RCP, Inc

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Houston, Texas 77002
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8/24/2011

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

Test Contractor:	Milbar hydro-test inc -- FY12-112
Asset Owner:	Pacific Gas and Electric Company -- 414197338-T82
Construction Contractor:	Snelson -- 41474005 -T82
Test Section:	PG&E T-82 L-300B, MP 263.46 - 264.64
Test Date:	8/23/2011
Certificate Number:	RCP 61362 - T-82, L-300B, MP 263.46 - 264.64

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 Milbar hydro-test inc 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 1030 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 8.38 hour test duration period.

This hydrostatic test was completed successfully. Pressure was maintained on the test facilities in excess of 8.38 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 971 psig and the established MAOP is 882 psig.

Pressure decreased 54 psi during the test. 12,480.00 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 4,935.43 ounces, loss, which is equivalent to a 0.92 °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,

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cc. file

Hydrostatic Test Certification

Company	Pacific Gas and Electric Company	Job Number	414197338-T82
Construction Co.	Snelson	Job Number	41474005 -T82
Hydro. Test Co.	Milbar hydro-test inc	Project No.	FY12-112
Test Section	PG&E T-82 L-300B, MP 263.46 - 264.64		
File Name	RCP 61362 - T-82, L-300B, MP 263.46 - 264.64		

Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION: Test Date: 23-Aug-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-82 L-300B, MP 263.46 - 264.64		
From:	61+95	To:	0+00

Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	61 ft	34.000 in.	0.505 in.	API5L-X60, DSAW, Arc Weld, Steel	1,782 psi
2	35 ft	34.000 in.	0.375 in.	API5L-X65, DSAW, Arc Weld, Steel	1,434 psi
3	6,210 ft	34.000 in.	0.344 in.	API5L-X52, DSAW, Arc Weld, Steel	1,052 psi
4	40 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi
5	5 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi

Initial Test Conditions

Pressure at Test Point:	1,030 psig	Date/Time:	10:52:26 AM	Pipe Temperature Unrestrained:	85.0 °F
Ambient Temperature:	80.0 °F			Restrained:	89.0 °F
Pressure @ High Point (Cal/Measure):	1,025 psig	Elevation @ Test Point:	352.0 ft	Location:	61+95
Pressure @ Low Point (Cal/Measure):	1,030 psig	Elevation @ High Point:	363.0 ft	Location:	0+00
		Elevation @ Low Point:	352.0 ft	Location:	61+95

Final Test Conditions

Pressure at Test Point:	976 psig	Date/Time:	7:15:26 PM	Pipe Temperature Unrestrained:	87.0 °F
Ambient Temperature:	92.0 °F			Restrained:	90.0 °F
Pressure @ High Point (Cal/Measure):	971 psig	Elevation @ Test Point:	352.0 ft	Location:	61+95
Pressure @ Low Point (Cal/Measure):	976 psig	Elevation @ High Point:	363.0 ft	Location:	0+00
		Elevation @ Low Point:	352.0 ft	Location:	61+95

Total Fluid Injected:			Volume loss	
Total Fluid Withdrawn:	12480.00 fluid ounces			
Net Change in Volume of the Test Section ± (+ Gain, - Loss):	(4,935.43) oz	loss	(0.0134)%	(0.924) °F equivalent

Test Duration: 8.38 hours

Minimum Test Pressure:	Test Point	965 psig	Max Elevation	960 psig	Min Elevation	965 psig
Maximum Test Pressure:		1,030 psig		1,025 psig		1,030 psig
% SMYS :				53.6%		97.9%
Test Segment Observed % SMYS :			Minimum	53.6%	Maximum	97.9%

Minimum Test Pressure (Calculated/Measured):			971 psig
Maximum Allowable Operating Pressure:	DOT Part 192	Test Factor= 1.10	882 psig

Were leaks observed?	No	Explain:
Acceptable Hydrostatic Test?	Yes	The test segment was subjected to a spike pressure test of 1030 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 8.38 hour test duration period. No leaks were observed during the test period. The test section included 6,210 feet of buried and 141 feet of exposed pipe. Pressure lost 54 psi during the test. The buried pipe segment gained 1°F fluid temperature and the exposed pipe segment gained 2°F. 12,480.00 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 4,935.43 ounces, loss, which is equivalent to a 0.92 °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.
Remarks		

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8/24/2011

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Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	414197338-T82
Construction Co.	Snelson	Job Number	41474005 -T82
Testing Co.	Milbar hydro-test inc	Project No.	FY12-112
Test Section	PG&E T-82 L-300B, MP 263.46 - 264.64		
File Name	RCP 61362 - T-82, L-300B, MP 263.46 - 264.64		

