



RCP, Inc

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

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:	Snelson -- 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,

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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 61362 - 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:	981 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 Operating Pressure:	DOT Part 192 Test Factor= 1.50 644 psig

Were leaks observed?	No	Explain:
Acceptable Hydrostatic Test?	Yes	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. 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.

Remarks	Redacted
	21-Aug-11

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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			

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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
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Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
					Unrestrained	Restrained			
45	8/20/11	7:30 PM	978 psig	69 °F	75 °F	72 °F			
46	8/20/11	7:45 PM	978 psig	68 °F	74 °F	72 °F			
47	8/20/11	8:00 PM	978 psig	66 °F	74 °F	72 °F			
48	8/20/11	8:15 PM	978 psig	65 °F	73 °F	72 °F			
49	8/20/11	8:30 PM	978 psig	61 °F	73 °F	72 °F			
50	8/20/11	8:45 PM	978 psig	60 °F	72 °F	72 °F			
51	8/20/11	9:00 PM	978 psig	59 °F	72 °F	72 °F			
52	8/20/11	9:15 PM	977 psig	58 °F	71 °F	72 °F			
53	8/20/11	9:30 PM	977 psig	57 °F	71 °F	72 °F			
54	8/20/11	9:45 PM	977 psig	57 °F	71 °F	72 °F			
55	8/20/11	10:00 PM	977 psig	58 °F	70 °F	72 °F			
56	8/20/11	10:15 PM	977 psig	57 °F	70 °F	72 °F			
57	8/20/11	10:30 PM	977 psig	57 °F	70 °F	72 °F			
58	8/20/11	10:45 PM	977 psig	57 °F	70 °F	72 °F			
59	8/20/11	11:00 PM	977 psig	57 °F	70 °F	72 °F			
60	8/20/11	11:15 PM	976 psig	56 °F	68 °F	72 °F			
61	8/20/11	11:30 PM	976 psig	56 °F	68 °F	72 °F			
62	8/20/11	11:45 PM	976 psig	56 °F	68 °F	72 °F			
63	8/21/11	12:00 AM	976 psig	56 °F	67 °F	72 °F	End of Test		

	Spike Test	
	Hydrostatic Test	

Were leaks observed during the test period?	Exposed and buried pipe, no leaks observed.	High Test Pressure:	981 psig	
		Low Test Pressure:	976 psig	

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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.	34.000 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 psig	981 psig	981 psig	981 psig	981 psig	981 psig	981 psig	981 psig	981 psig
Pressure -- End of Test	976 psig	976 psig	976 psig	976 psig	976 psig	976 psig	976 psig	976 psig	976 psig

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	1.002698					1.002698	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	
Vtp 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	
Vtp = 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	1.003006			
Fpp 1	1.001799	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				
Vtp 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	1.002668	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				
Vtp = 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.	

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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		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	40.00 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	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
Pressure -- On Test	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

Unrestrained Pipe

Sum:	Vo	4,413.45 gal 564,922 oz.		Vip1	4,435.08 gal 567,690 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
Vip 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
Vip = 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	157,694 gal				
Fwp 1	1.002997	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					
Vip 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					
Vip = 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 48,363,699 oz.		Vip2	377,804.47 gal 48,358,972 oz.	
1 °F Change	36.93 gal		4,726.94 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	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

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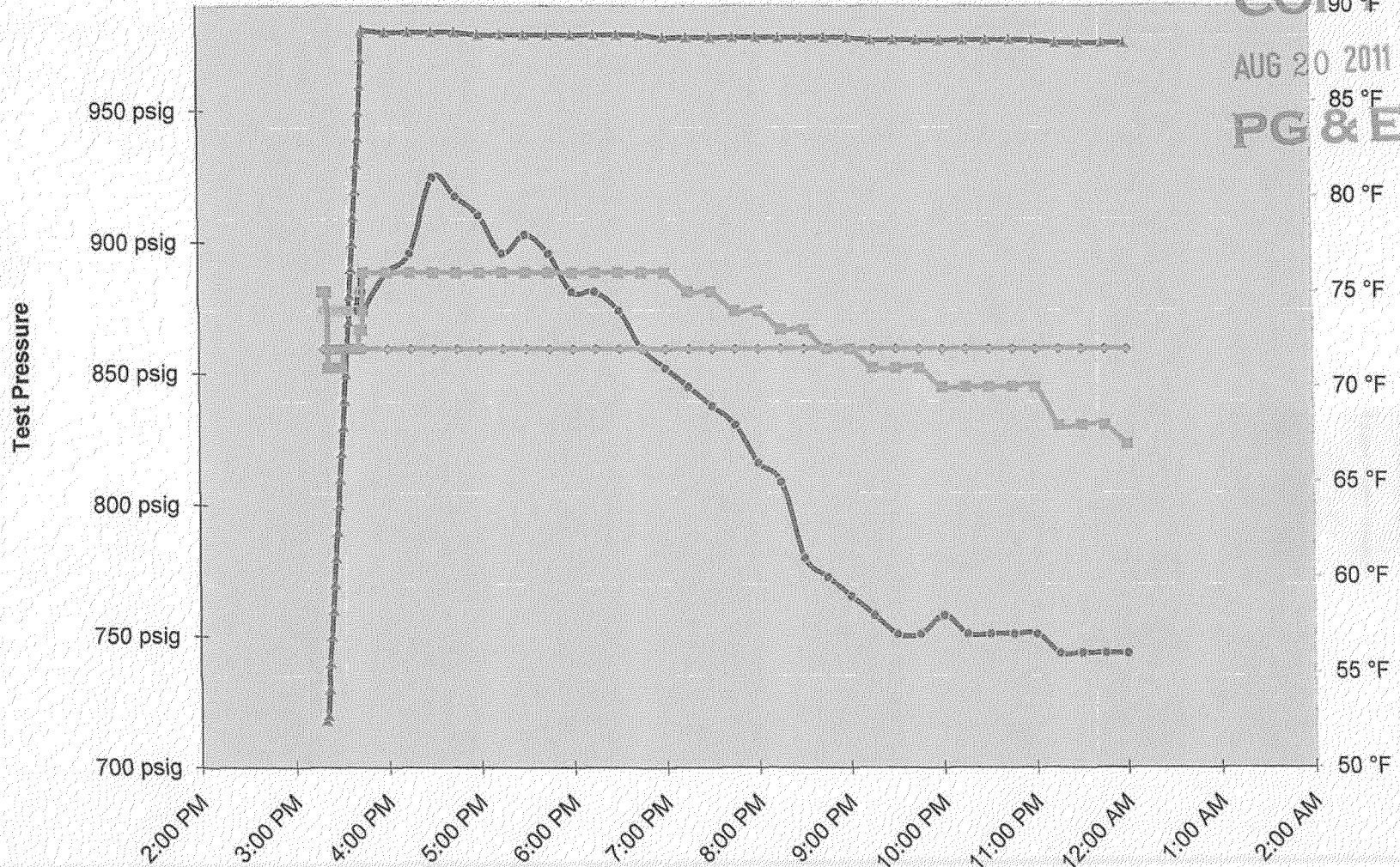
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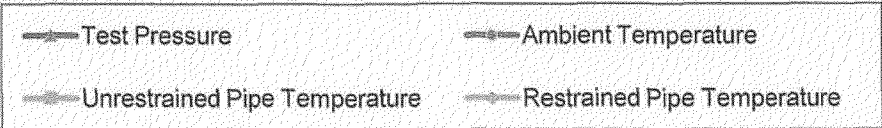
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PG&E T-89N L-300B, MP 489.33 - 490.915

