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 1

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

Feeder Main Number, Line Number, or Station Name	Area	Division/District	Job Number	Date Job Authorized
L-105N	2	East Bay	41497371	September 1, 2011

Description of Job – Include Reference Drawing Numbers, and Pipeline Mileposts
Test 2 – Hydrostatically test tie-in pipe assembly at Redacted

Hydrotest L-105N from MP 28.64 – 30.63 Oakland, CA (Test section 17)

Location Class	Design Factor (F)	MAOP to be Established for this Piping by this Test	Future Design Pressure
3	.5	198 PSIG	275 PSIG

STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)			Static Head Calculation		
	Max. Elevation	0 Ft.	For Water	0.433 X Elev. Diff. =	0 PSIG
	Min. Elevation	0 Ft.	Other (Specify)	X Elev. Diff. =	PSIG
	Elev. Diff.	0 Ft.			

Pipe Specification				Pipe Spec. and Footage Verified In Field	% of SMYS			Pressure to Give 90% SMYS
Size O.D.	Size W.T.	API or ASTM Grade Long Seam (ERW, DSAW, Seamless, Etc.)	Footage to Be Tested		At MAOP	At Min. Test Press.	At Max. Test Press.	
30.00	0.375	API 5L X-65, DSAW (Item#103)	~~13'~~	24.8 TM	12.18	20.74	25.42	1463
24.00	0.375	API 5L X-60, DSAW (Item#106)	~~5'~~	5.8 TM	10.56	17.97	22.03	1688
30.00	0.375	Cap, Y-60 (Item#155)	(1 Ea)	TM	13.20	22.47	27.53	1350
24.00	0.375	Cap, Y-60 (Item#158)	(1 Ea)	TM	10.56	17.97	22.03	1688
	0.375	Reducer, 30" x 24", Y-60 (Item#237)	(1 Ea)	TM	13.20	22.47	27.53	1350

Minimum Test Pressure @ Max. Elevation	337 PSIG	Test Fluid To Be Used	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	413 PSIG	WATER		

Prepared By:	Date:	For Information or Changes, Call:	Approved By:	Date:
Redacted	9/12/11	Mark Cabral (925) 588-3640	Mark Cabral	9-12-11

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	10-18-11 4:25 AM	Elevation at Test Point	18' FT	Min. Required Test Press. At Test Point (1)	337.00 PSIG	Max. Allowable Test Press at Test Point (4)	405.20 PSIG
Time and Date Test Ended	10-18-11 12:45 PM	Max. Elevation in Test Section	18' FT	Min. Indicated Test Pressure (2)	356.00 PSIG	Max. Indicated Test Pressure (5)	388.50 PSIG
Actual Duration of Test	8 hours 20 minutes	Min. Elevation in Test Section	8' FT	Min. Test Pressure at Max. Elevation (3)	355.00 PSIG	Max. Test Pressure at Min. Elevation (6)	395.80 PSIG

Test Fluid Used	Pipe Specification and Footage Verified (See Part I)
water	TM-A550

Make, Range, and Serial No. of Pressure Recording Gauge	Date Last Calibrated	Make, Range, and Serial No. of Dead Weight Tester (See Note 7)	Date Last Calibrated
Ellmock 0-1000 MEG-12553	10-10-11	Nometer 25/1000 HL-4321	10-10-11

Test Supervised By:	Date:	Approved By:	Date:
Redacted	10-18-11	Redacted	10-20-11

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:
(1) Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I.
(2) Use lowest pressure on test gauge at any time during test.
(3) Subtract static head due to elevation difference (between test point and maximum elevation) from minimum indicated test pressure.
(4) Subtract static head due to elevation difference (between test point and minimum elevation) from "maximum test pressure at minimum elevation" from PART I.
(5) Highest pressure on test gauge at any time during test.
(6) Add static head due to elevation difference (between test point and minimum elevation) to maximum indicated test pressure.
(7) A dead weight tester is only required when testing to a pressure which produces a stress level of 90% of SMYS or greater. However, if a dead weight tester is used on any test, enter the information in the space provided above.

