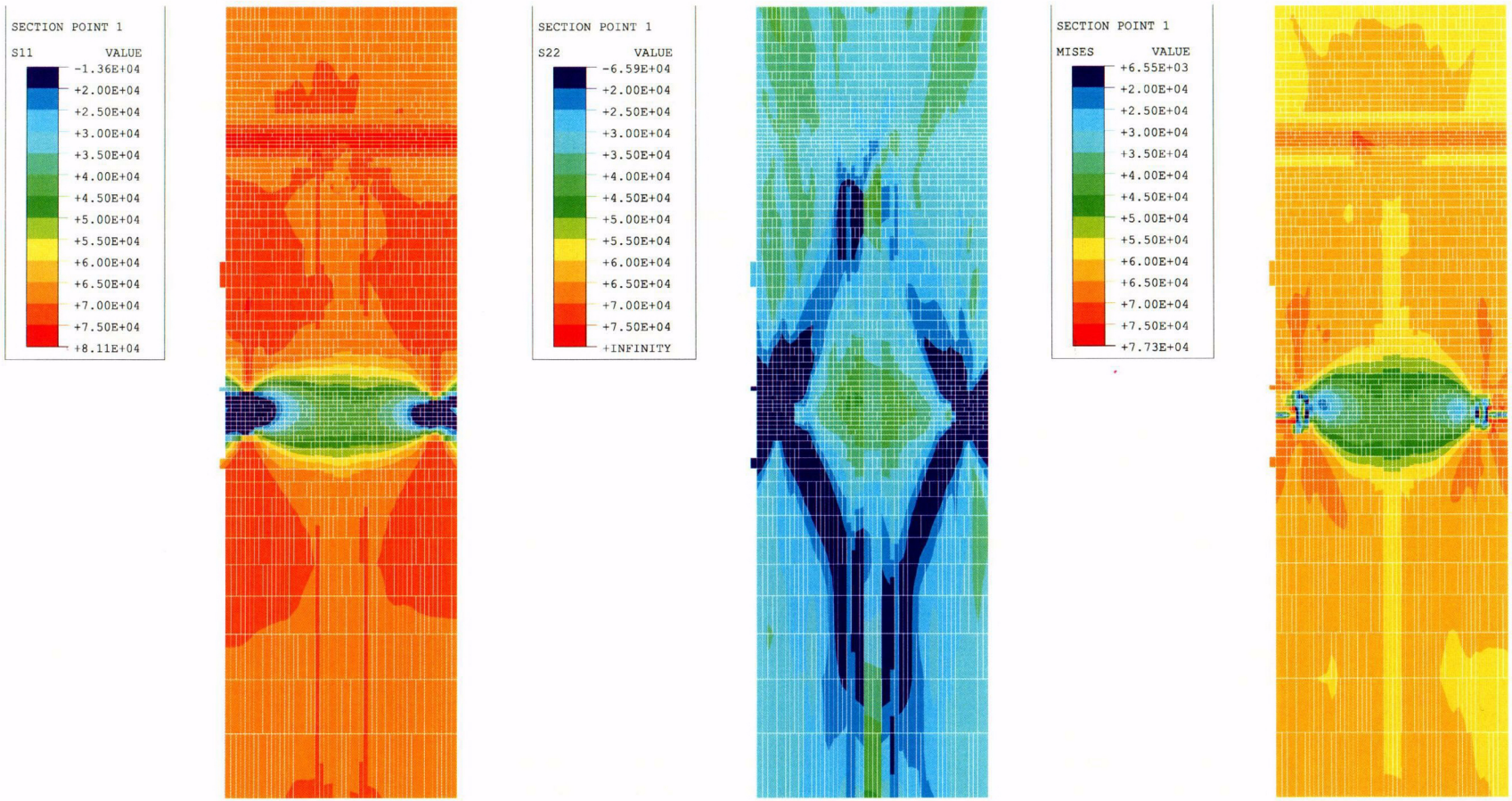


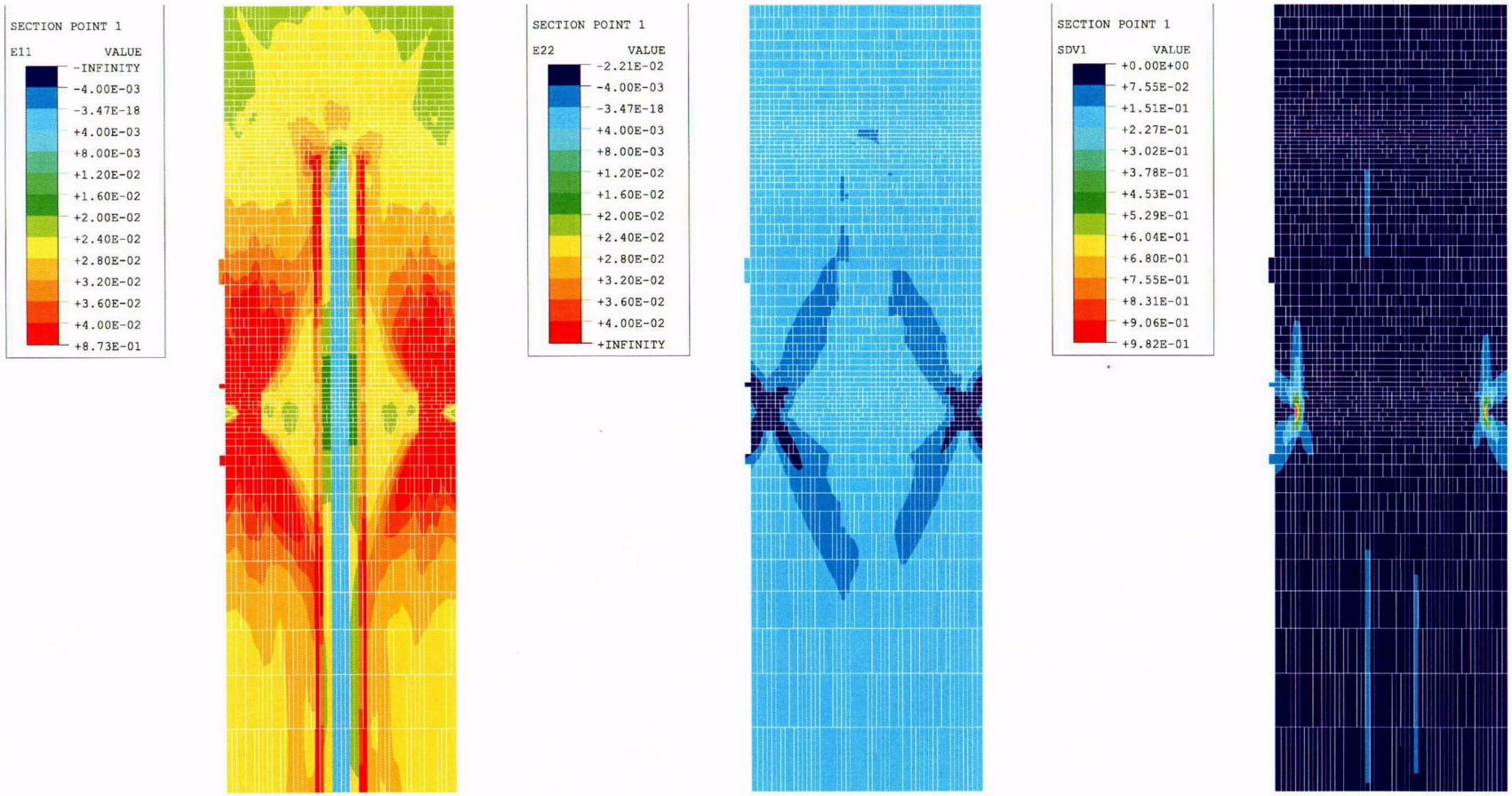
Horizontal Stress

Vertical Stress

Mises Stress

Figure 8-67. PCCV Liner Model, Liner Seam Rat-Hole Study Case 4, Stress Contour, Analysis To 3.6 Pd
(Stresses in psi; Multiply by 0.00690 for MPa)

C221



Horizontal Strain

Vertical Strain

Effective Plastic Strain

Figure 8-68. PCCV Liner Model, Liner Seam Rat-Hole Study Case 4, Strain Contour, Analysis To 3.6 Pd

