Innovative Pavement Research Foundation (IPRF)
IPRF – Project 04-02

Final Report – Appendices

Improved Overlay Design Parameters for Concrete Airfield Pavements

(IPRF Project FAA-01-G-002-04-2)

Submitted by

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APPENDIX A – CONSTRUCTION INFORMATION

Included in appendix A are illustrations and tables from the construction and instrumentation processes. The material includes experiment layout graphics and layer thickness plots.

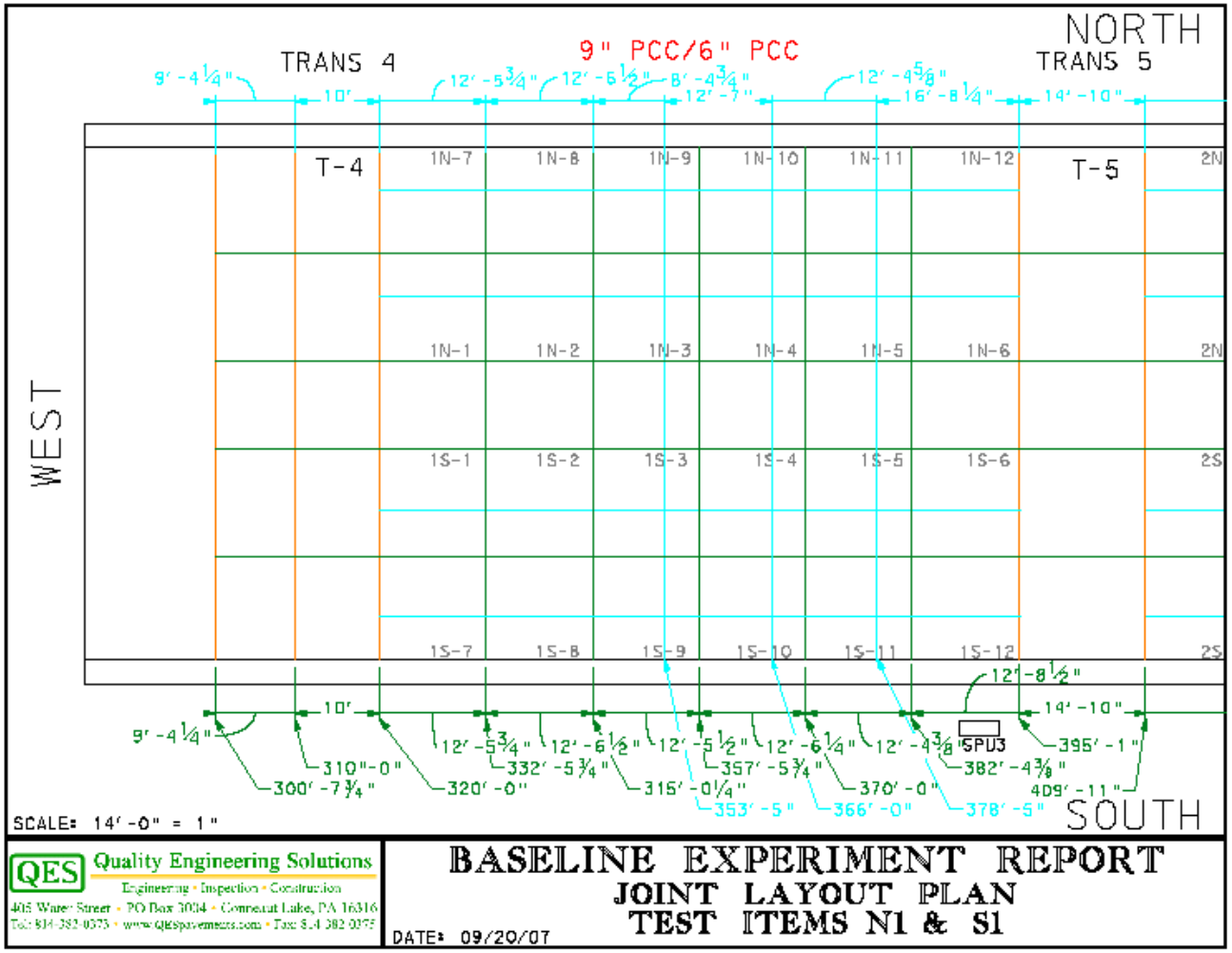

FIGURE A1. AS-CONSTRUCTED JOINT LAYOUT FOR TEST ITEMS N1 AND S1

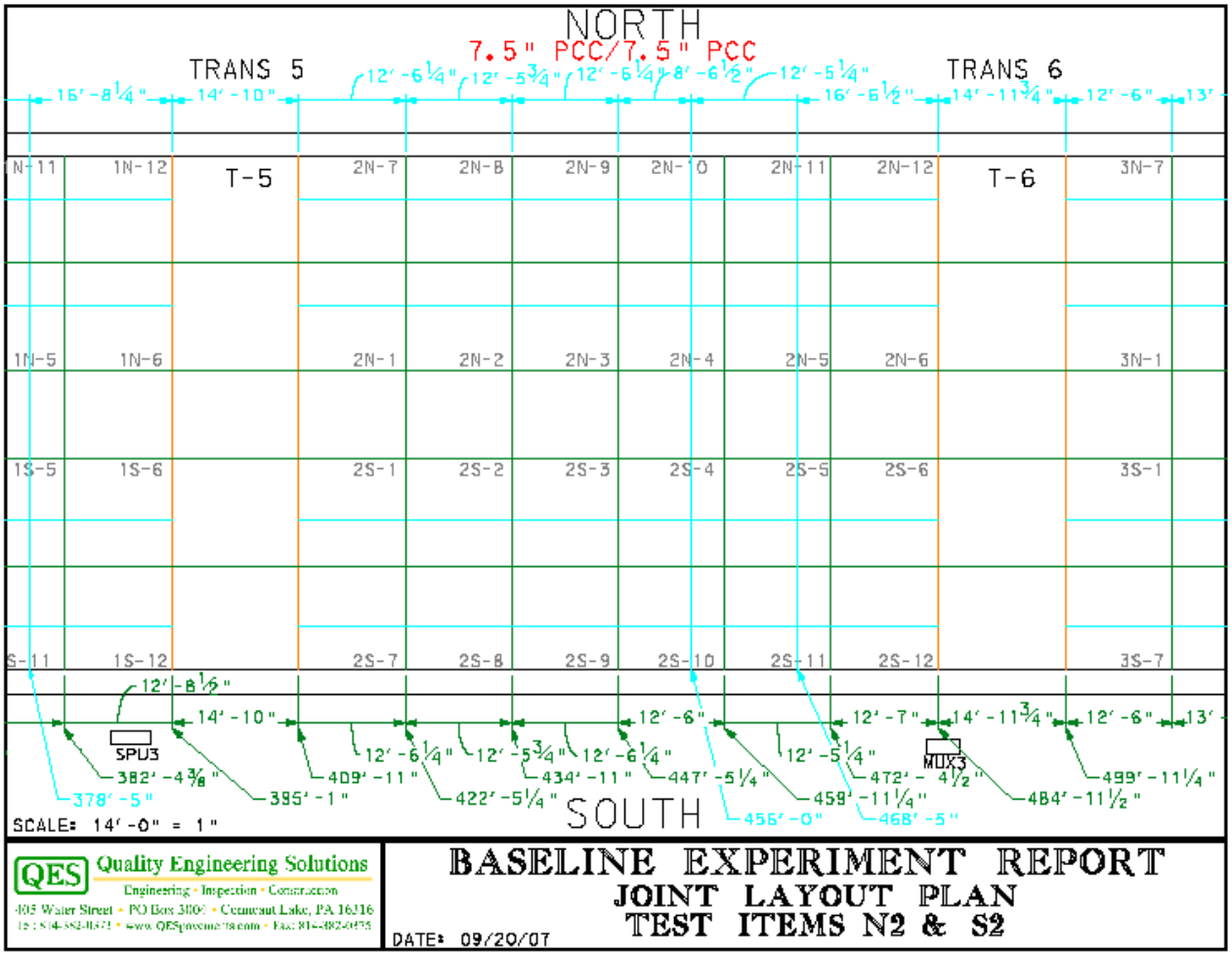

FIGURE A2. AS-CONSTRUCTED JOINT LAYOUT FOR TEST ITEMS N2 AND S2

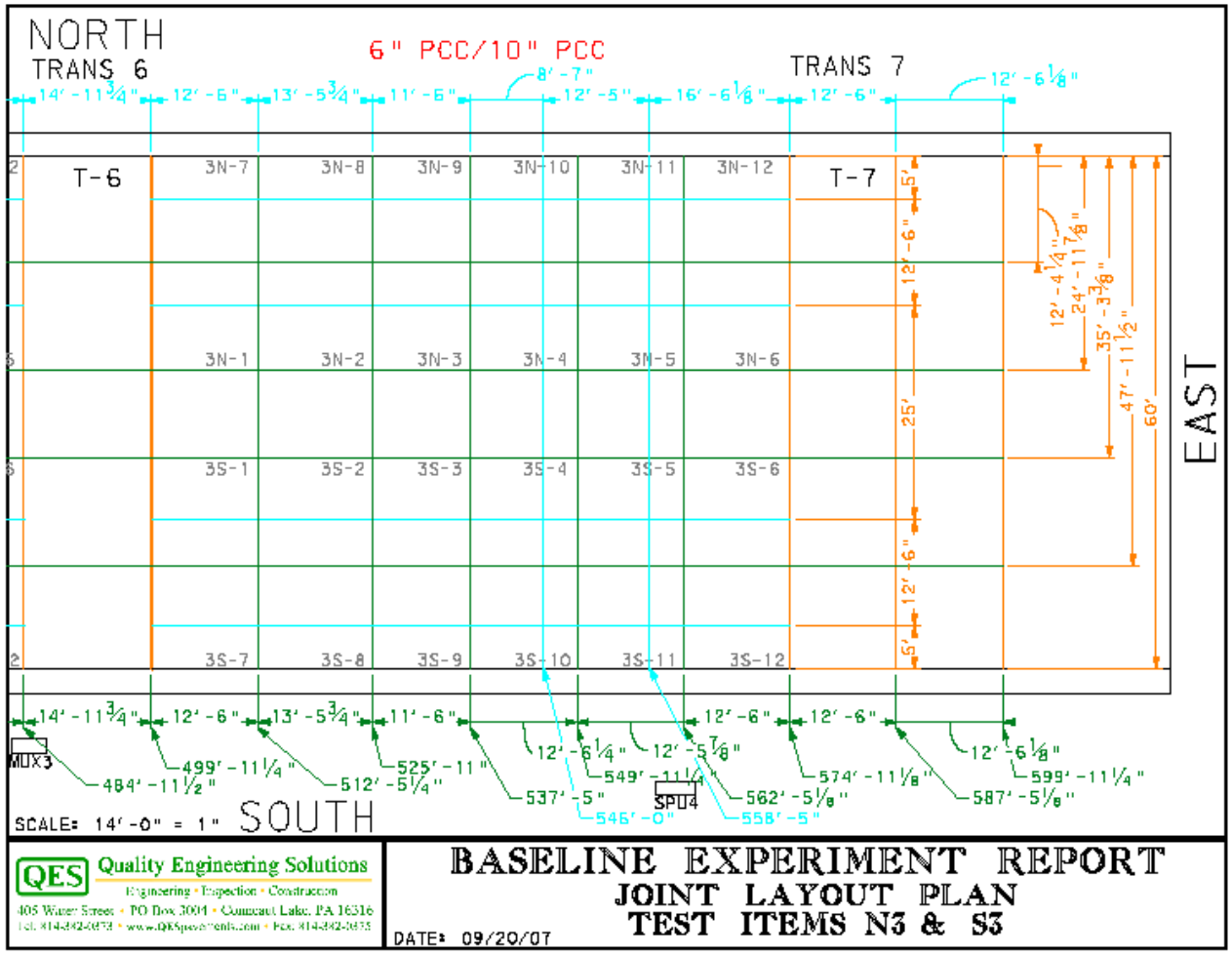

FIGURE A3. AS-CONSTRUCTED JOINT LAYOUT FOR TEST ITEMS N3 AND S3

TABLE A1. CC4 CONCRETE MIX DESIGN

Blend	Weight, lbs/cy	Volume		Specific Gravity
		Proportion of Total Mix	ft^3	
#57 Millington	1685.0	35.19 %	9.51	2.84
NJ sand	1555.0	35.20 %	9.51	2.62
Fly ash	250.0	5.55 %	1.50	2.67
Cement	250.0	4.72 %	1.28	3.14
Water	250.0	14.83 %	4.01	1.00
Air		4.50 %	1.22	
Water Cement Ratio	0.50			

TABLE A2. AGGREGATE GRADATION FOR CC4 CONCRETE MIX DESIGN

SIEVE SIZE	PERCENT PASSING		AGGREGATE BLENDED TOTAL		MIXTURE BLENDED TOTAL	
	#57 Millington	NJ sand	WEIGHT	VOLUME	WEIGHT	VOLUME
1.5	100.0	100.0	100.0	100.0	100.0	100.0
1.0	99.0	100.0	99.5	99.5	99.5	99.6
3/4	89.8	100.0	94.7	94.9	94.7	96.4
1/2	54.4	100.0	76.3	77.2	76.3	84.0
3/8	23.1	100.0	60.0	61.6	60.1	72.9
#4	7.3	98.0	50.8	52.7	50.9	66.7
#8	3.0	92.0	45.7	47.5	45.8	63.0
#16	0.0	74.0	35.5	37.0	35.6	55.7
#30	0.0	35.0	16.8	17.5	16.9	41.9
#50	0.0	14.0	6.7	7.0	6.9	34.5
#100	0.0	3.0	1.4	1.5	1.6	30.7
#200	0.0	0.2	0.1	0.1	0.2	29.6
#325	0.0	0.0	0.0	0.0	0.1	28.3
PAN	0.0	0.0	0.0	0.0	0.0	19.3
FM	6.77	2.84	4.88	4.80	4.87	3.09

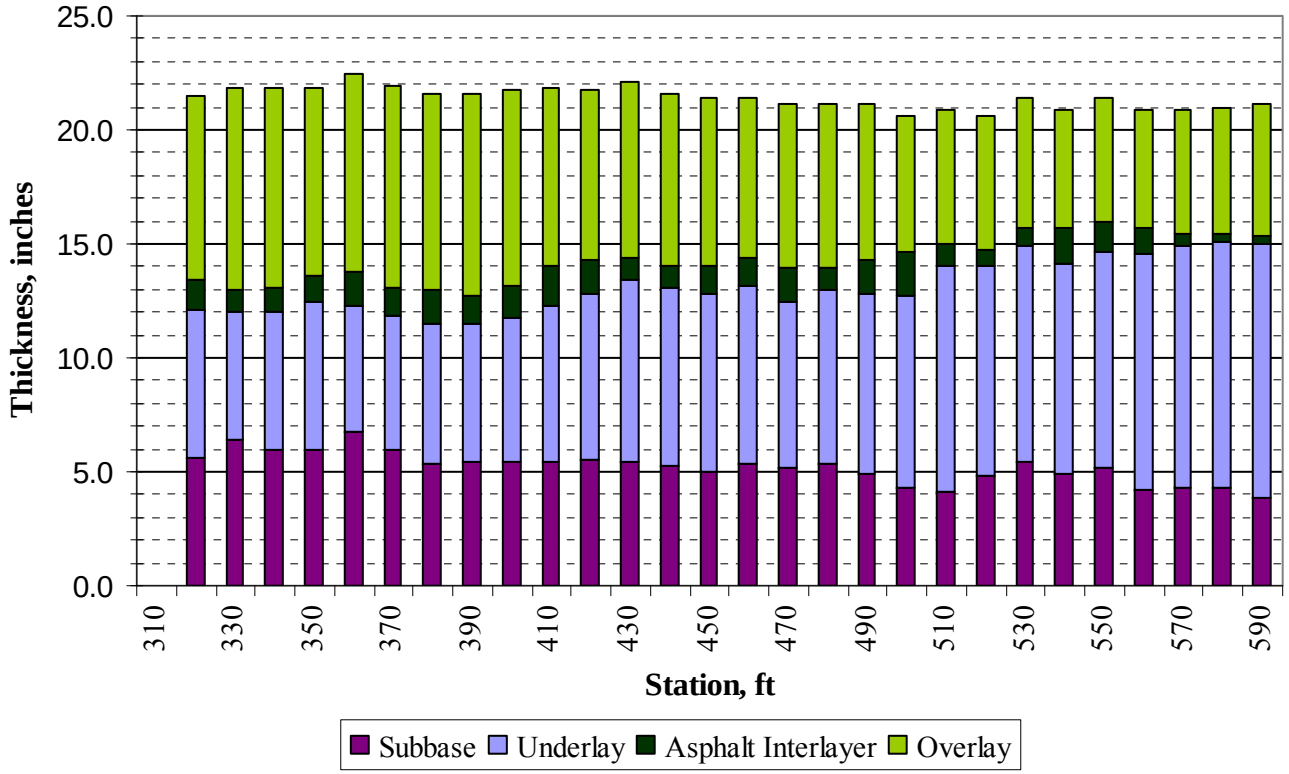

FIGURE A4. THICKNESS OF PAVEMENT LAYERS AT 20 FEET NORTH OF CENTERLINE

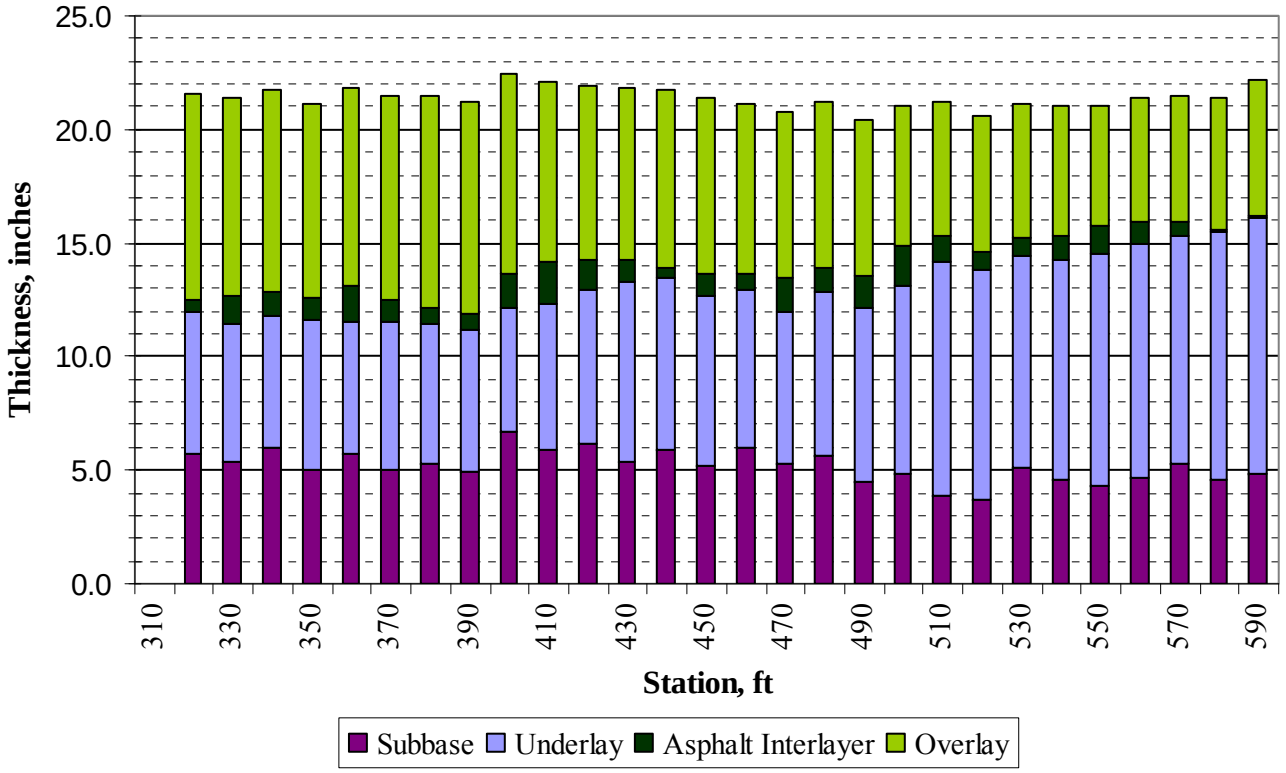

FIGURE A5. THICKNESS OF PAVEMENT LAYERS AT 10 FEET NORTH OF CENTERLINE

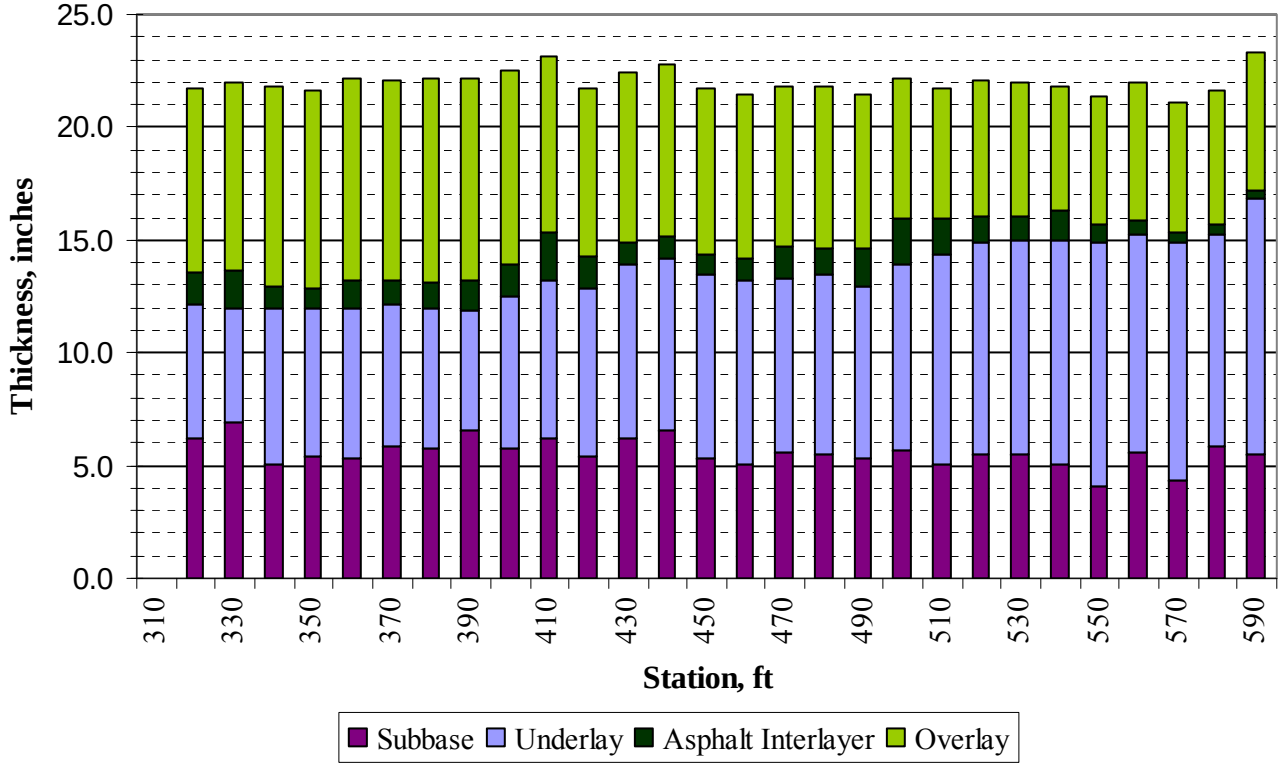

FIGURE A6. THICKNESS OF PAVEMENT LAYERS AT 20 FEET SOUTH OF CENTERLINE

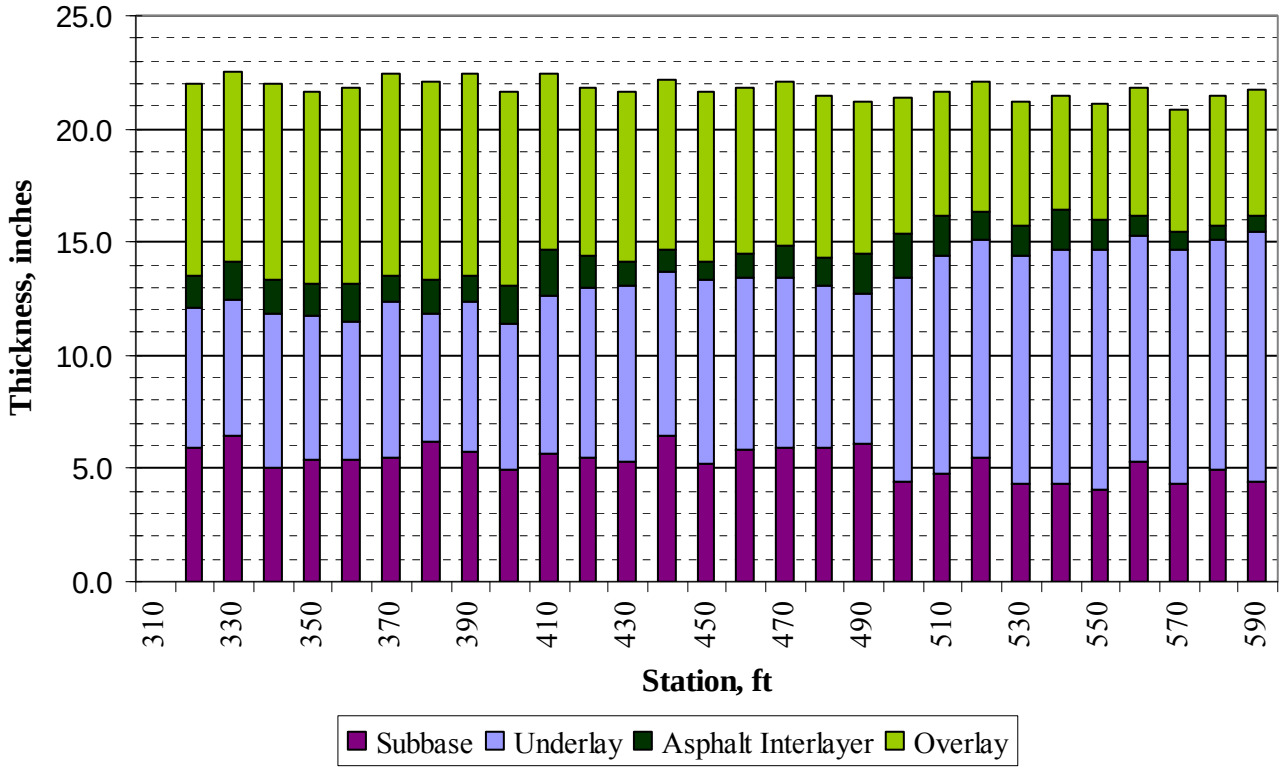

FIGURE A7. THICKNESS OF PAVEMENT LAYERS AT 10 FEET SOUTH OF CENTERLINE

APPENDIX B – INSTRUMENTATION PLANS

Included in appendix B are the instrumentation plans. These depict the types and locations of the various instruments on the experiment layout.

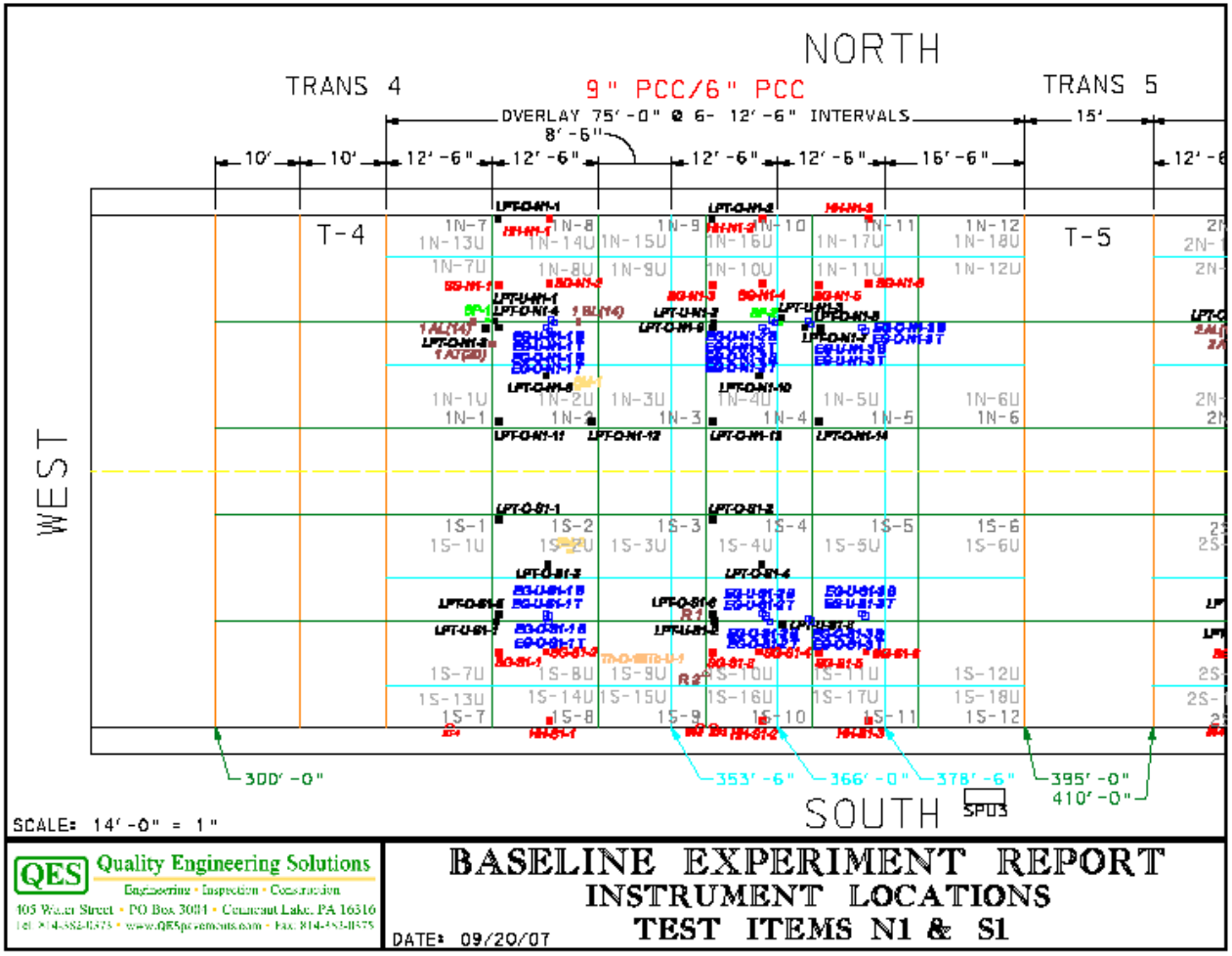

FIGURE B1. INSTRUMENT LOCATIONS FOR TEST ITEMS N1 AND S1 (UNDERLAY INSTRUMENTS INDICATED BY U; OVERLAY INSTRUMENTS INDICATED BY O)

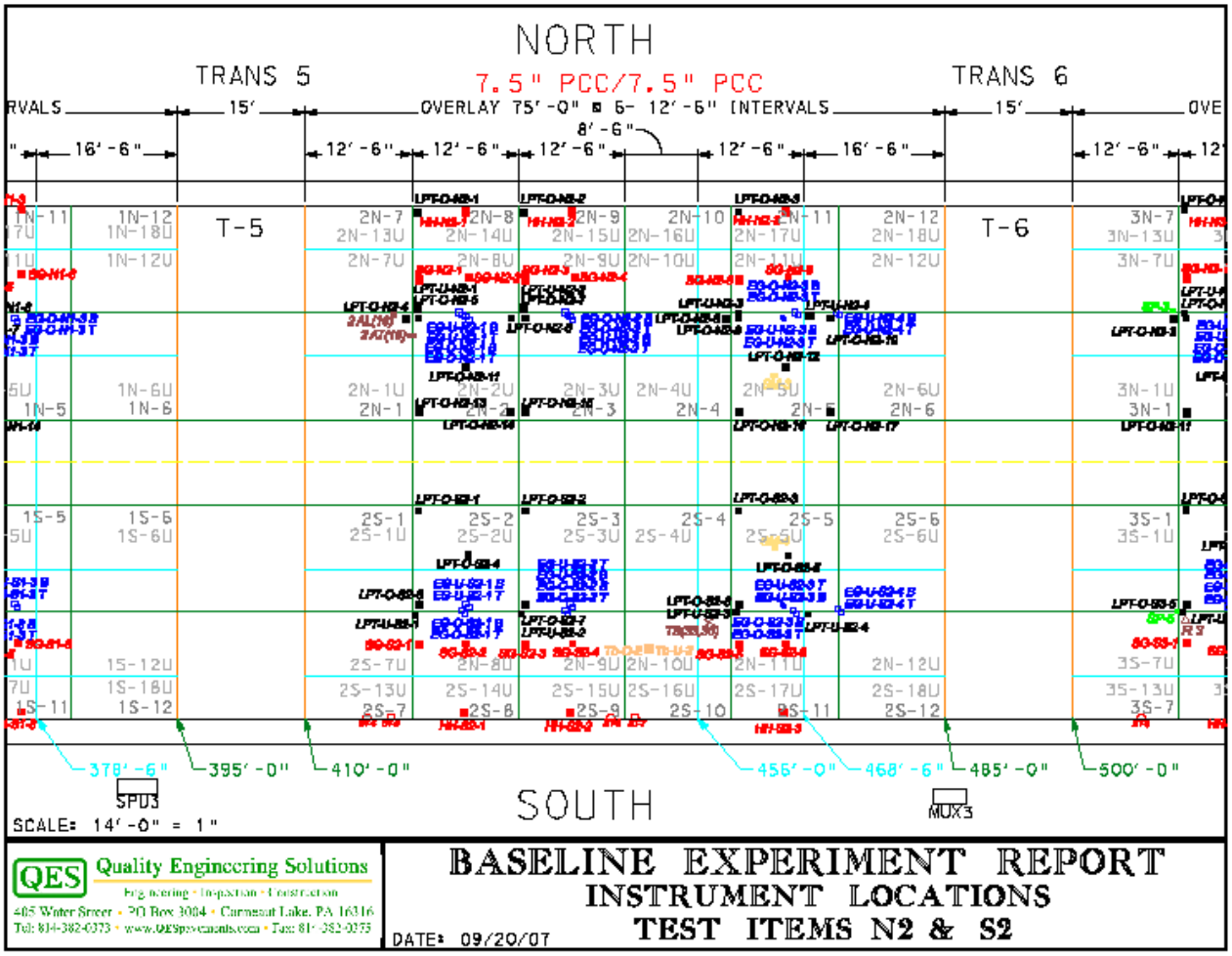

FIGURE B2. INSTRUMENT LOCATIONS FOR TEST ITEMS N2 AND S2 (UNDERLAY INSTRUMENTS INDICATED BY U; OVERLAY INSTRUMENTS INDICATED BY O)

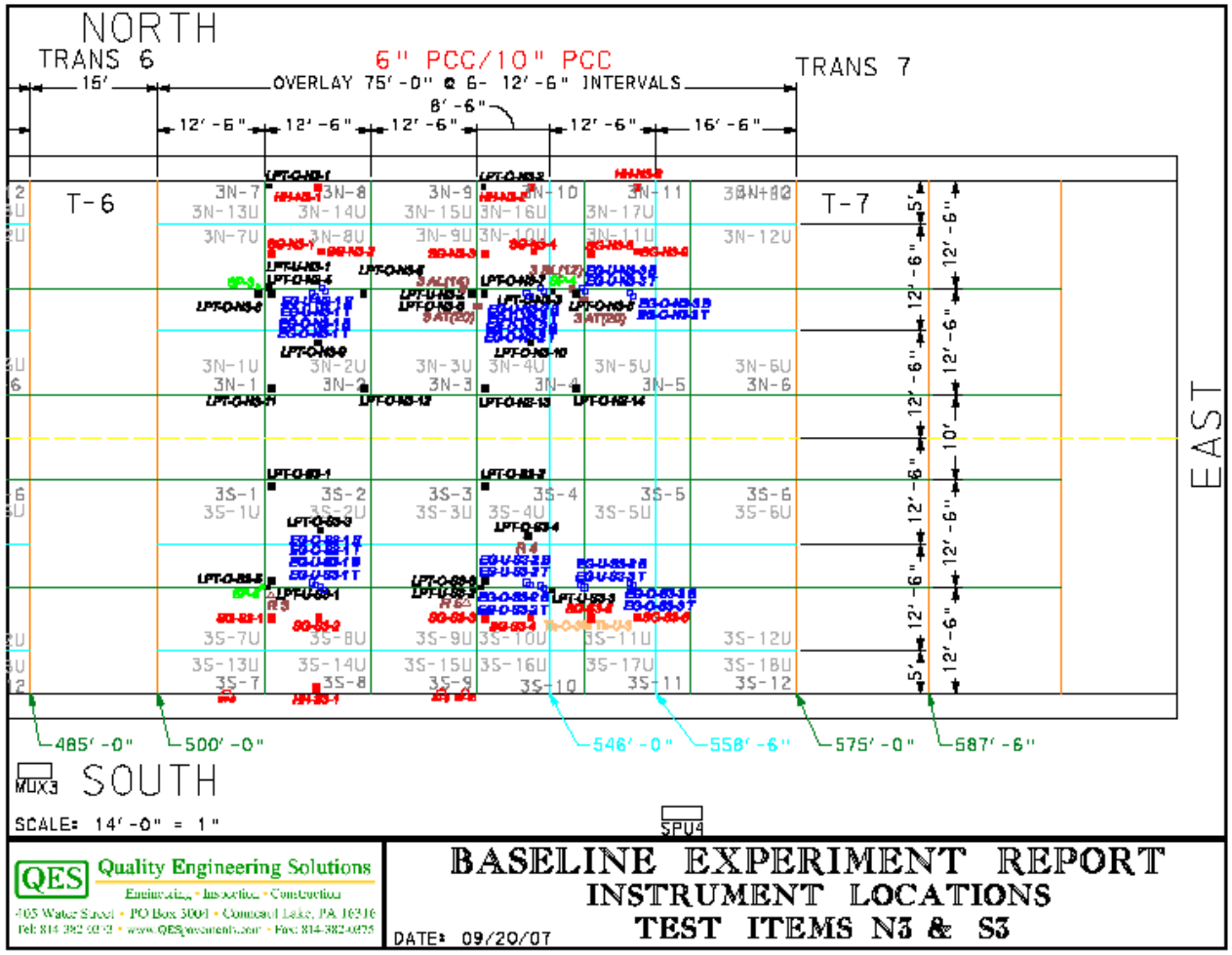

FIGURE B3. INSTRUMENT LOCATIONS FOR TEST ITEMS N3 AND S3 (UNDERLAY INSTRUMENTS INDICATED BY U; OVERLAY INSTRUMENTS INDICATED BY O)

APPENDIX C – HWD TESTING PLANS

HWD testing locations are provided in appendix C. Both the original test locations and the expanded test locations are shown.

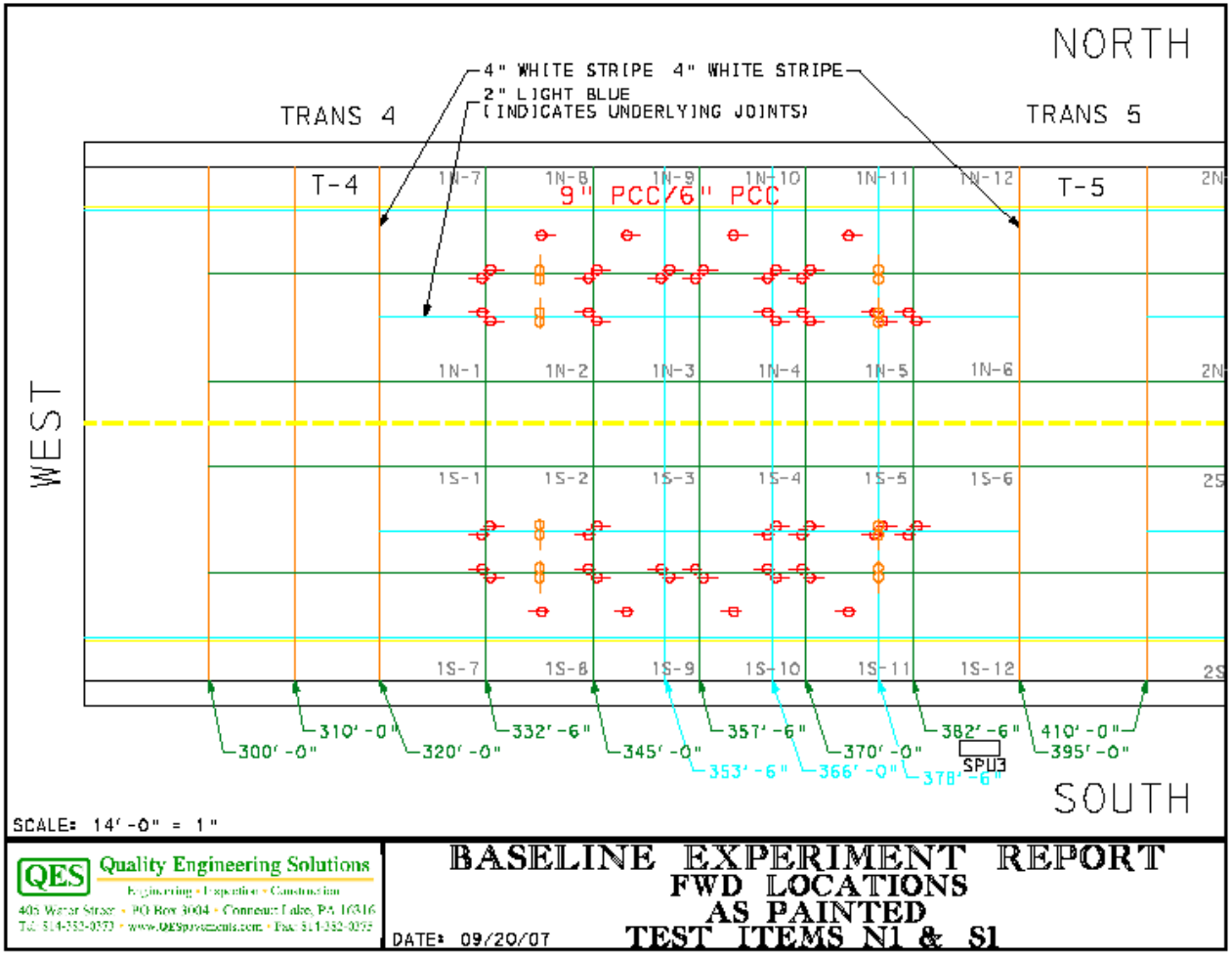

FIGURE C1. STANDARD FWD TEST LOCATIONS, TEST ITEMS N1 AND S1

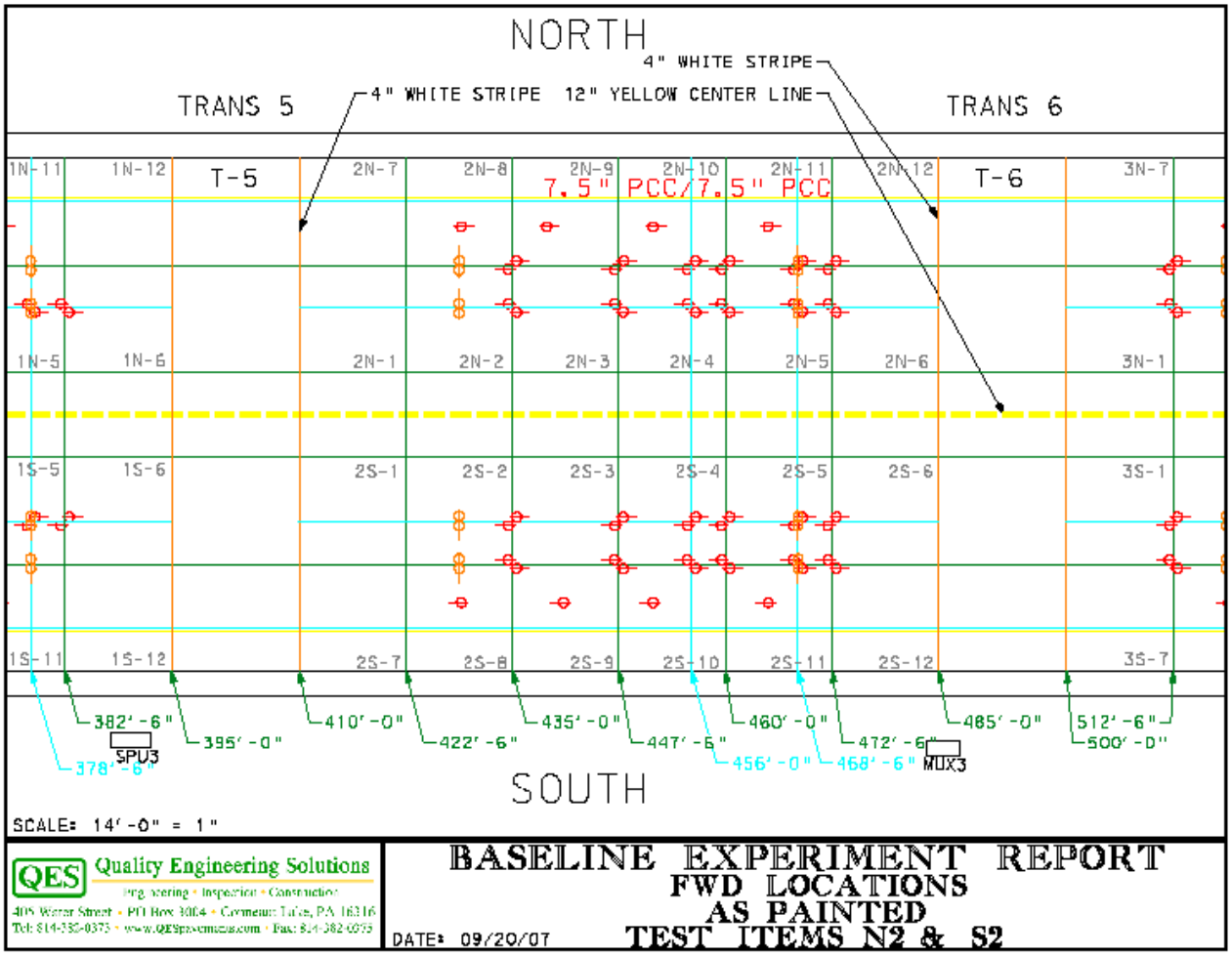

FIGURE C2. STANDARD FWD TEST LOCATIONS, TEST ITEMS N2 AND S2

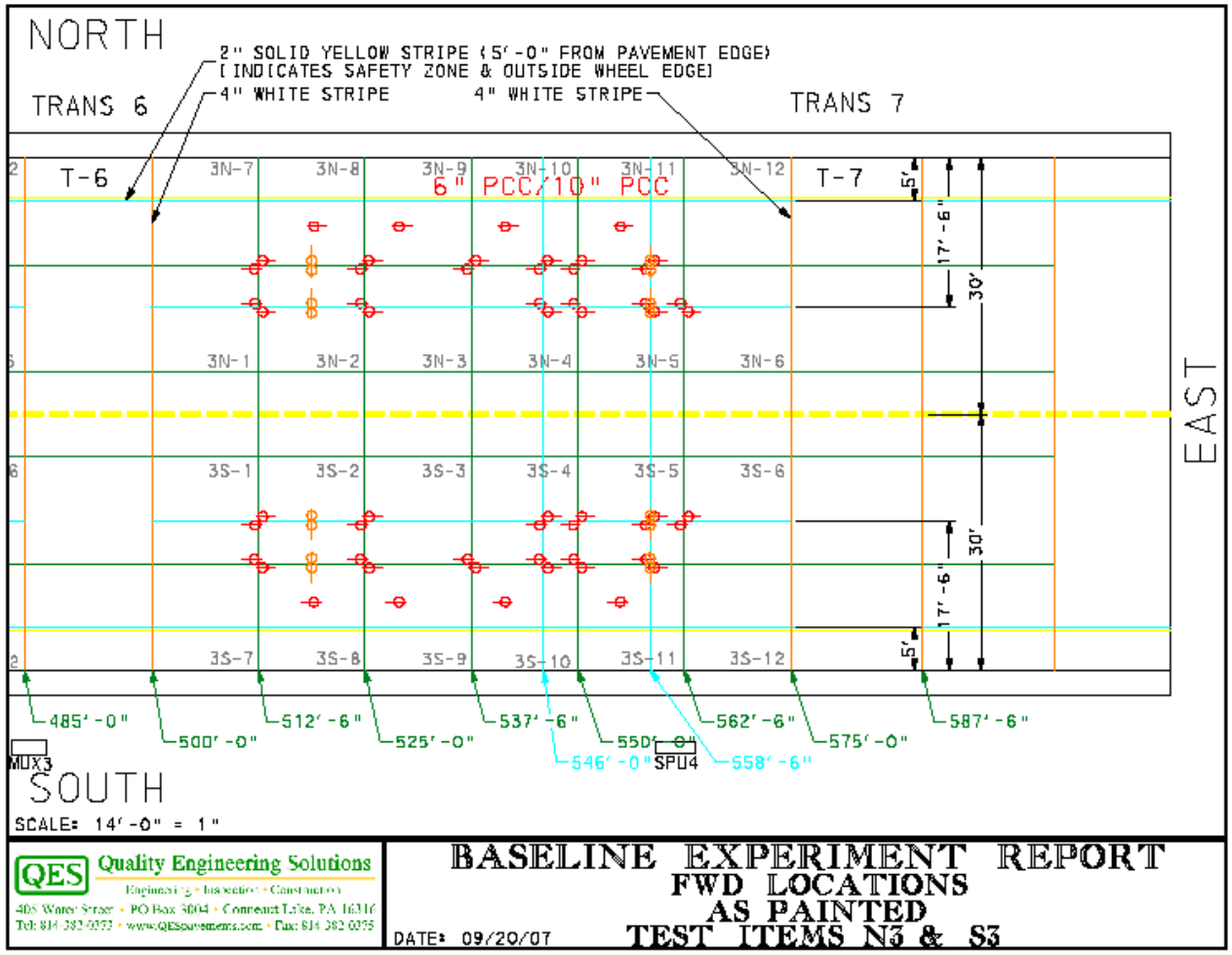

FIGURE C3. STANDARD FWD TEST LOCATIONS, TEST ITEMS N3 AND S3

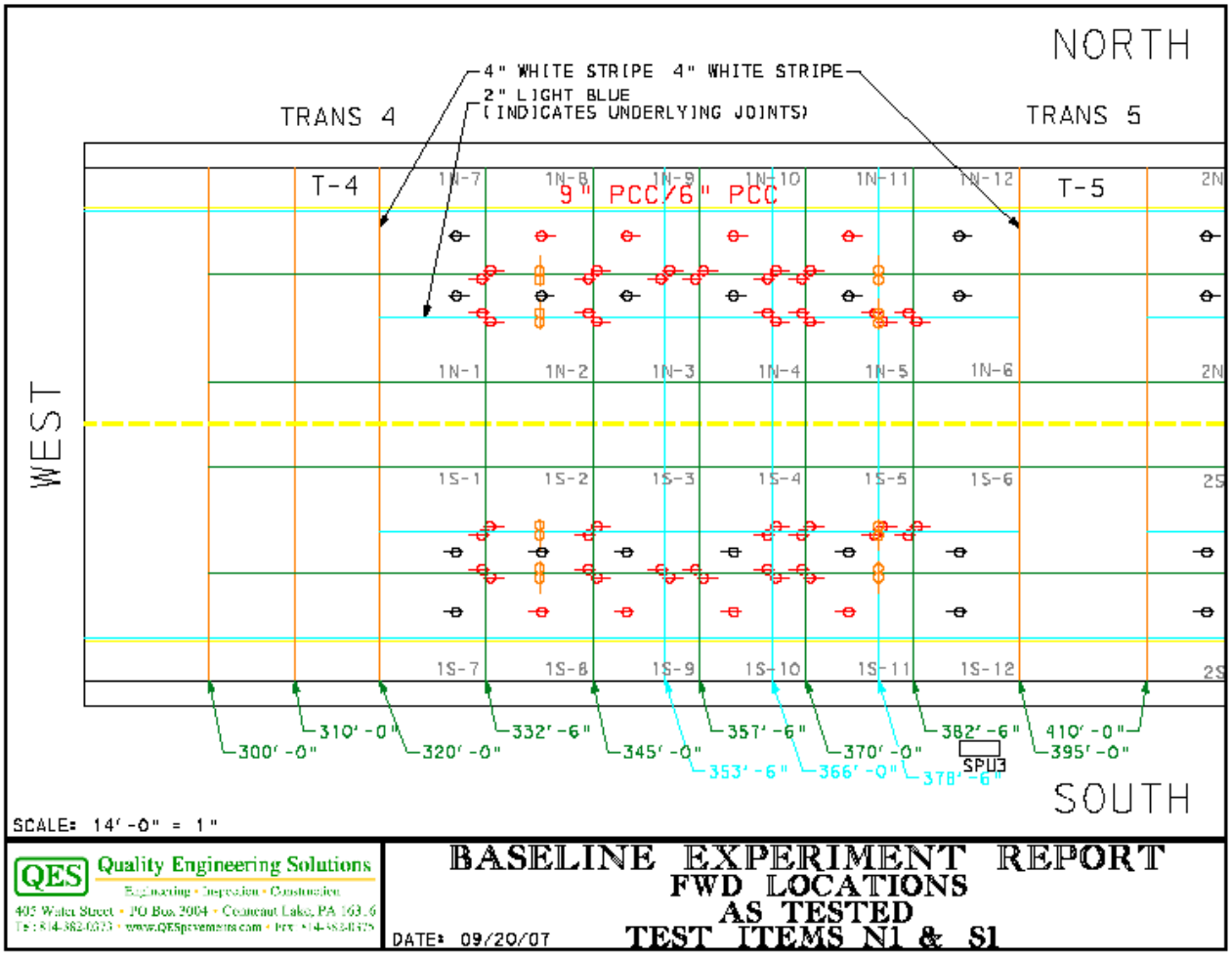

FIGURE C4. EXPANDED FWD TEST LOCATIONS, TEST ITEMS N1 AND S1

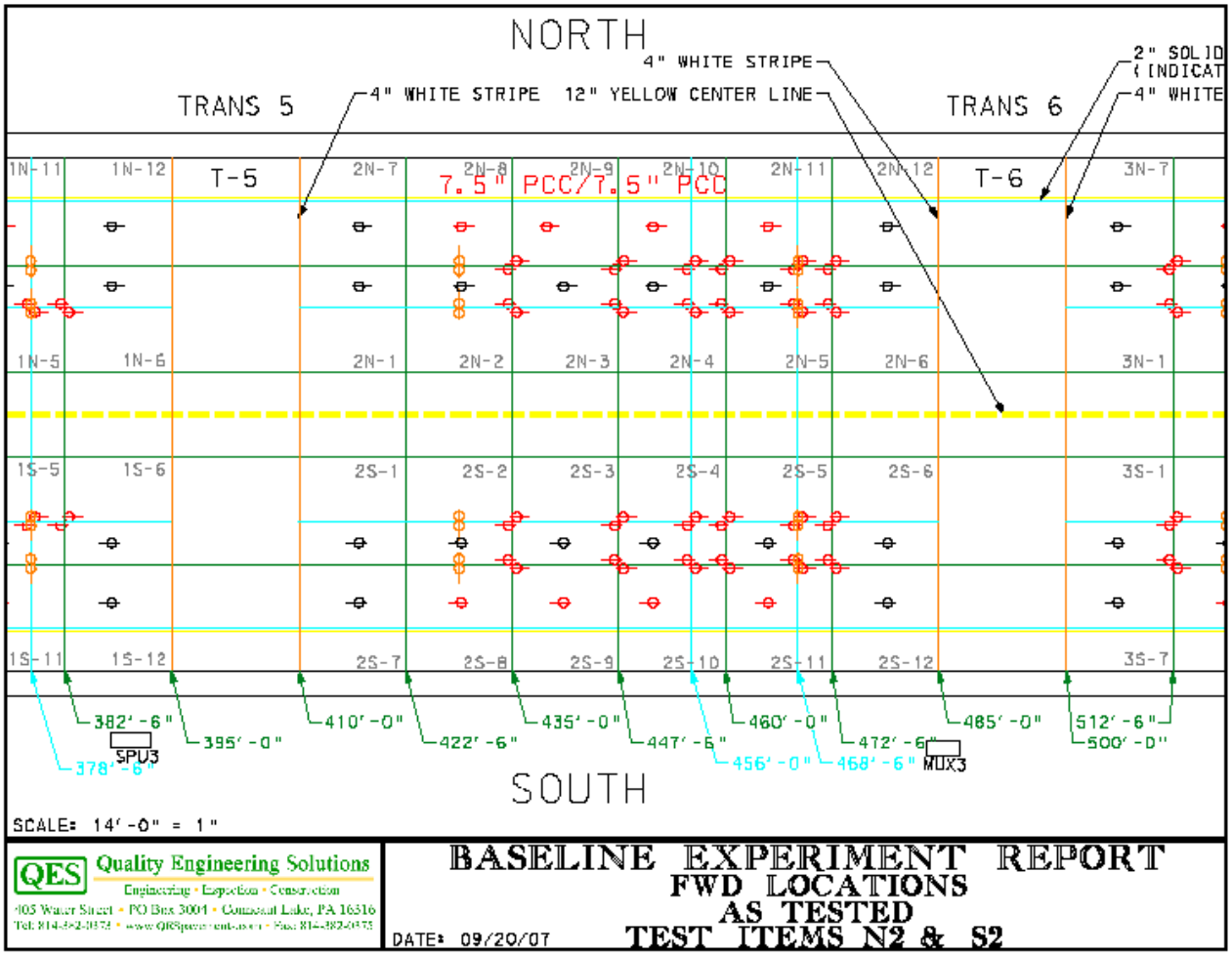

FIGURE C5. EXPANDED FWD TEST LOCATIONS, TEST ITEMS N2 AND S2

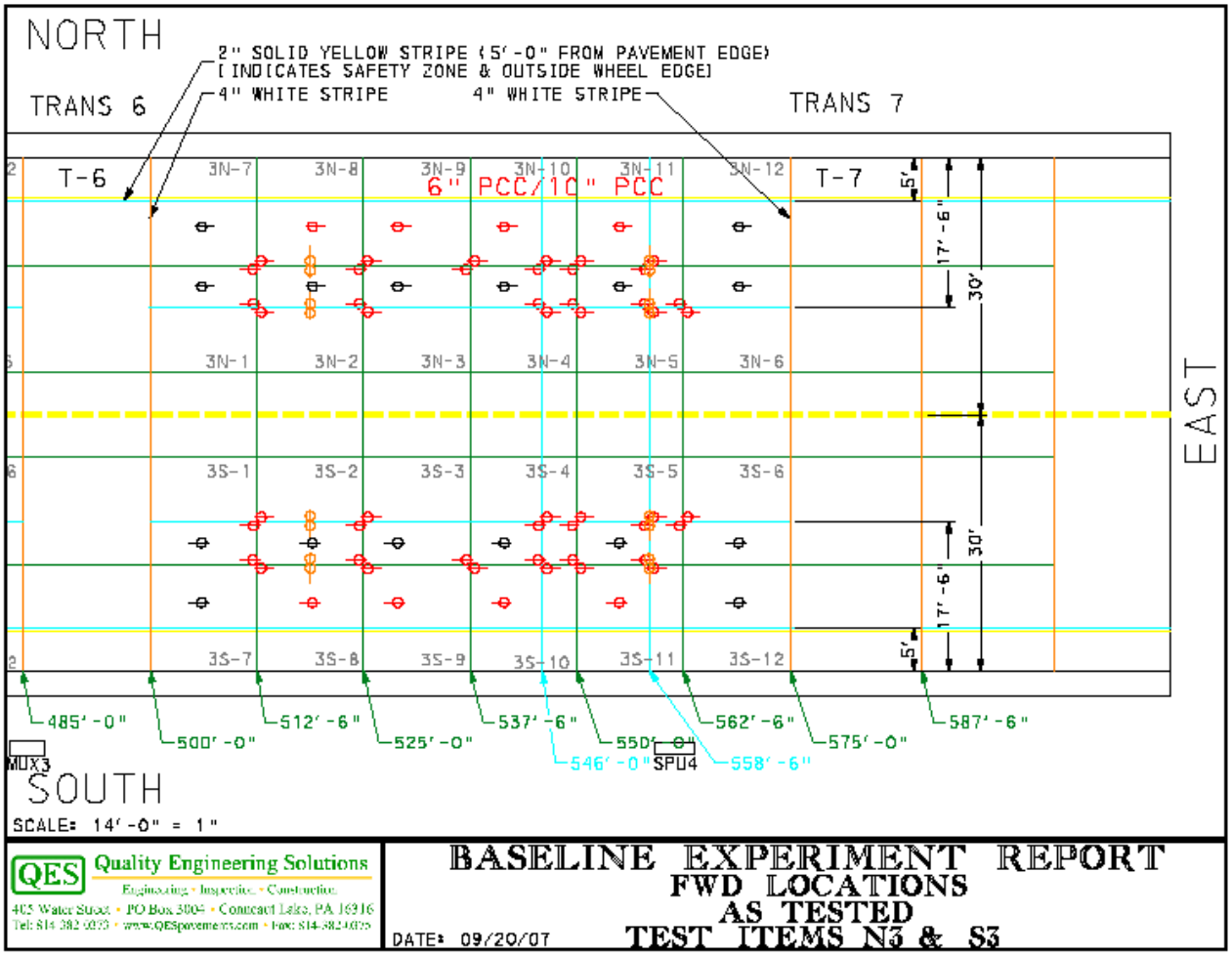

FIGURE C6. EXPANDED FWD TEST LOCATIONS, TEST ITEMS N3 AND S3

APPENDIX D – DEFLECTION BASINS

Appendix D contains deflection basin plots at various testing locations. The plots contain results for those locations for the dates of HWD data collection before and during the loading sequence.

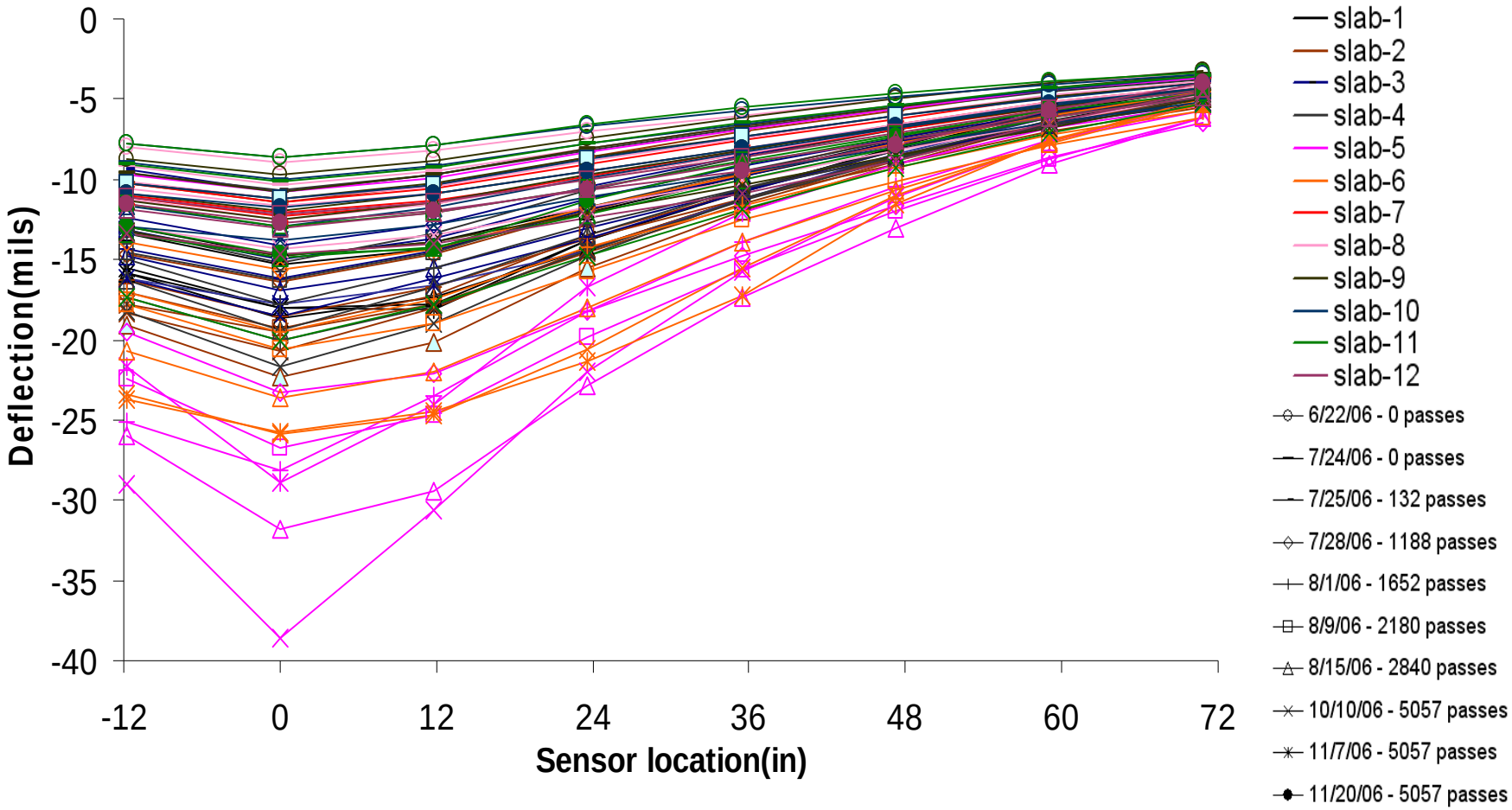

FIGURE D1. DEFLECTION BASINS ON TEST ITEM NORTH 1 (N1)

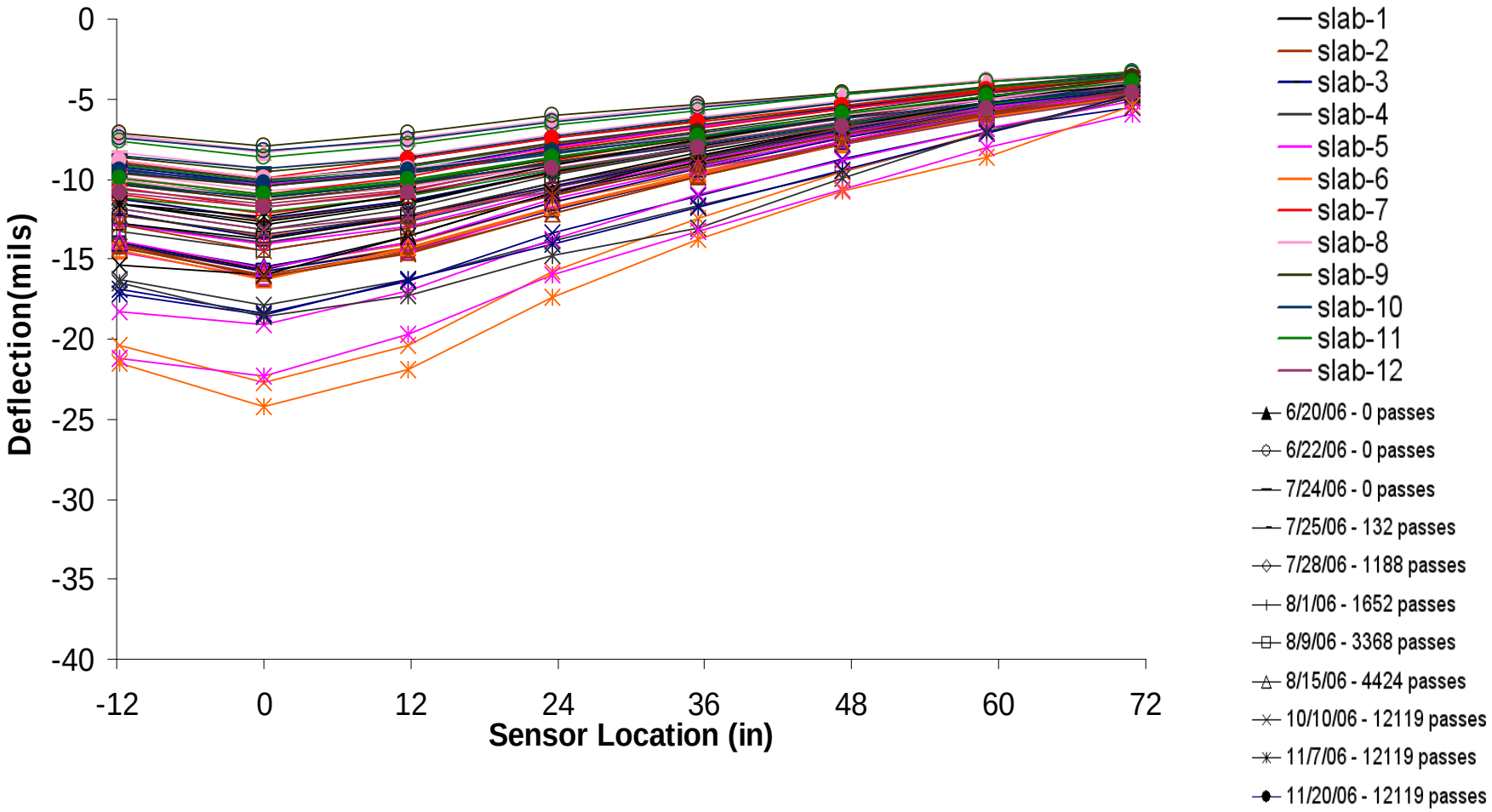

FIGURE D2. DEFLECTION BASINS ON TEST ITEM SOUTH 1 (S1)

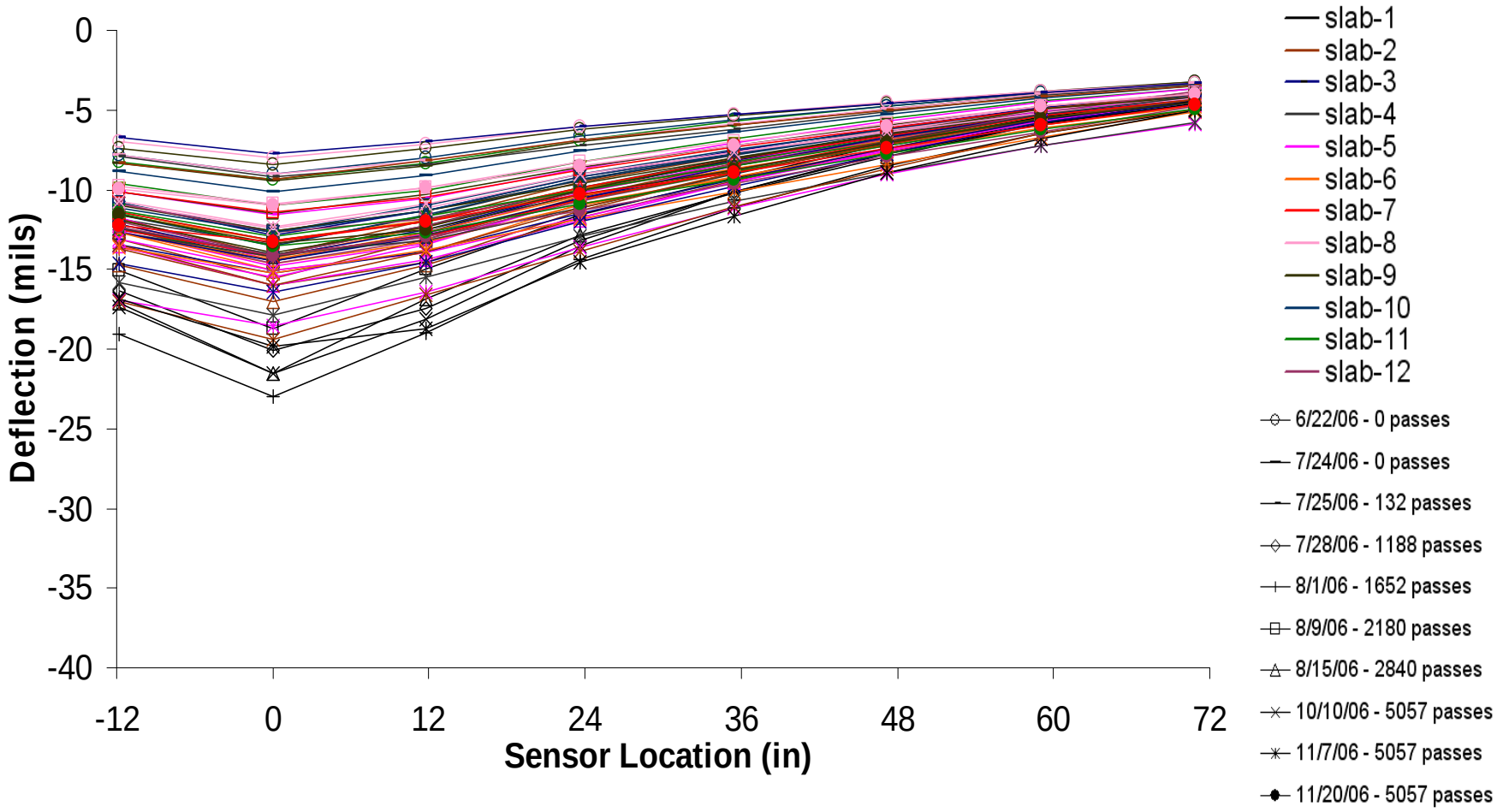

FIGURE D3. DEFLECTION BASINS ON TEST ITEM NORTH 2 (N2)

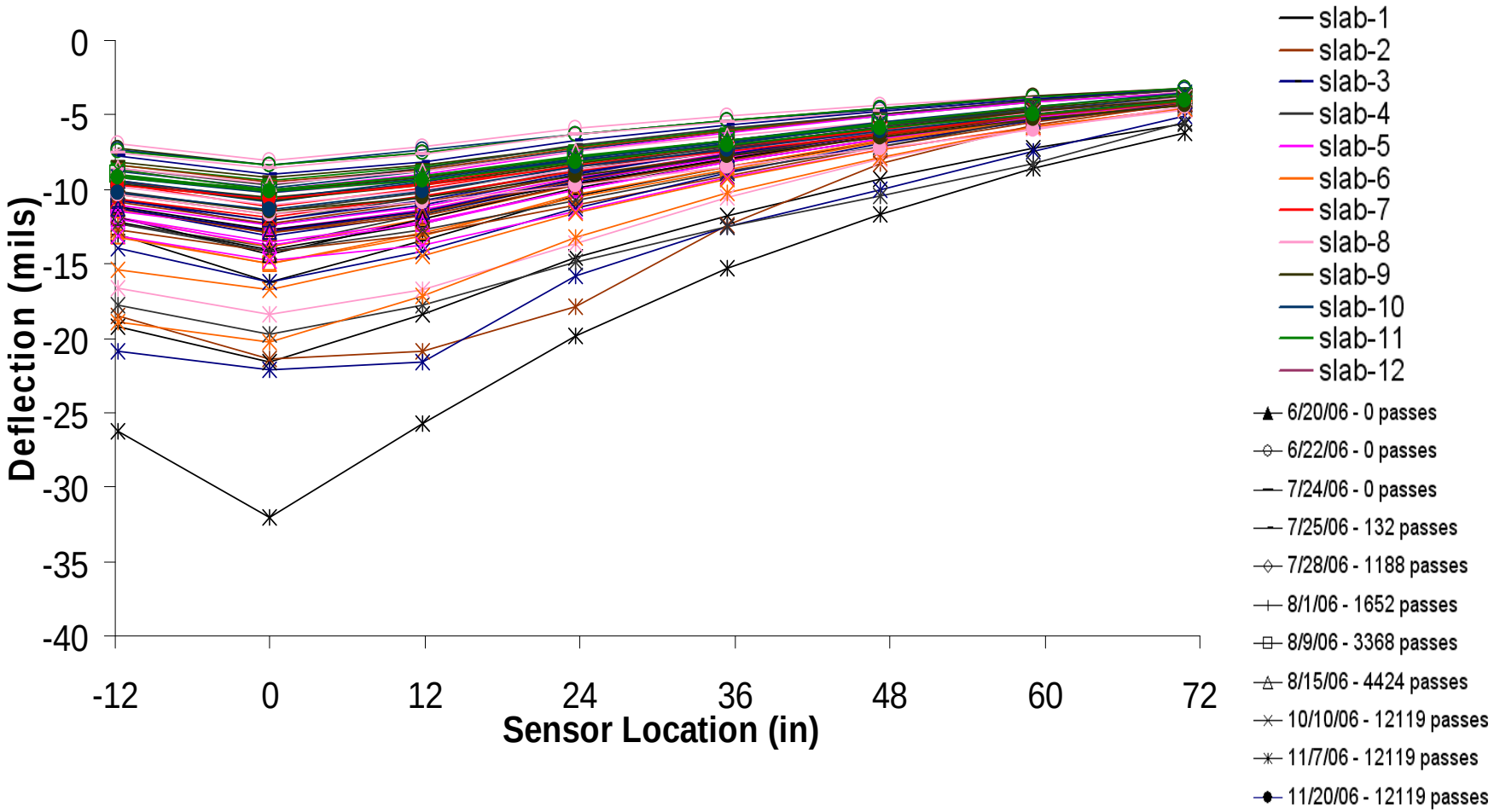

FIGURE D4. DEFLECTION BASINS ON TEST ITEM SOUTH 2 (S2)

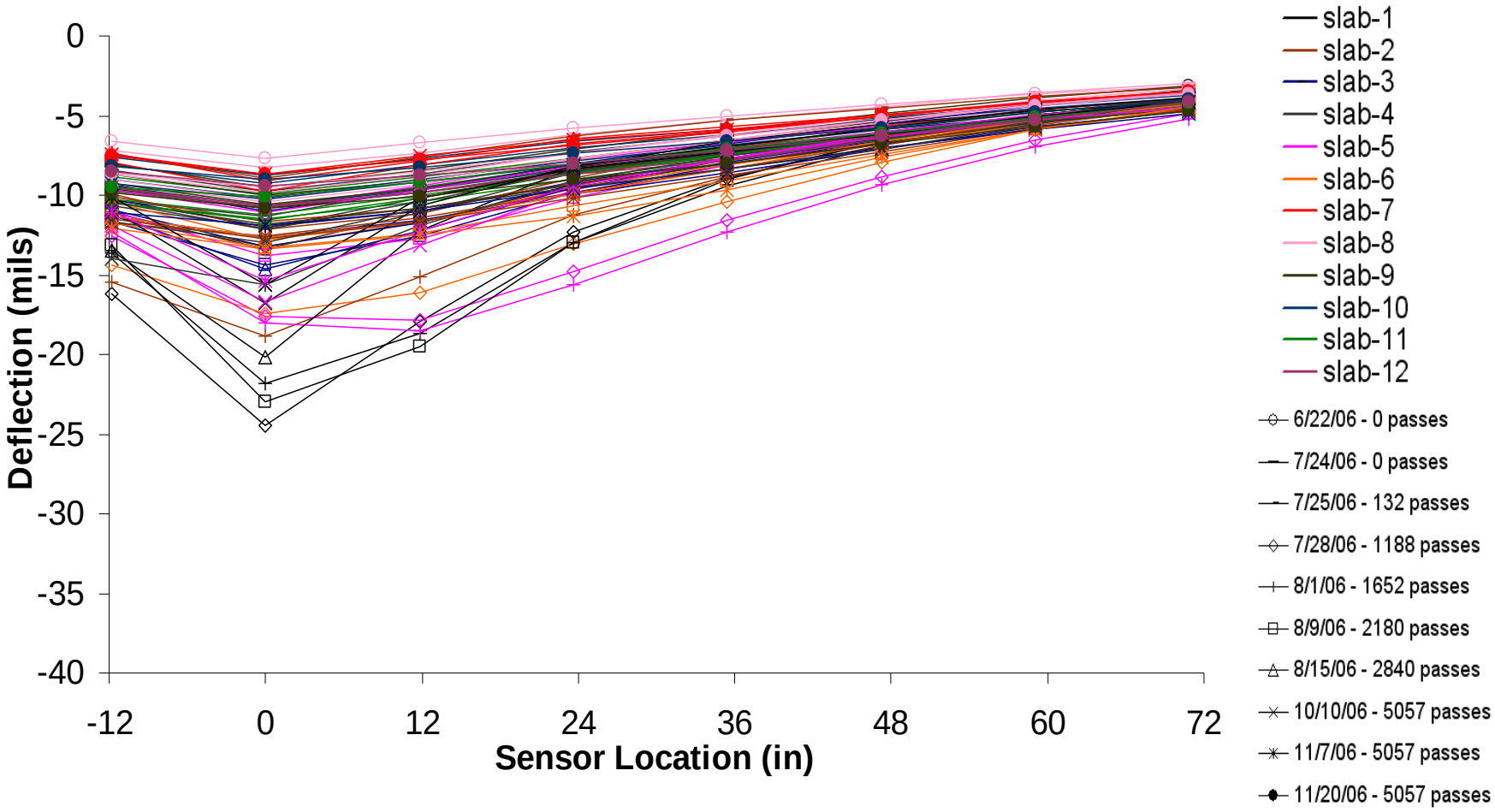

FIGURE D5. DEFLECTION BASINS ON TEST ITEM NORTH 3 (N3)

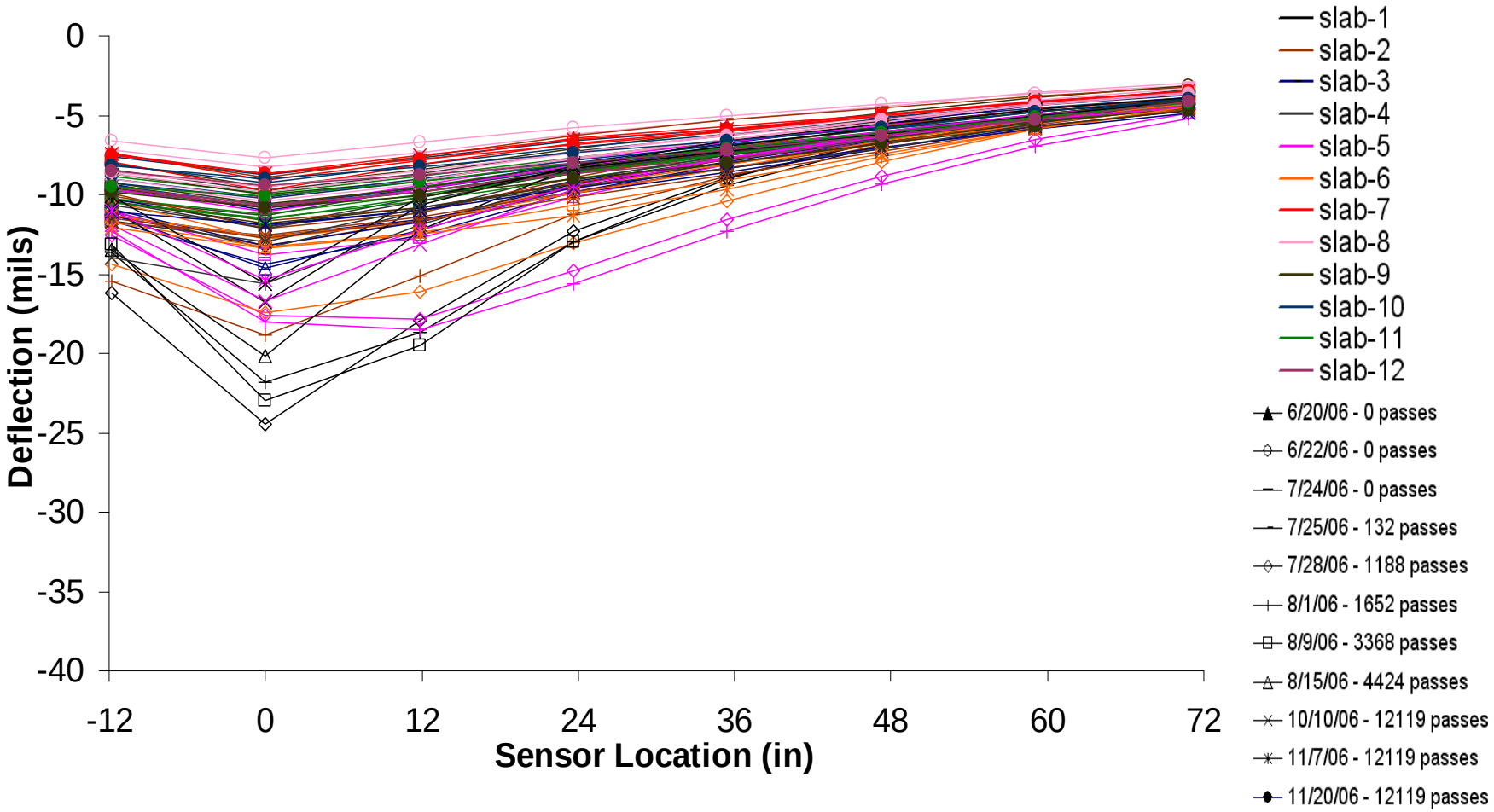

FIGURE D6. DEFLECTION BASINS ON TEST ITEM SOUTH 3 (S3)

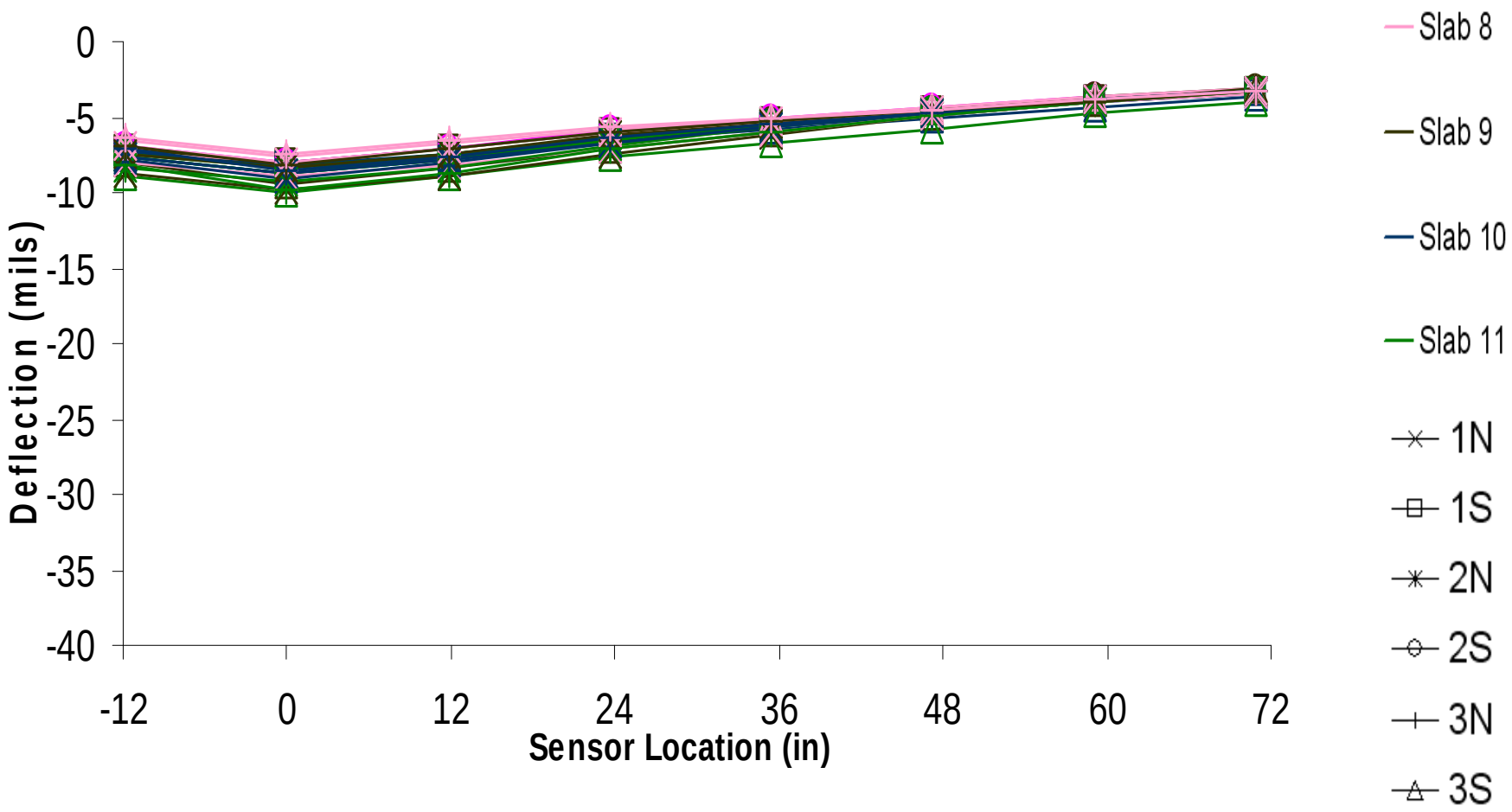

FIGURE D7. DEFLECTION BASINS ON 6/22/2006 PRIOR TO LOADING

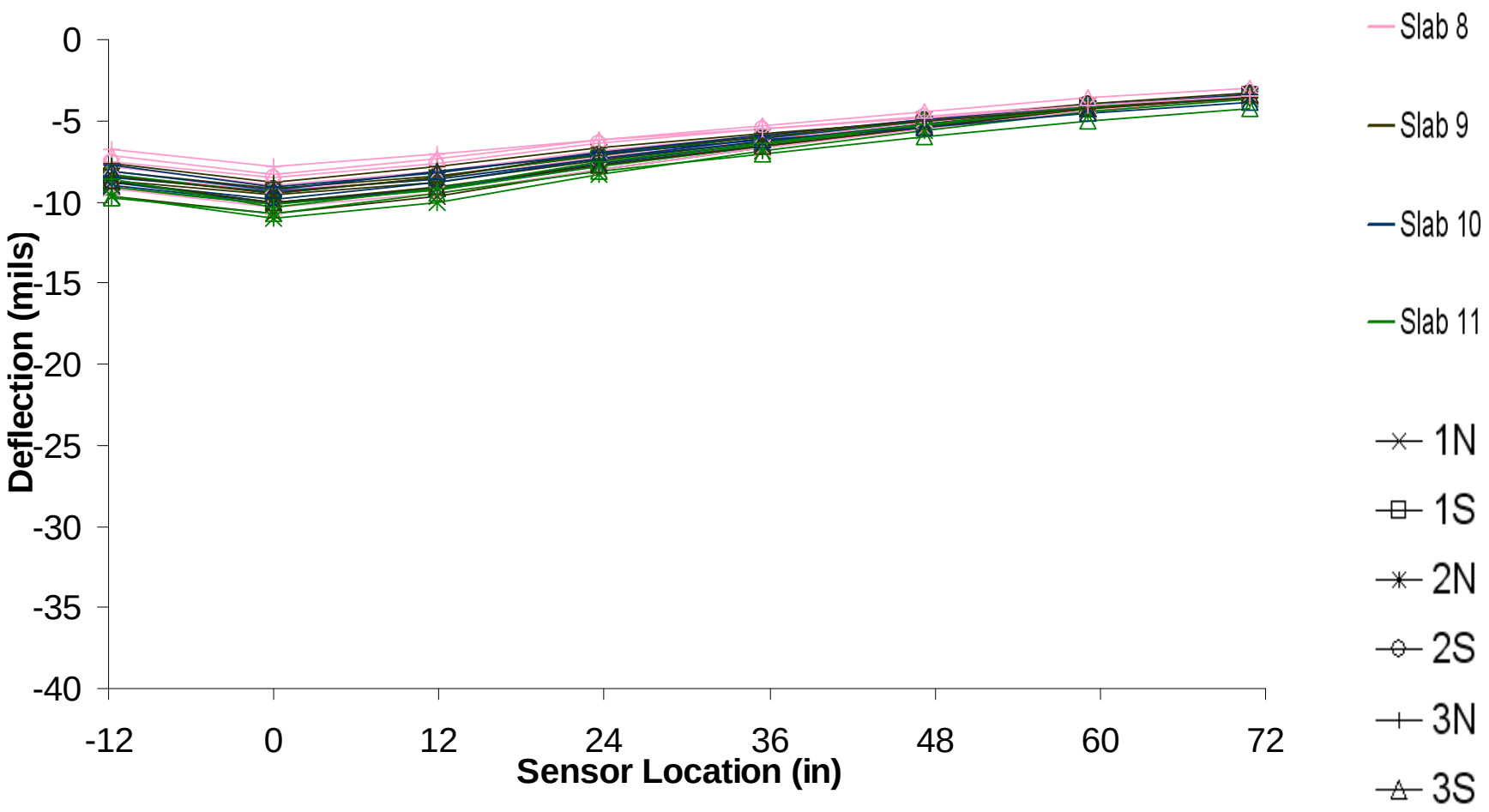

FIGURE D8. DEFLECTION BASINS ON 7/24/2006 PRIOR TO LOADING

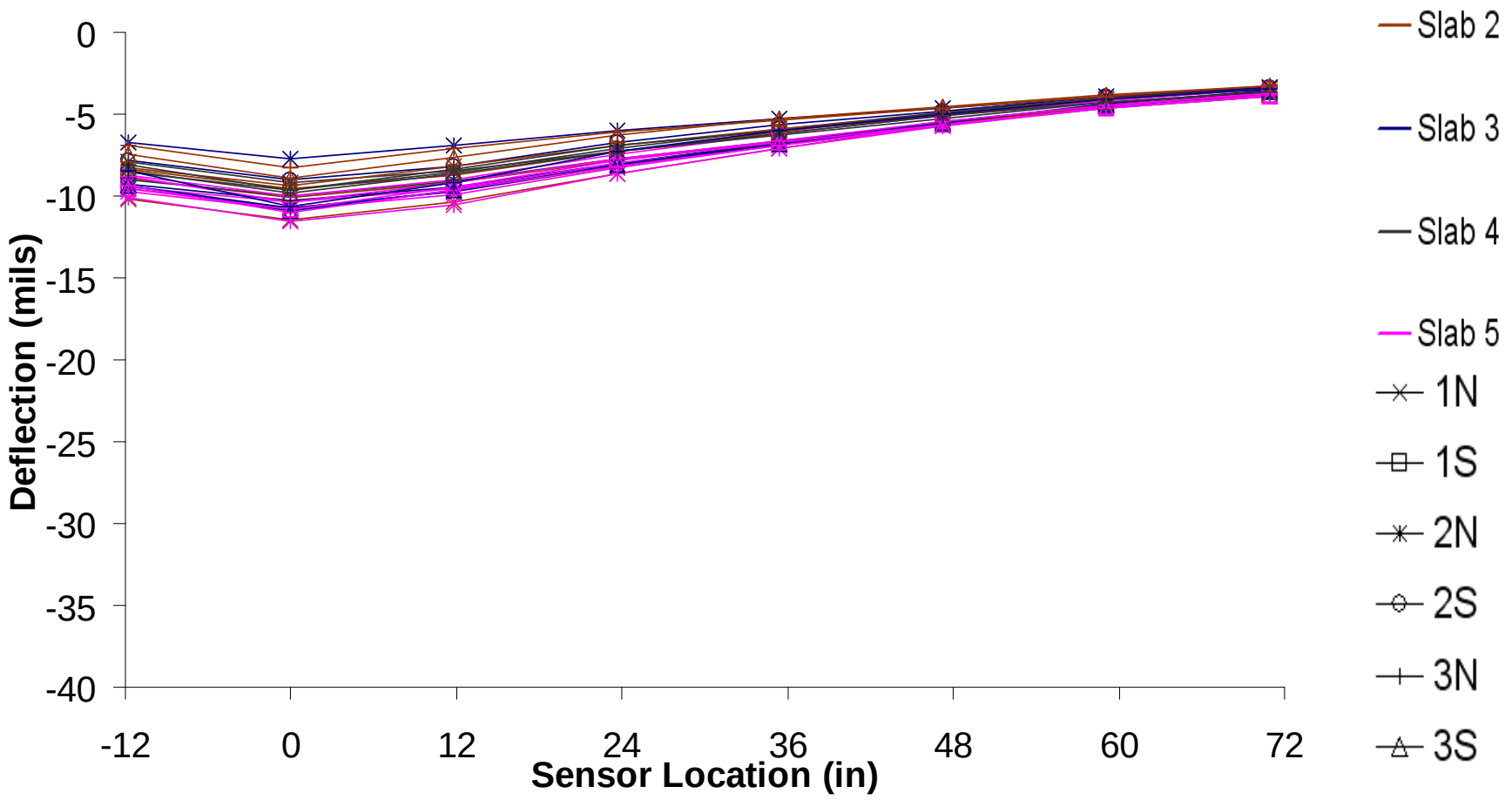

FIGURE D9. DEFLECTION BASINS ON 7/25/2006 AFTER 132 PASSES

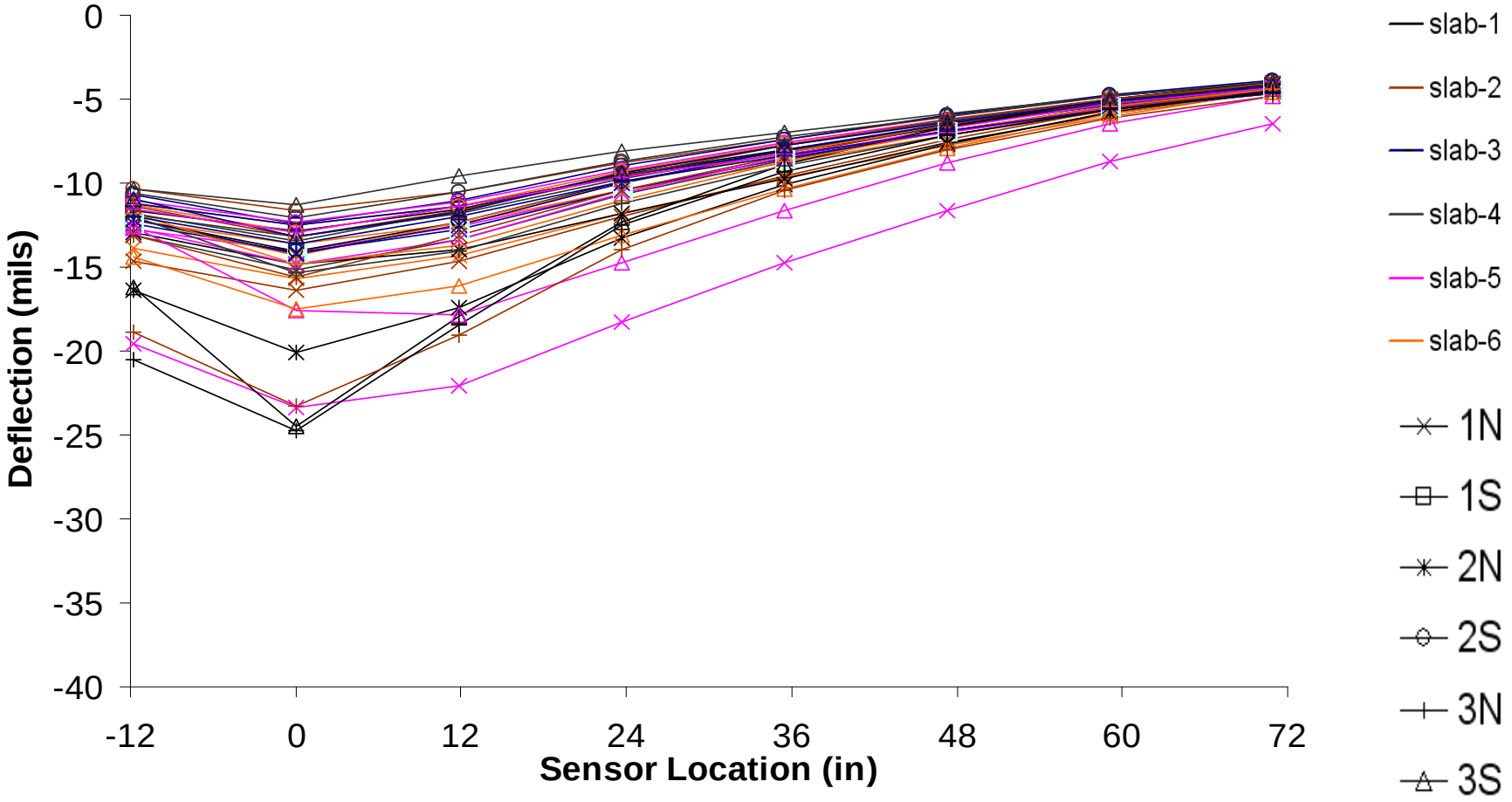

FIGURE D10. DEFLECTION BASINS ON 7/28/2006 AFTER 1188 PASSES

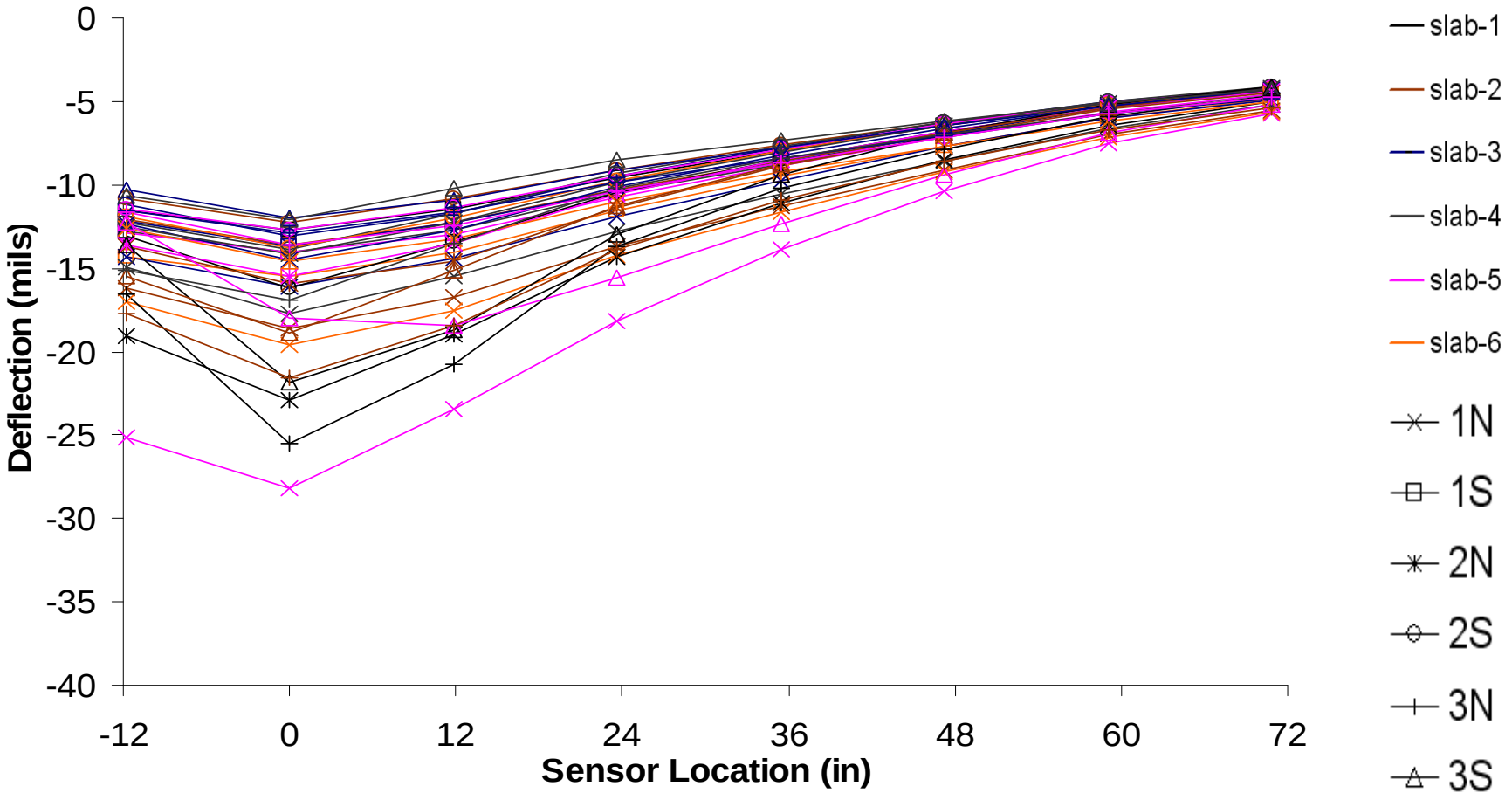

FIGURE D11. DEFLECTION BASINS ON 8/1/2006 AFTER 1652 PASSES

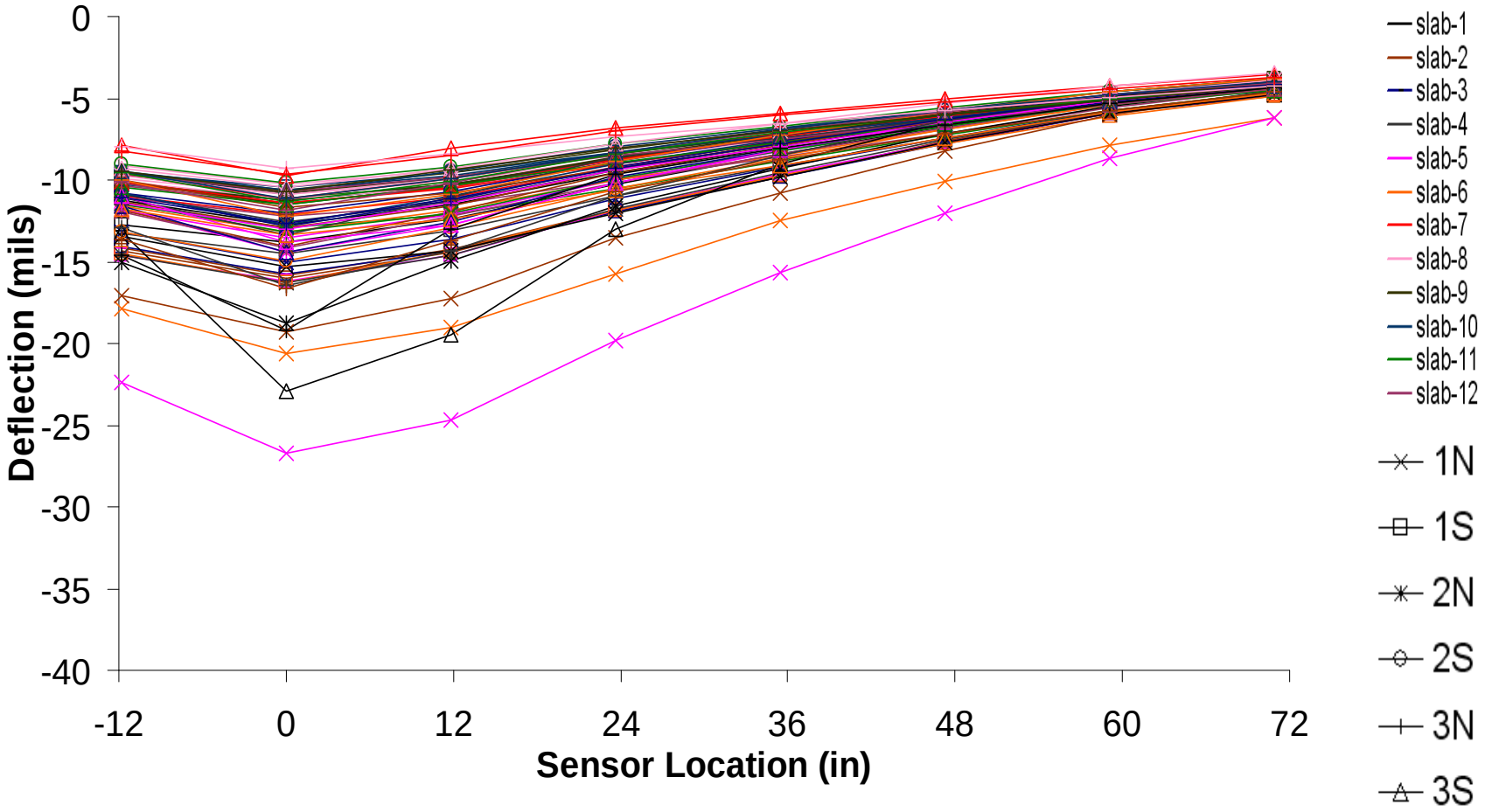

FIGURE D12. DEFLECTION BASINS ON 8/9/2006 AFTER 3368 PASSES ON SOUTH TEST ITEMS AND 2180 PASSES ON NORTH TEST ITEMS

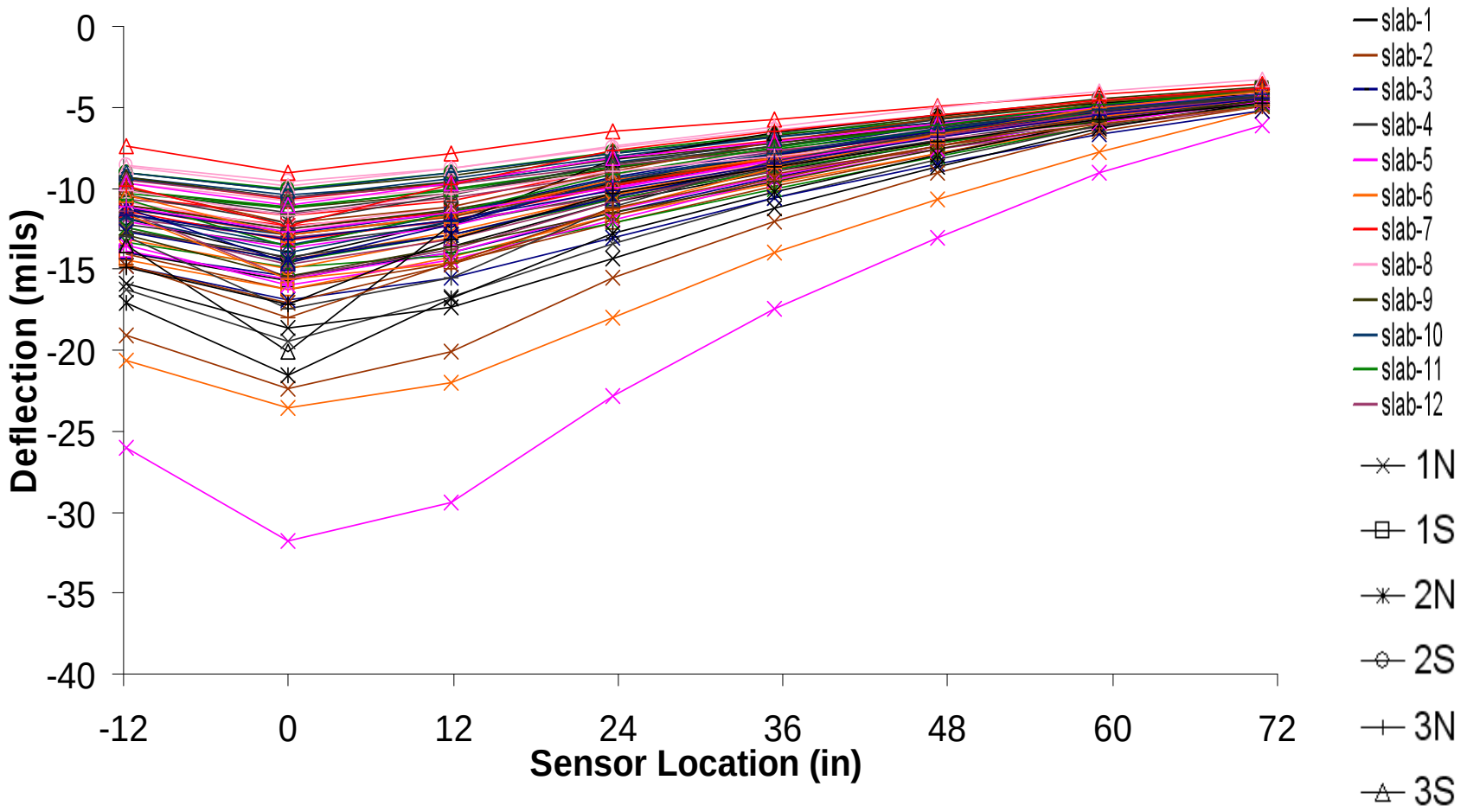

FIGURE D13. DEFLECTION BASINS ON 8/15/2006 AFTER 4424 PASSES ON SOUTH TEST ITEMS AND 2840 PASSES ON NORTH TEST ITEMS

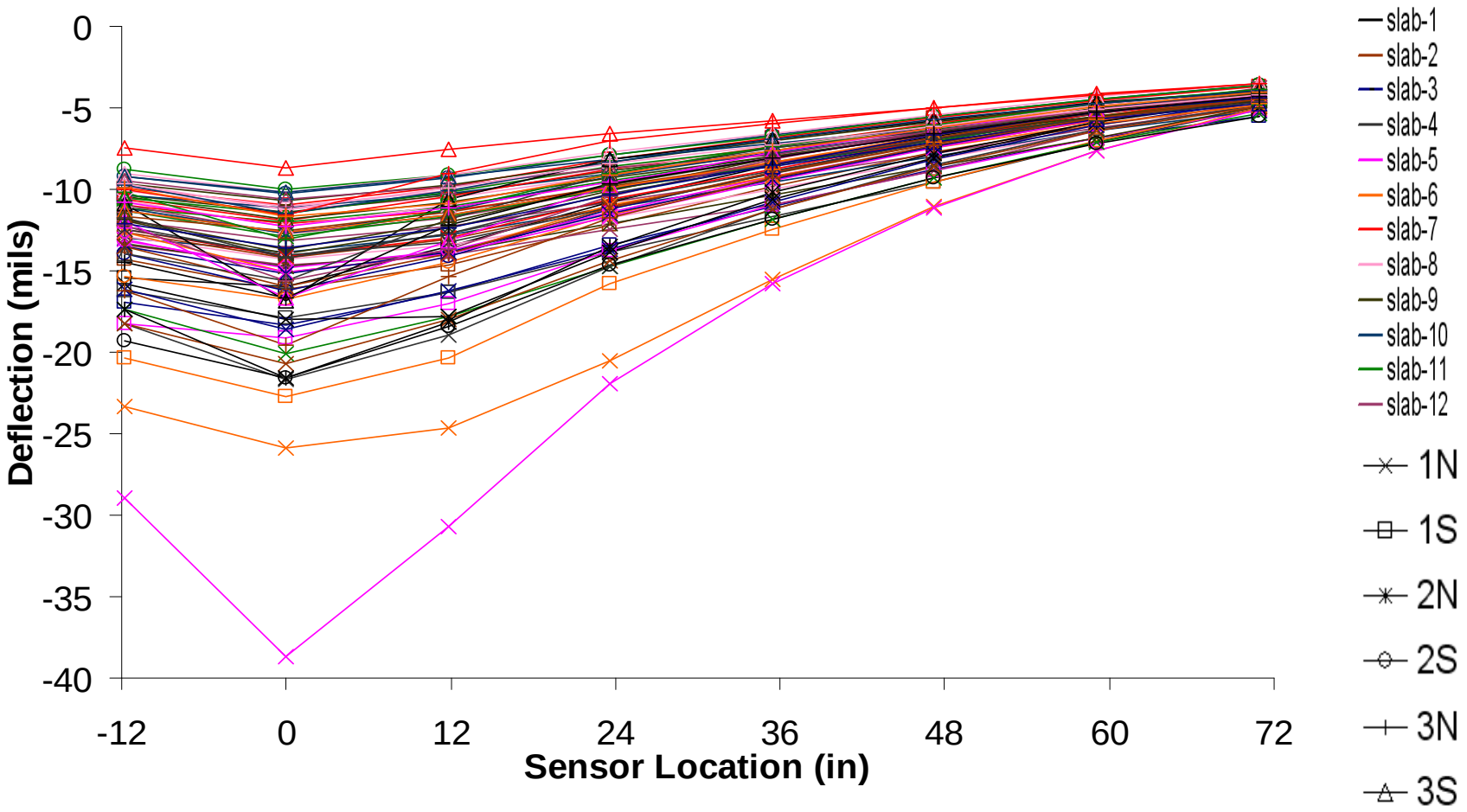

FIGURE D14. DEFLECTION BASINS ON 10/10/2006 AFTER 12119 PASSES ON SOUTH TEST ITEMS AND 5057 PASSES ON NORTH TEST ITEMS

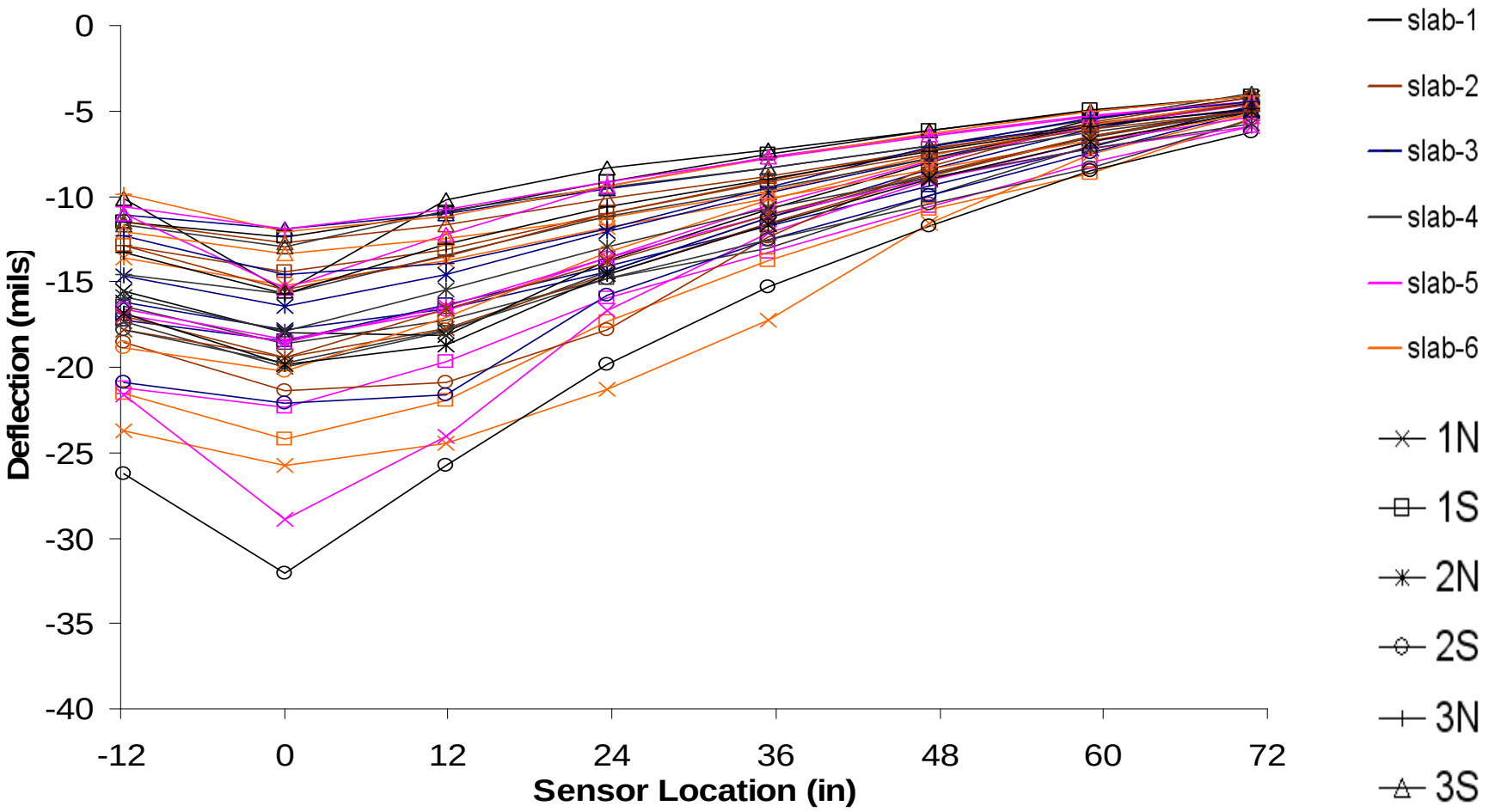

FIGURE D15. DEFLECTION BASINS ON 11/7/2006 AFTER 16424 PASSES ON S2, 12119 PASSES ON S1 AND S3 AND 5057 PASSES ON NORTH TEST ITEMS

