



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

Redacted

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 – 414197331-4
Construction Contractor:	Snelson – 41474005 -T89S
Test Section:	PG&E T-89S L-300B, MP 484.0126 -484.72
Test Date:	August 16, 2011
Certificate Number:	RCP 61362 - T-89S, L-300B

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).

This hydrostatic test was completed successfully. Pressure was maintained on the test facilities in excess of 8.25 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 961 psig and the established MAOP is 640 psig.

Pressure decreased 6 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 1,685.38 ounces, gain, which is equivalent to a 0.7 °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 gain is attributed to the error characteristic of the temperature measurement instrumentation utilized.

Sincerely,

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Letter



# Hydrostatic Test Certification

Company	Pacific Gas and Electric Company	Job Number	414197331-4
Construction Co.	Snelson	Job Number	41474005 -T89S
Hydro. Test Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-89S L-300B, MP 484.0126 -484.72		
File Name	RCP 61362 - T-89S, L-300B		

## Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION: Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 3) Test Date: 16-Aug-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-89S L-300B, MP 484.0126 -484.72

From: 0+00 To: 35+18

### Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	45 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi
2	42 ft	34.000 in.	0.375 in.	API5L-X65, DSAW, Arc Weld, Steel	1,434 psi
3	3,858 ft	34.000 in.	0.344 in.	API5L-X52, DSAW, Arc Weld, Steel	1,052 psi
4	114 ft	12.750 in.	0.375 in.	API5L-Grade B, SM, Arc Weld, Steel	2,059 psi
5	19 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi
6	19 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi

### Initial Test Conditions

Pressure at Test Point:	988 psig	Date/Time:	8/16/11 2:40 PM	Pipe Temperature	
Ambient Temperature:	89.0 °F	Elevation @ Test Point:	1,309.0 ft	Unrestrained:	82.0 °F
Pressure @ High Point (Cal/Measure):	967 psig	Elevation @ High Point:	1,357.0 ft	Restrained:	74.0 °F
Pressure @ Low Point (Cal/Measure):	1,017 psig	Elevation @ Low Point:	1,243.0 ft	Location:	0+00
				Location:	34+86
				Location:	23+91

### Final Test Conditions

Pressure at Test Point:	982 psig	Date/Time:	8/16/11 10:55 PM	Pipe Temperature	
Ambient Temperature:	62.0 °F	Elevation @ Test Point:	1,309.0 ft	Unrestrained:	80.0 °F
Pressure @ High Point (Cal/Measure):	961 psig	Elevation @ High Point:	1,357.0 ft	Restrained:	73.0 °F
Pressure @ Low Point (Cal/Measure):	1,011 psig	Elevation @ Low Point:	1,243.0 ft	Location:	0+00
				Location:	34+86
				Location:	23+91

Total Fluid Injected:

Total Fluid Withdrawn:

Net Change in Volume of the Test Section ± (+ Gain, - Loss):	1,685.38 oz	gain	0.0072%	0.698 °F equivalent
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Test Duration: 8.25 hours

Minimum Test Pressure:	982 psig	961 psig	1,011 psig	
Maximum Test Pressure:	989 psig	968 psig	1,018 psig	
% SMYS:		47.0%	96.7%	
Test Segment Observed % SMYS:	Minimum	47.0%	Maximum	96.7%

Minimum Test Pressure (Calculated/Measured): 961 psig

Maximum Allowable Operating Pressure: DOT Part 192 Test Factor= 1.50 640 psig

Were leaks observed?	No	Explain:
Acceptable Hydrostatic Test?	Yes	No leaks were observed during the test period. The test section included 3,972 feet of buried and 125 feet of exposed pipe. Pressure lost 6 psi during the test. The buried pipe segment lost 1°F fluid temperature and the exposed pipe segment lost 2°F. 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 1,685.38 ounces, gain, which is equivalent to a 0.7 °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 gain is attributed to the error characteristic of the temperature measurement instrumentation utilized.

