RCP, Inc

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August 26, 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 -- 414197335-T80
Construction Contractor:	Snelson -- 41474005 -T80
Test Section:	PG&E T-80 L-300B, MP 237.49 - 240.56
Test Date:	August 26, 2011
Certificate Number:	RCP 61362 - T-80, L-300B, MP 237.49 - 240.56

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 2).

This hydrostatic test was completed successfully. Pressure was maintained on the test facilities in excess of 8.17 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 1008 psig and the established MAOP is 806 psig.

Pressure decreased 4 psi during the test. No fluid was intentionally injected or released from the test section. Net corrected volumetric change from beginning of the test to the end of the test is calculated to be 1,687.28 ounces, loss, which is equivalent to a 0.16 °F change in pipe temperature and within the error attributed to the temperature measurement instrumentation utilized.

Test pressure did not remain steady even though no leaks were observed. The volumetric loss is attributed to the error characteristic of the temperature measurement instrumentation utilized.

Sincerely,

Redacted

cc. file

RCP

Hydrostatic Test Certification

Company	Pacific Gas and Electric Company	Job Number	414197335-T80
Construction Co.	*Snelson*	*Job Number*	*41474005 -T80*
Hydro. Test Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-80 L-300B, MP 237.49 - 240.56		
File Name	RCP 61362 - T-80, L-300B, MP 237.49 - 240.56		

Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION: Test Date: 26-Aug-11

Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 2)

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-80 L-300B, MP 237.49 - 240.56		
From:	0+00	To:	167+59

Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	95 ft	34.000 in.	0.500 in.	API5L-X46, DSAW, Arc Weld, Steel	1,353 psi
2	16,631 ft	34.000 in.	0.375 in.	API5L-X52, DSAW, Arc Weld, Steel	1,147 psi
3	81 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi
4	40 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi
5	41 ft	12.750 in.	0.500 in.	API5L-Grade B, SM, Arc Weld, Steel	2,745 psi
6	32 ft	1.315 in.	0.113 in.	API5L-Grade B, SM, Arc Weld, Steel	6,015 psi
7	33 ft	34.000 in.	0.375 in.	API5L-X52, DSAW, Arc Weld, Steel	1,147 psi
8	4 ft	34.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,912 psi
9	6 ft	34.000 in.	0.375 in.	API5L-X65, DSAW, Arc Weld, Steel	1,434 psi
10	14 ft	34.000 in.	0.500 in.	API5L-X60, DSAW, Arc Weld, Steel	1,765 psi
11	20 ft	34.000 in.	0.505 in.	API5L-X60, DSAW, Arc Weld, Steel	1,782 psi

Initial Test Conditions

Pressure at Test Point:	1,035 psig	Date/Time:	8/26/11 10:35 AM	Pipe Temperature Unrestrained:	83.0 °F
Ambient Temperature:	93.0 °F			Restrained:	76.0 °F
		Elevation @ Test Point:	4,344.0 ft	Location:	0+00
Pressure @ High Point (Cal/Measure):	1,012 psig	Elevation @ High Point:	4,396.0 ft	Location:	84+00
Pressure @ Low Point (Cal/Measure):	1,129 psig	Elevation @ Low Point:	4,127.0 ft	Location:	167+59

Final Test Conditions

Pressure at Test Point:	1,031 psig	*Date/Time:*	*8/26/11 6:45 PM*	Pipe Temperature *Unrestrained:*	79.0 °F
Ambient Temperature:	84.0 °F			Restrained:	76.0 °F
		Elevation @ Test Point:	4,344.0 ft	Location:	0+00
Pressure @ High Point (Cal/Measure):	1,008 psig	Elevation @ High Point:	4,396.0 ft	Location:	84+00
Pressure @ Low Point (Cal/Measure):	1,125 psig	Elevation @ Low Point:	4,127.0 ft	Location:	167+59
	Total Fluid Injected:			Volume loss	
	Total Fluid Withdrawn:				
Net Change in Volume of the Test Section ± (+ Gain, - Loss):		(1,687.28) oz	loss	(0.0017)%	(0.158) °F equivalent

Test Duration: 8.17 hours

Minimum Test Pressure:	Test Point	1,031 psig	Max Elevation	1,008 psig	Min Elevation	1,125 psig
Maximum Test Pressure:		1,035 psig		1,012 psig		1,129 psig
% SMYS :		90.2%		74.8%		98.4%
Test Segment Observed % SMYS :			Minimum	17.2%	Maximum	98.4%
					Minimum Test Pressure (Calculated/Measured):	1,008 psig
Maximum Allowable Operating Pressure:				DOT Part 192	Test Factor= 1.25	806 psig

Were leaks observed?	**No**	Explain:
Acceptable Hydrostatic Test?	**Yes**	No leaks were observed during the test period. The test section included 16,726 feet of buried and 251 feet of exposed pipe. Pressure lost 4 psi during the test. The buried pipe segment fluid temperature remained steady and the exposed pipe segment lost 4°F. No fluid was intentionally injected or released from the test section. Net corrected volumetric change from beginning of the test to the end of the test is calculated to be 1,687.28 ounces, loss, which is equivalent to a 0.16 °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

26-Aug-11

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Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	414197335-T80
Construction Co.	Snelson	Job Number	41474005 -T80
Testing Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-80 L-300B, MP 237.49 - 240.56		
File Name	RCP 61362 - T-80, L-300B, MP 237.49 - 240.56		