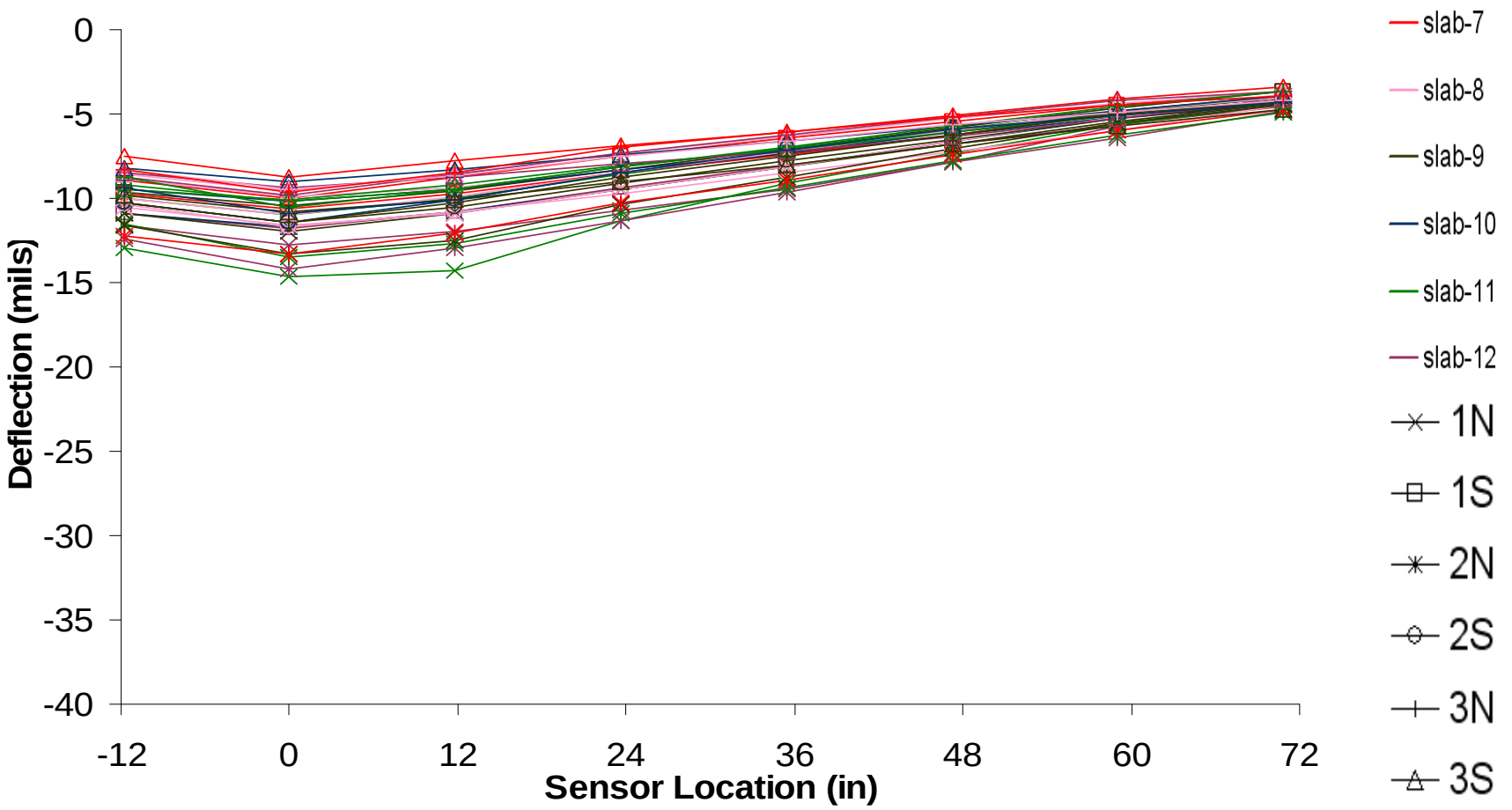

FIGURE D16. DEFLECTION BASINS ON 11/20/2006 AFTER 16424 PASSES ON S2, 12119 PASSES ON S1 AND S3 AND 5057 PASSES ON NORTH TEST ITEMS

APPENDIX E – TEMPERATURE DATA

Appendix E provides various plots of pavement temperature data from thermistors before and during the loading period. Included are plots of daily temperature variation at various depths in the pavement structure, for selected dates, as well as temperature differences between vertical locations within the pavement structure.

