

# PIPELINE SAFETY ENHANCEMENT PLAN PIPELINE REPLACEMENT AND ILI RETROFIT PROGRAM



*Pacific Gas and  
Electric Company*

## Strength Test Pressure Report L-114 Replacement MP 12.70 – MP 16.57



**GULF INTERSTATE  
ENGINEERING**

**Project No. 1581**

**PRSRs 27979; GM 30943472**

Rev. No.	Date	Revision	GIE Approval	Client Approval
01	11/08/2012	Initial Submittal	Redacted	
02	8/8/2013	Changed 22" Pipe Spec		8/13/2013 Redacted



**PART 1 – TEST DESIGN DATA (TO BE PREPARED BY PROJECT ENGINEER/ESTIMATOR)**

<b>Test Description</b>													
Line Number or Station Name <b>L-114</b>						Division/District <b>Diablo</b>			Job Number <b>30943472</b>				
Purpose of Test: <b>Test new installation</b>						MAOP to be Established by this Test <b>720 PSIG</b>							
Description of Pipe being Tested (include reference drawings, field stationing, and mile points) <b>Test 1860' newly installed 24" L-114 from MP 12.70 to MP 13.05. Wall Map EB-58. Drawing 30943472, sheets 4 – 6.</b>													
<input checked="" type="checkbox"/> <b>New Facility</b> (no spike test required) <input type="checkbox"/> <b>Existing Facility</b> Will spike test be performed? <input type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b> (explain on right)						If no spike test for existing facility, explain:							
<b>Static Head Calculation</b>													
Maximum Elevation <b>94</b> <b>FT</b>						For Water 8 (Elev. Diff.) x 0.433 = <b>4 PSIG</b>							
Minimum Elevation <b>86</b> <b>FT</b>						For Other Test Medium _____							
Elevation Difference <b>8</b> <b>FT</b>						Contact the responsible engineer for guidance on completing this field.							
<b>Pipe to be Tested</b>													
Size		API or ASTM Spec	SMYS (psi)	Long Seam (ERW, DSAW, SMLS etc.)	JF (E)	Footage to be Tested	Actual Footage	Location Class	Most Restrictive Design Factor	% of SMYS			
OD (in.)	WT (in.)									At MAOP	At Min. Test Press.	At Max. Test Press.	
24.000	0.375	API-5L	60000	SAWL	1.00	1855		3	0.5	38.40	90.03	93.01	
22.000	0.375	API-5L	65000	HFVW	1.00	5		3	0.5	32.49	76.18	78.70	
24.000	0.375	MSS-SP-75	60000	24x22 Reducer	-	1 ea		3	0.5	38.40	90.03	93.01	
22.000	0.375	MSS-SP-75	60000	24x22 Reducer	-	^		3	0.5	35.19	82.52	85.26	
All fittings included in the test (except those listed above) are the same wall thickness and grade as the pipe <input checked="" type="checkbox"/>													
Pipe specs verified in field <input type="checkbox"/> Signature of person supervising test													
Component(s) limiting test pressure/Control Point exceptions													
<b>Test Specifications (include a spike test when testing existing facilities)</b>													
Test Factor <b>1.5</b>	[1A]	Min. Test Pressure at Max. Elev. <b>1688 PSIG</b>					[1B]	Max. Test Pressure at Min. Elev. <b>1744 PSIG</b>					
Spike Test (complete only for spike test)	[1C]	Spike Factor _____					[1D]	Spike Pressure at Max. Elev. Box [1A] X [1C] = _____ PSIG					
	[1E]	Spike Pressure at Min. Elev. _____ PSIG					[1F]	Max. Post-Spike Pressure at Min. Elev. Box [1E] X 0.95 = _____ PSIG					
Test Medium to be Used <b>WATER</b>			Minimum Test Duration <b>8.0 Hours</b>			<ul style="list-style-type: none"> <li>* Under 30% SMYS: 1 hour minimum</li> <li>* 30% SMYS and over: 8 hours minimum</li> <li>* Pre-installation Test: Refer to A-34, Attachment A</li> <li>* Spike Test: 30 minutes minimum (included in test)</li> </ul>							
<b>Signatures</b>													
Prepared by (signature) <b>Redacted</b>			Print Name and Phone Number <b>Redacted</b>				Date <b>8/8/2013</b>		LAN ID <b>Redact</b>				
Approved by (signature) <b>Redacted</b>			Print Name <b>Redacted</b>				Date <b>8/12/2013</b>		LAN ID <b>Redacted</b>				
Test Supervised by (signature)			Time and Date Test Pressure Reached (from Part 2)			Time and Date Test Ended (from Part 2)		Actual Duration of Test (from Part 2)					