Date **26-Aug-11**

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe				
					Unrestrained	Restrained	Comment	Bleed	Inject
1	8/26/11	10:03 AM	753 psig	90 °F	81 °F	75 °F			
2	8/26/11	10:04 AM	763 psig	90 °F	81 °F	75 °F	Inject		6,909 oz.
3	8/26/11	10:05 AM	773 psig	90 °F	81 °F	75 °F	Inject		5,993 oz.
4	8/26/11	10:06 AM	783 psig	90 °F	81 °F	75 °F	Inject		5,711 oz.
5	8/26/11	10:07 AM	793 psig	90 °F	81 °F	75 °F	Inject		6,204 oz.
6	8/26/11	10:08 AM	803 psig	90 °F	81 °F	75 °F	Inject		5,922 oz.
7	8/26/11	10:09 AM	813 psig	90 °F	81 °F	75 °F	Inject		5,922 oz.
8	8/26/11	10:10 AM	823 psig	90 °F	81 °F	75 °F	Inject		6,063 oz.
9	8/26/11	10:11 AM	833 psig	90 °F	81 °F	75 °F	Inject		5,922 oz.
10	8/26/11	10:12 AM	843 psig	90 °F	81 °F	75 °F	Inject		6,063 oz.
11	8/26/11	10:13 AM	853 psig	90 °F	81 °F	75 °F	Inject		6,063 oz.
12	8/26/11	10:14 AM	863 psig	90 °F	81 °F	75 °F	Inject		5,993 oz.
13	8/26/11	10:15 AM	873 psig	90 °F	81 °F	75 °F	Inject		6,063 oz.
14	8/26/11	10:16 AM	883 psig	90 °F	81 °F	75 °F	Inject		5,922 oz.
15	8/26/11	10:17 AM	893 psig	90 °F	81 °F	75 °F	Inject		6,063 oz.
16	8/26/11	10:18 AM	903 psig	90 °F	81 °F	75 °F	Inject		5,993 oz.
17	8/26/11	10:19 AM	913 psig	90 °F	81 °F	75 °F	Inject		5,922 oz.
18	8/26/11	10:20 AM	923 psig	90 °F	81 °F	75 °F	Inject		6,063 oz.
19	8/26/11	10:21 AM	933 psig	90 °F	81 °F	75 °F	Inject		5,993 oz.
20	8/26/11	10:22 AM	943 psig	90 °F	81 °F	75 °F	Inject		5,993 oz.
21	8/26/11	10:23 AM	953 psig	90 °F	81 °F	75 °F	Inject		6,204 oz.
22	8/26/11	10:24 AM	963 psig	90 °F	81 °F	75 °F	Inject		5,922 oz.
23	8/26/11	10:25 AM	973 psig	90 °F	81 °F	75 °F	Inject		5,993 oz.
24	8/26/11	10:26 AM	983 psig	90 °F	81 °F	75 °F	Inject		6,063 oz.
25	8/26/11	10:27 AM	993 psig	90 °F	81 °F	75 °F	Inject		5,993 oz.
26	8/26/11	10:28 AM	1,003 psig	90 °F	81 °F	75 °F	Inject		6,134 oz.
27	8/26/11	10:29 AM	1,013 psig	90 °F	81 °F	75 °F	Inject		5,922 oz.
28	8/26/11	10:30 AM	1,023 psig	90 °F	81 °F	75 °F	Inject		6,134 oz.
29	8/26/11	10:31 AM	1,033 psig	90 °F	81 °F	75 °F	Inject		5,852 oz.
30	8/26/11	10:32 AM	1,035 psig	90 °F	81 °F	75 °F	Inject		1,269 oz.
31	8/26/11	10:35 AM	1,035 psig	93 °F	83 °F	76 °F	On Test		
32	8/26/11	10:45 AM	1,034 psig	95 °F	84 °F	76 °F			
33	8/26/11	11:00 AM	1,034 psig	96 °F	85 °F	76 °F			
34	8/26/11	11:15 AM	1,034 psig	97 °F	86 °F	76 °F			
35	8/26/11	11:30 AM	1,034 psig	97 °F	86 °F	76 °F			
36	8/26/11	11:45 AM	1,034 psig	97 °F	87 °F	76 °F			
37	8/26/11	12:00 PM	1,034 psig	97 °F	88 °F	76 °F			
38	8/26/11	12:15 PM	1,034 psig	96 °F	88 °F	76 °F			
39	8/26/11	12:30 PM	1,034 psig	95 °F	87 °F	76 °F			
40	8/26/11	12:45 PM	1,034 psig	92 °F	87 °F	76 °F			
41	8/26/11	1:00 PM	1,034 psig	91 °F	86 °F	76 °F			
42	8/26/11	1:15 PM	1,034 psig	91 °F	87 °F	76 °F			
43	8/26/11	1:30 PM	1,034 psig	92 °F	87 °F	76 °F			

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Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number 414197335-T80
Construction Co.	Snelson	Job Number 41474005 -T80
Testing Co.	Milbar hydro-test inc.	Project No. FY12-112
Test Section	PG&E T-80 L-300B, MP 237.49 - 240.56	
File Name	RCP 61362 - T-80, L-300B, MP 237.49 - 240.56	