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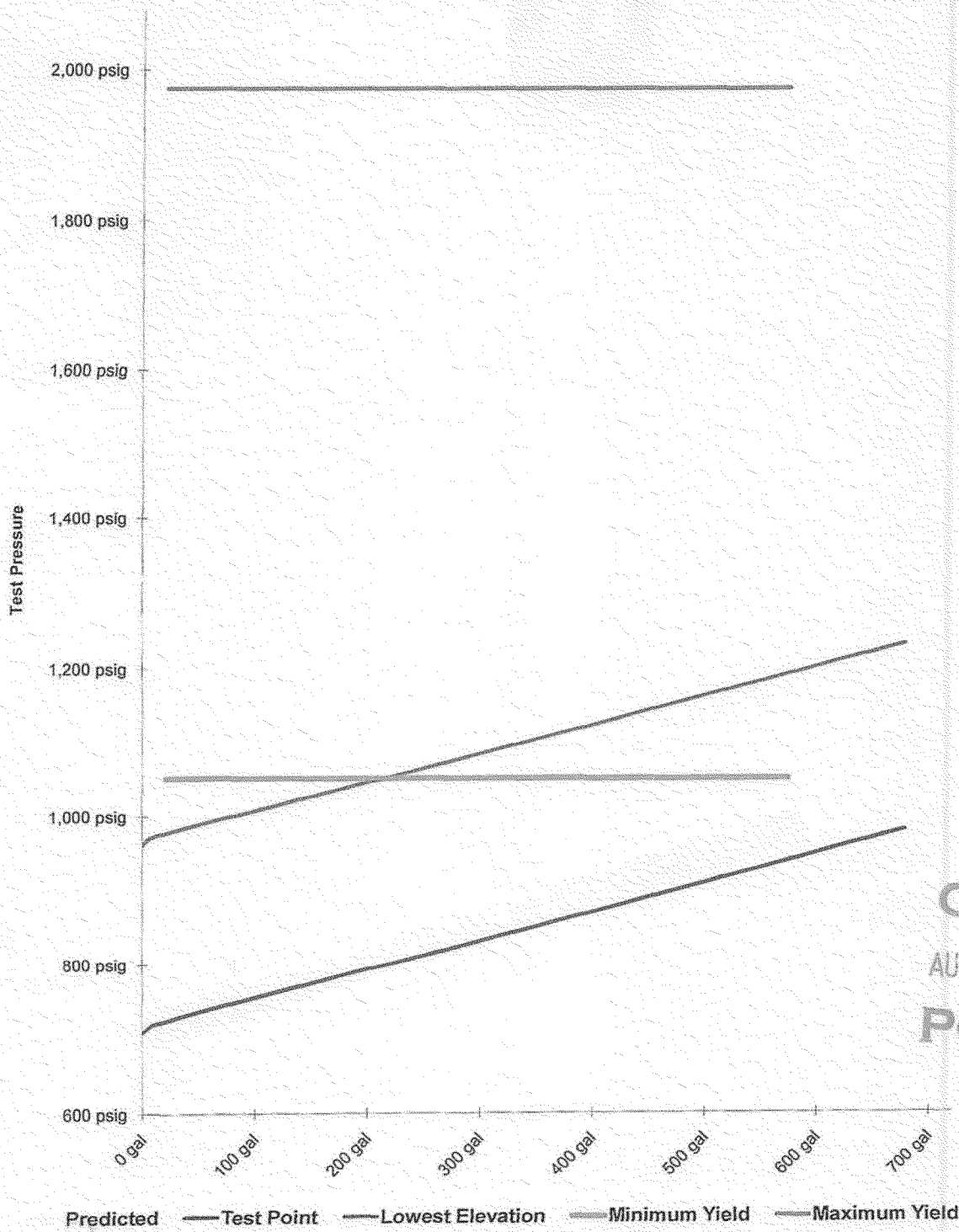


