

Figure 2.3-38—Topography of Bedrock Surface

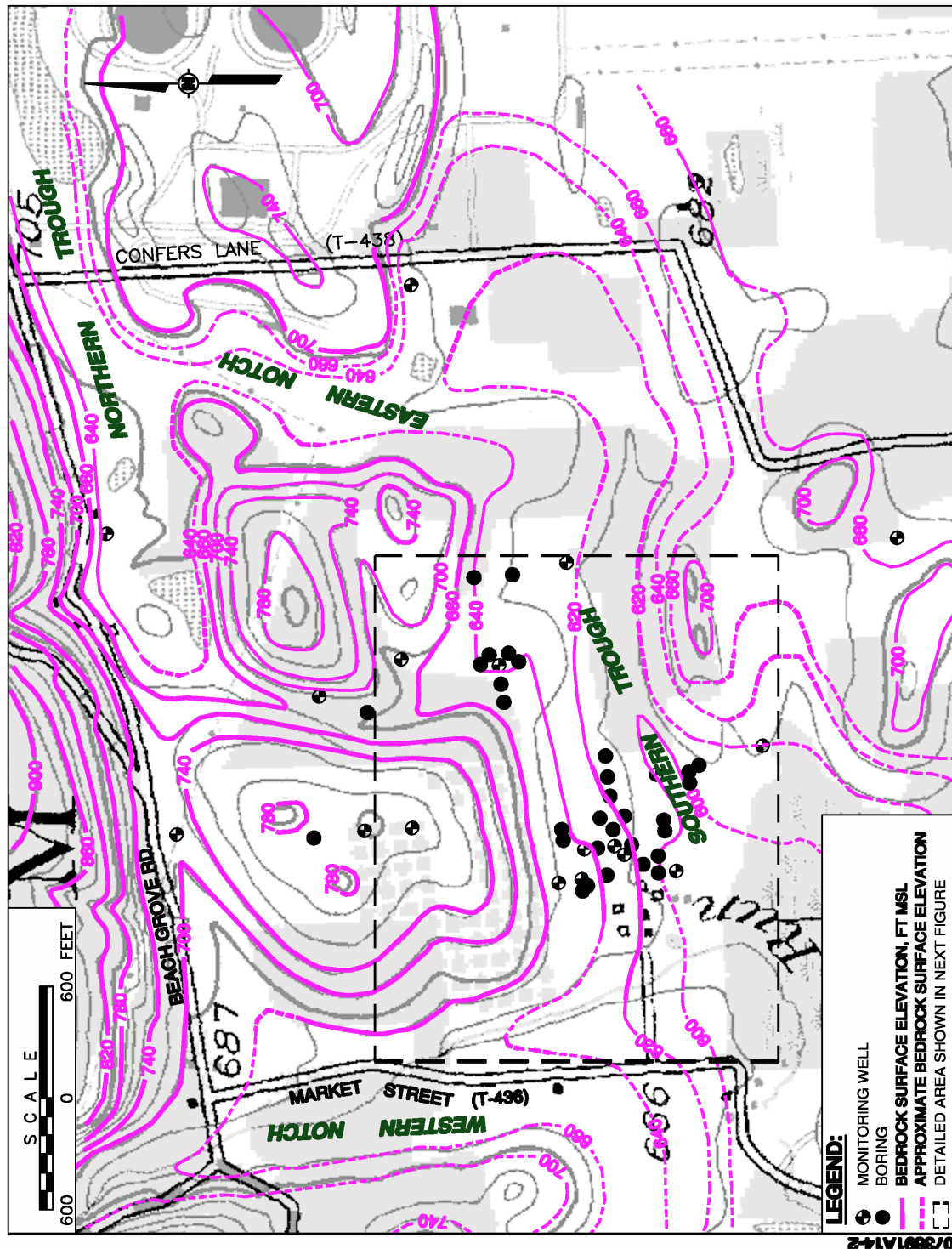


Figure 2.3-39—Topography of Bedrock Surface in the Power Block Area

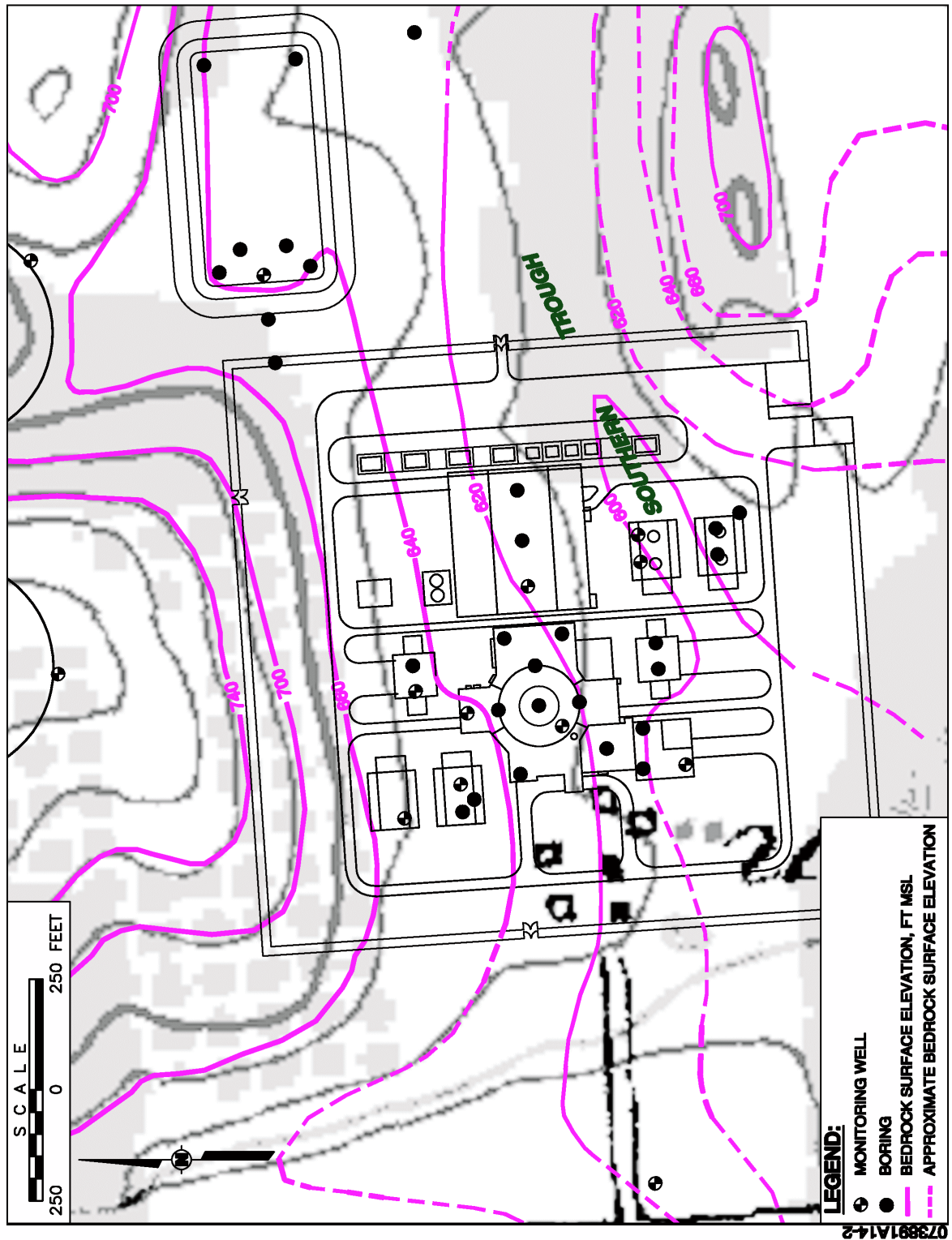


Figure 2.3-40—Groundwater Elevations versus Time, Well Clusters MW301 and MW302

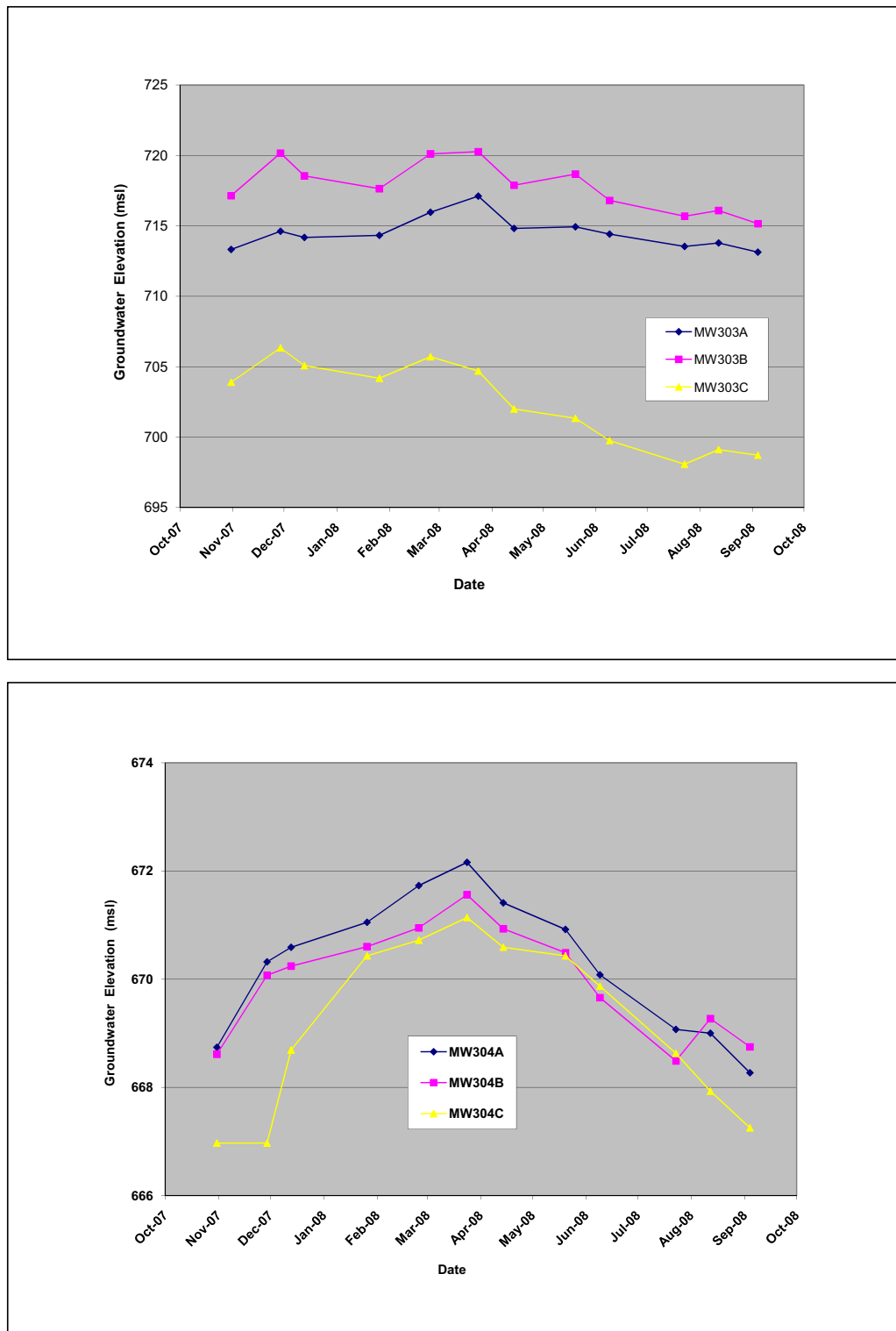
Figure 2.3-41—Groundwater Elevations versus Time, Well Clusters MW303 and MW304

Figure 2.3-42—Groundwater Elevations versus Time, Well Clusters MW305 and MW306

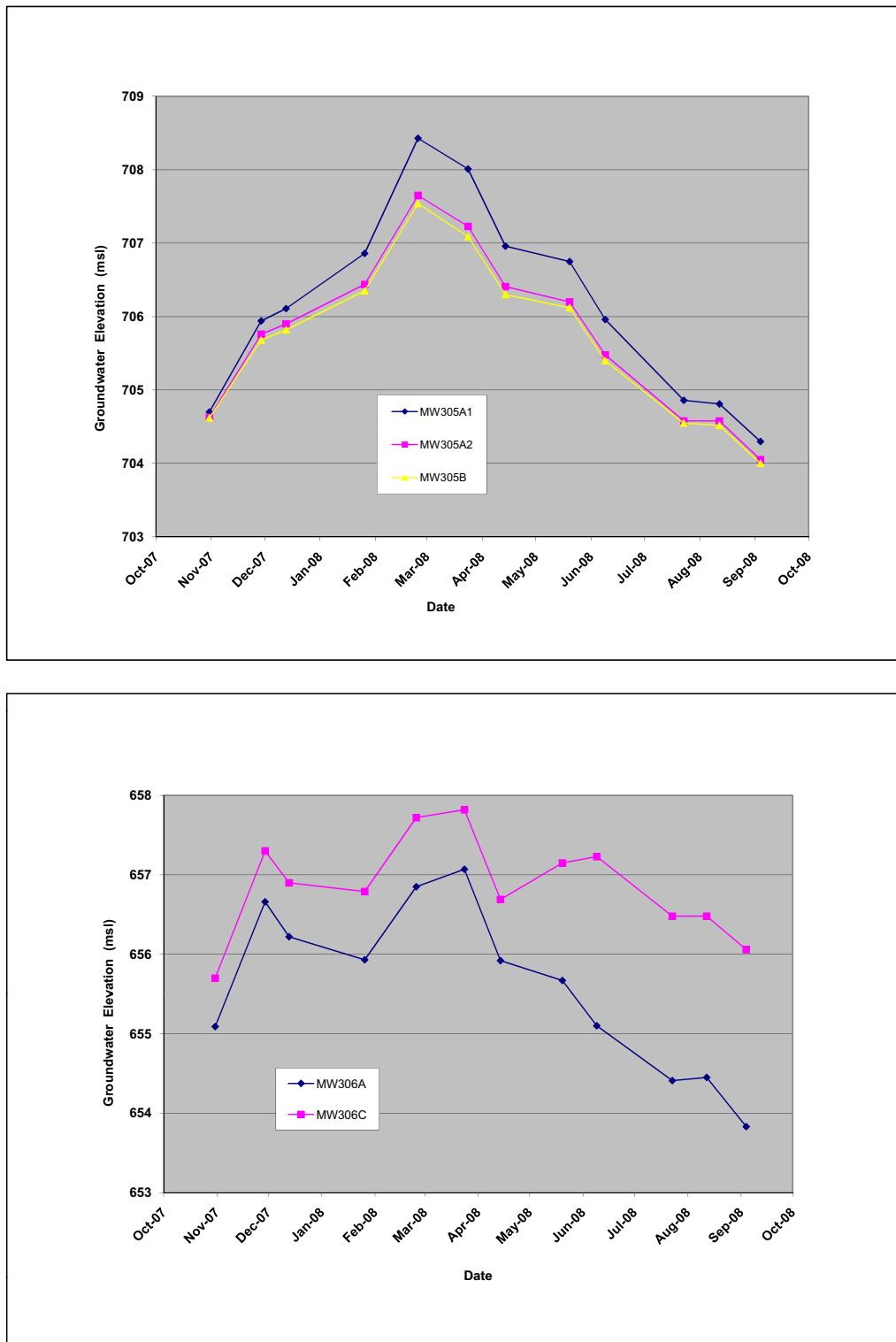


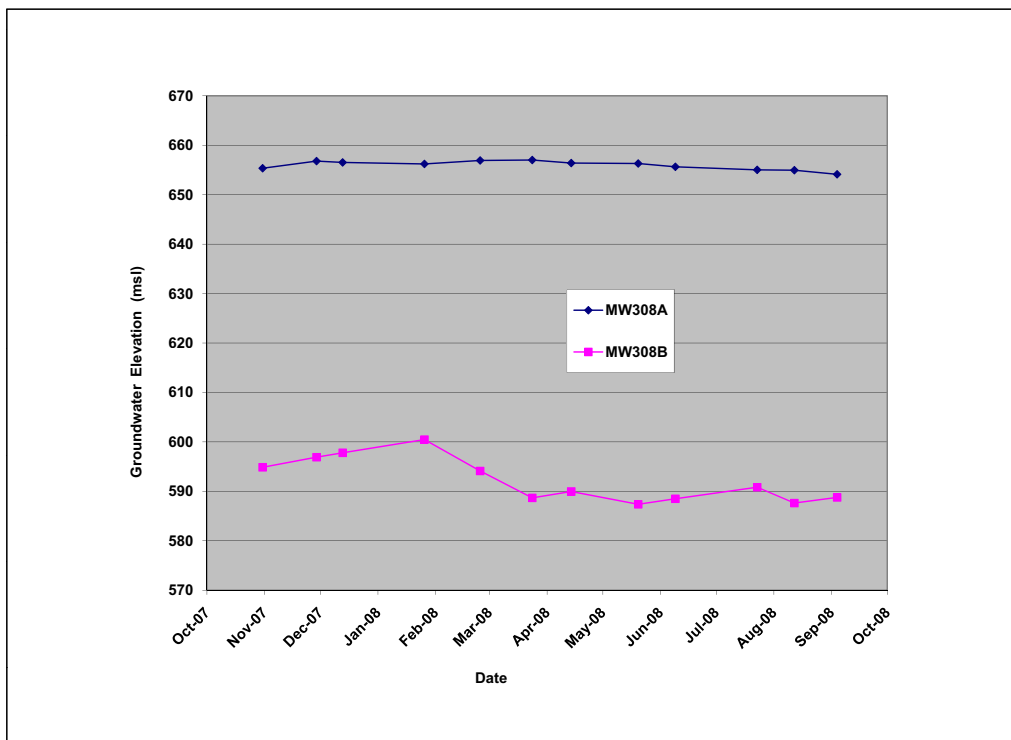
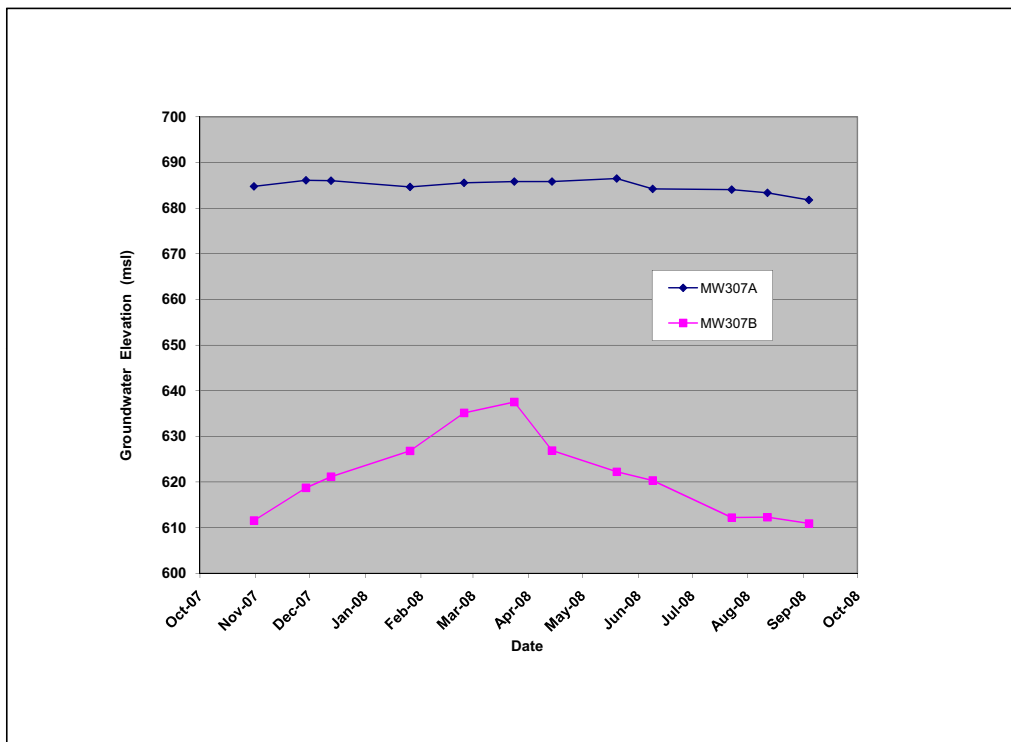
Figure 2.3-43—Groundwater Elevations versus Time, Well Clusters MW307 and MW308