Date **26-Aug-11**

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe				
					Unrestrained	Restrained	Comment	Bleed	Inject
44	8/26/11	1:45 PM	1,033 psig	92 °F	86 °F	76 °F	Cloud Cover		
45	8/26/11	2:00 PM	1,033 psig	90 °F	86 °F	76 °F			
46	8/26/11	2:15 PM	1,033 psig	90 °F	86 °F	76 °F			
47	8/26/11	2:30 PM	1,033 psig	87 °F	86 °F	76 °F			
48	8/26/11	2:45 PM	1,033 psig	86 °F	84 °F	76 °F			
49	8/26/11	3:00 PM	1,033 psig	84 °F	83 °F	76 °F	Cloud Cover		
50	8/26/11	3:15 PM	1,033 psig	84 °F	83 °F	76 °F			
51	8/26/11	3:30 PM	1,033 psig	84 °F	83 °F	76 °F			
52	8/26/11	3:45 PM	1,033 psig	83 °F	83 °F	76 °F			
53	8/26/11	4:00 PM	1,032 psig	83 °F	83 °F	76 °F			
54	8/26/11	4:15 PM	1,032 psig	84 °F	83 °F	76 °F			
55	8/26/11	4:30 PM	1,032 psig	85 °F	82 °F	76 °F			
56	8/26/11	4:45 PM	1,032 psig	85 °F	82 °F	76 °F			
57	8/26/11	5:00 PM	1,032 psig	85 °F	82 °F	76 °F	Warm		
58	8/26/11	5:15 PM	1,032 psig	85 °F	82 °F	76 °F			
59	8/26/11	5:30 PM	1,031 psig	85 °F	81 °F	76 °F			
60	8/26/11	5:45 PM	1,031 psig	85 °F	81 °F	76 °F			
61	8/26/11	6:00 PM	1,031 psig	85 °F	80 °F	76 °F			
62	8/26/11	6:15 PM	1,031 psig	85 °F	80 °F	76 °F			
63	8/26/11	6:30 PM	1,031 psig	84 °F	80 °F	76 °F			
64	8/26/11	6:45 PM	1,031 psig	84 °F	79 °F	76 °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:	1,035 psig
Low Test Pressure:	1,031 psig

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Pipe Segment Volume Calculations

Company	Pacific Gas and Electric Company	Job Number	414197335-T80
Construction Co.	Snelson	Job Number	41474005 -T80
Hydro. Test Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-80 L-300B, MP 237.49 - 240.56		WATER
File Name	RCP 61362 - T-80, L-300B, MP 237.49 - 240.56		

General Pipe Data

Description	Segment									
	1	2	3	4	5	6	7	8	9	10
Restrained or Unrestrained?	Restrained	Restrained	Unrestrained	Unrestrained	Unrestrained	Unrestrained	Unrestrained	Unrestrained	Inrestrained	Inrestrained
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	34.000 in.	12.750 in.	1.315 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.
Wall Thickness	0.500 in.	0.375 in.	0.500 in.	0.500 in.	0.500 in.	0.113 in.	0.375 in.	0.500 in.	0.375 in.	0.500 in.
Inside Diameter	33.000 in.	33.250 in.	33.000 in.	33.000 in.	11.750 in.	1.089 in.	33.250 in.	33.000 in.	33.250 in.	33.000 in.
Spec./Grade	API5L-X46	API5L-X52	API5L-X65	API5L-X65	API5L-Grade B	API5L-Grade B	API5L-X52	API5L-X65	API5L-X65	API5L-X60
Length Unrestrained			81 ft	40 ft	41 ft	32 ft	33 ft	4 ft	6 ft	14 ft
Length Restrained	95 ft	16,631 ft								
Temperature -- On Test	76 °F	76 °F	83.0 °F	83.0 °F	83.0 °F	83.0 °F	83.0 °F	83.0 °F	83.0 °F	83.0 °F
Temperature -- End of Test	76 °F	76 °F	79.0 °F	79.0 °F	79.0 °F	79.0 °F	79.0 °F	79.0 °F	79.0 °F	79.0 °F
Pressure -- On Test	1,035 psig	1,035 psig	1,035 psig	1,035 psig	1,035 psig	1,035 psig	1,035 psig	1,035 psig	1,035 psig	1,035 psig
Pressure -- End of Test	1,031 psig	1,031 psig	1,031 psig	1,031 psig	1,031 psig	1,031 psig	1,031 psig	1,031 psig	1,031 psig	1,031 psig

Unrestrained Pipe

Sum:	Vo	8,167.59 gal 1,045,451 oz.	Vtp1	8,198.04 gal 1,049,349 oz.	Vtp2	8,202.26 gal 1,049,889 oz.

Vo Unrestrained			3,599 gal	1,777 gal	231 gal	2 gal	1,489 gal	178 gal	271 gal	622 gal
Fwp 1			1.003172	1.003172	1.003172	1.003172	1.003172	1.003172	1.003172	1.003172
Fpp 1			1.002846	1.002846	1.001013	1.000416	1.003824	1.002846	1.003824	1.002846
Fpt 1			1.000419	1.000419	1.000419	1.000419	1.000419	1.000419	1.000419	1.000419
Fwt 1			1.002868	1.002868	1.002868	1.002868	1.002868	1.002868	1.002868	1.002868
Fpwt 1 = Fpt/Fwt			0.997557	0.997557	0.997557	0.997557	0.997557	0.997557	0.997557	0.997557
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)			3,611.77 gal	1,783.59 gal	231.35 gal	1.55 gal	1,495.30 gal	178.36 gal	271.87 gal	624.26 gal
Fwp 2			1.003160	1.003160	1.003160	1.003160	1.003160	1.003160	1.003160	1.003160
Fpp 2			1.002835	1.002835	1.001010	1.000414	1.003809	1.002835	1.003809	1.002835
Fpt 2			1.000346	1.000346	1.000346	1.000346	1.000346	1.000346	1.000346	1.000346
Fwt 2			1.002255	1.002255	1.002255	1.002255	1.002255	1.002255	1.002255	1.002255
Fpwt = Fpt/Fwt			0.998095	0.998095	0.998095	0.998095	0.998095	0.998095	0.998095	0.998095
Vtp = Vo(Fwp)(Fpp)(Fpwt)			3,613.63 gal	1,784.51 gal	231.47 gal	1.55 gal	1,496.06 gal	178.45 gal	272.01 gal	624.58 gal