Remarks	Redacted
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Certification



# Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	414197331-4
Construction Co.	Snelson	Job Number	41474005 - T89S
Testing Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-89S L-300B, MP 484.0126 -484.72		
File Name	RCP 61362 - T-89S, L-300B		

Date 16-Aug-11

## Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
					Unrestrained	Restrained			
1	8/16/11	2:05 PM	730 psig	89 °F	82 °F	74 °F			
2	8/16/11	2:07 PM	740 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
3	8/16/11	2:09 PM	750 psig	89 °F	82 °F	74 °F	Inject		1,951 oz.
4	8/16/11	2:10 PM	760 psig	89 °F	82 °F	74 °F	Inject		1,345 oz.
5	8/16/11	2:11 PM	770 psig	89 °F	82 °F	74 °F	Inject		1,345 oz.
6	8/16/11	2:12 PM	780 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
7	8/16/11	2:14 PM	790 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
8	8/16/11	2:15 PM	800 psig	89 °F	82 °F	74 °F	Inject		1,345 oz.
9	8/16/11	2:16 PM	810 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
10	8/16/11	2:17 PM	820 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
11	8/16/11	2:18 PM	830 psig	89 °F	82 °F	74 °F	Inject		1,345 oz.
12	8/16/11	2:20 PM	840 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
13	8/16/11	2:21 PM	850 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
14	8/16/11	2:22 PM	860 psig	89 °F	82 °F	74 °F	Inject		1,345 oz.
15	8/16/11	2:23 PM	870 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
16	8/16/11	2:24 PM	880 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
17	8/16/11	2:25 PM	890 psig	89 °F	82 °F	74 °F	Inject		1,345 oz.
18	8/16/11	2:26 PM	900 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
19	8/16/11	2:27 PM	910 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
20	8/16/11	2:28 PM	920 psig	89 °F	82 °F	74 °F	Inject		1,345 oz.
21	8/16/11	2:29 PM	930 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
22	8/16/11	2:30 PM	940 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
23	8/16/11	2:31 PM	950 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
24	8/16/11	2:32 PM	960 psig	89 °F	82 °F	74 °F	Inject		1,345 oz.
25	8/16/11	2:34 PM	970 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
26	8/16/11	2:36 PM	980 psig	89 °F	82 °F	74 °F	Inject		1,413 oz.
27	8/16/11	2:37 PM	988 psig	89 °F	82 °F	74 °F	Inject		1,009 oz.
28	8/16/11	2:39 PM	988 psig	89 °F	82 °F	74 °F			
29	8/16/11	2:40 PM	988 psig	89 °F	82 °F	74 °F		On Test	
30	8/16/11	2:55 PM	988 psig	89 °F	83 °F	73 °F	Sun Shine		
31	8/16/11	3:10 PM	988 psig	90 °F	84 °F	74 °F	Warm		
32	8/16/11	3:25 PM	988 psig	88 °F	84 °F	73 °F			
33	8/16/11	3:40 PM	988 psig	88 °F	84 °F	73 °F	Sun Shine		
34	8/16/11	3:55 PM	988 psig	87 °F	85 °F	73 °F	Warm		
35	8/16/11	4:10 PM	988 psig	86 °F	85 °F	73 °F			
36	8/16/11	4:25 PM	989 psig	86 °F	86 °F	73 °F			
37	8/16/11	4:40 PM	989 psig	86 °F	86 °F	73 °F			
38	8/16/11	4:55 PM	989 psig	85 °F	86 °F	73 °F			
39	8/16/11	5:10 PM	989 psig	85 °F	87 °F	74 °F			
40	8/16/11	5:25 PM	989 psig	83 °F	87 °F	74 °F			
41	8/16/11	5:40 PM	989 psig	82 °F	87 °F	74 °F			
42	8/16/11	5:55 PM	989 psig	80 °F	87 °F	74 °F			
43	8/16/11	6:10 PM	989 psig	79 °F	87 °F	74 °F			

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## Pipe Segment Volume Calculations

Company	Pacific Gas and Electric Company	Job Number	414197331-4
Construction Co.	Snelson	Job Number	41474005 -T89S
Hydro. Test Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-89S L-300B, MP 484.0126 -484.72	<b>WATER</b>	
File Name	RCP 61362 - T-89S, L-300B		