C222

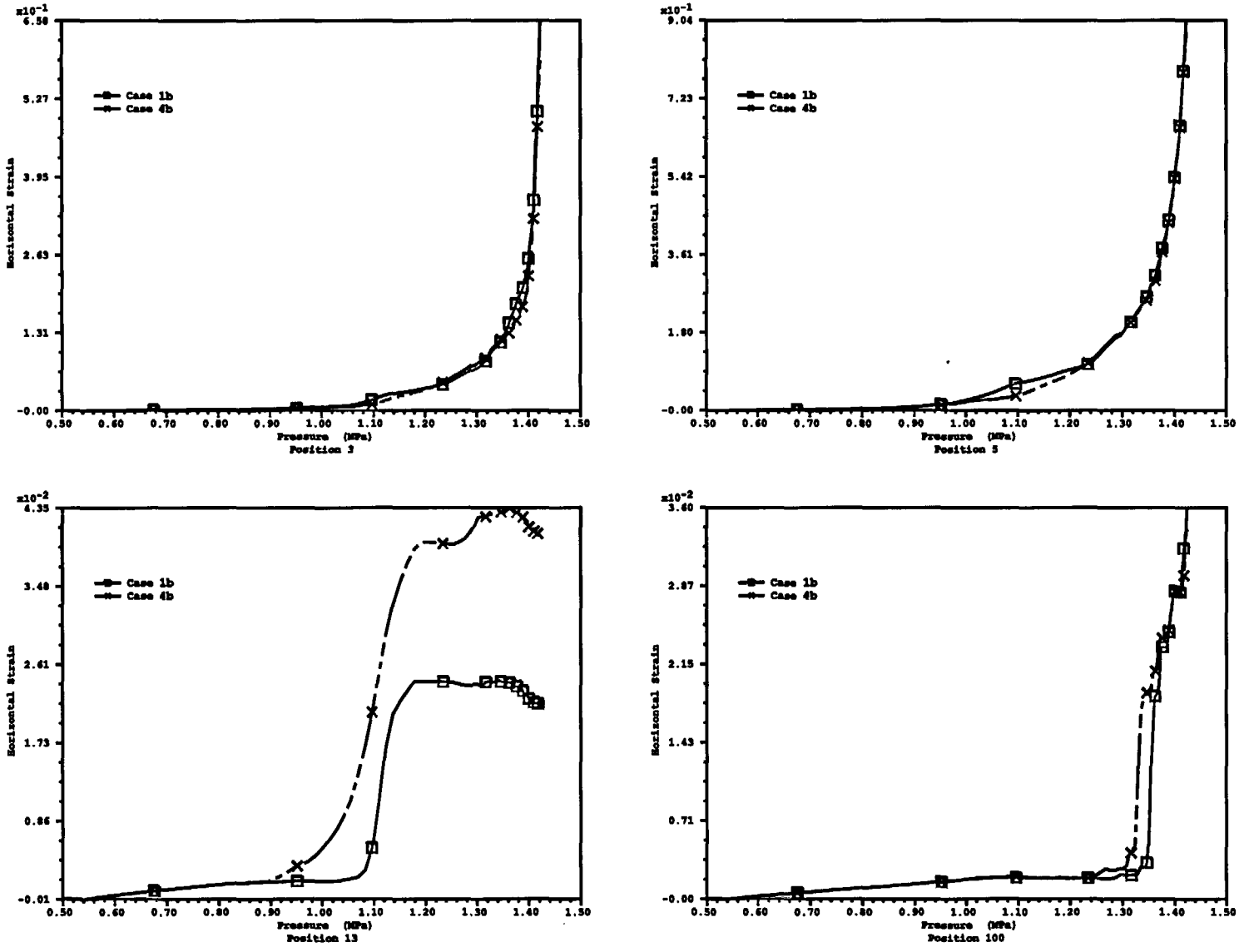


Figure 8-69. PCCV Liner Weld/Rat-Hole Study; Horizontal Strain Comparisons

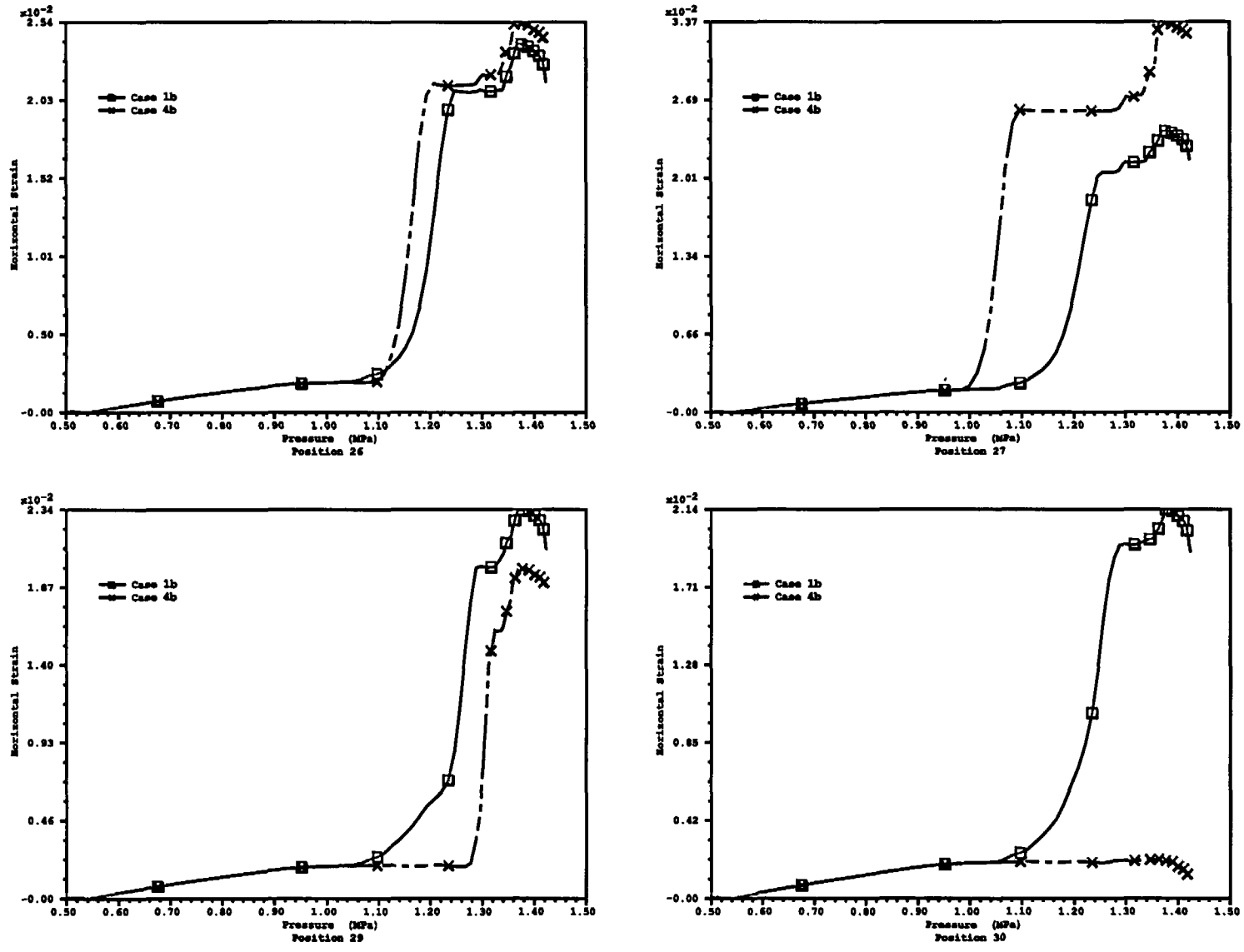


Figure 8-70. PCCV Liner Weld/Rat-Hole Study; Horizontal Strain Comparisons