Restrained Pipe

Sum:	Vo	754,392.89 gal 96,562,289 oz.	Vtp1	757,706.22 gal 96,986,396 oz.	Vtp2	757,688.81 gal 96,984,168 oz.

Vo Unrestrained	4,221 gal	750,172 gal								
Fwp 1	1.003172	1.003172								
Fpp 1	1.002130	1.002841								
Fpt 1	1.000194	1.000194								
Fwt 1	1.001813	1.001813								
Fpwt 1 = Fpt/Fwt	0.998384	0.998384								
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	4,237 gal	753,470 gal								
Fwp 2	1.003160	1.003160								
Fpp 2	1.002122	1.002831								
Fpt 2	1.000194	1.000194								
Fwt 2	1.001813	1.001813								
Fpwt = Fpt/Fwt	0.998384	0.998384								
Vtp = Vo(Fwp)(Fpp)(Fpwt)	4,236 gal	753,452 gal								

Combined Pipe

Sum:	Vo	762,560.47 gal 97,607,741 oz.	Vtp1	765,904.26 gal 98,035,745 oz.	Vtp2	765,891.08 gal 98,034,058 oz.

Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	414197335-T80
Construction Co.	Snelson	Job Number	41474005 -T80
Hydro. Test Co.	Milbar hydro-test inc.	Project No.	FY12-112
Test Section	PG&E T-80 L-300B, MP 237.49 - 240.56		WATER
File Name	RCP 61362 - T-80, L-300B, MP 237.49 - 240.56		

General Pipe Data

Description	Segment									
	1	2	3	4	5	6	7	8	9	10
Restrained or Unrestrained?	Restrained	Restrained	Unrestrained	Unrestrained	Unrestrained	Unrestrained	Unrestrained	Unrestrained	Unrestrained	Unrestrained
Outside Diameter	34.000 in.	34.000 in.	34.000 in.	34.000 in.	12.750 in.	1.315 in.	34.000 in.	34.000 in.	34.000 in.	34.000 in.
Wall Thickness	0.500 in.	0.375 in.	0.500 in.	0.500 in.	0.500 in.	0.113 in.	0.375 in.	0.500 in.	0.375 in.	0.500 in.
Inside Diameter	33.000 in.	33.250 in.	33.000 in.	33.000 in.	11.750 in.	1.089 in.	33.250 in.	33.000 in.	33.250 in.	33.000 in.
Spec./Grade	API5L-X46	API5L-X52	API5L-X65	API5L-X65	API5L-Grade B	API5L-Grade B	API5L-X52	API5L-X65	API5L-X65	API5L-X60
Length Unstrained			81.00 ft	40 ft	41 ft	32 ft	33 ft	4 ft	6 ft	14 ft
Length Restrained	95 ft	16,631 ft								
Temperature -- On Test	75 °F	75 °F	80 °F	80 °F	80 °F	80 °F	80 °F	80 °F	80 °F	80 °F
Temperature -- End of Test	76 °F	76 °F	81 °F	81 °F	81 °F	81 °F	81 °F	81 °F	81 °F	81 °F
Pressure -- On Test	1,033 psig	1,033 psig	1,033 psig	1,033 psig	1,033 psig	1,033 psig	1,033 psig	1,033 psig	1,033 psig	1,033 psig
Pressure -- End of Test	1,033 psig	1,033 psig	1,033 psig	1,033 psig	1,033 psig	1,033 psig	1,033 psig	1,033 psig	1,033 psig	1,033 psig

Unrestrained Pipe

Sum:	Vo	8,167.59 gal 1,045,451 oz.	Vtp1	8,201.18 gal 1,049,751 oz.	Vtp2	8,200.20 gal 1,049,625 oz.

Vo Unrestrained			3,599 gal	1,777 gal	231 gal	2 gal	1,489 gal	178 gal	271 gal	622 gal
Fwp 1			1.003166	1.003166	1.003166	1.003166	1.003166	1.003166	1.003166	1.003166
Fpp 1			1.002841	1.002841	1.001011	1.000415	1.003816	1.002841	1.003816	1.002841
Fpt 1			1.000364	1.000364	1.000364	1.000364	1.000364	1.000364	1.000364	1.000364
Fwt 1			1.002418	1.002418	1.002418	1.002418	1.002418	1.002418	1.002418	1.002418
Fpwt 1 = Fpt/Fwt			0.997951	0.997951	0.997951	0.997951	0.997951	0.997951	0.997951	0.997951
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)			3,613.15 gal	1,784.27 gal	231.44 gal	1.55 gal	1,495.87 gal	178 gal	272 gal	624 gal
Fwp 2			1.003166	1.003166	1.003166	1.003166	1.003166	1.003166	1.003166	1.003166
Fpp 2			1.002841	1.002841	1.001011	1.000415	1.003816	1.002841	1.003816	1.002841
Fpt 2			1.000382	1.000382	1.000382	1.000382	1.000382	1.000382	1.000382	1.000382
Fwt 2			1.002556	1.002556	1.002556	1.002556	1.002556	1.002556	1.002556	1.002556
Fpwt = Fpt/Fwt			0.997832	0.997832	0.997832	0.997832	0.997832	0.997832	0.997832	0.997832
Vtp = Vo(Fwp)(Fpp)(Fpwt)			3,612.72 gal	1,784.06 gal	231.41 gal	1.55 gal	1,495.69 gal	178 gal	272 gal	624 gal