Figure 2.3-44—Groundwater Elevations versus Time, Well Clusters MW309 and MW310

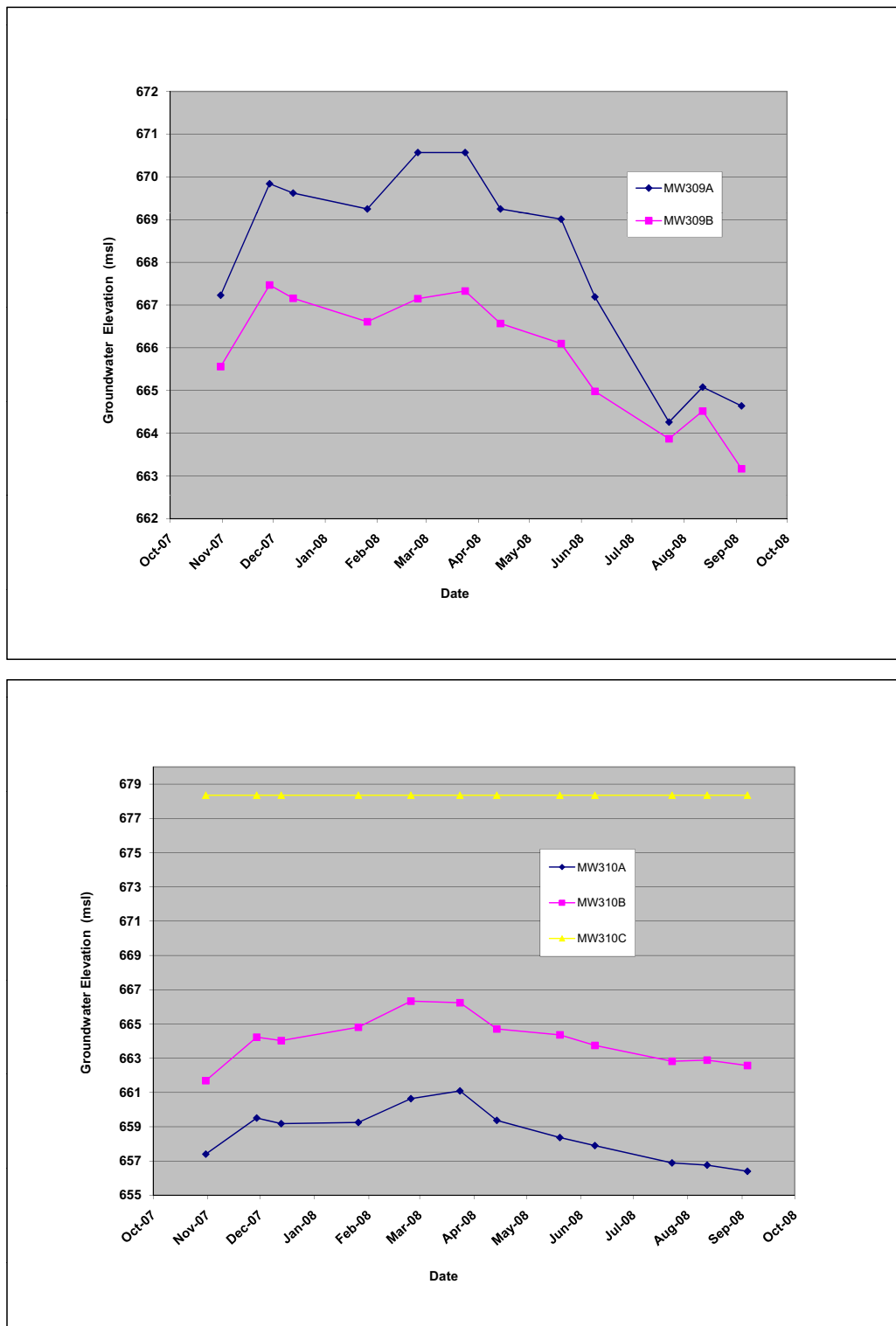


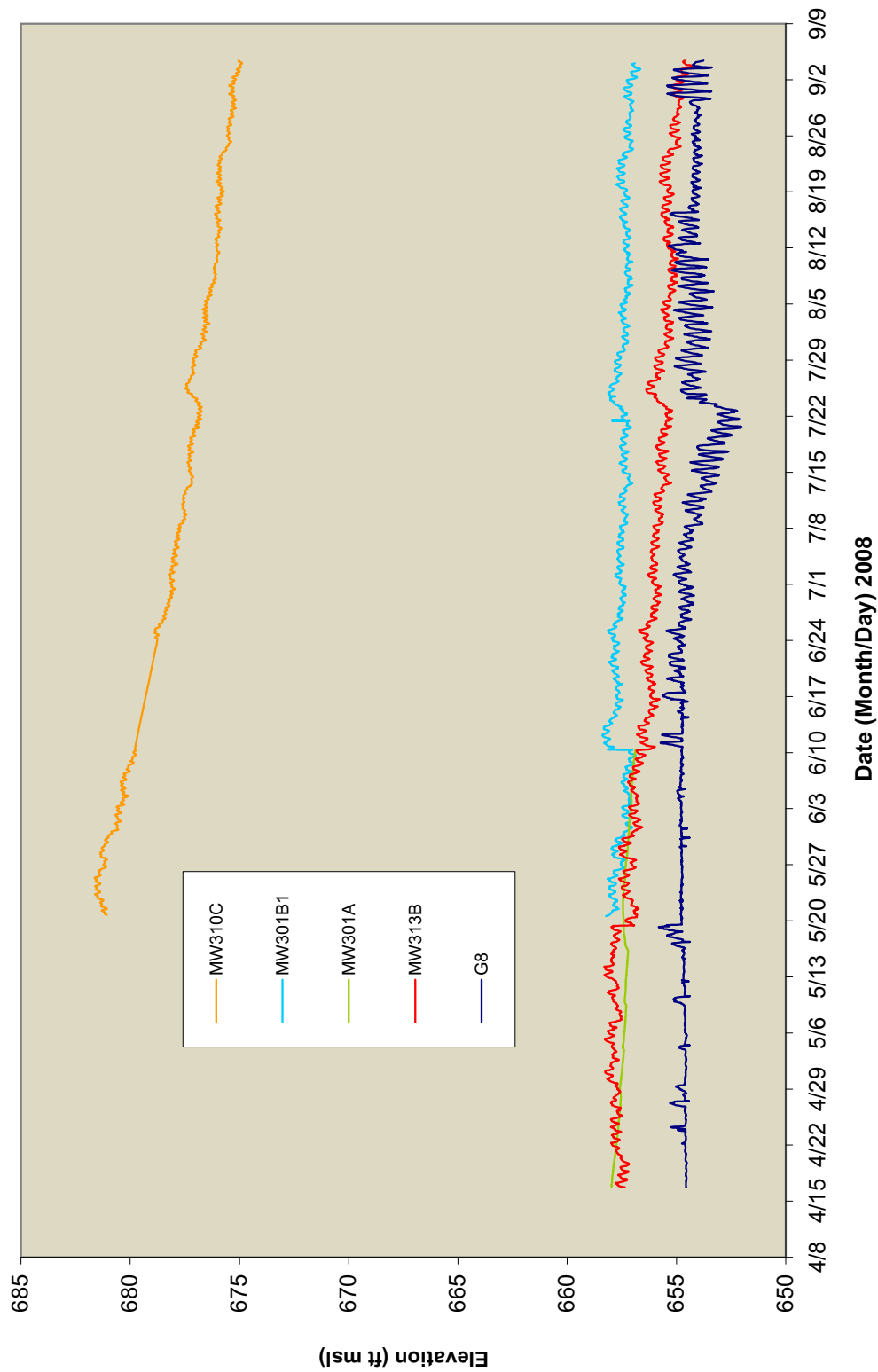
Figure 2.3-45—Water Level Fluctuations In MW301 Cluster Area Based on Pressure Transducer Data

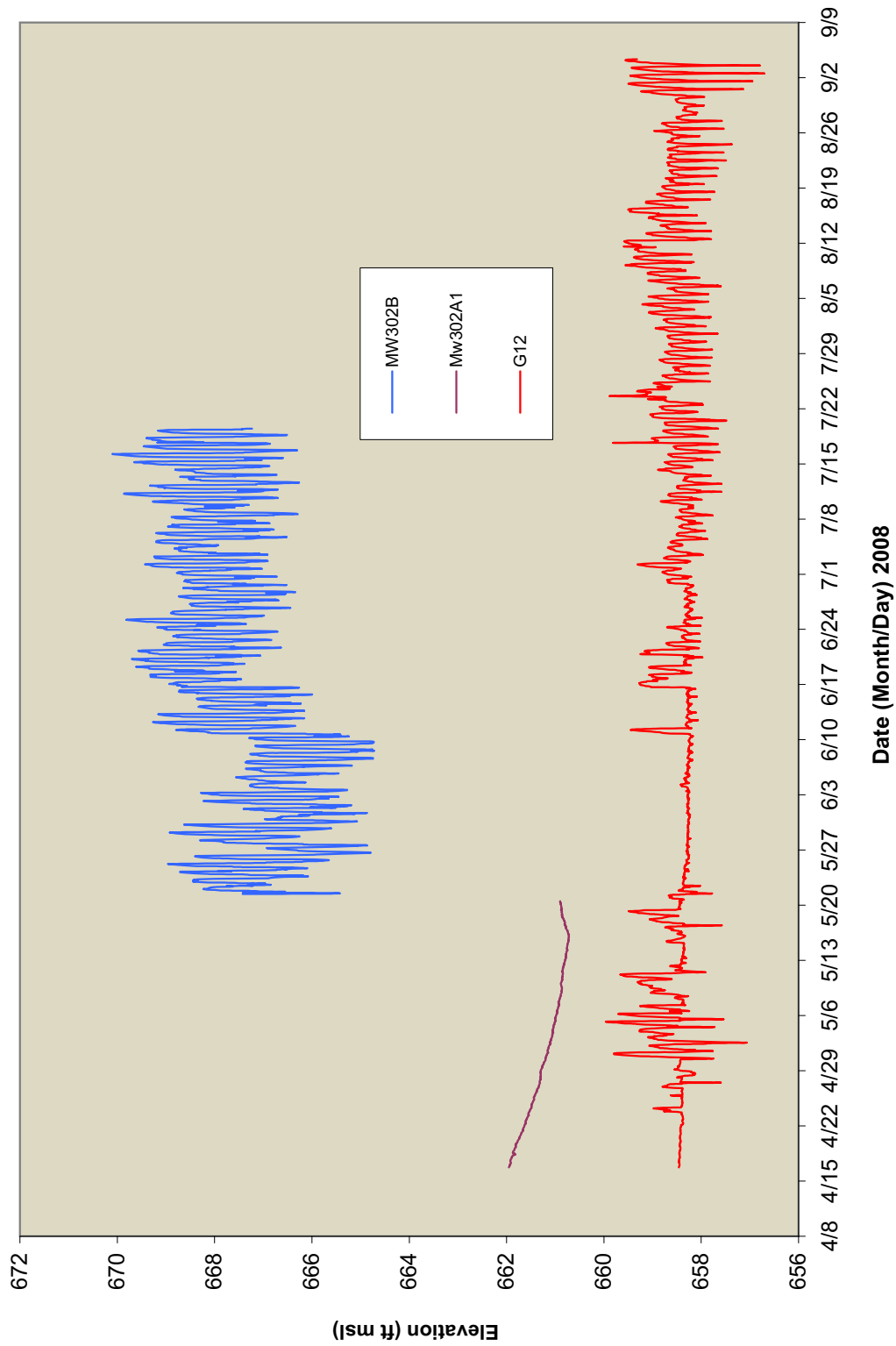
Figure 2.3-46—Water Level Fluctuations in MW302 Cluster Area Based on Pressure Transducer Data

Figure 2.3-47—Potentiometric Surface Map of Glacial Overburden Aquifer, October 2007

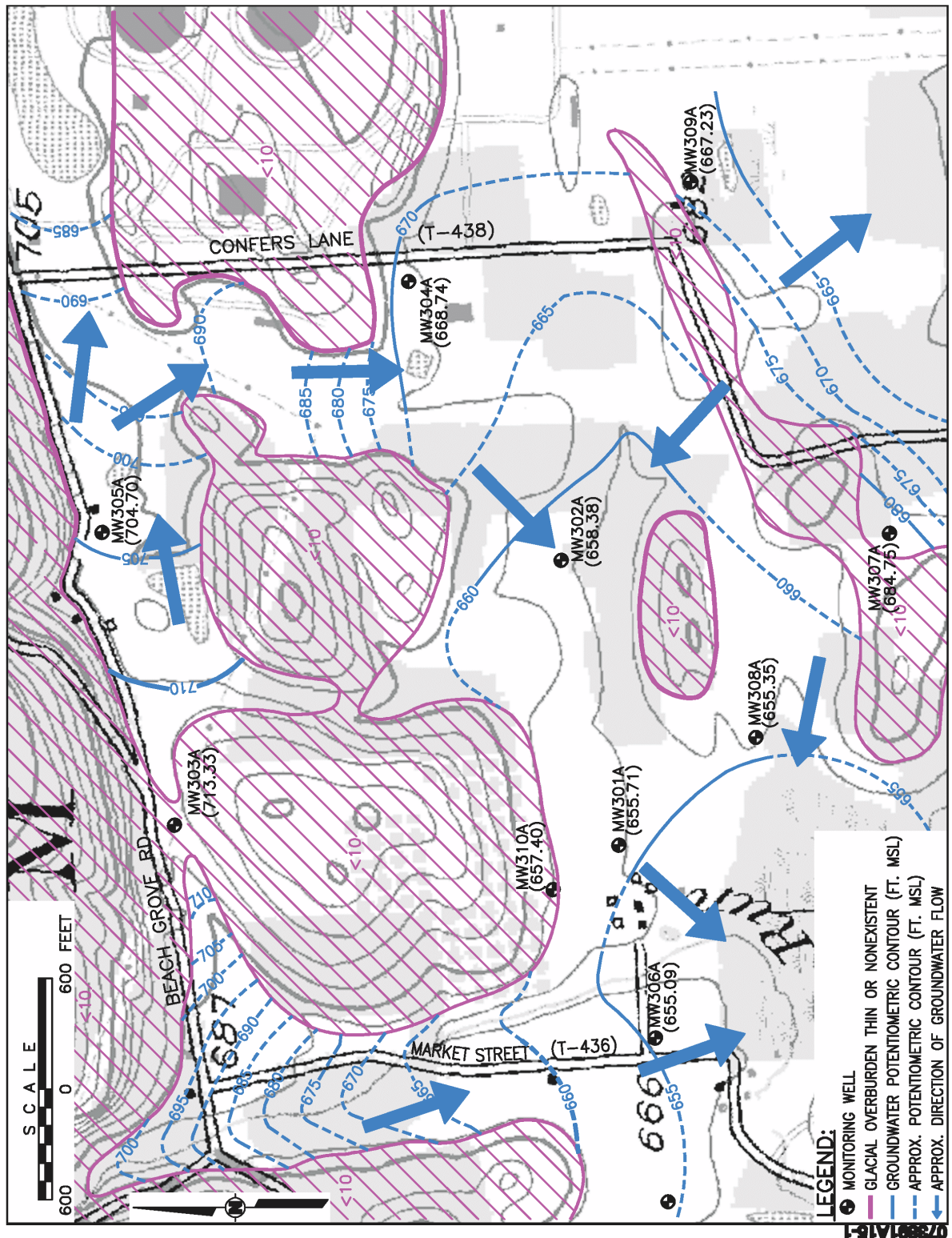


Figure 2.3-48—Potentiometric Surface Map of Glacial Overburden Aquifer, January 2008

