



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 Mannie  
Attention:

Test Contractor: Akri -- PG&E 6-09-11  
Asset Owner: Pacific Gas and Electric Company -- 41474079  
Construction Contractor: ARB -- 0629-53-3500  
Test Section: PG&E T-36A, Line 132  
Test Date: June 9, 2011  
Certificate Number: RCP 61362 - T-36A, L-132

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 Akri met the requirements of the Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 3).

Prior to initiation of the hydrostatic test period, the test segment was subjected to a spike pressure of 727 psig for 30 minutes, without observed leakage or yielding of the pipe segment.

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 532 psig and the established MAOP is 354 psig.

Pressure increased 1 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 14,263.04 ounces, gain, which is equivalent to a 2.9 °F change in pipe temperature and larger than the anticipated error attributed to the temperature measurement instrumentation utilized.

Test pressure remained steady and no leaks were observed. The volumetric gain is attributed to the inherent error associated with physically attempting to measure the average temperature of 12,546 feet of buried and 118 feet of exposed pipe from a single point on the line. It is improbable that pipe temperature would track exactly with a physical leak, resulting in a steady pressure profile; therefore, the observed steady pressure suggests that pipe temperature remained steady as well.

Sincerely,

Redacted

cc. file

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Test 36A.xlsm  
Letter



### Hydrostatic Test Certification

Company	Pacific Gas and Electric Company	Job Number	41474079
Construction Co.	ARB	Job Number	0629-53-3500
Hydro. Test Co.	Akri	Project No.	PG&E 6-09-11
Test Section	PG&E T-36A, Line 132		
File Name	RCP 61362 - T-36A, L-132		

#### Hydrostatic Test Pressure

APPLICABLE CODE FOR CERTIFICATION: Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 3) Test Date: 9-Jun-11

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-36A, Line 132		
From:	125+50	To:	00+00

#### Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	33.00 ft	36.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,806 psi
2	75.00 ft	30.000 in.	0.375 in.	API5L-X65, DSAW, Arc Weld, Steel	1,625 psi
3	8.00 ft	30.000 in.	0.375 in.	API5L-X42, DSAW, Arc Weld, Steel	1,050 psi
4	2,575 ft	36.000 in.	0.360 in.	API5L-X60, DSAW, Arc Weld, Steel	1,200 psi
5	857 ft	36.000 in.	0.360 in.	API5L-X52, DSAW, Arc Weld, Steel	1,040 psi
6	8,317 ft	30.000 in.	0.375 in.	API5L-X52, DSAW, Arc Weld, Steel	1,300 psi
7	641 ft	30.000 in.	0.313 in.	API5L-X52, DSAW, Arc Weld, Steel	1,083 psi
8	10 ft	4.500 in.	0.237 in.	API5L-Grade B, SM, Arc Weld, Steel	3,687 psi
9	148 ft	36.000 in.	0.406 in.	API5L-X52, DSAW, Arc Weld, Steel	1,173 psi

#### Initial Test Conditions

Pressure at Test Point:	672 psig	Date/Time:	6/9/11 3:45 PM	Pipe Temperature	
Ambient Temperature:	65.0 °F	Elevation @ Test Point:	44.0 ft	Unrestrained:	68.0 °F
Pressure @ High Point (Cal/Measure):	532 psig	Elevation @ High Point:	366.0 ft	Restrained:	61.0 °F
Pressure @ Low Point (Cal/Measure):	673 psig	Elevation @ Low Point:	41.0 ft	Location:	125+00
				Location:	25+75
				Location:	111+50

#### Final Test Conditions

Pressure at Test Point:	673 psig	Date/Time:	6/10/11 12:00 AM	Pipe Temperature	
Ambient Temperature:	56.0 °F	Elevation @ Test Point:	44.0 ft	Unrestrained:	62.0 °F
Pressure @ High Point (Cal/Measure):	533 psig	Elevation @ High Point:	366.0 ft	Restrained:	58.0 °F
Pressure @ Low Point (Cal/Measure):	674 psig	Elevation @ Low Point:	41.0 ft	Location:	125+00
				Location:	25+75
				Location:	111+50

Total Fluid Injected:		Volume gain	
Total Fluid Withdrawn:			
Net Change in Volume of the Test Section ± (+ Gain, - Loss):	14,263.04 oz	gain	0.0222% 2.903 °F equivalent

Test Duration: 8 hours

Maximum Test Pressure: 727 psig

% SMYS @:	64.6%	Test Point	51.2%	High Point	64.7%	Low Point
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Minimum Test Pressure (Calculated/Measured): 532 psig

Maximum Allowable Operating Pressure: DOT Part 192 Test Factor= 1.50 354 psig

Were leaks observed? **No** Explain:

Acceptable Hydrostatic Test? **Yes**

Prior to initiation of the hydrostatic test period, the test segment was subjected to a spike pressure of 727 psig for 30 minutes, without observed leakage or yielding of the pipe segment.

No leaks were observed during the test period. The test section included 12,546 feet of buried and 118 feet of exposed pipe. Pressure gained 1 psi during the test. The buried pipe segment lost 3°F fluid temperature and the exposed pipe segment lost 6°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 14,263.04 ounces, gain, which is equivalent to a 2.9 °F change in pipe temperature and larger than the anticipated error attributed to the temperature measurement instrumentation utilized.

Test pressure remained steady and no leaks were observed. The volumetric gain is attributed to the inherent error associated with physically attempting to measure the average temperature of 12,546 feet of buried and 118 feet of exposed pipe from a single point on the line. It is improbable that pipe temperature would track exactly with a physical leak, resulting in a steady pressure profile; therefore, the observed steady pressure suggests that pipe temperature remained steady as well.

Remarks:

Redacted

26-Jun-11



# Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41474079
Construction Co.	ARB	Job Number	0629-53-3500
Testing Co.	Akri	Project No.	PG&E 6-09-11
Test Section	PG&E T-36A, Line 132		
File Name	RCP 61362 - T-36A, L-132		

Log No.	Test Period		Test Pressure	Ambient	Temperature °F		Comment	Remarks	Bleed	Inject
	Date	Time			Unrestrained	Restrained				
1	6/9/11	9:05 AM	488 psig	59 °F	60 °F	60 °F	Start Spike			5,161 oz
2	6/9/11	9:06 AM	498 psig	59 °F	60 °F	60 °F				3,432 oz
3	6/9/11	9:11 AM	508 psig	59 °F	60 °F	60 °F				2,864 oz
4	6/9/11	9:14 AM	518 psig	59 °F	60 °F	60 °F				5,522 oz
5	6/9/11	9:17 AM	528 psig	59 °F	60 °F	60 °F				3,045 oz
6	6/9/11	9:18 AM	538 psig	59 °F	60 °F	60 °F				5,780 oz
7	6/9/11	9:19 AM	548 psig	59 °F	60 °F	60 °F				3,871 oz
8	6/9/11	9:21 AM	558 psig	59 °F	60 °F	60 °F				4,387 oz
9	6/9/11	9:23 AM	568 psig	59 °F	60 °F	60 °F				4,129 oz
10	6/9/11	9:25 AM	578 psig	59 °F	60 °F	60 °F				4,542 oz
11	6/9/11	9:27 AM	588 psig	59 °F	60 °F	60 °F				3,819 oz
12	6/9/11	9:29 AM	598 psig	59 °F	60 °F	60 °F				3,871 oz
13	6/9/11	9:31 AM	608 psig	59 °F	60 °F	60 °F				3,252 oz
14	6/9/11	9:33 AM	618 psig	59 °F	60 °F	60 °F				4,284 oz
15	6/9/11	9:35 AM	628 psig	59 °F	60 °F	60 °F				3,458 oz
16	6/9/11	9:37 AM	638 psig	59 °F	60 °F	60 °F				3,922 oz
17	6/9/11	9:39 AM	648 psig	59 °F	60 °F	60 °F				3,613 oz
18	6/9/11	9:41 AM	658 psig	59 °F	60 °F	60 °F				3,664 oz
19	6/9/11	9:43 AM	668 psig	59 °F	60 °F	60 °F				3,922 oz
20	6/9/11	9:45 AM	678 psig	59 °F	60 °F	60 °F				2,942 oz
21	6/9/11	9:48 AM	688 psig	59 °F	60 °F	60 °F				3,200 oz
22	6/9/11	9:51 AM	698 psig	59 °F	60 °F	60 °F				3,510 oz
23	6/9/11	9:55 AM	708 psig	59 °F	60 °F	60 °F				3,252 oz
24	6/9/11	9:59 AM	718 psig	59 °F	60 °F	60 °F				3,252 oz
25	6/9/11	10:00 AM	727 psig	67 °F	60 °F	61 °F				
26	6/9/11	10:10 AM	727 psig	68 °F	60 °F	61 °F				
27	6/9/11	10:20 AM	726 psig	74 °F	62 °F	60 °F				
28	6/9/11	10:30 AM	726 psig	75 °F	62 °F	60 °F				
29	6/9/11	10:40 AM	726 psig	76 °F	62 °F	60 °F	End Spike			
30	6/9/11	10:50 AM	726 psig	76 °F	62 °F	60 °F				
31	6/9/11	11:00 AM	726 psig	76 °F	62 °F	60 °F				
32	6/9/11	11:14 AM	726 psig	76 °F	62 °F	60 °F	Bleed			3,878 oz
33	6/9/11	11:25 AM	716 psig	76 °F	63 °F	60 °F				3,878 oz
34	6/9/11	11:35 AM	706 psig	76 °F	63 °F	60 °F				13,962 oz
35	6/9/11	11:47 AM	670 psig	76 °F	63 °F	60 °F				
36	6/9/11	3:45 PM	672 psig	65 °F	68 °F	61 °F	Partly Cloud	On Test		
37	6/9/11	4:00 PM	671 psig	66 °F	68 °F	61 °F				
38	6/9/11	4:15 PM	672 psig	65 °F	68 °F	61 °F				
39	6/9/11	4:30 PM	672 psig	64 °F	68 °F	61 °F				
40	6/9/11	4:45 PM	671 psig	62 °F	68 °F	61 °F				
41	6/9/11	5:00 PM	671 psig	60 °F	67 °F	61 °F	Partly Cloudy			
42	6/9/11	5:15 PM	671 psig	61 °F	67 °F	61 °F				
43	6/9/11	5:30 PM	671 psig	59 °F	66 °F	60 °F				



# Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41474079
Construction Co.	ARB	Job Number	0629-53-3500
Testing Co.	Akri	Project No.	PG&E 6-09-11
Test Section	PG&E T-36A, Line 132		
File Name	RCP 61362 - T-36A, L-132		

Date **9-Jun-11**

## Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment	Bleed	Inject
				Unrestrained	Restrained				
44	6/9/11	5:45 PM	671 psig	60 °F	66 °F	60 °F			
45	6/9/11	6:00 PM	671 psig	59 °F	66 °F	60 °F			
46	6/9/11	6:15 PM	671 psig	59 °F	65 °F	60 °F			
47	6/9/11	6:30 PM	671 psig	63 °F	65 °F	60 °F			
48	6/9/11	6:45 PM	671 psig	58 °F	65 °F	60 °F			
49	6/9/11	7:00 PM	671 psig	58 °F	65 °F	60 °F			
50	6/9/11	7:15 PM	671 psig	57 °F	64 °F	60 °F			
51	6/9/11	7:30 PM	671 psig	57 °F	64 °F	60 °F			
52	6/9/11	7:45 PM	671 psig	57 °F	64 °F	60 °F			
53	6/9/11	8:00 PM	671 psig	57 °F	63 °F	59 °F			
54	6/9/11	8:15 PM	671 psig	56 °F	63 °F	59 °F			
55	6/9/11	8:30 PM	671 psig	56 °F	63 °F	59 °F			
56	6/9/11	8:45 PM	671 psig	56 °F	63 °F	59 °F	Cloud Cover		
57	6/9/11	9:00 PM	671 psig	56 °F	63 °F	59 °F			
58	6/9/11	9:15 PM	672 psig	56 °F	62 °F	59 °F			
59	6/9/11	9:30 PM	672 psig	56 °F	62 °F	59 °F			
60	6/9/11	9:45 PM	672 psig	56 °F	62 °F	59 °F			
61	6/9/11	10:00 PM	672 psig	56 °F	62 °F	59 °F			
62	6/9/11	10:15 PM	673 psig	56 °F	62 °F	59 °F			
63	6/9/11	10:30 PM	673 psig	56 °F	62 °F	59 °F			
64	6/9/11	10:45 PM	673 psig	56 °F	62 °F	59 °F			
65	6/9/11	11:00 PM	673 psig	56 °F	62 °F	59 °F			
66	6/9/11	11:15 PM	673 psig	56 °F	62 °F	59 °F			
67	6/9/11	11:30 PM	673 psig	56 °F	62 °F	58 °F			
68	6/9/11	11:45 PM	673 psig	56 °F	62 °F	58 °F			
69	6/10/11	12:00 AM	673 psig	56 °F	62 °F	58 °F	Cloud Cover End of Test		

<b>Spike Test</b>	21,719.0 oz.	92,693.8 oz.
<b>Hydrostatic Test</b>		

Were leaks observed during the test period? Exposed and buried pipe, no leaks observed.

High Test Pressure:	673 psig
Low Test Pressure:	671 psig



## Pipe Segment Volume Calculations

Company	Pacific Gas and Electric Company	Job Number	41474079
Construction Co.	ARB	Job Number	0629-53-3500
Hydro. Test Co.	Akri	Project No.	PG&E 6-09-11
Test Section	PG&E T-36A, Line 132	<b>WATER</b>	
File Name	RCP 61362 - T-36A, L-132		

### General Pipe Data

Description	Segment								
	1	2	3	4	5	6	7	8	9
Restrained or Unrestrained?	Unrestrained	Unrestrained	Restrained	Restrained	Restrained	Restrained	Restrained	Unrestrained	Restrained
Outside Diameter	36.000 in.	30.000 in.	30.000 in.	36.000 in.	36.000 in.	30.000 in.	30.000 in.	4.500 in.	36.000 in.
Wall Thickness	0.500 in.	0.375 in.	0.375 in.	0.360 in.	0.360 in.	0.375 in.	0.313 in.	0.237 in.	0.406 in.
Inside Diameter	35.000 in.	29.250 in.	29.250 in.	35.280 in.	35.280 in.	29.250 in.	29.375 in.	4.026 in.	35.188 in.
Spec./Grade	API5L-X65	API5L-X65	API5L-X42	API5L-X60	API5L-X52	API5L-X52	API5L-X52	API5L-Grade B	API5L-X52
Length Unrestrained	33 ft	75 ft						10 ft	
Length Restrained			8 ft	2,575 ft	857 ft	8,317 ft	641 ft		148 ft
Temperature -- On Test	68 °F	68 °F	61.0 °F	61.0 °F	61.0 °F	61.0 °F	61.0 °F	68.0 °F	61.0 °F
Temperature -- End of Test	62 °F	62 °F	58.0 °F	58.0 °F	58.0 °F	58.0 °F	58.0 °F	62.0 °F	58.0 °F
Pressure -- On Test	672 psig	672 psig	672 psig	672 psig	672 psig	672 psig	672 psig	672 psig	672 psig
Pressure -- End of Test	673 psig	673 psig	673 psig	673 psig	673 psig	673 psig	673 psig	673 psig	673 psig

### Unrestrained Pipe

Sum:	Vo	4,273.96 gal 547,067 oz.	Vtp1	4,288.91 gal 548,980 oz.	Vtp2	4,291.14 gal 549,266 oz.
Vo Unrestrained	1,649 gal	2,618 gal				7 gal
Fwp 1	1.002057	1.002057				1.002057
Fpp 1	1.001960	1.002184				1.000476
Fpt 1	1.000146	1.000146				1.000146
Fwt 1	1.000803	1.000803				1.000803
Fpwt 1 = Fpt/Fwt	0.999343	0.999343				0.999343
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	1,654.88 gal	2,627.40 gal				6.63 gal
Fwp 2	1.002060	1.002060				1.002060
Fpp 2	1.001963	1.002187				1.000476
Fpt 2	1.000036	1.000036				1.000036
Fwt 2	1.000181	1.000181				1.000181
Fpwt = Fpt/Fwt	0.999856	0.999856				0.999856
Vtp = Vo(Fwp)(Fpp)(Fpwt)	1,655.74 gal	2,628.77 gal				6.63 gal

### Restrained Pipe

Sum:	Vo	494,929.77 gal 63,351,010 oz.	Vtp1	496,784.26 gal 63,588,385 oz.	Vtp2	496,893.46 gal 63,602,363 oz.
Vo Unrestrained			279 gal	130,766 gal	43,521 gal	290,320 gal
Fwp 1			1.002057	1.002057	1.002057	1.002057
Fpp 1			1.001594	1.002001	1.002001	1.001594
Fpt 1			1.000012	1.000012	1.000012	1.000012
Fwt 1			1.000080	1.000080	1.000080	1.000080
Fpwt 1 = Fpt/Fwt			0.999932	0.999932	0.999932	0.999932
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)			280 gal	131,288 gal	43,695 gal	291,361 gal
Fwp 2			1.002060	1.002060	1.002060	1.002060
Fpp 2			1.001585	1.001993	1.001585	1.001912
Fpt 2			0.999976	0.999976	0.999976	0.999976
Fwt 2			0.999819	0.999819	0.999819	0.999819
Fpwt = Fpt/Fwt			1.000157	1.000157	1.000157	1.000157
Vtp = Vo(Fwp)(Fpp)(Fpwt)			280 gal	131,317 gal	43,704 gal	291,425 gal

### Combined Pipe

Sum:	Vo	499,203.73 gal 63,898,077 oz.	Vtp1	501,073.17 gal 64,137,366 oz.	Vtp2	501,184.60 gal 64,151,629 oz.
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# Pipe Segment Volume Allowance Calculations

Company	Pacific Gas and Electric Company	Job Number	41474079
Construction Co.	ARB	Job Number	0629-53-3500
Hydro. Test Co.	Akri	Project No.	PG&E 6-09-11
Test Section	PG&E T-36A, Line 132		<b>WATER</b>
File Name	RCP 61362 - T-36A, L-132		

