



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

62-4921 (Rev. 2/04)
 California Gas Transmission
 (Use in Accordance with Gas Standard A-34 and GO 112-D)

Sheet 1 of 3

PART I - DESIGN DATA (TO BE PREPARED BY PROJECT ENGINEER)										
Feeder Main Number, Line Number, or Station Name L-147			Area 1		Division/District Peninsula			Job Number 41497361		Date Job Authorized 09/07/2011
Description of Job -- Include Reference Drawing Numbers, and Pipeline Mileposts T43B-Test 2 - Hydrostatically test tie-in piping, hydrostatic test piping and existing 24" & 20" L-147 piping. New 20" MLV, Bridle and Blow off. Existing material listed, ie. pipe, elbows, sleeves, etc are from the "Material of Record". (refer to DWG 41497360-Sheet 7).										
Hydrotest L-147 from MP 1.95 to MP 3.40, San Carlos, CA (T-43B) Rev1. (9/27/11) Changed Pipe Specs on Item #108. Quantities on Item #20 & Footage on Item #10										
Location Class 3		Design Factor (F) .5		MAOP to be Established for this Piping by this Test 400 PSIG				Future Design Pressure 400 PSIG		
STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)		Max. Elevation 196 Ft.		Static Head Calculation		For Water 0.433 X Elev. Diff. = 78 PSIG		Other (Specify) X Elev. Diff. = PSIG		
Min. Elevation 16 Ft.		Elev. Diff. 180 Ft.								
Pipe Specification										
Size		API or ASTM Grade			Footage to Be Tested		Pipe Spec. and Footage Verified In Field		% of SMYS	
O.D.	W.T.	Long Seam (ERW, DSAW, Seamless, Etc.)					At MAOP	At Min. Test Press.	At Max. Test Press.	Pressure to Give 90% SMYS
20.00	0.375	API 5L, X-65, ERW (Item#108)			67'	100.9' <i>100.9'</i>	16.41	24.62	30.77	2194
20.00	0.375	Elbow, Y-60 (Item#125)			6 Ea.	6 EA <i>6 EA</i>	17.78	26.67	33.33	2025
20.00	0.375	Valve, X-60, ANSI 300 (Item#144)			1 Ea.	1 <i>1</i>	17.78	26.67	33.33	2025
6.625	0.280	API 5L, GRB, SMLS (Item#113)			37'	30.8' <i>30.8'</i>	13.52	20.28	25.35	2663
6.625	0.280	Elbow, GRB, LR (item#215)			2 Ea.	3 EA <i>3 EA</i>	13.52	20.28	25.35	2663
6.625	0.280	Tee, GRB (Item#216)			1 Ea.	1 EA <i>1 EA</i>	13.52	20.28	25.35	2663
6.625	0.280	Valve, GRB, ANSI 300 (Item#207)			1 Ea.	2 EA <i>2 EA</i>	13.52	20.28	17.36	2663
3.500	0.216	API 5L, GRB, SMLS (Item#115)			20'	25.4' <i>25.4'</i>	9.26	13.89	17.36	3888
3.500	0.216	Elbow, GRB, SMLS, 45 Deg (Item#129)			2 Ea.	4 EA <i>4 EA</i>	9.26	13.89	17.36	3888
3.500	0.216	Elbow, GRB, SMLS, 90 Deg (Item#130)			3 Ea.	3 EA <i>3 EA</i>	9.26	13.89	17.36	3888
Minimum Test Pressure @ Max. Elevation 600 PSIG										
Maximum Test Pressure @ Min. Elevation 750 PSIG										
Test Fluid To Be Used WATER			MINIMUM TEST DURATION - UNDER 30% SMYS (1 HR. MINIMUM) - 30% SMYS & OVER (8 HRS. MINIMUM) - PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34)				8 HOURS			
Prepared By: Redacted		Date: 09/27/2011		For Information or Changes, Call: Mark Cabral (925) 588-3640			Approved By: <i>Mark Cabral</i>		Date: 9-27-11	
