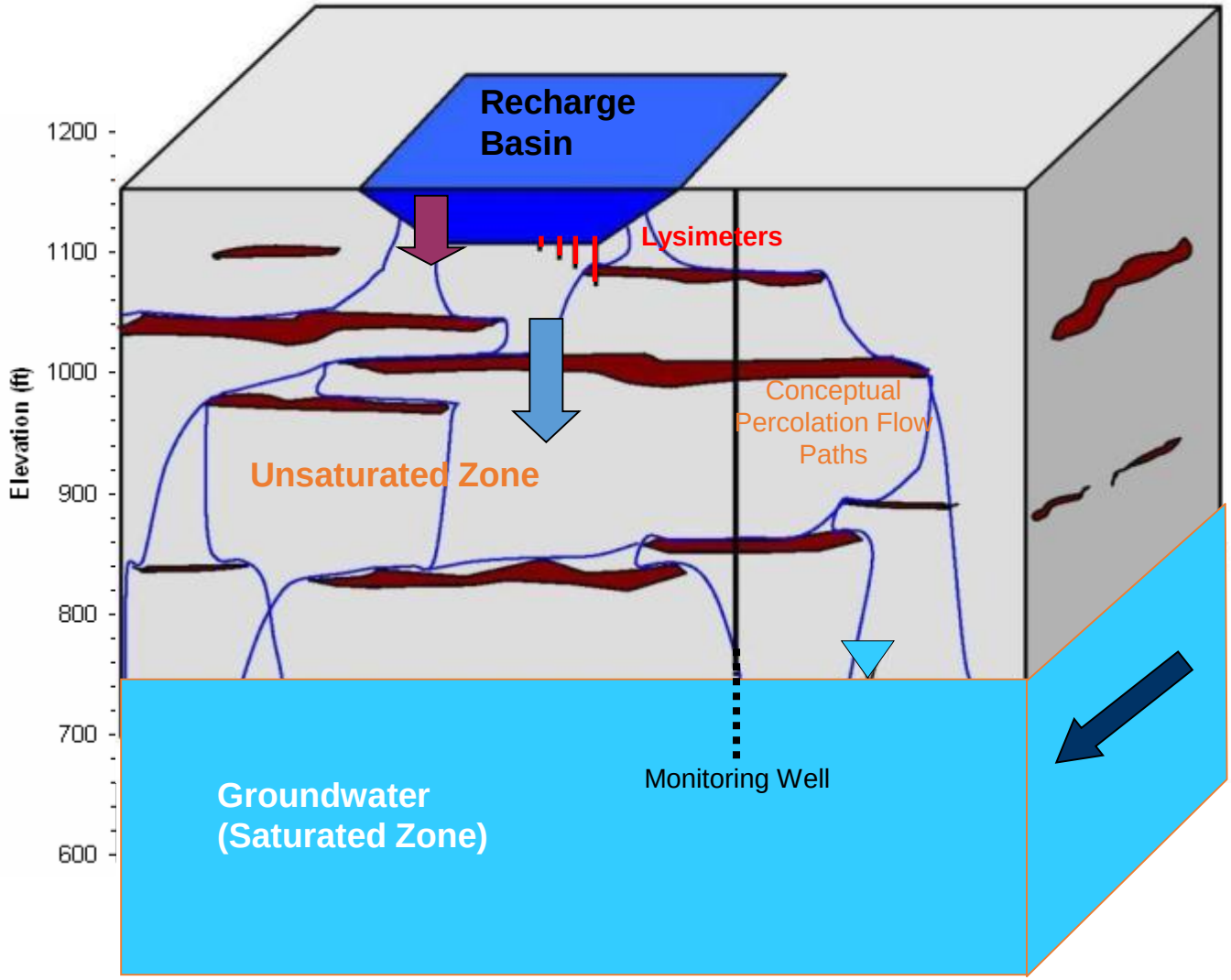
Chino Groundwater Basin



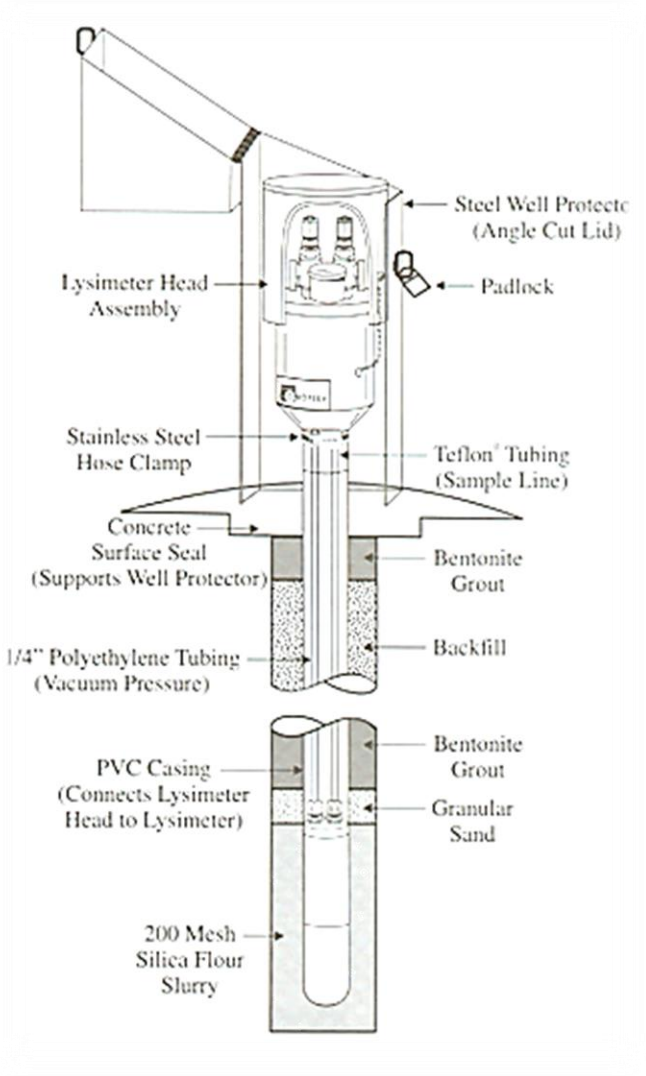
Soil-Aquifer Treatment (SAT)

- The natural biodegradation process occurs during percolation of water through vadose zone soil.
- Native soil bacteria develop and metabolize the low concentration of dissolved organics.
- Sustainable process does not build up organic carbon in the soil to diminish removal rate.
- SAT has worked best with a continuous supply of recharge water regardless of the source.

SAT Assessment at Each Basin Area

- Conduct Start-Up Period Monitoring
  - Install lysimeters at increasing depths
  - Deliver recycled water for 180 days
  - Sample and analyze for EC, TN, and TOC
  - Trend data and SAT performance
  - Evaluate data knowing source water influences
  - Calculate RWC limit from SAT removal of TOC
- Continue Monitoring after Start-Up Period
  - Weekly lysimeters sampling during recycled water recharge
  - Quarterly and annual sampling – wells and lysimeters
  - THM and HAA5s

