



RCP, Inc

801 Louisiana, Ste.200  
Houston, Texas 77002

Redacted

June 26, 2011

Pacific Gas and Electric Company  
3600 Adobe Rd  
Petaluma, Ca 94954  
Attention: Joel Mannio  
Attention:

Test Contractor:	Contra Costa Inspection Company -- PG&E 6-06-11
Asset Owner:	Pacific Gas and Electric Company -- 41474079 4/14/11/062
Construction Contractor:	ARB -- 0629-53-3500-96
Test Section:	PG&E T-3 Line 101
Test Date:	June 7, 2011
Certificate Number:	RCP 61362 - T-3, L-101

To whom it may concern,

This letter is to certify that the hydrostatic test performed on pipe owned by Pacific Gas and Electric Company and tested by Contra Costa Inspection Company met the requirements of the Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 3).

The test segment was subjected to a spike pressure test of 751 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 hour test duration period.

This hydrostatic test was completed successfully. Pressure was maintained on the test facilities in excess of 8 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 702 psig and the established MAOP is 468 psig.

Pressure decreased 49 psi during the test. 18,048.00 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 3,107.48 ounces gain, which is equivalent to a 0.83 °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,

Redacted

cc. file

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Test 3.xlsm

Letter



# Hydrostatic Test Certification

11-74062

Company	Pacific Gas and Electric Company	Job Number	41474979
Construction Co.	ARR	Job Number	0629.93.3500.99
Hydro. Test Co.	Contra Costa Inspection Company	Project No.	PG&E 6.06.11
Test Section	PG&E 1-3 Line 101		
File Name	HCI 61362 - 1-3, L-101		

## Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION:	Test Date:	7-Jun-11
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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 1-3 Line 101
From:	124+50
To:	207+34

### Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	82 ft	38.000 in.	0.500 in.	API 5L-X65, DSAW, Arc Weld, Steel	1,800 psi
2	1,505 ft	30.000 in.	0.500 in.	API 5L-X60, SM, Arc Weld, Steel	2,000 psi
3	8,137 ft	38.000 in.	0.350 in.	API 5L-X62, DSAW, Arc Weld, Steel	1,011 psi
4	217 ft	38.000 in.	0.438 in.	API 5L-X62, DSAW, Arc Weld, Steel	1,264 psi
11	10 ft	10.750 in.	0.385 in.	API 5L-Grade B, SM, Arc Weld, Steel	2,377 psi

### Initial Test Conditions

Pressure at Test Point:	751 psig	Date/Time:	6/7/11 12:56 AM	Pipe Temperature:	
Ambient Temperature:	57.0 °F	Elevation @ Test Point:	8 ft	Unrestrained:	63.0 °F
Pressure @ High Point (Calc/Measured):	751 psig	Elevation @ High Point:	8 ft	Restrained:	59.0 °F
Pressure @ Low Point (Calc/Measured):	754 psig	Elevation @ Low Point:	0 ft	Location:	124+80
				Location:	132+50
				Location:	156+26

### Final Test Conditions

Pressure at Test Point:	702 psig	Date/Time:	6/7/11 8:45 AM	Pipe Temperature:	
Ambient Temperature:	61.0 °F	Elevation @ Test Point:	8 ft	Unrestrained:	63.0 °F
Pressure @ High Point (Calc/Measured):	702 psig	Elevation @ High Point:	8 ft	Restrained:	59.0 °F
Pressure @ Low Point (Calc/Measured):	705 psig	Elevation @ Low Point:	0 ft	Location:	124+80
				Location:	132+50
				Location:	156+26

Total Fluid Injected:		Total Fluid Withdrawn:	16048.00 fluid ounces	Volume gain:	
Net Change in Volume of the Test Section (+ Gain, - Loss):	3,107.48 oz	gain		0.0000%	0.620 °F equivalent

Test Duration: 8 hours

Minimum Test Pressure:	702 psig	702 psig	705 psig
Maximum Test Pressure:	751 psig	751 psig	754 psig
% SMYS:	74.3%	74.3%	74.6%

Minimum Test Pressure (Calculated/Measured): 702 psig

Maximum Allowable Operating Pressure:	DOT Part 192	Test Factor= 1.50	468 psig
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Were leaks observed?	No	Explain:
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Acceptable Hydrostatic Test?	Yes	<p>The test segment was subjected to a spike pressure test of 751 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 hour test duration period.</p> <p>No leaks were observed during the test period. The test section included 0,356 feet of buried and 122 feet of exposed pipe. Pressure lost 49 psi during the test. The buried pipe segment fluid temperature remained steady and the exposed pipe segment fluid temperature remained steady.</p> <p>16,048.00 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 3,107.48 ounces, gain, which is equivalent to a 0.63 °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 gain is attributed to the error characteristic of the temperature measurement instrumentation utilized.</p>
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Respects	
Redacted	
26-Jun-11	