PART II - TEST DATA (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)						Note: Minimum test pressure and duration are not to be changed without written approval.				
Time and Date Test Pressure Reached 3:56 PM 10-23-11		Elevation at Test Point 16' FT		Min. Required Test Press. At Test Point (1) 678 PSIG		Max. Allowable Test Press at Test Point (4) 750 PSIG				
Time and Date Test Ended 12:25 AM 10-24-11		Max. Elevation in Test Section 196' FT		Min. Indicated Test Pressure (2) 685' PSIG		Max. Indicated Test Pressure (5) 748 PSIG				
Actual Duration of Test 8-Hours 19 minutes		Min. Elevation in Test Section 16' FT		Min. Test Pressure at Max. Elevation (3) 607 PSIG		Max. Test Pressure at Min. Elevation (6) 748 PSIG				
Test Fluid Used water				Pipe Specification and Footage Verified (See Part I) Redacted						
Make, Range, and Serial No. of Pressure Recording Gauge CLIFMOR 0-1000 MFG 42553			Date Last Calibrated 10-10-11		Make, Range, and Serial No. of Dead Weight Tester (See Note 7) AMETEK 25-300 HL-4321			Date Last Calibrated 10-10-11		
Test Supervised By: Redacted			Date: 10-24-11		Approved: Redacted			Date: 10-24-11		
PUT SCHEMATIC PIPING SKETCH ON BACK OF THIS SHEET										
SHOW LOCATION OF FACILITY TESTED, MINIMUM AND MAXIMUM ELEVATION IN FEET, MILE POINTS, VALVE NUMBERS AND INCORPORATED AREAS. USE AN ADDITIONAL SHEET IF NECESSARY (SHOW REFERENCE NUMBERS ON FACE OF ALL DRAWINGS AND ATTACHMENTS). FOR STATION PIPING, FABRICATED UNITS AND SHORT SECTIONS OF PIPE, ALSO SHOW A DETAILED SKETCH OF EACH ASSEMBLY TESTED.										
NOTES:					DISTRIBUTION					
(1) Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I.					JOB FILE (AT SPONSORING ORGANIZATION)					
(2) Use lowest pressure on test gauge at any time during test.					GSM&TS RESPONSIBLE DISTRICT SUPERINTENDENT					
(3) Subtract static head due to elevation difference (between test point and maximum elevation) from minimum indicated test pressure.					PROJECT MANAGER/PROJECT ENGINEER					
(4) Subtract static head due to elevation difference (between test point and minimum elevation) from "maximum test pressure at minimum elevation" from PART I.					TECHNICAL & CONSTRUCTION SERVICES - ASSIGNED JOBS ONLY					
(5) Highest pressure on test gauge at any time during test.					CAPITAL ACCOUNTING (FOREMAN'S COPY OF JOB)					
(6) Add static head due to elevation difference (between test point and minimum elevation) to maximum indicated test pressure.					RECORDS SECTION (WC), GSM&TS					
(7) A dead weight tester is only required when testing to a pressure which produces a stress level of 90% of SMYS or greater. However, if a dead weight tester is used on any test, enter the information in the space provided above.					FINAL REPORT FAILURES UNDER TEST TO GAS ENGINEERING & PLANNING					