### General Pipe Data

Description	Segment								
	1	2	3	4	5	6	7	8	9
Restrained or Unrestrained?	Unrestrained	Unrestrained	Restrained	Restrained	Restrained	Restrained	Restrained	Unrestrained	Restrained
Outside Diameter	36.000 in.	30.000 in.	30.000 in.	36.000 in.	36.000 in.	30.000 in.	30.000 in.	4.500 in.	36.000 in.
Wall Thickness	0.500 in.	0.375 in.	0.375 in.	0.360 in.	0.360 in.	0.375 in.	0.313 in.	0.237 in.	0.406 in.
Inside Diameter	35.000 in.	29.250 in.	29.250 in.	35.280 in.	35.280 in.	29.250 in.	29.375 in.	4.026 in.	35.188 in.
Spec./Grade	API5L-X65	API5L-X65	API5L-X42	API5L-X60	API5L-X52	API5L-X52	API5L-X52	API5L-Grade B	API5L-X52
Length Unstrained	33.00 ft	75.00 ft						10 ft	
Length Restrained			8 ft	2,575 ft	857 ft	8,317 ft	641 ft		148 ft
Temperature -- On Test	64 °F	64 °F	59 °F	59 °F	59 °F	59 °F	59 °F	64 °F	59 °F
Temperature -- End of Test	65 °F	65 °F	60 °F	60 °F	60 °F	60 °F	60 °F	65 °F	60 °F
Pressure -- On Test									
Pressure -- End of Test									

### Unrestrained Pipe

Sum:	Vo	4,273.96 gal 547,067 oz.		Vtp1	4,272.67 gal 546,902 oz.		Vtp2	4,272.36 gal 546,862 oz.	
Vo Unrestrained	1,649 gal	2,618 gal						7 gal	
Fwp 1	1.000000	1.000000						1.000000	
Fpp 1	1.000000	1.000000						1.000000	
Fpt 1	1.000073	1.000073						1.000073	
Fwt 1	1.000375	1.000375						1.000375	
Fpwt 1 = Fpt/Fwt	0.999698	0.999698						0.999698	
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)	1,648.84 gal	2,617.23 gal						7 gal	
Fwp 2	1.000000	1.000000						1.000000	
Fpp 2	1.000000	1.000000						1.000000	
Fpt 2	1.000091	1.000091						1.000091	
Fwt 2	1.000467	1.000467						1.000467	
Fpwt = Fpt/Fwt	0.999624	0.999624						0.999624	
Vtp = Vo(Fwp)(Fpp)(Fpwt)	1,648.72 gal	2,617.03 gal						7 gal	

### Restrained Pipe

Sum:	Vo	494,929.77 gal 63,351,010 oz.		Vtp1	494,967.83 gal 63,355,882 oz.		Vtp2	494,929.77 gal 63,351,010 oz.	
Vo Restrained			279 gal	130,766 gal	43,521 gal	290,320 gal	22,567 gal		7,477 gal
Fwp 1			1.000000	1.000000	1.000000	1.000000	1.000000		1.000000
Fpp 1			0.999996	0.999996	0.999996	0.999996	0.999996		0.999996
Fpt 1			0.999988	0.999988	0.999988	0.999988	0.999988		0.999988
Fwt 1			0.999907	0.999907	0.999907	0.999907	0.999907		0.999907
Fpwt 1 = Fpt/Fwt			1.000081	1.000081	1.000081	1.000081	1.000081		1.000081
Vtp 1 = Vo(Fwp)(Fpp)(Fpwt)			279 gal	130,776 gal	43,524 gal	290,343 gal	22,569 gal		7,477 gal
Fwp 2			1.000000	1.000000	1.000000	1.000000	1.000000		1.000000
Fpp 2			1.000000	1.000000	1.000000	1.000000	1.000000		1.000000
Fpt 2			1.000000	1.000000	1.000000	1.000000	1.000000		1.000000
Fwt 2			1.000000	1.000000	1.000000	1.000000	1.000000		1.000000
Fpwt = Fpt/Fwt			1.000000	1.000000	1.000000	1.000000	1.000000		1.000000
Vtp = Vo(Fwp)(Fpp)(Fpwt)			279 gal	130,766 gal	43,521 gal	290,320 gal	22,567 gal		7,477 gal

### Combined Pipe

Sum:	Vo	499,203.73 gal 63,898,077 oz.		Vtp1	499,240.50 gal 63,902,785 oz.		Vtp2	499,202.12 gal 63,897,872 oz.	
1 °F Change	38.38 gal		4,912.92 oz.						



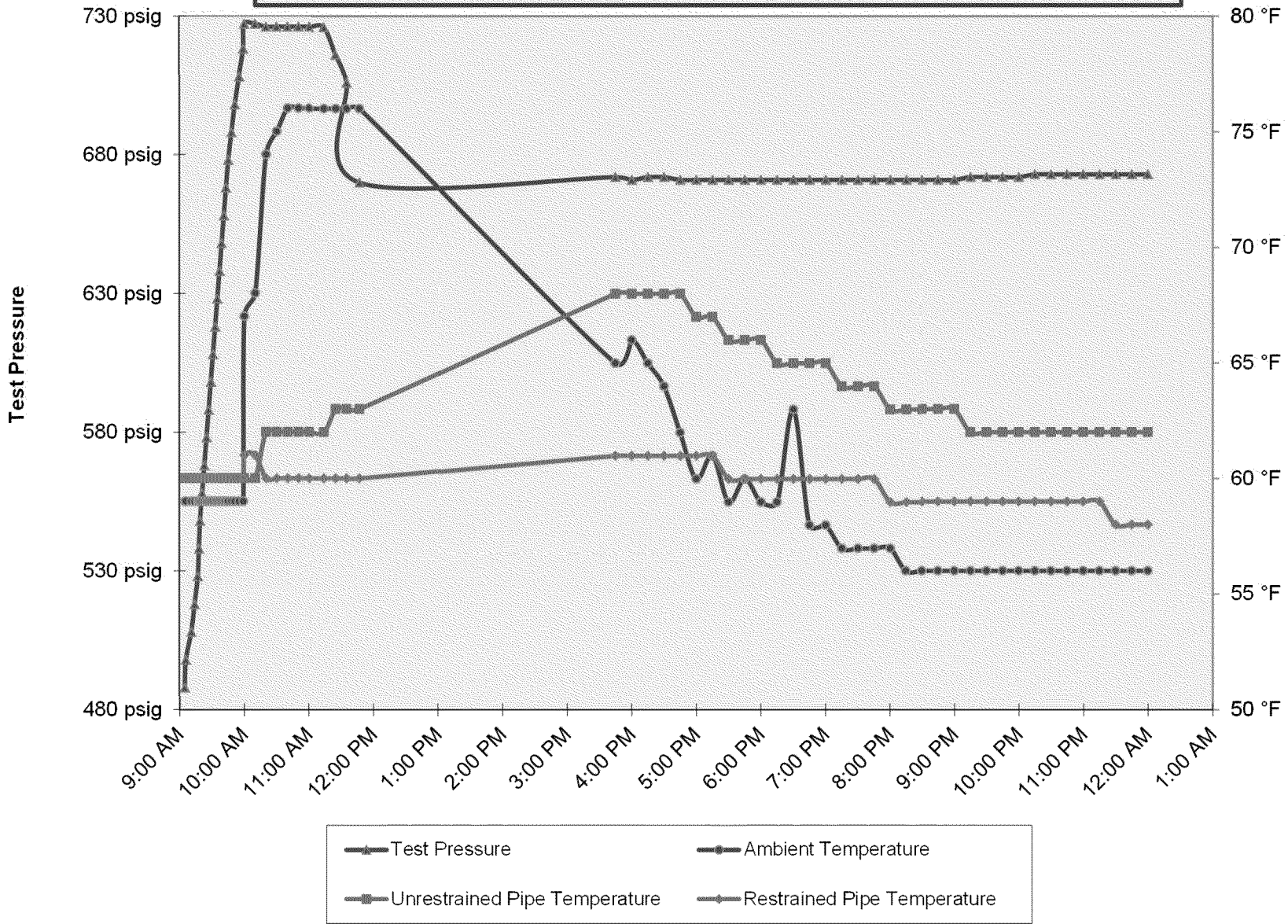
### Hydrostatic Test Pipe Data Table

Pipe Type	Length	Restrained / Unrestrained	Outside Diameter	Wall Thickness	Specification & Grade	Pipe Yield Pressure	Material	Joint Type	Seam Type
1	33 ft	Unrestrained	36.000 in.	0.5000 in.	API5L-X65	1,806 psig	Steel	Arc Weld	DSAW
2	75 ft	Unrestrained	30.000 in.	0.3750 in.	API5L-X65	1,625 psig	Steel	Arc Weld	DSAW
3	8 ft	Restrained	30.000 in.	0.3750 in.	API5L-X42	1,050 psig	Steel	Arc Weld	DSAW
4	2,575 ft	Restrained	36.000 in.	0.3600 in.	API5L-X60	1,200 psig	Steel	Arc Weld	DSAW
5	857 ft	Restrained	36.000 in.	0.3600 in.	API5L-X52	1,040 psig	Steel	Arc Weld	DSAW
6	8,317 ft	Restrained	30.000 in.	0.3750 in.	API5L-X52	1,300 psig	Steel	Arc Weld	DSAW
7	641 ft	Restrained	30.000 in.	0.3125 in.	API5L-X52	1,083 psig	Steel	Arc Weld	DSAW
8	10 ft	Unrestrained	4.500 in.	0.2370 in.	API5L-Grade B	3,687 psig	Steel	Arc Weld	SM
9	148 ft	Restrained	36.000 in.	0.4060 in.	API5L-X52	1,173 psig	Steel	Arc Weld	DSAW