### General Pipe Data

Description	Segment										
	1	2	3	4	5	6					
Restrained or Unrestrained?	Unrestrained	Unrestrained	Restrained	Restrained	Unrestrained	Unrestrained					
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	12.750 in.	34.000 in.	34.000 in.					
Wall Thickness	0.500 in.	0.375 in.	0.344 in.	0.375 in.	0.500 in.	0.500 in.					
Inside Diameter	33.000 in.	33.250 in.	33.312 in.	12.000 in.	33.000 in.	33.000 in.					
Spec./Grade	API5L-X65	API5L-X65	API5L-X52	API5L-Grade B	API5L-X65	API5L-X65					
Length Unrestrained	45 ft	42 ft			19 ft	19 ft					
Length Restrained			3,858 ft	114 ft							
Temperature -- On Test	82 °F	82 °F	74.0 °F	74.0 °F	82.0 °F	82.0 °F					
Temperature -- End of Test	80 °F	80 °F	73.0 °F	73.0 °F	80.0 °F	80.0 °F					
Pressure -- On Test	988 psig	988 psig	988 psig	988 psig	988 psig	988 psig					
Pressure -- End of Test	982 psig	982 psig	982 psig	982 psig	982 psig	982 psig					

### Unrestrained Pipe

Sum:	Vo	5,582.27 gal 714,530 oz.		Vp1	5,603.13 gal 717,201 oz.		Vp2	5,604.44 gal 717,369 oz.	
Vo Unrestrained	1,999 gal	1,894 gal			844 gal	844 gal			
Fwp 1	1.003027	1.003027			1.003027	1.003027			
Fpp 1	1.002717	1.003650			1.002717	1.002717			
Fpt 1	1.000400	1.000400			1.000400	1.000400			
Fwt 1	1.002725	1.002725			1.002725	1.002725			
Fpwt 1 = Fpt/Fwt	0.997682	0.997682			0.997682	0.997682			
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	2,006.24 gal	1,902.74 gal			847.08 gal	847.08 gal			
Fwp 2	1.003009	1.003009			1.003009	1.003009			
Fpp 2	1.002701	1.003628			1.002701	1.002701			
Fpt 2	1.000364	1.000364			1.000364	1.000364			
Fwt 2	1.002418	1.002418			1.002418	1.002418			
Fpwt = Fpt/Fwt	0.997951	0.997951			0.997951	0.997951			
Vtp = Vo(Fwp)(Fpp)(Fpwt)	2,006.71 gal	1,903.17 gal			847.28 gal	847.28 gal			

### Restrained Pipe

Sum:	Vo	175,341.57 gal 22,443,721 oz.		Vp1	176,148.63 gal 22,547,025 oz.		Vp2	176,160.49 gal 22,548,543 oz.	
Vo Unrestrained			174,672 gal	670 gal					
Fwp 1			1.003027	1.003027					
Fpp 1			1.002953	1.001009					
Fpt 1			1.000169	1.000169					
Fwt 1			1.001542	1.001542					
Fpwt 1 = Fpt/Fwt			0.998630	0.998630					
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)			175,477 gal	672 gal					
Fwp 2			1.003009	1.003009					
Fpp 2			1.002931	1.001000					
Fpt 2			1.000157	1.000157					
Fwt 2			1.001423	1.001423					
Fpwt = Fpt/Fwt			0.998736	0.998736					
Vtp = Vo(Fwp)(Fpp)(Fpwt)			175,489 gal	672 gal					

### Combined Pipe

Sum:	Vo	180,923.84 gal 23,158,251 oz.		Vp1	181,751.77 gal 23,264,226 oz.		Vp2	181,764.94 gal 23,265,912 oz.	
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## Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	414197331-4
Construction Co.	Snelson	Job Number	41474005 -T89S
Hydro. Test Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-89S L-300B, MP 484.0126 -484.72		
File Name	RCP 61362 - T-89S, L-300B		WATER

