THREE-TIERED LTMO APPROACH – DECISION LOGIC

MONITORING NETWORK OPTIMIZATION DECISION LOGIC

LONG-TERM MONITORING OPTIMIZATION

Reasons for Retaining a Well in Monitoring Network	Reasons for Removing a Well from Monitoring Network
Well is needed to further characterize the site or monitor changes in contaminant concentrations through time	Well provides spatially redundant information with a neighboring well (*e.g.*, same constituents, and/or short distance between wells)
Well is important for defining the lateral or vertical extent of contaminants.	Well has been dry for more than two years[a/]
Well is needed to monitor water quality at a compliance or receptor exposure point (*e.g.*, water supply well)	Contaminant concentrations are consistently below laboratory detection limits or cleanup goals
Well is important for defining background water quality	Well is completed in same water-bearing zone as nearby well(s)

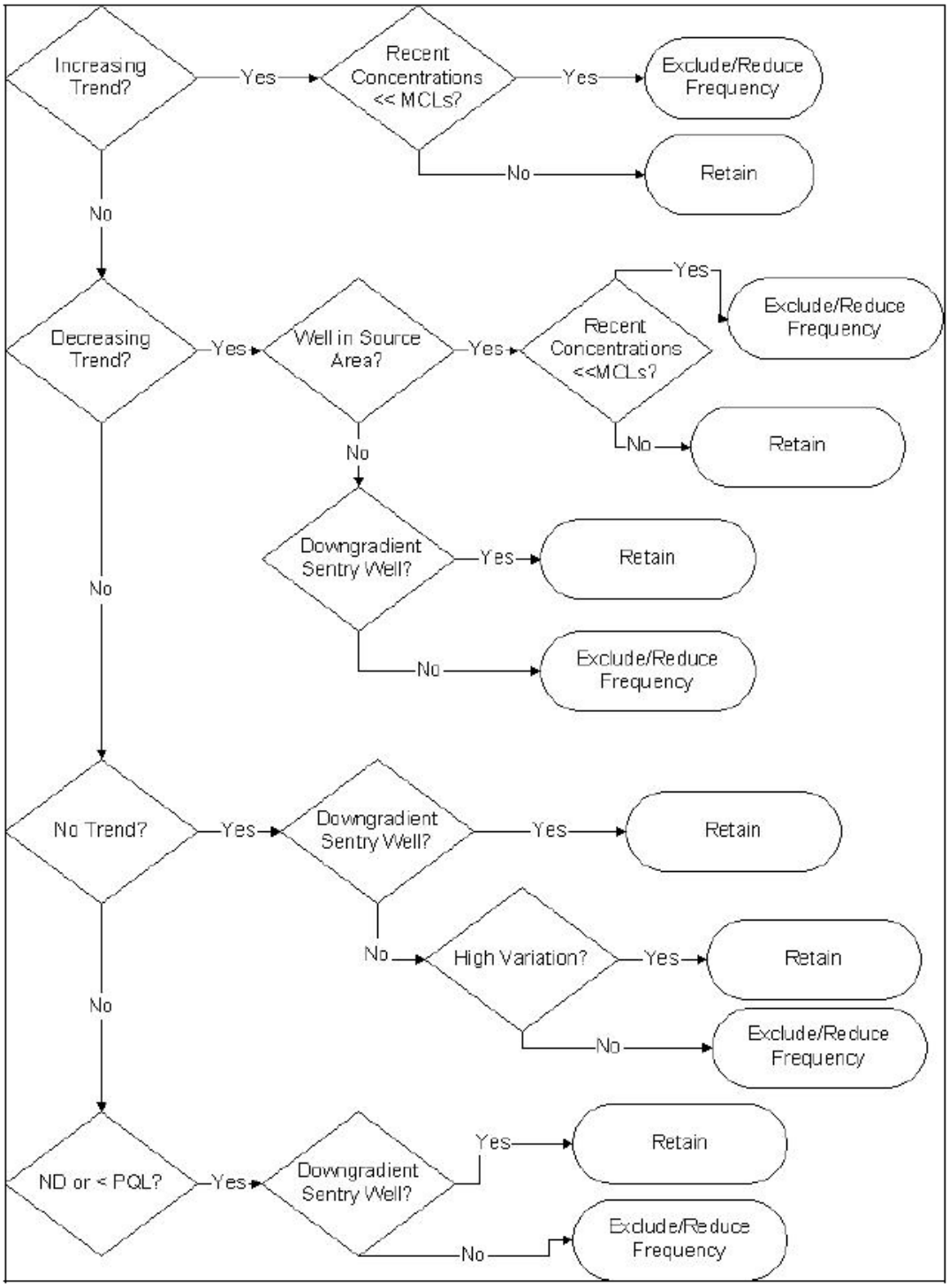
a/ Periodic water-level monitoring should be performed in dry wells to confirm that the upper boundary of the saturated zone remains below the well screen. If the well becomes re-wetted, then its inclusion in the monitoring program should be evaluated.

MONITORING FREQUENCY DECISION LOGIC

LONG-TERM MONITORING OPTIMIZATION

Reasons for Increasing Sampling Frequency	Reasons for Decreasing Sampling Frequency
Groundwater velocity is high	Groundwater velocity is low
Change in contaminant concentration would significantly alter a decision or course of action	Change in contaminant concentration would not significantly alter a decision or course of action
Well is necessary to monitor source area or operating remedial system	Well is distal from source area and remedial system
Cannot predict if concentrations will change significantly over time, or recent significant increasing trend in contaminant concentrations at a monitoring location resulting in concentrations approaching or exceeding a cleanup goal, possibly indicating plume expansion	Concentrations are not expected to change significantly over time, or contaminant levels have been below groundwater cleanup objectives for some prescribed period of time

TEMPORAL TREND DECISION RATIONALE FLOWCHART
LONG-TERM MONITORING NETWORK OPTIMIZATION



COMBINED EVALUTION SUMMARY DECISION LOGIC
LONG-TERM MONITORING NETWORK OPTIMIZATION