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Pacific Gas and Electric Company

Gas Pipeline Facilities Strength Test Pressure Report

(For Pipeline Facilities Designed to Operate over 100 PSIG)

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

Sheet 1 of 5

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

Feeder Main Number, Line Number, or Station Name	Area	Division/District	Job Number	Date Job Authorized
L-105N	2	East Bay	41497371	September 1, 2011

Description of Job -- Include Reference Drawing Numbers, and Pipeline Mileposts

Test 3 – Hydrostatically test tie-in pieces, hydrostatic test piping and existing 26" and 30" L-105N. Existing pipeline material listed; ie. pipe, elbows, sleeves are from the "Material of Record" (refer to Dwg 41497371, sheet 10 of 10) **REV1: Removed 18' of Item#103 and Added 18' of Item#1**

Hydrotest L-105N from MP 28.64 – 30.63 Oakland, CA (Test section 17)

Location Class	Design Factor (F)	MAOP to be Established for this Piping by this Test	Future Design Pressure
3	.5	198 PSIG	275 PSIG

STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)			Static Head Calculation		
	Max. Elevation	18 Ft.	For Water	0.433 X Elev. Diff. =	8 PSIG
	Min. Elevation	0 Ft.	Other (Specify)	X Elev. Diff. =	PSIG
	Elev. Diff.	18 Ft.			

Pipe Specification Size O.D.	Size W.T.	API or ASTM Grade Long Seam (ERW, DSAW, Seamless, Etc.)		Footage to Be Tested	Pipe Spec. and Footage Verified In Field	% of SMYS At MAOP	% of SMYS At Min. Test Press.	% of SMYS At Max. Test Press.	Pressure to Give 90% SMYS
30.00	0.375	API 5L X-65, DSAW	(Item#103)	~~43'~~	92.0 TM	12.18	20.74	25.42	1463
26.00	0.375	API 5L X-65, DSAW	(Item#105)	~~26'~~	25.7 TM	10.56	17.97	22.03	1688
6.625	0.280	API 5L GRB, SMLS	(Item#113)	~~28'~~	25.0 TM	6.69	11.39	13.96	2663
4.50	0.237	API 5L GRB, SMLS	(Item#114)	~~27'~~	29.1 TM	5.37	9.14	11.20	3318
1.05	0.113	API 5L GRB, SMLS	(Item#223)	~~30'~~	28.9 TM	2.63	4.47	5.48	6780
30.00	0.375	Elbow, Y-60, LR	(Item#120)	3 Ea.	TM	13.20	22.47	27.53	1350
26.00	0.375	Elbow, Y-60, LR	(Item#122)	2 Ea.	TM	11.44	19.47	23.86	1558

		Test Fluid To Be Used	MINIMUM TEST DURATION	
Minimum Test Pressure @ Max. Elevation	337 PSIG	WATER	- UNDER 30% SMYS (1 HR. MINIMUM)	8 HOURS
Maximum Test Pressure @ Min. Elevation	413 PSIG		- 30% SMYS & OVER (8 HRS. MINIMUM)	
			- PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34)	

Prepared By: Redacted Date: 9/28/11 For Information or Changes, Call: Mark Cabral (925) 588-3640 Approved By: Mark Cabral Date: 9-30-11

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	10-18-11 4:25 PM	Elevation at Test Point	18' FT	Min. Required Test Press. At Test Point (1)	337.00 PSIG	Max. Allowable Test Press at Test Point (4)	405.20 PSIG
Time and Date Test Ended	10-18-11 12:45 PM	Max. Elevation in Test Section	18' FT	Min. Indicated Test Pressure (2)	355.00 PSIG	Max. Indicated Test Pressure (5)	389.00 PSIG
Actual Duration of Test	8 HOURS 20 MINUTES	Min. Elevation in Test Section	0 FT	Min. Test Pressure at Max. Elevation (3)	355.00 PSIG	Max. Test Pressure at Min. Elevation (6)	395.80 PSIG

Test Fluid Used: water

Pipe Specification and Footage Verified (See Part I): TM-A550

Make, Range, and Serial No. of Pressure Recording Gauge	Date Last Calibrated	Make, Range, and Serial No. of Dead Weight Tester (See Note 7)	Date Last Calibrated
Clifmock 0-1000 MFG42563	10-10-11	NMETEK 25-3200 14C-4321	10-10-11

Test Supervised By: Redacted Date: 10-18-11 Approved By: Redacted Date: 10-20-11

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:

(1) Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I.
(2) Use lowest pressure on test gauge at any time during test.
(3) Subtract static head due to elevation difference (between test point and maximum elevation) from minimum indicated test pressure.
(4) Subtract static head due to elevation difference (between test point and minimum elevation) from "maximum test pressure at minimum elevation" from PART I.
(5) Highest pressure on test gauge at any time during test.
(6) Add static head due to elevation difference (between test point and minimum elevation) to maximum indicated test pressure.
(7) A dead weight tester is only required when testing to a pressure which produces a stress level of 90% of SMYS or greater. However, if a dead weight tester is used on any test, enter the information in the space provided above.