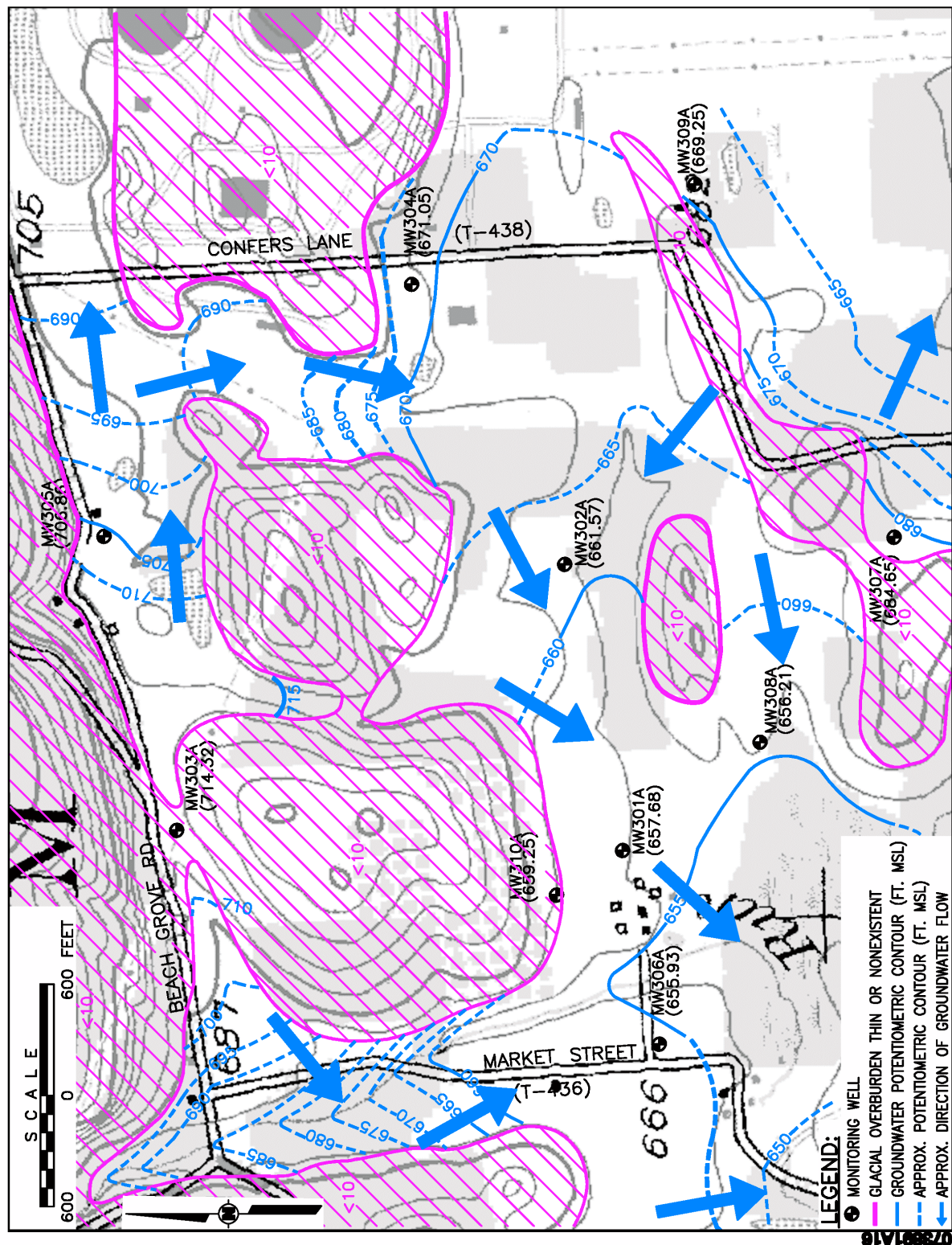


Figure 2.3-49—Potentiometric Surface Map of Glacial Overburden Aquifer, March 2008

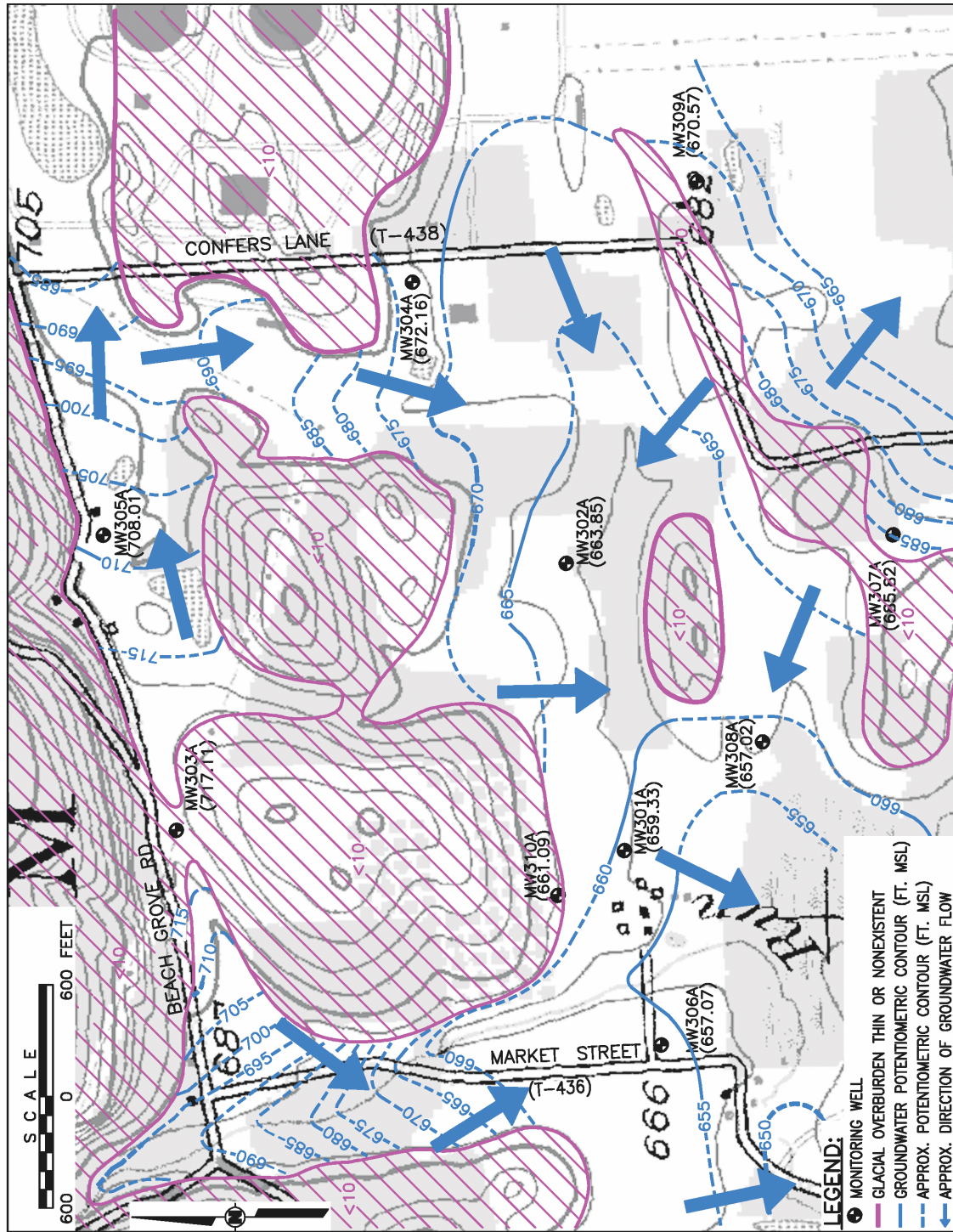
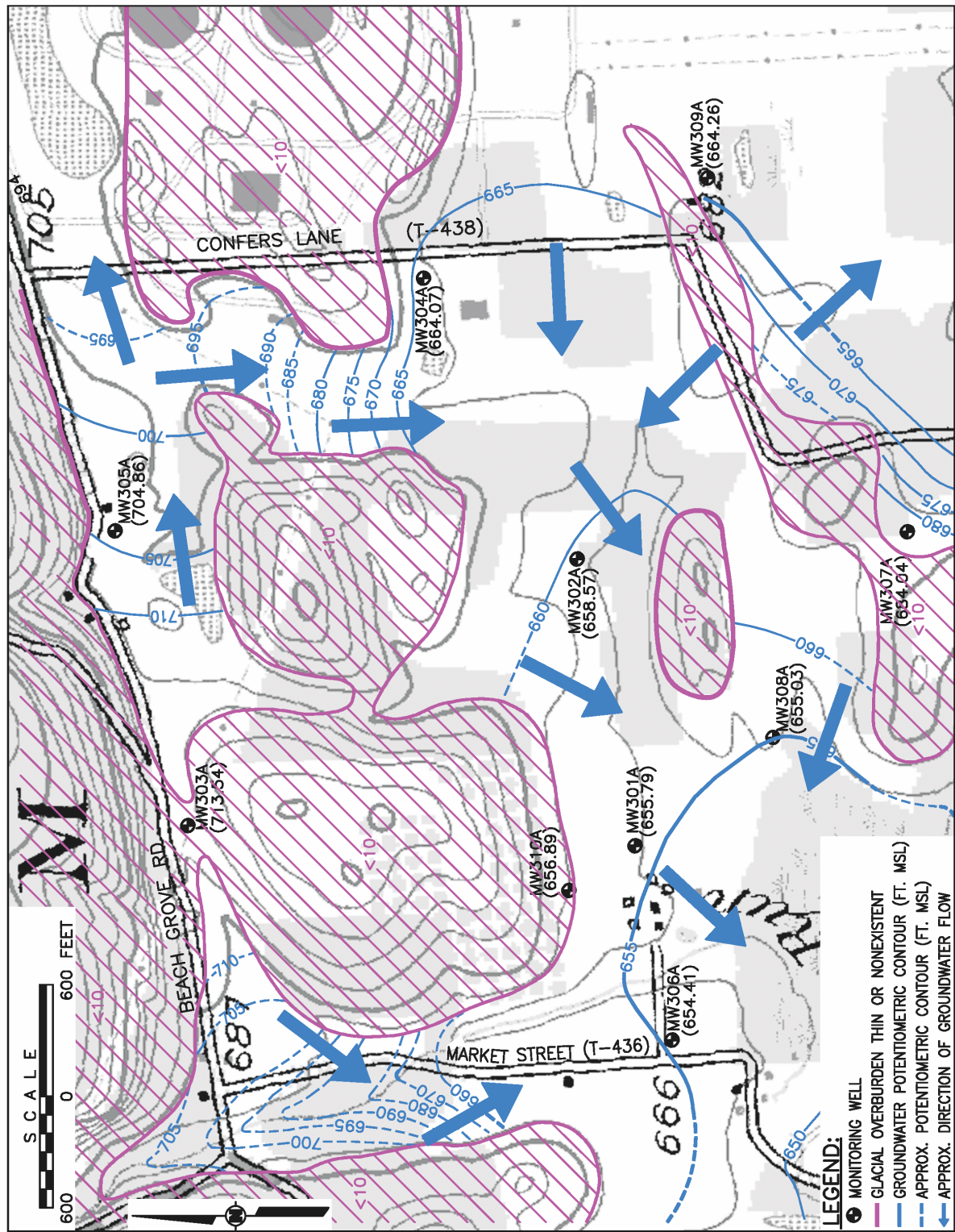


Figure 2.3-50—Potentiometric Surface Map of Glacial Overburden Aquifer, July 2008



SCALE
0 600 FEET

LEGEND:
 ● MONITORING WELL
 — GROUNDWATER POTENTIOMETRIC CONTOUR (FT. MSL)
 - - - APPROX. POTENTIOMETRIC CONTOUR (FT. MSL)
 → APPROX. DIRECTION OF GROUNDWATER FLOW

Map labels include: BEACH GROVE RD, MARKET STREET (T-436), CONFERS LANE, (T-438), MW303B (704.62), MW304B (668.61), MW308B, MW309 (665.56), MW310 (661.69), MW311 (656.95), MW312B (650.12), MW313B (655.82), MW315B (717.67), MW316B (692.24), MW317B (660.06), MW318B (750.22), MW319B (765.90).

Figure 2.3-52—Potentiometric Surface Map of Shallow Bedrock Aquifer, January 2008