# Dead Weight Log Sheet

Owner Company Pacific Gas and Electric Company

Job Number 41174062  
44474079

Construction Co. ARB

Job Number 0629-53-3500-98

Testing Co. Contra Costa Inspection Company

Project No. PG&E 6-06-11

Test Section PG&E T-3 Line 101

File Name RCP 61362 - T-3, L-101

Date 7-Jun-11

## Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
					Unrestrained	Restrained			
1	6/7/11	12:10 AM	512 psig	58 °F	63 °F	59 °F			
2	6/7/11	12:12 AM	522 psig	58 °F	63 °F	59 °F	Inject		3,200 oz.
3	6/7/11	12:14 AM	532 psig	58 °F	63 °F	59 °F	Inject		3,104 oz.
4	6/7/11	12:16 AM	542 psig	58 °F	63 °F	59 °F	Inject		3,217 oz.
5	6/7/11	12:18 AM	552 psig	58 °F	63 °F	59 °F	Inject		3,176 oz.
6	6/7/11	12:20 AM	562 psig	58 °F	63 °F	59 °F	Inject		3,042 oz.
7	6/7/11	12:22 AM	572 psig	58 °F	63 °F	59 °F	Inject		3,104 oz.
8	6/7/11	12:24 AM	582 psig	58 °F	63 °F	59 °F	Inject		3,176 oz.
9	6/7/11	12:26 AM	592 psig	58 °F	63 °F	59 °F	Inject		3,094 oz.
10	6/7/11	12:28 AM	602 psig	58 °F	63 °F	59 °F	Inject		2,971 oz.
11	6/7/11	12:30 AM	612 psig	58 °F	63 °F	59 °F	Inject		3,135 oz.
12	6/7/11	12:32 AM	622 psig	58 °F	63 °F	59 °F	Inject		3,114 oz.
13	6/7/11	12:33 AM	632 psig	58 °F	63 °F	59 °F	Inject		3,073 oz.
14	6/7/11	12:34 AM	642 psig	58 °F	63 °F	59 °F	Inject		3,053 oz.
15	6/7/11	12:35 AM	652 psig	58 °F	63 °F	59 °F	Inject		2,950 oz.
16	6/7/11	12:36 AM	662 psig	58 °F	63 °F	59 °F	Inject		2,991 oz.
17	6/7/11	12:37 AM	672 psig	58 °F	63 °F	59 °F	Inject		3,053 oz.
18	6/7/11	12:38 AM	682 psig	58 °F	63 °F	59 °F	Inject		2,858 oz.
19	6/7/11	12:39 AM	692 psig	58 °F	63 °F	59 °F	Inject		3,165 oz.
20	6/7/11	12:40 AM	702 psig	58 °F	63 °F	59 °F	Inject		2,725 oz.
21	6/7/11	12:41 AM	712 psig	58 °F	63 °F	59 °F	Inject		2,971 oz.
22	6/7/11	12:42 AM	722 psig	58 °F	63 °F	59 °F	Inject		3,124 oz.
23	6/7/11	12:43 AM	732 psig	58 °F	63 °F	59 °F	Inject		2,848 oz.
24	6/7/11	12:44 AM	742 psig	58 °F	63 °F	59 °F	Inject		2,919 oz.
25	6/7/11	12:45 AM	751 psig	58 °F	63 °F	59 °F	Inject		2,894 oz.
26	6/7/11	12:55 AM	751 psig	57 °F	63 °F	59 °F	On Test		
27	6/7/11	1:05 AM	751 psig	57 °F	63 °F	59 °F	End Spike		
28	6/7/11	1:15 AM	704 psig	57 °F	62 °F	59 °F	Bleed	18,046 oz.	
29	6/7/11	1:30 AM	704 psig	57 °F	62 °F	59 °F			
30	6/7/11	1:45 AM	704 psig	58 °F	62 °F	59 °F			
31	6/7/11	2:00 AM	704 psig	57 °F	62 °F	59 °F			
32	6/7/11	2:15 AM	704 psig	57 °F	62 °F	59 °F			
33	6/7/11	2:30 AM	704 psig	57 °F	62 °F	59 °F			
34	6/7/11	2:45 AM	703 psig	57 °F	61 °F	59 °F			
35	6/7/11	3:00 AM	703 psig	57 °F	61 °F	59 °F			
36	6/7/11	3:15 AM	703 psig	58 °F	61 °F	59 °F			
37	6/7/11	3:30 AM	703 psig	58 °F	61 °F	59 °F			
38	6/7/11	3:45 AM	703 psig	58 °F	61 °F	59 °F			
39	6/7/11	4:00 AM	703 psig	57 °F	61 °F	59 °F			
40	6/7/11	4:15 AM	703 psig	57 °F	61 °F	59 °F			
41	6/7/11	4:30 AM	703 psig	57 °F	61 °F	59 °F			
42	6/7/11	4:45 AM	703 psig	57 °F	61 °F	59 °F			
43	6/7/11	5:00 AM	703 psig	57 °F	61 °F	59 °F			



## Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number: <del>11171079</del> 41171062
Construction Co.	ARB	Job Number: 0620-53-3500-96
Testing Co.	Contra Costa Inspection Company	Project No.: PG&E 6-06-11
Test Section	PG&E T-3 Line 101	
File Name	RCP 61382 - T-3, L-101	

Date: 7-Jun-11

### Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
					Unrestrained	Restrained			
44	6/7/11	5:15 AM	703 psig	56 °F	61 °F	59 °F			
45	6/7/11	5:30 AM	703 psig	57 °F	61 °F	59 °F			
46	6/7/11	5:45 AM	703 psig	56 °F	61 °F	59 °F			
47	6/7/11	6:00 AM	703 psig	57 °F	61 °F	59 °F			
48	6/7/11	6:15 AM	703 psig	57 °F	61 °F	59 °F			
49	6/7/11	6:30 AM	702 psig	57 °F	61 °F	59 °F	Cloud Cover		
50	6/7/11	6:45 AM	702 psig	57 °F	61 °F	59 °F			
51	6/7/11	7:00 AM	702 psig	57 °F	61 °F	59 °F			
52	6/7/11	7:15 AM	702 psig	58 °F	61 °F	59 °F			
53	6/7/11	7:30 AM	702 psig	58 °F	62 °F	59 °F			
54	6/7/11	7:45 AM	702 psig	58 °F	62 °F	59 °F			
55	6/7/11	8:00 AM	702 psig	59 °F	62 °F	59 °F			
56	6/7/11	8:15 AM	702 psig	59 °F	62 °F	59 °F			
57	6/7/11	8:30 AM	702 psig	59 °F	63 °F	59 °F			
58	6/7/11	8:45 AM	702 psig	61 °F	63 °F	59 °F	End of Test		

Spike Test      72,843.9 oz.