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Pacific Gas and Electric Company

Gas Pipeline Facilities Strength Test Pressure Report

(For Pipeline Facilities Designed to Operate over 100 PSIG)

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

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

Feeder Main Number, Line Number, or Station Name	Area	Division/District	Job Number	Date Job Authorized
L-105N	2	East Bay	41497371	September 1, 2011

Description of Job – Include Reference Drawing Numbers, and Pipeline Mileposts

Test 3 – Hydrostatically test tie-in pieces, hydrostatic test piping and existing 26" and 30" L-105N. Existing pipeline material listed; ie. pipe, elbows, sleeves are from the "Material of Record" (refer to Dwg 41497371, sheet 10 of 10) **REV1: Removed 18' of Item#103 and Added 18' of Item#1**

Hydrotest L-105N from MP 28.64 – 30.63 Oakland, CA (Test section 17)

Location Class	Design Factor (F)	MAOP to be Established for this Piping by this Test	Future Design Pressure
3	.5	198 PSIG	275 PSIG

STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)			Static Head Calculation		
	Max. Elevation	18 Ft.	For Water	0.433 X Elev. Diff. =	8 PSIG
	Min. Elevation	0 Ft.	Other (Specify)	X Elev. Diff. =	PSIG
	Elev. Diff.	18 Ft.			

Pipe Specification: Size O.D.	Size W.T.	API or ASTM Grade Long Seam (ERW, DSAW, Seamless, Etc.)	Footage to Be Tested	Pipe Spec. and Footage Verified In Field	% of SMYS: At MAOP	At Min. Test Press.	At Max. Test Press.	Pressure to Give 90% SMYS
6.625	0.280	Elbow, GRB, LR (Item#210)	~~2 Ea.~~	TM	6.69	11.39	13.96	2663
4.50	0.237	Elbow, GRB, LR (Item#214&241)	~~6 Ea.~~	~~6 Ea.~~ TM	5.37	9.14	11.20	3318
1.05	0.113	Elbow, ¾" Socket Weld (Item#224)	~~12 Ea.~~	4ea. TM	2.63	4.47	5.48	6780
6.625	0.280	Tee, GRB (Item#211)	~~1 Ea.~~	TM	6.69	11.39	13.96	2663
4.50	0.237	Tee, GRB (Item#215)	~~1 Ea.~~	TM	5.37	9.14	11.20	3318
1.05	0.154	Valve Tee, Mueller H-17656 (Item#222)	~~4 Ea.~~	TM	1.93	3.28	4.02	9240
4.50	0.237	Cap, GRB (Item#165)	~~1 Ea.~~	2ea. TM	5.37	9.14	11.20	3318
1.05	0.113	Elbow 3/4" Socket 90°	4 Ea	TM	2.63	4.47	5.48	6780

		Test Fluid To Be Used	MINIMUM TEST DURATION	
Minimum Test Pressure @ Max. Elevation	337 PSIG	WATER	- UNDER 30% SMYS (1 HR. MINIMUM)	8 HOURS
Maximum Test Pressure @ Min. Elevation	413 PSIG		- 30% SMYS & OVER (8 HRS. MINIMUM)	
			- PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34)	

Prepared By: Redacted Date: 9/23/11

For Information or Changes, Call: Mark Cabral (925) 588-3640

Approved By: Mark Cabral Date: 9-28-11

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	10-18-11 4:25 AM	Elevation at Test Point	18' FT	Min. Required Test Press. At Test Point (1)	337.00 PSIG	Max. Allowable Test Press at Test Point (4)	405.20 PSIG
Time and Date Test Ended	10-18-11 12:45 PM	Max. Elevation in Test Section	18' FT	Min. Indicated Test Pressure (2)	355.00 PSIG	Max. Indicated Test Pressure (5)	388.00 PSIG
Actual Duration of Test	8 Hours 20 Minutes	Min. Elevation in Test Section	0 FT	Min. Test Pressure at Max. Elevation (3)	355.00 PSIG	Max. Test Pressure at Min. Elevation (6)	395.80 PSIG

Test Fluid Used: water

Pipe Specification and Footage Verified (See Part I): TM-A550

Make, Range, and Serial No. of Pressure Recording Gauge	Date Last Calibrated	Make, Range, and Serial No. of Dead Weight Tester (See Note 7)	Date Last Calibrated
Cliff Block 0-1000 MFG#2553	10-10-11	AMETEK-25-3000 HC-4321	10-10-11

Test Supervised By: Redacted Date: 10-18-11

Approved By: Redacted Date: 10-20-11

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:

(1) Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I.
(2) Use lowest pressure on test gauge at any time during test.
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(5) Highest pressure on test gauge at any time during test.
(6) Add static head due to elevation difference (between test point and minimum elevation) to maximum indicated test pressure.
(7) A dead weight tester is only required when testing to a pressure which produces a stress level of 90% of SMYS or greater. However, if a dead weight tester is used on any test, enter the information in the space provided above.

