



RCP, INC

801 Louisiana, Ste.200
Houston, Texas 77002

Redacted

August 21, 2011

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

Test Contractor:	Milbar hydro-test inc. -- FY12-112
Asset Owner:	Pacific Gas and Electric Company -- 414197331-3
Construction Contractor:	Sneison -- 41474005 -T89N
Test Section:	PG&E T-89N L-300B, MP 489.33 - 490.915
Test Date:	August 20, 2011
Certificate Number:	RCP 61362 - T-89N, L-300B, MP 489.33 - 490.915

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 966 psig and the established MAOP is 644 psig.

Pressure decreased 5 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 807.38 ounces, loss, which is equivalent to a 0.17 °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

COPY
AUG 20 2011
PG & E

cc. file



Hydrostatic Test Certification

Company	Pacific Gas and Electric Company	Job Number	414197331-3
Construction Co.	Snelson	Job Number	41474005-T89N
Hydro. Test Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-89N L-300B, MP 489.33 - 490.915		
File Name	RCP 61352 - T-89N, L-300B, MP 489.33 - 490.915		

Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION:

Test Date:

20-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-89N L-300B, MP 489.33 - 490.915

From: 0+00

To: 81+84

Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	40 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi
2	17 ft	34.000 in.	0.560 in.	API5L-X60, DSAW, Arc Weld, Steel	1,976 psi
3	1,183 ft	34.000 in.	0.500 in.	API5L-X52, DSAW, Arc Weld, Steel	1,529 psi
4	3,154 ft	34.000 in.	0.438 in.	API5L-X52, DSAW, Arc Weld, Steel	1,338 psi
5	433 ft	34.000 in.	0.375 in.	API5L-X52, DSAW, Arc Weld, Steel	1,147 psi
6	3,483 ft	34.000 in.	0.344 in.	API5L-X52, DSAW, Arc Weld, Steel	1,052 psi
7	40 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi
8	19 ft	34.000 in.	0.375 in.	API5L-X65, DSAW, Arc Weld, Steel	1,434 psi
9	40 ft	1.315 in.	0.113 in.	API5L-Grade B, SM, Arc Weld, Steel	6,015 psi

Initial Test Conditions

Pressure at Test Point:	961 psig	Date/Time:	8/20/11 3:45 PM	Pipe Temperature	
Ambient Temperature:	74.0 °F	Elevation @ Test Point:	774.0 ft	Unrestrained:	76.0 °F
Pressure @ High Point (Cal/Measure):	971 psig	Elevation @ High Point:	796.0 ft	Restrained:	72.0 °F
Pressure @ Low Point (Cal/Measure):	1,233 psig	Elevation @ Low Point:	193.0 ft	Location:	0+00
				Location:	2+17
				Location:	81+84

Final Test Conditions

Pressure at Test Point:	976 psig	Date/Time:	8/21/11 12:00 AM	Pipe Temperature	
Ambient Temperature:	56.0 °F	Elevation @ Test Point:	774.0 ft	Unrestrained:	67.0 °F
Pressure @ High Point (Cal/Measure):	966 psig	Elevation @ High Point:	796.0 ft	Restrained:	72.0 °F
Pressure @ Low Point (Cal/Measure):	1,228 psig	Elevation @ Low Point:	193.0 ft	Location:	0+00
				Location:	2+17
				Location:	81+84

Total Fluid Injected:		Volume loss	
Total Fluid Withdrawn:			
Net Change in Volume of the Test Section ± (+ Gain, - Loss)	(807.38) oz	loss	(0.0017)% (0.171) °F equivalent

Test Duration: 8.25 hours

Minimum Test Pressure:	976 psig	966 psig	1,228 psig	
Maximum Test Pressure:	981 psig	971 psig	1,233 psig	
% SMYS:	51.3%	92.3%	80.6%	
Test Segment Observed % SMYS:	Minimum	16.3%	Maximum	97.1%

Minimum Test Pressure (Calculated/Measured): 966 psig

Maximum Allowable Working Pressure:

901 psig

test factor= 1.50

944 psig

Were leaks observed?	No	Explain:
Acceptable Hydrostatic Test?	Yes	<p>No leaks were observed during the test period. The test section included 8,270 feet of buried and 139 feet of exposed pipe. Pressure lost 5 psi during the test. The buried pipe segment fluid temperature remained steady and the exposed pipe segment lost 9°F.</p> <p>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 807.38 ounces, loss, which is equivalent to a 0.17 °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