**PART 2 – TEST DATA (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)**

<b>Test Elevation</b>			
Elevation at Test Point _____ FT	Max. Elevation in Test Section _____ FT		Min. Elevation in Test Section _____ FT
	[2A]	Static Head b/t Test Point and Max. Elev. _____ PSIG	[2B] Static Head b/t Test Point and Min. Elev. _____ PSIG
<b>No Spike Test: Calculations and Test Results (complete for strength test without a spike test)</b>			
Min. Required Test Pressure at Test Point Box [1A] + Box [2A] = _____ PSIG		Max. Allowable Test Pressure at Test Point Box [1B] – Box [2B] = _____ PSIG	
[2C]	Min. Test Pressure Indicated _____ PSIG	[2D]	Max. Test Pressure Indicated _____ PSIG
Calculated Min. Test Pressure at Max. Elev. Box [2C] – Box [2A] = _____ PSIG		Calculated Max. Test Pressure at Min. Elev. Box [2D] + Box [2B] = _____ PSIG	
<b>Spike Test: Calculations and Test Results (complete for strength test with a spike test)</b>			
Spike Pressure at Test Point Box [1E] – Box [2B] = _____ PSIG		Min. Required Test Pressure at Test Point Box [1A] + Box [2A] = _____ PSIG	
[2E]	Spike Pressure Indicated _____ PSIG	[2F]	Min. Test Pressure Indicated _____ PSIG
Calculated Spike Pressure at Min. Elev. Box [2E] + Box [2B] = _____ PSIG		Calculated Min. Test Pressure at Max. Elev. Box [2F] – Box [2A] = _____ PSIG	
		Max. Post-Spike Pressure at Test Point Box [1F] – Box [2B] = _____ PSIG	
[2G]	Max. Post-Spike Test Pressure Indicated _____ PSIG		Pressure Range After Spike Test _____ PSIG
		Calculated Max. Post-Spike Pressure at Min. Elev. Box [2G] + Box [2B] = _____ PSIG	
<b>Test Acceptance</b>			
Were Leaks Observed? <input type="checkbox"/> Yes <input type="checkbox"/> No		If yes, explain:	
Acceptable Strength Test? <input type="checkbox"/> Yes <input type="checkbox"/> No		If no, explain:	
Report strength test failures to Regulatory Compliance			
Test Medium Used	Time and Date Test Pressure Reached	Time and Date Test Ended	Actual Duration of Test
<b>Test Instruments</b>			
Make, Range, and Serial No. of Pressure Recording Device			Date Last Calibrated
Make, Range and Serial No. of Dead Weight Tester A dead weight tester and/or an electronic pressure recorder is required for tests of any pipe segment equal to or greater than 90% of SMYS.			Date Last Calibrated
<b>Signatures</b>			
Test Supervised by (signature)		Print Name	Date
			LAN ID
Testing Contractor (if third party)			
Approved by (signature)		Print Name	Date
			LAN ID

**Attachments**

- Test chart
- Schematic piping sketch
- Test log with pressure noted every 15 minutes

**Distribution**

- Gas Job Closeout Desk, 6121 Bollinger Canyon Road, Building Z1, San Ramon, CA 94583



**PART 1 – TEST DESIGN DATA (TO BE PREPARED BY PROJECT ENGINEER/ESTIMATOR)**

<b>Test Description</b>													
Line Number or Station Name <u>L-114</u>						Division/District <u>Diablo</u>			Job Number <u>30943472</u>				
Purpose of Test: <u>Test new installation</u>						MAOP to be Established by this Test <u>720 PSIG</u>							
Description of Pipe being Tested (include reference drawings, field stationing, and mile points) <u>Test 3617' newly installed 24" L-114 from MP 13.05 to MP 13.71. Wall Maps EB-58, EB-59.</u> <u>Drawing 30943472, sheets 6 – 9.</u>													
<input checked="" type="checkbox"/> <b>New Facility</b> (no spike test required) <input type="checkbox"/> <b>Existing Facility</b> Will spike test be performed? <input type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b> (explain on right)						If no spike test for existing facility, explain:							
<b>Static Head Calculation</b>													
Maximum Elevation <u>99</u> FT						For Water 10 (Elev. Diff.) x 0.433 = <u>5</u> PSIG							
Minimum Elevation <u>89</u> FT						For Other Test Medium _____							
Elevation Difference <u>10</u> FT						Contact the responsible engineer for guidance on completing this field.							
<b>Pipe to be Tested</b>													
Size		API or ASTM Spec	SMYS (psi)	Long Seam (ERW, DSAW, SMLS etc.)	JF (E)	Footage to be Tested	Actual Footage	Location Class	Most Restrictive Design Factor	% of SMYS			
OD (in.)	WT (in.)									At MAOP	At Min. Test Press.	At Max. Test Press.	
24.000	0.375	API-5L	60000	SAWL	1.00	3617		3	0.5	38.40	90.03	93.01	
22.000	0.375	API-5L	65000	HFV	1.00	5		3	0.5	32.49	76.18	78.70	
24.000	0.375	MSS-SP-75	60000	24x22 Reducer	-	1 ea		3	0.5	38.40	90.03	93.01	
22.000	0.375	MSS-SP-75	60000	24x22 Reducer	-	^		3	0.5	35.19	82.52	85.26	
All fittings included in the test (except those listed above) are the same wall thickness and grade as the pipe <input checked="" type="checkbox"/>													
Pipe specs verified in field <input type="checkbox"/> Signature of person supervising test _____													
Component(s) limiting test pressure/Control Point exceptions _____													
<b>Test Specifications (include a spike test when testing existing facilities)</b>													
Test Factor <u>1.5</u>	[1A]	Min. Test Pressure at Max. Elev. <u>1688</u> PSIG					[1B]	Max. Test Pressure at Min. Elev. <u>1744</u> PSIG					
Spike Test (complete only for spike test)	[1C]	Spike Factor _____					[1D]	Spike Pressure at Max. Elev. Box [1A] x [1C] = _____ PSIG					
	[1E]	Spike Pressure at Min. Elev. _____ PSIG					[1F]	Max. Post-Spike Pressure at Min. Elev. Box [1E] x 0.95 = _____ PSIG					
Test Medium to be Used <u>WATER</u>			Minimum Test Duration <u>8.0</u> Hours			<ul style="list-style-type: none"> <li>▪ Under 30% SMYS: 1 hour minimum</li> <li>▪ 30% SMYS and over: 8 hours minimum</li> <li>▪ Pre-installation Test: Refer to A-34, Attachment A</li> <li>▪ Spike Test: 30 minutes minimum (included in test)</li> </ul>							
<b>Signatures</b>													
Prepared by (signature)		Redacted			Print Name and Phone Number			Date		LAN ID			
					Redacted			8/8/2013		Redacted			
Approved by (signature)		Redacted			Print Name			Date		LAN ID			
					Redacted			8/12/2013		Redacted			
Test Supervised by (signature)				Time and Date Test Pressure Reached (from Part 2)			Time and Date Test Ended (from Part 2)			Actual Duration of Test (from Part 2)			