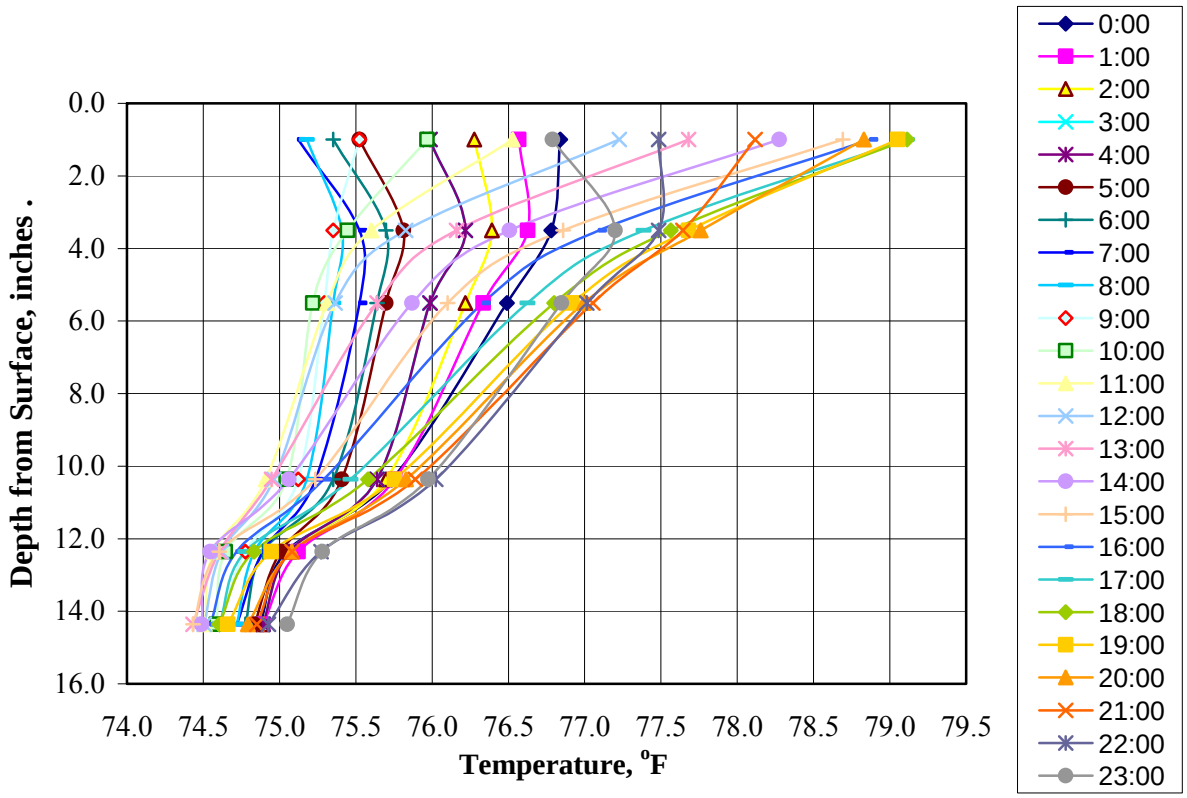

FIGURE E1. HOURLY TEMPERATURE PROFILES ON 7/14/2006 - TEST ITEM S1

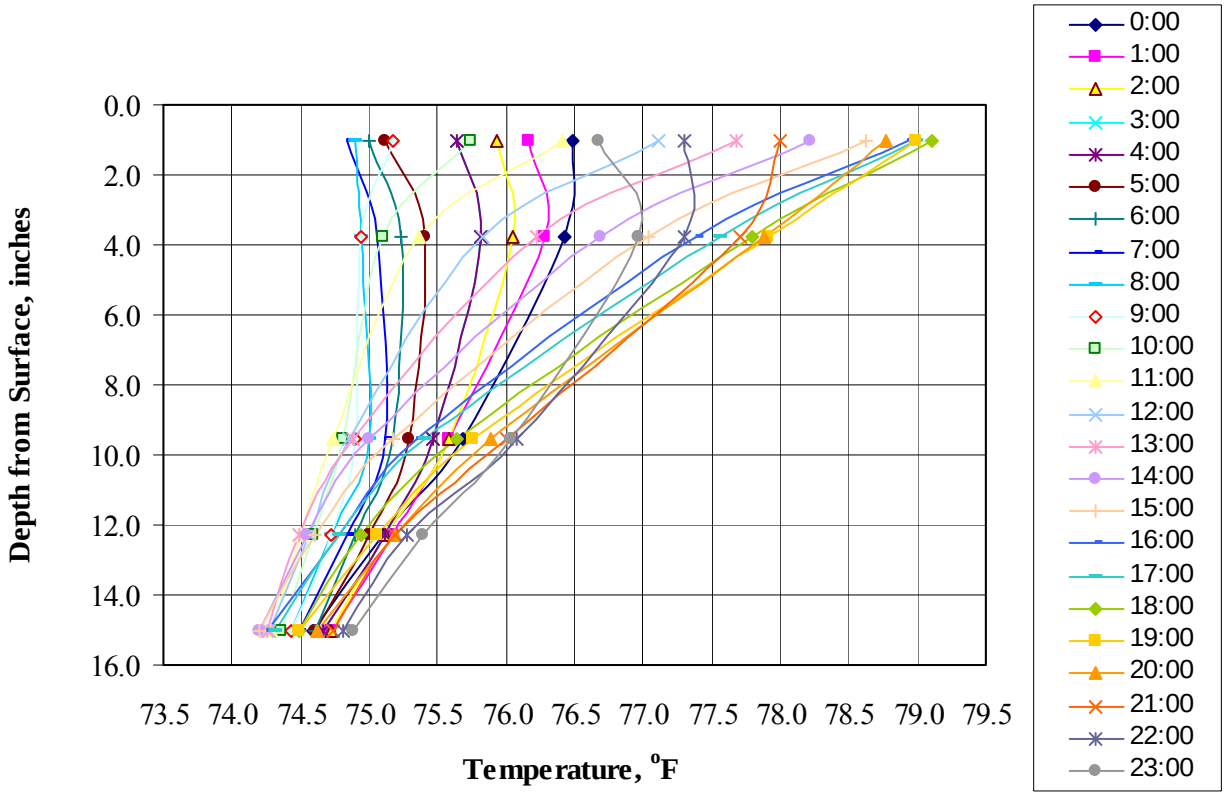

FIGURE E2. HOURLY TEMPERATURE PROFILES ON 7/14/2006 - TEST ITEM S2

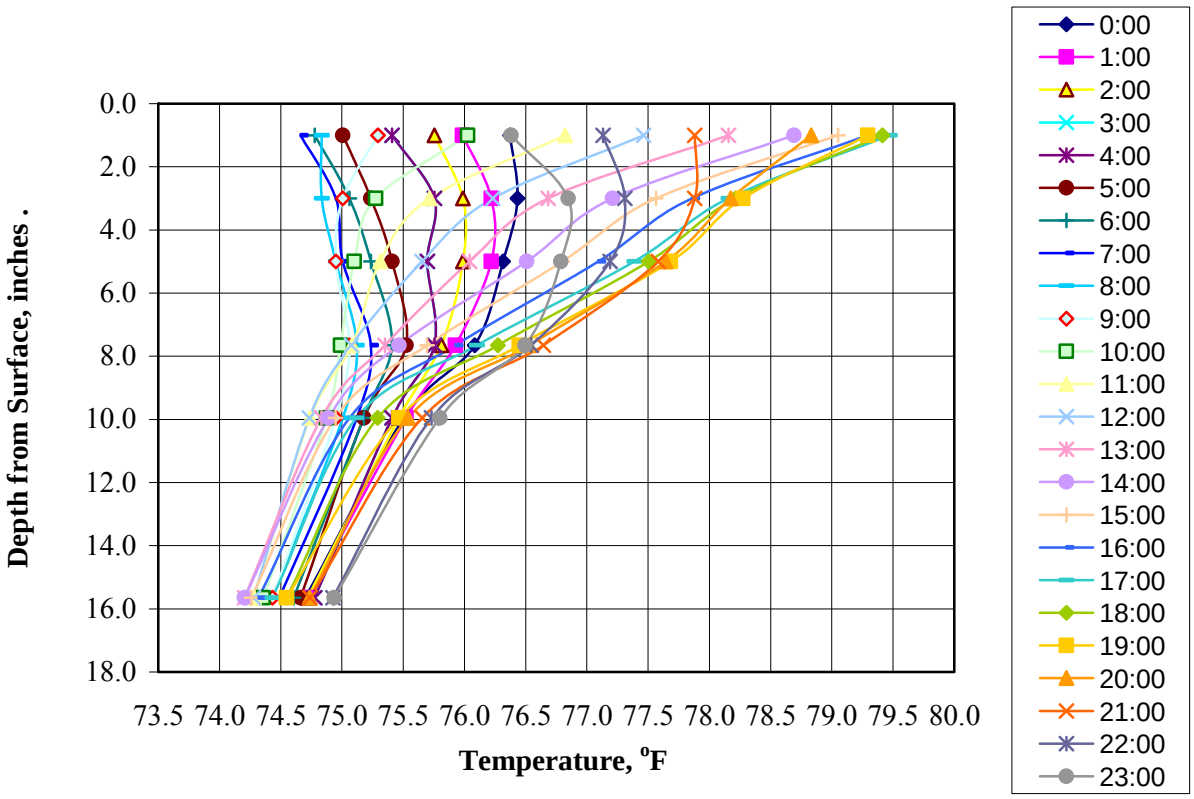

FIGURE E3. HOURLY TEMPERATURE PROFILES ON 7/14/2006 - TEST ITEM S3

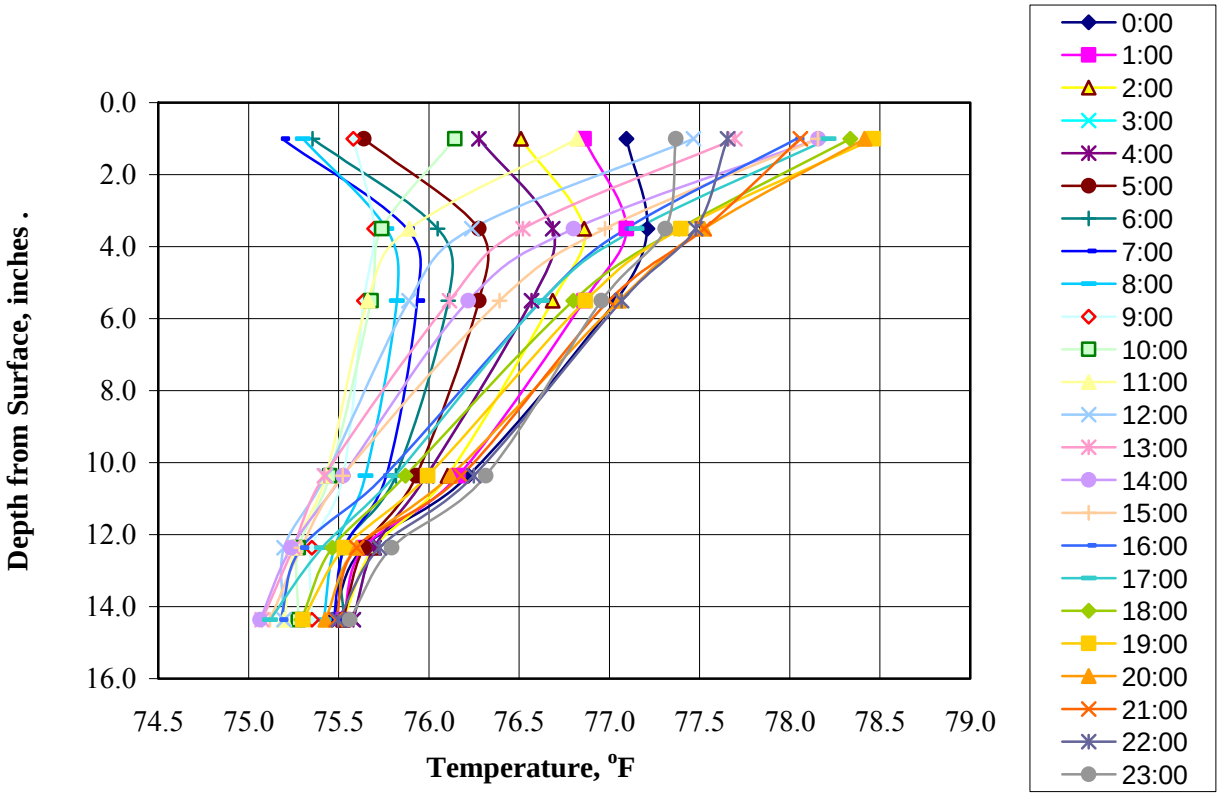

FIGURE E4. HOURLY TEMPERATURE PROFILES ON 7/25/2006 - TEST ITEM S1

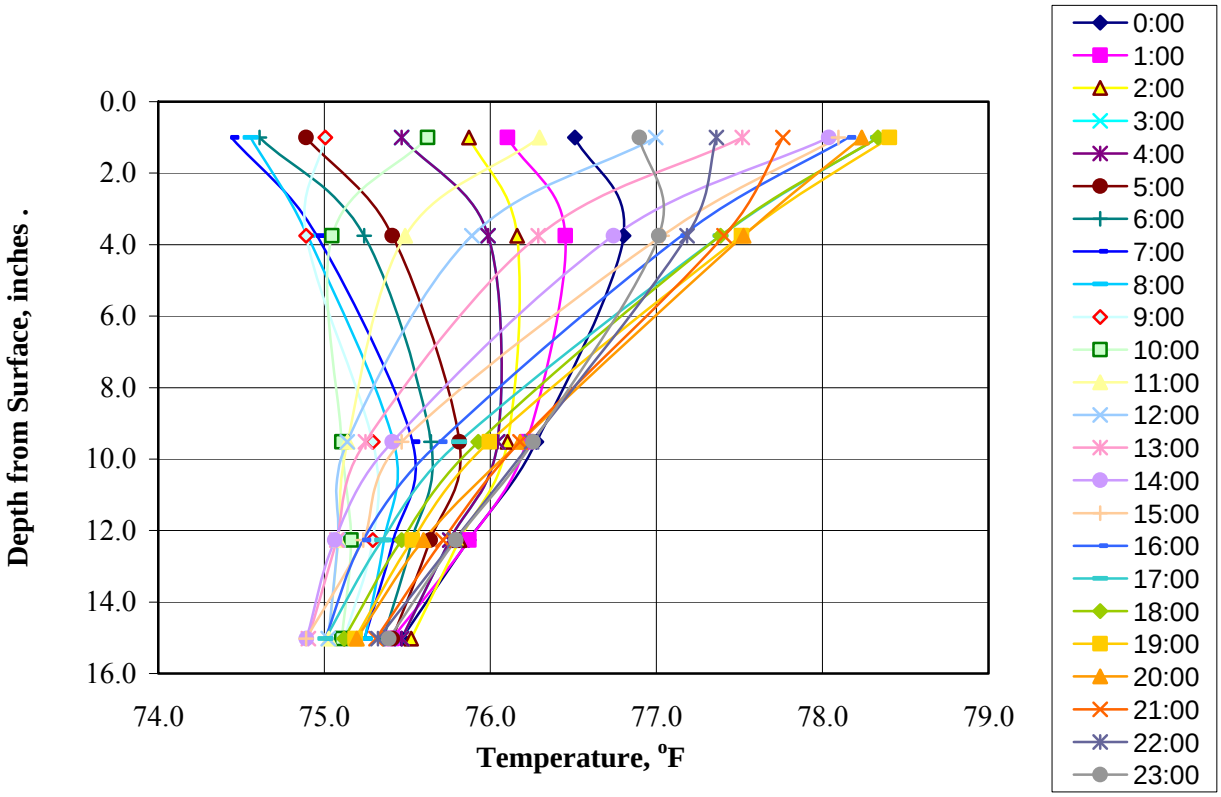

FIGURE E5. HOURLY TEMPERATURE PROFILES ON 7/25/2006 - TEST ITEM S2

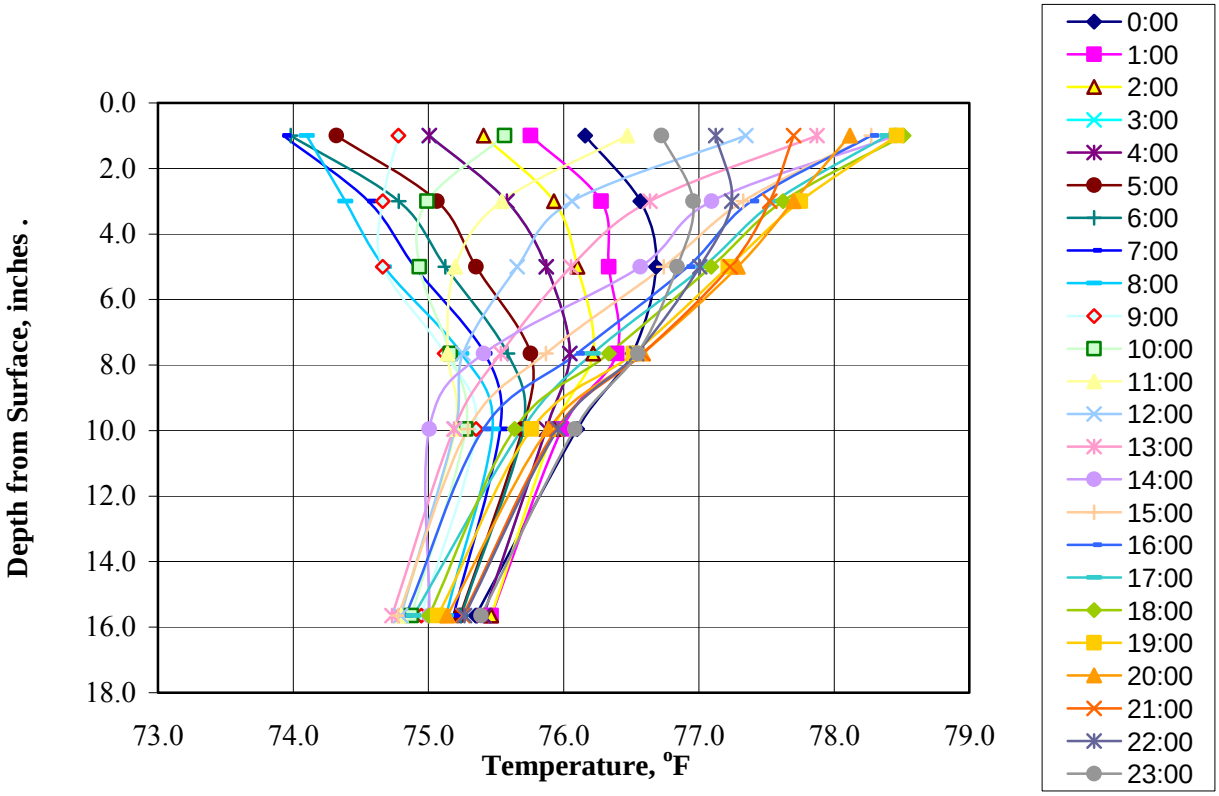

FIGURE E6. HOURLY TEMPERATURE PROFILES ON 7/25/2006 - TEST ITEM S3

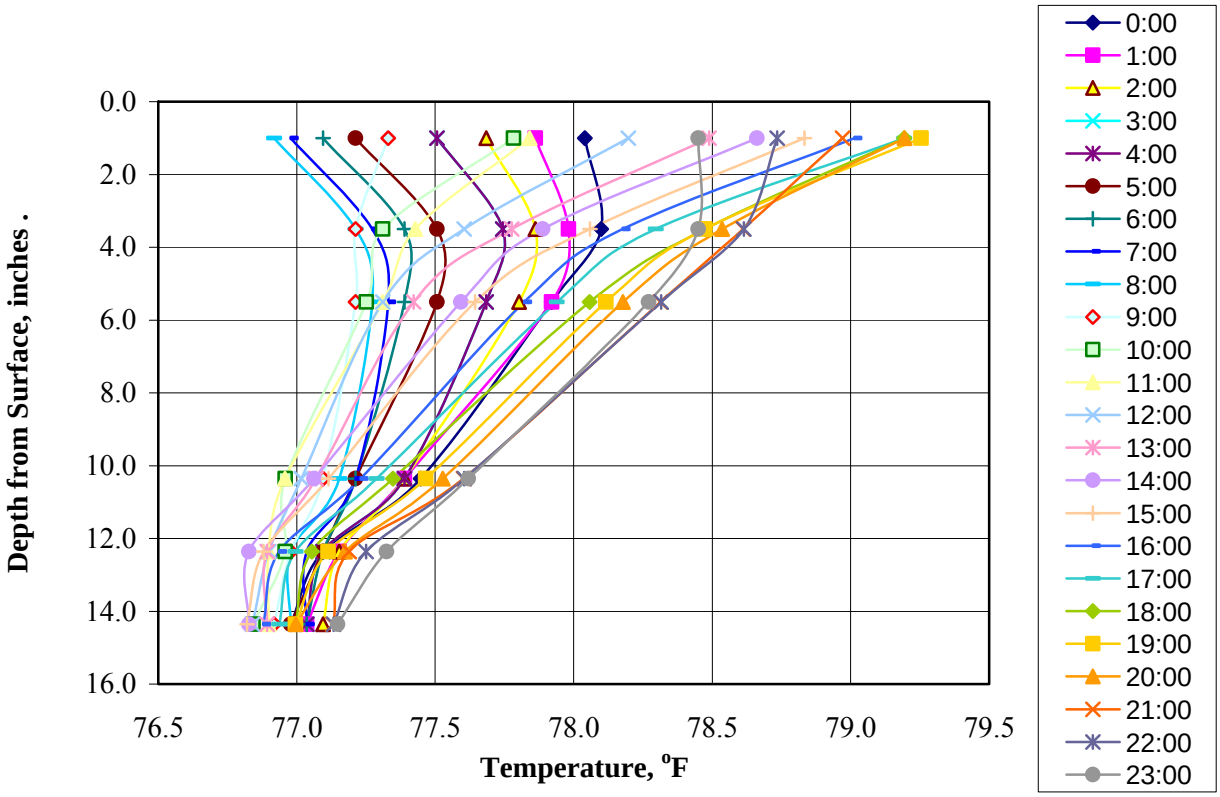

FIGURE E7. HOURLY TEMPERATURE PROFILES ON 8/15/2006 - TEST ITEM S1

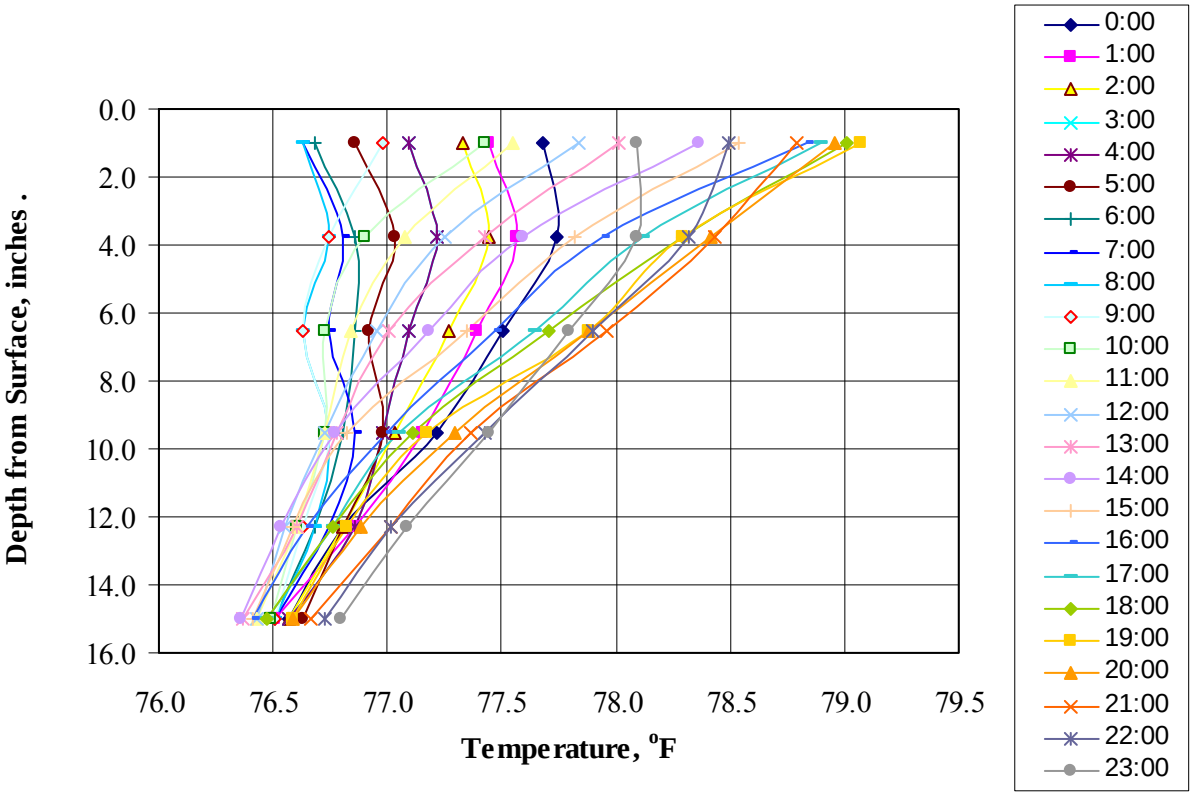

FIGURE E8. HOURLY TEMPERATURE PROFILES ON 8/15/2006 - TEST ITEM S2

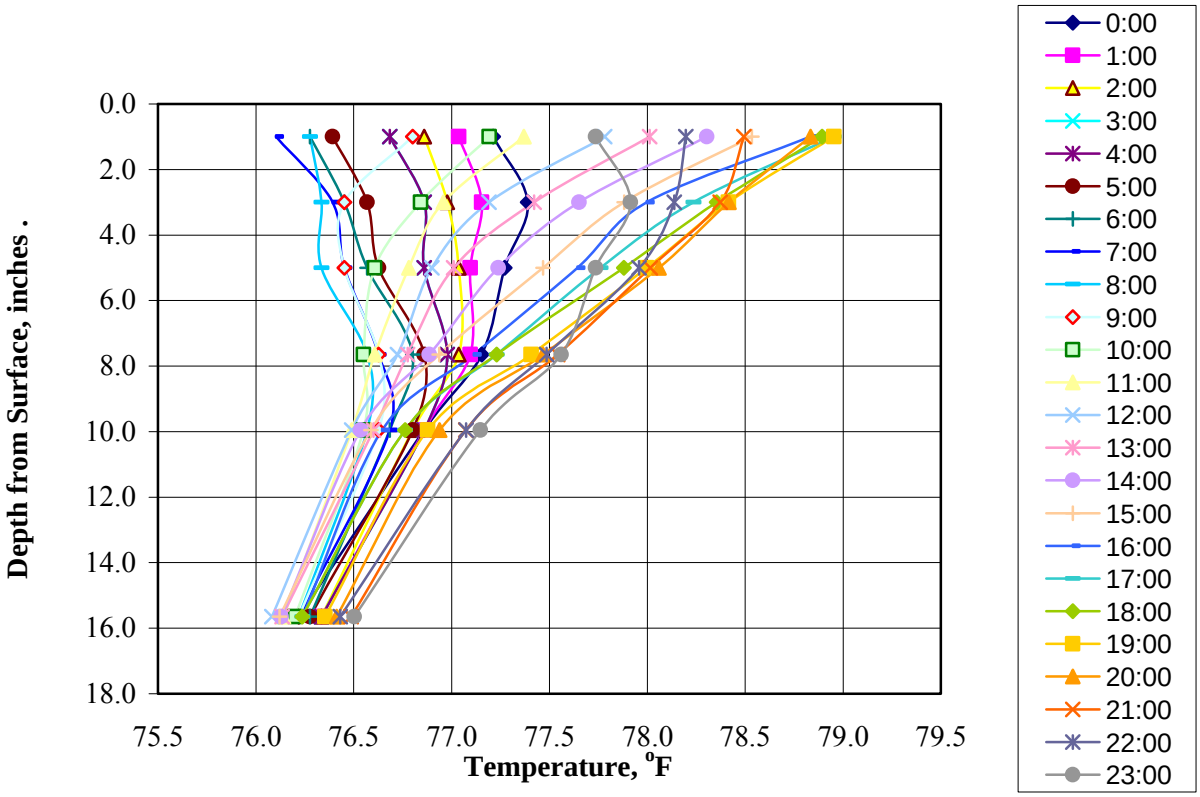

FIGURE E9. HOURLY TEMPERATURE PROFILES ON 8/15/2006 - TEST ITEM S3

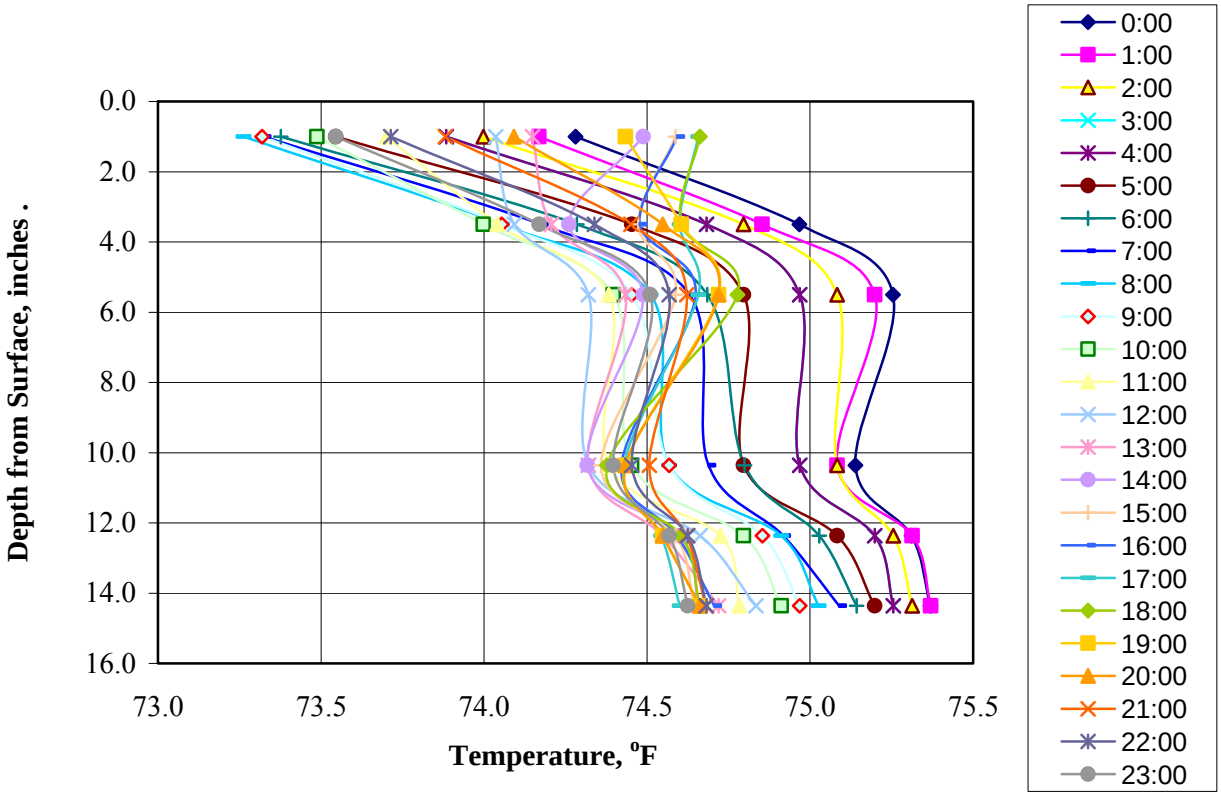

FIGURE E10. HOURLY TEMPERATURE PROFILES ON 8/31/2006 - TEST ITEM S1

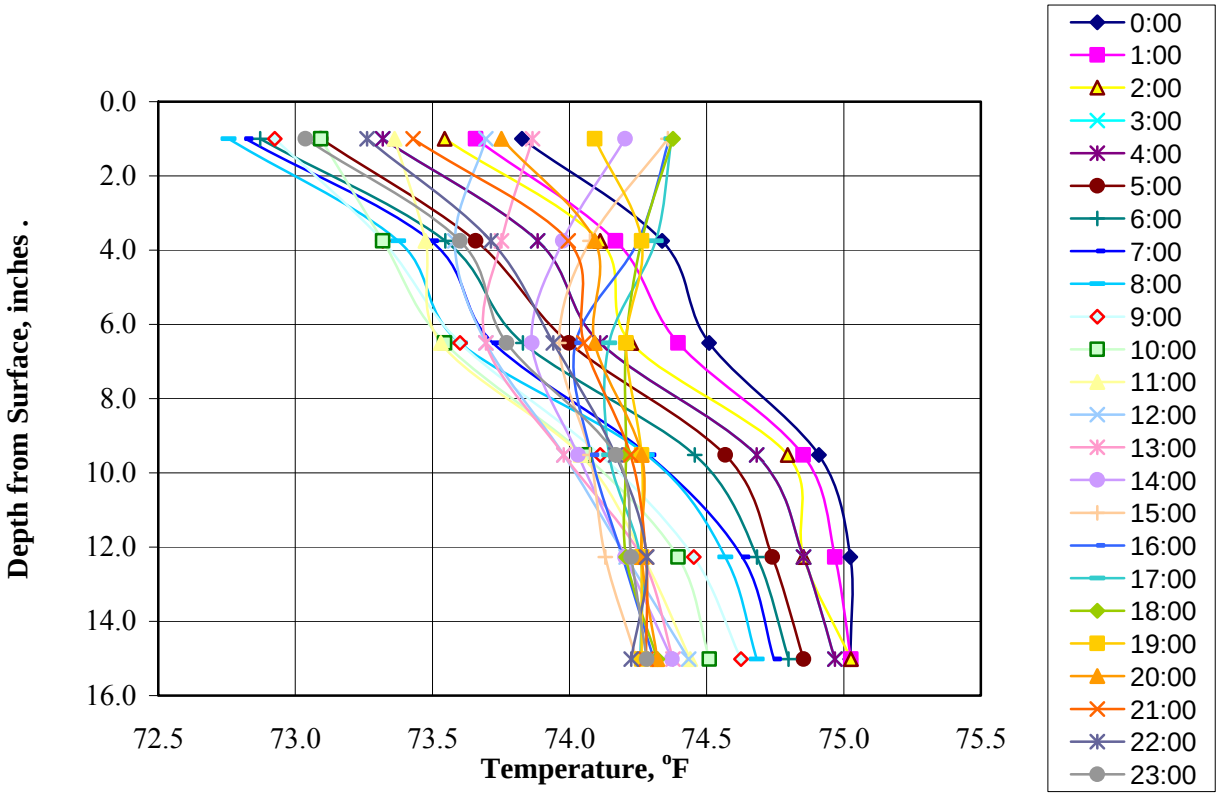

FIGURE E11. HOURLY TEMPERATURE PROFILES ON 8/31/2006 - TEST ITEM S2

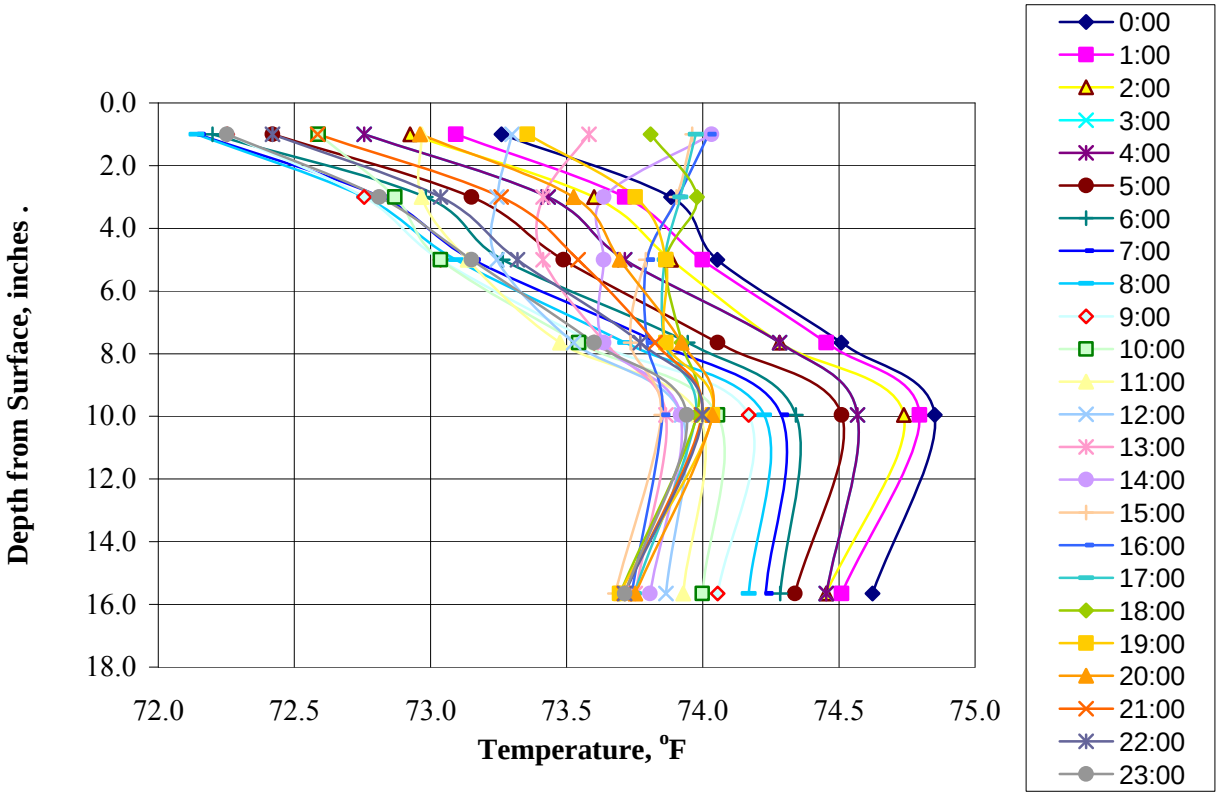

FIGURE E12. HOURLY TEMPERATURE PROFILES ON 8/31/2006 - TEST ITEM S3

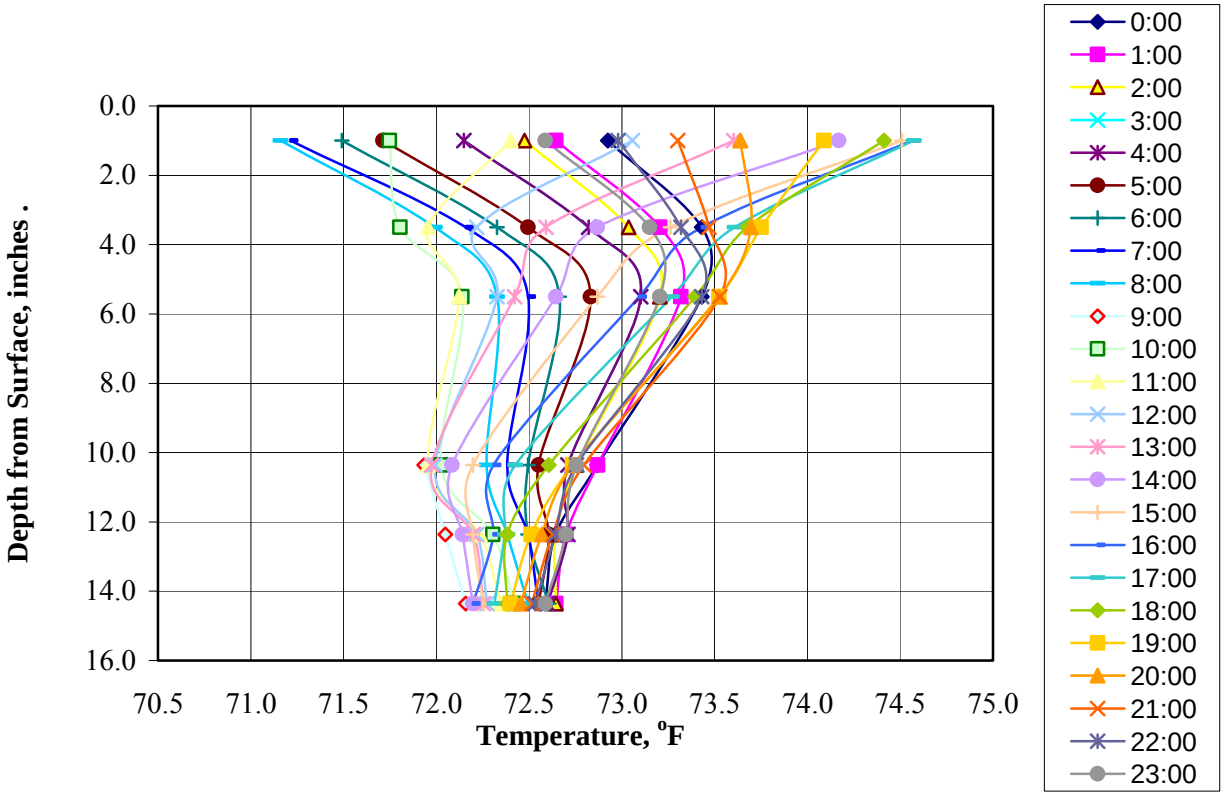

FIGURE E13. HOURLY TEMPERATURE PROFILES ON 9/10/2006 - TEST ITEM S1

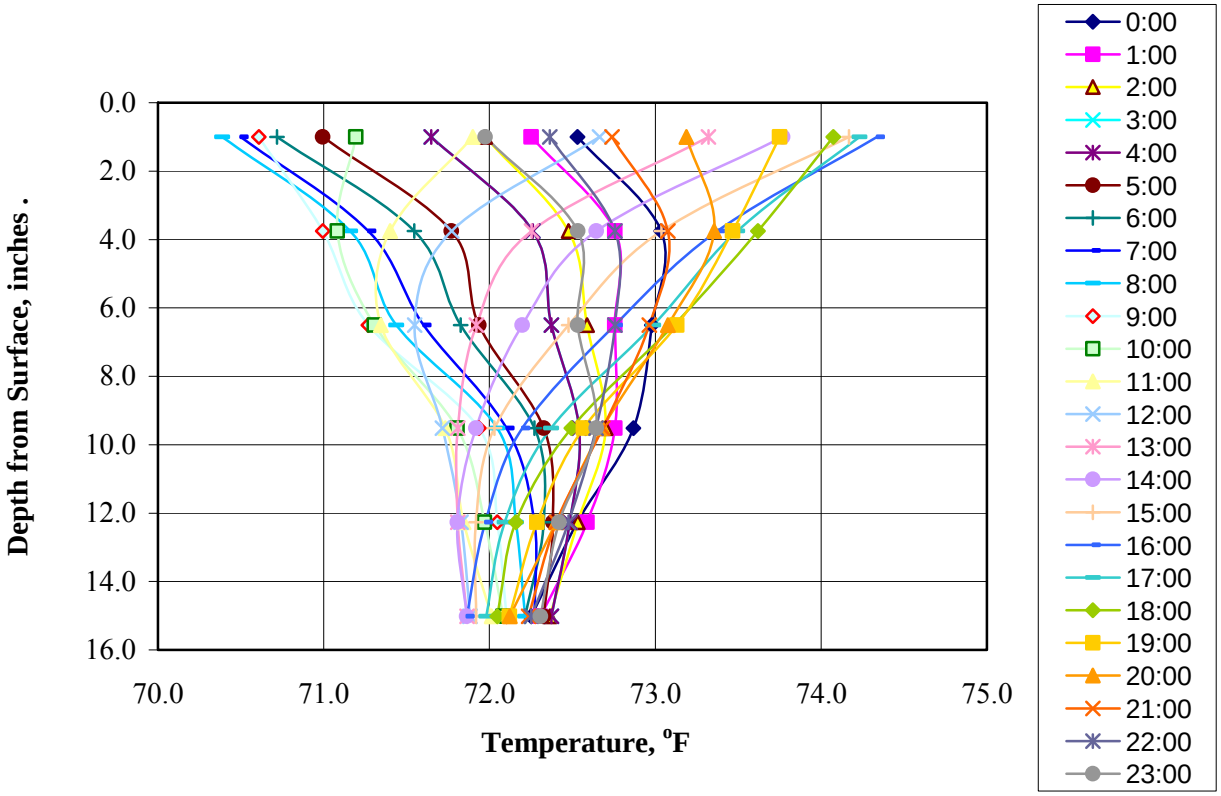

FIGURE E14. HOURLY TEMPERATURE PROFILES ON 9/10/2006 - TEST ITEM S2

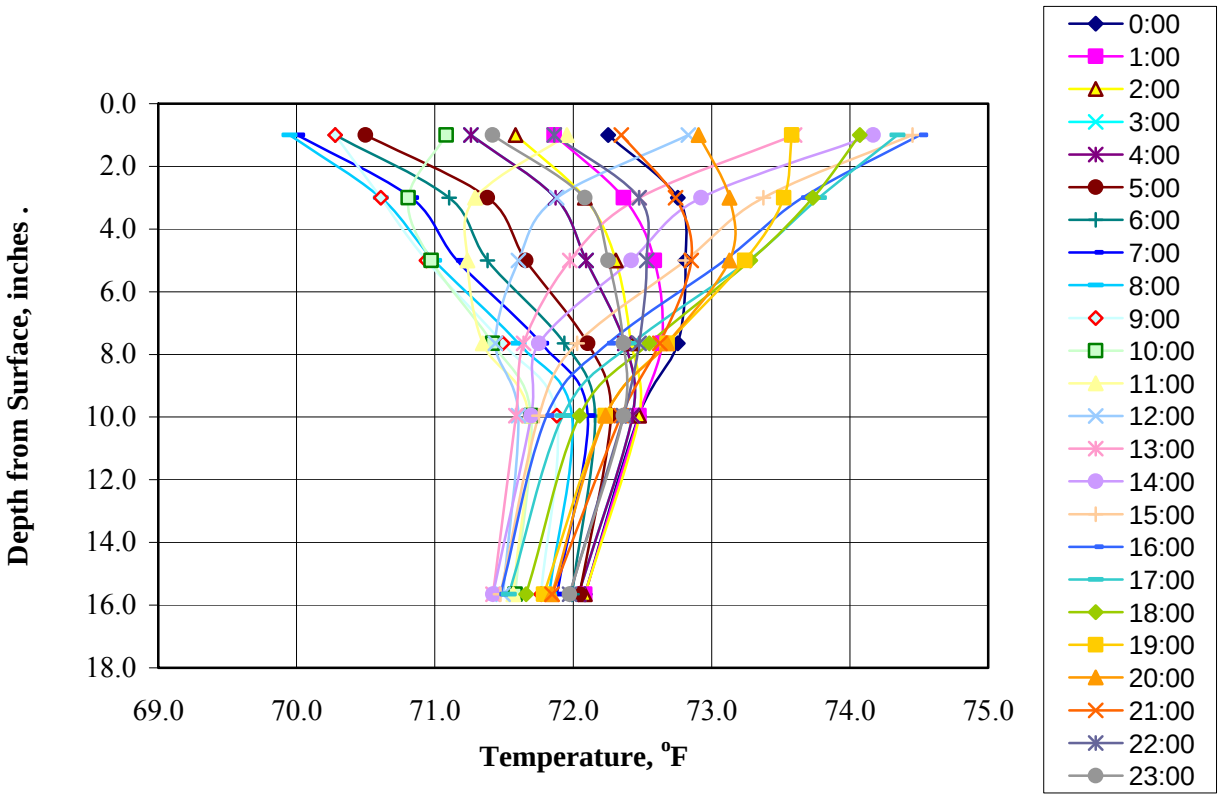

FIGURE E15. HOURLY TEMPERATURE PROFILES ON 9/10/2006 - TEST ITEM S3

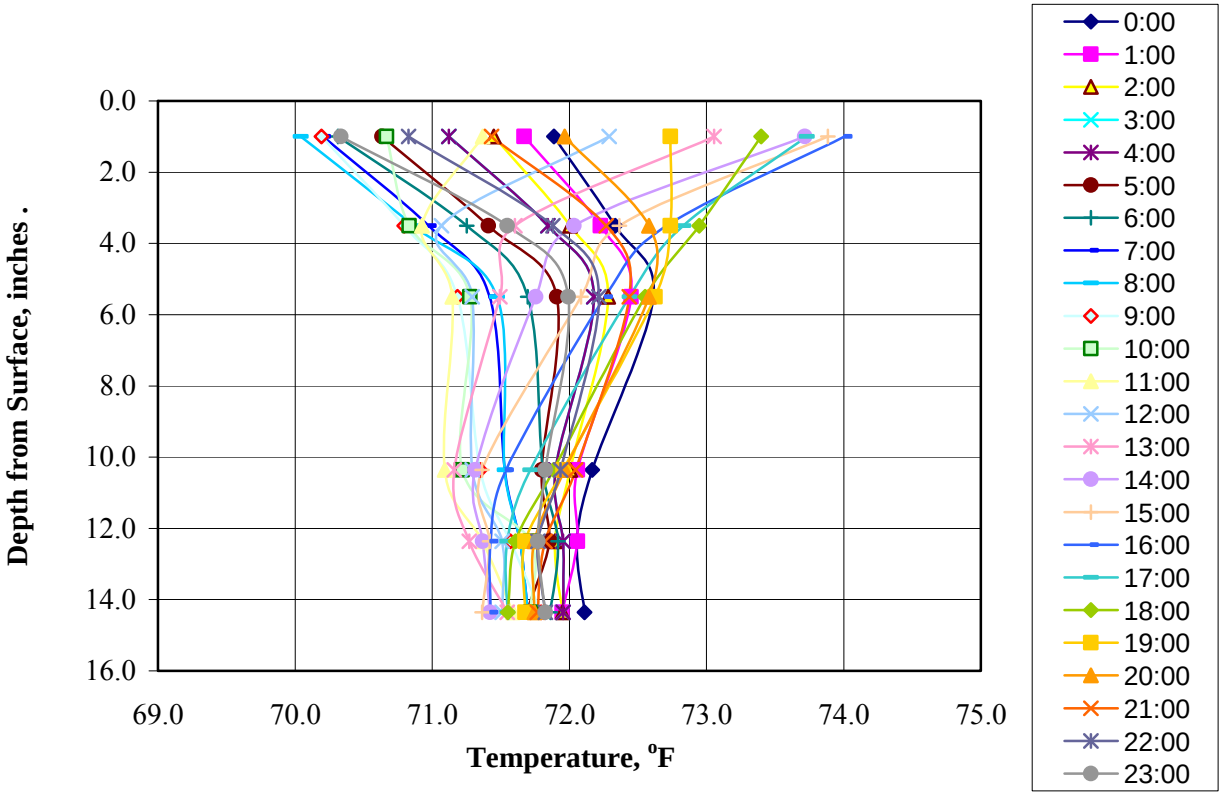

FIGURE E16. HOURLY TEMPERATURE PROFILES ON 9/26/2006 - TEST ITEM S1

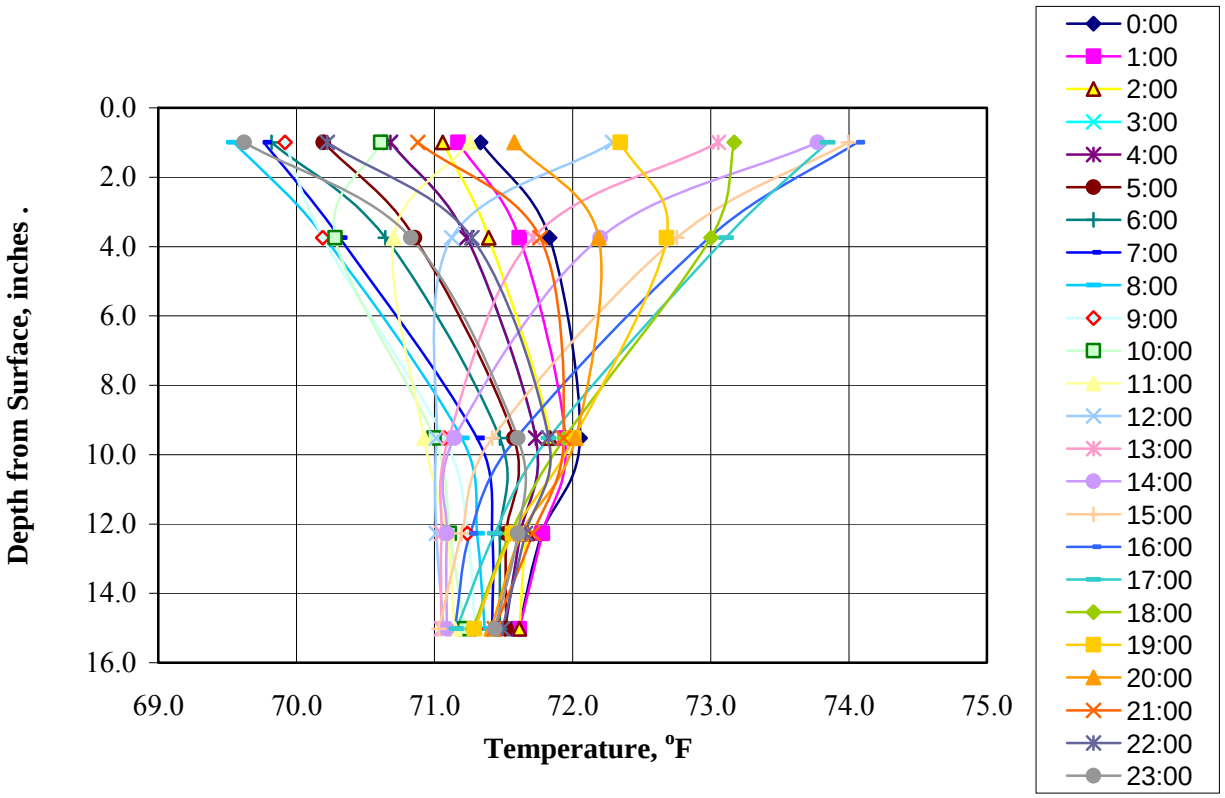

FIGURE E17. HOURLY TEMPERATURE PROFILES ON 9/26/2006 - TEST ITEM S2

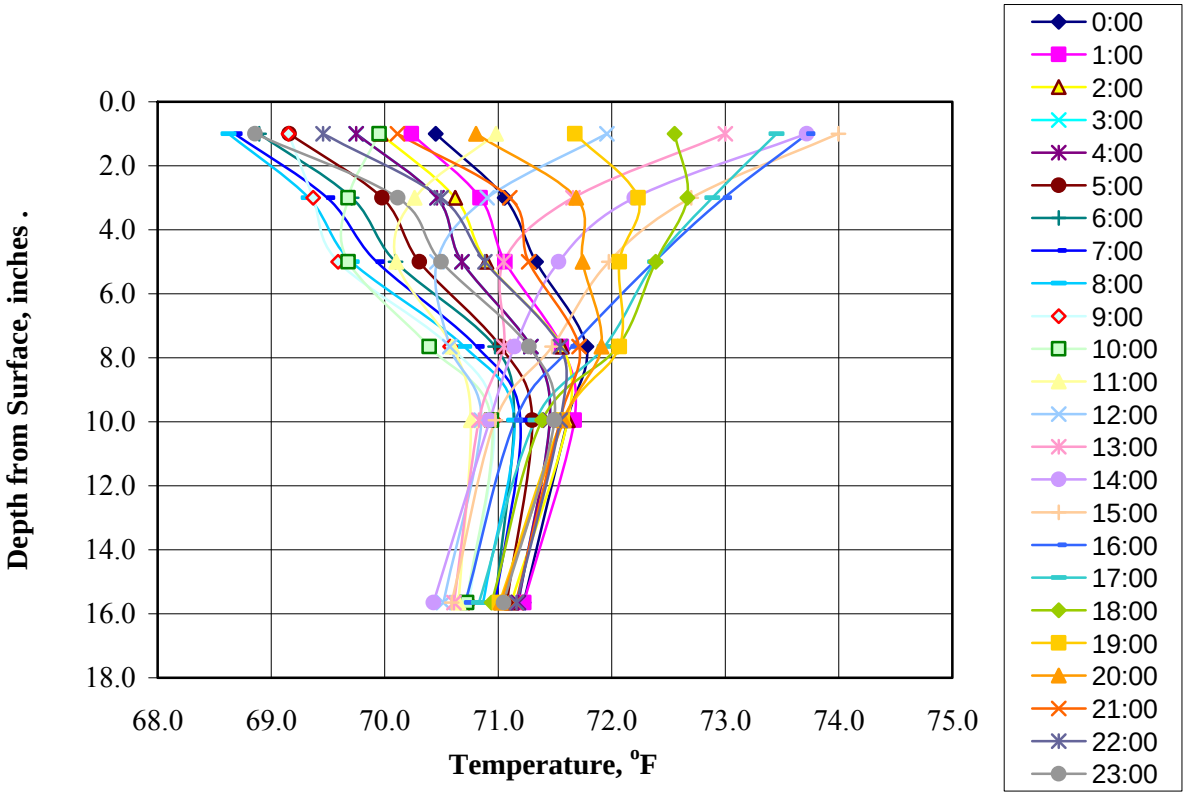

FIGURE E18. HOURLY TEMPERATURE PROFILES ON 9/26/2006 - TEST ITEM S3

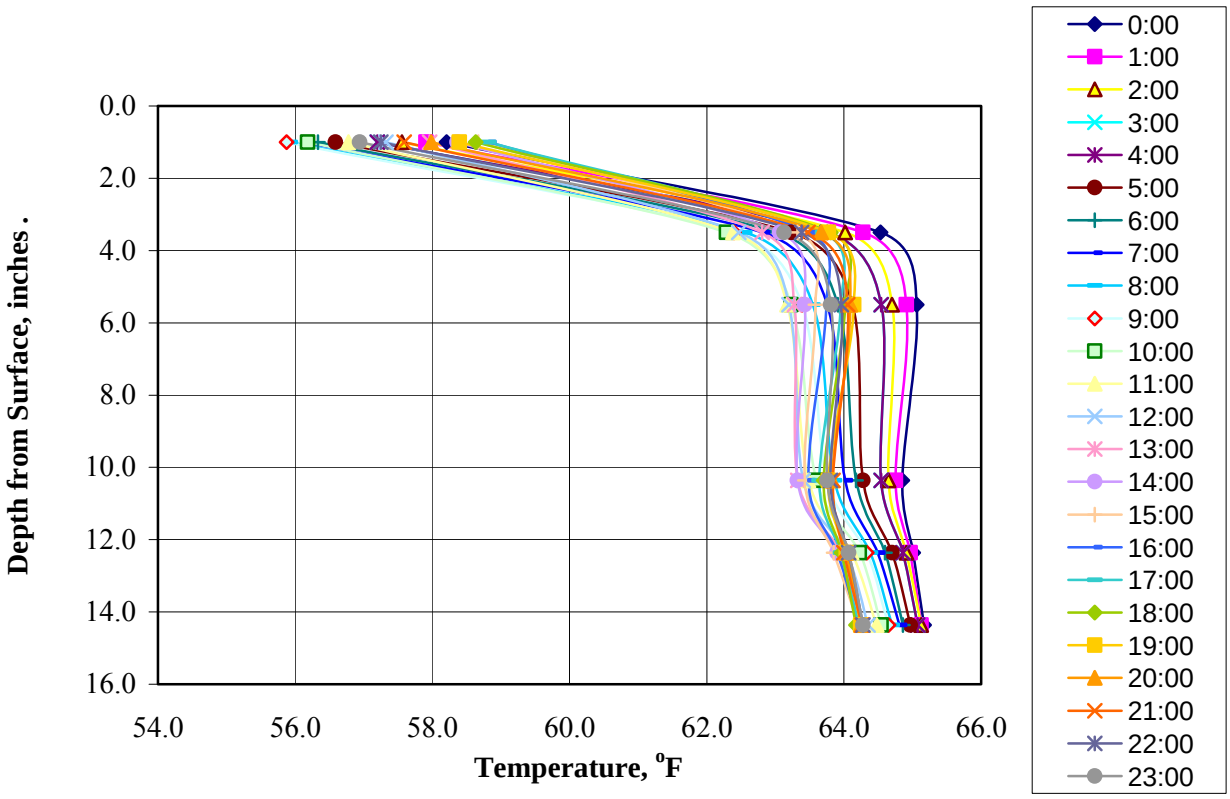

FIGURE E19. HOURLY TEMPERATURE PROFILES ON 10/21/2006 - TEST ITEM S1

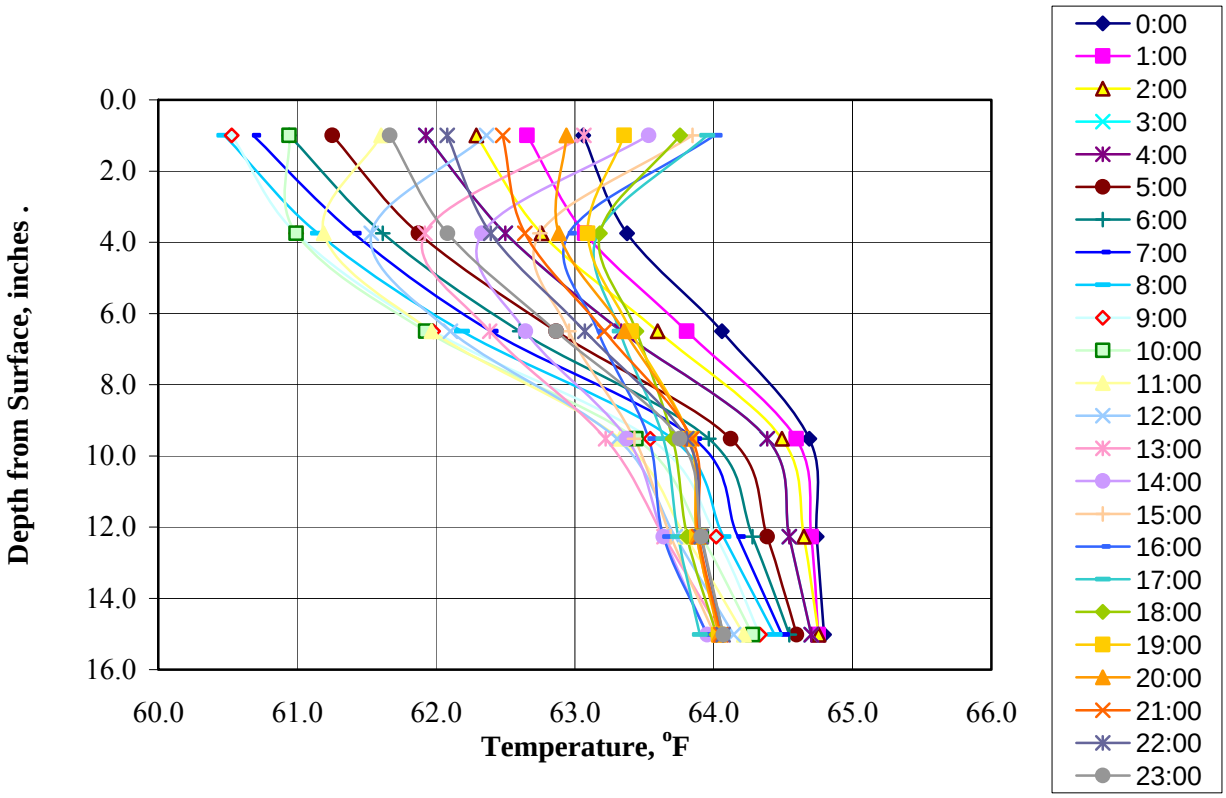

FIGURE E20. HOURLY TEMPERATURE PROFILES ON 10/21/2006 - TEST ITEM S2

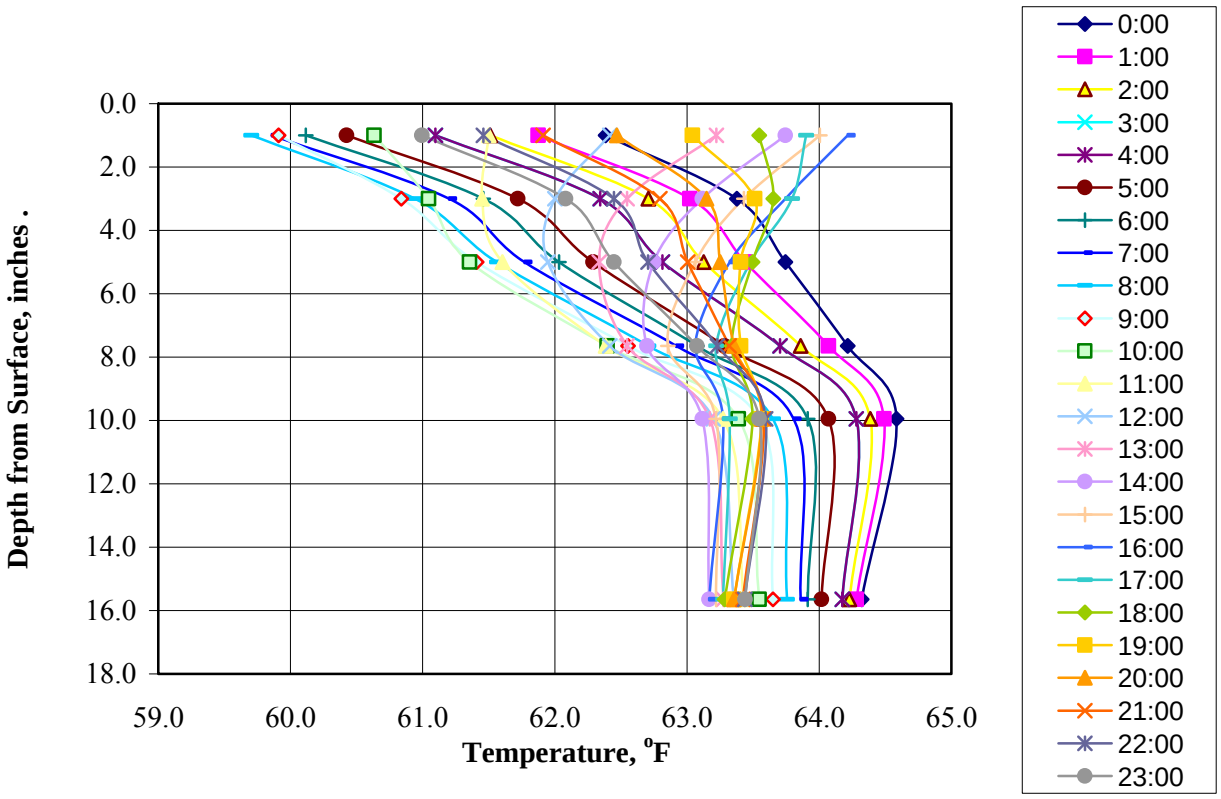

FIGURE E21. HOURLY TEMPERATURE PROFILES ON 10/21/2006 - TEST ITEM S3

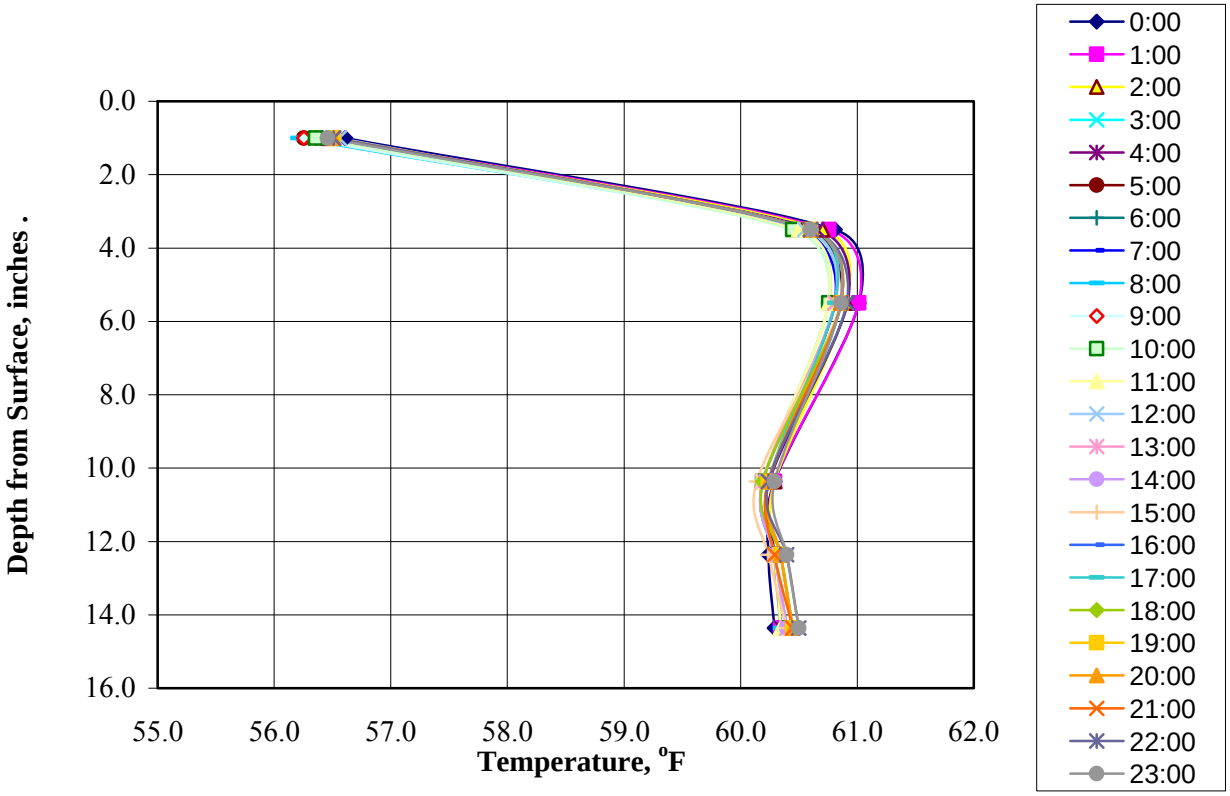

FIGURE E22. HOURLY TEMPERATURE PROFILES ON 11/12/2006 - TEST ITEM S1

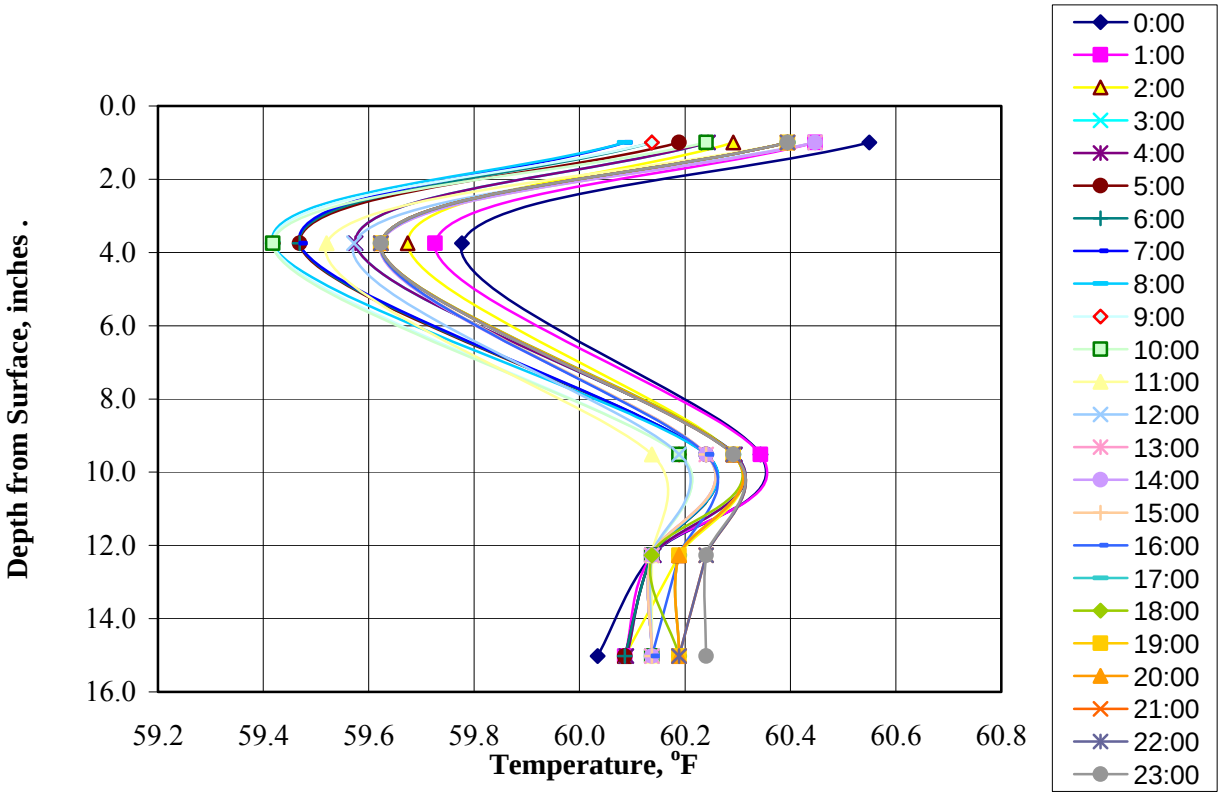

FIGURE E23. HOURLY TEMPERATURE PROFILES ON 11/12/2006 - TEST ITEM S2

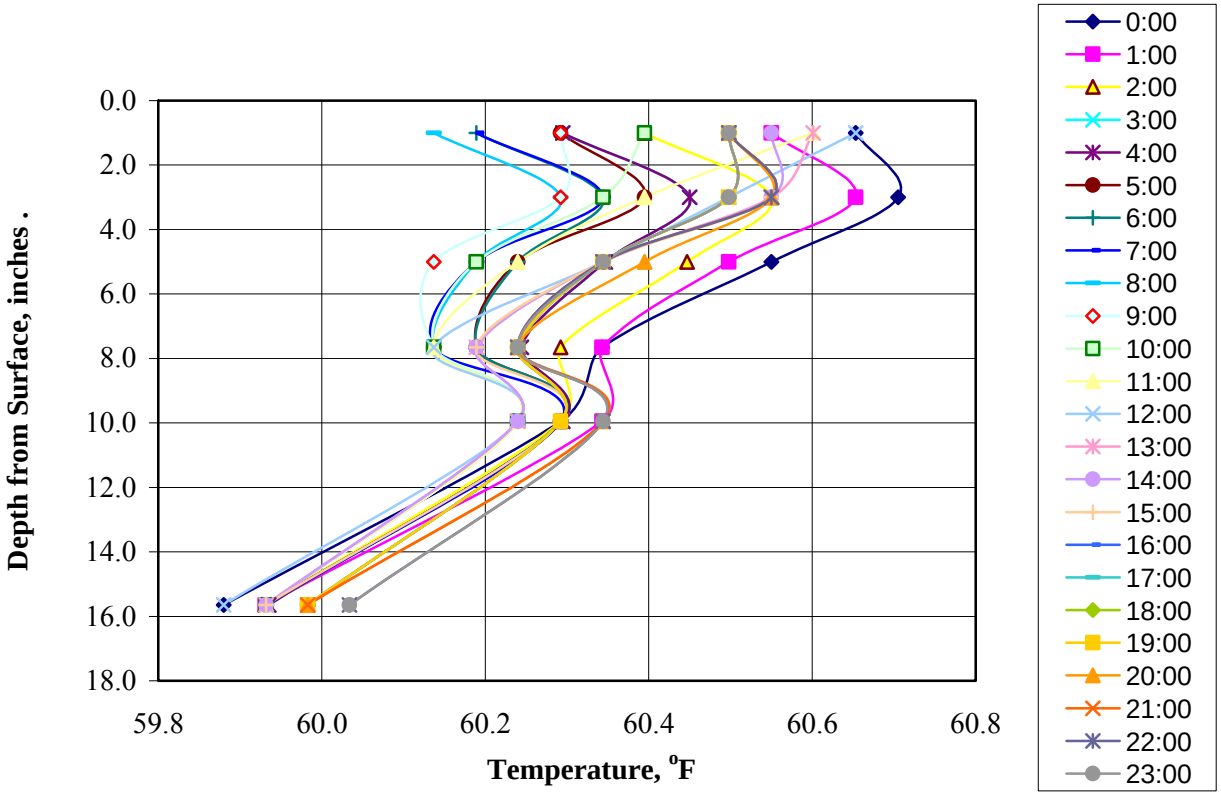

FIGURE E24. HOURLY TEMPERATURE PROFILES ON 11/12/2006 - TEST ITEM S3

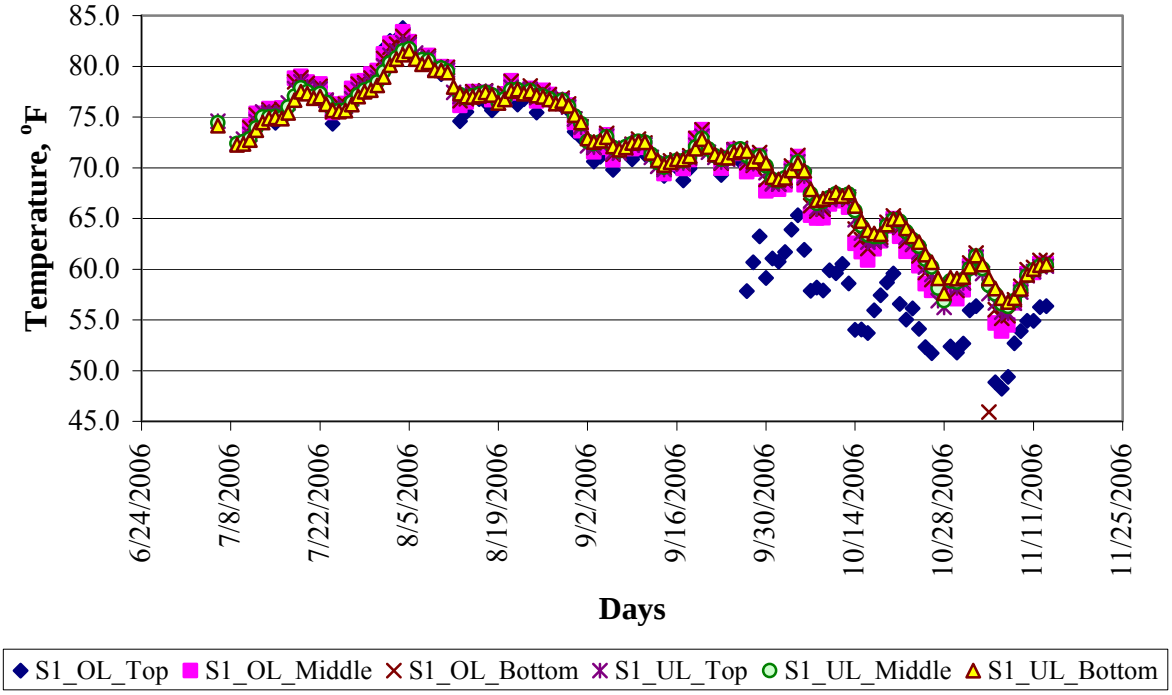

FIGURE E25. TEMPERATURE OF SLABS AT 5:00 A.M. – TEST ITEM S1

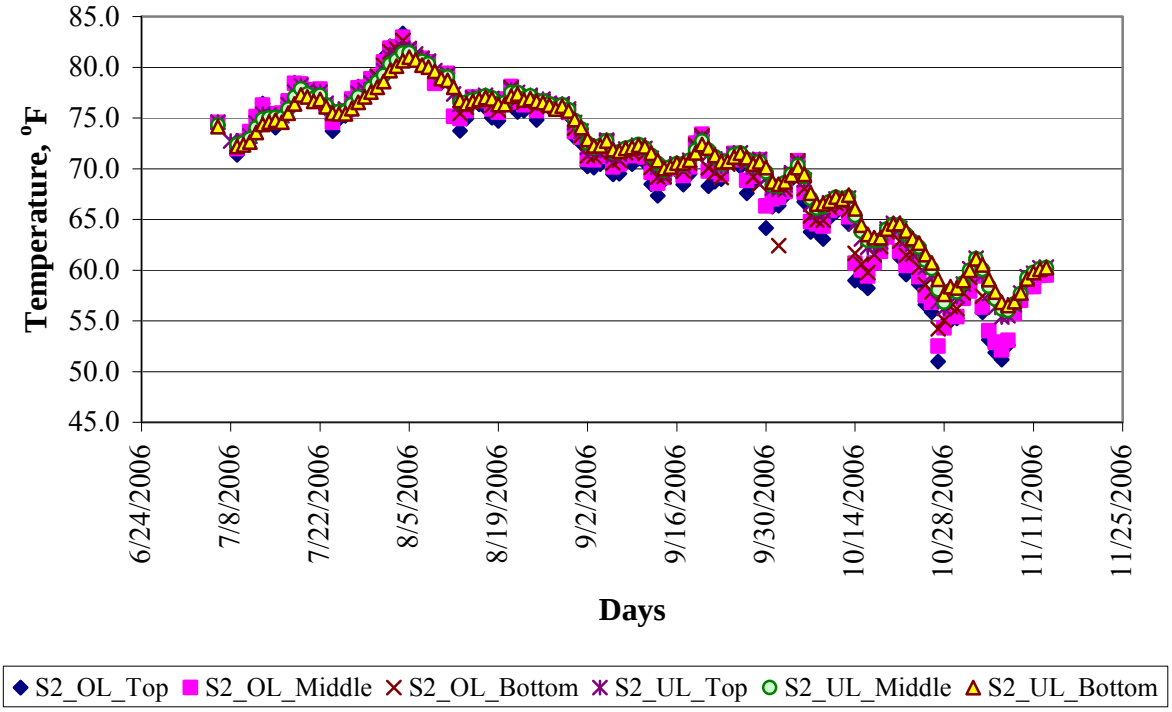

FIGURE E26. TEMPERATURE OF SLABS AT 5:00 A.M. – TEST ITEM S2

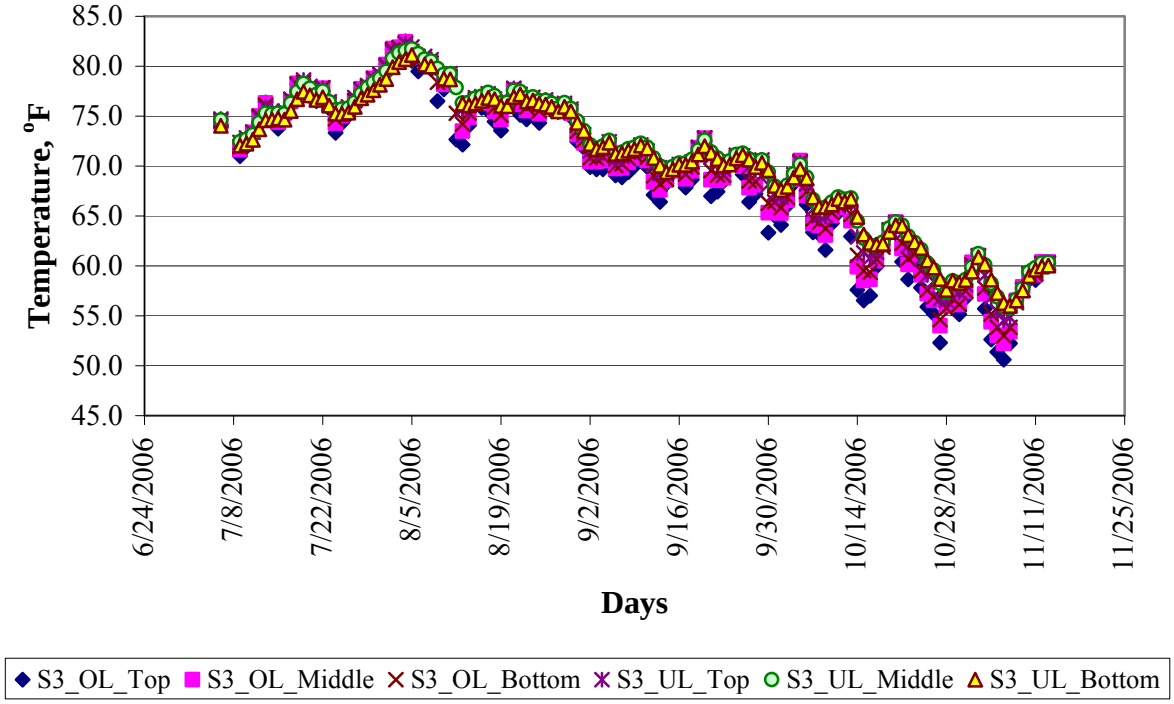

FIGURE E27. TEMPERATURE OF SLABS AT 5:00 A.M. – TEST ITEM S3

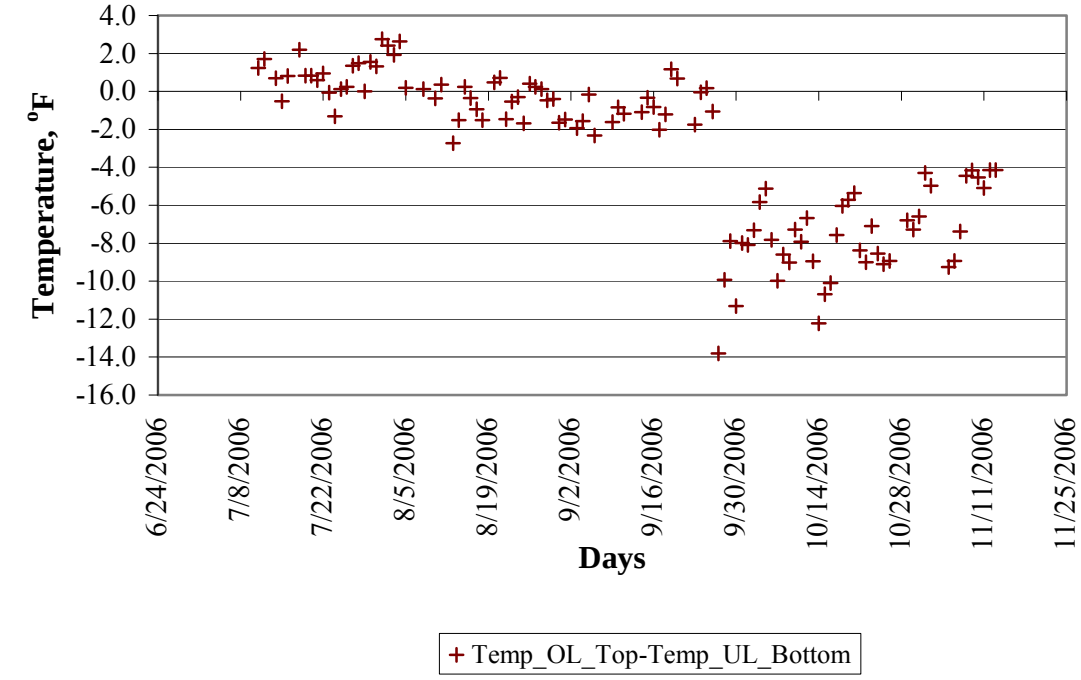

FIGURE E28. TEMPERATURE DIFFERENCE BETWEEN TOP OF OVERLAY SLAB AND BOTTOM OF UNDERLAY SLAB AT 5:00 A.M. – TEST ITEM S1

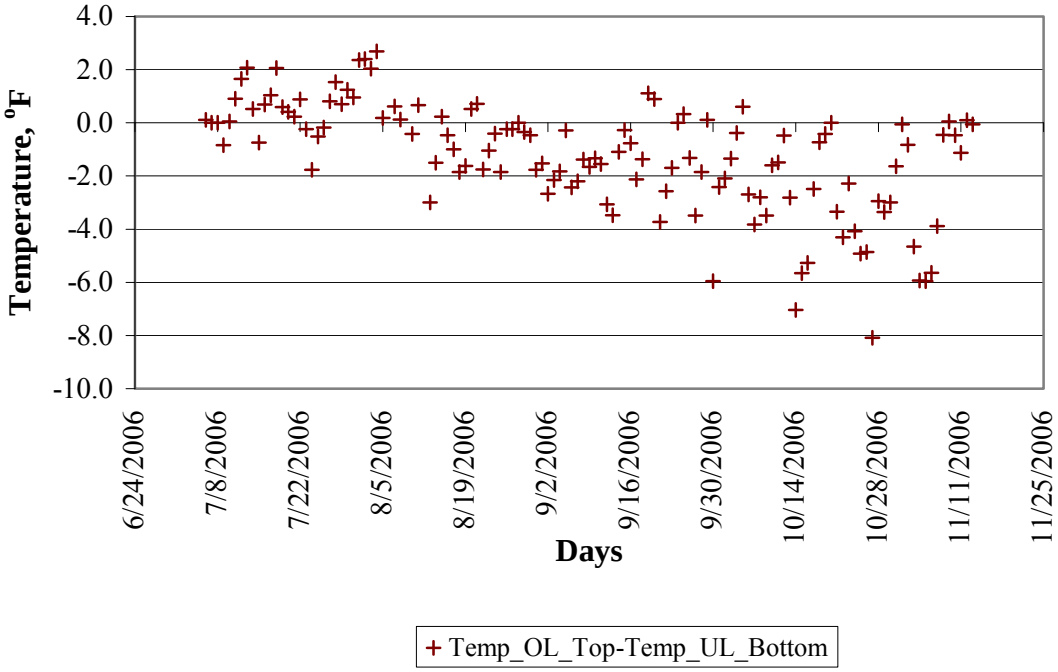

FIGURE E29. TEMPERATURE DIFFERENCE BETWEEN TOP OF OVERLAY SLAB AND BOTTOM OF UNDERLAY SLAB AT 5:00 A.M. – TEST ITEM S2

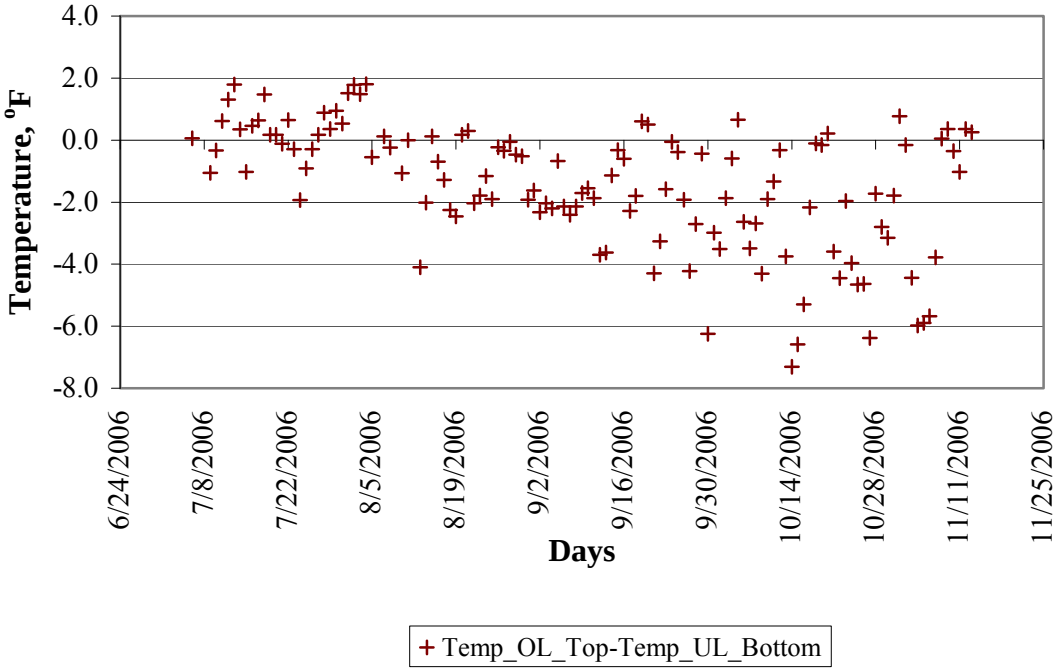

FIGURE E30. TEMPERATURE DIFFERENCE BETWEEN TOP OF OVERLAY SLAB AND BOTTOM OF UNDERLAY SLAB AT 5:00 A.M. – TEST ITEM S3

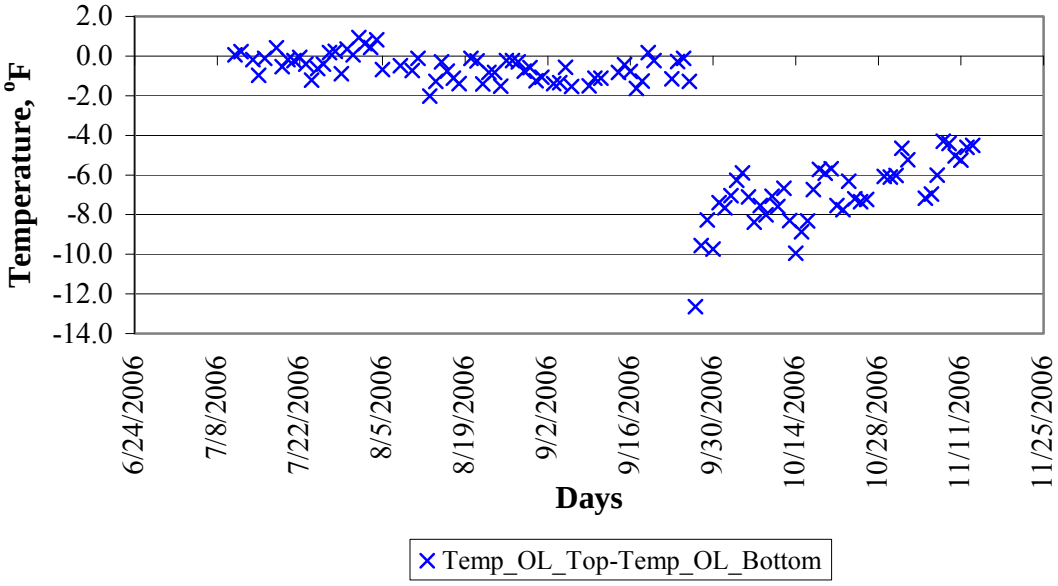

FIGURE E31. TEMPERATURE DIFFERENCE BETWEEN TOP AND BOTTOM OF OVERLAY SLAB AT 5:00 A.M. – TEST ITEM S1

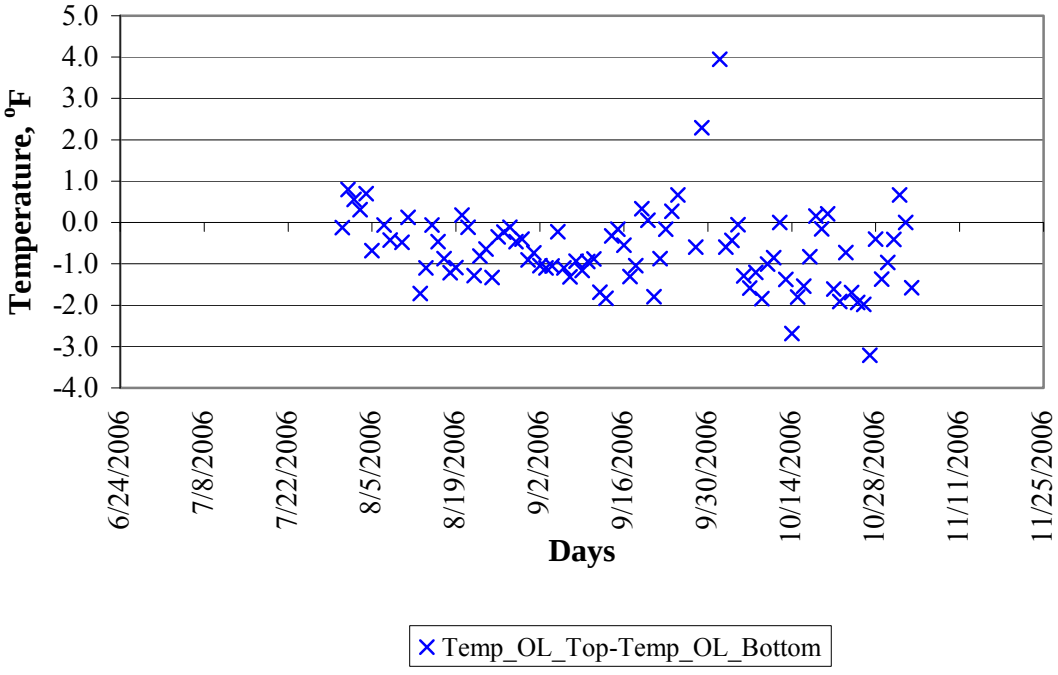

FIGURE E32. TEMPERATURE DIFFERENCE BETWEEN TOP AND BOTTOM OF OVERLAY SLAB AT 5:00 A.M. – TEST ITEM S2

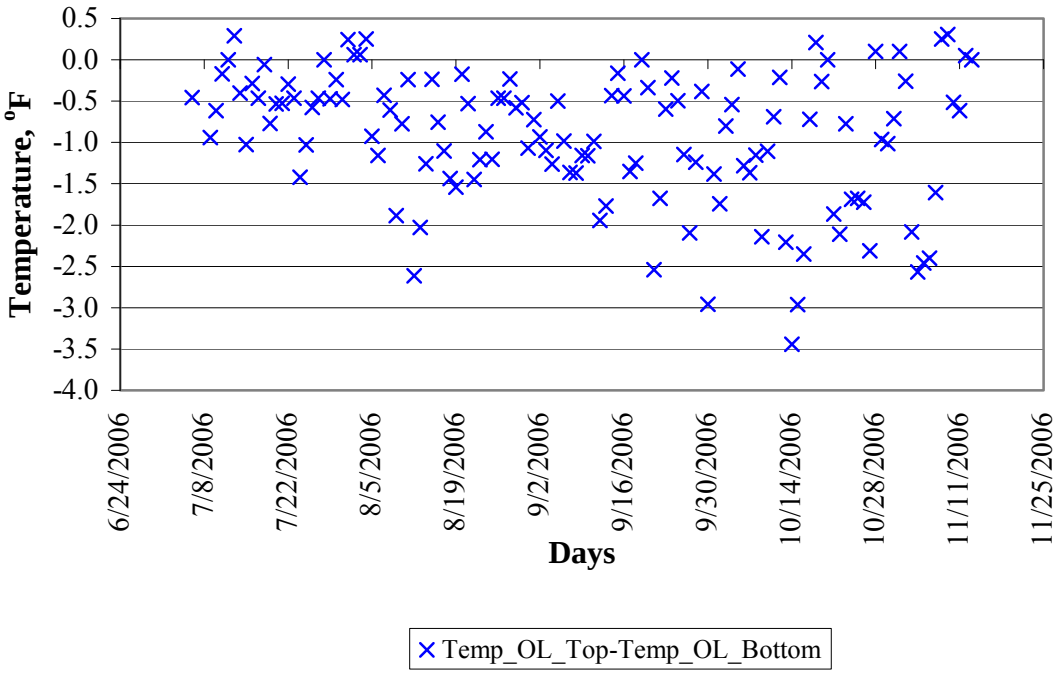

FIGURE E33. TEMPERATURE DIFFERENCE BETWEEN TOP AND BOTTOM OF OVERLAY SLAB AT 5:00 A.M. – TEST ITEM S3

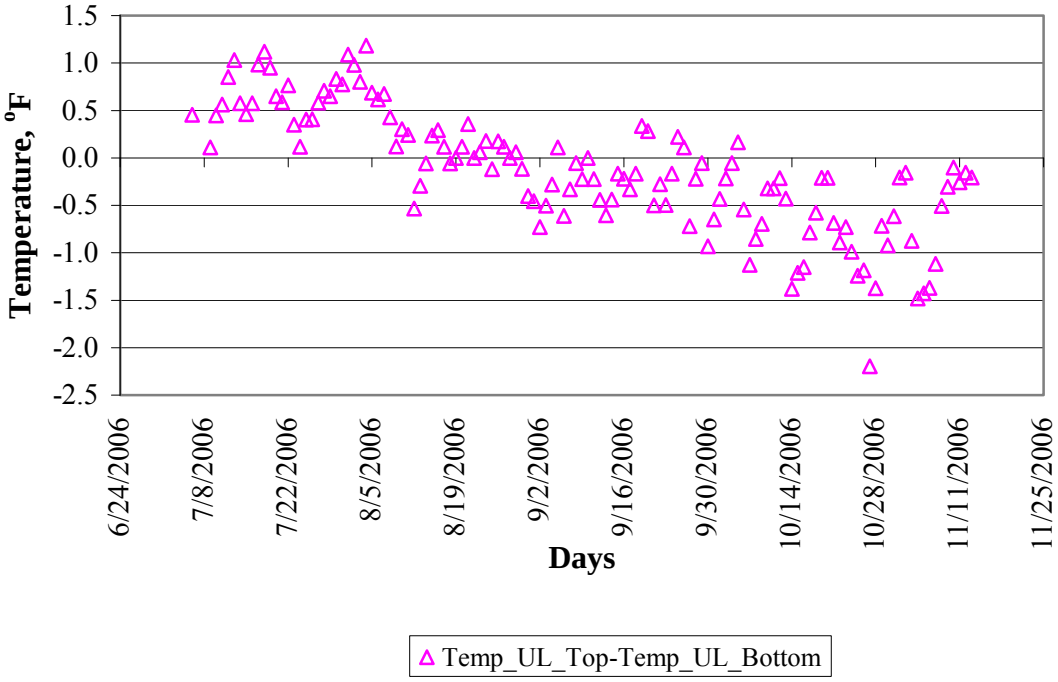

FIGURE E34. TEMPERATURE DIFFERENCE BETWEEN TOP AND BOTTOM OF UNDERLAY SLAB AT 5:00 A.M. – TEST ITEM S1

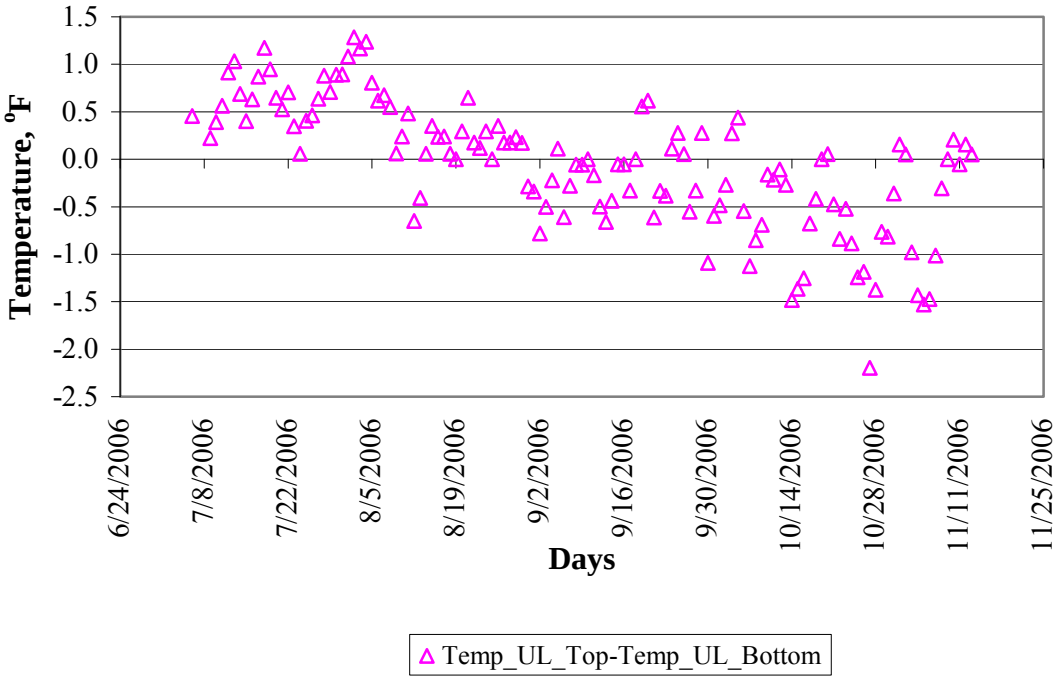

FIGURE E35. TEMPERATURE DIFFERENCE BETWEEN TOP AND BOTTOM OF UNDERLAY SLAB AT 5:00 A.M. – TEST ITEM S2

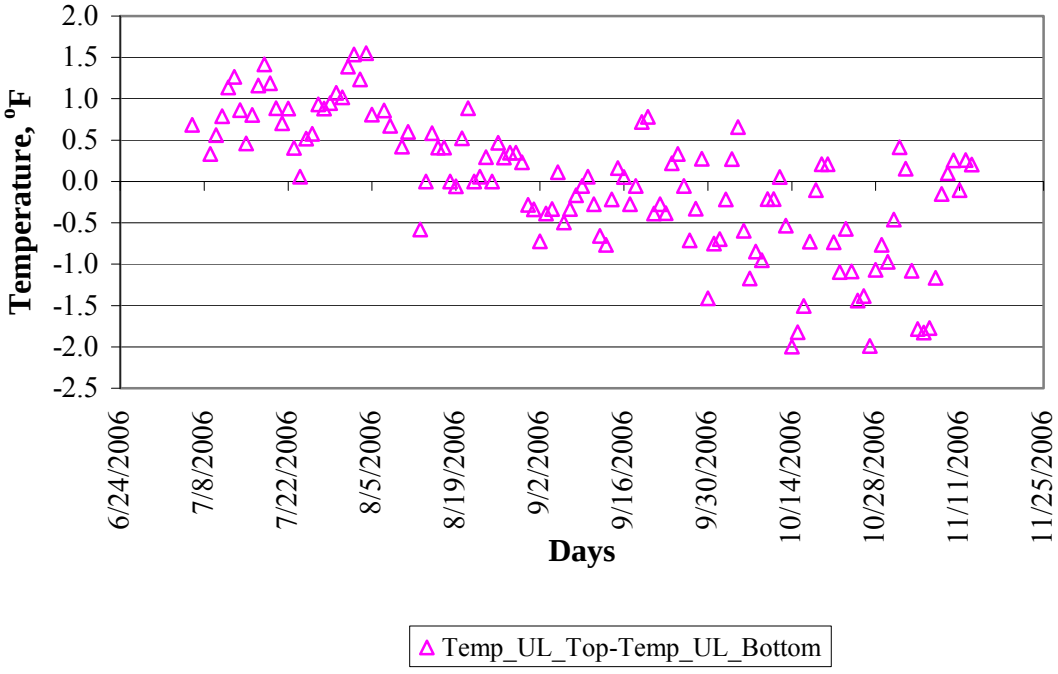

FIGURE E36. TEMPERATURE DIFFERENCE BETWEEN TOP AND BOTTOM OF UNDERLAY SLAB AT 5:00 A.M. – TEST ITEM S3

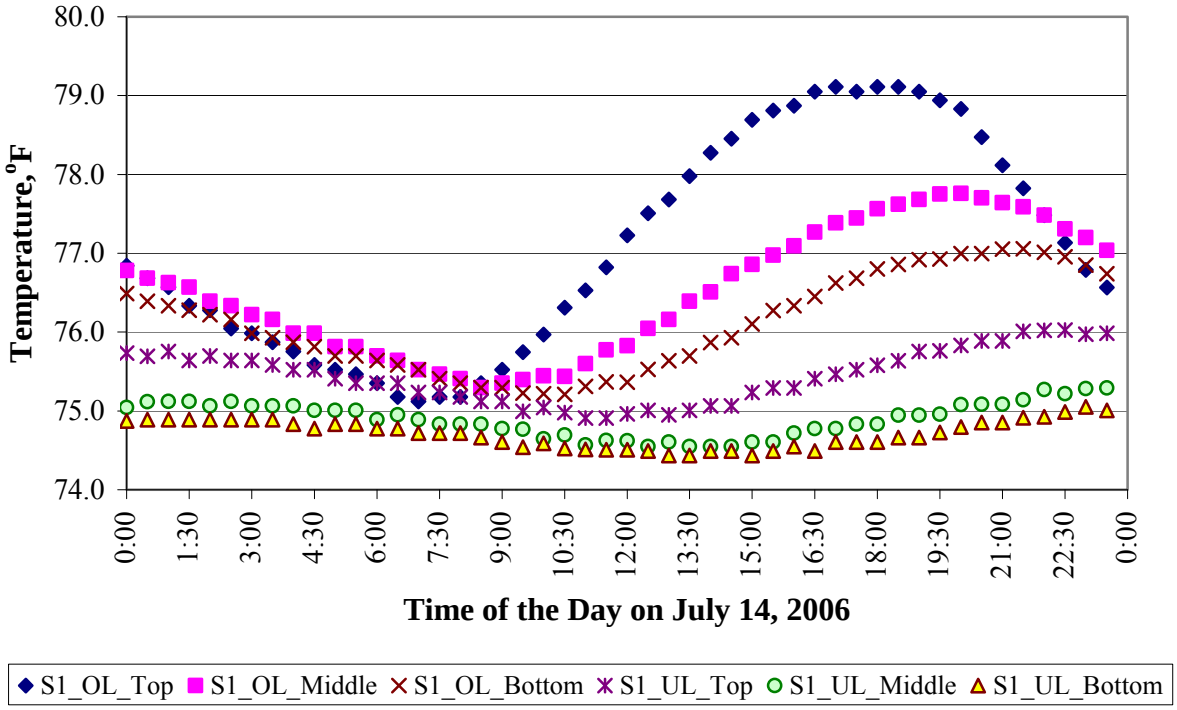

FIGURE E37. DIURNAL VARIATION OF SLAB TEMPERATURES ON 7/14/06 – TEST ITEM S1

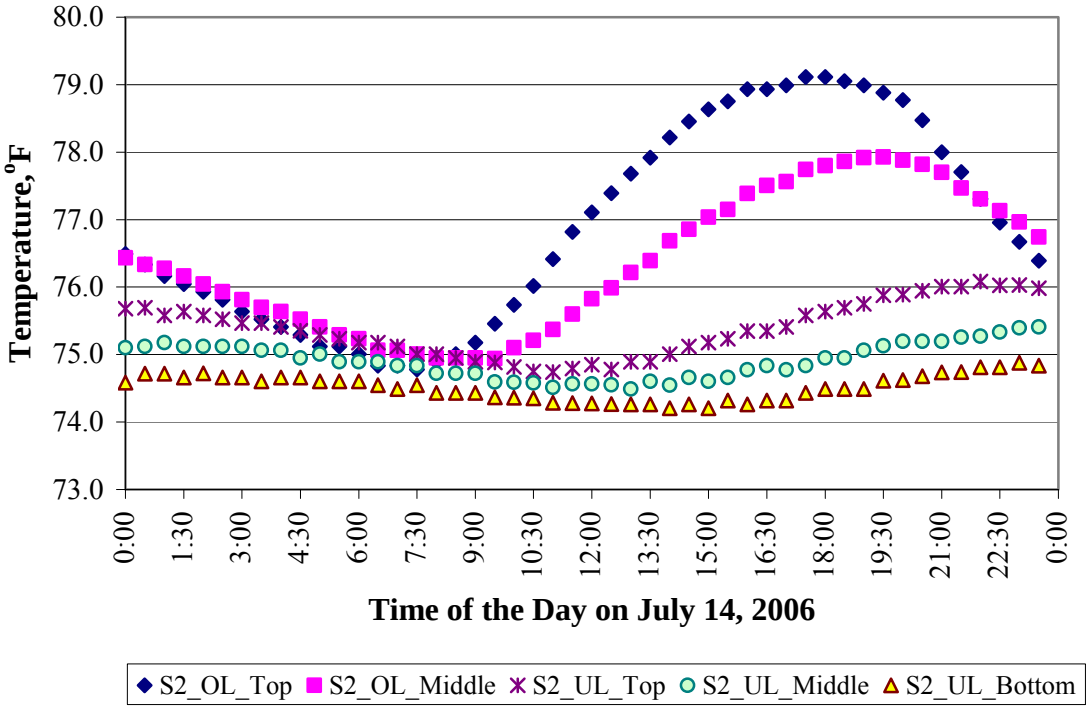

FIGURE E38. DIURNAL VARIATION OF SLAB TEMPERATURES ON 7/14/06 – TEST ITEM S2

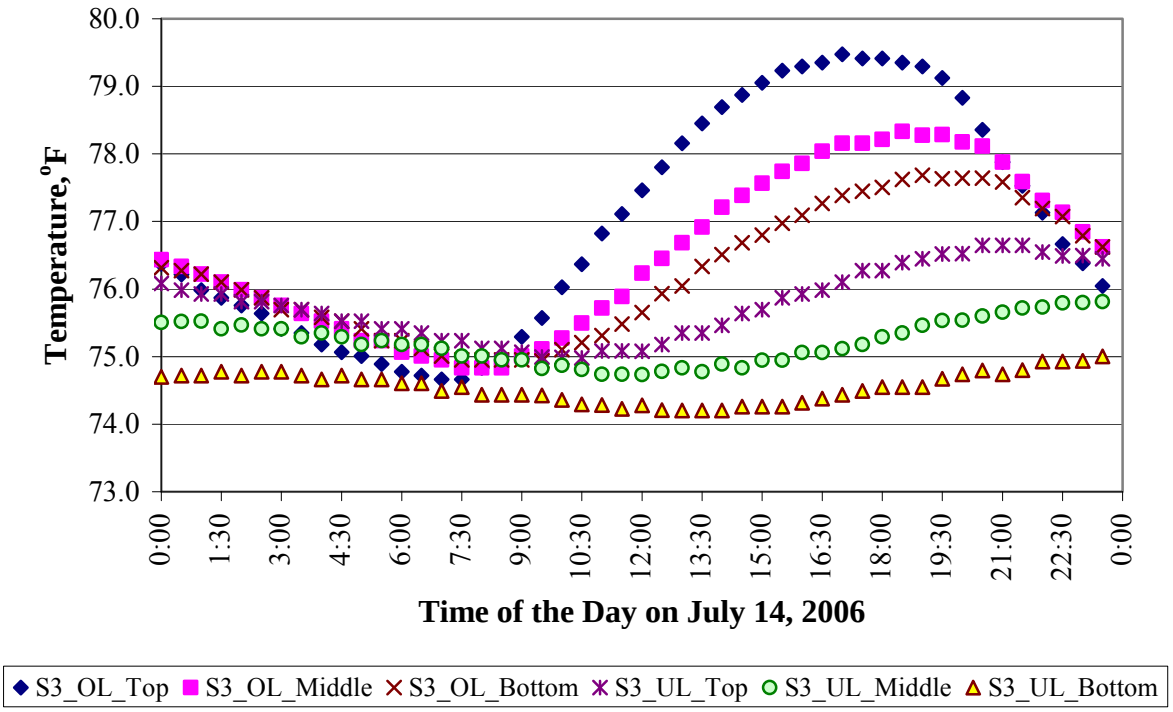

FIGURE E39. DIURNAL VARIATION OF SLAB TEMPERATURES ON 7/14/06 – TEST ITEM S3

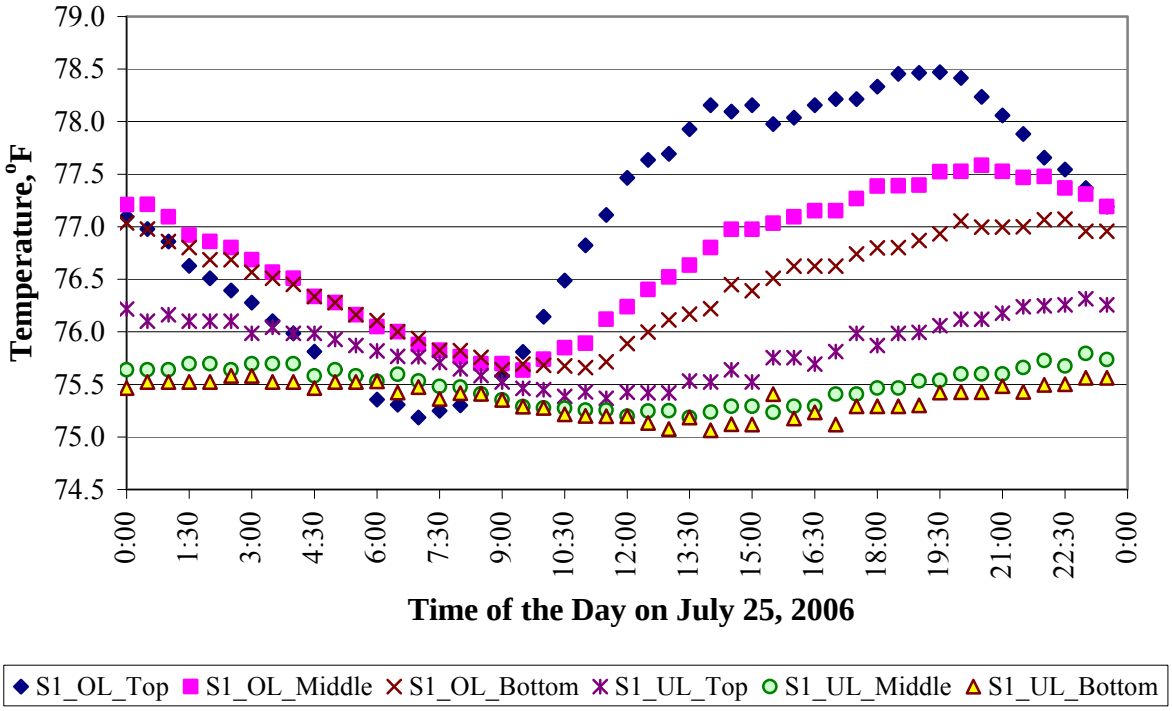

FIGURE E40. DIURNAL VARIATION OF SLAB TEMPERATURES ON 7/25/06 – TEST ITEM S1

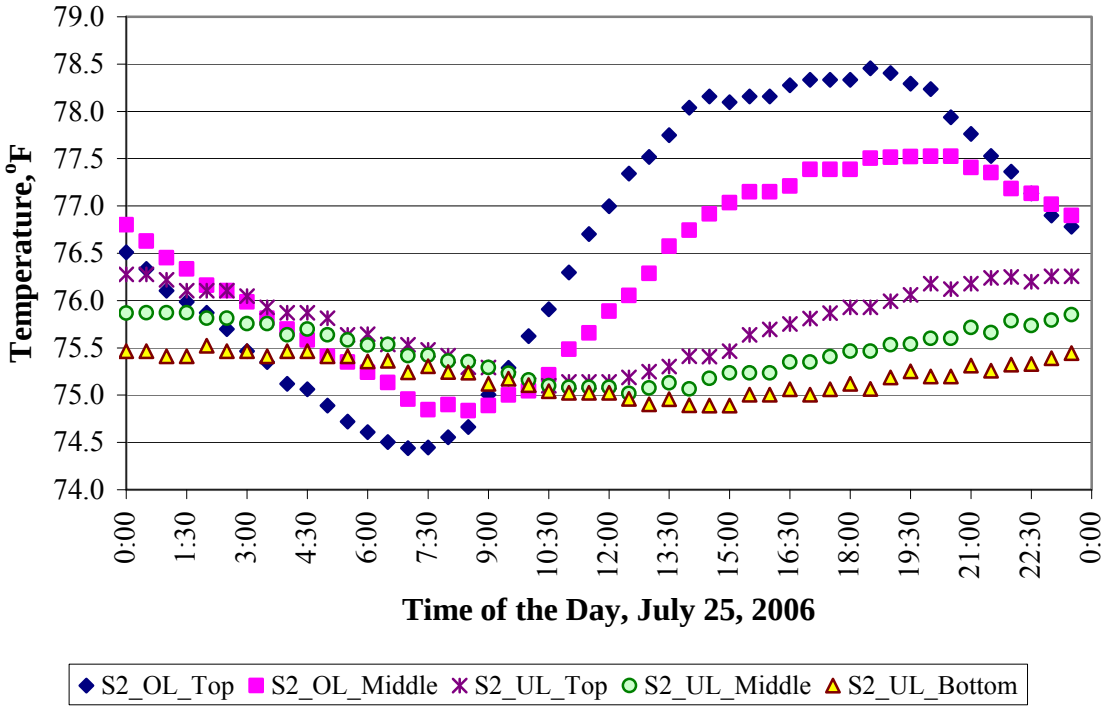

FIGURE E41. DIURNAL VARIATION OF SLAB TEMPERATURES ON 7/25/06 – TEST ITEM S2

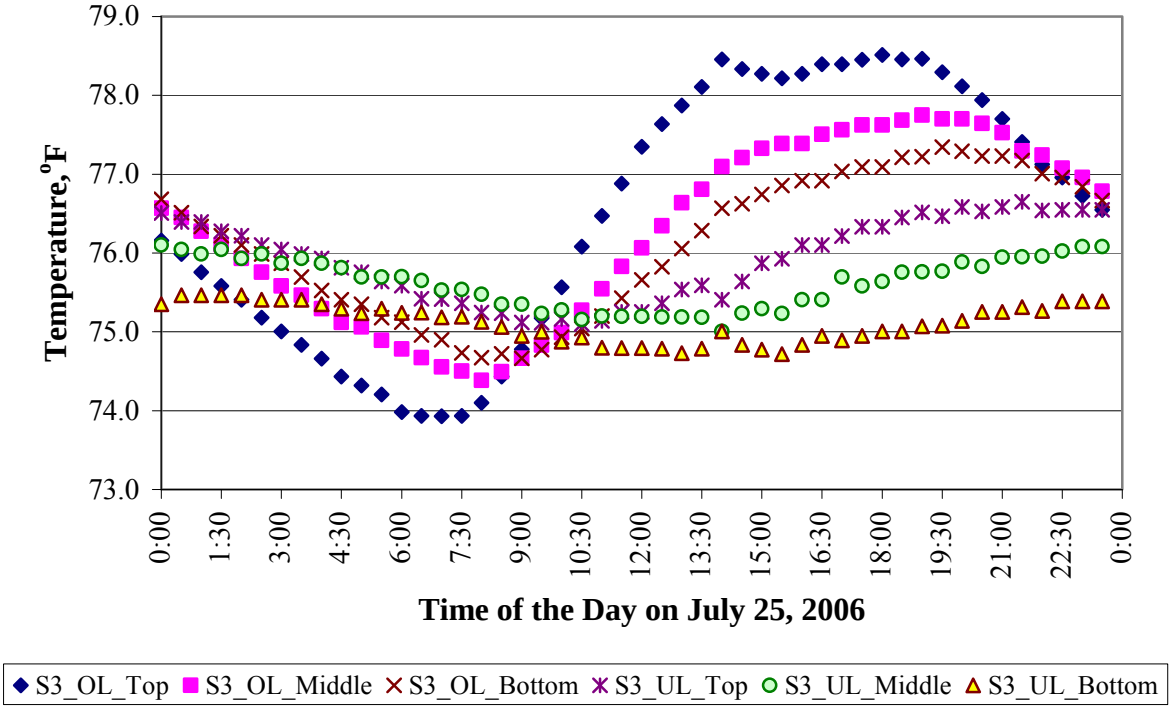

FIGURE E42. DIURNAL VARIATION OF SLAB TEMPERATURES ON 7/25/06 – TEST ITEM S3

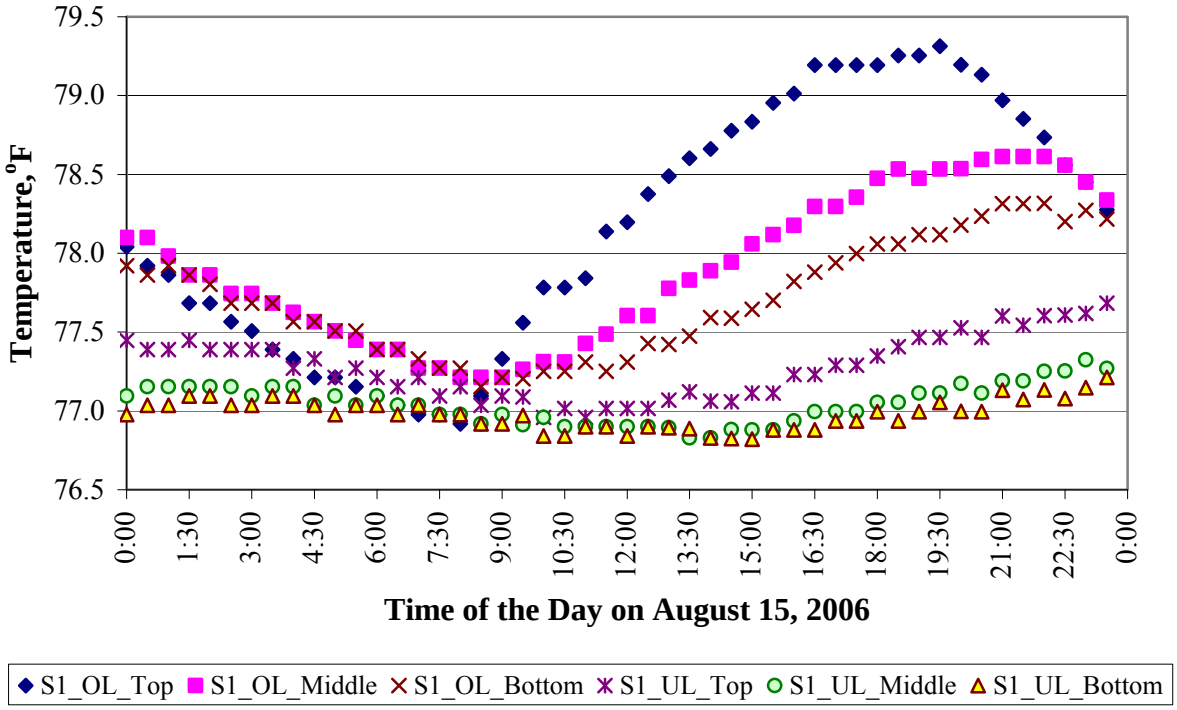

FIGURE E43. DIURNAL VARIATION OF SLAB TEMPERATURES ON 8/15/06 - TEST ITEM S1

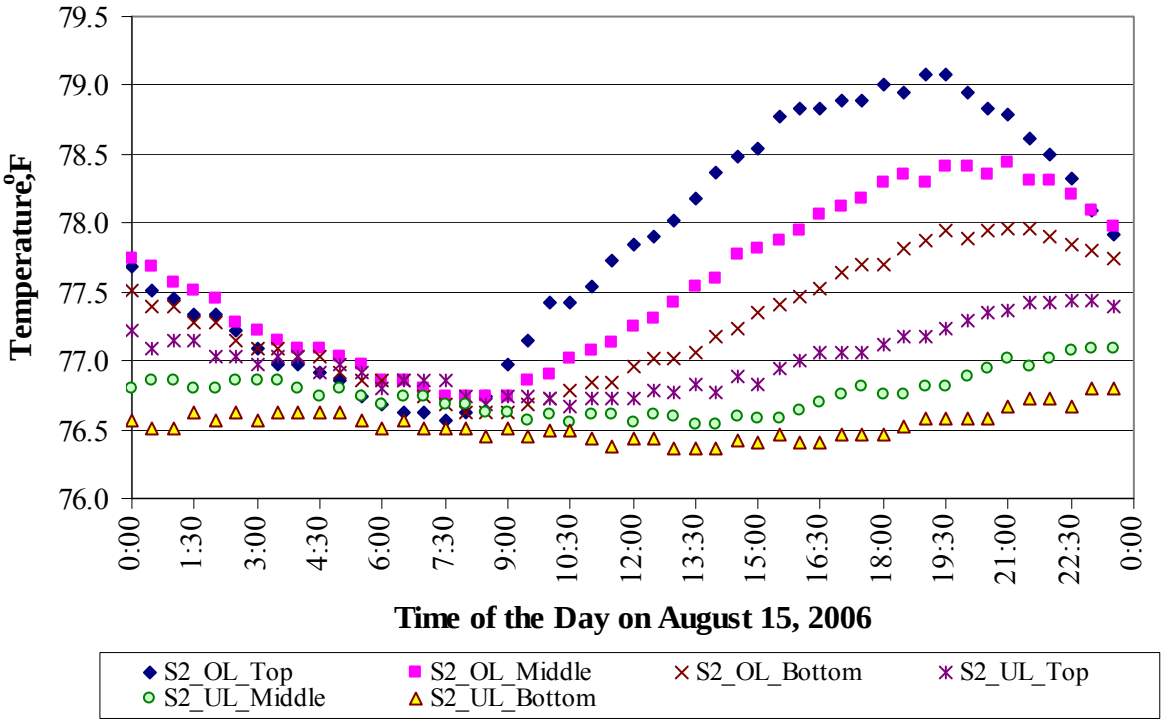

FIGURE E44. DIURNAL VARIATION OF SLAB TEMPERATURES ON 8/15/06 - TEST ITEM S2

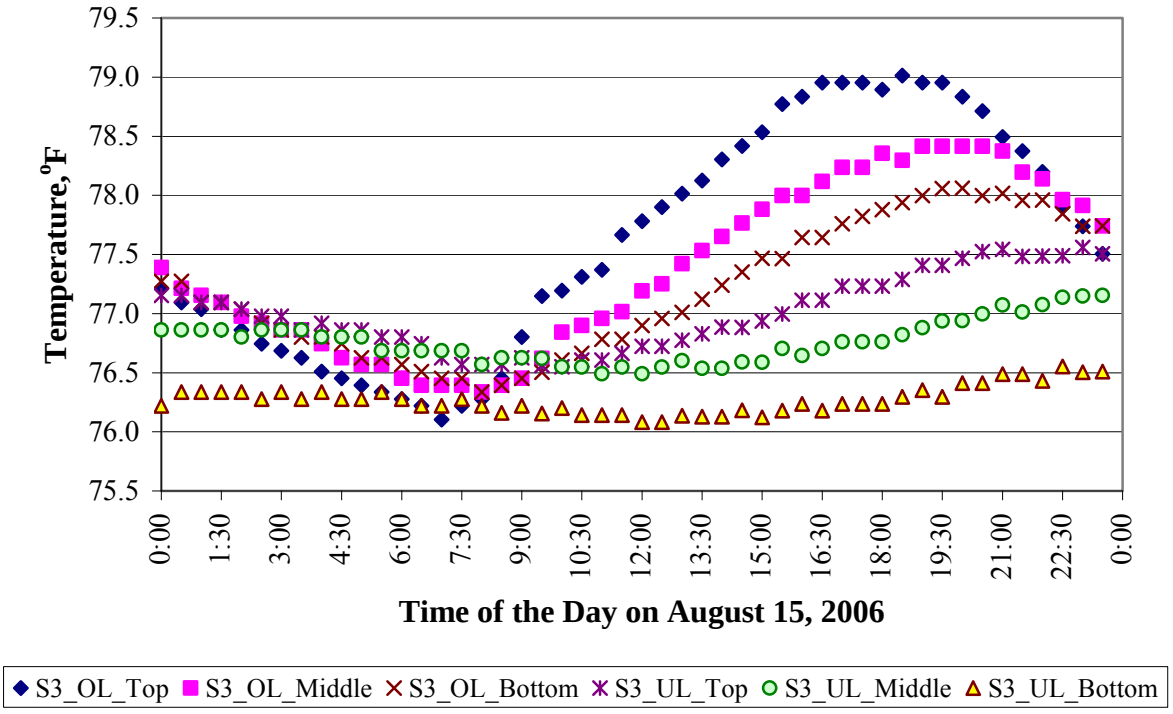

FIGURE E45. DIURNAL VARIATION OF SLAB TEMPERATURES ON 8/15/06 – TEST ITEM S3

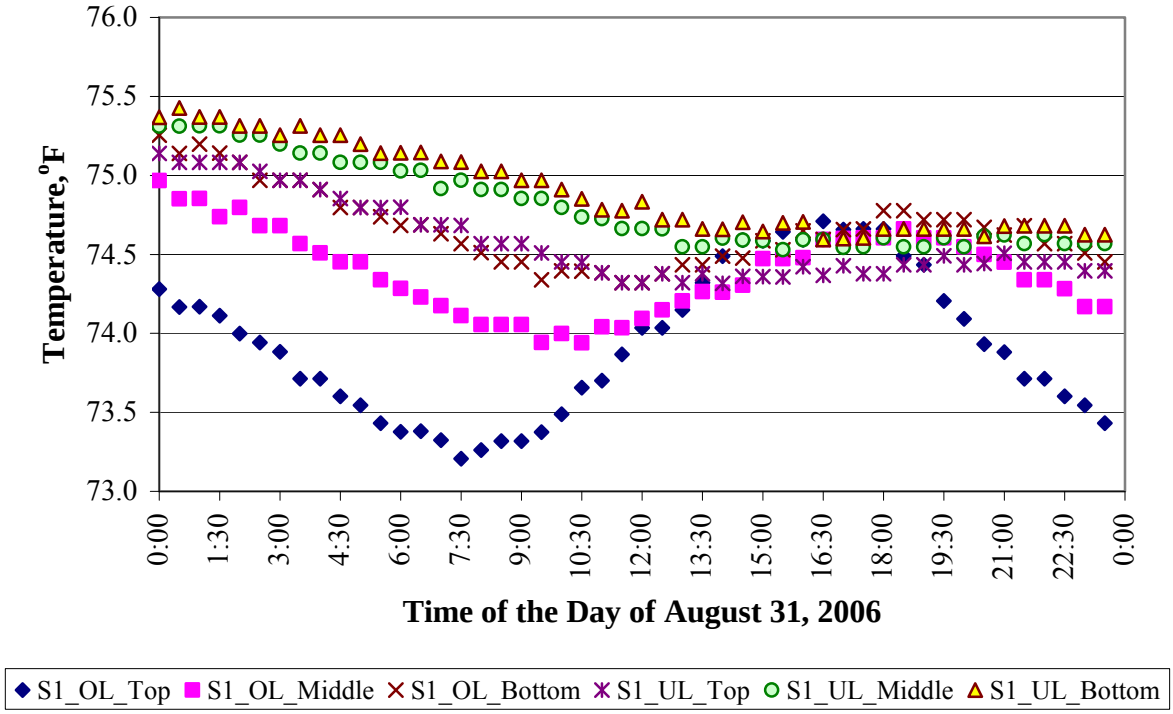

FIGURE E46. DIURNAL VARIATION OF SLAB TEMPERATURES ON 8/31/06 – TEST ITEM S1

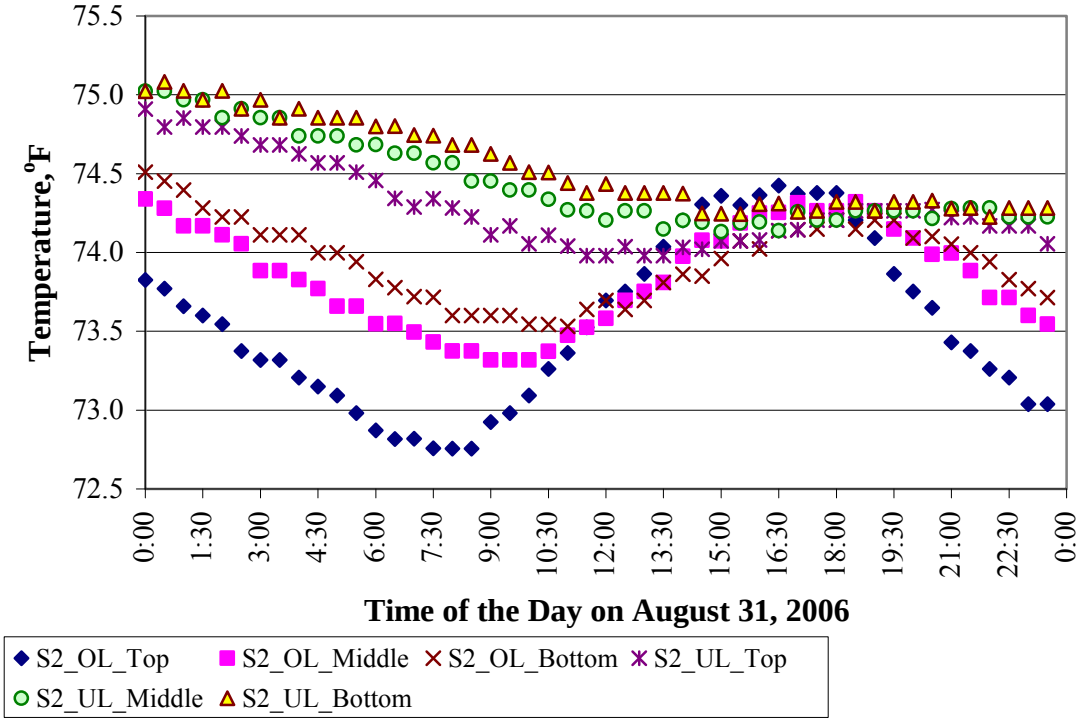

FIGURE E47. DIURNAL VARIATION OF SLAB TEMPERATURES ON 8/31/06, 2006 – TEST ITEM S2

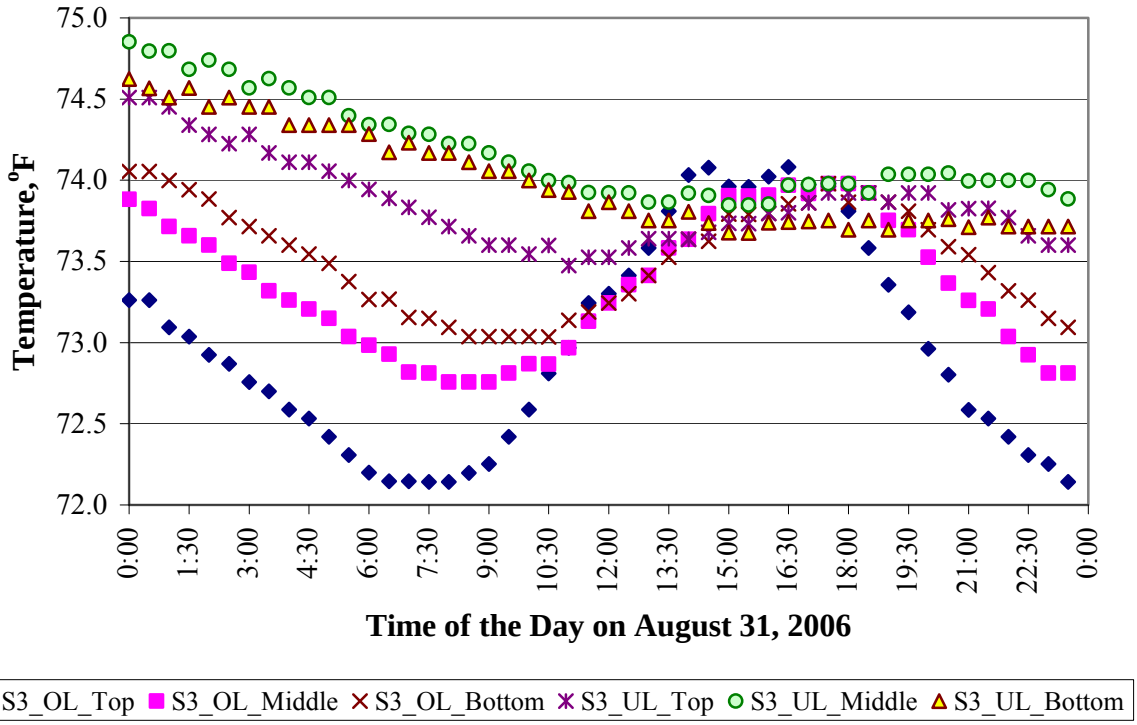

FIGURE E48. DIURNAL VARIATION OF SLAB TEMPERATURES ON 8/31/06 – TEST ITEM S3

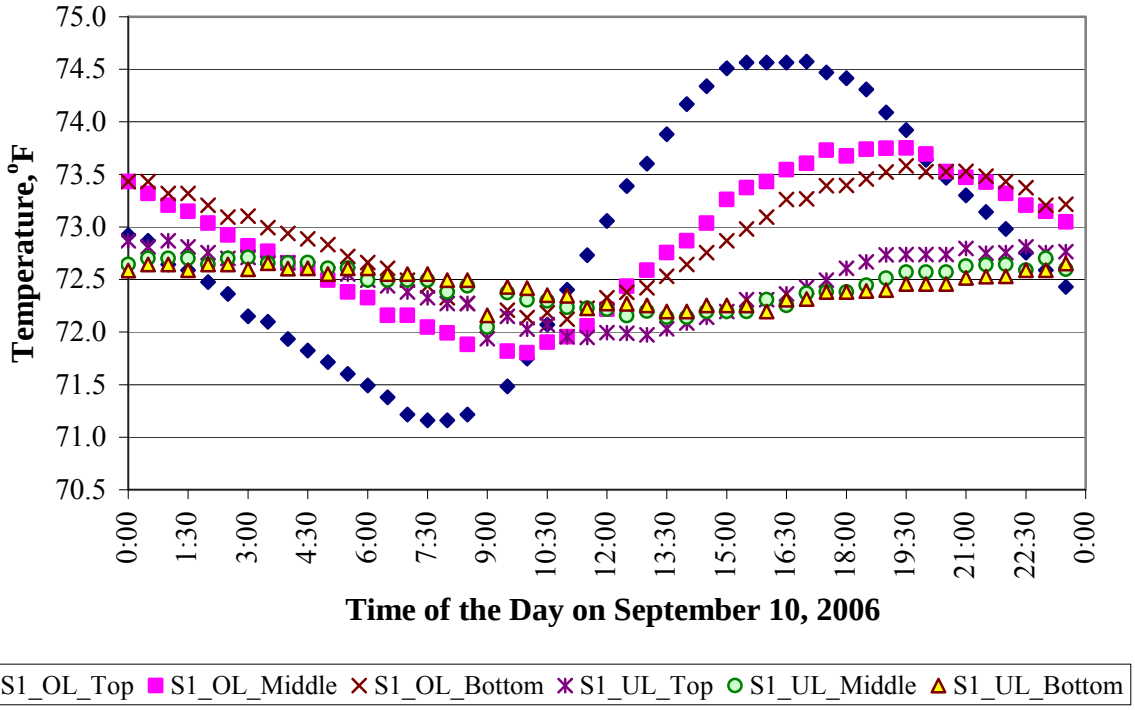

FIGURE E49. DIURNAL VARIATION OF SLAB TEMPERATURES ON 9/10/06– TEST ITEM S1

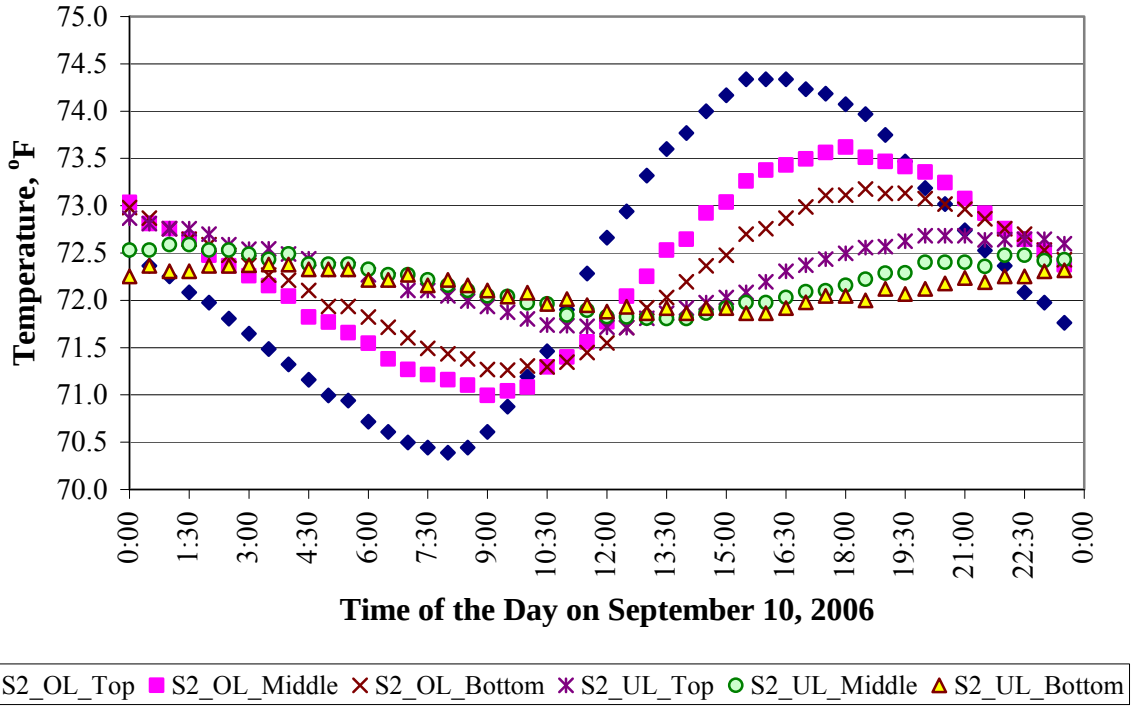

FIGURE E50. DIURNAL VARIATION OF SLAB TEMPERATURES ON 9/10/06– TEST ITEM S2

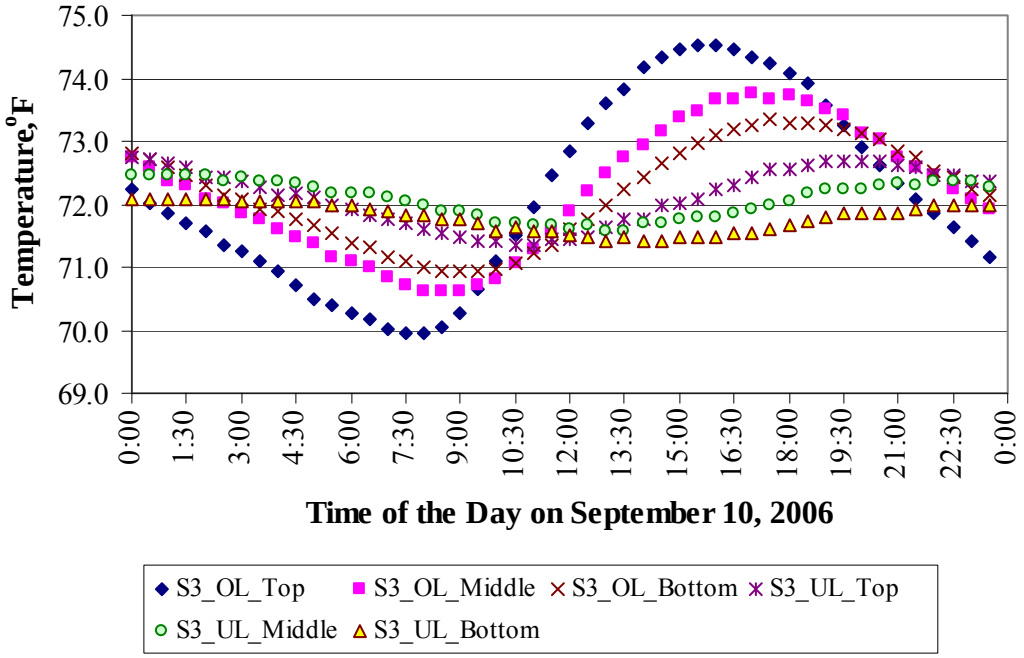

FIGURE E51. DIURNAL VARIATION OF SLAB TEMPERATURES ON 9/10/06 – TEST ITEM S3

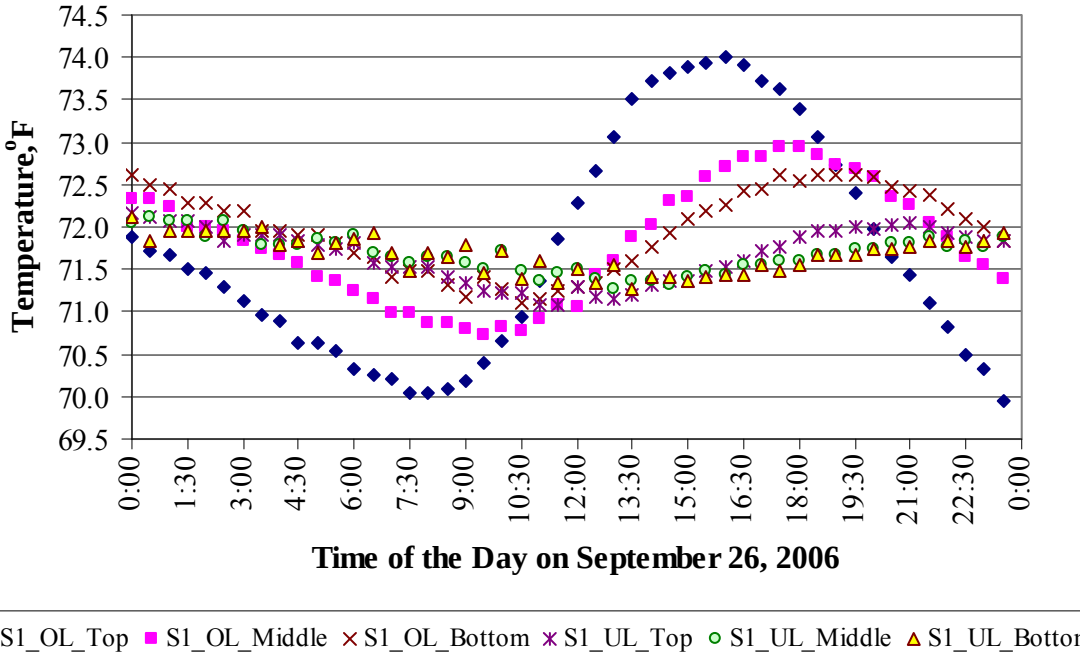

FIGURE E52. DIURNAL VARIATION OF SLAB TEMPERATURES ON 9/26/06 – TEST ITEM S1

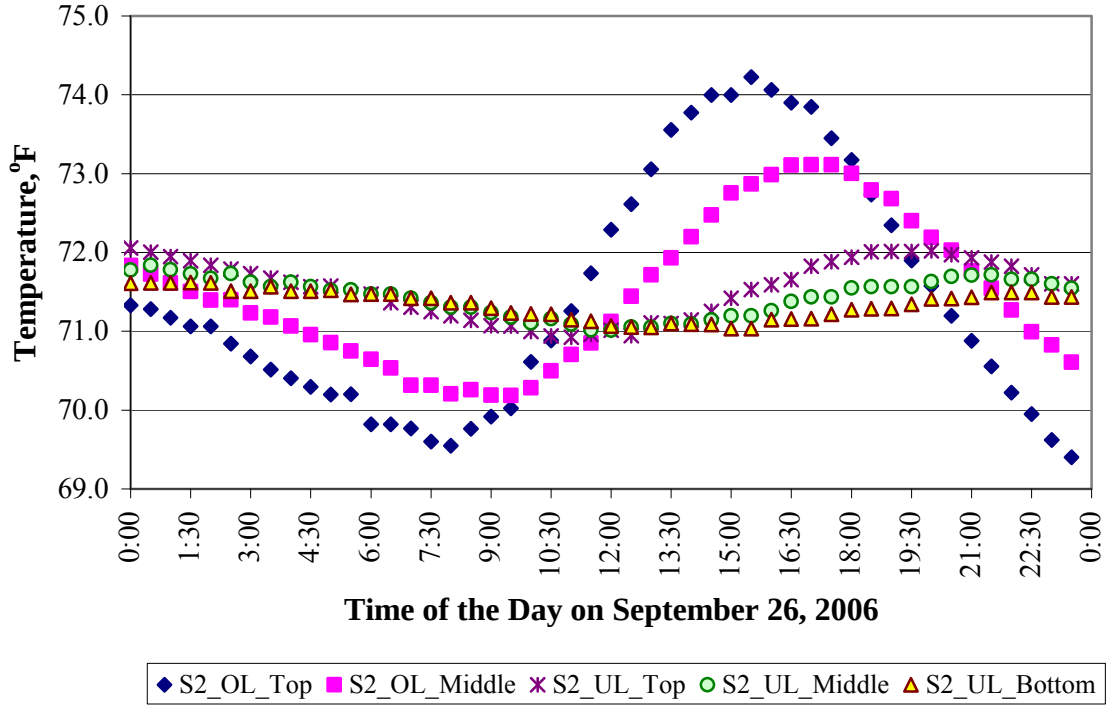

FIGURE E53. DIURNAL VARIATION OF SLAB TEMPERATURES ON 9/26/06, 2006 – TEST ITEM S2

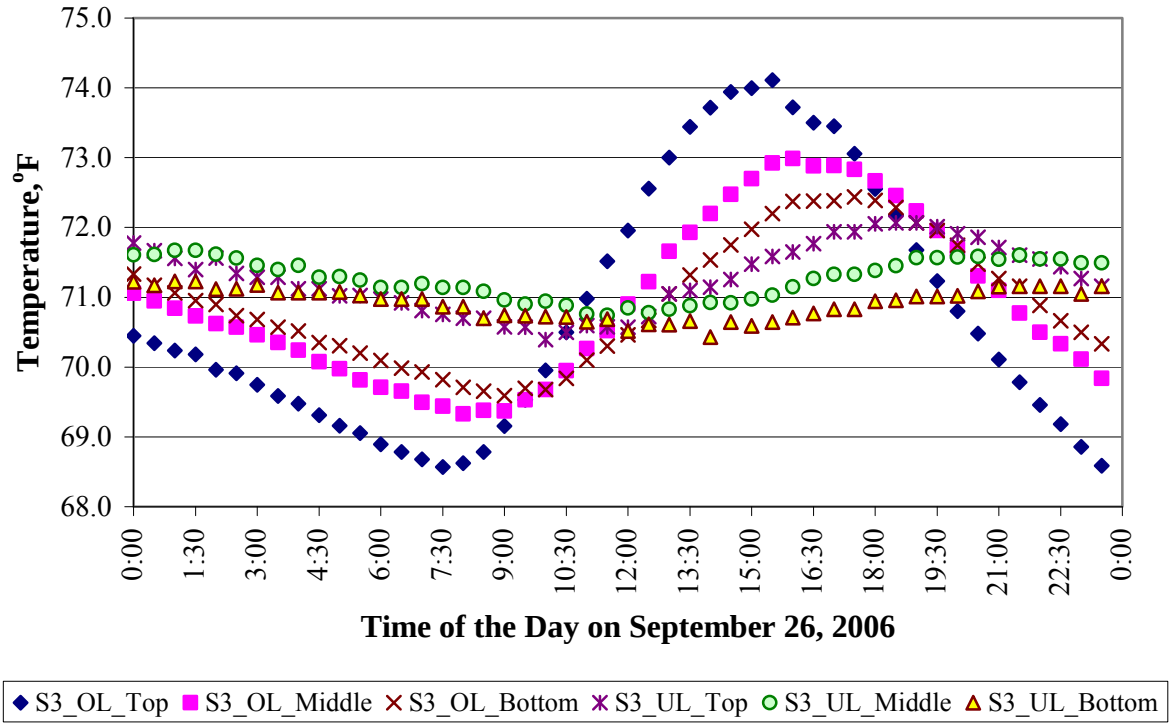

FIGURE E54. DIURNAL VARIATION OF SLAB TEMPERATURES ON 9/26/06 – TEST ITEM S3

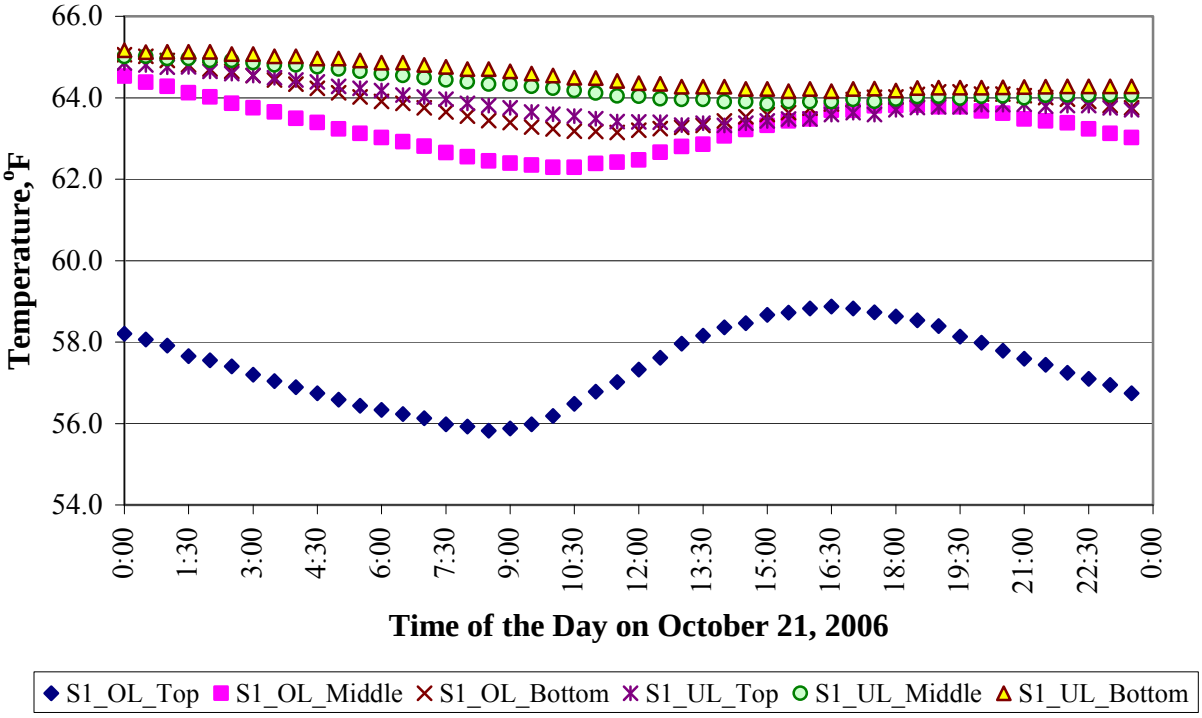

FIGURE E55. DIURNAL VARIATION OF SLAB TEMPERATURES ON 10/21/06 – TEST ITEM S1

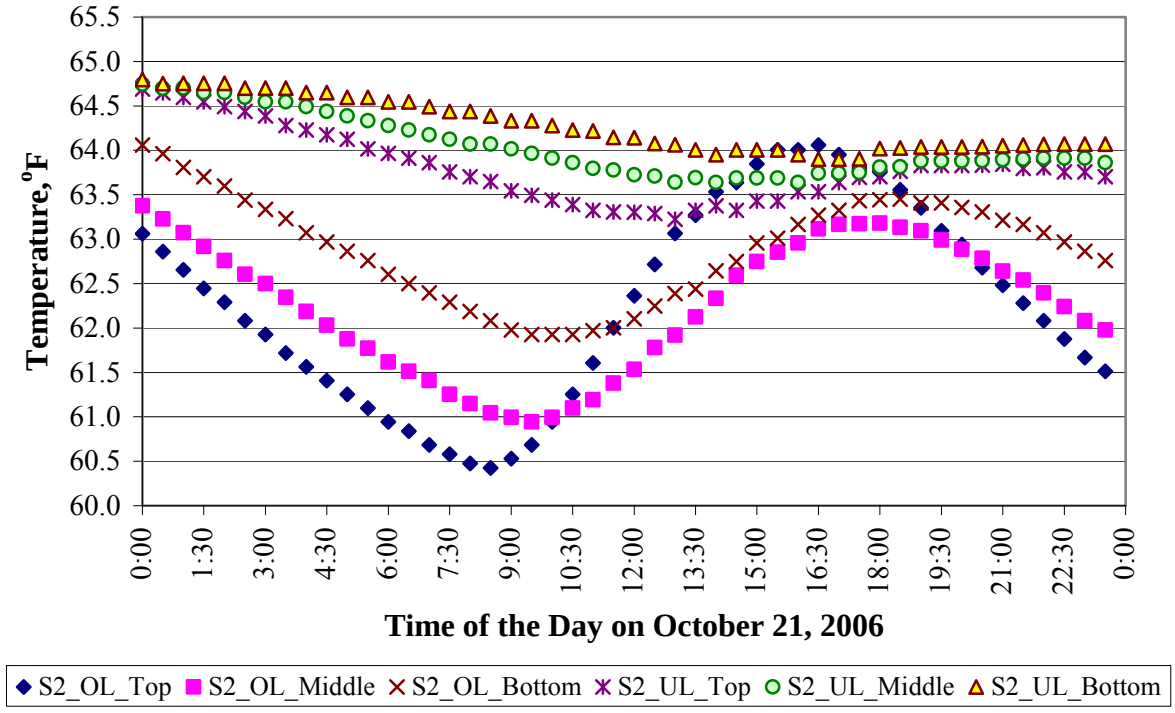

FIGURE E56. DIURNAL VARIATION OF SLAB TEMPERATURES ON 10/21/06 – TEST ITEM S2

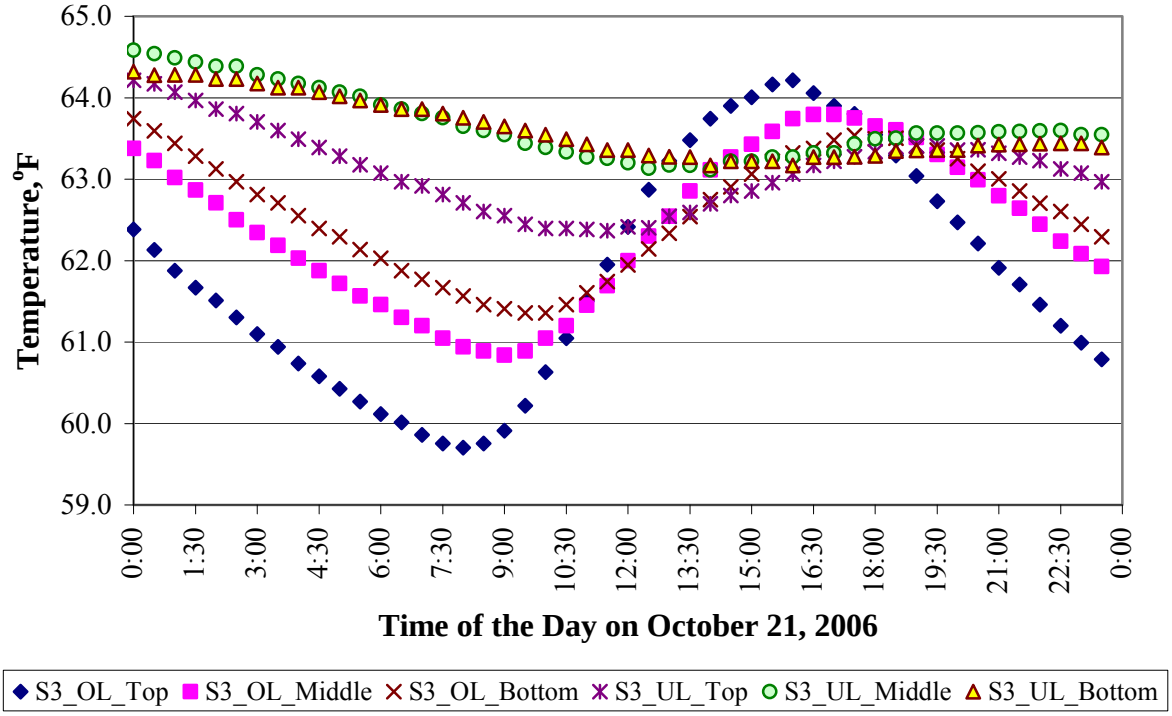

FIGURE E57. DIURNAL VARIATION OF SLAB TEMPERATURES ON 10/21/06 – TEST ITEM S3

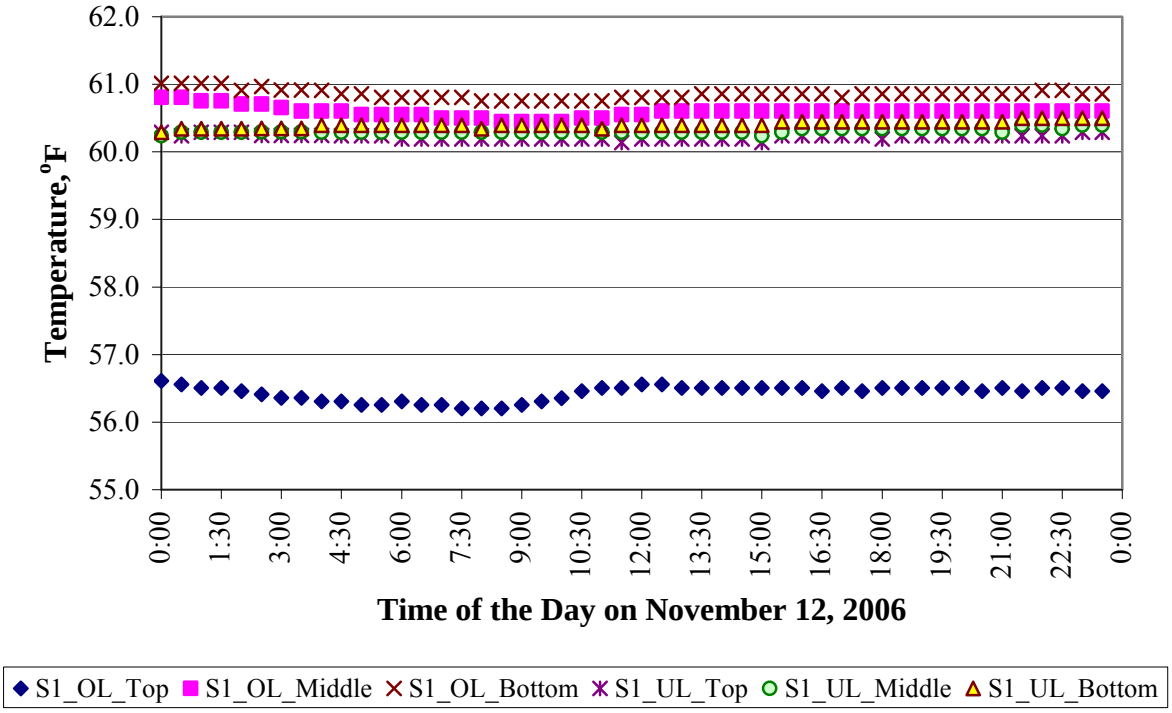

FIGURE E58. DIURNAL VARIATION OF SLAB TEMPERATURES ON 11/12/06 – TEST ITEM S1

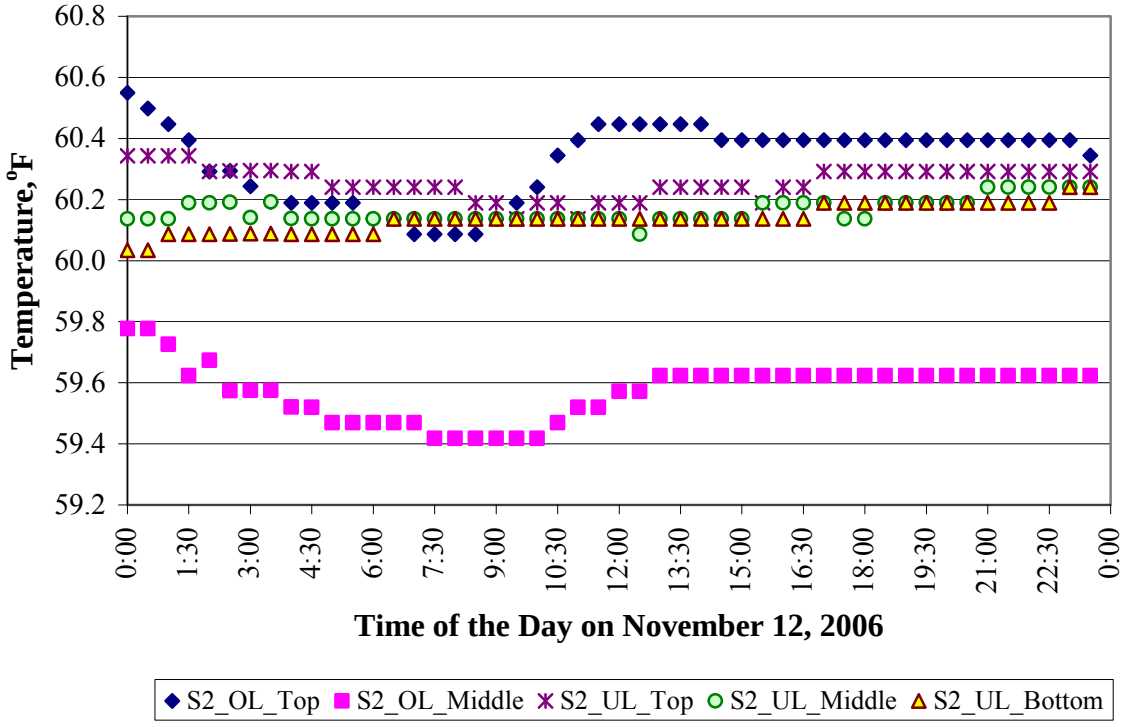

FIGURE E59. DIURNAL VARIATION OF SLAB TEMPERATURES ON 11/12/06 – TEST ITEM S2

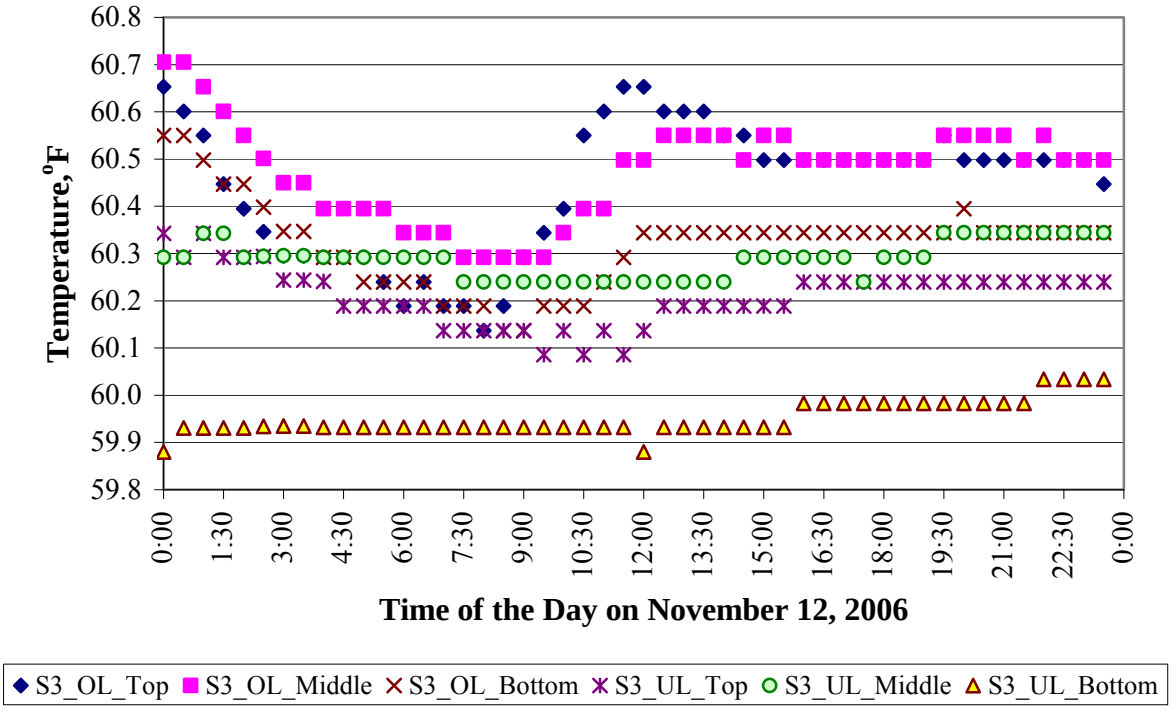

FIGURE E60. DIURNAL VARIATION OF SLAB TEMPERATURES ON 11/12/06 – TEST ITEM S3

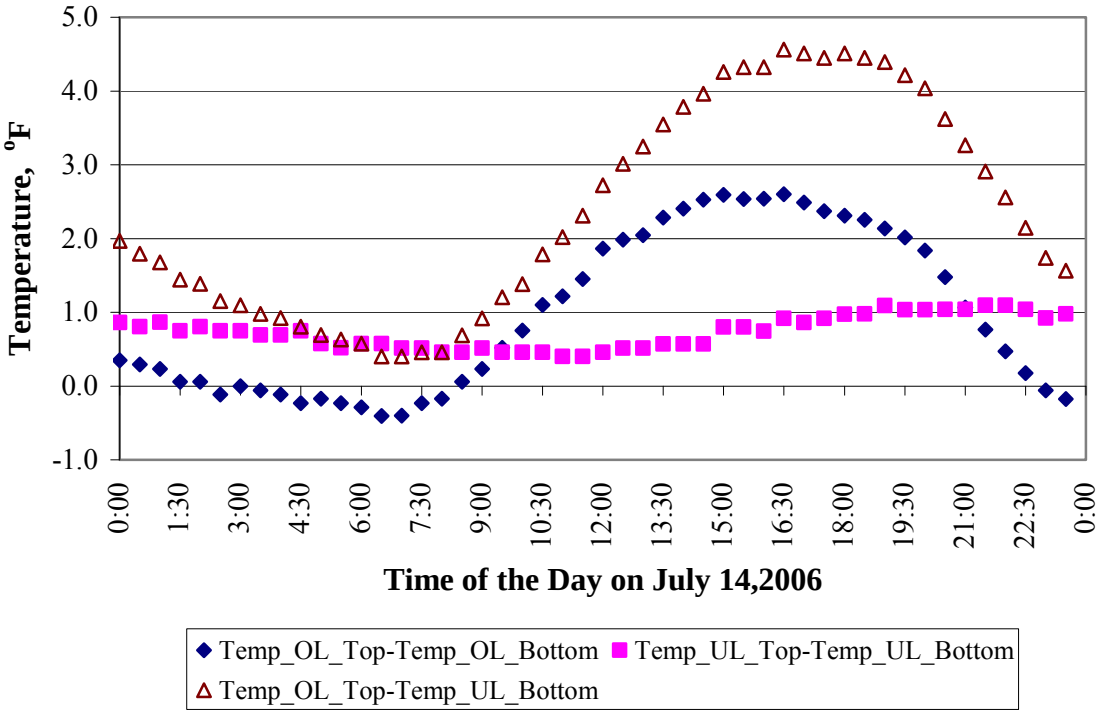

FIGURE E61. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 07/14/06 - TEST ITEM S1

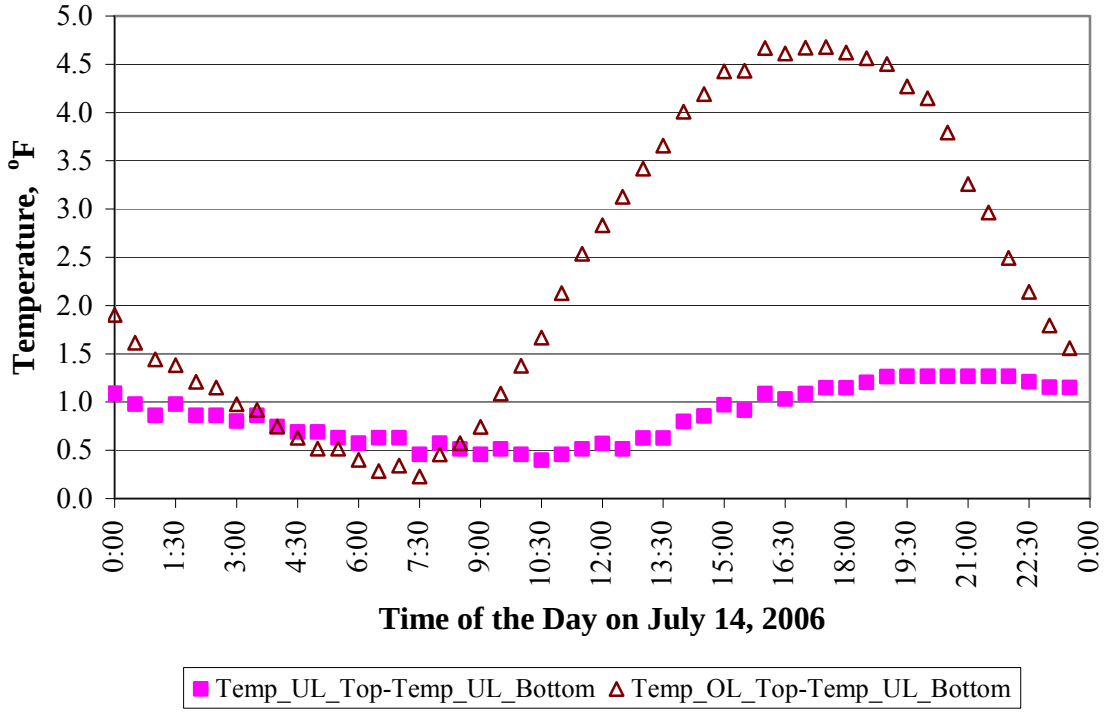

FIGURE E62. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 07/14/06 - TEST ITEM S2

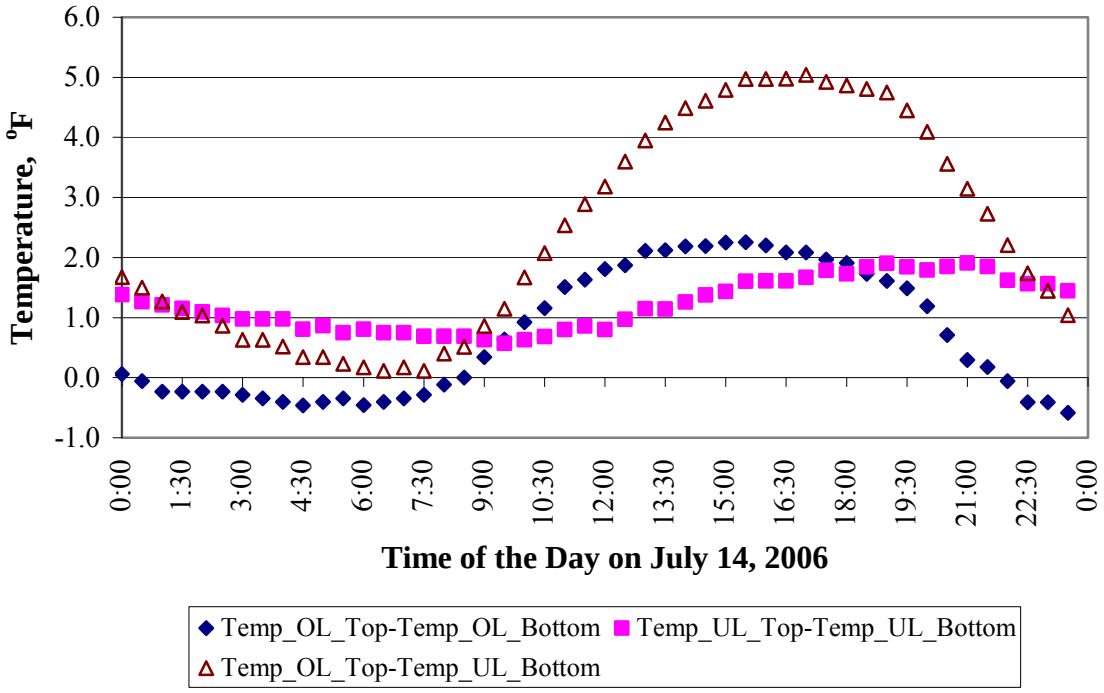

FIGURE E63. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 07/14/06 - TEST ITEM S3

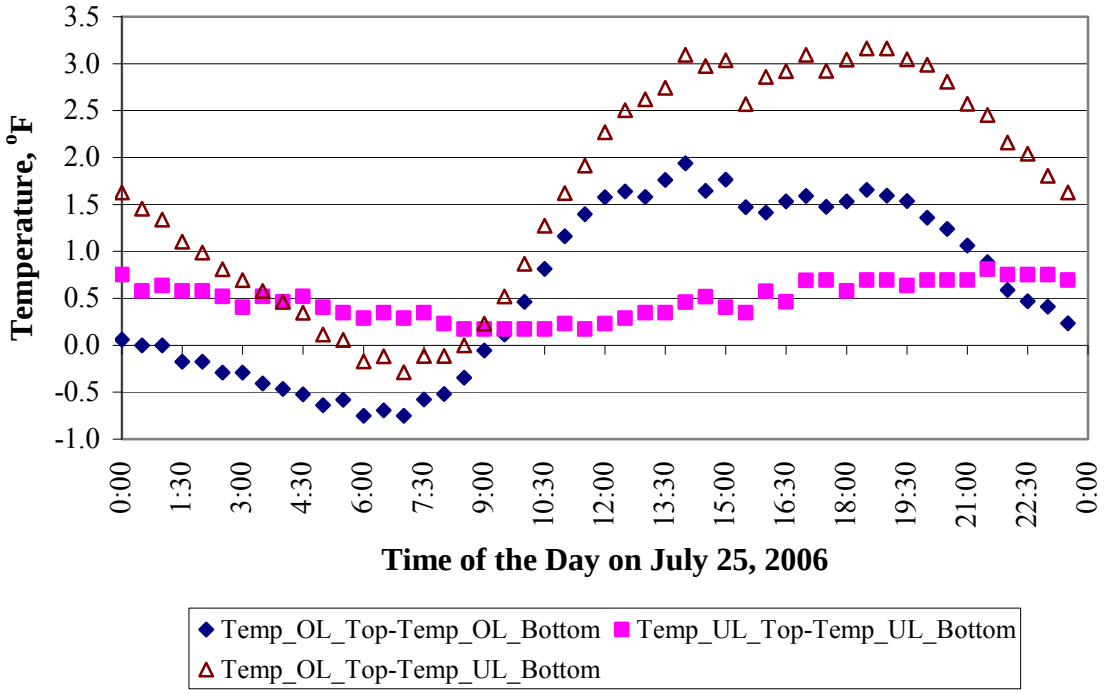

FIGURE E64. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 07/25/06 - TEST ITEM S1

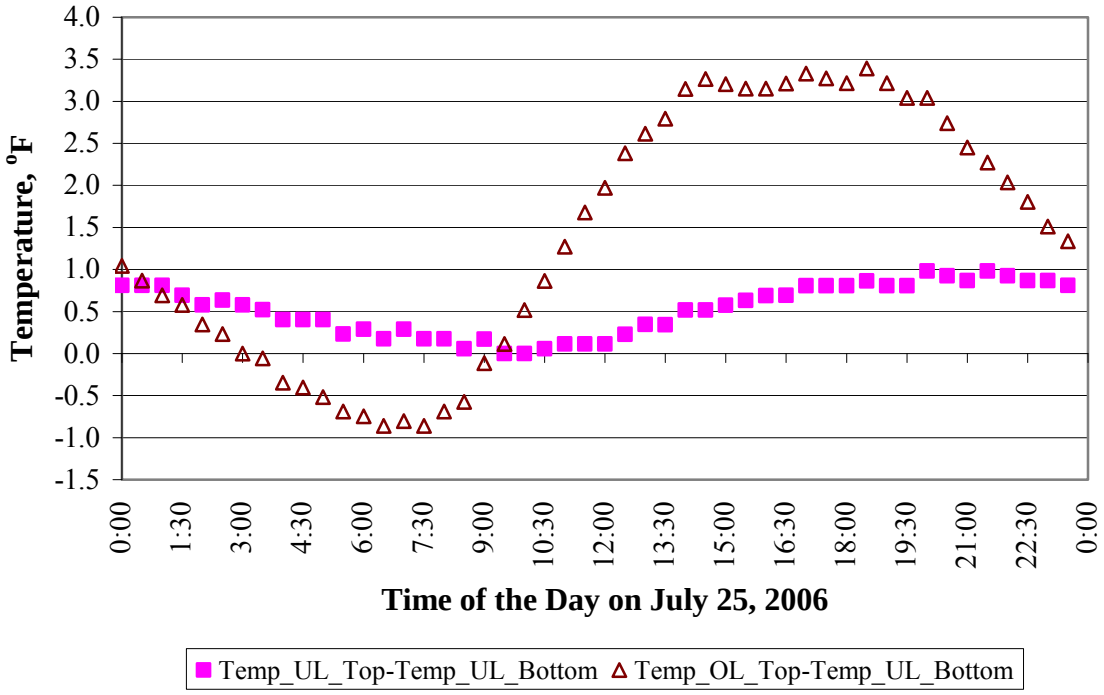

FIGURE E65. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 07/25/06 - TEST ITEM S2

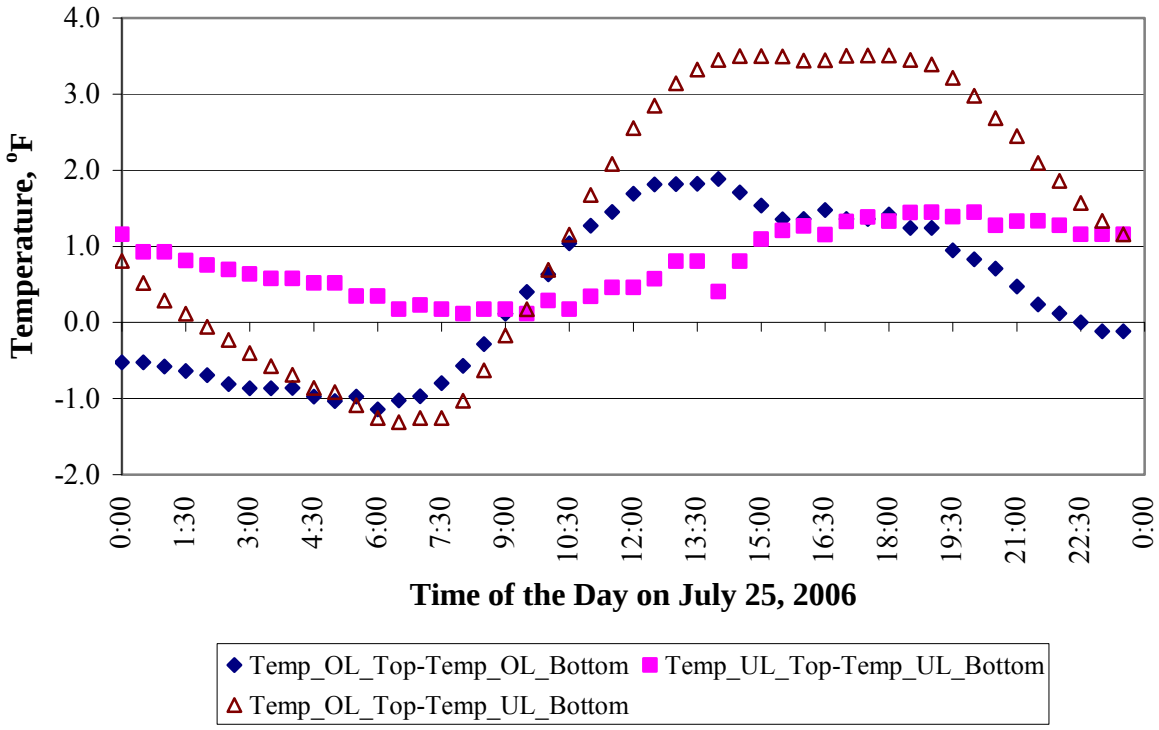

FIGURE E66. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 07/25/06 - TEST ITEM S3

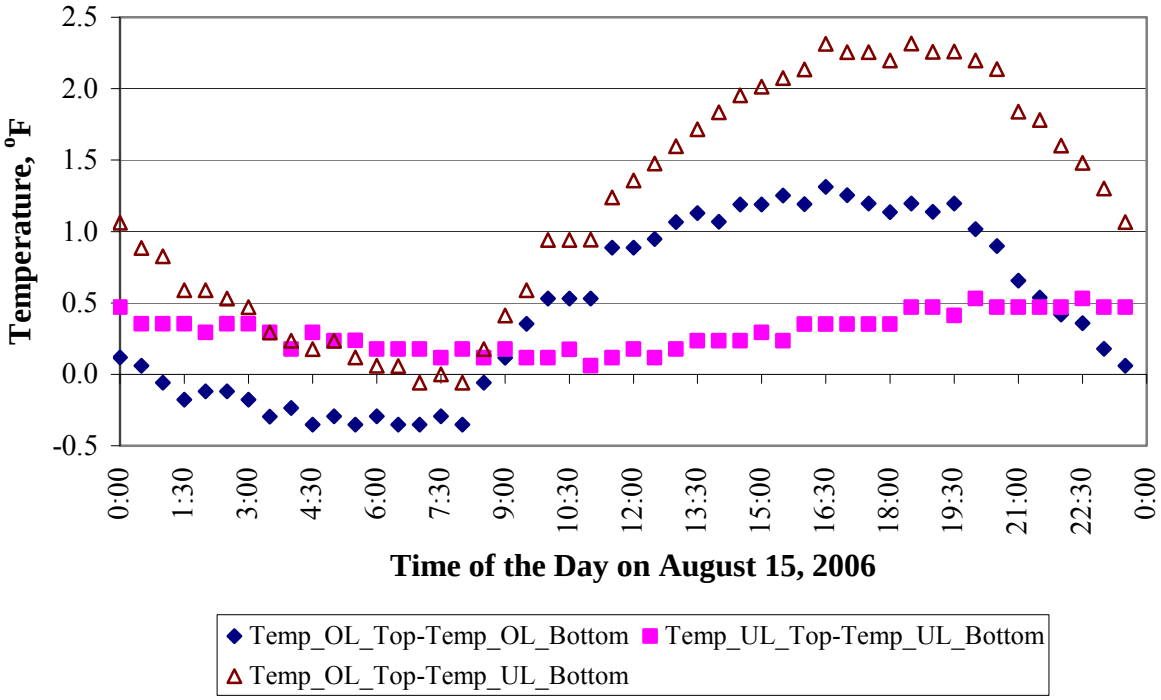

FIGURE E67. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 08/15/06 - TEST ITEM S1

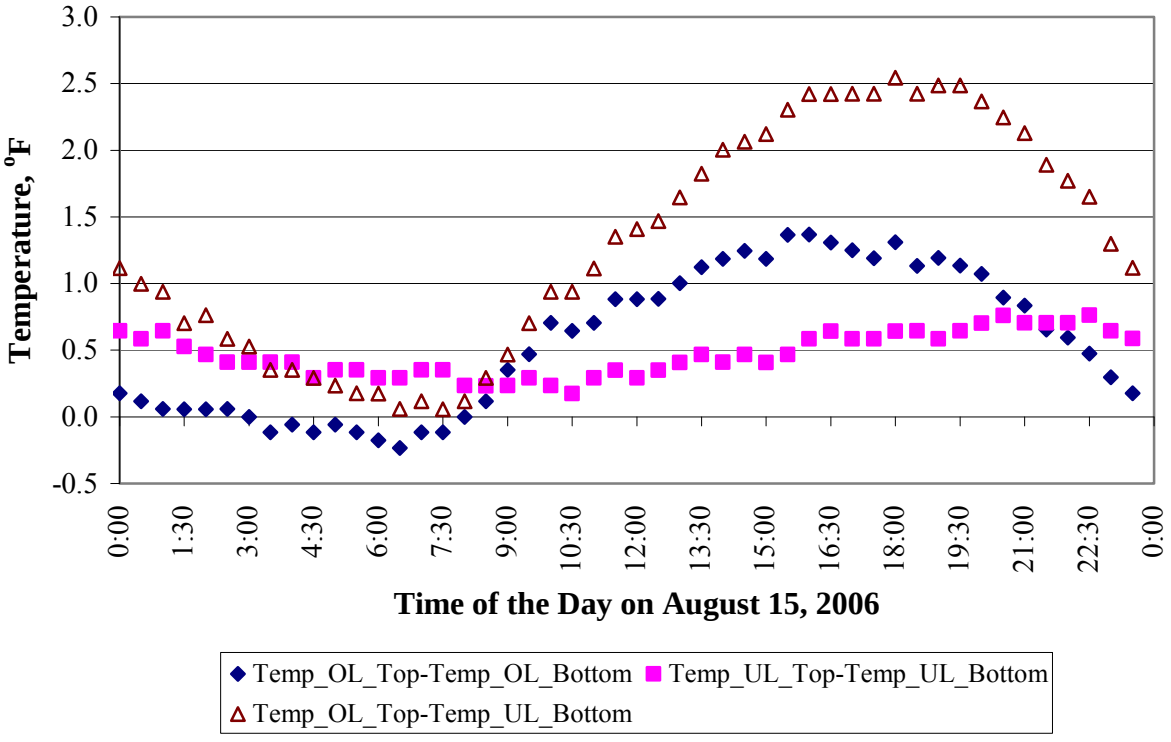

FIGURE E68. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 08/15/06- TEST ITEM S2

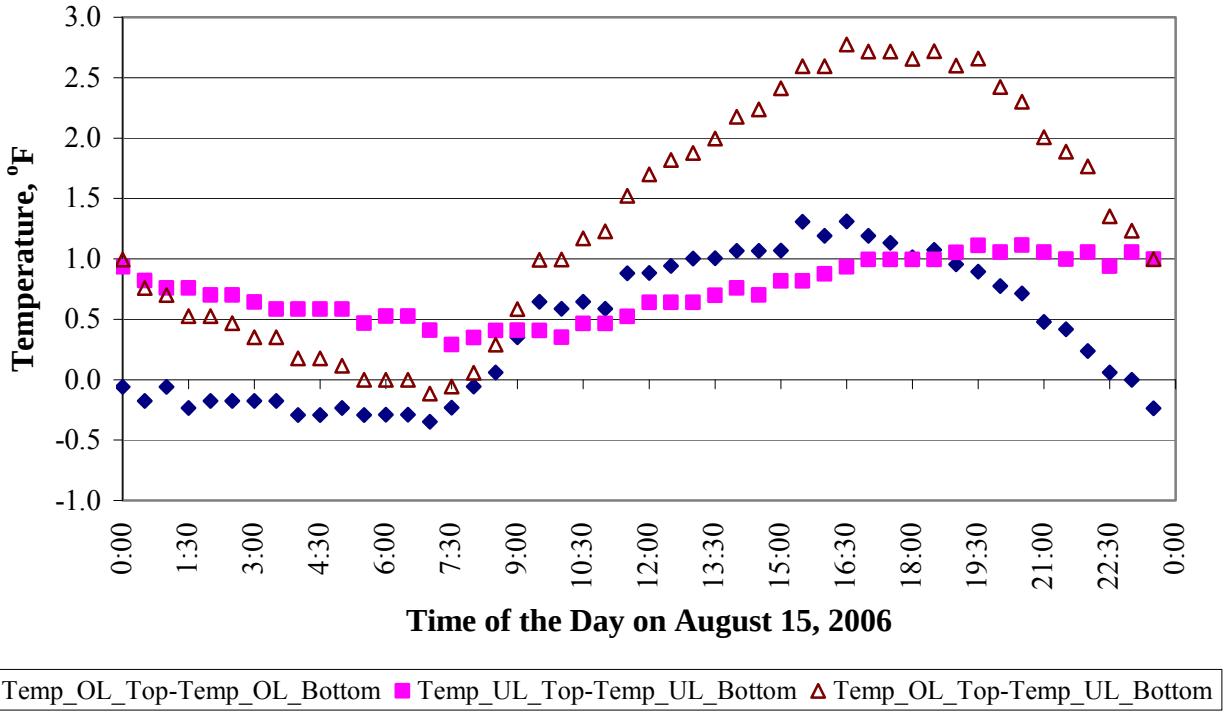

FIGURE E69. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 08/15/06 - TEST ITEM S3

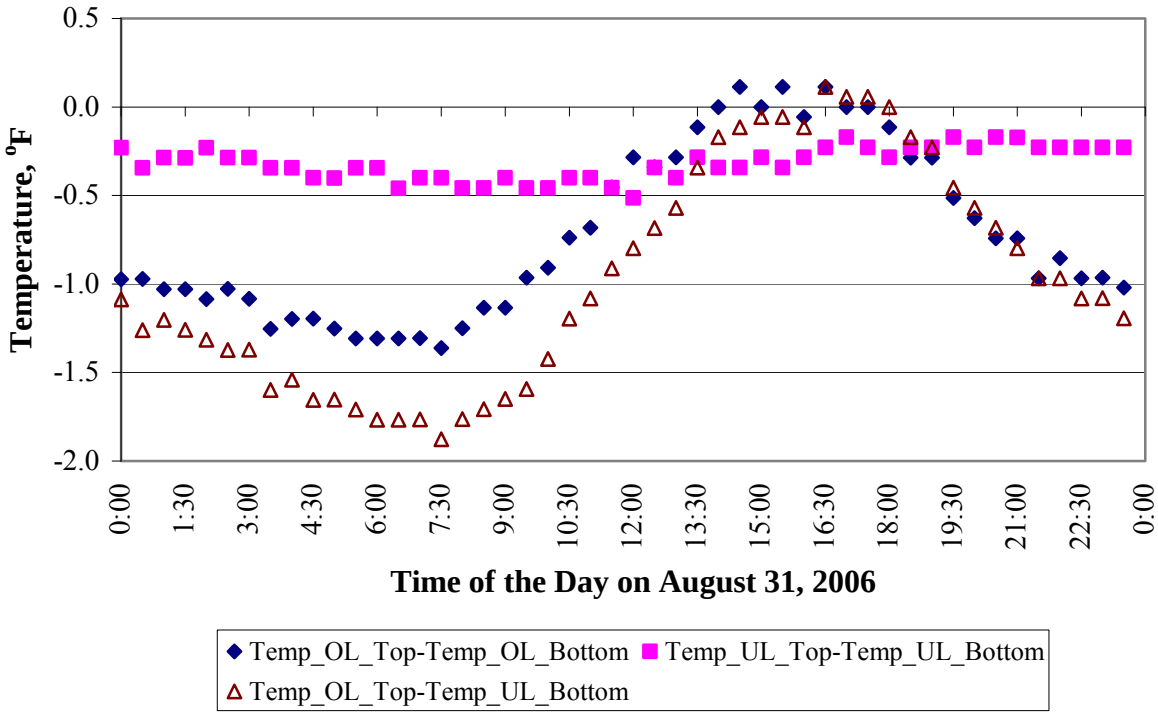

FIGURE E70. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 08/31/06 - TEST ITEM S1