COPY

AUG 20 2011

PG & E



Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	414197331-3
Construction Co.	Snelson	Job Number	41474005 - T89N
Testing Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-89N L-300B, MP 489.33 - 490.915		
File Name	RCP 61362 - T-89N, L-300B, MP 489.33 - 490.915		

Date 20-Aug-11

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
					Unrestrained	Restrained			
1	8/20/11	3:19 PM	718 psig	74 °F	75 °F	72 °F			
2	8/20/11	3:20 PM	720 psig	74 °F	75 °F	72 °F	Inject		1,058 oz.
3	8/20/11	3:21 PM	730 psig	74 °F	75 °F	72 °F	Inject		2,891 oz.
4	8/20/11	3:22 PM	740 psig	74 °F	71 °F	72 °F	Inject		3,243 oz.
5	8/20/11	3:23 PM	750 psig	74 °F	71 °F	72 °F	Inject		3,455 oz.
6	8/20/11	3:24 PM	760 psig	74 °F	71 °F	72 °F	Inject		3,455 oz.
7	8/20/11	3:25 PM	770 psig	74 °F	71 °F	72 °F	Inject		3,314 oz.
8	8/20/11	3:26 PM	780 psig	74 °F	71 °F	72 °F	Inject		3,384 oz.
9	8/20/11	3:27 PM	790 psig	74 °F	71 °F	72 °F	Inject		3,314 oz.
10	8/20/11	3:28 PM	800 psig	74 °F	71 °F	72 °F	Inject		3,384 oz.
11	8/20/11	3:29 PM	810 psig	74 °F	71 °F	72 °F	Inject		3,314 oz.
12	8/20/11	3:30 PM	820 psig	74 °F	71 °F	72 °F	Inject		3,314 oz.
13	8/20/11	3:31 PM	830 psig	74 °F	71 °F	72 °F	Inject		3,384 oz.
14	8/20/11	3:32 PM	840 psig	74 °F	72 °F	72 °F	Inject		3,314 oz.
15	8/20/11	3:33 PM	850 psig	74 °F	72 °F	72 °F	Inject		3,384 oz.
16	8/20/11	3:34 PM	860 psig	74 °F	72 °F	72 °F	Inject		3,243 oz.
17	8/20/11	3:35 PM	870 psig	74 °F	72 °F	72 °F	Inject		3,314 oz.
18	8/20/11	3:36 PM	880 psig	74 °F	72 °F	72 °F	Inject		3,243 oz.
19	8/20/11	3:37 PM	890 psig	74 °F	72 °F	72 °F	Inject		3,243 oz.
20	8/20/11	3:38 PM	900 psig	74 °F	72 °F	72 °F	Inject		3,243 oz.
21	8/20/11	3:39 PM	910 psig	74 °F	72 °F	72 °F	Inject		3,314 oz.
22	8/20/11	3:40 PM	920 psig	74 °F	72 °F	72 °F	Inject		3,173 oz.
23	8/20/11	3:41 PM	930 psig	74 °F	72 °F	72 °F	Inject		3,314 oz.
24	8/20/11	3:42 PM	940 psig	75 °F	73 °F	72 °F	Inject		3,173 oz.
25	8/20/11	3:43 PM	950 psig	75 °F	73 °F	72 °F	Inject		3,243 oz.
26	8/20/11	3:44 PM	960 psig	76 °F	73 °F	72 °F	Inject		3,173 oz.
27	8/20/11	3:44 PM	970 psig	75 °F	74 °F	72 °F	Inject		3,243 oz.
28	8/20/11	3:44 PM	980 psig	75 °F	74 °F	72 °F	Inject		3,243 oz.
29	8/20/11	3:45 PM	981 psig	74 °F	76 °F	72 °F	Inject		494 oz.
30	8/20/11	3:45 PM	981 psig	74 °F	76 °F	72 °F	On Test		
31	8/20/11	4:00 PM	980 psig	76 °F	76 °F	72 °F			
32	8/20/11	4:15 PM	980 psig	77 °F	76 °F	72 °F			
33	8/20/11	4:30 PM	980 psig	81 °F	76 °F	72 °F			
34	8/20/11	4:45 PM	980 psig	80 °F	76 °F	72 °F			
35	8/20/11	5:00 PM	979 psig	79 °F	76 °F	72 °F			
36	8/20/11	5:15 PM	979 psig	77 °F	76 °F	72 °F			
37	8/20/11	5:30 PM	979 psig	78 °F	76 °F	72 °F			
38	8/20/11	5:45 PM	979 psig	77 °F	76 °F	72 °F			
39	8/20/11	6:00 PM	979 psig	75 °F	76 °F	72 °F			
40	8/20/11	6:15 PM	979 psig	75 °F	76 °F	72 °F			
41	8/20/11	6:30 PM	979 psig	74 °F	76 °F	72 °F			
42	8/20/11	6:45 PM	979 psig	72 °F	76 °F	72 °F			
43	8/20/11	7:00 PM	978 psig	71 °F	76 °F	72 °F			
44	8/20/11	7:15 PM	978 psig	70 °F	75 °F	72 °F			