**PART 2 – TEST DATA (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)**

<b>Test Elevation</b>			
Elevation at Test Point _____ FT	Max. Elevation in Test Section _____ FT		Min. Elevation in Test Section _____ FT
	[2A] Static Head b/t Test Point and Max. Elev. _____ PSIG	[2B] Static Head b/t Test Point and Min. Elev. _____ PSIG	
<b>No Spike Test: Calculations and Test Results (complete for strength test without a spike test)</b>			
Min. Required Test Pressure at Test Point Box [1A] + Box [2A] = _____ PSIG		Max. Allowable Test Pressure at Test Point Box [1B] – Box [2B] = _____ PSIG	
[2C] Min. Test Pressure Indicated _____ PSIG	[2D] Max. Test Pressure Indicated _____ PSIG	Pressure Range During Test _____ PSIG	
Calculated Min. Test Pressure at Max. Elev. Box [2C] – Box [2A] = _____ PSIG			
<b>Spike Test: Calculations and Test Results (complete for strength test with a spike test)</b>			
Spike Pressure at Test Point Box [1E] – Box [2B] = _____ PSIG		Min. Required Test Pressure at Test Point Box [1A] + Box [2A] = _____ PSIG	
[2E] Spike Pressure Indicated _____ PSIG	[2F] Min. Test Pressure Indicated _____ PSIG	[2G] Max. Post-Spike Test Pressure Indicated _____ PSIG	Max. Post-Spike Pressure at Test Point Box [1F] – Box [2B] = _____ PSIG Pressure Range After Spike Test _____ PSIG
Calculated Spike Pressure at Min. Elev. Box [2E] + Box [2B] = _____ PSIG		Calculated Min. Test Pressure at Max. Elev. Box [2F] – Box [2A] = _____ PSIG	
		Calculated Max. Post-Spike Pressure at Min. Elev. Box [2G] + Box [2B] = _____ PSIG	
<b>Test Acceptance</b>			
Were Leaks Observed? <input type="checkbox"/> Yes <input type="checkbox"/> No		If yes, explain:	
Acceptable Strength Test? <input type="checkbox"/> Yes <input type="checkbox"/> No		If no, explain:	
Report strength test failures to Regulatory Compliance			
Test Medium Used	Time and Date Test Pressure Reached	Time and Date Test Ended	Actual Duration of Test
<b>Test Instruments</b>			
Make, Range, and Serial No. of Pressure Recording Device			Date Last Calibrated
Make, Range and Serial No. of Dead Weight Tester <small>A dead weight tester and/or an electronic pressure recorder is required for tests of any pipe segment equal to or greater than 90% of SMYS.</small>			Date Last Calibrated
<b>Signatures</b>			
Test Supervised by (signature)	Print Name	Date	LAN ID
Testing Contractor (if third party)			
Approved by (signature)	Print Name	Date	LAN ID

**Attachments**

- Test chart
- Schematic piping sketch
- Test log with pressure noted every 15 minutes

**Distribution**

- Gas Job Closeout Desk, 6121 Bollinger Canyon Road, Building Z1, San Ramon, CA 94583



