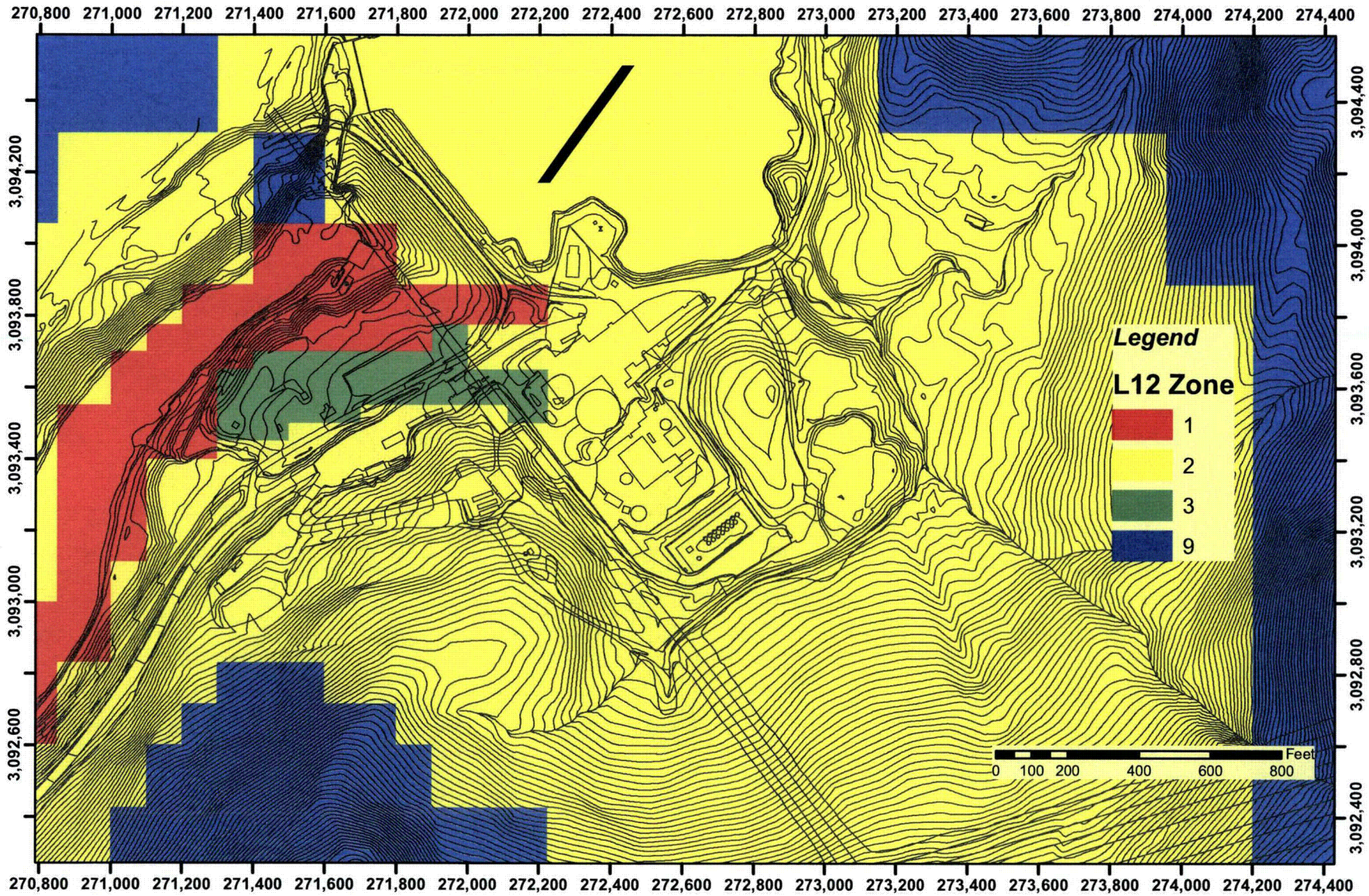
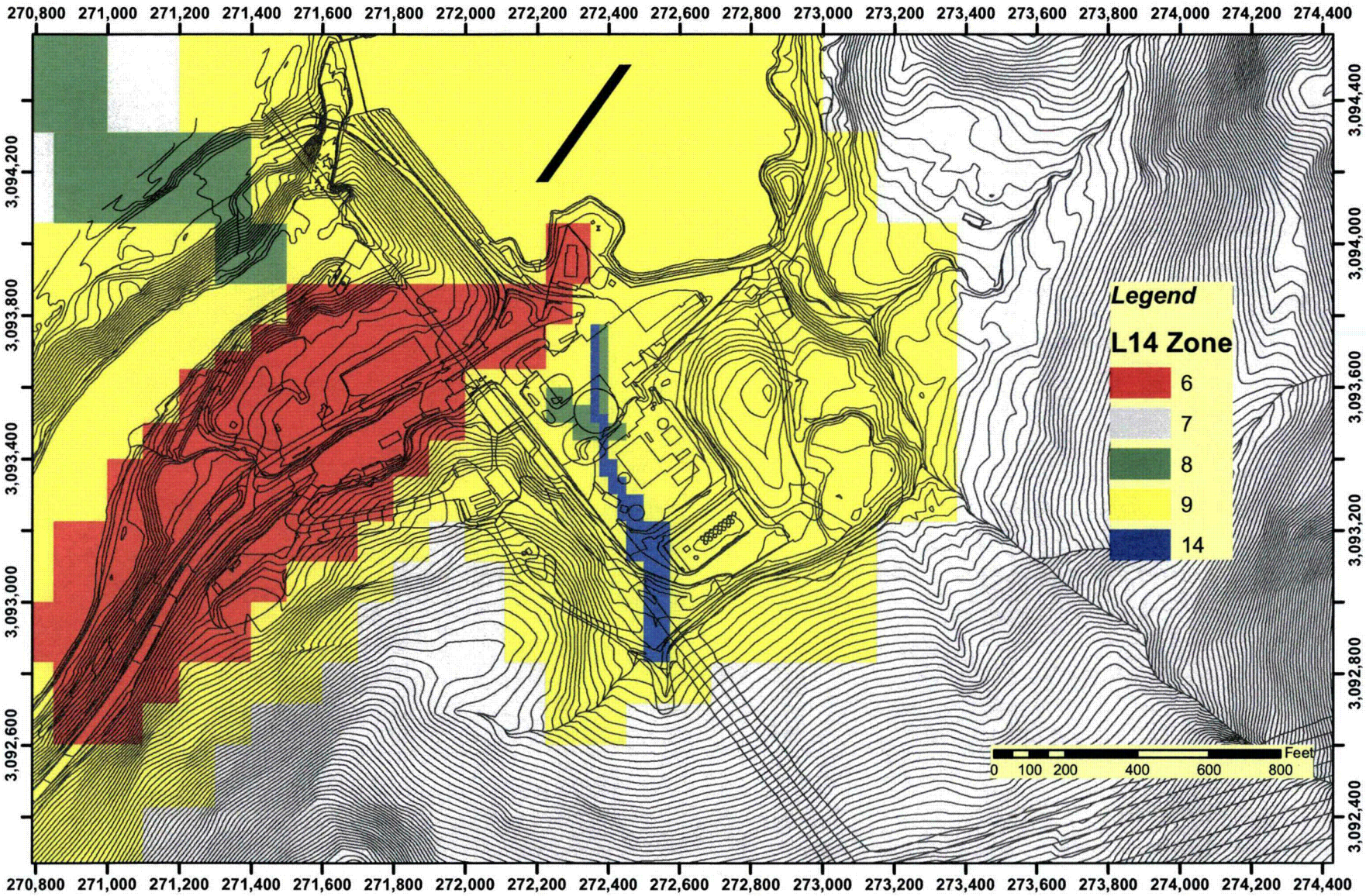
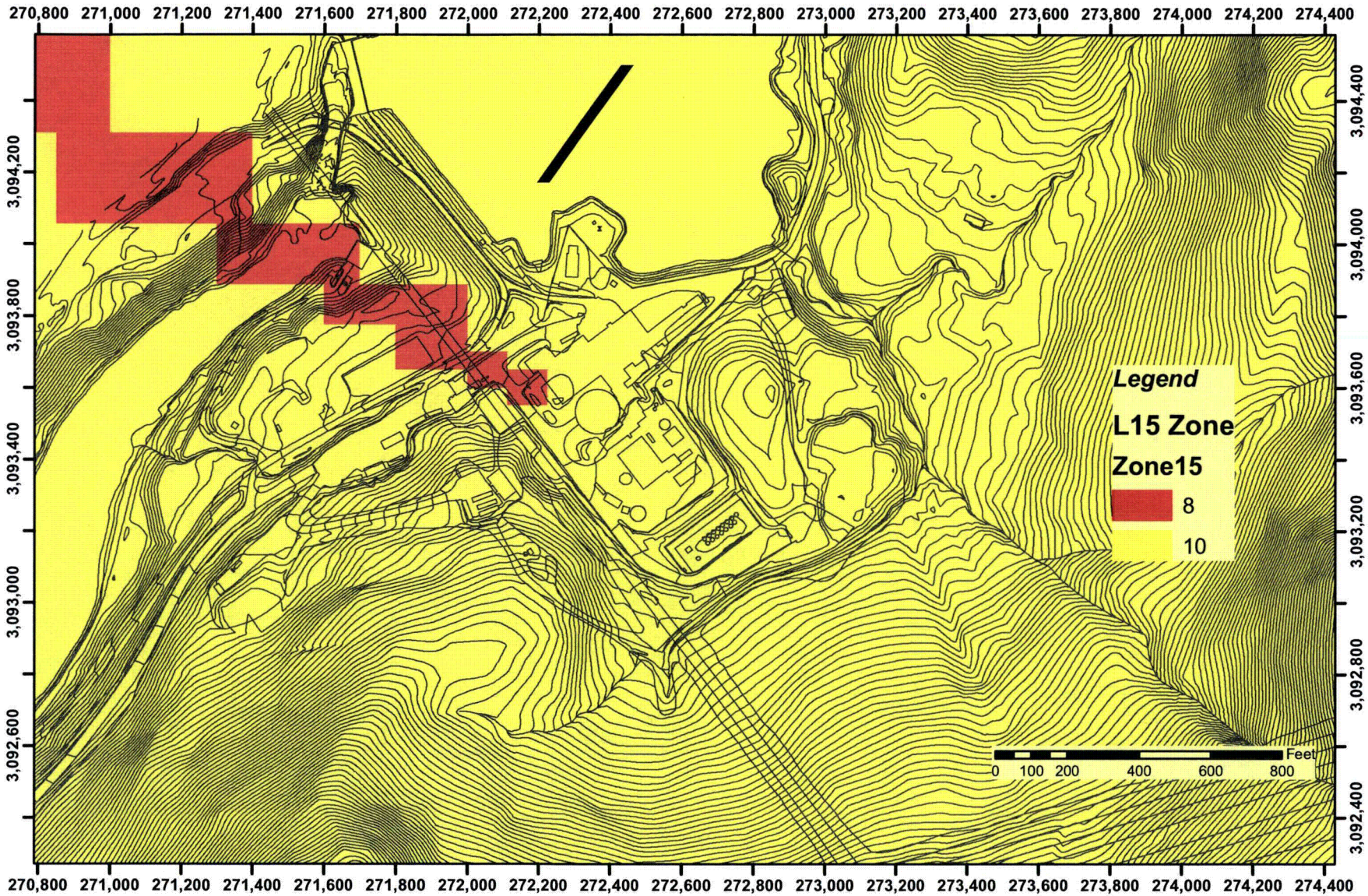


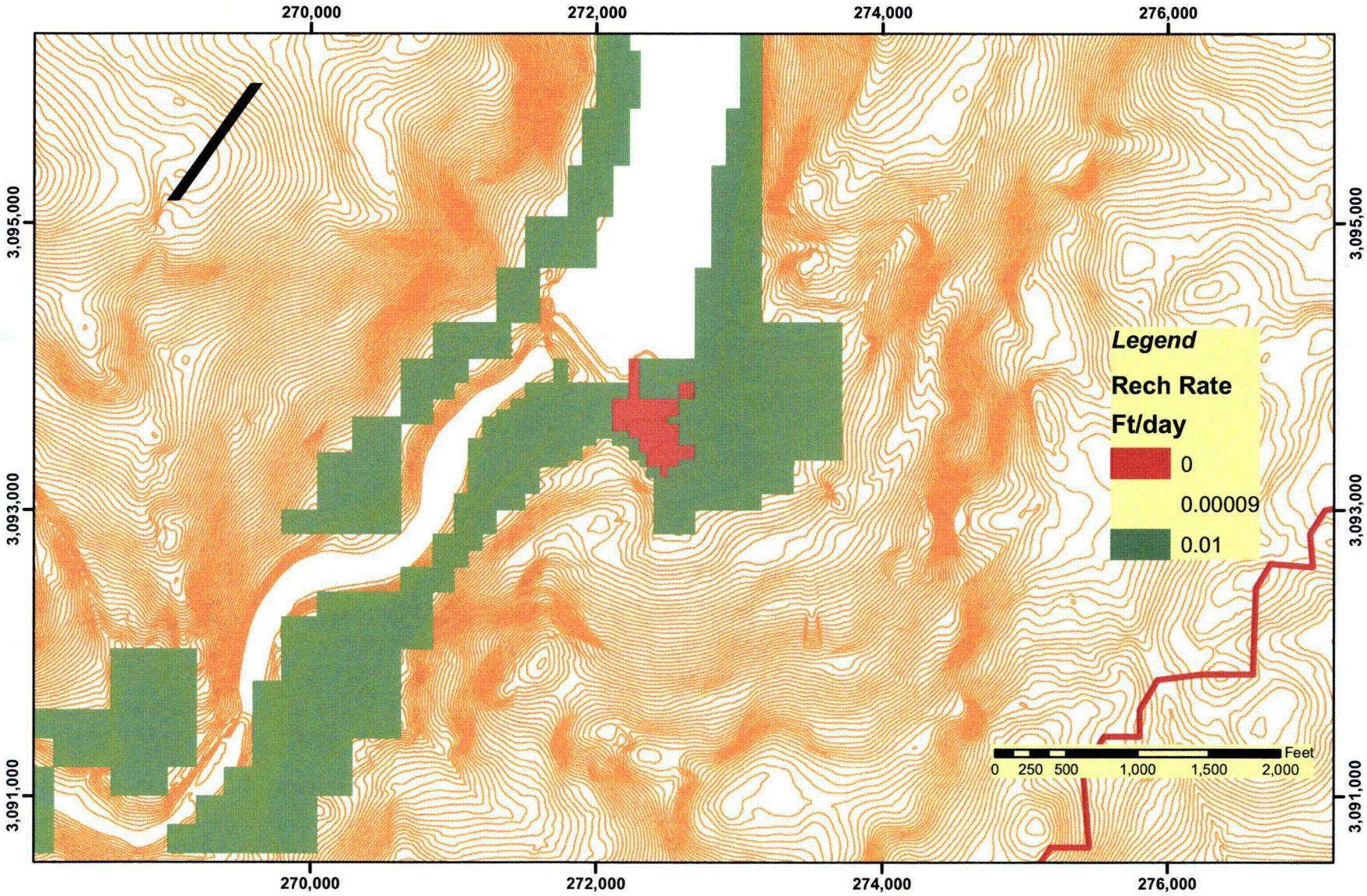
Yankee Nuclear Power Station Rowe, MA	Layer 12 Hydraulic Conductivity Distribution 1/13/07	Final Groundwater Condition Report *Figure 6-15*



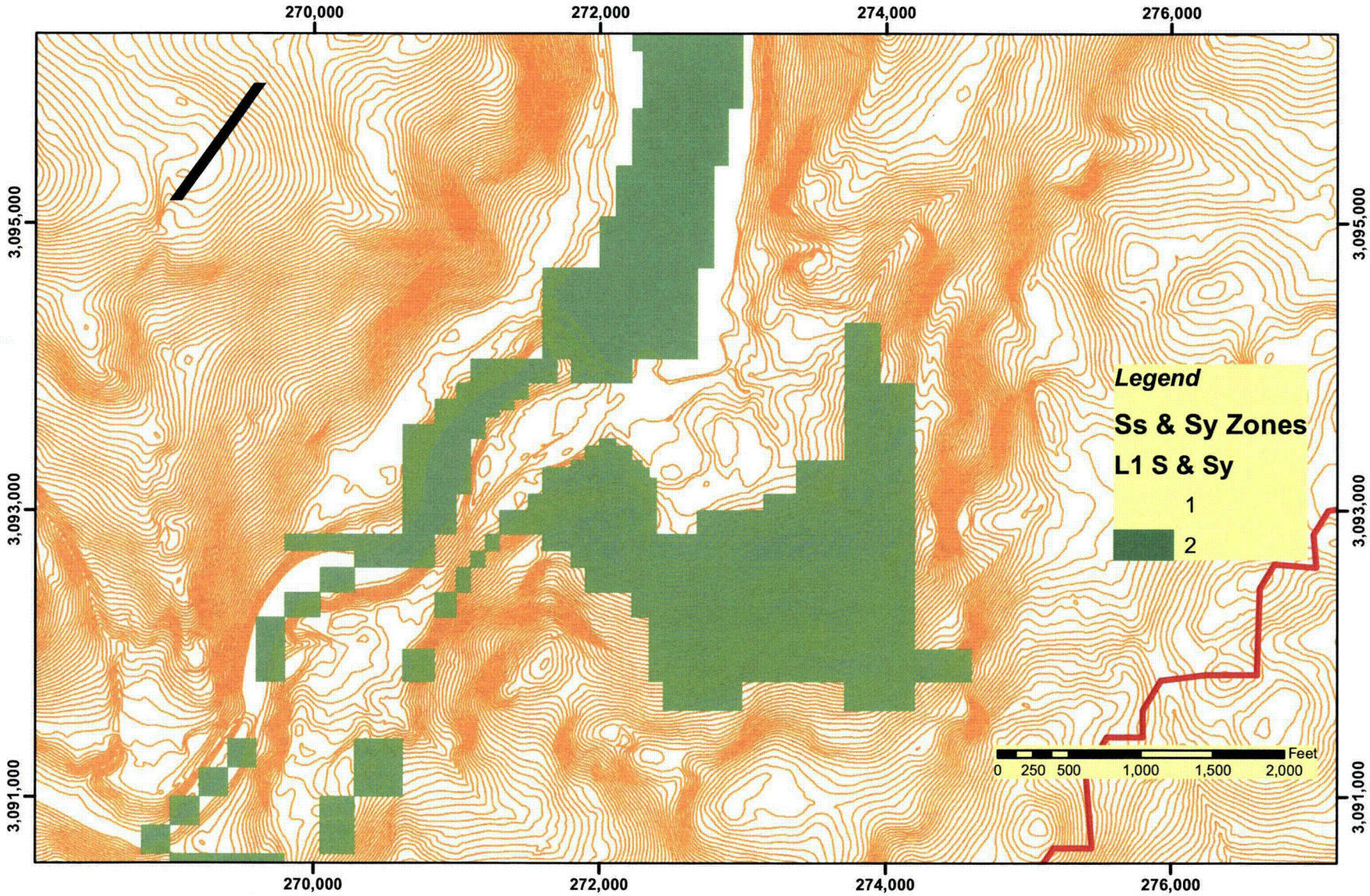
Yankee Nuclear Power Station Rowe, MA	Layer 14 Hydraulic Conductivity Distribution 1/13/07	Final Groundwater Condition Report *Figure 6-16*