COPY

AUG 20 2011

PG & E



Pipe Segment Volume Calculations

Company	Pacific Gas and Electric Company	Job Number	414197331-3
Construction Co.	Snelson	Job Number	41474005-T89N
Hydro. Test Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-89N L-300B, MP 489.33 - 490.915	WATER	
File Name	RCP 61362 - T-89N, L-300B, MP 489.33 - 490.915		

General Pipe Data

Description	Segment								
	1	2	3	4	5	6	7	8	9
Restrained or Unrestrained?	Unrestrained	Restrained	Restrained	Restrained	Restrained	Restrained	Unrestrained	Unrestrained	Unrestrained
Outside Diameter	34,000 in.	34,000 in.	34,000 in.	34,000 in.	34,000 in.	34,000 in.	34,000 in.	34,000 in.	1,315 in.
Wall Thickness	0.500 in.	0.560 in.	0.500 in.	0.438 in.	0.375 in.	0.344 in.	0.500 in.	0.375 in.	0.113 in.
Inside Diameter	33,000 in.	32,880 in.	33,000 in.	33,125 in.	33,250 in.	33,312 in.	33,000 in.	33,250 in.	1,089 in.
Spec./Grade	API5L-X65	API5L-X60	API5L-X52	API5L-X52	API5L-X52	API5L-X52	API5L-X65	API5L-X65	API5L-Grade B
Length Unrestrained	40 ft						40 ft	19 ft	40 ft
Length Restrained		17 ft	1,183 ft	3,154 ft	433 ft	3,483 ft			
Temperature -- On Test	76 °F	72 °F	72.0 °F	72.0 °F	72.0 °F	72.0 °F	76.0 °F	76.0 °F	76.0 °F
Temperature -- End of Test	67 °F	72 °F	72.0 °F	72.0 °F	72.0 °F	72.0 °F	67.0 °F	67.0 °F	67.0 °F
Pressure -- On Test	981 psia	981 psia	981 psia	981 psia	981 psia	981 psia	981 psia	981 psia	981 psia
Pressure -- End of Test	976 psia	976 psia	976 psia	976 psia	976 psia	976 psia	976 psia	976 psia	976 psia

Unrestrained Pipe

Sum:	Vo	4,413.45 gal		Vip1	4,432.71 gal		Vip2	4,436.86 gal	
		564,922 oz.			567,387 oz.			567,919 oz.	
Vo Unrestrained	1,777 gal					1,777 gal	857 gal	2 gal	
Fwp 1	1.003006					1.003006	1.003006	1.003006	
Fpp 1	1.002898					1.002898	1.003624	1.000394	
Fpt 1	1.000291					1.000291	1.000291	1.000291	
Fwt 1	1.001813					1.001813	1.001813	1.001813	
Fpwt 1 = Fpt/Fwt	0.998481					0.998481	0.998481	0.998481	
Vip 1 = Vo(Fwp)(Fpp)(Fpwt)	1,784.68 gal					1,784.68 gal	861.41 gal	1.94 gal	
Fwp 2	1.002991					1.002991	1.002991	1.002991	
Fpp 2	1.002684					1.002684	1.003606	1.000392	
Stephen E. Gilliam	1.000127					1.000127	1.000127	1.000127	
Fwt 2	1.000681					1.000681	1.000681	1.000681	
Fpwt = Fpt/Fwt	0.999447					0.999447	0.999447	0.999447	
Vip 2 = Vo(Fwp)(Fpp)(Fpwt)	1,786.35 gal					1,786.35 gal	862.22 gal	1.94 gal	