**PART 1 – TEST DESIGN DATA (TO BE PREPARED BY PROJECT ENGINEER/ESTIMATOR)**

<b>Test Description</b>													
Line Number or Station Name <u>L-114</u>							Division/District <u>Diablo</u>			Job Number <u>30943472</u>			
Purpose of Test: <u>Test new installation</u>							MAOP to be Established by this Test <u>720 PSIG</u>						
Description of Pipe being Tested (include reference drawings, field stationing, and mile points) <u>Test 3411' newly installed 24" L-114 from MP 13.73 to MP 14.35. Wall Map EB-59. Drawing 30943472, sheets 10 – 13.</u>													
<input checked="" type="checkbox"/> New Facility (no spike test required) <input type="checkbox"/> Existing Facility Will spike test be performed? <input type="checkbox"/> Yes <input type="checkbox"/> No (explain on right)							If no spike test for existing facility, explain:						
<b>Static Head Calculation</b>													
Maximum Elevation <u>93</u> FT							For Water <u>7</u> (Elev. Diff.) x 0.433 = <u>4</u> PSIG						
Minimum Elevation <u>86</u> FT							For Other Test Medium _____						
Elevation Difference <u>7</u> FT							Contact the responsible engineer for guidance on completing this field.						
<b>Pipe to be Tested</b>													
Size		API or ASTM Spec	SMYS (psi)	Long Seam (ERW, DSAW, SMLS etc)	JF (E)	Footage to be Tested	Actual Footage	Location Class	Most Restrictive Design Factor	% of SMYS			
OD (in.)	WT (in.)									At MAOP	At Min. Test Press.	At Max. Test Press.	
24.000	0.375	API-5L	60000	SAWL	1.00	3377		3	0.5	38.40	90.03	93.01	
24.000	0.500	API-5L	60000	SAWL	1.00	29		3	0.5	28.80	67.52	69.76	
22.000	0.375	API-5L	65000	HFW	1.00	5		3	0.5	32.49	76.18	78.70	
24.000	0.375	MSS-SP-75	60000	24x22 Reducer	-	1 ea		3	0.5	38.40	90.03	93.01	
22.000	0.375	MSS-SP-75	60000	24x22 Reducer	-	1		3	0.5	35.19	82.52	85.26	
All fittings included in the test (except those listed above) are the same wall thickness and grade as the pipe <input checked="" type="checkbox"/>													
Pipe specs verified in field <input type="checkbox"/> Signature of person supervising test _____													
Component(s) limiting test pressure/Control Point exceptions _____													
<b>Test Specifications (include a spike test when testing existing facilities)</b>													
Test Factor <u>1.5</u>	[1A]	Min. Test Pressure at Max. Elev. <u>1688</u> PSIG					[1B]	Max. Test Pressure at Min. Elev. <u>1744</u> PSIG					
Spike Test (complete only for spike test)	[1C]	Spike Factor _____					[1D]	Spike Pressure at Max. Elev. Box [1A] x [1C] = _____ PSIG					
	[1E]	Spike Pressure at Min. Elev. _____ PSIG					[1F]	Max. Post-Spike Pressure at Min. Elev. Box [1E] x 0.95 = _____ PSIG					
Test Medium to be Used <u>WATER</u>			Minimum Test Duration <u>8.0</u> Hours			<ul style="list-style-type: none"> <li>▪ Under 30% SMYS: 1 hour minimum</li> <li>▪ 30% SMYS and over: 8 hours minimum</li> <li>▪ Pre-installation Test: Refer to A-34, Attachment A</li> <li>▪ Spike Test: 30 minutes minimum (included in test)</li> </ul>							
<b>Signatures</b>													
Prepared by (signature)		Redacted			Print Name and Phone Number			Date		LAN ID			
					Redacted			8/8/2013		Redacted			
Approved by (signature)		Redacted			Print Name			Date		LAN ID			
					Redacted			8/12/2013		Redacted			
Test Supervised by (signature)				Time and Date Test Pressure Reached (from Part 2)			Time and Date Test Ended (from Part 2)		Actual Duration of Test (from Part 2)				