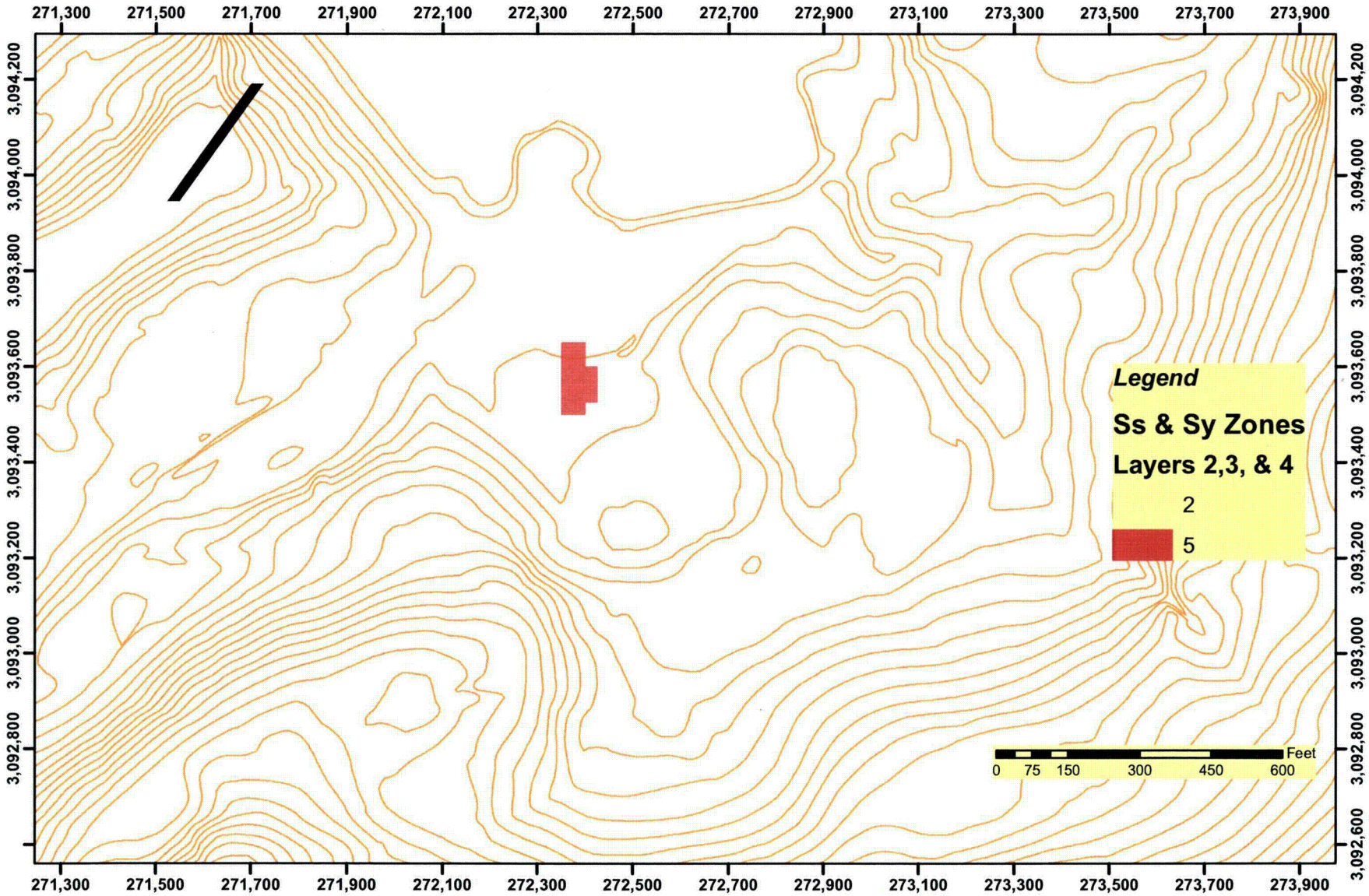
Yankee Nuclear Power Station Rowe, MA	Layer 15 Hydraulic Conductivity Distribution 1/13/07	Final Groundwater Condition Report *Figure 6-17*



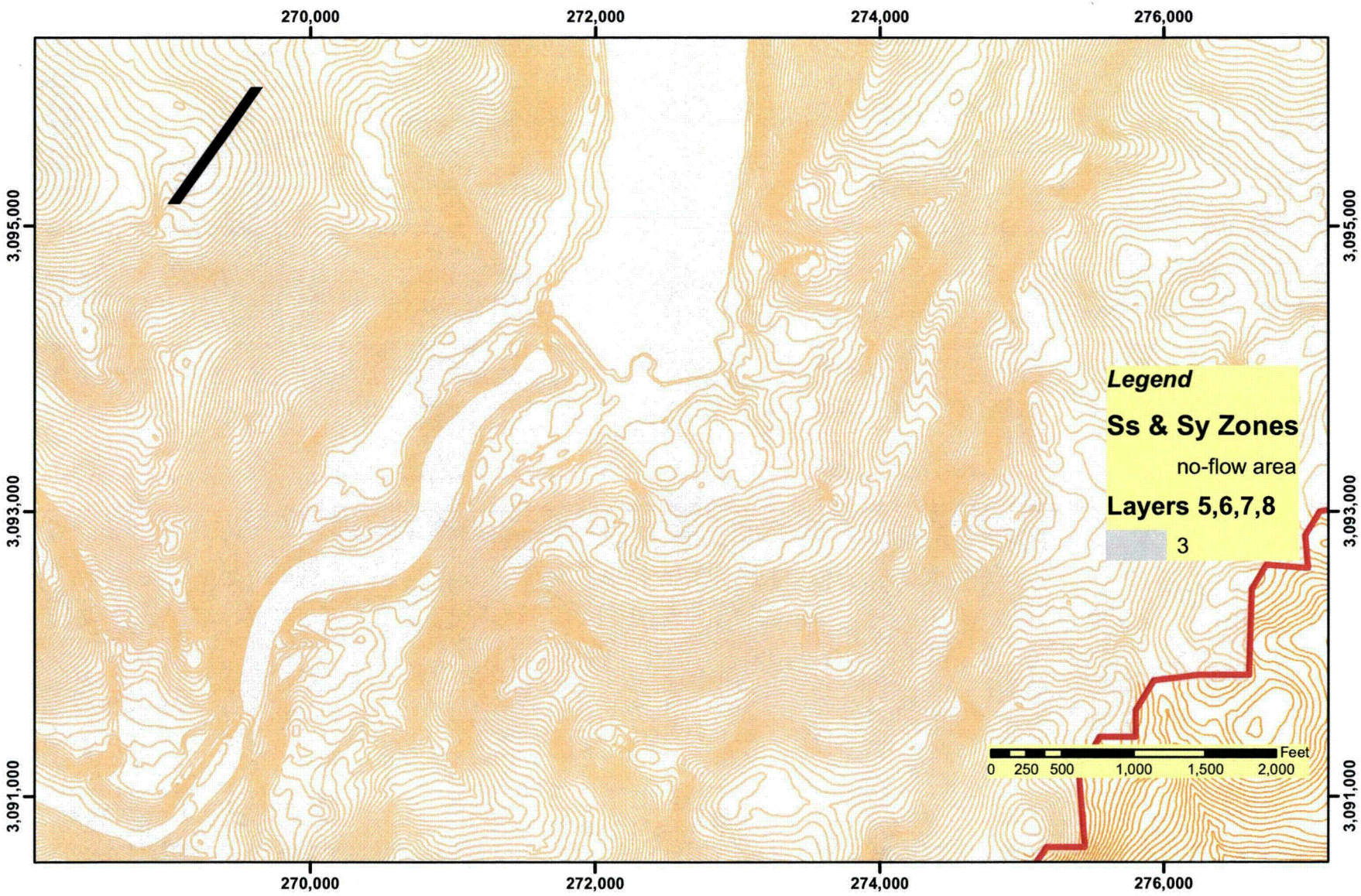
Yankee Nuclear Power Station Rowe, MA	Average Annual Recharge Rates During Operational History of the Nuclear Plant No color indicates the default rate of 0.00009 ft/day 1/13/07	Final Groundwater Condition Report *Figure 6-18*



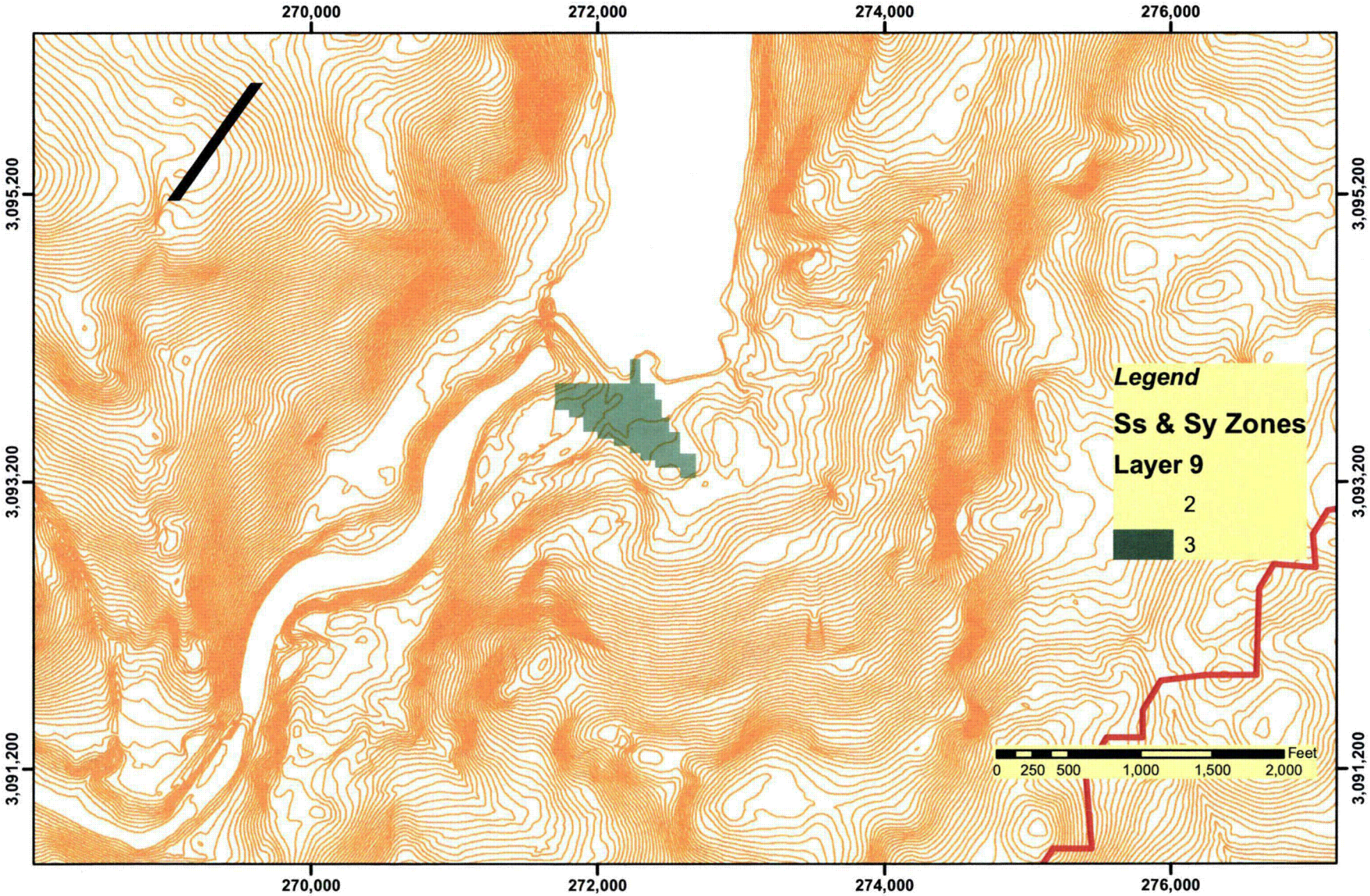
Yankee Nuclear Power Station Rowe, MA	Model Layer 1 Property Zones for Specific Storage and Specific Yield No color indicates the default Zone 1 1/13/07	Final Groundwater Condition Report *Figure 6-19*



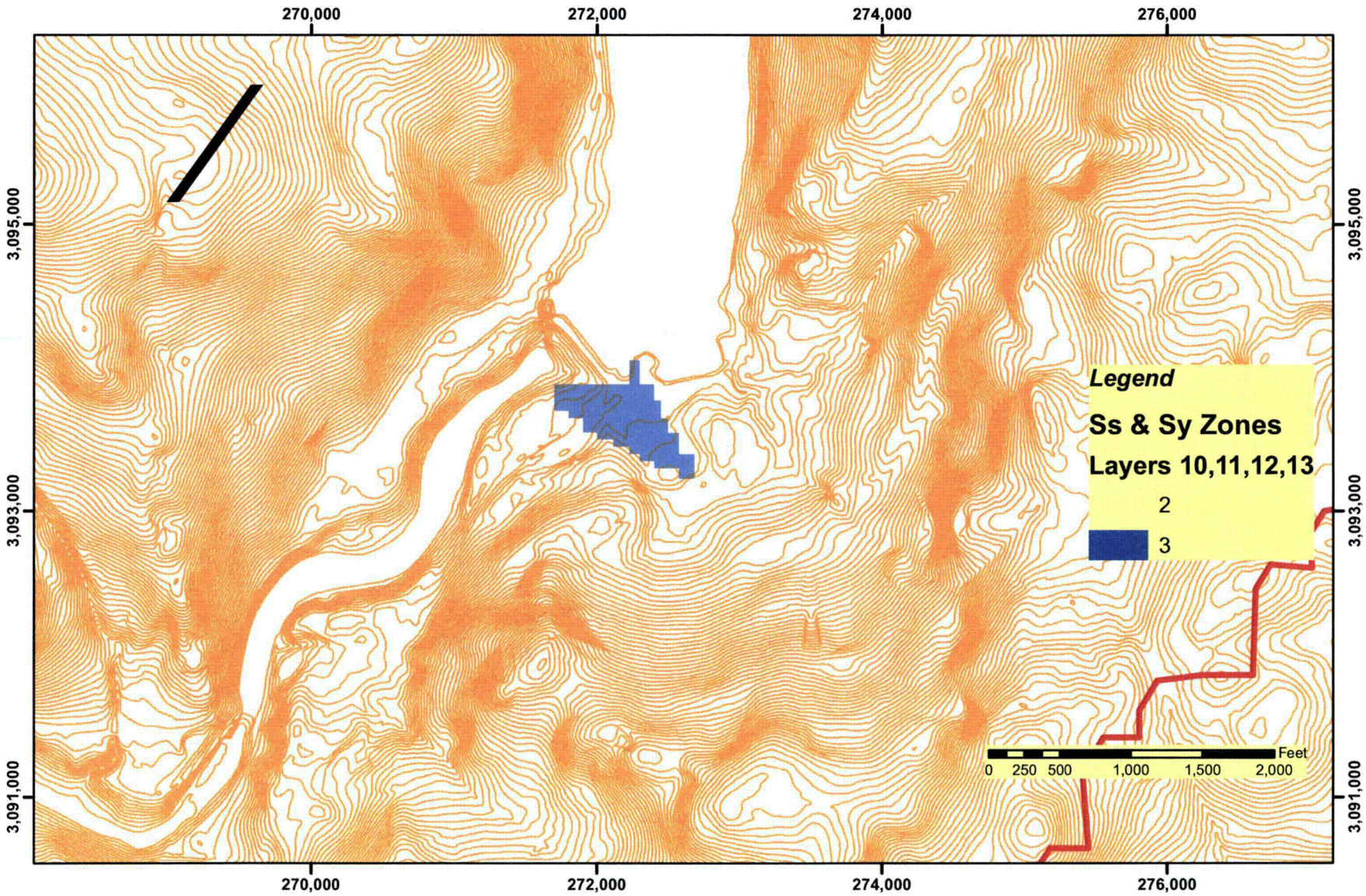
Yankee Nuclear Power Station Rowe, MA	Model Layers 2, 3, & 4 Property Zones for Specific Storage and Specific Yield No color indicates the default Zone 2 1/13/07	Final Groundwater Condition Report *Figure 6-20*



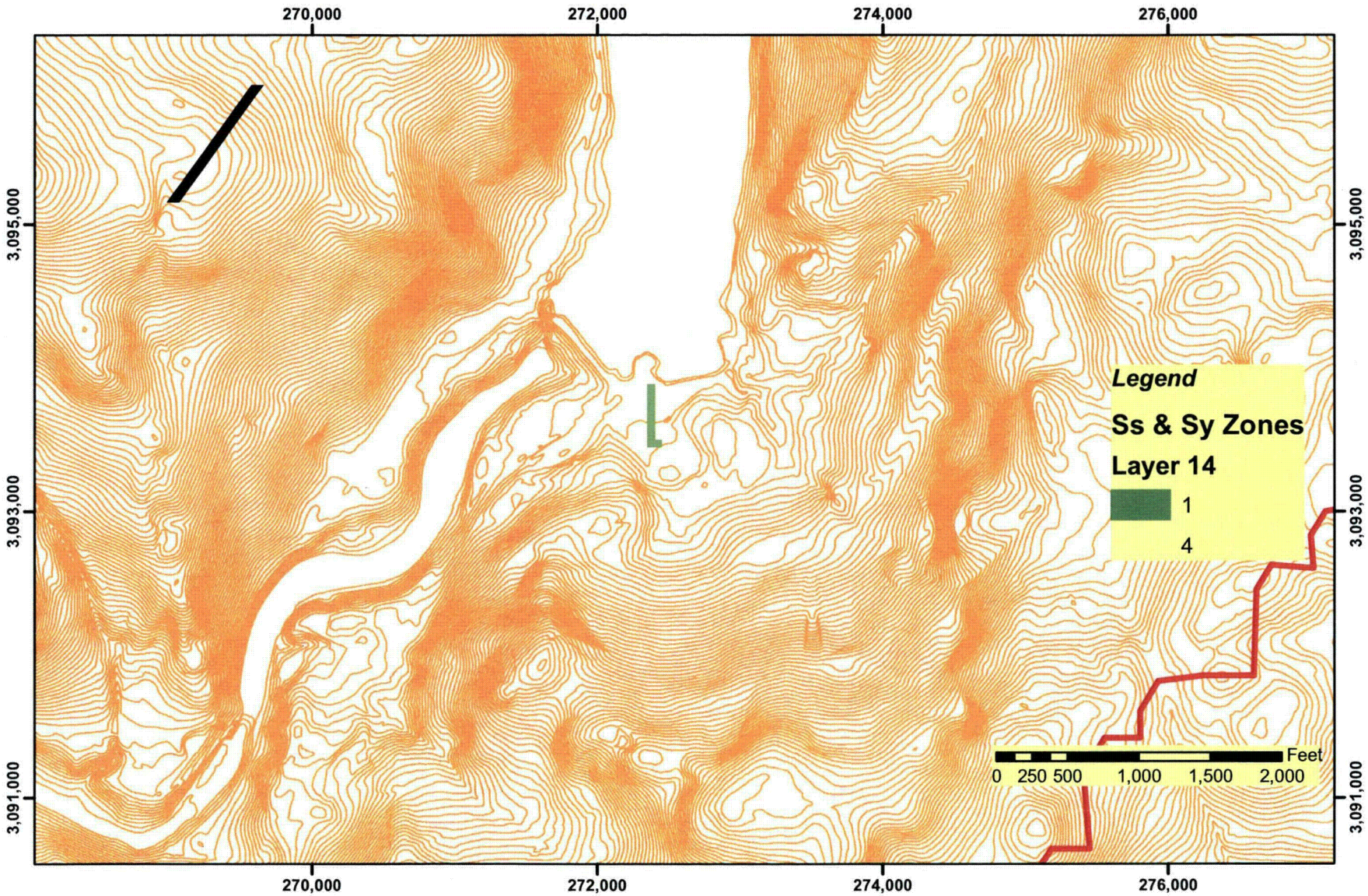
Yankee Nuclear Power Station Rowe, MA	Model Layers 5, 6, 7, & 8 Property Zones for Specific Storage and Specific Yield 1/13/07	Final Groundwater Condition Report *Figure 6-21*



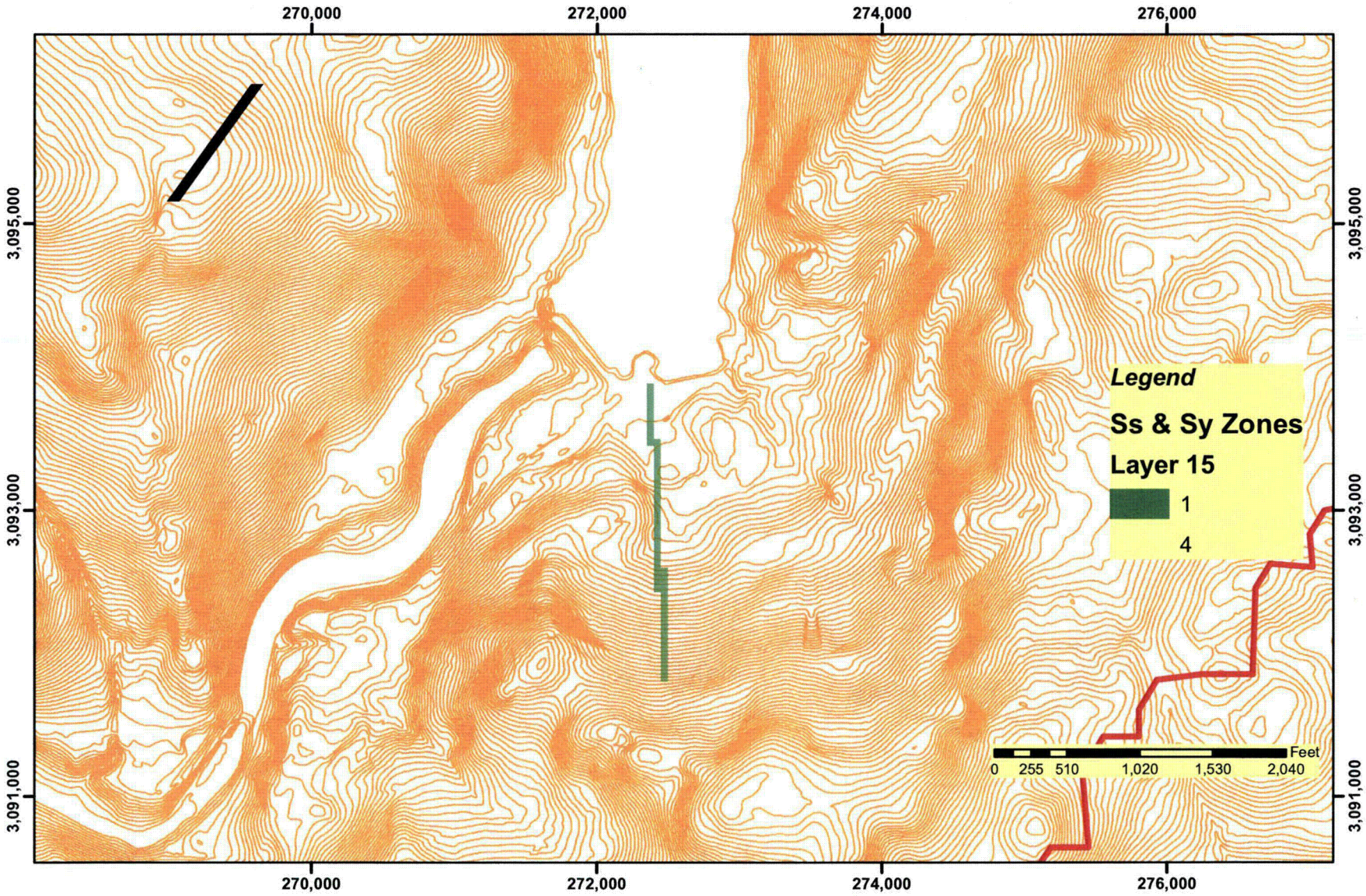
Yankee Nuclear Power Station Rowe, MA	Model Layer 9 Property Zones for Specific Storage and Specific Yield No color indicates the default Zone 2 1/13/07	Final Groundwater Condition Report *Figure 6-22*