Hydrostatic Test      18,048.0 oz.

Were leaks observed during the test period?

Exposed and buried pipe,  
no leaks observed.

High Test Pressure:	751 psig
Low Test Pressure:	702 psig



## Pipe Segment Volume Calculations

Company:	Pacific Gas and Electric Company	Job Number:	41474079 <i>40174062</i>
Construction Co.:	ARB	Job Number:	0829.53.3500.98
Hydro. Test Co.:	Contra Costa Inspection Company	Project No.:	PG&E 8.05.11
Test Section:	PG&E T-3 Line 101	WATER	
File Name:	RCP 01102 - T-3, I-101		

### General Pipe Data

Description	Segment										
	1	2	3	4	5	6	7	8	9	10	11
Restrainted or Unrestrained?	Unrestrained	Restrainted	Restrainted	Restrainted	Restrainted	Restrainted	Restrainted	Restrainted	Unrestrained	Unrestrained	Unrestrained
Outside Diameter	36.000 in.	50.000 in.	35.000 in.	35.000 in.	34.000 in.	34.000 in.	36.000 in.	34.000 in.	2.375 in.	3.500 in.	10.750 in.
Wall Thickness - On Test	0.500 in.	0.500 in.	0.350 in.	0.430 in.	0.582 in.	0.375 in.	0.432 in.	0.438 in.	0.154 in.	0.218 in.	0.355 in.
Inside Diameter	35.000 in.	29.000 in.	35.300 in.	35.125 in.	32.876 in.	33.250 in.	35.136 in.	33.125 in.	2.067 in.	3.068 in.	10.020 in.
Spec./Grade	API 5L X85	API 5L X60	API 5L X52	API 5L X62	API 5L X60	API 5L X46	API 5L X60	API 5L X52			
Length Unrestrained	92 ft								10 ft	10 ft	10 ft
Length Restrainted		1,605 ft	6,137 ft	217 ft	8 ft	419 ft	8 ft	64 ft			
Temperature - On Test	63 °F	59 °F	59 °F	59 °F	59.0 °F	59.0 °F	59.0 °F	59.0 °F	63.0 °F	63.0 °F	63.0 °F
Temperature - End of Test	83 °F	59 °F	59.0 °F	59.0 °F	59.0 °F	59.0 °F	59.0 °F	59.0 °F	63.0 °F	63.0 °F	63.0 °F
Pressure - On Test	751 psig	751 psig	751 psig	751 psig	751 psig	751 psig	751 psig	751 psig	751 psig	751 psig	751 psig
Pressure - End of Test	702 psig	702 psig	702 psig	702 psig	702 psig	702 psig	702 psig	702 psig	702 psig	702 psig	702 psig

### Unrestrained Pipe

Sum:	Vo	Vp1	Vp2
	4,644.70 gal	4,664.52 gal	4,683.16 gal
	594,521 oz.	597,058 oz.	596,864 oz.
Vo Unrestrained	4,593 gal		2 gal
Fwp 1	1.002300		1.002300
Fpp 1	1.002190		1.002420
Fpt 1	1.000055		1.000055
Fwt 1	1.000267		1.000267
Fpw1 = Fp/Fwt	0.999788		0.999788
Vp1 = Vo(Fwp)/(Fpp)(Fpw)	4,017.84 gal		1.75 gal
Fwp 2	1.002149		1.002149
Fpp 2	1.002049		1.000393
Fpt 2	1.000055		1.000055
Fwt 2	1.000267		1.000267
Fpw2 = Fp/Fwt	0.999789		0.999789
Vip = Vo(Fwp)/(Fpp)(Fpw)	4,518.49 gal		1.75 gal

### Restrainted Pipe

Sum:	Vo	Vp1	Vp2
	397,003.61 gal	383,788.45 gal	396,833.09 gal
	60,816,462 oz.	51,045,202 oz.	51,031,426 oz.
Vo Unrestrained	51,841 gal	245 gal	403 gal
Fwp 1	1.002300	1.002300	1.002300
Fpp 1	1.001316	1.002294	1.001825
Fpt 1	0.999938	0.999938	0.999938
Fwt 1	0.999907	0.999907	0.999907
Fpw1 = Fp/Fwt	1.000081	1.000081	1.000081
Vp1 = Vo(Fwp)/(Fpp)(Fpw)	51,832 gal	313,457 gal	18,983 gal
Fwp 2	1.002149	1.002149	1.002149
Fpp 2	1.001231	1.002144	1.001834
Fpt 2	0.999989	0.999989	0.999989
Fwt 2	0.999907	0.999907	0.999907
Fpw2 = Fp/Fwt	1.000081	1.000081	1.000081
Vip = Vo(Fwp)/(Fpp)(Fpw)	51,820 gal	313,373 gal	18,976 gal

### Combined Pipe

Sum:	Vo	Vp1	Vp2
	401,848.31 gal	403,462.97 gal	403,346.25 gal
	51,410,984 oz.	51,843,281 oz.	51,628,320 oz.





## Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	41474079 - Vol 1/1062
Construction Co.	ARB	Job Number	0623-03-3500-06
Hydro. Test Co.	Central Coast Inspection Company	Project No.	PG&E 6-06-11
Test Section	PG&E T-31 line 101		
File Name	RCP 61362 - T-3, L-101		WATER

Description	Segment										
	1	2	3	4	5	6	7	8	9	10	11
Restrainted or Unrestrainted?	Unrestrainted	Restrainted	Restrainted	Restrainted	Restrainted	Restrainted	Restrainted	Restrainted	Unrestrainted	Unrestrainted	Unrestrainted
Outside Diameter	36.000 in	30.000 in	35.000 in	36.000 in	34.000 in	34.000 in	36.000 in	34.000 in	2.375 in	3.509 in	10.750 in
Wall Thickness	0.500 in	0.500 in	0.360 in	0.438 in	0.582 in	0.375 in	0.432 in	0.458 in	0.164 in	0.218 in	0.395 in
Inside Diameter	35.000 in	29.000 in	35.300 in	35.125 in	32.876 in	33.250 in	35.125 in	33.125 in	2.087 in	3.068 in	10.020 in
Spec/Grade	API 5L X60	API 5L X60	API 5L X52	API 5L X52	API 5L X60	API 5L X45	API 5L X60	API 5L X52			API 5L Grade B
Length Unrestrainted	02.00 ft								10 ft	10 ft	10 ft
Length Restrainted		1,505 ft	0,137 ft	217 ft	6 ft	419 ft	8 ft	81 ft			
Temperature - On Test	62 °F	59 °F	58 °F	59 °F	58 °F	58 °F	59 °F	58 °F	62 °F	62 °F	62 °F
Temperature - End of Test	63 °F	59 °F	59 °F	59 °F	59 °F	59 °F	59 °F	59 °F	63 °F	63 °F	63 °F
Pressure - On Test	726 psig	726 psig	726 psig	726 psig	726 psig	726 psig	726 psig	726 psig	726 psig	726 psig	726 psig
Pressure - End of Test	726 psig	726 psig	726 psig	726 psig	726 psig	726 psig	726 psig	726 psig	726 psig	726 psig	726 psig

Unrestrainted Pipe											
Sum:	Vo	4,644.70 gal		Vp1	4,664.14 gal		Vp2	4,663.67 gal			
		584,521 oz.			587,010 oz.			586,889 oz.			

Vo Unrestrainted	4,598 gal								2 gal	4 gal	41 gal
Fwp 1	1.002223								1.002223	1.002223	1.002223
Fpp 1	1.002118								1.000406	1.000430	1.000830
Fpl 1	1.000038								1.000036	1.000036	1.000038
Fwl 1	1.000181								1.000181	1.000181	1.000181
Fpwt 1 = Fpl/Fwl	0.999856								0.999856	0.999856	0.999856
Vp1 = Vo(Fwp)/(Fpp)(Fpwt)	4,617.46 gal								2 gal	4 gal	41 gal
Fwp 2	1.002223								1.002223	1.002223	1.002223
Fpp 2	1.002118								1.000406	1.000430	1.000830
Fpl 2	1.000055								1.000055	1.000055	1.000055
Fwl 2	1.000267								1.000267	1.000267	1.000267
Fpwt 2 = Fpl/Fwl	0.999788								0.999788	0.999788	0.999788
Vp2 = Vo(Fwp)/(Fpp)(Fpwt)	4,617.15 gal								2 gal	4 gal	41 gal

Restrainted Pipe											
Sum:	Vo	397,003.61 gal		Vp1	399,768.55 gal		Vp2	398,739.59 gal			
		50,818,462 oz.			51,042,374 oz.			51,038,068 oz.			
Vo Restrainted		51,611 gal	312,007 gal	10,925 gal	265 gal	18,980 gal	405 gal				2,655 gal
Fwp 1		1.002223	1.002223	1.002223	1.002223	1.002223	1.002223				1.002223
Fpp 1		1.001270	1.002214	1.001761	1.001281	1.001945	1.001784				1.001860
Fpl 1		0.999876	0.999970	0.999976	0.999976	0.999976	0.999976				0.999976
Fwl 1		0.999819	0.999819	0.999819	0.999819	0.999819	0.999819				0.999819
Fpwt 1 = Fpl/Fwl		1.000157	1.000157	1.000157	1.000157	1.000157	1.000157				1.000157
Vp1 = Vo(Fwp)/(Fpp)(Fpwt)		51,829 gal	313,442 gal	10,969 gal	265 gal	18,982 gal	405 gal				2,677 gal
Fwp 2		1.002223	1.002223	1.002223	1.002223	1.002223	1.002223				1.002223
Fpp 2		1.001274	1.002217	1.001784	1.001285	1.001946	1.001766				1.001864
Fpl 2		0.999888	0.999980	0.999988	0.999988	0.999988	0.999988				0.999988
Fwl 2		0.999907	0.999907	0.999907	0.999907	0.999907	0.999907				0.999907
Fpwt 2 = Fpl/Fwl		1.000081	1.000081	1.000081	1.000081	1.000081	1.000081				1.000081
Vp2 = Vo(Fwp)/(Fpp)(Fpwt)		51,826 gal	313,419 gal	10,968 gal	265 gal	18,980 gal	405 gal				2,677 gal

Combined Pipe											
Sum:	Vo	401,648.31 gal		Vp1	403,432.69 gal		Vp2	403,403.42 gal			
		51,410,984 oz.			51,659,386 oz.			51,636,637 oz.			
1 °F Change	23.28 gal										3,747.35 oz.