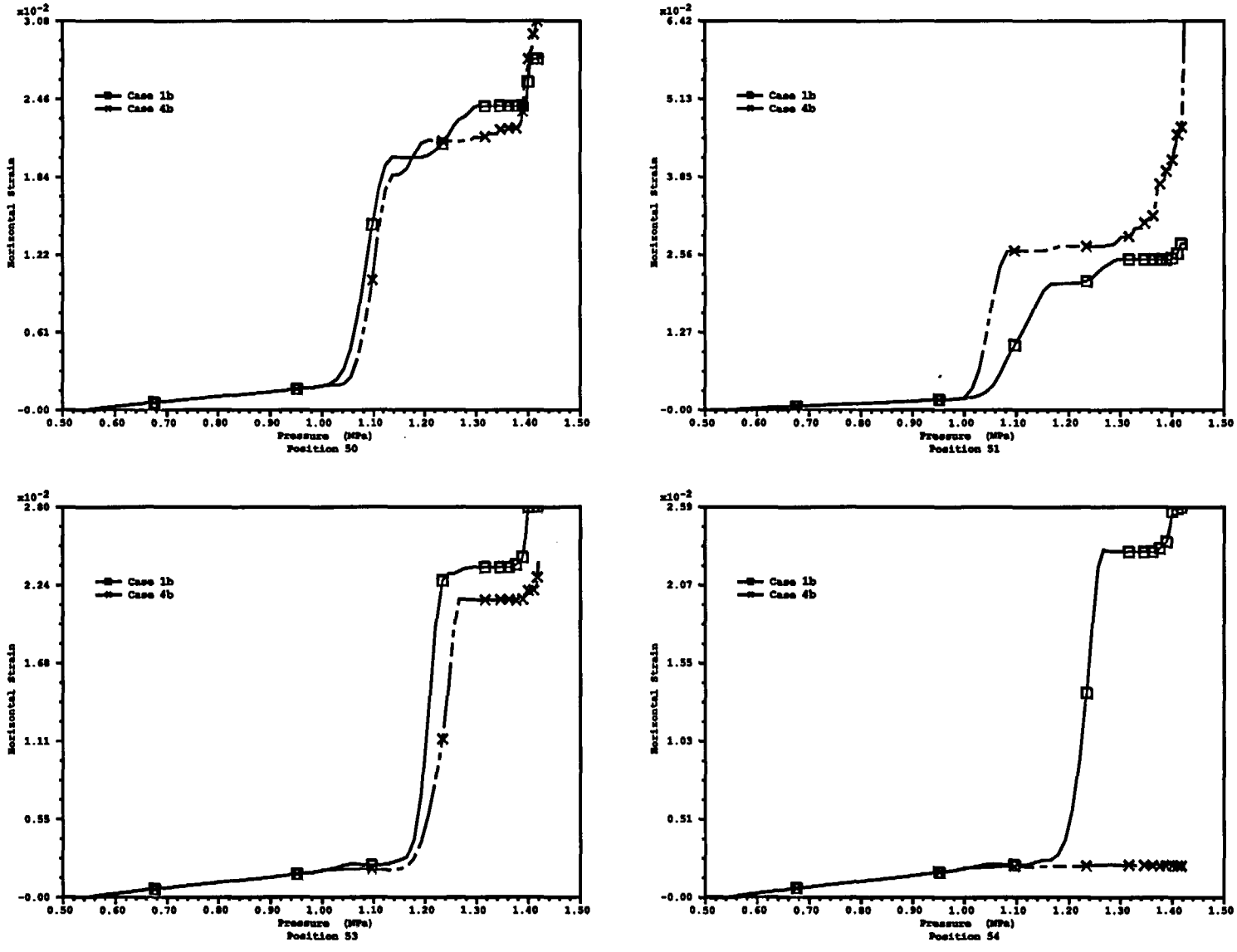


Figure 8-71. PCCV Liner Weld/Rat-Hole Study; Horizontal Strain Comparisons

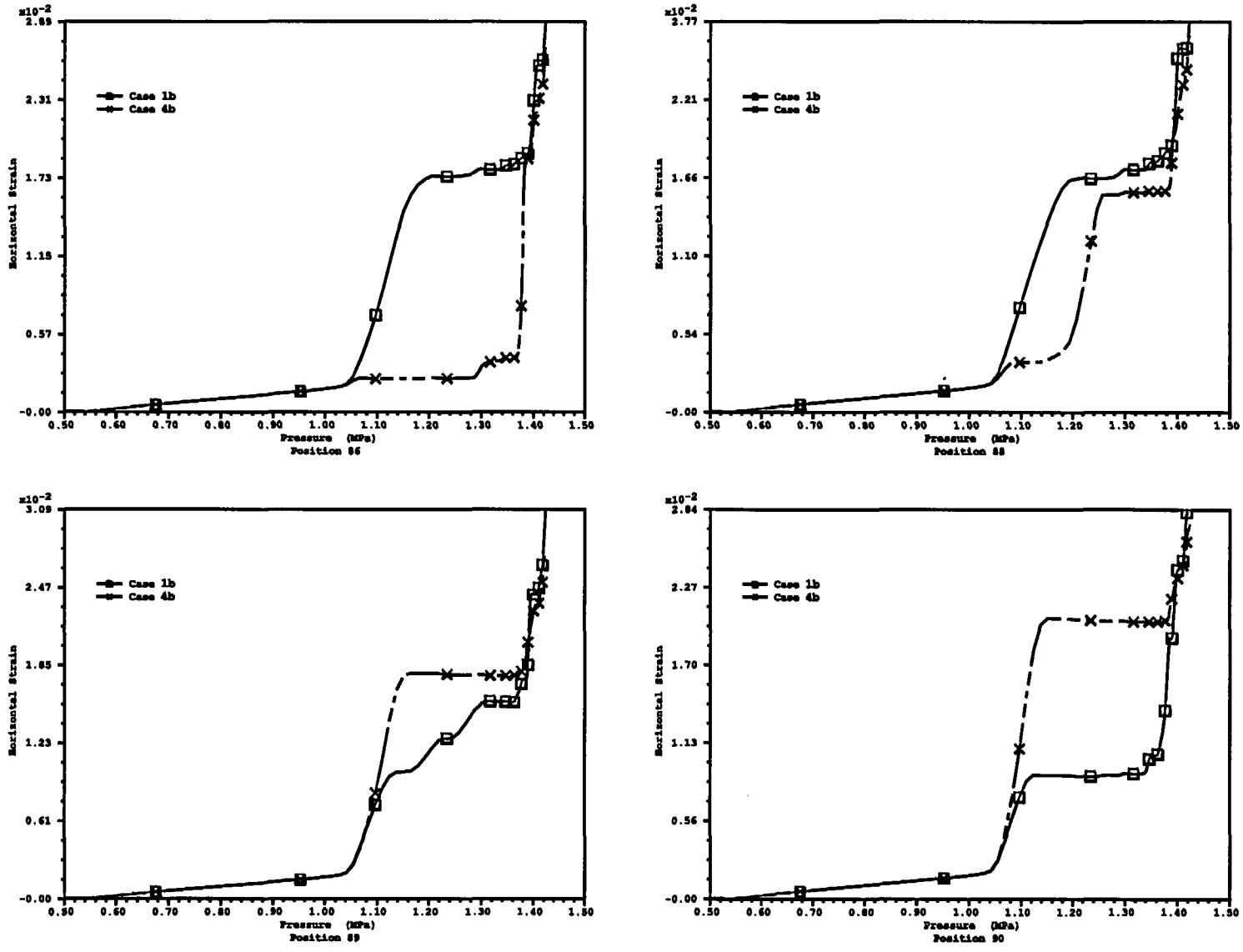


Figure 8-72. PCCV Liner Weld/Rat-Hole Study; Horizontal Strain Comparisons

