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 2

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-147	1	Peninsula	41497360	09/07/2011

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

T43A-Test 1 - Hydrostatically test tie-in piping, hydrostatic test piping and existing 24" & 20" L-147. 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 0.85 to MP 1.95, San Carlos, CA (T-43A)

Location Class	Design Factor (F)	MAOP to be Established for this Piping by this Test	Future Design Pressure
3	.5	400 PSIG	400 PSIG

STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)

Max. Elevation	646	Ft.
Min. Elevation	175	Ft.
Elev. Diff.	471	Ft.

Static Head Calculation

For Water 0.433 X Elev. Diff. = 204 PSIG

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
24.00	0.375	API 5L, X-60, DSAW (Item#106)	~~16'~~	24.7 S/S	21.33	32.0	47.47	1688
24.00	0.375	Elbow,Y-60 (Item#123)	2 Ea.	2 S/S	21.33	32.0	47.47	1688
20.00	0.375	API 5L, X-60, ERW (Item#108)	~~25'~~	25.8 S/S	17.78	26.67	39.56	2025
20.00	0.375	Elbow, Y-60 (Item#125)	2 Ea.	2 S/S	17.78	26.67	39.56	2025
24.00	0.281	GRB,SMLS, 40,000 SMYS (item #1)	2618'	MOR	42.70	64.06	95.02	843
24.00	0.281	API 5L, X-52, DSAW (Item#2)	~~798'~~	798.0 S/S	32.85	49.27	73.09	1096
24.00	0.271	API 5L, X-60, DSAW (Item#3)	466'	MOR	29.52	44.28	65.68	1220
24.00	0.3125	API 5L,X-52 DSAW (Item#4)	58'	MOR	29.54	44.31	65.72	1219
24.00	0.3125	API 5L,X-42 DSAW (Item#5)	1815'	MOR	36.57	54.86	81.37	984

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	890 PSIG		

Prepared By: Redacted Redacted | Date: 09/07/2011 | For Information or Changes, Call: Redacted | Approved By: Redacted

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	10-17-11 2:21 PM	Elevation at Test Point	323' FT	Min. Required Test Press. At Test Point (1)	739.52 PSIG	Max. Allowable Test Press at Test Point (4)	825.87 PSIG
Time and Date Test Ended	10-17-11 10:45 PM	Max. Elevation in Test Section	646' FT	Min. Indicated Test Pressure (2)	700.00 PSIG	Max. Indicated Test Pressure (5)	823.00 PSIG
Actual Duration of Test	8 HOURS 24 MINUTES	Min. Elevation in Test Section	175' FT	Min. Test Pressure at Max. Elevation (3)	626.03 PSIG	Max. Test Pressure at Min. Elevation (6)	887.13 PSIG

Test Fluid Used: water

Redacted

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 MFG42553	10-10-11	AMETEK 25-3000 1L4321	10-10-11

Test Supervised By: Redacted Date: 10-17-11 | Approved By: Redacted Date: 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.

DISTRIBUTION

JOB FILE (AT SPONSORING ORGANIZATION)
GSM&TS RESPONSIBLE DISTRICT SUPERINTENDENT
PROJECT MANAGER/PROJECT ENGINEER
TECHNICAL & CONSTRUCTION SERVICES - ASSIGNED JOBS ONLY
CAPITAL ACCOUNTING (FOREMAN'S COPY OF JOB)
RECORDS SECTION (WC), GMS&TS
REPORT FAILURES UNDER TEST TO GAS ENGINEERING & PLANNING

FINAL

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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)

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Feeder Main Number, Line Number, or Station Name	Area	Division/District	Job Number	Date Job Authorized
L-147	1	Peninsula	41497360	09/07/2011

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

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Hydrotest L-147 from MP 0.85 to MP 1.95, San Carlos, CA (T-43A)

Location Class	Design Factor (F)	MAOP to be Established for this Piping by this Test	Future Design Pressure
3	.5	400 PSIG	400 PSIG

STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)			Static Head Calculation		
	Max. Elevation	646 Ft.	For Water	0.433 X Elev. Diff. =	204 PSIG
	Min. Elevation	175 Ft.	Other (Specify)	X Elev. Diff. =	PSIG
	Elev. Diff.	471 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
20.00	0.3125	API 5L, X-42, DSAW	(Item#6)	318'	320.8 SLS	30.48	45.71	47.47	1181
24.00	0.375	Elbow,Y-52	(Item#12)	13 Ea.	MOR	24.62	36.92	54.77	1463
24.00	0.375	Elbow, GRB	(Item#13)	23 Ea.	MOR	36.57	54.86	81.37	984
24.00	UNK	Elbow, Unknown Grade	(Item#14)	9 Ea.	MOR	-	-	-	-
24.00	UNK	Sleeve, Unknown Grade	(item #15)	5 Ea.	MOR	-	-	-	-
24.00	0.500	Sleeve, GRB	(Item#16)	8 Ea.	MOR	27.43	41.14	61.03	1313
20.00	UNK	Elbow, Unknown Grade	(Item#17)	3 Ea.	MOR	-	-	-	-
24.00	UNK	Reducer, 24"x20", Unknown Grade	(Item#25)	1 Ea.	MOR	-	-	-	-
1.660	0.140	API 5L,GRB SMLS	(Item#27)	87'	MOR	6.78	10.16	15.07	5313

Minimum Test Pressure @ Max. Elevation	600 PSIG	Test Fluid To Be Used	MINIMUM TEST DURATION - UNDER 30% SMYS (1 HR. MINIMUM)	8 HOURS
Maximum Test Pressure @ Min. Elevation	890 PSIG	WATER	- 30% SMYS & OVER (8 HRS. MINIMUM) - PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34)	

Prepared By:	Date:	For Information or Changes, Call:	Approv	Date:
Redacted	09/07/2011	Redacted	Redacted	9/7/11

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Time and Date Test Ended	10-17-11 10:45 PM	Max. Elevation in Test Section	646 FT	Min. Indicated Test Pressure	(2)	766.00 PSIG	Max. Indicated Test Pressure	(5)	823.00 PSIG
Actual Duration of Test	8 Hours 24 Minutes	Min. Elevation in Test Section	175' FT	Min. Test Pressure at Max. Elevation	(3)	826.03 PSIG	Max. Test Pressure at Min. Elevation	(6)	882.13 PSIG

Test Fluid Used	Pipe Specification and Footage Verified (See Part I)
Water	Redacted

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
Ashcroft, 0-1000 MFG 42553	10-10-11	AMETEK 25-3000 HL-24321	10-10-11

Test Supervised By:	Date:	Approved By:	Date:
Redacted	10-17-11	Redacted	10-18-11

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