Restrained Pipe

Sum:	Vo	371,736.01 gal		Vip1	373,376.09 gal		Vip2	373,365.63 gal	
		47,582,209 oz.			47,792,140 oz.			47,790,801 oz.	
Vo Unrestrained		750 gal	52,562 gal	141,199 gal	19,531 gal	157,694 gal			
Fwp 1		1.003006	1.003006	1.003006	1.003006	1.003006			
Fpp 1		1.001790	1.002007	1.002296	1.002682	1.002925			
Fpt 1		1.000145	1.000145	1.000145	1.000145	1.000145			
Fwt 1		1.001283	1.001283	1.001283	1.001283	1.001283			
Fpwt 1 = Fpt/Fwt		0.998863	0.998863	0.998863	0.998863	0.998863			
Vip 1 = Vo(Fwp)(Fpp)(Fpwt)		753 gal	52,766 gal	141,788 gal	19,620 gal	158,450 gal			
Fwp 2		1.002991	1.002991	1.002991	1.002991	1.002991			
Fpp 2		1.001781	1.001997	1.002285	1.002688	1.002910			
Fpt 2		1.000145	1.000145	1.000145	1.000145	1.000145			
Fwt 2		1.001283	1.001283	1.001283	1.001283	1.001283			
Fpwt = Fpt/Fwt		0.998863	0.998863	0.998863	0.998863	0.998863			
Vip 2 = Vo(Fwp)(Fpp)(Fpwt)		753 gal	52,764 gal	141,784 gal	19,620 gal	158,445 gal			

Combined Pipe

Sum:	Vo	376,149.46 gal		Vip1	377,808.80 gal		Vip2	377,802.49 gal	
		48,147,131 oz.			48,359,527 oz.			48,358,719 oz.	

COPY
AUG 20 2011
PG & E



Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	414197331-3
Construction Co.	Snelson	Job Number	41474005-T89N
Hydro. Test Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-89N L-300B, MP 489.33 - 490.915		
File Name	RCP 61362 - T-89N, L-300B, MP 489.33 - 490.915		WATER

Description	General Pipe Data									
	Segment									
	1	2	3	4	5	6	7	8	9	
Restrained or Unrestrained?	Unrestrained	Restrained	Restrained	Restrained	Restrained	Restrained	Unrestrained	Unrestrained	Unrestrained	
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.	1.315 in.
Wall Thickness	0.500 in.	0.560 in.	0.500 in.	0.438 in.	0.375 in.	0.344 in.	0.500 in.	0.375 in.	0.113 in.	
Inside Diameter	33.000 in.	32.880 in.	33.000 in.	33.125 in.	33.250 in.	33.312 in.	33.000 in.	33.250 in.	1.089 in.	
Spec./Grade	API5L-X65	API5L-X60	API5L-X52	API5L-X52	API5L-X52	API5L-X52	API5L-X65	API5L-X65	API5L-Grade B	
Length Unrestrained	40.00 ft						40 ft	19 ft	40 ft	
Length Restrained		17 ft	1.163 ft	3.154 ft	433 ft	3.483 ft				
Temperature - On Test	71 °F	71 °F	71 °F	71 °F	71 °F	71 °F	71 °F	71 °F	71 °F	71 °F
Temperature - End of Test	72 °F	72 °F	72 °F	72 °F	72 °F	72 °F	72 °F	72 °F	72 °F	72 °F
Pressure - On Test	978 psig	978 psig	978 psig	978 psig	978 psig	978 psig	978 psig	978 psig	978 psig	978 psig
Pressure - End of Test	978 psig	978 psig	978 psig	978 psig	978 psig	978 psig	978 psig	978 psig	978 psig	978 psig