Restrained Pipe

Sum:	Vo	754,392.89 gal 96,562,289 oz.	Vtp1	757,779.96 gal 96,995,834 oz.	Vtp2	757,697.52 gal 96,985,282 oz.

Vo Restrained	4,221 gal	750,172 gal								
Fwp 1	1.003166	1.003166								
Fpp 1	1.002122	1.002832								
Fpt 1	1.000182	1.000182								
Fwt 1	1.001688	1.001688								
Fpwt 1 = Fpt/Fwt	0.998496	0.998496								
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	4,237 gal	753,543 gal								
Fwp 2	1.003166	1.003166								
Fpp 2	1.002126	1.002836								
Fpt 2	1.000194	1.000194								
Fwt 2	1.001813	1.001813								
Fpwt = Fpt/Fwt	0.998384	0.998384								
Vtp = Vo(Fwp)(Fpp)(Fpwt)	4,236 gal	753,461 gal								

Combined Pipe

Sum:	Vo	762,560.47 gal 97,607,741 oz.	Vtp1	765,981.13 gal 98,045,585 oz.	Vtp2	765,897.71 gal 98,034,907 oz.
1 °F Change	83.42 gal	10,677.75 oz.				

RCP

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	95 ft	Restrained	34.000 in.	0.5000 in.	API5L-X46	1,353 psig	Steel	Arc Weld	DSAW
2	16,631 ft	Restrained	34.000 in.	0.3750 in.	API5L-X52	1,147 psig	Steel	Arc Weld	DSAW
3	81 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 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	41 ft	Unrestrained	12.750 in.	0.5000 in.	API5L-Grade B	2,745 psig	Steel	Arc Weld	SM
6	32 ft	Unrestrained	1.315 in.	0.1130 in.	API5L-Grade B	6,015 psig	Steel	Arc Weld	SM
7	33 ft	Unrestrained	34.000 in.	0.3750 in.	API5L-X52	1,147 psig	Steel	Arc Weld	DSAW
8	4 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X65	1,912 psig	Steel	Arc Weld	DSAW
9	6 ft	Unrestrained	34.000 in.	0.3750 in.	API5L-X65	1,434 psig	Steel	Arc Weld	DSAW
10	14 ft	Unrestrained	34.000 in.	0.5000 in.	API5L-X60	1,765 psig	Steel	Arc Weld	DSAW
11	20 ft	Unrestrained	34.000 in.	0.5050 in.	API5L-X60	1,782 psig	Steel	Arc Weld	DSAW

Hydrostatic Test Project Owner & Participants

Owner Company	Pacific Gas and Electric Company	Job Number
Address	350 N. Wiget	
	Walnut Creek, CA 94598	414197335-T80
	Redacted	
Construction Company	Snelson	Job Number
Address	601 West State Street	
	Sedro-Wooley, WA 98284	41474005 -T80
	Redacted	
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-80 L-300B, MP 237.49 - 240.56	
	From: 0+00	
	To: 167+59	
File Name	RCP 61362 - T-80, L-300B, MP 237.49 - 240.56	