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Pacific Gas and Electric Company

Gas Pipeline Facilities Strength Test Pressure Report

(For Pipeline Facilities Designed to Operate over 100 PSIG)

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

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

Feeder Main Number, Line Number, or Station Name	Area	Division/District	Job Number	Date Job Authorized
L-105N	2	East Bay	41497371	September 1, 2011

Description of Job -- Include Reference Drawing Numbers, and Pipeline Mileposts

Test 3 – Hydrostatically test tie-in pieces, hydrostatic test piping and existing 26" and 30" L-105N. Existing pipeline material listed; ie. pipe, elbows, sleeves are from the "Material of Record" (refer to Dwg 41497371, sheet 10 of 10) **REV1: Removed 18' of Item#103 and Added 18' of Item#1**

Hydrotest L-105N from MP 28.64 – 30.63 Oakland, CA (Test section 17)

Location Class	Design Factor (F)	MAOP to be Established for this Piping by this Test	Future Design Pressure
3	.5	198 PSIG	275 PSIG

STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)	Max. Elevation	18 Ft.	Static Head Calculation For Water	0.433 X Elev. Diff. =	8 PSIG
	Min. Elevation	0 Ft.			
	Elev. Diff.	18 Ft.	Other (Specify)	X Elev. Diff. =	PSIG

Pipe Specification: Size O.D.	Size W.T.	API or ASTM Grade Long Seam (ERW, DSAW, Seamless, Etc.)	Footage to Be Tested	Pipe Spec. and Footage Verified In Field	% of SMYS: At MAOP	At Min. Test Press.	At Max. Test Press.	Pressure to Give 90% SMYS
	0.375	Reducer, 30"x26", Y-65 (Item#200)	~~4 Ea.~~	2ea TM	12.18	20.74	25.42	1463
30.00	0.375	Valve, Ball, X-60, ANSI 300 (Item#221)	1 Ea	TM	---	---	---	---
6.625	0.280	Valve, Ball, GRB, ANSI 300 (Item#202)	2 Ea	TM	---	---	---	---
4.50	0.237	Valve, Ball, GRB, ANSI 300 (Item#201)	2 Ea	TM	---	---	---	---
30.00	0.3125	API 5L X-42, DSAW (Item#1)	~~7197'~~	7193' MOR	22.63	38.51	47.20	788
30.00	0.3125	API 5L X-52, DSAW (Item#2)	56	MOR	18.28	31.11	38.12	975
26.00	0.2810	API 5L GRB, SMLS (Item#3)	3286	MOR	26.17	44.54	54.59	681

Minimum Test Pressure @ Max. Elevation	337 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	413 PSIG			

Prepared By:	Date:	For Information or Changes, Call:	Approved By:	Date:
Redacted	9/28/11	Mark Cabral (925) 588-3640	Mark Cabral	9-28-11

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	10-18-11 4:25 PM	Elevation at Test Point	18' FT	Min. Required Test Press. At Test Point (1)	337.00 PSIG	Max. Allowable Test Press at Test Point (4)	405.20 PSIG
Time and Date Test Ended	10-18-11 12:45 PM	Max. Elevation in Test Section	18' FT	Min. Indicated Test Pressure (2)	356.00 PSIG	Max. Indicated Test Pressure (5)	388.00 PSIG
Actual Duration of Test	8-Hours 20 minutes	Min. Elevation in Test Section	0 FT	Min. Test Pressure at Max. Elevation (3)	355.00 PSIG	Max. Test Pressure at Min. Elevation (6)	395.80 PSIG

Test Fluid Used	Pipe Specification and Footage Verified (See Part I)
water	TM-A550

Make, Range, and Serial No. of Pressure Recording Gauge	Date Last Calibrated	Make, Range, and Serial No. of Dead Weight Tester (See Note 7)	Date Last Calibrated
CUTMOCK 0-1000 MFG42553	10-10-11	AMETEK 25-3000 HL-4321	10-10-11