Yankee Nuclear Power Station Rowe, MA	Model Layers 10, 11, 12 & 13 Property Zones for Specific Storage and Specific Yield No color indicates the default Zone 2 1/13/07	Final Groundwater Condition Report *Figure 6-23*



Yankee Nuclear Power Station Rowe, MA	Model Layer 14 Property Zones for Specific Storage and Specific Yield No color indicates the default Zone 4 1/13/07	Final Groundwater Condition Report *Figure 6-24*



Yankee Nuclear Power Station Rowe, MA	Model Layer 15 Property Zones for Specific Storage and Specific Yield No color indicates the default Zone 4 1/13/07	Final Groundwater Condition Report *Figure 6-25*

Figure 6-26
Cumulative Precipitation at Rowe, MA

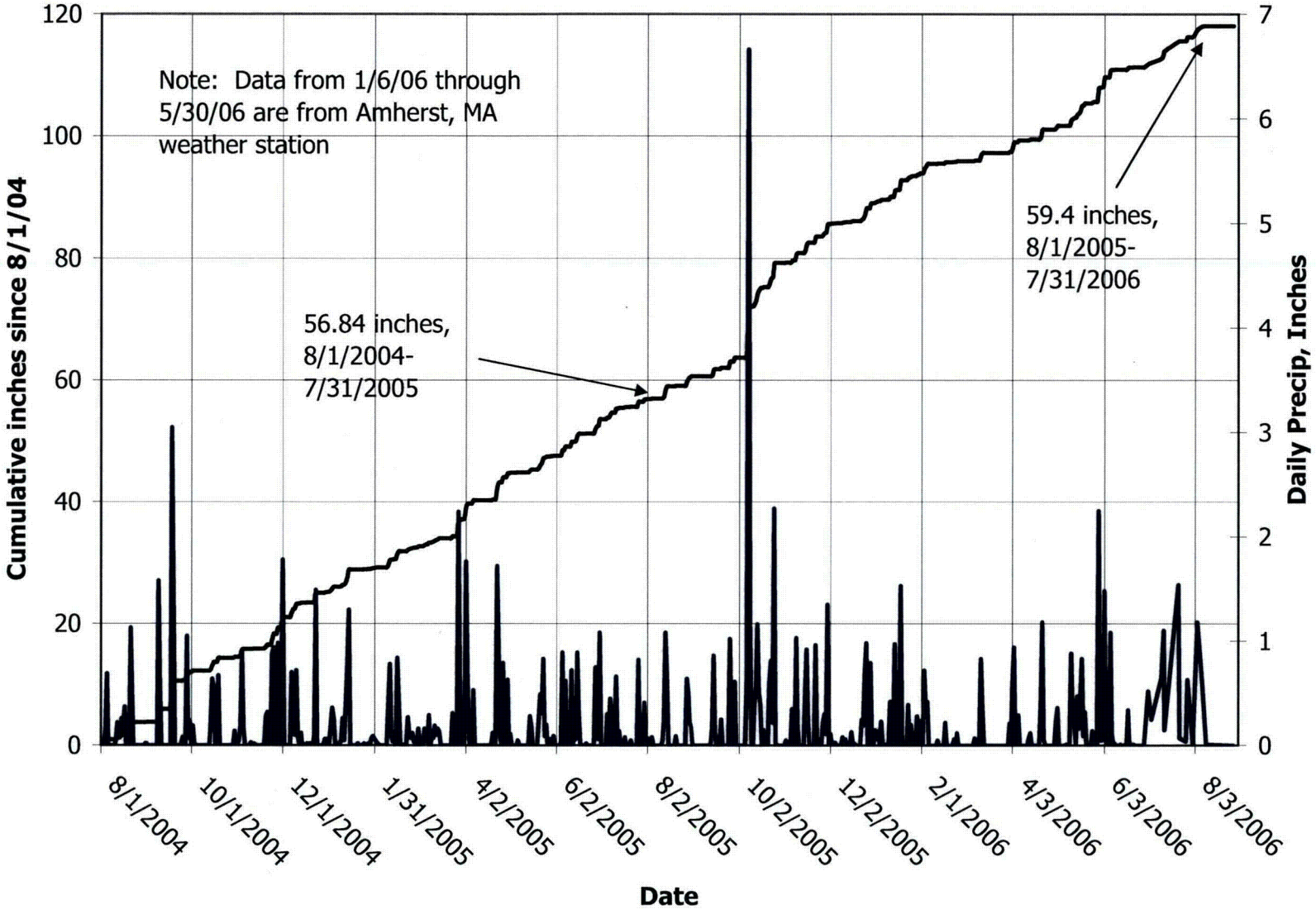


Figure 6-27

Observed vs. Computed Average Annual Head Values

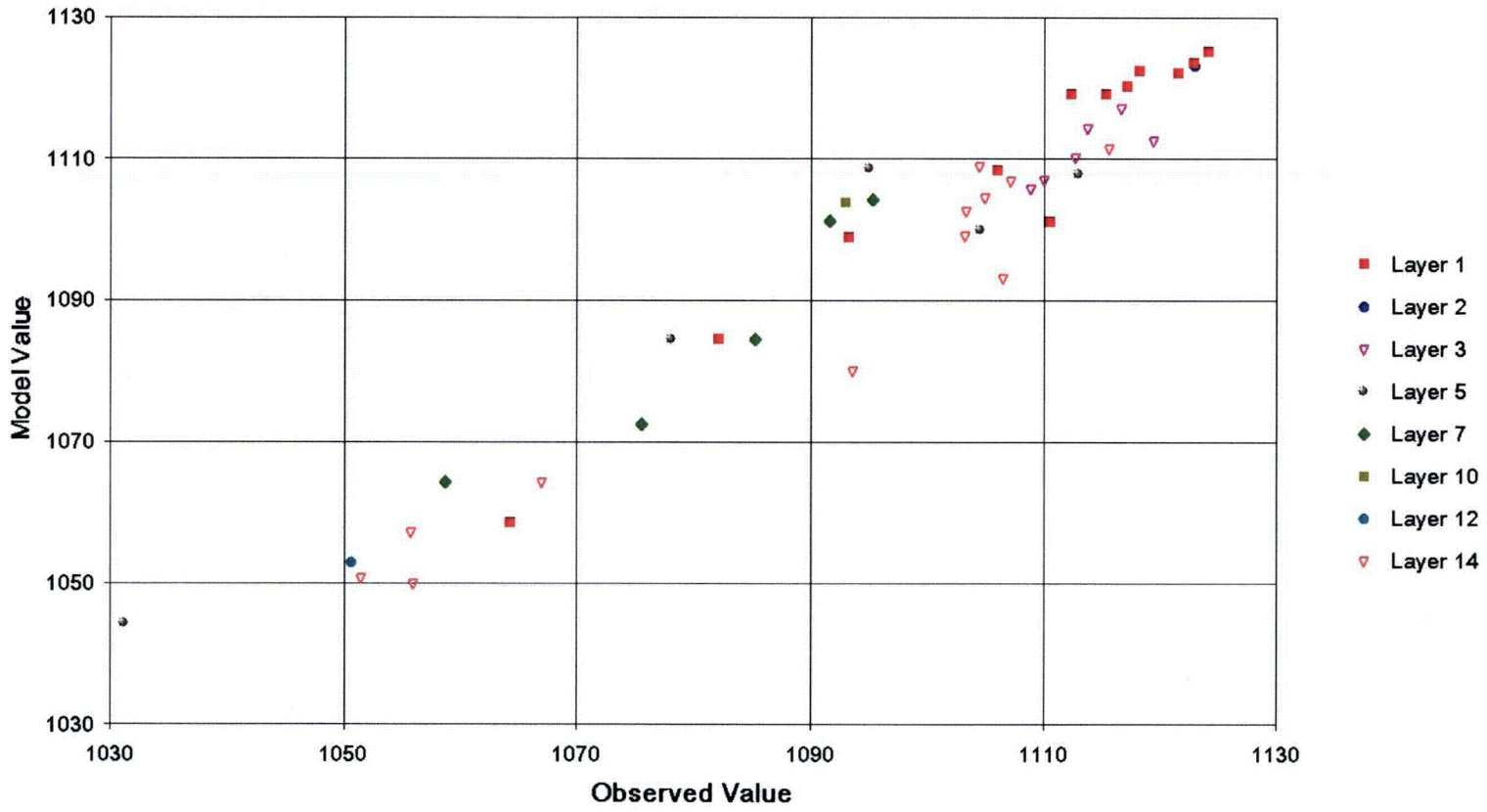


Figure 6-28

Observed vs. Residuals

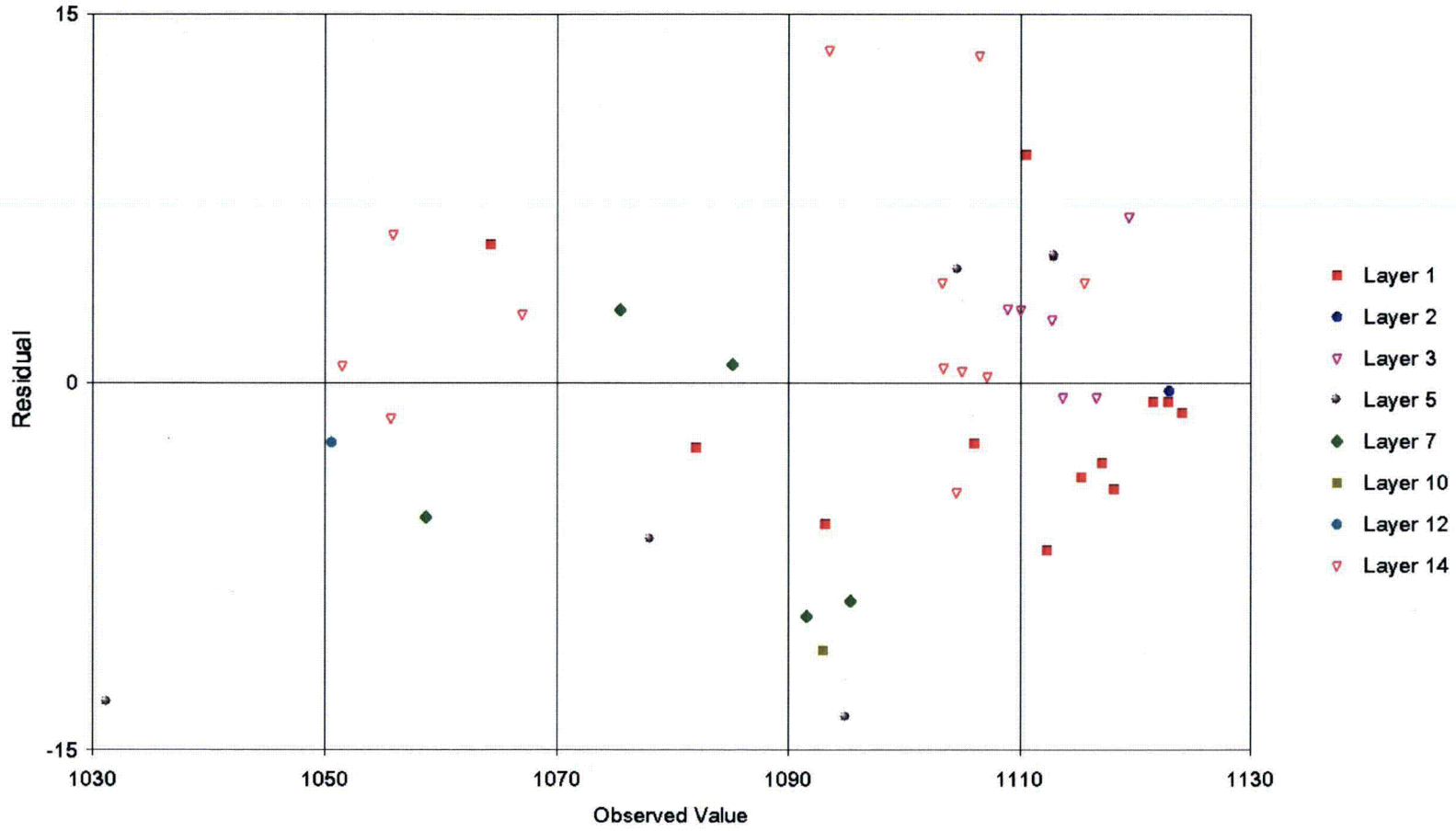
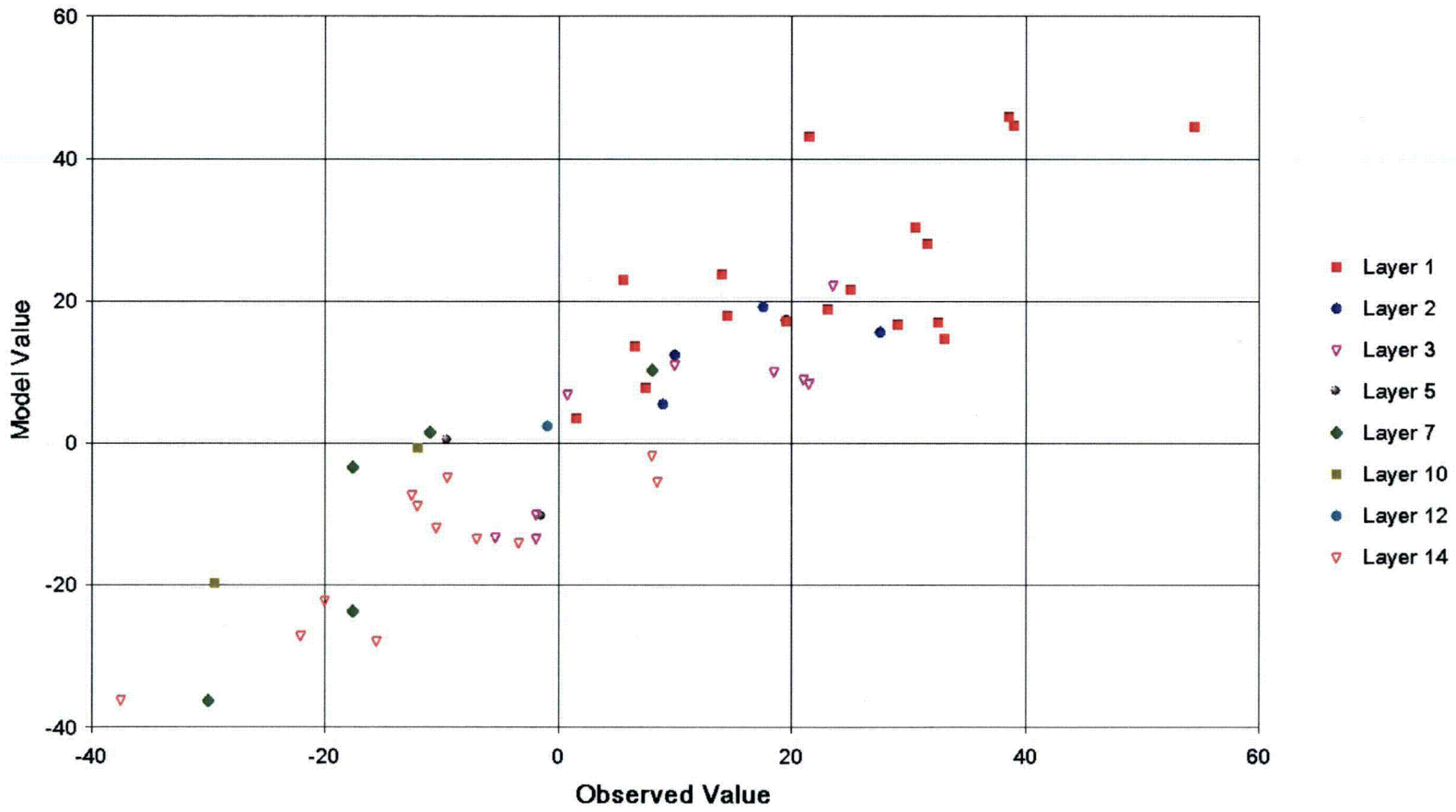
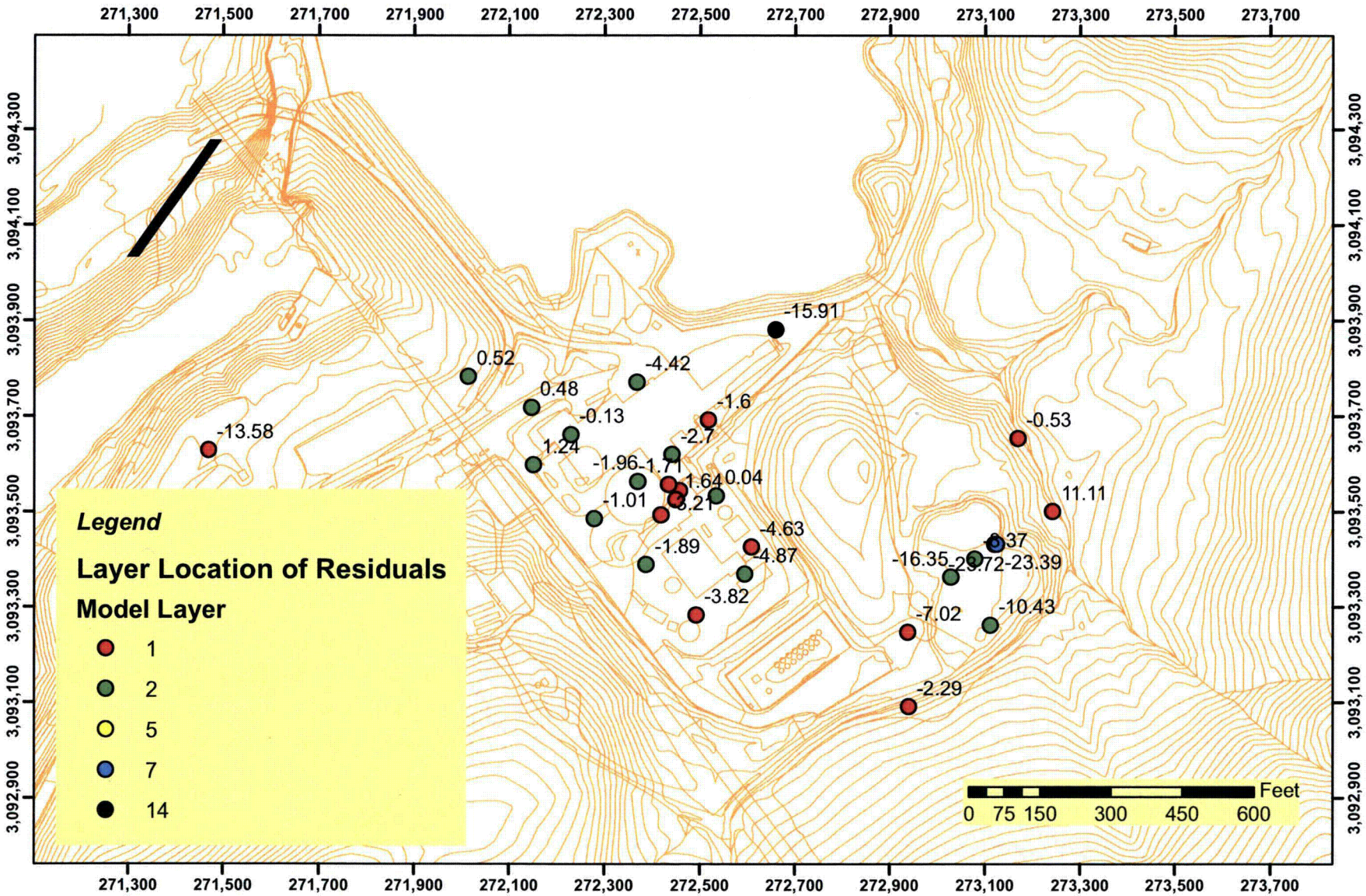