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

Feeder Main Number, Line Number, or Station Name L-147	Area 1	Division/District Peninsula	Job Number 41497361	Date Job Authorized 09/07/2011
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Description of Job -- Include Reference Drawing Numbers, and Pipeline Mileposts
T43B-Test 2 - Hydrostatically test tie-in piping, hydrostatic test piping and existing 24" & 20" L-147 piping. New 20" MLV, Bridle and Blow off L-147. Existing material listed; ie. pipe, elbows, sleeves, are from the "Material of Record". (refer to 41497360-Sheet 7).

Hydrotest L-147 from MP 1.95 to MP 3.40, San Carlos, CA (T-43B)

Rev1. (9/27/11) Changed Pipe Specs on Item #108. Quantities on Item #20 & Footage on Item #10

Location Class 3	Design Factor (F) .5	MAOP to be Established for this Piping by this Test 400 PSIG	Future Design Pressure 400 PSIG
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STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)	Max. Elevation 196 Ft.	Static Head Calculation For Water 0.433 X Elev. Diff. = 78 PSIG Other (Specify) X Elev. Diff. = PSIG
	Min. Elevation 16 Ft.	
	Elev. Diff. 180 Ft.	

Size		Pipe Specification API or ASTM Grade Long Seam (ERW, DSAW, Seamless, Etc.)	Footage to Be Tested	Pipe Spec. and Footage Verified In Field	% of SMYS			Pressure to Give 90% SMYS
O.D.	W.T.				At MAOP	At Min. Test Press.	At Max. Test Press.	
3.500	0.216	Tee, GRB (Item#230)	1 Ea.	1 EA <i>ASB</i>	9.26	13.89	17.36	3888
3.500	0.216	Valve, GRB, ANSI 300 (Item#151)	2 Ea.	2 EA <i>ASB</i>	9.26	13.89	17.36	3888
1.05	0.154	API 5L, GRB, SMLS (Item#223)	20'	23' <i>ASB</i>	3.90	5.84	7.31	9240
1.05	0.154	Elbow, 3/4" Socket Weld (Item#224)	8 Ea.	<i>ASB</i>	3.90	5.84	7.31	9240
1.05	0.154	Valve Tee, Mueller H-17656 (Item#222)	2 Ea.	2 EA <i>ASB</i>	-	-	-	-
20.00	0.3125	API 5L, X-42, DSAW (Item#6)	468'	470.7 <i>ASB</i>	30.48	45.71	57.14	1181
20.00	0.250	API 5L, X-42, DSAW (Item#7)	1439'	MOR	38.10	57.14	71.43	945
20.00	0.281	GRB, SMLS (Item#8)	4959'	MOR	40.67	61.01	76.26	885
20.00	0.375	API 5L, X-52, DSAW (Item#10)	419'	133.7 <i>ASB</i>	20.51	30.77	38.46	1755

Minimum Test Pressure @ Max. Elevation 600 PSIG	Test Fluid To Be Used WATER	MINIMUM TEST DURATION - UNDER 30% SMYS (1 HR. MINIMUM) - 30% SMYS & OVER (8 HRS. MINIMUM) - PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34)	8 HOURS
Maximum Test Pressure @ Min. Elevation 750 PSIG			

Prepared By: Redacted	Date: 09/27/2011	For Information or Changes, Call: Mark Cabral (925) 588-3640	Approved By: <i>Mark Cabral</i>	Date: 9-27-11
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PART II - TEST DATA (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)

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

Time and Date Test Pressure Reached 3:56 PM 10-23-11	Elevation at Test Point 16' FT	Min. Required Test Press. At Test Point (1) 678 PSIG	Max. Allowable Test Press at Test Point (4) 750 PSIG
Time and Date Test Ended 12:15 AM 10-24-11	Max. Elevation in Test Section 196' FT	Min. Indicated Test Pressure (2) 685 PSIG	Max. Indicated Test Pressure (5) 748 PSIG
Actual Duration of Test 8 hours 19 minutes	Min. Elevation in Test Section 16' FT	Min. Test Pressure at Max. Elevation (3) 607 PSIG	Max. Test Pressure at Min. Elevation (6) 748 PSIG