Test Supervised By:	Date:	Approved By:	Date:
Redacted	10-18-11	Redacted	10-20-11

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:

(1) Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I.
(2) Use lowest pressure on test gauge at any time during test.
(3) Subtract static head due to elevation difference (between test point and maximum elevation) from minimum indicated test pressure.
(4) Subtract static head due to elevation difference (between test point and minimum elevation) from "maximum test pressure at minimum elevation" from PART I.
(5) Highest pressure on test gauge at any time during test.
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REPORT FAILURES UNDER TEST TO GAS ENGINEERING & PLANNING

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Pacific Gas and Electric Company

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(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)

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

Feeder Main Number, Line Number, or Station Name	Area	Division/District	Job Number	Date Job Authorized
L-105N	2	East Bay	41497371	September 1, 2011

Description of Job -- Include Reference Drawing Numbers, and Pipeline Mileposts

Test 3 – Hydrostatically test tie-in pieces, hydrostatic test piping and existing 26" and 30" L-105N. Existing pipeline material listed; ie. pipe, elbows, sleeves are from the "Material of Record" (refer to Dwg 41497371, sheet 10 of 10) REV1: Removed 18' of Item#103 and Added 18' of Item#1

Hydrotest L-105N from MP 28.64 – 30.63 Oakland, CA (Test section 17)

Location Class	Design Factor (F)	MAOP to be Established for this Piping by this Test	Future Design Pressure
3	.5	198 PSIG	275 PSIG

STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)	Max. Elevation	18 Ft.	Static Head Calculation		
	Min. Elevation	0 Ft.	For Water	0.433 X Elev. Diff. =	8 PSIG
	Elev. Diff.	18 Ft.	Other (Specify)	X Elev. Diff. =	PSIG

Pipe Specification				Pipe Spec. and Footage Verified In Field	% of SMYS			Pressure to Give 90% SMYS
Size O.D.	Size W.T.	API or ASTM Grade Long Seam (ERW, DSAW, Seamless, Etc.)	Footage to Be Tested		At MAOP	At Min. Test Press.	At Max. Test Press.	
4.50	0.141	24000 SMYS, SMLS	(Item#11)	2'	M.O.R.	13.16	22.41	27.46	1354
3.50	0.216	API 5L GRB, SMLS	(Item#12)	296'	M.O.R.	4.58	7.80	9.56	3888
2.375	0.154	API 5L GRB, SMLS	(Item#13)	101'	M.O.R.	4.36	7.42	9.10	4085
1.05	0.113	GRB, SMLS	(Item#14)	344'	M.O.R.	2.62	4.47	5.48	6780

		Test Fluid To Be Used	MINIMUM TEST DURATION	
Minimum Test Pressure @ Max. Elevation	337 PSIG	WATER	- UNDER 30% SMYS (1 HR. MINIMUM)	8 HOURS
Maximum Test Pressure @ Min. Elevation	413 PSIG		- 30% SMYS & OVER (8 HRS. MINIMUM)	
			- PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34)	

Prepared By:	Date:	For Information or Changes, Call:	Approved By:	Date:
Redacted	9/28/11	Mark Cabral (925) 588-3640	Mark Cabral	9/28/11

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	10-18-11 4:25 AM	Elevation at Test Point	181 FT	Min. Required Test Press. At Test Point (1)	337.00 PSIG	Max. Allowable Test Press at Test Point (4)	405.20 PSIG
Time and Date Test Ended	10-18-11 12:43 PM	Max. Elevation in Test Section	181 FT	Min. Indicated Test Pressure (2)	356.00 PSIG	Max. Indicated Test Pressure (5)	388.00 PSIG
Actual Duration of Test	8-Hours 20 MIN Jtes	Min. Elevation in Test Section	0 FT	Min. Test Pressure at Max. Elevation (3)	355.00 PSIG	Max. Test Pressure at Min. Elevation (6)	395.80 PSIG

Test Fluid Used: water

Pipe Specification and Footage Verified (See Part I)

Make, Range, and Serial No. of Pressure Recording Gauge	Date Last Calibrated	Make, Range, and Serial No. of Dead Weight Tester (See Note 7)	Date Last Calibrated
Clif mock 0-1000 MFG42553	10-10-11	AMETEK 25-3000 HL-43211	10-10-11

Test Supervised By	Date:	Approved By	Redacted
Redacted	10-18-11		

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:

(1) Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I.
(2) Use lowest pressure on test gauge at any time during test.
(3) Subtract static head due to elevation difference (between test point and maximum elevation) from minimum indicated test pressure.
(4) Subtract static head due to elevation difference (between test point and minimum elevation) from "maximum test pressure at minimum elevation" from PART I.
(5) Highest pressure on test gauge at any time during test.
(6) Add static head due to elevation difference (between test point and minimum elevation) to maximum indicated test pressure.
(7) A dead weight tester is only required when testing to a pressure which produces a stress level of 90% of SMYS or greater. However, if a dead weight tester is used on any test, enter the information in the space provided above.