### Hydrostatic Test Project Owner & Participants

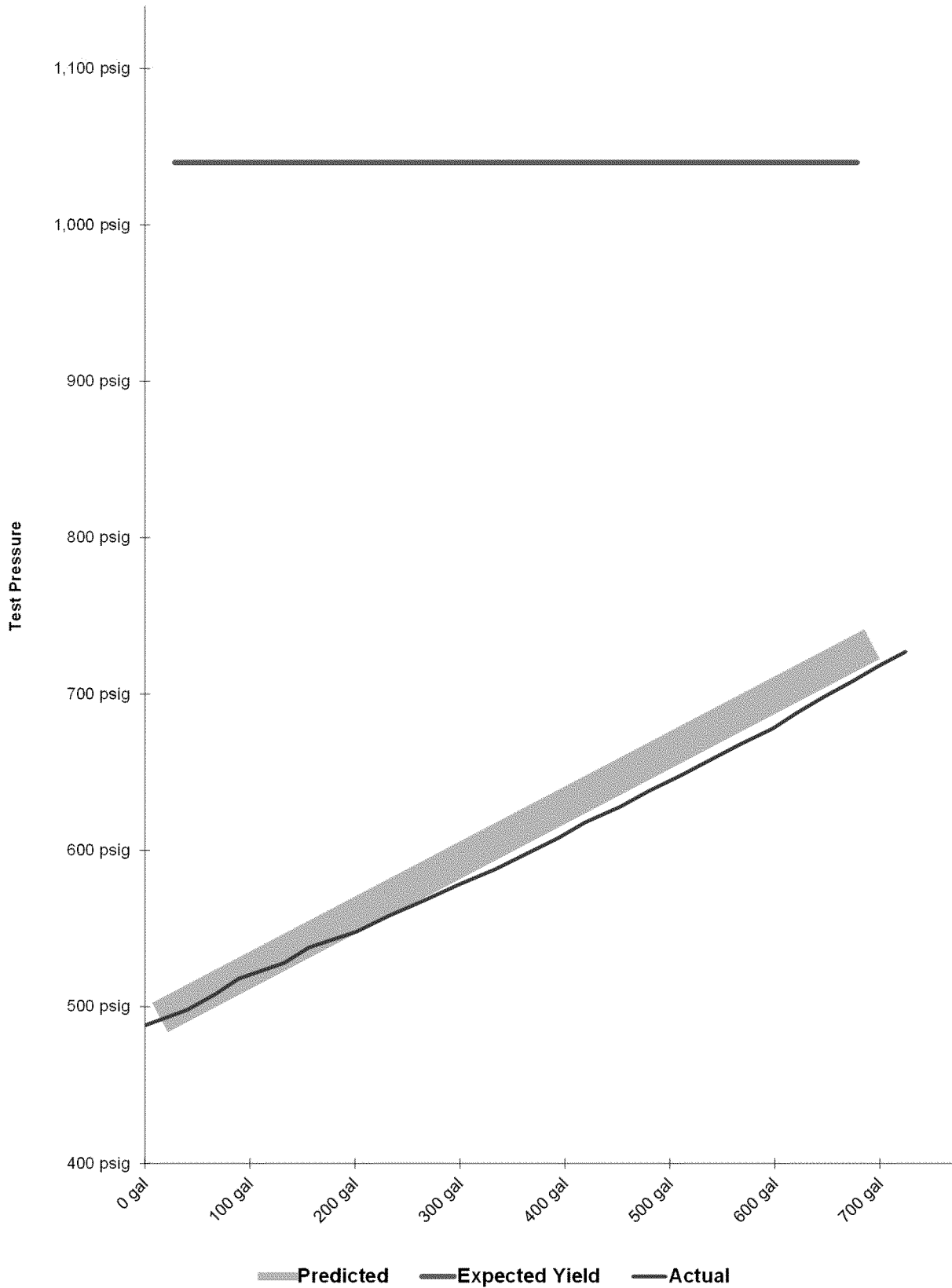
Owner Company	Pacific Gas and Electric Company	Job Number
Address	3600 Adobe Rd Petaluma, Ca 94954 Attention: Joel Mannie	41474079
Construction Company	ARB	Job Number
Address	1875 Loveridge Road Pittsburg, CA 94565 Attention: Redacted	0629-53-3500
Hydrostatic Test Co.	Akri	Project No.
Address	1414 Valhalla Drive Bakerfield, CA 93309 Attention: Redacted	PG&E 6-09-11
Test Section	PG&E T-36A, Line 132 From: 125+50 To: 00+00	
File Name	RCP 61362 - T-36A, L-132	

PG&E T-36A, Line 132

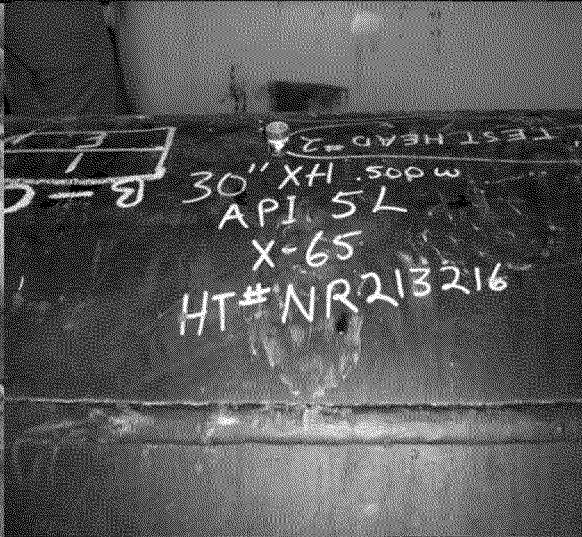
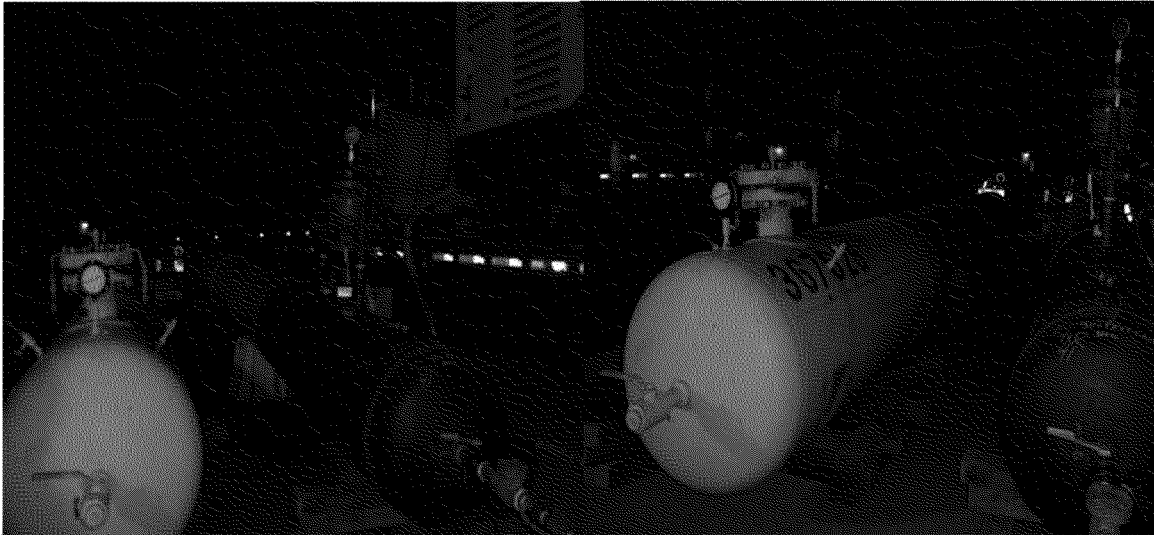




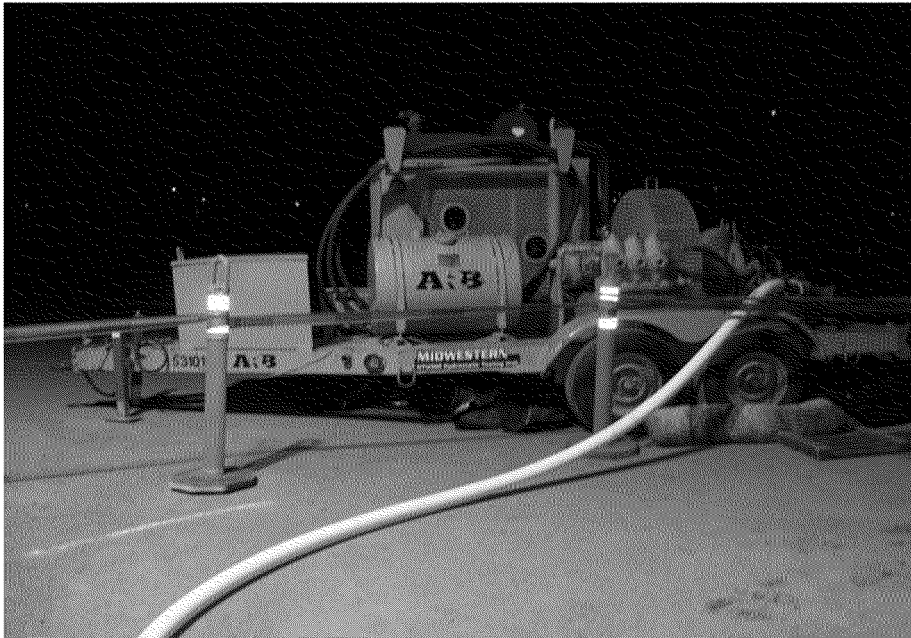
Spike Pressure Test  
Stress Strain Curve -- PG&E T-36A, Line 132