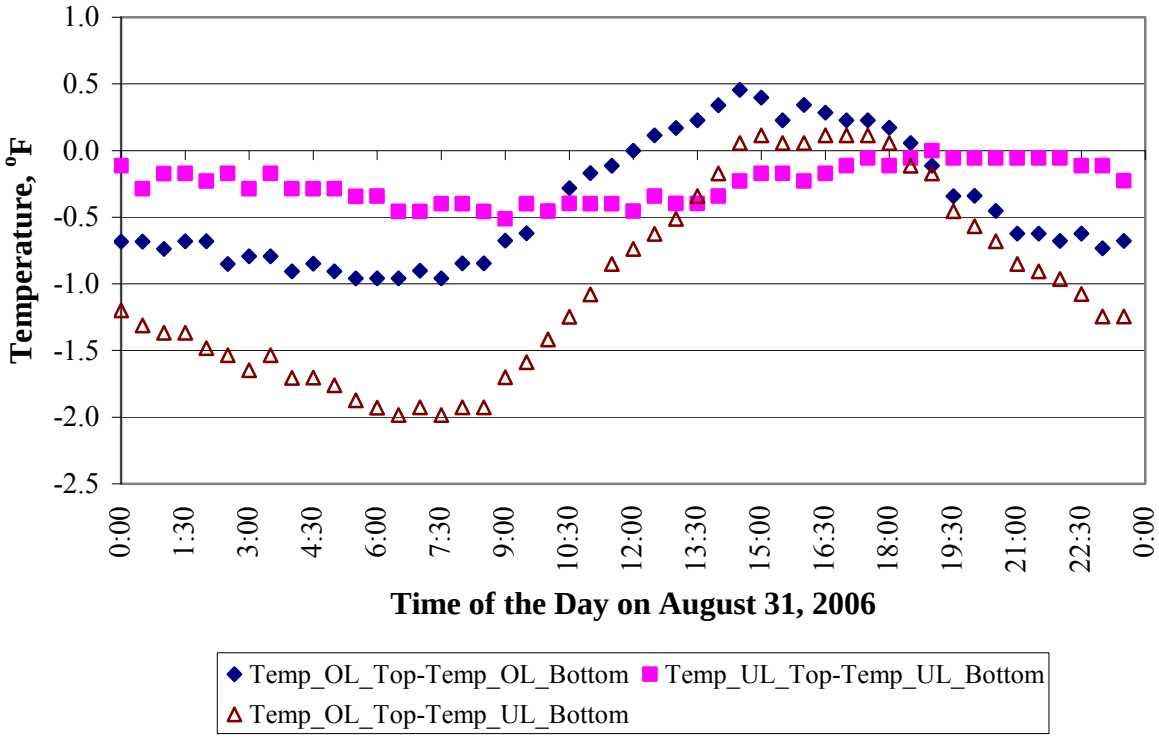

FIGURE E71. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 08/31/06- TEST ITEM S2

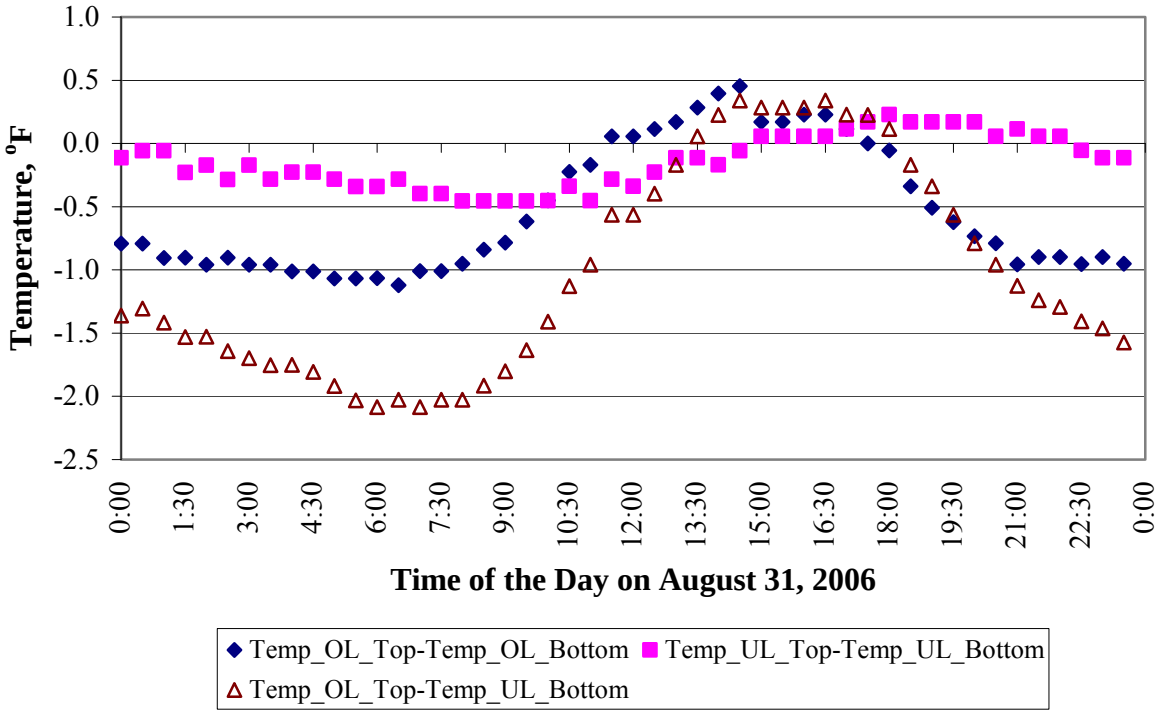

FIGURE E72. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 08/31/06 - TEST ITEM S3

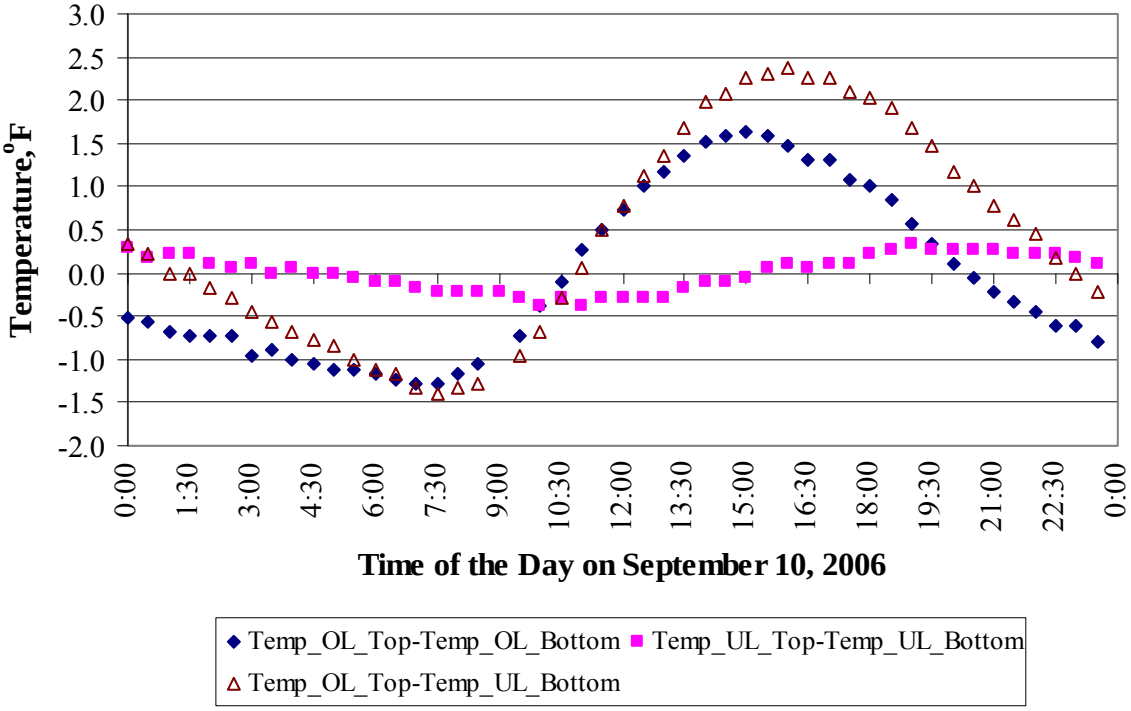

FIGURE E73. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 09/10/06 - TEST ITEM S1

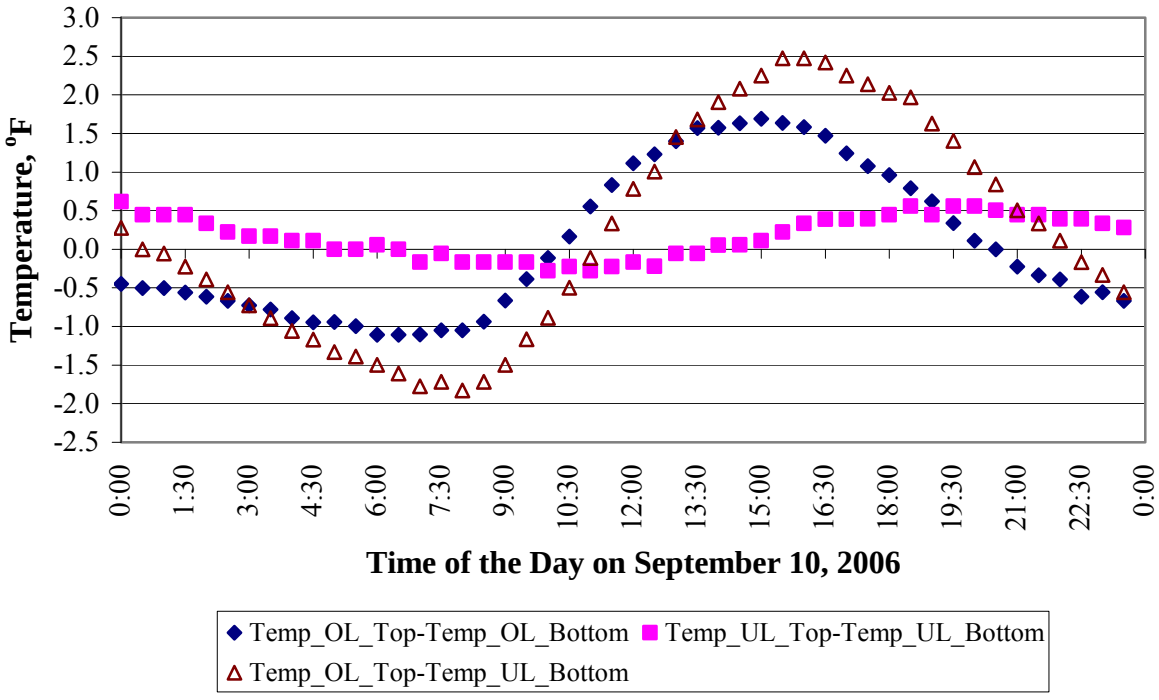

FIGURE E74. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 09/10/06 - TEST ITEM S2

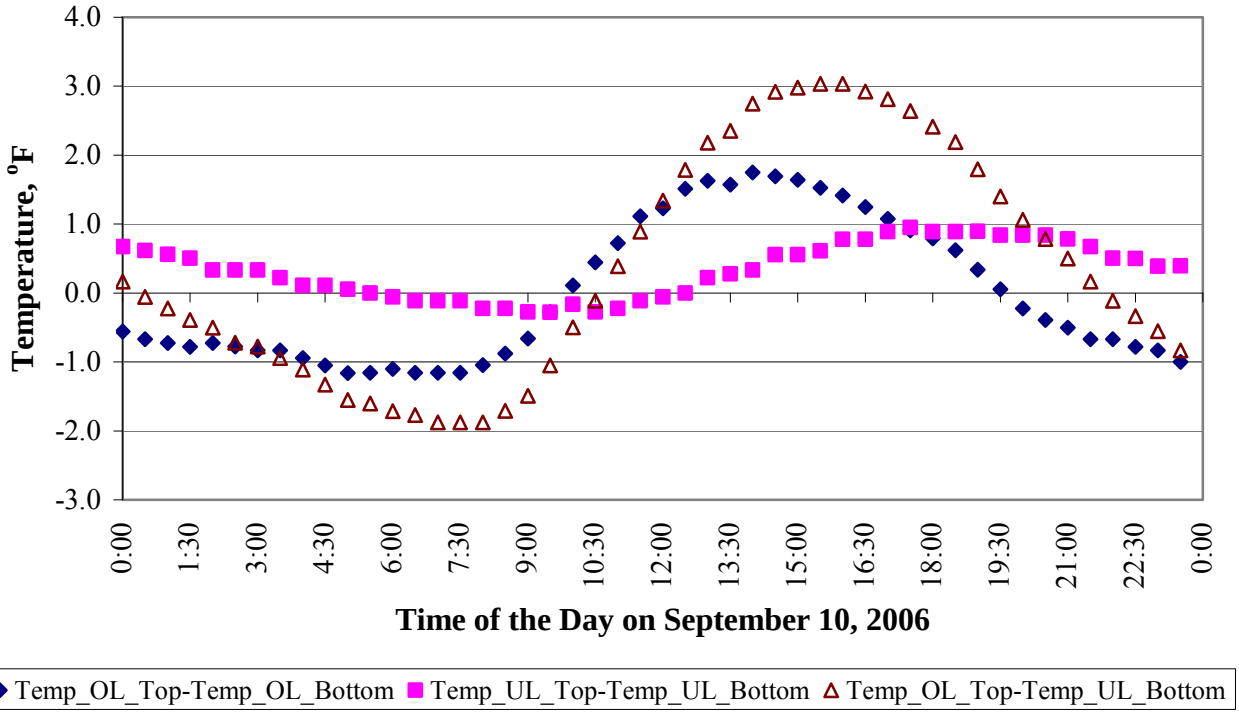

FIGURE E75. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 09/10/06 - TEST ITEM S3

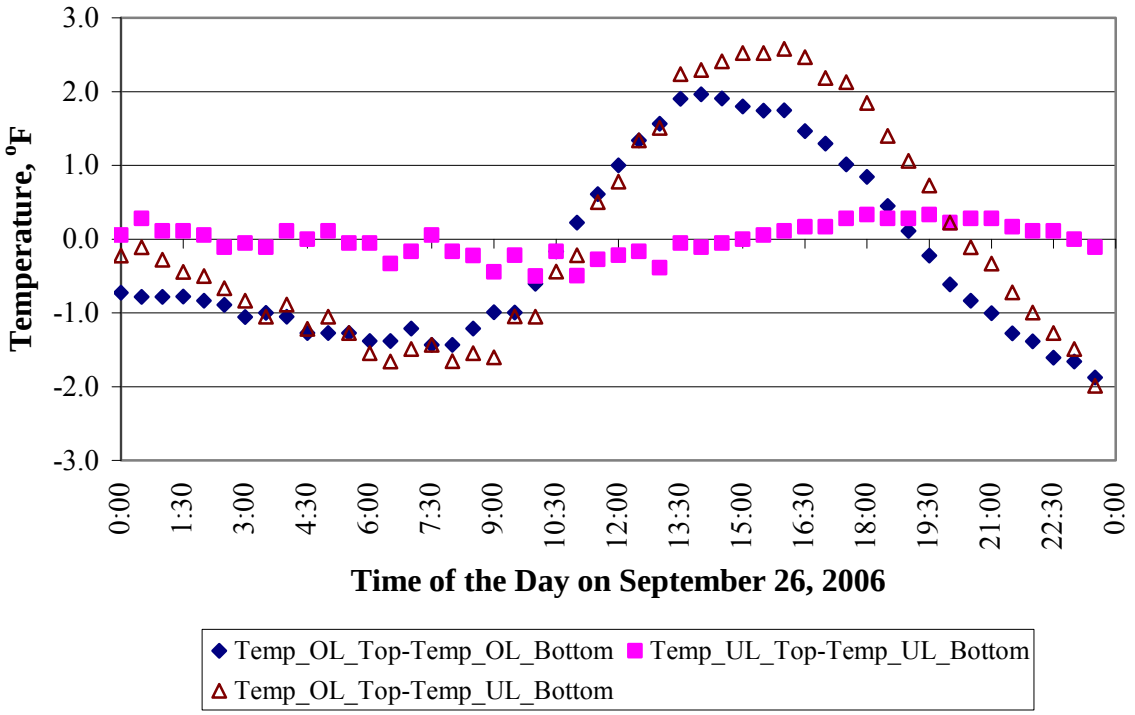

FIGURE E76. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 09/26/06 - TEST ITEM S1

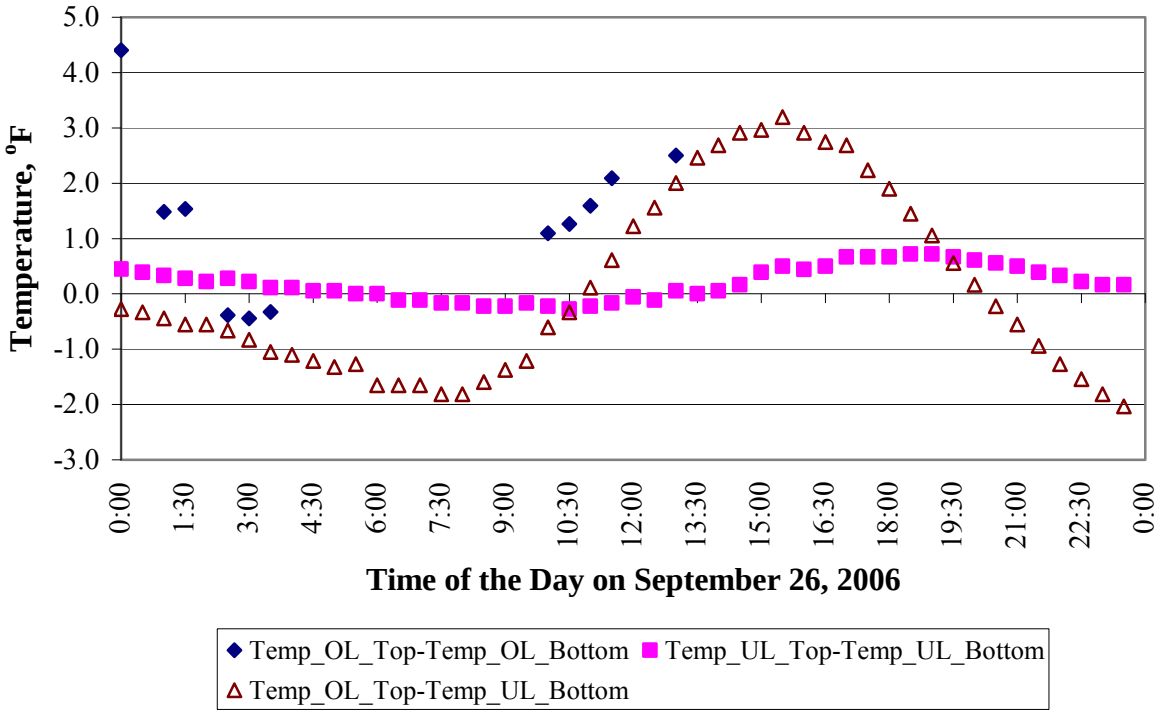

FIGURE E77. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 09/26/06 - TEST ITEM S2

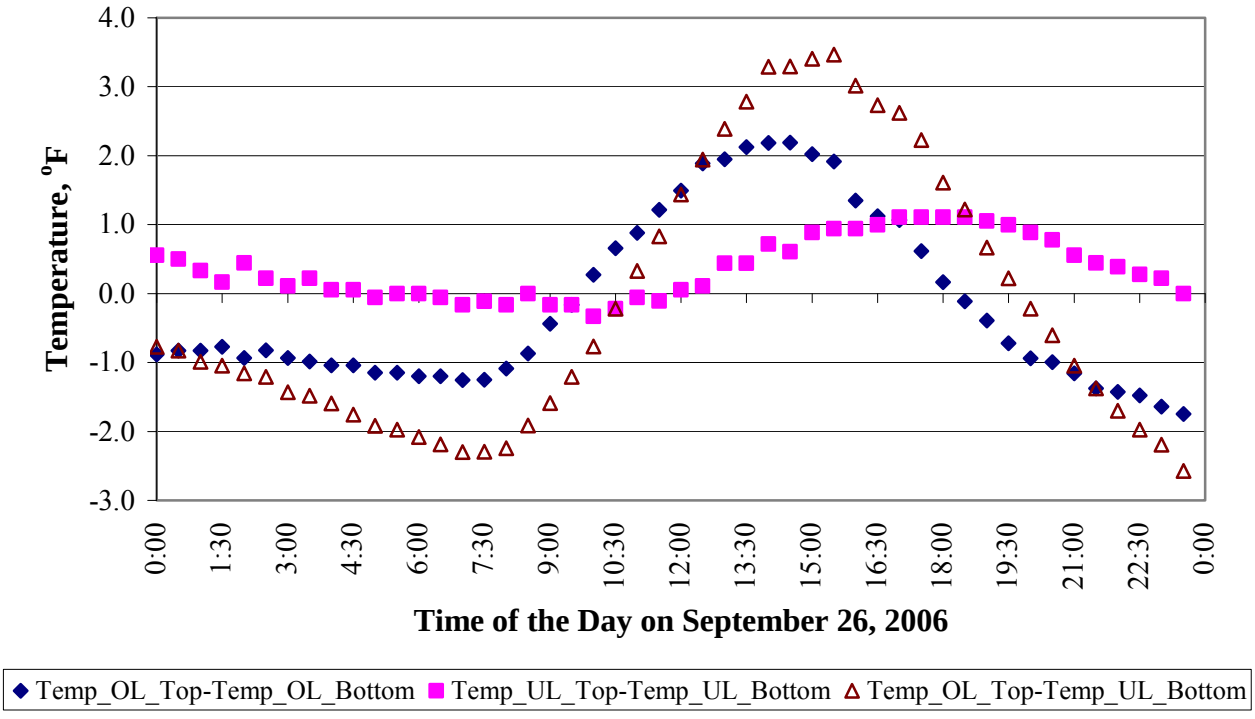

FIGURE E78. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 09/26/06 - TEST ITEM S3

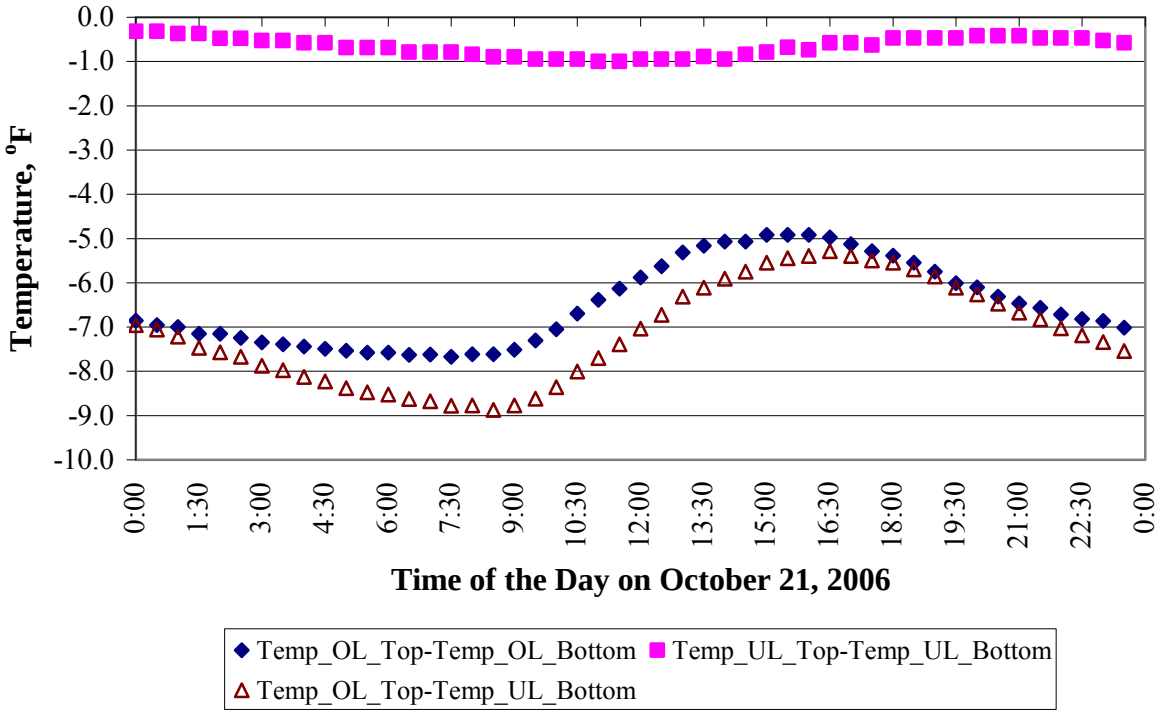

FIGURE E79. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 10/21/06 - TEST ITEM S1

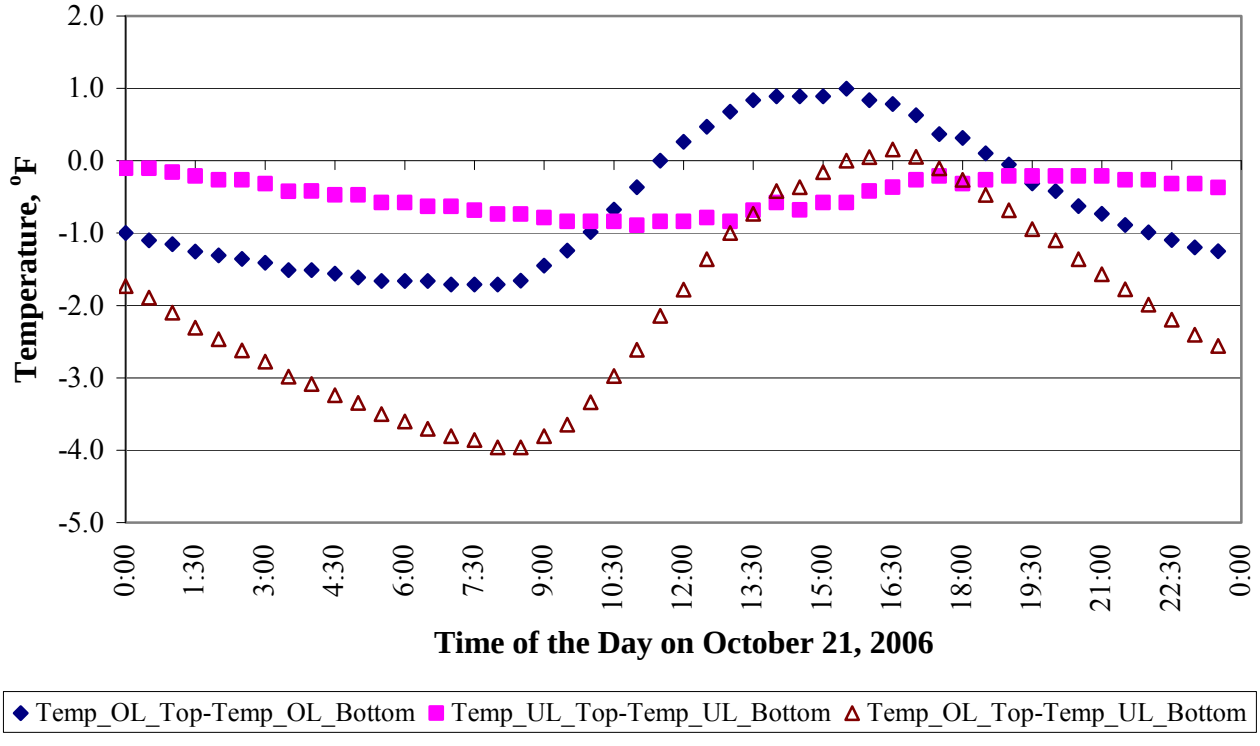

FIGURE E80. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 10/21/06 - TEST ITEM S2

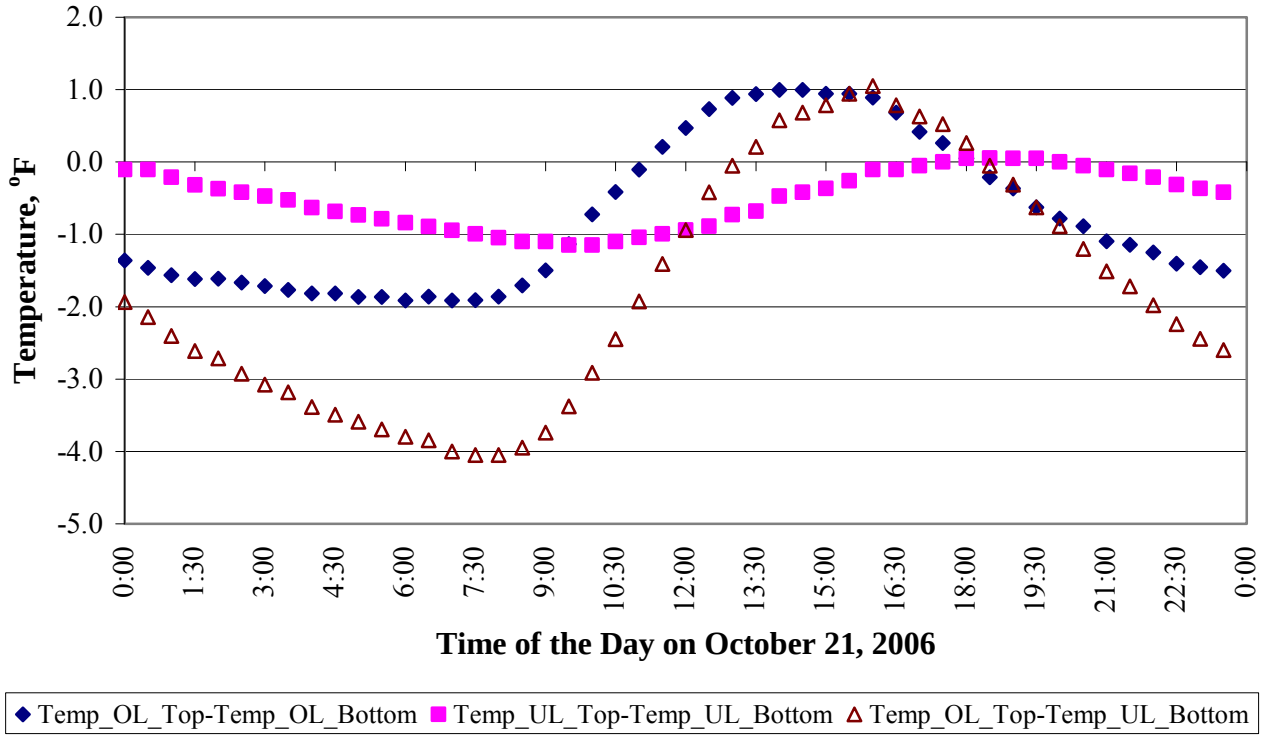

FIGURE E81. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 10/21/06 - TEST ITEM S3

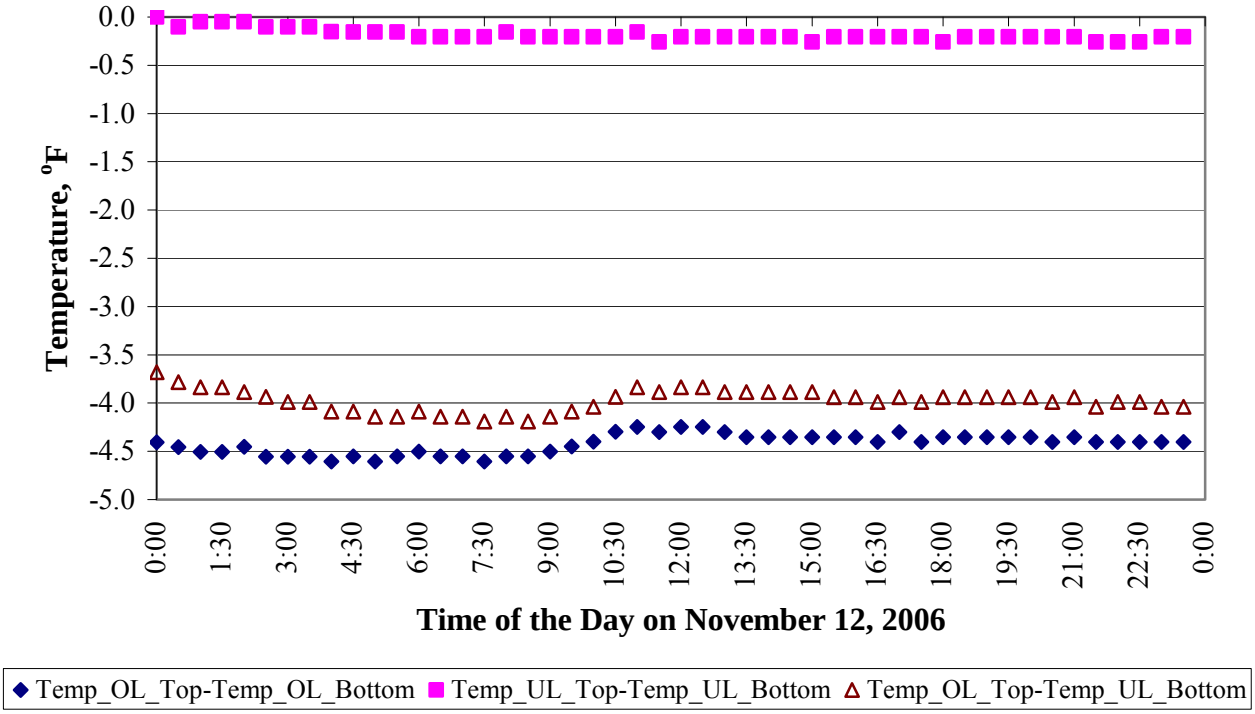

FIGURE E82. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 11/12/06 - TEST ITEM S1

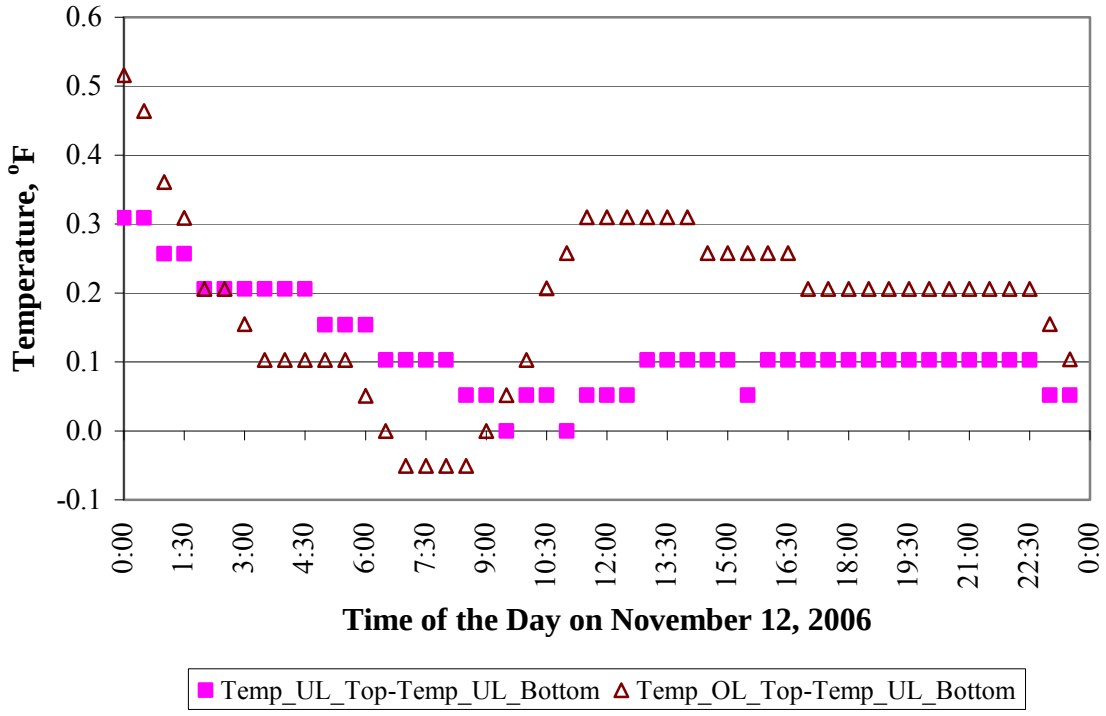

FIGURE E83. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 11/12/06 - TEST ITEM S2

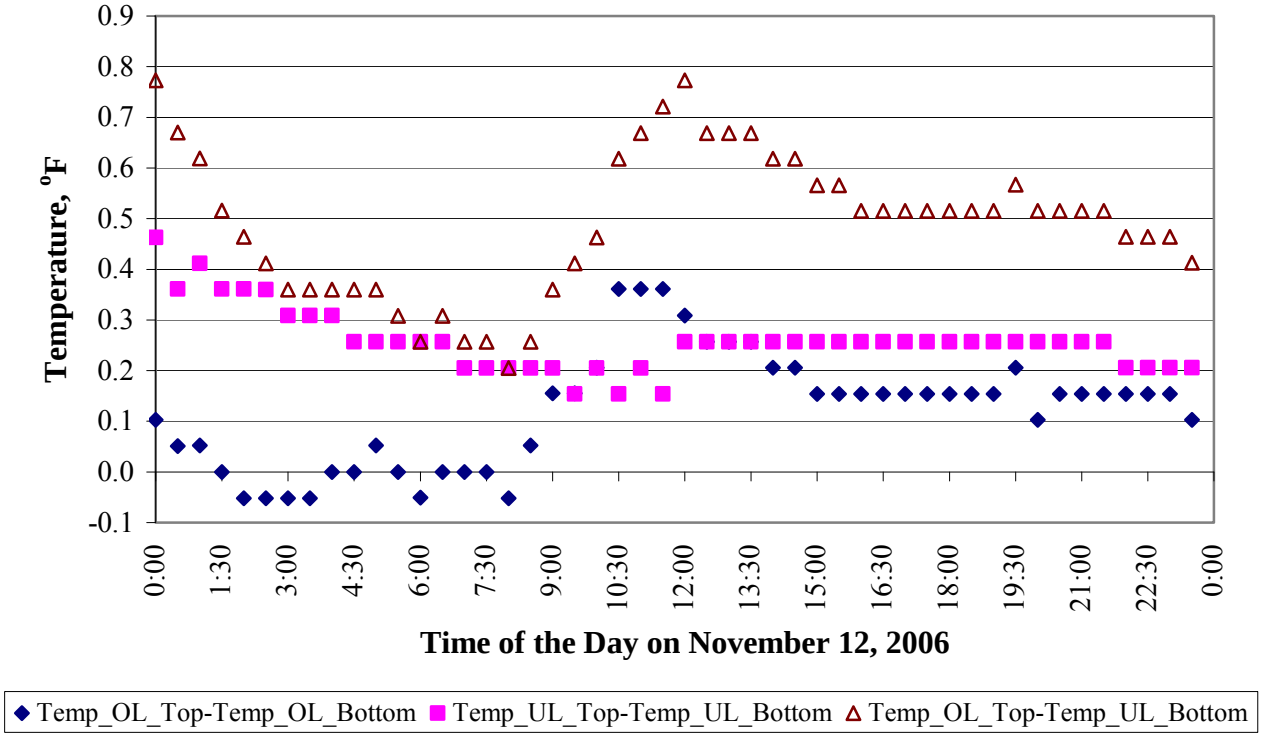

FIGURE E84. DIURNAL VARIATIONS OF TEMPERATURE DIFFERENCE ON 11/12/06 - TEST ITEM S3

APPENDIX F – LOAD INFORMATION

Appendix F contains example plots of typical wheel load control data. Further information about load control and loading characteristics is available from the FAA NAPTF. Cold tire inflation pressure was affected by the ambient air temperature. It was maintained near the target of 233 psi, by adding nitrogen when the pressure fell below 220 psi. The speed was logged and any adjustments made by the operator. Similar load control data for the CC2 experiment is available in the NAPTF database. http://www.airporttech.tc.faa.gov/NAPTF/database%20intro.asp

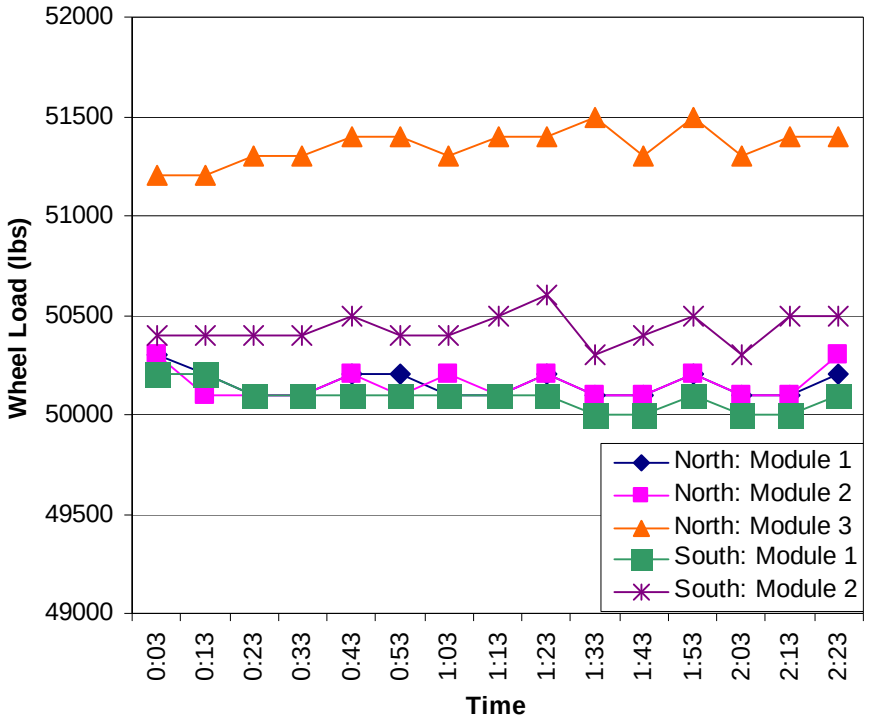

FIGURE F1. EXAMPLE OF WHEEL LOAD BY MODULE, 9/20/2006

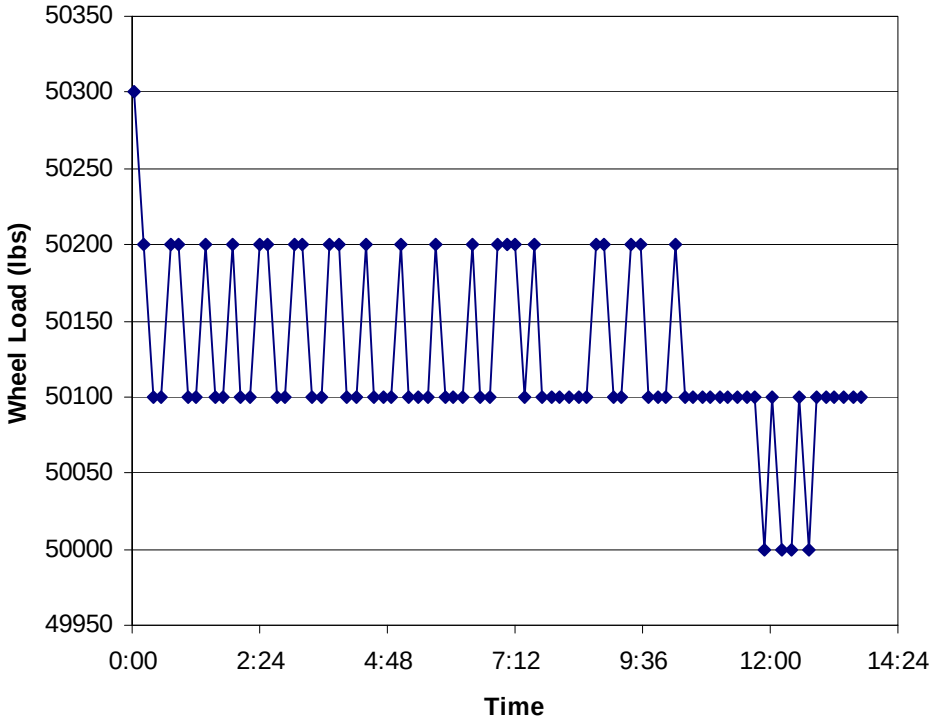

FIGURE F2. TYPICAL VARIATION OF WHEEL LOAD, ILLUSTRATED BY DATA FROM 9/20/2006.

APPENDIX G – LPT MEASUREMENT PLOTS

Appendix G contains plots of Linear Position Transducer (LPT) data. It includes plots showing movement at various loaded and unloaded slab locations before and during the loading period.

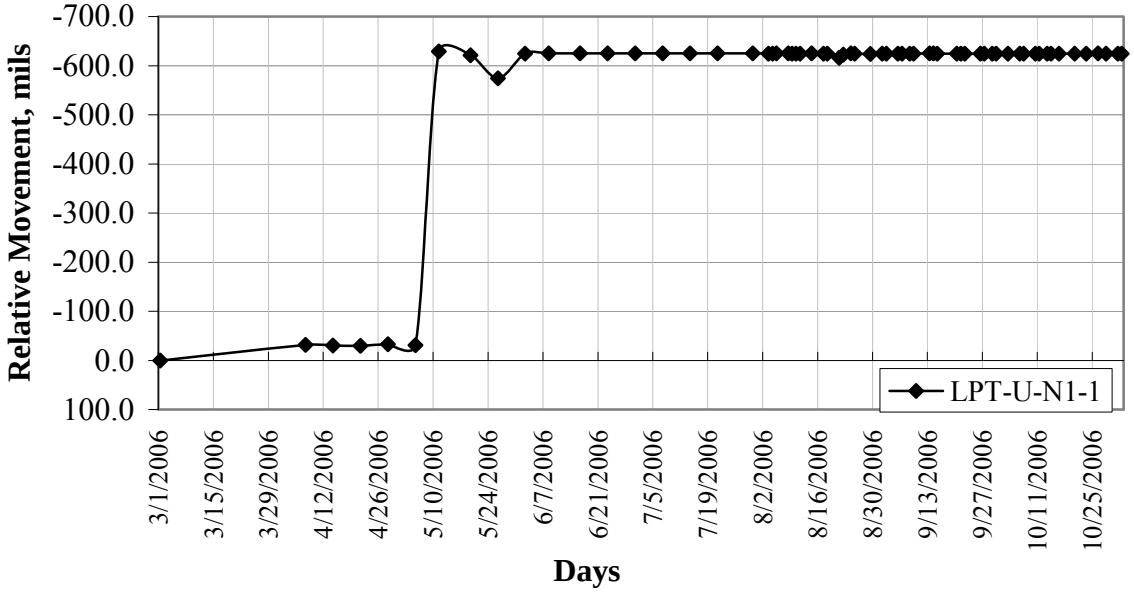

FIGURE G1. OVERALL MOVEMENT OF LPT-U-N1-1 (SLAB 1N-8U, LOADED EDGE)

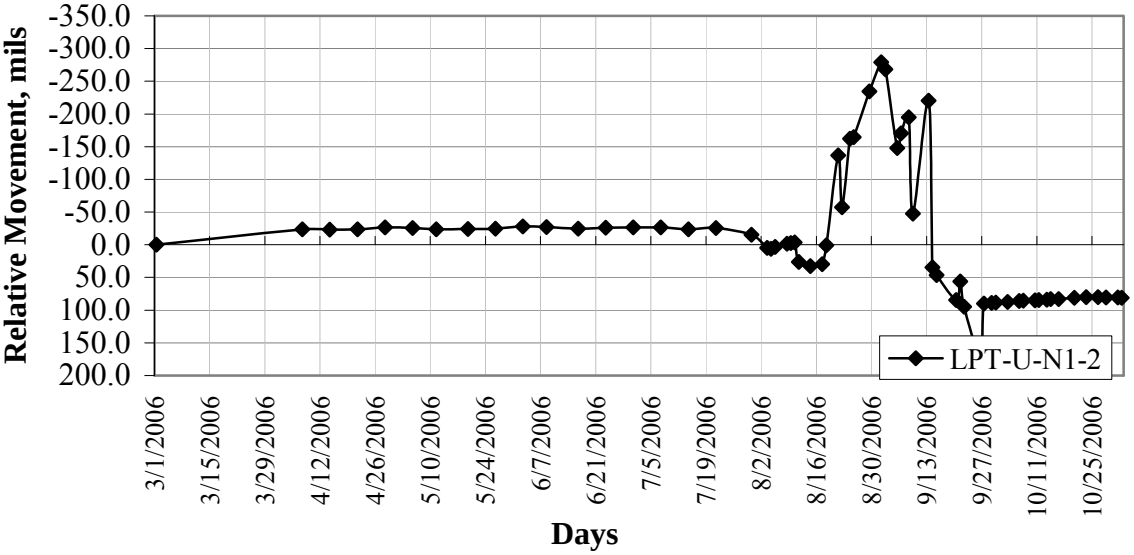

FIGURE G2. OVERALL MOVEMENT OF LPT-U-N1-2 (SLAB 1N-10U, LOADED MIDSLAB)

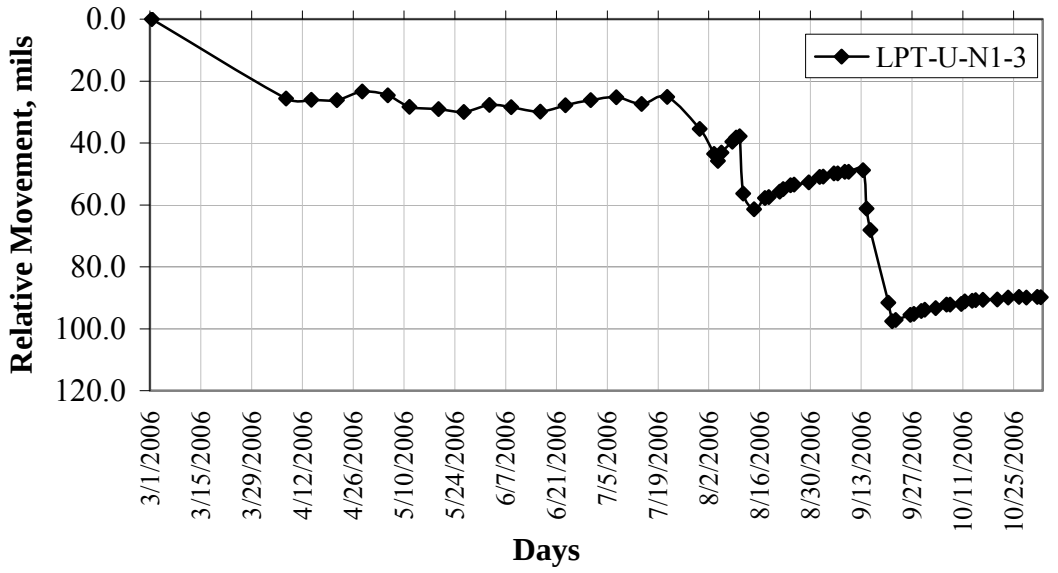

FIGURE G3. OVERALL MOVEMENT OF LPT-U-N1-3 (SLAB 1N-11U, LOADED EDGE)

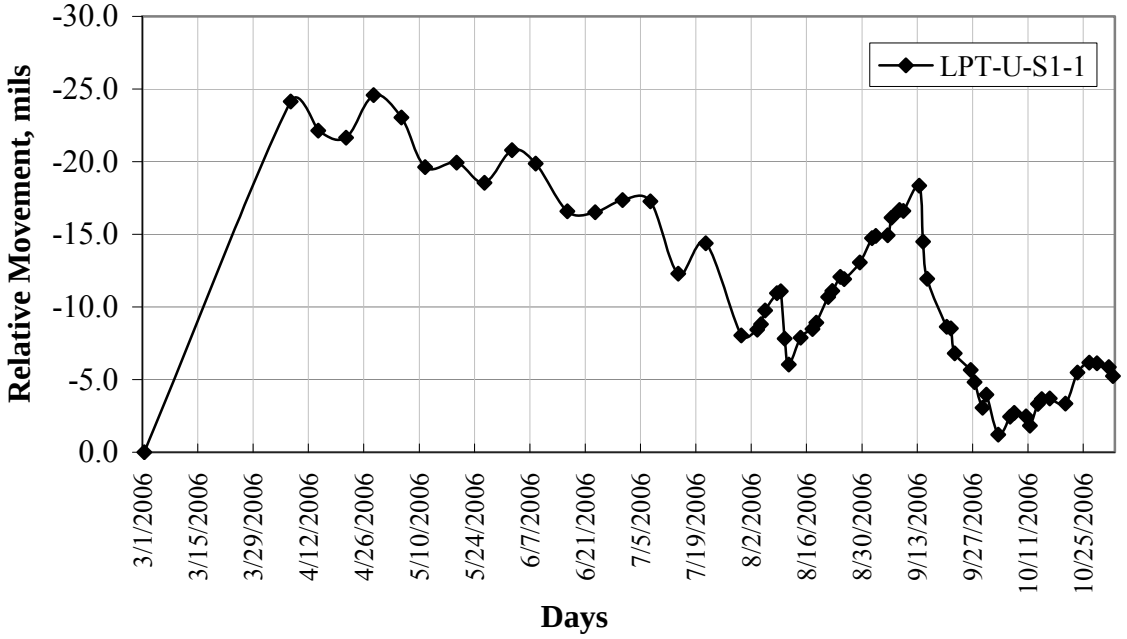

FIGURE G4. OVERALL MOVEMENT OF LPT-U-S1-1 (SLAB 1S-8U, LOADED EDGE)

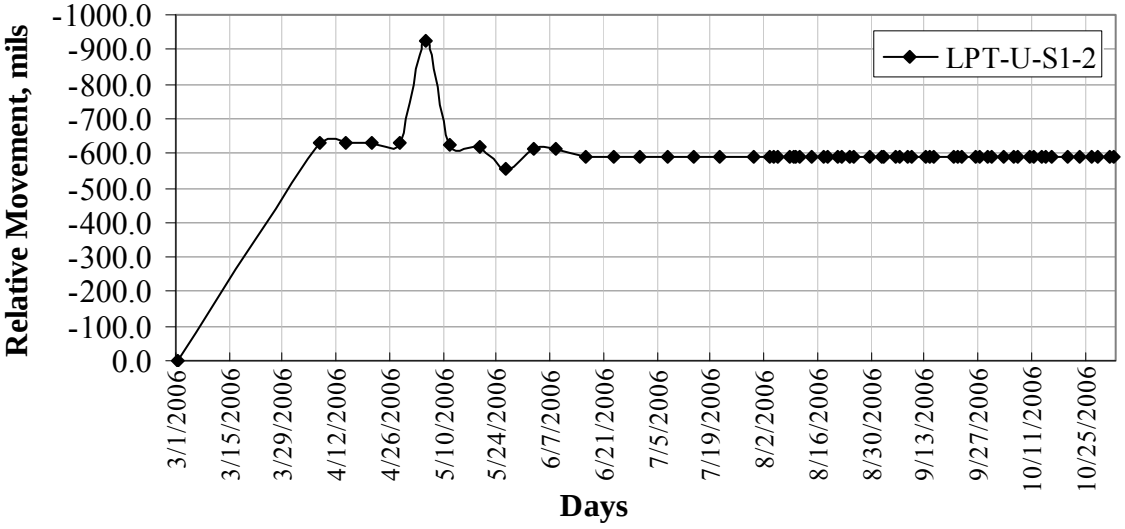

FIGURE G5. OVERALL MOVEMENT OF LPT-U-S1-2 (SLAB 1S-10U, LOADED MIDSLAB)

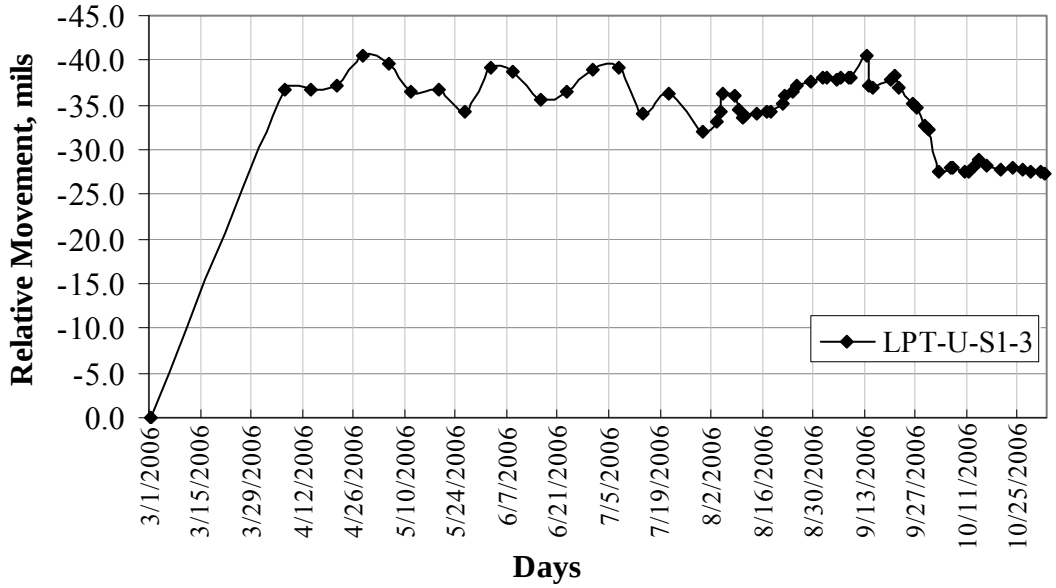

FIGURE G6. OVERALL MOVEMENT OF LPT-U-S1-3 (SLAB 1S-11U, LOADED EDGE)

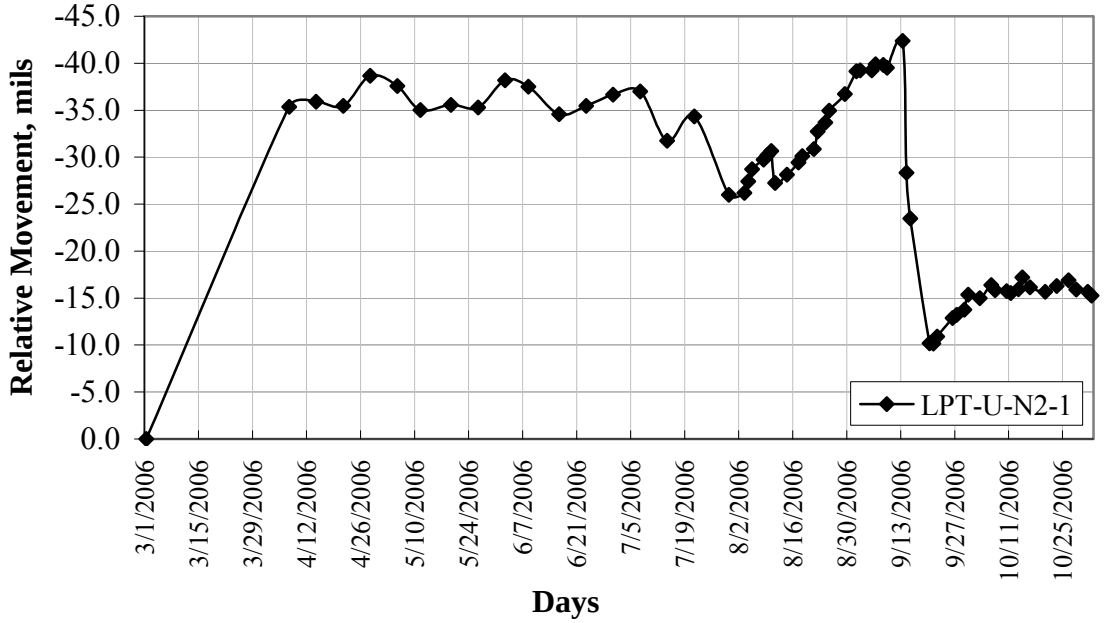

FIGURE G7. OVERALL MOVEMENT OF LPT-U-N2-1 (SLAB 2N-8U, LOADED EDGE)

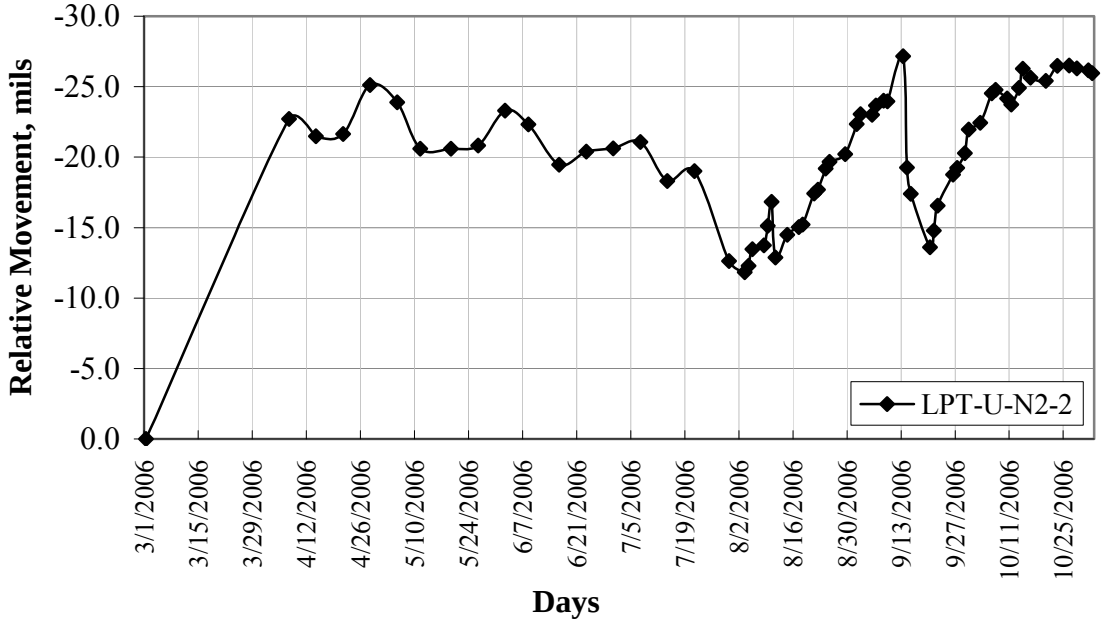

FIGURE G8. OVERALL MOVEMENT OF LPT-U-N2-2 (SLAB 2N-9U, LOADED EDGE)

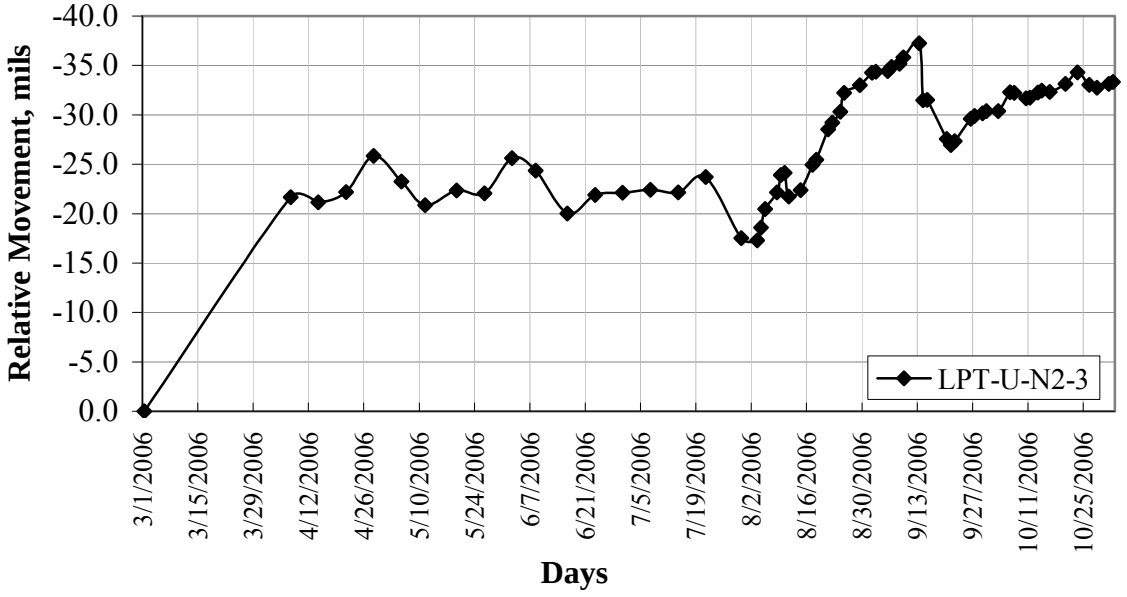

FIGURE G9. OVERALL MOVEMENT OF LPT-U-N2-3 (SLAB 2N-11U, LOADED MIDSLAB)

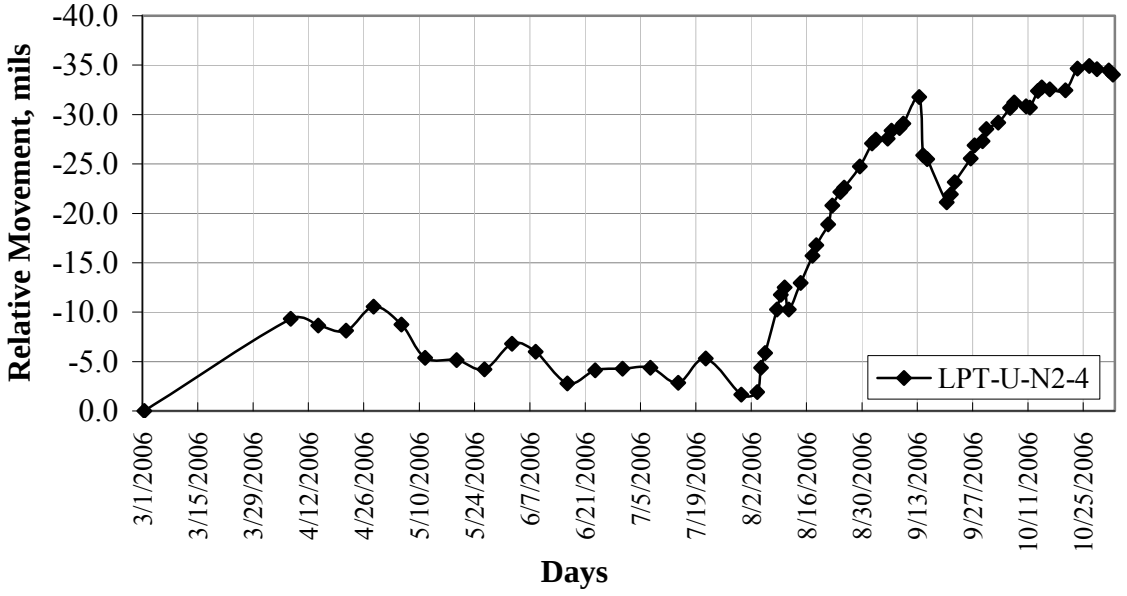

FIGURE G10. OVERALL MOVEMENT OF LPT-U-N2-4 (SLAB 2N-12U, LOADED EDGE)

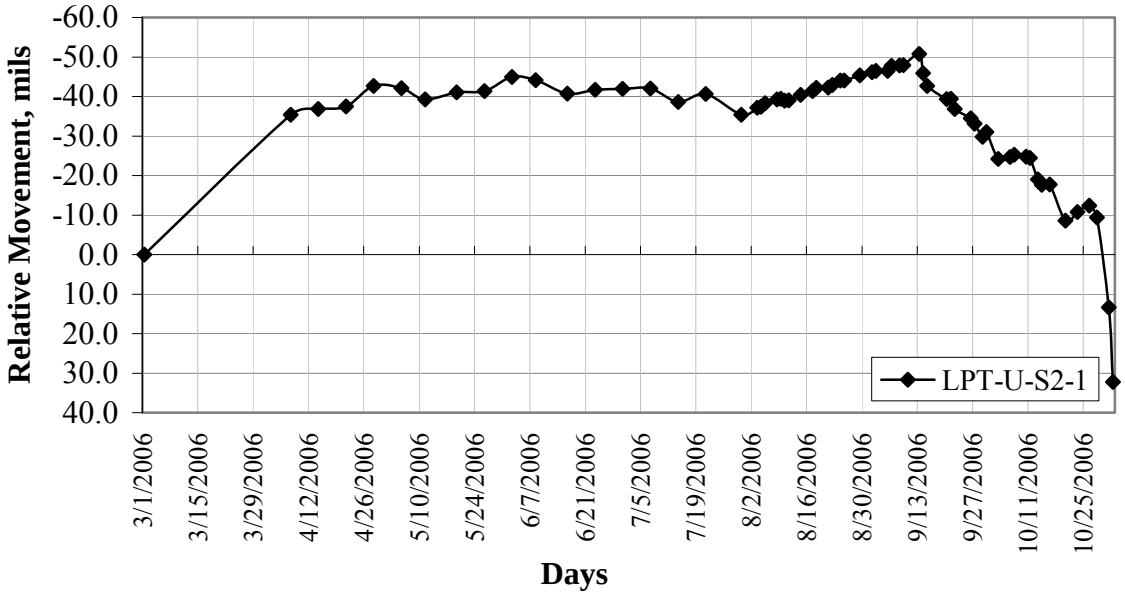

FIGURE G11. OVERALL MOVEMENT OF LPT-U-S2-1 (SLAB 2S-8U, LOADED EDGE)

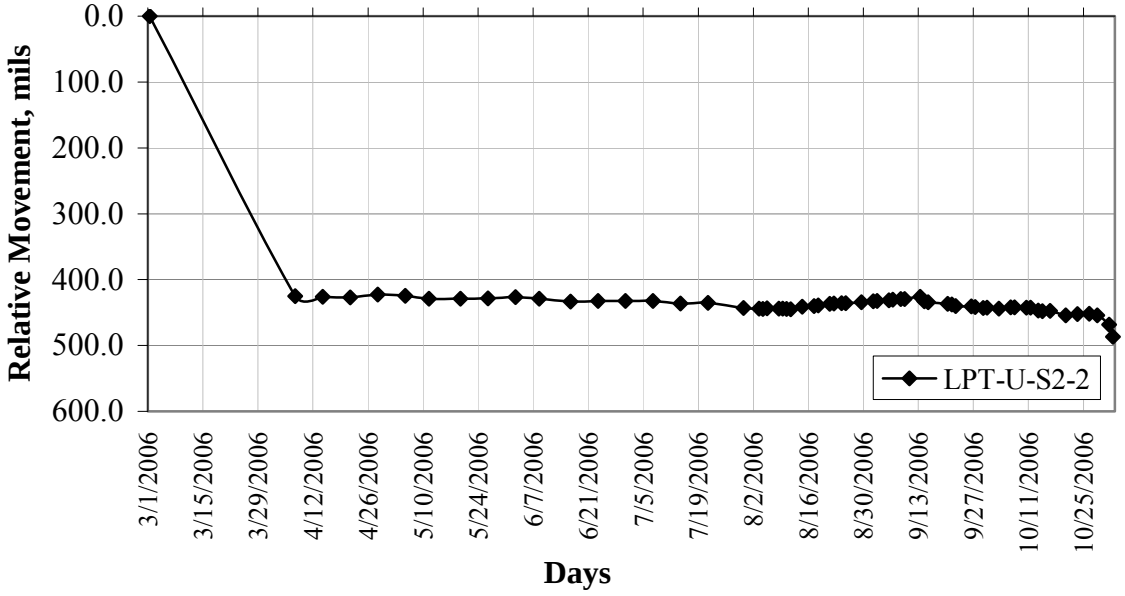

FIGURE G12. OVERALL MOVEMENT OF LPT-U-S2-2 (SLAB 2S-9U, LOADED EDGE)

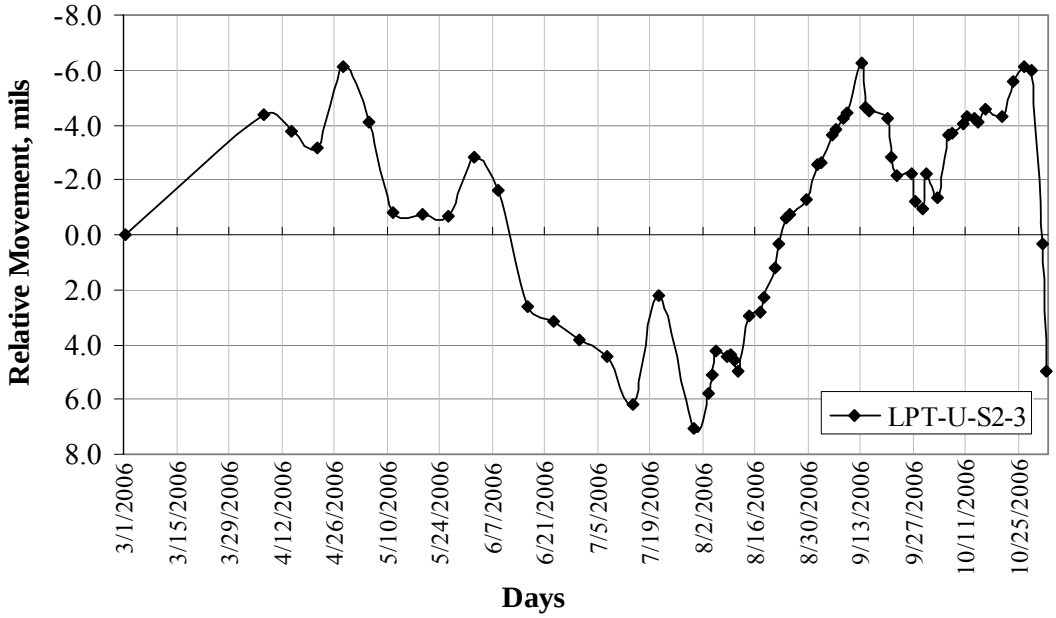

FIGURE G13. OVERALL MOVEMENT OF LPT-U-S2-3 (SLAB 2S-11U, LOADED MIDSLAB)

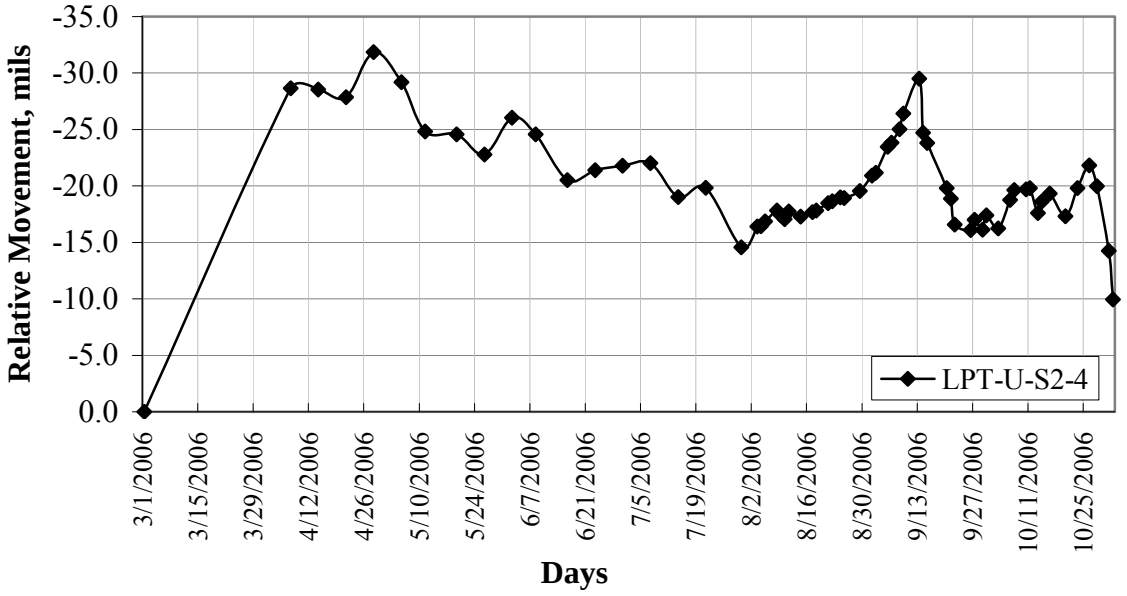

FIGURE G14. OVERALL MOVEMENT OF LPT-U-S2-4 (SLAB 2S-12U, LOADED EDGE)

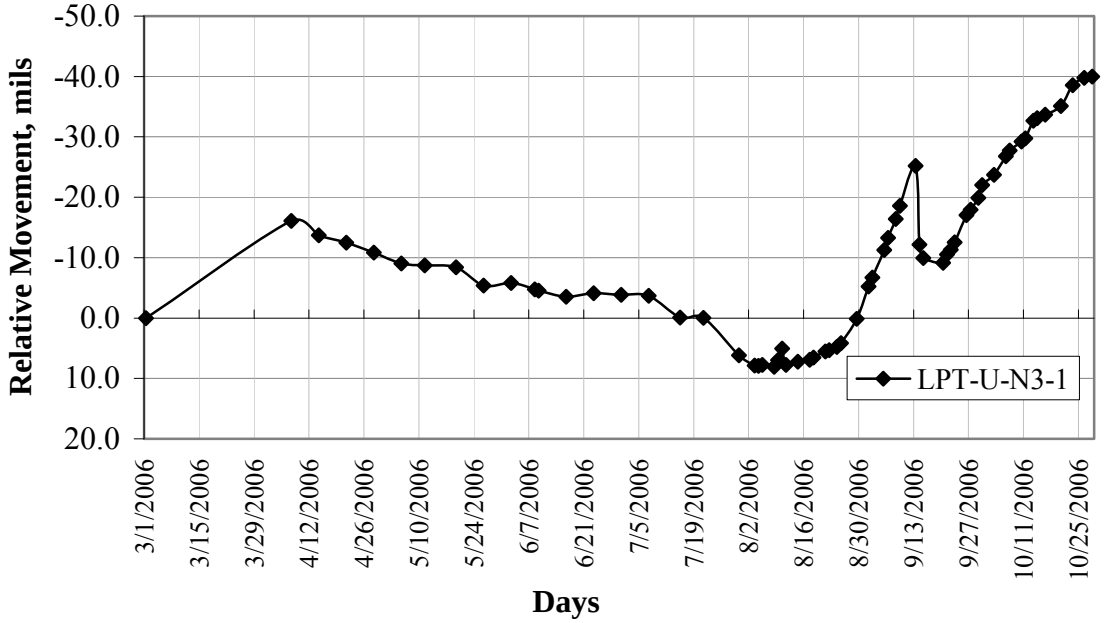

FIGURE G15. OVERALL MOVEMENT OF LPT-U-N3-1 (SLAB 3N-8U, LOADED EDGE)

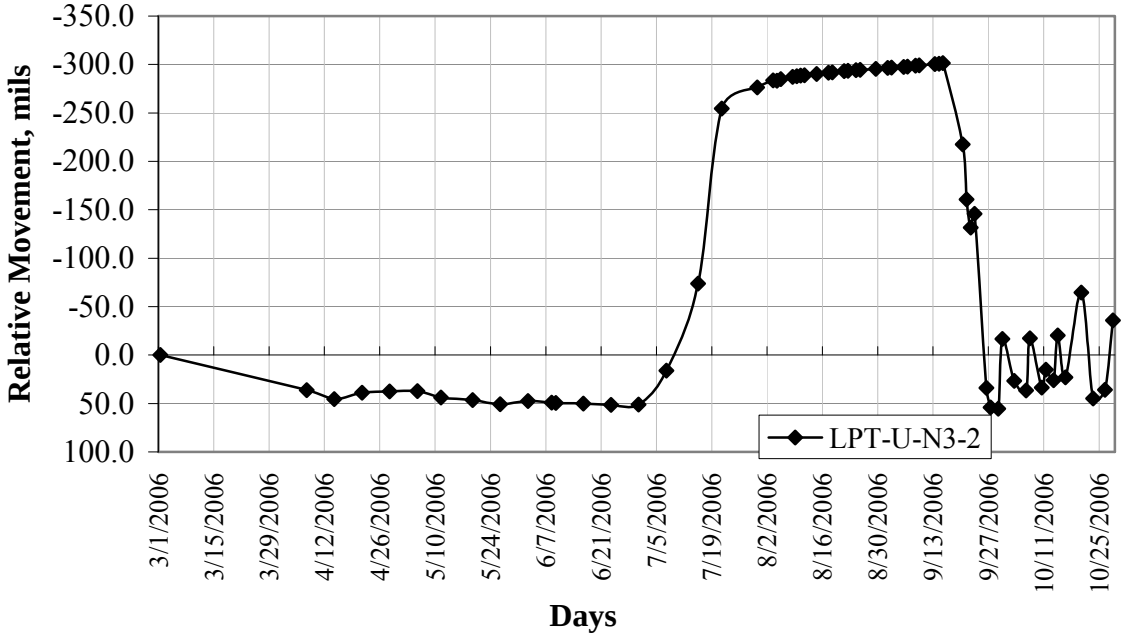

FIGURE G16. OVERALL MOVEMENT OF LPT-U-N3-2 (SLAB 3N-10U, LOADED EDGE)

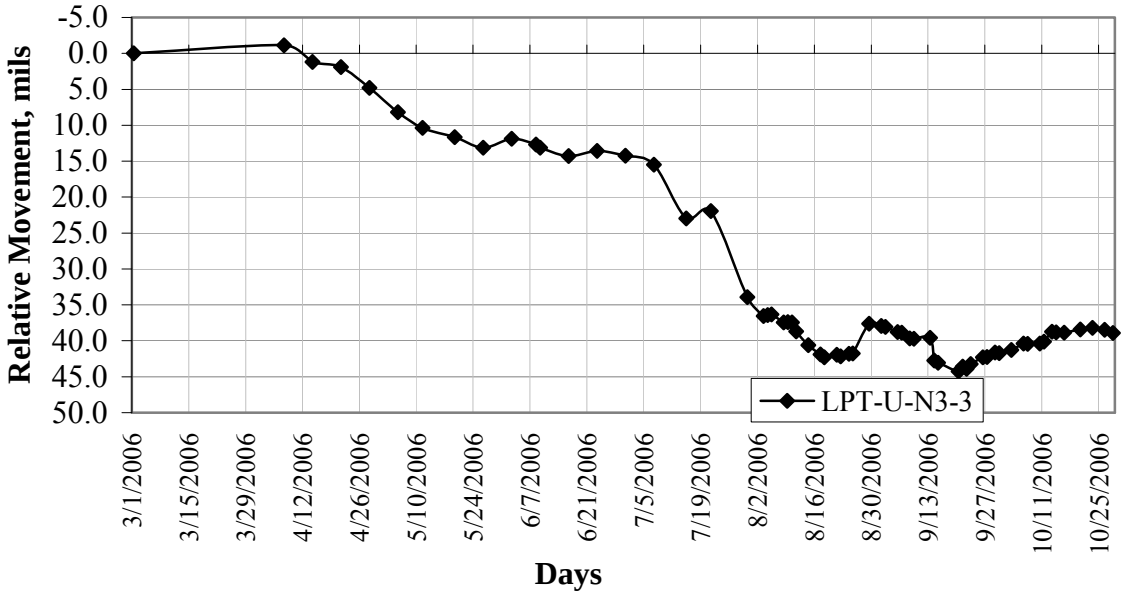

FIGURE G17. OVERALL MOVEMENT OF LPT-U-N3-3 (SLAB 3N-11U, LOADED EDGE)

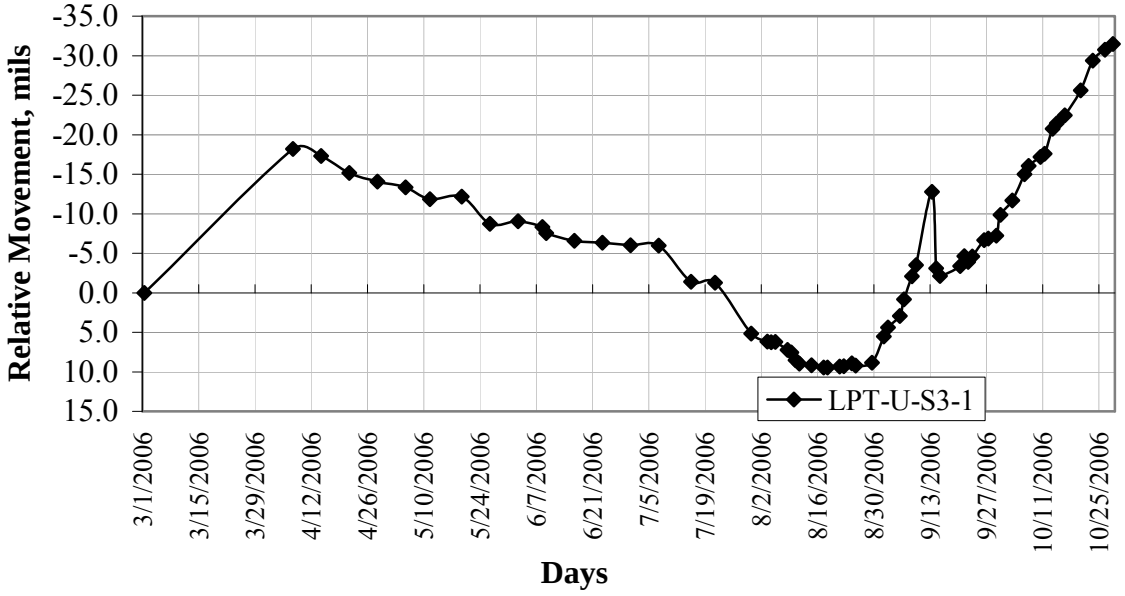

FIGURE G18. OVERALL MOVEMENT OF LPT-U-S3-1 (SLAB 3S-8U, LOADED EDGE)

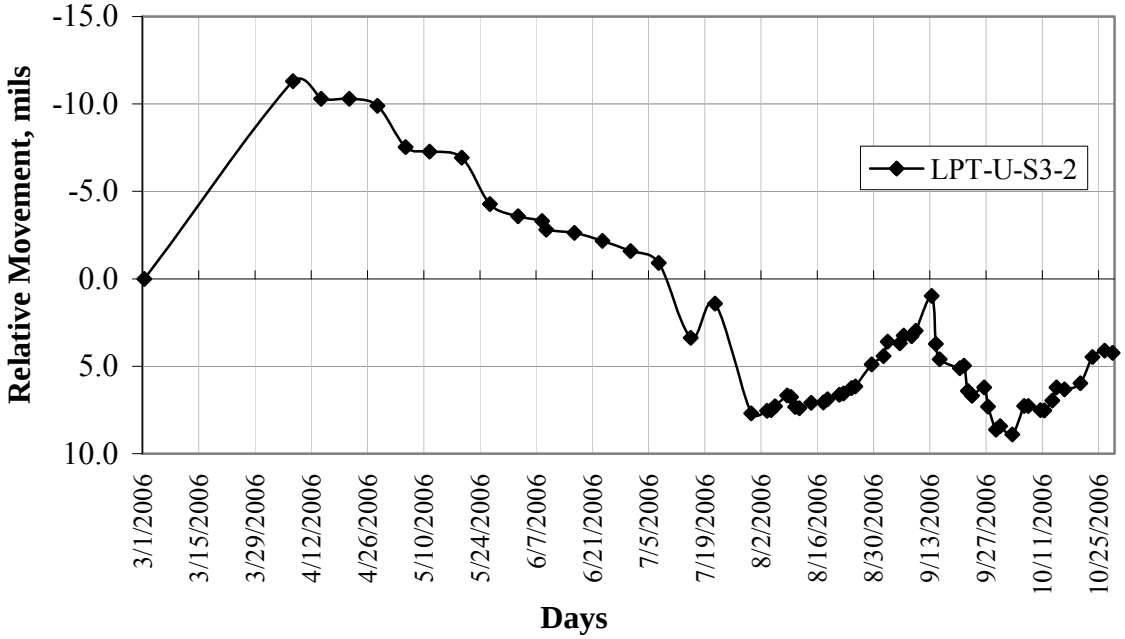

FIGURE G19. OVERALL MOVEMENT OF LPT-U-S3-2 (SLAB 3S-10U, LOADED EDGE)

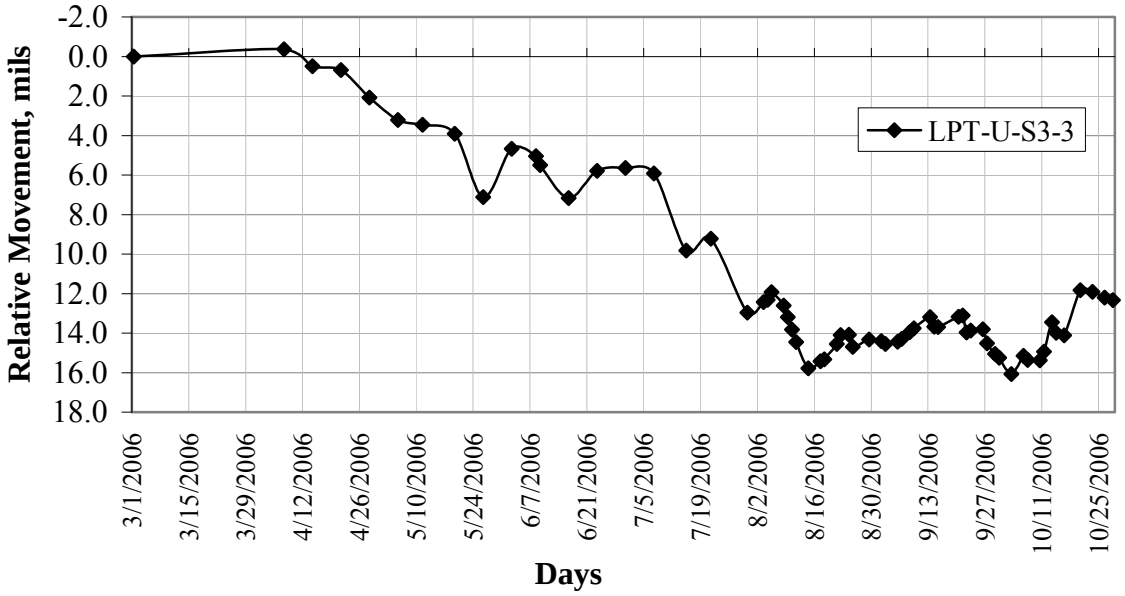

FIGURE G20. OVERALL MOVEMENT OF LPT-U-S3-3 (SLAB 3S-11U, LOADED EDGE)

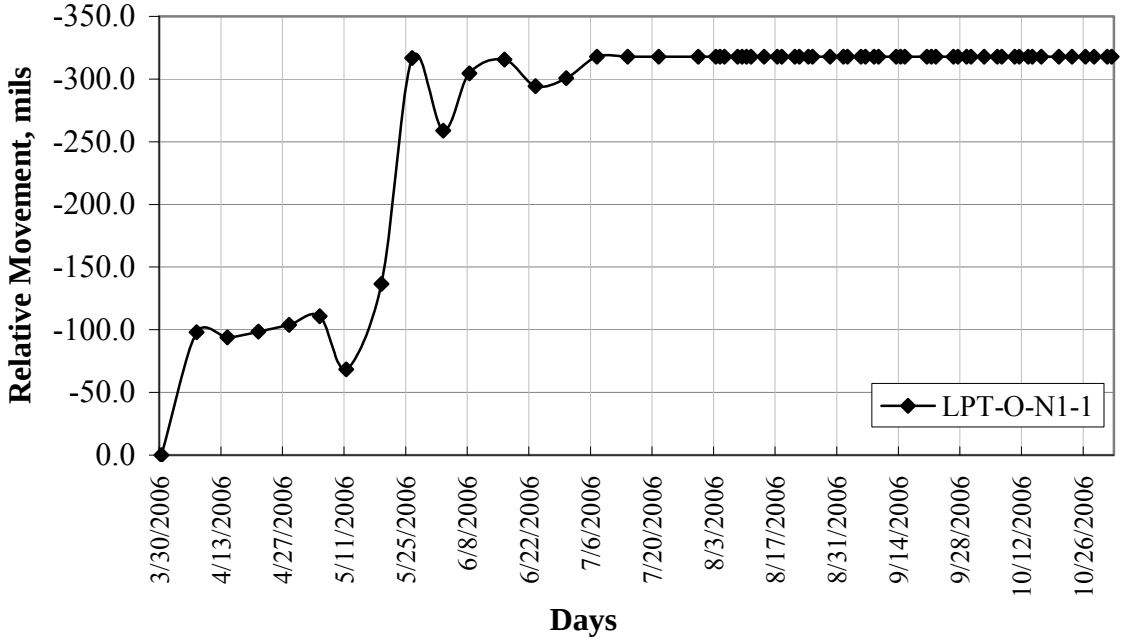

FIGURE G21. OVERALL MOVEMENT OF LPT-O-N1-1 (SLAB 1N-8, OUTER EDGE)

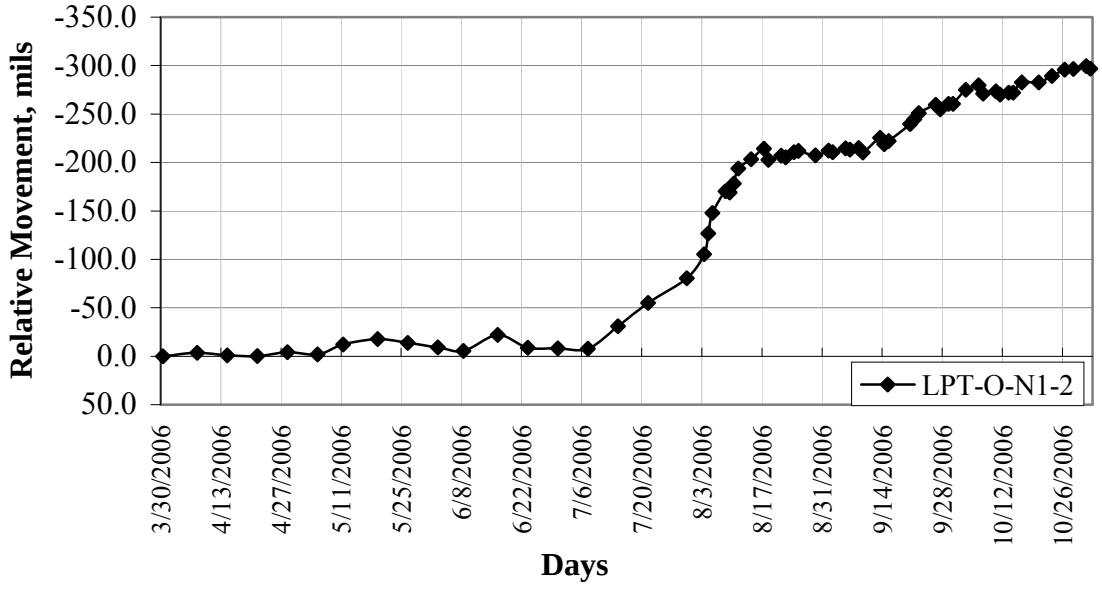

FIGURE G22. OVERALL MOVEMENT OF LPT-O-N1-2 (SLAB 1N-10, OUTER EDGE)

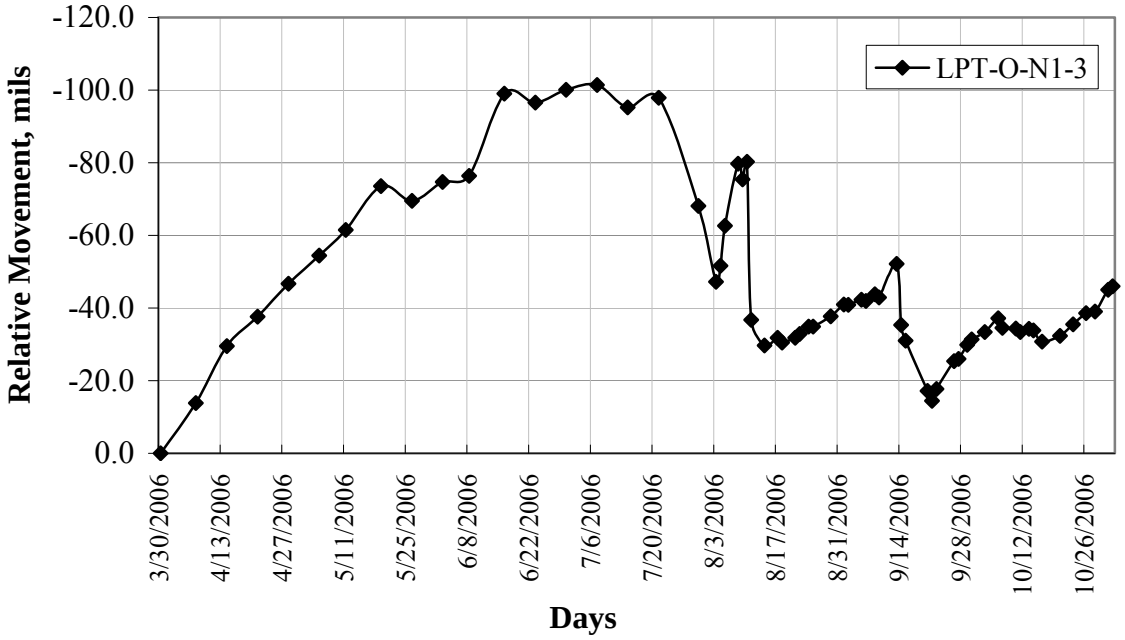

FIGURE G23. OVERALL MOVEMENT OF LPT-O-N1-3 (SLAB 1N-1, LOADED CORNER)

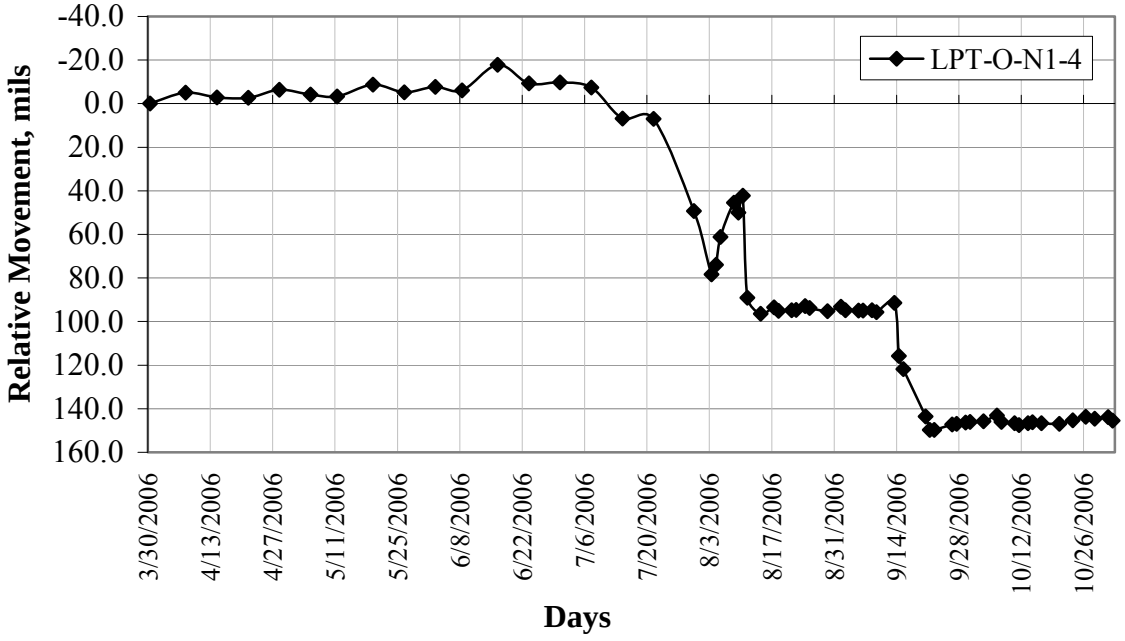

FIGURE G24. OVERALL MOVEMENT OF LPT-O-N1-4 (SLAB 1N-2, LOADED CORNER)

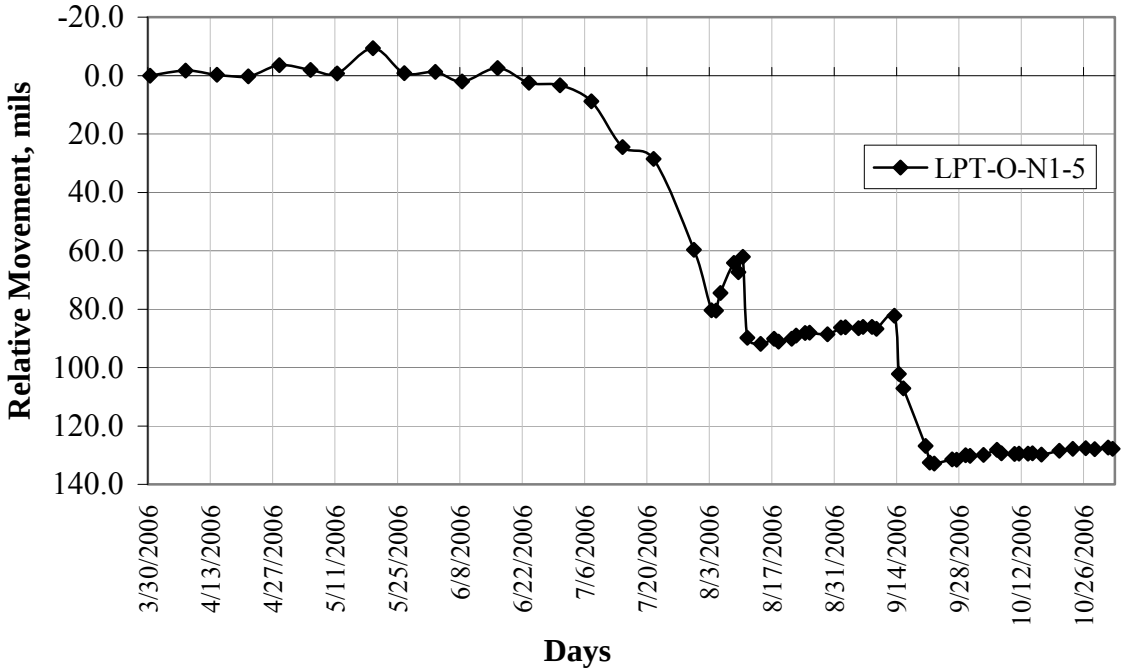

FIGURE G25. OVERALL MOVEMENT OF LPT-O-N1-5 (SLAB 1N-2, LOADED CORNER)

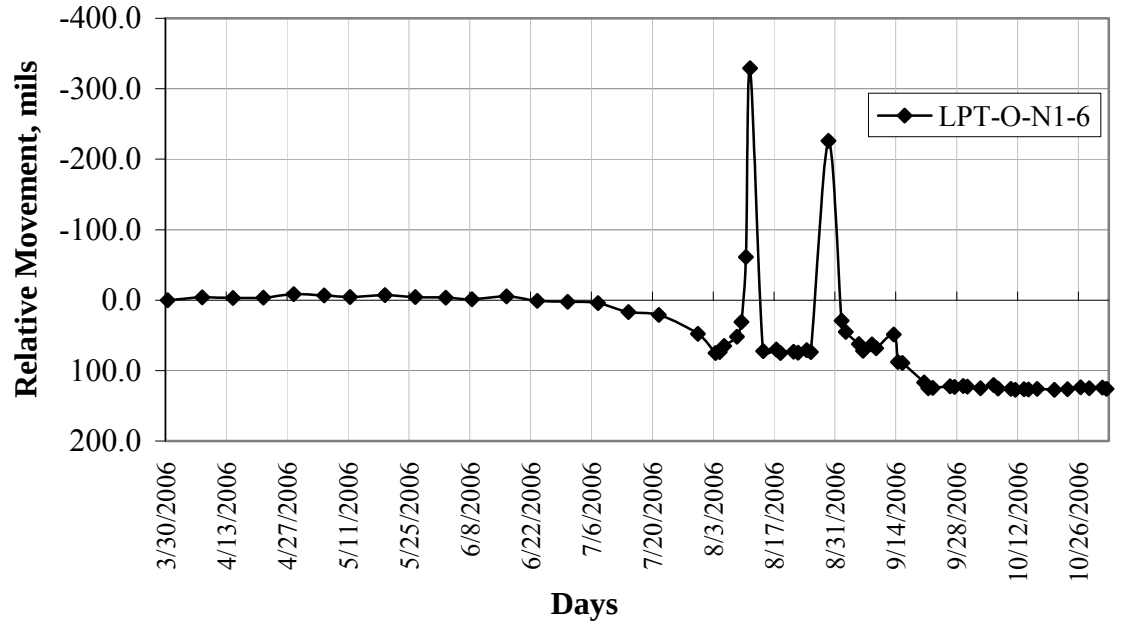

FIGURE G26. OVERALL MOVEMENT OF LPT-O-N1-6 (SLAB 1N-4, LOADED CORNER)

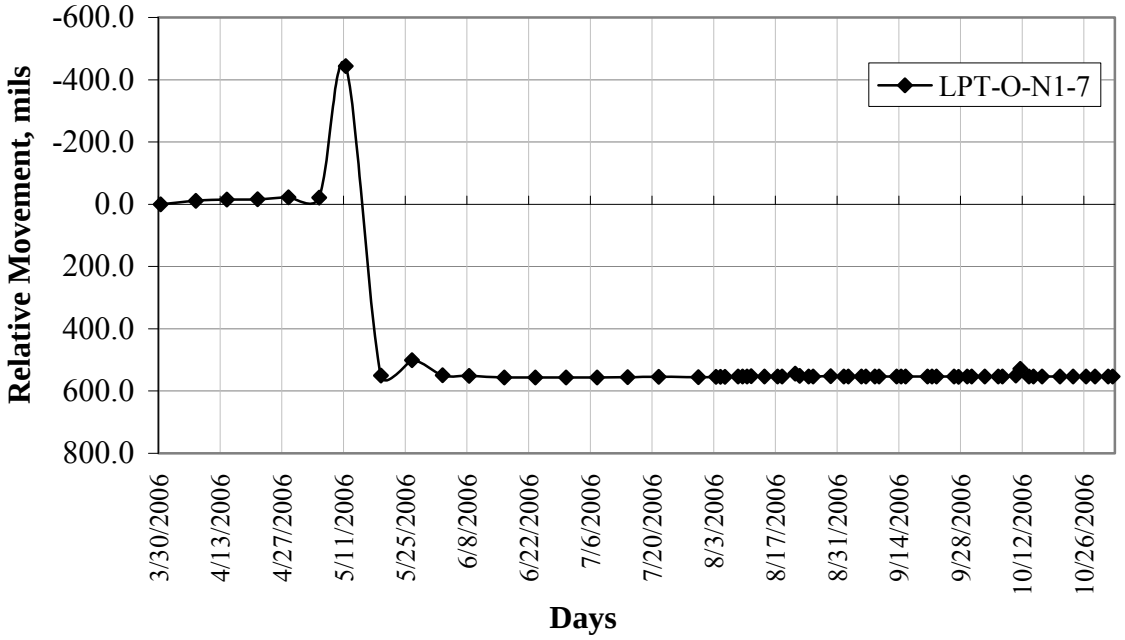

FIGURE G27. OVERALL MOVEMENT OF LPT-O-N1-7 (SLAB 1N-4, LOADED CORNER)

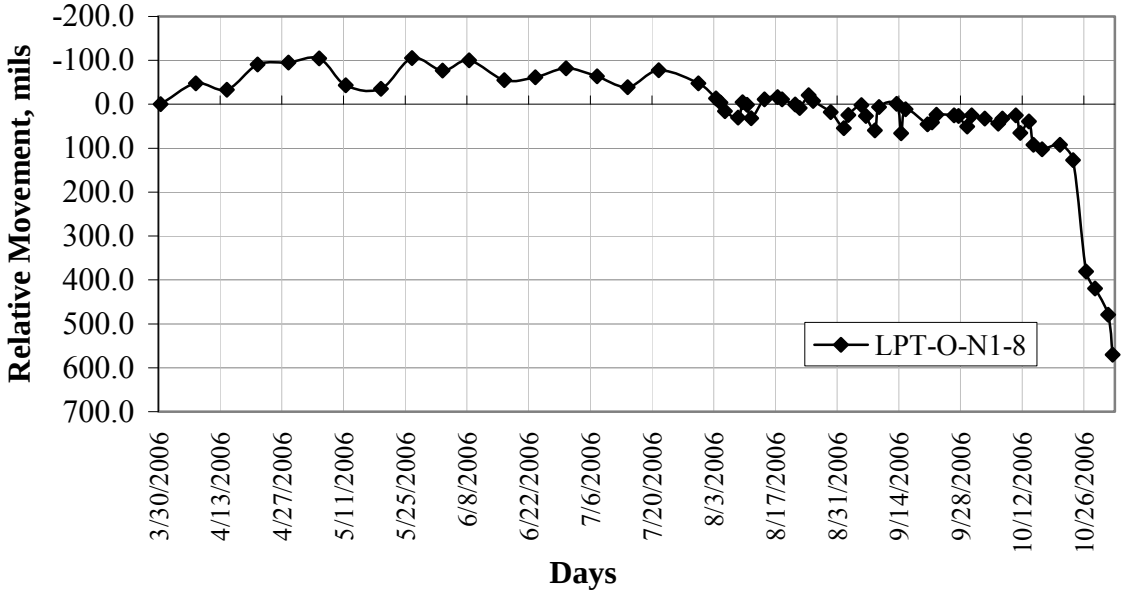

FIGURE G28. OVERALL MOVEMENT OF LPT-O-N1-8 (SLAB 1N-5, LOADED CORNER)

