NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Materials Laboratory Division
Washington, D.C. 20594

July 8, 2011

MATERIALS LABORATORY FACTUAL REPORT—ERRATA SHEET Report No. 11-005

A. ACCIDENT INFORMATION

Place	:	San Bruno, California
Date	:	September 9, 2010
Vehicle	:	Pacific Gas & Electric Natural Gas Transmission Pipeline
NTSB No.	:	DCA10MP008
Investigator	:	Ravindra Chhatre, RPH-20

B. COMPONENTS EXAMINED

Three pieces of 30-inch diameter pipe from Line 132, Segment 180, located at the intersection of Earl Avenue and Glenview Drive, San Bruno, California, with the following lengths:

1) 12 foot 4 inch
2) 27 foot 8 inch
3) 15 foot 9 inch

C. DETAILS OF THE EXAMINATION

Page 1, Section C.1., Paragraph 1, Line 3
Delete: “Pieces of the pipe were removed using a plasma cutter approximately 90° from the longitudinal seams.”
Replace with: “Pieces of the pipe were removed using a plasma cutter approximately 90° from the longitudinal seams, except for girth weld C2, which was cut approximately 45° degrees from the pup 1 longitudinal seam.”

Page 1, Section C.1., Paragraph 1, Line 6
Delete: “A water cooled abrasive saw was used to cut transverse slices … “
Replace with: “A water cooled abrasive saw was used to section the samples …”

Page 1, Section C.1., Paragraph 1, Line 8
Delete: “figure 1b “
Replace with: “figure 2b”

Page 3, First Partial Paragraph, Line 4
Delete: “Tensile testing was conducted in accordance with ASTM A370a – 09 (including Annex 2)…”
Replace with: “Tensile testing was conducted in accordance with ASTM A370–09a (including Annex A2)…”

Page 3, First Numbered List, List Item 1), Line 3
Delete: “Tensile specimen dimensions conformed to A370 – Annex 2.”
Replace with: “Tensile specimen dimensions conformed to ASTM A370–09a — Annex A2.”

Page 3, First Numbered List, List Item 4), Line 3
Delete: “Crosshead rate of separation conformed to the requirements of ASTM A370.”
Replace with: “Crosshead rate of separation conformed to the requirements of ASTM A370–09a.”

Page 4, Paragraph 1, Line 5
Delete: “Based on the cross sectional metallography, the stringer orientation was undetermined for P3 and P4 so for those lengths of pipe radial cross sections were prepared as well.”
Replace with: “Based on the cross sectional metallography, the stringer orientation was undetermined for P3 and P4 so, for those lengths of pipe, sections through the tangential plane were prepared as well.”

Page 4, Paragraph 2, Line 1
Delete: “The girth weld microstructure was examined …”
Replace with: “The girth weld morphology was examined…”

Page 7, Reference 10
Delete: “ASTM A370 – 09 Standard Test Methods …”
Replace with: “ASTM A370–09a Standard Test Methods …”

Page 9, Table 3
Delete Column 5:

0.2% Yield Strength, ksi
56.3
35.2
31.1
33.6
48.3
37.4
51.6
51.5

Replace with:

0.2% Yield Strength, ksi
56.3 ± 0.3
35.2 ± 0.5
31.1 ± 0.2
33.6 ± 0.5
48.3 ± 0.9
37.4 ± 0.3
51.6 ± 1.0
51.5 ± 0.7

Page 9, Table 4 title
Delete: “Yield strength…”
Replace with: “Minimum yield strength…”

Page 21, Table A3
Delete first row:

Source	Elongation, % in 2 inch	Elongation, % in 2 inch	Elongation, % in 2 inch	Elongation, % in 2 inch	Elongation, % in 2 inch

Replace with:

Source	Test 1, % Elongation in 2 inch	Test 2, % Elongation in 2 inch	Test 3, % Elongation in 2 inch	Test 4, % Elongation in 2 inch	Test 5, % Elongation in 2 inch

Page 22, Table A6
Delete first row:

Source	% Shear	% Shear	% Shear	% Shear	% Shear	% Shear

Replace with:

Source	Test 1, % Shear	Test 2, % Shear	Test 3, % Shear	Test 4, % Shear	Test 5, % Shear	Test 6, % Shear

Page 23, Table A7
Delete first row:

Source	Lat. Exp., mils	Lat. Exp., mils	Lat. Exp., mils	Lat. Exp., mils	Lat. Exp., mils	Lat. Exp., mils

Replace with:

Source	Test 1, Lat. Exp., mils	Test 2, Lat. Exp., mils	Test 3, Lat. Exp., mils	Test 4, Lat. Exp., mils	Test 5, Lat. Exp., mils	Test 6, Lat. Exp., mils

Page 28, Figure Caption
Delete: “Radial cross section of pup 3 …”
Replace with: “Section through the tangential plane of pup 3 …”

Page 29, Figure Caption
Delete: “Radial cross section of pup 4 …”
Replace with: “Section through the tangential plane of pup 4 …”

Donald Kramer
Materials Engineer