Test Headers and Exposed Pipe



Test Pressure Pump



Dead Weight  
Tester  
&  
Pressure Recorder



Buried  
Pipe  
Temperature  
Recorder



Exposed  
Pipe  
Temperature  
Recorder



# Hydrostatic Test Log Sheet

Owner Company	PG + E	Job Number	44474079
Construction Co.	ARB	Job Number	0679-53-3500
Testing Co.	AKRT	Job Number	PG + E 6-09-11

Test Section	Name	Station (0+00)	Elevation (Feet)
	Test Location	125 + 00	44
	Begin	125 + 00	44
	End	00 + 00	171
	High Elevation	25 + 75	366
	Low Elevation	111 + 50	41

Pipe Data	Section	Length (ft.)	O. D. (in.)	W. T. (in.)	Restrained (ft.)	Unrestricted (ft.)	Grade	Seam/Joint Type
	1	33	36	0.500		33	x-65	DSAW Arc Weld
	2	75	30	0.375		75	x-65	DSAW Arc Weld
	3	8	30	0.375	8		x-42	DSAW Arc Weld
	4	2575	36	0.360	2575		x-60	DSAW Arc Weld
	5	857	36	0.360	857		x-52	DSAW Arc Weld
	6	8317	30	0.375	8317		x-52	DSAW Arc Weld
	7	641	30	0.3125	641		x-52	DSAW Arc Weld
	8	10	4.5	0.237		10	613	Sm Arc Weld
	9	148	36	0.406	148		x-52	DSAW Arc Weld
	10							
11								

Test Period	Date	Time	Test Medium	Water	
	Begin	6/9/11		3:45 PM	<input checked="" type="checkbox"/>
	End	6/9/11		12:00 Midnite	<input type="checkbox"/>
				Other <input type="checkbox"/>	

Test Instrumentation	Description	Calibration Checked	Serial Number	Date Calibrated/Certified	Installation Correct	
	Redacted	Dead Weight Pressure Tester		21495	10-26-10	<input checked="" type="checkbox"/> Yes
		Pressure Recorder	<input checked="" type="checkbox"/> Yes	242E-39611	6-7-11	<input checked="" type="checkbox"/> Yes
	DAI-SENSE	Ambient Temperature Recorder	<input checked="" type="checkbox"/> Yes	298002476	9-16-10	<input checked="" type="checkbox"/> Yes
	CLIP	Restrained Pipe Temperature Recorder	<input checked="" type="checkbox"/> Yes	3561	2-4-11	<input checked="" type="checkbox"/> Yes
	MOCK	Unrestricted Pipe Temperature Recorder	<input checked="" type="checkbox"/> Yes	265-27758	6-7-11	<input checked="" type="checkbox"/> Yes

Redacted

## 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	Unrestricted	Bleed	Inject		
1	9:05 A	488	59	60	60			Ramp to Spike	
2	9:06 A	498	59	60	60				<input type="checkbox"/> Yes <input type="checkbox"/> No NA
3	9:07 A	508	59	60	60				<input type="checkbox"/> Yes <input type="checkbox"/> No NA
4	9:14 A	518	59	60	60				<input type="checkbox"/> Yes <input type="checkbox"/> No NA
5	9:17 A	528	59	60	60				<input type="checkbox"/> Yes <input type="checkbox"/> No NA
6	9:18 A	538	59	60	60				<input type="checkbox"/> Yes <input type="checkbox"/> No NA
7	9:19 A	548	59	60	60				<input type="checkbox"/> Yes <input type="checkbox"/> No NA
8	9:21 A	558	59	60	60				<input type="checkbox"/> Yes <input type="checkbox"/> No NA
9	9:23 A	568	59	60	60				<input type="checkbox"/> Yes <input type="checkbox"/> No NA
10	9:25 A	578	59	60	60				<input type="checkbox"/> Yes <input type="checkbox"/> No NA
11	9:27 A	588	59	60	60				<input type="checkbox"/> Yes <input type="checkbox"/> No NA





# 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	Unrestricted	Bleed	Inject		
12	6:45 <sup>P</sup>	671	50 <sup>P</sup>	60	65			<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
13	7:00 <sup>P</sup>	671	50 <sup>P</sup>	60	65			<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
14	7:15 <sup>P</sup>	671	57	60	64			<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
15	7:30 <sup>P</sup>	671	57	60	64			<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
16	7:45 <sup>P</sup>	671	57	60	64			<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
17	8:00 <sup>P</sup>	671	57	59 <sup>63</sup>	63			<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
18	8:15 <sup>P</sup>	671	56	59	63			<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
19	8:30 <sup>P</sup>	671	56	59	63			<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
20	8:45 <sup>P</sup>	671	56	58 <sup>9</sup>	63			<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
21	9:00 <sup>P</sup>	671	56	59	63			<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
22	9:15 <sup>P</sup>	672	56	59	62			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
23	9:30 <sup>P</sup>	672	56	59	62			<input type="checkbox"/> Yes <input type="checkbox"/> No	
24	9:45 <sup>P</sup>	672	56	59	62			<input type="checkbox"/> Yes <input type="checkbox"/> No	
25	10:00 <sup>P</sup>	672	56	59	62			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
26	10:15 <sup>P</sup>	673	56	59	62			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
27	10:30 <sup>P</sup>	673	56	59	62			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
28	10:45 <sup>P</sup>	673	56	59	62			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
29	11:00 <sup>P</sup>	673	56	59	62			<input type="checkbox"/> Yes <input type="checkbox"/> No	
30	11:15 <sup>P</sup>	673	56	59	62			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
31	11:30 <sup>P</sup>	673	56	58 <sup>P</sup>	62			<input type="checkbox"/> Yes <input type="checkbox"/> No	
32	11:45 <sup>P</sup>	673	56	58 <sup>P</sup>	62			<input type="checkbox"/> Yes <input type="checkbox"/> No	
33	12:00 <sup>P</sup>	673	56	58	62			<input type="checkbox"/> Yes <input type="checkbox"/> No	
34								<input type="checkbox"/> Yes <input type="checkbox"/> No	
35								<input type="checkbox"/> Yes <input type="checkbox"/> No	
36								<input type="checkbox"/> Yes <input type="checkbox"/> No	
37								<input type="checkbox"/> Yes <input type="checkbox"/> No	
38								<input type="checkbox"/> Yes <input type="checkbox"/> No	
39								<input type="checkbox"/> Yes <input type="checkbox"/> No	
40								<input type="checkbox"/> Yes <input type="checkbox"/> No	
41								<input type="checkbox"/> Yes <input type="checkbox"/> No	
42								<input type="checkbox"/> Yes <input type="checkbox"/> No	
43								<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	

Was a leak observed during test Period?  Yes  No

If "Yes", Explain:

High Test Pressure: 673  
Low Test Pressure: 671

### Certification:

Date: 6/9/11

Test Supervisor:

*[Signature]* AKK1

Signature

Company Representative:

Redacted

*[Signature]* Signature



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

Feeder Main Number, Line Number, or Station Name <b>L-132</b>	Area <b>1</b>	Division/District <b>Peninsula</b>	Job Number <b>41474078-T36A2</b>	Date Job Authorized <b>5/17/11</b>
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Description of Job -- Include Reference Drawing Numbers, and Pipeline Mileposts  
 T-36 South-Hydrostatically test tie-in piping, hydrostatic test piping and existing 30" and 36" L-132. Existing material listed; ie. pipe, elbows, sleeves, are from the "Material of Record". (refer to DWG 41474078,Sht .9).

Location Class <b>3</b>	Design Factor (F) <b>.5</b>	MAOP to be Established for this Piping by this Test <b>300 PSIG</b>	Future Design Pressure <b>300 PSIG</b>
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STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)	Max. Elevation <b>366 Ft.</b>	Static Head Calculation	
	Min. Elevation <b>41 Ft.</b>	For Water	0.433 X Elev. Diff. = <b>141 PSIG</b>
	Elev. Diff. <b>325 Ft.</b>	Other (Specify)	X Elev. Diff. = <b>PSIG</b>

Size		API or ASTM Grade	Footage to Be Tested	Pipe Spec. and Footage Verified In Field	% of SMYS			Pressure to Give 90% SMYS
O.D.	W.T.	Long Seam (ERW, DSAW, Seamless, Etc.)			At MAOP	At Min. Test Press.	At Max. Test Press.	
<b>30</b>	<b>.532</b>	<b>Sleeve, 50,000 SMYS (Item 17)</b>	<b>3 Ea.</b>		<b>16.92</b>	<b>28.76</b>	<b>41.73</b>	<b>1596</b>
<b>36</b>	<b>.511</b>	<b>Sleeve, 50,000 SMYS (Item 19)</b>	<b>1 Ea.</b>		<b>21.14</b>	<b>35.93</b>	<b>52.13</b>	<b>1277</b>
<b>30</b>	<b>.312</b>	<b>Sleeve, 50,000 SMYS (Item 21)</b>	<b>2 Ea.</b>		<b>28.85</b>	<b>49.04</b>	<b>71.15</b>	<b>936</b>

Minimum Test Pressure @ Max. Elevation	<b>510 PSIG</b>	Test Fluid To Be Used <b>WATER</b>	<b>MINIMUM TEST DURATION</b> - UNDER 30% SMYS (1 HR. MINIMUM) - 30% SMYS & OVER (8 HRS. MINIMUM) - PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34)	<b>8 HOURS</b>
Maximum Test Pressure @ Min. Elevation	<b>740 PSIG</b>			

Prepared By: <b>Mark Cabral</b>	Date: <b>06/03/11</b>	<b>Redacted</b>	Approved By: <i>[Signature]</i>	Date: <b>6/17/11</b>
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**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	Elevation at Test Point	FT	Min. Required Test Press. At Test Point (1)	PSIG	Max. Allowable Test Press at Test Point (4)	PSIG
Time and Date Test Ended	Max. Elevation in Test Section	FT	Min. Indicated Test Pressure (2)	PSIG	Max. Indicated Test Pressure (5)	PSIG
Actual Duration of Test	Min. Elevation in Test Section	FT	Min. Test Pressure at Max. Elevation (3)	PSIG	Max. Test Pressure at Min. Elevation (6)	PSIG

Test Fluid Used	Pipe Specification and Footage Verified (See Part I)				
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Make, Range, and Serial No. of Pressure Recording Gauge	Date Last Calibrated	Make, Range, and Serial No. of Dead Weight Tester (See Note 7)	Date Last Calibrated
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Test Supervised By:	Date:	Approved By:	Date:
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**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.