Figure 6-29

Observed vs. Computed Values for Vertical Gradients

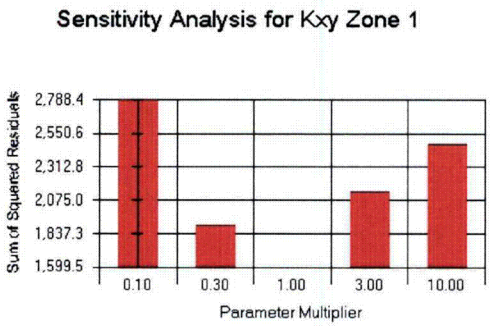


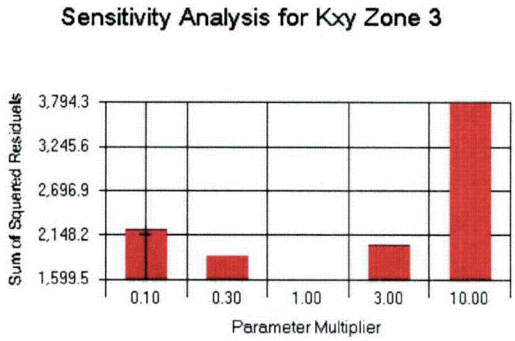


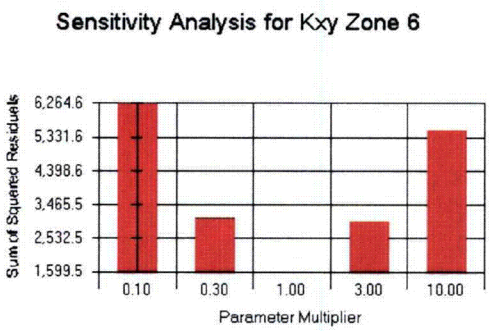
Yankee Nuclear Power Station Rowe, MA	Model Residuals for Verification Calibration Data Set Negative residuals indicate model over-predicted the elevation 1/15/07	Final Groundwater Condition Report *Figure 6-30*

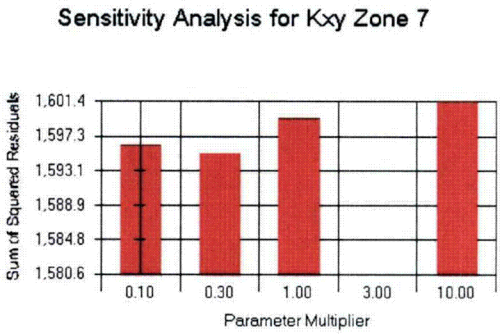
Figure 6-31

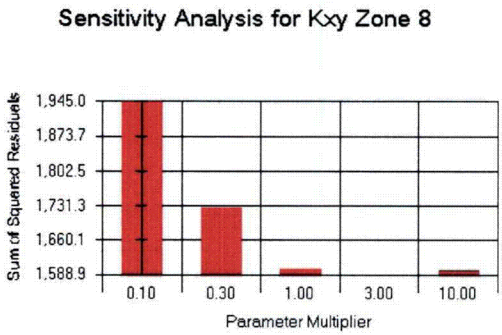
Model Parameter Sensitivity Analyses











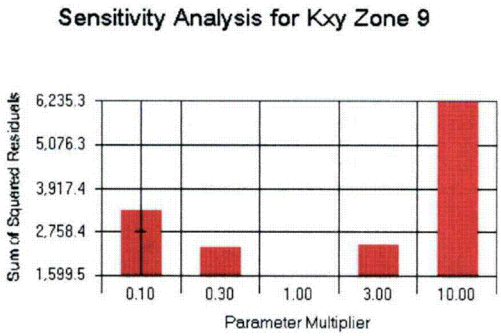
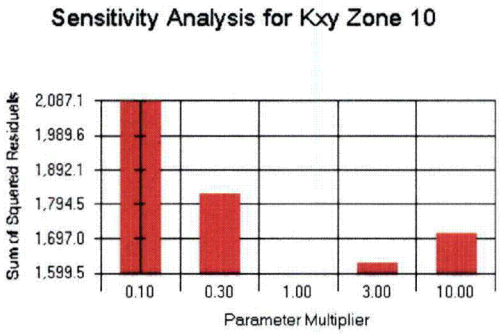
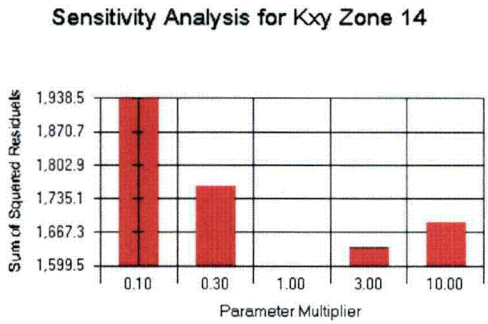
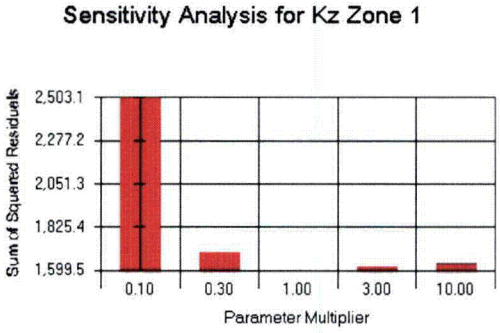


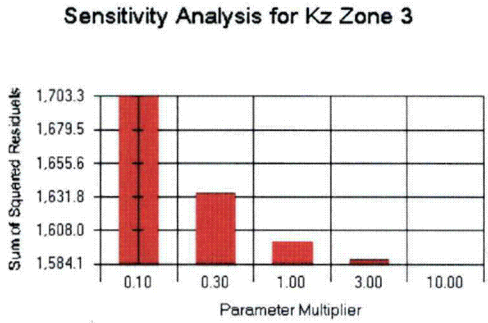
Figure 6-31

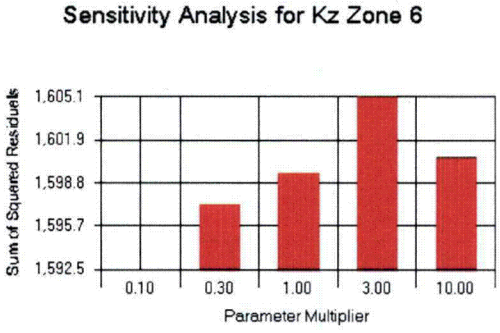
Model Parameter Sensitivity Analyses











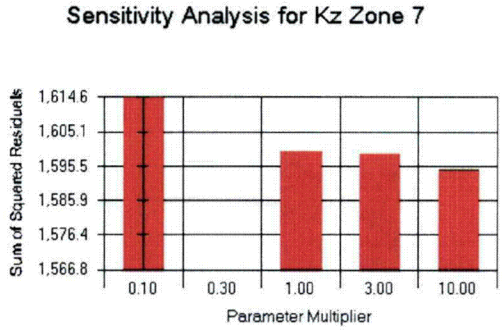
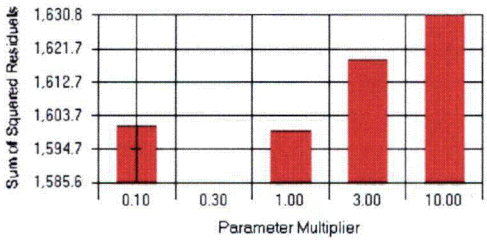


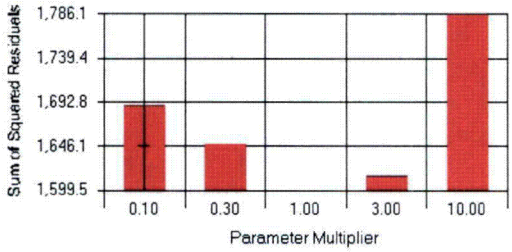
Figure 6-31

Model Parameter Sensitivity Analyses

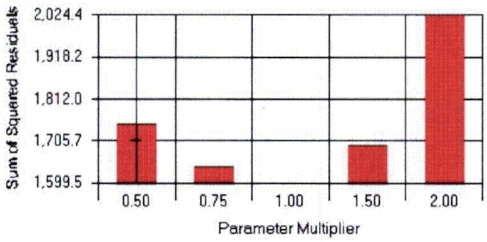
Sensitivity Analysis for Kz Zone 9



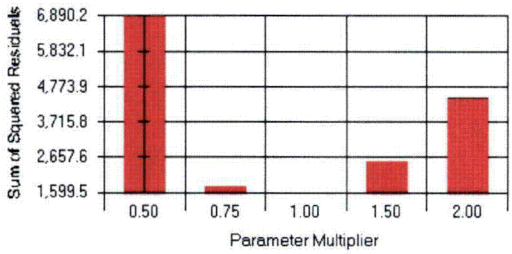
Sensitivity Analysis for Kz Zone 10



Sensitivity Analysis for Recharge Zone 1



Sensitivity Analysis for Recharge Zone 2



Sensitivity Analysis for Drain Conductance

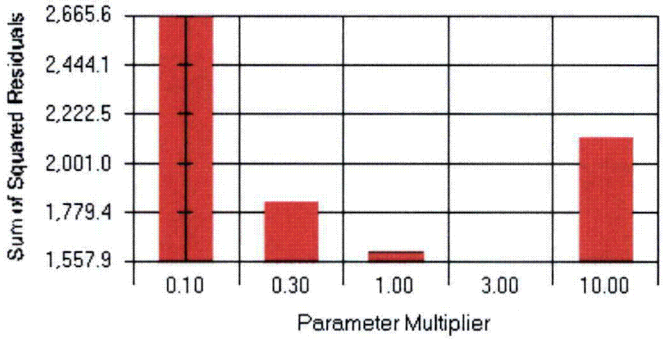


Figure 6-32

Comparison of MW-107C Pumping Test Measured v. Simulated Drawdowns

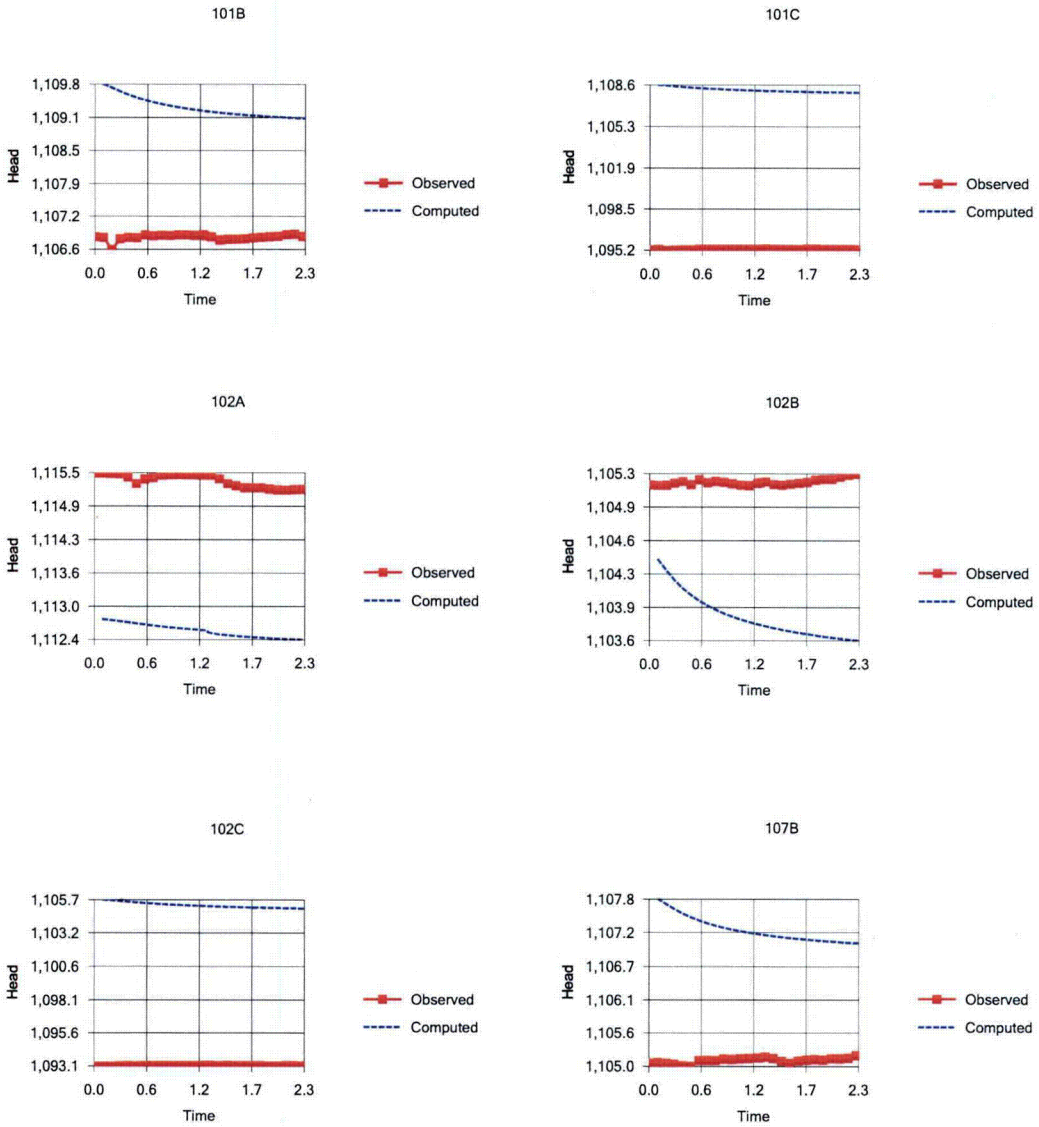


Figure 6-32

Comparison of MW-107C Pumping Test Measured v. Simulated Drawdowns

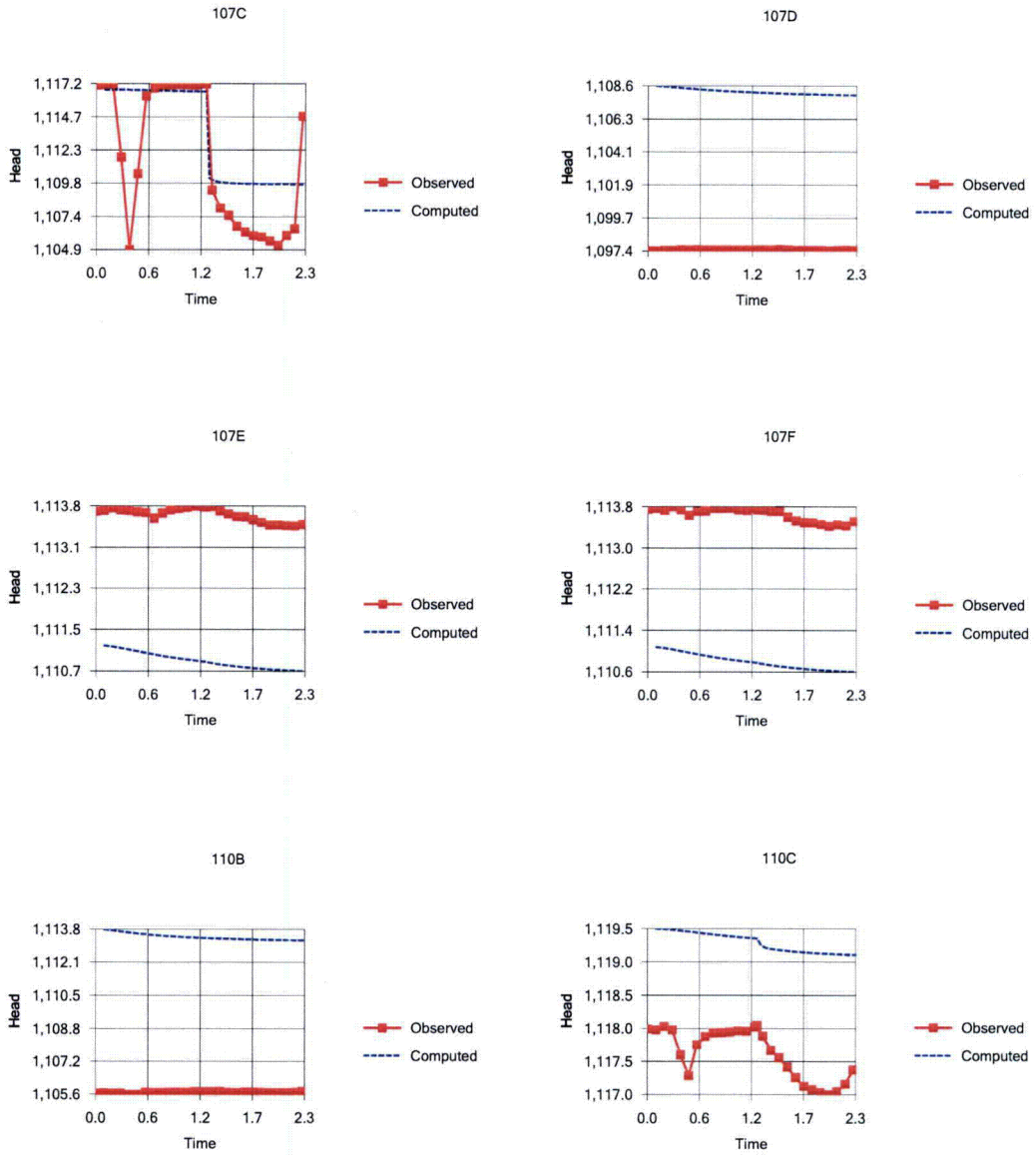
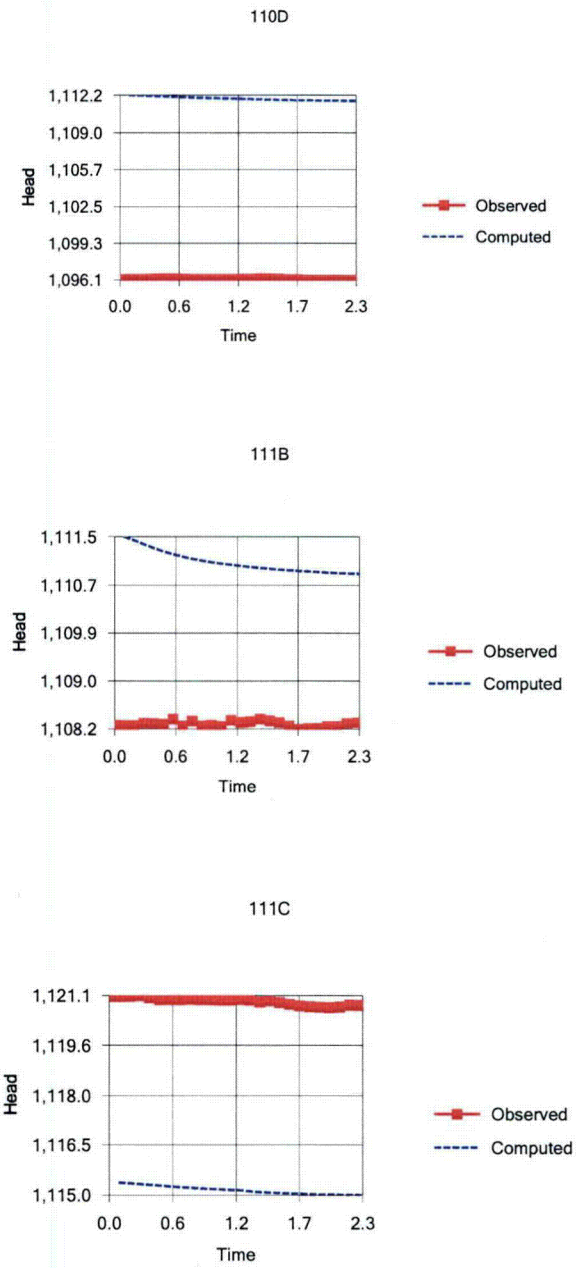
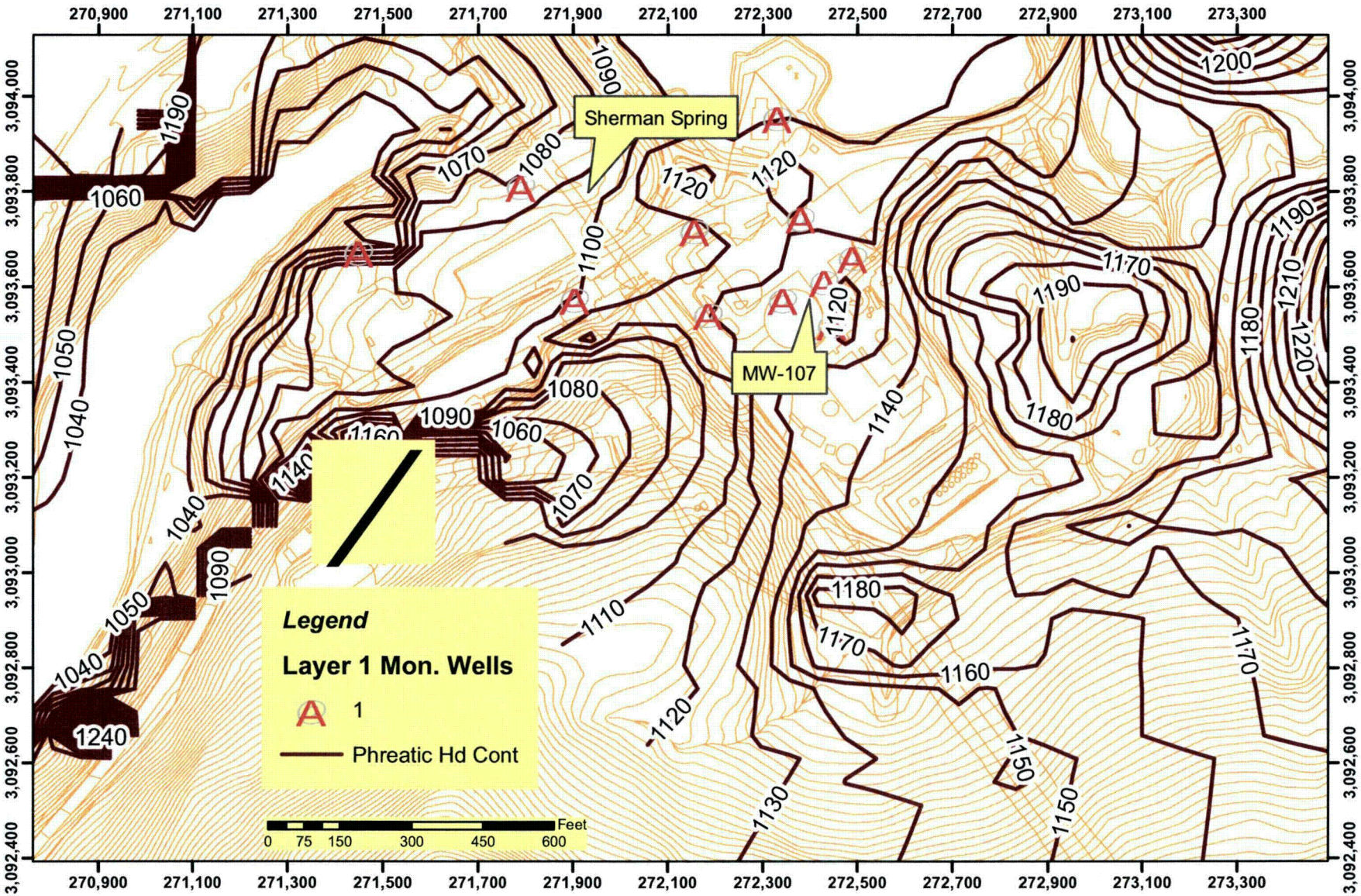