## Hydrostatic Test Pipe Data Table

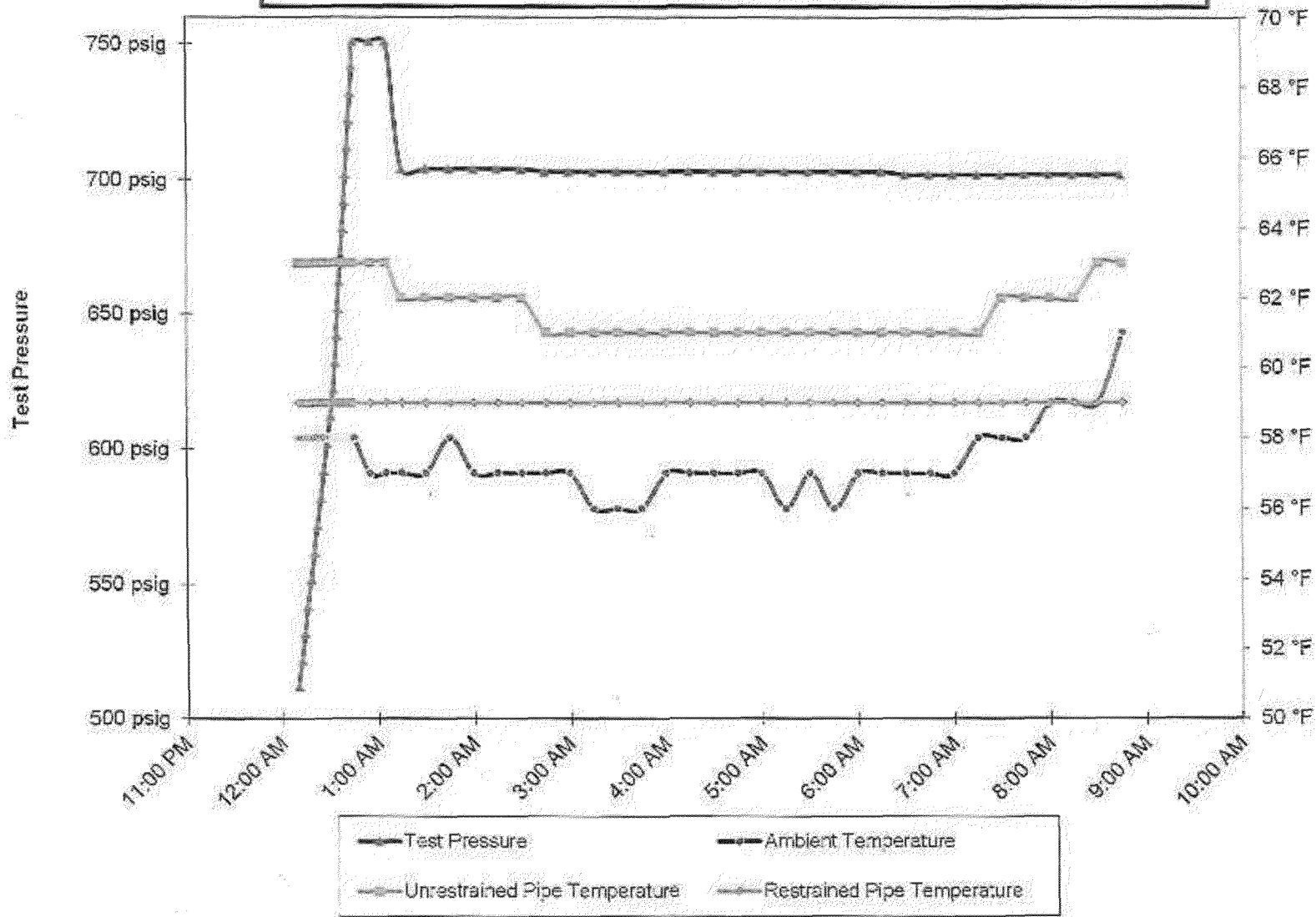
Pipe Type	Length	Restrained / Unrestrained	Outside Diameter	Wall Thickness	Specification & Grade	Pipe Yield Pressure	Material	Joint Type	Seam Type
1	92 ft	Unrestrained	36.000 in.	0.5000 in.	API5L-X65	1,806 psig	Steel	Arc Weld	DSAW
2	1,505 ft	Restrained	30.000 in.	0.5000 in.	API5L-X60	2,000 psig	Steel	Arc Weld	SM
3	6,137 ft	Restrained	36.000 in.	0.3500 in.	API5L-X52	1,011 psig	Steel	Arc Weld	DSAW
4	217 ft	Restrained	36.000 in.	0.4375 in.	API5L-X52	1,264 psig	Steel	Arc Weld	DSAW
5	6 ft	Restrained	34.000 in.	0.5620 in.	API5L-X60	1,984 psig	Steel	Arc Weld	DSAW
6	419 ft	Restrained	34.000 in.	0.3750 in.	API5L-X46	1,015 psig	Steel	Arc Weld	DSAW
7	8 ft	Restrained	36.000 in.	0.4320 in.	API5L-X60	1,440 psig	Steel	Arc Weld	DSAW
8	61 ft	Restrained	34.000 in.	0.4375 in.	API5L-X52	1,338 psig	Steel	Arc Weld	DSAW
9	10 ft	Unrestrained	2.375 in.	0.1540 in.	API5L-Grade B	4,539 psig	Steel	Arc Weld	SM
10	10 ft	Unrestrained	3.500 in.	0.2160 in.	API5L-Grade B	4,320 psig	Steel	Arc Weld	SM
11	10 ft	Unrestrained	10.750 in.	0.3650 in.	API5L-Grade B	2,377 psig	Steel	Arc Weld	SM