Date **8/23/2011**

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe				
					Unrestrained	Restrained	Comment	Bleed	Inject
1	8/23/11	10:20 AM	714 psig	77 °F	84 °F	88 °F	Start Spike		
2	8/23/11	10:21 AM	724 psig	77 °F	84 °F	88 °F	Inject		2,256 oz.
3	8/23/11	10:22 AM	734 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
4	8/23/11	10:23 AM	744 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
5	8/23/11	10:24 AM	754 psig	77 °F	84 °F	88 °F	Inject		2,538 oz.
6	8/23/11	10:25 AM	764 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
7	8/23/11	10:26 AM	774 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
8	8/23/11	10:27 AM	784 psig	77 °F	84 °F	88 °F	Inject		2,468 oz.
9	8/23/11	10:28 AM	794 psig	77 °F	84 °F	88 °F	Inject		2,327 oz.
10	8/23/11	10:29 AM	804 psig	77 °F	84 °F	88 °F	Inject		2,538 oz.
11	8/23/11	10:30 AM	814 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
12	8/23/11	10:31 AM	824 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
13	8/23/11	10:32 AM	834 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
14	8/23/11	10:33 AM	844 psig	77 °F	84 °F	88 °F	Inject		2,538 oz.
15	8/23/11	10:34 AM	854 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
16	8/23/11	10:35 AM	864 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
17	8/23/11	10:36 AM	874 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
18	8/23/11	10:37 AM	884 psig	77 °F	84 °F	88 °F	Inject		2,468 oz.
19	8/23/11	10:38 AM	894 psig	77 °F	84 °F	88 °F	Inject		2,468 oz.
20	8/23/11	10:39 AM	904 psig	77 °F	84 °F	88 °F	Inject		2,327 oz.
21	8/23/11	10:40 AM	914 psig	77 °F	84 °F	88 °F	Inject		2,468 oz.
22	8/23/11	10:41 AM	924 psig	77 °F	84 °F	88 °F	Inject		2,468 oz.
23	8/23/11	10:42 AM	934 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
24	8/23/11	10:43 AM	944 psig	77 °F	84 °F	88 °F	Inject		2,468 oz.
25	8/23/11	10:44 AM	954 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
26	8/23/11	10:45 AM	964 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
27	8/23/11	10:46 AM	974 psig	77 °F	84 °F	88 °F	Inject		2,468 oz.
28	8/23/11	10:47 AM	984 psig	77 °F	84 °F	88 °F	Inject		2,468 oz.
29	8/23/11	10:48 AM	994 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
30	8/23/11	10:49 AM	1,004 psig	77 °F	84 °F	88 °F	Inject		2,468 oz.
31	8/23/11	10:49 AM	1,014 psig	77 °F	84 °F	88 °F	Inject		2,397 oz.
32	8/23/11	10:50 AM	1,024 psig	77 °F	84 °F	88 °F	Inject		2,468 oz.
33	8/23/11	10:51 AM	1,030 psig	77 °F	84 °F	88 °F	Inject		1,410 oz.
34	8/23/11	10:52 AM	1,030 psig	80 °F	85 °F	89 °F	On Test		
35	8/23/11	11:02 AM	1,030 psig	80 °F	85 °F	89 °F			
36	8/23/11	11:12 AM	1,030 psig	81 °F	85 °F	89 °F			
37	8/23/11	11:22 AM	1,030 psig	82 °F	85 °F	89 °F	End Spike		
38	8/23/11	11:23 AM	1,020 psig	82 °F	85 °F	89 °F	Bleed	1,920 oz.	
39	8/23/11	11:24 AM	1,010 psig	83 °F	85 °F	89 °F	Bleed	1,920 oz.	
40	8/23/11	11:25 AM	1,000 psig	83 °F	85 °F	89 °F	Bleed	1,920 oz.	
41	8/23/11	11:26 AM	990 psig	83 °F	85 °F	89 °F	Bleed	1,920 oz.	
42	8/23/11	11:27 AM	980 psig	83 °F	85 °F	89 °F	Bleed	1,920 oz.	
43	8/23/11	11:28 AM	970 psig	83 °F	85 °F	89 °F	Bleed	1,920 oz.	

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Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	414197338-T82
Construction Co.	Snelson	Job Number	41474005 -T82
Testing Co.	Milbar hydro-test inc	Project No.	FY12-112
Test Section	PG&E T-82 L-300B, MP 263.46 - 264.64		
File Name	RCP 61362 - T-82, L-300B, MP 263.46 - 264.64		

Date **8/23/2011**

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe				
					Unrestrained	Restrained	Comment	Bleed	Inject
44	8/23/11	11:30 AM	965 psig	83 °F	86 °F	89 °F	Bleed	960 oz.	
45	8/23/11	11:45 AM	965 psig	84 °F	86 °F	89 °F			
46	8/23/11	12:00 PM	966 psig	86 °F	87 °F	89 °F			
47	8/23/11	12:15 PM	966 psig	86 °F	87 °F	90 °F			
48	8/23/11	12:30 PM	967 psig	88 °F	87 °F	90 °F			
49	8/23/11	12:45 PM	968 psig	89 °F	87 °F	90 °F			
50	8/23/11	1:00 PM	968 psig	90 °F	87 °F	90 °F			
51	8/23/11	1:15 PM	969 psig	92 °F	88 °F	89 °F			
52	8/23/11	1:30 PM	969 psig	92 °F	88 °F	89 °F			
53	8/23/11	1:45 PM	969 psig	94 °F	88 °F	89 °F			
54	8/23/11	2:00 PM	970 psig	95 °F	88 °F	89 °F			
55	8/23/11	2:15 PM	970 psig	95 °F	88 °F	89 °F			
56	8/23/11	2:30 PM	971 psig	97 °F	88 °F	90 °F			
57	8/23/11	2:45 PM	971 psig	97 °F	88 °F	90 °F			
58	8/23/11	3:00 PM	972 psig	97 °F	88 °F	90 °F			
59	8/23/11	3:15 PM	972 psig	98 °F	88 °F	90 °F			
60	8/23/11	3:30 PM	973 psig	99 °F	88 °F	90 °F			
61	8/23/11	3:45 PM	973 psig	100 °F	88 °F	90 °F			
62	8/23/11	4:00 PM	974 psig	102 °F	88 °F	90 °F			
63	8/23/11	4:15 PM	974 psig	102 °F	88 °F	90 °F			
64	8/23/11	4:30 PM	974 psig	102 °F	88 °F	90 °F			
65	8/23/11	4:45 PM	975 psig	102 °F	88 °F	90 °F			
66	8/23/11	5:00 PM	975 psig	102 °F	88 °F	90 °F			
67	8/23/11	5:15 PM	975 psig	101 °F	87 °F	90 °F			
68	8/23/11	5:30 PM	976 psig	100 °F	87 °F	90 °F			
69	8/23/11	5:45 PM	976 psig	100 °F	87 °F	90 °F			
70	8/23/11	6:00 PM	976 psig	100 °F	87 °F	90 °F			
71	8/23/11	6:15 PM	976 psig	100 °F	87 °F	90 °F			
72	8/23/11	6:30 PM	976 psig	98 °F	87 °F	90 °F			
73	8/23/11	6:45 PM	976 psig	96 °F	87 °F	90 °F			
74	8/23/11	7:00 PM	976 psig	94 °F	87 °F	90 °F			
75	8/23/11	7:15 PM	976 psig	92 °F	87 °F	90 °F	End of Test		
							Spike Test		76,565.4 oz.
							Hydrostatic Test	12,480.0 oz.	

