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

Pacific Gas and Electric Company
Gas Pipeline Facilities Strength Test Pressure Report
(For Pipeline Facilities Designed to Operate over 100 PSIG)

62-4921 (12/2012)
Use in Accordance with
Numbered Document A-34, A-37,
and GO 112-E
Sheet 1 of 2
Test Number 1 of 5
STPR Revision Number 02

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.

☒ **New Facility** (no spike test required) ☐ **Existing Facility**
Will spike test be performed? ☐ **Yes** ☐ **No** (explain on right)

If no spike test for existing facility, explain:

Static Head Calculation

Maximum Elevation	94	FT
Minimum Elevation	86	FT
Elevation Difference	8	FT

For Water 8 (Elev. Diff.) x 0.433 = 4 PSIG

For Other Test Medium _____
Contact the responsible engineer for guidance on completing this field.

Pipe to be Tested

Size OD (in.)	Size WT (in.)	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 At MAOP	% of SMYS At Min. Test Press.	% of SMYS 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	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	-	^		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 ☒

Pipe specs verified in field ☐ **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**

- 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** Reda
Approved by (signature) Redacted	**Print Name** Redacted	**Date** 8/12/2013	**LAN ID** Redacte d
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)

Pacific Gas and Electric Company
Gas Pipeline Facilities Strength Test Pressure Report
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Test Number 1 of 5
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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		Pressure Range After Spike Test _____ PSIG	
[2E]	Spike Pressure Indicated _____ PSIG	[2F]	Min. Test Pressure Indicated _____ PSIG	[2G]	Max. Post-Spike 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? ☐ Yes ☐ No		If yes, explain:	
Acceptable Strength Test? ☐ Yes ☐ 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

Pacific Gas and Electric Company
Gas Pipeline Facilities Strength Test Pressure Report
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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 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.

☒ **New Facility** (no spike test required) ☐ **Existing Facility**
Will spike test be performed? ☐ **Yes** ☐ **No** (explain on right)

If no spike test for existing facility, explain:

Static Head Calculation

Maximum Elevation 99 FT
Minimum Elevation 89 FT
Elevation Difference 10 FT

For Water 10 (Elev. Diff.) x 0.433 = 5 PSIG

For Other Test Medium _____
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	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	-	^		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 ☒

Pipe specs verified in field ☐ **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**

- 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** Redact
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)

Pacific Gas and Electric Company
Gas Pipeline Facilities Strength Test Pressure Report
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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		**Pressure Range After Spike Test** _____ PSIG	
[2E]	**Spike Pressure Indicated** _____ PSIG	**[2F]**	**Min. Test Pressure Indicated** _____ PSIG	**[2G]**	**Max. Post-Spike 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? ☐ Yes ☐ No		**If yes, explain:**	
Acceptable Strength Test? ☐ Yes ☐ 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

Pacific Gas and Electric Company
Gas Pipeline Facilities Strength Test Pressure Report
(For Pipeline Facilities Designed to Operate over 100 PSIG)

62-4921 (12/2012)
Use in Accordance with
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Sheet 1 of 2
Test Number 3 of 5
STPR Revision Number 02

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 3411' newly installed 24" L-114 from MP 13.73 to MP 14.35. Wall Map EB-59. Drawing 30943472, sheets 10 – 13.

☒ **New Facility** (no spike test required) ☐ **Existing Facility**
Will spike test be performed? ☐ **Yes** ☐ **No** (explain on right)

If no spike test for existing facility, explain:

Static Head Calculation

Maximum Elevation 93 **FT**
Minimum Elevation 86 **FT**
Elevation Difference 7 **FT**

For Water 7 **(Elev. Diff.) x 0.433 =** 4 **PSIG**

For Other Test Medium _____
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	-	A		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 ☒

Pipe specs verified in field ☐ **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**

- 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** Redacte
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)

Pacific Gas and Electric Company
Gas Pipeline Facilities Strength Test Pressure Report
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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**		**Pressure Range After Spike Test** _____ **PSIG**	
[2E]	**Spike Pressure Indicated** _____ **PSIG**	**[2F]**	**Min. Test Pressure Indicated** _____ **PSIG**	**[2G]**	**Max. Post-Spike 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? ☐ **Yes** ☐ **No**		**If yes, explain:**	
Acceptable Strength Test? ☐ **Yes** ☐ **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

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Test Number 4 of 5
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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 11,044' newly installed 24" L-114 from MP 14.58 to MP 16.57. Wall Map EB-59. Drawing 30943472, sheets 14-25.