Description	General Pipe Data						7	8	9	10	11	12
	1	2	3	4	5	6						
Restrained or Unrestrained?	Unrestrained	Unrestrained	Restrained	Restrained	Unrestrained	Unrestrained						
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	12.750 in.	34.000 in.	34.000 in.						
Wall Thickness	0.500 in.	0.375 in.	0.344 in.	0.375 in.	0.500 in.	0.500 in.						
Inside Diameter	33.000 in.	33.250 in.	33.312 in.	12.000 in.	33.000 in.	33.000 in.						
Spec./Grade	API5L-X65	API5L-X65	API5L-X52	API5L-Grade B	API5L-X65	API5L-X65						
Length Unstrained	45.00 ft	42.00 ft			19 ft	19 ft						
Length Restrained			3,858 ft	114 ft								
Temperature - On Test	80 °F	80 °F	73 °F	73 °F	80 °F	80 °F						
Temperature - End of Test	81 °F	81 °F	74 °F	74 °F	81 °F	81 °F						
Pressure - On Test	985 psig	985 psig	985 psig	985 psig	985 psig	985 psig						
Pressure - End of Test	985 psig	985 psig	985 psig	985 psig	985 psig	985 psig						

Unrestrained Pipe											
Sum:	Vo	5,582.27 gal 714,530 oz		Vtp1	5,604.55 gal 717,382 oz		Vtp2	5,603.87 gal 717,296 oz			
Vo Unrestrained	1,999 gal	1,894 gal			844 gal	844 gal					
Fwp 1	1.003018	1.003018			1.003018	1.003018					
Fpp 1	1.002709	1.003639			1.002709	1.002709					
Fpt 1	1.000364	1.000364			1.000364	1.000364					
Fwt 1	1.002418	1.002418			1.002418	1.002418					
Fpwt 1 = Fpt/Fwt	0.997951	0.997951			0.997951	0.997951					
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	2,006.75 gal	1,903.21 gal			847.29 gal	847.29 gal					
Fwp 2	1.003018	1.003018			1.003018	1.003018					
Fpp 2	1.002709	1.003639			1.002709	1.002709					
Fpt 2	1.000382	1.000382			1.000382	1.000382					
Fwt 2	1.002556	1.002556			1.002556	1.002556					
Fpwt 2 = Fpt/Fwt	0.997832	0.997832			0.997832	0.997832					
Vtp 2 = Vo(Fwp)(Fpp)(Fpwt)	2,006.51 gal	1,902.99 gal			847.19 gal	847.19 gal					

Restrained Pipe											
Sum:	Vo	175,341.57 gal 22,443,721 oz		Vtp1	176,163.66 gal 22,548,948 oz		Vtp2	176,145.47 gal 22,546,620 oz			
Vo Restrained			174,672 gal	670 gal							
Fwp 1			1.003018	1.003018							
Fpp 1			1.002940	1.001003							
Fpt 1			1.000157	1.000157							
Fwt 1			1.001423	1.001423							
Fpwt 1 = Fpt/Fwt			0.998736	0.998736							
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)			175,492 gal	672 gal							
Fwp 2			1.003018	1.003018							
Fpp 2			1.002944	1.001007							
Fpt 2			1.000169	1.000169							
Fwt 2			1.001542	1.001542							
Fpwt 2 = Fpt/Fwt			0.998630	0.998630							
Vtp 2 = Vo(Fwp)(Fpp)(Fpwt)			175,474 gal	672 gal							

Combined Pipe											
Sum:	Vo	180,923.84 gal 23,158,251 oz		Vtp1	181,768.20 gal 23,266,330 oz		Vtp2	181,749.34 gal 23,263,916 oz			
1 °F Change	18.86 gal		2,413.66 oz								

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Allowance



## 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	45 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSAW
2	42 ft	Unrestrained	34.000 in.	0.3750 in.	API5L-X65	1,434 psig	Steel	Arc Weld	DSAW
3	3,858 ft	Restrained	34.000 in.	0.3440 in.	API5L-X52	1,052 psig	Steel	Arc Weld	DSAW
4	114 ft	Restrained	12.750 in.	0.3750 in.	API5L-Grade B	2,059 psig	Steel	Arc Weld	SM
5	19 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSAW
6	19 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSAW

