 oz.
13	9/23/11	10:12 AM	371 psig	75 °F	65 °F	62 °F	Inject		732 oz.
14	9/23/11	10:15 AM	372 psig	75 °F	65 °F	62 °F			
15	9/23/11	10:25 AM	371 psig	76 °F	65 °F	62 °F			
16	9/23/11	10:35 AM	371 psig	77 °F	66 °F	62 °F			
17	9/23/11	10:45 AM	372 psig	75 °F	66 °F	62 °F	End Spike		
18	9/23/11	10:48 AM	362 psig	75 °F	66 °F	62 °F	Bleed	960 oz.	
19	9/23/11	10:50 AM	352 psig	75 °F	66 °F	62 °F	Bleed	960 oz.	
20	9/23/11	10:52 AM	342 psig	75 °F	66 °F	62 °F	Bleed	960 oz.	
21	9/23/11	10:55 AM	340 psig	79 °F	66 °F	62 °F	Bleed	192 oz.	
22	9/23/11	11:10 AM	341 psig	75 °F	66 °F	62 °F			
23	9/23/11	11:25 AM	341 psig	77 °F	66 °F	62 °F			
24	9/23/11	11:40 AM	341 psig	77 °F	66 °F	62 °F			
25	9/23/11	11:55 AM	341 psig	82 °F	66 °F	63 °F			
26	9/23/11	12:10 PM	341 psig	82 °F	66 °F	63 °F	On Test		
27	9/23/11	12:25 PM	341 psig	85 °F	66 °F	63 °F			
28	9/23/11	12:40 PM	341 psig	87 °F	66 °F	63 °F			
29	9/23/11	12:55 PM	340 psig	85 °F	66 °F	63 °F			
30	9/23/11	1:10 PM	340 psig	83 °F	66 °F	63 °F			
31	9/23/11	1:25 PM	340 psig	83 °F	66 °F	63 °F			
32	9/23/11	1:40 PM	340 psig	83 °F	66 °F	63 °F			
33	9/23/11	1:55 PM	340 psig	83 °F	66 °F	63 °F			
34	9/23/11	2:10 PM	340 psig	84 °F	66 °F	63 °F			
35	9/23/11	2:25 PM	340 psig	87 °F	66 °F	63 °F			
36	9/23/11	2:40 PM	340 psig	86 °F	66 °F	63 °F			
37	9/23/11	2:55 PM	340 psig	86 °F	66 °F	63 °F			
38	9/23/11	3:10 PM	340 psig	85 °F	66 °F	65 °F			
39	9/23/11	3:25 PM	340 psig	85 °F	66 °F	65 °F			
40	9/23/11	3:40 PM	340 psig	86 °F	66 °F	65 °F			
41	9/23/11	3:55 PM	340 psig	86 °F	66 °F	65 °F			
42	9/23/11	4:10 PM	339 psig	84 °F	66 °F	64 °F			
43	9/23/11	4:25 PM	339 psig	83 °F	66 °F	64 °F			





## Pipe Segment Volume Calculations

Company	Pacific Gas and Electric Company	Job Number	41497370-T16
Construction Co.	ARB	Job Number	0629-53-3500
Hydro. Test Co.	Contra Costa Inspection Co.	Project No.	T-16 9/20/2011
Test Section	PG&E T-16 L-105N, MP 28.13 - 28.64	<b>WATER</b>	
File Name	RCP 61362 - T-16, L-105N, MP 28.13 - 28.64		

### General Pipe Data

Description	Segment									
	1	2	3	4	5	6				
Restrained or Unrestrained?	Unrestrained	Restrained	Restrained	Restrained	Unrestrained	Unrestrained				
Outside Diameter	34.000 in.	34.000 in.	2.375 in.	1.315 in.	34.000 in.	34.000 in.				
Wall Thickness	0.375 in.	0.344 in.	0.154 in.	0.113 in.	0.500 in.	0.500 in.				
Inside Diameter	33.250 in.	33.312 in.	2.067 in.	1.089 in.	33.000 in.	33.000 in.				
Spec./Grade	API5L-X65	API5L-X52	API5L-Grade B	API5L-Grade B	API5L-X65	API5L-X60				
Length Unrestrained	6 ft				22 ft	2 ft				
Length Restrained		2,692 ft	30 ft	22 ft						
Temperature -- On Test	66 °F	63 °F	63.0 °F	63.0 °F	66.0 °F	66.0 °F				
Temperature -- End of Test	66 °F	64 °F	64.0 °F	64.0 °F	66.0 °F	66.0 °F				
Pressure -- On Test	341 psig	341 psig	341 psig	341 psig	341 psig	341 psig				
Pressure -- End of Test	339 psig	339 psig	339 psig	339 psig	339 psig	339 psig				