<b>NOTES:</b> (1) Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I. (2) Use lowest pressure on test gauge at any time during test. (3) Subtract static head due to elevation difference (between test point and maximum elevation) from minimum indicated test pressure. (4) Subtract static head due to elevation difference (between test point and minimum elevation) from "maximum test pressure at minimum elevation" from PART I. (5) Highest pressure on test gauge at any time during test. (6) Add static head due to elevation difference (between test point and minimum elevation) to maximum indicated test pressure. (7) 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.	<b>DISTRIBUTION</b> JOB FILE (AT SPONSORING ORGANIZATION) GSM&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
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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 GO 112-D)

Sheet 2 of 3

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

Feeder Main Number, Line Number, or Station Name <b>L-132</b>	Area <b>1</b>	Division/District <b>Peninsula</b>	Job Number <b>41474078-T36A2</b>	Date Job Authorized <b>5/17/11</b>
--	------------------	---------------------------------------	-------------------------------------	---------------------------------------

Description of Job -- Include Reference Drawing Numbers, and Pipeline Mileposts  
 T-36 South-Hydrostatically test tie-in piping, hydrostatic test piping and existing 30" and 36" L-132. Existing material listed; ie. pipe, elbows, sleeves, are from the "Material of Record". (refer to DWG 41474078, Sht .9).

Location Class <b>3</b>	Design Factor (F) <b>.5</b>	MAOP to be Established for this Piping by this Test <b>300 PSIG</b>	Future Design Pressure <b>300 PSIG</b>
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STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)	Max. Elevation <b>366 Ft.</b>	Static Head Calculation	
	Min. Elevation <b>41 Ft.</b>	For Water	0.433 X Elev. Diff. = <b>141 PSIG</b>
	Elev. Diff. <b>325 Ft.</b>	Other (Specify)	X Elev. Diff. = <b>PSIG</b>

Size		Pipe Specification		Footage to Be Tested	Pipe Spec. and Footage Verified In Field	% of SMYS			Pressure to Give 90% SMYS
O.D.	W.T.	API or ASTM Grade Long Seam (ERW, DSAW, Seamless, Etc.)				At MAOP	At Min. Test Press.	At Max. Test Press.	
30.00	.3125	API 5L, X-52, DSAW (Item #6)		641'		27.69	47.08	68.31	975
4.500	.237	API 5L, Gr B, SMLS (Item #8)		2'		8.12	13.80	20.03	3325
36.00	.375	Elbow, Y-42 (Item #10)		1 Ea.		34.29	58.29	84.57	787
36.00	.375	Elbow, Y-52 (item #11)		23 Ea.		27.69	47.08	68.31	975
30.00	.375	Elbow, Y-33 (item #12)		14 Ea.		36.36	61.82	89.70	742
30.00	.375	Elbow, Y-52 (Item #13)		8 Ea.		23.08	39.23	56.92	1170
30.00	.3125	Elbow, Y-52 (Item #15)		4 Ea.		27.69	47.08	68.31	975

Minimum Test Pressure @ Max. Elevation	<b>510 PSIG</b>	Test Fluid To Be Used <b>WATER</b>	MINIMUM TEST DURATION - UNDER 30% SMYS (1 HR. MINIMUM) - 30% SMYS & OVER (8 HRS. MINIMUM) - PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34)	<b>8 HOURS</b>
Maximum Test Pressure @ Min. Elevation	<b>740 PSIG</b>			

Prepared By: <b>Mark Cabral</b>	Date: <b>6/03/11</b>	<b>Redacted</b>	Approved By: <i>[Signature]</i>	Date: <b>6/4/11</b>
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**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	Elevation at Test Point	FT	Min. Required Test Press. At Test Point (1)	PSIG	Max. Allowable Test Press at Test Point (4)	PSIG
Time and Date Test Ended	Max. Elevation in Test Section	FT	Min. Indicated Test Pressure (2)	PSIG	Max. Indicated Test Pressure (5)	PSIG
Actual Duration of Test	Min. Elevation in Test Section	FT	Min. Test Pressure at Max. Elevation (3)	PSIG	Max. Test Pressure at Min. Elevation (6)	PSIG

Test Fluid Used	Pipe Specification and Footage Verified (See Part I)
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Make, Range, and Serial No. of Pressure Recording Gauge	Date Last Calibrated	Make, Range, and Serial No. of Dead Weight Tester (See Note 7)	Date Last Calibrated
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Test Supervised By:	Date:	Approved By:	Date:
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**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.

<b>NOTES:</b> (1) Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I. (2) Use lowest pressure on test gauge at any time during test. (3) Subtract static head due to elevation difference (between test point and maximum elevation) from minimum indicated test pressure. (4) Subtract static head due to elevation difference (between test point and minimum elevation) from "maximum test pressure at minimum elevation" from PART I. (5) Highest pressure on test gauge at any time during test. (6) Add static head due to elevation difference (between test point and minimum elevation) to maximum indicated test pressure. (7) 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.	<b>DISTRIBUTION</b> JOB FILE (AT SPONSORING ORGANIZATION)  GSM&TS RESPONSIBLE DISTRICT SUPERINTENDENT  PROJECT MANAGER/PROJECT ENGINEER  TECHNICAL & CONSTRUCTION SERVICES - ASSIGNED JOBS ONLY  CAPITAL ACCOUNTING (FOREMAN'S COPY OF JOB)  RECORDS SECTION (WC), GSM&TS  REPORT FAILURES UNDER TEST TO GAS ENGINEERING & PLANNING
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**PART I - DESIGN DATA (TO BE PREPARED BY PROJECT ENGINEER)**

Feeder Main Number, Line Number, or Station Name <b>L-132</b>	Area <b>1</b>	Division/District <b>Peninsula</b>	Job Number <b>41474078-T36A2</b>	Date Job Authorized <b>5/17/11</b>
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Description of Job -- Include Reference Drawing Numbers, and Pipeline Mileposts  
 T-36 South-Hydrostatically test tie-in piping, hydrostatic test piping and existing 30" and 36" L-132. Existing material listed; ie. pipe, elbows, sleeves, are from the "Material of Record". (refer to DWG 41474078, Sht. 9).

Hydro test I-132 from MP 40.08 to MP 42.34, San Bruno, Ca (Test-Section 36 South-Location A to B)

Location Class <b>3</b>	Design Factor (F) <b>.5</b>	MAOP to be Established for this Piping by this Test <b>300 PSIG</b>	Future Design Pressure <b>300 PSIG</b>
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STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)	Max. Elevation <b>366 Ft.</b>	Static Head Calculation	
	Min. Elevation <b>41 Ft.</b>	For Water	$0.433 \times \text{Elev. Diff.} =$ <b>141 PSIG</b>
	Elev. Diff. <b>325 Ft.</b>	Other (Specify)	X Elev. Diff. = <b>PSIG</b>

Size		Pipe Specification	Footage to Be Tested	Pipe Spec. and Footage Verified In Field	% of SMYS			Pressure to Give 90% SMYS
O.D.	W.T.	API or ASTM Grade Long Seam (ERW, DSAW, Seamless, Etc.)			At MAOP	At Min. Test Press.	At Max. Test Press.	
36.00	0.500	API 5L, X-65, DSAW (Item#27)	23'		16.62	28.25	40.98	1625
30.00	0.375	API 5L, X-65, DSAW (Item#28)	38'		18.46	31.38	45.54	1462
30.00	0.375	API 5L, X-42, DSAW (item #1)	8'		28.57	48.57	70.48	945
36.00	0.360	API 5L, X-60, DSAW (item #2)	2574.5'		25.00	42.50	61.67	1080
36.00	0.360	API 5L, X-52, DSAW (item #3)	857'		28.85	49.04	71.15	936
36.00	0.406	API 5L, X-52, DSAW (Item#4)	148'		25.58	43.48	63.09	1055
30.00	0.375	API 5L, X-52 DSAW (Item#5)	8317'		23.08	39.23	56.92	1170