### Hydrostatic Test Project Owner & Participants

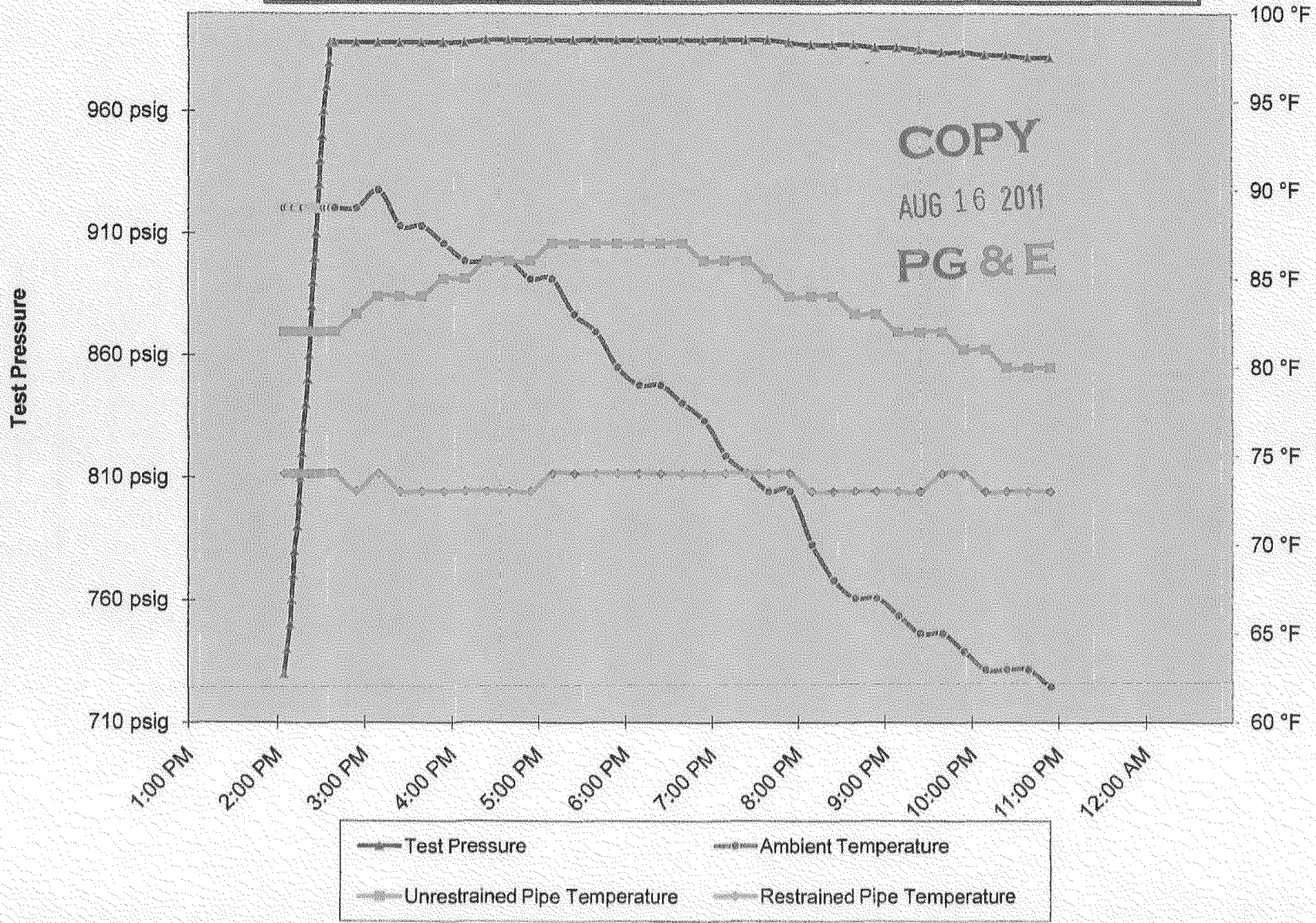
Owner Company	Pacific Gas and Electric Company	Job Number	
Address	350 N. Wiget Walnut Creek, CA 94598 Attention: Redacted		414197331-4
Construction Company	Snelson	Job Number	
Address	601 West State Street Sedro-Wooley, WA 98284 Attention: Redacted		41474005 -T89S
Hydrostatic Test Co.	Milbar hydro-test inc.	Project No.	
Address	P O Box 7701 Shreveport, La. 71137-7701		FY12-112
Test Section	PG&E T-89S L-300B, MP 484.0126 -484.72		
	From: 0+00 To: 35+18		
File Name	RCP 61362 - T-89S, L-300B		