Stephen E. Gilliam



SB_GT&S_0047145

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

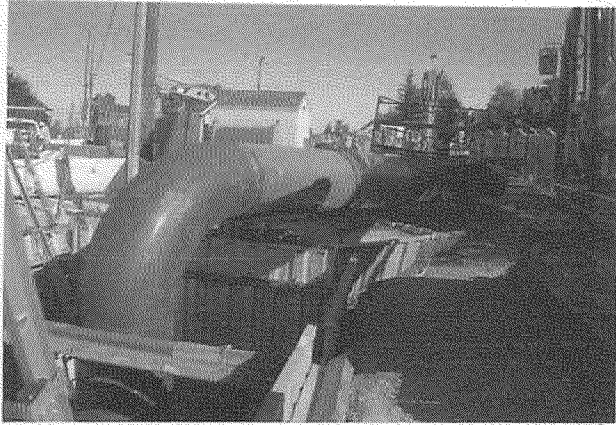


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Actual Pressure Volume Plot Data			Predicted Pressure Volume Plot Data	Slope		Spike Pressure Test Stress Strain Curve -- PG&E T-89N L-300B, MP 489.33 - 490.915	
Pressure	Strokes	Gallons	Gallons	Actual	Predicted		
710 psig	0	0.00 gal		0	0.000	Pump gal per stroke	0.551 gal/stroke
720 psig	15	8.26 gal	21.18 gal	0.826	2.118	Pump Piston Diameter	3.000 in
730 psig	56	30.84 gal	42.36 gal	2.258	2.118	Pump Piston Stroke	6.00 in
740 psig	102	56.18 gal	63.54 gal	2.534	2.118	Pump Cylinders	3 ea
750 psig	151	83.17 gal	84.72 gal	2.699	2.118	Volume check gal per stroke	0.000 gal/stroke
760 psig	200	110.16 gal	105.90 gal	2.699	2.118	Volume Released (gallons)	0.00 gal
770 psig	247	136.05 gal	127.09 gal	2.589	2.118	Pressure Reduced (psi)	10 psi
780 psig	295	162.49 gal	148.27 gal	2.644	2.119	Maximum2	720 gal
790 psig	342	188.37 gal	169.46 gal	2.589	2.119	Minimum2	0 gal
800 psig	390	214.81 gal	190.65 gal	2.644	2.119	Maximum1	2,077 psig
810 psig	437	240.70 gal	211.83 gal	2.589	2.119	Minimum1	600 psig
820 psig	484	266.59 gal	233.03 gal	2.589	2.119	Gallons/Stroke Used	0.551 gal/stroke
830 psig	532	293.02 gal	254.22 gal	2.644	2.119	Predicted Gallons/Stroke	0.466 gal/stroke
840 psig	579	318.91 gal	275.41 gal	2.589	2.119	Pressure Increment	10 psi
850 psig	627	345.35 gal	296.60 gal	2.644	2.119		
860 psig	673	370.69 gal	317.80 gal	2.534	2.120	Max Pressure	981 psig
870 psig	720	396.58 gal	339.00 gal	2.589	2.120		
880 psig	766	421.91 gal	360.20 gal	2.534	2.120	Buried Pipe Temperature	72 °F
890 psig	812	447.25 gal	381.40 gal	2.534	2.120		
900 psig	858	472.59 gal	402.60 gal	2.534	2.120	Exposed Pipe Temperature	76 °F
910 psig	905	498.47 gal	423.80 gal	2.589	2.120		
920 psig	950	523.26 gal	445.00 gal	2.479	2.120	ASME B31.8 Appendix N-5	
930 psig	997	549.15 gal	466.21 gal	2.589	2.120		
940 psig	1042	573.93 gal	487.41 gal	2.479	2.121	Average Actual Elastic Slope	0.826
950 psig	1088	599.27 gal	508.62 gal	2.534	2.121	Average Predicted Elastic Slope	2.120
960 psig	1133	624.05 gal	529.83 gal	2.479	2.121		
970 psig	1179	649.39 gal	551.04 gal	2.534	2.121	Code Prescribed Minimum Yield Slope (less 10%) B31.8 N-5 (c)(2)	1.570
980 psig	1225	674.73 gal	572.25 gal	2.534	2.121		
981 psig	1232	678.58 gal	574.37 gal	3.856	2.121	Established Minimum Yield Pressure B31.8 N-5 (c)(2)	720 psig
981 psig		678.58 gal	574.37 gal	0.000	0.000		
981 psig		678.58 gal	574.37 gal	0.000	0.000	Maximum Allowed Volume (After Slope Deviation) B31.8 N-5 (c)(2)	418 gal
981 psig		678.58 gal	574.37 gal	0.000	0.000		
981 psig		678.58 gal	574.37 gal	0.000	0.000	Volume (After Slope Deviation) B31.8 N-5 (c)(2)	0 gal
981 psig		678.58 gal	574.37 gal	0.000	0.000		
981 psig		678.58 gal	574.37 gal	0.000	0.000	Redacted	
981 psig		678.58 gal	574.37 gal	0.000	0.000		
981 psig		678.58 gal	574.37 gal	0.000	0.000		
981 psig		678.58 gal	574.37 gal	0.000	0.000		
981 psig		678.58 gal	574.37 gal	0.000	0.000		
981 psig		678.58 gal	574.37 gal	0.000	0.000		
981 psig		678.58 gal	574.37 gal	0.000	0.000		
981 psig		678.58 gal	574.37 gal	0.000	0.000		
981 psig		678.58 gal	574.37 gal	0.000	0.000		
981 psig		678.58 gal	574.37 gal	0.000	0.000		
981 psig		678.58 gal	574.37 gal	0.000	0.000	8/20/2011	
981 psig		678.58 gal	574.37 gal	0.000	0.000	Date	