Test Fluid Used: **water**

Make, Range, and Serial No. of Pressure Recording Gauge CLE MACK MFG 42553 0-1000	Date Last Calibrated 10-10-11	Make, Range, and Serial No. of Dead Weight Tester (See Note 7) AMETEK 25-3000 H1-4271	Date Last Calibrated 10-10-11
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Test Supervised By: Redacted	Date: 10-24-11	Approved By: Redacted	Date: 10-24-11
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PUT SCHEMATIC PIPING SKETCH ON BACK OF THIS SHEET
 SHOW LOCATION OF FACILITY TESTED, MINIMUM AND MAXIMUM ELEVATION IN FEET, MILE POINTS, VALVE NUMBERS AND INCORPORATED AREAS. USE AN ADDITIONAL SHEET IF NECESSARY (SHOW REFERENCE NUMBERS ON FACE OF ALL DRAWINGS AND ATTACHMENTS). FOR STATION PIPING, FABRICATED UNITS AND SHORT SECTIONS OF PIPE, ALSO SHOW A DETAILED SKETCH OF EACH ASSEMBLY TESTED.

NOTES:	DISTRIBUTION
(1) Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I.	JOB FILE (AT SPONSORING ORGANIZATION)
(2) Use lowest pressure on test gauge at any time during test.	GSM&TS RESPONSIBLE DISTRICT SUPERINTENDENT
(3) Subtract static head due to elevation difference (between test point and maximum elevation) from minimum indicated test pressure.	PROJECT MANAGER/PROJECT ENGINEER
(4) Subtract static head due to elevation difference (between test point and minimum elevation) from "maximum test pressure at minimum elevation" from PART I.	TECHNICAL & CONSTRUCTION SERVICES - ASSIGNED JOBS ONLY
(5) Highest pressure on test gauge at any time during test.	CAPITAL ACCOUNTING (FOREMAN'S COPY OF JOB)
(6) Add static head due to elevation difference (between test point and minimum elevation) to maximum indicated test pressure.	RECORDS SECTION (WC), GSM&TS
(7) A dead weight tester is only required when testing to a pressure which produces a stress level of 80% of SMYS or greater. However, if a dead weight tester is used on any test, enter the information in the space provided above.	REPORT FAILURES UNDER TEST TO GAS ENGINEERING & PLANNING

FINAL



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

62-4921 (Rev. 2/04)
 California Gas Transmission
 (Use in Accordance with Gas Standard A-34 and GO 112-D)

Sheet **3** of **3**

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

Feeder Main Number, Line Number, or Station Name L-147	Area 1	Division/District Peninsula	Job Number 41497361	Date Job Authorized 09/07/2011
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Description of Job -- Include Reference Drawing Numbers, and Pipeline Mileposts
T-43B-Test 2 - Hydrostatically test tie-in piping, hydrostatic test piping and existing 24" & 20" L-147 piping. New 20" MLV, Bridle and Blow off L-147. Existing material listed; i.e. pipe, elbows, sleeves, are from the "Material of Record". (refer to 41497360-Sheet 7).

Hydrotest L-147 from MP 1.95 to MP 3.40, San Carlos, CA (T-43B)

Rev1. (9/27/11) Changed Pipe Specs on Item #108. Quantities on Item #20 & Footage on Item #10

Location Class 3	Design Factor (F) .5	MAOP to be Established for this Piping by this Test 400 PSIG	Future Design Pressure 400 PSIG
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STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)	Max. Elevation	196 Ft.	Static Head Calculation For Water 0.433 X Elev. Diff. = 78 PSIG Other (Specify) _____ X Elev. Diff. = _____ PSIG
	Min. Elevation	16 Ft.	
	Elev. Diff.	180 Ft.	