Were leaks observed during the test period?	Exposed and buried pipe, no leaks observed.	High Test Pressure:	1,030 psig
		Low Test Pressure:	965 psig

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Pipe Segment Volume Calculations

Company	Pacific Gas and Electric Company	Job Number	414197338-T82
Construction Co.	Snelson	Job Number	41474005 -T82
Hydro. Test Co.	Milbar hydro-test inc	Project No.	FY12-112
Test Section	PG&E T-82 L-300B, MP 263.46 - 264.64	WATER	
File Name	RCP 61362 - T-82, L-300B, MP 263.46 - 264.64		

General Pipe Data

Description	Segment											
	1	2	3	4	5							
Restrained or Unrestrained?	Unrestrained	Unrestrained	Restrained	Unrestrained	Unrestrained							
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.							
Wall Thickness	0.505 in.	0.375 in.	0.344 in.	0.500 in.	0.500 in.							
Inside Diameter	32.990 in.	33.250 in.	33.312 in.	33.000 in.	33.000 in.							
Spec./Grade	API5L-X60	API5L-X65	API5L-X52	API5L-X65	API5L-X65							
Length Unrestrained	61 ft	35 ft		40 ft	5 ft							
Length Restrained			6,210 ft									
Temperature -- On Test	85 °F	85 °F	89.0 °F	85.0 °F	85.0 °F							
Temperature -- End of Test	87 °F	87 °F	90.0 °F	87.0 °F	87.0 °F							
Pressure -- On Test	1,030 psig	1,030 psig	1,030 psig	1,030 psig	1,030 psig							
Pressure -- End of Test	976 psig	976 psig	976 psig	976 psig	976 psig							

Unrestrained Pipe

Sum:	Vo	6,286.79 gal 804,710 oz.		Vtp1	6,308.71 gal 807,514 oz.		Vtp2		6,304.58 gal 806,987 oz.		
Vo Unrestrained	2,709 gal	1,579 gal		1,777 gal	222 gal						
Fwp 1	1.003157	1.003157		1.003157	1.003157						
Fpp 1	1.002804	1.003805		1.002833	1.002833						
Fpt 1	1.000455	1.000455		1.000455	1.000455						
Fwt 1	1.003192	1.003192		1.003192	1.003192						
Fpwt 1 = Fpt/Fwt	0.997272	0.997272		0.997272	0.997272						
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	2,717.39 gal	1,585.41 gal		1,783.03 gal	222.88 gal						
Fwp 2	1.002991	1.002991		1.002991	1.002991						
Fpp 2	1.002657	1.003606		1.002684	1.002684						
Fpt 2	1.000491	1.000491		1.000491	1.000491						
Fwt 2	1.003557	1.003557		1.003557	1.003557						
Fpwt = Fpt/Fwt	0.996945	0.996945		0.996945	0.996945						
Vtp = Vo(Fwp)(Fpp)(Fpwt)	2,715.65 gal	1,584.32 gal		1,781.88 gal	222.74 gal						

Restrained Pipe

Sum:	Vo	281,159.11 gal 35,988,366 oz.		Vtp1	281,928.20 gal 36,086,809 oz.		Vtp2		281,796.26 gal 36,069,921 oz.		
Vo Unrestrained			281,159 gal								
Fwp 1			1.003157								
Fpp 1			1.003130								
Fpt 1			1.000351								
Fwt 1			1.003903								
Fpwt 1 = Fpt/Fwt			0.996461								
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)			281,928 gal								
Fwp 2			1.002991								
Fpp 2			1.002975								
Fpt 2			1.000363								
Fwt 2			1.004064								
Fpwt = Fpt/Fwt			0.996314								
Vtp = Vo(Fwp)(Fpp)(Fpwt)			281,796 gal								

Combined Pipe

Sum:	Vo	287,445.91 gal 36,793,076 oz.	Vtp1	288,236.90 gal 36,894,323 oz.	Vtp2	288,100.84 gal 36,876,908 oz.

Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	414197338-T82
Construction Co.	Snelson	Job Number	41474005 -T82
Hydro. Test Co.	Milbar hydro-test inc	Project No.	FY12-112
Test Section	PG&E T-82 L-300B, MP 263.46 - 264.64		WATER
File Name	RCP 61362 - T-82, L-300B, MP 263.46 - 264.64		

General Pipe Data

Description	Segment 1	2	3	4	5
Restrained or Unrestrained?	Unrestrained	Unrestrained	Restrained	Unrestrained	Unrestrained
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.
Wall Thickness	0.505 in.	0.375 in.	0.344 in.	0.500 in.	0.500 in.
Inside Diameter	32.990 in.	33.250 in.	33.312 in.	33.000 in.	33.000 in.
Spec./Grade	API5L-X60	API5L-X65	API5L-X52	API5L-X65	API5L-X65
Length Unstrained	61.00 ft	35.00 ft		40 ft	5 ft
Length Restrained			6,210 ft		
Temperature – On Test	85 °F	85 °F	89 °F	85 °F	85 °F
Temperature – End of Test	86 °F	86 °F	90 °F	86 °F	86 °F
Pressure – On Test	1,003 psig	1,003 psig	1,003 psig	1,003 psig	1,003 psig
Pressure – End of Test	1,003 psig	1,003 psig	1,003 psig	1,003 psig	1,003 psig

Unrestrained Pipe

Sum:	Vo	6,286.79 gal / 804,710 oz.	Vtp1	6,307.68 gal / 807,383 oz.	Vtp2	6,306.65 gal / 807,252 oz.
Vo Unrestrained	2,709 gal	1,579 gal	1,777 gal	222 gal		
Fwp 1	1.003074	1.003074	1.003074	1.003074		
Fpp 1	1.002730	1.003706	1.002758	1.002758		
Fpt 1	1.000455	1.000455	1.000455	1.000455		
Fwt 1	1.003192	1.003192	1.003192	1.003192		
Fpwt 1 = Fpt/Fwt	0.997272	0.997272	0.997272	0.997272		
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	2,716.96 gal	1,585.12 gal	1,782.75 gal	222.84 gal		
Fwp 2	1.003074	1.003074	1.003074	1.003074		
Fpp 2	1.002730	1.003706	1.002758	1.002758		
Fpt 2	1.000473	1.000473	1.000473	1.000473		
Fwt 2	1.003373	1.003373	1.003373	1.003373		
Fpwt = Fpt/Fwt	0.997110	0.997110	0.997110	0.997110		
Vtp = Vo(Fwp)(Fpp)(Fpwt)	2,716.52 gal	1,584.87 gal	1,782.46 gal	222.81 gal		

Restrained Pipe

Sum:	Vo	281,159.11 gal / 35,988,366 oz.	Vtp1	281,882.58 gal / 36,080,970 oz.	Vtp2	281,841.86 gal / 36,075,758 oz.
Vo Restrained		281,159 gal				
Fwp 1		1.003074				
Fpp 1		1.003051				
Fpt 1		1.000351				
Fwt 1		1.003903				
Fpwt 1 = Fpt/Fwt		0.996461				
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)		281,883 gal				
Fwp 2		1.003074				
Fpp 2		1.003054				
Fpt 2		1.000363				
Fwt 2		1.004064				
Fpwt = Fpt/Fwt		0.996314				
Vtp = Vo(Fwp)(Fpp)(Fpwt)		281,842 gal				

Combined Pipe

Sum:	Vo	287,445.91 gal / 36,793,076 oz.	Vtp1	288,190.26 gal / 36,888,353 oz.	Vtp2	288,148.51 gal / 36,883,010 oz.
1 °F Change	41.75 gal	5,343.54 oz.				

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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	61 ft	Unrestrained	34.000 in.	0.5050 in.	API5L-X60	1,782 psig	Steel	Arc Weld	DSAW
2	35 ft	Unrestrained	34.000 in.	0.3750 in.	API5L-X65	1,434 psig	Steel	Arc Weld	DSAW
3	6,210 ft	Restrained	34.000 in.	0.3440 in.	API5L-X52	1,052 psig	Steel	Arc Weld	DSAW
4	40 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSAW
5	5 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	414197338-T82
	Walnut Creek, CA 94598	
	Attention: Scott Clapp	
Construction Company	Snelson	Job Number
Address	601 West State Street	41474005 -T82
	Sedro-Wooley, WA 98284	
	Attention: Jeff Elliot	
Hydrostatic Test Co.	Milbar hydro-test inc	Project No.
Address	P O Box 7701	FY12-112
	Shreveport, La. 71137-7701	
Test Section	PG&E T-82 L-300B, MP 263.46 - 264.64	
	From: 61+95	
	To: 0+00	
File Name	RCP 61362 - T-82, L-300B, MP 263.46 - 264.64	

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 charged without written approval.