☒ **New Facility** (no spike test required) ☐ **Existing Facility**
Will spike test be performed? ☐ **Yes** ☐ **No** (explain on right)

If no spike test for existing facility, explain:

Static Head Calculation

Maximum Elevation	153	FT
Minimum Elevation	89	FT
Elevation Difference	64	FT

For Water 64 (Elev. Diff.) x 0.433 = 28 PSIG

For Other Test Medium _____
Contact the responsible engineer for guidance on completing this field.

Pipe to be Tested

Size OD (in.)	Size WT (in.)	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 At MAOP	% of SMYS At Min. Test Press.	% of SMYS 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 ☒

Pipe specs verified in field ☐ **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**

- 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** Redact
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)

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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**		**Pressure Range After Spike Test** _____ **PSIG**	
[2E]	**Spike Pressure Indicated** _____ **PSIG**	**[2F]**	**Min. Test Pressure Indicated** _____ **PSIG**	**[2G]**	**Max. Post-Spike 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? ☐ **Yes** ☐ **No**		**If yes, explain:**	
Acceptable Strength Test? ☐ **Yes** ☐ **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

Pacific Gas and Electric Company
Gas Pipeline Facilities Strength Test Pressure Report
(For Pipeline Facilities Designed to Operate over 100 PSIG)

62-4921 (12/2012)
Use in Accordance with
Numbered Document A-34, A-37,
and GO 112-E
Sheet 1 of 3
Test Number 5 of 5
STPR Revision Number 02

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 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.

☒ **New Facility** (no spike test required) ☐ **Existing Facility**
Will spike test be performed? ☐ **Yes** ☐ **No** (explain on right)

If no spike test for existing facility, explain:

Static Head Calculation

Maximum Elevation	95	FT
Minimum Elevation	92	FT
Elevation Difference	3	FT

For Water 3 **(Elev. Diff.) x 0.433 =** 2 **PSIG**

For Other Test Medium _____
Contact the responsible engineer for guidance on completing this field.

Pipe to be Tested

Size OD (in.)	Size WT (in.)	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 At MAOP	% of SMYS At Min. Test Press.	% of SMYS 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 ☒

Pipe specs verified in field ☐ **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 1.5	[1A]	**Min. Test Pressure at Max. Elev.** 1080 **PSIG**	[1B]	**Max. Test Pressure at Min. Elev.** 1125 **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**

- 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** Redact
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)

Pacific Gas and Electric Company
Gas Pipeline Facilities Strength Test Pressure Report
(For Pipeline Facilities Designed to Operate over 100 PSIG)

62-4921 (12/2012)
Use in Accordance with
Numbered Document A-34, A-37,
and GO 112-E
Sheet 2 of 3
Test Number 5 of 5
STPR Revision Number 02

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 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.

☒ **New Facility** (no spike test required) ☐ **Existing Facility**
Will spike test be performed? ☐ **Yes** ☐ **No** (explain on right)

If no spike test for existing facility, explain:

Static Head Calculation

Maximum Elevation	95	FT
Minimum Elevation	92	FT
Elevation Difference	3	FT

For Water 3 **(Elev. Diff.) x 0.433 =** 2 **PSIG**

For Other Test Medium _____
Contact the responsible engineer for guidance on completing this field.

Pipe to be Tested

Size OD (in.)	Size WT (in.)	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 At MAOP	% of SMYS At Min. Test Press.	% of SMYS 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 ☒

Pipe specs verified in field ☐ **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 1.5	[1A]	**Min. Test Pressure at Max. Elev.** 1080 **PSIG**	[1B]	**Max. Test Pressure at Min. Elev.** 1125 **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**

- 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)

Pacific Gas and Electric Company
Gas Pipeline Facilities Strength Test Pressure Report
(For Pipeline Facilities Designed to Operate over 100 PSIG)

62-4921 (12/2012)
Use in Accordance with
Numbered Document A-34, A-37,
and GO 112-E
Sheet 3 of 3
Test Number 5 of 5
STPR Revision Number 02

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		Pressure Range After Spike Test _____ PSIG	
[2E]	Spike Pressure Indicated _____ PSIG	[2F]	Min. Test Pressure Indicated _____ PSIG	[2G]	Max. Post-Spike 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? ☐ Yes ☐ No		If yes, explain:	
Acceptable Strength Test? ☐ Yes ☐ 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