**PART 2 – TEST DATA (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)**

<b>Test Elevation</b>			
Elevation at Test Point _____ FT		Max. Elevation in Test Section _____ FT	Min. Elevation in Test Section _____ FT
[2A]	Static Head b/t Test Point and Max. Elev. _____ PSIG		[2B] Static Head b/t Test Point and Min. Elev. _____ PSIG
<b>No Spike Test: Calculations and Test Results (complete for strength test without a spike test)</b>			
Min. Required Test Pressure at Test Point Box [1A] + Box [2A] = _____ PSIG		Max. Allowable Test Pressure at Test Point Box [1B] – Box [2B] = _____ PSIG	Pressure Range During Test _____ PSIG
[2C]	Min. Test Pressure Indicated _____ PSIG	[2D]	Max. Test Pressure Indicated _____ PSIG
Calculated Min. Test Pressure at Max. Elev. Box [2C] – Box [2A] = _____ PSIG		Calculated Max. Test Pressure at Min. Elev. Box [2D] + Box [2B] = _____ PSIG	
<b>Spike Test: Calculations and Test Results (complete for strength test with a spike test)</b>			
Spike Pressure at Test Point Box [1E] – Box [2B] = _____ PSIG		Min. Required Test Pressure at Test Point Box [1A] + Box [2A] = _____ PSIG	Max. Post-Spike Pressure at Test Point Box [1F] – Box [2B] = _____ PSIG
[2E]	Spike Pressure Indicated _____ PSIG	[2F]	Min. Test Pressure Indicated _____ PSIG
Calculated Spike Pressure at Min. Elev. Box [2E] + Box [2B] = _____ PSIG		Calculated Max. Post-Spike Pressure at Min. Elev. Box [2G] + Box [2B] = _____ PSIG	
<b>Test Acceptance</b>			
Were Leaks Observed? <input type="checkbox"/> Yes <input type="checkbox"/> No		If yes, explain:	
Acceptable Strength Test? <input type="checkbox"/> Yes <input type="checkbox"/> No		If no, explain:	
Report strength test failures to Regulatory Compliance			
Test Medium Used	Time and Date Test Pressure Reached	Time and Date Test Ended	Actual Duration of Test
<b>Test Instruments</b>			
Make, Range, and Serial No. of Pressure Recording Device			Date Last Calibrated
Make, Range and Serial No. of Dead Weight Tester A dead weight tester and/or an electronic pressure recorder is required for tests of any pipe segment equal to or greater than 90% of SMYS.			Date Last Calibrated
<b>Signatures</b>			
Test Supervised by (signature)		Print Name	Date
			LAN ID
Testing Contractor (if third party)			
Approved by (signature)		Print Name	Date
			LAN ID

**Attachments**

- Test chart
- Schematic piping sketch
- Test log with pressure noted every 15 minutes

**Distribution**

- Gas Job Closeout Desk, 6121 Bollinger Canyon Road, Building Z1, San Ramon, CA 94583



**PART 1 – TEST DESIGN DATA (TO BE PREPARED BY PROJECT ENGINEER/ESTIMATOR)**

<b>Test Description</b>													
Line Number or Station Name <u>L-114</u>						Division/District <u>Diablo</u>			Job Number <u>30943472</u>				
Purpose of Test: <u>Test new installation</u>						MAOP to be Established by this Test <u>720 PSIG</u>							
Description of Pipe being Tested (include reference drawings, field stationing, and mile points) <u>Test 11,044' newly installed 24" L-114 from MP 14.58 to MP 16.57. Wall Map EB-59. Drawing 30943472, sheets 14-25.</u>													
<input checked="" type="checkbox"/> <b>New Facility</b> (no spike test required) <input type="checkbox"/> <b>Existing Facility</b> Will spike test be performed? <input type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b> (explain on right)						If no spike test for existing facility, explain:							
<b>Static Head Calculation</b>													
Maximum Elevation <u>153</u> FT						For Water <u>64</u> (Elev. Diff.) x 0.433 = <u>28</u> PSIG							
Minimum Elevation <u>89</u> FT						For Other Test Medium _____							
Elevation Difference <u>64</u> FT						Contact the responsible engineer for guidance on completing this field.							
<b>Pipe to be Tested</b>													
Size		API or ASTM Spec	SMYS (psi)	Long Seam (ERW, DSAW, SMLS etc.)	JF (E)	Footage to be Tested	Actual Footage	Location Class	Most Restrictive Design Factor	% of SMYS			
OD (in.)	WT (in.)									At MAOP	At Min. Test Press.	At Max. Test Press.	
24.000	0.375	API-5L	60000	SAWL	1.00	10,989		3	0.5	38.40	90.03	93.01	
24.000	0.500	API-5L	60000	SAWL	1.00	55		3	0.5	28.80	67.52	69.76	
All fittings included in the test (except those listed above) are the same wall thickness and grade as the pipe <input checked="" type="checkbox"/>													
Pipe specs verified in field <input type="checkbox"/> Signature of person supervising test													
Component(s) limiting test pressure/Control Point exceptions													
<b>Test Specifications (include a spike test when testing existing facilities)</b>													
Test Factor <u>1.5</u>		[1A]	Min. Test Pressure at Max. Elev. <u>1688</u> PSIG				[1B]	Max. Test Pressure at Min. Elev. <u>1744</u> PSIG					
Spike Test (complete only for spike test)		[1C]	Spike Factor _____				[1D]	Spike Pressure at Max. Elev. Box [1A] X [1C] = _____ PSIG					
		[1E]	Spike Pressure at Min. Elev. _____ PSIG				[1F]	Max. Post-Spike Pressure at Min. Elev. Box [1E] X 0.95 = _____ PSIG					
Test Medium to be Used <u>WATER</u>			Minimum Test Duration <u>8.0</u> Hours			<ul style="list-style-type: none"> <li>▪ Under 30% SMYS: 1 hour minimum</li> <li>▪ 30% SMYS and over: 8 hours minimum</li> <li>▪ Pre-installation Test: Refer to A-34, Attachment A</li> <li>▪ Spike Test: 30 minutes minimum (included in test)</li> </ul>							
<b>Signatures</b>													
Prepared by (signature)		Redacted			Print Name and Phone Number			Date		LAN ID			
					Redacted			8/8/2013		Redacted			
Approved by (signature)		Redacted			Print Name			Date		LAN ID			
					Redacted			8/12/2013		Redacted			
Test Supervised by (signature)				Time and Date Test Pressure Reached (from Part 2)			Time and Date Test Ended (from Part 2)		Actual Duration of Test (from Part 2)				