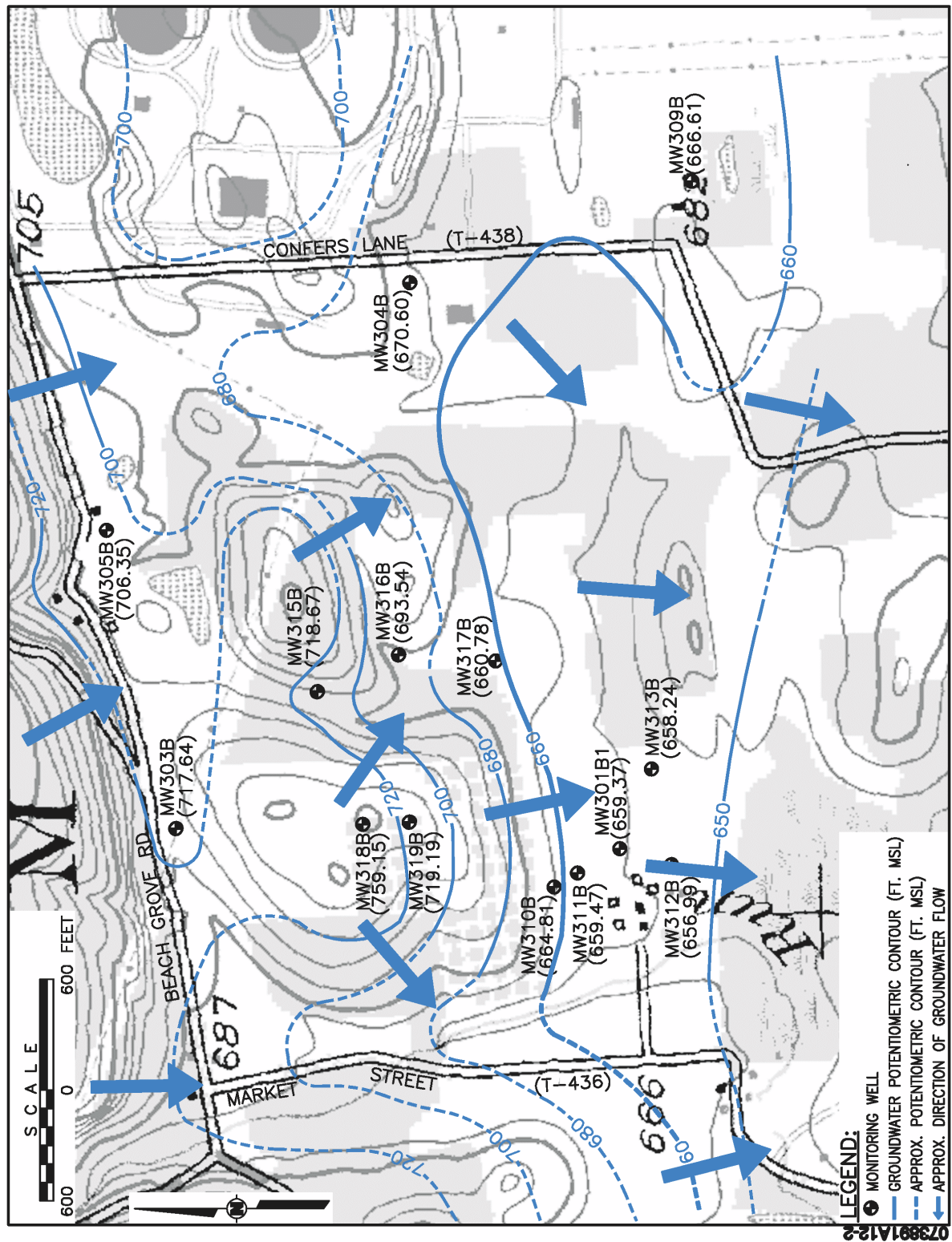


Figure 2.3-53—Potentiometric Surface Map of Shallow Bedrock Aquifer, March 2008

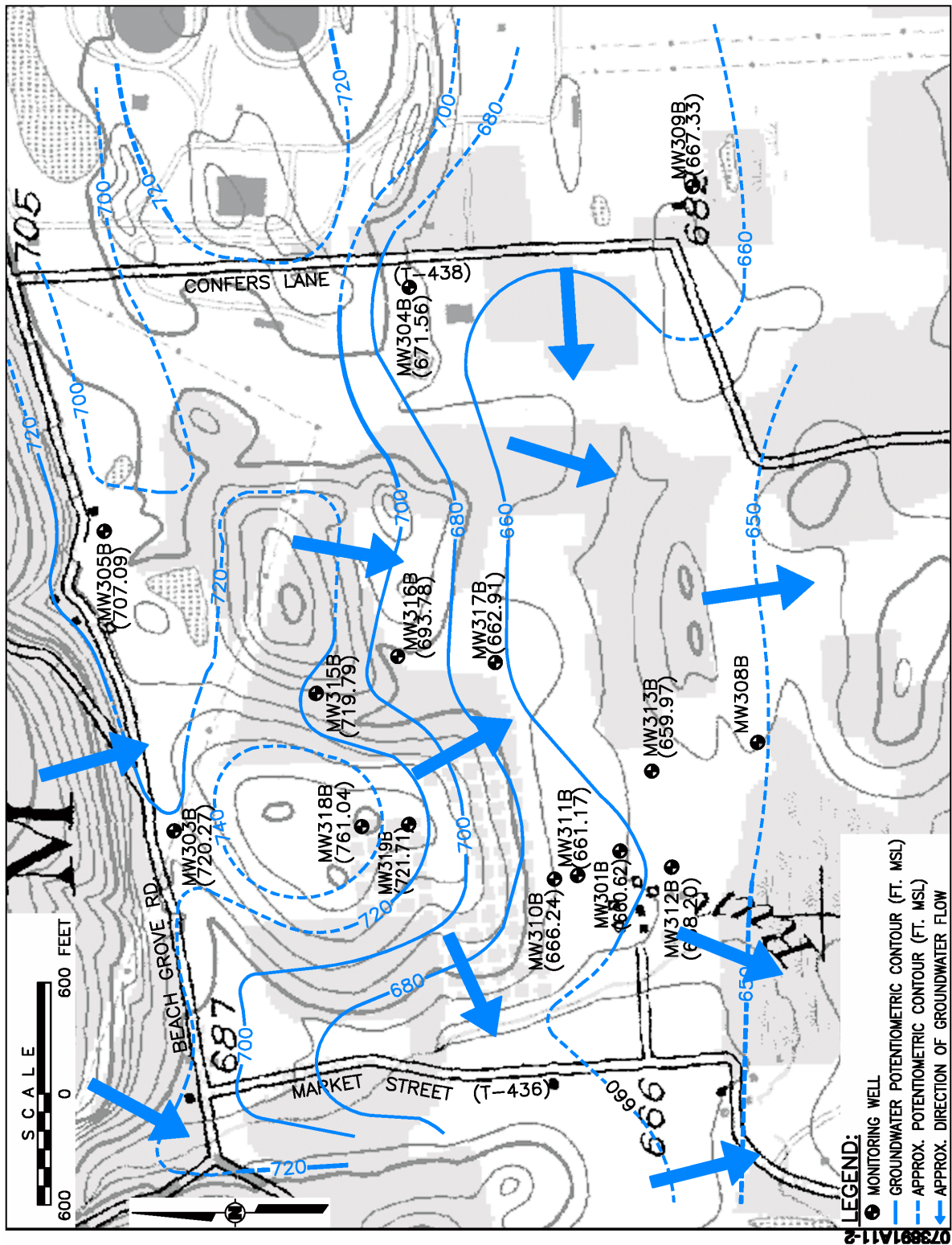


Figure 2.3-54—Potentiometric Surface Map of Shallow Bedrock Aquifer, July 2008

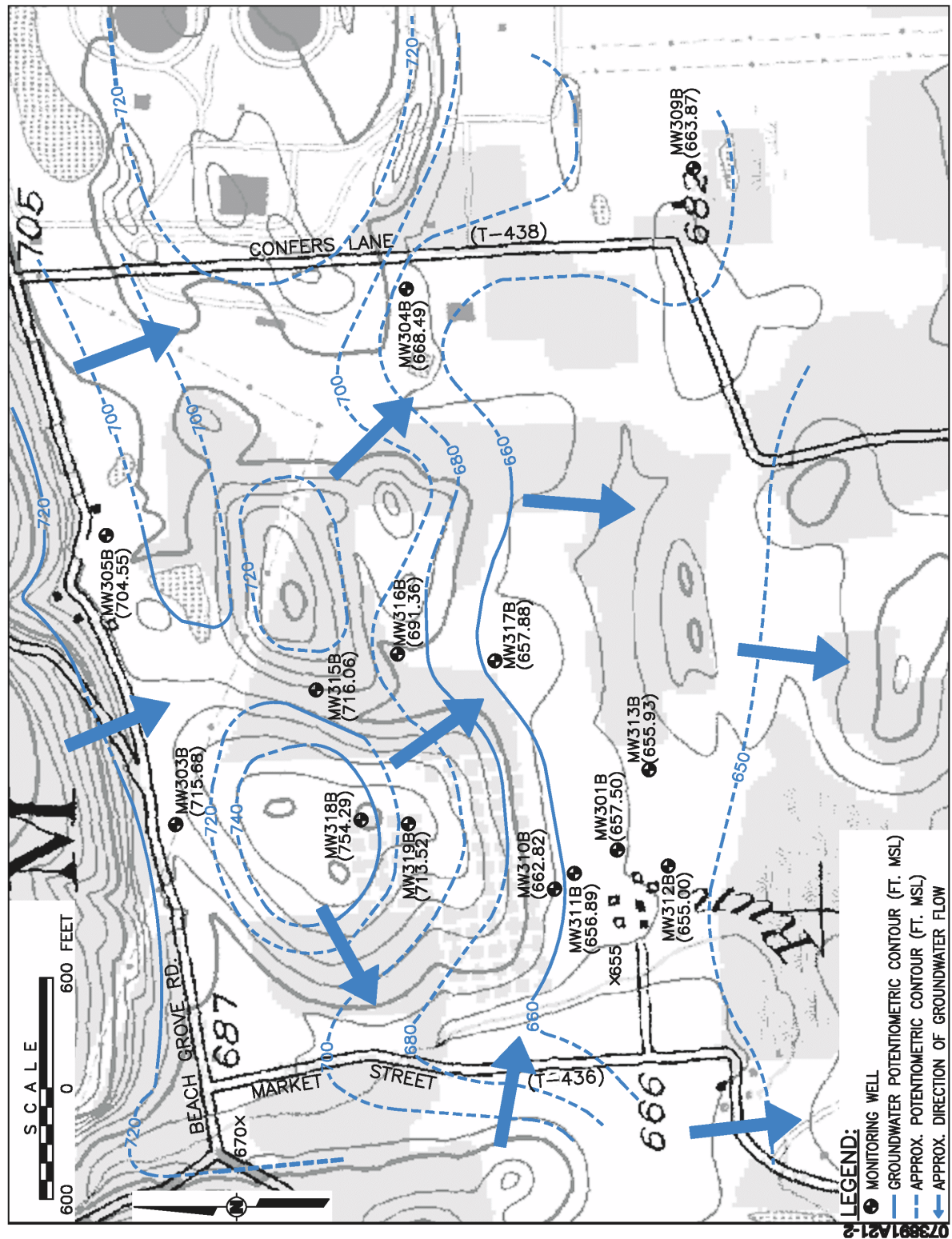


Figure 2.3-55—Potentiometric Surface Map of Deep Bedrock Aquifer, October 2007

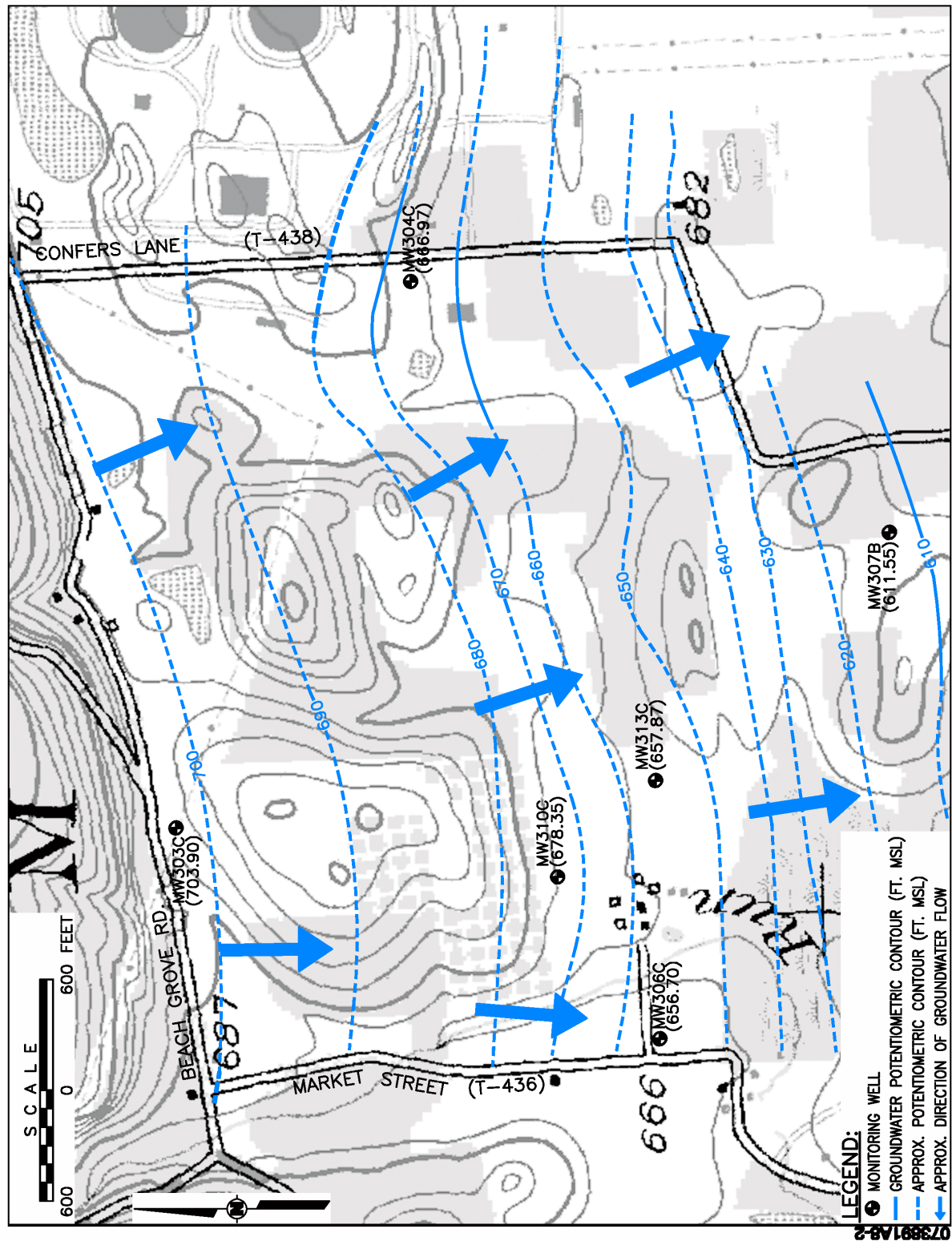


Figure 2.3-56—Potentiometric Surface Map of Deep Bedrock Aquifer, January 2008

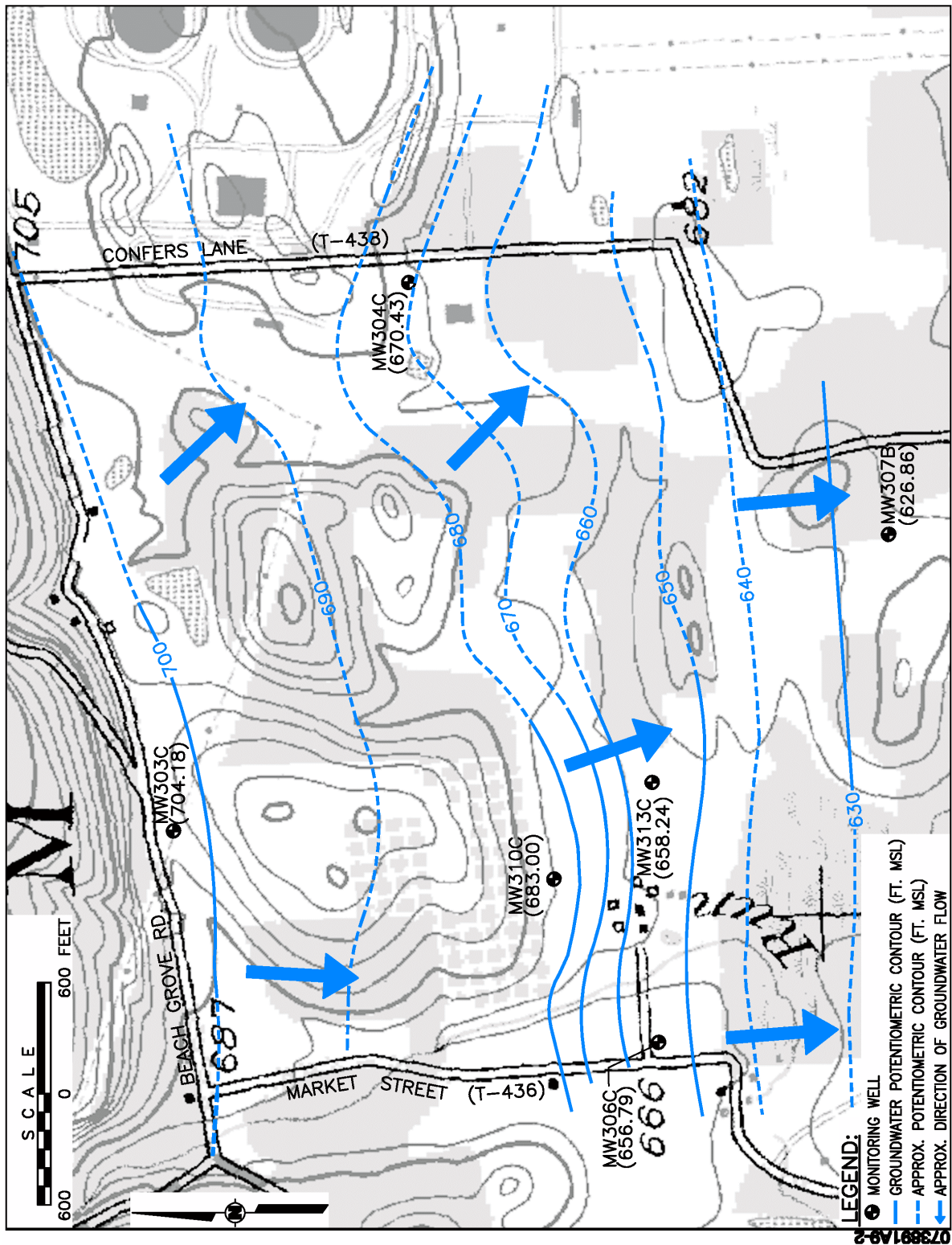


Figure 2.3-57—Potentiometric Surface Map of Deep Bedrock Aquifer, March 2008

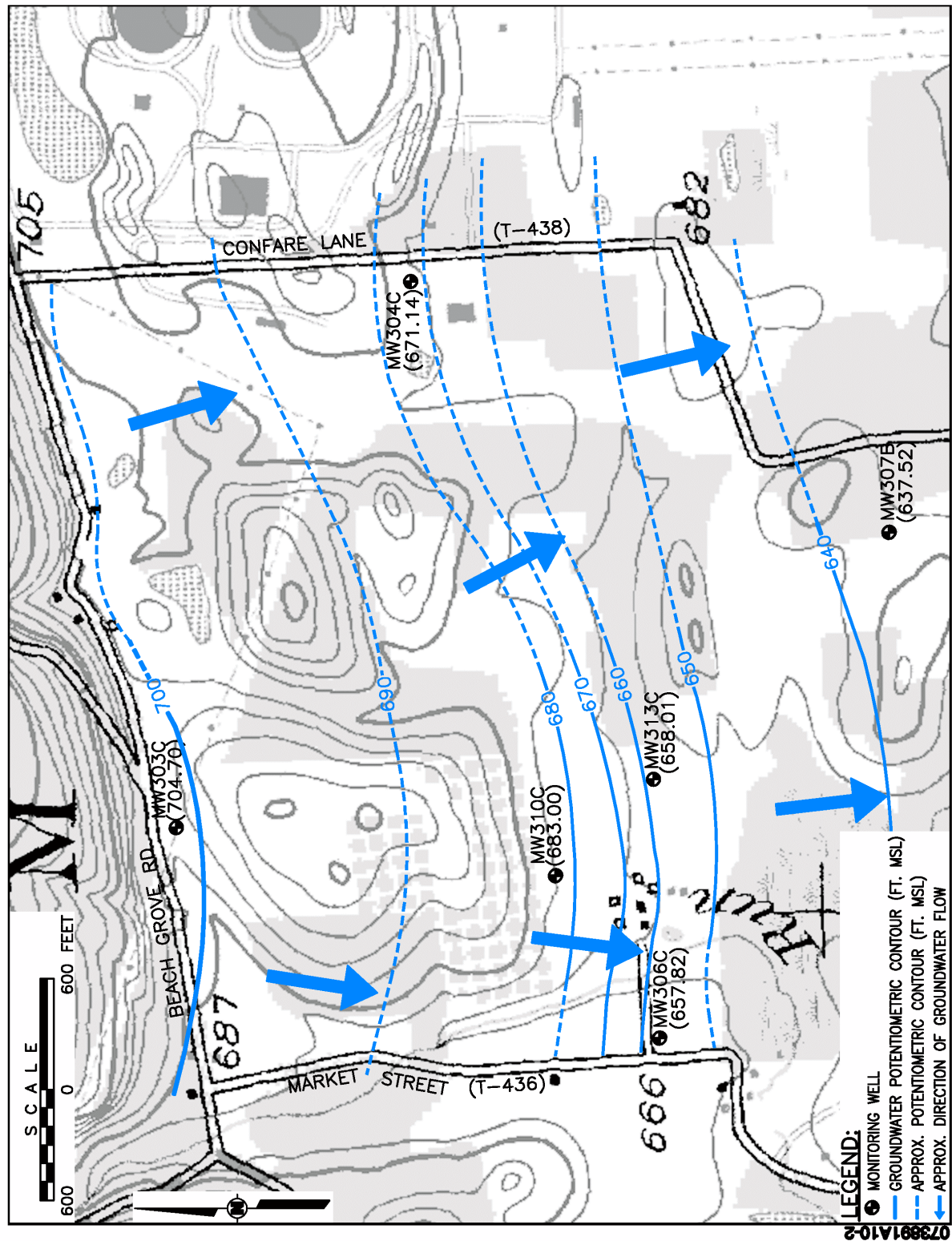


Figure 2.3-58—Potentiometric Surface Map of Deep Bedrock Aquifer, July 2008

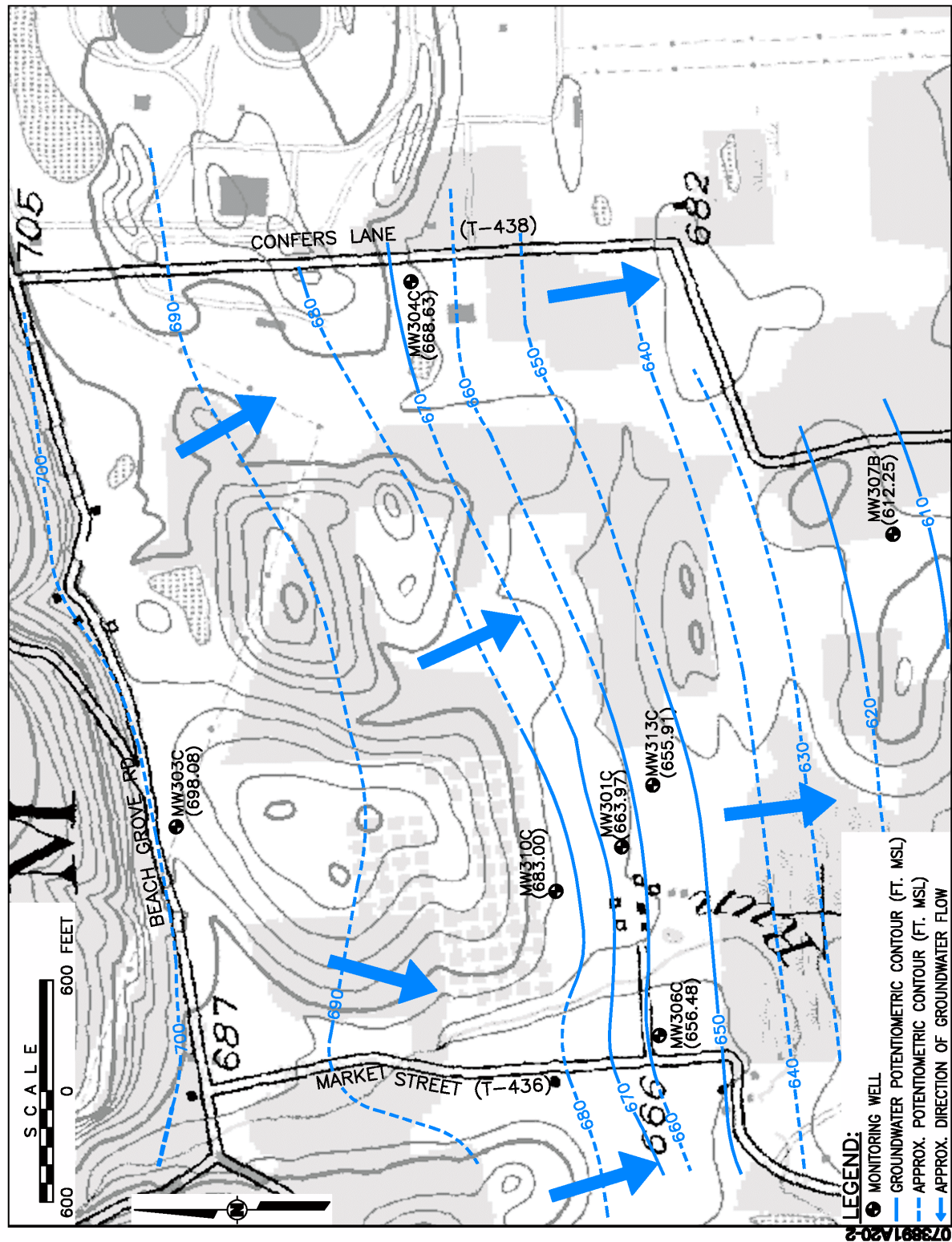


Figure 2.3-59—Areas Known or Suspected of Having Upward-Flowing Groundwater from Bedrock