### Hydrostatic Test Project Owner & Participants

Owner Company Address	Pacific Gas and Electric Company 3600 Adobe Rd Petaluma, Ca 94954 Attention: Joel Mannie	Job Number  41474079
Construction Company Address	ARB 1875 Lovelidge Road Pittsburg, CA 94565 Attention: T Barnes	Job Number  0629-53-3500-96
Hydrostatic Test Co. Address	Contra Costa Inspection Company 2820 La Jolla Drive Antioch, California 94531 Attention: Redacted	Project No.  PG&E 6-06-11
Test Section	PG&E T-3 Line 101 From: 124+50 To: 207+34	
File Name	RCP 61362 - T-3, L-101	

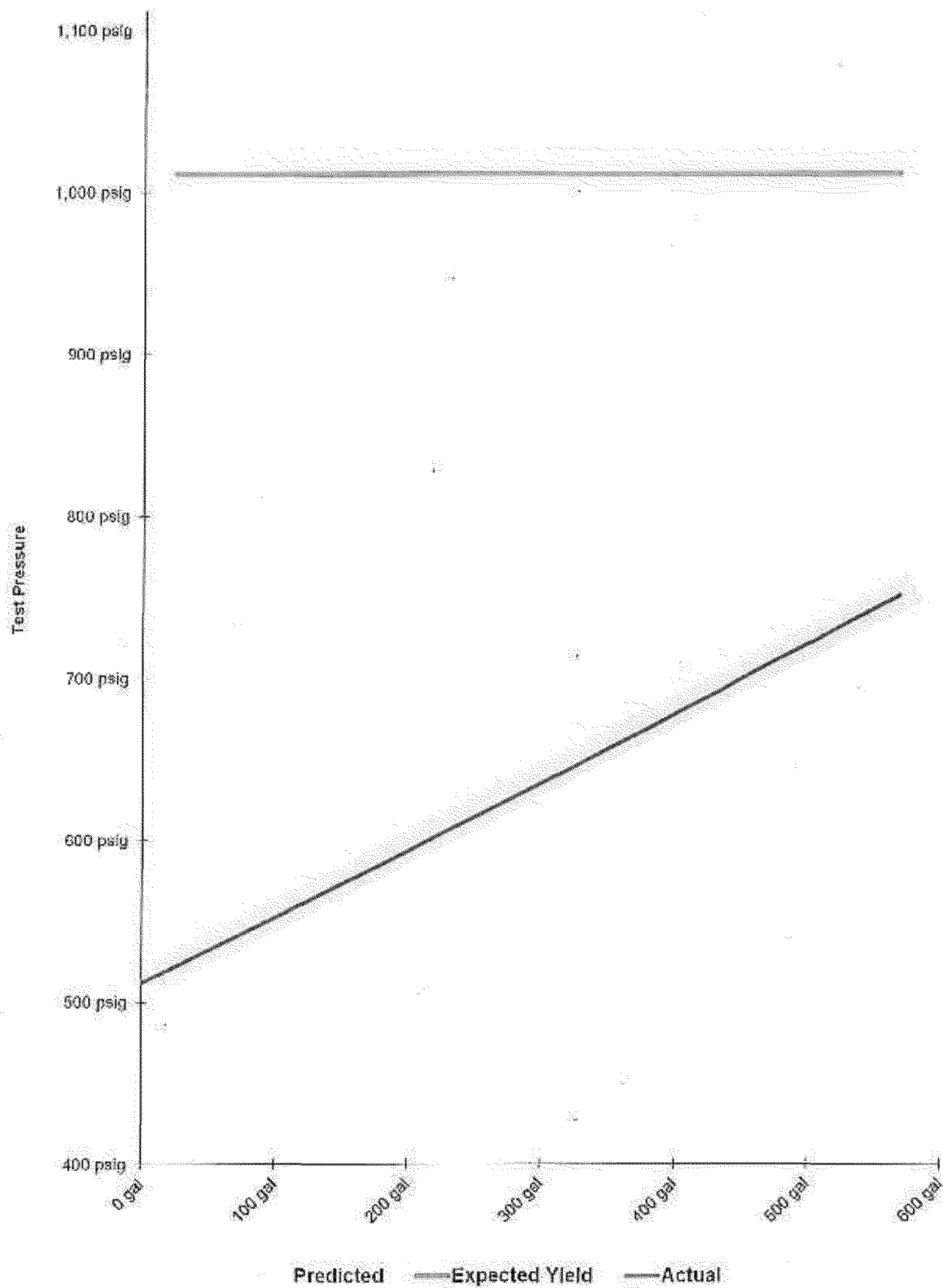
RCP

# PG&E T-3 Line 101



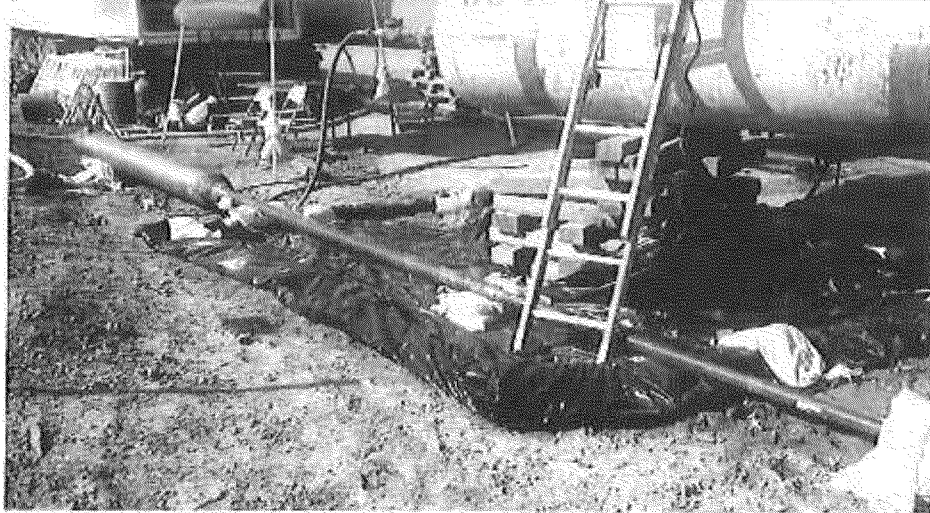
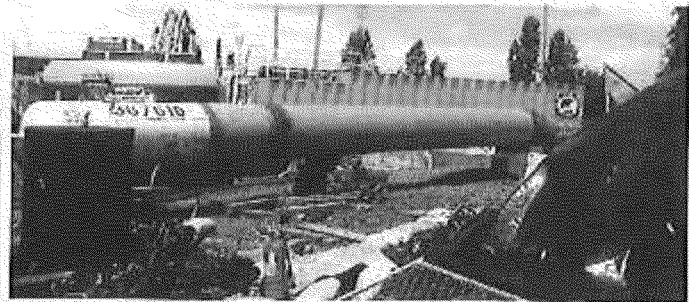
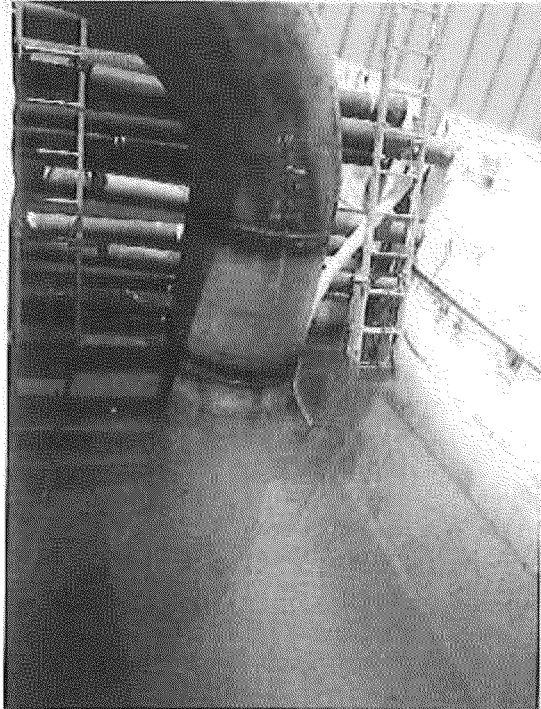