Unrestrained Pipe						
Sum:	Vo	4,413.45 gal 554,922 oz.	Vip1	4,435.08 gal 567,890 oz.	Vip2	4,434.65 gal 567,636 oz.
Vo Unrestrained	1,777 gal				1,777 gal	857 gal 2 gal
Fwp 1	1.002997				1.002997	1.002997 1.002997
Fpp 1	1.002690				1.002690	1.003613 1.000393
Fpt 1	1.000200				1.000200	1.000200 1.000200
Fwt 1	1.001170				1.001170	1.001170 1.001170
Fpwt 1 = Fpt/Fwt	0.999032				0.999032	0.999032 0.999032
Vto 1 = Vo(Fwp/Fpp)(Fpwt)	1,785.63 gal				1,785.63 gal	862 gal 2 gal
Fwp 2	1.002997				1.002997	1.002997 1.002997
Fpp 2	1.002690				1.002690	1.003613 1.000393
Stephen E. Gilliam	1.000218				1.000218	1.000218 1.000218
Fwt 2	1.001283				1.001283	1.001283 1.001283
Fpwt = Fpt/Fwt	0.998937				0.998937	0.998937 0.998937
Vlp = Vo(Fwp)(Fpp)(Fpwt)	1,785.46 gal				1,785.46 gal	862 gal 2 gal

Restrained Pipe						
Sum:	Vo	371,736.01 gal 47,582,209 oz.	Vip1	373,406.32 gal 47,796,009 oz.	Vip2	373,369.81 gal 47,791,336 oz.
Vo Restrained		750 gal	52,562 gal	141,199 gal	19,531 gal	157,894 gal
Fwp 1		1.002997	1.002997	1.002997	1.002997	1.002997
Fpp 1		1.001781	1.001998	1.002286	1.002670	1.002912
Fpt 1		1.000133	1.000133	1.000133	1.000133	1.000133
Fwt 1		1.001170	1.001170	1.001170	1.001170	1.001170
Fpwt 1 = Fpt/Fwt		0.998965	0.998965	0.998965	0.998965	0.998965
Vto 1 = Vo(Fwp)(Fpp)(Fpwt)		753 gal	52,770 gal	141,799 gal	19,622 gal	158,463 gal
Fwp 2		1.002997	1.002997	1.002997	1.002997	1.002997
Fpp 2		1.001785	1.002001	1.002289	1.002674	1.002916
Fpt 2		1.000145	1.000145	1.000145	1.000145	1.000145
Fwt 2		1.001283	1.001283	1.001283	1.001283	1.001283
Fpwt = Fpt/Fwt		0.998863	0.998863	0.998863	0.998863	0.998863
Vlp = Vo(Fwp)(Fpp)(Fpwt)		753 gal	52,765 gal	141,785 gal	19,620 gal	158,447 gal

Combined Pipe						
Sum:	Vo	376,149.46 gal 48,147,131 oz.	Vip1	377,841.40 gal 48,363,698 oz.	Vip2	377,804.47 gal 48,358,972 oz.
1 °F Change	36.93 gal		4,726.94 oz.			

COPY
AUG 20 2011
PG & E



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	40 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSAW
2	17 ft	Restrained	34.000 in.	0.5600 in.	API5L-X60	1,976 psig	Steel	Arc Weld	DSAW
3	1,183 ft	Restrained	34.000 in.	0.5000 in.	API5L-X52	1,529 psig	Steel	Arc Weld	DSAW
4	3,154 ft	Restrained	34.000 in.	0.4375 in.	API5L-X52	1,338 psig	Steel	Arc Weld	DSAW
5	433 ft	Restrained	34.000 in.	0.3750 in.	API5L-X52	1,147 psig	Steel	Arc Weld	DSAW
6	3,483 ft	Restrained	34.000 in.	0.3440 in.	API5L-X52	1,052 psig	Steel	Arc Weld	DSAW
7	40 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSAW
8	19 ft	Unrestrained	34.000 in.	0.3750 in.	API5L-X65	1,434 psig	Steel	Arc Weld	DSAW
9	40 ft	Unrestrained	1.315 in.	0.1130 in.	API5L-Grade B	6,015 psig	Steel	Arc Weld	SM

Hydrostatic Test Project Owner & Participants

Owner Company	Pacific Gas and Electric Company	Job Number	
Address	350 N. Wiget Walnut Creek, CA 94598 Attention: Redacted		414197331-3
Construction Company	Snelson	Job Number	
Address	601 West State Street Sedro-Wooley, WA 98284 Attention: Redacted		41474005-T89N
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-89N L-300B, MP 489.33 - 490.915 From: 0+00 To: 81+84		
File Name	RCP 61362 - T-89N, L-300B, MP 489.33 - 490.915		

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 charged without written approval.