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REPORT FAILURES UNDER TEST TO GAS ENGINEERING & PLANNING

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Pacific Gas and Electric Company

Gas Pipeline Facilities Strength Test Pressure Report

(For Pipeline Facilities Designed to Operate over 100 PSIG)

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

Sheet 5 of 5

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

Feeder Main Number, Line Number, or Station Name	Area	Division/District	Job Number	Date Job Authorized
L-105N	2	East Bay	41497371	September 1, 2011

Description of Job – Include Reference Drawing Numbers, and Pipeline Mileposts

Test 3 – Hydrostatically test tie-in pieces, hydrostatic test piping and existing 26" and 30" L-105N. Existing pipeline material listed; ie. pipe, elbows, sleeves are from the "Material of Record" (refer to Dwg 41497371, sheet 10 of 10) REV1: Removed 18' of Item#103 and Added 18' of Item#1

Hydrotest L-105N from MP 28.64 – 30.63 Oakland, CA (Test section 17)

Location Class	Design Factor (F)	MAOP to be Established for this Piping by this Test	Future Design Pressure
3	.5	198 PSIG	275 PSIG

STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)	Max. Elevation	18 Ft.	Static Head Calculation For Water	0.433 X Elev. Diff. =	8 PSIG
	Min. Elevation	0 Ft.			
	Elev. Diff.	18 Ft.	Other (Specify)	X Elev. Diff. =	PSIG

Pipe Specification: Size O.D.	Size W.T.	API or ASTM Grade Long Seam (ERW, DSAW, Seamless, Etc.)	Footage to Be Tested	Pipe Spec. and Footage Verified In Field	% of SMYS: At MAOP	At Min. Test Press.	At Max. Test Press.	Pressure to Give 90% SMYS
30.00	0.375	Elbow, Y-42, LR, Forged (Item#4)	20 Ea.	MOR	18.86	32.10	39.33	945
30.00	0.375	Elbow, GRB, LR, Forged (Item#5)	15 Ea.	MOR	22.63	38.51	47.20	788
26.00	0.375	Elbow, Grade Unknown, LR (Item#6)	8 Ea.	MOR	---	---	---	---
30.00	0.375	Sleeve, X-42 (Item#8)	2 Ea.	MOR	18.86	32.10	39.33	945
30.00	0.500	Sleeve, Grade Unknown (Item#9)	8 Ea.	MOR	---	---	---	---

Minimum Test Pressure @ Max. Elevation	337 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	413 PSIG			

Prepared By: Redacted Date: 9/28/11

For Information or Changes, Call: Mark Cabral (925) 588-3640

Approved By: Mark Cabral Date: 9-28-11

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	10-18-11 4:25 AM	Elevation at Test Point	181 FT	Min. Required Test Press. At Test Point (1)	337.00 PSIG	Max. Allowable Test Press at Test Point (4)	405.20 PSIG
Time and Date Test Ended	10-18-11 12:45 PM	Max. Elevation in Test Section	181 FT	Min. Indicated Test Pressure (2)	356.00 PSIG	Max. Indicated Test Pressure (5)	388.00 PSIG
Actual Duration of Test	8-Hours 20-minutes	Min. Elevation in Test Section	0 FT	Min. Test Pressure at Max. Elevation (3)	355.00 PSIG	Max. Test Pressure at Min. Elevation (6)	395.80 PSIG

Test Fluid Used: water

Pipe Specification and Footage Verified (See Part I)

Make, Range, and Serial No. of Pressure Recording Gauge	Date Last Calibrated	Make, Range, and Serial No. of Dead Weight Tester (See Note 7)	Date Last Calibrated
Cliff mock 0-1000 MF642553	10-10-11	AMETEK 25-3600 HL-4321	10-16-11

Test Supervised By: Redacted Date: 10-18-11

Approved: Redacted Date: 10-20-11

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.

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