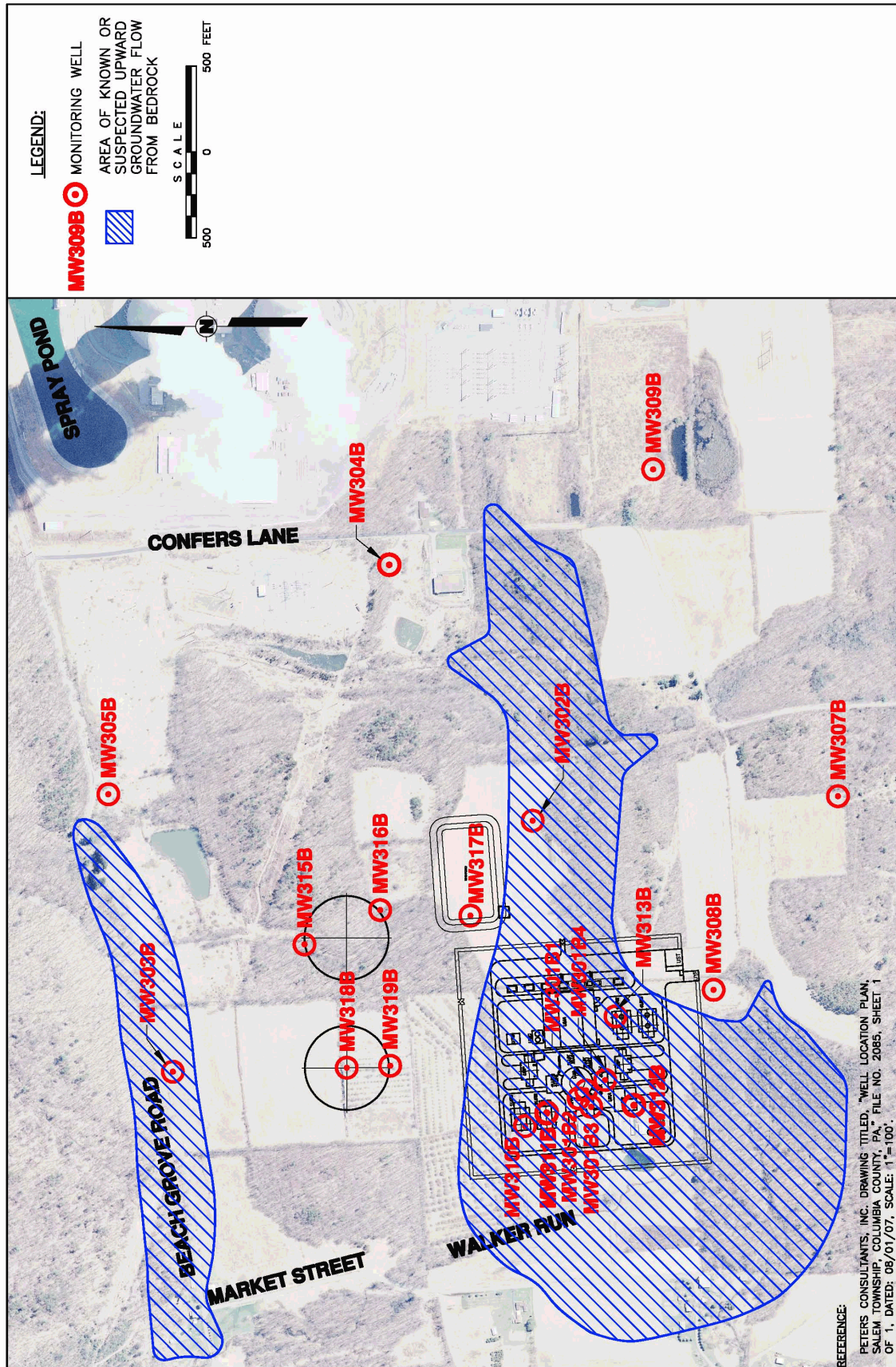


Figure 2.3-60—Vertical Distribution of Fractures in MW301C Between 45 and 345 Feet Below Ground Surface

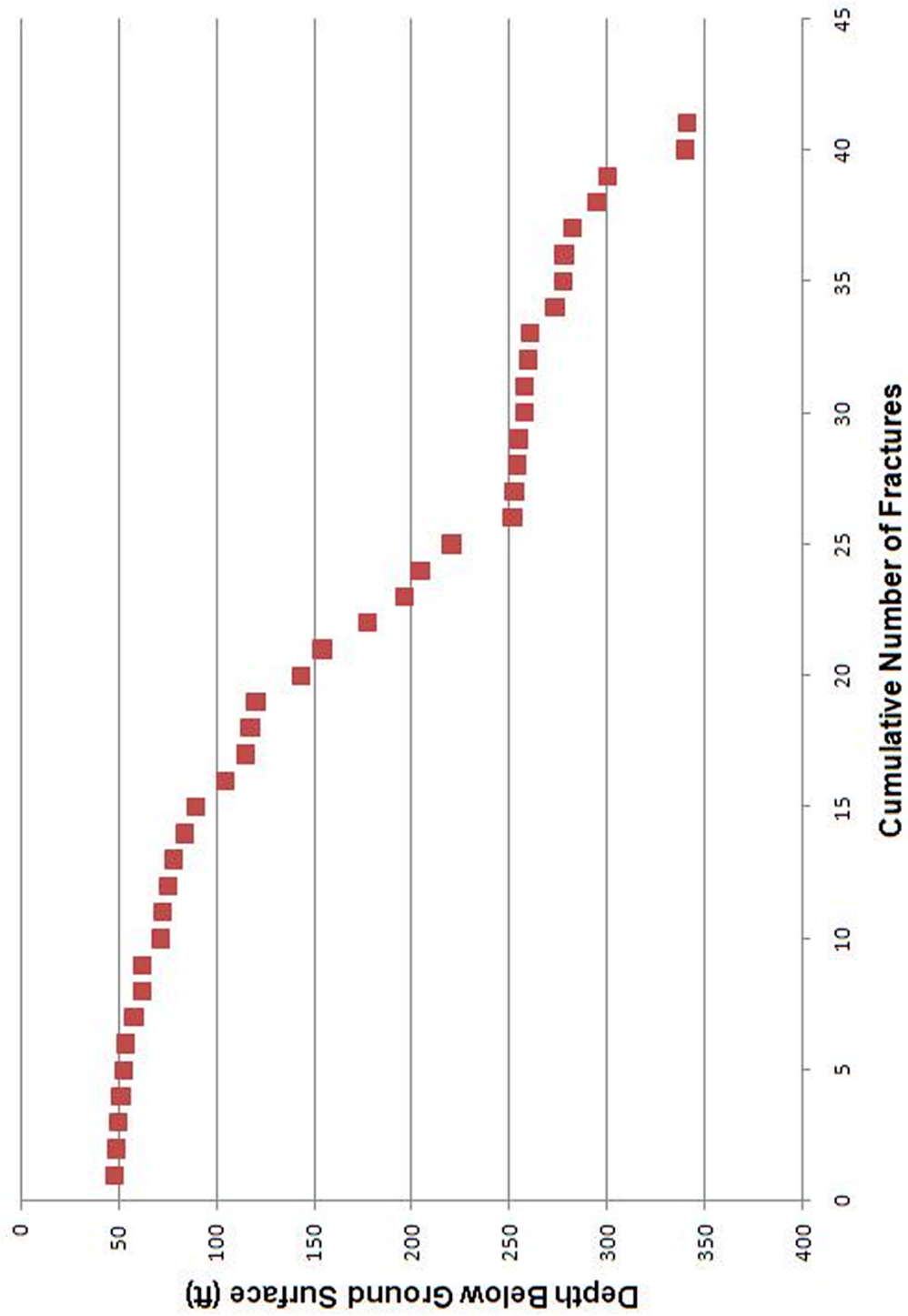


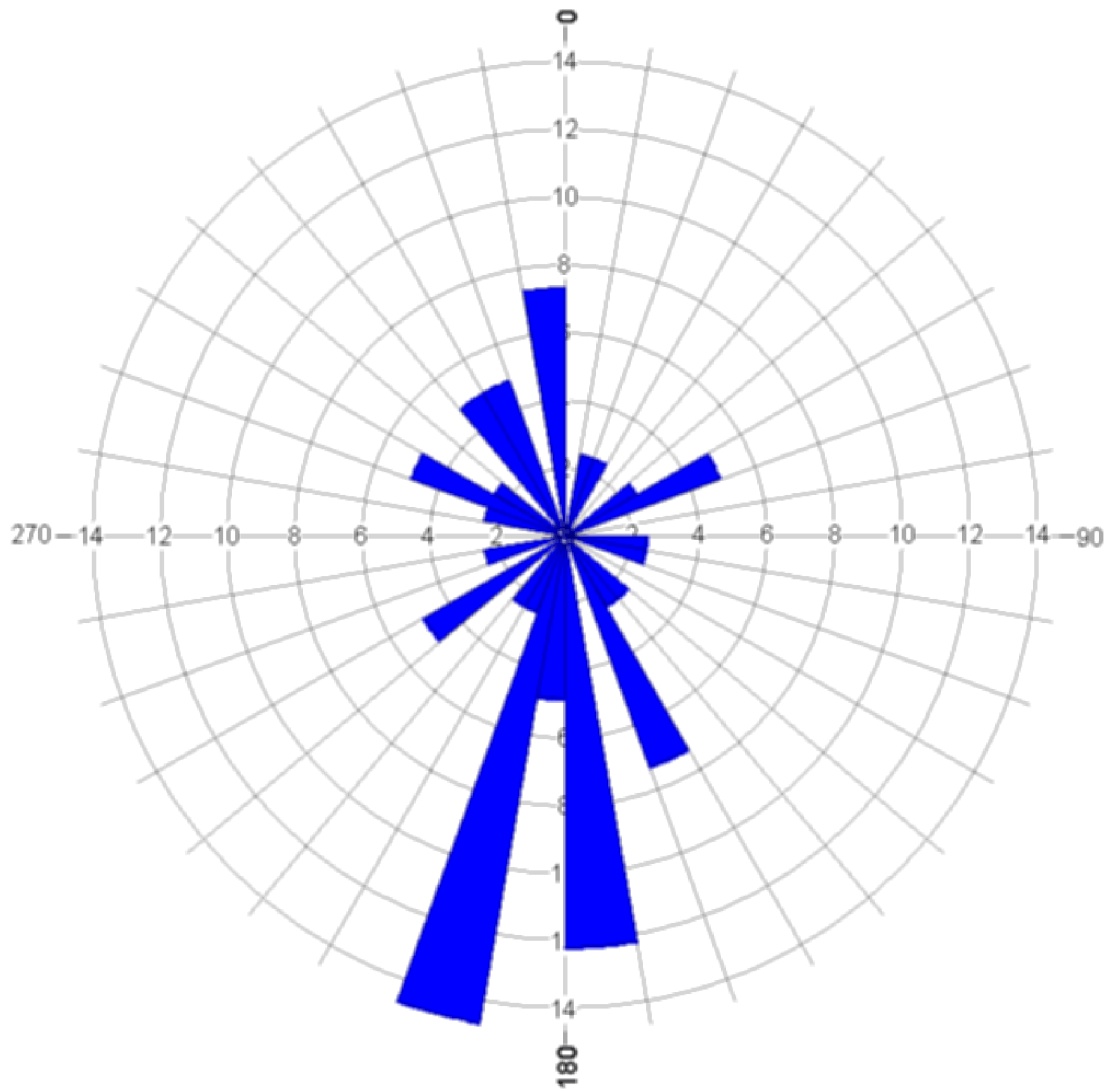
Figure 2.3-61—Distribution of Fracture Dip Directions in Monitoring Well MW301C

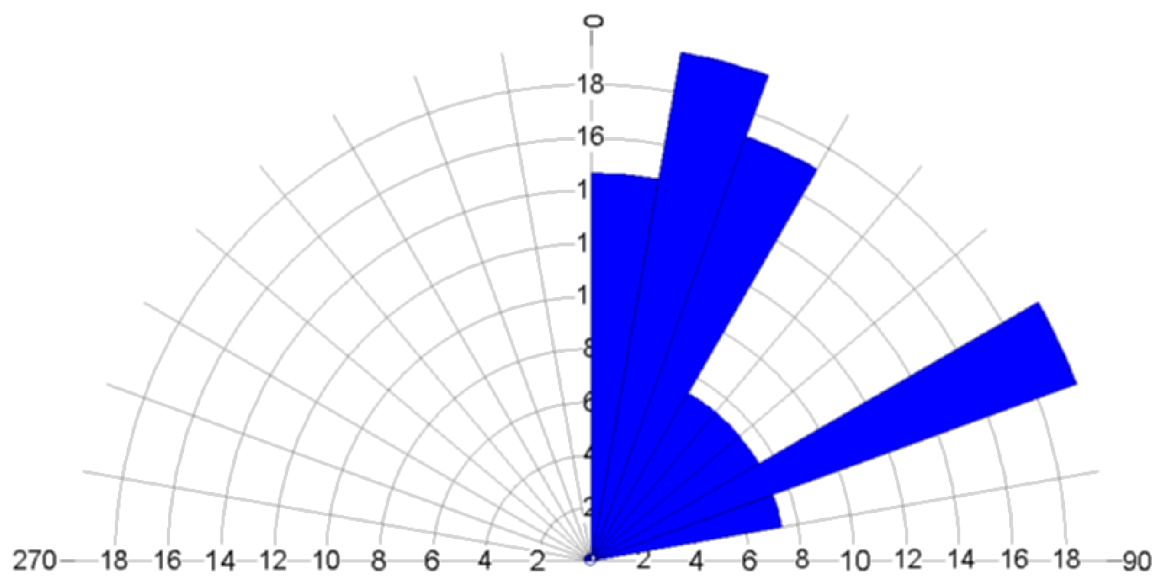
Figure 2.3-62—Distribution of Fracture Dip Angles in Monitoring Well MW301C

Figure 2.3-63—Vertical Distribution of Fractures in MW310C Between 24 and 200 Feet Below Ground Surface