Time and Date Test Pressure Reached	8/23/11 10:52 AM	Elevation at Test Point	352 ft	Min. Required Test Press At Test Point (1)	951.77 psig	Max. Allowable Test Press at Test Point (4)	1,035.00 psig
Time and Date Test Ended	8/23/11 7:15 PM	Max. Elevation in Test Section	363 ft	Min. Indicated Test Pressure (2)	965.00 psig	Max. Indicated Test Pressure (5)	1,030.00 psig
Actual Duration of Test	8 hours 23 minutes	Min. Elevation in Test Section	352 ft	Min. Test Pressure at Max. Elevation (3)	960.23 psig	Max. Test Pressure at Min. Elevation (6)	1,030.00 psig

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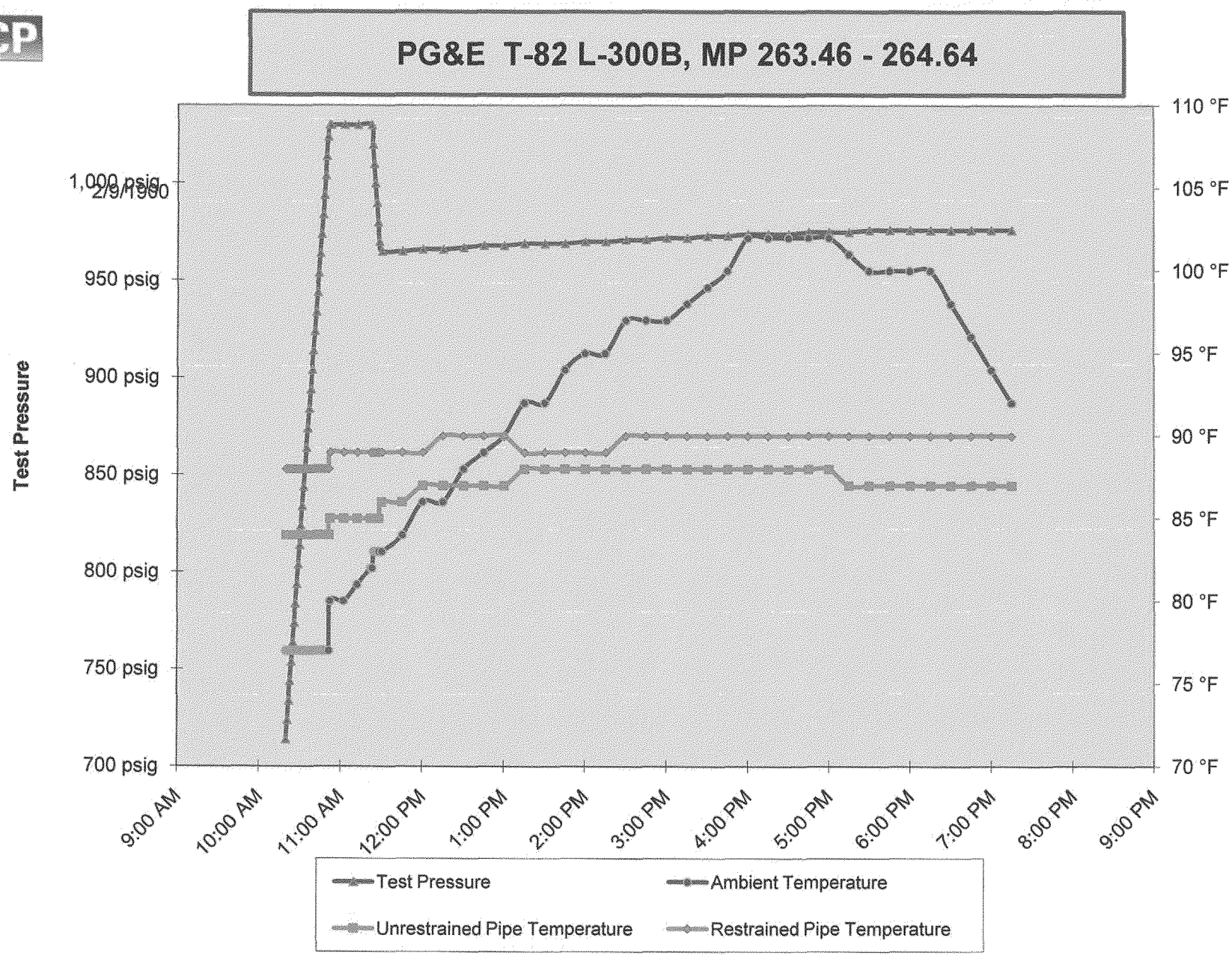
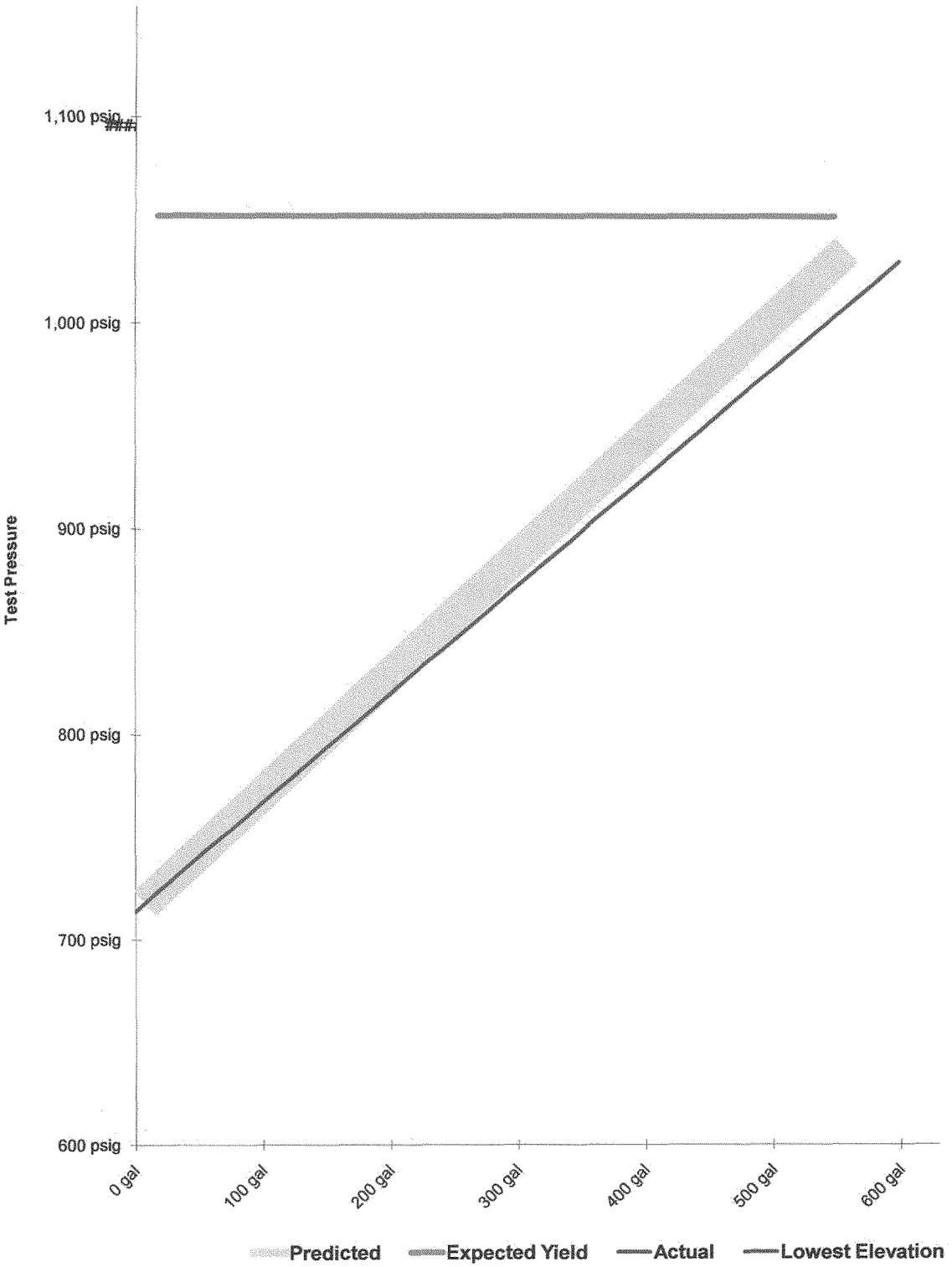