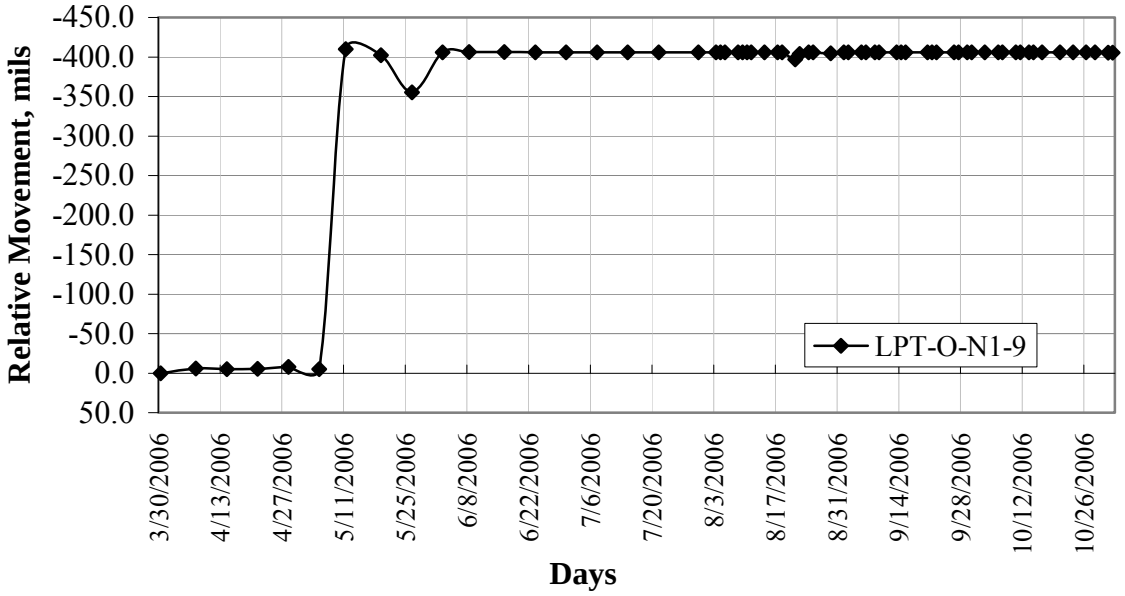

FIGURE G29. OVERALL MOVEMENT OF LPT-O-N1-9 (SLAB 1N-2, LOADED MIDSLAB)

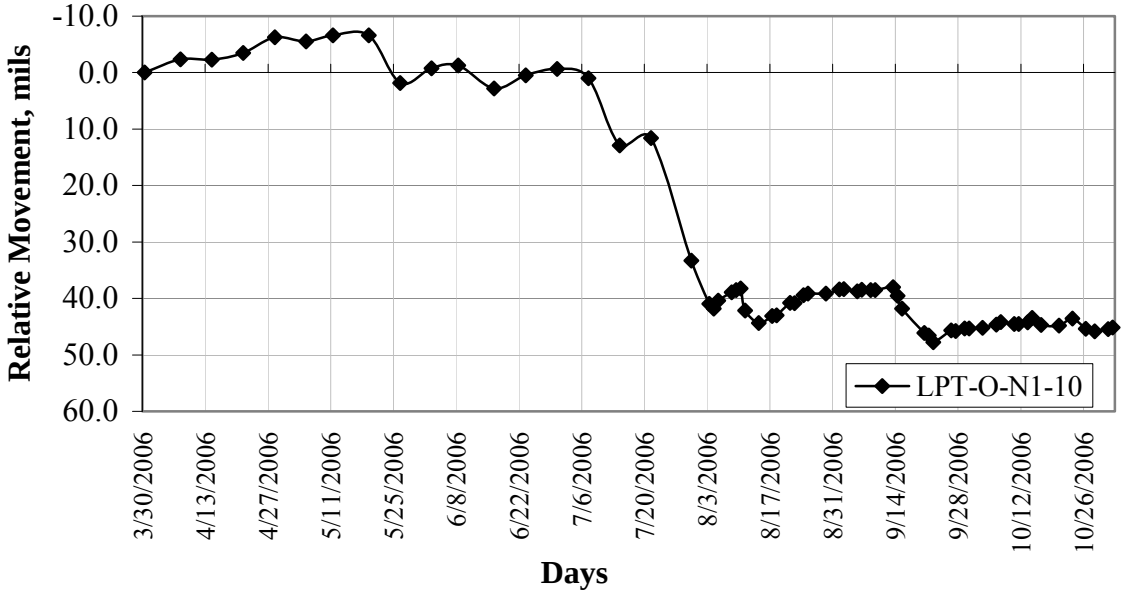

FIGURE G30. OVERALL MOVEMENT OF LPT-O-N1-10 (SLAB 1N-4, LOADED MIDSLAB)

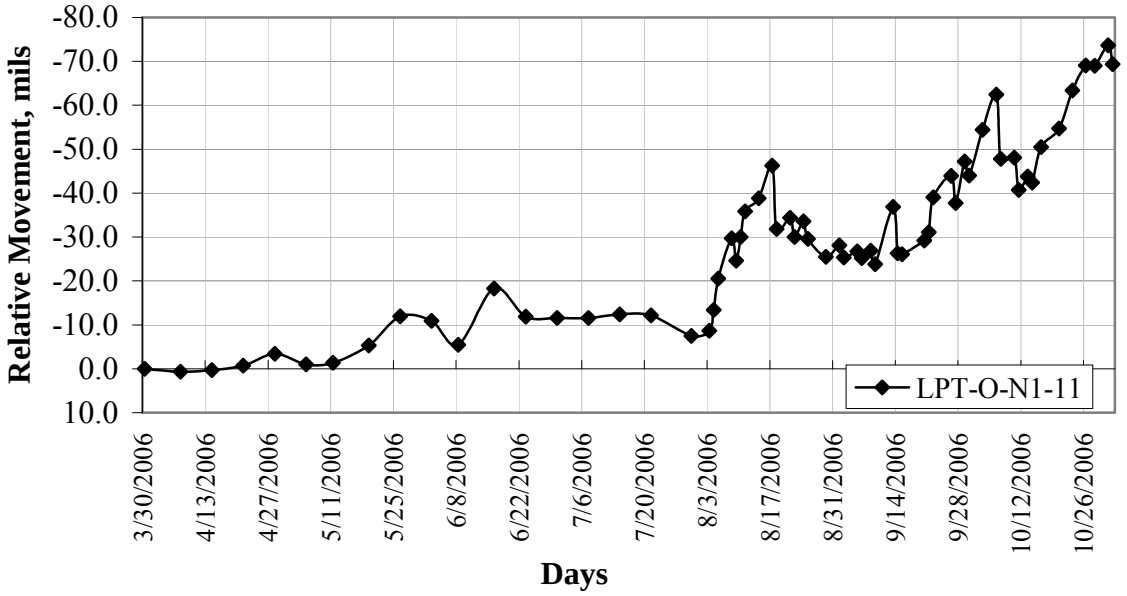

FIGURE G31. OVERALL MOVEMENT OF LPT-O-N1-11 (SLAB 1N-2, UNLOADED CORNER)

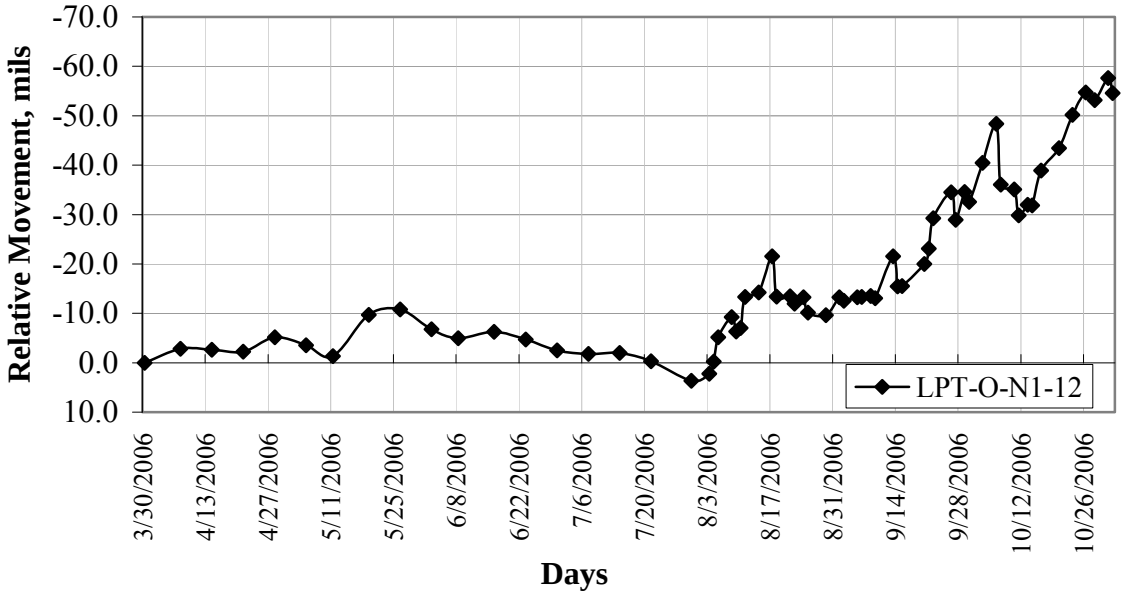

FIGURE G32. OVERALL MOVEMENT OF LPT-O-N1-12 (SLAB 1N-2, UNLOADED CORNER)

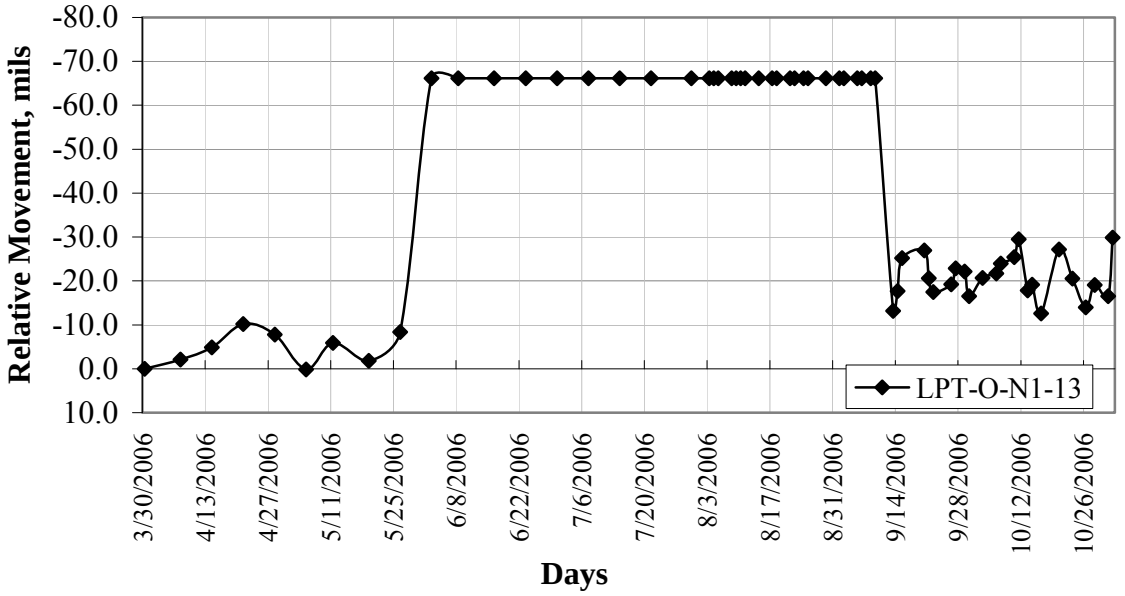

FIGURE G33. OVERALL MOVEMENT OF LPT-O-N1-13 (SLAB 1N-4, UNLOADED CORNER)

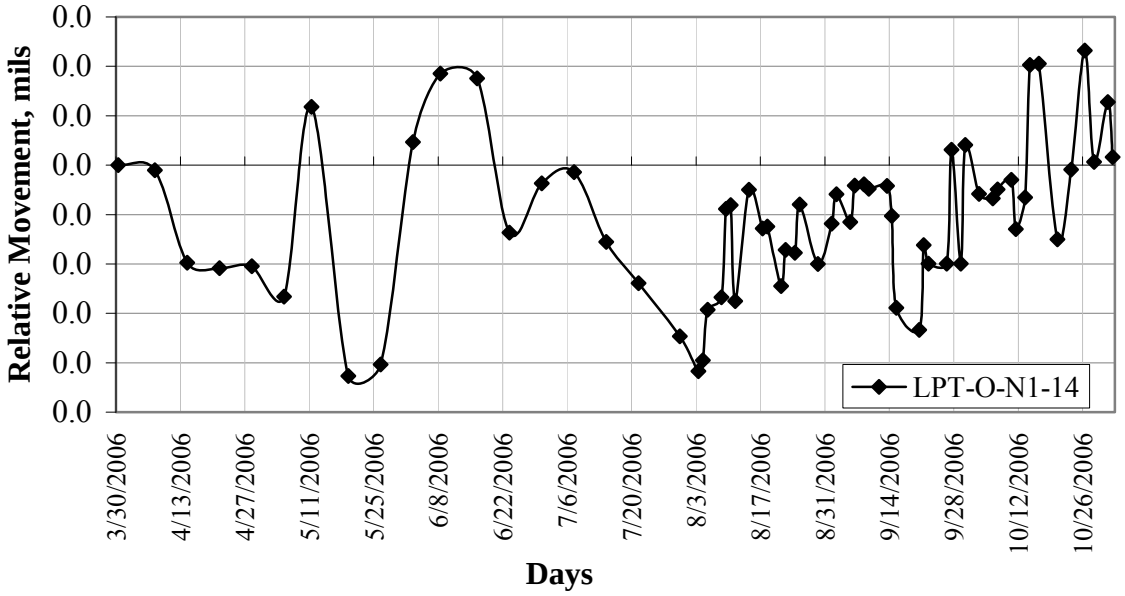

FIGURE G34. OVERALL MOVEMENT OF LPT-O-N1-14 (SLAB 1N-4, UNLOADED CORNER)

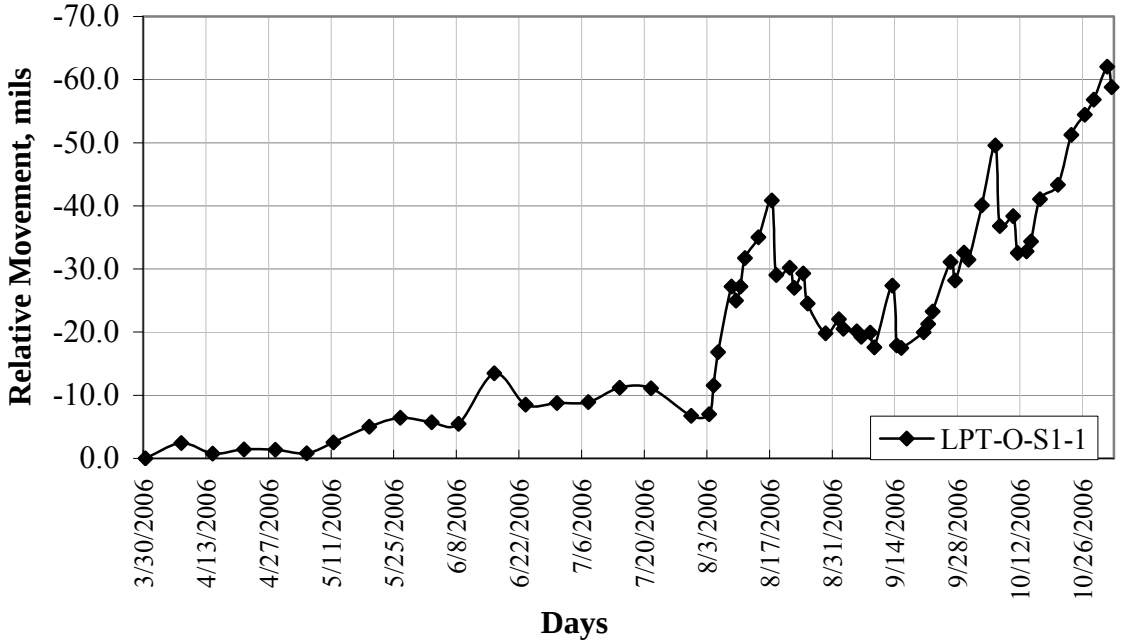

FIGURE F35. OVERALL MOVEMENT OF LPT-O-S1-1 (SLAB 1S-2, UNLOADED CORNER)

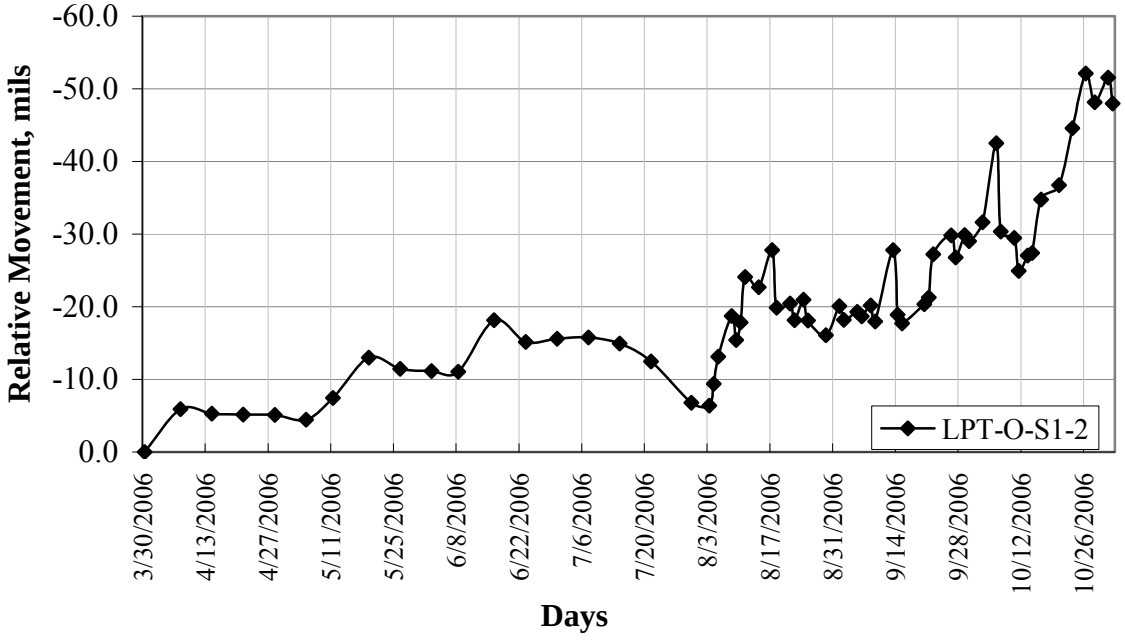

FIGURE G36. OVERALL MOVEMENT OF LPT-O-S1-2 (SLAB 1S-4, UNLOADED CORNER)

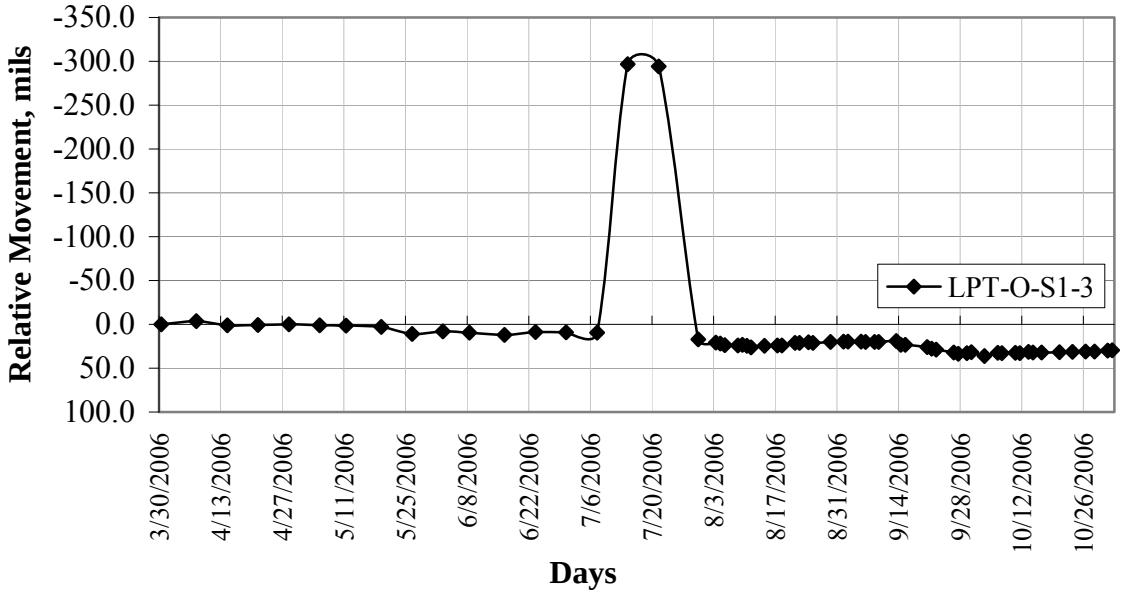

FIGURE G37. OVERALL MOVEMENT OF LPT-O-S1-3 (SLAB 1S-2, LOADED MIDSLAB)

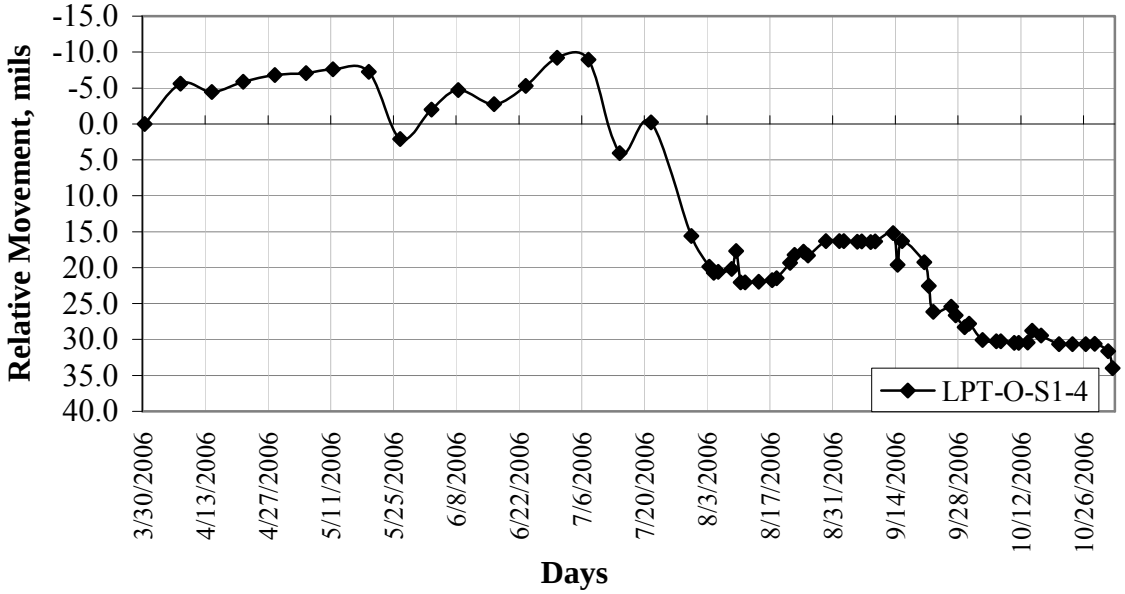

FIGURE G38. OVERALL MOVEMENT OF LPT-O-S1-4 (SLAB 1S-4, LOADED MIDSLAB)

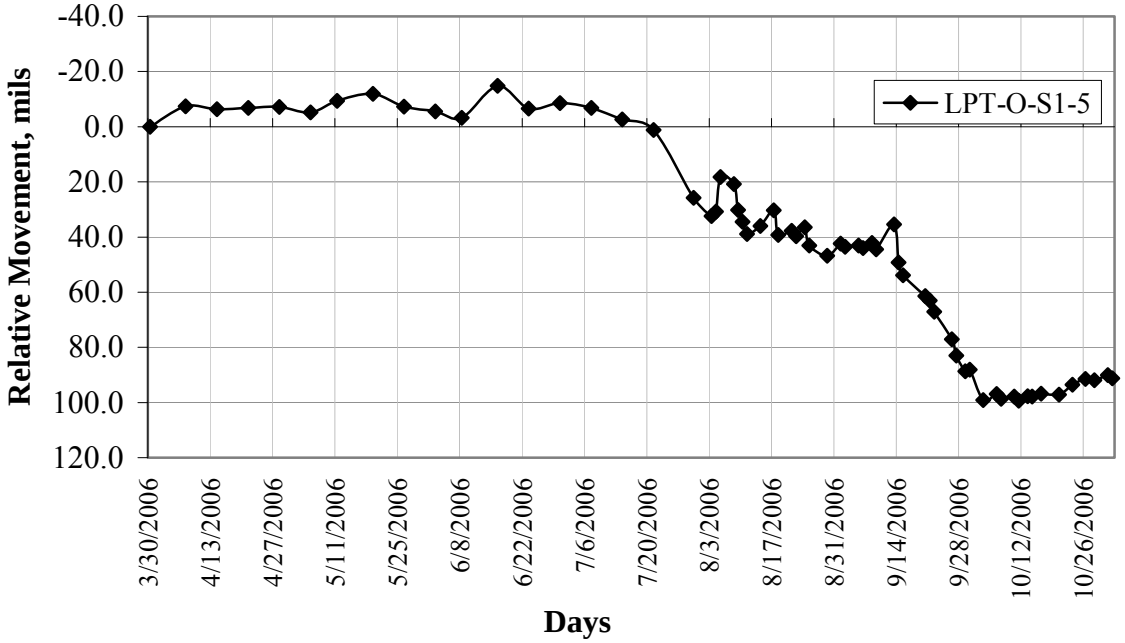

FIGURE G39. OVERALL MOVEMENT OF LPT-O-S1-5 (SLAB 1S-2, LOADED CORNER)

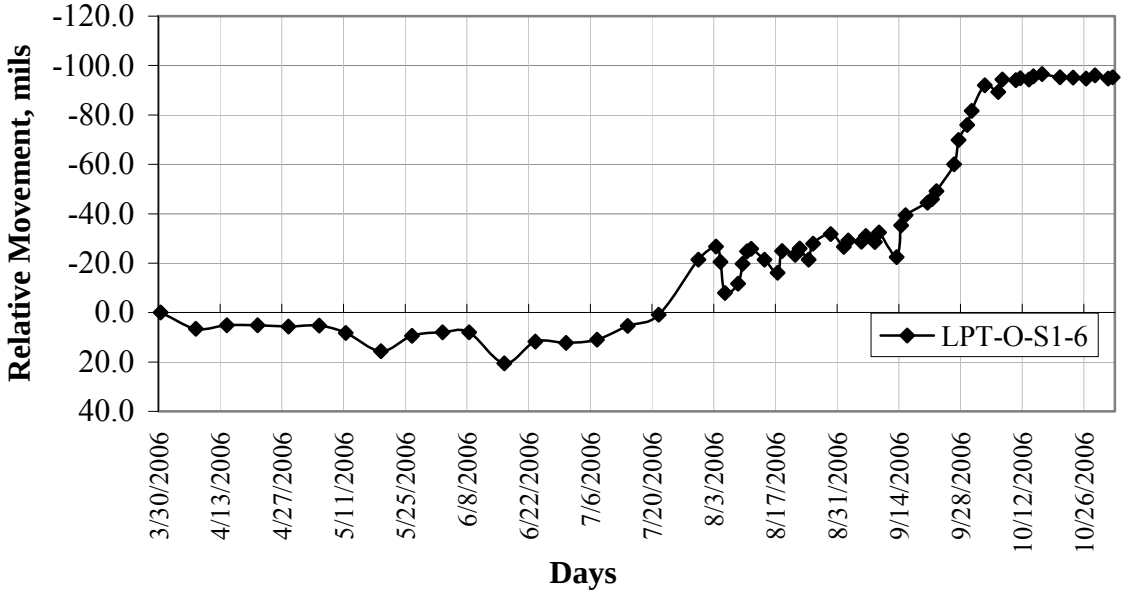

FIGURE G40. OVERALL MOVEMENT OF LPT-O-S1-6 (SLAB 1S-4, LOADED CORNER)

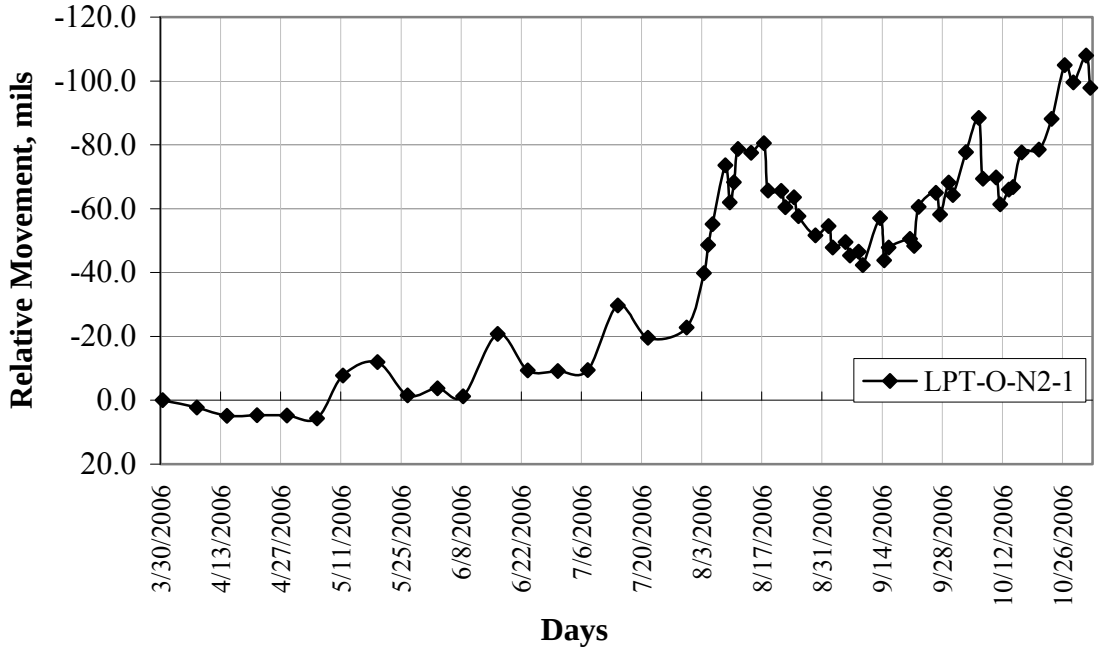

FIGURE G41. OVERALL MOVEMENT OF LPT-O-N2-1 (SLAB 2N-8, OUTER EDGE)

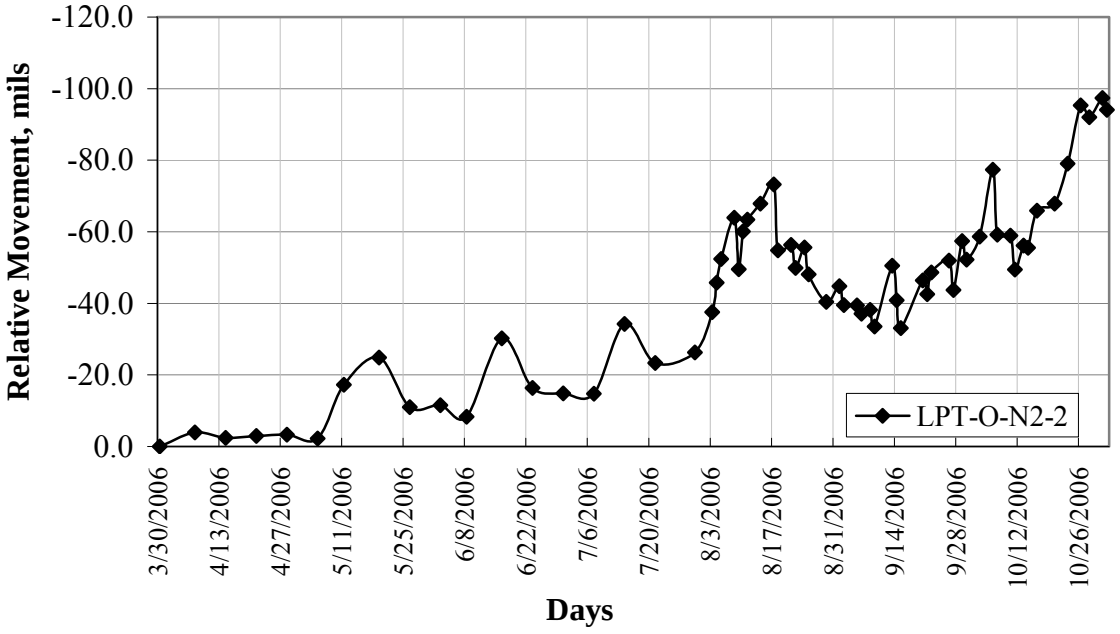

FIGURE G42. OVERALL MOVEMENT OF LPT-O-N2-2 (SLAB 2N-9, OUTER EDGE)

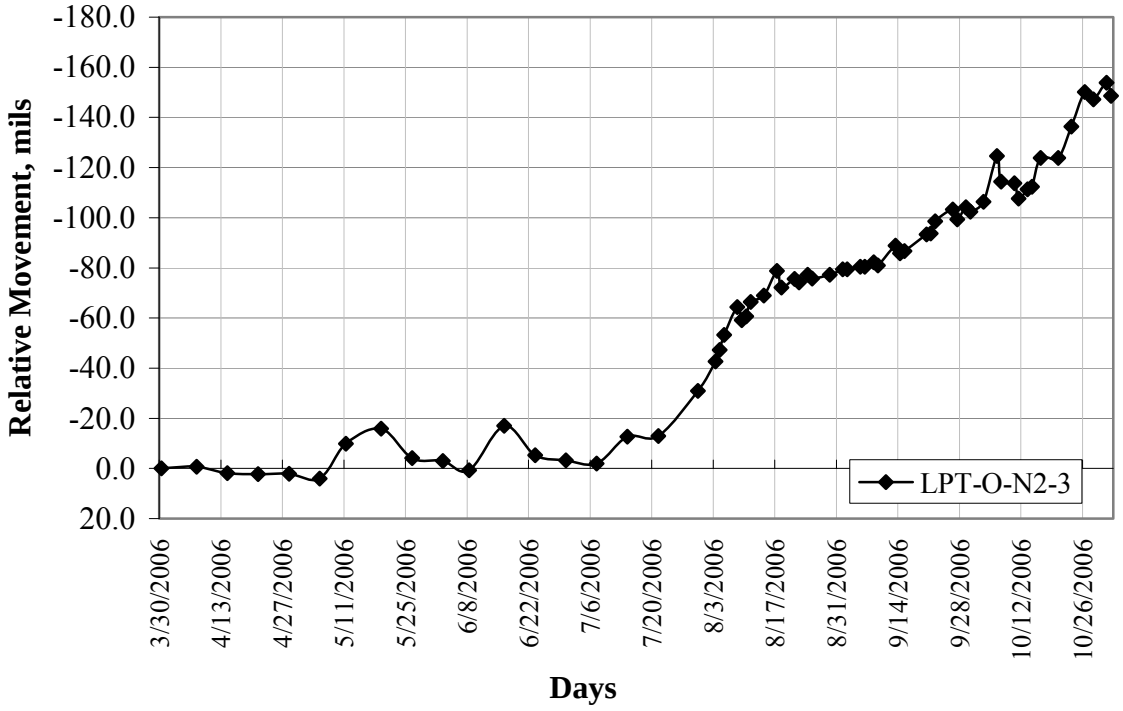

FIGURE G43. OVERALL MOVEMENT OF LPT-O-N2-3 (SLAB 2N-11, OUTER EDGE)

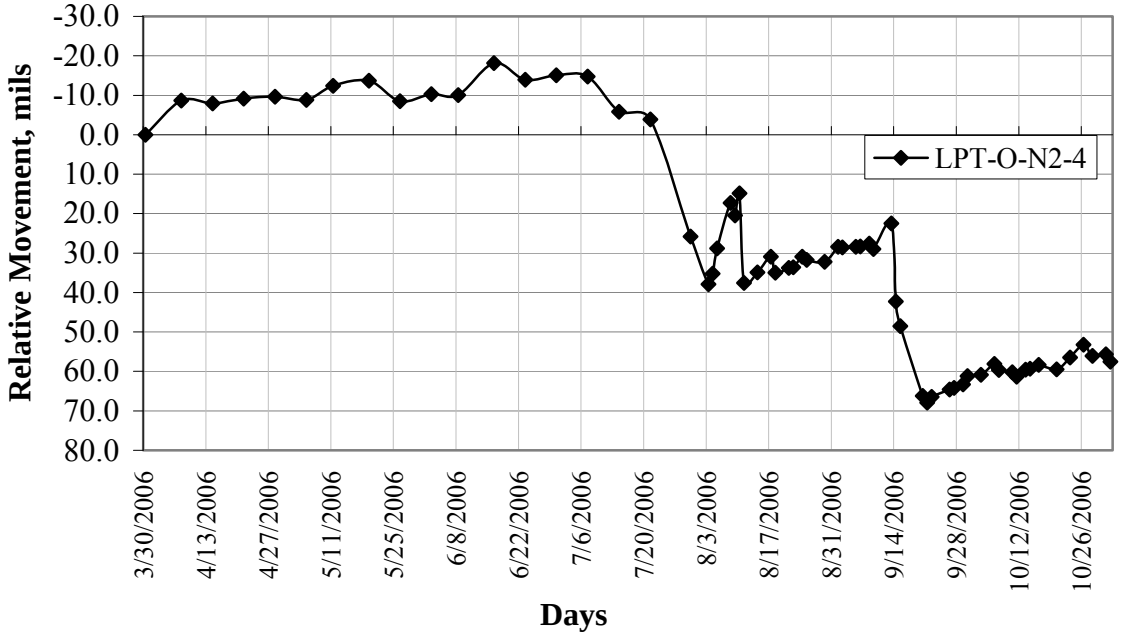

FIGURE G44. OVERALL MOVEMENT OF LPT-O-N2-4 (SLAB 2N-1, LOADED CORNER)

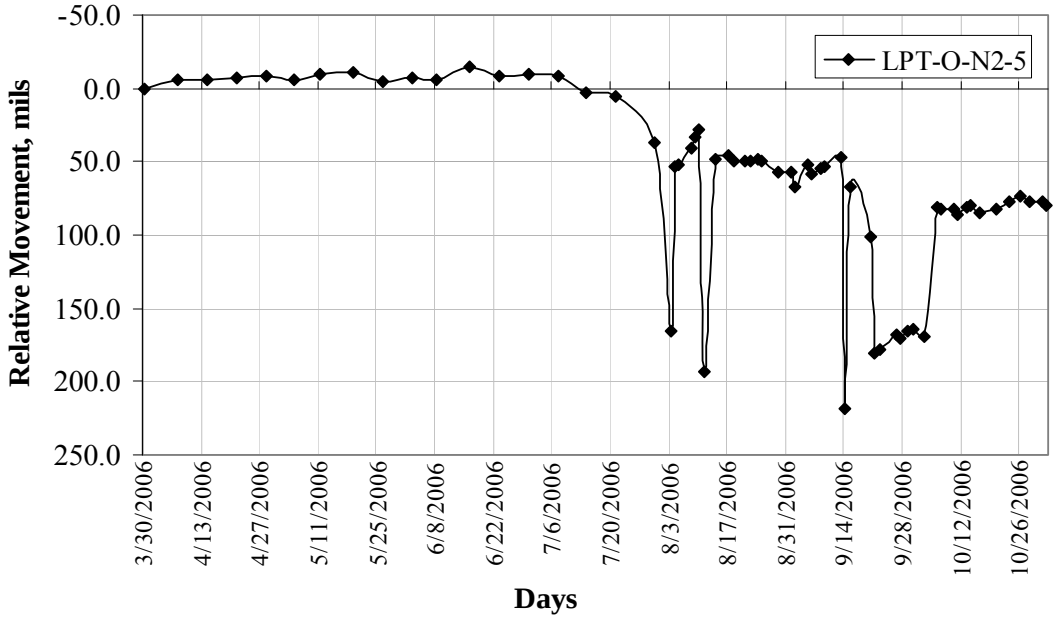

FIGURE G45. OVERALL MOVEMENT OF LPT-O-N2-5 (SLAB 2N-2, LOADED CORNER)

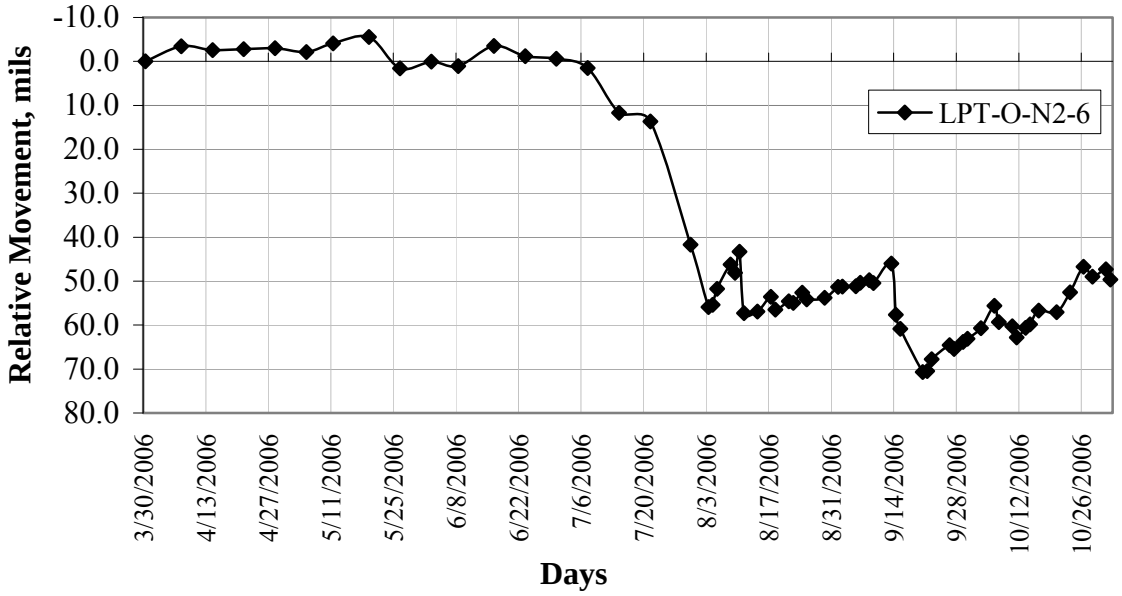

FIGURE G46. OVERALL MOVEMENT OF LPT-O-N2-6 (SLAB 2N-2, LOADED CORNER)

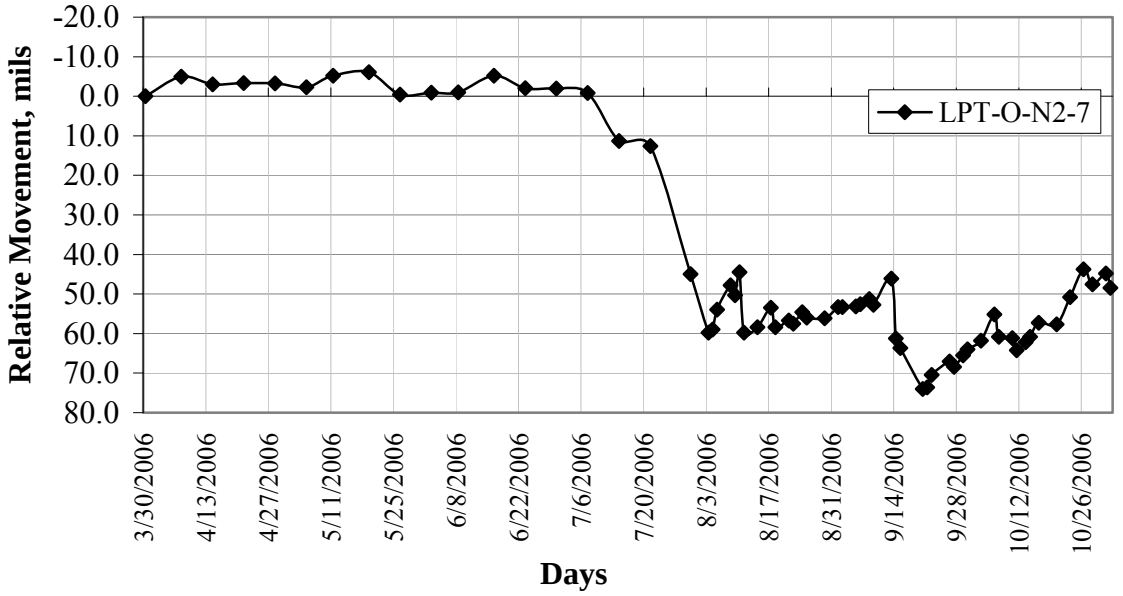

FIGURE G47. OVERALL MOVEMENT OF LPT-O-N2-7 (SLAB 2N-3, LOADED CORNER)

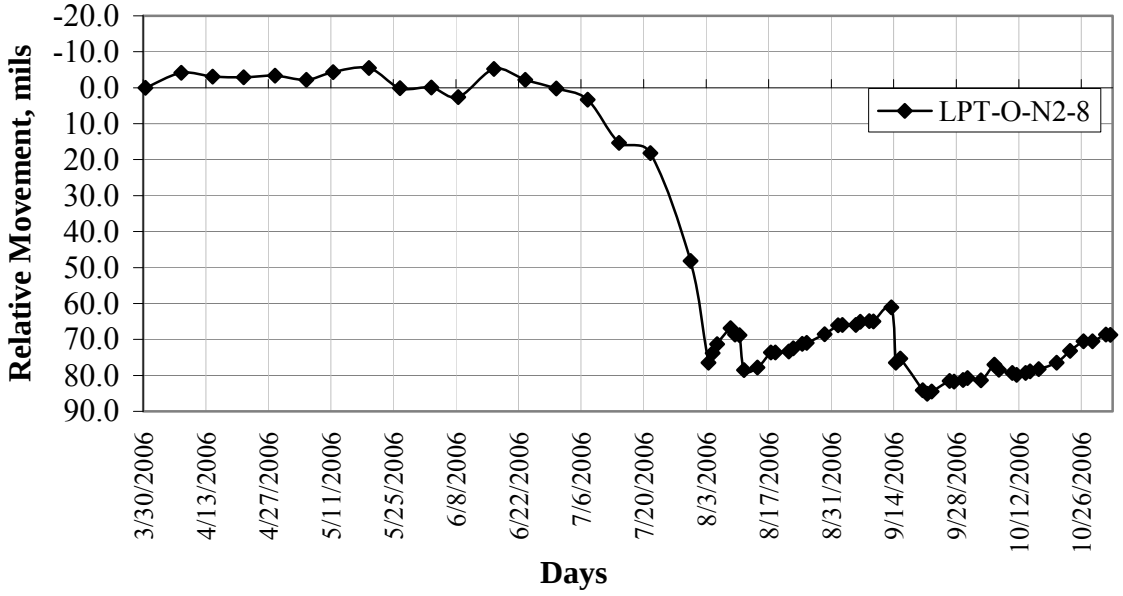

FIGURE G48. OVERALL MOVEMENT OF LPT-O-N2-8 (SLAB 2N-4, LOADED CORNER)

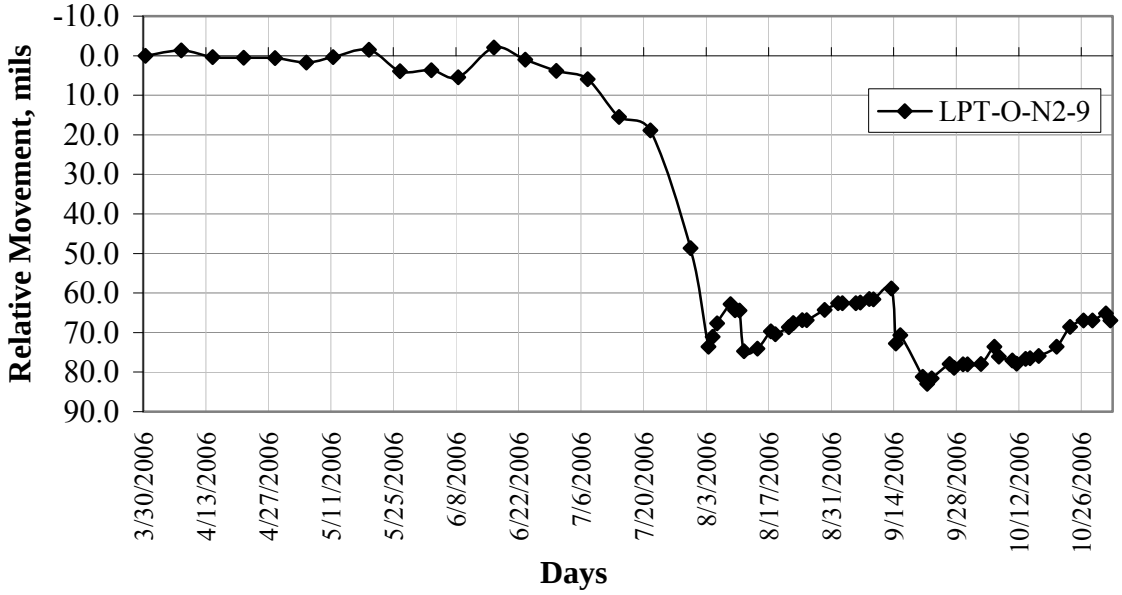

FIGURE G49. OVERALL MOVEMENT OF LPT-O-N2-9 (SLAB 2N-5, LOADED CORNER)

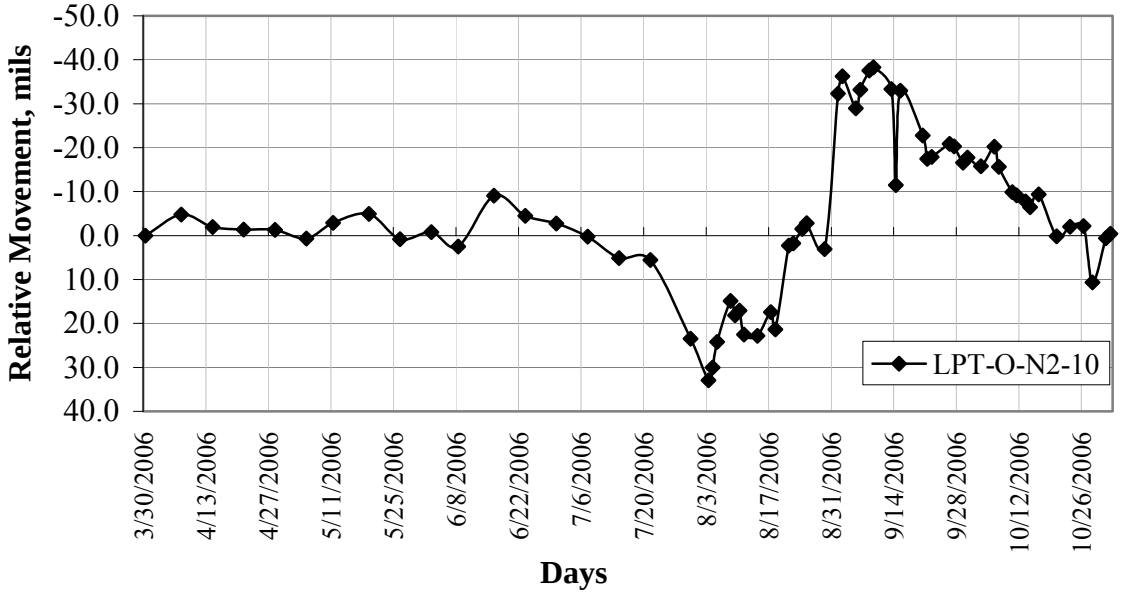

FIGURE G50. OVERALL MOVEMENT OF LPT-O-N2-10 (SLAB 2N-5, LOADED CORNER)

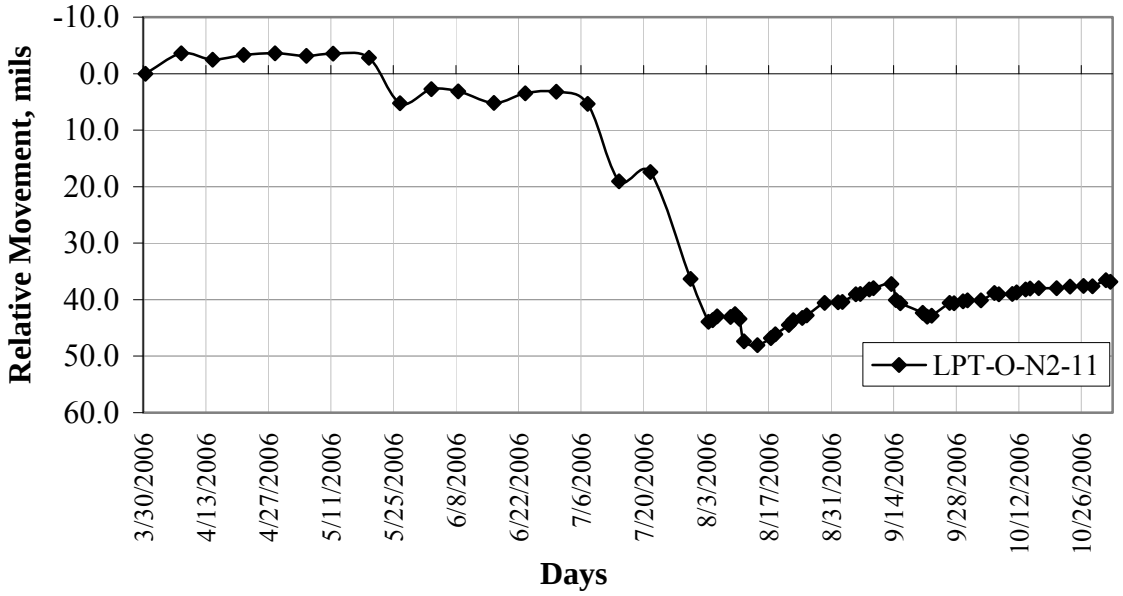

FIGURE G51. OVERALL MOVEMENT OF LPT-O-N2-11 (SLAB 2N-2, LOADED MIDSLAB)

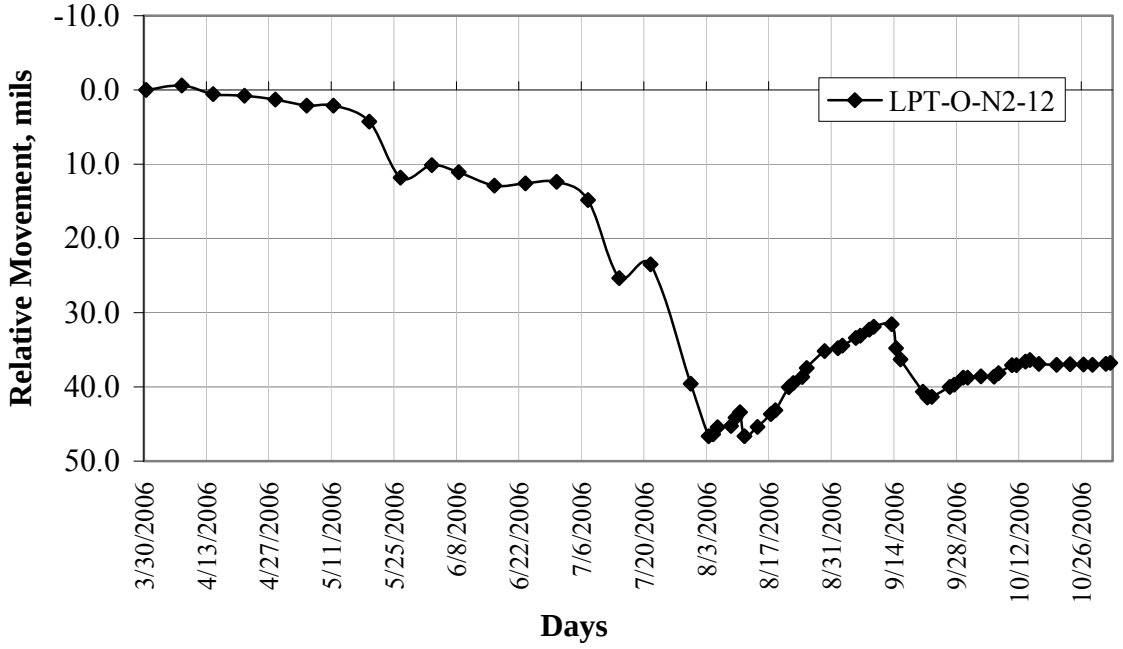

FIGURE G52. OVERALL MOVEMENT OF LPT-O-N2-12 (SLAB 2N-5, LOADED MIDSLAB)

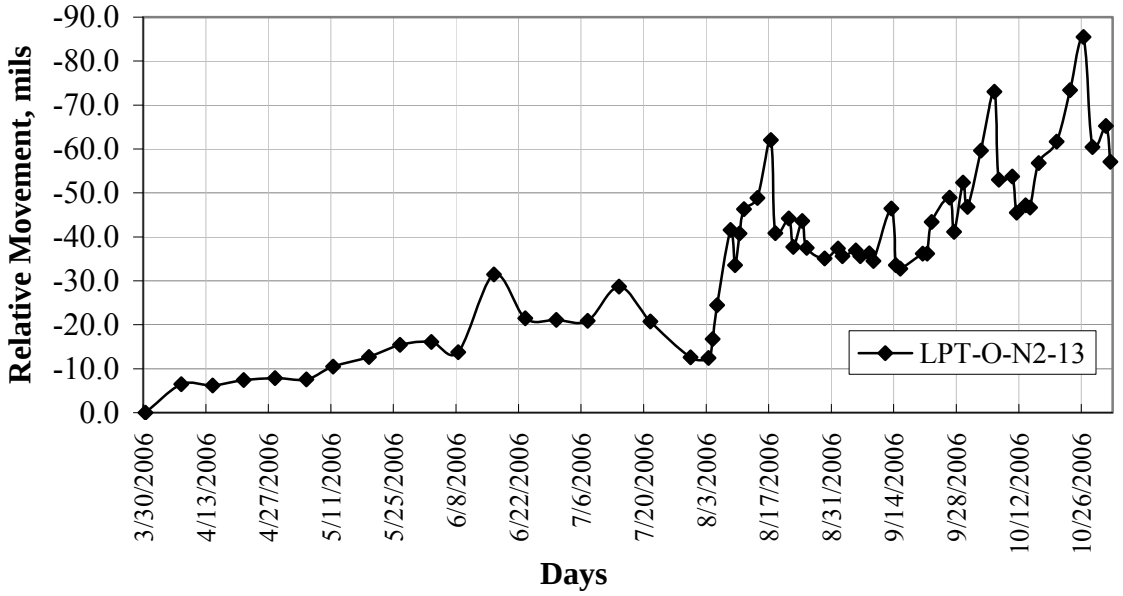

FIGURE G53. OVERALL MOVEMENT OF LPT-O-N2-13 (SLAB 2N-2, UNLOADED CORNER)

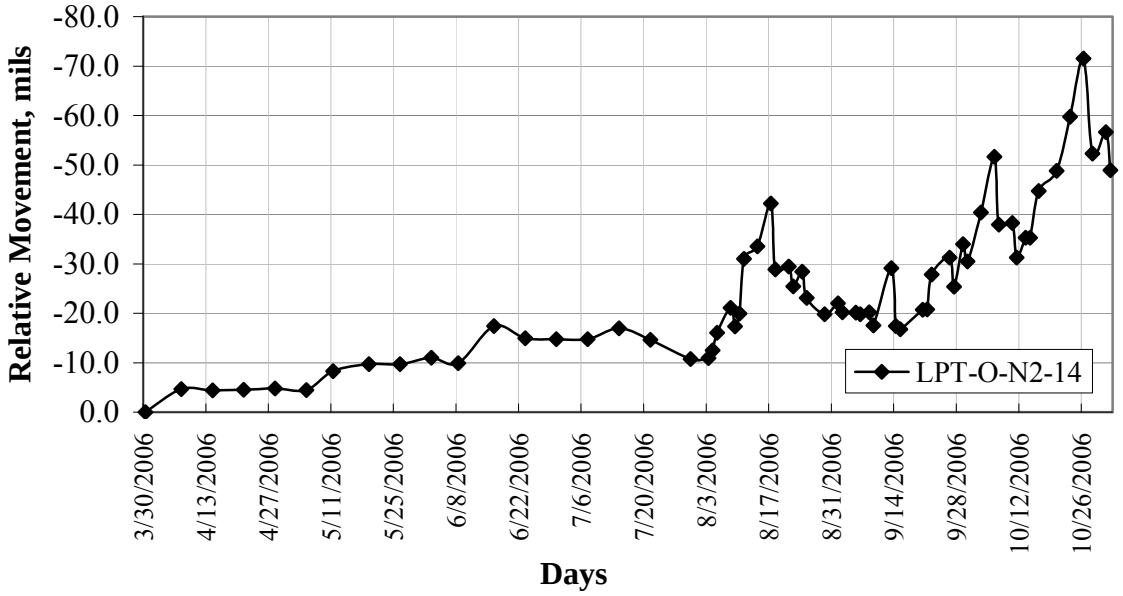

FIGURE G54. OVERALL MOVEMENT OF LPT-O-N2-14 (SLAB 2N-2, UNLOADED CORNER)

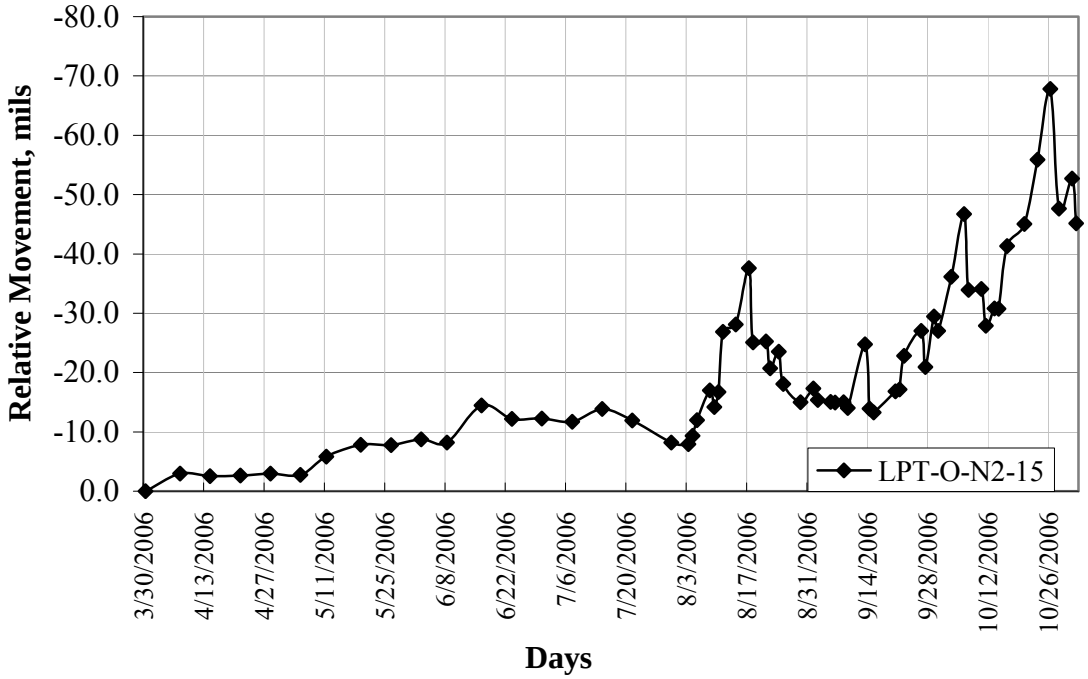

FIGURE G55. OVERALL MOVEMENT OF LPT-O-N2-15 (SLAB 2N-3, UNLOADED CORNER)

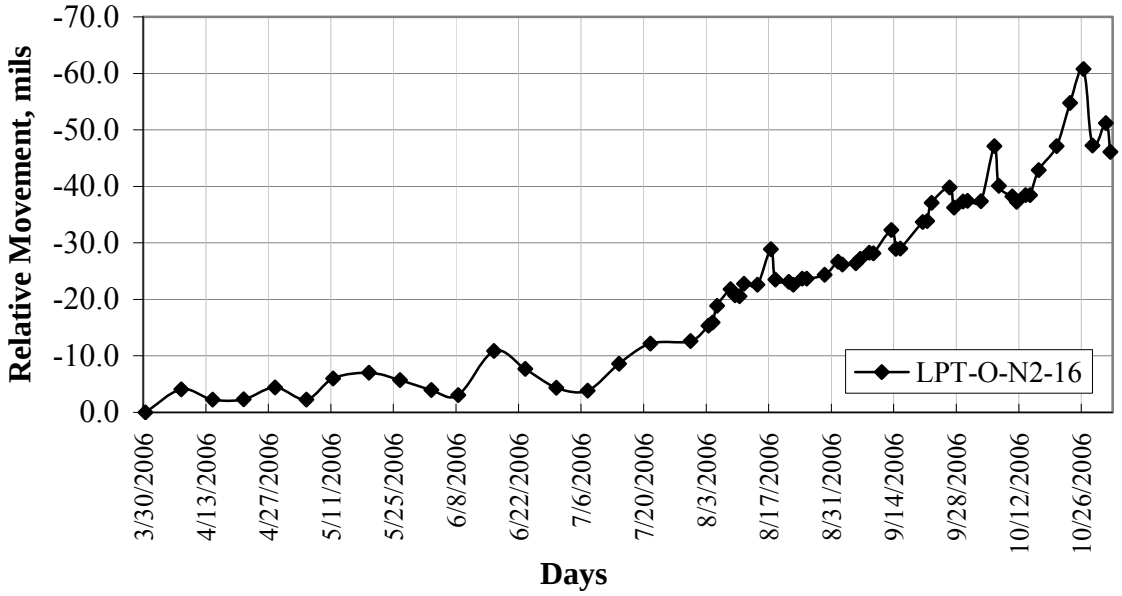

FIGURE G56. OVERALL MOVEMENT OF LPT-O-N2-16 (SLAB 2N-5, UNLOADED CORNER)

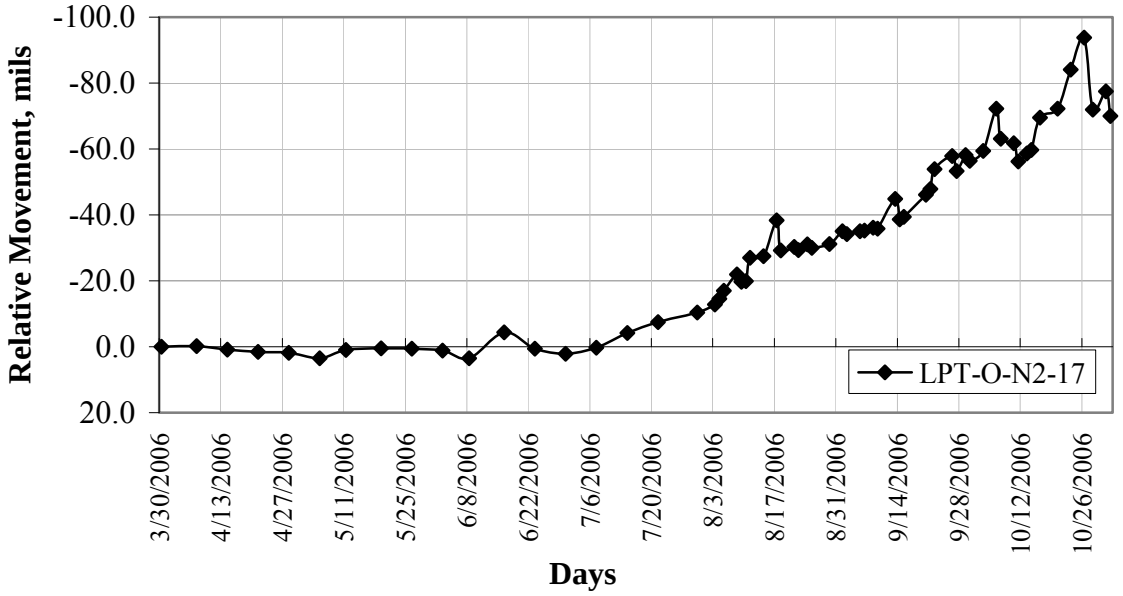

FIGURE G57. OVERALL MOVEMENT OF LPT-O-N2-17 (SLAB 2N-5, UNLOADED CORNER)

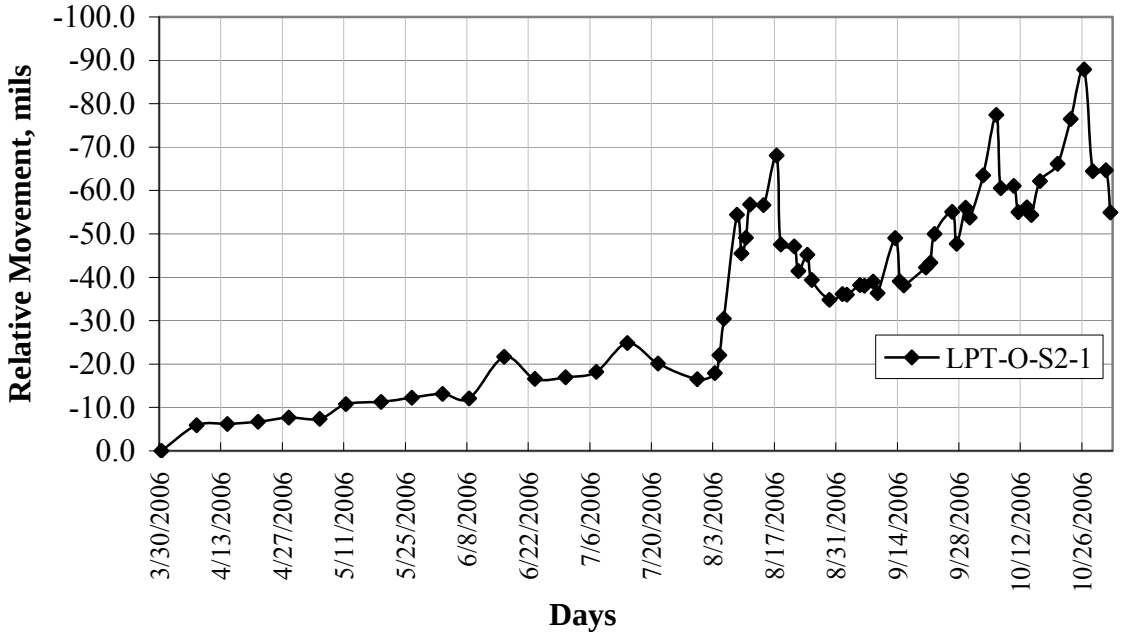

FIGURE G58. OVERALL MOVEMENT OF LPT-O-S2-1 (SLAB 2S-2, UNLOADED CORNER)

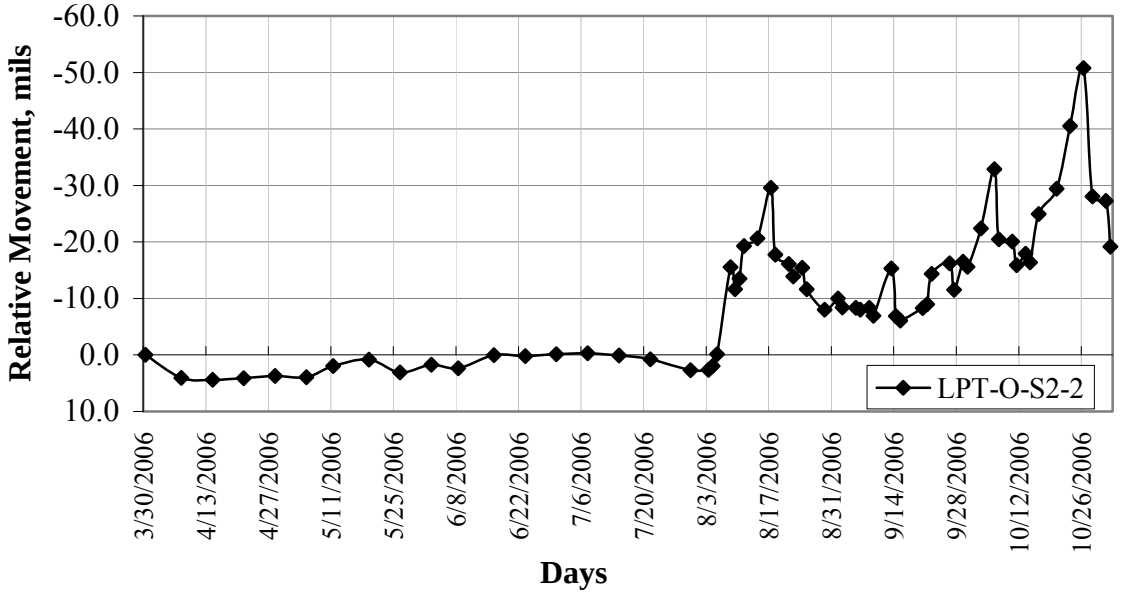

FIGURE G59. OVERALL MOVEMENT OF LPT-O-S2-2 (SLAB 2S-3, UNLOADED CORNER)

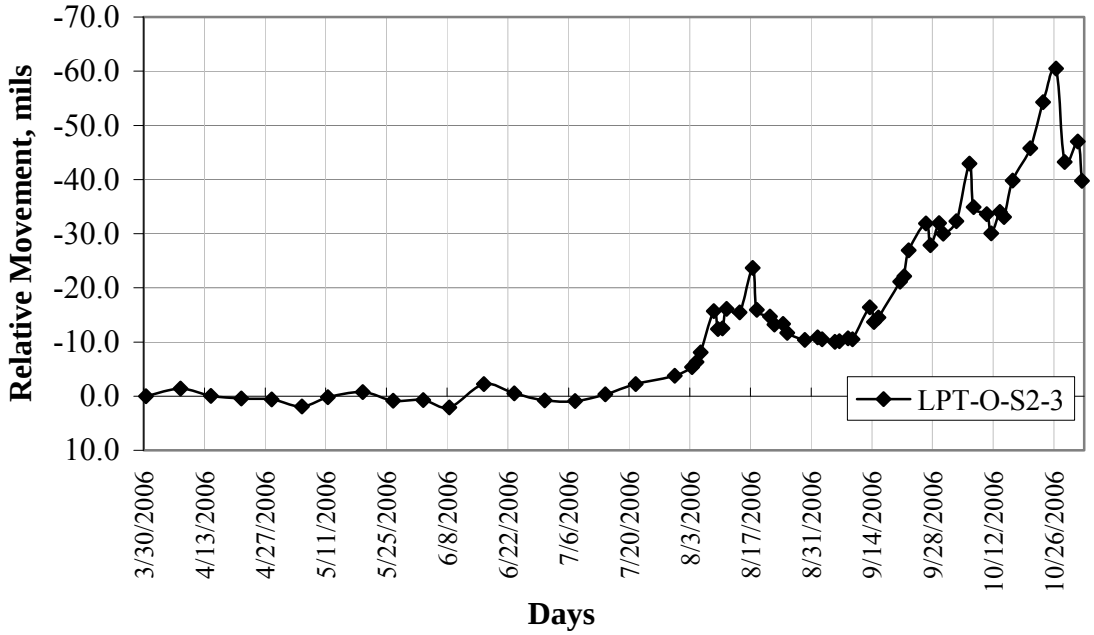

FIGURE G60. OVERALL MOVEMENT OF LPT-O-S2-3 (SLAB 2S-5, UNLOADED CORNER)

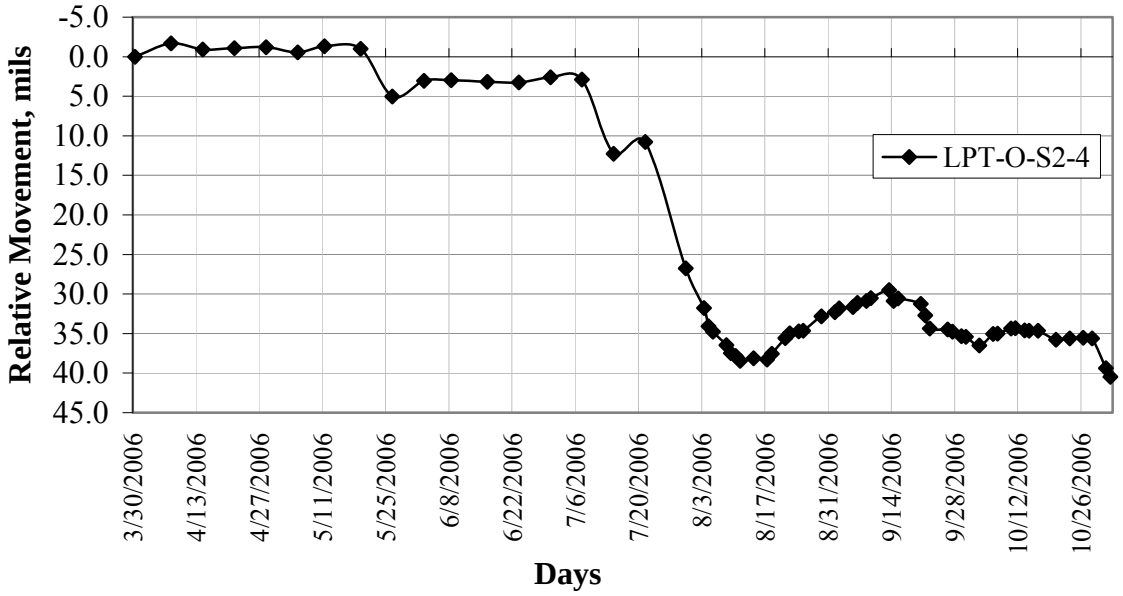

FIGURE G61. OVERALL MOVEMENT OF LPT-O-S2-4 (SLAB 2S-2, LOADED MIDSLAB)

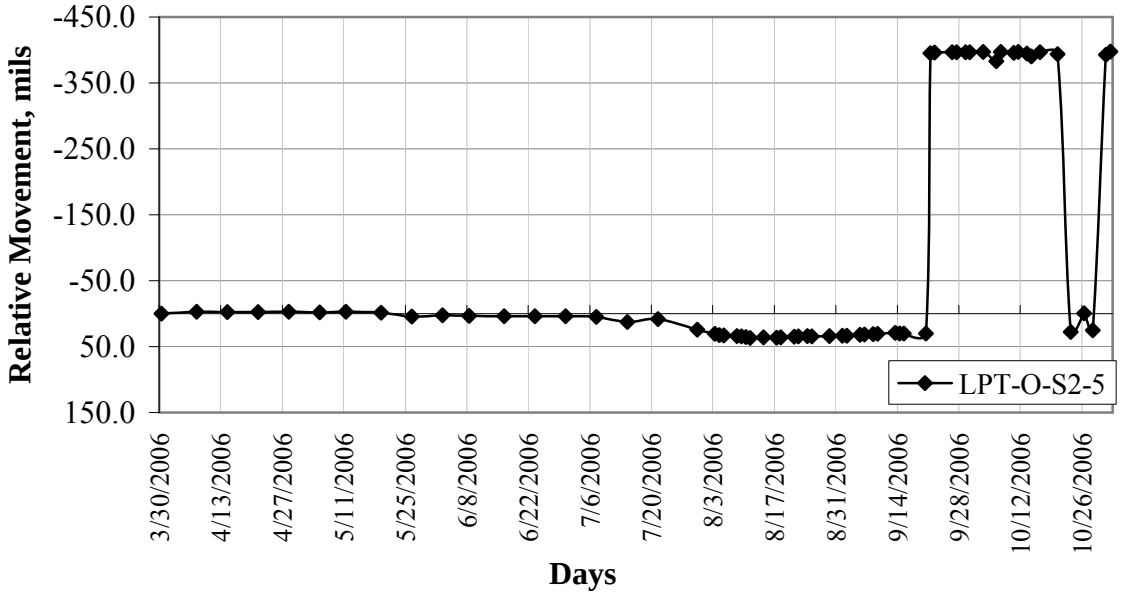

FIGURE G62. OVERALL MOVEMENT OF LPT-O-S2-5 (SLAB 2S-5, LOADED MIDSLAB)

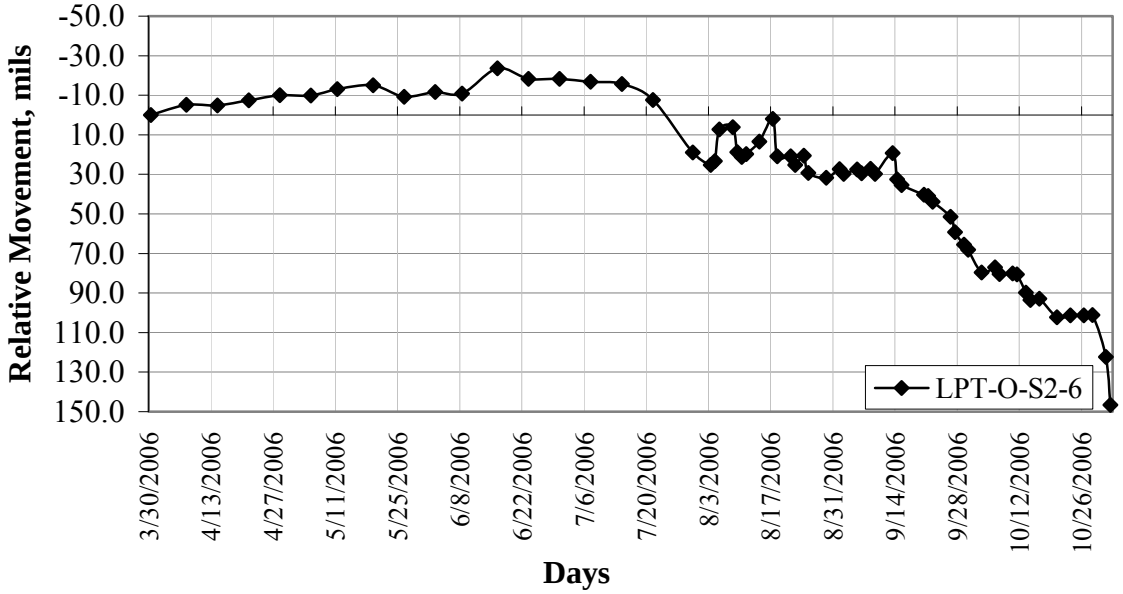

FIGURE G63. OVERALL MOVEMENT OF LPT-O-S2-6 (SLAB 2S-2, LOADED CORNER)

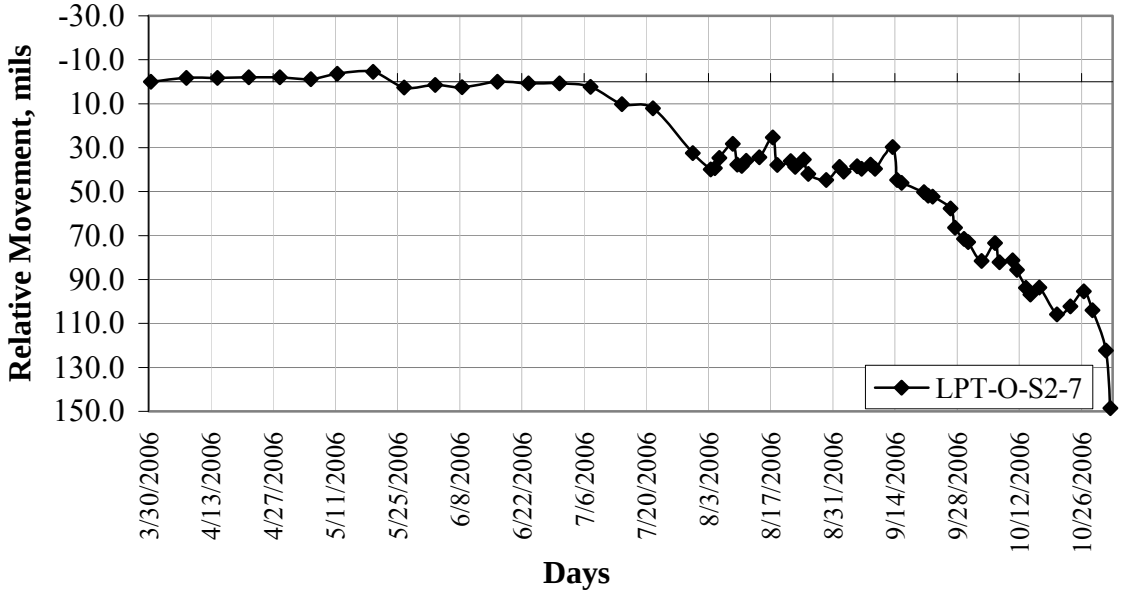

FIGURE G64. OVERALL MOVEMENT OF LPT-O-S2-7 (SLAB 2S-3, LOADED CORNER)

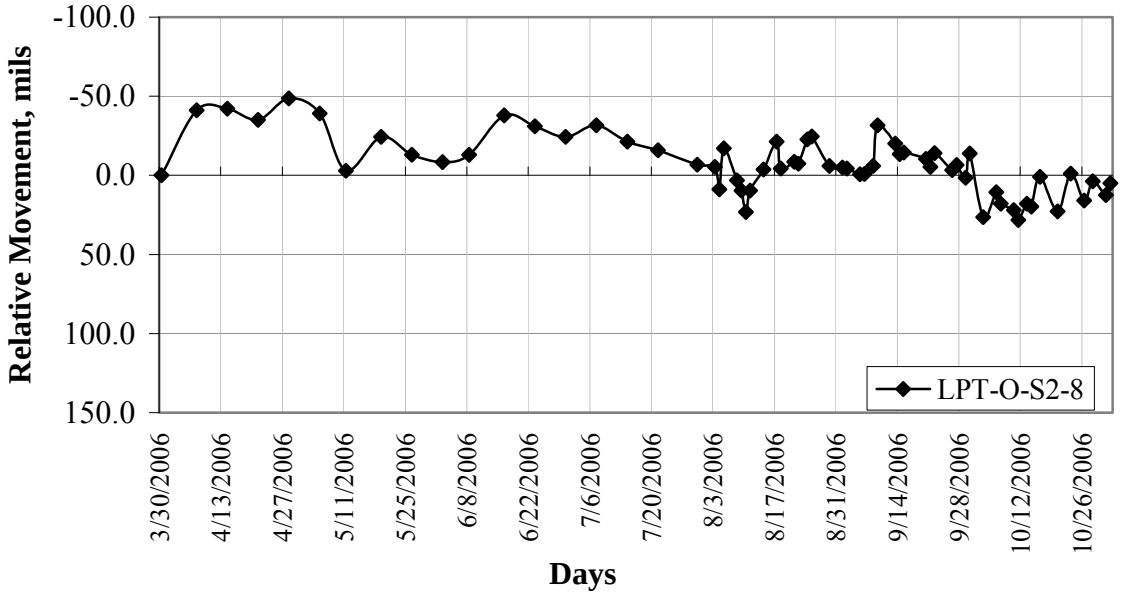

FIGURE G65. OVERALL MOVEMENT OF LPT-O-S2-8 (SLAB 2S-5, LOADED CORNER)

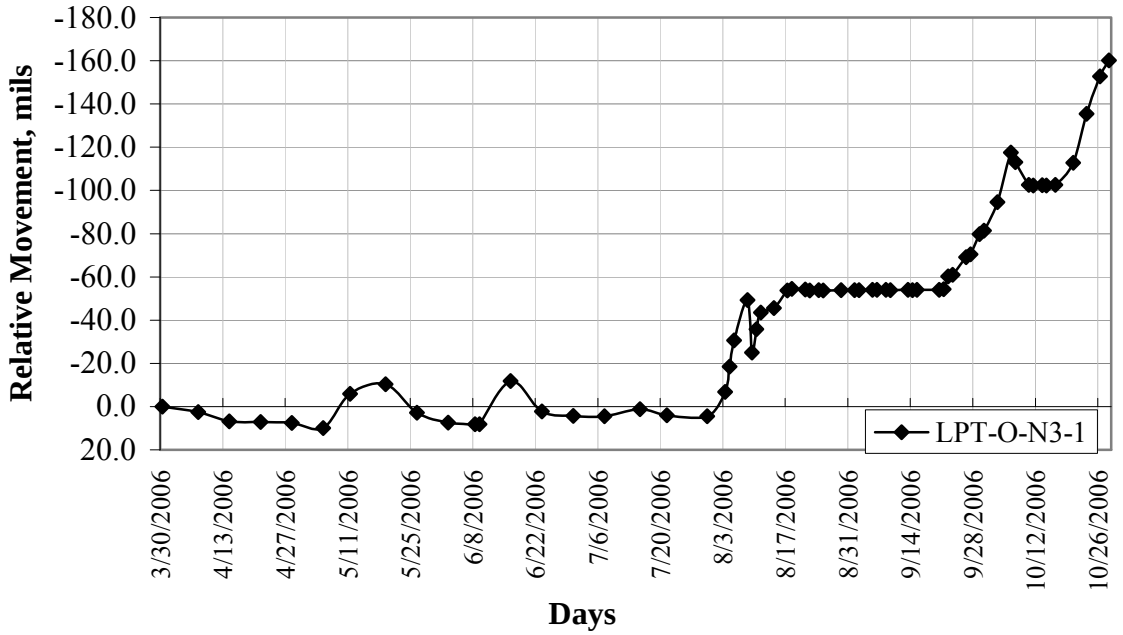

FIGURE G66. OVERALL MOVEMENT OF LPT-O-N3-1 (SLAB 3N-8, OUTER EDGE)

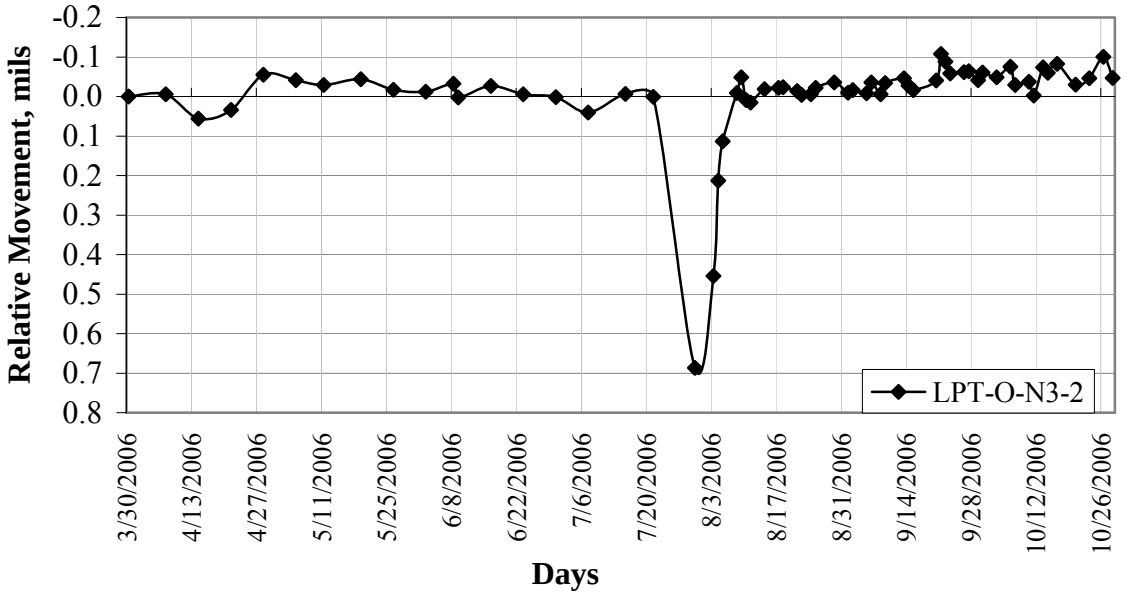

FIGURE G67. OVERALL MOVEMENT OF LPT-O-N3-2 (SLAB 3N-10, OUTER EDGE)

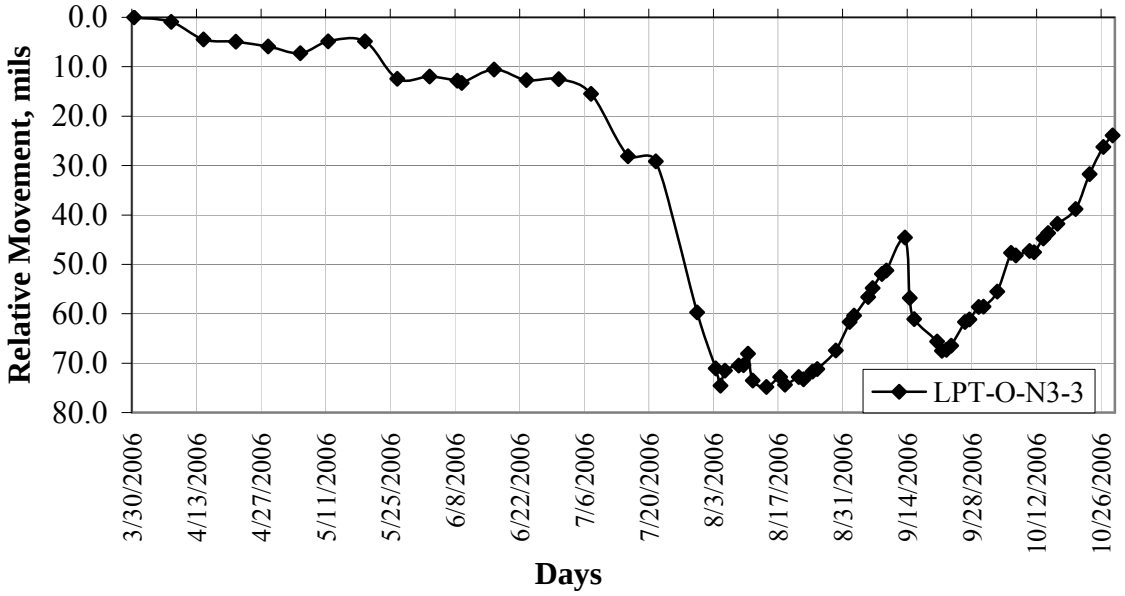

FIGURE G68. OVERALL MOVEMENT OF LPT-O-N3-3 (SLAB 3N-1, LOADED CORNER)

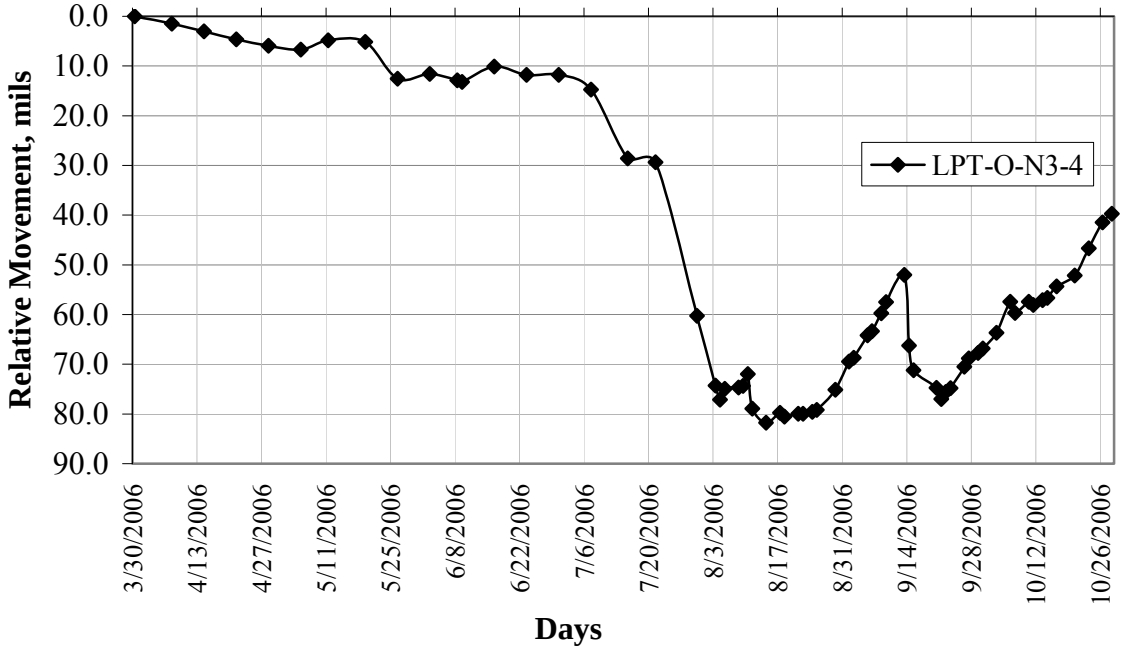

FIGURE G69. OVERALL MOVEMENT OF LPT-O-N3-4 (SLAB 3N-2, LOADED CORNER)

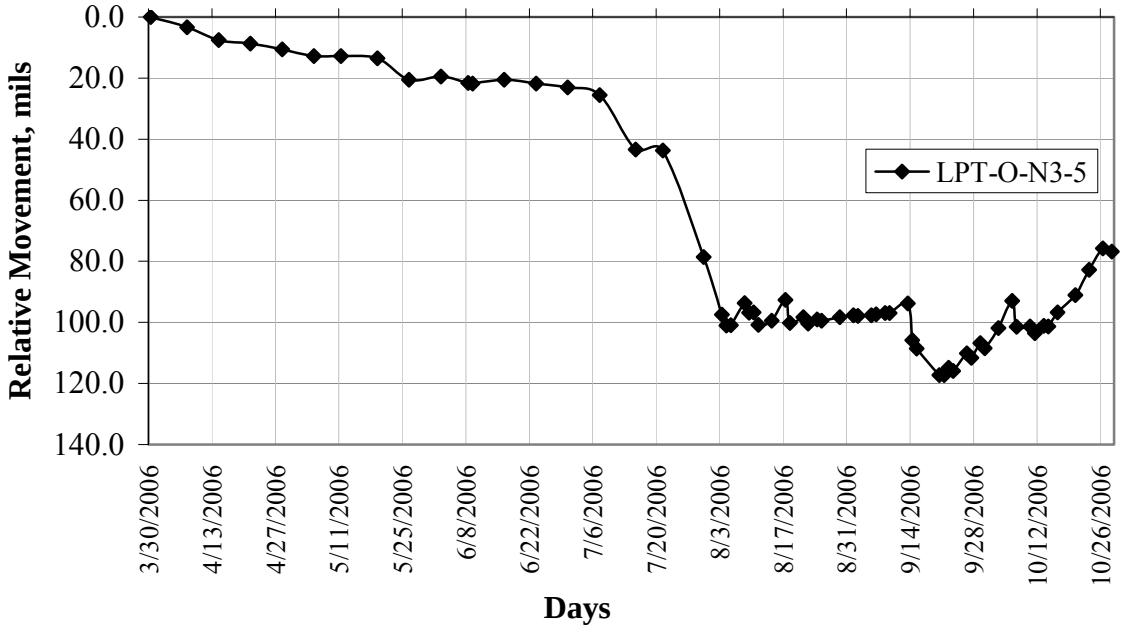

FIGURE G70. OVERALL MOVEMENT OF LPT-O-N3-5 (SLAB 3N-2, LOADED CORNER)

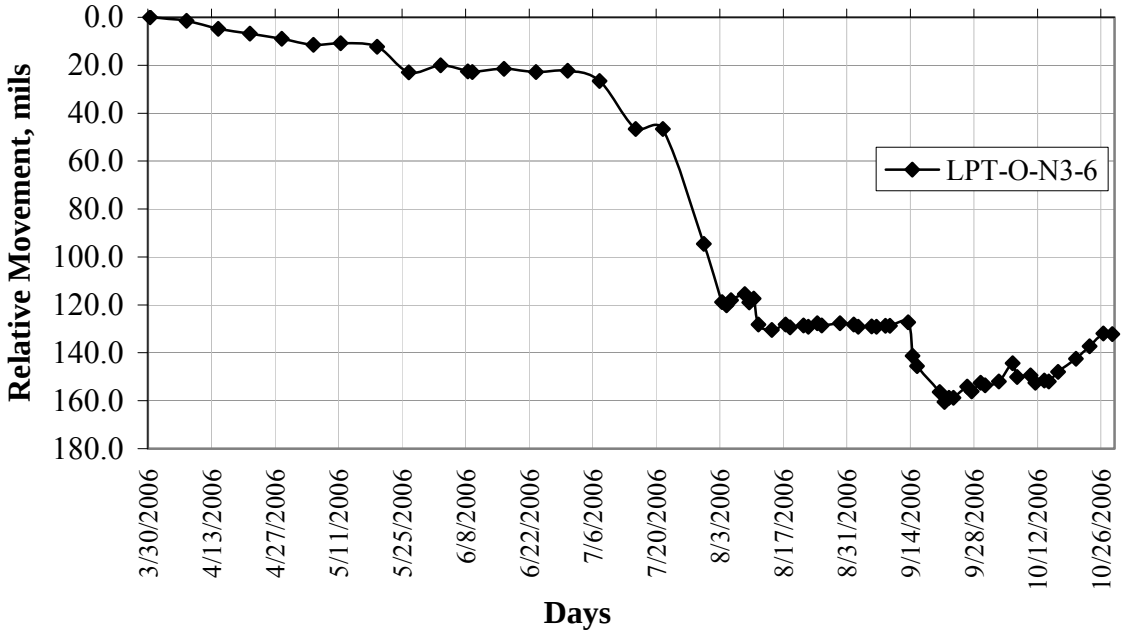

FIGURE G71. OVERALL MOVEMENT OF LPT-O-N3-6 (SLAB 3N-4, LOADED CORNER)

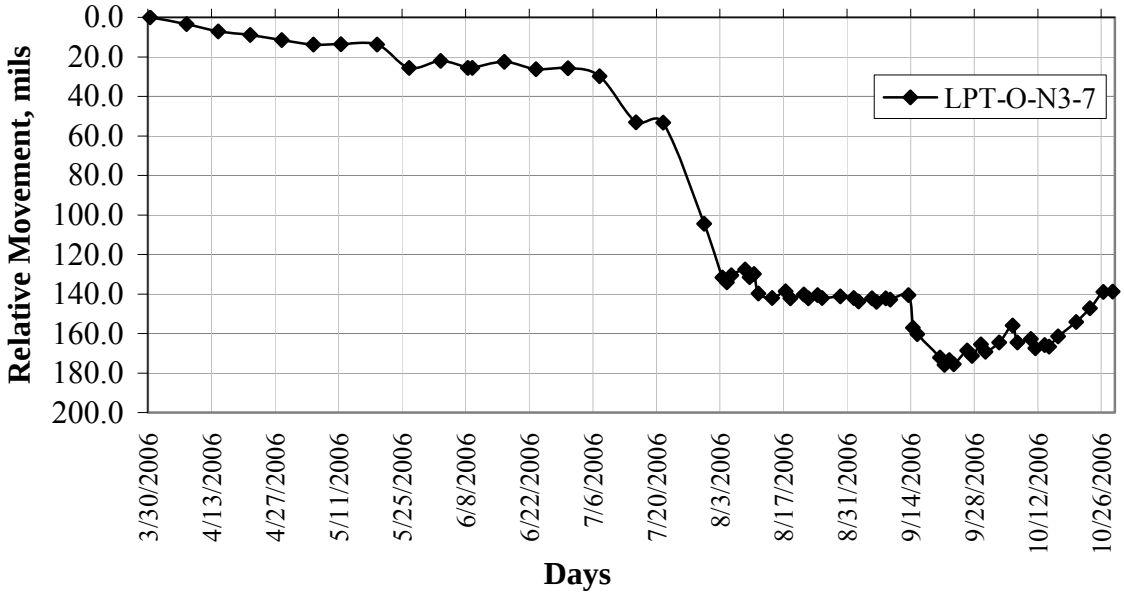

FIGURE G72. OVERALL MOVEMENT OF LPT-O-N3-7 (SLAB 3N-4, LOADED CORNER)

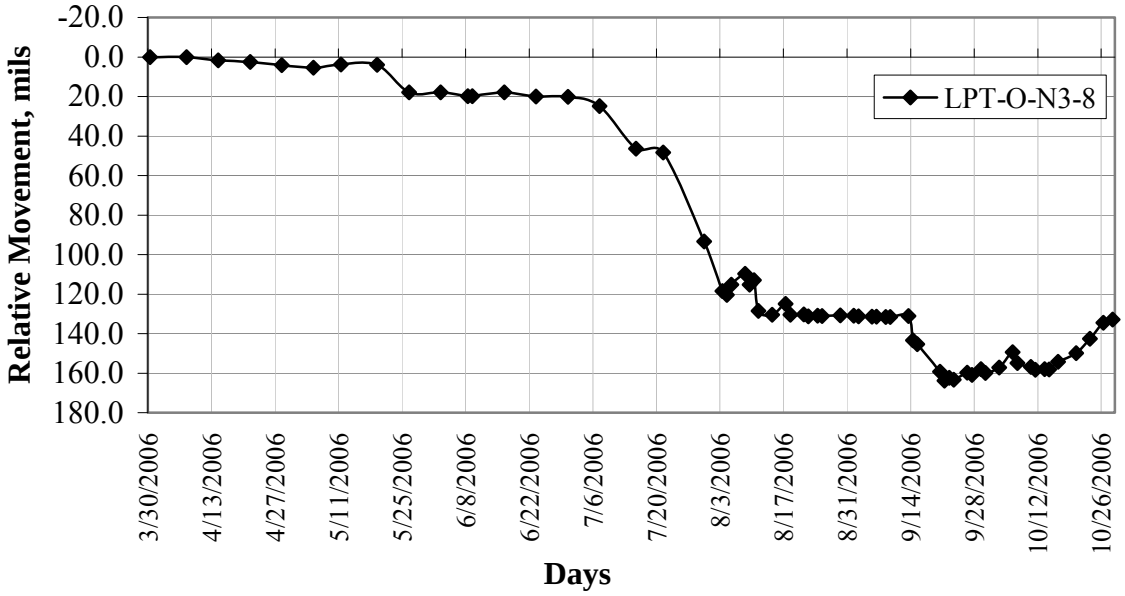

FIGURE G73. OVERALL MOVEMENT OF LPT-O-N3-8 (SLAB 3N-5, LOADED CORNER)