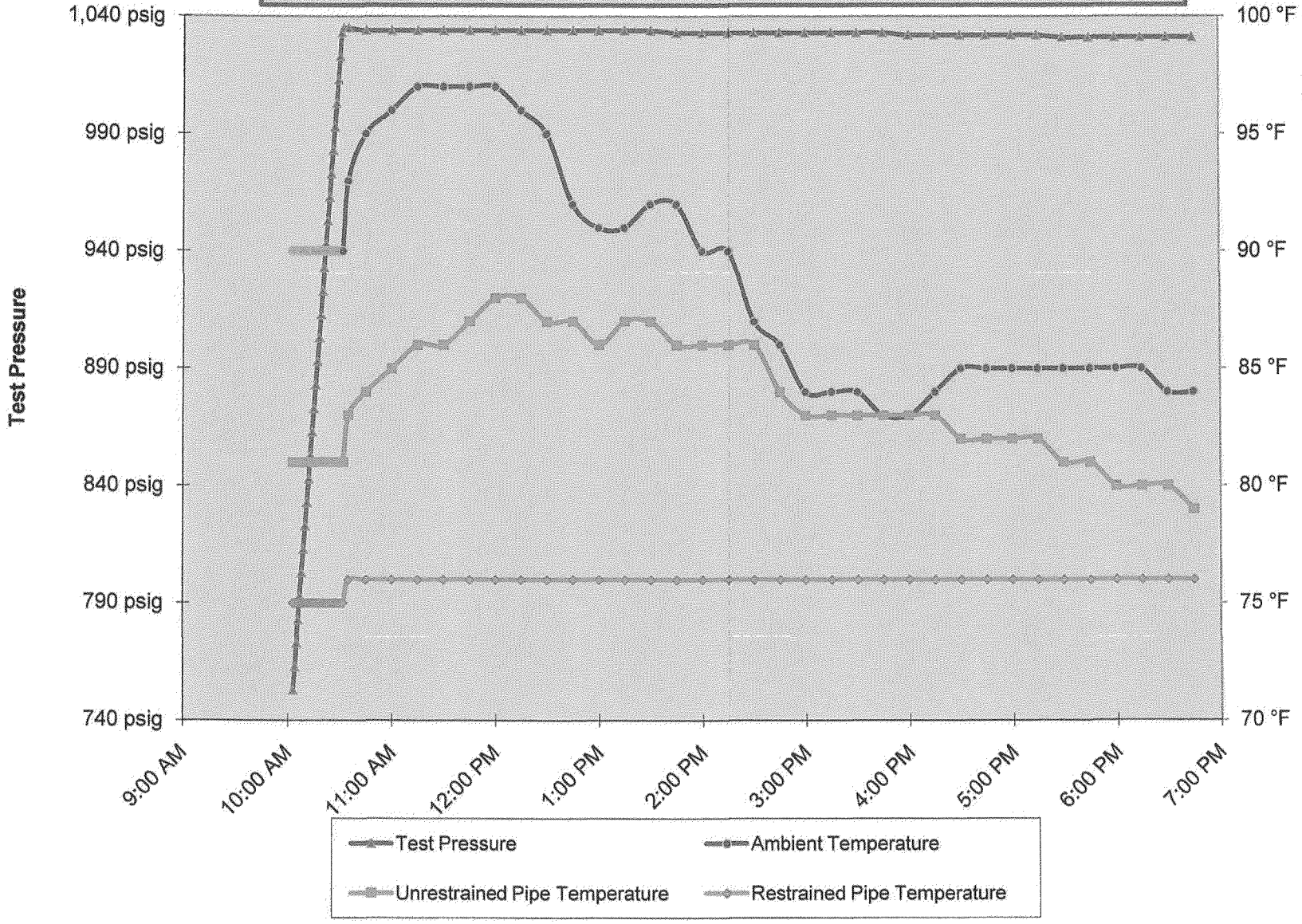
Part II – Test Data (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)

Note: Minimum test pressure and duration are not to be changed without written approval.

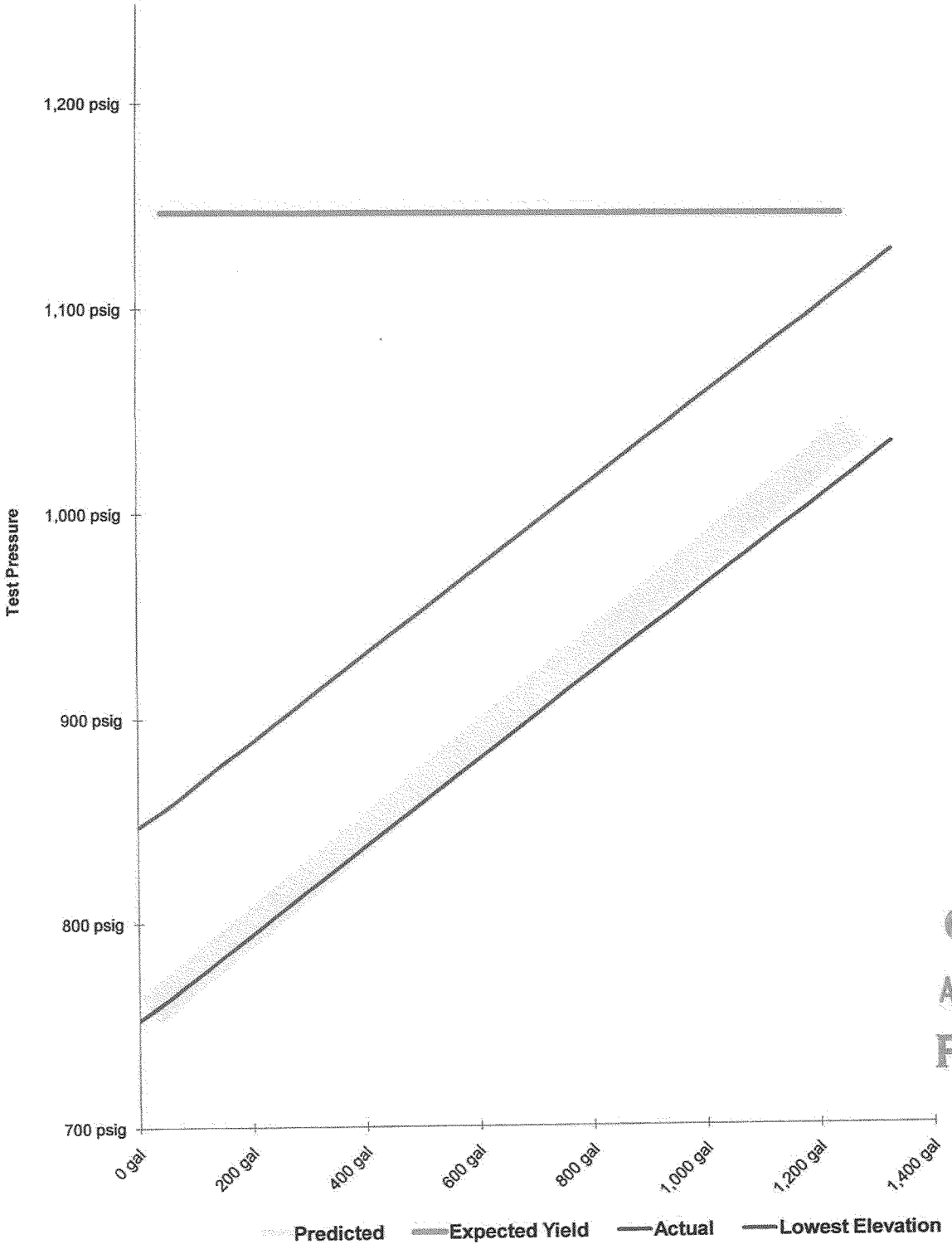
Time and Date Test Pressure Reached	8/26/11 10:35 AM	Elevation at Test Point	4,344 ft	Min. Required Test Press At Test Point (1)	1,026.53 psig	Max. Allowable Test Press at Test Point (4)	1,052.97 psig
Time and Date Test Ended	8/26/11 6:45 PM	Max. Elevation in Test Section	4,396 ft	Min. Indicated Test Pressure (2)	1,031.00 psig	Max. Indicated Test Pressure (5)	1,035.00 psig
Actual Duration of Test	8 hours 10 minutes	Min. Elevation in Test Section	4,127 ft	Min. Test Pressure at Max. Elevation (3)	1,008.47 psig	Max. Test Pressure at Min. Elevation (6)	1,129.03 psig