**PART 2 – TEST DATA (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)**

<b>Test Elevation</b>			
Elevation at Test Point _____ FT	Max. Elevation in Test Section _____ FT		Min. Elevation in Test Section _____ FT
	[2A]	Static Head b/t Test Point and Max. Elev. _____ PSIG	[2B] Static Head b/t Test Point and Min. Elev. _____ PSIG
<b>No Spike Test: Calculations and Test Results (complete for strength test without a spike test)</b>			
Min. Required Test Pressure at Test Point Box [1A] + Box [2A] = _____ PSIG		Max. Allowable Test Pressure at Test Point Box [1B] – Box [2B] = _____ PSIG	Pressure Range During Test _____ PSIG
[2C] Min. Test Pressure Indicated _____ PSIG	[2D] Max. Test Pressure Indicated _____ PSIG		
Calculated Min. Test Pressure at Max. Elev. Box [2C] – Box [2A] = _____ PSIG		Calculated Max. Test Pressure at Min. Elev. Box [2D] + Box [2B] = _____ PSIG	
<b>Spike Test: Calculations and Test Results (complete for strength test with a spike test)</b>			
Spike Pressure at Test Point Box [1E] – Box [2B] = _____ PSIG		Min. Required Test Pressure at Test Point Box [1A] + Box [2A] = _____ PSIG	Max. Post-Spike Pressure at Test Point Box [1F] – Box [2B] = _____ PSIG
[2E] Spike Pressure Indicated _____ PSIG	[2F] Min. Test Pressure Indicated _____ PSIG	[2G] Max. Post-Spike Test Pressure Indicated _____ PSIG	Pressure Range After Spike Test _____ PSIG
Calculated Spike Pressure at Min. Elev. Box [2E] + Box [2B] = _____ PSIG		Calculated Min. Test Pressure at Max. Elev. Box [2F] – Box [2A] = _____ PSIG	Calculated Max. Post-Spike Pressure at Min. Elev. Box [2G] + Box [2B] = _____ PSIG
<b>Test Acceptance</b>			
Were Leaks Observed? <input type="checkbox"/> Yes <input type="checkbox"/> No		If yes, explain:	
Acceptable Strength Test? <input type="checkbox"/> Yes <input type="checkbox"/> No		If no, explain:	
Report strength test failures to Regulatory Compliance			
Test Medium Used	Time and Date Test Pressure Reached	Time and Date Test Ended	Actual Duration of Test
<b>Test Instruments</b>			
Make, Range, and Serial No. of Pressure Recording Device			Date Last Calibrated
Make, Range and Serial No. of Dead Weight Tester <small>A dead weight tester and/or an electronic pressure recorder is required for tests of any pipe segment equal to or greater than 90% of SMYS.</small>			Date Last Calibrated
<b>Signatures</b>			
Test Supervised by (signature)	Print Name	Date	LAN ID
Testing Contractor (if third party)			
Approved by (signature)	Print Name	Date	LAN ID

**Attachments**

- Test chart
- Schematic piping sketch
- Test log with pressure noted every 15 minutes

**Distribution**

- Gas Job Closeout Desk, 6121 Bollinger Canyon Road, Building Z1, San Ramon, CA 94583