**Spike Pressure Test  
Stress Strain Curve -- PG&E T-3 Line 101**

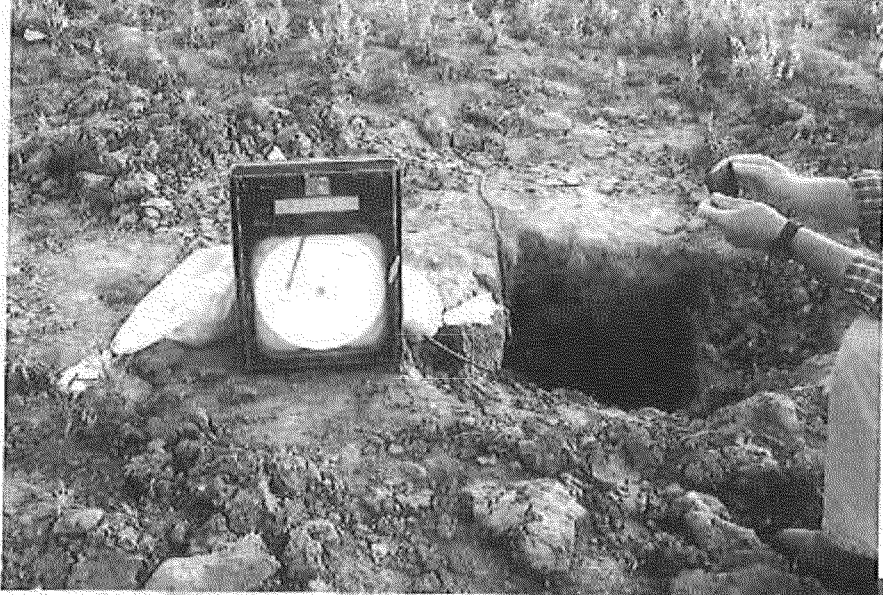




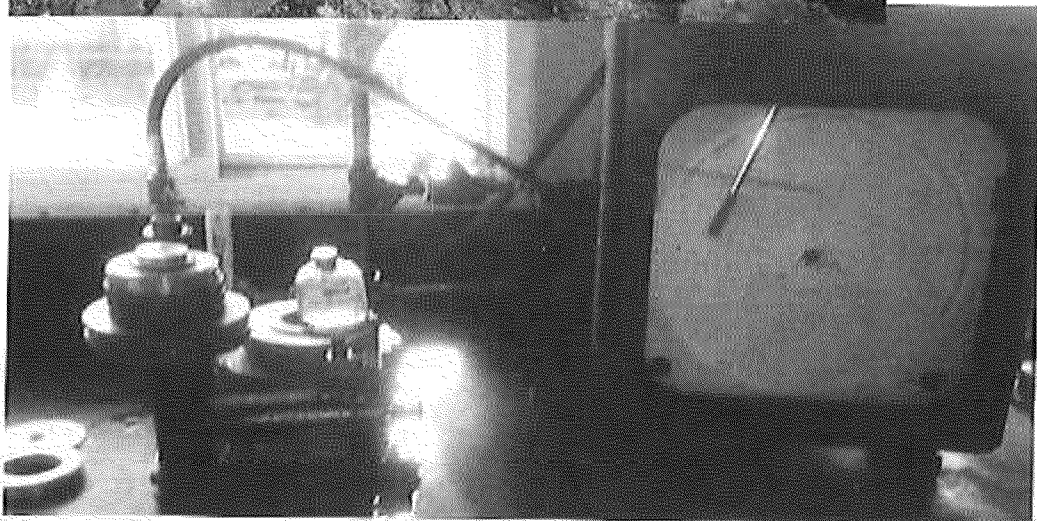
Actual Pressure Volume Plot Data			Predicted Pressure Volume Plot Data	Slope		Spike Pressure Test Stress Strain Curve -- PG&E T-3 Line 101	
Pressure	Strokes	Gallons	Gallons	Actual	Predicted		
512 psig	0	0.00 gal		0	0.00 gal	Pump gal. per stroke	0.080 gal/stroke
522 psig	321	25.69 gal	23.79 gal	2.569	2.379	Pump Piston Diameter	1.375 in
532 psig	624	49.94 gal	47.58 gal	2.425	2.379	Pump Piston Stroke	4.15 in
542 psig	938	75.07 gal	71.37 gal	2.513	2.379	Pump Cylinders	3 ea
552 psig	1248	99.88 gal	95.16 gal	2.481	2.379	Volume check gal per stroke	0.101 gal/stroke
562 psig	1545	123.85 gal	118.95 gal	2.377	2.379	Volume Released (gallons)	141.00 gal
572 psig	1848	147.90 gal	142.74 gal	2.425	2.379	Pressure Reduced (psi)	47 psi
582 psig	2158	172.70 gal	166.54 gal	2.481	2.380	Maximum2	600 gal
592 psig	2460	196.87 gal	190.34 gal	2.417	2.380	Minimum2	0 gal
602 psig	2750	220.08 gal	214.14 gal	2.321	2.380	Maximum1	1,112 psig
612 psig	3036	244.37 gal	237.94 gal	2.440	2.380	Minimum1	400 psig
622 psig	3360	268.90 gal	261.74 gal	2.433	2.380	Gallons/Stroke Used	0.080 gal/stroke
632 psig	3680	292.91 gal	285.54 gal	2.401	2.380	Predicted Gallons/Stroke	0.080 gal/stroke
642 psig	3958	316.76 gal	309.34 gal	2.385	2.380	Pressure Increment	10 psi
652 psig	4246	339.81 gal	333.15 gal	2.305	2.381	Max Pressure	751 psig
662 psig	4538	363.18 gal	356.96 gal	2.337	2.381		
672 psig	4836	387.07 gal	380.77 gal	2.385	2.381	Buried Pipe Temperature	59 °F
682 psig	5115	409.35 gal	404.58 gal	2.233	2.381	Exposed Pipe Temperature	58 °F
