



FINAL

| PART I - DESIGN DATA (TO BE PREPARED BY PROJECT ENGINEER) | | | | | | | | | | |
|--|-------|---|--|--|--|--|---|---|--|--------------------------|
| Feeder Main Number, Line Number, or Station Name L-132 | | | Area 1 | | Division/District Peninsula | | Job Number 41474074 | | Date Job Authorized 11/16/2011 | |
| Description of Job - Include Reference Drawing Numbers, and Pipeline Mileposts T12017-Test A - Strength test existing 30", L-132. Existing material listed; ie. pipe, elbows, sleeves, etc, are TESTS from, the "Material of Record". (refer to DWG 41474074 Rev 1.-Sheet 6) | | | | | | | | | | |
| L-132 from MP 40.0447 (Healy Station) to MP 40.0563, San Bruno, CA (T-12017) | | | | | | | | | | |
| Location Class 3 | | Design Factor (F) .5 | | MAOP to be Established for this Piping by this Test 300 PSIG | | | Future Design Pressure 300 PSIG | | | |
| STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE) | | Max. Elevation N/A Ft. | | Static Head Calculation | | For Water 0.433 X Elev. Diff. = | | PSIG | | |
| | | Min. Elevation N/A Ft. | | Other (Specify) | | X Elev. Diff. = | | N/A PSIG | | |
| | | Elev. Diff. N/A Ft. | | | | | | | | |
| Pipe Specification | | | | Footage to Be Tested | Pipe Spec. and Footage Verified In Field | % of SMYS | | | Pressure to Give 90% SMYS | |
| Size O.D. | W.T. | API or ASTM Grade Long Seam (ERW, DSAW, Seamless, Etc.) | | | | At MAOP | At Min. Test Press. | At Max. Test Press. | | |
| 30.00 | 0.375 | API 5L, X-65, DSAW (Item#105) | | 2' | 0' 8" | 18.46 | 31.38 | 35.69 | 1463 | |
| 30.00 | 0.375 | Cap, Y-60 (Item#123) | | 2 Ea. | 0ea. 8" | 20.0 | 34.0 | 38.67 | 1350 | |
| 30.00 | 0.375 | API 5L, X-52, DSAW (Item #3) | | 6' | 85' 8" | 23.08 | 39.23 | 44.62 | 1170 | |
| 36.00 | 0.375 | API 5L X-65 DSAW | | 3.1' | 3.1' 8" | 22.15 | 37.66 | 42.83 | 1218 | |
| Minimum Test Pressure @ Max. Elevation | | | 510 PSIG | | | Test Fluid To Be Used Nitrogen | | MINIMUM TEST DURATION - UNDER 30% SMYS (1 HR. MINIMUM) - 30% SMYS & OVER (8 HRS. MINIMUM) - PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34) | | 1 HOURS |
| Maximum Test Pressure @ Min. Elevation | | | 580 PSIG | | | | | | | |
| Prepared By: Joel Pasillas | | | Date: 11-16-2011 | | For Information or Changes, Call: Scott Clapp (530) 514-6482 | | | Approved By: <i>[Signature]</i> | | Date: 11/16/11 |
| 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 11:17 AM PM | | Elevation at Test Point 173 FT | | Min. Required Test Press. At Test Point (1) 570 PSIG | | Max. Allowable Test Press at Test Point (4) 577.83 PSIG | | | | |
| Time and Date Test Ended 12:17 AM | | Max. Elevation in Test Section 173 FT | | Min. Indicated Test Pressure (2) 530 PSIG | | Max. Indicated Test Pressure (5) 532 PSIG | | 567 PSIG | | |
| Actual Duration of Test 18 - Hours | | Min. Elevation in Test Section 168 FT | | Min. Test Pressure at Max. Elevation (3) 530 PSIG | | Max. Test Pressure at Min. Elevation (6) 532 PSIG | | 562.11 PSIG | | |
| Test Fluid Used NITROGEN | | | | Pipe Specification and Footage Verified (See Part I) 2. 4587 | | | | | | |
| Make, Range, and Serial No. of Pressure Recording Gauge Technical 0-1000 02097 | | | Date Last Calibrated 11-7-11 | | Make, Range, and Serial No. of Dead Weight Tester (See Note 7) MMETEK 25-3000 HL-4321 | | | Date Last Calibrated 10-10-11 | | |
| Test Supervised By: Joel Pasillas | | | Date: 11-22-11 | | Approved By: <i>[Signature]</i> | | | Date: 11/22/2011 | | |
| 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), GSM&TS REPORT FAILURES UNDER TEST TO GAS ENGINEERING & PLANNING | | | | | |



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)

FINAL

Sheet 2 of 2

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

| | | | | |
|--|------------------|---------------------------------------|-------------------------------|--|
| Feeder Main Number, Line Number, or Station Name L-132 | Area 1 | Division/District Peninsula | Job Number 41474074 | Date Job Authorized 11/16/2011 |
|--|------------------|---------------------------------------|-------------------------------|--|

Description of Job -- Include Reference Drawing Numbers, and Pipeline Mileposts
 3-Test Hydrotest 36", 30", 24" & 6" tie-in pipe and cut caps.