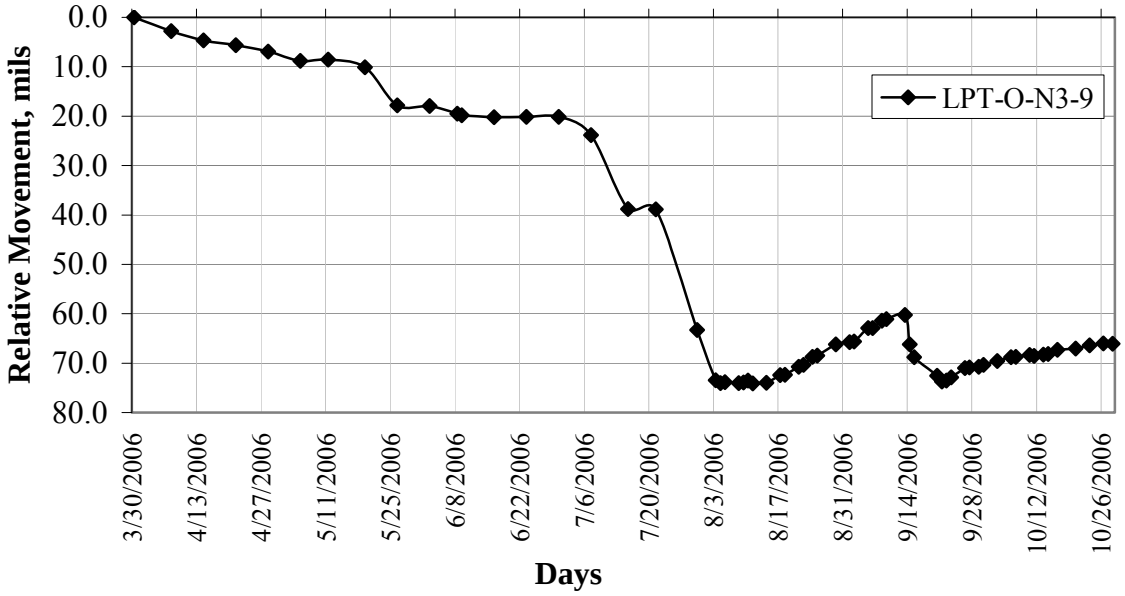

FIGURE G74. OVERALL MOVEMENT OF LPT-O-N3-9 (SLAB 3N-2, LOADED MIDSLAB)

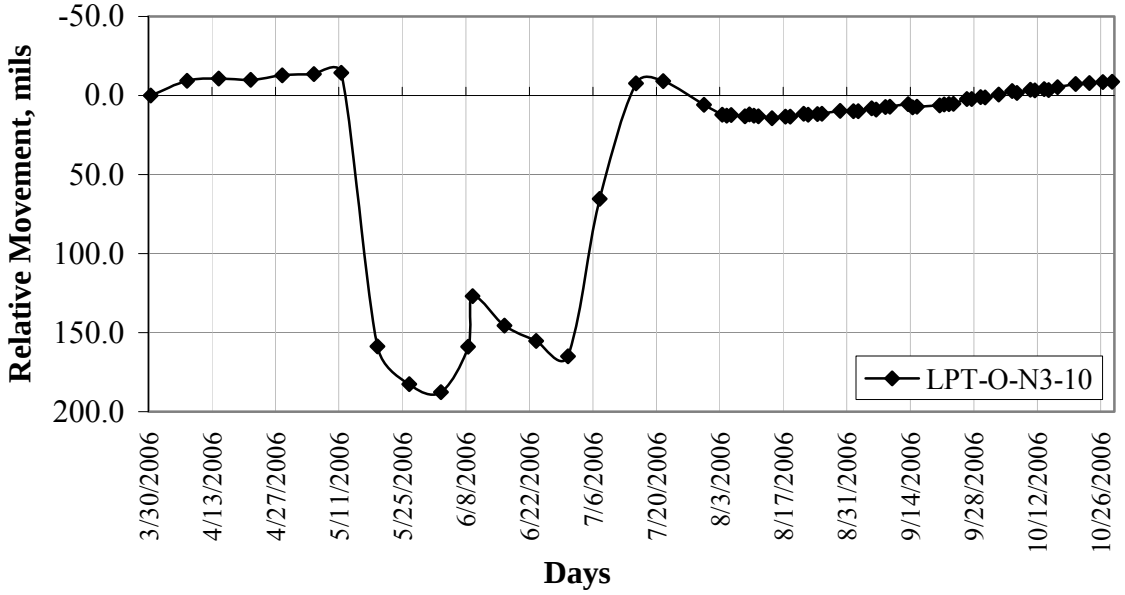

FIGURE G75. OVERALL MOVEMENT OF LPT-O-N3-10 (SLAB 3N-4, LOADED MIDSLAB)

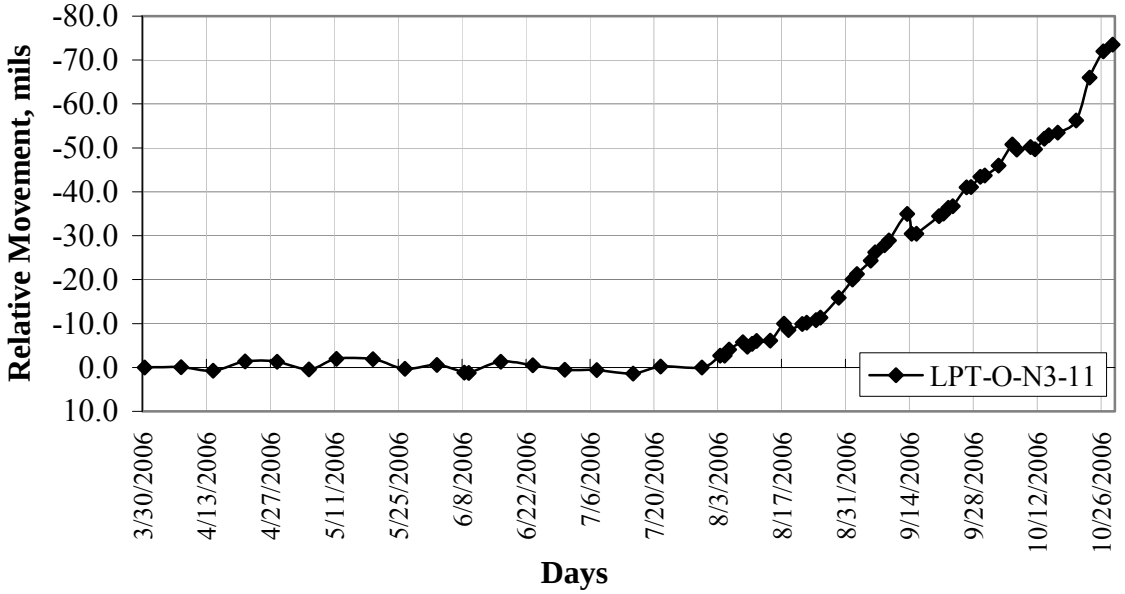

FIGURE G76. OVERALL MOVEMENT OF LPT-O-N3-11 (SLAB 3N-2, UNLOADED CORNER)

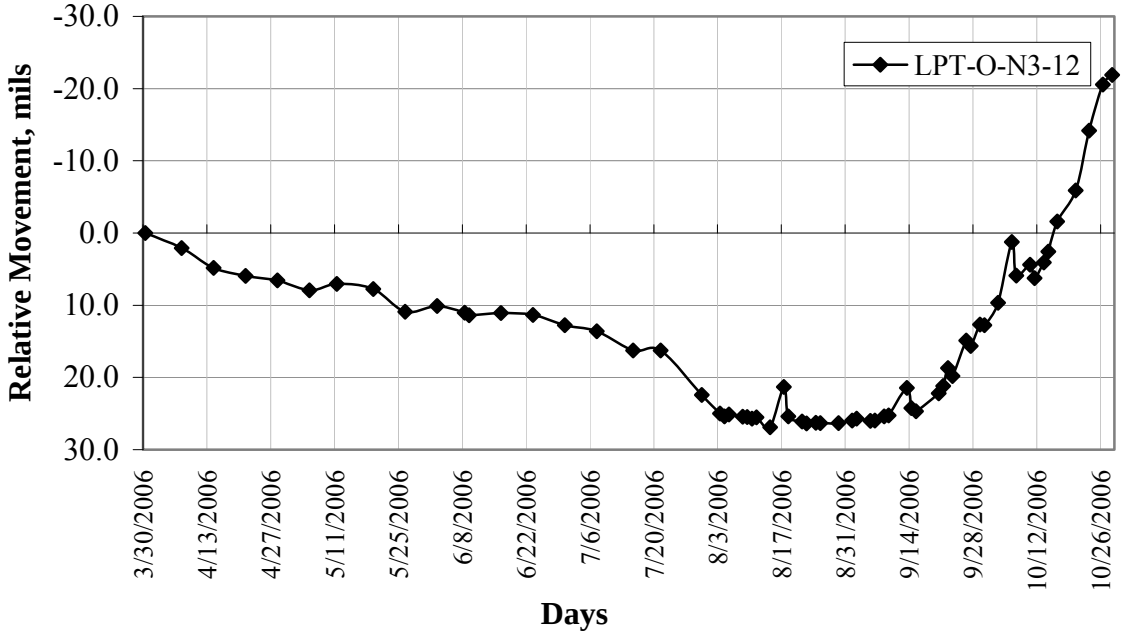

FIGURE G77. OVERALL MOVEMENT OF LPT-O-N3-12 (SLAB 3N-2, UNLOADED CORNER)

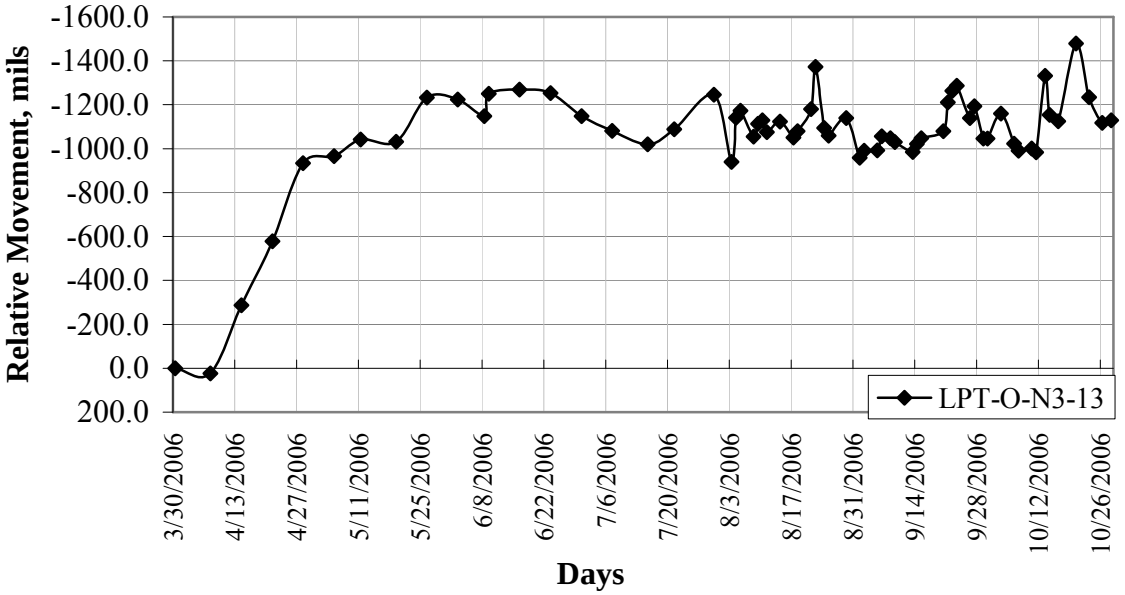

FIGURE G78. OVERALL MOVEMENT OF LPT-O-N3-13 (SLAB 3N-4, UNLOADED CORNER)

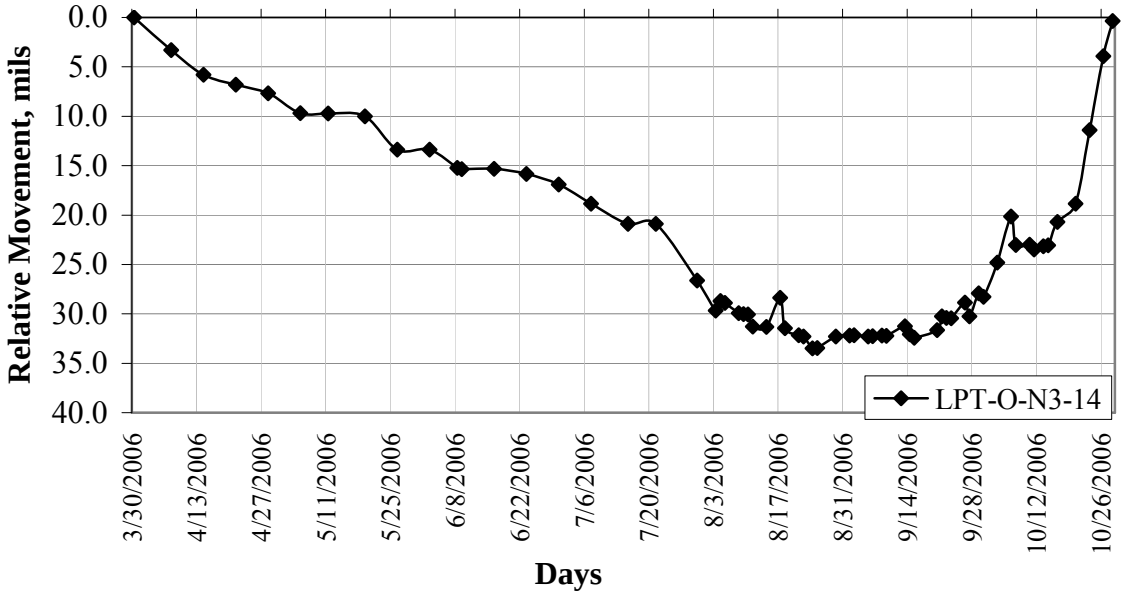

FIGURE G79. OVERALL MOVEMENT OF LPT-O-N3-14 (SLAB 3N-4, UNLOADED CORNER)

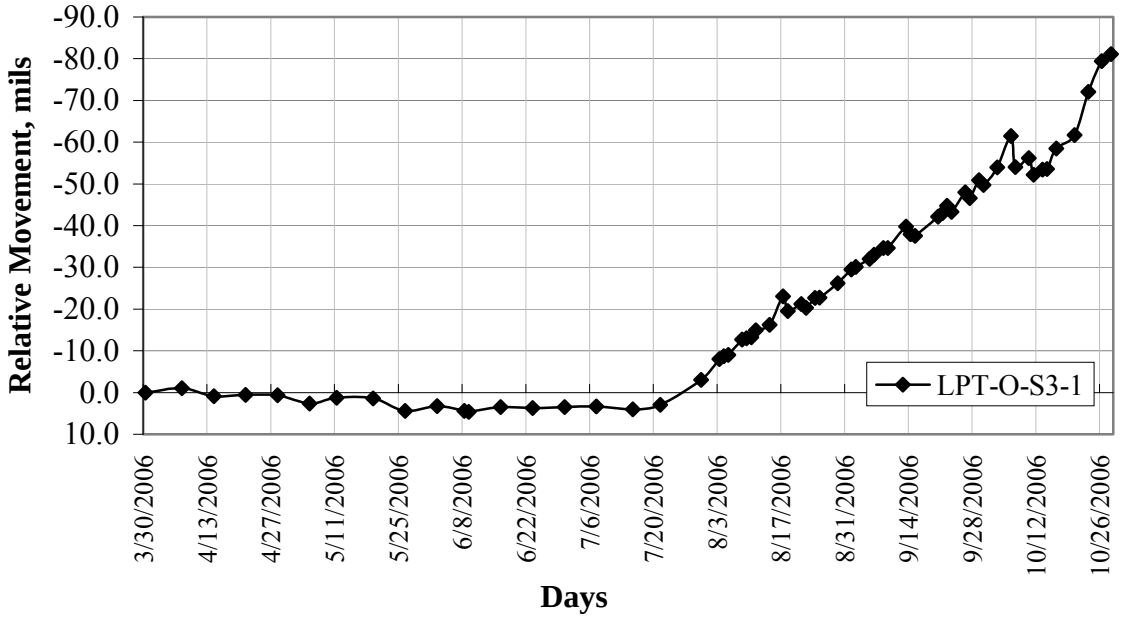

FIGURE G80. OVERALL MOVEMENT OF LPT-O-S3-1 (SLAB 3S-2, UNLOADED CORNER)

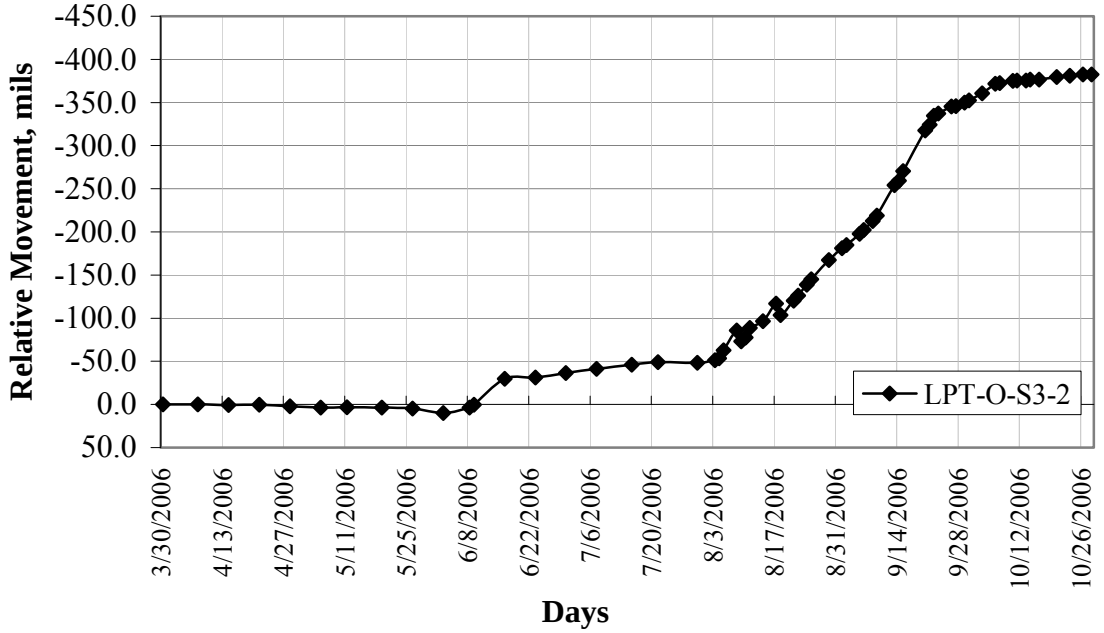

FIGURE G81. OVERALL MOVEMENT OF LPT-O-S3-2 (SLAB 3S-4, UNLOADED CORNER)

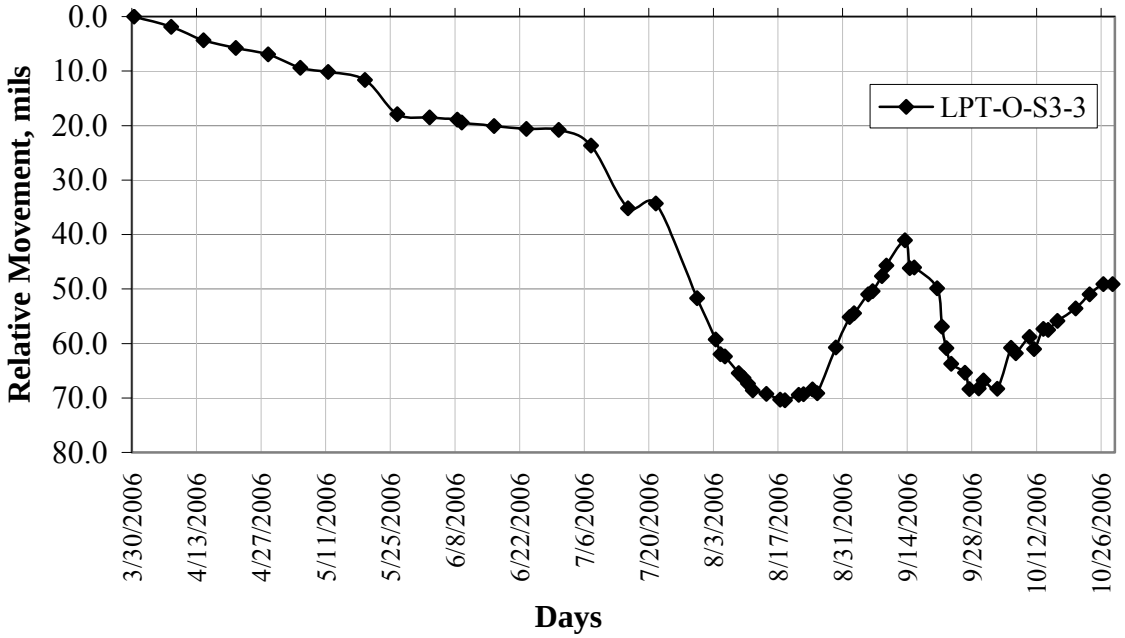

FIGURE G82. OVERALL MOVEMENT OF LPT-O-S3-3 (SLAB 3S-2, LOADED MIDSLAB)

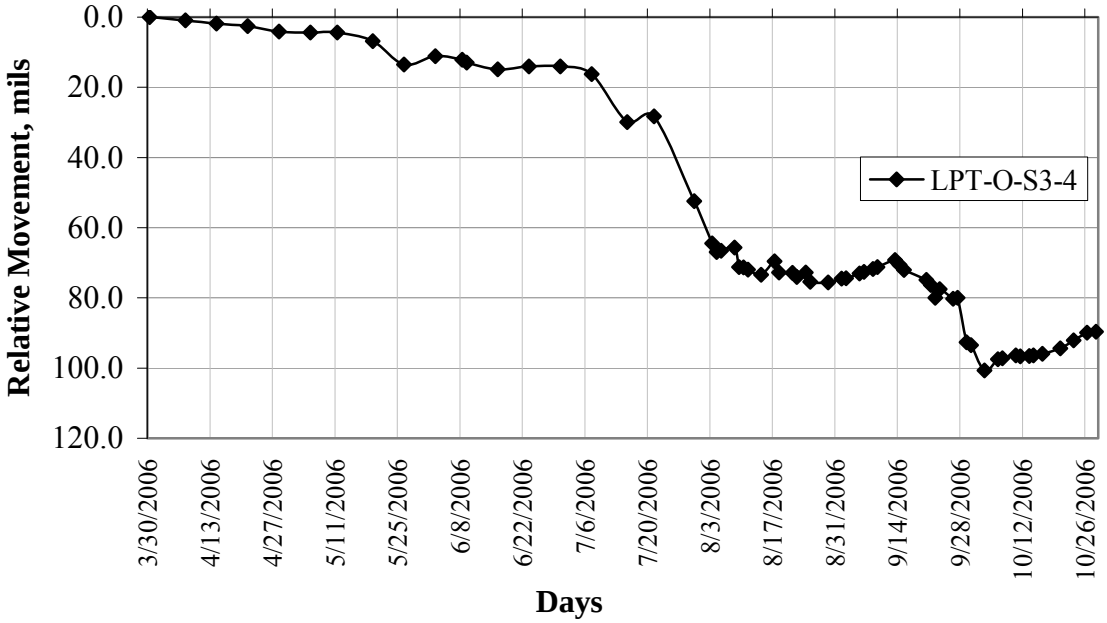

FIGURE G83. OVERALL MOVEMENT OF LPT-O-S3-4 (SLAB 3S-4, LOADED MIDSLAB)

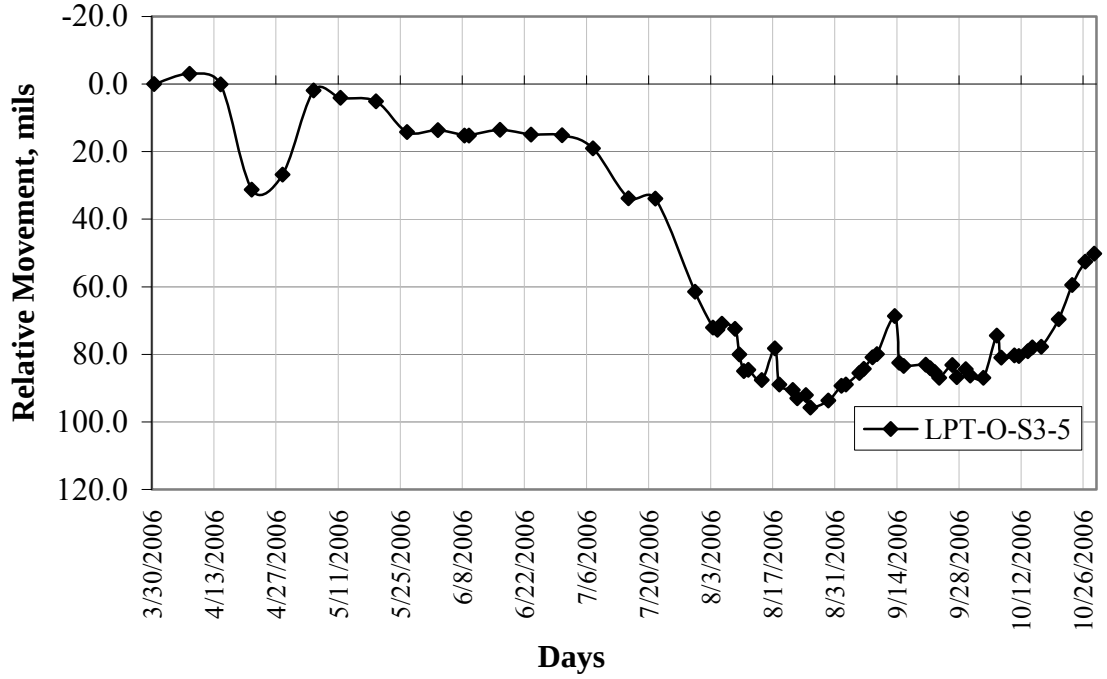

FIGURE G84. OVERALL MOVEMENT OF LPT-O-S3-5 (SLAB 3S-2, LOADED CORNER)

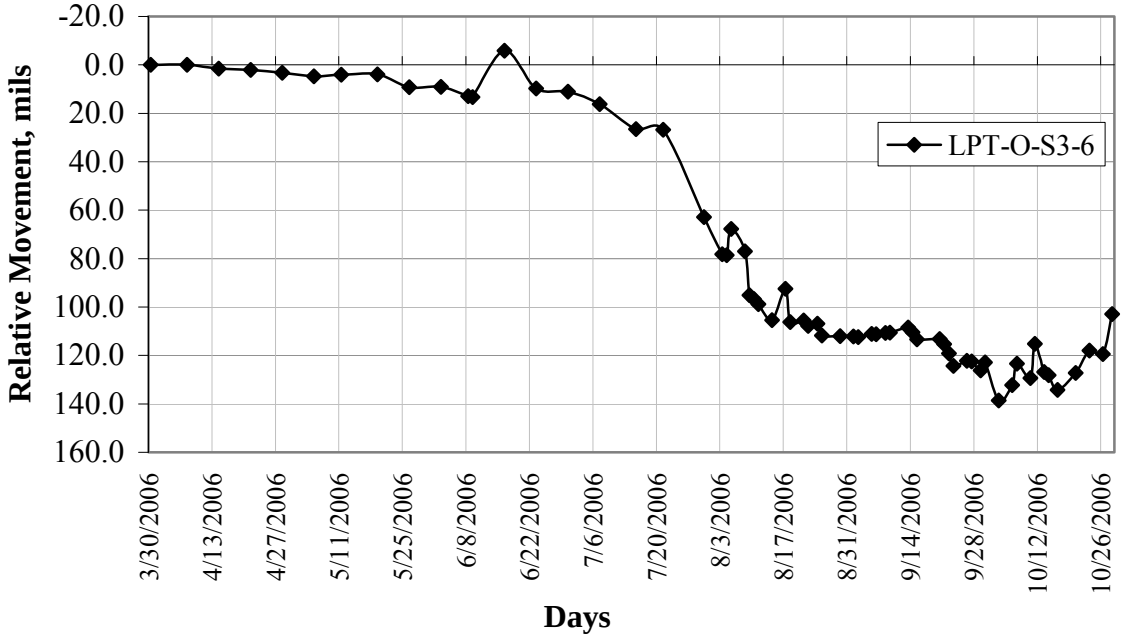

FIGURE G85. OVERALL MOVEMENT OF LPT-O-S3-6 (SLAB 3S-4, LOADED CORNER)

APPENDIX H – SUMMARY PLOTS OF PEAK STRAIN GAGE RESPONSES

Appendix H contains peak gage response information from embedded strain gages. The plots include strain gages at various positions in the experimental pavement, for various test items. Data for overlay and underlying slab responses are presented in pairs.

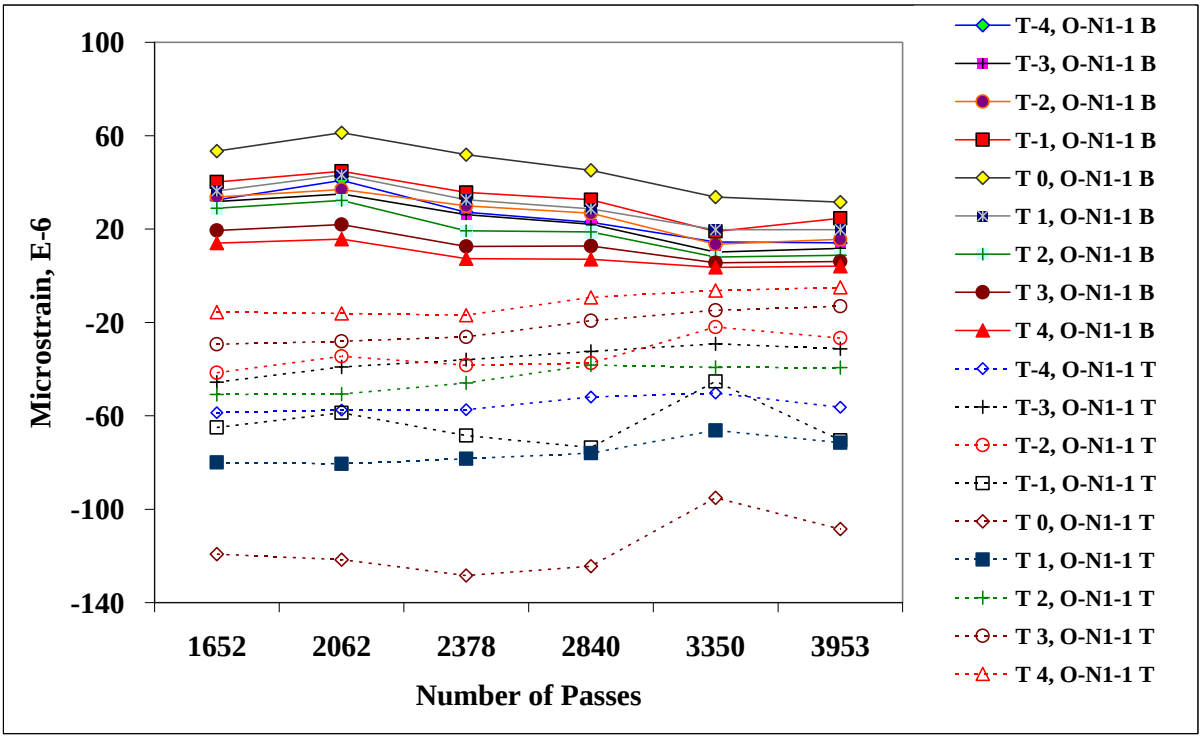

FIGURE H1. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N1, OVERLAY STRAIN GAGES 1

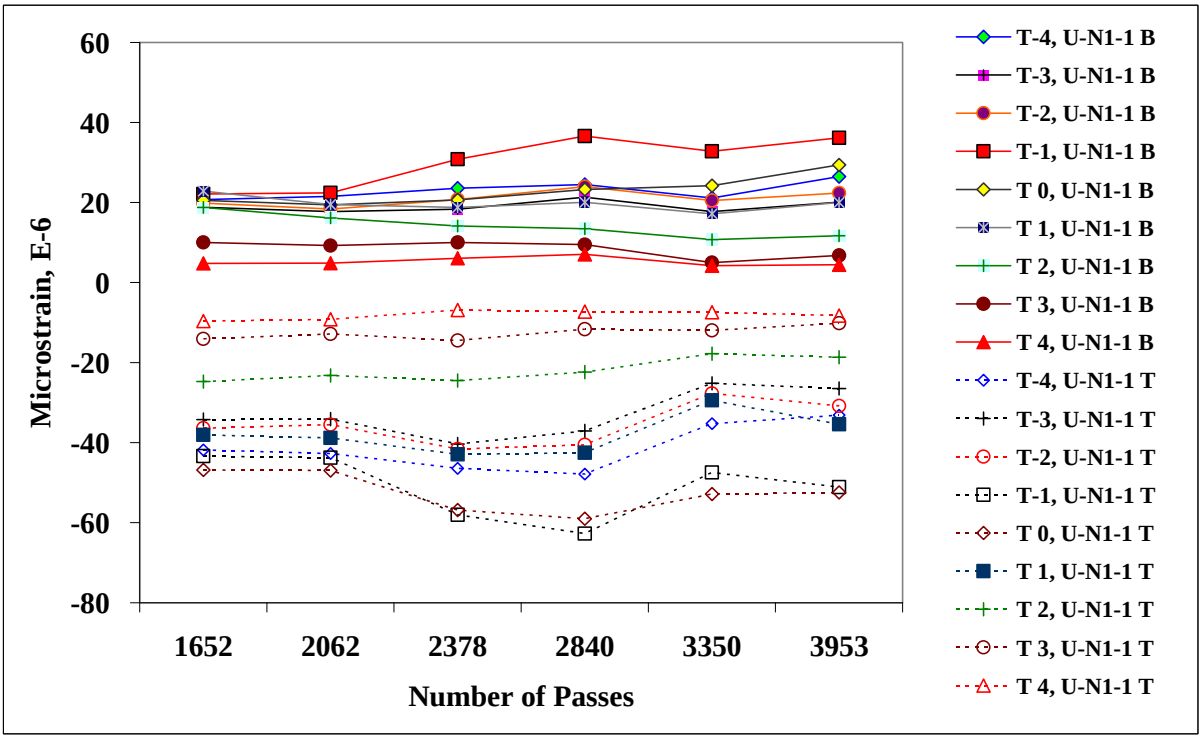

FIGURE H2. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N1, UNDERLAY STRAIN GAGES 1

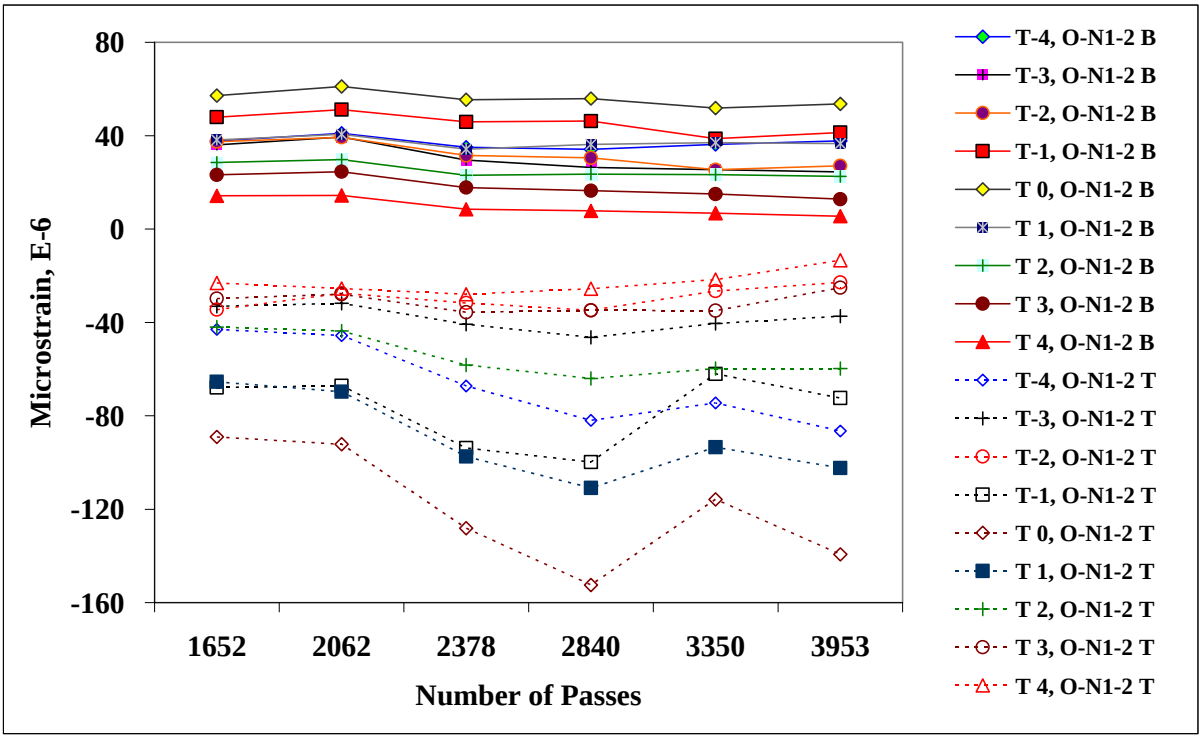

FIGURE H3. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N1, OVERLAY STRAIN GAGES 2

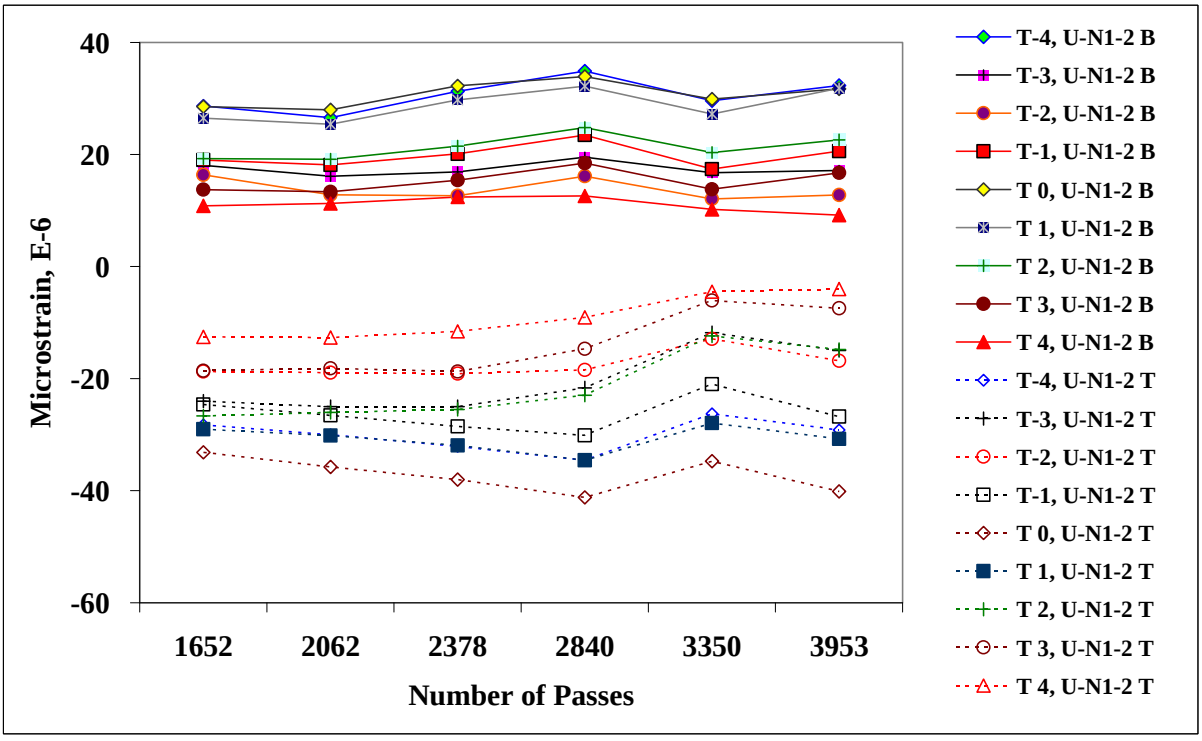

FIGURE H4. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N1, UNDERLAY STRAIN GAGES 2

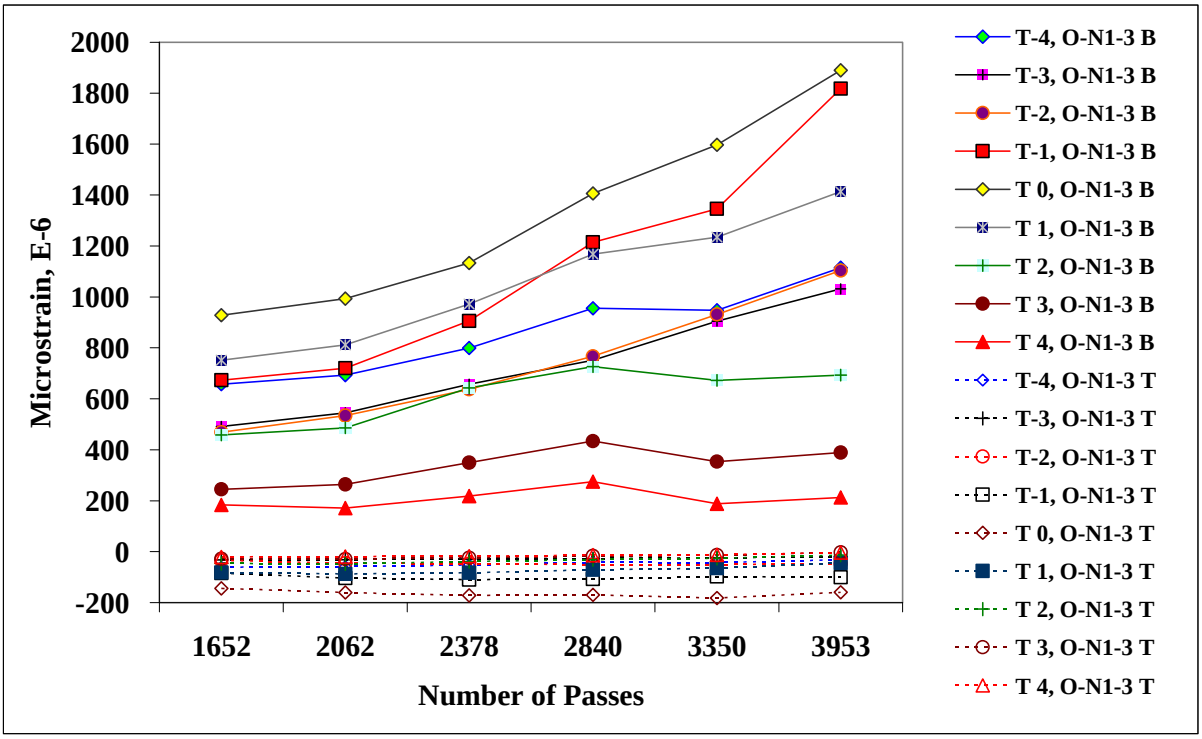

FIGURE H5. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N1, OVERLAY STRAIN GAGES 3

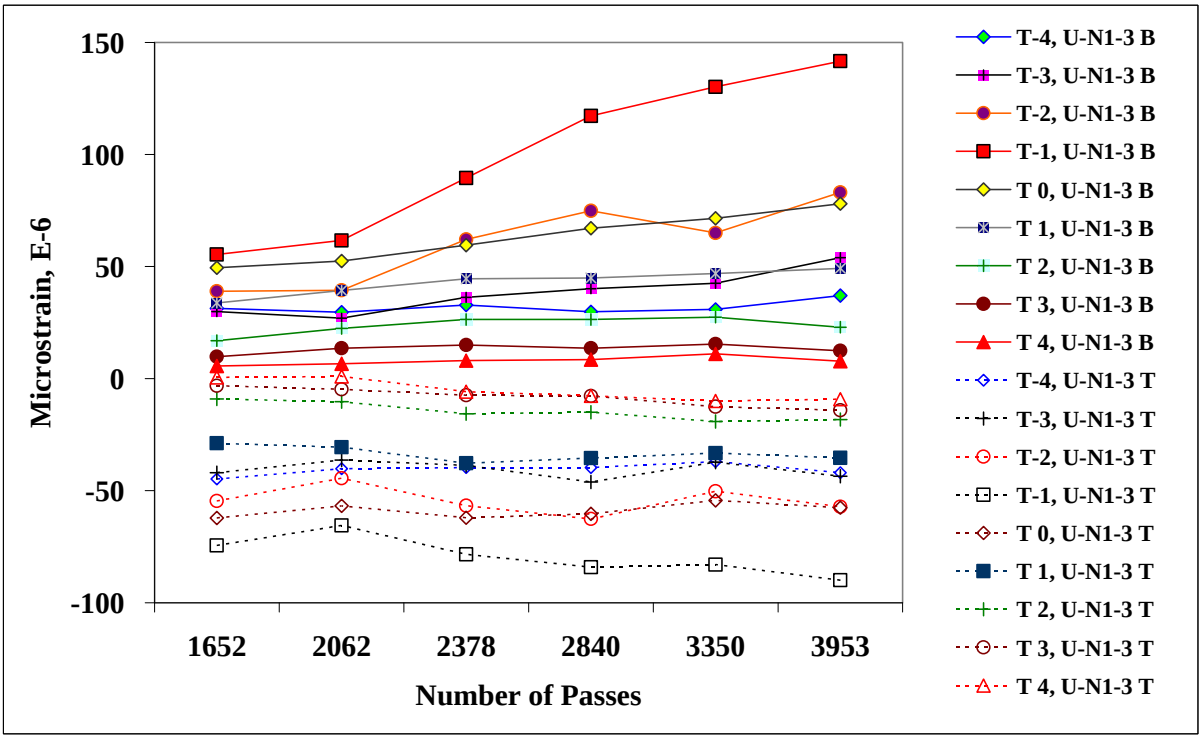

FIGURE H6. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N1, UNDERLAY STRAIN GAGES 3

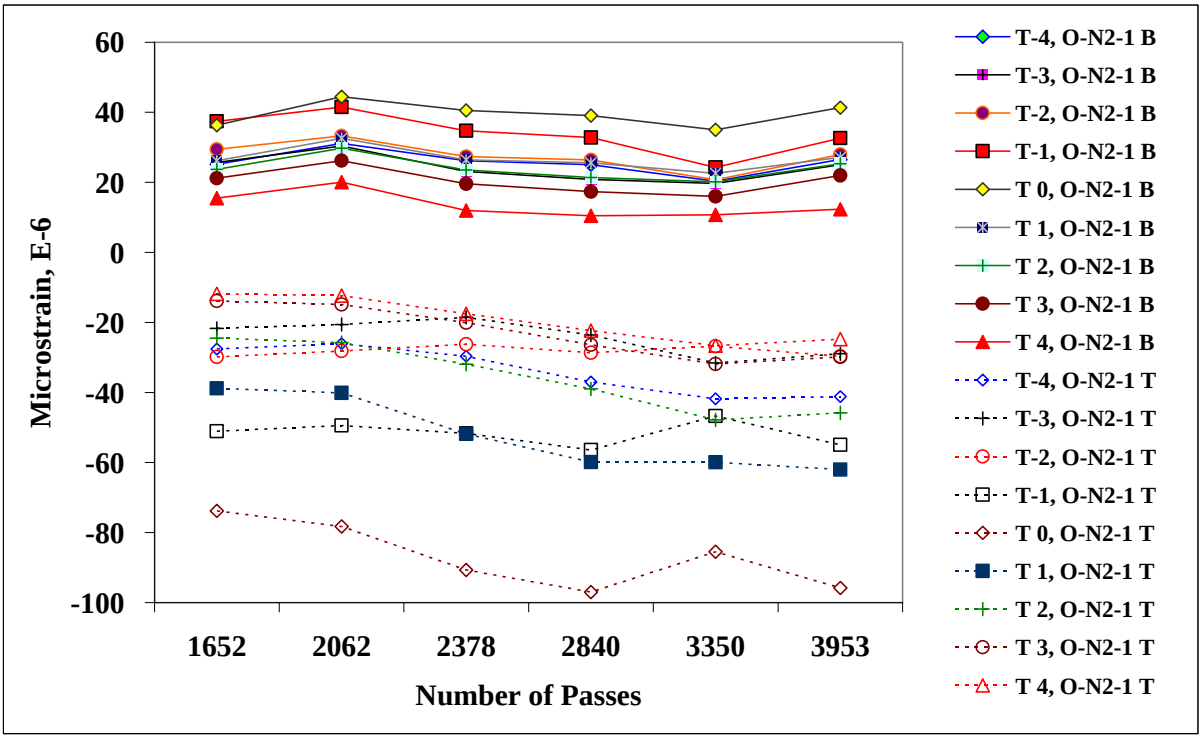

FIGURE H7. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N2, OVERLAY STRAIN GAGES 1

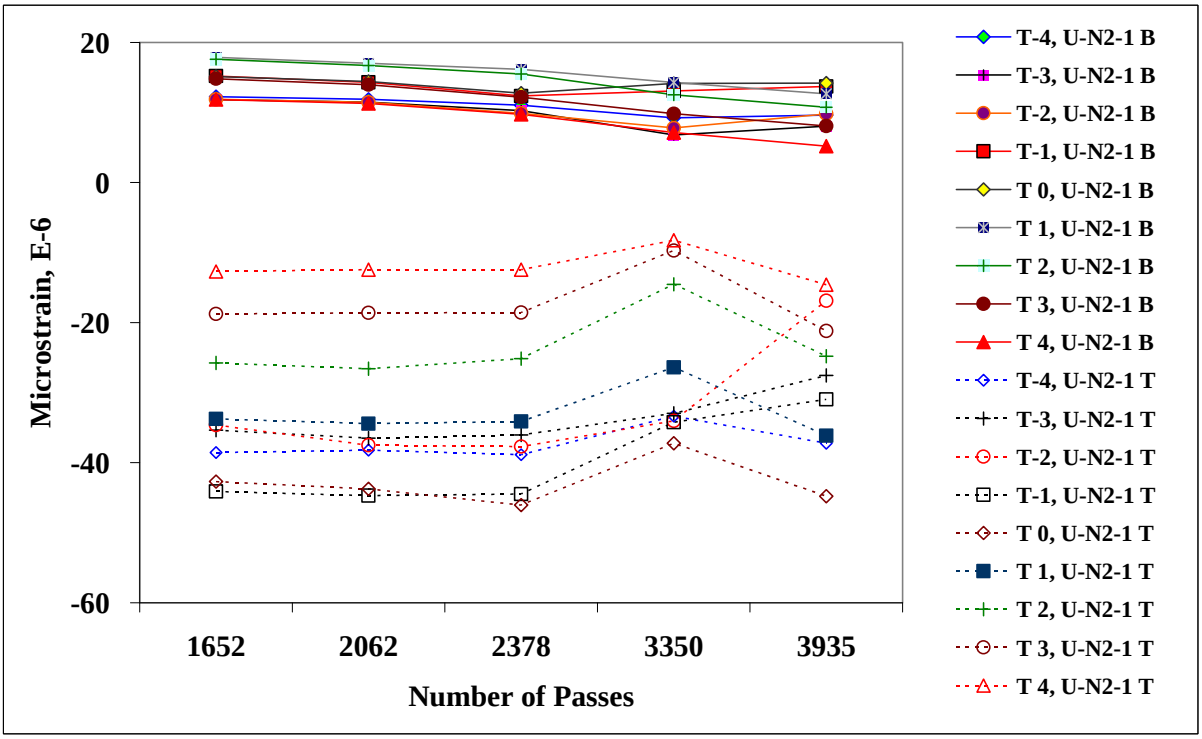

FIGURE H8. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N2, UNDERLAY STRAIN GAGES 1

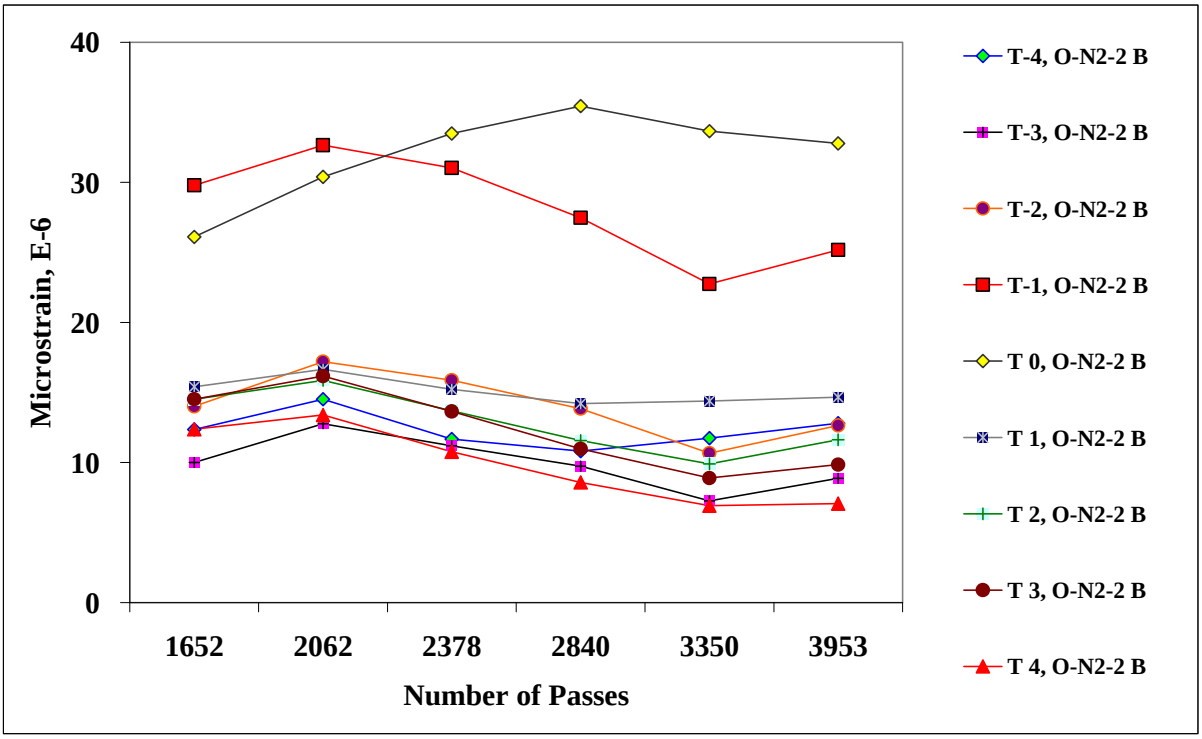

FIGURE H9. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N2, OVERLAY STRAIN GAGES 2

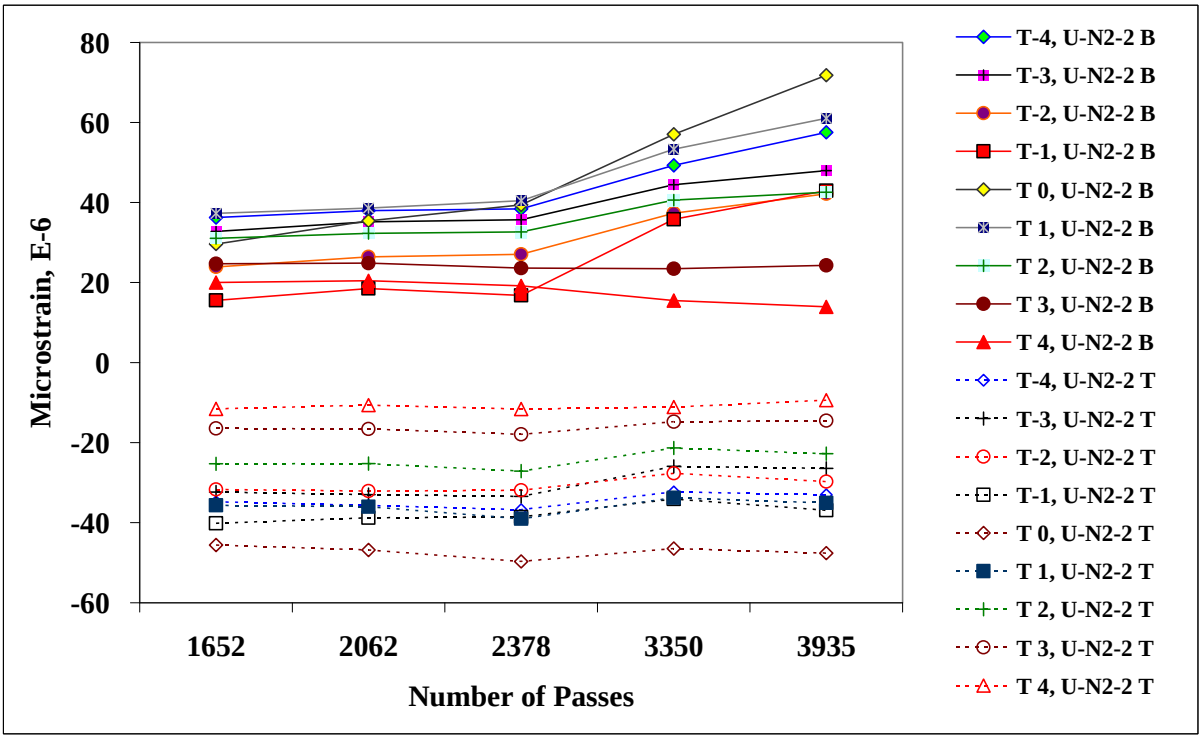

FIGURE H10. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N2, UNDERLAY STRAIN GAGES 2

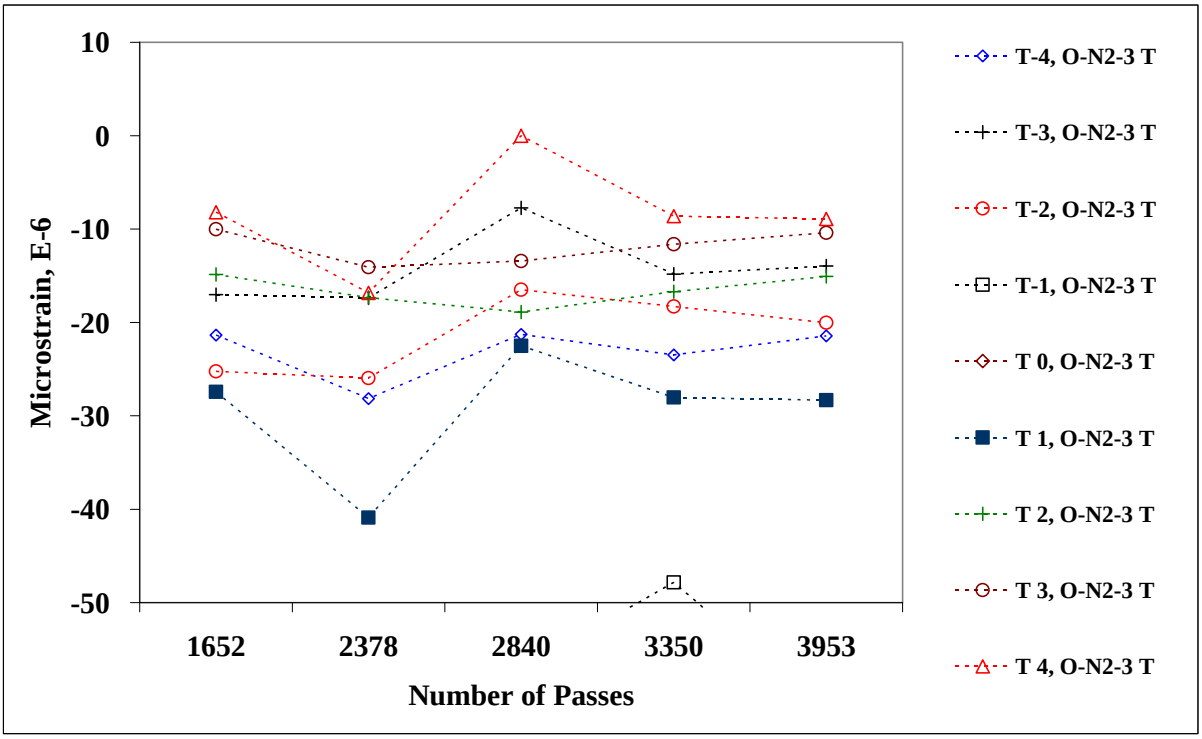

FIGURE H11. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N2, OVERLAY STRAIN GAGES 3

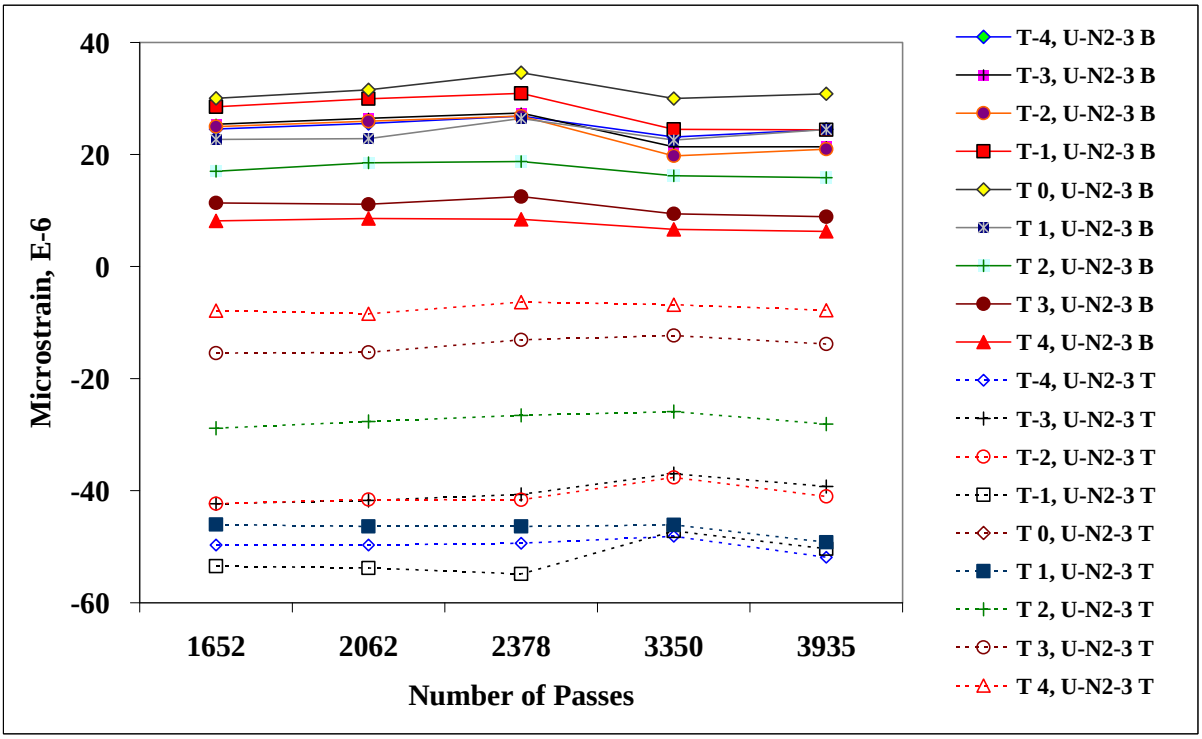

FIGURE H12. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N2, UNDERLAY STRAIN GAGES 3

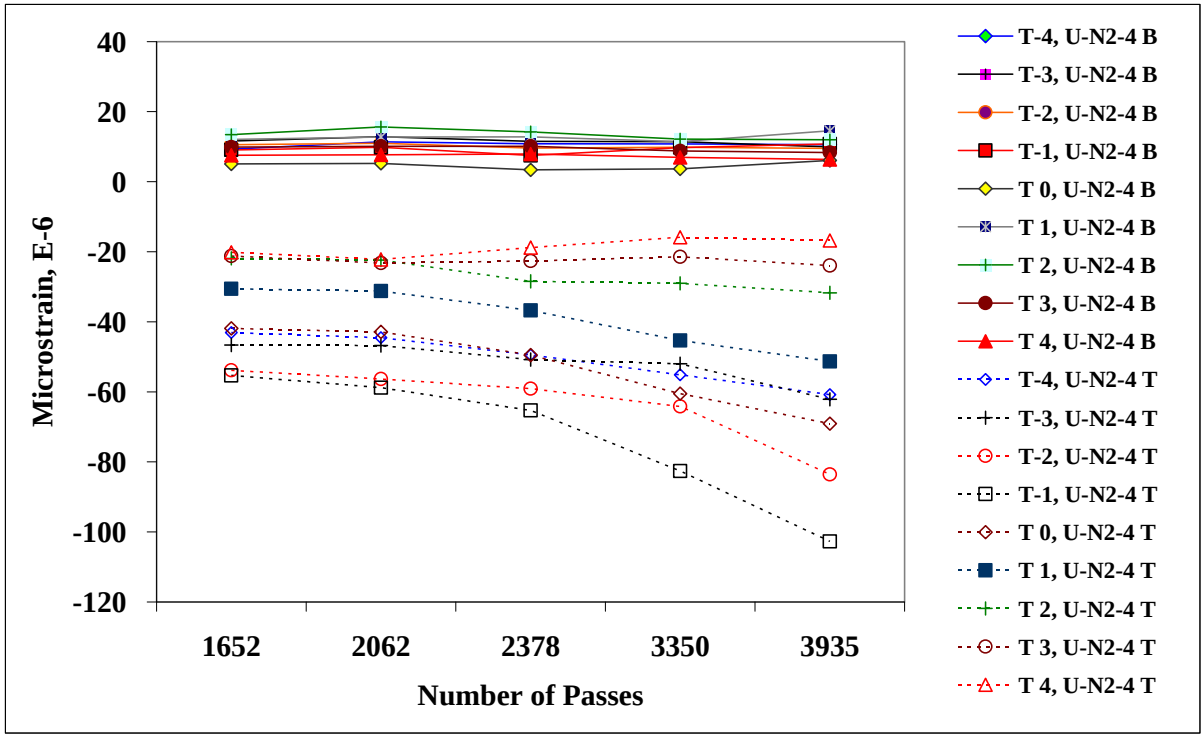

FIGURE H13. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N2, UNDERLAY STRAIN GAGES 4

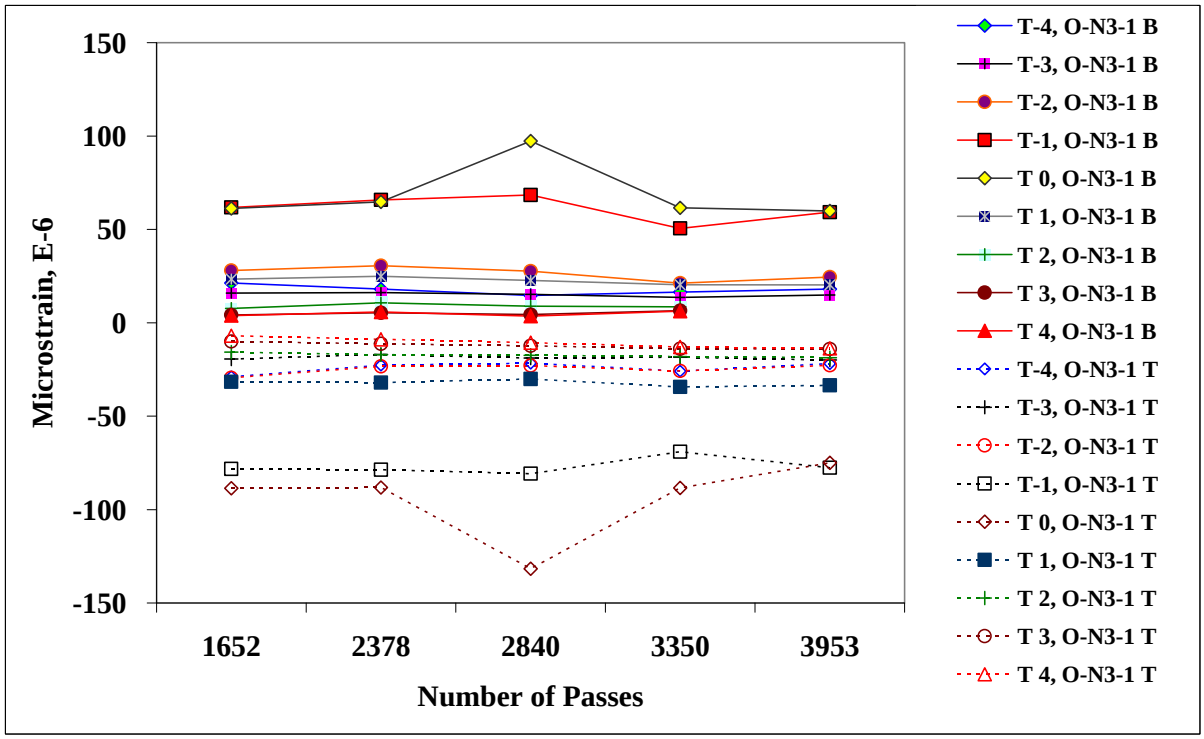

FIGURE H14. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N3, OVERLAY STRAIN GAGES 1

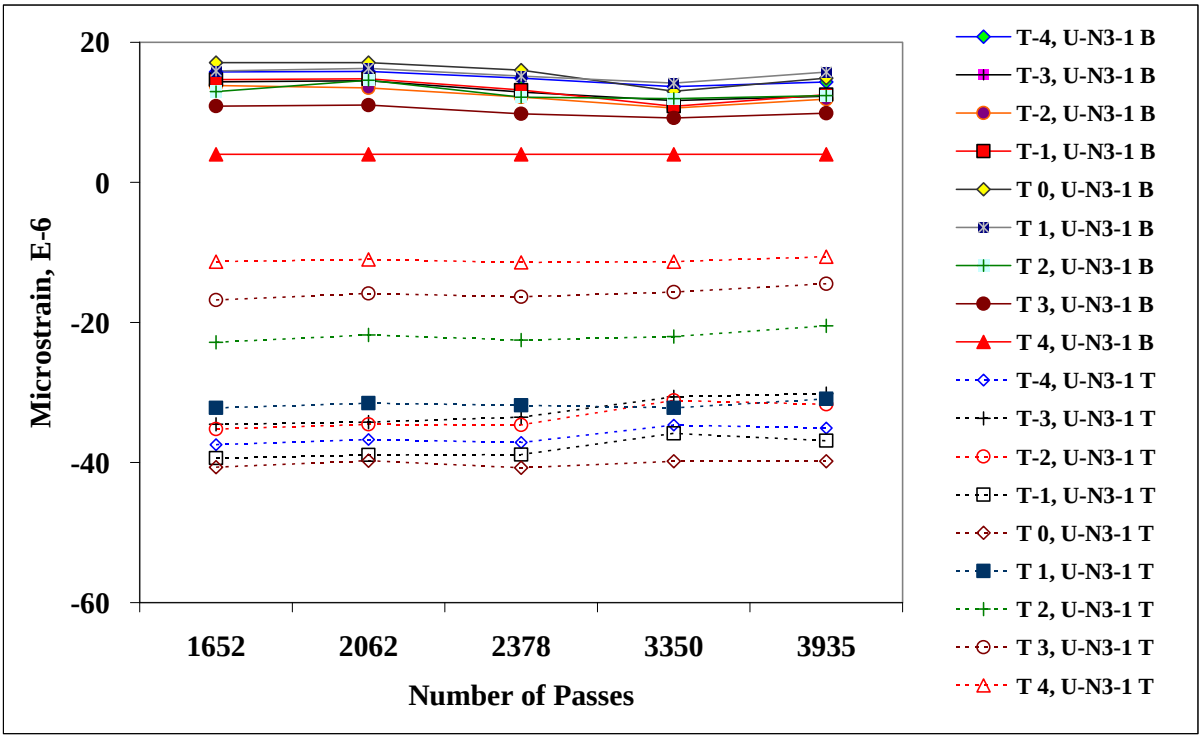

FIGURE H15. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N3, UNDERLAY STRAIN GAGES 1

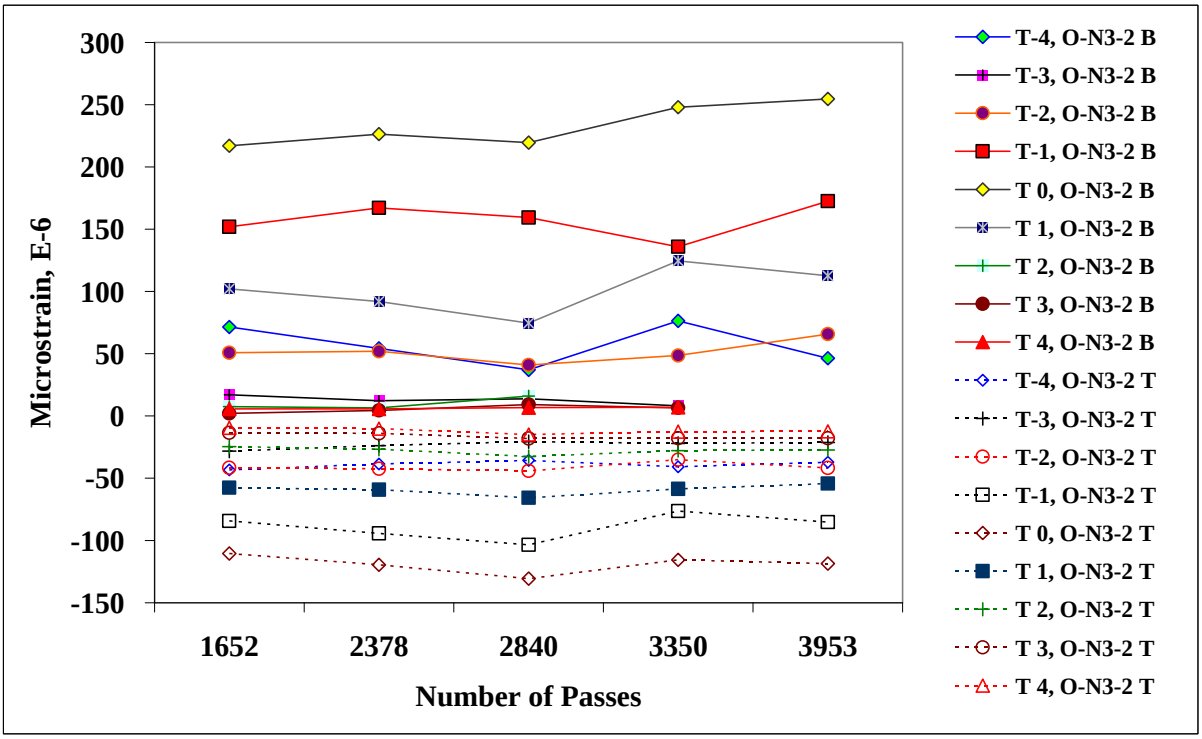

FIGURE H16. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N3, OVERLAY STRAIN GAGES 2

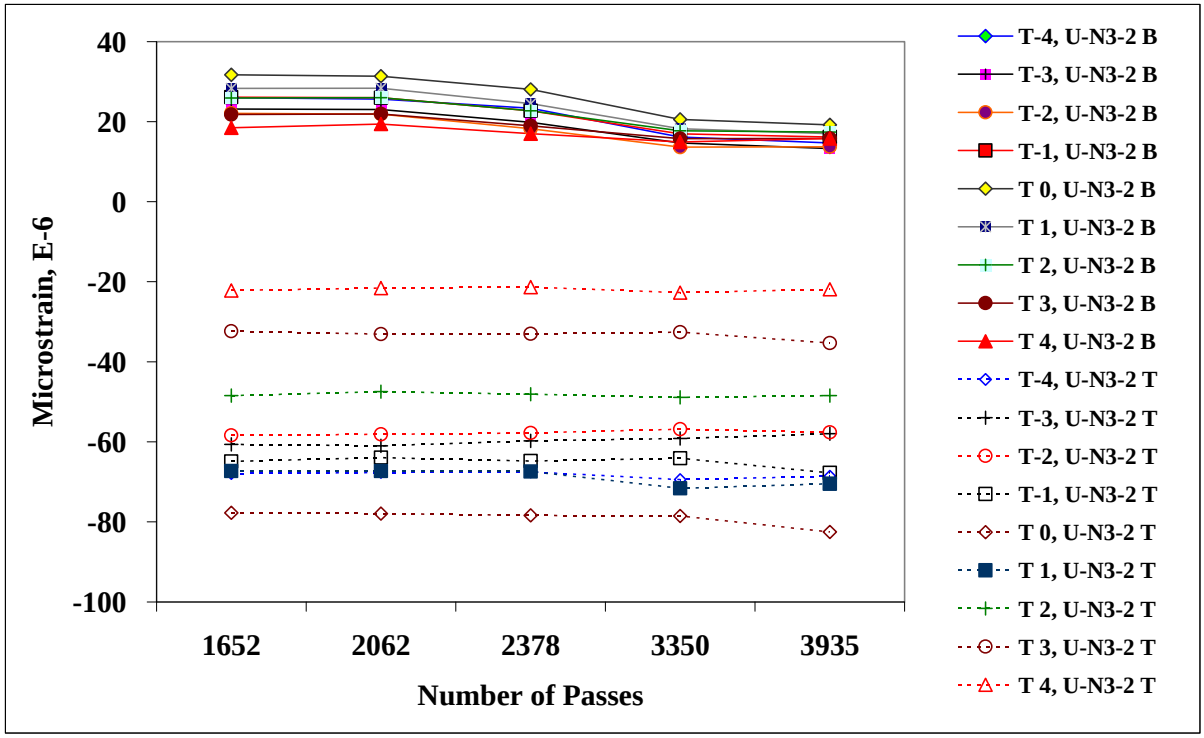

FIGURE H17. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N3, UNDERLAY STRAIN GAGES 2

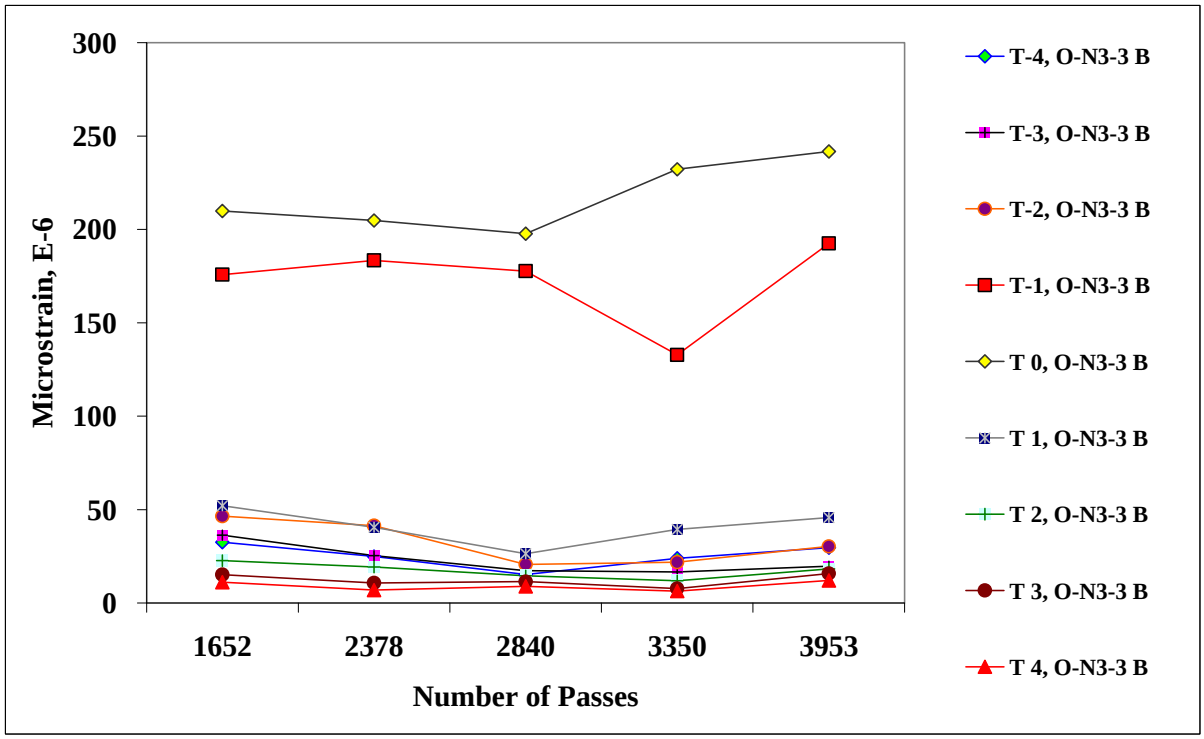

FIGURE H18. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N3, OVERLAY STRAIN GAGES 3

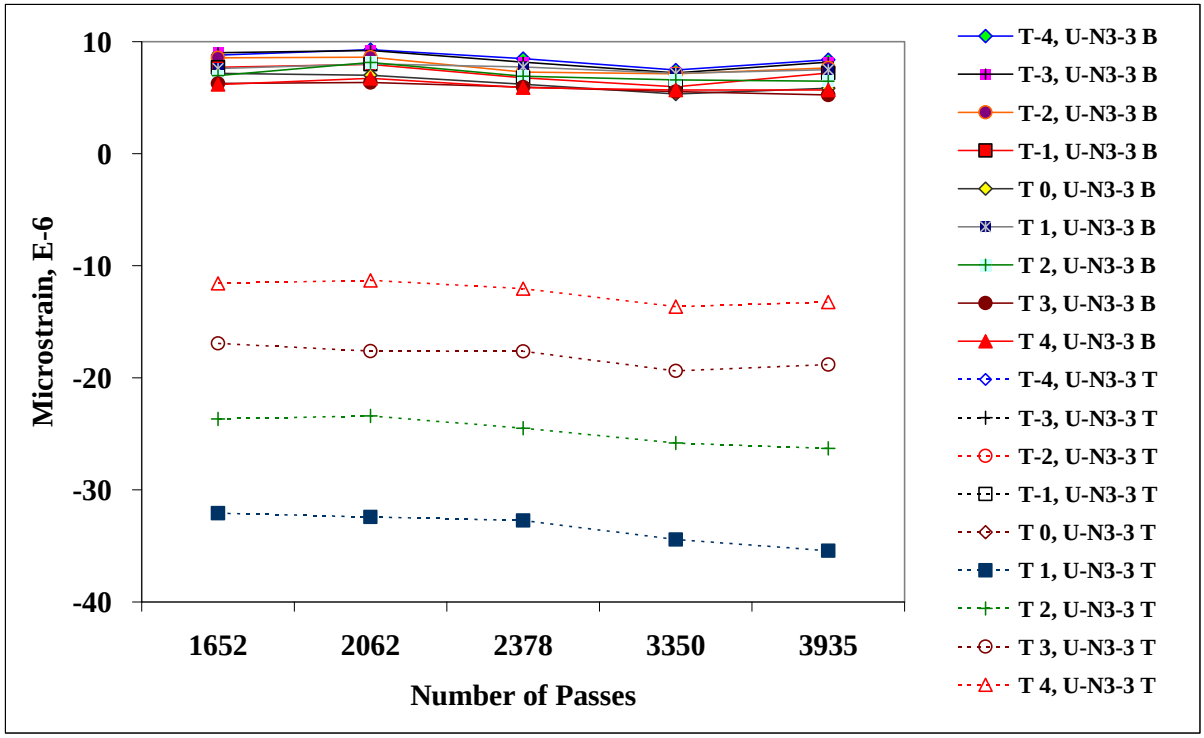

FIGURE H19. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM N3, UNDERLAY STRAIN GAGES 3

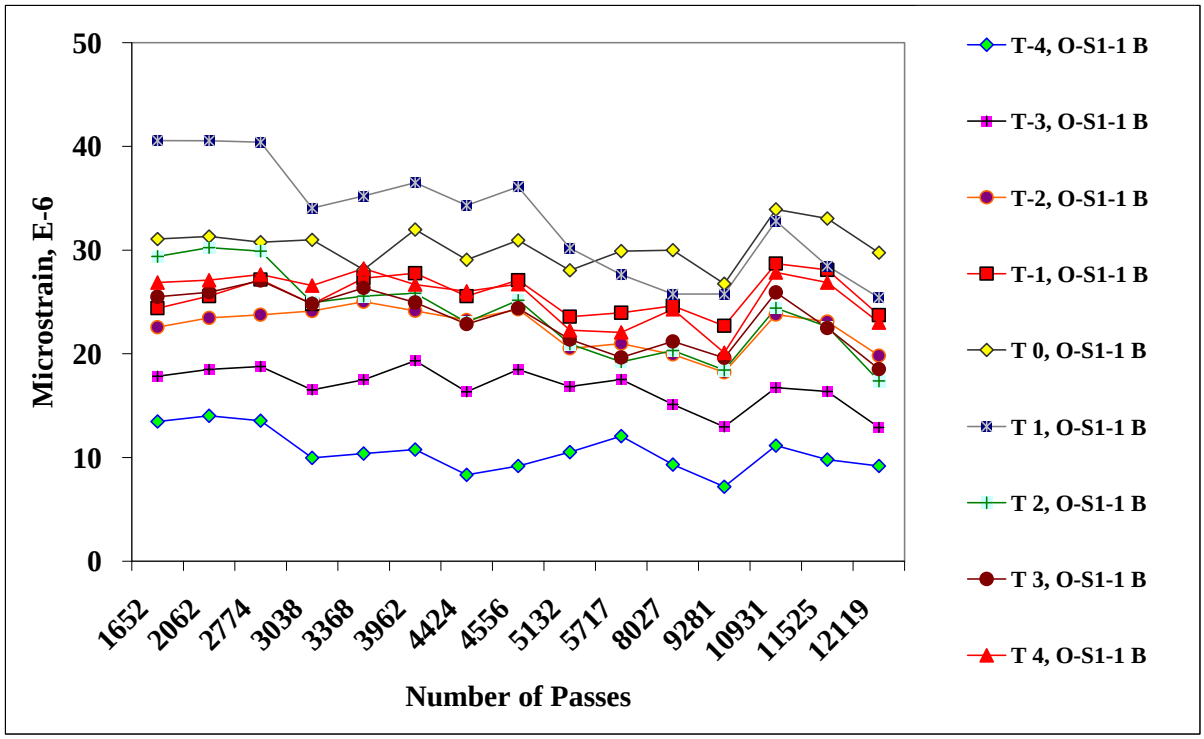

FIGURE H20. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S1, OVERLAY STRAIN GAGES 1

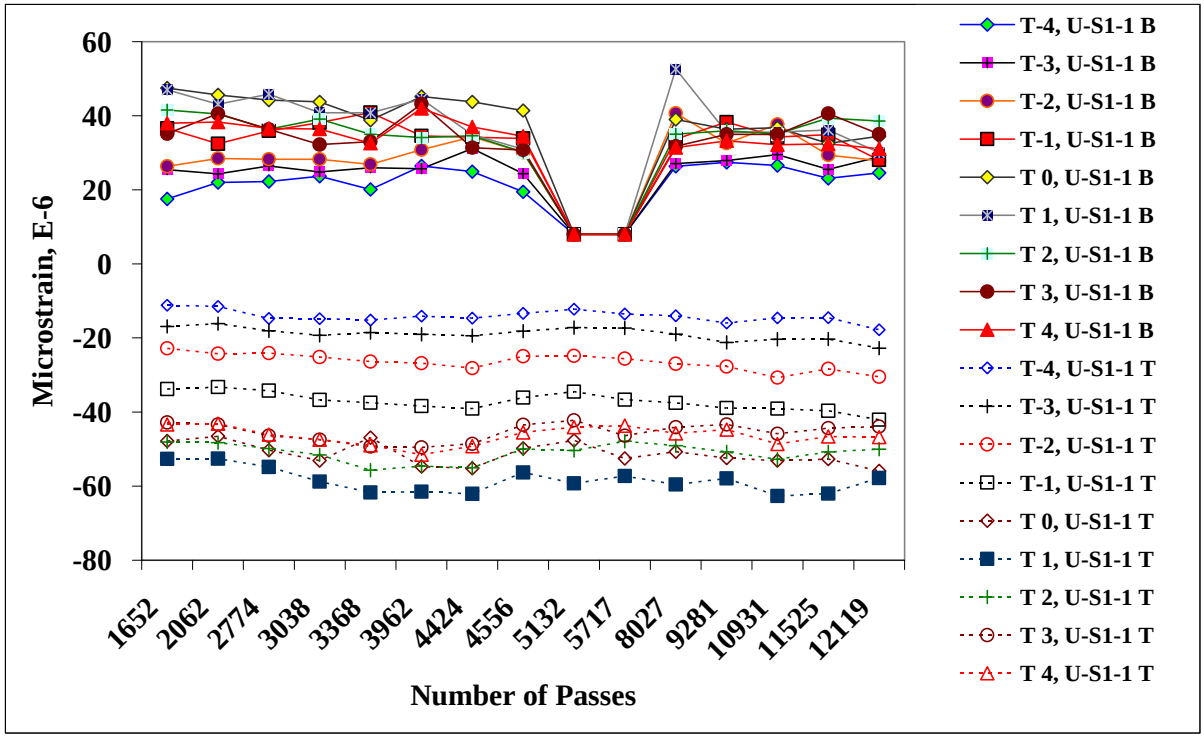

FIGURE H21. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S1, UNDERLAY STRAIN GAGES 1

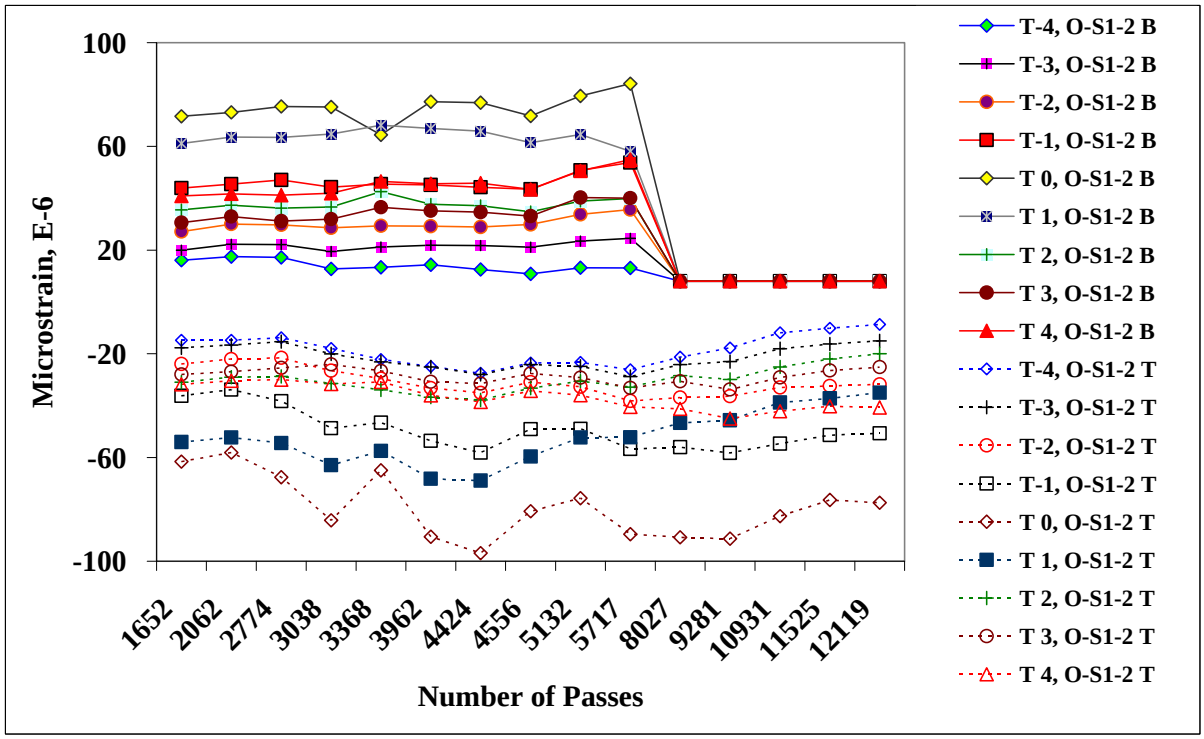

FIGURE H22. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S1, OVERLAY STRAINS GAGE 2

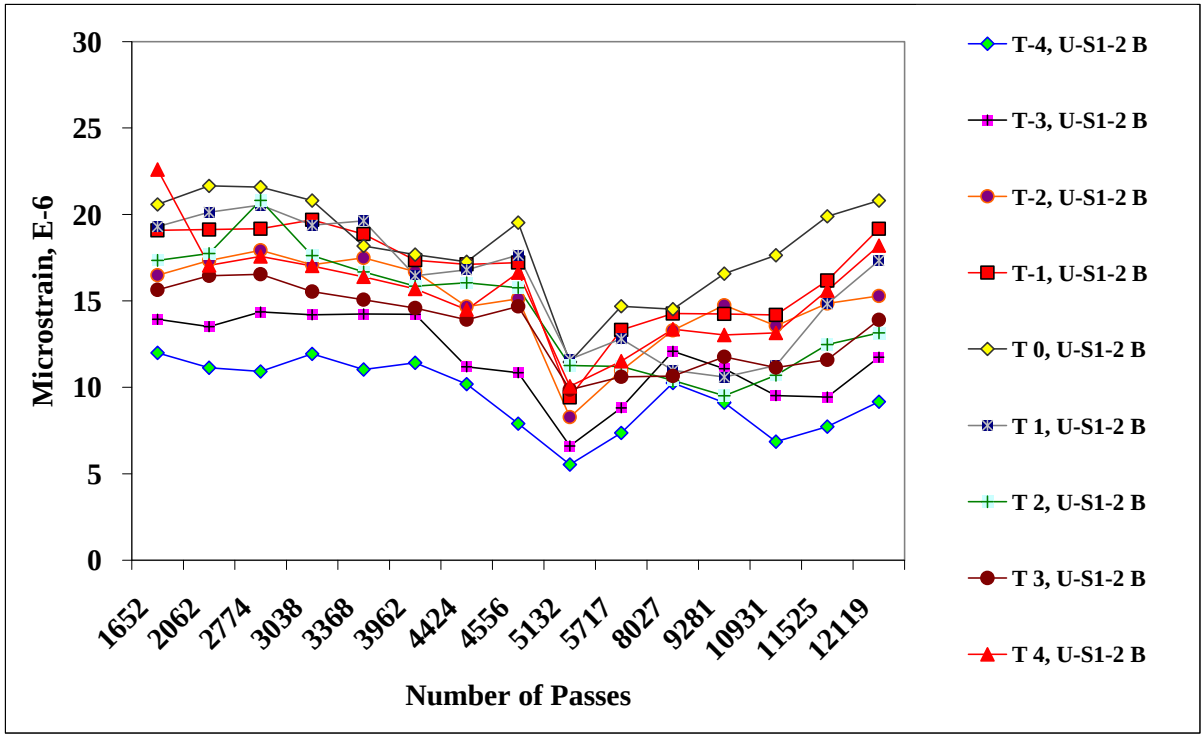

FIGURE H23. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S1, UNDERLAY STRAIN GAGES 2

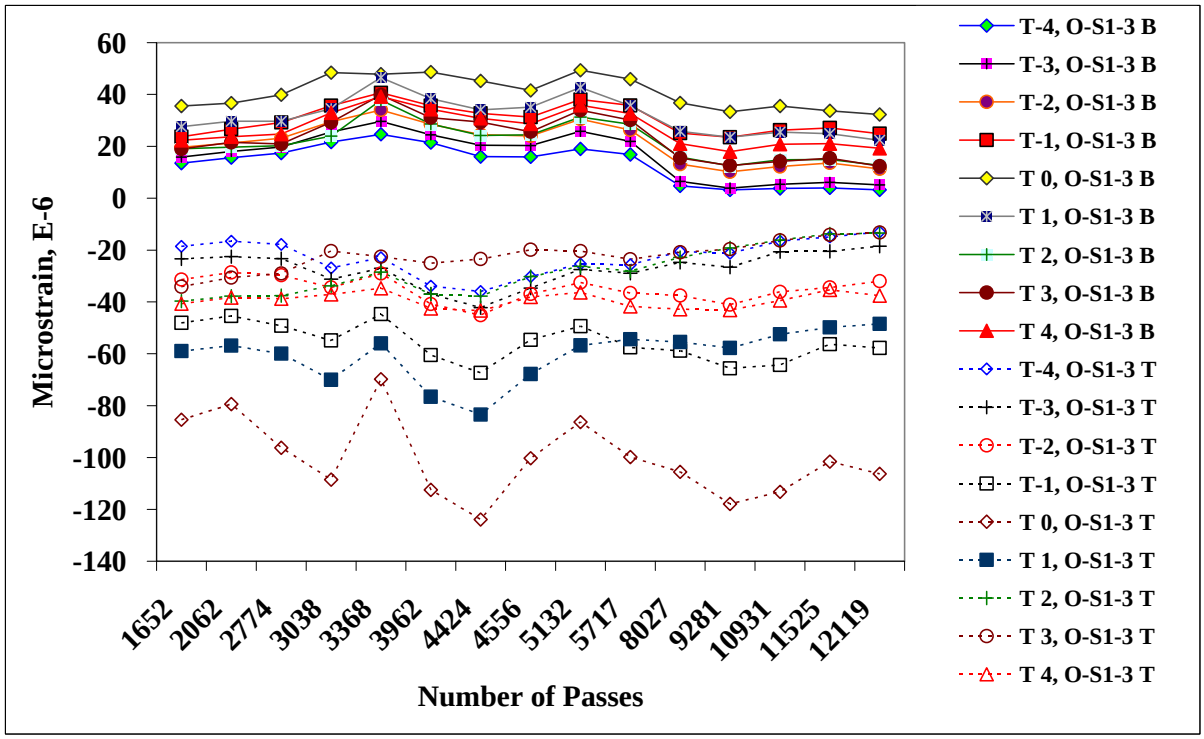

FIGURE H24. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S1, OVERLAY STRAIN GAGES 3

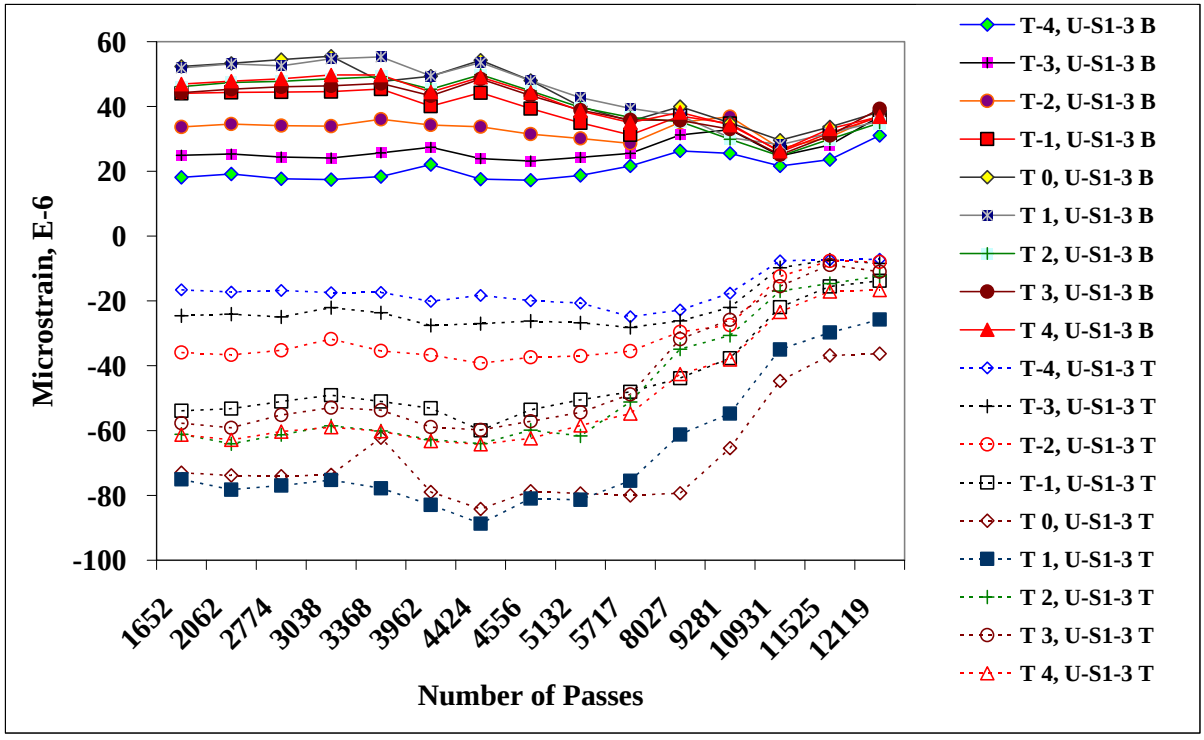

FIGURE H25. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S1, UNDERLAY STRAIN GAGES 3

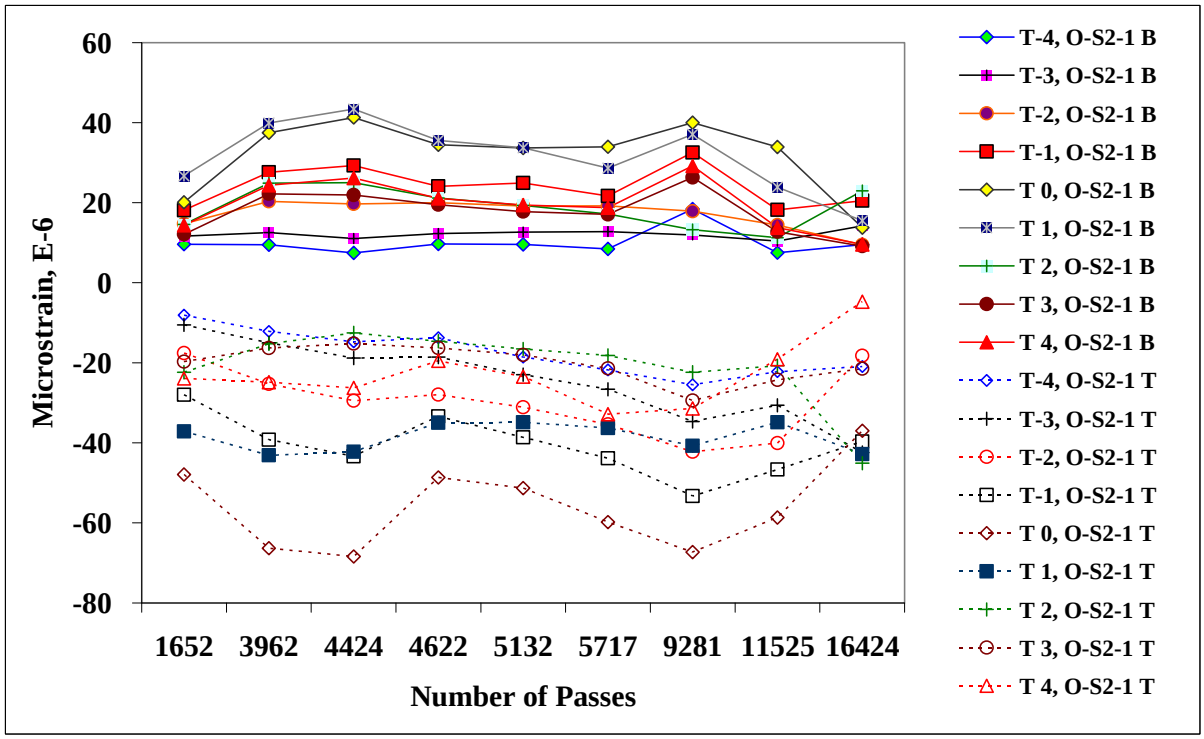

FIGURE H26. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S2, OVERLAY STRAIN GAGES 1

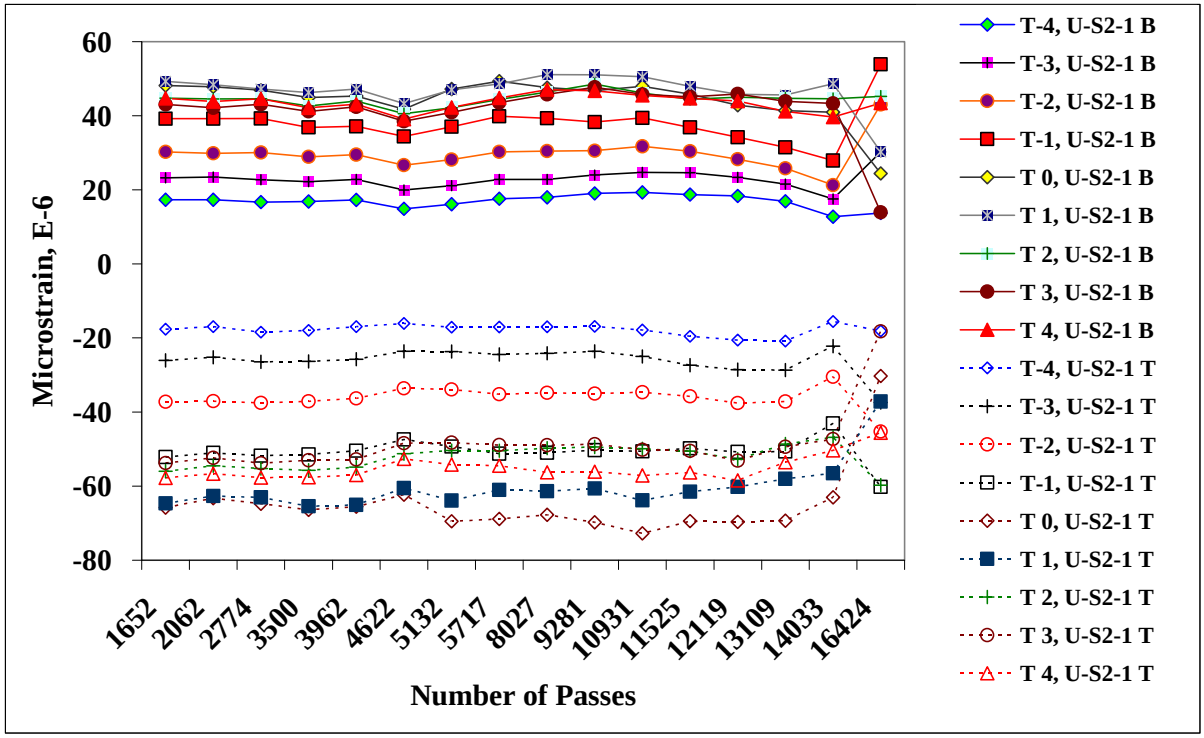

FIGURE H27. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S2, UNDERLAY STRAIN GAGES 1

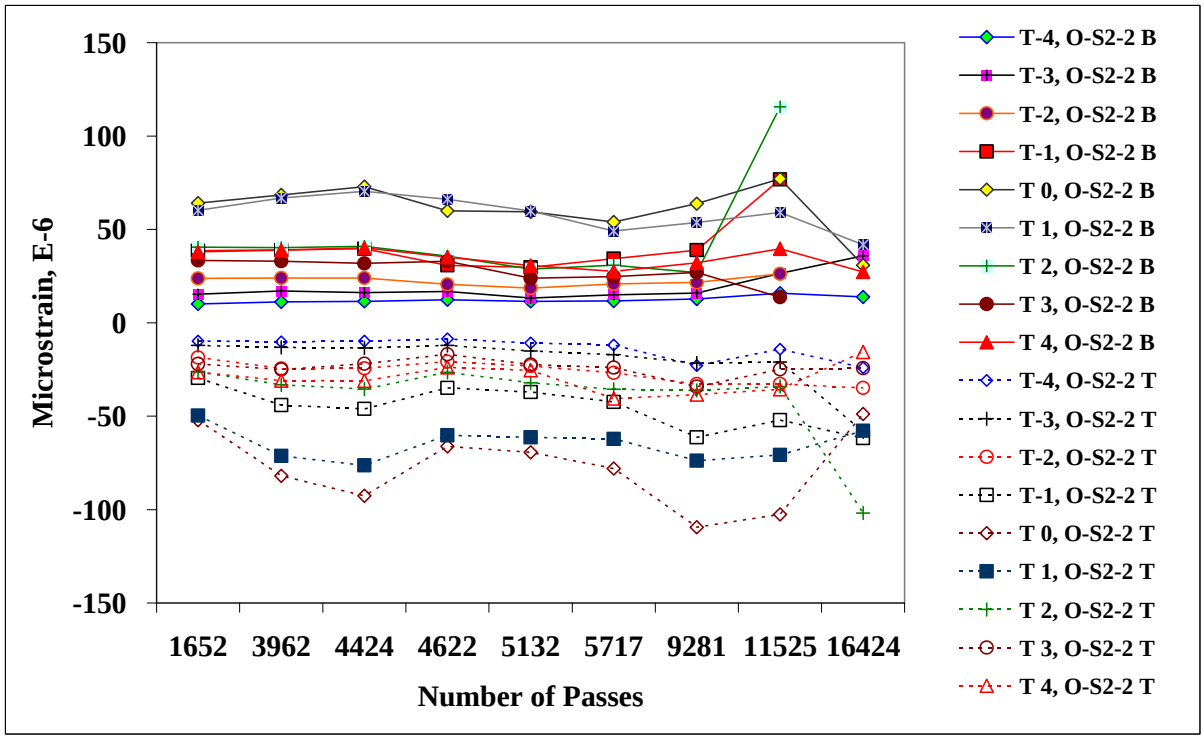

FIGURE H28. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S2, OVERLAY STRAIN GAGES 2