RCP

PG&E T-80 L-300B, MP 237.49 - 240.56



Spike Pressure Test
Stress Strain Curve -- PG&E T-80 L-300B, MP 237.49 - 240.56



RCP

Actual Pressure Volume Plot Data			Predicted Pressure Volume Plot Data	Slope	
Pressure	Strokes	Gallons	Gallons	Actual	Predicted
753 psig	0	0.00 gal		0	0.000
763 psig	98	53.98 gal	43.99 gal	5.398	4.399
773 psig	183	100.80 gal	87.98 gal	4.682	4.399
783 psig	264	145.41 gal	131.97 gal	4.461	4.399
793 psig	352	193.88 gal	175.96 gal	4.847	4.400
803 psig	436	240.15 gal	219.96 gal	4.627	4.400
813 psig	520	286.42 gal	263.96 gal	4.627	4.400
823 psig	606	333.78 gal	307.97 gal	4.737	4.400
833 psig	690	380.05 gal	351.97 gal	4.627	4.401
843 psig	776	427.42 gal	395.98 gal	4.737	4.401
853 psig	862	474.79 gal	439.99 gal	4.737	4.401
863 psig	947	521.61 gal	484.01 gal	4.682	4.401
873 psig	1033	568.98 gal	528.02 gal	4.737	4.402
883 psig	1117	615.24 gal	572.04 gal	4.627	4.402
893 psig	1203	662.61 gal	616.06 gal	4.737	4.402
903 psig	1288	709.43 gal	660.09 gal	4.682	4.402
913 psig	1372	755.70 gal	704.12 gal	4.627	4.403
923 psig	1458	803.06 gal	748.15 gal	4.737	4.403
933 psig	1543	849.88 gal	792.18 gal	4.682	4.403
943 psig	1628	896.70 gal	836.21 gal	4.682	4.404
953 psig	1716	945.17 gal	880.25 gal	4.847	4.404
963 psig	1800	991.44 gal	924.29 gal	4.627	4.404
973 psig	1885	1,038.26 gal	968.34 gal	4.682	4.404
983 psig	1971	1,085.62 gal	1,012.38 gal	4.737	4.405
993 psig	2056	1,132.44 gal	1,056.43 gal	4.682	4.405
1,003 psig	2143	1,180.36 gal	1,100.48 gal	4.792	4.405
1,013 psig	2227	1,226.63 gal	1,144.54 gal	4.627	4.405
1,023 psig	2314	1,274.55 gal	1,188.60 gal	4.792	4.406
1,033 psig	2397	1,320.26 gal	1,232.66 gal	4.572	4.406
1,035 psig	2415	1,330.18 gal	1,241.47 gal	4.957	4.406
1,035 psig		1,330.18 gal	1,241.47 gal	0.000	0.000
1,035 psig		1,330.18 gal	1,241.47 gal	0.000	0.000
1,035 psig		1,330.18 gal	1,241.47 gal	0.000	0.000
1,035 psig		1,330.18 gal	1,241.47 gal	0.000	0.000
1,035 psig		1,330.18 gal	1,241.47 gal	0.000	0.000
1,035 psig		1,330.18 gal	1,241.47 gal	0.000	0.000
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1,035 psig		1,330.18 gal	1,241.47 gal	0.000	0.000
1,035 psig		1,330.18 gal	1,241.47 gal	0.000	0.000
1,035 psig		1,330.18 gal	1,241.47 gal	0.000	0.000
1,035 psig		1,330.18 gal	1,241.47 gal	0.000	0.000