Lysimeter Monitoring



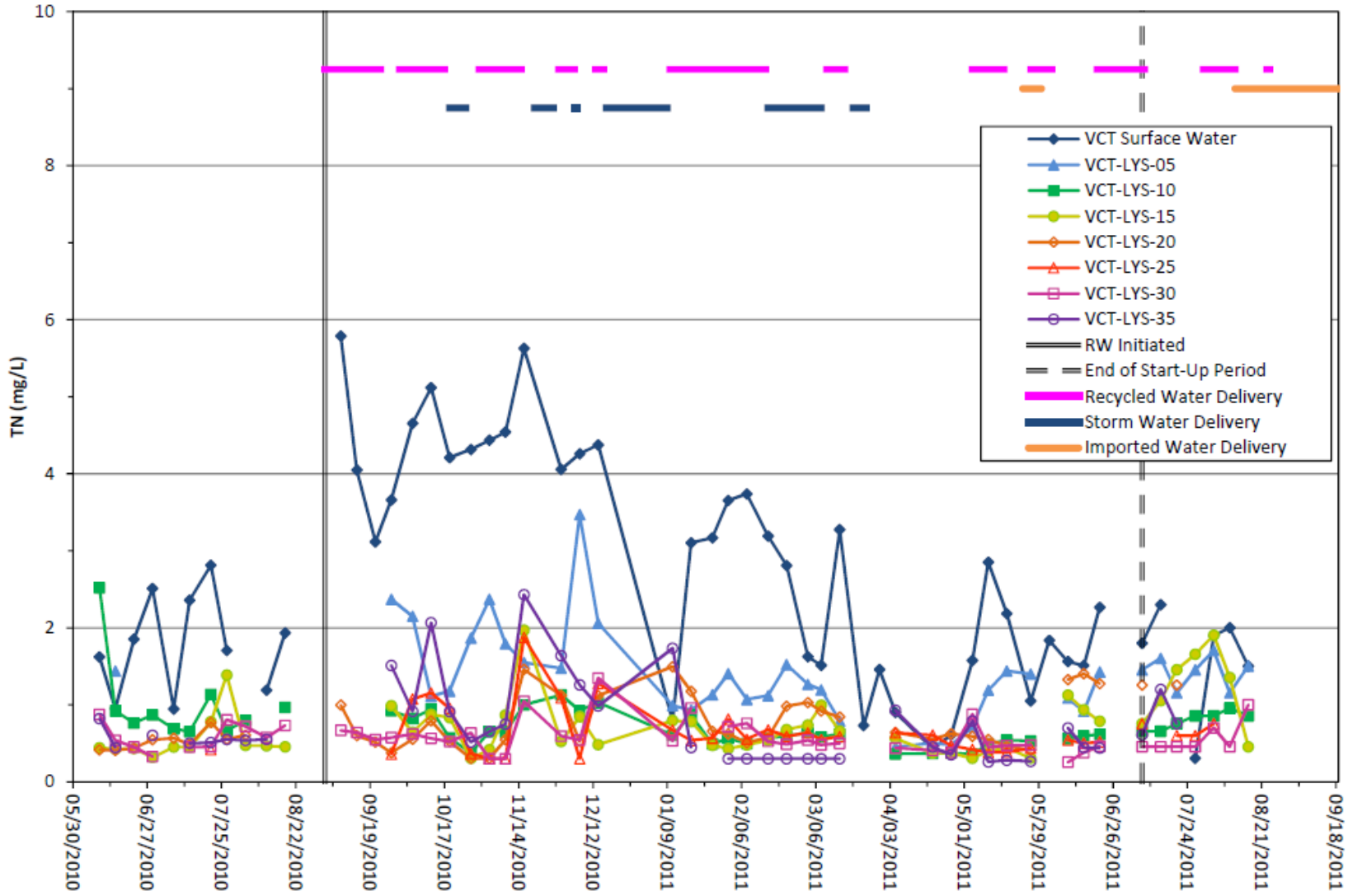


FIGURE 4-3a
VICTORIA BASIN LYSIMETERS
TOTAL NITROGEN TIME SERIES

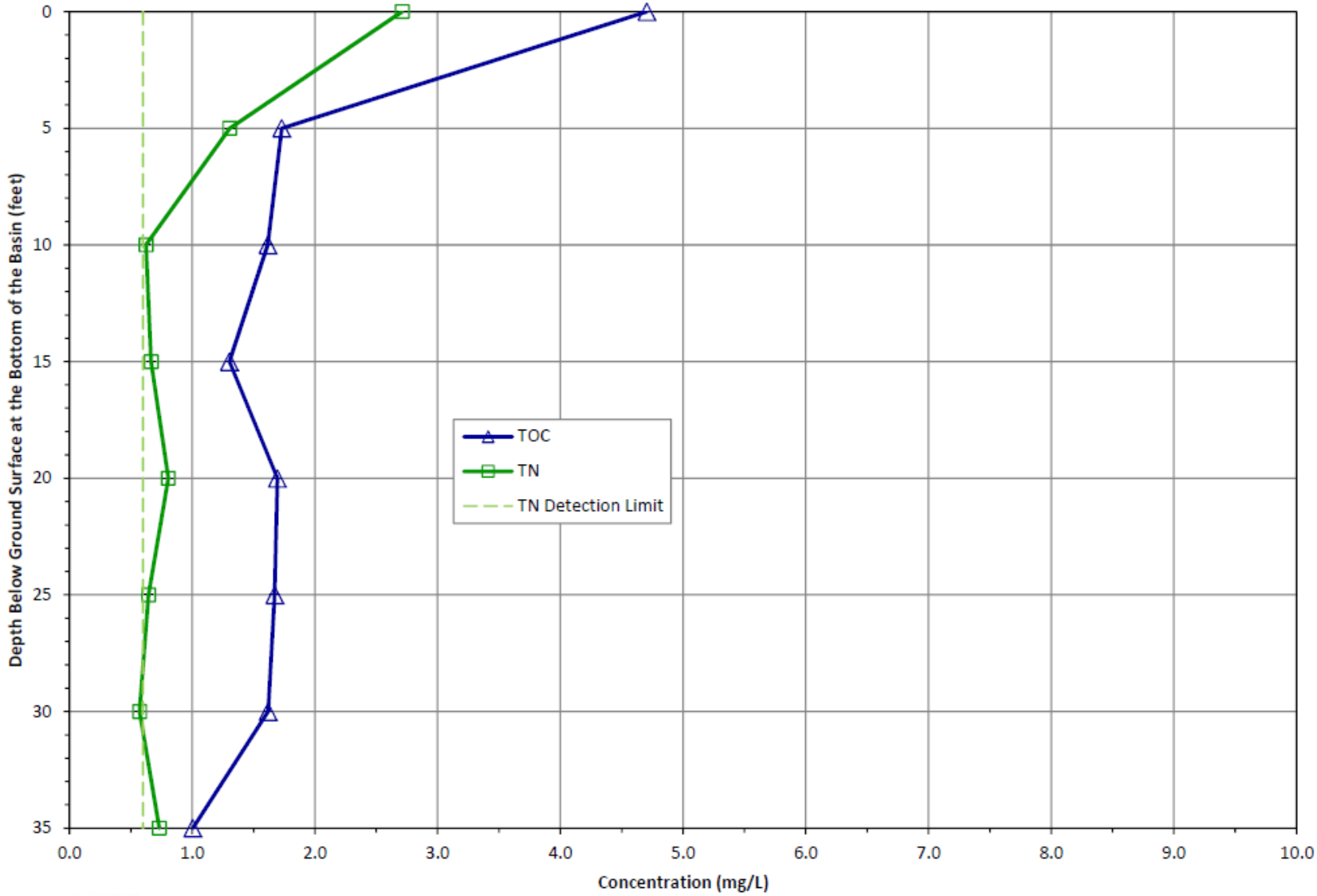