<b>Part II – Test Data (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)</b>				<b>Note: Minimum test pressure and duration are not to be changed without written approval.</b>			
Time and Date Test Pressure Reached	8/16/11 2:40 PM	Elevation at Test Point	1,309 ft	Min. Required Test Press At Test Point (1)	967.80 psig	Max. Allowable Test Press at Test Point (4)	1,008.40 psig
Time and Date Test Ended	8/16/11 10:55 PM	Max. Elevation in Test Section	1,357 ft	Min. Indicated Test Pressure (2)	982.00 psig	Max. Indicated Test Pressure (5)	989.00 psig
Actual Duration of Test	8 hours 15 minutes	Min. Elevation in Test Section	1,243 ft	Min. Test Pressure at Max. Elevation (3)	961.20 psig	Max. Test Pressure at Min. Elevation (6)	1,017.60 psig

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Pipe

PG&E T-89S L-300B, MP 484.0126 -484.72

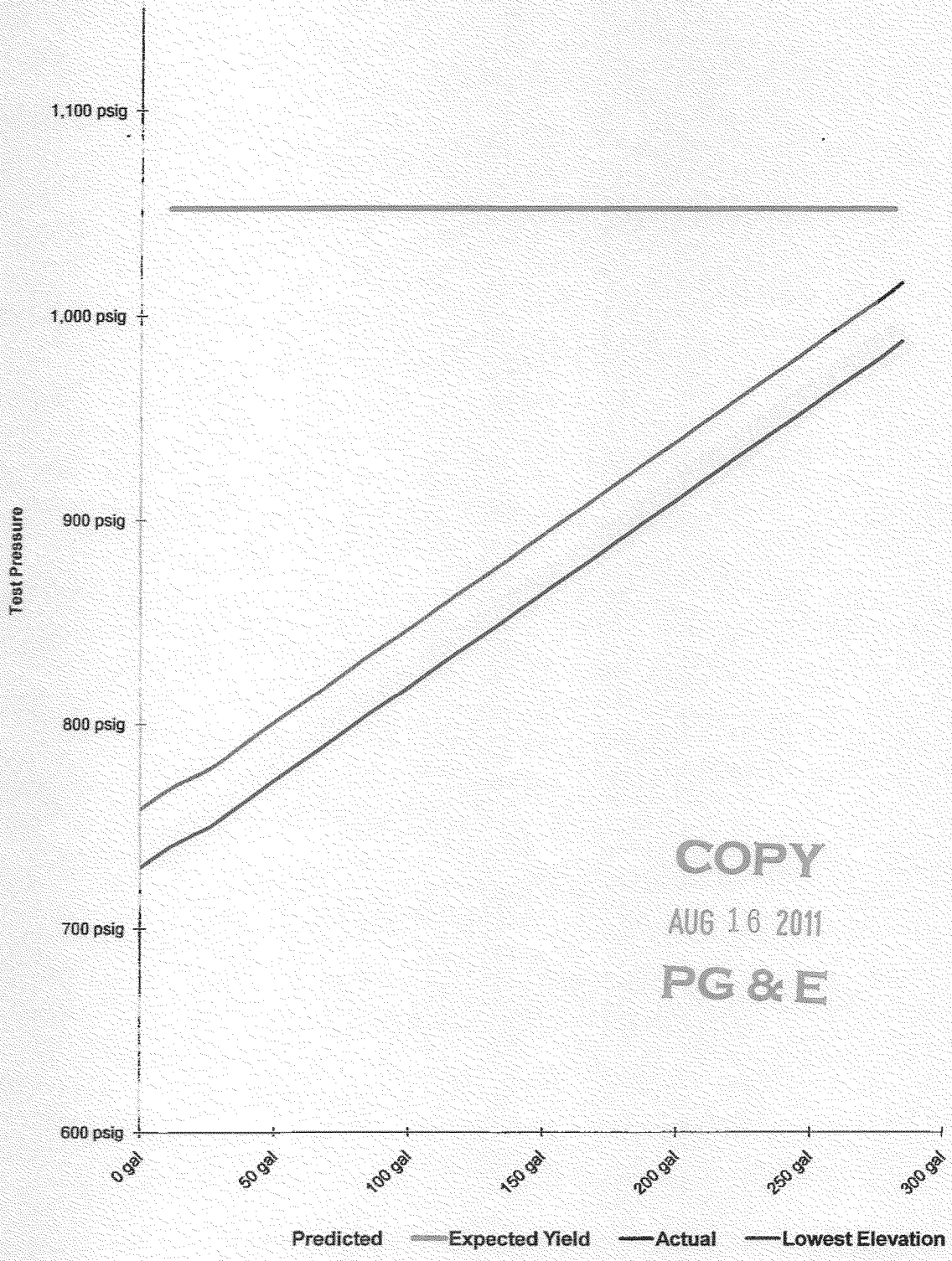


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Plot1



**Spike Pressure Test**  
**Stress Strain Curve -- PG&E T-89S L-300B, MP 484.0126 -484.72**



Actual Pressure Volume Plot Data			Predicted Pressure Volume Plot Data	Slope		Spike Pressure Test Stress Strain Curve -- PG&E T-89S L-300B, MP 484.0126 - 484.72	
Pressure	Strokes	Gallons	Gallons	Actual	Predicted		
730 psig		0.00 gal		0	0.000	Pump gal per stroke	0.551 gal/stroke
740 psig	21	11.04 gal	10.88 gal	1.104	1.088	Pump Piston Diameter	3.000 in
750 psig	50	26.28 gal	21.77 gal	1.524	1.088	Pump Piston Stroke	6.00 in
760 psig	70	36.79 gal	32.65 gal	1.051	1.089	Pump Cylinders	3 ea
770 psig	90	47.30 gal	43.54 gal	1.051	1.089	Volume check gal per stroke	0.526 gal/stroke
780 psig	111	58.34 gal	54.43 gal	1.104	1.089	Volume Released (gallons)	11.00 gal
790 psig	132	69.37 gal	65.31 gal	1.104	1.089	Pressure Reduced (psi)	10 psi