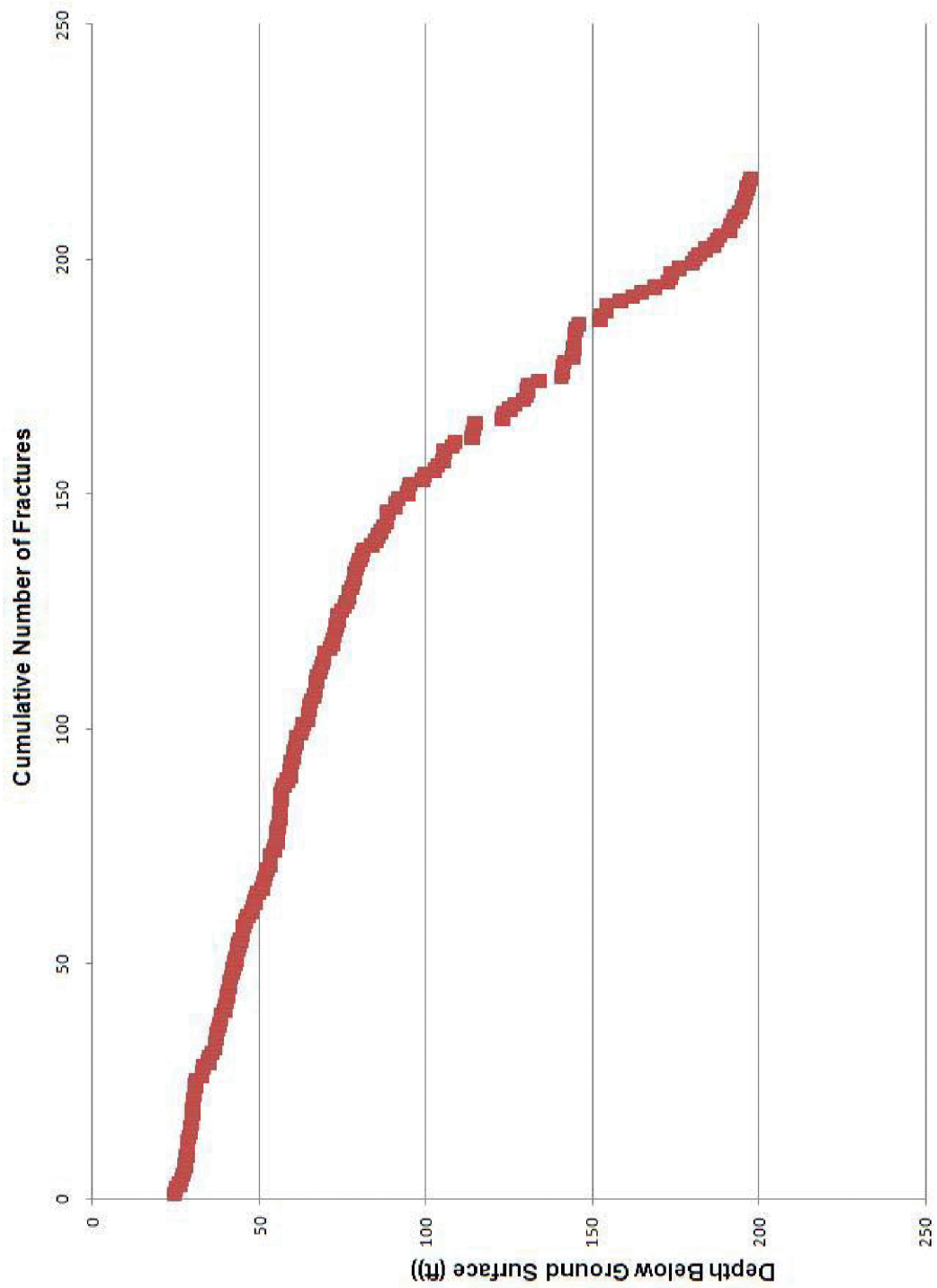


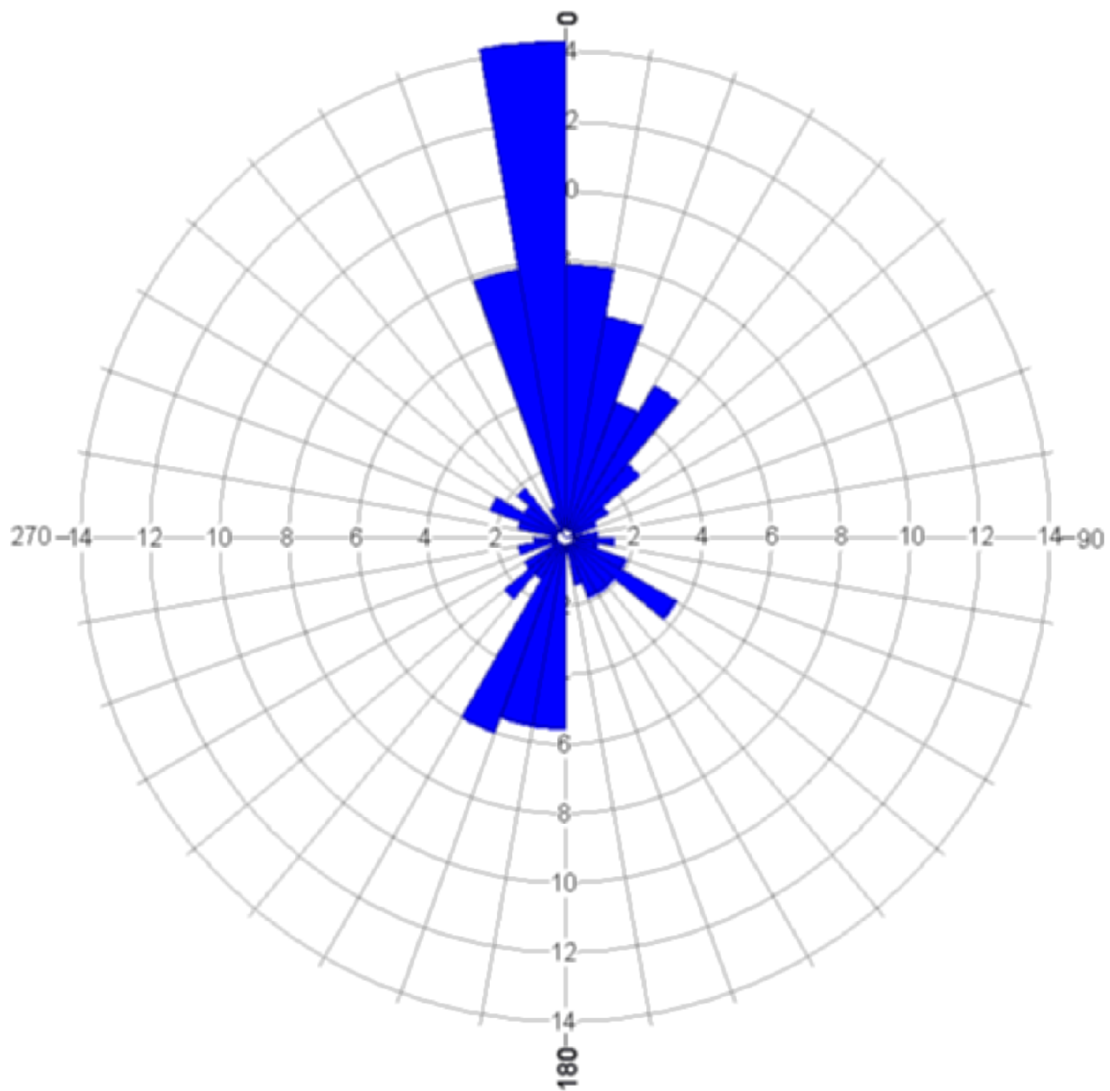
Figure 2.3-64—Distribution of Fracture Dip Directions in Monitoring Well MW310C

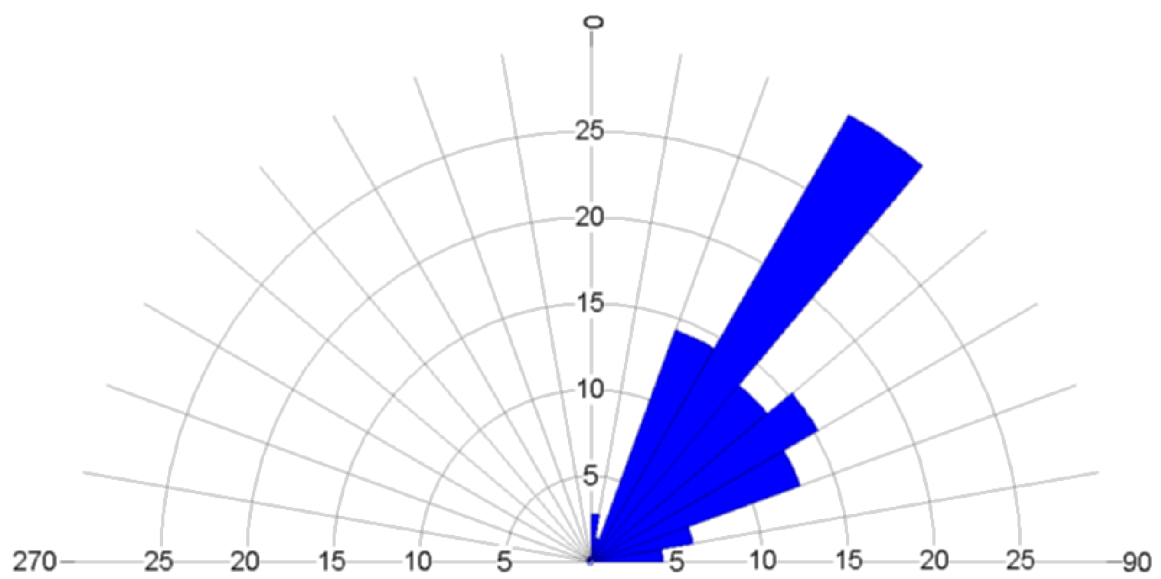
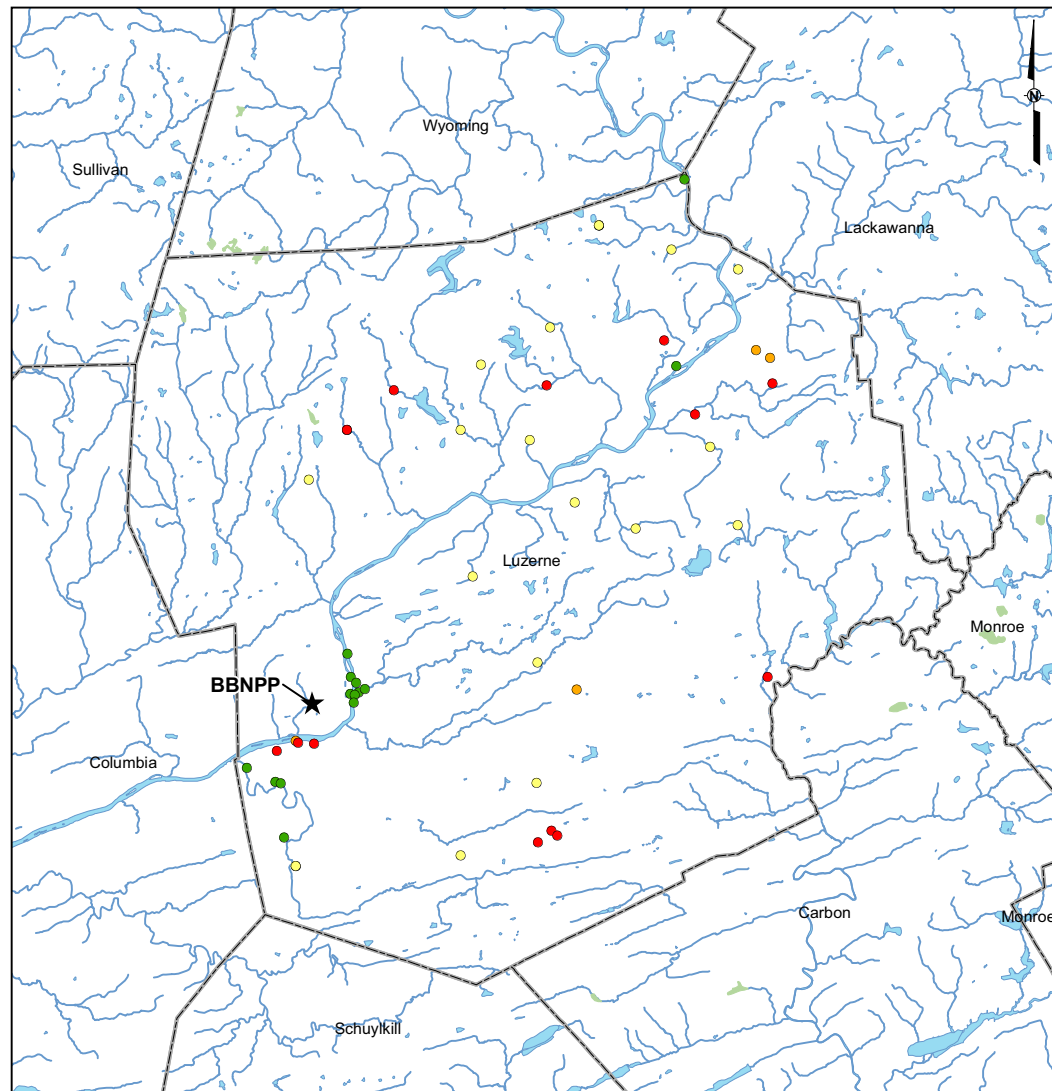
Figure 2.3-65—Distribution of Fracture Dip Angles in Monitoring Well MW310C

Figure 2.3-66—Surface Water Withdrawal Within Luzerne County**LEGEND**

★ Center Point of Bell Bend NPP (BBNPP)

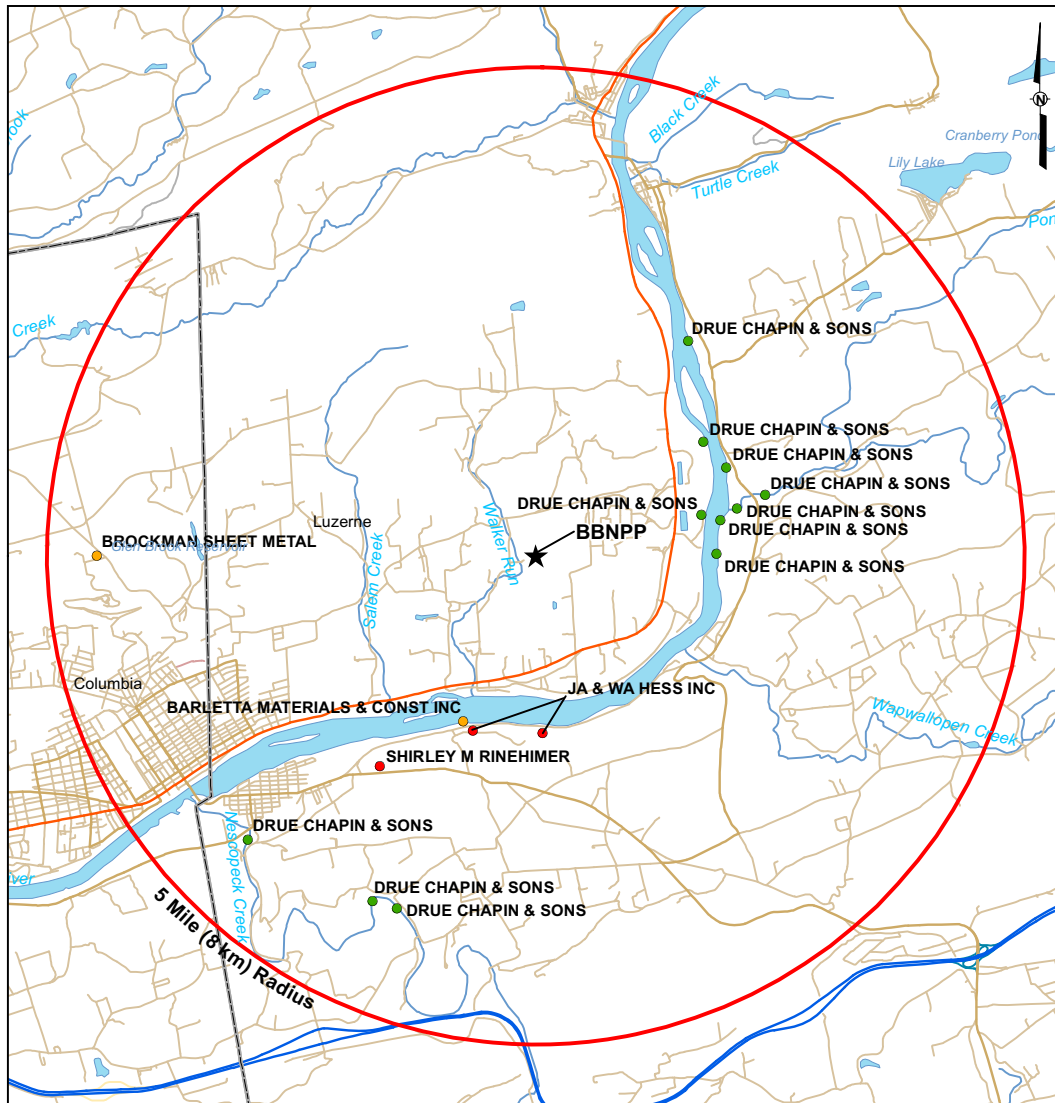
Surface Water Withdrawal (PADEP, 2008)

- Agricultural Use
- Commercial Use
- Industrial Use
- Mineral Use
- ▭ County Boundary
- Streams and Rivers
- Waterbody

0 2 4 8 Miles
0 2 4 8 Kilometers

REFERENCES

- ESRI StreetMap Pro [CD-ROM], 2007, rivers, waterbodies, and county boundaries.
- Water Resources from PASDA, published by PADEP. <http://www.pasda.psu.edu/data/dep/> Downloaded May 08, 2008.

Figure 2.3-67—Surface Water Withdrawal Within 5 Mile (8 km) Radius**LEGEND**

- ★ Center Point of Bell Bend NPP (BBNPP)
- Surface Water Withdrawal (PADEP, 2008)
 - Agricultural Use
 - Industrial Use
 - Commercial Use
 - Mineral Use
- Red Circle BBNPP Reactor 5 Mile (8 km) Radius
- Gray Line County Boundary
- Blue Line Interstate
- Orange Line Secondary State and County Highway
- Yellow Line Local, Neighborhood, Rural, or City Street
- Blue Line Streams and Rivers
- Blue Area Waterbody

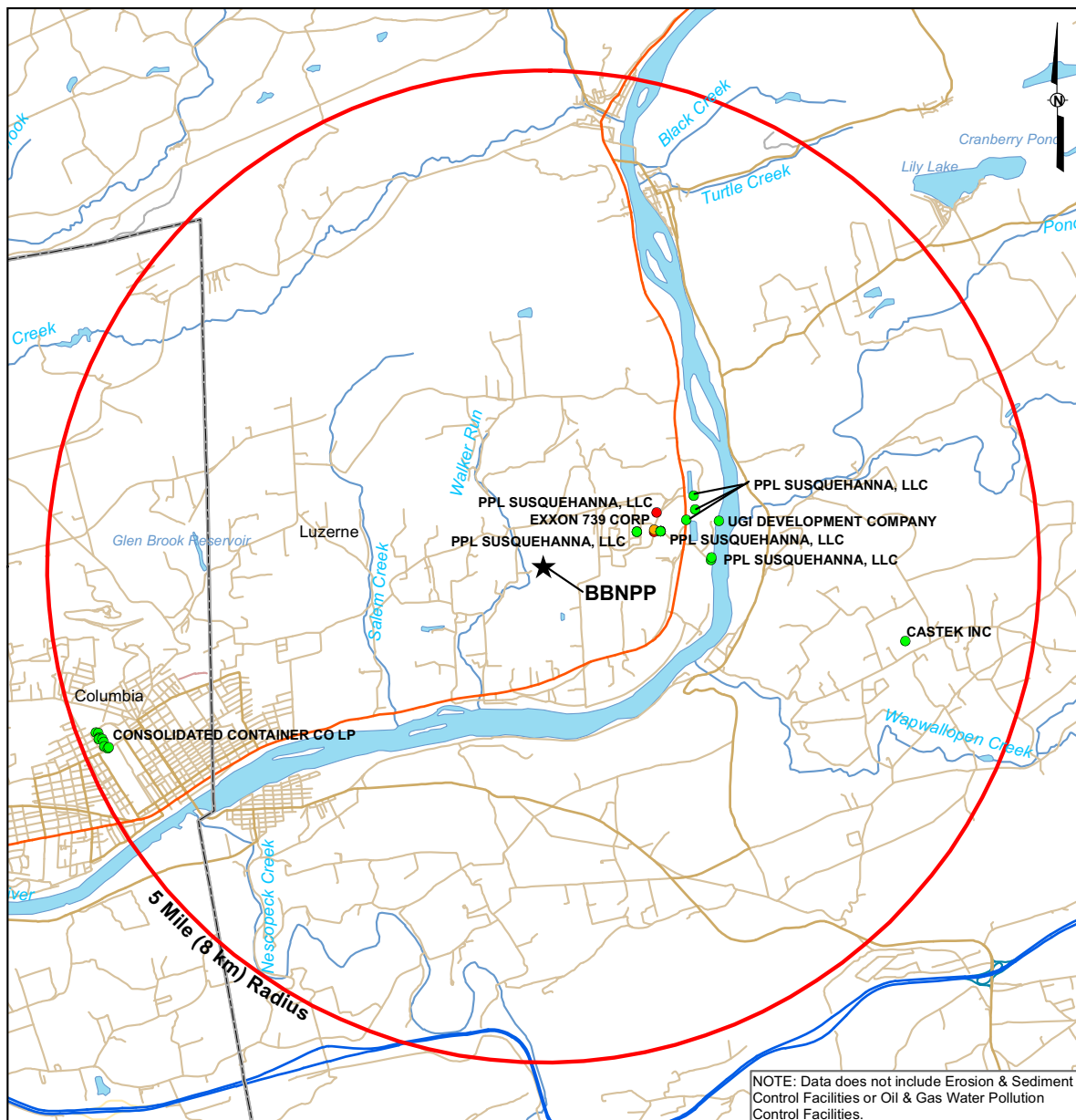
0 0.5 1 2 Miles

0 0.5 1 2 Kilometers

REFERENCES

- ESRI StreetMap Pro [CD-ROM], 2007, rivers, waterbodies, and county boundaries.
- Water Resources from PASDA, published by PADEP. <http://www.pasda.psu.edu/data/dep/> Downloaded May 08, 2008.