### Unrestrained Pipe

Sum:	Vo	1,336.99 gal 171,134 oz.	Vtp1	1,339.09 gal 171,404 oz.	Vtp2	1,339.07 gal 171,402 oz.
Vo Unrestrained	271 gal			977 gal 89 gal		
Fwp 1	1.001043			1.001043	1.001043	
Fpp 1	1.001260			1.000938	1.000938	
Fpt 1	1.000109			1.000109	1.000109	
Fwt 1	1.000582			1.000582	1.000582	
Fpwt 1 = Fpt/Fwt	0.999527			0.999527	0.999527	
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	271.14 gal			978.96 gal 89.00 gal		
Fwp 2	1.001037			1.001037	1.001037	
Fpp 2	1.001252			1.000932	1.000932	
Fpt 2	1.000109			1.000109	1.000109	
Fwt 2	1.000582			1.000582	1.000582	
Fpwt = Fpt/Fwt	0.999527			0.999527	0.999527	
Vtp = Vo(Fwp)(Fpp)(Fpwt)	271.13 gal			978.95 gal 89.00 gal		

### Restrained Pipe

Sum:	Vo	121,887.18 gal 15,601,560 oz.	Vtp1	122,109.64 gal 15,630,034 oz.	Vtp2	122,096.97 gal 15,628,412 oz.
Vo Unrestrained		121,881 gal 5 gal	1 gal			
Fwp 1		1.001043	1.001043	1.001043		
Fpp 1		1.001012	1.000150	1.000110		
Fpt 1		1.000036	1.000036	1.000036		
Fwt 1		1.000267	1.000267	1.000267		
Fpwt 1 = Fpt/Fwt		0.999769	0.999769	0.999769		
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		122,103 gal 5 gal	1 gal			
Fwp 2		1.001037	1.001037	1.001037		
Fpp 2		1.001010	1.000152	1.000113		
Fpt 2		1.000048	1.000048	1.000048		
Fwt 2		1.000375	1.000375	1.000375		
Fpwt = Fpt/Fwt		0.999674	0.999674	0.999674		
Vtp = Vo(Fwp)(Fpp)(Fpwt)		122,091 gal 5 gal	1 gal			

### Combined Pipe

Sum:	Vo	123,224.17 gal 15,772,694 oz.	Vtp1	123,448.73 gal 15,801,437 oz.	Vtp2	123,436.04 gal 15,799,814 oz.
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## Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	41497370-T16
Construction Co.	ARB	Job Number	0629-53-3500
Hydro. Test Co.	Contra Costa Inspection Co.	Project No.	T-16 9/20/2011
Test Section	PG&E T-16 L-105N, MP 28.13 - 28.64	<b>WATER</b>	
File Name	RCP 61362 - T-16, L-105N, MP 28.13 - 28.64		

### General Pipe Data

Description	Segment					
	1	2	3	4	5	6
Restrained or Unrestrained?	Unrestrained	Restrained	Restrained	Restrained	Unrestrained	Unrestrained
Outside Diameter	34.000 in.	34.000 in.	2.375 in.	1.315 in.	34.000 in.	34.000 in.
Wall Thickness	0.375 in.	0.344 in.	0.154 in.	0.113 in.	0.500 in.	0.500 in.
Inside Diameter	33.250 in.	33.312 in.	2.067 in.	1.089 in.	33.000 in.	33.000 in.
Spec./Grade	API5L-X65	API5L-X52	API5L-Grade B	API5L-Grade B	API5L-X65	API5L-X60
Length Unstrained	6.00 ft				22 ft	2 ft
Length Restrained		2,692 ft	30 ft	22 ft		
Temperature -- On Test	65 °F	63 °F	63 °F	63 °F	65 °F	65 °F
Temperature -- End of Test	66 °F	64 °F	64 °F	64 °F	66 °F	66 °F
Pressure -- On Test	340 psig	340 psig	340 psig	340 psig	340 psig	340 psig
Pressure -- End of Test	340 psig	340 psig	340 psig	340 psig	340 psig	340 psig