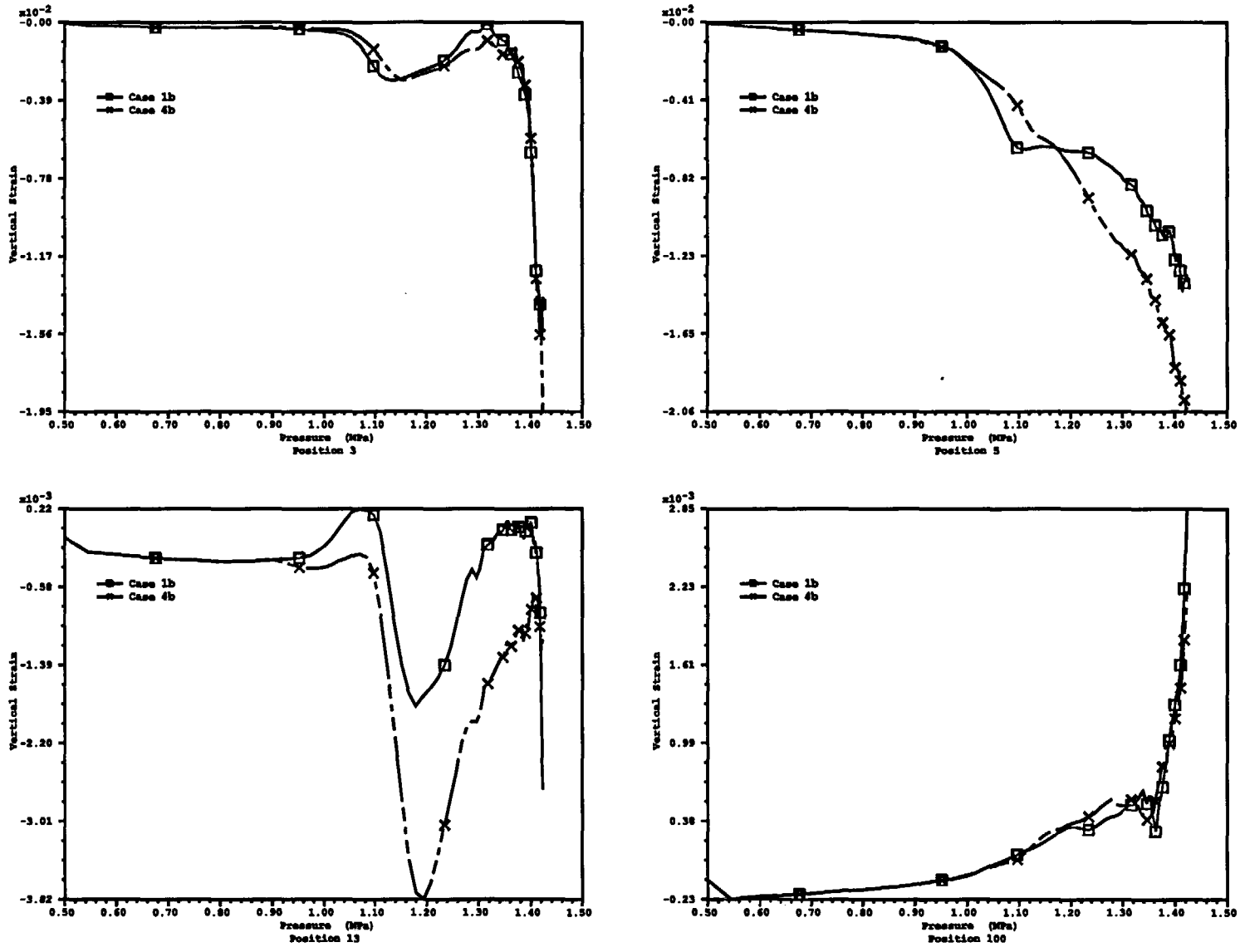


Figure 8-73. PCCV Liner Weld/Rat-Hole Study; Vertical Strain Comparisons

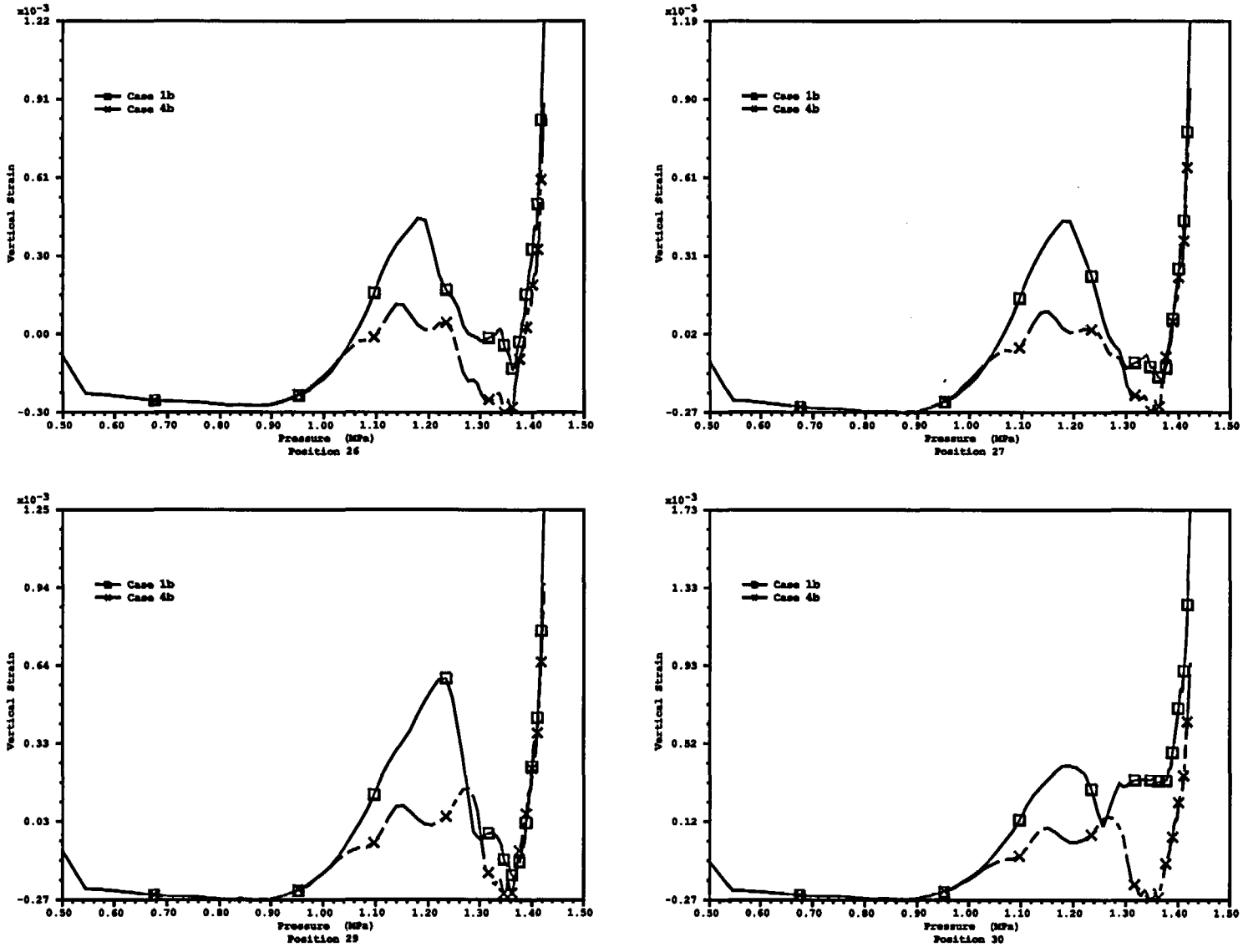


Figure 8-74. PCCV Liner Weld/Rat-Hole Study; Vertical Strain Comparisons