**PART 1 – TEST DESIGN DATA (TO BE PREPARED BY PROJECT ENGINEER/ESTIMATOR)**

<b>Test Description</b>													
Line Number or Station Name <u>L-114</u>							Division/District <u>Diablo</u>			Job Number <u>30943472</u>			
Purpose of Test: <u>Test new installation</u>							MAOP to be Established by this Test <u>720 PSIG</u>						
Description of Pipe being Tested (include reference drawings, field stationing, and mile points) <u>Test newly installed MLV-13.05 on L-108 at Redacted and 231' of new 8" line from MLV-13.05 to existing L-316 (Contra Costa County, Brentwood). See drawing #30943472, sheets 6A and 32-38.</u>													
<input checked="" type="checkbox"/> <b>New Facility</b> (no spike test required) <input type="checkbox"/> <b>Existing Facility</b> Will spike test be performed? <input type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b> (explain on right)							If no spike test for existing facility, explain:						
<b>Static Head Calculation</b>													
Maximum Elevation <u>95</u> FT							For Water <u>3</u> (Elev. Diff.) x 0.433 = <u>2</u> PSIG						
Minimum Elevation <u>92</u> FT							For Other Test Medium _____						
Elevation Difference <u>3</u> FT							Contact the responsible engineer for guidance on completing this field.						
<b>Pipe to be Tested</b>													
Size		API or ASTM Spec	SMYS (psi)	Long Seam (ERW, DSAW, SMLS etc.)	JF (E)	Footage to be Tested	Actual Footage	Location Class	Most Restrictive Design Factor	% of SMYS			
OD (in.)	WT (in.)									At MAOP	At Min. Test Press.	At Max. Test Press.	
24.000	0.375	API-5L	60000	SAWL	1.00	82		3	0.5	38.40	57.60	60.00	
8.625	0.322	API-5L	35000	SMLS	1.00	260		3	0.5	27.55	41.33	43.05	
6.625	0.280	API-5L	35000	SMLS	1.00	88		3	0.5	24.34	36.51	38.03	
24.000	0.375	MSS-SP-75	60000	24x24x6 Tee	-	2 ea		3	0.5	38.40	57.60	60.00	
6.625	0.280	MSS-SP-75	60000	24x24x6 Tee	-	^		3	0.5	14.20	21.29	22.18	
24.000	0.375	MSS-SP-75	60000	24x24x8 Tee	-	2 ea		3	0.5	38.40	57.60	60.00	
8.625	0.322	MSS-SP-75	60000	24x24x8 Tee	-	^		3	0.5	16.07	24.11	25.11	
All fittings included in the test (except those listed above) are the same wall thickness and grade as the pipe <input checked="" type="checkbox"/>													
Pipe specs verified in field <input type="checkbox"/> Signature of person supervising test _____													
Component(s) limiting test pressure/Control Point exceptions <u>Valves</u>													
<b>Test Specifications (include a spike test when testing existing facilities)</b>													
Test Factor <u>1.5</u>	[1A]	Min. Test Pressure at Max. Elev. <u>1080</u> PSIG					[1B]	Max. Test Pressure at Min. Elev. <u>1125</u> PSIG					
Spike Test (complete only for spike test)	[1C]	Spike Factor _____					[1D]	Spike Pressure at Max. Elev. Box [1A] X [1C] = _____ PSIG					
	[1E]	Spike Pressure at Min. Elev. _____ PSIG					[1F]	Max. Post-Spike Pressure at Min. Elev. Box [1E] x 0.95 = _____ PSIG					
Test Medium to be Used <u>WATER</u>			Minimum Test Duration <u>8.0</u> Hours			<ul style="list-style-type: none"> <li>▪ Under 30% SMYS: 1 hour minimum</li> <li>▪ 30% SMYS and over: 8 hours minimum</li> <li>▪ Pre-installation Test: Refer to A-34, Attachment A</li> <li>▪ Spike Test: 30 minutes minimum (included in test)</li> </ul>							
<b>Signatures</b>													
Prepared by (signature)		Redacted			Print Name and Phone Number			Date		LAN ID			
					Redacted			8/8/2013		Redacted			
Approved by (signature)		Redacted			Print Name			Date		LAN ID			
					Redacted			8/12/2013		Redacted			
Test Supervised by (signature)				Time and Date Test Pressure Reached (from Part 2)			Time and Date Test Ended (from Part 2)			Actual Duration of Test (from Part 2)			