### Unrestrained Pipe

Sum:	Vo	1,336.99 gal 171,134 oz.		Vtp1	1,339.21 gal 171,419 oz.		Vtp2	1,339.08 gal 171,403 oz.	
Vo Unrestrained	271 gal				977 gal	89 gal			
Fwp 1	1.001040				1.001040	1.001040			
Fpp 1	1.001256				1.000935	1.000935			
Fpt 1	1.000091				1.000091	1.000091			
Fwt 1	1.000467				1.000467	1.000467			
Fpwt 1 = Fp/Fwt	0.999624				0.999624	0.999624			
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	271.16 gal				979.05 gal	89.00 gal			
Fwp 2	1.001040				1.001040	1.001040			
Fpp 2	1.001256				1.000935	1.000935			
Fpt 2	1.000109				1.000109	1.000109			
Fwt 2	1.000582				1.000582	1.000582			
Fpwt = Fp/Fwt	0.999527				0.999527	0.999527			
Vtp = Vo(Fwp)(Fpp)(Fpwt)	271.13 gal				978.95 gal	89.00 gal			

### Restrained Pipe

Sum:	Vo	121,887.18 gal 15,601,560 oz.		Vtp1	122,108.91 gal 15,629,940 oz.		Vtp2	122,097.70 gal 15,628,506 oz.	
Vo Restrained		121,881 gal	5 gal	1 gal					
Fwp 1		1.001040	1.001040	1.001040					
Fpp 1		1.001010	1.000149	1.000110					
Fpt 1		1.000036	1.000036	1.000036					
Fwt 1		1.000267	1.000267	1.000267					
Fpwt 1 = Fp/Fwt		0.999769	0.999769	0.999769					
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		122,103 gal	5 gal	1 gal					
Fwp 2		1.001040	1.001040	1.001040					
Fpp 2		1.001013	1.000153	1.000114					
Fpt 2		1.000048	1.000048	1.000048					
Fwt 2		1.000375	1.000375	1.000375					
Fpwt = Fp/Fwt		0.999674	0.999674	0.999674					
Vtp = Vo(Fwp)(Fpp)(Fpwt)		122,091 gal	5 gal	1 gal					

### Combined Pipe

Sum:	Vo	123,224.17 gal 15,772,694 oz.		Vtp1	123,448.12 gal 15,801,359 oz.		Vtp2	123,436.78 gal 15,799,908 oz.	
1 °F Change	11.33 gal		1,450.85 oz.						