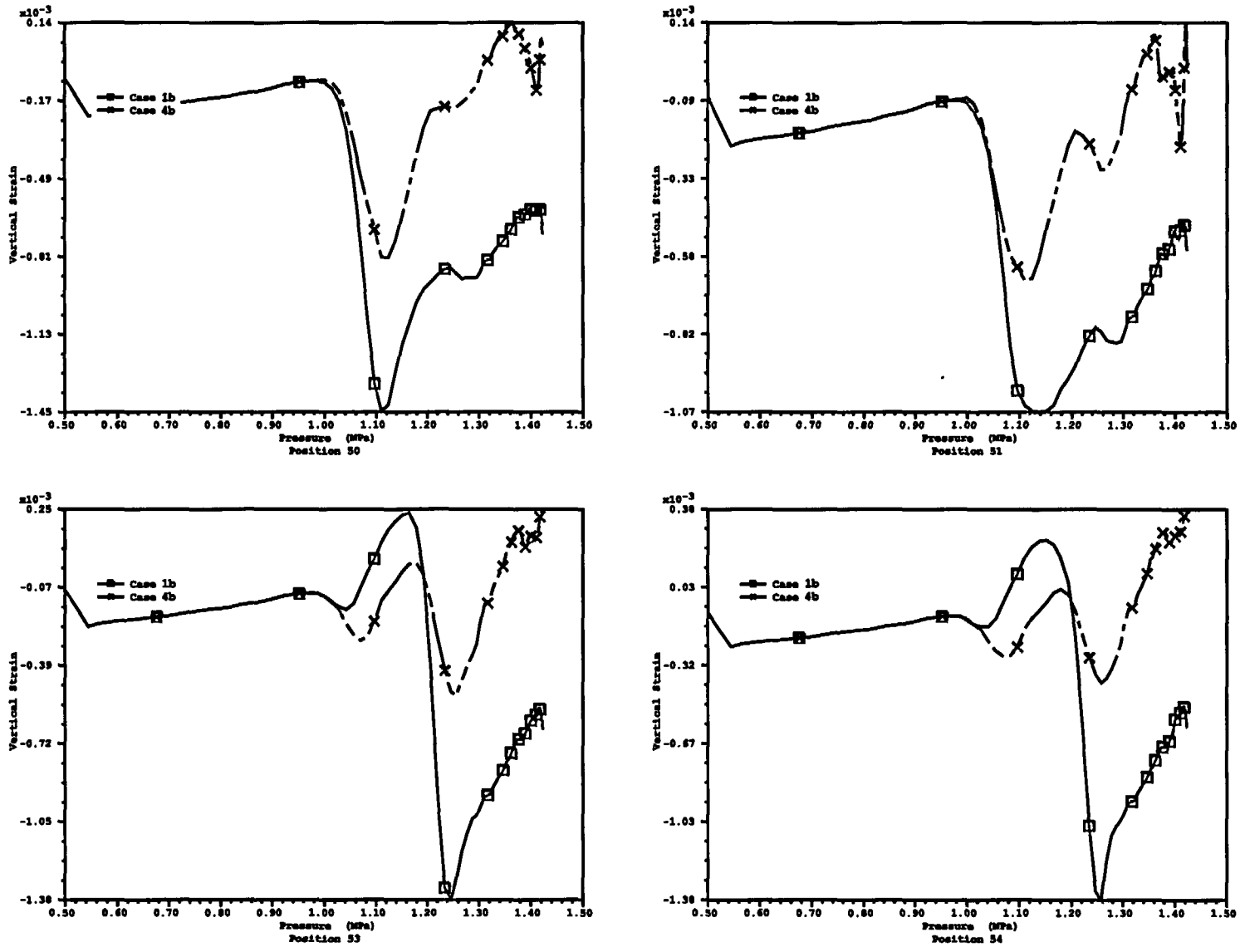


Figure 8-75. PCCV Liner Weld/Rat-Hole Study; Vertical Strain Comparisons

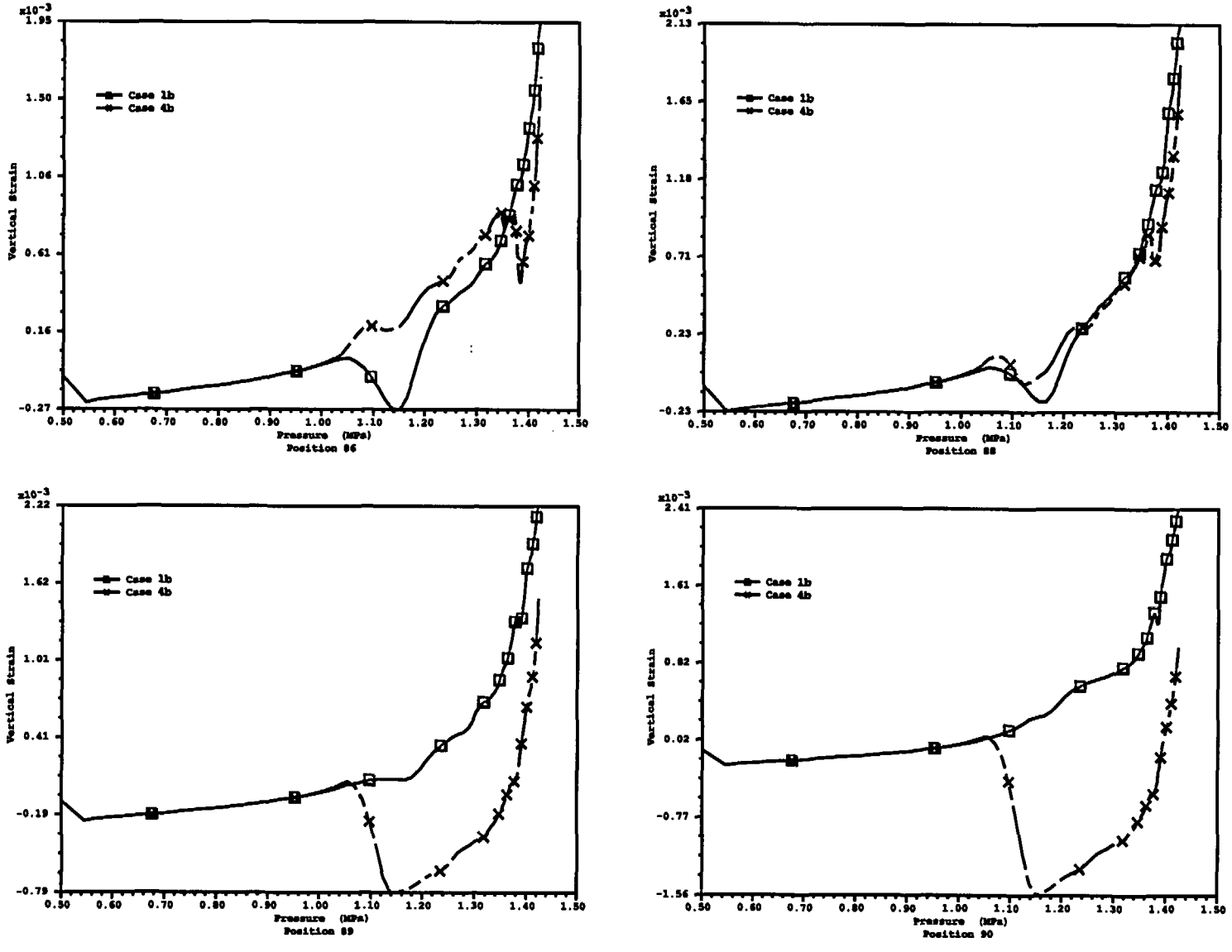
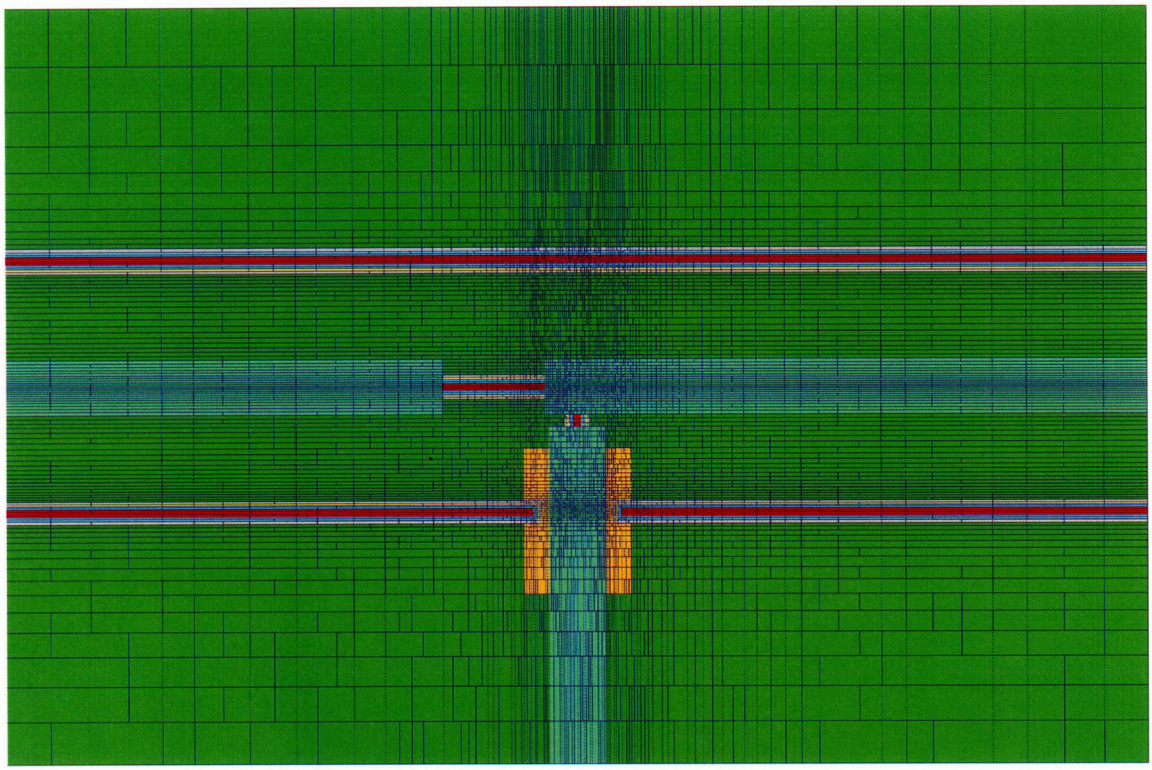
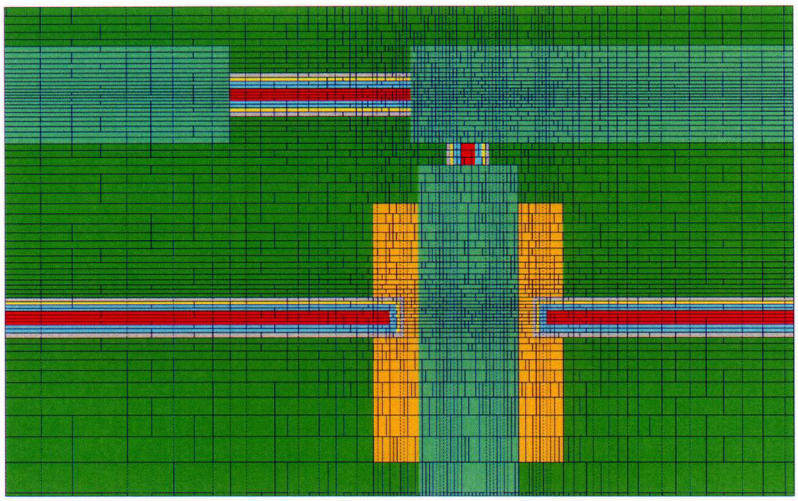