692 psig	5424	434.08 gal	428.39 gal	2.473	2.381		
702 psig	5690	455.37 gal	452.20 gal	2.129	2.381	ASME B31.8 Appendix N-5	
712 psig	5980	478.58 gal	476.02 gal	2.321	2.381		
722 psig	6285	502.99 gal	499.83 gal	2.441	2.382	Average Actual Elastic Slope	2.377
732 psig	6563	525.24 gal	523.65 gal	2.225	2.382	Average Predicted Elastic Slope	2.380
742 psig	6848	548.05 gal	547.47 gal	2.281	2.382	Code Prescribed Minimum Yield Slope (less 10%) B31.8 N-5 (c)(2)	4.516
751 psig	7111	569.09 gal	568.91 gal	2.339	2.382	Established Minimum Yield Pressure B31.8 N-5 (c)(2)	751 psig
751 psig		569.09 gal	568.91 gal	0.000	0.000	Maximum Allowed Volume (After Slope Deviation) B31.8 N-5 (c)(2)	418 gal
751 psig		569.09 gal	568.91 gal	0.000	0.000	Volume (After Slope Deviation) B31.8 N-5 (c)(2)	0 gal
751 psig		569.09 gal	568.91 gal	0.000	0.000	<div style="border: 1px solid black; width: 150px; height: 80px; display: flex; align-items: center; justify-content: center;"> <span style="font-size: 24px; font-weight: bold;">Redacted</span> </div> <div style="text-align: right; margin-top: 10px;"> <u>6/26/2011</u> Date         </div>	
751 psig		569.09 gal	568.91 gal	0.000	0.000		
751 psig		569.09 gal	568.91 gal	0.000	0.000		
751 psig		569.09 gal	568.91 gal	0.000	0.000		
751 psig		569.09 gal	568.91 gal	0.000	0.000		
751 psig		569.09 gal	568.91 gal	0.000	0.000		
751 psig		569.09 gal	568.91 gal	0.000	0.000		
751 psig		569.09 gal	568.91 gal	0.000	0.000		
751 psig		569.09 gal	568.91 gal	0.000	0.000		
751 psig		569.09 gal	568.91 gal	0.000	0.000		



**Exposed  
Tested Pipe  
and Test Header**



**Buried Pipe  
Temperature Recorder**



**Pressure Recorder and Dead Weight Pressure Gauge**