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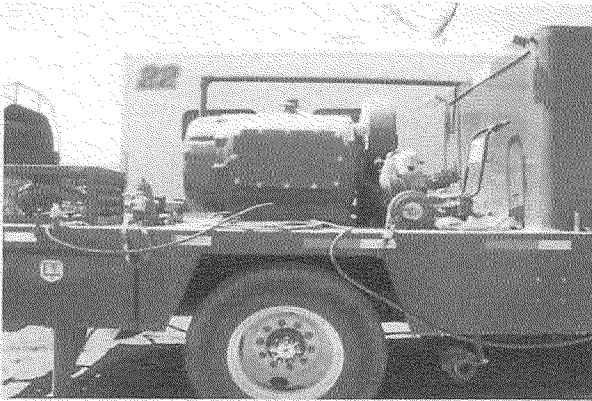


Test Location: Test End



Test Header to Existing Pipe

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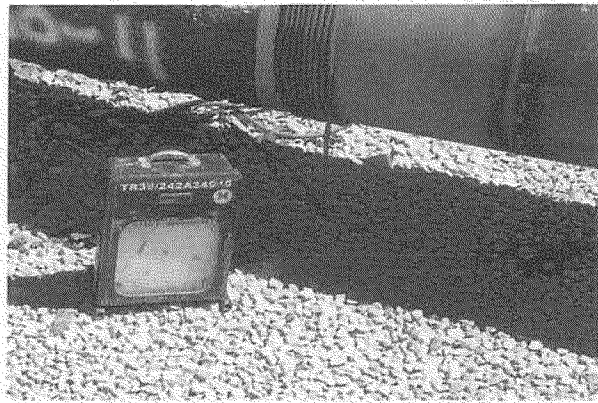
Injection Pump



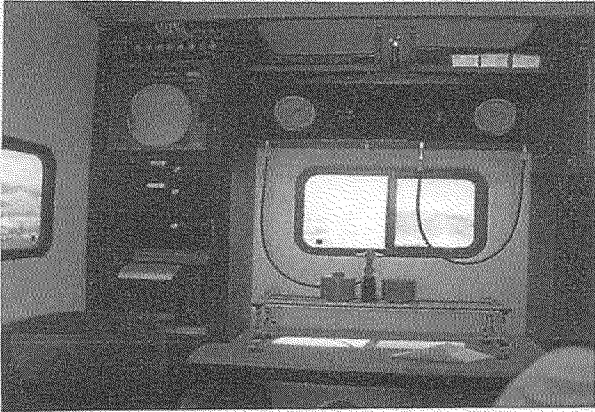
Test Location: Test Head



Restrained Temperature Chart Recorder in Ditch



Pressure Chart Recorder



Dead Weight and Temp/Pressure Chart in Trailer

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Hydrostatic Test Log Sheet

Owner Company	Pacific Gas and Electric	Job Number	4149731-3
Construction Co.	Shelton	Job Number	H147H005-T 89 N
Testing Co.	MilBar Hydro Testing	Job Number	Fy 12-112

Test Section	Name	L-300 B H&H. 33 - 490.915 T-89 North	
		Station (0+00)	Elevation (Feet)
	Test Location	0+00	774
	Begin	0+00	774
	End	81+84	193
	High Elevation	2+17	796
Low Elevation	81+84	193	

Pipe Data	Section	Length (ft.)	O. D. (in.)	W.T. (in.)	Restrained (ft.)	Unrestrained (ft.)	Grade	Seam/Joint Type
	1	40	34	.500		40	X-65	DSAW Arc weld
	2	17	34	.560	17		X-60	DSAW Arc weld
	3	1183	34	.500	1183		X-52	DSAW Arc weld
	4	3154	34	.4375	3154		X-52	DSAW Arc weld
	5	433	34	.375	433		X-52	DSAW Arc weld
	6	3483	34	.344	3483		X-52	DSAW Arc weld
	7	40	34	.500		40	X-65	DSAW Arc weld
	8	19	34	.375		19	X-65	DSAW Arc weld
	9	40	1.315	.113		40	B	SM Arc weld
	10							
11								

Test Period	Date	Time	Test Medium	Water <input checked="" type="checkbox"/>	
	Begin	8-20-2011		3:45 pm	Nitrogen <input type="checkbox"/>
	End	8-21-2011		12:00 am	Other <input type="checkbox"/>