Figure 8-76. PCCV Liner Weld/Rat-Hole Study; Vertical Strain Comparisons



Base
Fine HAZ
Medium HAZ
Coarse HAZ
Fusion
Back Up Bar

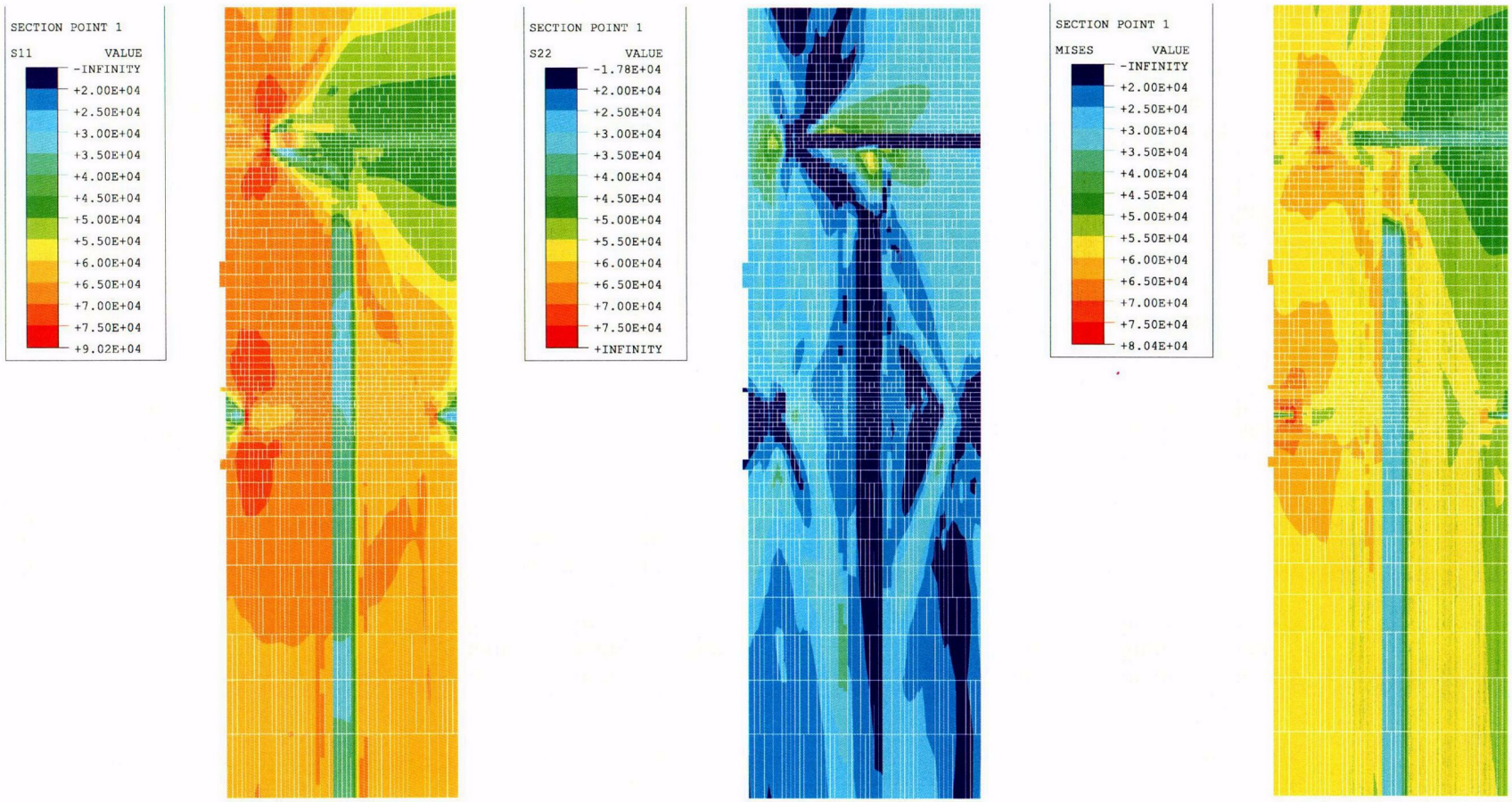


~ +/- 10 mm either side of
weld fusion zone along vertical weld
Thinning at Gap equal to width
of Back Up Bar

Thickness Reduction
of 45% along Vertical Seam Weld
and 20% at Horizontal Back Up Bar Gap
No Reduction in Fusion Zone

Figure 8-77. PCCV Liner Weld Seam Rat-Hole Study, Base, HAZ, and Fusion Regions, Extent of Thinning Zones, Back Up Bars and Horizontal Gap

C223



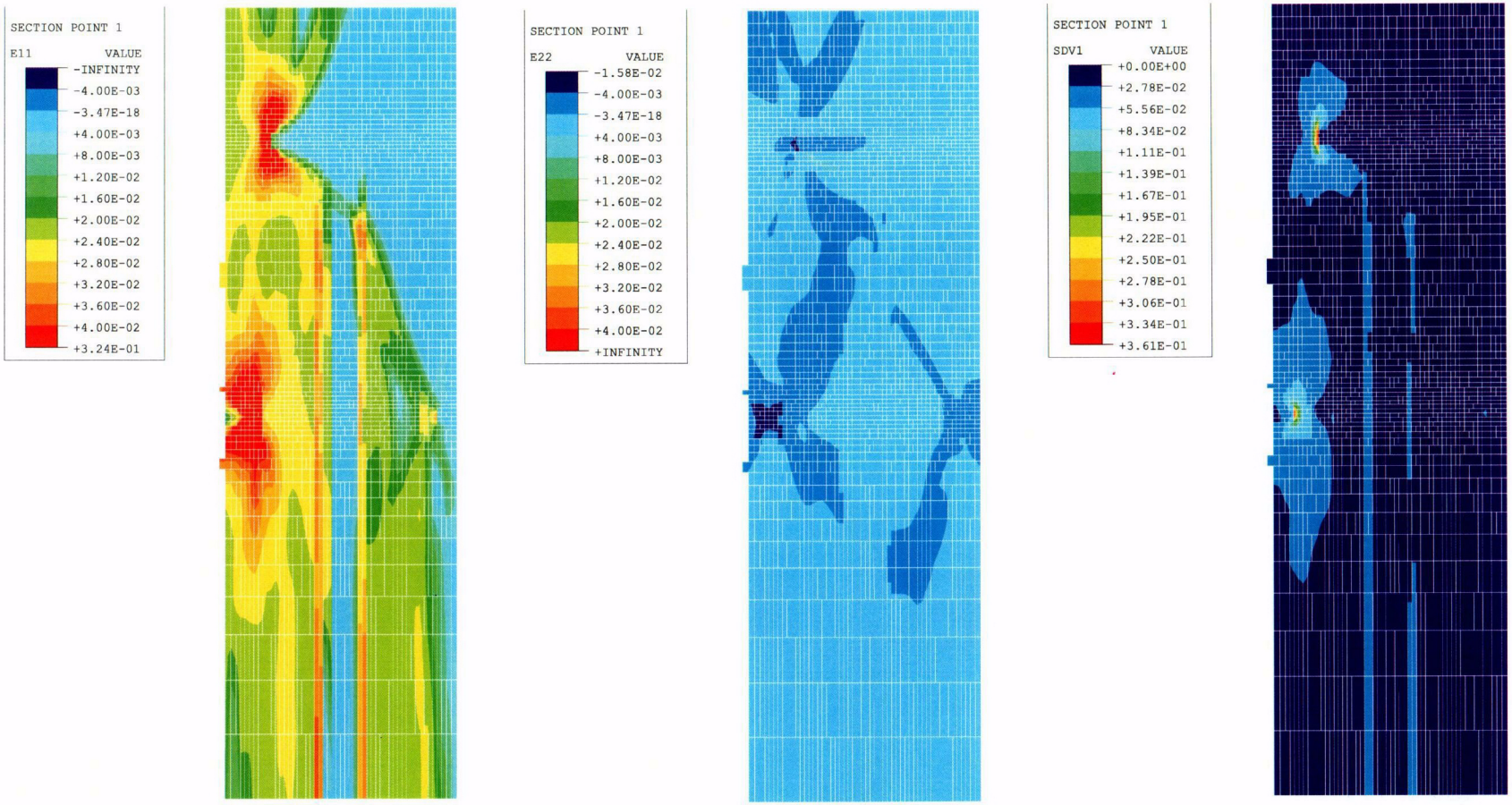
Horizontal Stress

Vertical Stress

Mises Stress

Figure 8-78. PCCV Liner Model, Liner Seam Rat-Hole Study Case 3c, Stress Contour, Vertical and Horizontal Back-Up Bars With Horizontal Gap, Similar to Case 4b, No Thinning In Gap Region (Stresses in psi; Multiply by 0.00690 for MPa)

C224

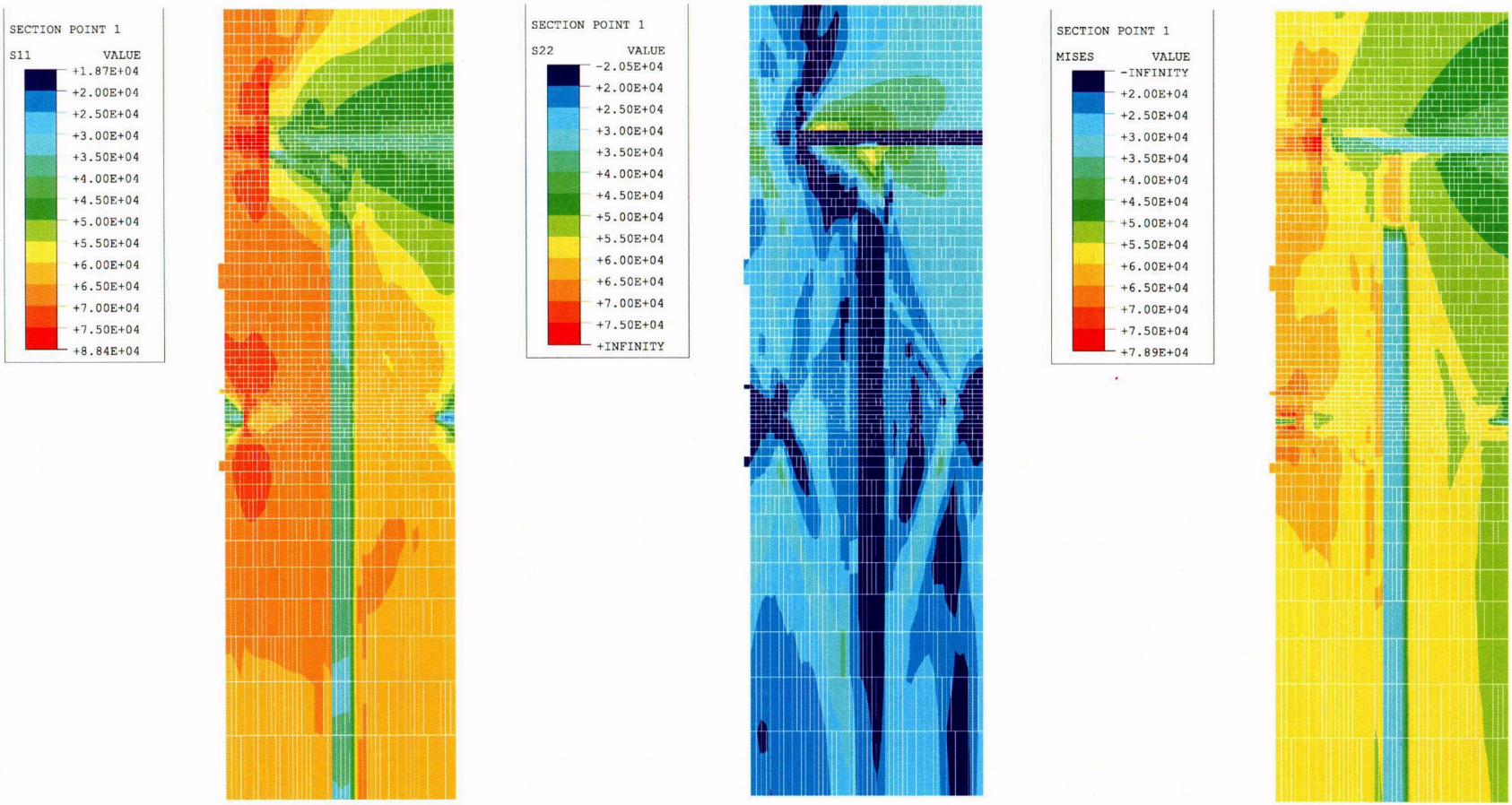


Horizontal Strain

Vertical Strain

Effective Plastic Strain

Figure 8-79. PCCV Liner Model, Liner Seam Rat-Hole Study Case 3c, Strain Contour, Vertical and Horizontal Back-Up Bars With Horizontal Gap, Similar to Case 4b, No Thinning In Gap Region