## Hydrostatic Test Pipe Data Table

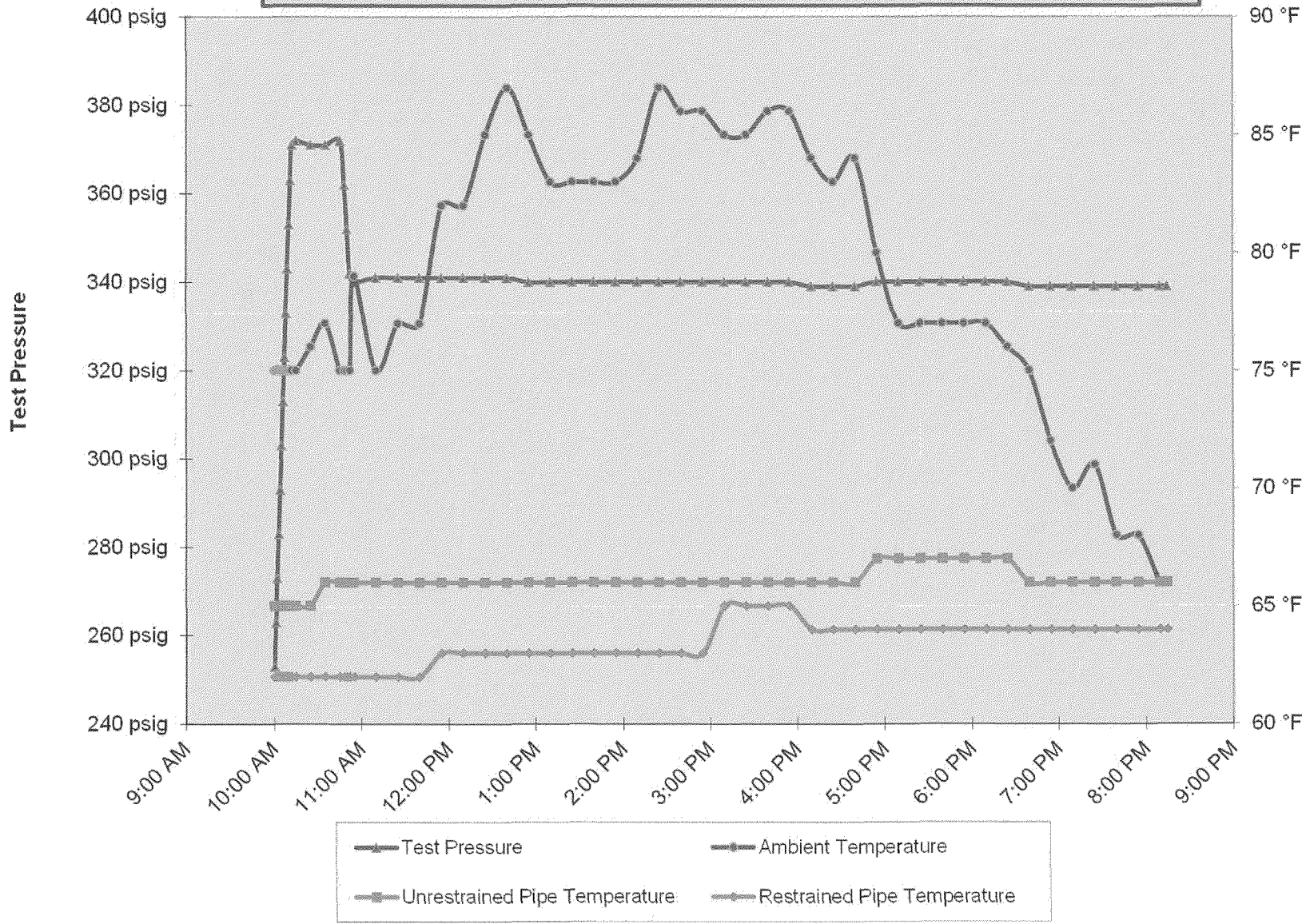
Pipe Type	Length	Restrained / Unrestrained	Outside Diameter	Wall Thickness	Specification & Grade	Pipe Yield Pressure	Material	Joint Type	Seam Type
1	6 ft	Unrestrained	34.000 in.	0.3750 in.	API5L-X65	1,434 psig	Steel	Arc Weld	DSAW
2	2,692 ft	Restrained	34.000 in.	0.3440 in.	API5L-X52	1,052 psig	Steel	Arc Weld	DSAW
3	30 ft	Restrained	2.375 in.	0.1540 in.	API5L-Grade B	4,539 psig	Steel	Arc Weld	SM
4	22 ft	Restrained	1.315 in.	0.1130 in.	API5L-Grade B	6,015 psig	Steel	Arc Weld	SM
5	22 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSAW
6	2 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X60	1,765 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		41497370-T16
Construction Company	ARB	Job Number	
Address	1875 Loveridge Road Antioch, CA 94565 Attention: Redacted		0629-53-3500
Hydrostatic Test Co.	Contra Costa Inspection Co.	Project No.	
Address	2820 LaJolla Drive Antioch, CA 94565 Attention: Redacted		T-16 9/20/2011
Test Section	PG&E T-16 L-105N, MP 28.13 - 28.64 From: 0+00 To: 26+76		
File Name	RCP 61362 - T-16, L-105N, MP 28.13 - 28.64		