Test Instrumentation	Description	Calibration Checked	Serial Number	Date Calibrated/Certified	Installation Correct
	Dead Weight Pressure Tester		6106	5-17-2011	<input checked="" type="checkbox"/> Yes
	Pressure Recorder	<input type="checkbox"/> Yes	202A-175572	6-7-2011	<input checked="" type="checkbox"/> Yes
	Ambient Temperature Recorder	<input checked="" type="checkbox"/> Yes	04042809	5-20-2011	<input checked="" type="checkbox"/> Yes
	Restrained Pipe Temperature Recorder	<input checked="" type="checkbox"/> Yes	04042809	5-20-2011	<input checked="" type="checkbox"/> Yes
	Unrestrained Pipe Temperature Recorder	<input checked="" type="checkbox"/> Yes	04042809	5-20-2011	<input checked="" type="checkbox"/> Yes

Hydrostatic Test Log

Log No.	Time	Test Pressure (psig)	Temperature (°F)			Volume		Comments	Model Check: Is test good?
			Ambient	Pipe <input type="checkbox"/> Dunces <input checked="" type="checkbox"/> Gallons		Bleed	Inject		
				Restrained	Unrestrained				
1	12:03	118	65	72	70				
2	1:38	118	70	72	74		Pumping	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
3	2:17	718	71	72	74		at 7596	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
4	2:39	716	72	72	74			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5	2:49	716	71	72	75			<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	3:04	716	72	72	75			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
7	3:19	716	74	72	75			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
8	3:20	716	74	72	75		Pumping	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
9	3:42	981	74	72	76	678	at pressure	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	



Hydrostatic Test Log

Log No.	Time	Test Pressure (psig)	Temperature (°F)			Volume		Comments	Model Check: Is test good?
			Ambient	Pipe		<input type="checkbox"/> Dunces	<input checked="" type="checkbox"/> Gallons		
				Restrained	Unrestrained	Bleed	Inject		
10	3:45	981	74	72	76			On Test	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	4:00	980	76	72	76				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	4:15	980	77	72	76				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13	4:30	980	81	72	76				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	4:45	980	80	72	76				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
15	5:00	979	79	72	76				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	5:15	979	77	72	76				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
17	5:30	979	78	72	76				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
18	5:45	979	77	72	76				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
19	6:00	979	75	72	76				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
20	6:15	979	75	72	76				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
21	6:30	979	74	72	76				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
22	6:45	979	72	72	76				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
23	7:00	978	71	72	76				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
24	7:14	978	70	72	75				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
25	7:30	978	69	72	75				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
26	7:45	978	68	72	74				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
27	8:00	978	66	72	74				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
28	8:15	978	65	72	73				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
29	8:30	978	61	72	73				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
30	8:45	978	60	72	72				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
31	9:00	978	59	72	72				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
32	9:15	977	58	72	71				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
33	9:30	977	57	72	71				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
34	9:45	977	57	72	71				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
35	10:00	977	58	72	70				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
36	10:15	977	57	72	70				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
37	10:30	977	57	72	70				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
38	10:45	977	57	72	69				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
39	11:00	977	57	72	69				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
40	11:15	976	56	72	68				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
41	11:30	976	56	72	68				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
42	11:45	976	56	72	68				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
43	12:00	976	56	72	67			OFF TEST	<input type="checkbox"/> Yes <input type="checkbox"/> No
44									<input type="checkbox"/> Yes <input type="checkbox"/> No
45									<input type="checkbox"/> Yes <input type="checkbox"/> No
46									<input type="checkbox"/> Yes <input type="checkbox"/> No
47									<input type="checkbox"/> Yes <input type="checkbox"/> No
48									<input type="checkbox"/> Yes <input type="checkbox"/> No
49									<input type="checkbox"/> Yes <input type="checkbox"/> No
50									<input type="checkbox"/> Yes <input type="checkbox"/> No

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Was a leak observed during test Period? Yes No

If "Yes" Explain:

High Test Pressure:

981



Hydrostatic Test Log

Log No.	Time	Test Pressure (psig)	Temperature (°F)				Volume		Comments	Model Check: Is test good?
			Ambient	Pipe		<input type="checkbox"/> Ounces	<input type="checkbox"/> Gallons			
				Restrained	Unrestrained	Bleed	Inject			
					Low Test Pressure:		976			
Certification:										
Test Supervisor:		Redacted			Company Representative:		Date: 8/21/2011 Redacted			
		Signature					Signature			

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Pacific Gas and Electric Company
Gas Pipeline Facilities Strength Test Pressure Report
 (For Pipeline Facilities Designed to Operate over 100 PSIG)

62-4921 (Rev. 2/04)
 California Gas Transmission
 (Use in Accordance with Gas Standard A-34 and GD 112-D)

Sheet **1** of **1**

PART I - DESIGN DATA (TO BE PREPARED BY PROJECT ENGINEER)

Feeder Main Number, Line Number, or Station Name L-300B	Area 1	Division/District San Jose	Job Number 41497331-3	Date Job Authorized 8/18/11
---	------------------	--------------------------------------	---------------------------------	---------------------------------------

Description of Job -- Include Reference Drawing Numbers, and Pipeline Mileposts
TEST 3 - Hydrostatically test tie-in piping, hydrostatic test piping and existing 34" L-300B. Existing pipeline material listed are from the "Material of Record" (refer to Dwg. 41497331 Sheet 7) Rev. 2 - Additional pipe specs 34.00" OD 0.505" WT X-60, 34.00" OD 0.375" WT X-65, & 1.05" OD 0.113" WT GR B Hydrotest L-300B from MP 489.33-490.915 San Jose, CA (Test section 89 North)

Location Class 3	Design Factor (F) 0.5	MAOP to be Established for this Piping by this Test 631 PSIG	Future Design Pressure 631 PSIG
----------------------------	---------------------------------	--	---

STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)	Max. Elevation 796 Ft.	Static Head Calculation	For Water 0.433 X Elev. Diff. = 261 PSIG
	Min. Elevation 193 Ft.	Other (Specify)	X Elev. Diff. = PSIG
	Elev. Diff. 603 Ft.		