L-132 from MP 40.0447 (Healy Station) to MP 40.0563, San Bruno, CA (T-12017)

| | | | |
|----------------------------|--------------------------------|--|---|
| Location Class 3 | Design Factor (F) .5 | MAOP to be Established for this Piping by this Test 300 PSIG | Future Design Pressure 300 PSIG |
|----------------------------|--------------------------------|--|---|

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

| Pipe Specification | | Footage to Be Tested | Pipe Spec. and Footage Verified In Field | % of SMYS | | | Pressure to Give 90% SMYS | |
|--------------------|--|--|--|-----------|---------------------|---------------------|---------------------------|------|
| Size | API or ASTM Grade Long Seam (ERW, DSAW, Seamless, Etc.) | | | At MAOP | At Min. Test Press. | At Max. Test Press. | | |
| 36.00 | 0.500 | API 5L, X-65, DSAW (Item#100) | 8' | 2' 2" | 16.62 | 28.25 | 32.12 | 1625 |
| 36.00 | 0.500 | Cap, Y-65 (Item#124) | 1 Ea. | 1 Ea. | 16.62 | 28.25 | 32.12 | 1625 |
| 36.00 | 0.500 | Reducer, 36" x 24", Y-65 Concentric (Item#108) | 1 Ea. | 1 Ea. | 16.62 | 28.25 | 32.12 | 1625 |
| 24.00 | 0.375 | API 5L, X-60, DSAW (Item#106) | 24' | 10' | 16.00 | 27.20 | 30.93 | 1688 |
| 24.00 | 0.375 | Elbow, LR, Y-60 (Item#127) | 2 Ea. | 2 Ea. | 16.00 | 27.20 | 30.93 | 1688 |
| 30.00 | 0.375 | Reducer, 30" x 24", Y-60 Concentric (Item#130) | 1 Ea. | 1 Ea. | 18.46 | 31.38 | 35.69 | 1463 |
| 30.00 | 0.375 | API 5L, X-65, DSAW (Item#105) | 5' | 4' | 18.46 | 31.38 | 35.69 | 1463 |
| 30.00 | 0.375 | Cap, Y-60 (Item#123) | 1 Ea. | 1 Ea. | 18.46 | 31.38 | 35.69 | 1463 |
| 6.625 | 0.280 | API 5L, GRB, SMLS (Item#107) | 5' | 10.5' | 10.14 | 17.24 | 19.60 | 2263 |
| 6.625 | 0.280 | Ball Valve, ANSI 300 (Item#183) | 1 Ea. | 1 Ea. | 10.14 | 17.24 | 19.60 | 2263 |
| 6.625 | 0.280 | Cap, GRB (Item#126) | 1 Ea. | 1 Ea. | 10.14 | 17.24 | 19.60 | 2263 |
| 6.625 | 0.280 | Elbow 6P-B (Item 120) | 2 Ea. | 2 Ea. | 10.14 | 17.24 | 19.60 | 2263 |

| | | | | |
|--|-----------------|---------------------------------------|---|----------------|
| Minimum Test Pressure @ Max. Elevation | 510 PSIG | Test Fluid To Be Used WATER | MINIMUM TEST DURATION - UNDER 30% SMYS (1 HR. MINIMUM) - 30% SMYS & OVER (8 HRS. MINIMUM) | 1 HOURS |
| Maximum Test Pressure @ Min. Elevation | 580 PSIG | NITROGEN | - PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34) | |

Prepared By: Joel Pasillas Date: 11-16-2011 For Information or Changes, Call: Scott Clapp (530) 514-6482 Approved By: [Signature] Date: 11/16/11

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 | <u>11:17 AM</u> <u>11-21-11</u> | Elevation at Test Point | <u>173</u> FT | Min. Required Test Press. At Test Point (1) | <u>510</u> PSIG | Max. Allowable Test Press at Test Point (4) | <u>5783</u> PSIG |
| Time and Date Test Ended | <u>12:17 AM</u> <u>11-22-11</u> | Max. Elevation in Test Section | <u>173</u> FT | Min. Indicated Test Pressure (2) | <u>530</u> PSIG | Max. Indicated Test Pressure (5) | <u>561</u> PSIG |
| Actual Duration of Test | <u>1 hour</u> <u>0 minutes</u> | Min. Elevation in Test Section | <u>168</u> FT | Min. Test Pressure at Max. Elevation (3) | <u>530</u> PSIG | Max. Test Pressure at Min. Elevation (6) | <u>572.11</u> PSIG |

Test Fluid Used: NITROGEN Pipe Specification and Footage Verified (See Part I): 29 A587

| | | | |
|---|----------------------|--|----------------------|
| 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 |
| <u>TECH CAL 0-1500 02097</u> | <u>11-7-11</u> | <u>AMETEK 25-9000 14L-4321</u> | <u>10-10-11</u> |

Test Supervised By: [Signature] Date: 11-22-11 Approved By: [Signature] Date: 11-22-2011

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:**
- Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I.
 - Use lowest pressure on test gauge at any time during test.
 - Subtract static head due to elevation difference (between test point and maximum elevation) from minimum indicated test pressure.
 - Subtract static head due to elevation difference (between test point and minimum elevation) from "maximum test pressure at minimum elevation" from PART I.
 - Highest pressure on test gauge at any time during test.
 - Add static head due to elevation difference (between test point and minimum elevation) to maximum indicated test pressure.
 - 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), GSM&TS
- REPORT FAILURES UNDER TEST TO GAS ENGINEERING & PLANNING