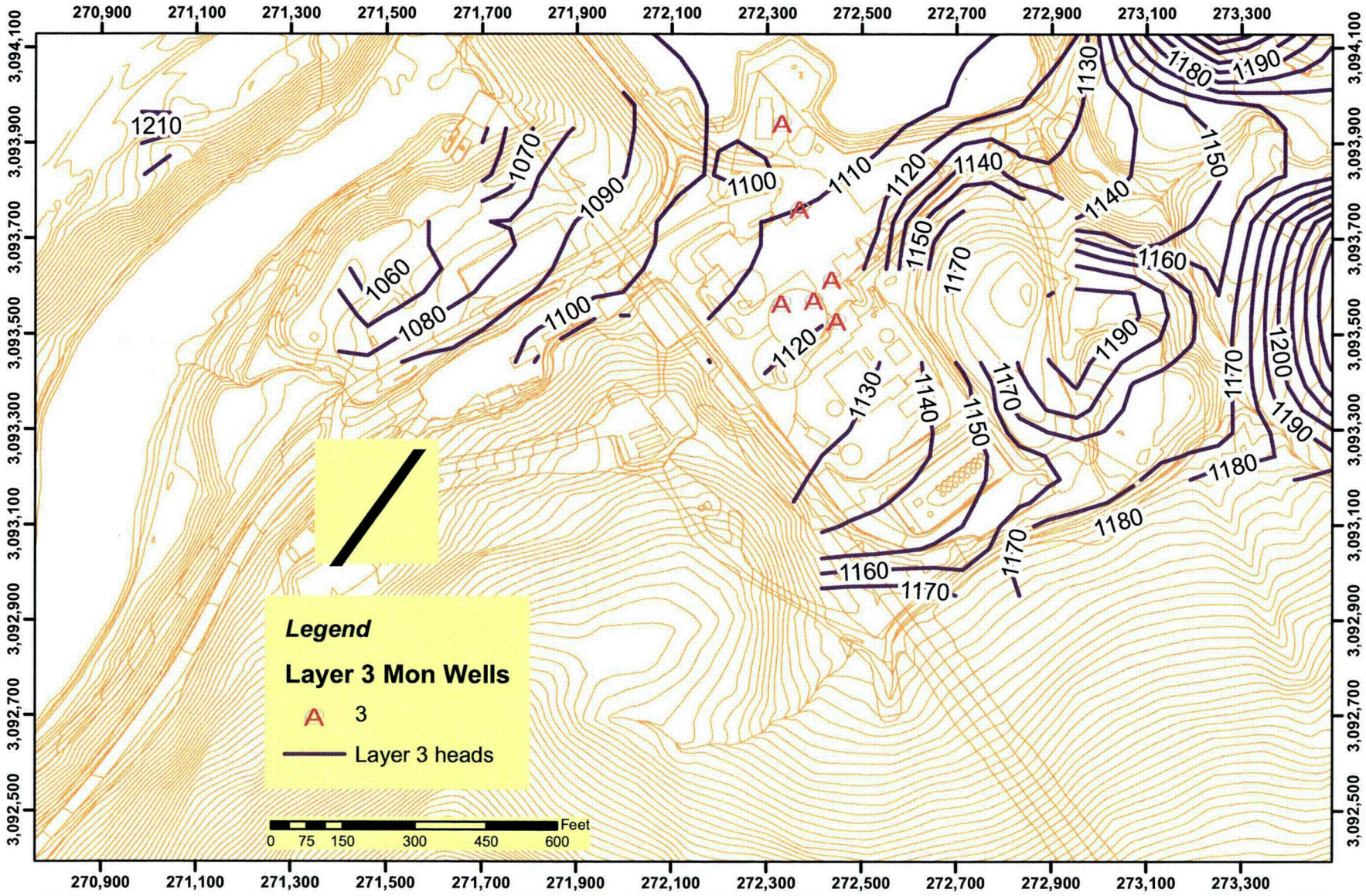
Figure 6-32

Comparison of MW-107C Pumping Test Measured v. Simulated Drawdowns

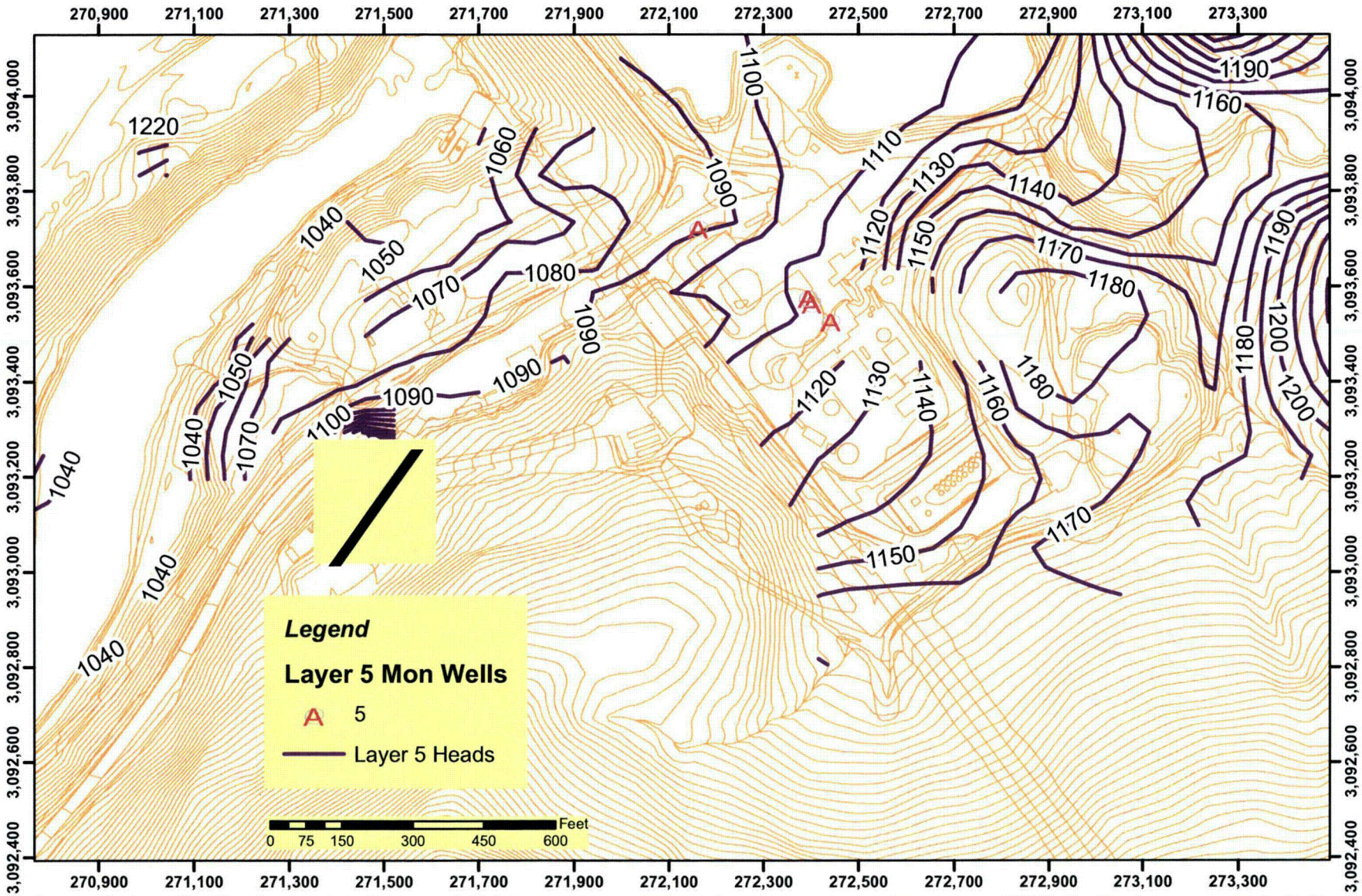




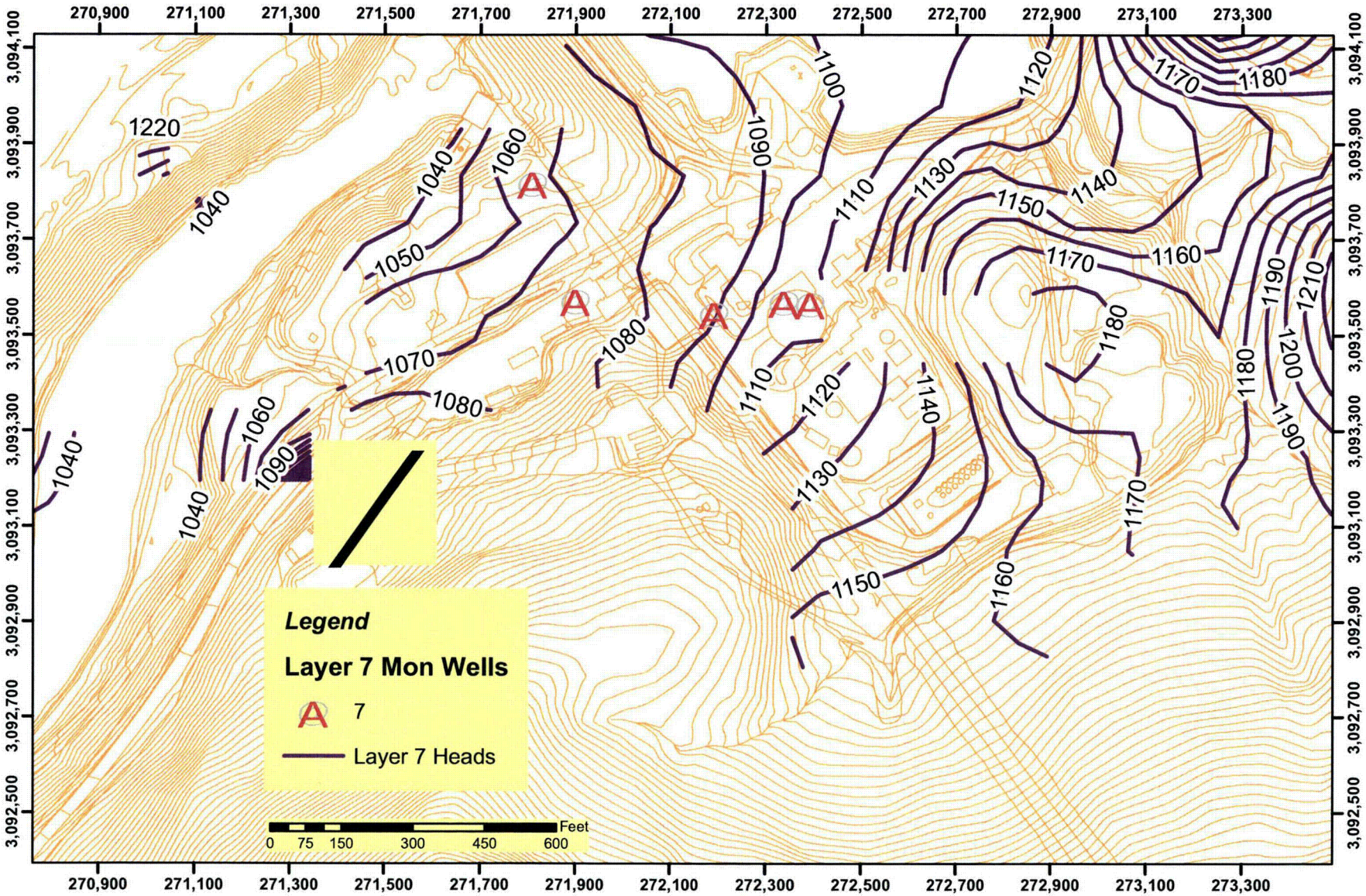
Yankee Nuclear Power Station Rowe, MA	Phreatic Surface Groundwater Contours during Plant Operation Groundwater Elevations referenced to NAVD88 1/13/07	Final Groundwater Condition Report *Figure 6-33*



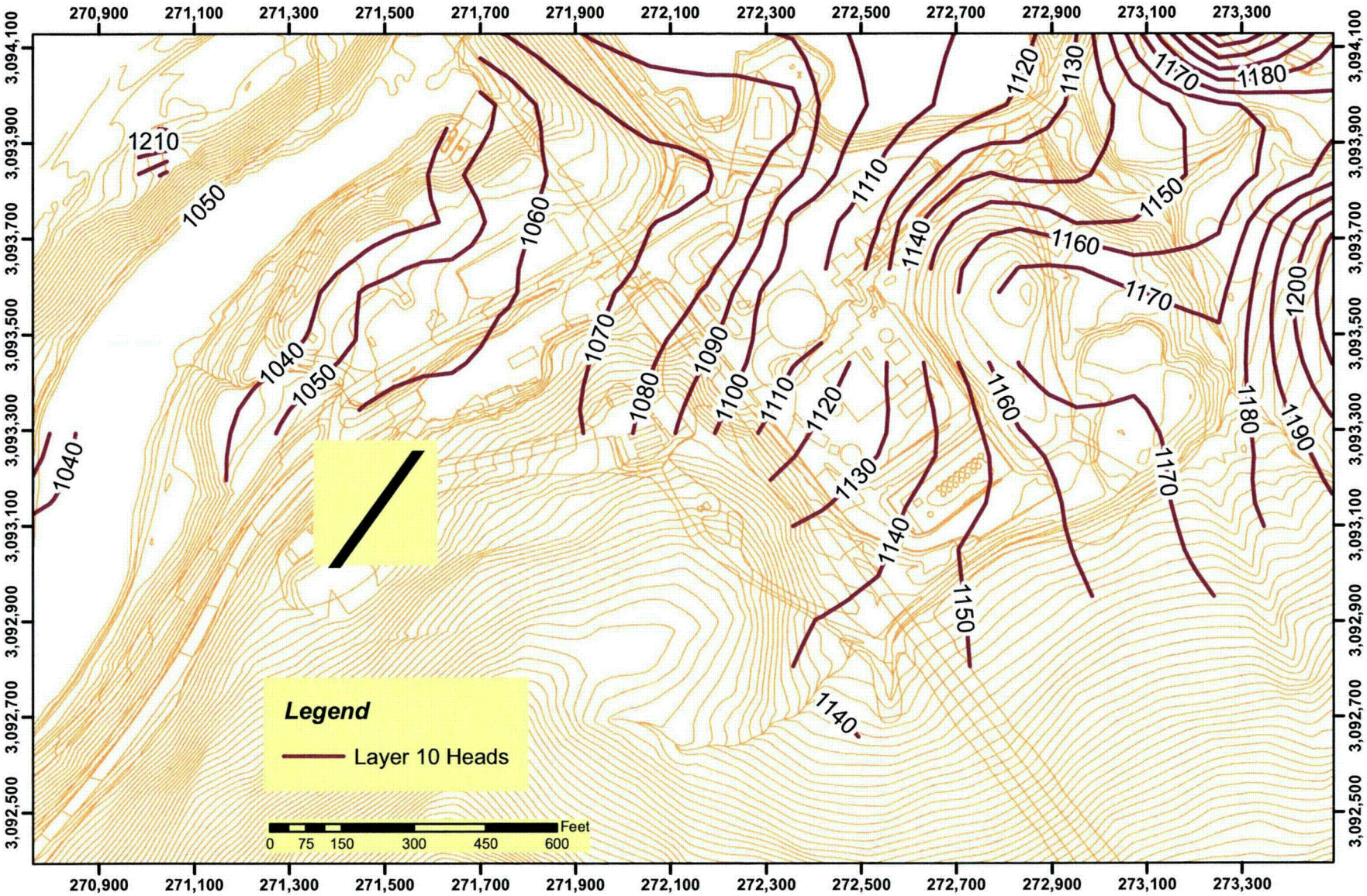
Yankee Nuclear Power Station Rowe, MA	Model Layer 3 Groundwater Contours during Plant Operation Groundwater Elevations referenced to NAVD88 1/13/07	Final Groundwater Condition Report *Figure 6-34*



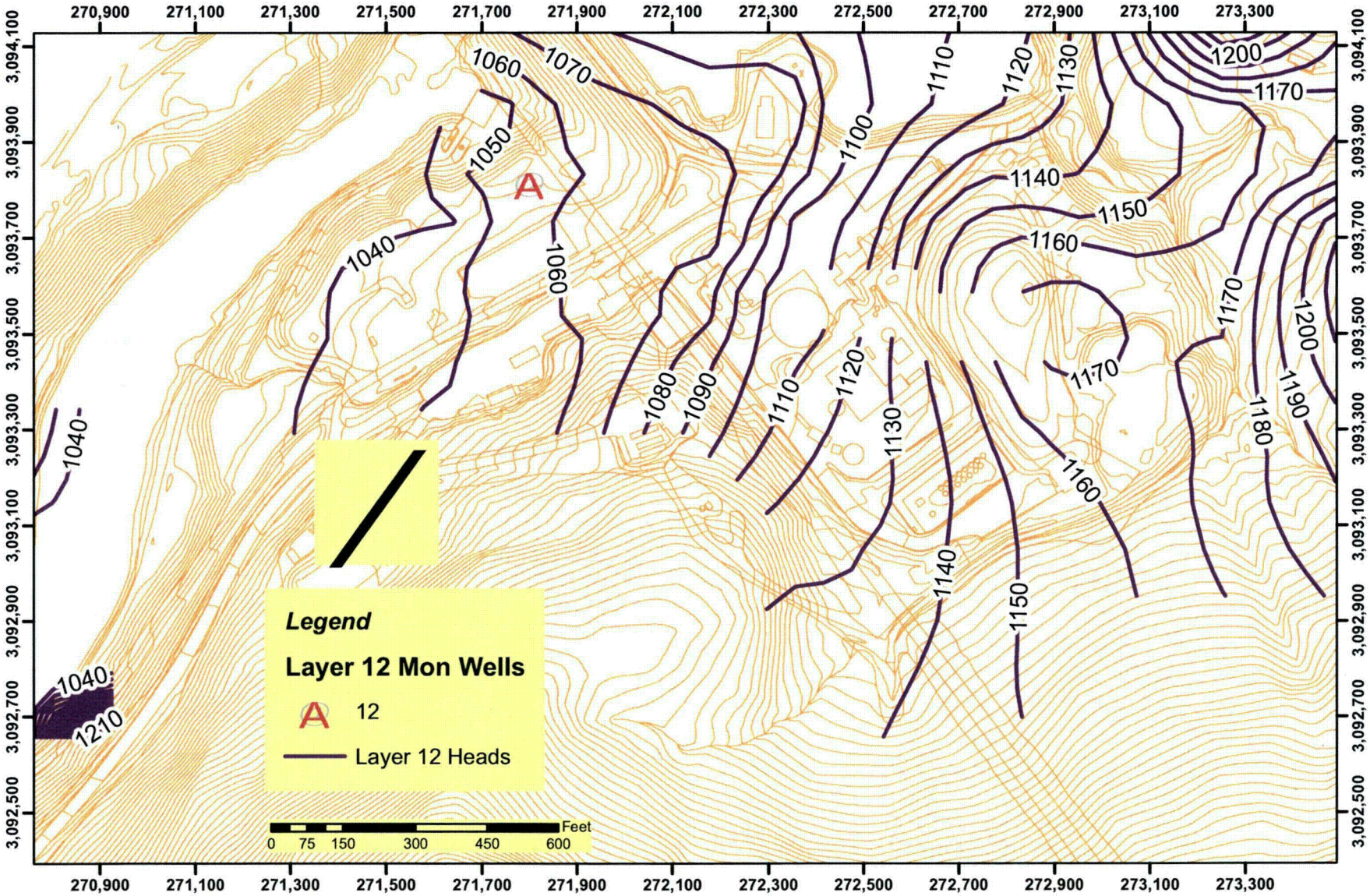
Yankee Nuclear Power Station Rowe, MA	Model Layer 5 Groundwater Contours during Plant Operation Groundwater Elevations referenced to NAVD88 1/13/07	Final Groundwater Condition Report *Figure 6-35*