Spike Pressure Test
Stress Strain Curve -- PG&E T-82 L-300B, MP 263.46 - 264.64



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Spike Pressure Test
Stress Strain Curve -- PG&E T-82 L-300B, MP 263.46 - 264.64

Actual Pressure Volume Plot Data			Predicted Pressure Volume Plot Data	Slope	
Pressure	Strokes	Gallons	Gallons	Actual	Predicted
714 psig		0.00 gal			0.000
724 psig	32	17.63 gal	17.30 gal	1.763	1.730
734 psig	66	36.35 gal	34.60 gal	1.873	1.730
744 psig	100	55.08 gal	51.91 gal	1.873	1.730
754 psig	136	74.91 gal	69.21 gal	1.983	1.731
764 psig	170	93.64 gal	86.52 gal	1.873	1.731
774 psig	204	112.36 gal	103.83 gal	1.873	1.731
784 psig	239	131.64 gal	121.14 gal	1.928	1.731
794 psig	272	149.82 gal	138.45 gal	1.818	1.731
804 psig	308	169.65 gal	155.76 gal	1.983	1.731
814 psig	342	188.37 gal	173.07 gal	1.873	1.731
824 psig	376	207.10 gal	190.38 gal	1.873	1.731
834 psig	410	225.83 gal	207.69 gal	1.873	1.731
844 psig	446	245.66 gal	225.01 gal	1.983	1.731
854 psig	480	264.38 gal	242.32 gal	1.873	1.732
864 psig	514	283.11 gal	259.64 gal	1.873	1.732
874 psig	548	301.84 gal	276.96 gal	1.873	1.732
884 psig	583	321.12 gal	294.28 gal	1.928	1.732
894 psig	618	340.39 gal	311.60 gal	1.928	1.732
904 psig	651	358.57 gal	328.92 gal	1.818	1.732
914 psig	686	377.85 gal	346.24 gal	1.928	1.732
924 psig	721	397.13 gal	363.56 gal	1.928	1.732
934 psig	755	415.85 gal	380.89 gal	1.873	1.732
944 psig	790	435.13 gal	398.21 gal	1.928	1.733
954 psig	824	453.86 gal	415.54 gal	1.873	1.733
964 psig	858	472.59 gal	432.87 gal	1.873	1.733
974 psig	893	491.86 gal	450.19 gal	1.928	1.733
984 psig	928	511.14 gal	467.52 gal	1.928	1.733
994 psig	962	529.87 gal	484.85 gal	1.873	1.733
1,004 psig	997	549.15 gal	502.19 gal	1.928	1.733
1,014 psig	1031	567.87 gal	519.52 gal	1.873	1.733
1,024 psig	1066	587.15 gal	536.85 gal	1.928	1.733
1,030 psig	1086	598.17 gal	547.25 gal	1.836	1.733
1,030 psig		598.17 gal	547.25 gal	0.000	0.000
1,030 psig		598.17 gal	547.25 gal	0.000	0.000
1,030 psig		598.17 gal	547.25 gal	0.000	0.000
1,030 psig		598.17 gal	547.25 gal	0.000	0.000
1,030 psig		598.17 gal	547.25 gal	0.000	0.000
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1,030 psig		598.17 gal	547.25 gal	0.000	0.000
1,030 psig		598.17 gal	547.25 gal	0.000	0.000
1,030 psig		598.17 gal	547.25 gal	0.000	0.000
1,030 psig		598.17 gal	547.25 gal	0.000	0.000