800 psig	152	79.88 gal	76.20 gal	1.051	1.089	Maximum2	300 gal
810 psig	173	90.92 gal	87.09 gal	1.104	1.089	Minimum2	0 gal
820 psig	194	101.96 gal	97.98 gal	1.104	1.089	Maximum1	1,153 psig
830 psig	214	112.47 gal	108.87 gal	1.051	1.089	Minimum1	600 psig
840 psig	235	123.51 gal	119.76 gal	1.104	1.089	Gallons/Stroke Used	0.526 gal/stroke
850 psig	256	134.54 gal	130.65 gal	1.104	1.089	Predicted Gallons/Stroke	0.520 gal/stroke
860 psig	276	145.05 gal	141.54 gal	1.051	1.089	Pressure Increment	10 psi
870 psig	297	156.09 gal	152.44 gal	1.104	1.089		
880 psig	318	167.13 gal	163.33 gal	1.104	1.089	Max Pressure	988 psig
890 psig	338	177.64 gal	174.22 gal	1.051	1.089		
900 psig	359	188.67 gal	185.12 gal	1.104	1.089	Buried Pipe Temperature	74 °F
910 psig	380	199.71 gal	196.01 gal	1.104	1.090		
920 psig	400	210.22 gal	206.91 gal	1.051	1.090	Exposed Pipe Temperature	83 °F
930 psig	421	221.26 gal	217.81 gal	1.104	1.090		
940 psig	442	232.30 gal	228.70 gal	1.104	1.090		
950 psig	463	243.33 gal	239.60 gal	1.104	1.090	ASME B31.8 Appendix N-5	
960 psig	483	253.84 gal	250.50 gal	1.051	1.090	Average Actual Elastic Slope	1.104
970 psig	504	264.88 gal	261.40 gal	1.104	1.090	Average Predicted Elastic Slope	1.089
980 psig	525	275.92 gal	272.30 gal	1.104	1.090	Code Prescribed Minimum Yield Slope (less 10%) B31.8 N-5 (c)(2)	2.097
988 psig	540	283.80 gal	281.02 gal	0.985	1.090	Established Minimum Yield Pressure B31.8 N-5 (c)(2)	988 psig
988 psig		283.80 gal	281.02 gal	0.000	0.000	Maximum Allowed Volume (After Slope Deviation) B31.8 N-5 (c)(2)	418 gal
988 psig		283.80 gal	281.02 gal	0.000	0.000	Volume (After Slope Deviation) B31.8 N-5 (c)(2)	0 gal
988 psig		283.80 gal	281.02 gal	0.000	0.000		
988 psig		283.80 gal	281.02 gal	0.000	0.000		
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988 psig		283.80 gal	281.02 gal	0.000	0.000		