Figure 2.3-68—Water Pollution Control Facility Locations Within a 5 Mile (8 km) Radius



LEGEND

- ★ Center Point of Bell Bend NPP (BBNPP)
- Water Pollution Facility (PADEP, 2008) - NPDES
 - Discharge Point
 - Treatment Plant
 - Production Service Unit
- BBNPP Reactor 5 Mile (8 km) Radius
- County Boundary
- Interstate
- Secondary State and County Highway
- Local, Neighborhood, Rural, or City Street
- Streams and Rivers
- Waterbody



REFERENCE

- ESRI StreetMap Pro [CD-ROM], 2007, rivers, waterbodies, roads, and county boundaries.
- Water Pollution Facility (NPDES) from PASDA, published by PADEP. <http://www.pasda.psu.edu/data/depl/> Downloaded May 08, 2008.

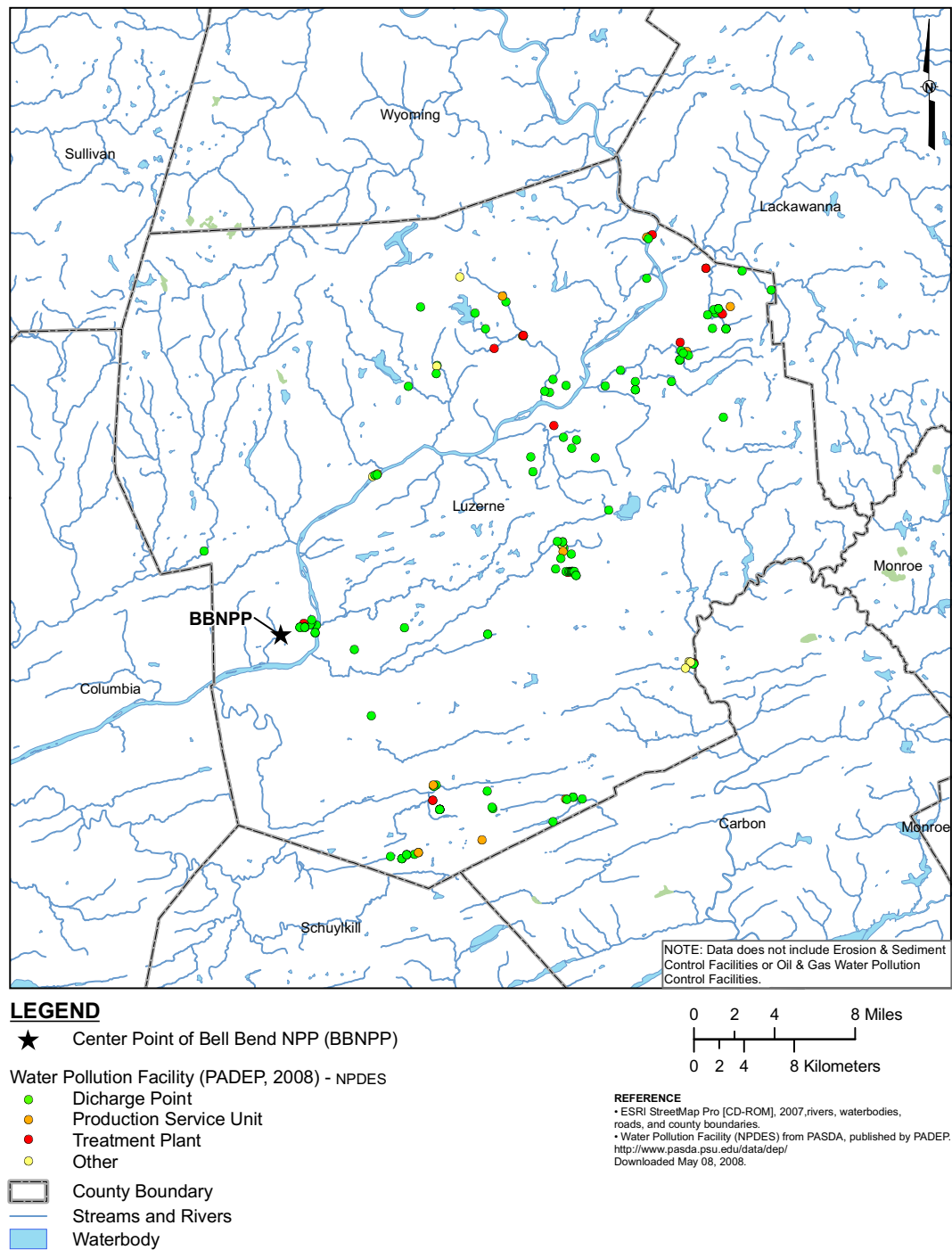
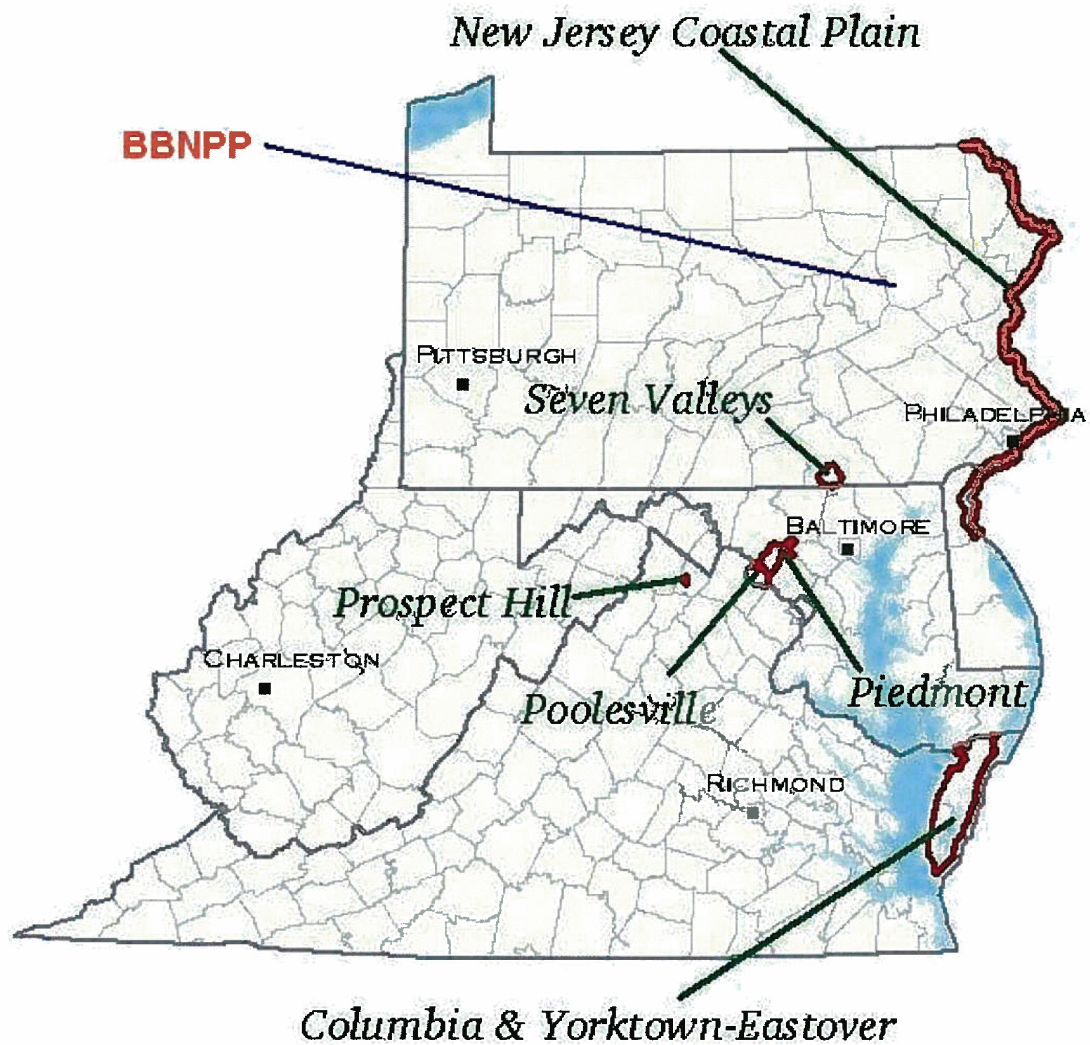
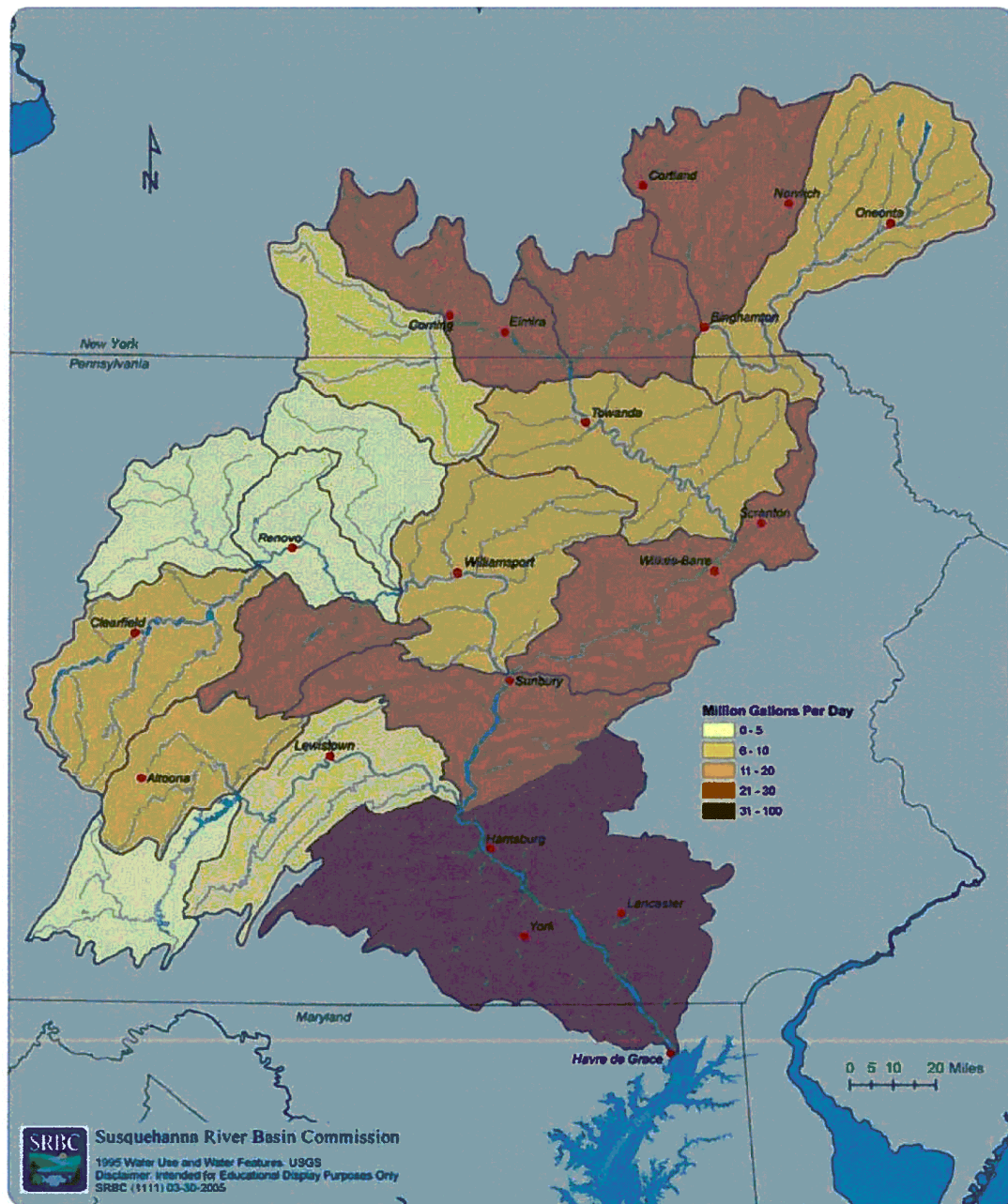
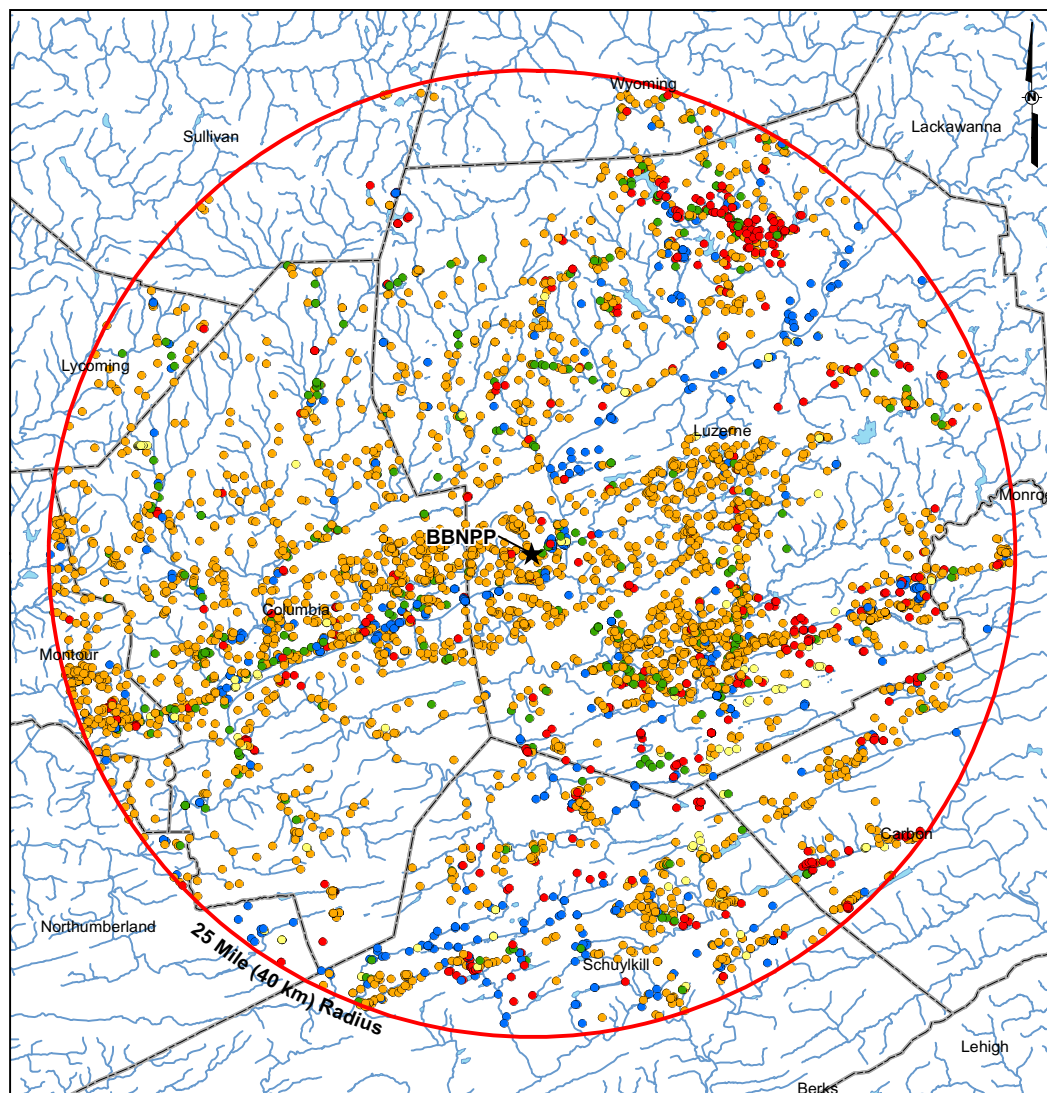
Figure 2.3-69—Water Pollution Control Facility Locations Within Luzerne County

Figure 2.3-70—Sole Source Aquifers Located in USEPA Region 3

Reference: USEPA, 2008d

Figure 2.3-71—Groundwater Use in the Susquehanna River Basin in 1995

Reference: SRBC, 2005

Figure 2.3-72—Groundwater Well Locations Within a 25-Mile (40-km) Radius**LEGEND**

★ Center Point of Proposed Bell Bend NPP (BBNPP)

Groundwater Well Location (PaGWIS, 2008)

- Public Supply Use
- Industrial Use
- Domestic Use
- Commercial Use
- Other Use

□ NPP Reactor 25 Mile (40 km) Radius

□ County Boundary

— Streams and Rivers

■ Waterbody

0 2.5 5 10 Miles

0 2.5 5 10 Kilometers

REFERENCE

- ESRI StreetMap Pro [CD-ROM], 2007, rivers, waterbodies, and county boundaries.
- PA Topographic & Geologic Survey, Pa Groundwater Information System (PaGWIS). <http://www.dcnr.state.pa.us/topogeo/groundwater/> Database Accessed February 2008.