Time and Date Test Pressure Reached	8/20/11 3:45 PM	Elevation at Test Point	774 ft	Min. Required Test Press At Test Point (1)	956.53 psig	Max. Allowable Test Press at Test Point (4)	1,004.23 psig
Time and Date Test Ended	8/21/11 12:00 AM	Max. Elevation in Test Section	796 ft	Min. Indicated Test Pressure (2)	976.00 psig	Max. Indicated Test Pressure (5)	981.00 psig
Actual Duration of Test	8 hours 15 minutes	Min. Elevation in Test Section	193 ft	Min. Test Pressure at Max. Elevation (3)	966.47 psig	Max. Test Pressure at Min. Elevation (6)	1,232.77 psig

COPY

AUG 20 2011

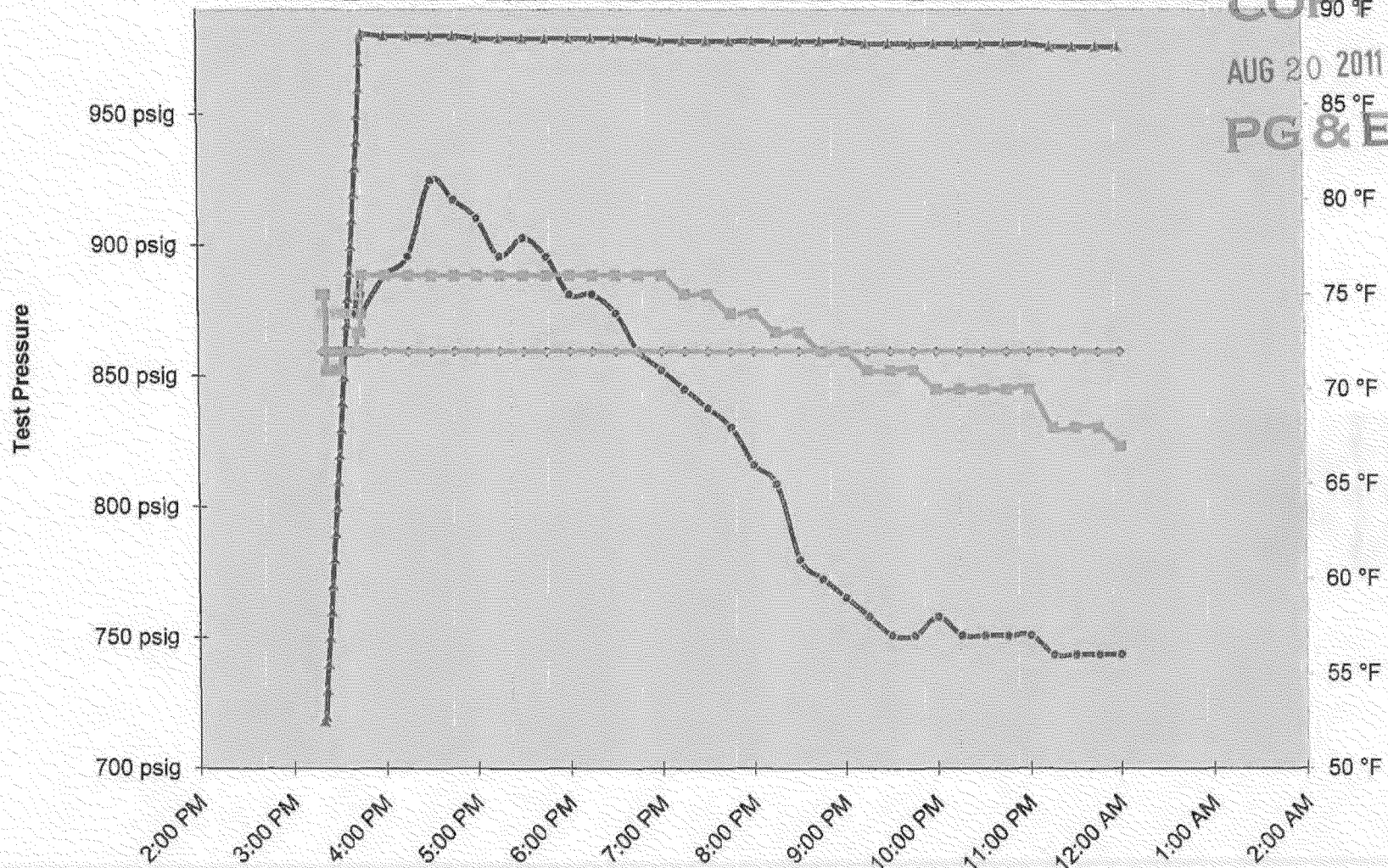
PG & E

8/21/2011



PG&E T-89N L-300B, MP 489.33 - 490.915

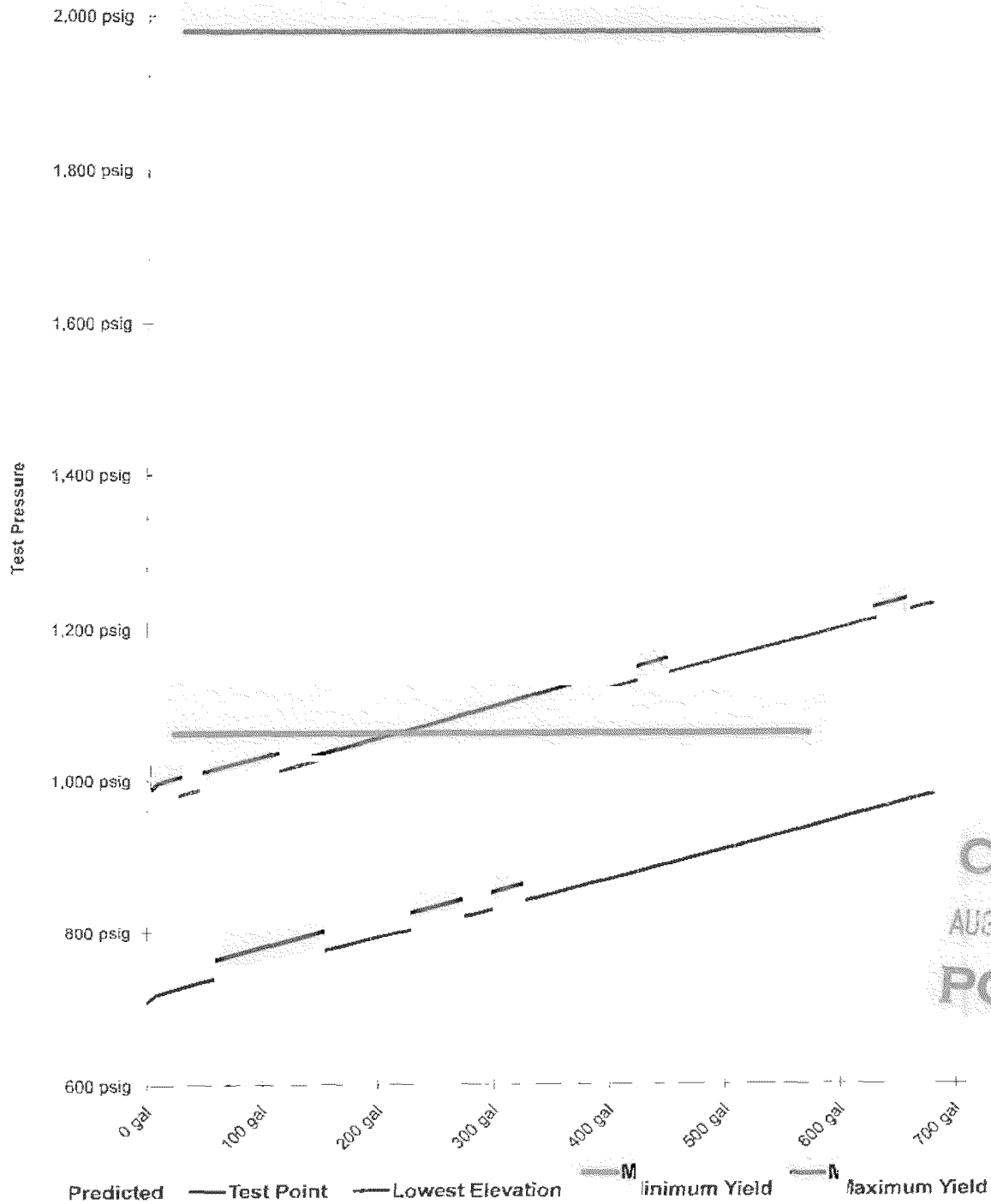
COPY
AUG 20 2011
PG & E

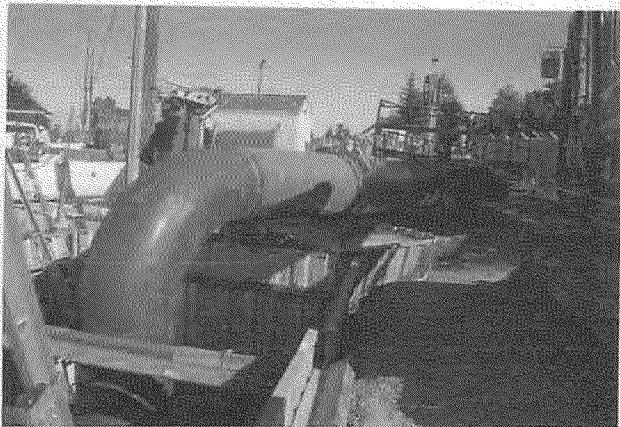


Stephen E. Gilliam

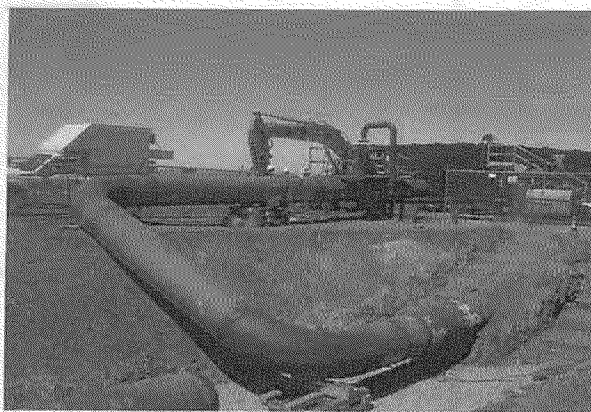
Test Pressure Ambient Temperature
Unrestrained Pipe Temperature Restrained Pipe Temperature