Minimum Test Pressure @ Max. Elevation	<b>510 PSIG</b>	Test Fluid To Be Used <b>WATER</b>	MINIMUM TEST DURATION - UNDER 30% SMYS (1 HR. MINIMUM) - 30% SMYS & OVER (8 HRS. MINIMUM) - PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34)	<b>8 HOURS</b>
Maximum Test Pressure @ Min. Elevation	<b>740 PSIG</b>			

Prepared By: <b>Mark Cabral</b>	Date: <b>06/03/11</b>	<b>Redacted</b>	Approved By: <i>[Signature]</i>	Date: <b>6/4/11</b>
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**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	Elevation at Test Point	FT	Min. Required Test Press. At Test Point (1)	PSIG	Max. Allowable Test Press at Test Point (4)	PSIG
Time and Date Test Ended	Max. Elevation in Test Section	FT	Min. Indicated Test Pressure (2)	PSIG	Max. Indicated Test Pressure (5)	PSIG
Actual Duration of Test	Min. Elevation in Test Section	FT	Min. Test Pressure at Max. Elevation (3)	PSIG	Max. Test Pressure at Min. Elevation (6)	PSIG

Test Fluid Used \_\_\_\_\_ Pipe Specification and Footage Verified (See Part I)

Make, Range, and Serial No. of Pressure Recording Gauge	Date Last Calibrated	Make, Range, and Serial No. of Dead Weight Tester (See Note 7)	Date Last Calibrated
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Test Supervised By:	Date:	Approved By:	Date:
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**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.

<b>NOTES:</b> (1) Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I. (2) Use lowest pressure on test gauge at any time during test. (3) Subtract static head due to elevation difference (between test point and maximum elevation) from minimum indicated test pressure. (4) Subtract static head due to elevation difference (between test point and minimum elevation) from "maximum test pressure at minimum elevation" from PART I. (5) Highest pressure on test gauge at any time during test. (6) Add static head due to elevation difference (between test point and minimum elevation) to maximum indicated test pressure. (7) 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.	<b>DISTRIBUTION</b> JOB FILE (AT SPONSORING ORGANIZATION)  GSM&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
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**PART I - DESIGN DATA (TO BE PREPARED BY PROJECT ENGINEER)**

Feeder Main Number, Line Number, or Station Name <b>L-132</b>	Area <b>1</b>	Division/District <b>Peninsula</b>	Job Number <b>41474078-T36A1</b>	Date Job Authorized <b>5/17/11</b>
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Description of Job -- Include Reference Drawing Numbers, and Pipeline Mileposts  
**Hydrotest L-132, MP 40.08 - 42.34, 4" Cut Caps & tie-in piece for Ponderosa Reg Station Tap**

Location Class <b>3</b>	Design Factor (F) <b>.5</b>	MAOP to be Established for this Piping by this Test <b>300 PSIG</b>	Future Design Pressure <b>300 PSIG</b>
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STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)	Max. Elevation <b>N/A</b> Ft.	Min. Elevation <b>N/A</b> Ft.	Elev. Diff. <b>N/A</b> Ft.	Static Head Calculation For Water 0.433 X Elev. Diff. = _____ PSIG Other (Specify) _____ X Elev. Diff. = _____ PSIG
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Size		API or ASTM Grade	Footage to Be Tested	Pipe Spec. and Footage Verified In Field	% of SMYS			Pressure to Give 90% SMYS
O.D.	W.T.	Long Seam (ERW, DSAW, Seamless, Etc.)			At MAOP	At Min. Test Press.	At Max. Test Press.	
<b>4.50</b>	<b>.237</b>	<b>API 5L, Gr B SMLS (Item #30)</b>	<b>8'</b>		<b>8.14</b>	<b>13.83</b>	<b>20.07</b>	<b>3318</b>
<b>4.50</b>	<b>.237</b>	<b>Cap, Gr B (Item #34)</b>	<b>2 Ea.</b>		<b>8.14</b>	<b>13.83</b>	<b>20.07</b>	<b>3318</b>

Minimum Test Pressure @ Max. Elevation <b>510 PSIG</b>	Maximum Test Pressure @ Min. Elevation <b>740 PSIG</b>	Test Fluid To Be Used <b>WATER</b>	MINIMUM TEST DURATION - UNDER 30% SMYS (1 HR. MINIMUM) - 30% SMYS & OVER (8 HRS. MINIMUM) - PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34)	<b>1 HOURS</b>
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Redacted For Information or Changes, Call: **Mark Cabral (925) 588-3640** Approved By: *Mark Cabral* Date: **6-3-11**

**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	Elevation at Test Point	FT	Min. Required Test Press. At Test Point (1)	PSIG	Max. Allowable Test Press at Test Point (4)	PSIG
Time and Date Test Ended	Max. Elevation in Test Section	FT	Min. Indicated Test Pressure (2)	PSIG	Max. Indicated Test Pressure (5)	PSIG
Actual Duration of Test	Min. Elevation in Test Section	FT	Min. Test Pressure at Max. Elevation (3)	PSIG	Max. Test Pressure at Min. Elevation (6)	PSIG

Test Fluid Used \_\_\_\_\_ Pipe Specification and Footage Verified (See Part I)

Make, Range, and Serial No. of Pressure Recording Gauge	Date Last Calibrated	Make, Range, and Serial No. of Dead Weight Tester (See Note 7)	Date Last Calibrated
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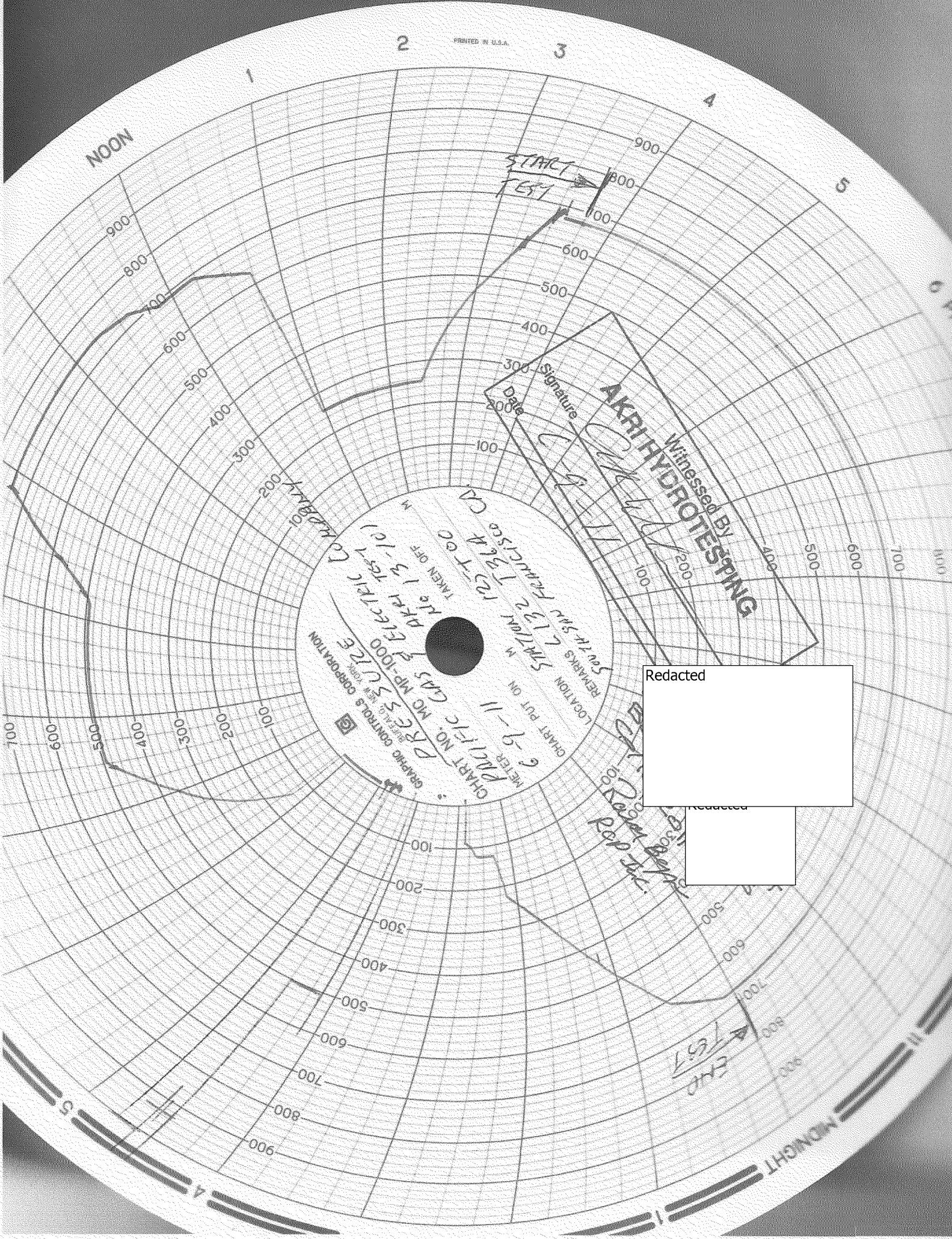
Test Supervised By: \_\_\_\_\_ Date: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

