

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	Redacted	8/13/2013 Redacted



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

Test Description												
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 720 PSIG						
Description of Pipe being Tested (include reference drawings, field stationing, and mile points) Test 1860' newly installed 24" L-114 from MP 12.70 to MP 13.05. Wall Map EB-58. Drawing 30943472, sheets 4 – 6.												
<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:						
Static Head Calculation												
Maximum Elevation 94 FT						For Water 8 (Elev. Diff.) x 0.433 = 4 PSIG						
Minimum Elevation 86 FT						For Other Test Medium _____						
Elevation Difference 8 FT						Contact the responsible engineer for guidance on completing this field.						
Pipe to be Tested												
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 _____												
Test Specifications (include a spike test when testing existing facilities)												
Test Factor 1.5		[1A] Min. Test Pressure at Max. Elev. 1688 PSIG	[1B] Max. Test Pressure at Min. Elev. 1744 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 WATER			Minimum Test Duration 8.0 Hours			<ul style="list-style-type: none"> * Under 30% SMYS: 1 hour minimum * 30% SMYS and over: 8 hours minimum * Pre-installation Test: Refer to A-34, Attachment A * Spike Test: 30 minutes minimum (included in test) 						
Signatures												
Prepared by (signature) Redacted		Print Name and Phone Number Redacted			Date 8/8/2013		LAN ID Redacted					
Approved by (signature) Redacted		Print Name Redacted			Date 8/12/2013		LAN ID 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)

Test Elevation			
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
No Spike Test: Calculations and Test Results (complete for strength test without a spike test)			
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	
Spike Test: Calculations and Test Results (complete for strength test with a spike test)			
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	
Test Acceptance			
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
Test Instruments			
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
Signatures			
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)

Test Description													
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 3617' newly installed 24" L-114 from MP 13.05 to MP 13.71. Wall Maps EB-58, EB-59. Drawing 30943472, sheets 6 – 9.													
<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:							
Static Head Calculation													
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.							
Pipe to be Tested													
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 _____													
Test Specifications (include a spike test when testing existing facilities)													
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"> ▪ Under 30% SMYS: 1 hour minimum ▪ 30% SMYS and over: 8 hours minimum ▪ Pre-installation Test: Refer to A-34, Attachment A ▪ Spike Test: 30 minutes minimum (included in test) 							
Signatures													
Prepared by (signature)		Redacted			Print Name and Phone Number			Date		LAN ID			
					Redacted			8/8/2013		Redac			
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)

Test Elevation			
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	
No Spike Test: Calculations and Test Results (complete for strength test without a spike test)			
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			
Spike Test: Calculations and Test Results (complete for strength test with a spike test)			
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	
Test Acceptance			
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
Test Instruments			
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
Signatures			
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)

Test Description													
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:						
Static Head Calculation													
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.						
Pipe to be Tested													
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 _____													
Test Specifications (include a spike test when testing existing facilities)													
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"> ▪ Under 30% SMYS: 1 hour minimum ▪ 30% SMYS and over: 8 hours minimum ▪ Pre-installation Test: Refer to A-34, Attachment A ▪ Spike Test: 30 minutes minimum (included in test) 							
Signatures													
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)

Test Elevation					
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		
No Spike Test: Calculations and Test Results (complete for strength test without a spike test)					
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	
Spike Test: Calculations and Test Results (complete for strength test with a spike test)					
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	Pressure Range After Spike Test Box [1F] – Box [2B] = _____ 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			
Test Acceptance					
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		
Test Instruments					
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		
Signatures					
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)

Test Description													
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"/> 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:						
Static Head Calculation													
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.						
Pipe to be Tested													
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 _____													
Test Specifications (include a spike test when testing existing facilities)													
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"> ▪ Under 30% SMYS: 1 hour minimum ▪ 30% SMYS and over: 8 hours minimum ▪ Pre-installation Test: Refer to A-34, Attachment A ▪ Spike Test: 30 minutes minimum (included in test) 							
Signatures													
Prepared by (signature)		Redacted			Print Name and Phone Number			Date		LAN ID			
					Redacted			8/8/2013		Redacted			
Approved (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)

Test Elevation			
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
No Spike Test: Calculations and Test Results (complete for strength test without a spike test)			
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	
Spike Test: Calculations and Test Results (complete for strength test with a spike test)			
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
Test Acceptance			
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
Test Instruments			
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
Signatures			
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)

Test Description													
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 Will spike test be performed? <input type="checkbox"/> Yes <input type="checkbox"/> No (explain on right)							If no spike test for existing facility, explain:						
Static Head Calculation													
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.						
Pipe to be Tested													
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 Valves													
Test Specifications (include a spike test when testing existing facilities)													
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"> ▪ Under 30% SMYS: 1 hour minimum ▪ 30% SMYS and over: 8 hours minimum ▪ Pre-installation Test: Refer to A-34, Attachment A ▪ Spike Test: 30 minutes minimum (included in test) 							
Signatures													
Prepared by (signature)		Redacted			Print Name and Phone Number			Redacted		Date		LAN ID	
								8/8/2013				Redacted	
Approved by (signature)		Redacted			Print Name			Redacted		Date		LAN ID	
								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)

Test Description													
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 a 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 Will spike test be performed? <input type="checkbox"/> Yes <input type="checkbox"/> No (explain on right)						If no spike test for existing facility, explain:							
Static Head Calculation													
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.							
Pipe to be Tested													
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													
Test Specifications (include a spike test when testing existing facilities)													
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"> ▪ Under 30% SMYS: 1 hour minimum ▪ 30% SMYS and over: 8 hours minimum ▪ Pre-installation Test: Refer to A-34, Attachment A ▪ Spike Test: 30 minutes minimum (included in test) 							
Signatures													
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)

Test Elevation			
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
No Spike Test: Calculations and Test Results (complete for strength test without a spike test)			
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	
Spike Test: Calculations and Test Results (complete for strength test with a spike test)			
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
Test Acceptance			
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
Test Instruments			
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
Signatures			
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