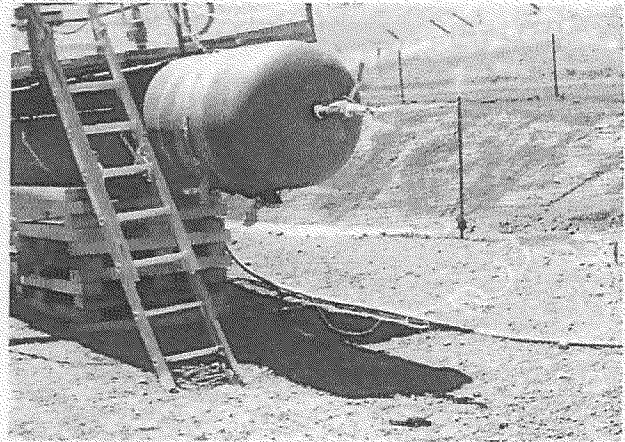
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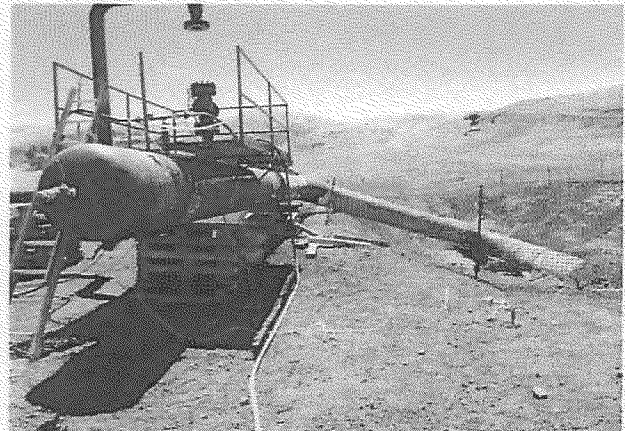
Test 89S restrained temp. recorder -Loc E



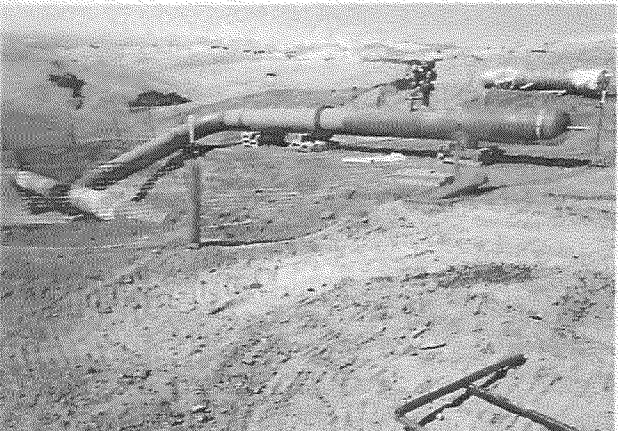
Test 89S Unrestrained temp. transmitter Loc. E



Test 89S remote restrained temp. transmitter



Test 89S testhead at location E



Test 89S testhead at location D

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