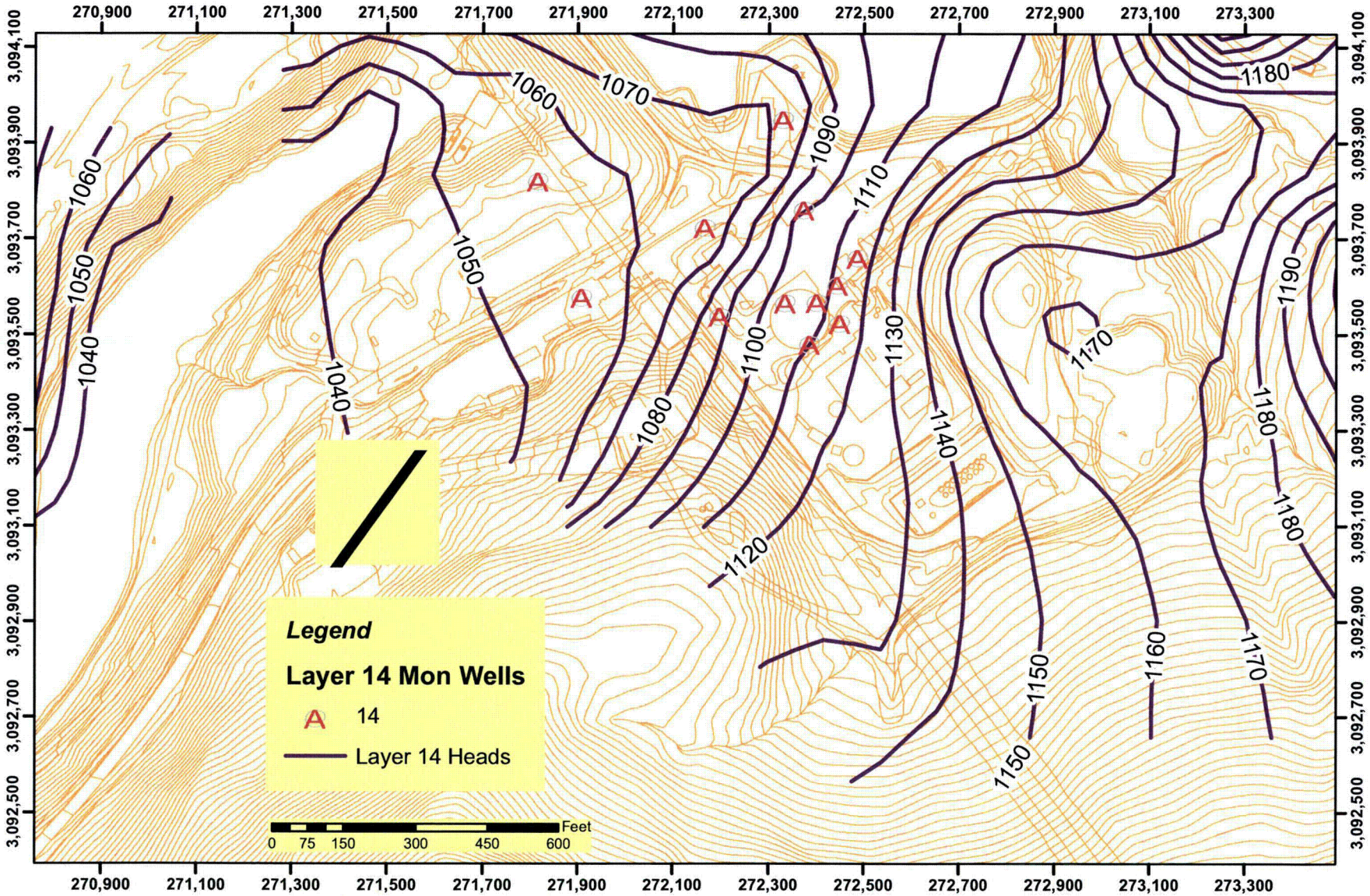
Yankee Nuclear Power Station Rowe, MA	Model Layer 7 Groundwater Contours during Plant Operation Groundwater Elevations referenced to NAVD88 1/13/07	Final Groundwater Condition Report *Figure 6-36*



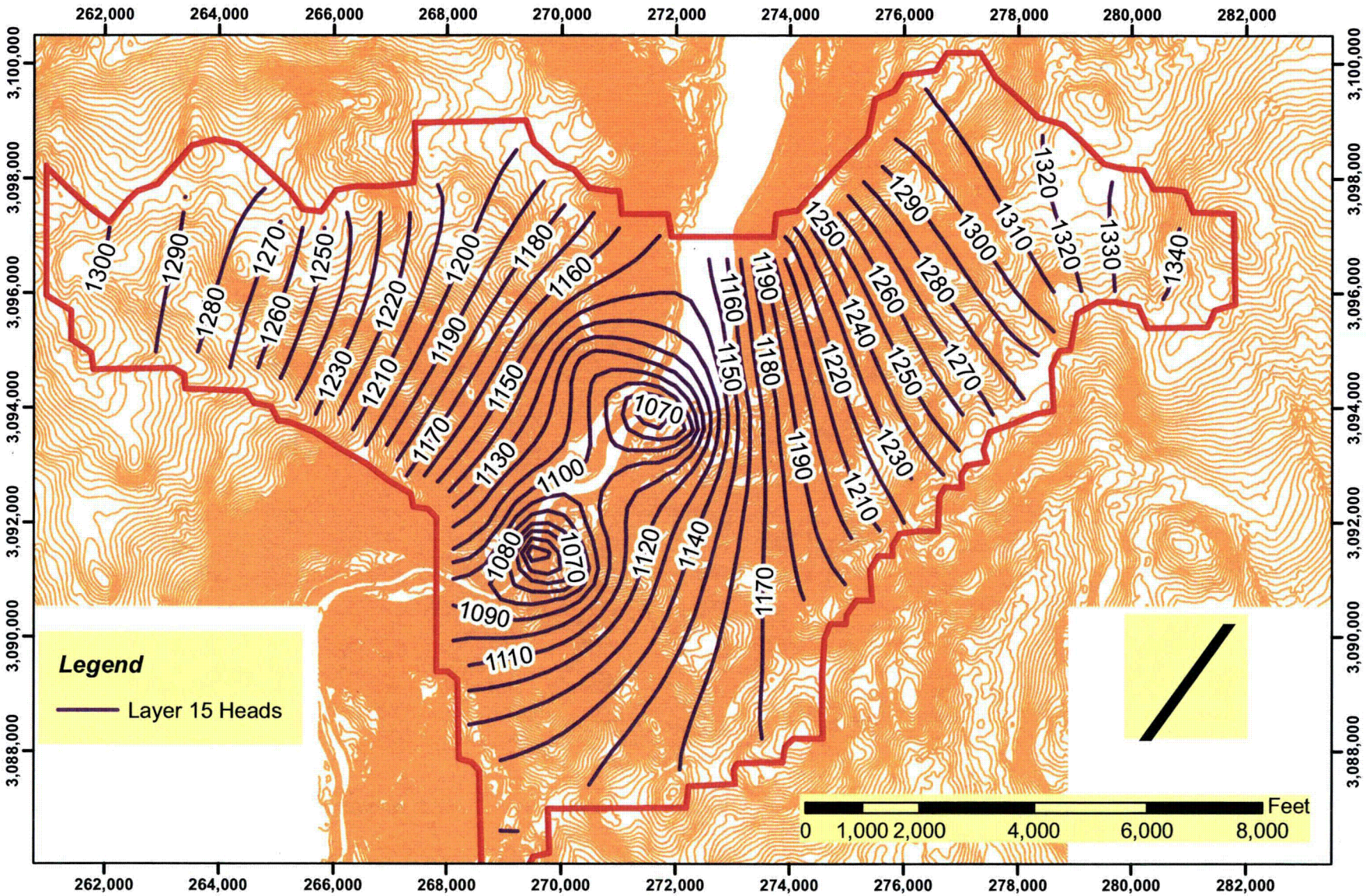
Yankee Nuclear Power Station Rowe, MA	Model Layer 10 Groundwater Contours during Plant Operation Groundwater Elevations referenced to NAVD88 1/13/07	Final Groundwater Condition Report *Figure 6-37*



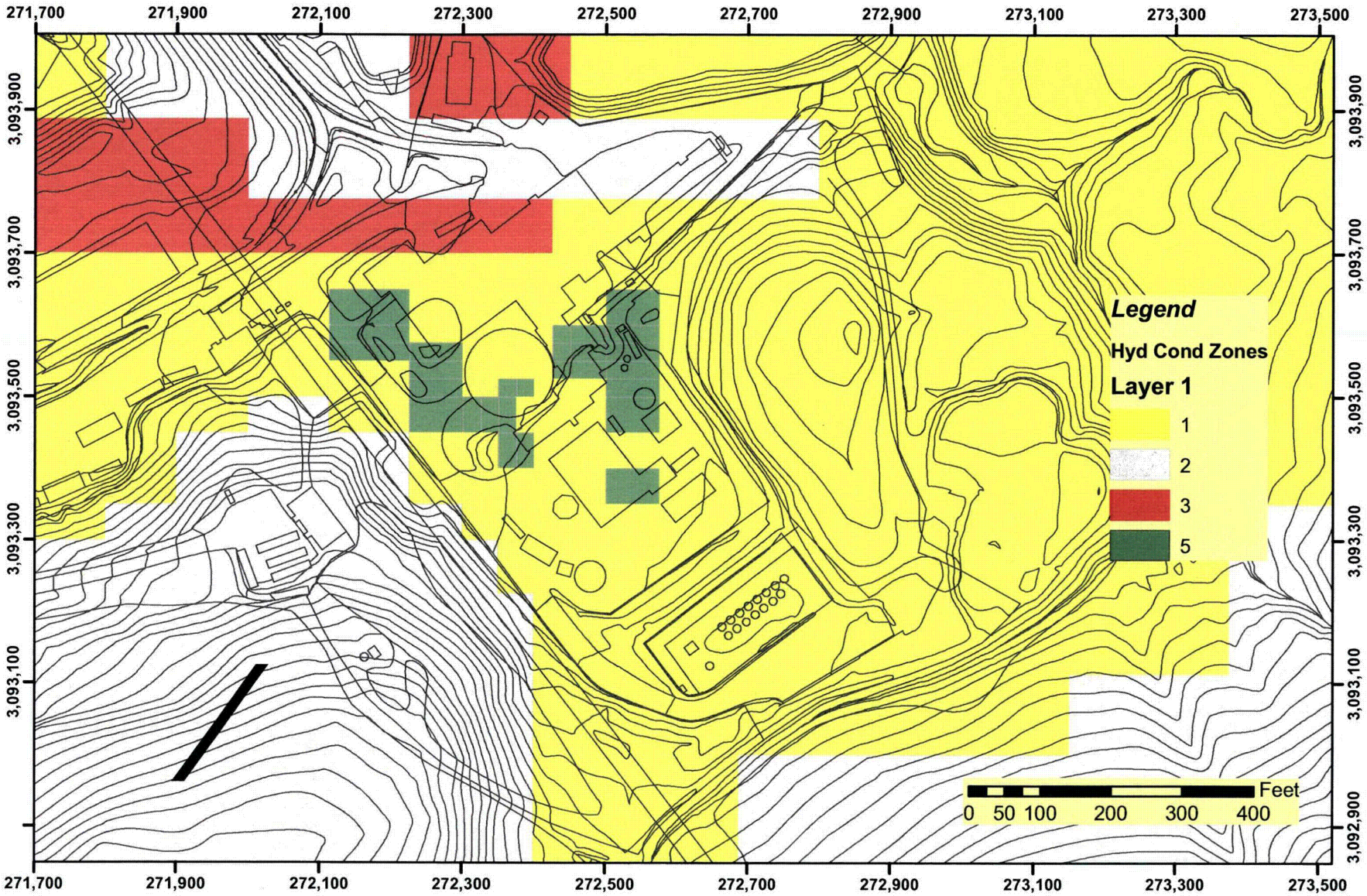
Yankee Nuclear Power Station Rowe, MA	Model Layer 12 Groundwater Contours during Plant Operation Groundwater Elevations referenced to NAVD88 1/13/07	Final Groundwater Condition Report *Figure 6-38*



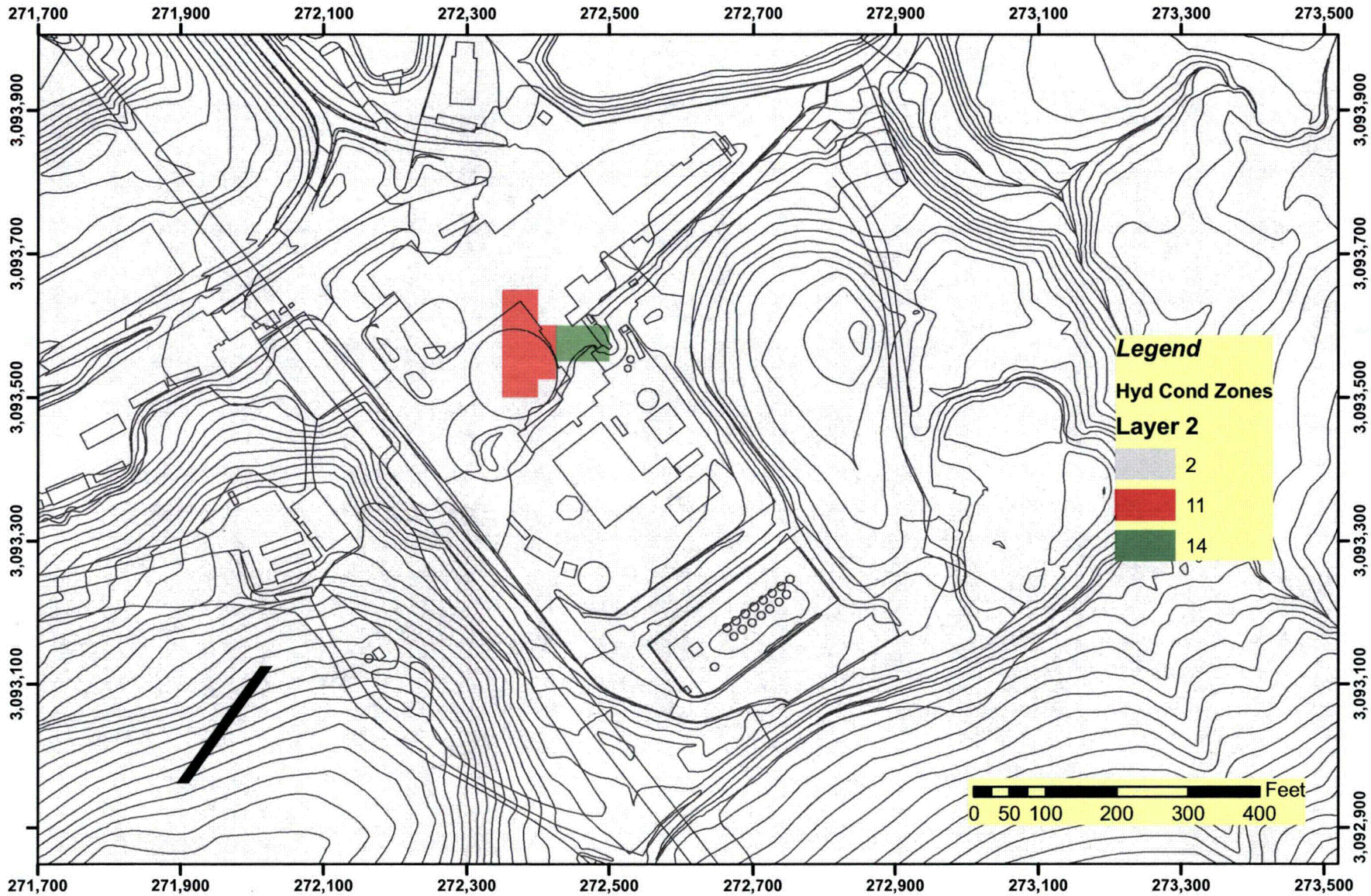
Yankee Nuclear Power Station Rowe, MA	Model Layer 14 Groundwater Contours during Plant Operation Groundwater Elevations referenced to NAVD88 1/13/07	Final Groundwater Condition Report *Figure 6-39*



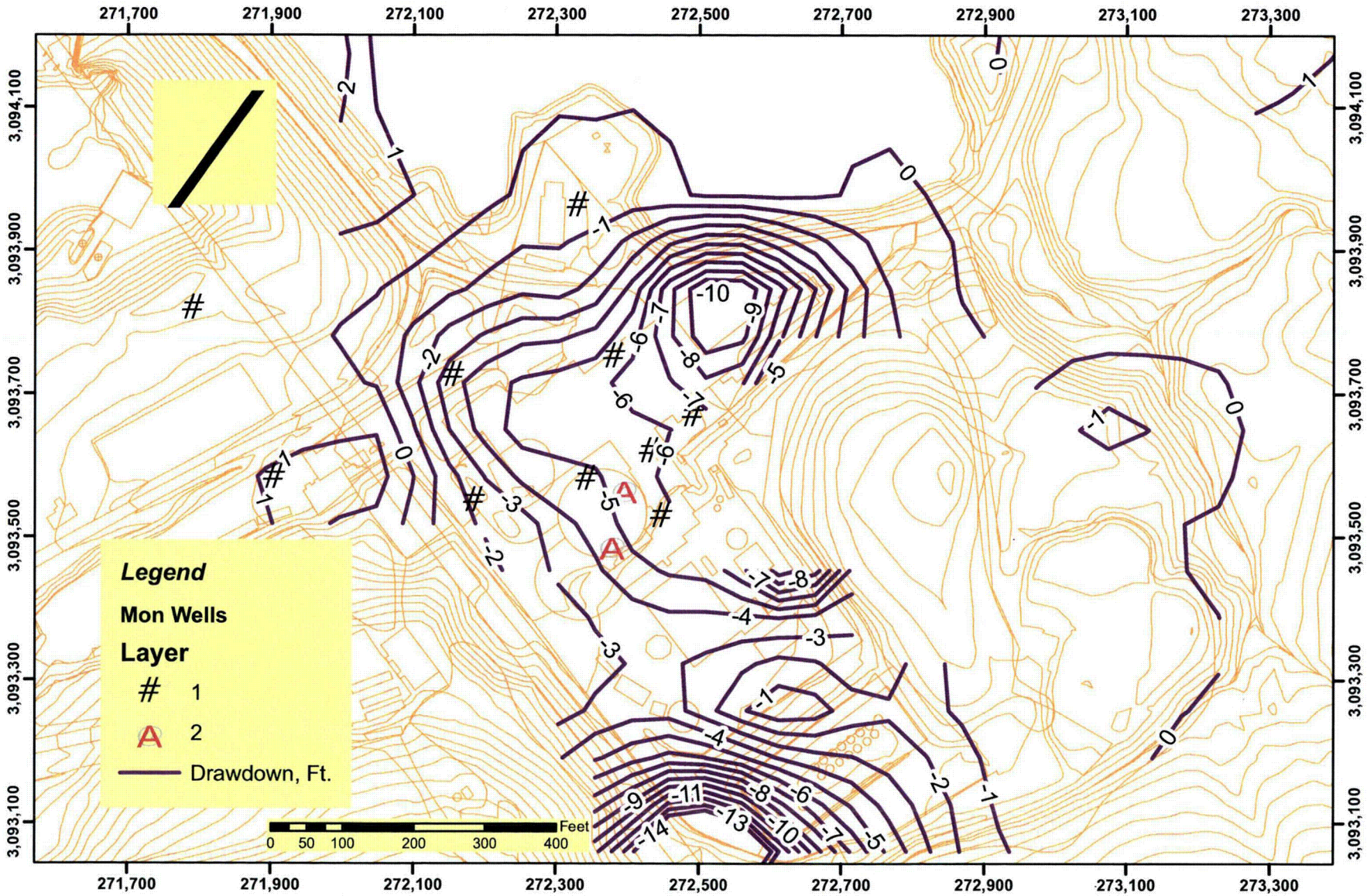
Yankee Nuclear Power Station Rowe, MA	Model Layer 15 Groundwater Contours during Plant Operation Groundwater Elevations referenced to NAVD88 1/13/07	Final Groundwater Condition Report *Figure 6-40*