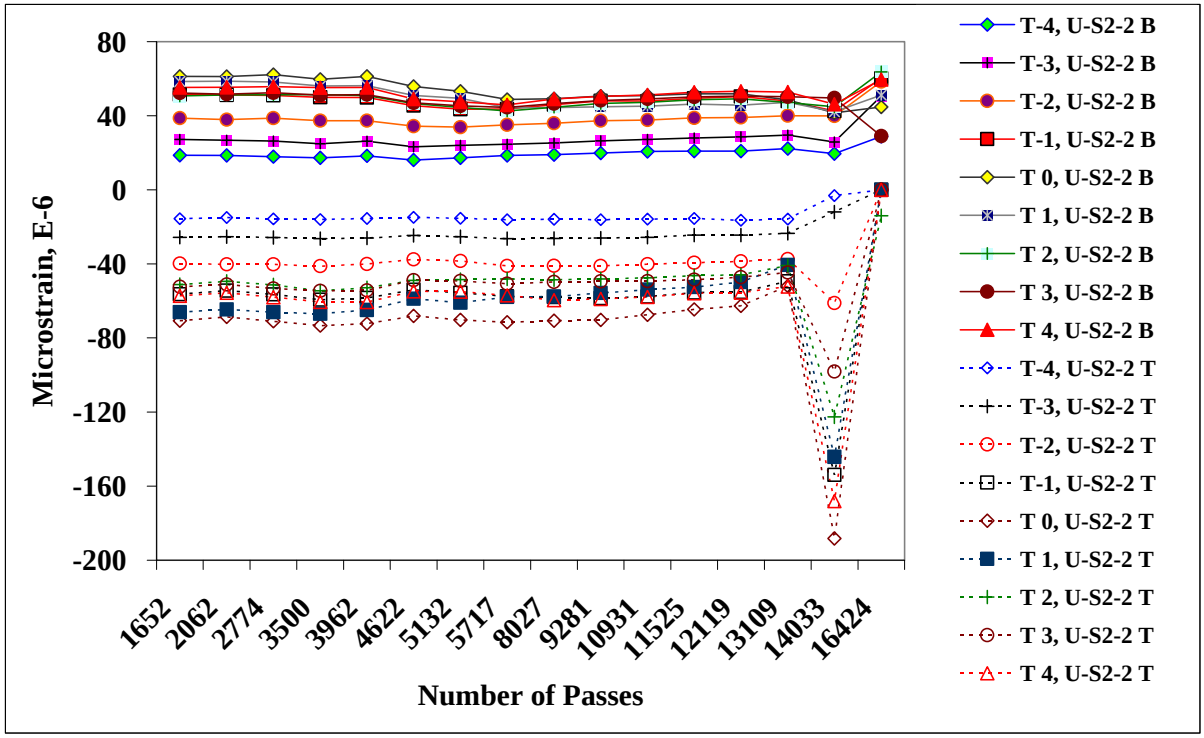

FIGURE H29. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S2, UNDERLAY STRAINS GAGE 2

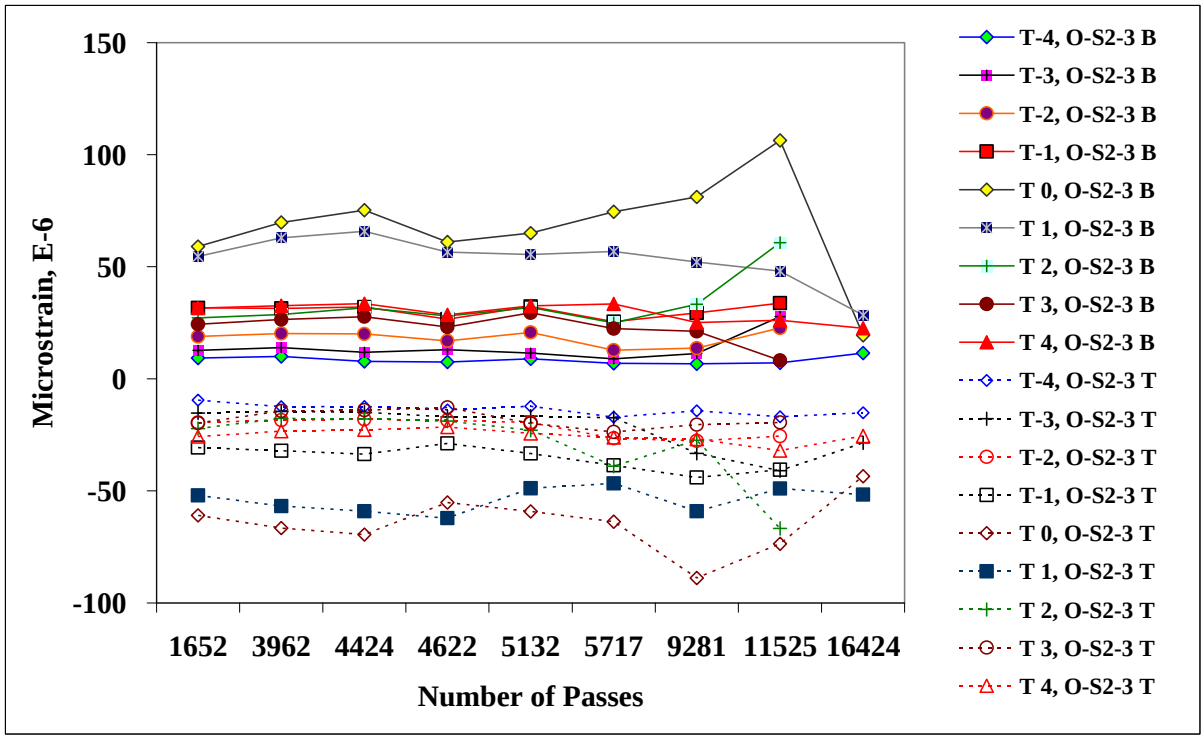

FIGURE H30. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S2, OVERLAY STRAIN GAGES 3

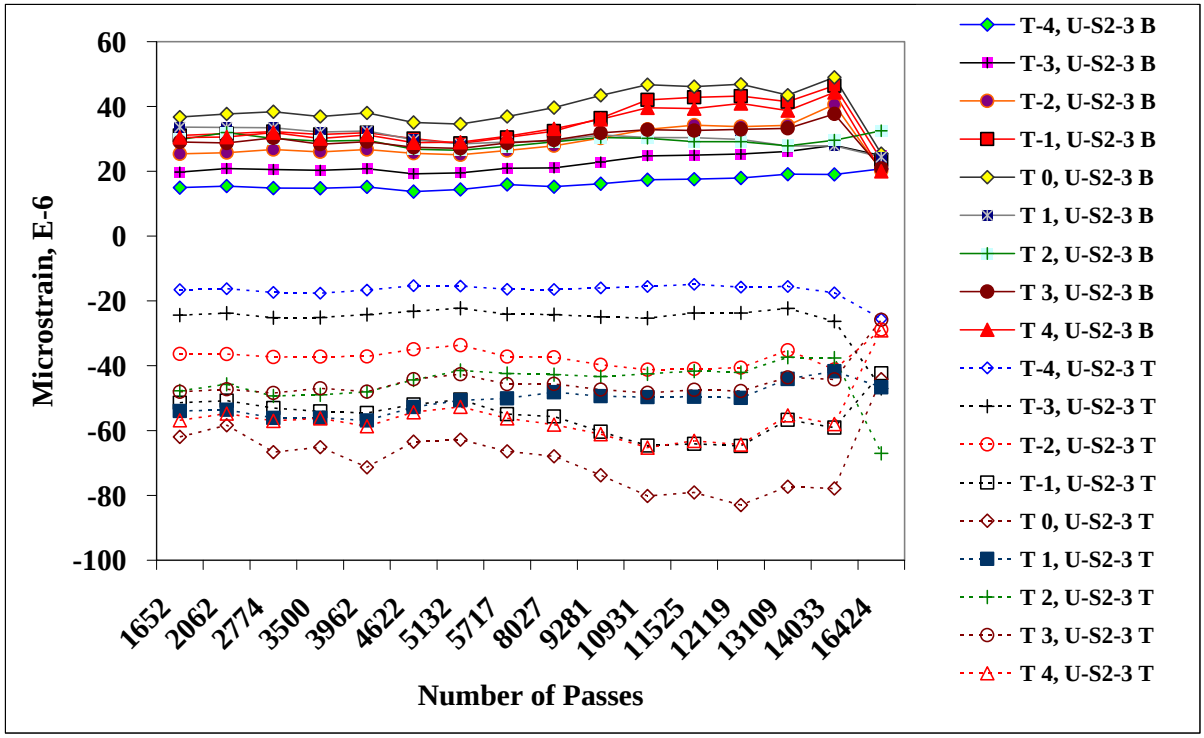

FIGURE H31. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S2, UNDERLAY STRAIN GAGES 3

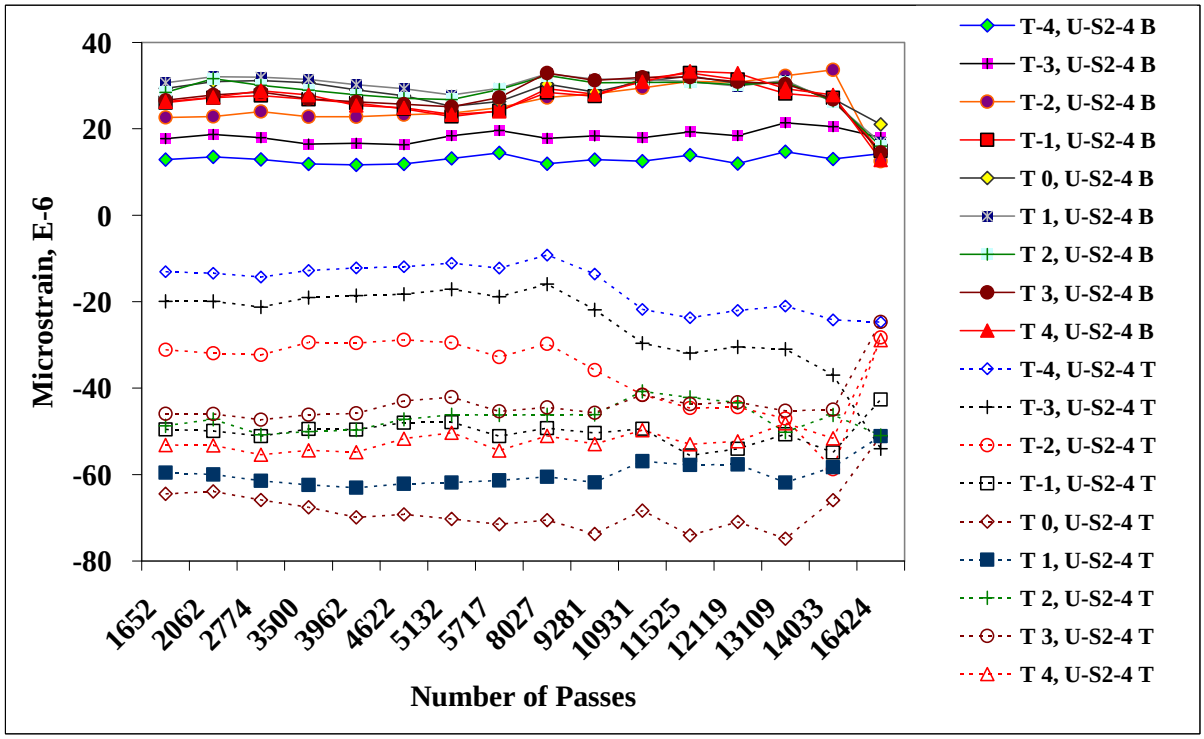

FIGURE H32. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S2, UNDERLAY STRAIN GAGES 4

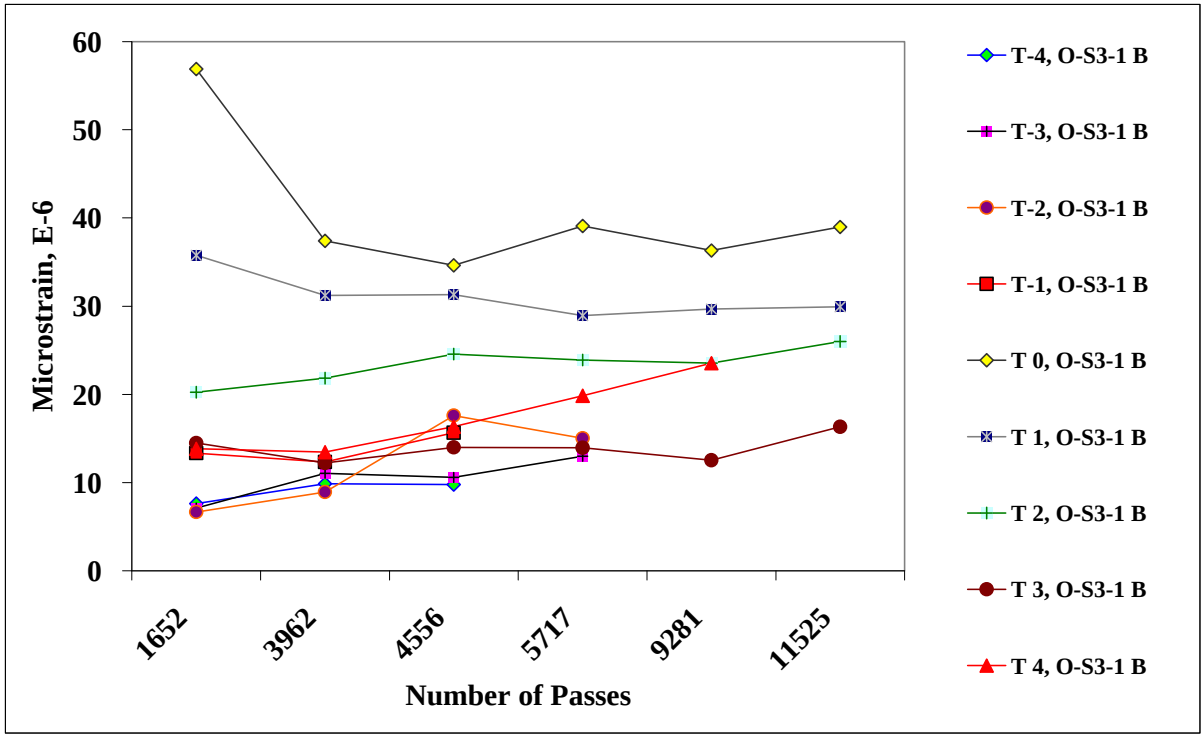

FIGURE H33. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S3, OVERLAY STRAIN GAGES 1

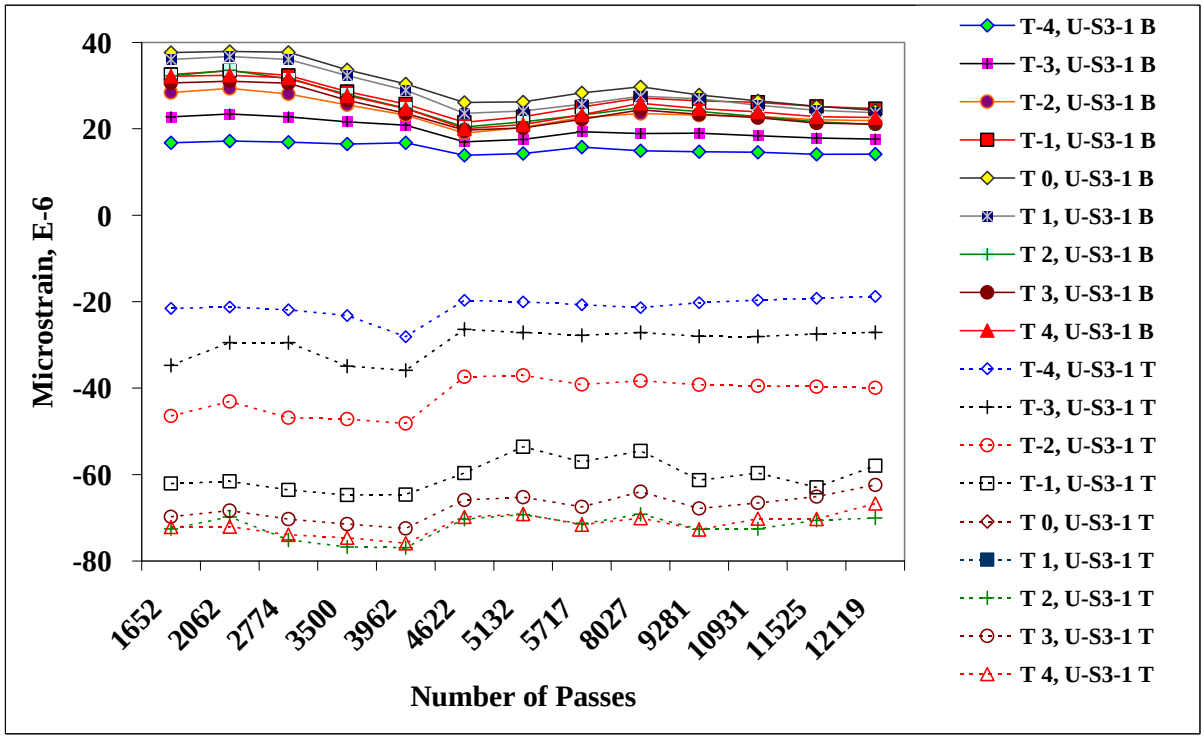

FIGURE H34. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S3, UNDERLAY STRAIN GAGES 1

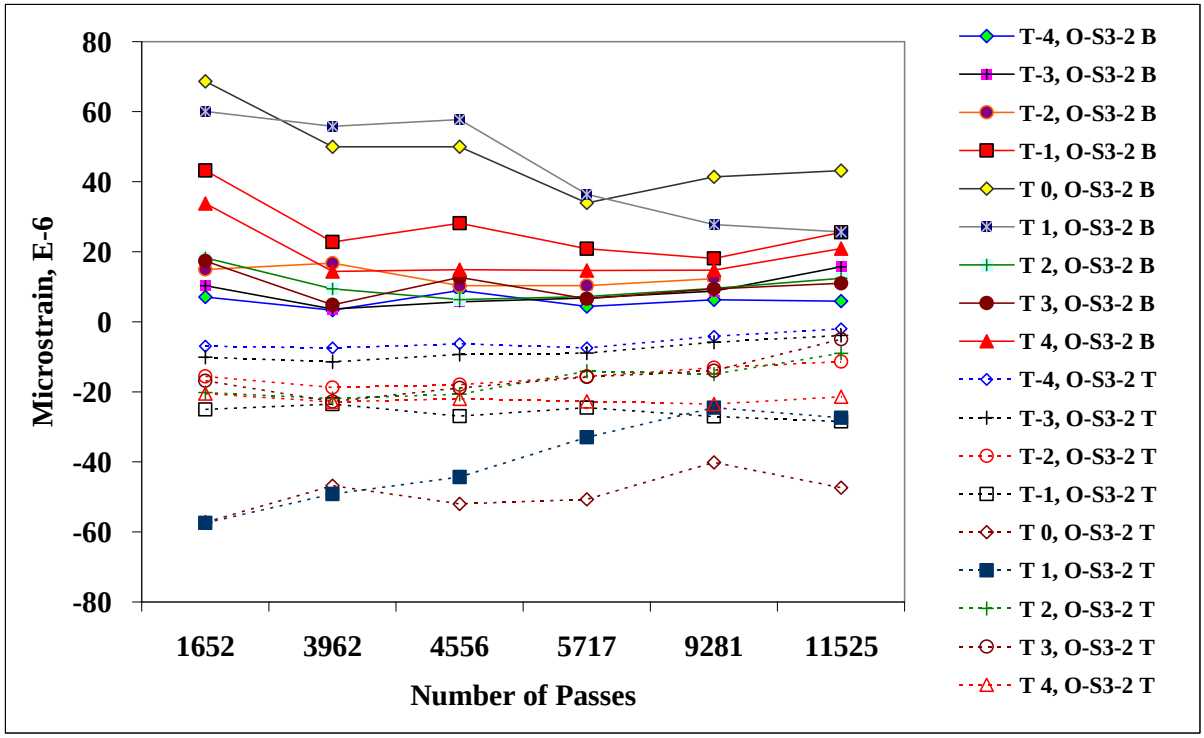

FIGURE H35. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S3, OVERLAY STRAIN GAGES 2

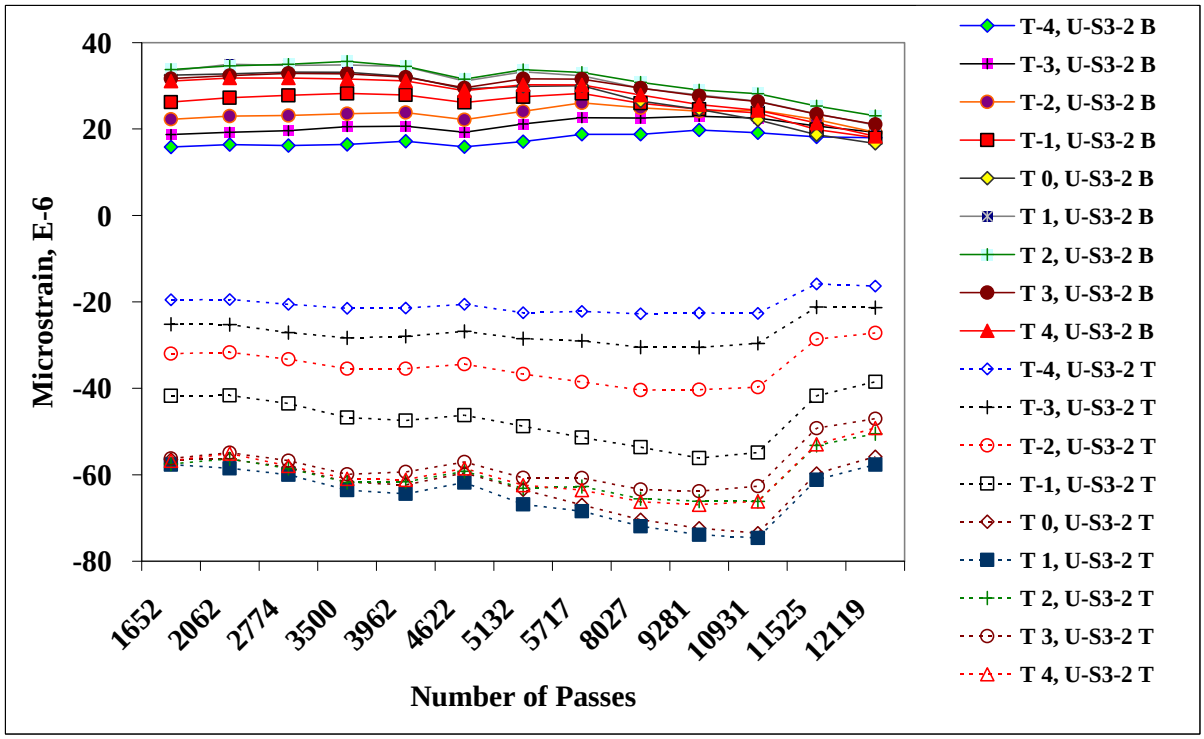

FIGURE H36. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S3, UNDERLAY STRAIN GAGES 2

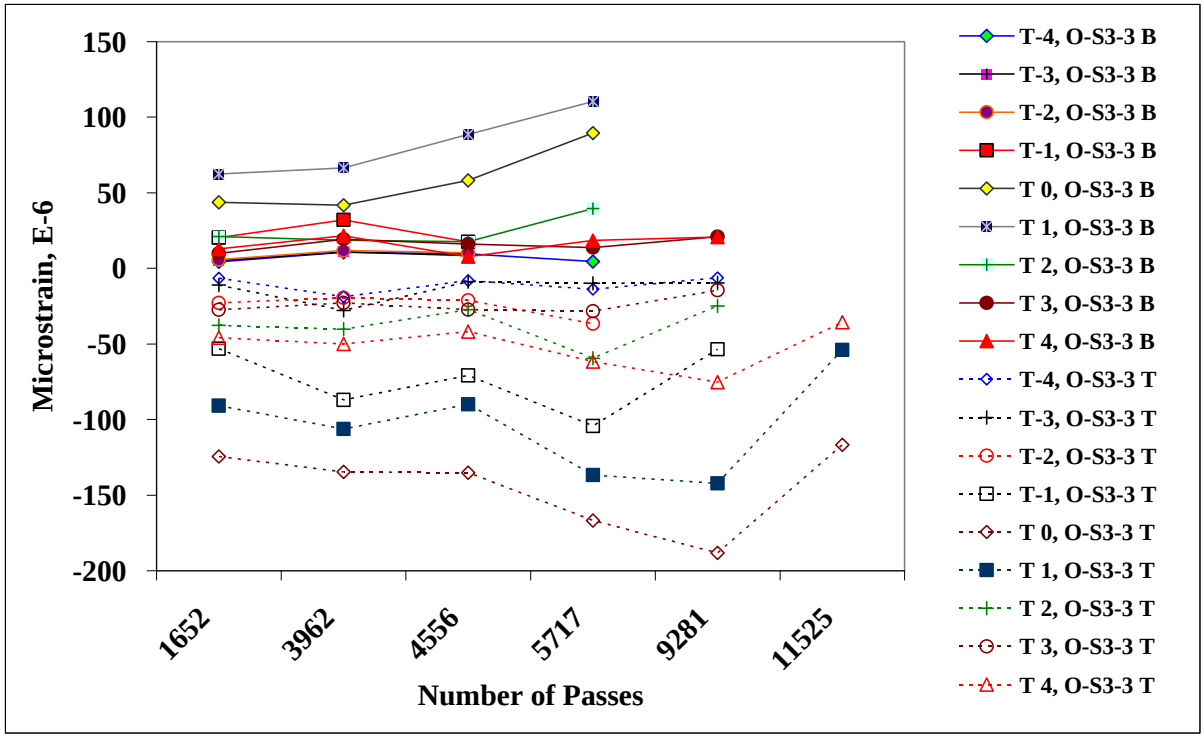

FIGURE H37. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S3, OVERLAY STRAIN GAGES 3

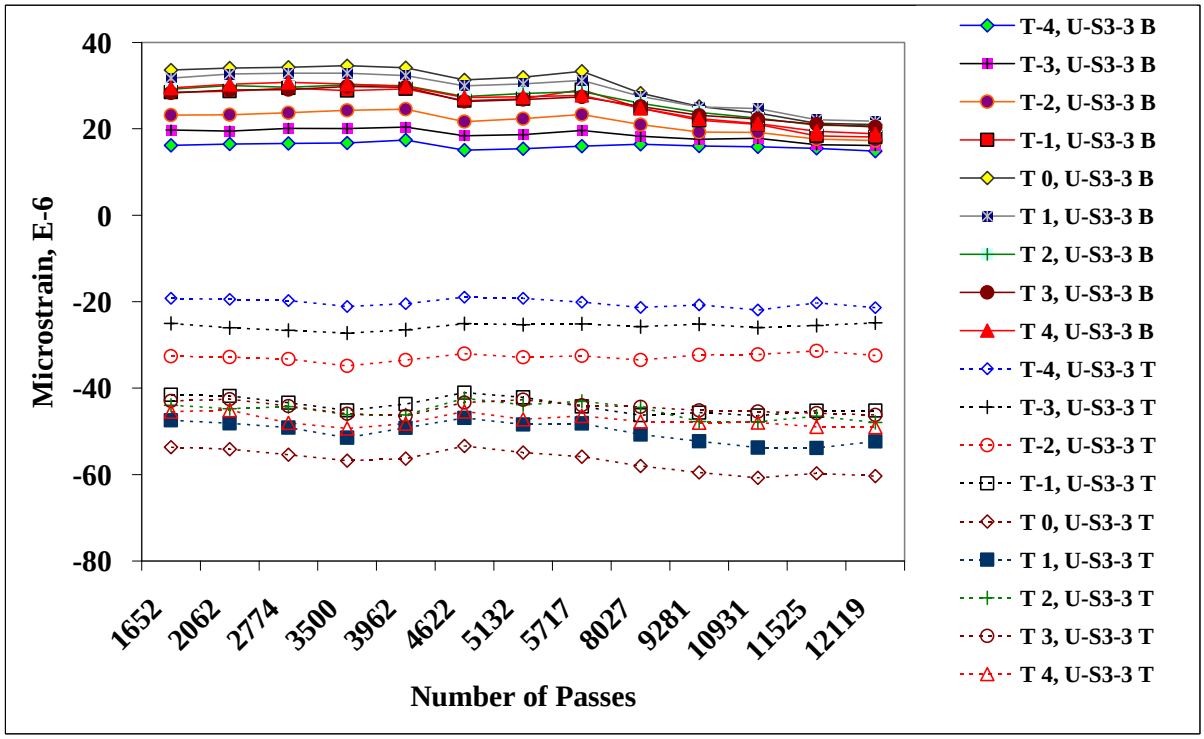

FIGURE H38. SUMMARY OF PEAK GAGE RESPONSES FOR TEST ITEM S3, UNDERLAY STRAIN GAGES 3

APPENDIX I – EverFE PREDICTIONS

Appendix H contains plots of predicted strains at various locations in the pavement structure, as predicted by the EverFE finite element program. Principal stress data are plotted relative to loading track position. Stress distribution plots generated by EverFE are also provided. These show predicted stress distributions for top and bottom of both underlay and overlay slabs.

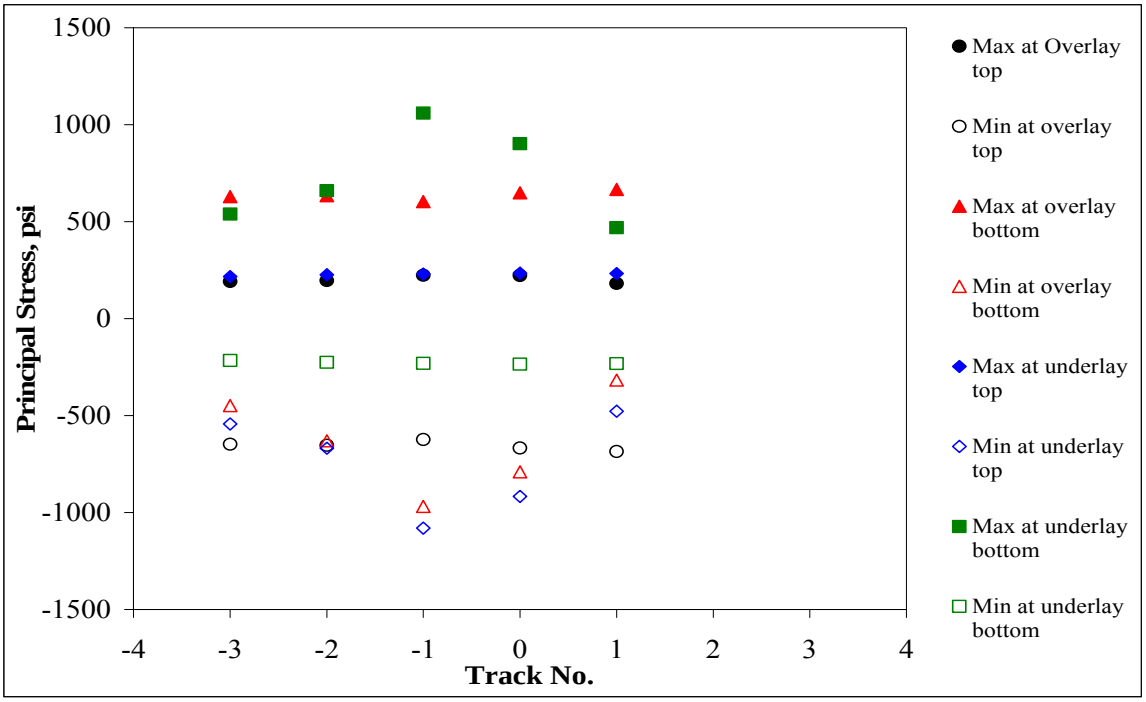

FIGURE I1. PREDICTED PRINCIPAL STRESSES IN TEST ITEM N1 FROM EVERFE (CENTER LOADING CASE)

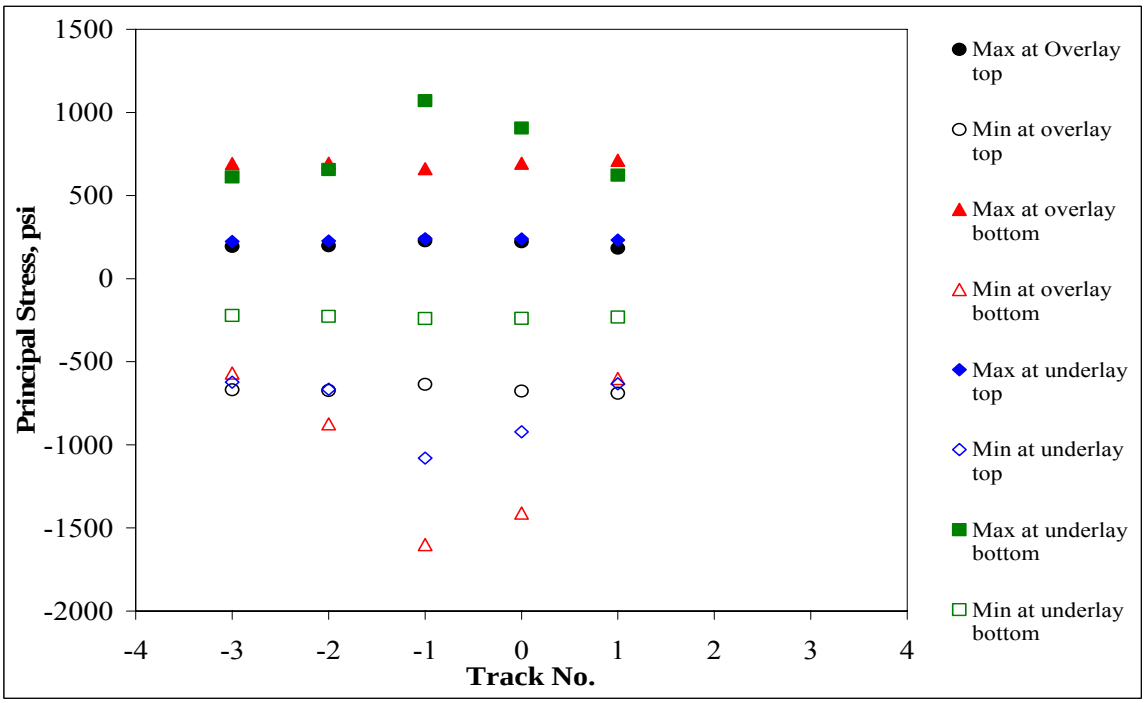

FIGURE I2. PREDICTED PRINCIPAL STRESSES IN TEST ITEM N1 FROM EVERFE (TRANSVERSE JOINT LOADING CASE)

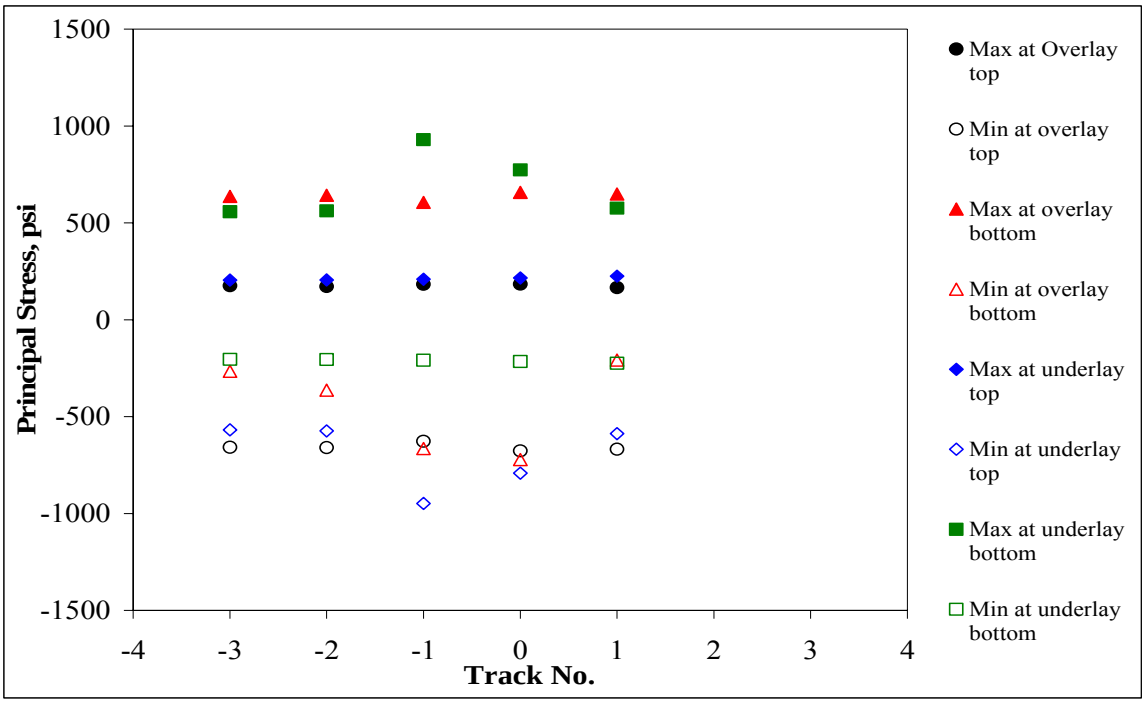

FIGURE I3. PREDICTED PRINCIPAL STRESSES IN TEST ITEM N2 FROM EVERFE (CENTER LOADING CASE)

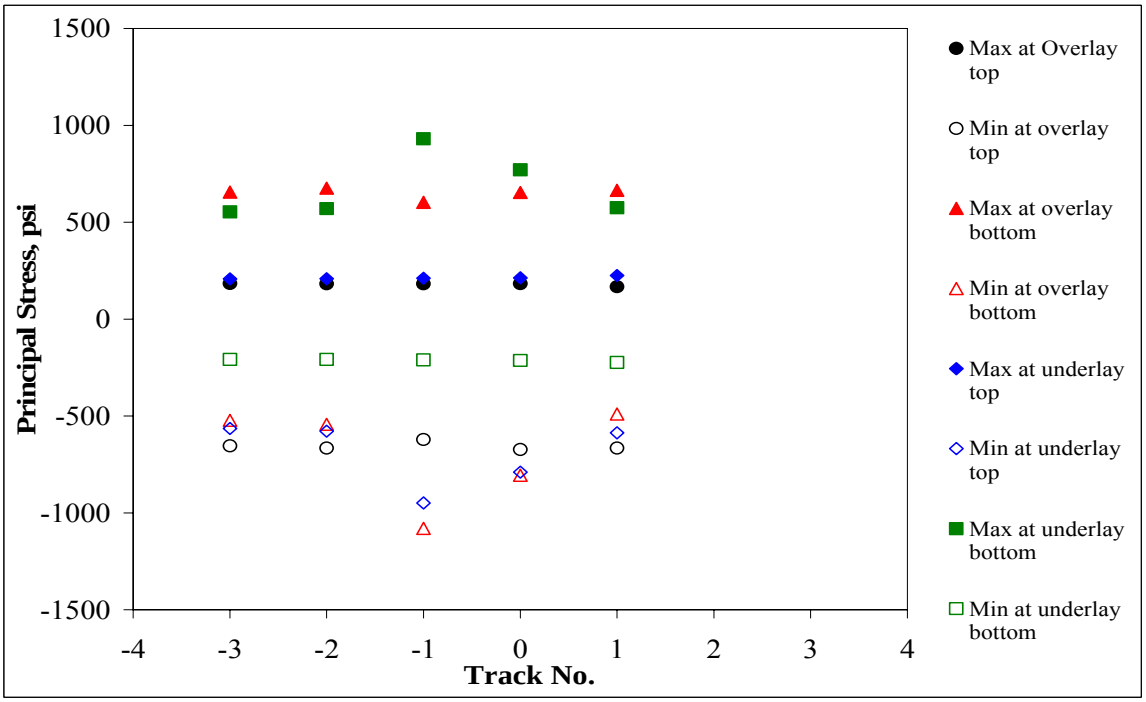

FIGURE I4. PREDICTED PRINCIPAL STRESSES IN TEST ITEM N2 FROM EVERFE (TRANSVERSE JOINT LOADING CASE)

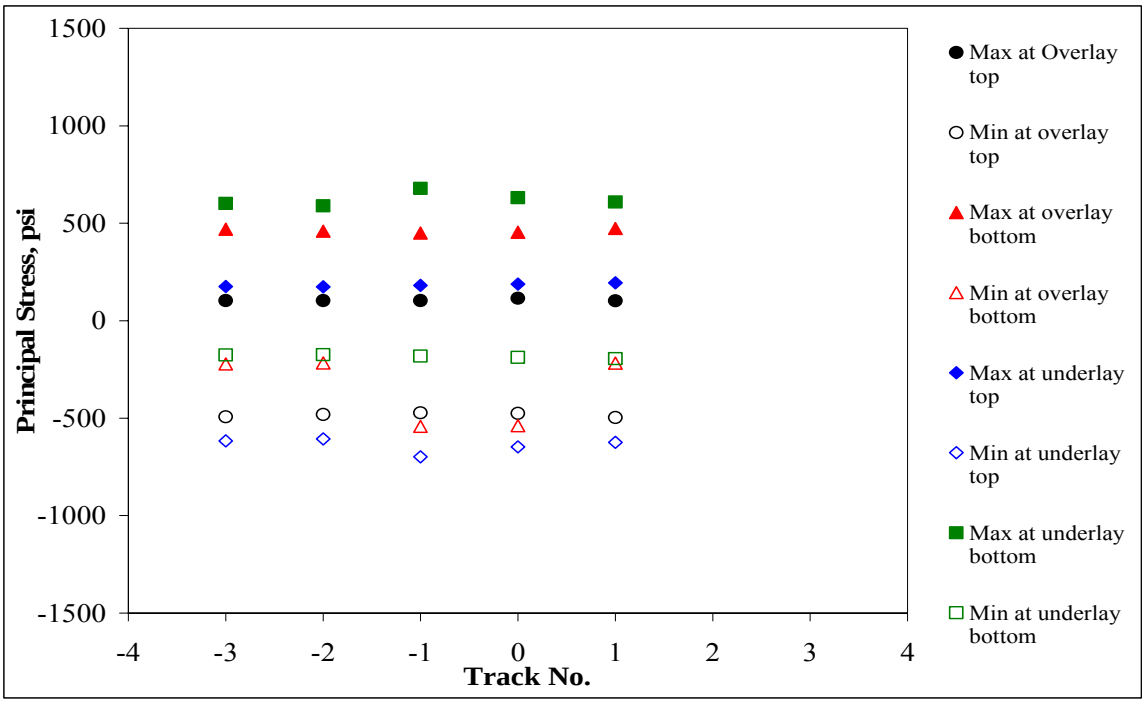

FIGURE I5. PREDICTED PRINCIPAL STRESSES IN TEST ITEM N3 FROM EVERFE (CENTER LOADING CASE)

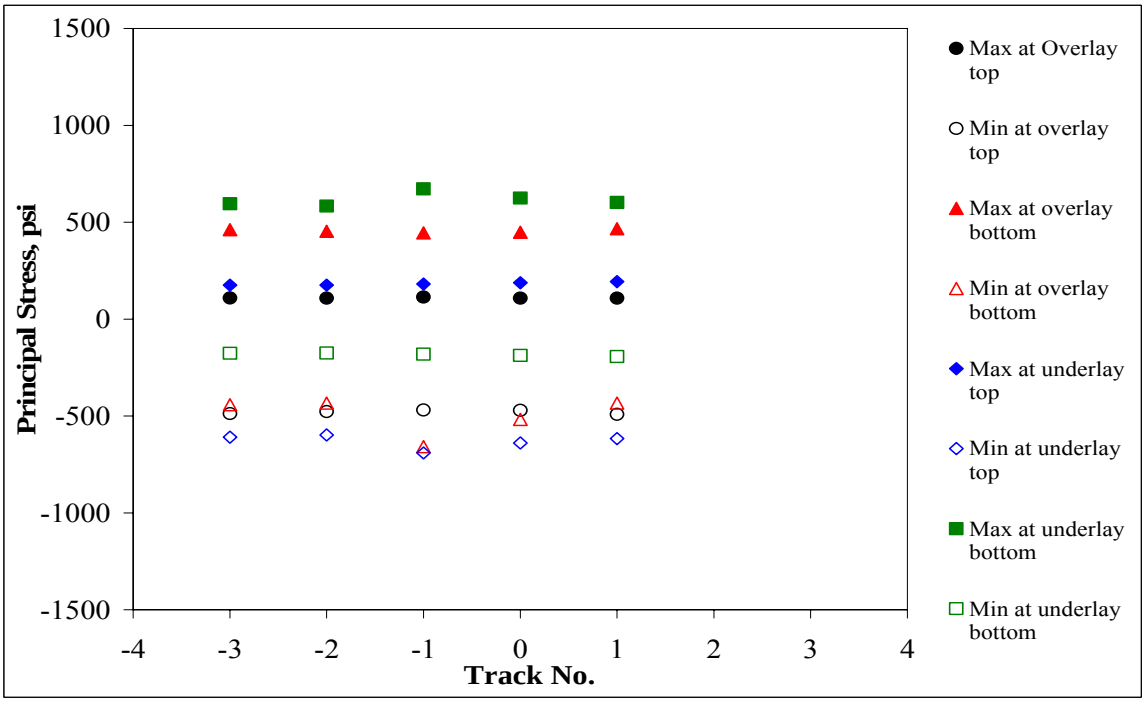

FIGURE I6. PREDICTED PRINCIPAL STRESSES IN TEST ITEM N3 FROM EVERFE (TRANSVERSE JOINT LOADING CASE)

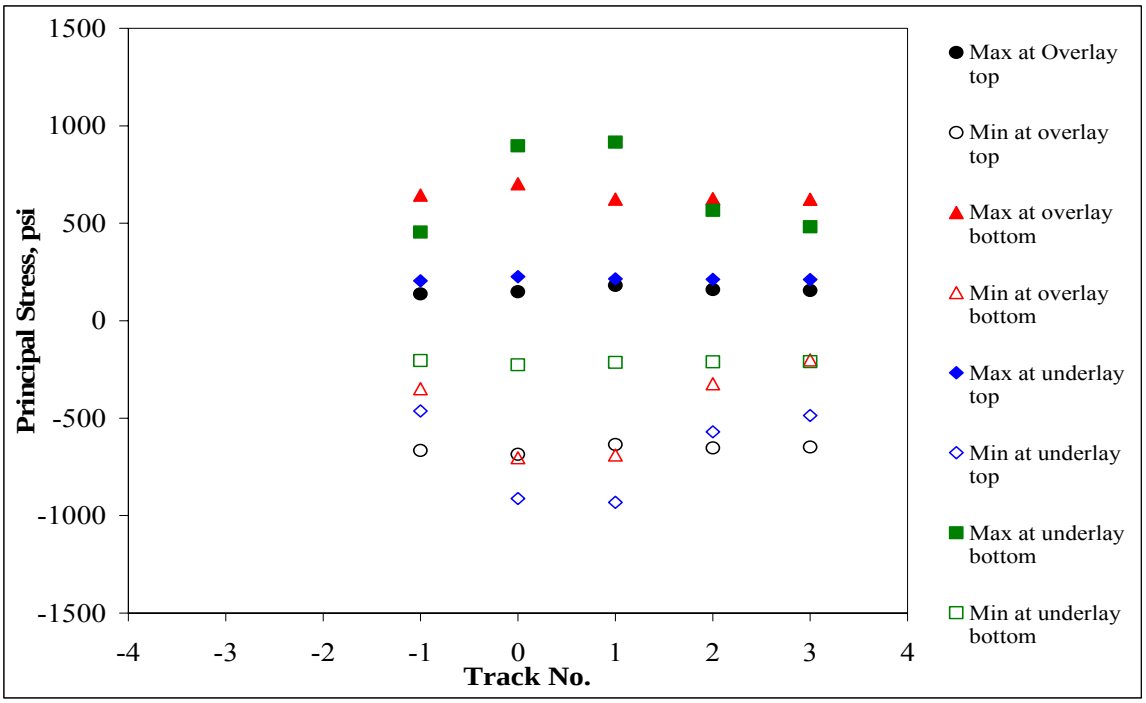

FIGURE I7. PREDICTED PRINCIPAL STRESSES IN TEST ITEM S1 FROM EVERFE (CENTER LOADING CASE)

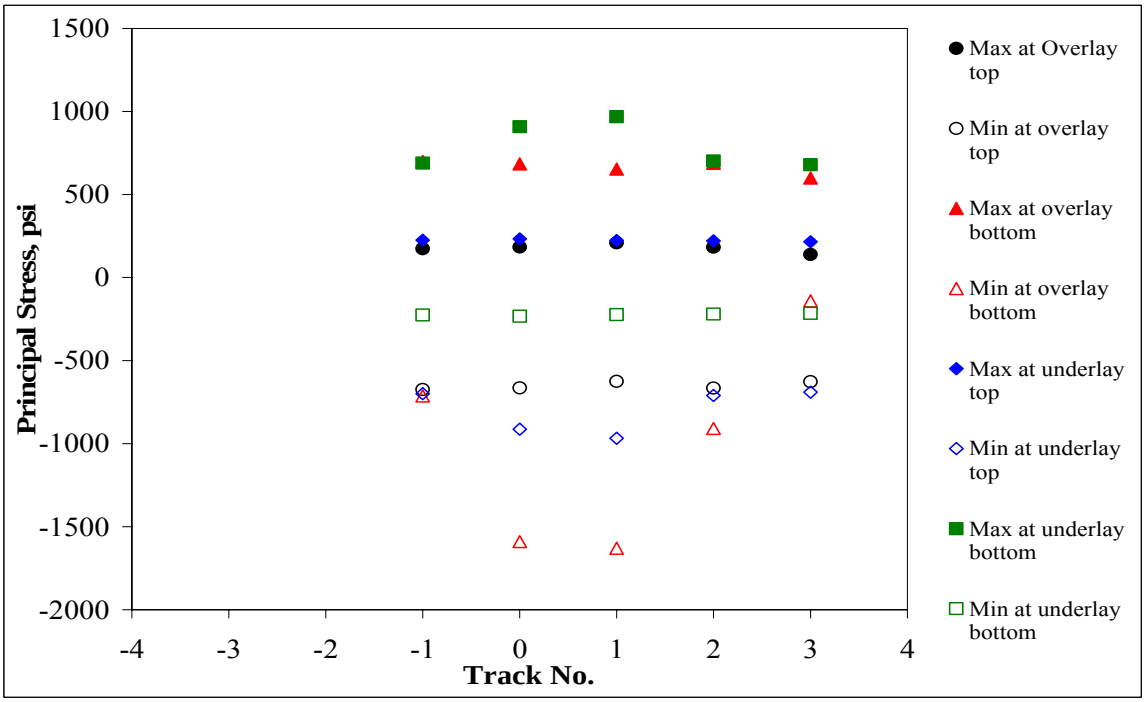

FIGURE I8. PREDICTED PRINCIPAL STRESSES IN TEST ITEM S1 FROM EVERFE (TRANSVERSE JOINT LOADING CASE)

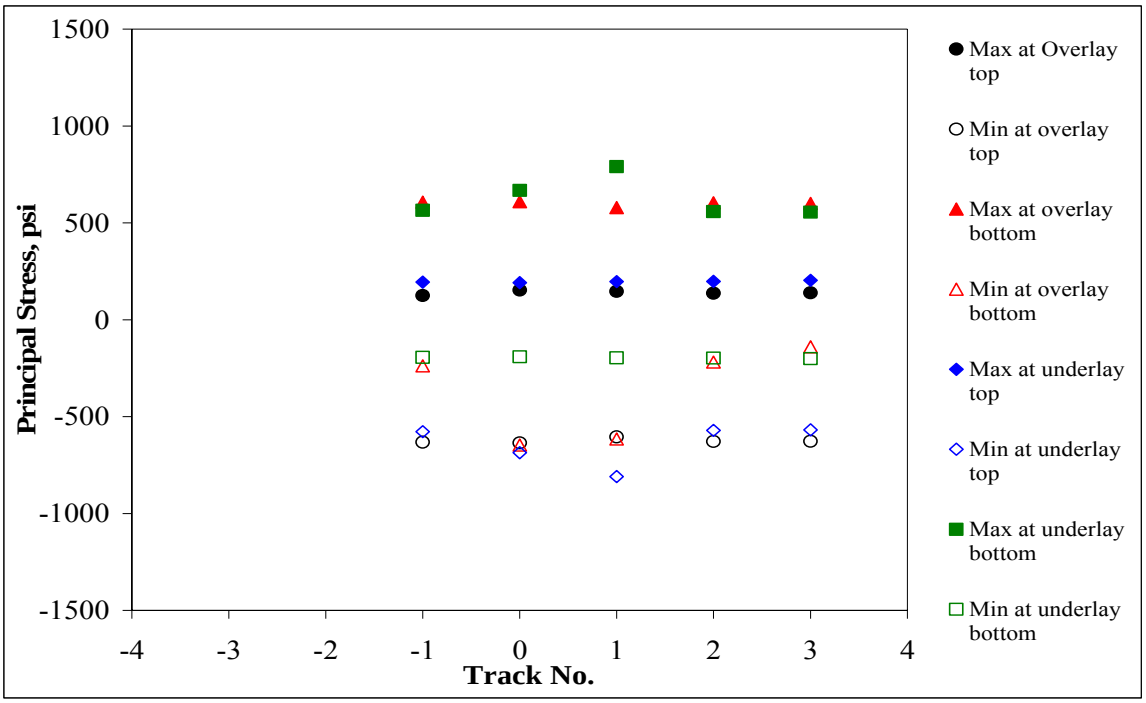

FIGURE I9. PREDICTED PRINCIPAL STRESSES IN TEST ITEM S2 FROM EVERFE (CENTER LOADING CASE)

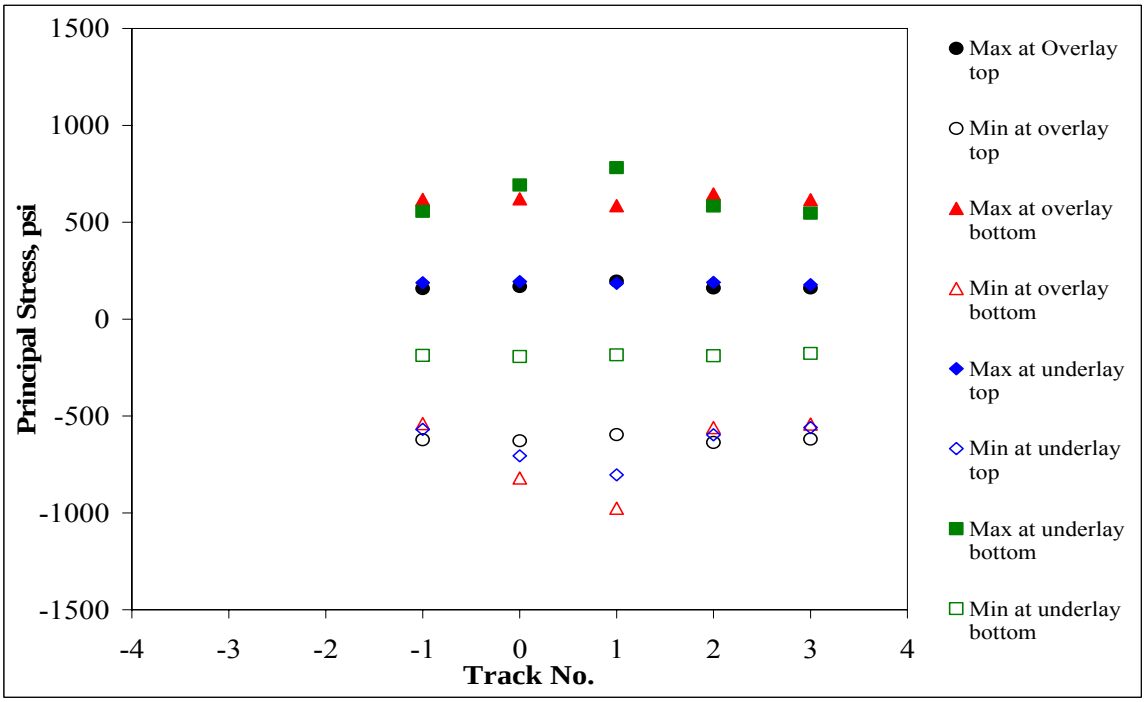

FIGURE I10. PREDICTED PRINCIPAL STRESSES IN TEST ITEM S2 FROM EVERFE (TRANSVERSE JOINT LOADING CASE)

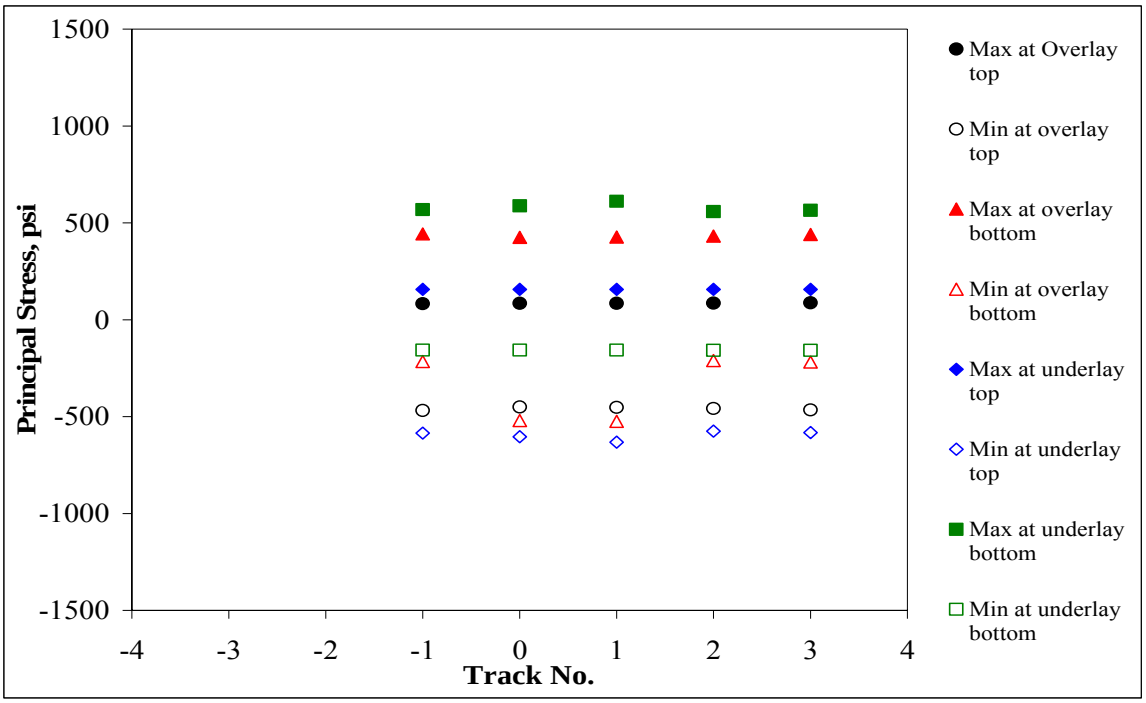

FIGURE I11. PREDICTED PRINCIPAL STRESSES IN TEST ITEM S3 FROM EVERFE (CENTER LOADING CASE)

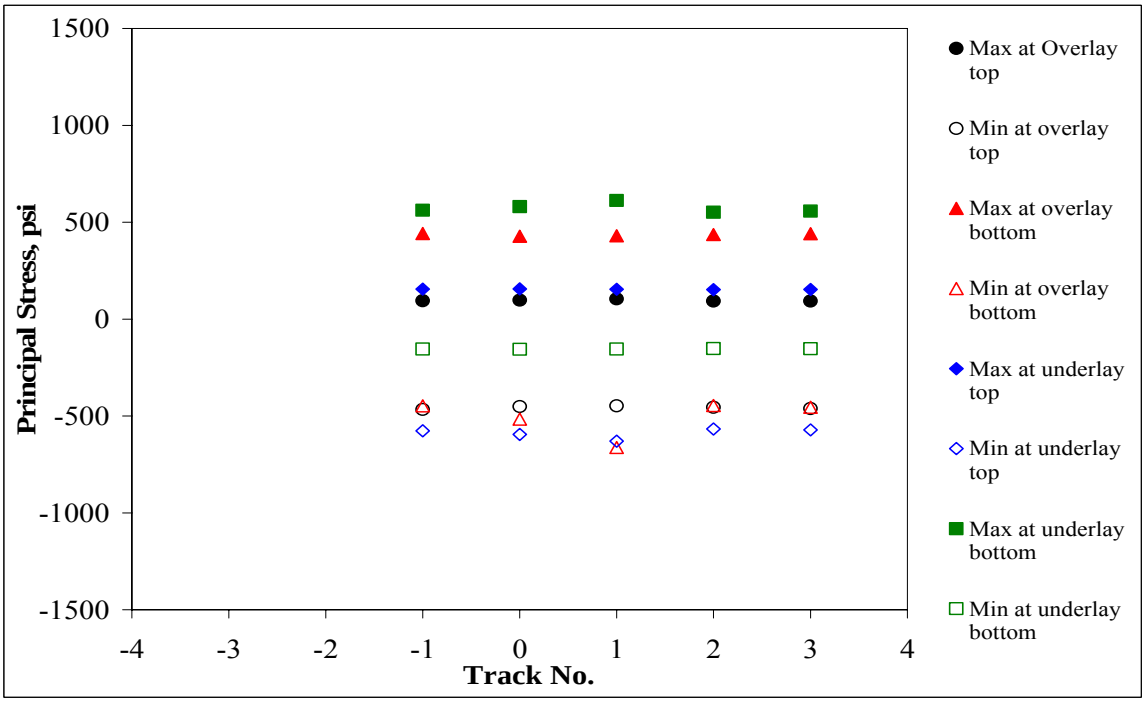

FIGURE I12. PREDICTED PRINCIPAL STRESSES IN TEST ITEM S3 FROM EVERFE (TRANSVERSE JOINT LOADING CASE)

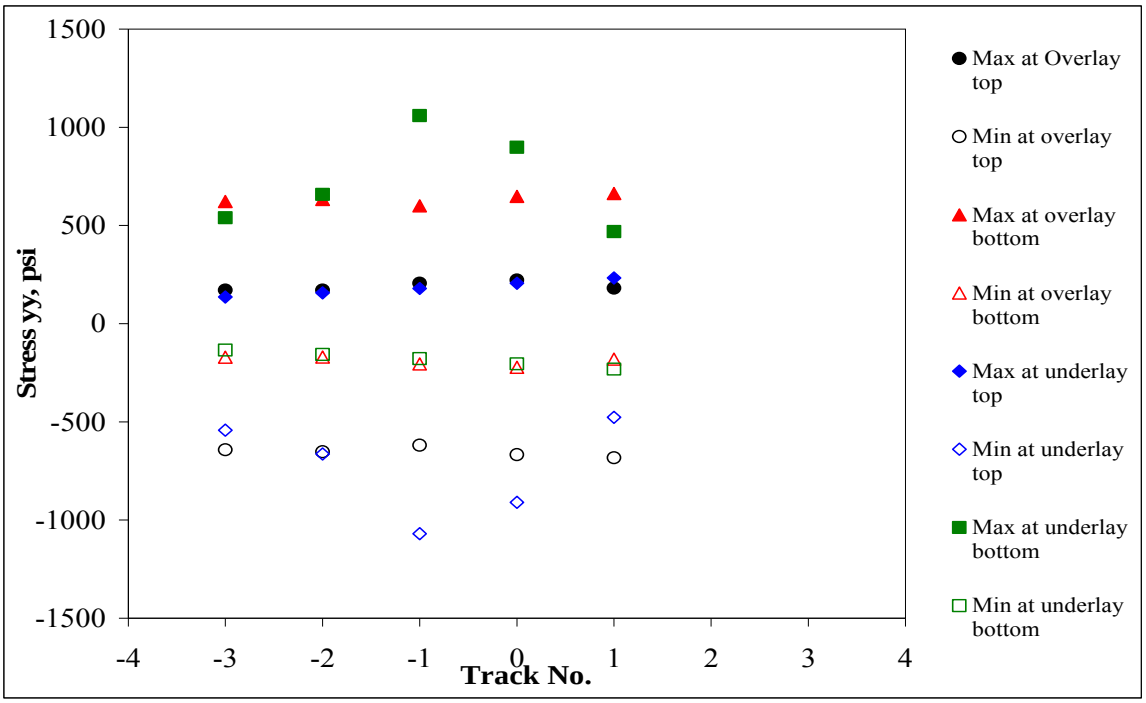

FIGURE I13. PREDICTED σ_{yy} IN TEST ITEM N1 FROM EVERFE (CENTER LOADING CASE)

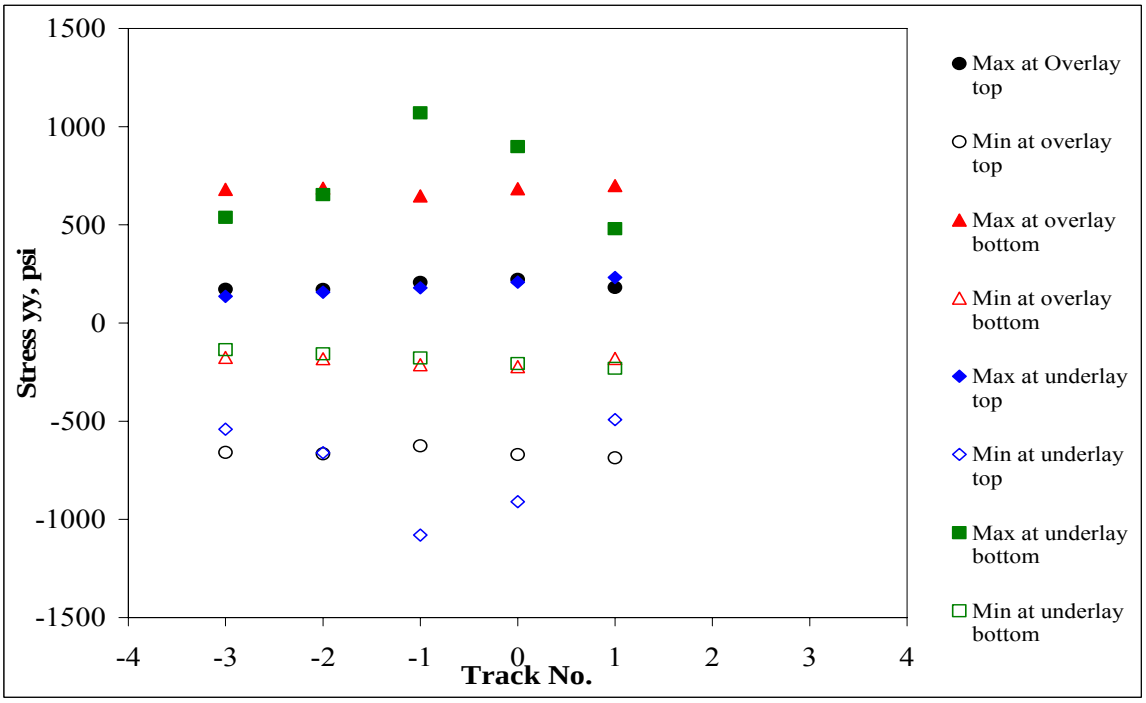

FIGURE I14. PREDICTED σ_{yy} IN TEST ITEM N1 FROM EVERFE (TRANSVERSE JOINT LOADING CASE)

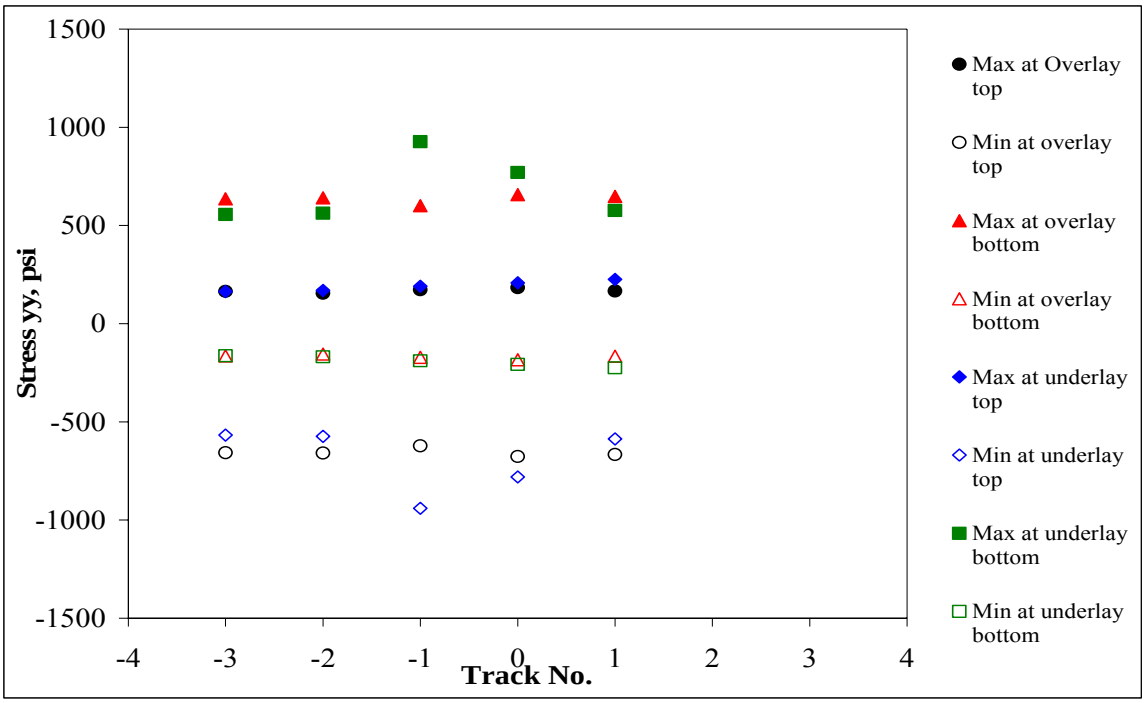

FIGURE I15. PREDICTED σ_{yy} IN TEST ITEM N2 FROM EVERFE (CENTER LOADING CASE)

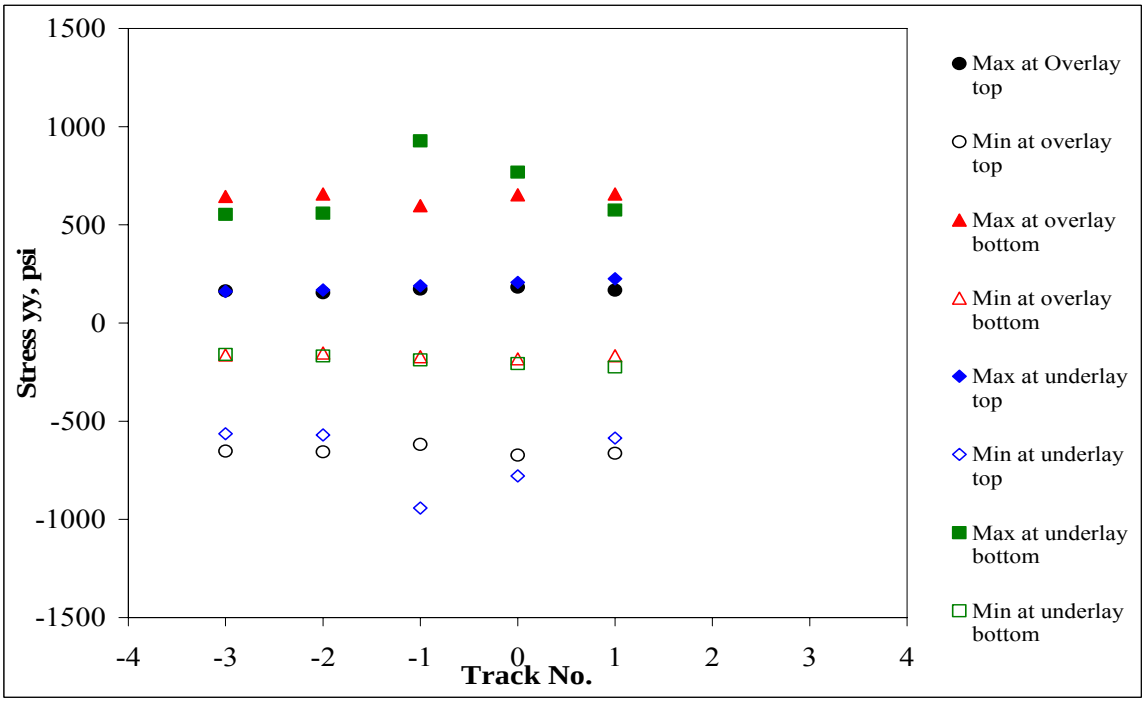

FIGURE I16. PREDICTED σ_{yy} IN TEST ITEM N2 FROM EVERFE (TRANSVERSE JOINT LOADING CASE)

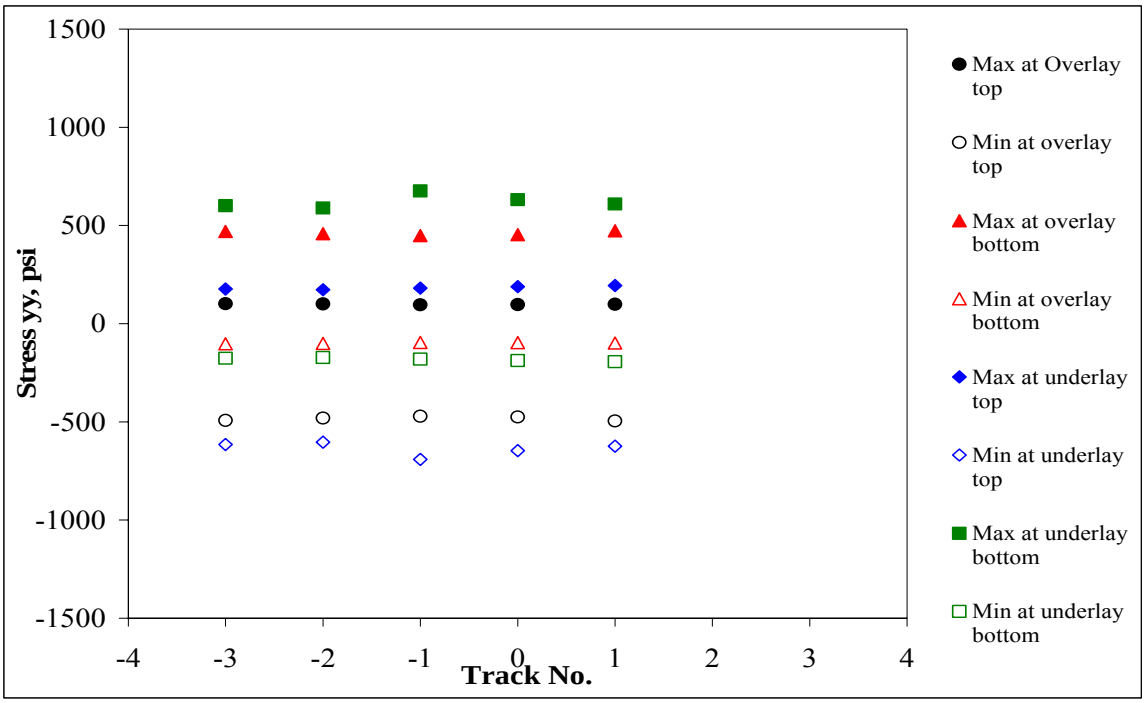

FIGURE I17. PREDICTED σ_{yy} IN TEST ITEM N3 FROM EVERFE (CENTER LOADING CASE)

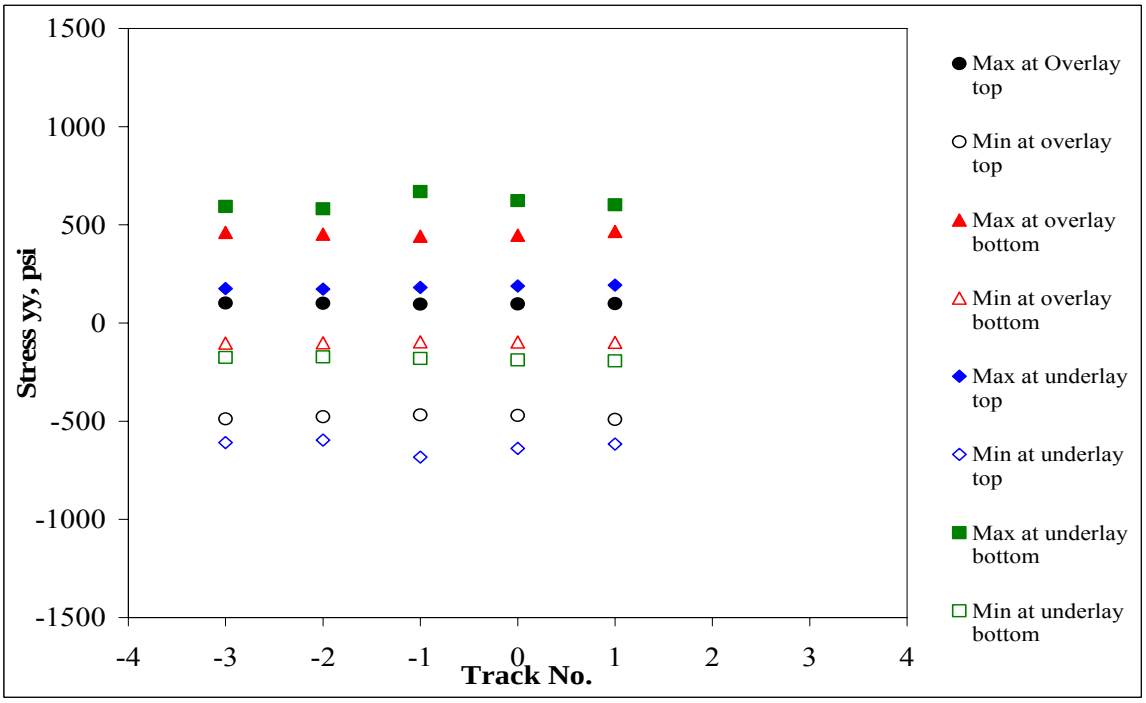

FIGURE I18. PREDICTED σ_{yy} IN TEST ITEM N3 FROM EVERFE (TRANSVERSE JOINT LOADING CASE)

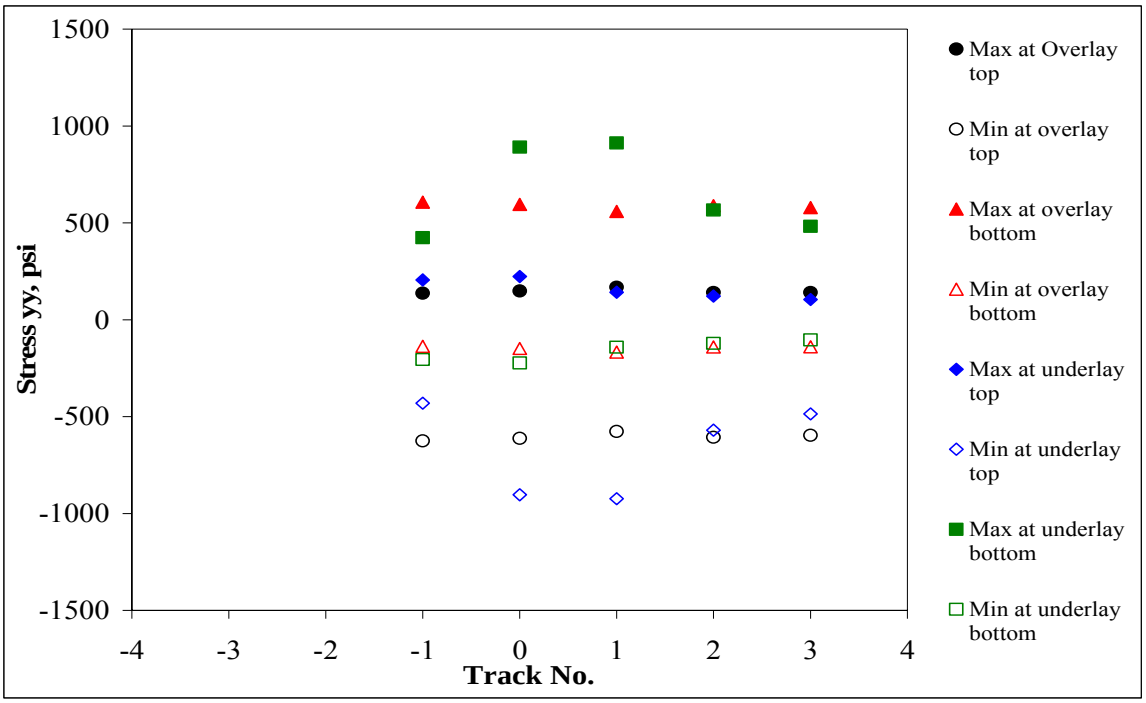

FIGURE I19. PREDICTED σ_{yy} IN TEST ITEM S1 FROM EVERFE (CENTER LOADING CASE)

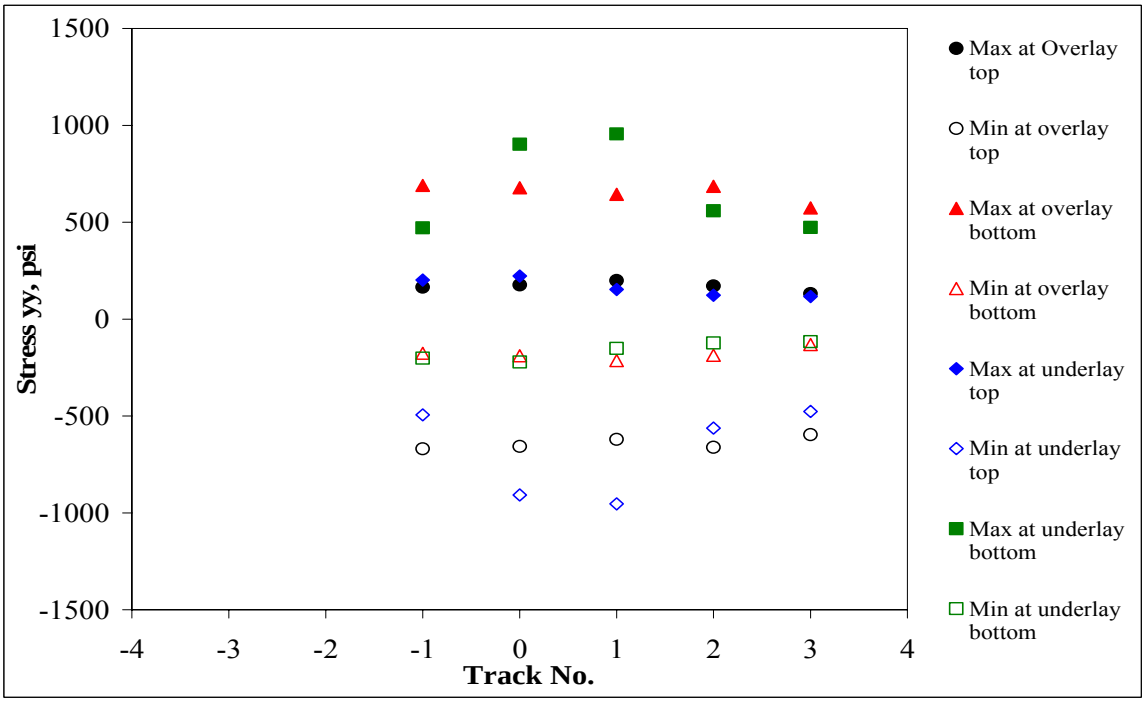

FIGURE I20. PREDICTED σ_{yy} IN TEST ITEM S1 FROM EVERFE (TRANSVERSE JOINT LOADING CASE)

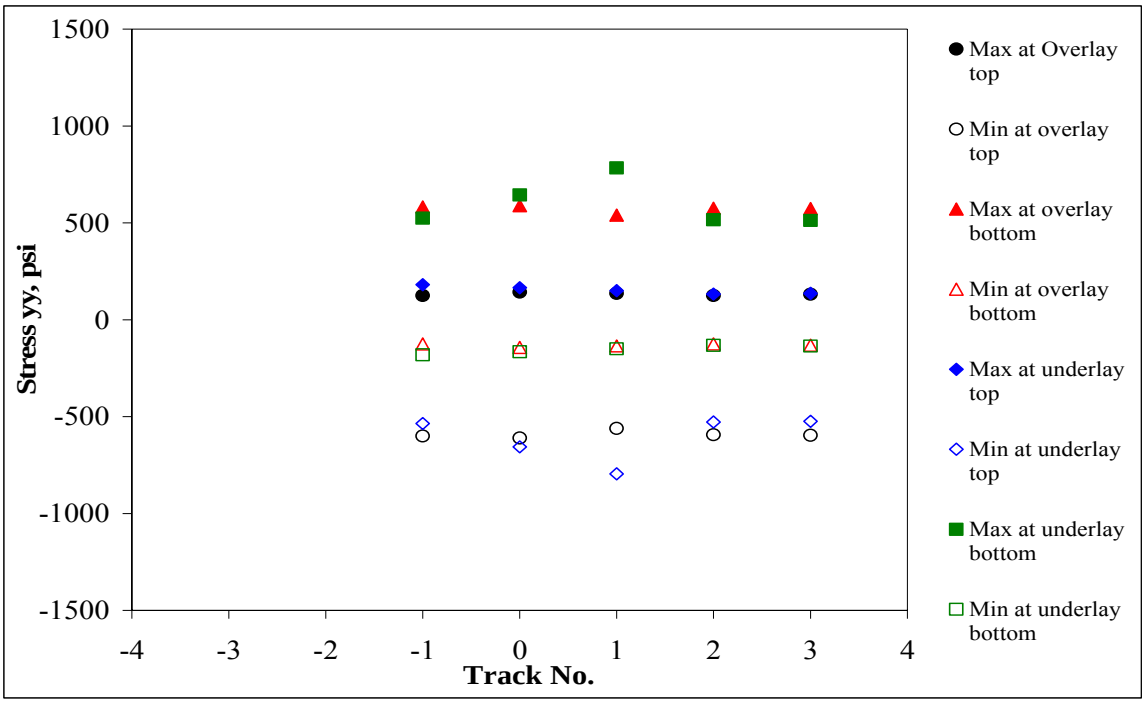

FIGURE I21. PREDICTED σ_{yy} IN TEST ITEM S2 FROM EVERFE (CENTER LOADING CASE)

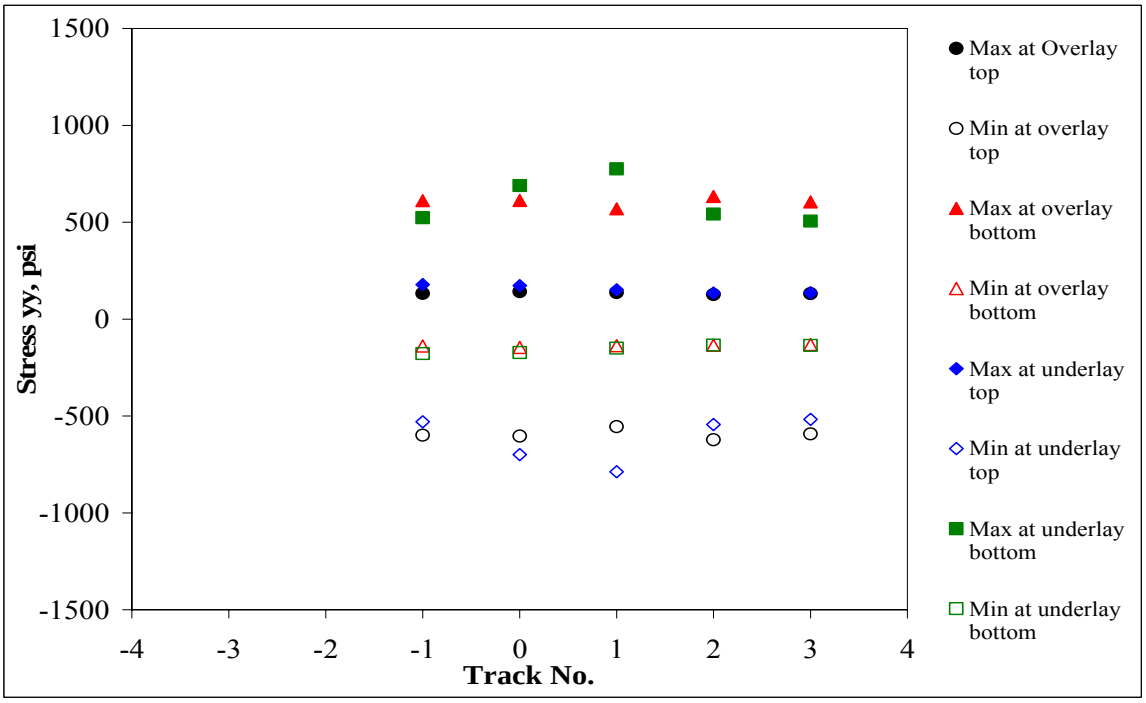

FIGURE I22. PREDICTED σ_{yy} IN TEST ITEM S2 FROM EVERFE (TRANSVERSE JOINT LOADING CASE)

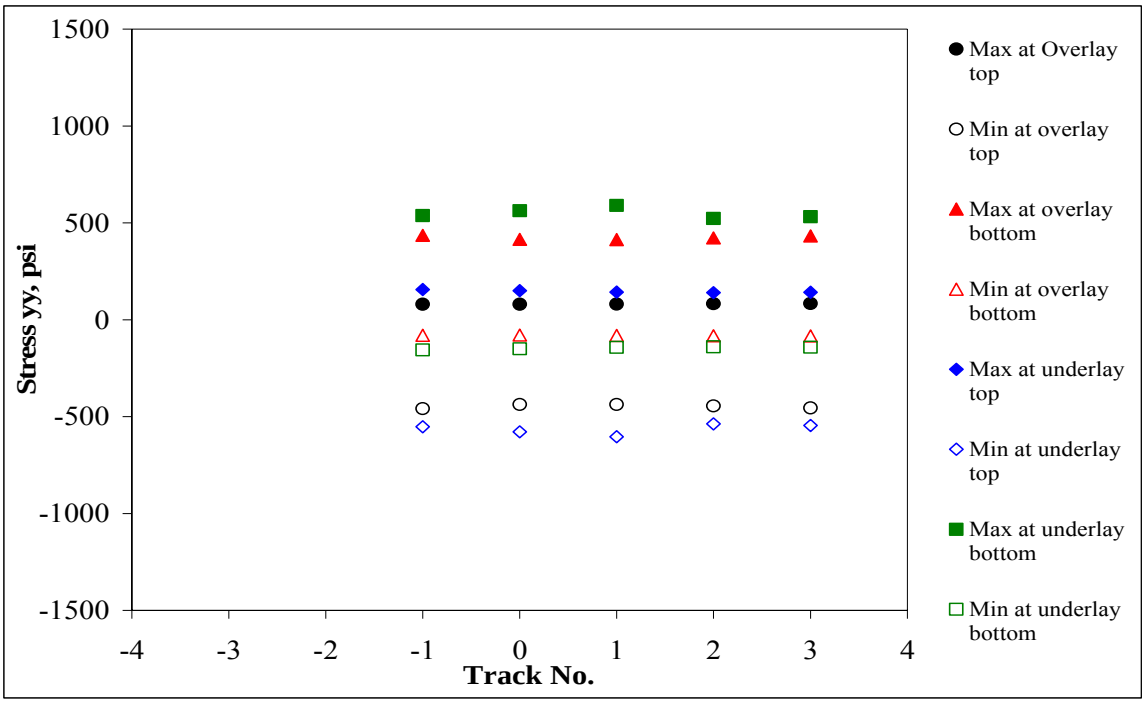

FIGURE I23. PREDICTED σ_{yy} IN TEST ITEM S3 FROM EVERFE (CENTER LOADING CASE)

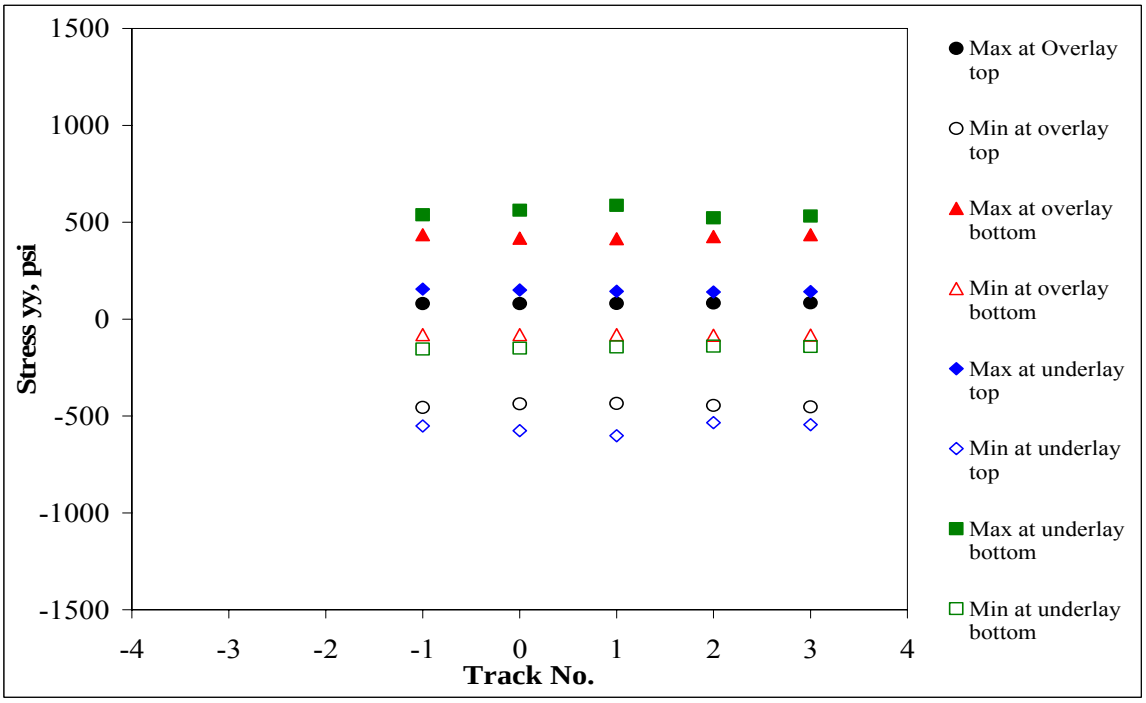

FIGURE I24. PREDICTED σ_{yy} IN TEST ITEM S3 FROM EVERFE (TRANSVERSE JOINT LOADING CASE)

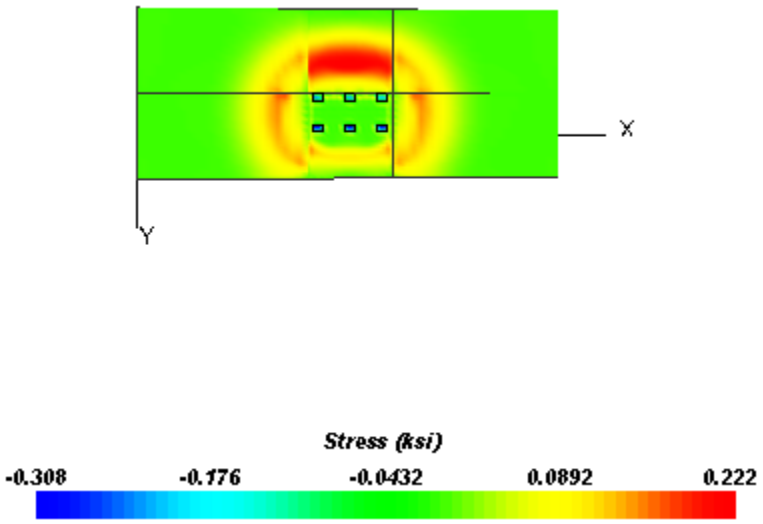

FIGURE I25. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 0)

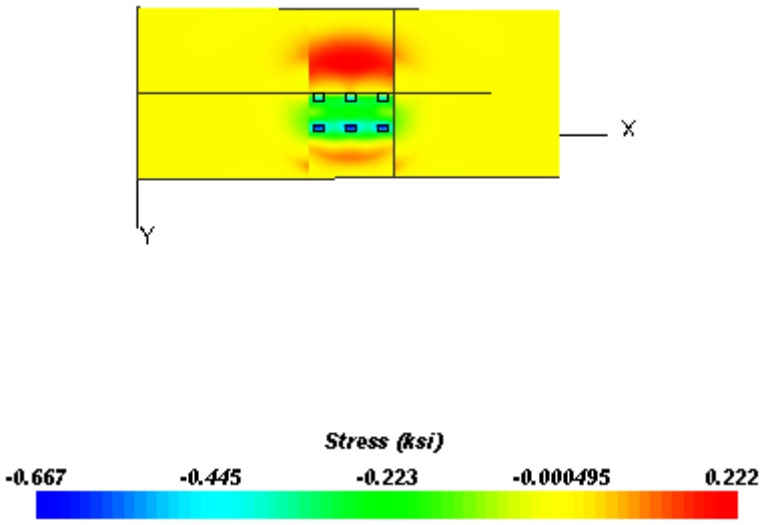

FIGURE I26. σ_{yy} STRESS DISTRIBUTION AT TOP OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 0)

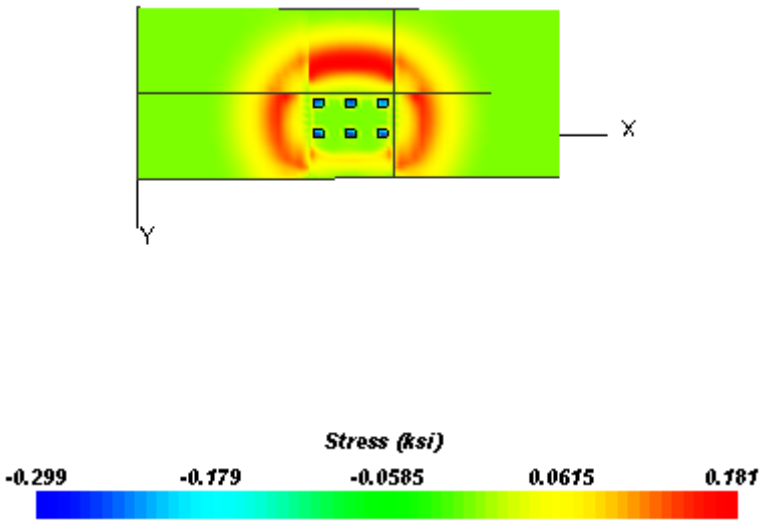

FIGURE I27. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 1)

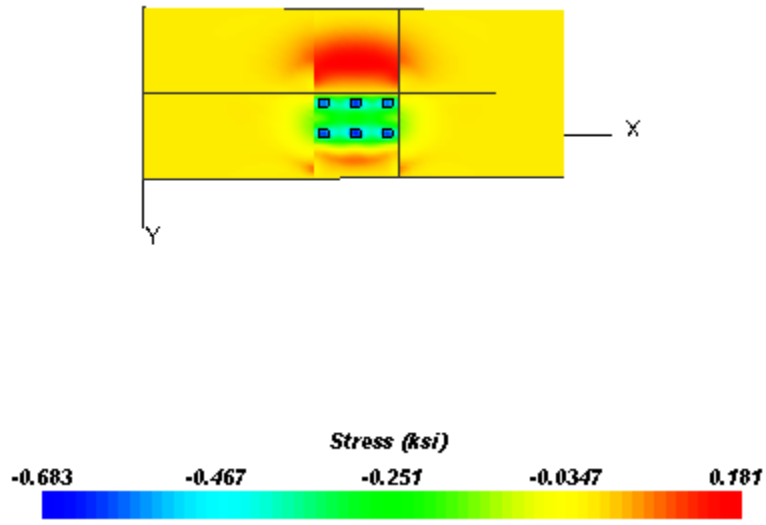

FIGURE I28. σ_{yy} STRESS DISTRIBUTION AT TOP OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 1)

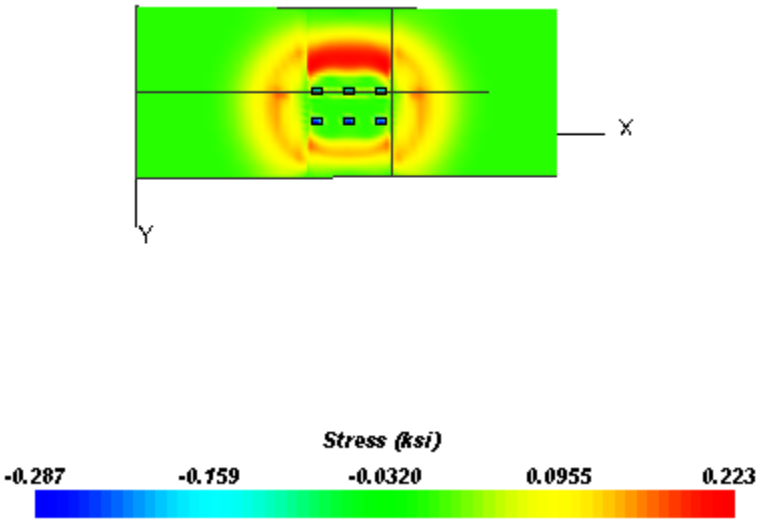

FIGURE I29. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -1)

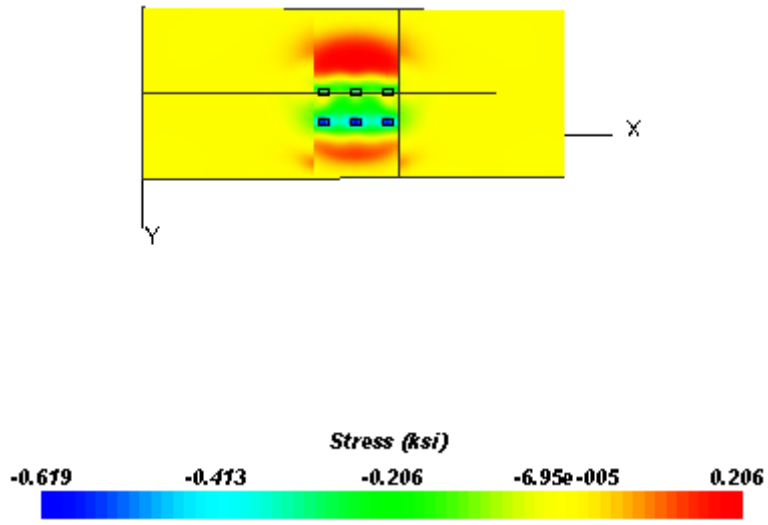

FIGURE I30. σ_{yy} STRESS DISTRIBUTION AT TOP OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -1)

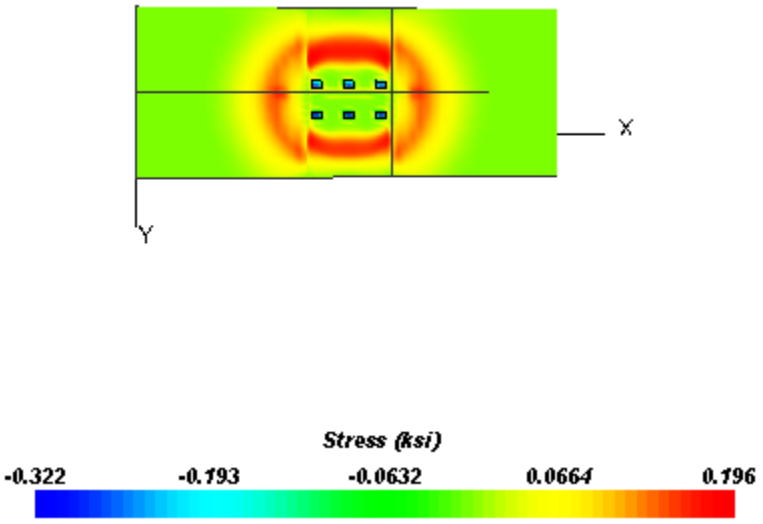

FIGURE I31. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -2)

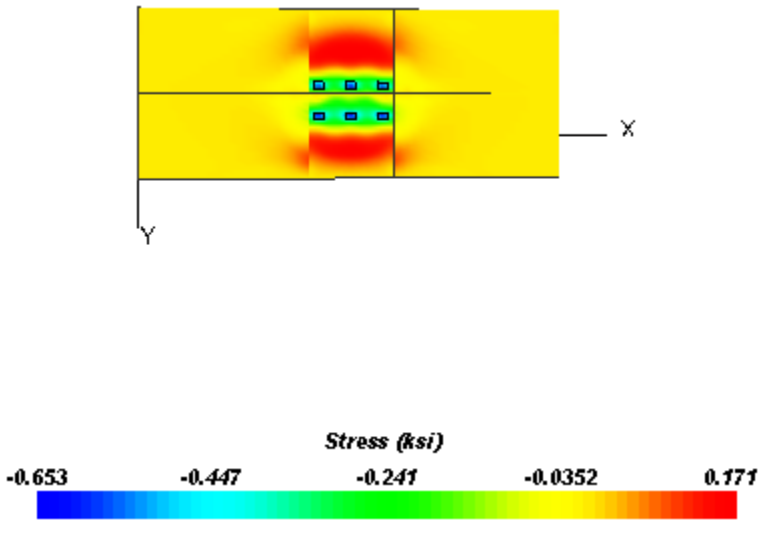

FIGURE I32. σ_{yy} STRESS DISTRIBUTION AT TOP OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -2)

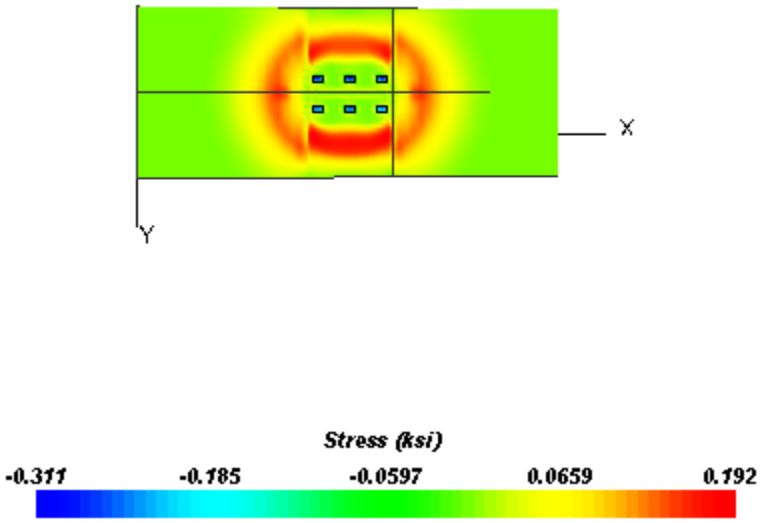

FIGURE I33. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -3)