**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.

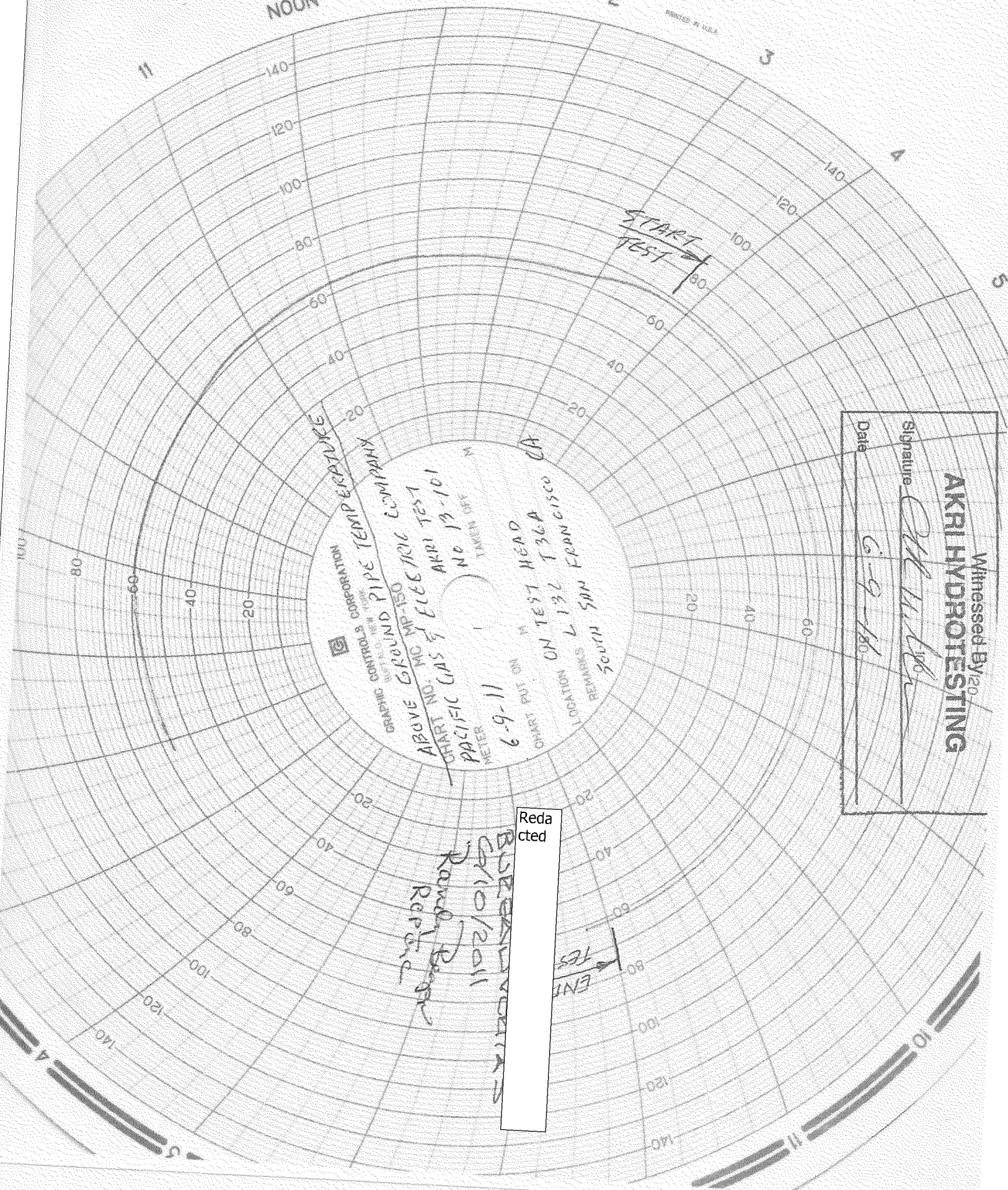
<b>NOTES:</b> (1) Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I. (2) Use lowest pressure on test gauge at any time during test. (3) Subtract static head due to elevation difference (between test point and maximum elevation) from minimum indicated test pressure. (4) Subtract static head due to elevation difference (between test point and minimum elevation) from "maximum test pressure at minimum elevation" from PART I. (5) Highest pressure on test gauge at any time during test. (6) Add static head due to elevation difference (between test point and minimum elevation) to maximum indicated test pressure. (7) 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.	<b>DISTRIBUTION</b> JOB FILE (AT SPONSORING ORGANIZATION)  GSM&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
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GRAPHIC CONTROLS CORPORATION  
 1000 CALIFORNIA STREET  
 SAN FRANCISCO, CALIF. 94108

ABOVE GROUND PIPE TEMPERATURE

CHART NO. MC MP-150  
 PACIFIC GAS & ELECTRIC COMPANY  
 AKRI TEST  
 NO. 13-101

CHART PUT ON M  
 6-9-11  
 METER

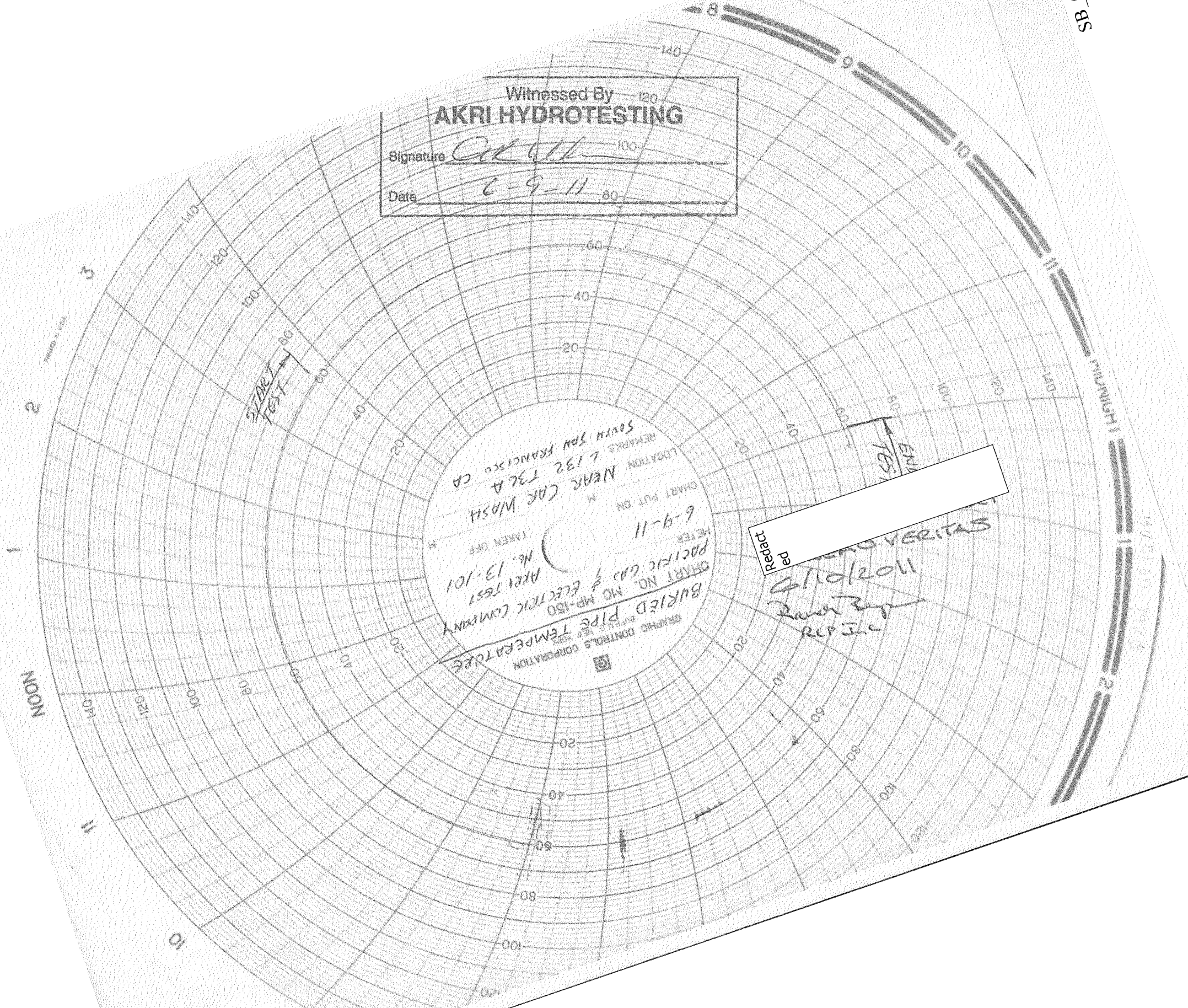
ON TEST HEAD  
 LOCATION L 132 T 36-A CA  
 REMARKS L SAN FRANCISCO CA

END TEST

Witnessed By 20  
**AKRI HYDROTESTING**  
 Signature [Signature]  
 Date 6-9-11

Redacted

BREKID  
 5/10/2011  
 Rand Berger  
 RPT Eng



Witnessed By AKRI HYDROTESTING 120  
 Signature [Signature] 100  
 Date 6-9-11 80

GRAPHO CONTROLS CORPORATION  
 BURIED PIPE TEMPERATURE  
 CHART NO. MO MP-150  
 PACIFIC GAS & ELECTRIC COMPANY  
 AKRI TEST  
 No. 13-101  
 TAKEN OFF  
 6-9-11  
 CHART PUT ON  
 M  
 LOCATION  
 NEAR CAR WASH  
 7132 T36A  
 SOUTH SAN FRANCISCO CA  
 REMARKS

per  
 per  
 11/20/11  
 RCP J.C.

11 MINUTE

2

NOON