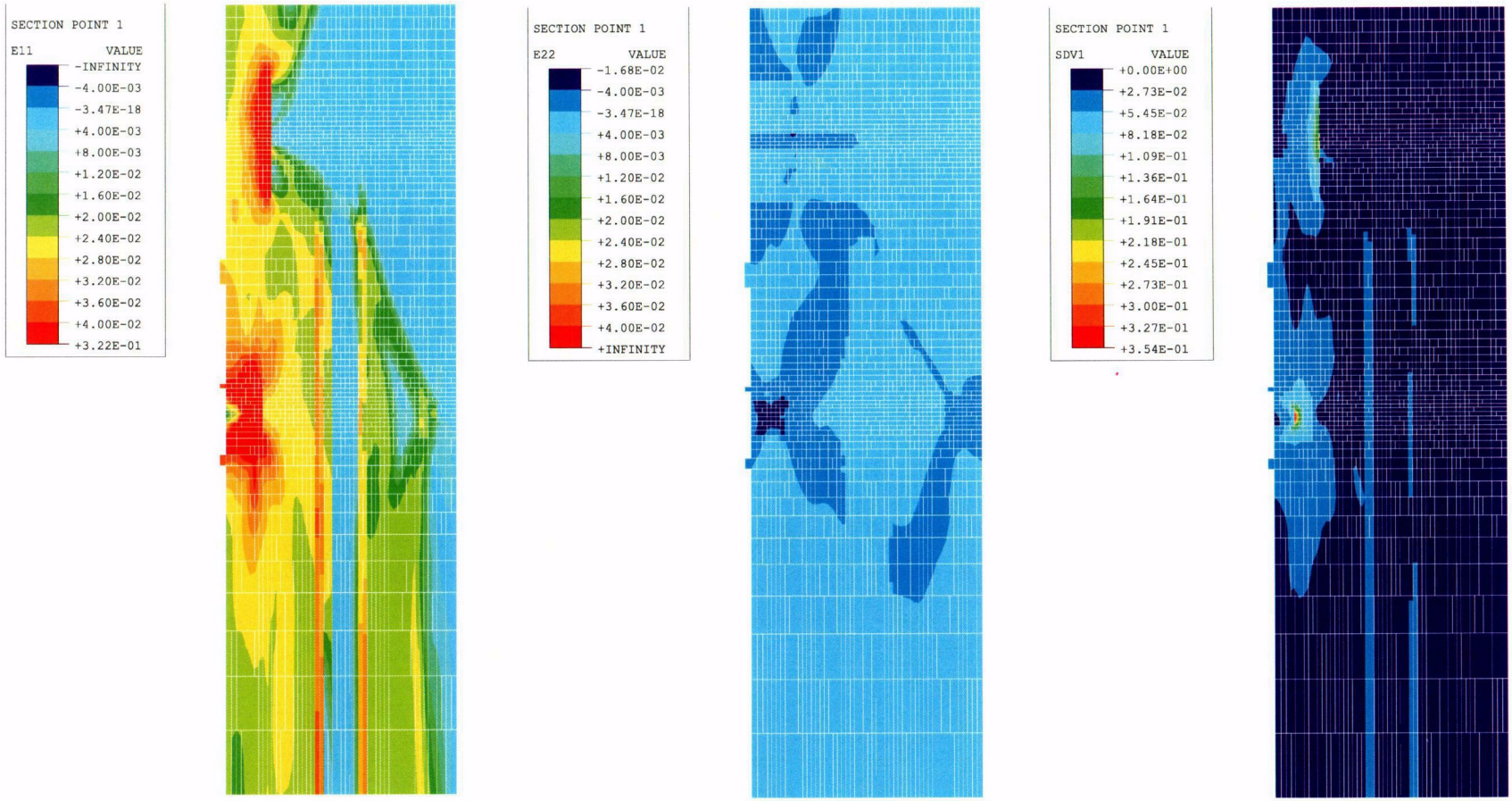
Horizontal Stress

Vertical Stress

Mises Stress

Figure 8-80. PCCV Liner Model, Liner Seam Rat-Hole Study Case 4c, Stress Contour, Vertical and Horizontal Back-Up Bars With Horizontal Gap, Similar to Case 4b, Thinning In Gap Region (Stresses in psi; Multiply by 0.00690 for MPa)

C226



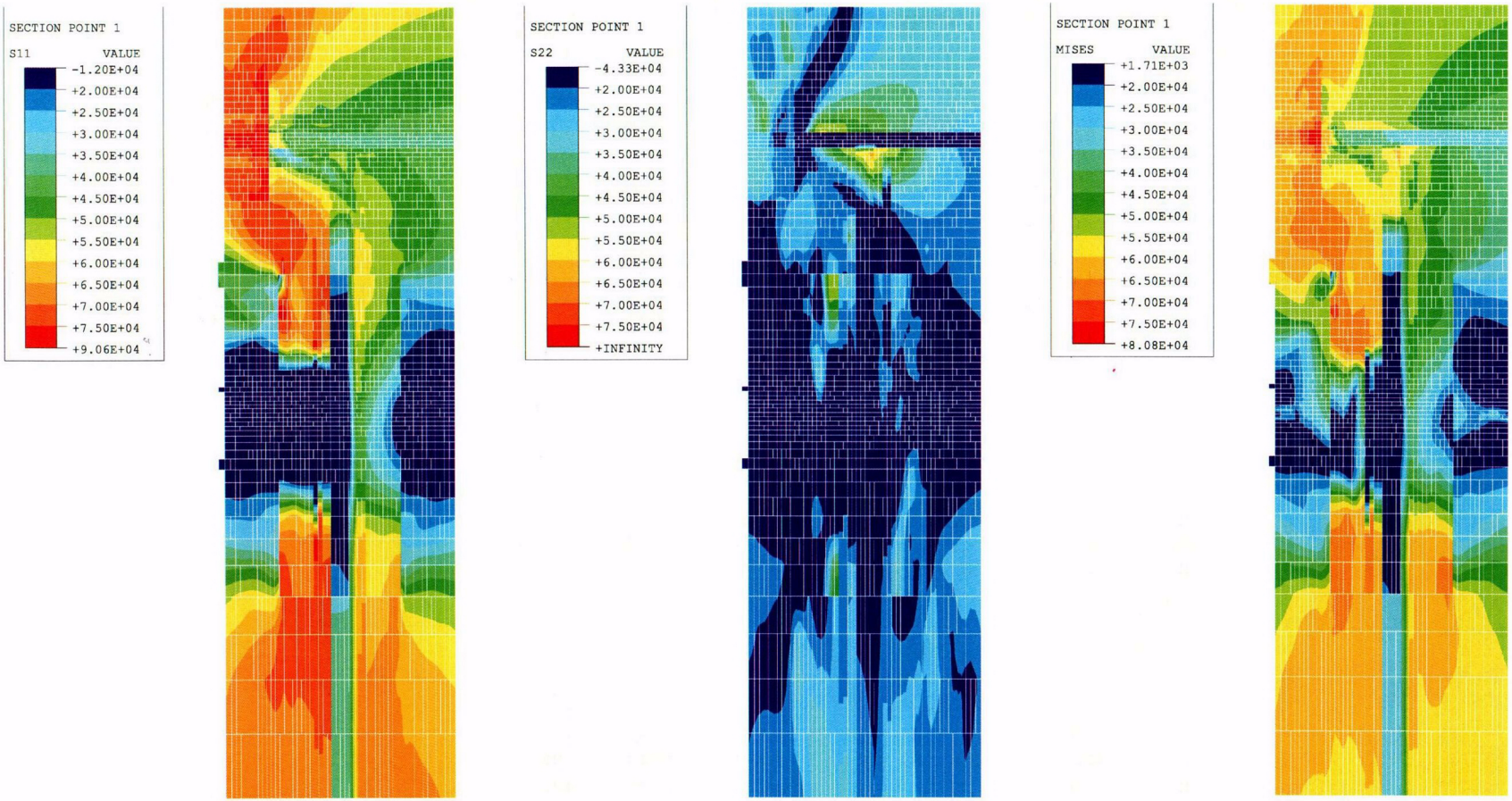
Horizontal Strain

Vertical Strain

Effective Plastic Strain

Figure 8-81. PCCV Liner Model, Liner Seam Rat-Hole Study Case 4c, Strain Contour, Vertical and Horizontal Back-Up Bars With Horizontal Gap, Similar to Case 4b, Thinning In Gap Region