Spike Pressure Test
Stress Strain Curve -- PG&E T-89N L-300B, MP 489.33 - 490.915



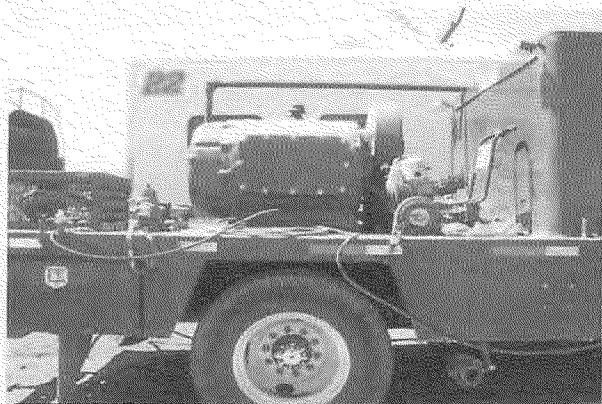


Test Location: Test End



Test Header to Existing Pipe

COPY
AUG 20 2011
PCE



Injection Pump



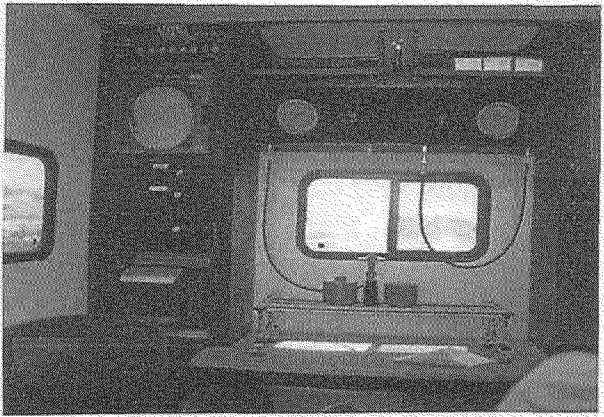
Test Location: Test Head



Restrained Temperature Chart Recorder in Ditch



Pressure Chart Recorder



Dead Weight and Temp/Pressure Chart in Trailer

COPY
AUG 20 2011
PG & E