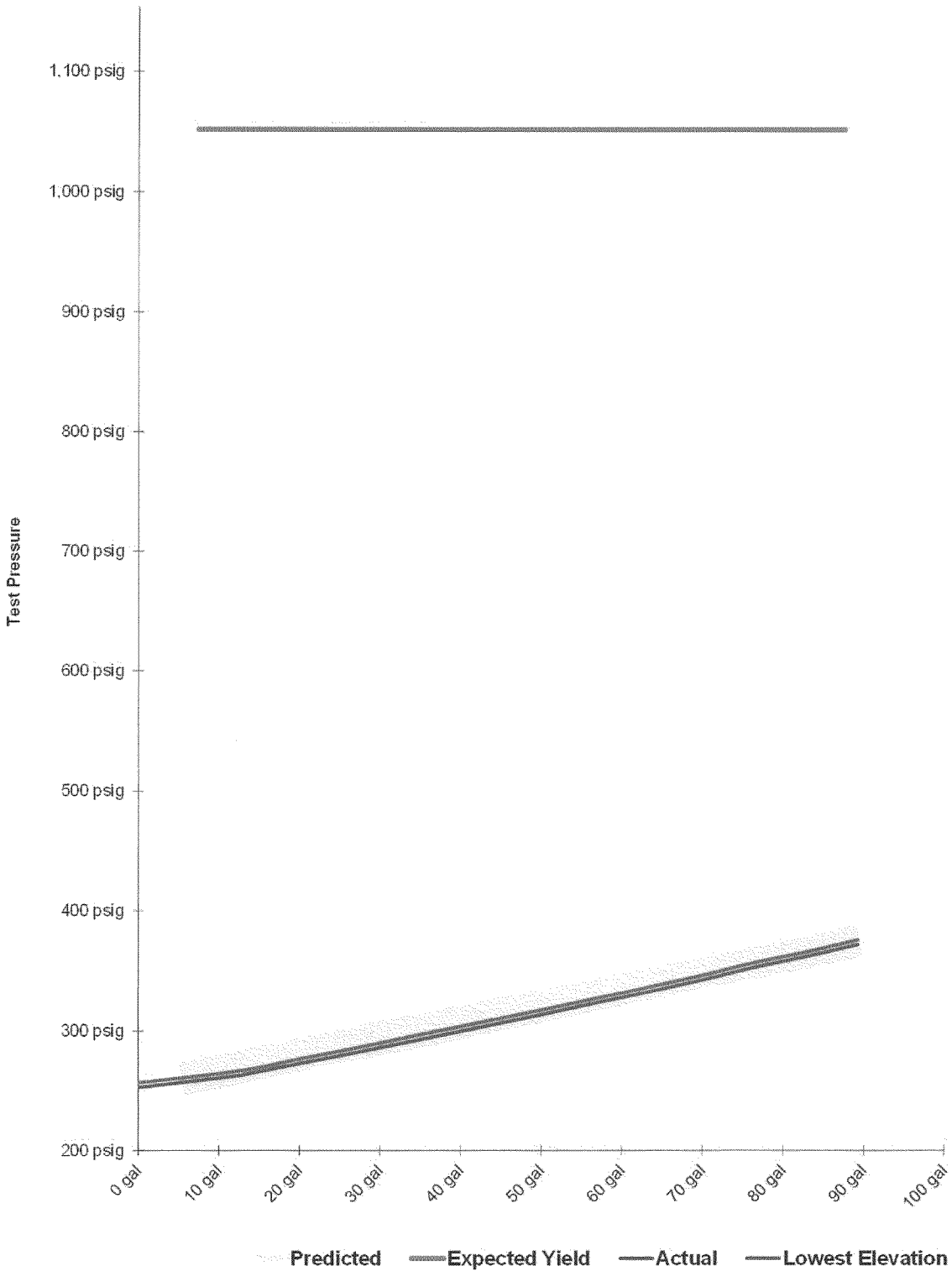
Part II - Test Data (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)				Note: Minimum test pressure and duration are not to be changed without written approval.			
Time and Date Test Pressure Reached	9/23/11 12:10 PM	Elevation at Test Point	26 ft	Min. Required Test Press At Test Point (1)	337.00 psig	Max. Allowable Test Press at Test Point (4)	376.10 psig
Time and Date Test Ended	9/23/11 8:15 PM	Max. Elevation in Test Section	26 ft	Min. Indicated Test Pressure (2)	339.00 psig	Max. Indicated Test Pressure (5)	341.00 psig
Actual Duration of Test	8 hours 5 minutes	Min. Elevation in Test Section	17 ft	Min. Test Pressure at Max. Elevation (3)	339.00 psig	Max. Test Pressure at Min. Elevation (6)	344.90 psig