Pump gal per stroke	0.551 gal/stroke
Pump Piston Diameter	3.000 in
Pump Piston Stroke	6.00 in
Pump Cylinders	3 ea
Volume check gal per stroke	0.436 gal/stroke
Volume Released (gallons)	15.00 gal
Pressure Reduced (psi)	10 psi
Maximum2	630 gal
Minimum2	0 gal
Maximum1	1,153 psig
Minimum1	600 psig
Gallons/Stroke Used	0.551 gal/stroke
Predicted Gallons/Stroke	0.504 gal/stroke
Pressure Increment	10 psi
Max Pressure	1,030 psig
Buried Pipe Temperature	89 °F
Exposed Pipe Temperature	85 °F

ASME B31.8 Appendix N-5

Average Actual Elastic Slope	1.892
Average Predicted Elastic Slope	1.732
Code Prescribed Minimum Yield Slope (less 10%) B31.8 N-5 (c)(2)	3.595
Established Minimum Yield Pressure B31.8 N-5 (c)(2)	1,030 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
Redacted

8-24-11
Date

T-82 Test Head

T-82 Test Head

T-82 Unrestrained & Alt Rest. Temp

T-82 Restrained Temp

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Hydrostatic Test Log Sheet

Owner Company	Pacific Gas & Electric Co.	Job Number	414197338-T8R
Construction Co.	Shelson	Job Number	41474005-T8R
Testing Co.	Milbar Hydro-Test Inc	Job Number	FY12-112

Test Section

	Name	Station (0+00)	Elevation (Feet)
Test Location		61+95	352 ft.
Begin		61+95	352 ft.
End		0+00	363 ft.
High Elevation		0+00	363 ft.
Low Elevation		61+95	352 ft.

Pipe Data

Section	Length (ft.)	O. D. (in.)	W.T. (in.)	Restrained (ft.)	Unrestrained (ft.)	Grade	Seam/Joint Type
1	61 ft	34	.505		61 ft	X-60	DSAW / Arc Weld
2	35 ft	34	.375		35 ft.	X-65	DSAW / Arc Weld
3	6210 ft.	34	.344	6210		X-52	DSAW / Arc Weld
4	40 ft	34	.500		40 ft	X-65	DSAW / Arc Weld
5	5 ft	34	.500		5 ft.	X-65	DSAW / Arc Weld
6							
7							
8							
9							
10							
11							
12							

Test Period

	Date	Time
Begin	8/23/11	10:52 AM
End		

Test Medium

- Water ☒
- Nitrogen ☐
- Other ☐

Test Instrumentation

Description	Calibration Checked	Serial Number	Date Calibrated/Certified	Installation Correct
Dead Weight Pressure Tester		5198	6/17/11	☑ Yes
Pressure Recorder	☐ Yes		6/17/11	☑ Yes
Ambient Temperature Recorder	☐ Yes	624085	6/17/11	☑ Yes
Restrained Pipe Temperature Recorder	☐ Yes			☑ Yes
Unrestrained Pipe Temperature Recorder	☐ Yes			☐ Yes

Hydrostatic Test Log

Log No.	Time	Test Pressure (psig)	Temperature (°F) Ambient	Pipe Restrained	Pipe Unrestrained	Volume ☐ Ounces ☐ Gallons Bleed	Volume Inject	Comments	Model Check: Is test good?
1	8:45 AM	138	72	88	82				
2	9:18	714	73	86	82				☑ Yes ☐ No
3	9:33	714	74	88	83				☑ Yes ☐ No
4	9:48	714	75	88	83				☑ Yes ☐ No
5	10:03	714	76	88	84				☑ Yes ☐ No
6	10:18	714	77	88	84				☑ Yes ☐ No
7	10:20	714	77	88	84				☑ Yes ☐ No
8	10:52	1030	80	89	85				☑ Yes ☐ No
9	11:02	1030	80	89	85				☑ Yes ☐ No
10	11:12	1030	81	89	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		
11	11:22	1030	82	89	85				☑ Yes ☐ No
12	11:24	1030	83	89	85	12,480			☑ Yes ☐ No
13	11:45	965	84	89	86				☑ Yes ☐ No
14	12:00PM	966	86	89	87				☑ Yes ☐ No
15	12:15	966	87	90	87				☑ Yes ☐ No
16	12:30	967	88	90	87				☑ Yes ☐ No
17	12:45	968	89	90	87				☑ Yes ☐ No
18	1:00	968	90	90	88				☑ Yes ☐ No
19	1:15	969	92	89	88				☑ Yes ☐ No
20	1:30	969	93	89	88				☑ Yes ☐ No
21	1:45	969	94	89	88				☑ Yes ☐ No
22	2:00	970	95	89	88				☑ Yes ☐ No
23	2:15	970	95	90	88				☑ Yes ☐ No
24	2:30	971	97	90	88				☑ Yes ☐ No
25	2:45	971	97	90	88				☑ Yes ☐ No
26	3:00	972	97	90	88				☑ Yes ☐ No
27	3:15	972	98	90	88				☑ Yes ☐ No
28	3:30	973	99	90	88				☑ Yes ☐ No
29	3:45	973	100	90	88				☑ Yes ☐ No
30	4:00	974	102	90	88				☑ Yes ☐ No
31	4:15	974	102	90	88				☑ Yes ☐ No
32	4:30	974	102	90	88				☑ Yes ☐ No
33	4:45	975	102	90	88				☑ Yes ☐ No
34	5:00	975	102	90	88				☑ Yes ☐ No
35	5:15	975	101	90	87				☑ Yes ☐ No
36	5:30	976	100	90	87				☑ Yes ☐ No
37	5:45	976	100	90	87				☑ Yes ☐ No
38	6:00	976	100	90	87				☑ Yes ☐ No
39	6:15	976	99	90	87				☑ Yes ☐ No
40	6:30	976	98	90	87				☑ Yes ☐ No
41	6:45	976	96	90	87				☑ Yes ☐ No
42	7:00	976	94	90	86				☑ Yes ☐ No
43	7:15	976	92	90	84				☑ Yes ☐ No
44									☐ Yes ☐ No
45									☐ Yes ☐ No
46									☐ Yes ☐ No
47									☐ Yes ☐ No
48									☐ Yes ☐ No