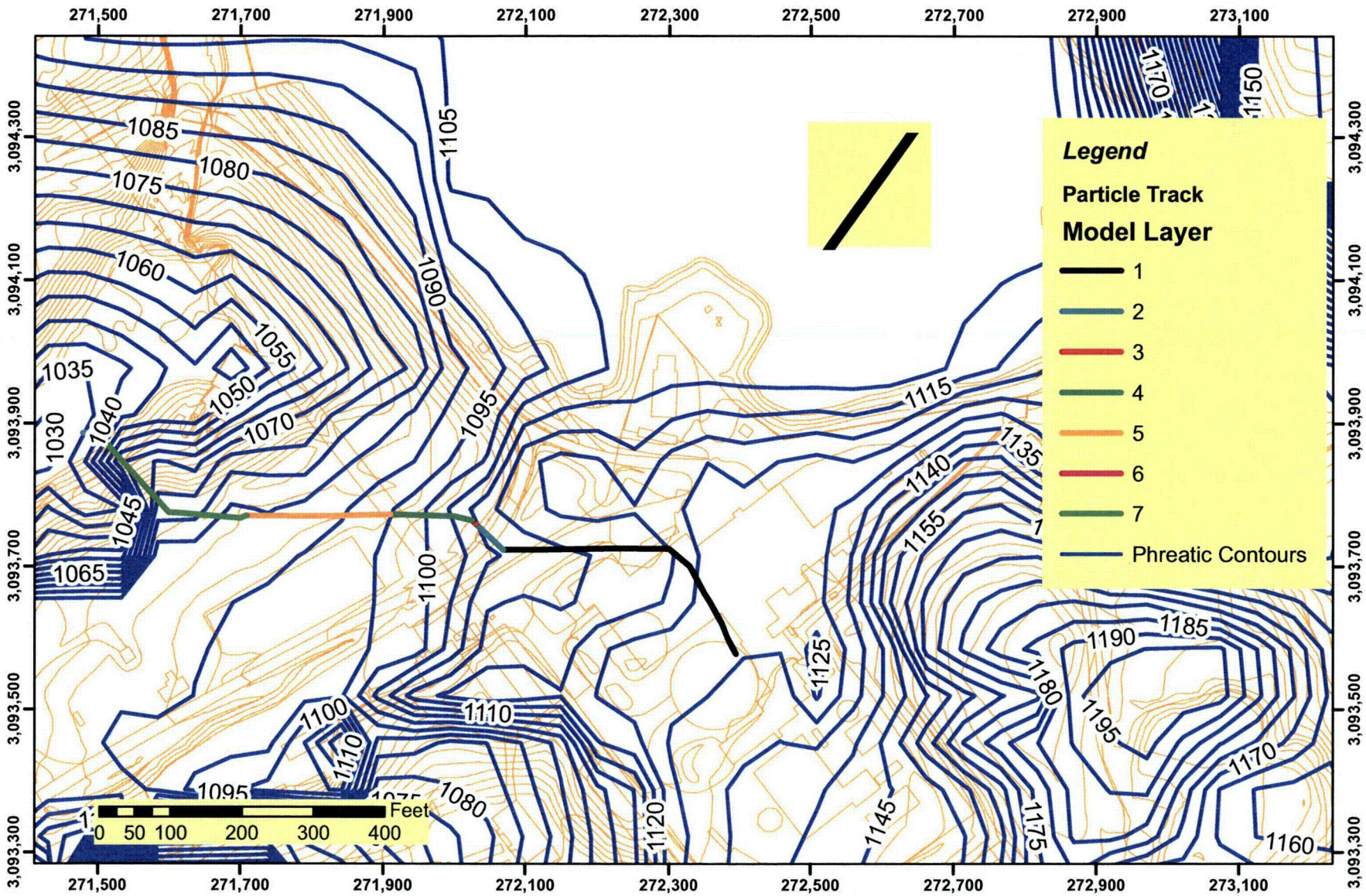
Yankee Nuclear Power Station Rowe, MA	Layer 1 Hydraulic Conductivity Distribution in Post-Demo State The significant changes from Figure 6-6 are in the extension of the Sherman Dam crest ? Zone 2? to the east and the addition of thick till-like soils ? Zone 5? to backfill excavations 1/14/07	Final Groundwater Condition Report *Figure 6-41*



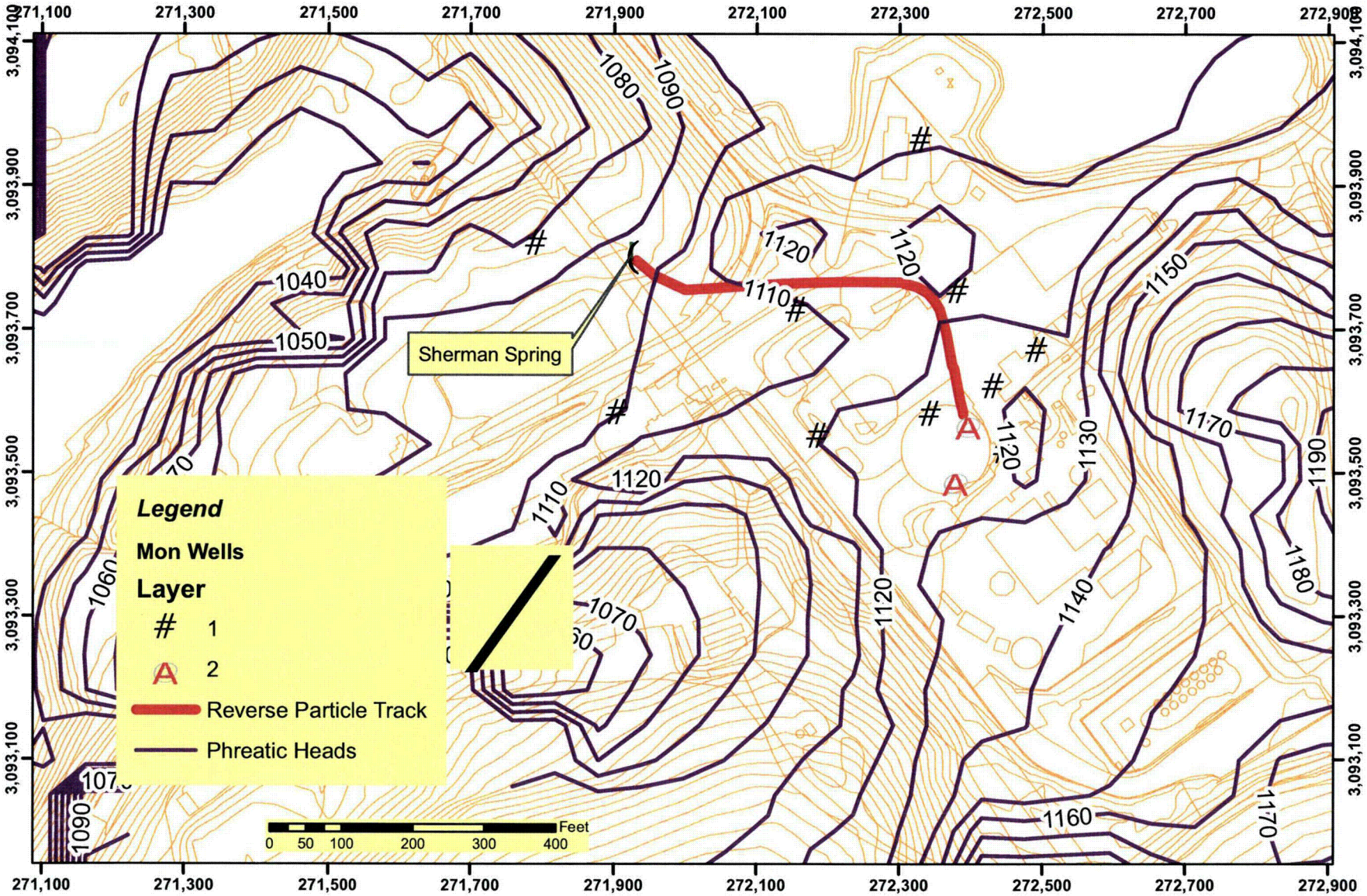
Yankee Nuclear Power Station Rowe, MA	Layer 2 Hydraulic Conductivity Distribution in Post-Demo State 1/14/07	Final Groundwater Condition Report *Figure 6-42*



Yankee Nuclear Power Station Rowe, MA	Simulated Change in Groundwater Elevation, Model Layer 2 In Post-Demo State, Average Annual Steady-state Recharge Negative Groundwater Drawdown Means a Rise in Elevation Compared with Pre-Demo State 1/13/07	Final Groundwater Condition Report *Figure 6-43*

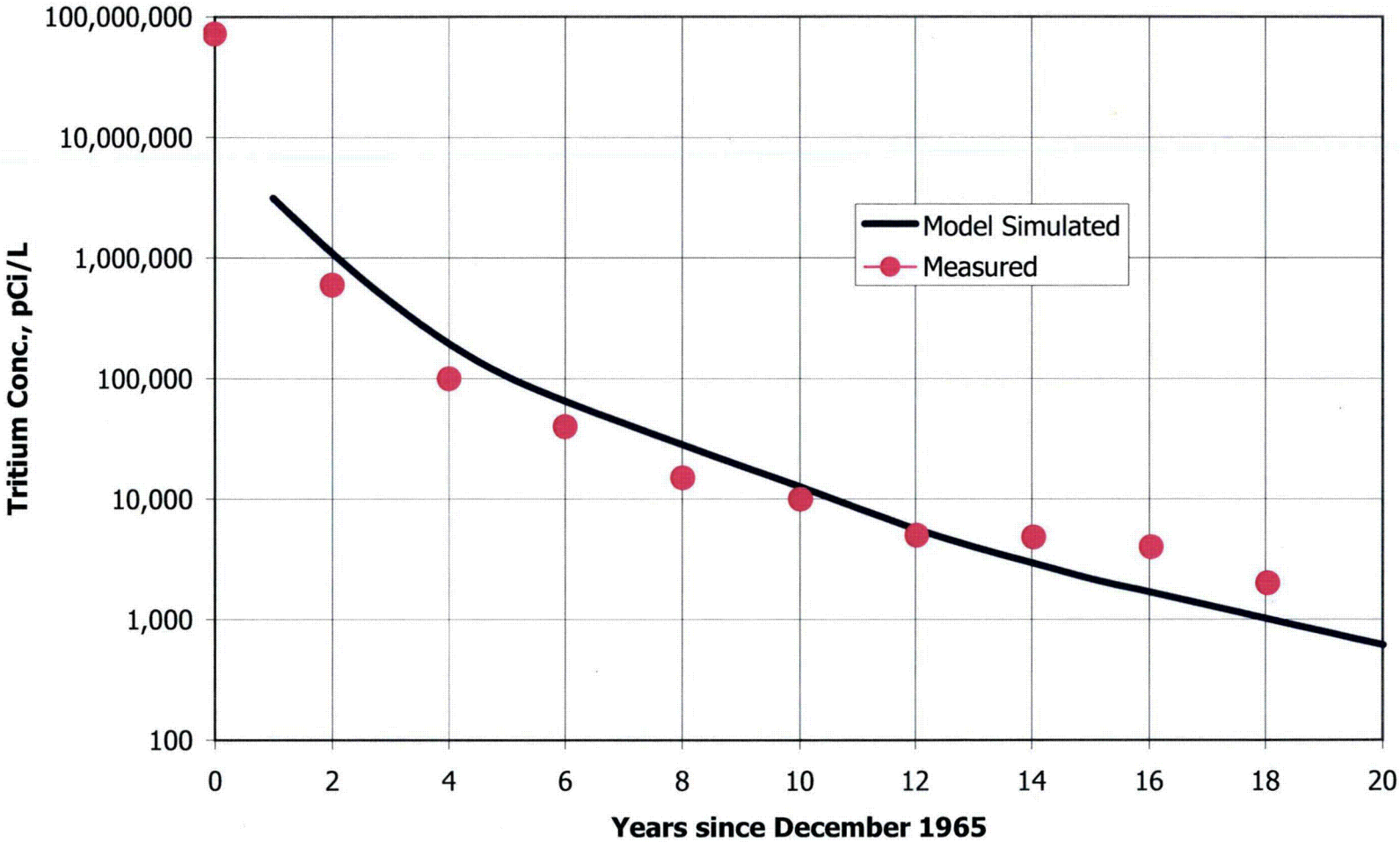


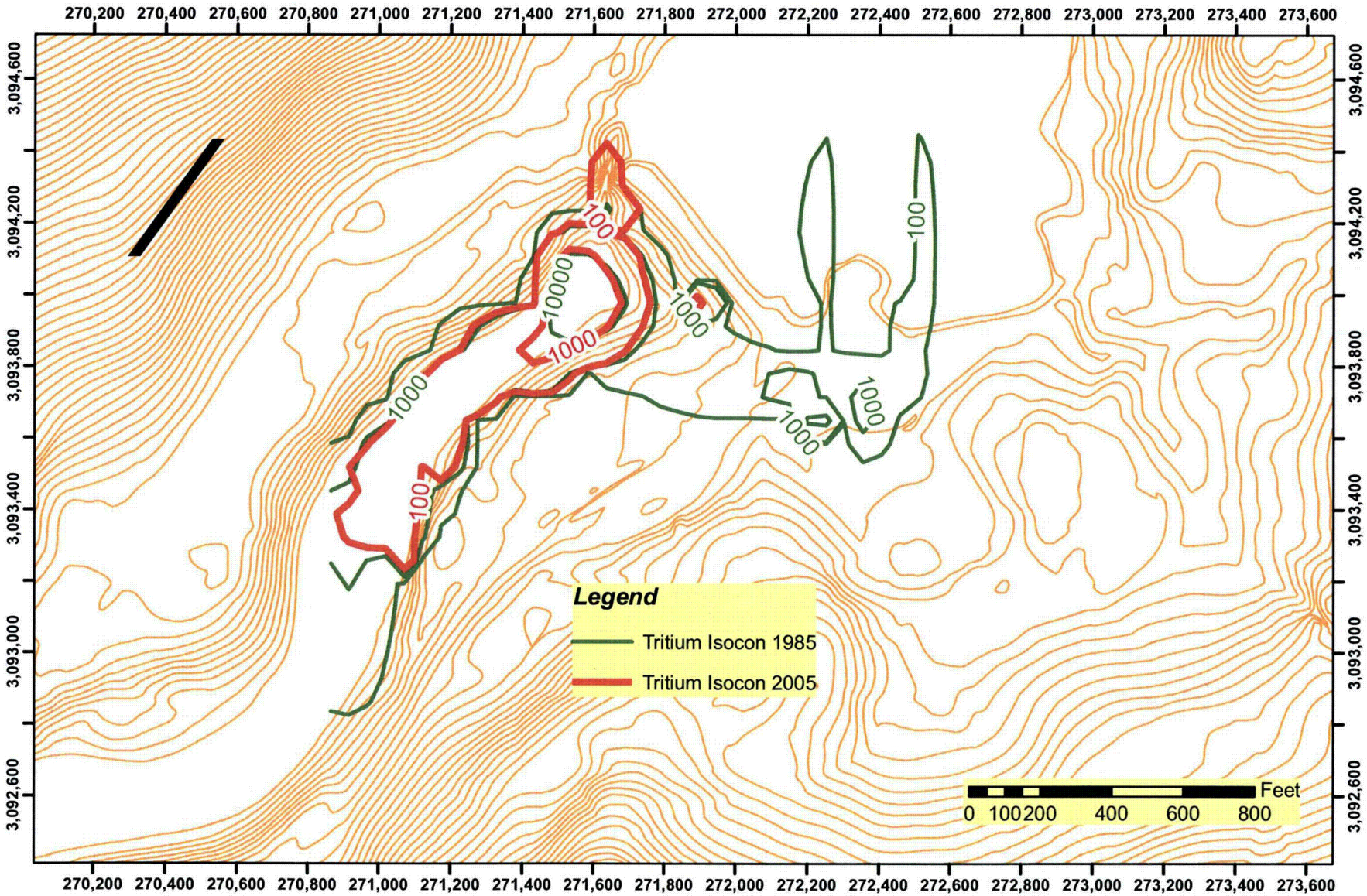
Yankee Nuclear Power Station Rowe, MA	Phreatic Surface Contours in Post-Demo State, Average Annual Recharge, and Particle Track from Top Model Layer at MW-107 Groundwater Contours referenced to NAVD88, Feet Particle Tracks are color-coded to indicate the model layer of travel 2/1/07	Final Groundwater Condition Report *Figure 6-43A*



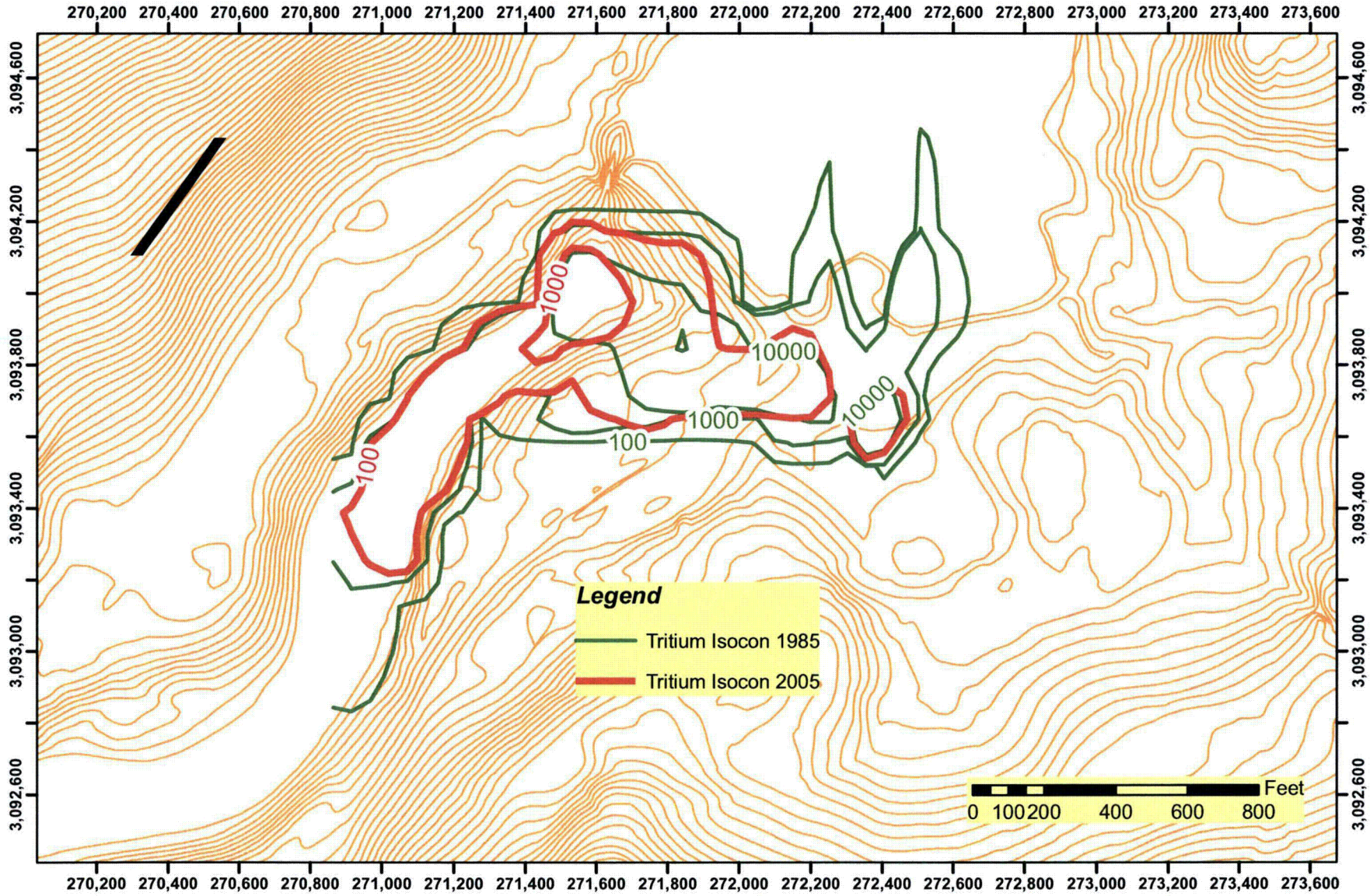
Yankee Nuclear Power Station Rowe, MA	Reverse Particle Track from Sherman Spring for 760 day Travel Time Groundwater Elevations referenced to NAVD88 1/13/07	Final Groundwater Condition Report *Figure 6-44*