PG&E T-16 L-105N, MP 28.13 - 28.64



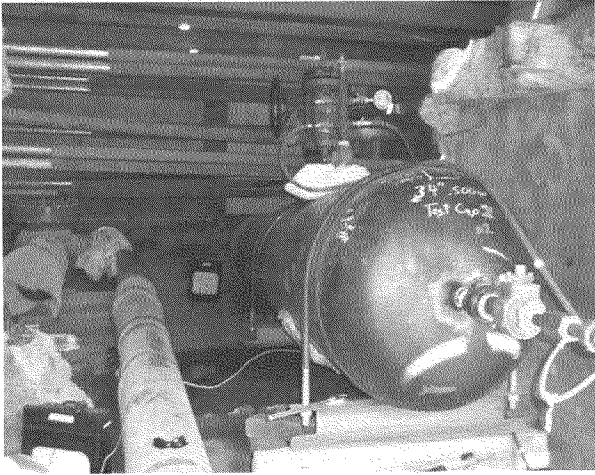


**Spike Pressure Test**  
**Stress Strain Curve -- PG&E T-16 L-105N, MP 28.13 - 28.64**

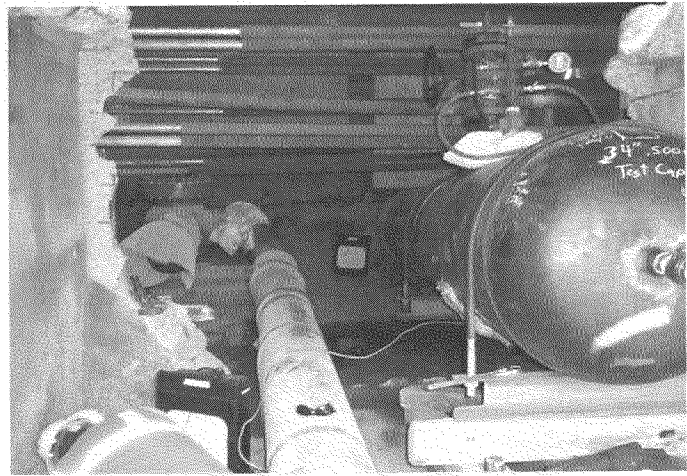




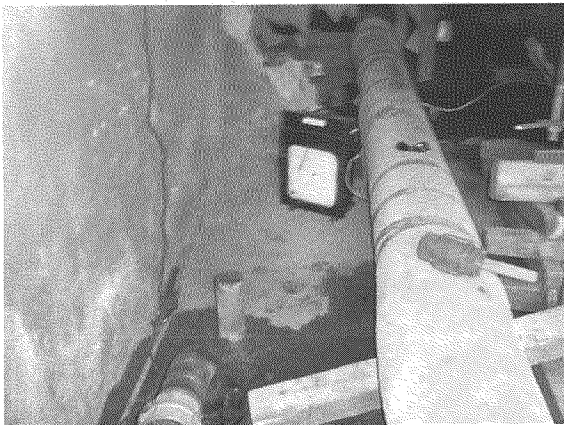
Actual Pressure Volume Plot Data			Predicted Pressure Volume Plot Data	Slope		Spike Pressure Test Stress Strain Curve -- PG&E T-16 L-105N, MP 28.13 - 28.64	
Pressure	Strokes	Gallons	Gallons	Actual	Predicted		
253 psig	0	0.00 gal		0	0.000	Pump gal per stroke	0.056 gal/stroke
263 psig	575	12.64 gal	7.41 gal	1.264	0.741	Pump Piston Diameter	1.250 in
273 psig	915	20.11 gal	14.83 gal	0.747	0.741	Pump Piston Stroke	3.50 in
283 psig	1260	27.70 gal	22.24 gal	0.758	0.742	Pump Cylinders	3 ea
293 psig	1595	35.06 gal	29.66 gal	0.736	0.742	Volume check gal per stroke	0.022 gal/stroke
303 psig	1940	42.65 gal	37.08 gal	0.758	0.742	Volume Released (gallons)	7.50 gal
313 psig	2275	50.01 gal	44.49 gal	0.736	0.742	Pressure Reduced (psi)	10 psi
323 psig	2590	56.94 gal	51.91 gal	0.692	0.742	Maximum2	100 gal
333 psig	2895	63.64 gal	59.33 gal	0.670	0.742	Minimum2	0 gal
343 psig	3200	70.34 gal	66.75 gal	0.670	0.742	Maximum1	1,153 psig
353 psig	3480	76.50 gal	74.16 gal	0.616	0.742	Minimum1	200 psig
363 psig	3800	83.53 gal	81.58 gal	0.703	0.742	Gallons/Stroke Used	0.022 gal/stroke
372 psig	4060	89.25 gal	87.52 gal	0.635	0.659	Predicted Gallons/Stroke	0.022 gal/stroke
372 psig		89.25 gal	87.52 gal	0.000	0.000	Pressure Increment	10 psi
372 psig		89.25 gal	87.52 gal	0.000	0.000	Max Pressure	372 psig
372 psig		89.25 gal	87.52 gal	0.000	0.000	Buried Pipe Temperature	62 °F
372 psig		89.25 gal	87.52 gal	0.000	0.000	Exposed Pipe Temperature	65 °F
372 psig		89.25 gal	87.52 gal	0.000	0.000	<b>ASME B31.8 Appendix N-5</b>	
372 psig		89.25 gal	87.52 gal	0.000	0.000	Average Actual Elastic Slope	0.749
372 psig		89.25 gal	87.52 gal	0.000	0.000	Average Predicted Elastic Slope	0.735
372 psig		89.25 gal	87.52 gal	0.000	0.000	Code Prescribed Minimum Yield Slope (less 10%) B31.8 N-5 (c)(2)	1.423
372 psig		89.25 gal	87.52 gal	0.000	0.000	Established Minimum Yield Pressure B31.8 N-5 (c)(2)	372 psig
372 psig		89.25 gal	87.52 gal	0.000	0.000	Maximum Allowed Volume (After Slope Deviation) B31.8 N-5 (c)(2)	418 gal
372 psig		89.25 gal	87.52 gal	0.000	0.000	Volume (After Slope Deviation) B31.8 N-5 (c)(2)	0 gal
372 psig		89.25 gal	87.52 gal	0.000	0.000	<div style="border: 1px solid black; width: 150px; height: 40px; display: inline-block; margin-bottom: 5px;">Redacted</div> <div style="text-align: right; margin-top: 10px;">9/23/11 Date</div>	
372 psig		89.25 gal	87.52 gal	0.000	0.000		
372 psig		89.25 gal	87.52 gal	0.000	0.000		
372 psig		89.25 gal	87.52 gal	0.000	0.000		
372 psig		89.25 gal	87.52 gal	0.000	0.000		
372 psig		89.25 gal	87.52 gal	0.000	0.000		
372 psig		89.25 gal	87.52 gal	0.000	0.000		
372 psig		89.25 gal	87.52 gal	0.000	0.000		
372 psig		89.25 gal	87.52 gal	0.000	0.000		
372 psig		89.25 gal	87.52 gal	0.000	0.000		