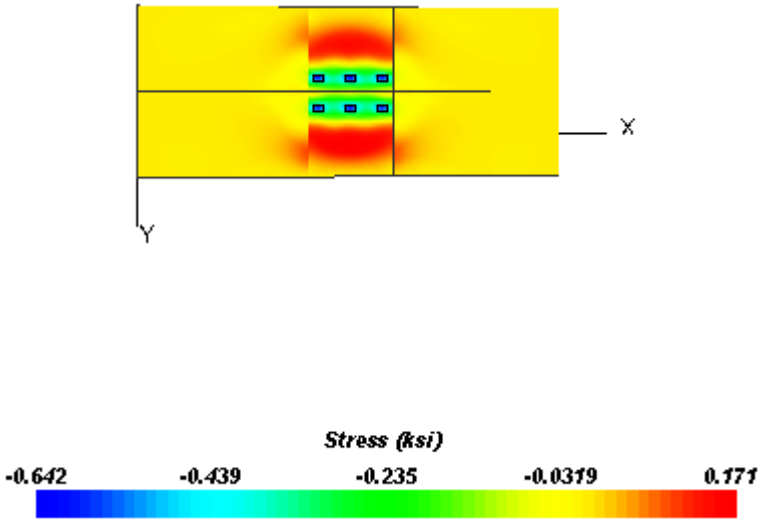

FIGURE I34. σ_{yy} STRESS DISTRIBUTION AT TOP OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -3)

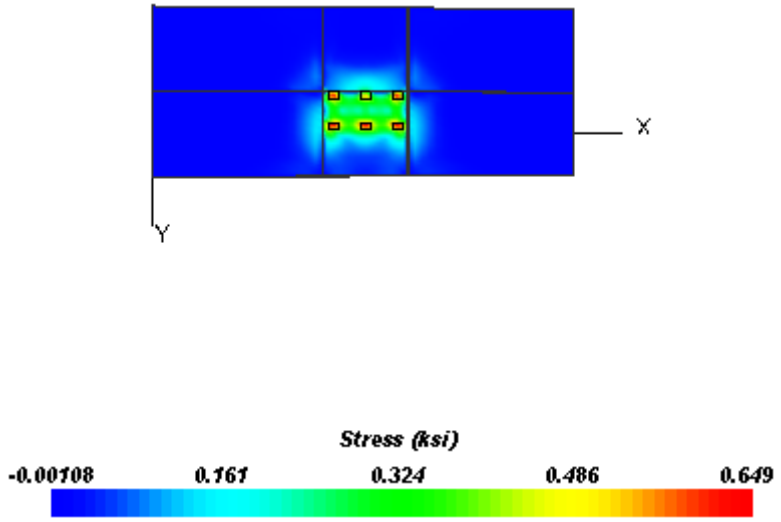

FIGURE I35. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 0)

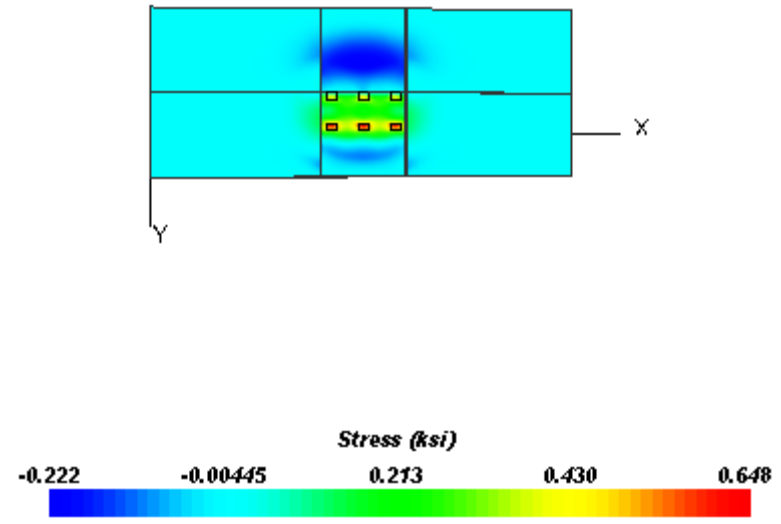

FIGURE I36. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 0)

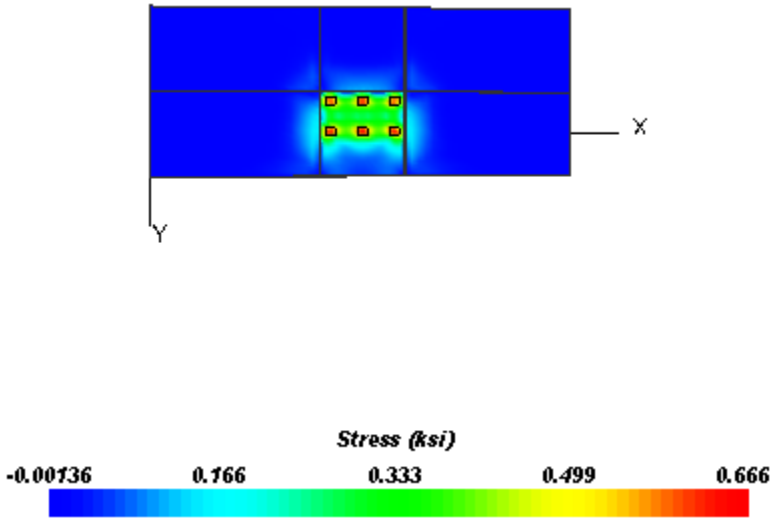

FIGURE I37. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 1)

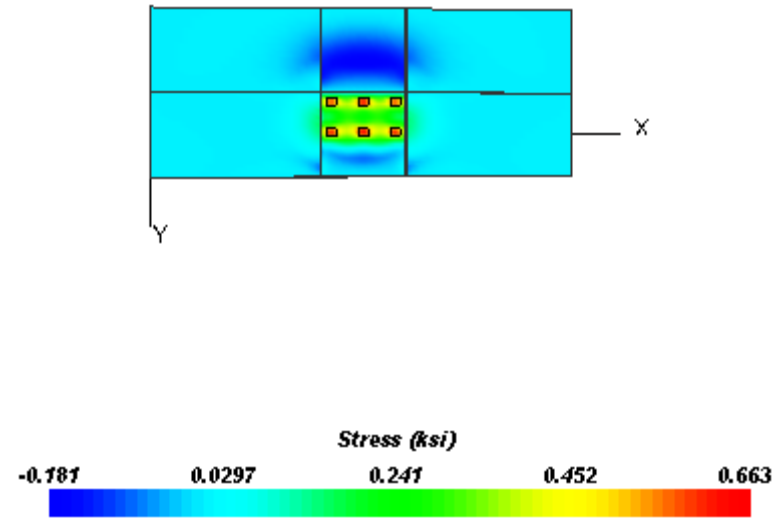

FIGURE I38. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 1)

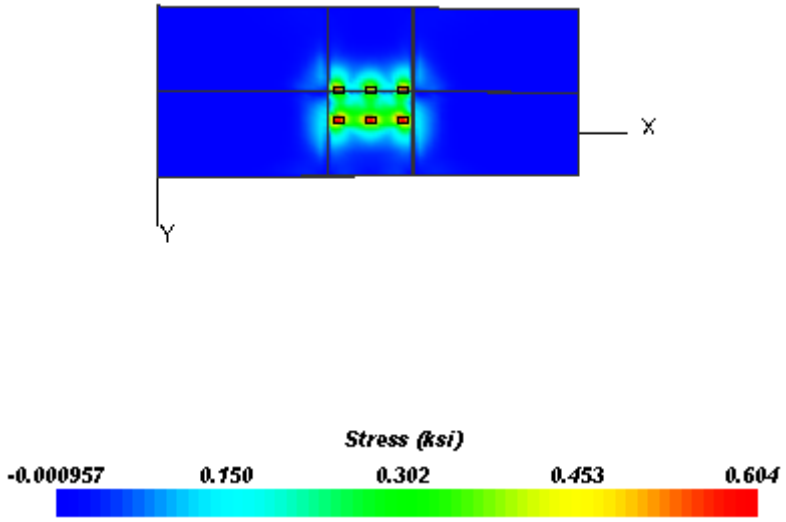

FIGURE I39. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -1)

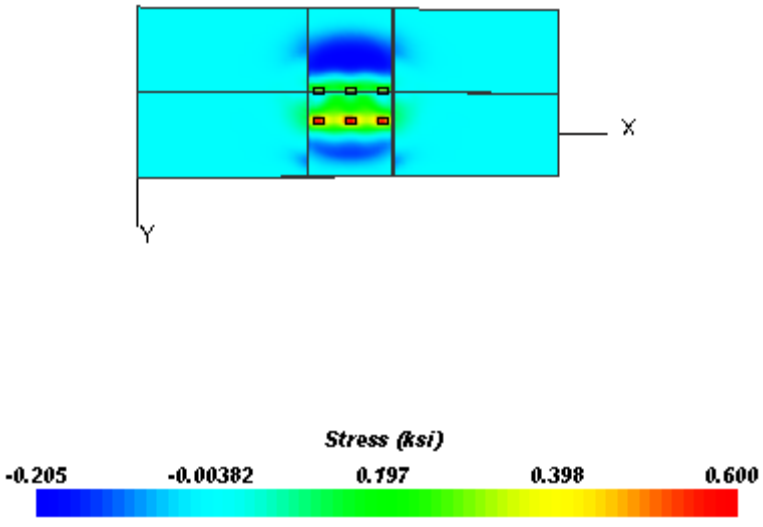

FIGURE I40. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -1)

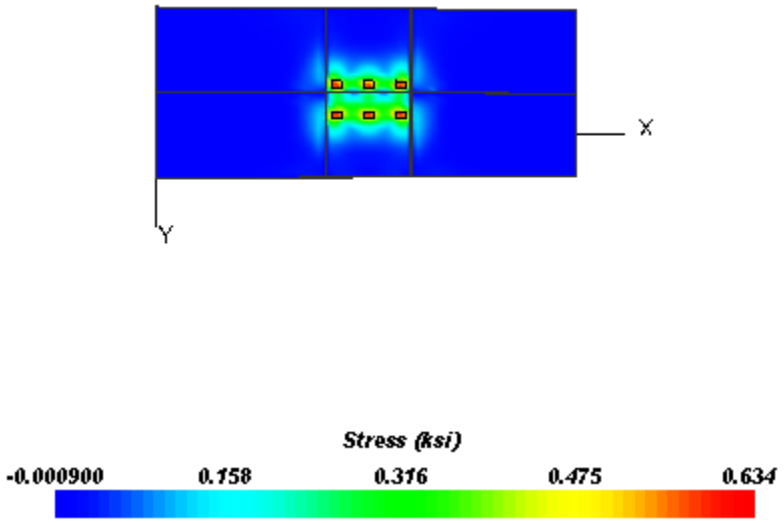

FIGURE I41. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -2)

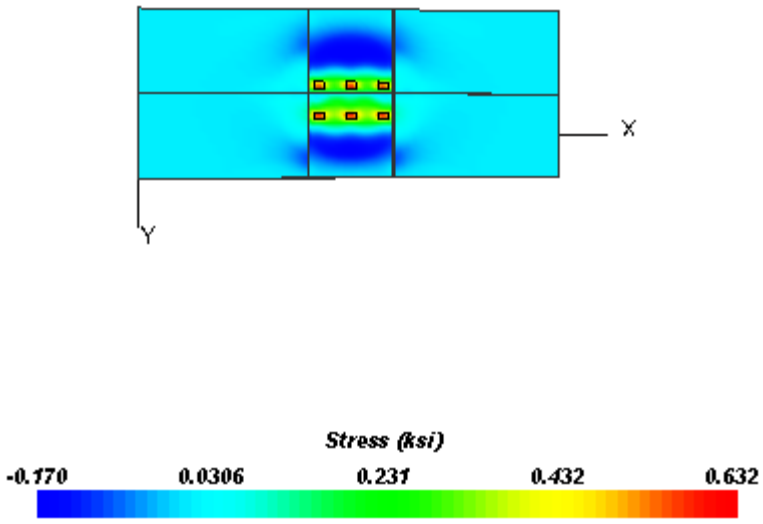

FIGURE I42. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -2)

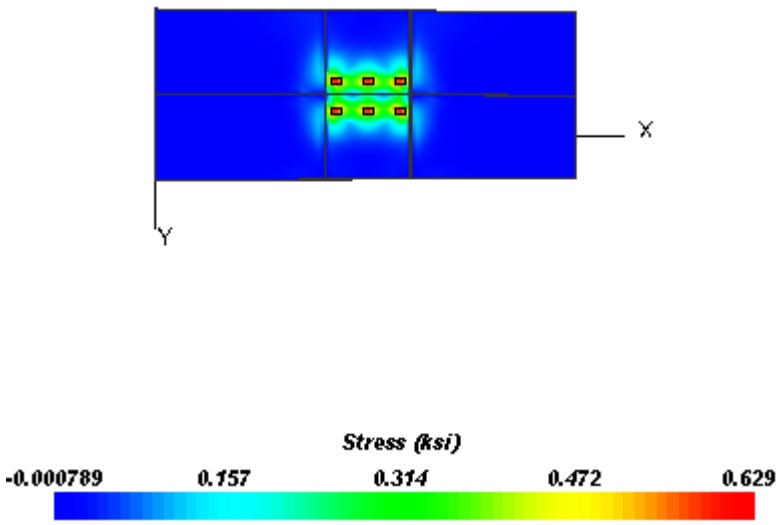

FIGURE I43. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -3)

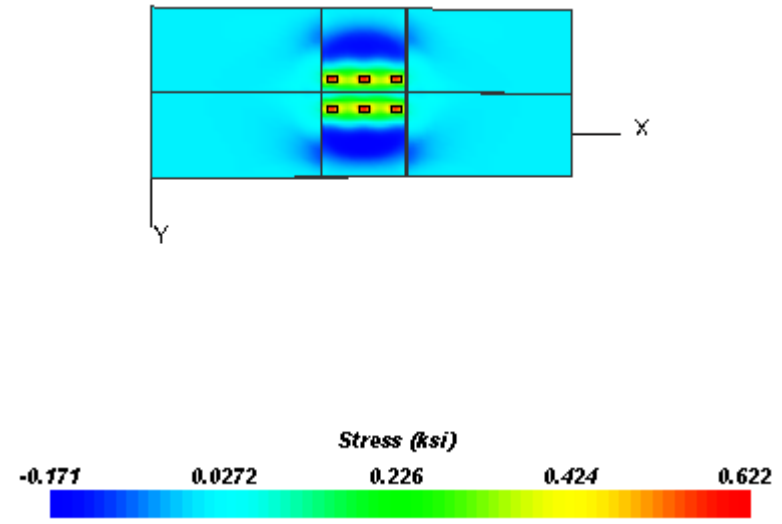

FIGURE I44. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -3)

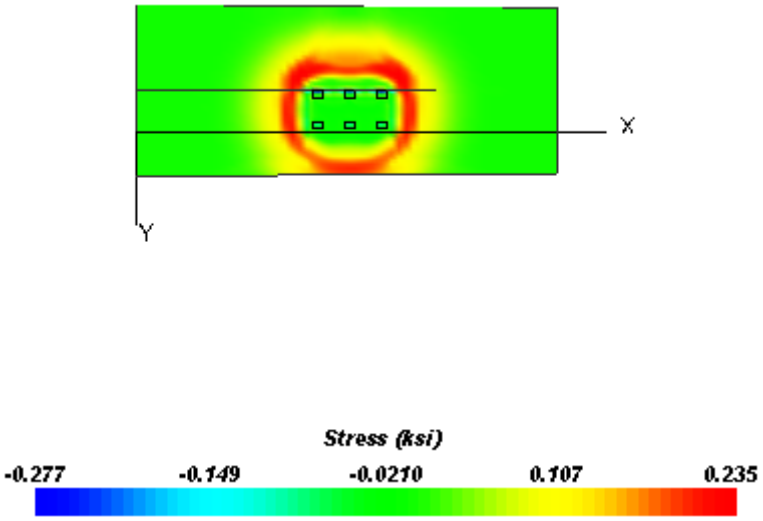

FIGURE I45. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 0)

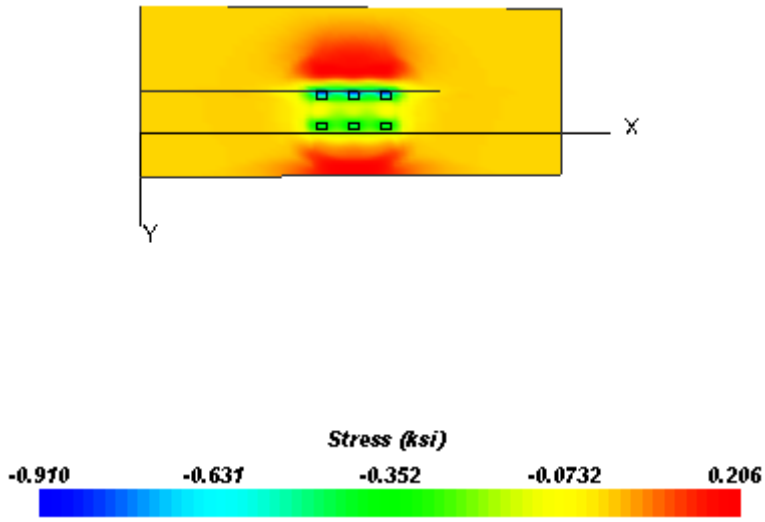

FIGURE I46. σ_{yy} STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 0)

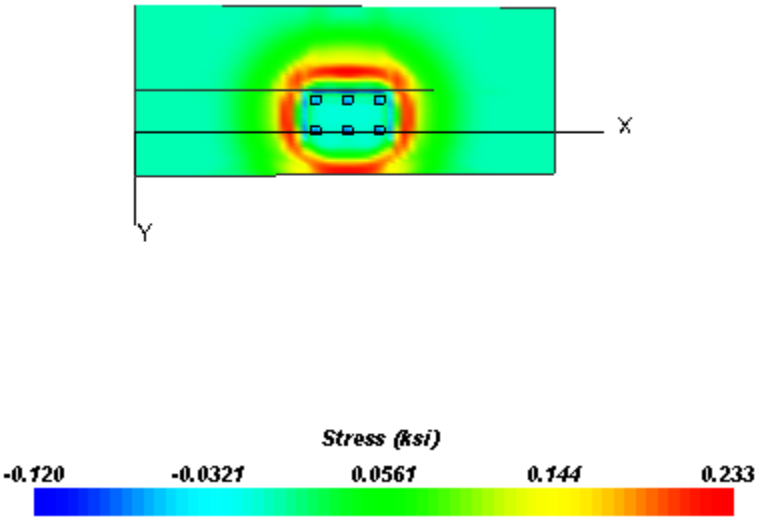

FIGURE I47. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 1)

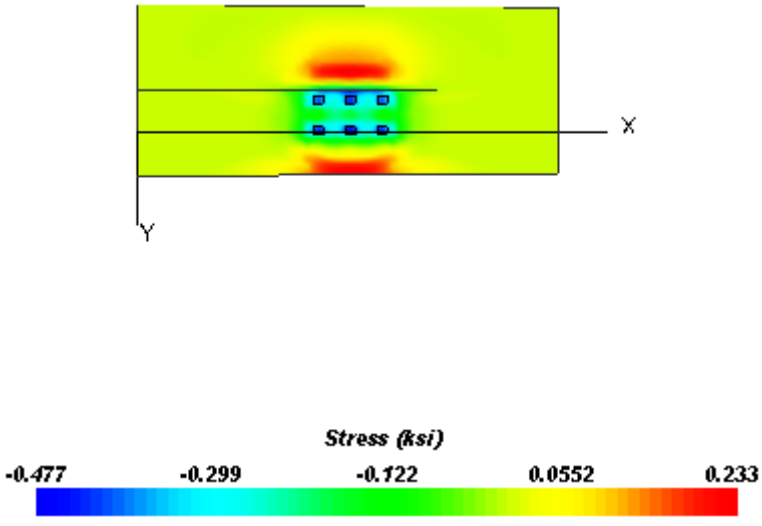

FIGURE I48. σ_{yy} STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 1)

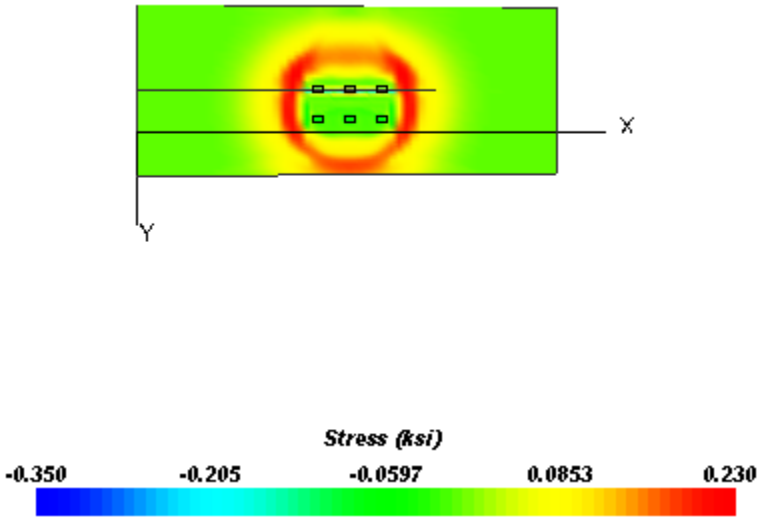

FIGURE I49. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -1)

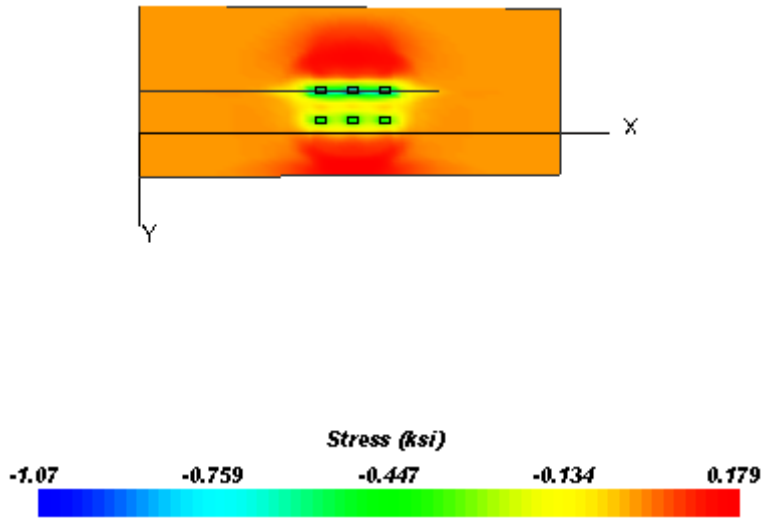

FIGURE I50. σ_{yy} STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -1)

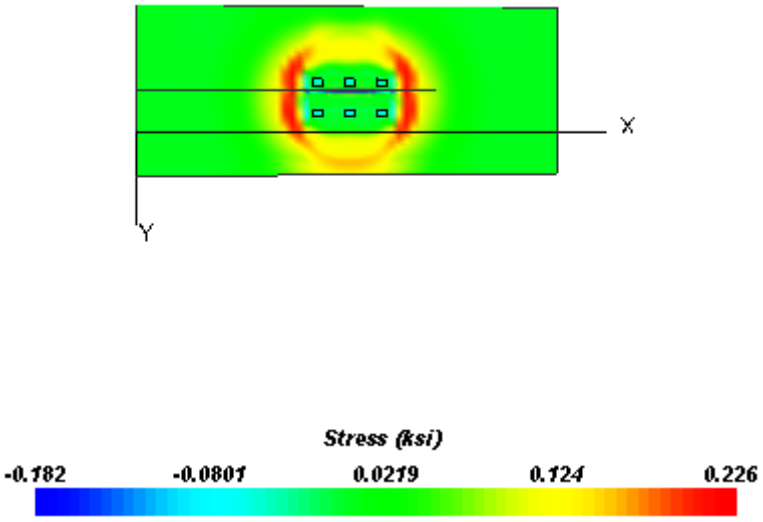

FIGURE I51. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -2)

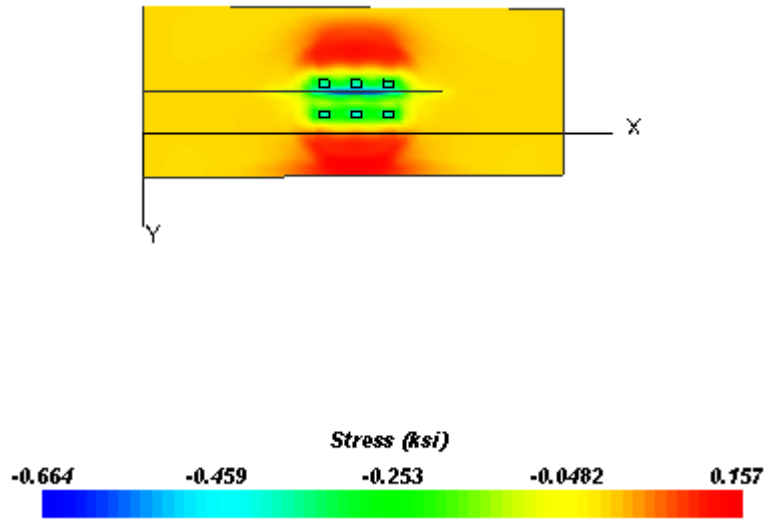

FIGURE I52. σ_{yy} STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -2)

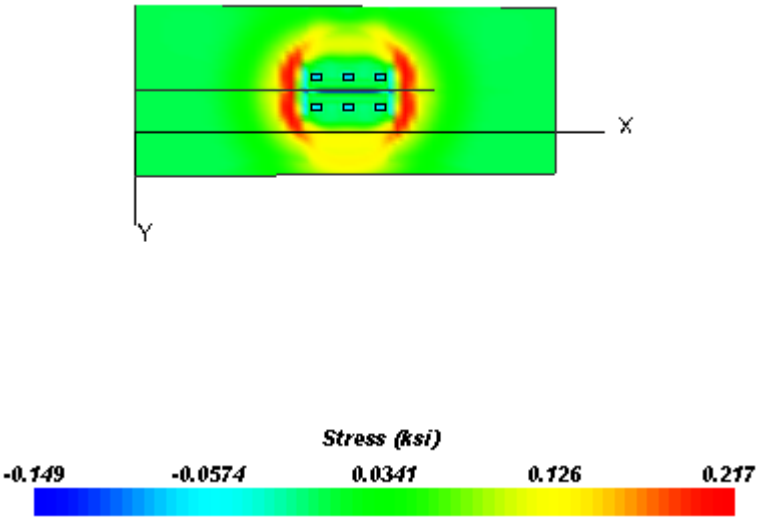

FIGURE I53. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -3)

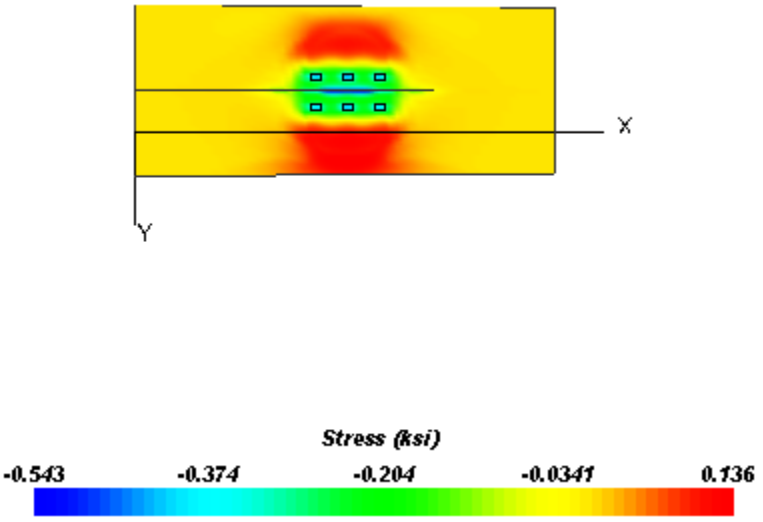

FIGURE I54. σ_{yy} STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -3)

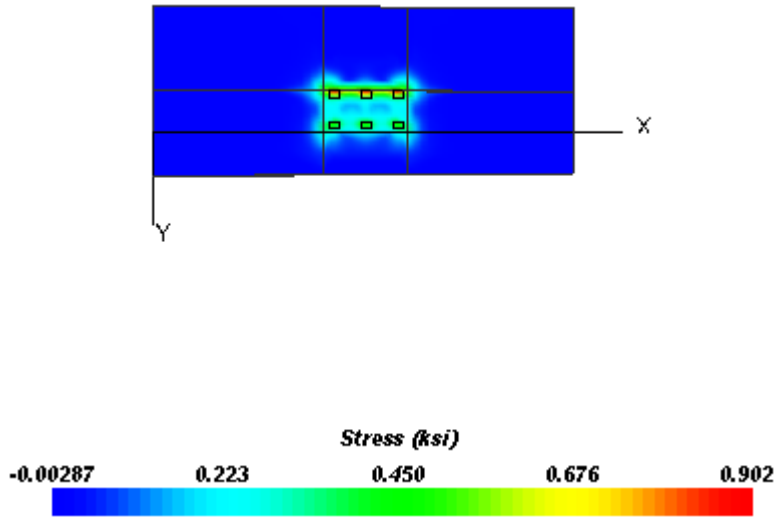

FIGURE I55. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 0)

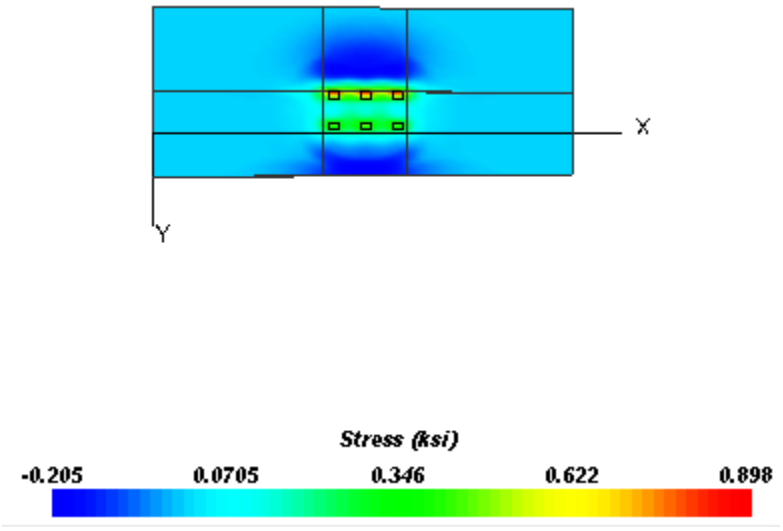

FIGURE I56. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 0)

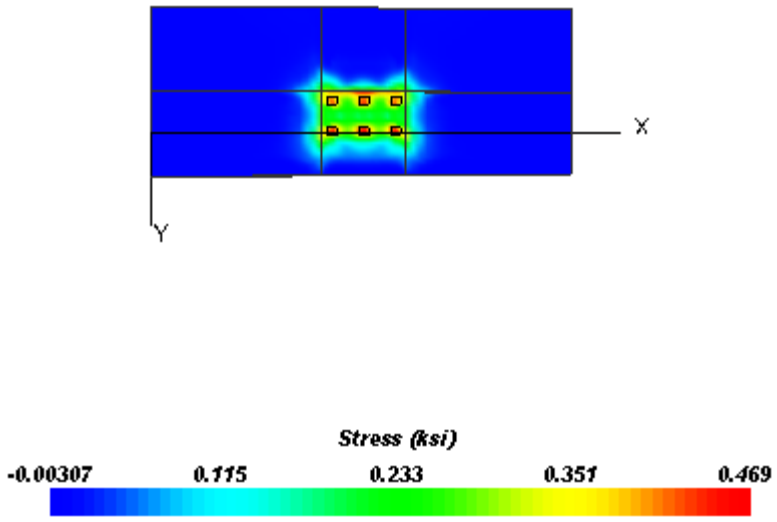

FIGURE I57. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 1)

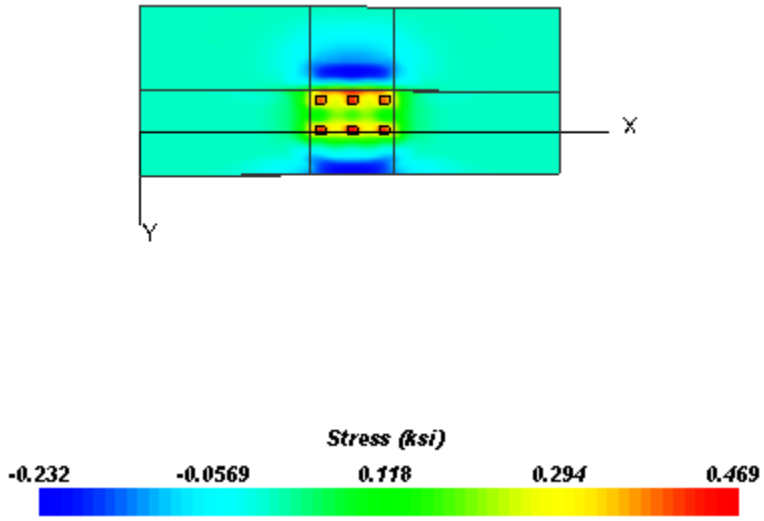

FIGURE I58. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK 1)

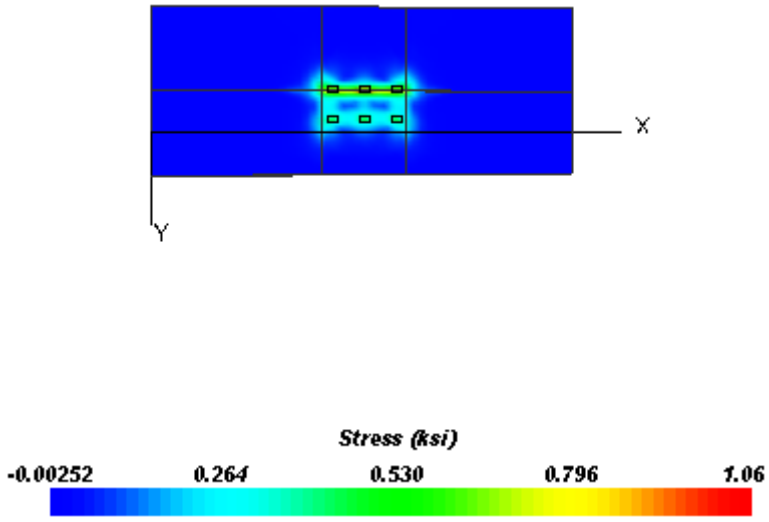

FIGURE I59. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -1)

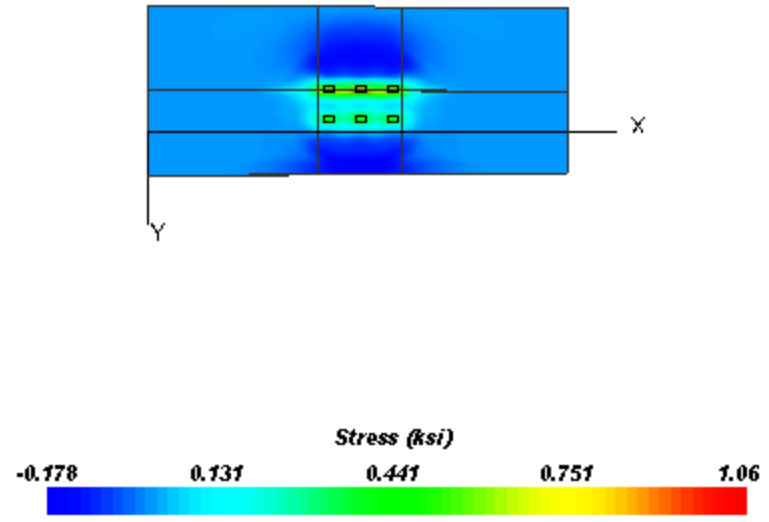

FIGURE I60. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -1)

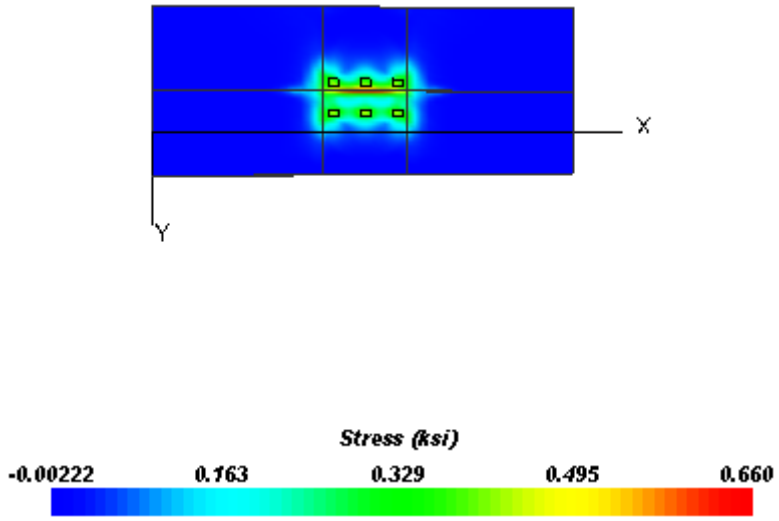

FIGURE I61. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -2)

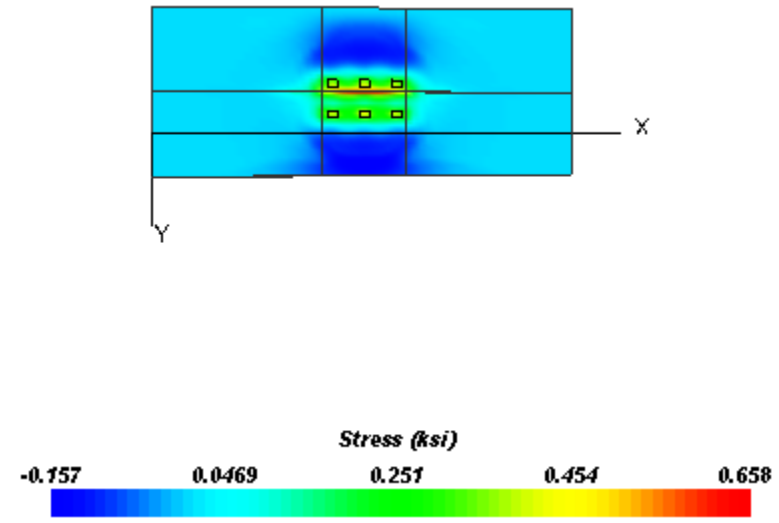

FIGURE I62. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -2)

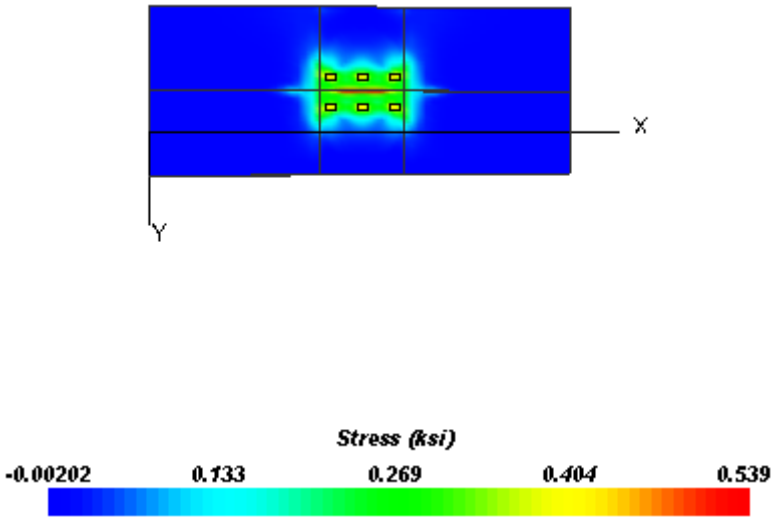

FIGURE I63. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -3)

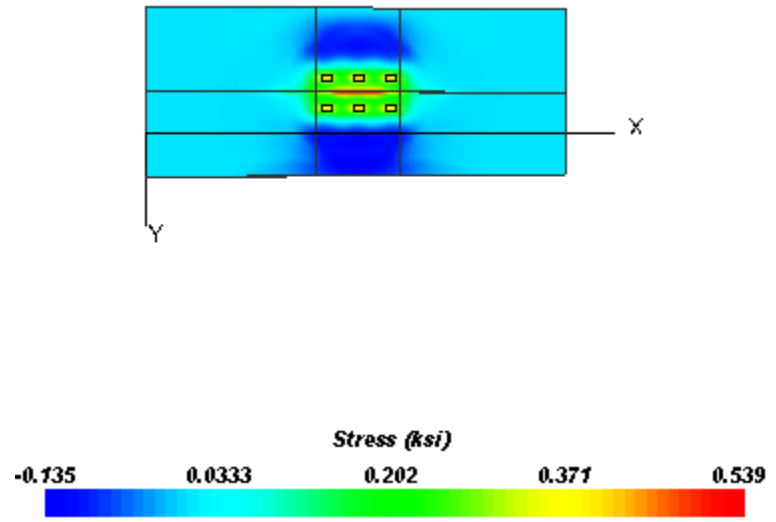

FIGURE I64. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR CENTER SLAB TRIPLE DUAL TANDEM LOADING CASE (TRACK -3)

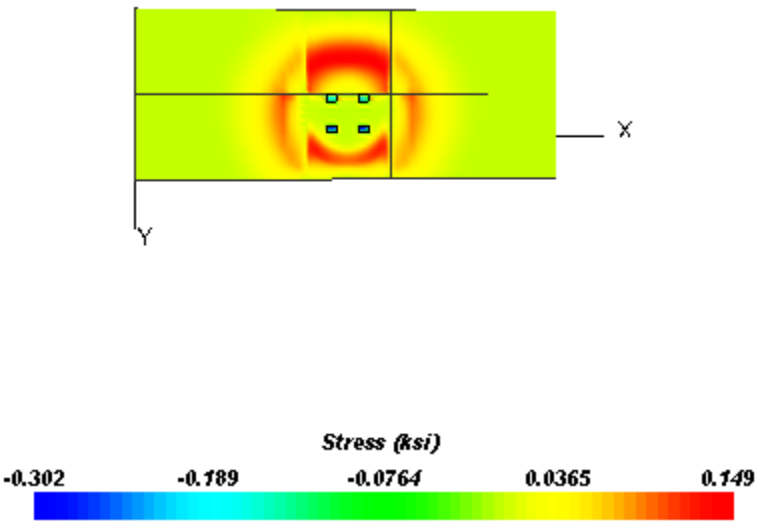

FIGURE I65. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF OVERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 0)

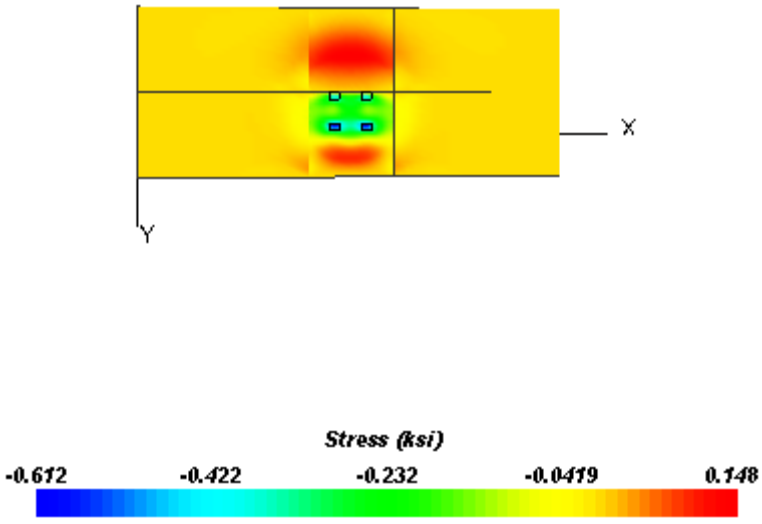

FIGURE I66. σ_{yy} STRESS DISTRIBUTION AT TOP OF OVERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 0)

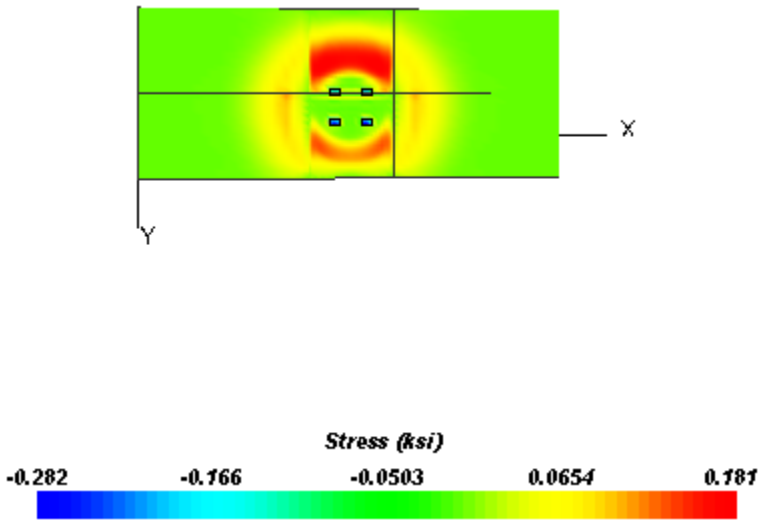

FIGURE I67. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF OVERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 1)

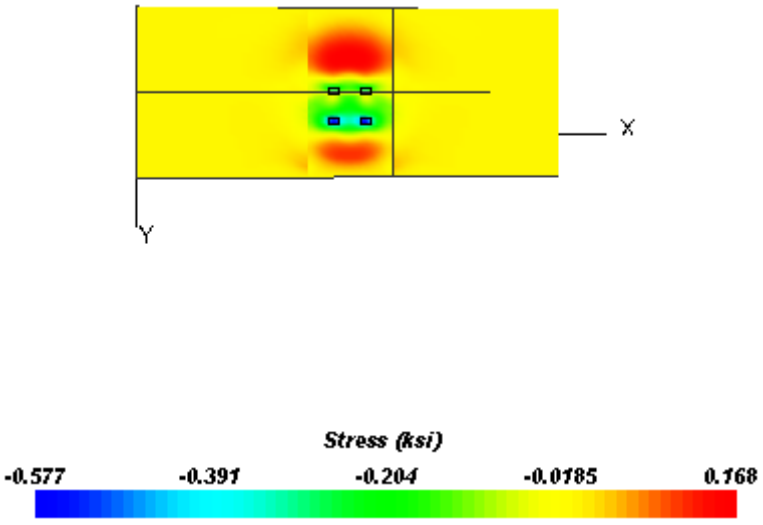

FIGURE I68. σ_{yy} STRESS DISTRIBUTION AT TOP OF OVERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 1)

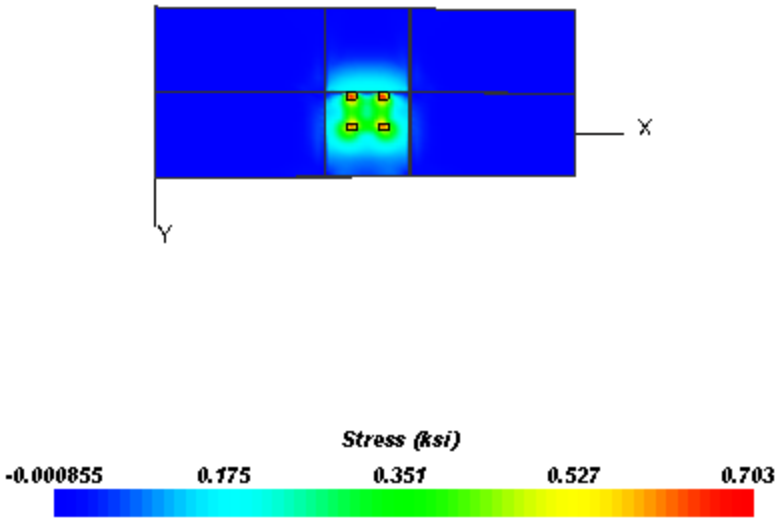

FIGURE I69. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 0)

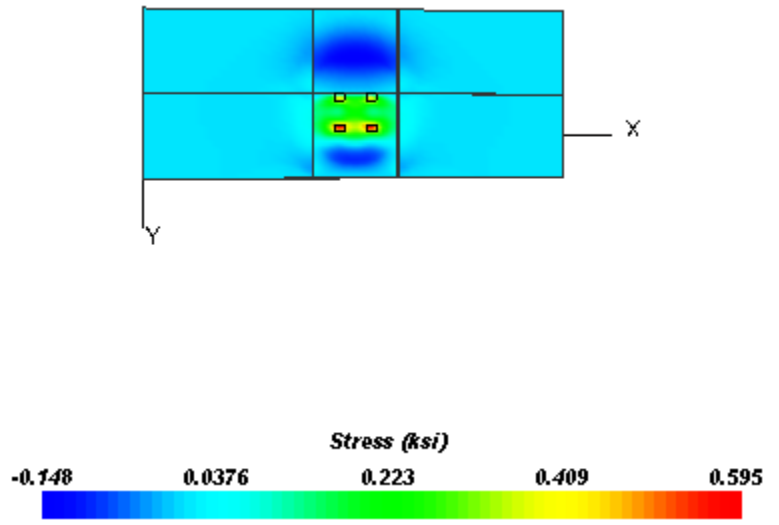

FIGURE I70. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 0)

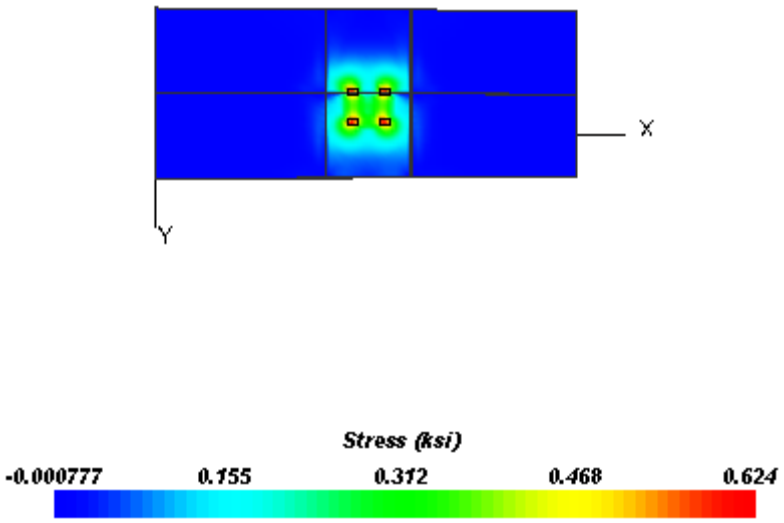

FIGURE I71. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 1)

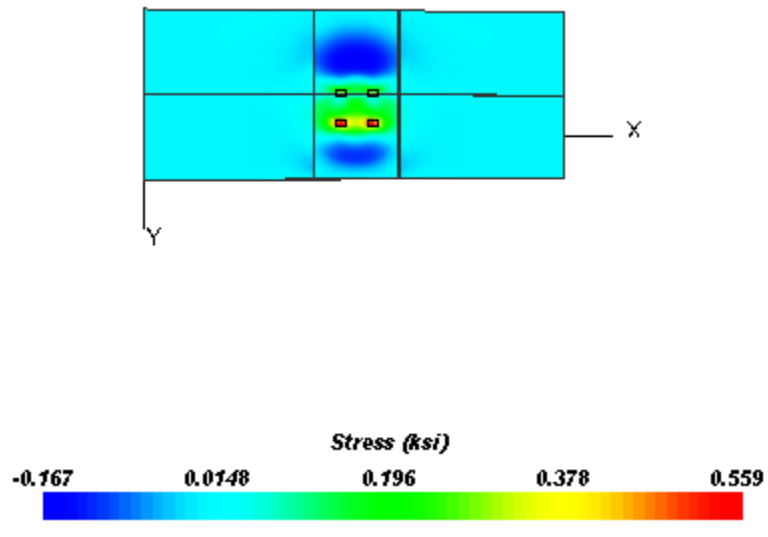

FIGURE I72. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 1)

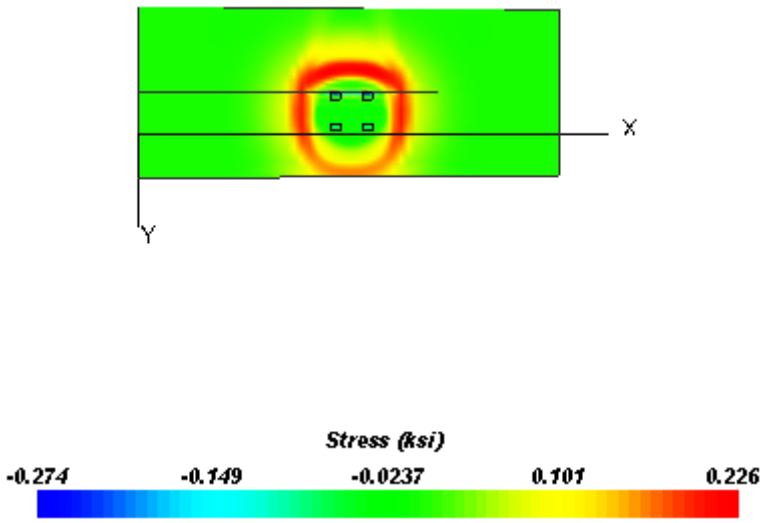

FIGURE I73. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 0)

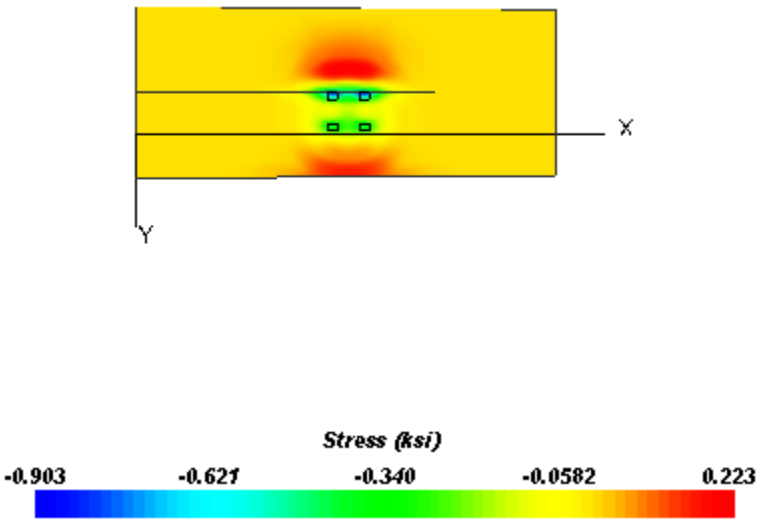

FIGURE I74. σ_{yy} STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 0)

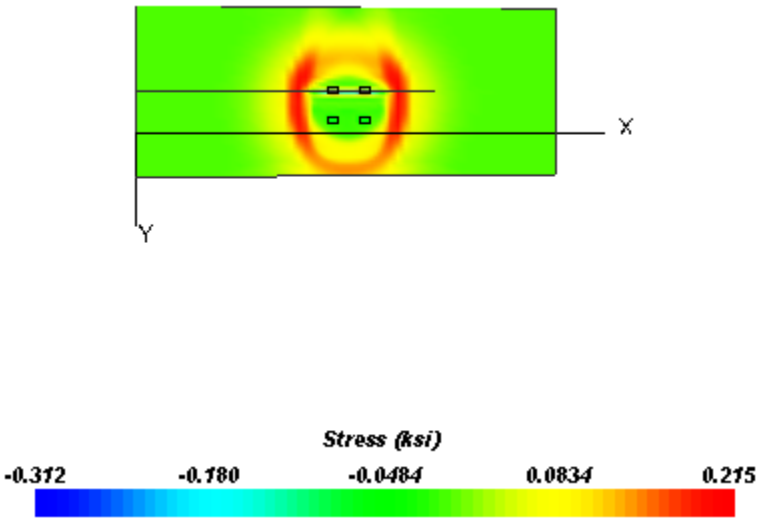

FIGURE I75. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 1)

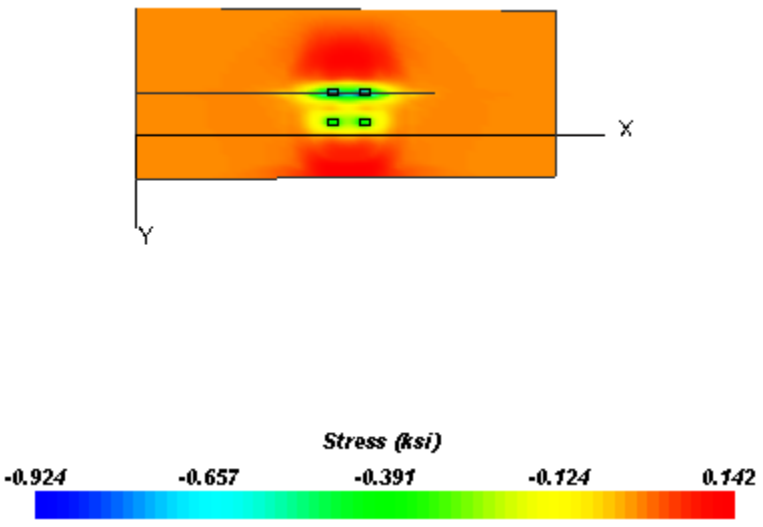

FIGURE I76. σ_{yy} STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 1)

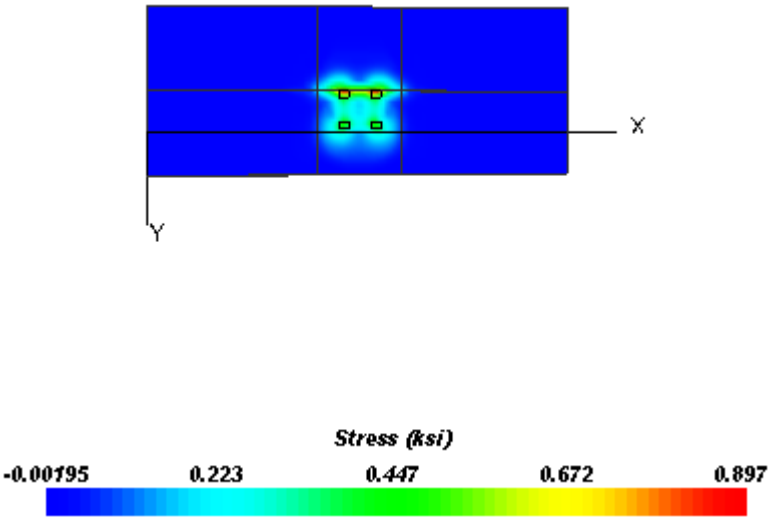

FIGURE I77. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 0)

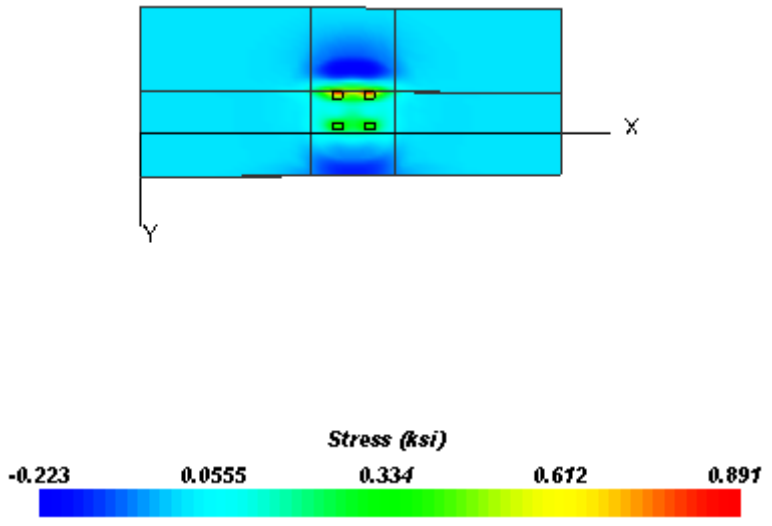

FIGURE I78. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 0)

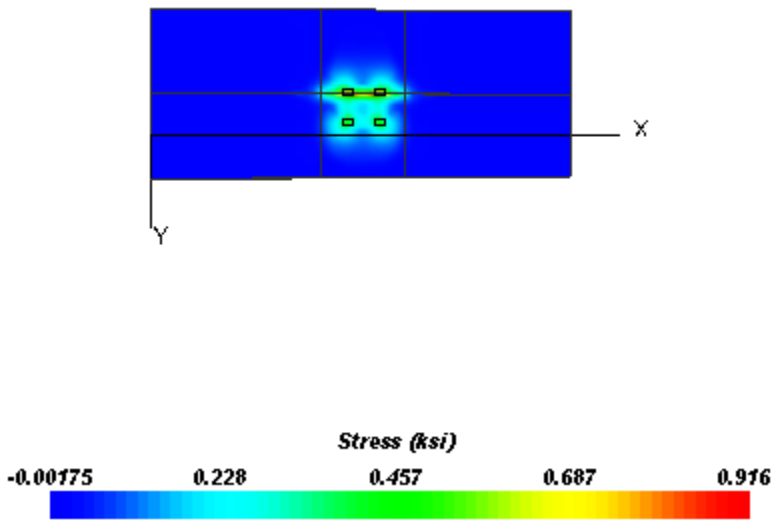

FIGURE I79. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 1)

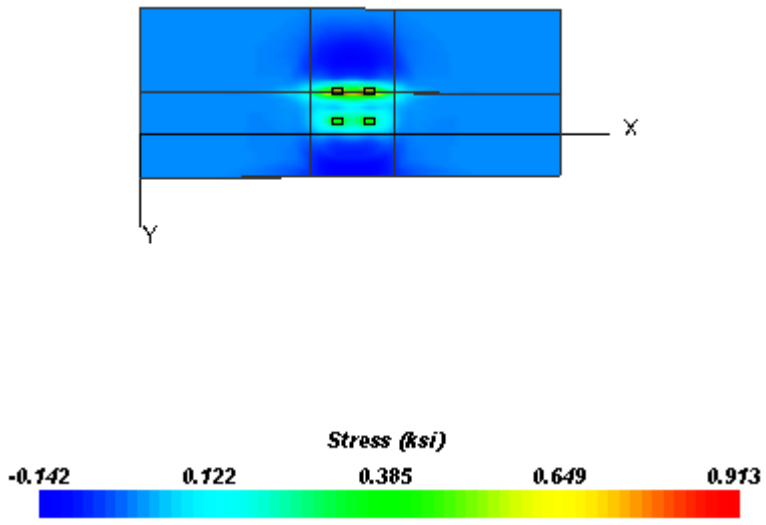

FIGURE I80. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR CENTER SLAB DUAL TANDEM LOADING CASE (TRACK 1)

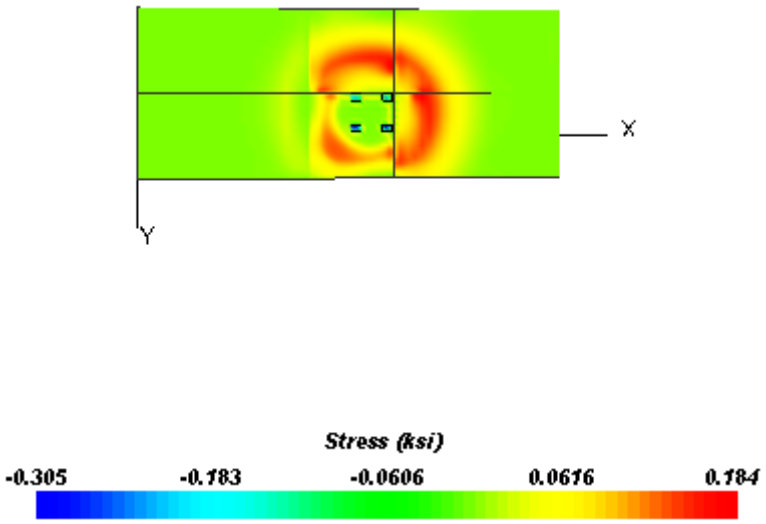

FIGURE I81. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF OVERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 0)

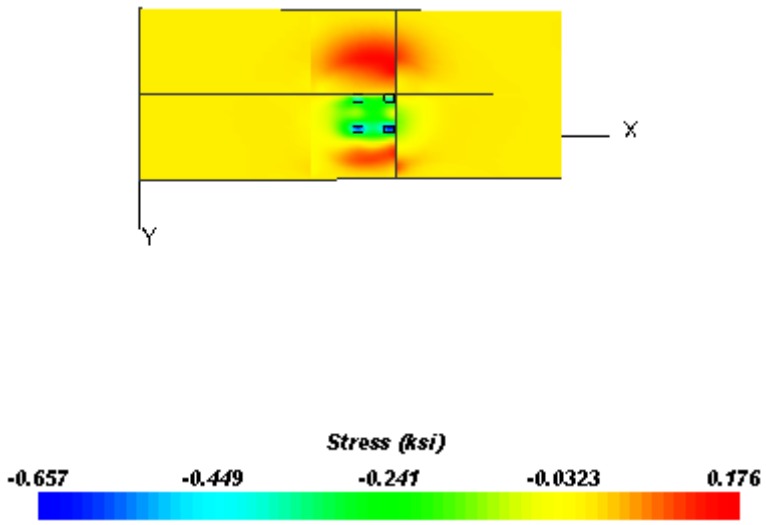

FIGURE I82. σ_{yy} STRESS DISTRIBUTION AT TOP OF OVERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 0)

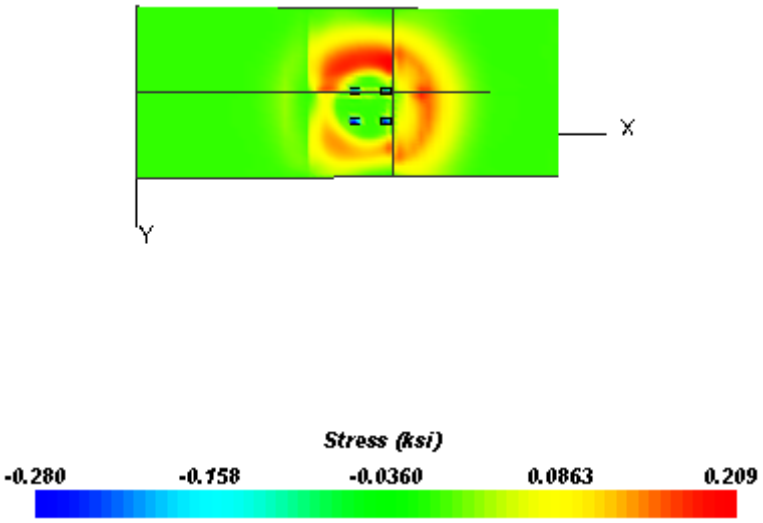

FIGURE I83. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF OVERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 1)

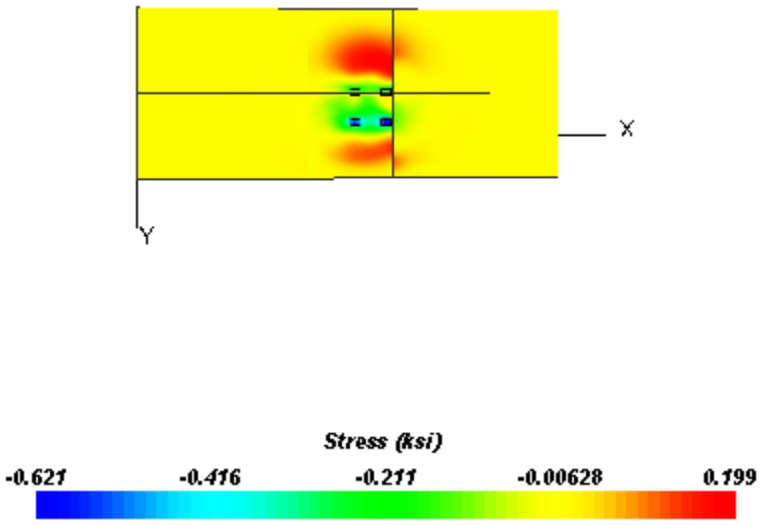

FIGURE I84. σ_{yy} STRESS DISTRIBUTION AT TOP OF OVERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 1)

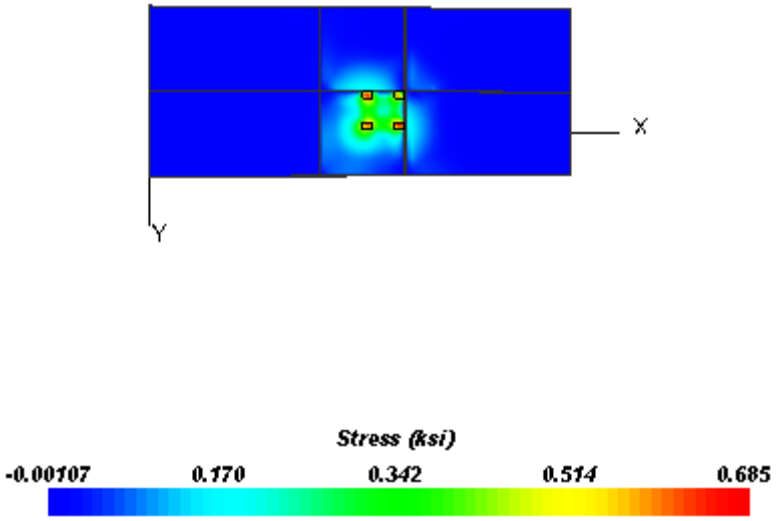

FIGURE I85. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 0)

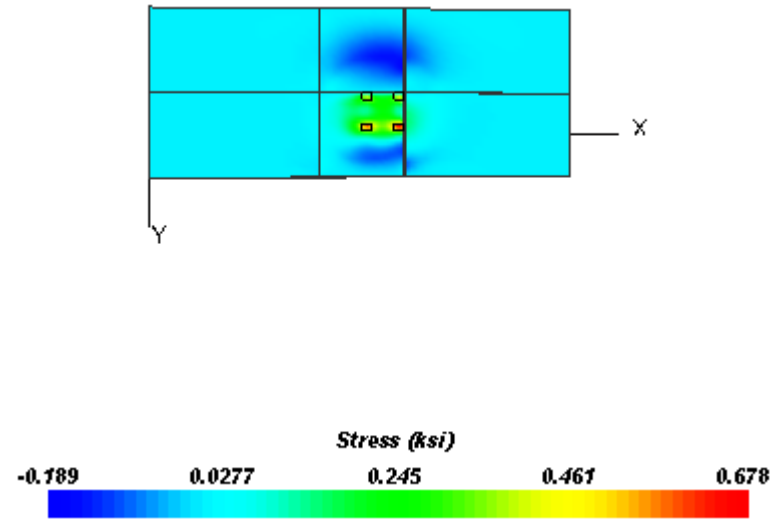

FIGURE I86. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 0)

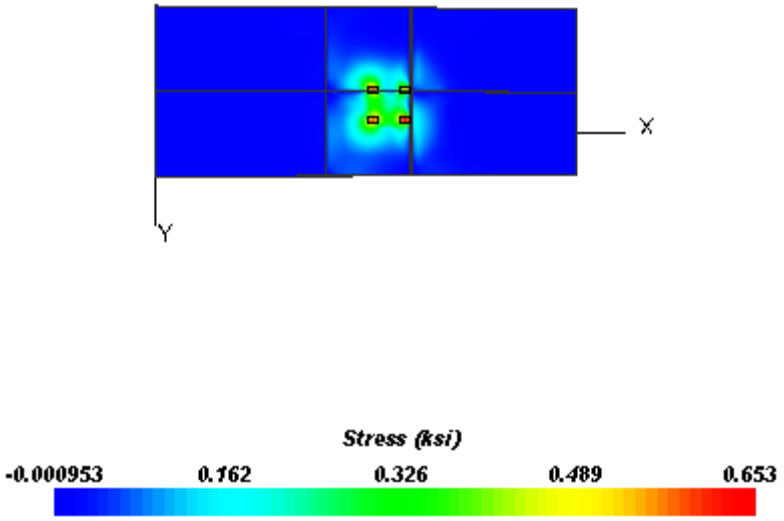

FIGURE I87. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 1)

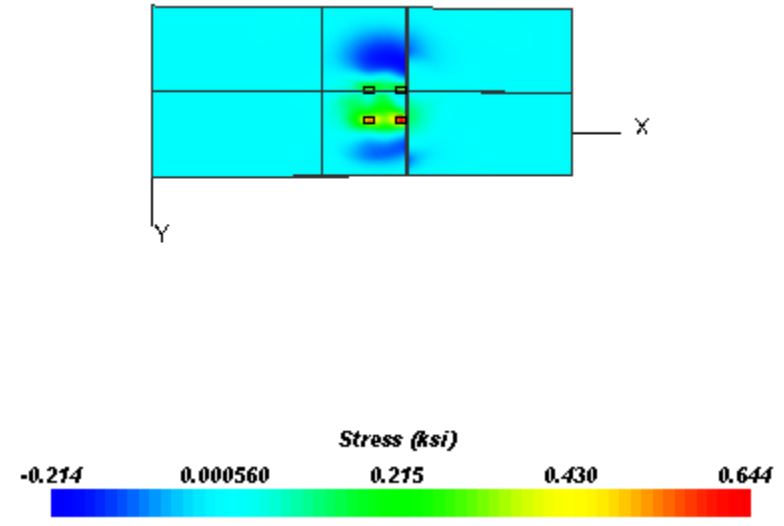

FIGURE I88. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF OVERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 1)

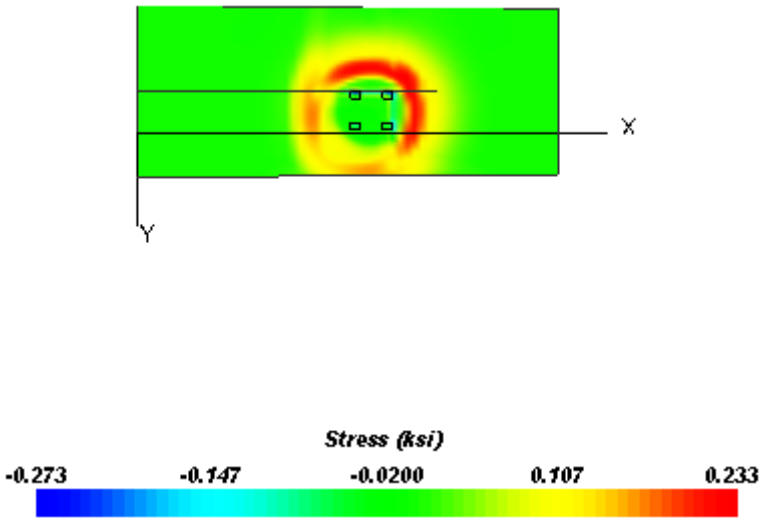

FIGURE I89. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 0)

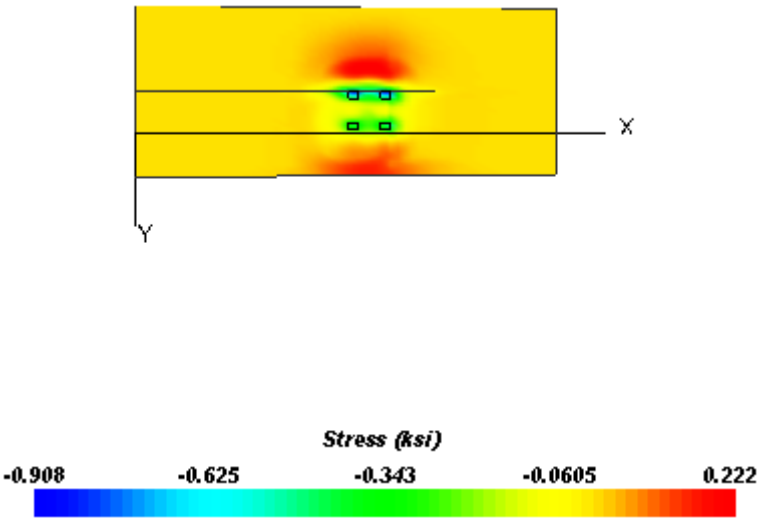

FIGURE I90. σ_{yy} STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 0)

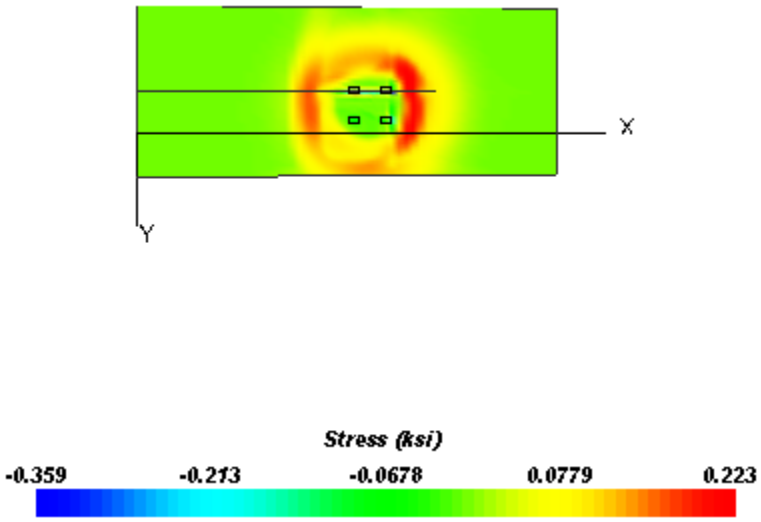

FIGURE I91. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 1)

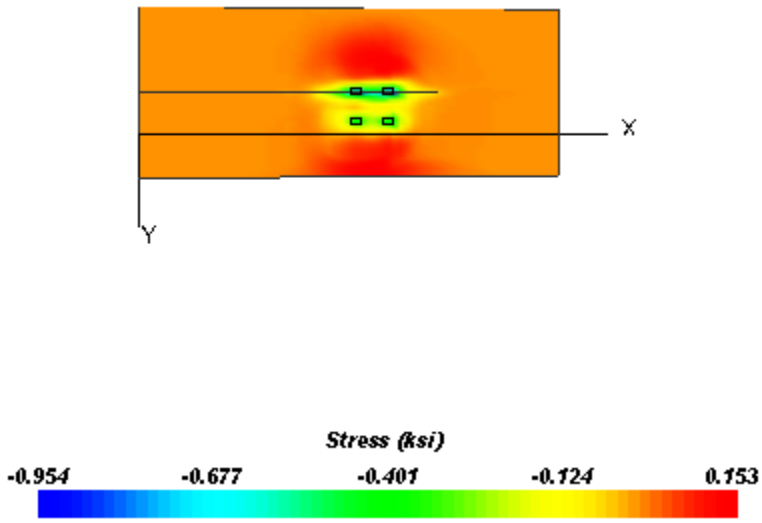

FIGURE I92. σ_{yy} STRESS DISTRIBUTION AT TOP OF UNDERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 1)

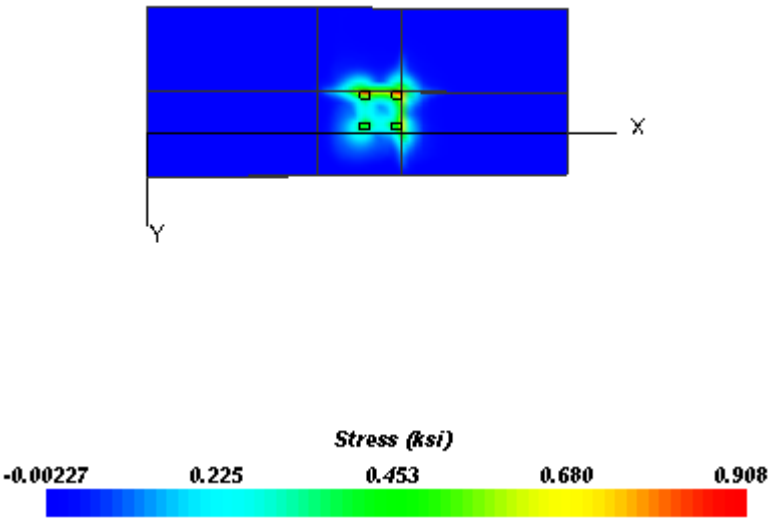

FIGURE I93. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 0)

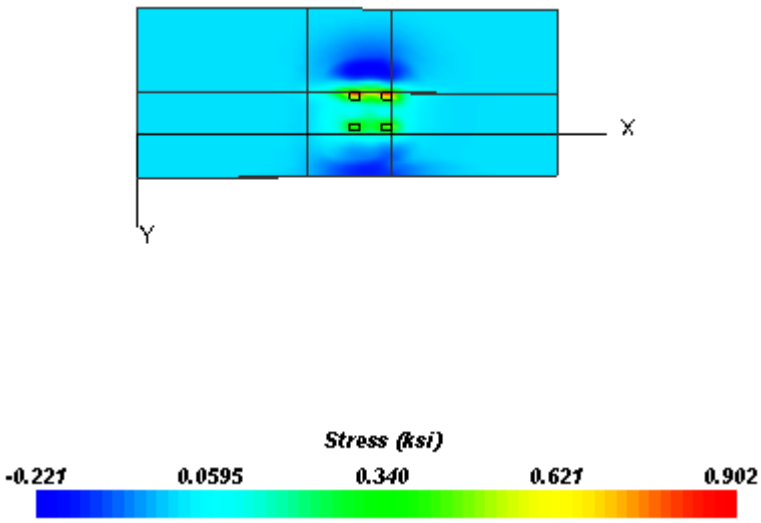

FIGURE I94. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 0)

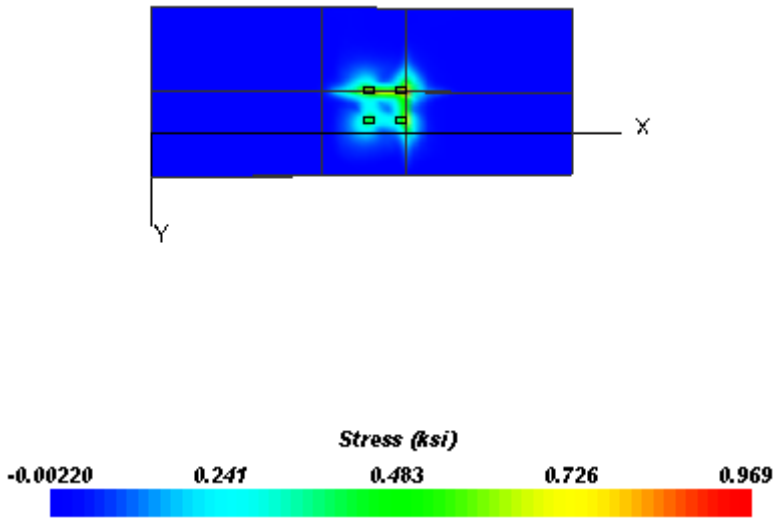

FIGURE I95. MAXIMUM PRINCIPAL STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 1)

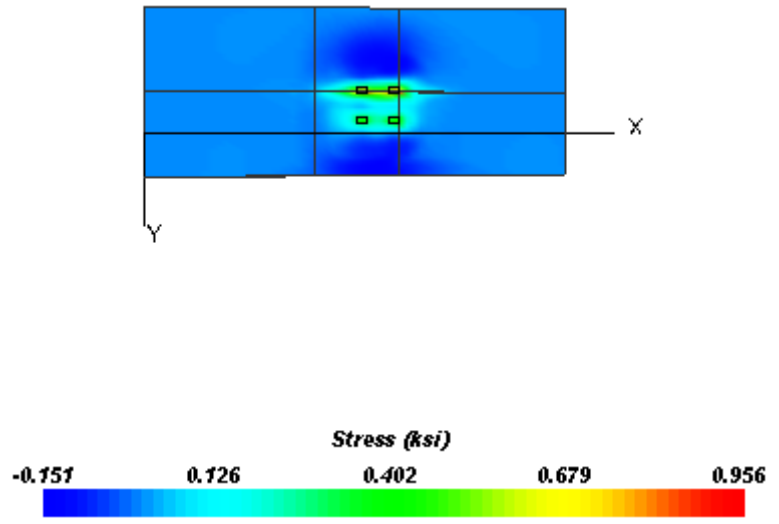

FIGURE I96. σ_{yy} STRESS DISTRIBUTION AT BOTTOM OF UNDERLAY FOR TRANSVERSE JOINT DUAL TANDEM LOADING CASE (TRACK 1)

APPENDIX J – MEASURED RESPONSES AND EverFE PREDICTIONS FOR GAGE LOCATIONS FOR EMBEDDED STRAIN GAGES

Appendix J contains tables for each test item. It shows measured peak strain responses for three loading tracks for each embedded strain gage. Location-specific EverFE predicted strain responses for the gage depth and orientation are also tabulated. Prediction errors as a function of the measured responses are provided.

FIGURE J1. COMPARISON OF MEASURED STRAINS TO EverFE PREDICTED STRAINS FOR TEST ITEM N1

Test Item	Gage	Edge/Joint	Track Number	Measured Strain, E-6	EverFE Strain, E-6	Prediction Error, %	Absolute Error, %	EverFE Coordinates x	y	z
N1	EG-O-N1-1 B	E	-3	34	59	75	75	320.102	-72.00	-0.4375
N1	EG-O-N1-1 B	E	-1	52	65	26	26	372.241	-72.00	-0.4375
N1	EG-O-N1-1 B	E	0	66	73	11	11	372.241	-72.00	-0.4375
N1	EG-O-N1-1 T	E	-3	-45	-48	6	6	320.102	-72.00	-7.250
N1	EG-O-N1-1 T	E	-1	-66	-61	-8	8	372.241	-72.00	-7.250
N1	EG-O-N1-1 T	E	0	-105	-85	-19	19	372.241	-72.00	-7.250
N1	EG-O-N1-2 B	E	-3	31	56	83	83	320.102	-73.56	-0.4375
N1	EG-O-N1-2 B	E	-1	46	59	30	30	372.241	-73.56	-0.4375
N1	EG-O-N1-2 B	E	0	50	59	18	18	372.241	-73.56	-0.4375
N1	EG-O-N1-2 T	E	-3	-35	-49	39	39	320.102	-73.56	-7.250
N1	EG-O-N1-2 T	E	-1	-64	-68	6	6	372.241	-73.56	-7.250
N1	EG-O-N1-2 T	E	0	-83	-89	7	7	372.241	-73.56	-7.250
N1	EG-O-N1-3 B	E	-3	318	56	-82	82	320.102	-77.04	-0.4375
N1	EG-O-N1-3 B	E	-1	439	66	-85	85	372.241	-77.04	-0.4375
N1	EG-O-N1-3 B	E	0	595	63	-89	89	372.241	-77.04	-0.4375
N1	EG-O-N1-3 T	E	-3	-39	-50	29	29	320.102	-77.04	-7.250
N1	EG-O-N1-3 T	E	-1	-80	-88	10	10	372.241	-77.04	-7.250
N1	EG-O-N1-3 T	E	0	-117	-41	-65	65	372.241	-77.04	-7.250
N1	EG-U-N1-1 B	E	-3	23	46	103	103	320.102	-75.00	6.592
N1	EG-U-N1-1 B	E	-1	28	67	144	144	372.241	-75.00	6.592
N1	EG-U-N1-1 B	E	0	28	64	125	125	372.241	-75.00	6.592
N1	EG-U-N1-1 T	E	-3	-34	-10	-71	71	320.102	-75.00	2.779
N1	EG-U-N1-1 T	E	-1	-41	-22	-45	45	372.241	-75.00	2.779
N1	EG-U-N1-1 T	E	0	-43	-17	-61	61	372.241	-75.00	2.779
N1	EG-U-N1-2 B	E	-3	19	46	142	142	320.102	-75.00	6.720
N1	EG-U-N1-2 B	E	-1	22	67	203	203	372.241	-75.00	6.720
N1	EG-U-N1-2 B	E	0	29	64	123	123	372.241	-75.00	6.720
N1	EG-U-N1-2 T	E	-3	-21	-8	-62	62	320.102	-75.00	2.908
N1	EG-U-N1-2 T	E	-1	-23	-19	-17	17	372.241	-75.00	2.908
N1	EG-U-N1-2 T	E	0	-30	-14	-53	53	372.241	-75.00	2.908
N1	EG-U-N1-3 B	J	-3	31	40	28	28	433.933	-75.00	6.732
N1	EG-U-N1-3 B	J	-1	52	55	6	6	433.933	-75.00	6.732
N1	EG-U-N1-3 B	J	0	45	63	40	40	433.933	-75.00	6.732
N1	EG-U-N1-3 T	J	-3	-43	-6	-85	85	433.933	-75.00	2.920
N1	EG-U-N1-3 T	J	-1	-67	-13	-81	81	433.933	-75.00	2.920
N1	EG-U-N1-3 T	J	0	-54	-13	-76	76	433.933	-75.00	2.920

FIGURE J2. COMPARISON OF MEASURED STRAINS TO EverFE PREDICTED STRAINS FOR TEST ITEM N2

Test Item	Gage	Edge/Joint	Track Number	Measured Strain, E-6	EverFE Strain, E-6	Prediction Error, %	Absolute Error, %	EverFE Coordinates x	y	z
N2	EG-O-N2-1 B	E	-3	28	45	63	63	375.500	-77.04	-0.4375
N2	EG-O-N2-1 B	E	-1	44	65	49	49	375.500	-77.04	-0.4375
N2	EG-O-N2-1 B	E	0	44	60	36	36	375.500	-77.04	-0.4375
N2	EG-O-N2-1 T	E	-3	-23	-32	38	38	375.500	-77.04	-5.750
N2	EG-O-N2-1 T	E	-1	-49	-73	48	48	375.500	-77.04	-5.750
N2	EG-O-N2-1 T	E	0	-70	-31	-56	56	375.500	-77.04	-5.750
N2	EG-O-N2-2 B	E	-3	12	43	259	259	375.500	-75.96	-0.4375
N2	EG-O-N2-2 B	E	-1	31	60	92	92	375.500	-75.96	-0.4375
N2	EG-O-N2-2 B	E	0	34	63	83	83	375.500	-75.96	-0.4375
N2	EG-O-N2-3T	E	-3	-22	-33	49	49	375.500	-75.96	-5.750
N2	EG-O-N2-3T	E	-1	-52	-76	45	45	375.500	-75.96	-5.750
N2	EG-O-N2-3T	E	0	-76	-31	-59	59	375.500	-75.96	-5.750
N2	EG-U-N2-1 B	E	-3	18	53	189	189	375.500	-75.00	8.448
N2	EG-U-N2-1 B	E	-1	26	84	229	229	375.500	-75.00	8.448
N2	EG-U-N2-1 B	E	0	28	78	179	179	375.500	-75.00	8.448
N2	EG-U-N2-1 T	E	-3	-33	-12	-64	64	375.500	-75.00	3.136
N2	EG-U-N2-1 T	E	-1	-38	-26	-33	33	375.500	-75.00	3.136
N2	EG-U-N2-1 T	E	0	-37	-21	-45	45	375.500	-75.00	3.136
N2	EG-U-N2-2 B	E	-3	38	53	38	38	375.500	-75.00	8.225
N2	EG-U-N2-2 B	E	-1	42	84	102	102	375.500	-75.00	8.225
N2	EG-U-N2-2 B	E	0	47	78	67	67	375.500	-75.00	8.225
N2	EG-U-N2-2 T	E	-3	-30	-15	-49	49	375.500	-75.00	2.912
N2	EG-U-N2-2 T	E	-1	-39	-32	-19	19	375.500	-75.00	2.912
N2	EG-U-N2-2 T	E	0	-39	-26	-34	34	375.500	-75.00	2.912
N2	EG-U-N2-3 B	E	-3	23	53	135	135	375.500	-75.00	8.212
N2	EG-U-N2-3 B	E	-1	28	84	203	203	375.500	-75.00	8.212
N2	EG-U-N2-3 B	E	0	28	78	179	179	375.500	-75.00	8.212
N2	EG-U-N2-3 T	E	-3	-38	-16	-59	59	375.500	-75.00	2.899
N2	EG-U-N2-3 T	E	-1	-50	-32	-36	36	375.500	-75.00	2.899
N2	EG-U-N2-3 T	E	0	-51	-26	-49	49	375.500	-75.00	2.899
N2	EG-U-N2-4 B	J	-3	9	52	458	458	382.995	-75.00	8.146
N2	EG-U-N2-4 B	J	-1	4	102	2597	2597	442.955	-75.00	8.146
N2	EG-U-N2-4 B	J	0	9	77	778	778	382.995	-75.00	8.146
N2	EG-U-N2-4 T	J	-3	-40	-17	-59	59	382.995	-75.00	2.834
N2	EG-U-N2-4 T	J	-1	-50	-34	-32	32	442.955	-75.00	2.834
N2	EG-U-N2-4 T	J	0	-43	-27	-37	37	382.995	-75.00	2.834

FIGURE J3. COMPARISON OF MEASURED STRAINS TO EverFE PREDICTED STRAINS FOR TEST ITEM N3

Test Item	Gage	Edge/Joint	Track Number	Measured Strain, E-6	EverFE Strain, E-6	Prediction Error, %	Absolute Error, %	EverFE Coordinates x	y	z
N3	EG-O-N3-1B	E	-3	17	31	79	79	375.500	-77.04	-0.4375
N3	EG-O-N3-1B	E	-1	61	39	-36	36	375.500	-77.04	-0.4375
N3	EG-O-N3-1B	E	0	57	40	-30	30	375.500	-77.04	-0.4375
N3	EG-O-N3-1T	E	-3	-16	-19	21	21	375.500	-77.04	-4.250
N3	EG-O-N3-1T	E	-1	-60	-49	-18	18	375.500	-77.04	-4.250
N3	EG-O-N3-1T	E	0	-79	-21	-73	73	375.500	-77.04	-4.250
N3	EG-O-N3-2B	E	-3	20	29	46	46	375.500	-75.96	-0.4375
N3	EG-O-N3-2B	E	-1	116	34	-71	71	375.500	-75.96	-0.4375
N3	EG-O-N3-2B	E	0	164	42	-74	74	375.500	-75.96	-0.4375
N3	EG-O-N3-2T	E	-3	-23	-20	-14	14	375.500	-75.96	-4.250
N3	EG-O-N3-2T	E	-1	-64	-51	-21	21	375.500	-75.96	-4.250
N3	EG-O-N3-2T	E	0	-90	-22	-76	76	375.500	-75.96	-4.250
N3	EG-O-N3-3B	E	-3	21	32	57	57	375.500	-78.00	-0.4375
N3	EG-O-N3-3B	E	-1	127	42	-67	67	375.500	-78.00	-0.4375
N3	EG-O-N3-3B	E	0	144	38	-74	74	375.500	-78.00	-0.4375
N3	EG-U-N3-1 B	E	-3	18	63	256	256	375.500	-75.00	9.871
N3	EG-U-N3-1 B	E	-1	18	90	390	390	375.500	-75.00	9.871
N3	EG-U-N3-1 B	E	0	20	82	299	299	375.500	-75.00	9.871
N3	EG-U-N3-1 T	E	-3	-34	-38	11	11	375.500	-75.00	2.059
N3	EG-U-N3-1 T	E	-1	-38	-66	73	73	375.500	-75.00	2.059
N3	EG-U-N3-1 T	E	0	-38	-56	48	48	375.500	-75.00	2.059
N3	EG-U-N3-2 B	E	-3	24	62	165	165	375.500	-75.00	10.453
N3	EG-U-N3-2 B	E	-1	27	90	235	235	375.500	-75.00	10.453
N3	EG-U-N3-2 B	E	0	30	82	170	170	375.500	-75.00	10.453
N3	EG-U-N3-2 T	E	-3	-51	-31	-40	40	375.500	-75.00	2.640
N3	EG-U-N3-2 T	E	-1	-55	-54	-2	2	375.500	-75.00	2.640
N3	EG-U-N3-2 T	E	0	-62	-46	-26	26	375.500	-75.00	2.640
N3	EG-U-N3-3 B	J	-3	10	61	522	522	381.265	-75.00	10.513
N3	EG-U-N3-3 B	J	-1	11	86	691	691	381.265	-75.00	10.513
N3	EG-U-N3-3 B	J	0	9	78	740	740	381.265	-75.00	10.513
N3	EG-U-N3-3 T	J	-3	-49	-29	-40	40	381.265	-75.00	2.700
N3	EG-U-N3-3 T	J	-1	-63	-51	-20	20	381.265	-75.00	2.700
N3	EG-U-N3-3 T	J	0	-47	-43	-8	8	381.265	-75.00	2.700

FIGURE J4. COMPARISON OF MEASURED STRAINS TO EverFE PREDICTED STRAINS FOR TEST ITEM S1

Test Item	Gage	Edge/Joint	Track Number	Measured Strain, E-6	EverFE Strain, E-6	Prediction Error, %	Absolute Error, %	EverFE Coordinates x	y	z
S1	EG-O-S1-1 B	E	0	39	38	-2	2	346.172	-75.96	-0.4375
S1	EG-O-S1-1 B	E	1	44	90	105	105	404.828	-75.96	-0.4375
S1	EG-O-S1-1 B	E	3	28	73	157	157	346.172	-75.96	-0.4375
S1	EG-O-S1-2 B	E	0	81	38	-53	53	346.172	-77.04	-0.4375
S1	EG-O-S1-2 B	E	1	71	97	37	37	404.828	-77.04	-0.4375
S1	EG-O-S1-2 B	E	3	38	76	98	98	346.172	-77.04	-0.4375
S1	EG-O-S1-2 T	E	0	-60	-28	-53	53	346.172	-77.04	-7.250
S1	EG-O-S1-2 T	E	1	-56	-107	91	91	404.828	-77.04	-7.250
S1	EG-O-S1-2 T	E	3	-30	-62	103	103	346.172	-77.04	-7.250
S1	EG-O-S1-3 B	E	0	40	38	-3	3	346.172	-75.96	-0.4375
S1	EG-O-S1-3 B	E	1	33	90	169	169	404.828	-75.96	-0.4375
S1	EG-O-S1-3 B	E	3	21	73	241	241	346.172	-75.96	-0.4375
S1	EG-O-S1-3 T	E	0	-81	-28	-65	65	346.172	-75.96	-7.250
S1	EG-O-S1-3 T	E	1	-60	-110	83	83	404.828	-75.96	-7.250
S1	EG-O-S1-3 T	E	3	-36	-62	73	73	346.172	-75.96	-7.250
S1	EG-U-S1-1 B	E	0	45	64	42	42	346.172	-75.00	7.447
S1	EG-U-S1-1 B	E	1	43	63	45	45	404.828	-75.00	7.447
S1	EG-U-S1-1 B	E	3	34	64	86	86	346.172	-75.00	7.447
S1	EG-U-S1-1 T	E	0	-47	7	-116	116	346.172	-75.00	3.635
S1	EG-U-S1-1 T	E	1	-52	4	-108	108	404.828	-75.00	3.635
S1	EG-U-S1-1 T	E	3	-41	6	-114	114	346.172	-75.00	3.635
S1	EG-U-S1-2 B	E	0	21	102	389	389	346.172	-75.00	7.196
S1	EG-U-S1-2 B	E	1	20	91	346	346	404.828	-75.00	7.196
S1	EG-U-S1-2 B	E	3	16	64	301	301	346.172	-75.00	7.196
S1	EG-U-S1-3 B	J	0	63	127	103	103	443.933	-75.00	7.062
S1	EG-U-S1-3 B	J	1	63	128	104	104	443.933	-75.00	7.062
S1	EG-U-S1-3 B	J	3	52	89	71	71	443.933	-75.00	7.062
S1	EG-U-S1-3 T	J	0	-73	-5	-92	92	443.933	-75.00	3.250
S1	EG-U-S1-3 T	J	1	-76	-5	-93	93	443.933	-75.00	3.250
S1	EG-U-S1-3 T	J	3	-59	1	-102	102	443.933	-75.00	3.250

FIGURE J5. COMPARISON OF MEASURED STRAINS TO EverFE PREDICTED STRAINS FOR TEST ITEM S2

Test Item	Gage	Edge/Joint	Track Number	Measured Strain, E-6	EverFE Strain, E-6	Prediction Error, %	Absolute Error, %	EverFE Coordinates x	y	z
S2	EG-O-S2-1B	E	0	16	82	400	400	345.520	-75.00	-0.4375
S2	EG-O-S2-1B	E	1	24	75	213	213	405.480	-75.00	-0.4375
S2	EG-O-S2-1B	E	3	10	61	486	486	345.520	-75.00	-0.4375
S2	EG-O-S2-1T	E	0	-46	-42	-9	9	345.520	-75.00	-5.750
S2	EG-O-S2-1T	E	1	-37	-89	138	138	405.480	-75.00	-5.750
S2	EG-O-S2-1T	E	3	-23	-44	91	91	345.520	-75.00	-5.750
S2	EG-O-S2-2B	E	0	66	75	14	14	345.520	-74.04	-0.4375
S2	EG-O-S2-2B	E	1	60	78	30	30	405.480	-74.04	-0.4375
S2	EG-O-S2-2B	E	3	33	62	87	87	345.520	-74.04	-0.4375
S2	EG-O-S2-2T	E	0	-54	-83	53	53	345.520	-74.04	-5.750
S2	EG-O-S2-2T	E	1	-51	-69	34	34	405.480	-74.04	-5.750
S2	EG-O-S2-2T	E	3	-24	-43	76	76	345.520	-74.04	-5.750
S2	EG-O-S2-3B	E	0	56	75	35	35	345.520	-77.04	-0.4375
S2	EG-O-S2-3B	E	1	58	83	44	44	405.480	-77.04	-0.4375
S2	EG-O-S2-3B	E	3	25	65	158	158	345.520	-77.04	-0.4375
S2	EG-O-S2-3T	E	0	-65	-42	-36	36	345.520	-77.04	-5.750
S2	EG-O-S2-3T	E	1	-53	-84	59	59	405.480	-77.04	-5.750
S2	EG-O-S2-3T	E	3	-21	-44	108	108	345.520	-77.04	-5.750
S2	EG-U-S2-1 B	E	0	46	102	119	119	345.520	-75.00	8.279
S2	EG-U-S2-1 B	E	1	48	106	122	122	405.480	-75.00	8.279
S2	EG-U-S2-1 B	E	3	38	77	104	104	345.520	-75.00	8.279
S2	EG-U-S2-1 T	E	0	-62	-30	-51	51	345.520	-75.00	2.966
S2	EG-U-S2-1 T	E	1	-63	-36	-43	43	405.480	-75.00	2.966
S2	EG-U-S2-1 T	E	3	-49	-21	-58	58	345.520	-75.00	2.966
S2	EG-U-S2-2 B	E	0	62	102	63	63	345.520	-75.00	8.109
S2	EG-U-S2-2 B	E	1	59	106	80	80	405.480	-75.00	8.109
S2	EG-U-S2-2 B	E	3	48	77	60	60	345.520	-75.00	8.109
S2	EG-U-S2-2 T	E	0	-67	-35	-47	47	345.520	-75.00	2.796
S2	EG-U-S2-2 T	E	1	-63	-41	-35	35	405.480	-75.00	2.796
S2	EG-U-S2-2 T	E	3	-48	-24	-50	50	345.520	-75.00	2.796
S2	EG-U-S2-3 B	E	0	37	102	176	176	345.520	-75.00	8.654
S2	EG-U-S2-3 B	E	1	34	106	215	215	405.480	-75.00	8.654
S2	EG-U-S2-3 B	E	3	28	77	175	175	345.520	-75.00	8.654
S2	EG-U-S2-3 T	E	0	-53	-20	-62	62	345.520	-75.00	3.341
S2	EG-U-S2-3 T	E	1	-50	-25	-51	51	405.480	-75.00	3.341
S2	EG-U-S2-3 T	E	3	-44	-13	-71	71	345.520	-75.00	3.341

								EverFE Coordinates		
S2	EG-U-S2-4 B	J	0	35	31	-13	13	422.955	-75.00	8.643
S2	EG-U-S2-4 B	J	1	35	33	-6	6	422.955	-75.00	8.643
S2	EG-U-S2-4 B	J	3	30	80	168	168	422.955	-75.00	8.643
S2	EG-U-S2-4 T	J	0	-59	-8	-87	87	422.955	-75.00	3.330
S2	EG-U-S2-4 T	J	1	-58	-9	-84	84	422.955	-75.00	3.330
S2	EG-U-S2-4 T	J	3	-44	-11	-75	75	422.955	-75.00	3.330

FIGURE J6. COMPARISON OF MEASURED STRAINS TO EverFE PREDICTED STRAINS FOR TEST ITEM S3

Test Item	Gage	Edge/Joint	Track Number	Measured Strain, E-6	EverFE Strain, E-6	Prediction Error, %	Absolute Error, %	EverFE Coordinates		
								x	y	z
S3	EG-O-S3-1B	E	0	70	45	-36	36	398.562	-75.00	-0.4375
S3	EG-O-S3-1B	E	1	46	42	-9	9	404.327	-75.00	-0.4375
S3	EG-O-S3-1B	E	3	19	39	109	109	346.673	-75.00	-0.4375
S3	EG-O-S3-2B	E	0	80	44	-45	45	398.562	-75.96	-0.4375
S3	EG-O-S3-2B	E	1	51	45	-11	11	404.327	-75.96	-0.4375
S3	EG-O-S3-2B	E	3	14	40	183	183	346.673	-75.96	-0.4375
S3	EG-O-S3-2T	E	0	-58	-26	-54	54	398.562	-75.96	-4.250
S3	EG-O-S3-2T	E	1	-46	-55	18	18	404.327	-75.96	-4.250
S3	EG-O-S3-2T	E	3	-17	-24	37	37	346.673	-75.96	-4.250
S3	EG-O-S3-3B	E	0	56	44	-22	22	398.562	-77.04	-0.4375
S3	EG-O-S3-3B	E	1	73	49	-33	33	404.327	-77.04	-0.4375
S3	EG-O-S3-3B	E	3	15	41	180	180	346.673	-77.04	-0.4375
S3	EG-O-S3-3T	E	0	-88	-26	-71	71	398.562	-77.04	-4.250
S3	EG-O-S3-3T	E	1	-68	-53	-22	22	404.327	-77.04	-4.250
S3	EG-O-S3-3T	E	3	-28	-24	-16	16	346.673	-77.04	-4.250
S3	EG-U-S3-1 B	E	0	45	92	105	105	398.562	-75.00	10.235
S3	EG-U-S3-1 B	E	1	45	107	137	137	404.327	-75.00	10.235
S3	EG-U-S3-1 B	E	3	36	81	123	123	346.673	-75.00	10.235
S3	EG-U-S3-1 T	E	0	-76	-55	-28	28	398.562	-75.00	2.422
S3	EG-U-S3-1 T	E	1	-79	-67	-16	16	404.327	-75.00	2.422
S3	EG-U-S3-1 T	E	3	-65	-43	-34	34	346.673	-75.00	2.422
S3	EG-U-S3-2 B	E	0	31	92	201	201	398.562	-75.00	11.175
S3	EG-U-S3-2 B	E	1	32	107	236	236	404.327	-75.00	11.175
S3	EG-U-S3-2 B	E	3	29	81	178	178	346.673	-75.00	11.175
S3	EG-U-S3-2 T	E	0	-56	-36	-36	36	398.562	-75.00	3.362
S3	EG-U-S3-2 T	E	1	-58	-45	-23	23	404.327	-75.00	3.362
S3	EG-U-S3-2 T	E	3	-55	-27	-51	51	346.673	-75.00	3.362
S3	EG-U-S3-3 B	J	0	33	95	186	186	438.919	-75.00	11.263
S3	EG-U-S3-3 B	J	1	32	104	227	227	444.685	-75.00	11.263
S3	EG-U-S3-3 B	J	3	29	80	174	174	438.919	-75.00	11.263
S3	EG-U-S3-3 T	J	0	-50	-34	-31	31	438.919	-75.00	3.450
S3	EG-U-S3-3 T	J	1	-46	-41	-10	10	444.685	-75.00	3.450
S3	EG-U-S3-3 T	J	3	-44	-24	-45	45	438.919	-75.00	3.450