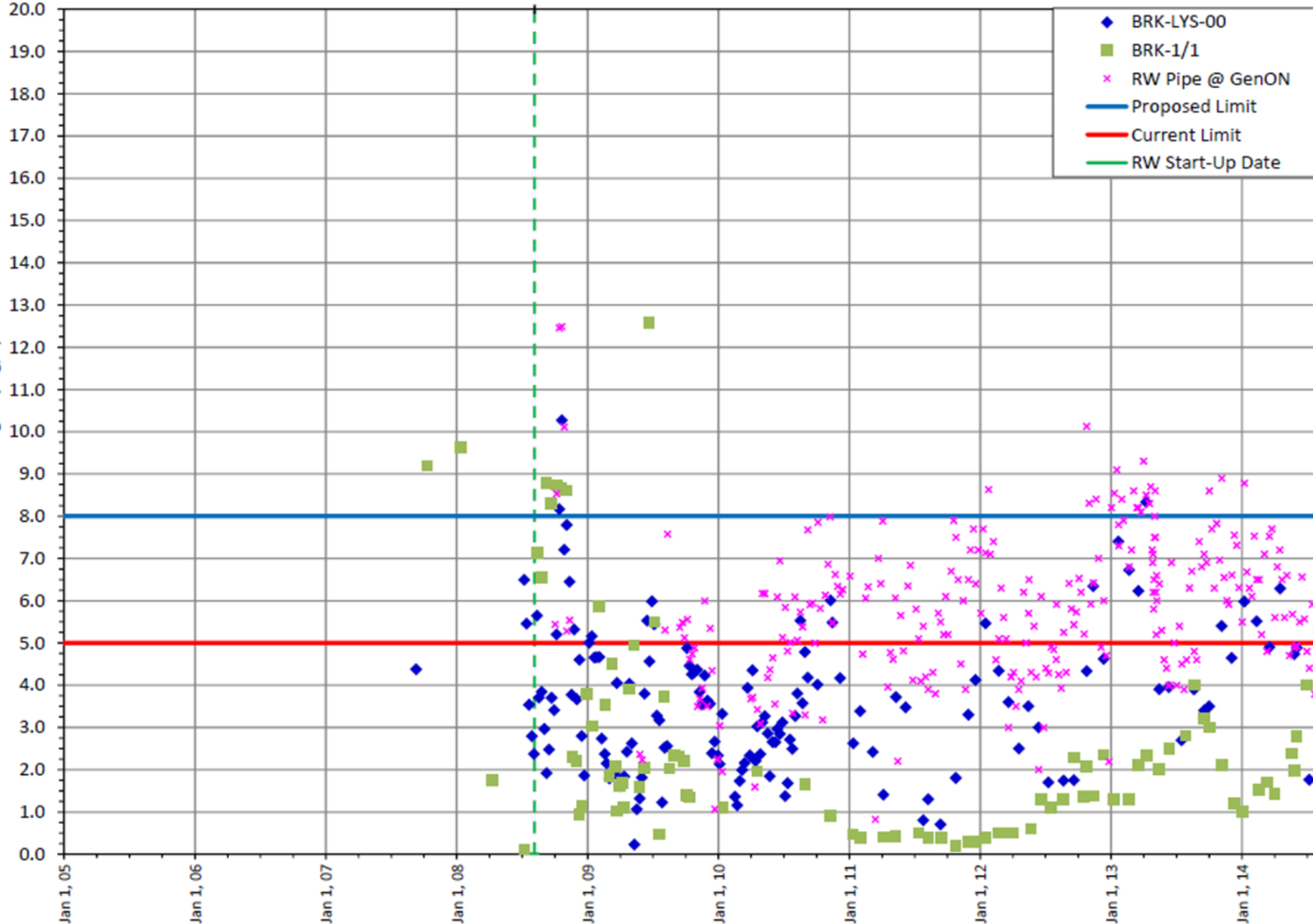
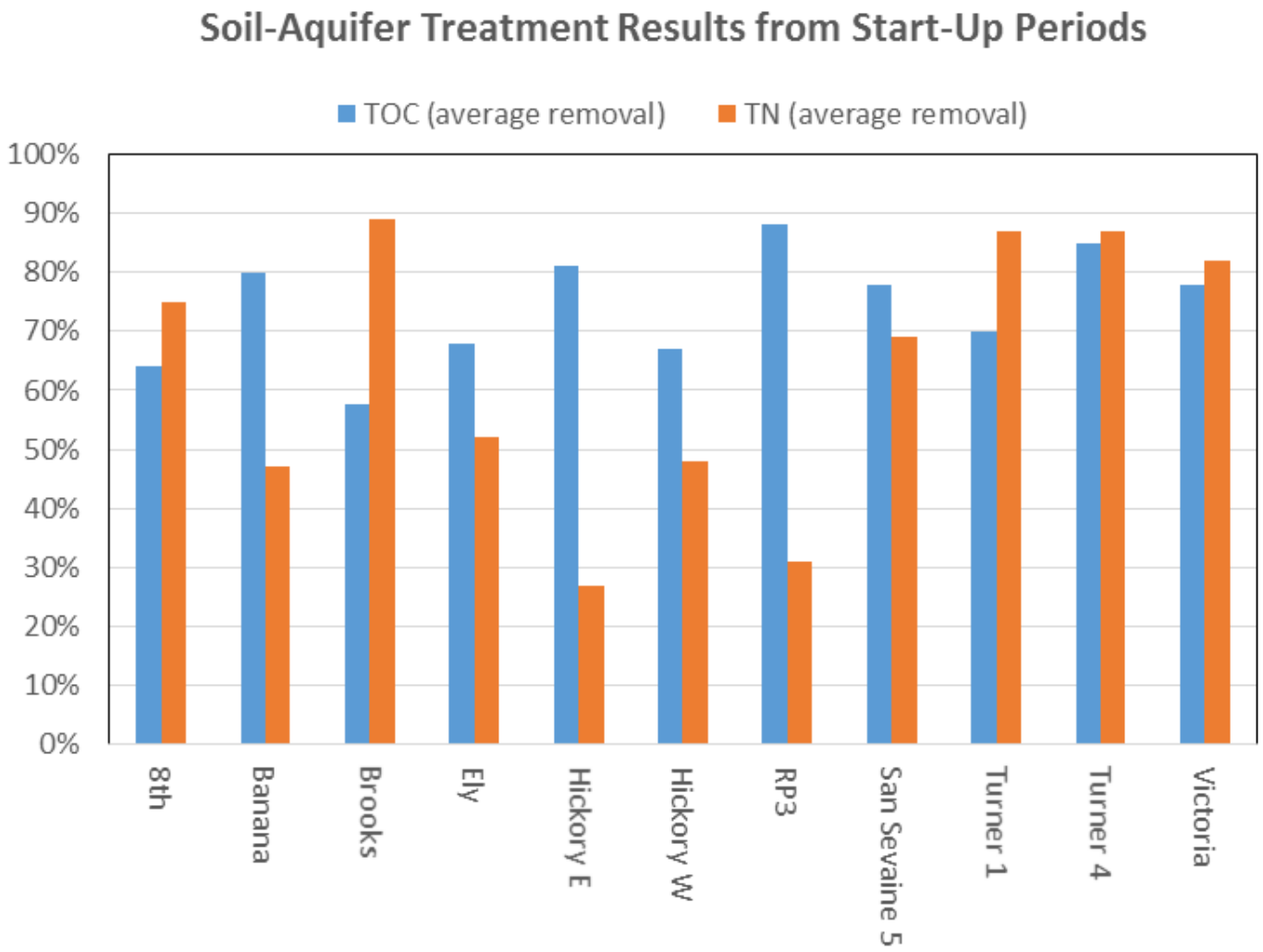


FIGURE 5-1
VICTORIA BASIN
DEPTH PROFILE OF AVERAGE TOC AND TN

Brooks Basin - Total Nitrogen



Summary of Start-Up Results



Start-Up Period Results			
Recharge Site	Sample Depth (ft)	Avg TOC Removal	Avg TN Removal
8th	35	64%	75%
Banana	25	80%	47%
Brooks	25	58%	89%
Ely	15	68%	52%
Hickory E	25	81%	27%
Hickory W	25	67%	48%
RP3	35	88%	31%
San Sevaine 5	20	78%	69%
Turner 1	25	70%	87%
Turner 4	15	85%	87%
Victoria	35	78%	82%