Spike Pressure Test Stress Strain Curve -- PG&E T-80 L-300B, MP 237.49 - 240.56	
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	0.000 gal/stroke
Volume Released (gallons)	0.00 gal
Pressure Reduced (psi)	10 psi
Maximum2	1,400 gal
Minimum2	0 gal
Maximum1	1,248 psig
Minimum1	700 psig
Gallons/Stroke Used	0.551 gal/stroke
Predicted Gallons/Stroke	0.514 gal/stroke
Pressure Increment	10 psi
Max Pressure	1,035 psig
Buried Pipe Temperature	
Exposed Pipe Temperature	
ASME B31.8 Appendix N-5	
Average Actual Elastic Slope	4.724
Average Predicted Elastic Slope	4.402
Code Prescribed Minimum Yield Slope (less 10%) B31.8 N-5 (c)(2)	8.975
Established Minimum Yield Pressure B31.8 N-5 (c)(2)	1,035 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

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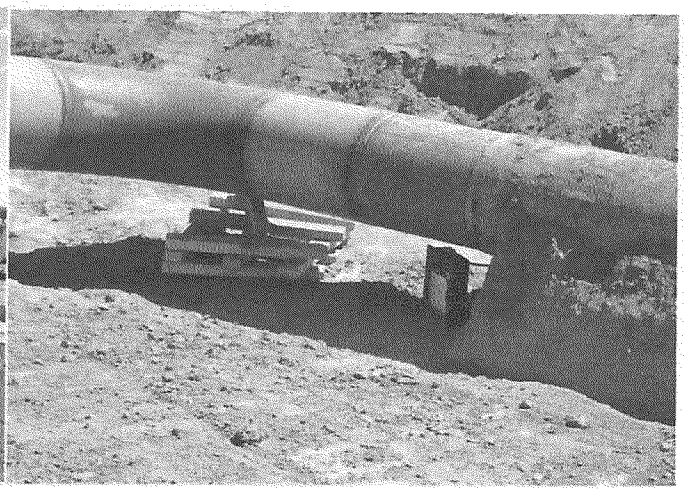
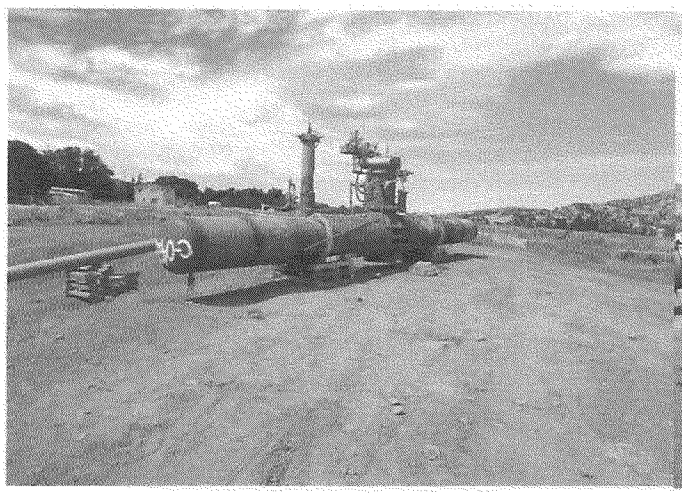
Test T-80 Test Head



Test T-80 Test Head Tie In & Unrestrained Temp. Rec.

Test T-80 Restrained Temp. Rec.

Test T-80 Deadweight



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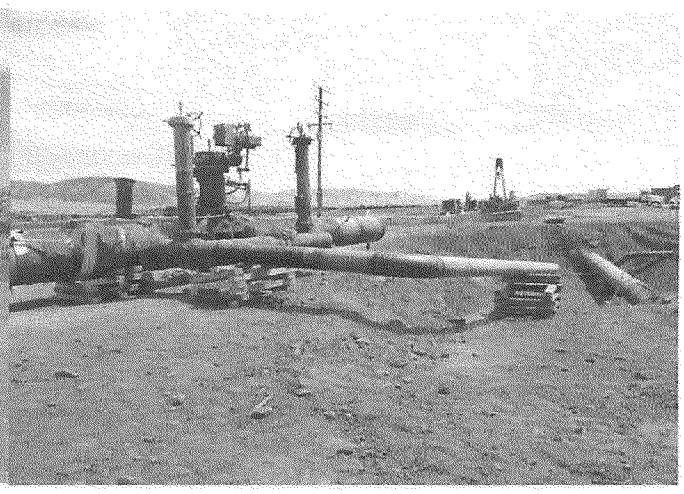
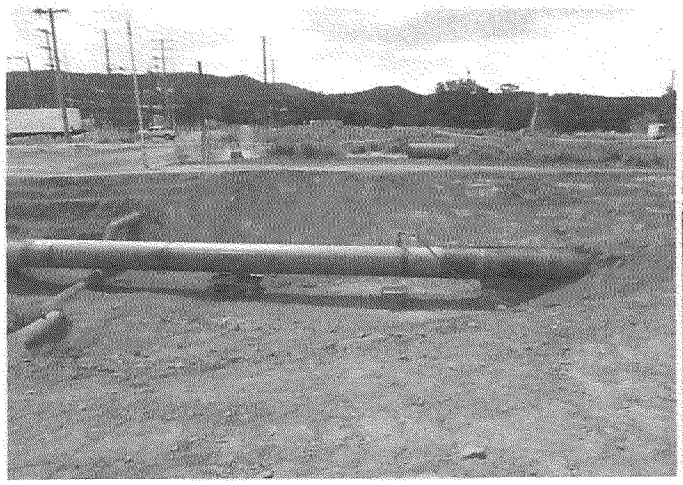


Test T-80 BV Cutout Tested



Test T-80 BV Cutout Area

Test T-80 Pump Truck