**Test Location B Header  
Under 98th Ave.**



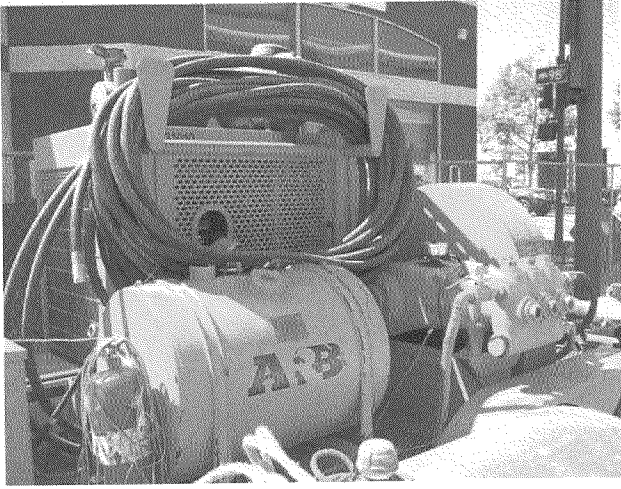
**Restrained Temp Recorder in Back of Trench**



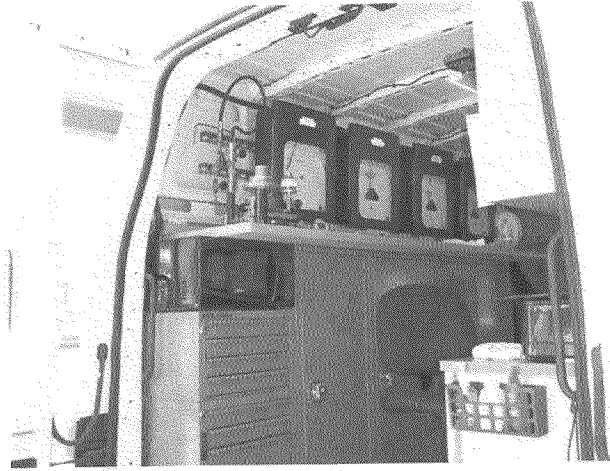
**Unrestrained Temp Recorder**



**Trench to gain access to test header**



**Pressure Pump**



**Deadweight Tester and Pressure Recorder**