Pipe Specification		Footage to Be Tested	Pipe Spec. and Footage Verified In Field	% of SMYS			Pressure to Give 90% SMYS
Size O.D.	API or ASTM Grade Long Seam (ERW, DSAW, Seamless, Etc.)			At MAOP	At Min. Test Press.	At Max. Test Press.	
34.00	0.500 API 5L, GR X-65, DSAW (Item#101)	24'	90' RLC	33.01	49.54	65.70	1721
34.00	0.505 API 5L, GR X-60, DSAW	16'	0' RLC	35.40	53.13	70.47	1604
34.00	0.560 API 5L, GR X-60, DSAW (Item#1)	17'	MOR	31.93	47.91	63.55	1779
34.00	0.500 API 5L, GR X-52, DSAW (Item#2)	1184'	1183'	41.26	61.92	82.12	1376
34.00	0.4375 API 5L, GR X-52, DSAW (Item#3)	3154'	MOR	47.15	70.76	93.85	1204
34.00	0.375 API 5L, GR X-52, DSAW (Item#4)	433'	MOR	55.01	82.56	109.50*	1032
34.00	0.344 API 5L, GR X-52, DSAW (Item#5)	3483'	MOR	59.97	90.00	119.36*	947
34.00	0.375 API 5L, GR X-65, DSAW	19'	19' RLC	44.01	66.05	87.60	1291
1.050	0.113 API 5L, GR B, SMLS	40'	40' RLC	8.38	12.57	16.67	6780

Minimum Test Pressure @ Max. Elevation 947 PSIG	Test Fluid To Be Used WATER	MINIMUM TEST DURATION - UNDER 30% SMYS (1 HR. MINIMUM) - 30% SMYS & OVER (8 HRS. MINIMUM) - PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34)	8 HOURS
Maximum Test Pressure @ Min. Elevation 1256 PSIG			
Redacted	Date: 8-18-11	For Information or Changes, Call: Redacted	Date: 8/18/11

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 3:45 am 8-20-2011	Elevation at Test Point 774 FT	Min. Required Test Press. At Test Point (1) 957 PSIG	Max. Allowable Test Press at Test Point (4) 1004 PSIG
Time and Date Test Ended 12:00 am 8-21-2011	Max. Elevation in Test Section 796 FT	Min. Indicated Test Pressure (2) 976 PSIG	Max. Indicated Test Pressure (5) 981 PSIG
Actual Duration of Test 8 hour 15 min	Min. Elevation in Test Section 193 FT	Min. Test Pressure at Max. Elevation (3) 956 PSIG	Max. Test Pressure at Min. Elevation (6) 1233 PSIG

Test Fluid Used Water	Pipe Specification and Footage Verified (See Part I) Redacted
---------------------------------	---

Make, Range, and Serial No. of Pressure Recording Gauge Barton 0-3000 202A-1753 12	Date Last Calibrated 6-7-2011	Make, Range, and Serial No. of Dead Weight Tester (See Note 7) Shawlor 50-3000 6106	Date Last Calibrated 5-17-2011
Test Supervised By Redacted	Date: 8-21-2011	Approved By:	Date:

PUT SCHEMATIC PIPING SKETCH ON BACK OF THIS SHEET
 SHOW LOCATION OF FACILITY TESTED, MINIMUM AND MAXIMUM ELEVATION IN FEET, MILE POINTS, VALVE NUMBERS AND INCORPORATED AREAS. USE AN ADDITIONAL SHEET IF NECESSARY (SHOW REFERENCE NUMBERS ON FACE OF ALL DRAWINGS AND ATTACHMENTS). FOR STATION PIPING, FABRICATED UNITS AND SHORT SECTIONS OF PIPE, ALSO SHOW A DETAILED SKETCH OF EACH ASSEMBLY TESTED.

- NOTES:**
- Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I.
 - Use lowest pressure on test gauge at any time during test.
 - Subtract static head due to elevation difference (between test point and maximum elevation) from minimum indicated test pressure.
 - Subtract static head due to elevation difference (between test point and minimum elevation) from "maximum test pressure at minimum elevation" from PART I.
 - Highest pressure on test gauge at any time during test.
 - Add static head due to elevation difference (between test point and minimum elevation) to maximum indicated test pressure.
 - A dead weight tester is only required when testing to a pressure which produces a stress level of 90% of SMYS or greater. However, if a dead weight tester is used on any test, enter the information in the space provided above.
- DISTRIBUTION**
 JOB FILE (AT SPONSORING ORGANIZATION)
 GMS&TS RESPONSIBLE DISTRICT SUPERINTENDENT
 PROJECT MANAGER/PROJECT ENGINEER
 TECHNICAL & CONSTRUCTION SERVICES - ASSIGNED JOBS ONLY
 CAPITAL ACCOUNTING (FOREMAN'S COPY OF JOB)
 RECORDS SECTION (WC), GMS&TS
 REPORT FAILURES UNDER TEST TO GAS ENGINEERING & PLANNING

*Item #4 on MOR, 34.00" OD x 0.375" WT, API 5L, X-52 will not experience test pressure commensurate with this % of SMYS. Minimum elevation of this pipe (see Dwg. 4147331, sheet 4 of 7) is 631' and maximum test pressure will be 1066 psig (93.0% of SMYS) at this location. Item #5 on MOR, 34.00" OD x 0.344" WT, API 5L, X-52 will not experience test pressure commensurate with this % of SMYS. Minimum elevation of this pipe (see Dwg. 4147331, sheet 4 of 7) is 680' and maximum test pressure will be 1045 psig (99.3% of SMYS) at this location.