**PART 1 – TEST DESIGN DATA (TO BE PREPARED BY PROJECT ENGINEER/ESTIMATOR)**

<b>Test Description</b>													
Line Number or Station Name L-114						Division/District Diablo			Job Number 30943472				
Purpose of Test: Test new installation						MAOP to be Established by this Test <u>720</u> PSIG							
Description of Pipe being Tested (include reference drawings, field stationing, and mile points) Test newly installed MLV-13.05 on L-108 at [Redacted] and 231' of new 8" line from MLV-13.05 to existing L-316 (Contra Costa County, Brentwood). See drawing #30943472, sheets 6A and 32-38.													
<input checked="" type="checkbox"/> New Facility (no spike test required) <input type="checkbox"/> Existing Facility						If no spike test for existing facility, explain:							
Will spike test be performed? <input type="checkbox"/> Yes <input type="checkbox"/> No (explain on right)													
<b>Static Head Calculation</b>													
Maximum Elevation <u>95</u> FT						For Water <u>3</u> (Elev. Diff.) x 0.433 = <u>2</u> PSIG							
Minimum Elevation <u>92</u> FT						For Other Test Medium _____							
Elevation Difference <u>3</u> FT						Contact the responsible engineer for guidance on completing this field.							
<b>Pipe to be Tested</b>													
Size		API or ASTM Spec	SMYS (psi)	Long Seam (ERW, DSAW, SMLS etc.)	JF (E)	Footage to be Tested	Actual Footage	Location Class	Most Restrictive Design Factor	% of SMYS			
OD (in.)	WT (in.)									At MAOP	At Min. Test Press.	At Max. Test Press.	
16.000	0.375	API-5L	35000	SMLS	1.00	10		3	0.5	43.89	65.83	68.57	
16.000	0.312	API-5L	52000	HFW	1.00	51		3	0.5	35.50	53.25	55.47	
1.050	0.154	API-5L	35000	SMLS	1.00	60		3	0.5	7.01	10.52	10.96	
All fittings included in the test (except those listed above) are the same wall thickness and grade as the pipe <input checked="" type="checkbox"/>													
Pipe specs verified in field <input type="checkbox"/> Signature of person supervising test _____													
Component(s) limiting test pressure/Control Point exceptions Valves													
<b>Test Specifications (include a spike test when testing existing facilities)</b>													
Test Factor <u>1.5</u>	[1A]	Min. Test Pressure at Max. Elev. <u>1080</u> PSIG					[1B]	Max. Test Pressure at Min. Elev. <u>1125</u> PSIG					
Spike Test (complete only for spike test)	[1C]	Spike Factor _____					[1D]	Spike Pressure at Max. Elev. Box [1A] x [1C] = _____ PSIG					
	[1E]	Spike Pressure at Min. Elev. _____ PSIG					[1F]	Max. Post-Spike Pressure at Min. Elev. Box [1E] x 0.95 = _____ PSIG					
Test Medium to be Used <u>WATER</u>			Minimum Test Duration <u>8.0</u> Hours			<ul style="list-style-type: none"> <li>▪ Under 30% SMYS: 1 hour minimum</li> <li>▪ 30% SMYS and over: 8 hours minimum</li> <li>▪ Pre-installation Test: Refer to A-34, Attachment A</li> <li>▪ Spike Test: 30 minutes minimum (included in test)</li> </ul>							
<b>Signatures</b>													
Prepared by (signature)		[Redacted]			Print Name and Phone Number			Date		LAN ID			
					[Redacted]			8/8/2013		[Redacted]			
Approved by (signature)		[Redacted]			Print Name			Date		LAN ID			
					[Redacted]			5/12/2013		[Redacted]			
Test Supervised by (signature)				Time and Date Test Pressure Reached (from Part 2)			Time and Date Test Ended (from Part 2)			Actual Duration of Test (from Part 2)			



**PART 2 – TEST DATA (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)**

<b>Test Elevation</b>			
Elevation at Test Point _____ FT	Max. Elevation in Test Section _____ FT		Min. Elevation in Test Section _____ FT
	[2A]	Static Head b/t Test Point and Max. Elev. _____ PSIG	[2B] Static Head b/t Test Point and Min. Elev. _____ PSIG
<b>No Spike Test: Calculations and Test Results (complete for strength test without a spike test)</b>			
Min. Required Test Pressure at Test Point Box [1A] + Box [2A] = _____ PSIG		Max. Allowable Test Pressure at Test Point Box [1B] – Box [2B] = _____ PSIG	Pressure Range During Test _____ PSIG
[2C]	Min. Test Pressure Indicated _____ PSIG	[2D]	Max. Test Pressure Indicated _____ PSIG
Calculated Min. Test Pressure at Max. Elev. Box [2C] – Box [2A] = _____ PSIG		Calculated Max. Test Pressure at Min. Elev. Box [2D] + Box [2B] = _____ PSIG	
<b>Spike Test: Calculations and Test Results (complete for strength test with a spike test)</b>			
Spike Pressure at Test Point Box [1E] – Box [2B] = _____ PSIG		Min. Required Test Pressure at Test Point Box [1A] + Box [2A] = _____ PSIG	Max. Post-Spike Pressure at Test Point Box [1F] – Box [2B] = _____ PSIG
[2E]	Spike Pressure Indicated _____ PSIG	[2F]	Min. Test Pressure Indicated _____ PSIG
Calculated Spike Pressure at Min. Elev. Box [2E] + Box [2B] = _____ PSIG		Calculated Min. Test Pressure at Max. Elev. Box [2F] – Box [2A] = _____ PSIG	Calculated Max. Post-Spike Pressure at Min. Elev. Box [2G] + Box [2B] = _____ PSIG
<b>Test Acceptance</b>			
Were Leaks Observed? <input type="checkbox"/> Yes <input type="checkbox"/> No		If yes, explain:	
Acceptable Strength Test? <input type="checkbox"/> Yes <input type="checkbox"/> No Report strength test failures to Regulatory Compliance		If no, explain:	
Test Medium Used	Time and Date Test Pressure Reached	Time and Date Test Ended	Actual Duration of Test
<b>Test Instruments</b>			
Make, Range, and Serial No. of Pressure Recording Device			Date Last Calibrated
Make, Range and Serial No. of Dead Weight Tester A dead weight tester and/or an electronic pressure recorder is required for tests of any pipe segment equal to or greater than 90% of SMYS.			Date Last Calibrated
<b>Signatures</b>			
Test Supervised by (signature)		Print Name	Date
			LAN ID
Testing Contractor (if third party)			
Approved by (signature)		Print Name	Date
			LAN ID

**Attachments**

- Test chart
- Schematic piping sketch
- Test log with pressure noted every 15 minutes

**Distribution**

- Gas Job Closeout Desk, 6121 Bollinger Canyon Road, Building Z1, San Ramon, CA 94583