C227



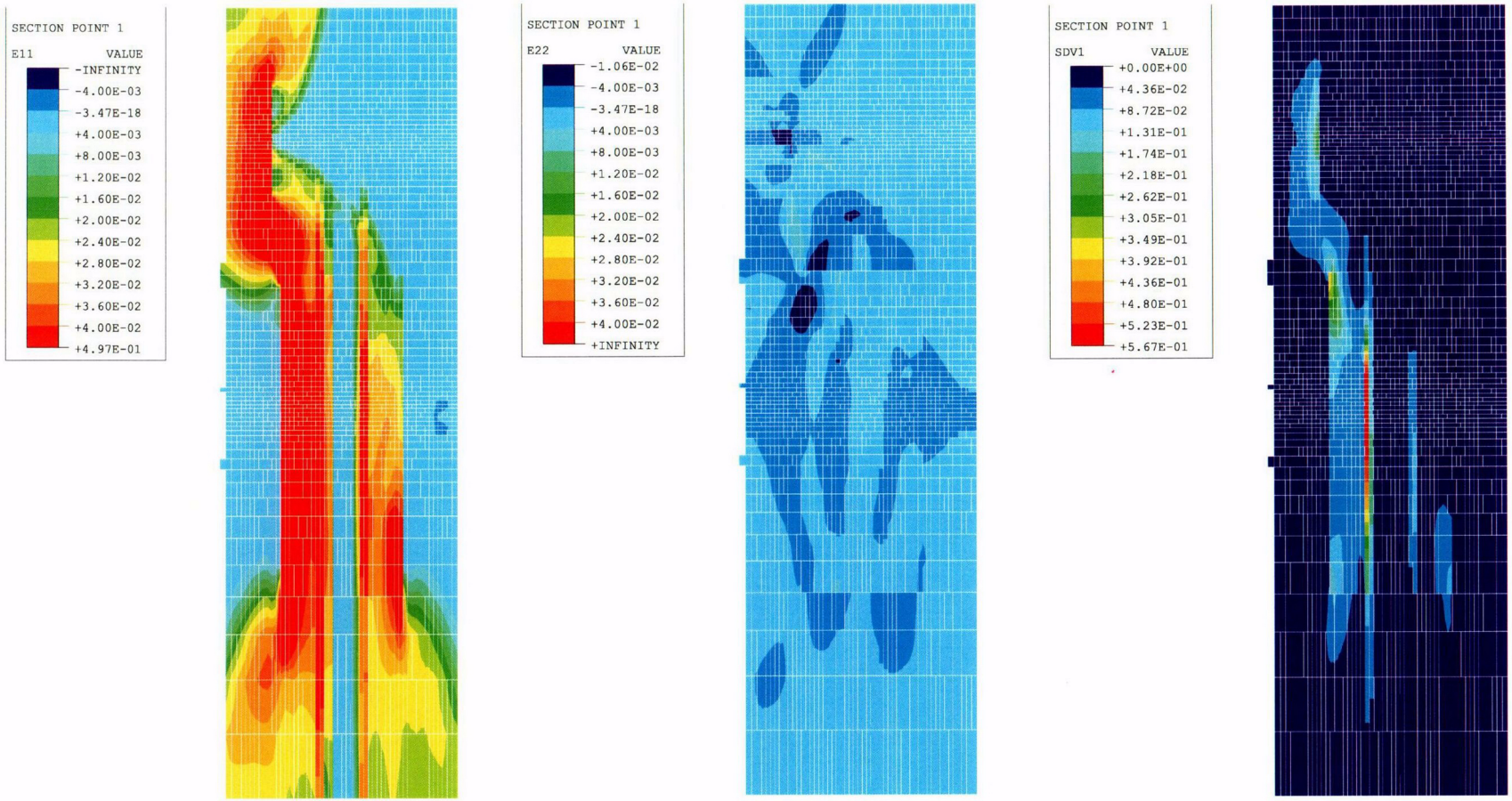
Horizontal Stress

Vertical Stress

Mises Stress

Figure 8-82. PCCV Liner Model, Liner Seam Rat-Hole Study Case 5c, Stress Contour, Vertical and Horizontal Back-Up Bars With Horizontal Gap, Similar to Case 10b, Thinning In Gap Region (Stresses in psi; Multiply by 0.00690 for MPa)

C228



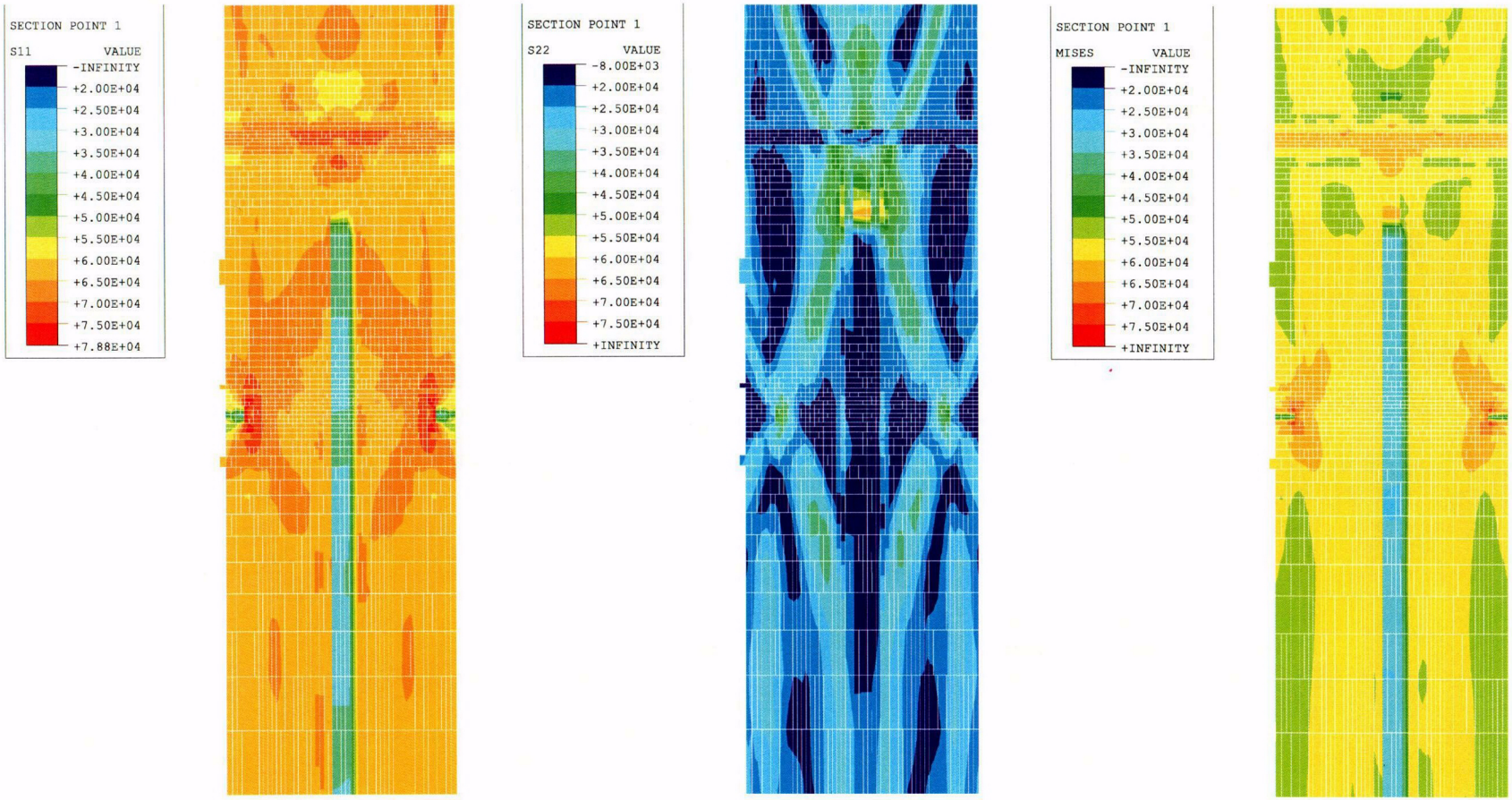
Horizontal Strain

Vertical Strain

Effective Plastic Strain

Figure 8-83. PCCV Liner Model, Liner Seam Rat-Hole Study Case 5c, Strain Contour, Vertical and Horizontal Back-Up Bars With Horizontal Gap, Similar to Case 10b, Thinning In Gap Region

C229



Horizontal Stress

Vertical Stress

Mises Stress

Figure 8-84. PCCV Liner Model; Liner Seam Rat-Hole Study Case 6c, Stress Contour, Vertical and Horizontal Back-Up Bars, No Horizontal Gap, Similar to Case 4b, No Thinning in Gap Region (Stresses in psi; Multiply by 0.00690 for MPa)

C230