TEST LOG

Date: 8-20-2011

Page: 1 of 1

Company & Contractor: PG&E / Shelson		Project: PG&E Hydrotest Existing Lines	
Contract Number: 12-112	Location: San Jose, CA	Pipe Description: 34" O.D. 3/4" W.T. X-52 Grade	
Section Number(s): 89 N	From: MP/STA H89.33 / 0+00	To: MP/STA H90.75 / 8+84	Length: 1.565 miles
Pressure Unit Location: 0+00	Pressure Unit #: PT 930	Gallons/Stroke: 551	Strokes/10psi: 46.8
Test Pressure Maximum: 1004	Test Pressure Minimum: 957	Test Medium: water	Weather: Day Sunny

Instruments	Dead Weight Gauge	Pressure	Temperature (Ambient)	Temperature (Pipe / Ground)	Temperature (Other)	Temp (Other)
Range	30-3000	0-3000	-20-140	-20-120	PG&E	Temp 39
Manufacturer	Chandler	Crescent	Crescent	Crescent	Barton	Barton
Serial #	6106	04042809	04042809	04042809	202A-175572	042A-34945
Certification	5/19/2011	5/20/2011	5/20/2011	5/20/2011	6/7/2011	5/18/2011

Date & Time Test Started: 8/20/2011 3:45	<input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	Date & Time Test Ended: 8/21/2011 12:00	<input checked="" type="checkbox"/> AM <input type="checkbox"/> PM
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Time	Pressure (psig)	Temperature (°F)		Remarks	Time	Pressure (psig)	Temperature (°F)		Remarks
		Ambient	Pipe / Ground				Ambient	Pipe / Ground	
12:05 ^{PM}	118	65	70/72		7:30	978	69	75/72	
1:38	118	70	74/72	Bumping	7:45	978	68	74/72	
2:19	719	71	74/72	at 75%	8:00	978	66	74/72	
2:34	716	72	74/72		8:15	978	65	73/72	
2:49	716	71	75/72		8:30	978	61	73/72	
3:04	716	72	75/72		8:45	978	60	72/72	
3:19	716	74	75/72		9:00	978	59	72/72	
3:20	716	74	75/72	Bumping	9:15	977	58	71/72	
3:42	981	74	76/72	54 pressure	9:30	977	57	71/72	
3:45	981	74	76/72	On Test	9:45	977	57	71/72	
4:00	980	76	76/72		10:00	977	58	70/72	
4:15	980	77	76/72		10:15	977	57	70/72	
4:30	980	81	76/72		10:30	977	57	70/72	
4:45	980	80	76/72		10:45	977	57	69/72	
5:00	979	79	76/72		11:00	977	57	69/72	
5:15	979	77	76/72		11:15	976	56	68/72	
5:30	979	78	76/72		11:30	976	56	68/72	
5:45	979	77	76/72		11:45	976	56	68/72	
6:00	979	75	76/72		12:00	976	56	69/72	OFF TEST
6:15	979	75	76/72						
6:30	979	74	76/72						
6:45	979	72	76/72						
7:00	978	71	76/72						
7:14	978	70	75/72						

Log Continued: Yes No

Remarks:

Section Accepted <input checked="" type="checkbox"/> Yes	P-V Plot <input checked="" type="checkbox"/> Yes	Section Ruptured <input type="checkbox"/> Yes	Section Leaking <input type="checkbox"/> Yes
Redacted	8-21-2011 Date	Redacted	Date

White - Company

Yellow - Milbar

SB_GT&S_0047154



STROKE / PRESSURE LOG

Date: 8/20/11

Page: 1 of 2

Company & Contractor: PG&E / Snelson		Project: PG&E Hydro Test Existing Lines	
Contract Number: FY12-112	Location: San Jose, CA	Pipe Description: 34 " O.D. 0.344 " W.T. X-52 Grade	
Section Number(s): 89 north	From: MP/STA 489.33 MP / 0+00	To: MP/STA 490.92 MP / 81+84	Length: 1.55 Mi.
Pressure Unit Location: 0+00		Pressure Unit Number: AUG 20 2011	Gallons/Stroke: 0.551
Date & Time Start Pump: 8/20/11 3:20 PM		Pressure: 718	Date & Time Stop Pump: PG&E 8/20/11 3:42 PM
			Pressure: 981

Time	Pressure (psig)	Strokes	Difference	Time	Pressure (psig)	Strokes	Difference
3:20:26 PM	718	0	0				
3:21:09 PM	720	15	15				
3:21:56 PM	730	56	41				
3:22:41 PM	740	102	46				
3:23:30 PM	750	151	49				
3:24:21 PM	760	200	49				
3:25:10 PM	770	247	47				
3:26:00 PM	780	295	48				
3:26:50 PM	790	342	47				
3:27:39 PM	800	390	48				
3:28:28 PM	810	437	47				
3:29:17 PM	820	484	47				
3:30:05 PM	830	532	48				
3:30:54 PM	840	579	47				
3:31:43 PM	850	627	48				
3:32:32 PM	860	673	46				
3:33:20 PM	870	720	47				
3:34:09 PM	880	766	46				
3:34:57 PM	890	812	46				
3:35:46 PM	900	858	46				
3:36:33 PM	910	905	47				
3:37:21 PM	920	950	45				
3:38:10 PM	930	997	47				
3:38:56 PM	940	1042	45				
3:39:44 PM	950	1088	46				
3:40:33 PM	960	1133	45				
3:41:19 PM	970	1179	46				
3:42:09 PM	980	1225	46				
3:42:37 PM	981	1232	7				