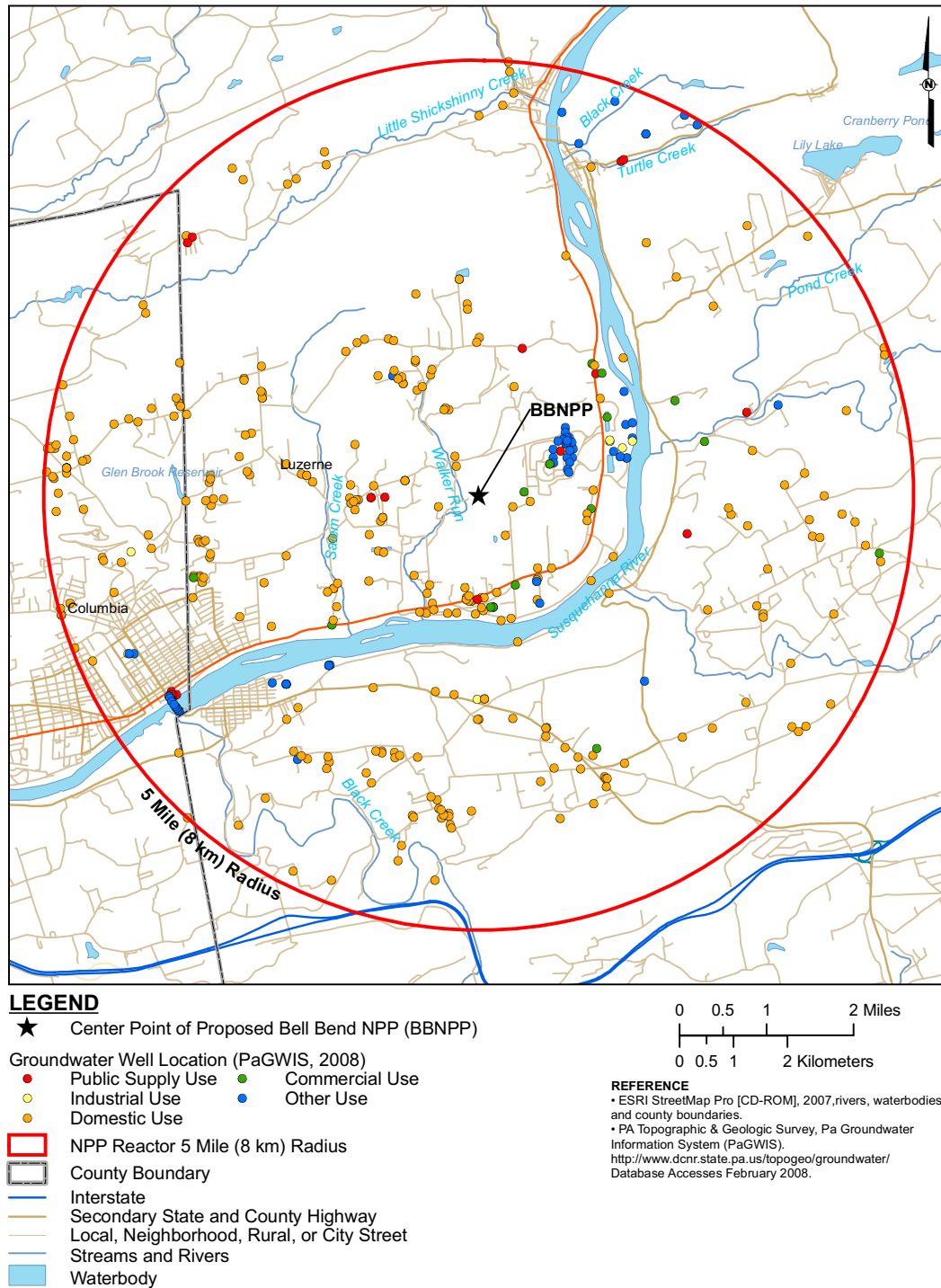
Figure 2.3-73—Groundwater Well Locations within a 5-Mile (8-km) Radius

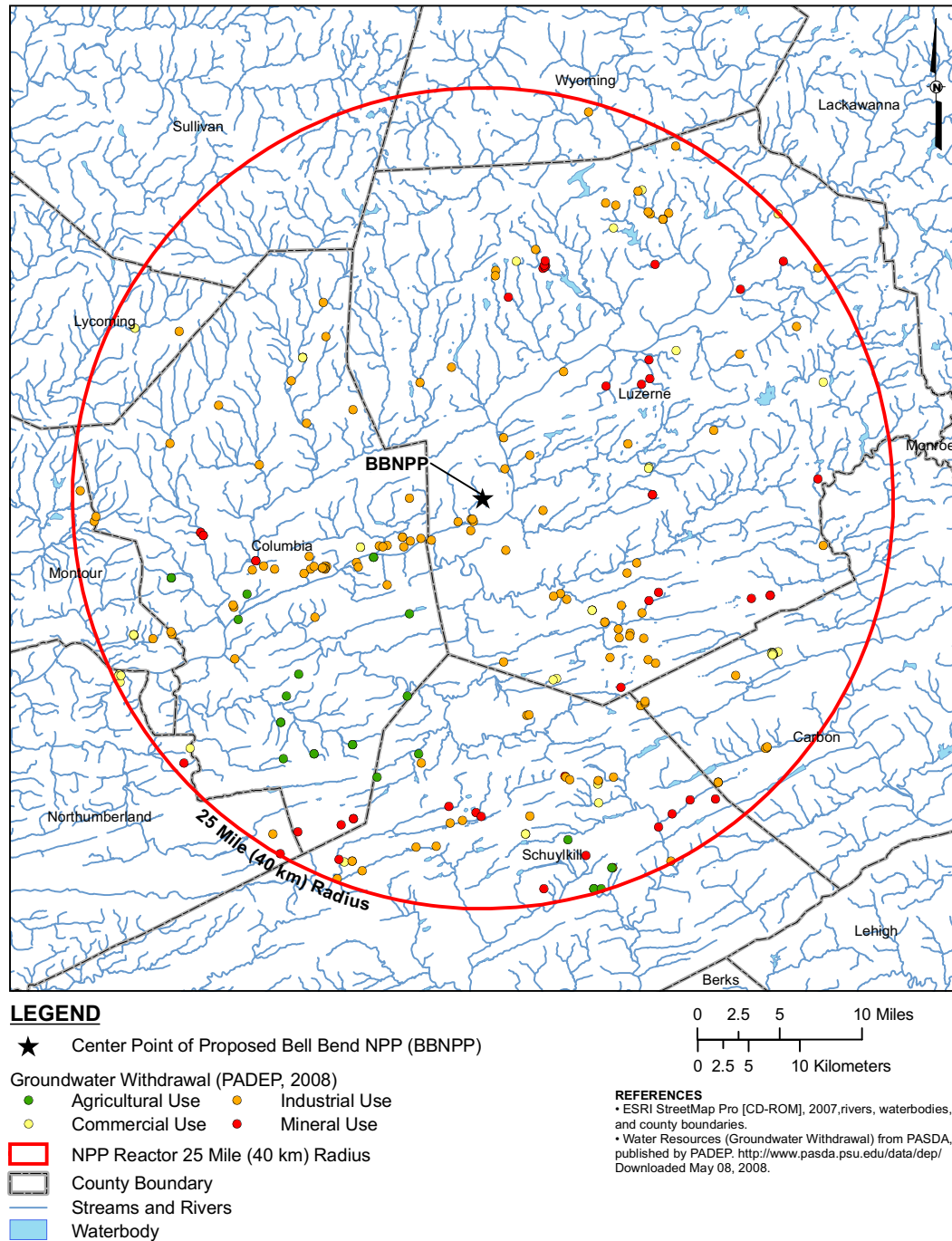
Figure 2.3-74—Groundwater Withdrawal within a 25-Mile (40-km) Radius

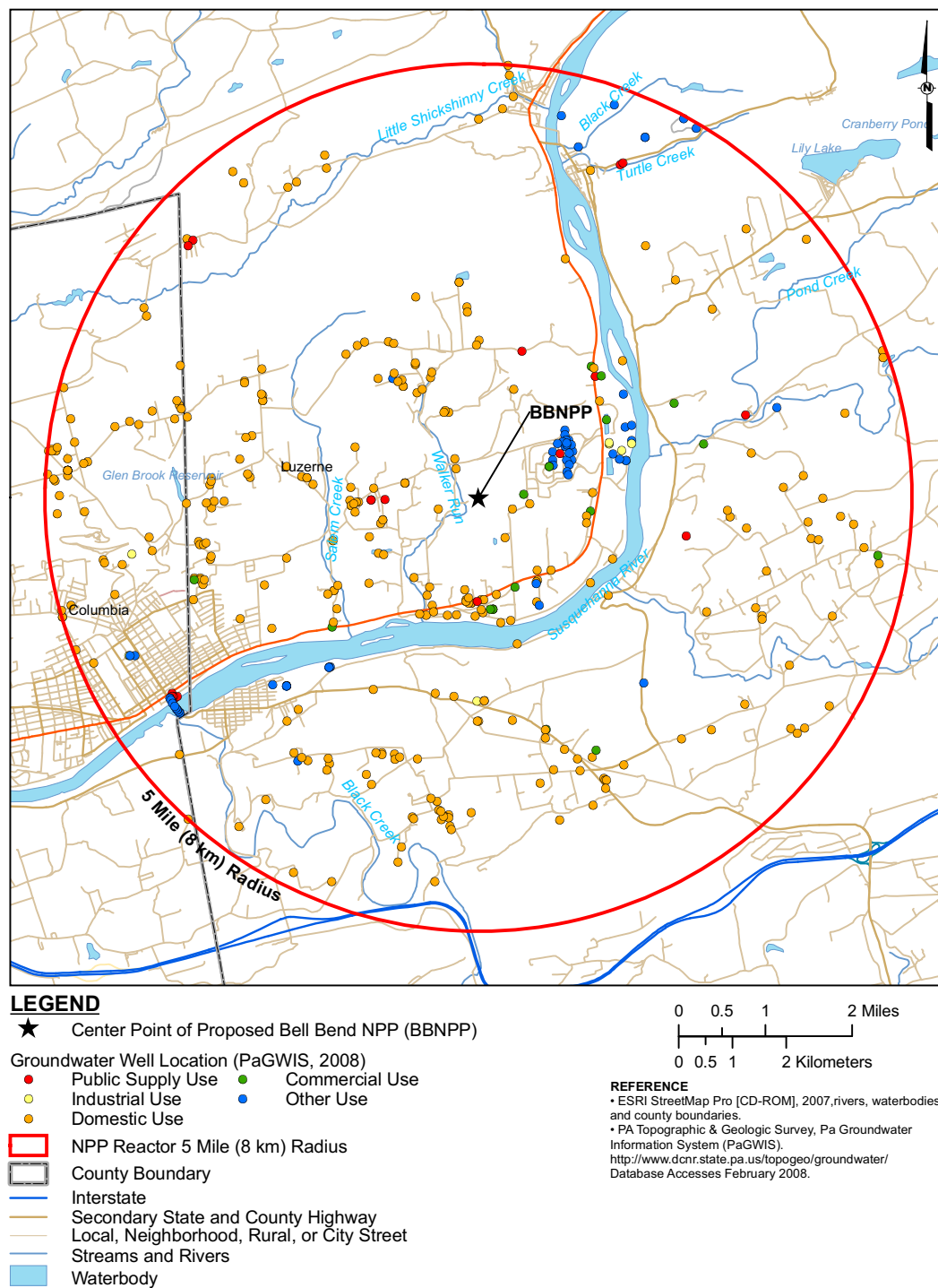
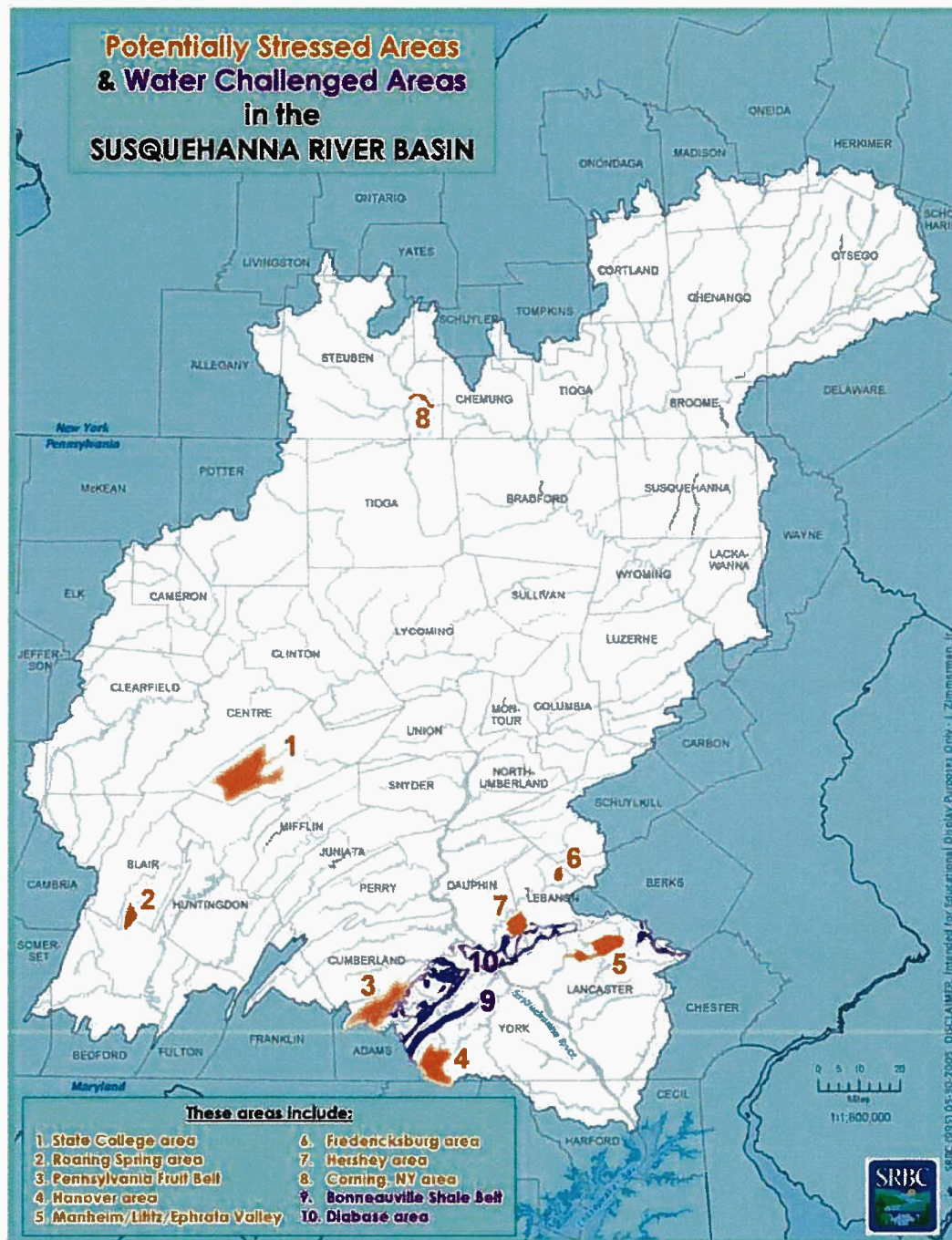
Figure 2.3-75—Groundwater Withdrawal within a 5-Mile (8-km) Radius

Figure 2.3-76—Groundwater Production Wells at SSES

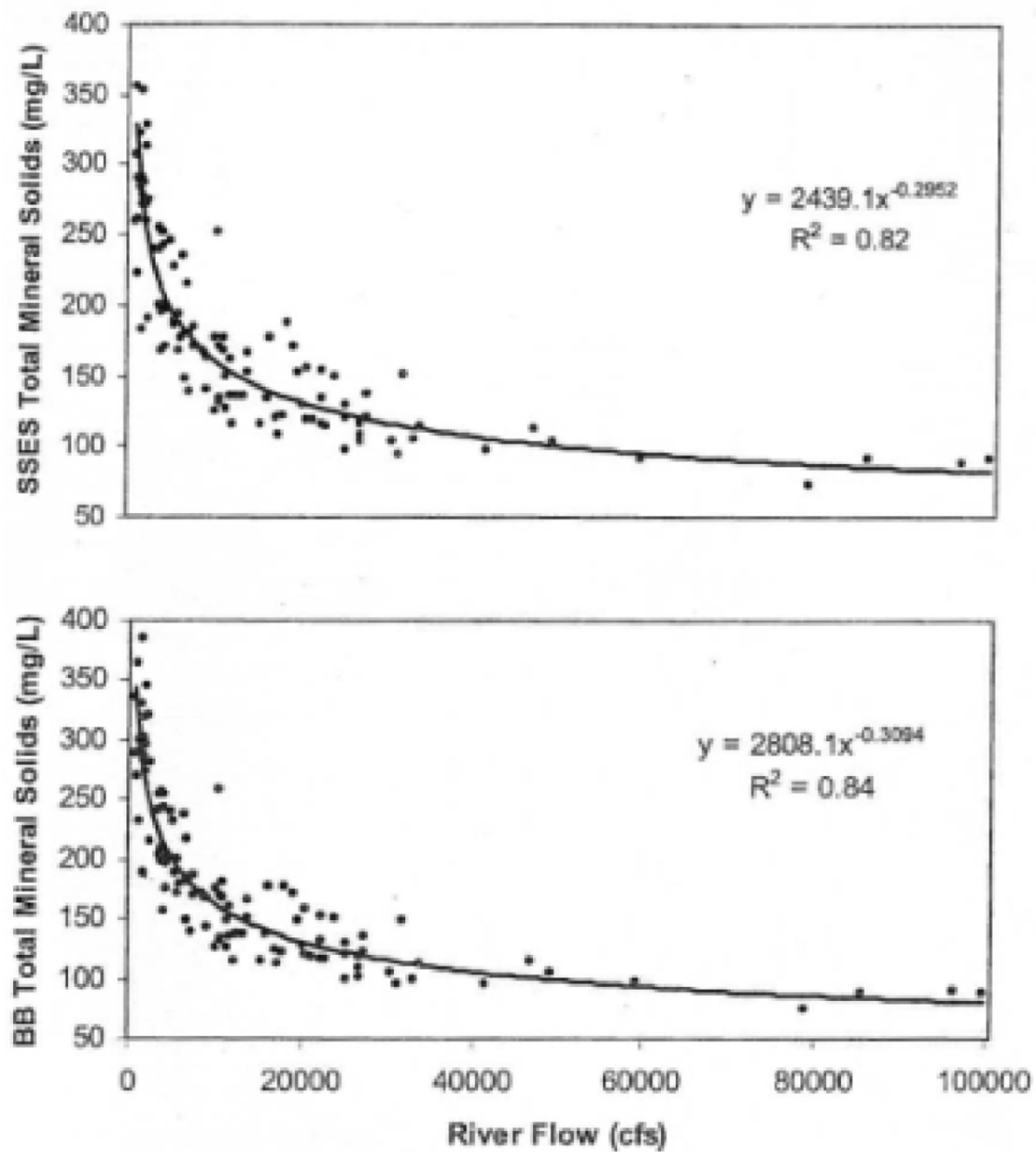


Figure 2.3-77—Potentially Stressed Areas and Water Challenged Areas in the Susquehanna River Basin



Reference: SRBC, 2005

Figure 2.3-78—Relationship Between Total Mineral Solids and Flow Rates in the Susquehanna River



Reference: Ecology III, 2007