Size		Pipe Specification		Footage to Be Tested	Pipe Spec. and Footage Verified In Field	% of SMYS			Pressure to Give 90% SMYS
O.D.	W.T.	API or ASTM Grade Long Seam (ERW, DSAW, Seamless, Etc.)				At MAOP	At Min. Test Press.	At Max. Test Press.	
24.00	0.3125	API 5L, X-60, DSAW (Item#11)		501'	MOR	25.6	38.4	48.0	1406
20.00	UNK	Elbow, Unknown Grade (Item#17)		4 Ea.	MOR	-	-	-	-
20.00	0.375	Elbow, GRB (Item#18)		7 Ea.	MOR	30.48	45.71	57.14	1181
20.00	0.375	Elbow, Y-52 (Item#20)		4 Ea.	MOR	20.51	30.77	38.46	1755
20.00	0.375	Sleeve, Y-60 (Item#21)		1 Ea.	MOR	17.78	26.67	33.33	2025
20.00	UNK	Sleeve, Unknown Grade (Item#22)		5 Ea.	MOR	-	-	-	-
24.00	0.375	Elbow, Y-60 (Item#23)		6 Ea.	MOR	21.33	32.0	40.0	1688
24.00	0.3125	Reducer, 24"x 20", Y-60 (Item#24)		2 Ea.	MOR	25.6	38.4	48.0	1406
6.625	0.280	API 5L, GRB, SMLS (Item#28)		14'	MOR	13.52	20.28	25.35	2663

Minimum Test Pressure @ Max. Elevation	600 PSIG	Test Fluid To Be Used	WATER	MINIMUM TEST DURATION - UNDER 30% SMYS (1 HR. MINIMUM) - 30% SMYS & OVER (8 HRS. MINIMUM) - PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34)	8 HOURS
Maximum Test Pressure @ Min. Elevation	750 PSIG				

Prepared By: Redacted	Date: 09/27/2011	For Information or Changes, Call: Mark Cabral (925) 588-3640	Approved By: <i>Mark Cabral</i>	Date: 9-27-11
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PART II - TEST DATA (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)

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

Time and Date Test Pressure Reached	3:56 PM 10-23-11	Elevation at Test Point	16' FT	Min. Required Test Press. At Test Point (1)	678 PSIG	Max. Allowable Test Press at Test Point (4)	750 PSIG
Time and Date Test Ended	12:15 AM 10-24-11	Max. Elevation in Test Section	196' FT	Min. Indicated Test Pressure (2)	685 PSIG	Max. Indicated Test Pressure (5)	748 PSIG
Actual Duration of Test	8-Hours 19 minutes	Min. Elevation in Test Section	16' FT	Min. Test Pressure at Max. Elevation (3)	607 PSIG	Max. Test Pressure at Min. Elevation (6)	748 PSIG

Test Fluid Used: **water** Pipe Specification and Footage Verified (See Part I)

Make, Range, and Serial No. of Pressure Recording Gauge	0-1000 CLIFMOCK MFG 42553	Date Last Calibrated	10-10-11	Make, Range, and Serial No. of Dead Weight Tester (See Note 7)	14L 4321 AMETEK 125-3000	Date Last Calibrated	10-10-11
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Test Supervised By:	Redacted	Date:	10-24-11	Approved By:	Redacted	Date:	10-24-11
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NOTES:	DISTRIBUTION
(1) Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I.	JOB FILE (AT SPONSORING ORGANIZATION)
(2) Use lowest pressure on test gauge at any time during test.	GSM&TS RESPONSIBLE DISTRICT SUPERINTENDENT
(3) Subtract static head due to elevation difference (between test point and maximum elevation) from minimum indicated test pressure.	PROJECT MANAGER/PROJECT ENGINEER
(4) Subtract static head due to elevation difference (between test point and minimum elevation) from "maximum test pressure at minimum elevation" from PART I.	TECHNICAL & CONSTRUCTION SERVICES - ASSIGNED JOBS ONLY
(5) Highest pressure on test gauge at any time during test.	CAPITAL ACCOUNTING (FOREMAN'S COPY OF JOB)
(6) Add static head due to elevation difference (between test point and minimum elevation) to maximum indicated test pressure.	RECORDS SECTION (WC), GSM&TS
(7) A dead weight tester is only required when testing to a pressure which produces a stress level of 90% of SMYS or greater. However, if a dead weight tester is used on any test, enter the information in the space provided above.	REPORT FAILURES UNDER TEST TO GAS ENGINEERING & PLANNING

FINAL