Log Continued: Yes No

Remarks:

Redacted	8-20-2011	Redacted	8/20/2011
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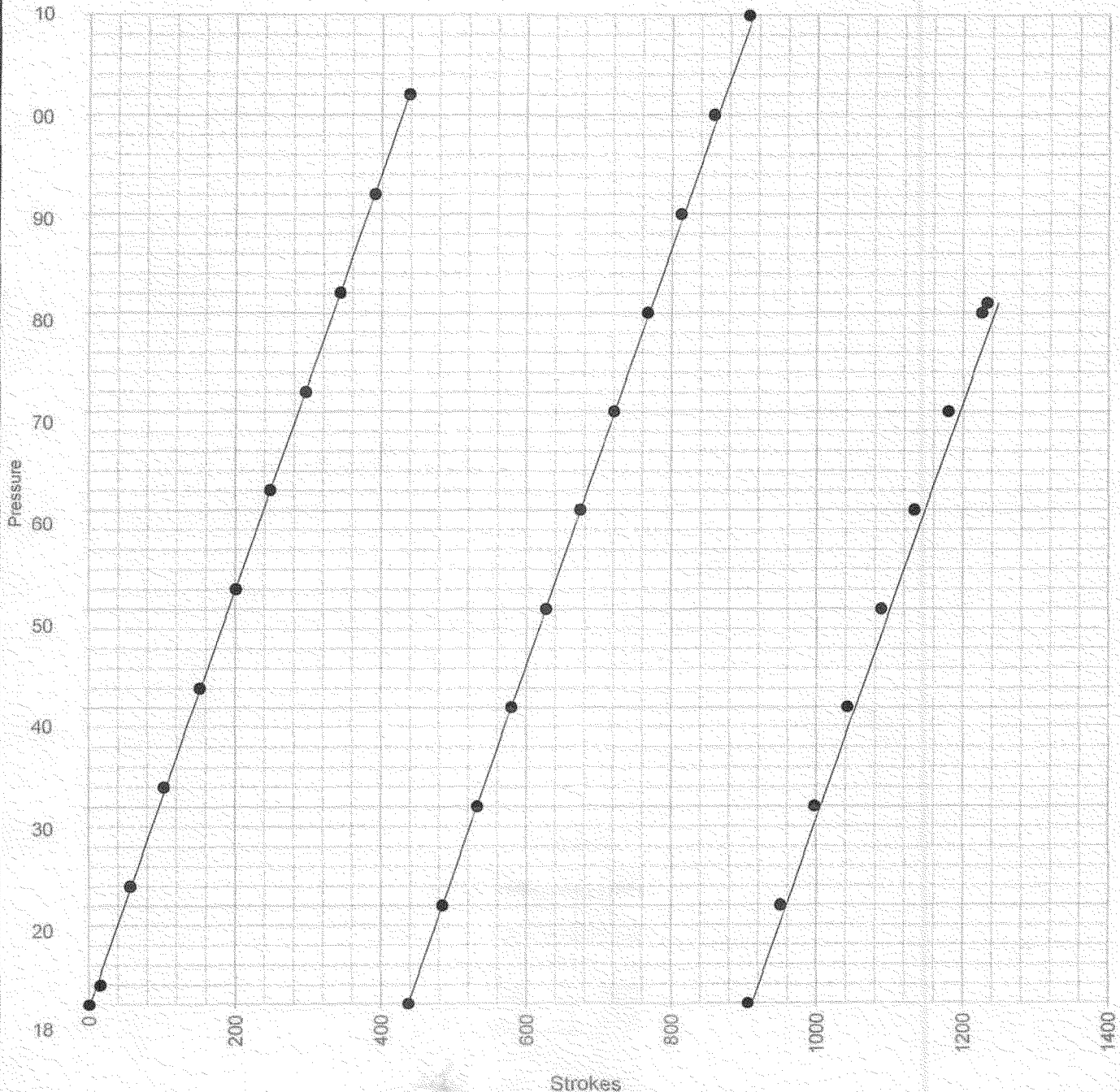


STROKE / PRESSURE PLOT

Date: 08/20/11

Page: 2 of 2

Company & Contractor: PG&E / Snelson		Project: PG&E Hydro Test Existing Lines	
Contract Number: FY12-112	Location: San Jose ,CA	Pipe Description: 34 " O.D. 0.344 " W.T. X-52 Grade	
Section Number(s): 89 north	From: 489.33 MP / 0+00	To: 490.92 MP / 81+84	Length: 1.55
Gallons Deviation: -8.52 gallons	Elevation@HP: 796.0	Total Gallons Pumped: 679	Gallons/Stroke: 0.551
Stress: 48008 psi/92.3 %	Elevation@TS: 774.0	Strokes/PSI: 4.68	Gallons/PSI: 2.58
Deviation/Mile: -5.50 gallons	Stress: 48480 psi/93.2 %	Strokes/Min: 55.54	PSI/Min: 11.86
Equation of Line: $y=0.2109x+717.87$	Elevation@LP: 193.0		
	Stress: 60926 psi/117.2 %		



Redacted

8-20-2011

Date

Redacted

8/21/2011

Date