Figure 6-45
Comparison of Measured vs. Simulated Tritium Concentrations in Sherman Spring

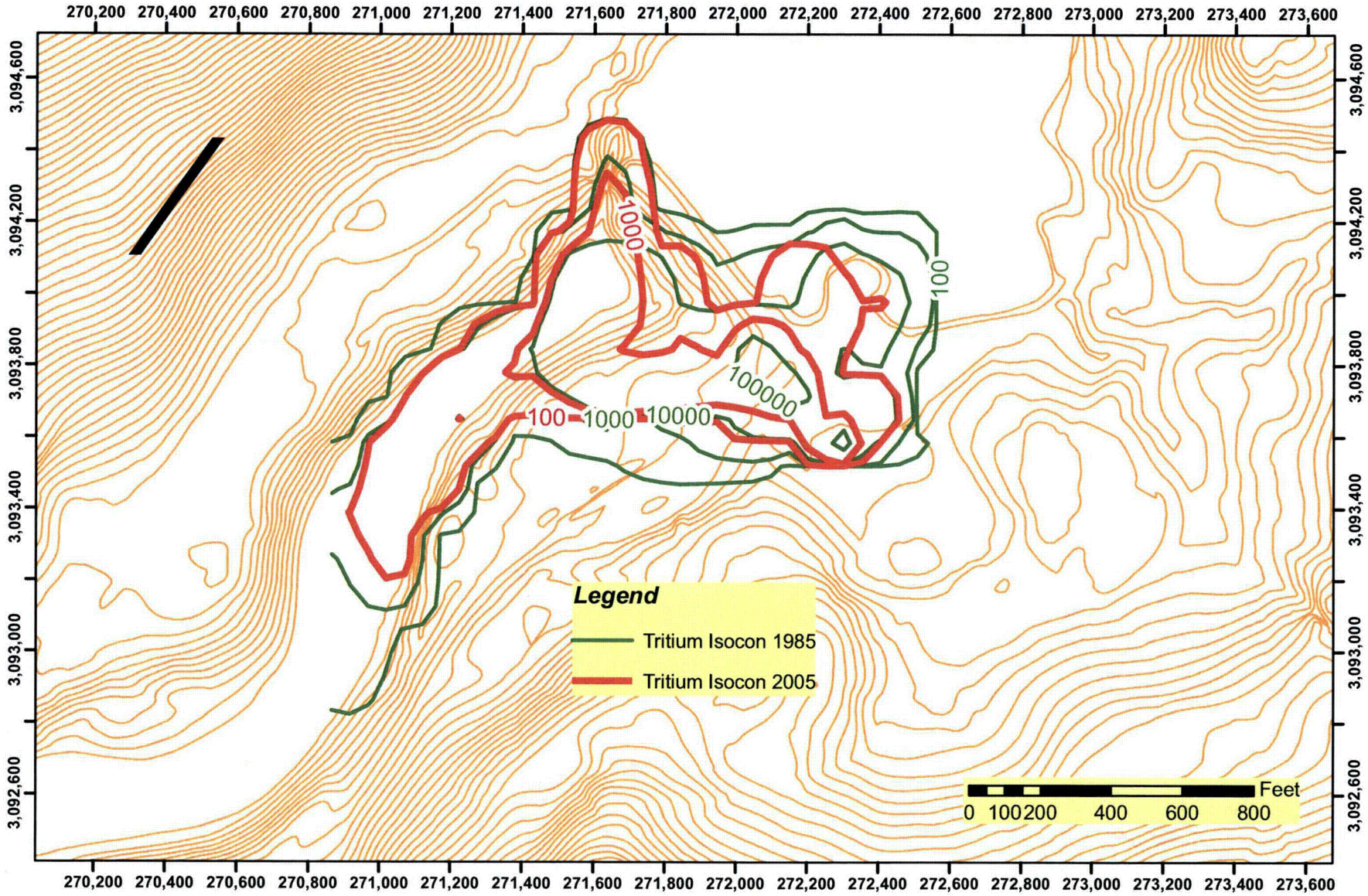




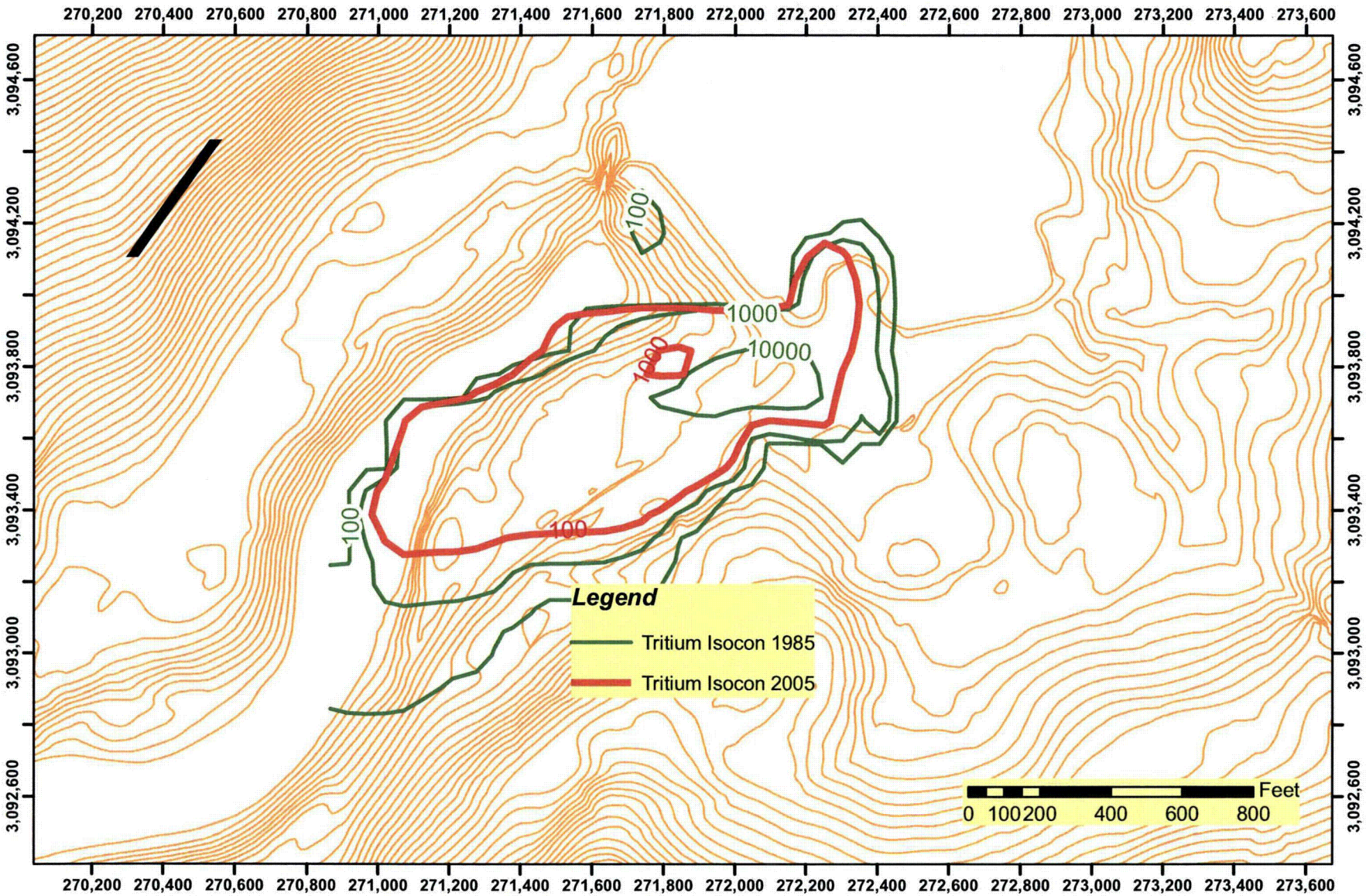
Yankee Nuclear Power Station Rowe, MA	Model-simulated Tritium Distribution in Layer 1 from IXP Leak in 1963 Tritium Concentration in pCi/L 1/15/07	Final Groundwater Condition Report *Figure 6-46*



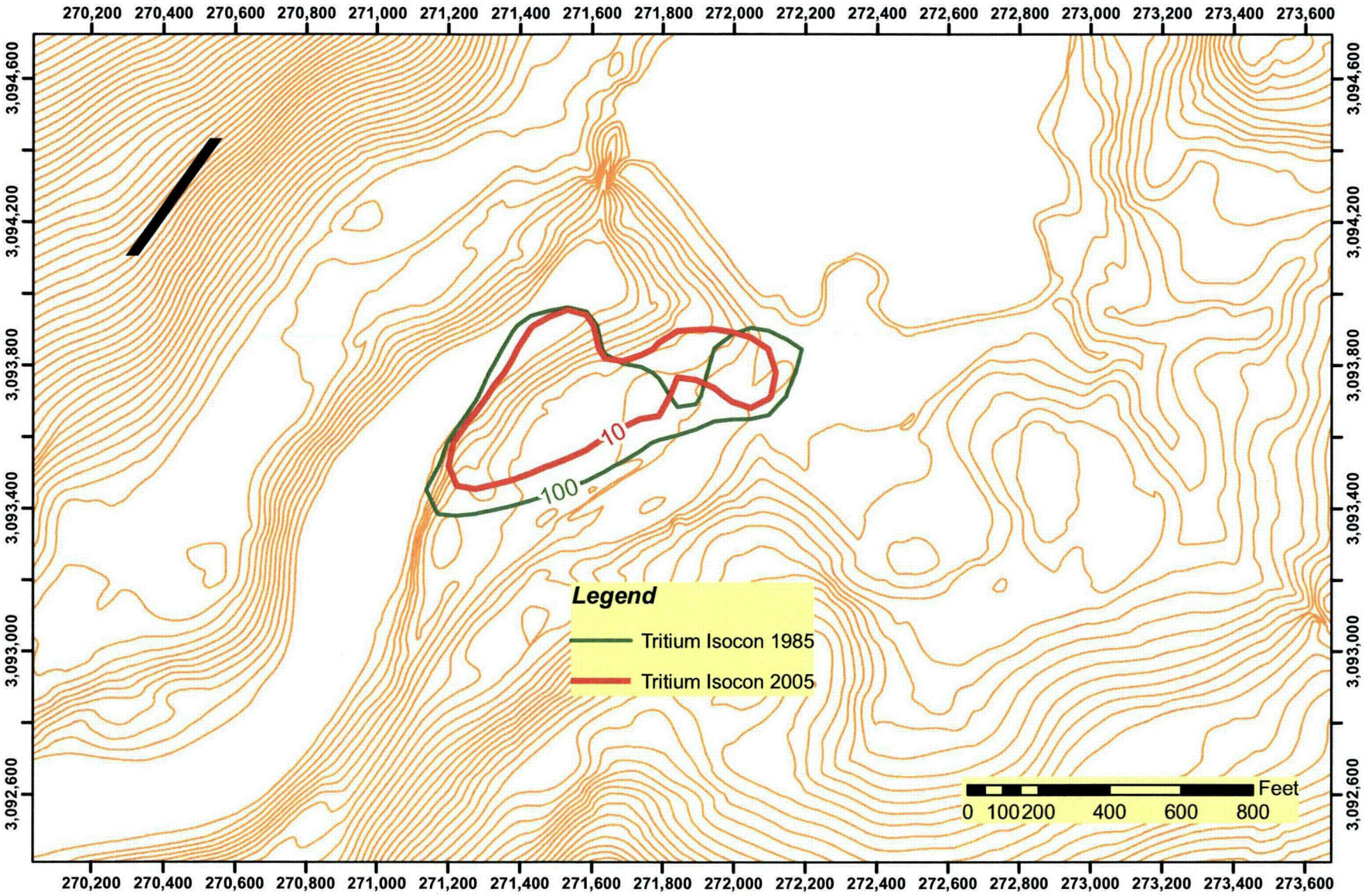
Yankee Nuclear Power Station Rowe, MA	Model-simulated Tritium Distribution in Layer 3 from IXP leak in 1963 Tritium Concentration in pCi/L 1/15/07	Final Groundwater Condition Report *Figure 6-47*



Yankee Nuclear Power Station Rowe, MA	Model-simulated Tritium Distribution in Layer 7 from 1963 IXP Leak Tritium Concentration in pCi/L 1/15/07	Final Groundwater Condition Report *Figure 6-48*



Yankee Nuclear Power Station Rowe, MA	Model-simulated Tritium Distribution in Layer 14 from 1963 IXP Leak Tritium Concentration in pCi/L 1/15/07	Final Groundwater Condition Report *Figure 6-49*



Yankee Nuclear Power Station Rowe, MA	Model-simulated Tritium Distribution in Layer 15 from 1963 IXP Leak Tritium Concentration in pCi/L 1/15/07	Final Groundwater Condition Report *Figure 6-50*

Figure 6-51
Concentration of Tritium in MW-107C 2006-2008

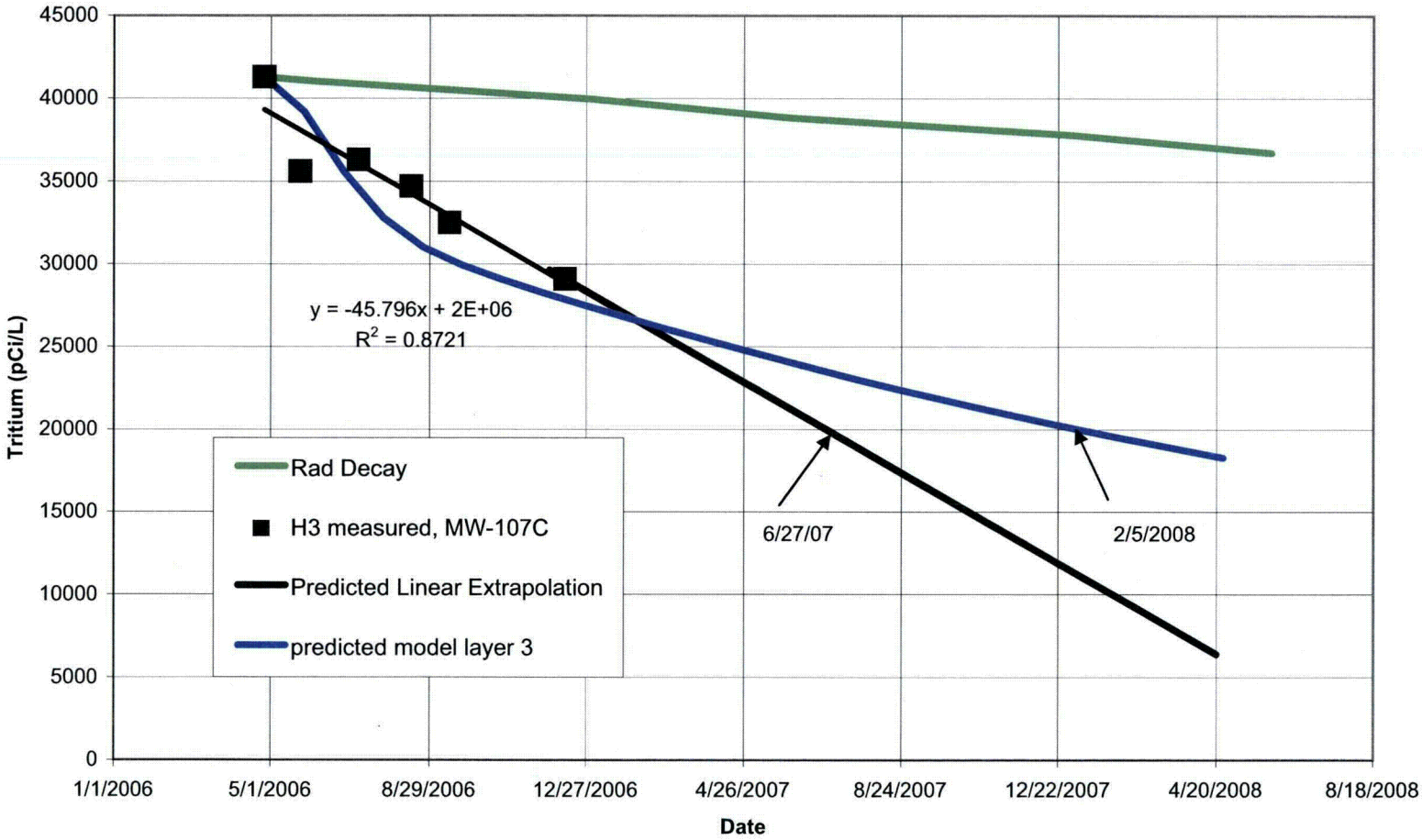
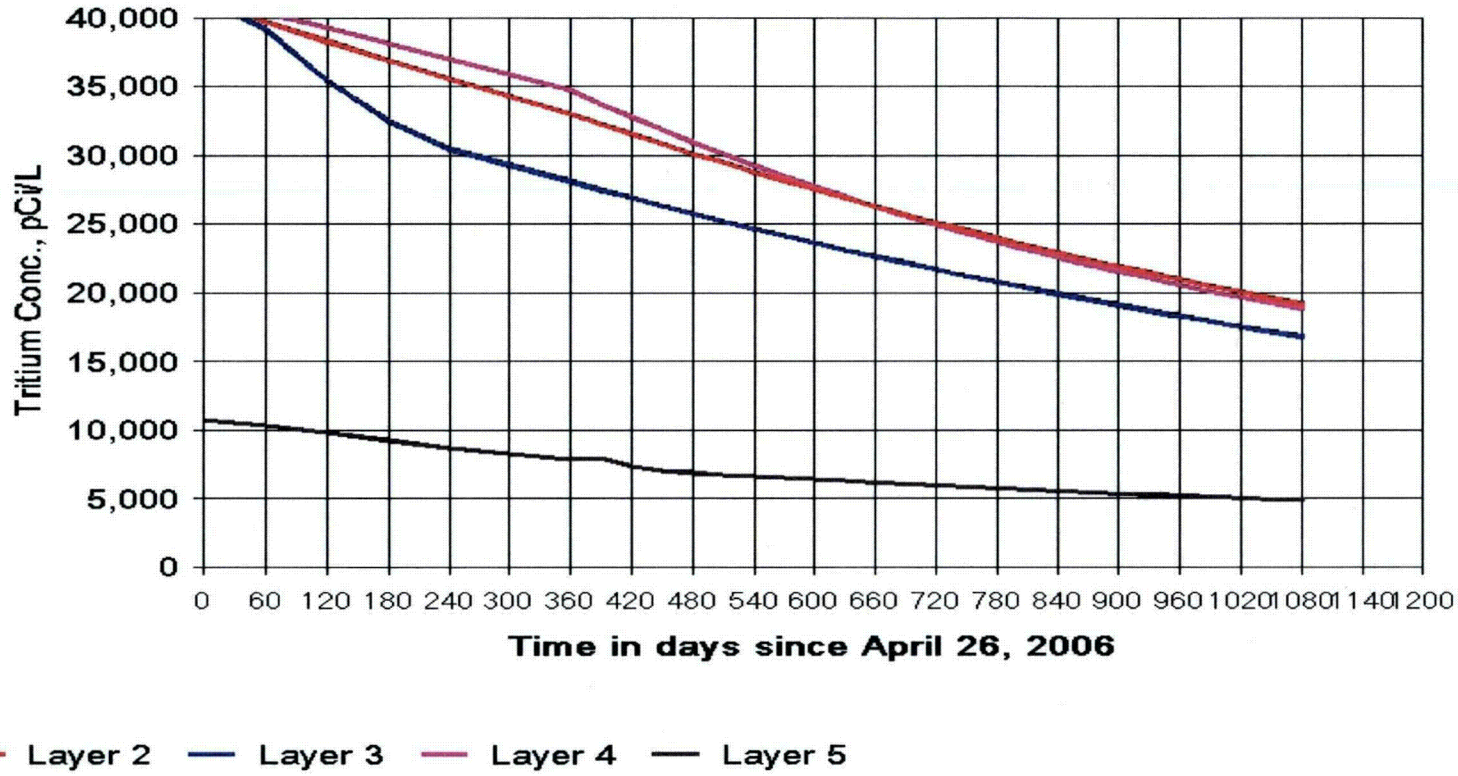


Figure 6-52

Tritium Conc. vs. Time at Resident Farmer Well at MW-107C location



Note: Well is Turned on at 360 days and runs continuously at 128 ft3/day thereafter.