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

If "Yes", Explain:

High Test Pressure: 1030

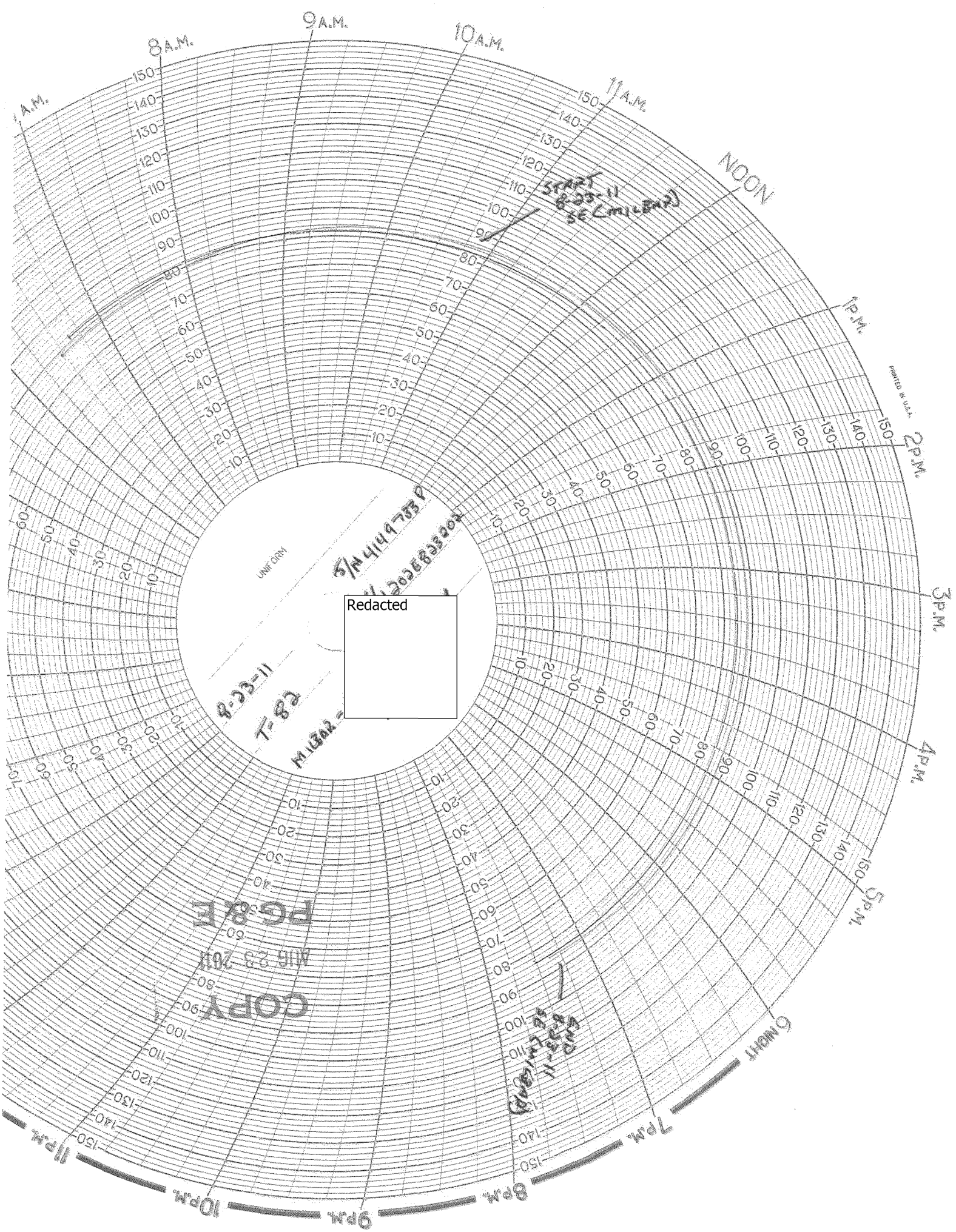
Low Test Pressure: 965

Certification:

Test Supervisor: Redacted
Signature

Company Representative: Redacted
Signature

Date: 8-23-11


8 A.M.
9 A.M.
10 A.M.
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NOON
1 P.M.
2 P.M.
3 P.M.
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