Long-Term Groundwater Monitoring Optimization Newark, Muscoy, and Source Operable Units Newmark Superfund Sites San Bernardino, California

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ABBREVIATIONS

AMSL	Above Mean Sea Level
AOC	Area of Concern
BGS	Below Ground Surface
CalEPA	California Environmental Protection Agency
CES	Cost Effective Sampling
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	Constituent of Concern
DCDFM	Dichlorodifluoromethane
DHS	California Department of Health Services
DTSC	California Department of Toxic Substances Control
EDD	Electronic Data Deliverable
EPA	US Environmental Protection Agency
ESD	Explanation of Significant Differences
GIS	Geographic Information System
HSCB	Hypothetical Statistical Compliance Boundary
IC	Institutional Control
LTM	Long-Term Monitoring
LTMO	Long-Term Monitoring Optimization
MAROS	Monitoring and Remediation Optimization Software
MCES	Modified Cost Effective Sampling
MCL	Maximum Contaminant Level
MSL	Mean Sea Level
NAPL	Non-Aqueous Phase Liquid

NPL	National Priorities List
OU	Operable Unit
PCE	Tetrachloroethene (Perchloroethene)
PLSF	Preliminary Location Sampling Frequency
PRG	Preliminary Remediation Goal
PRP	Potentially-Responsible Party
RI/FS	Remedial Investigation Feasibility Study
ROD	Record of Decision
SBMWD	San Bernardino Municipal Water Department
SF	Slope Factor
TCE	Trichloroethene
TCFM	Trichlorofluoromethane
TDS	Total Dissolved Solids
VOC	Volatile Organic Compound

August 21, 2007

GROUNDWATER MONITORING NETWORK OPTIMIZATION
NEWMARK, MUSCOY AND SOURCE OU
NEWMARK SUPERFUND SITE

EXECUTIVE SUMMARY

The following report contains a review of the groundwater monitoring network for Newmark Superfund Site in San Bernardino, California (Newmark Site). The Site consists of the Source, Newmark and Muscoy operable units (OUs). The current groundwater monitoring network has been evaluated using a formal qualitative approach as well as statistical tools found in the Monitoring and Remediation Optimization System software (MAROS). Recommendations are made for groundwater sampling frequency and location based on current hydrogeologic conditions and long-term monitoring goals for the system. The report evaluates the monitoring system using analytical and hydrogeologic data from sampling events conducted between May 1987 and January 2007.

Site Groundwater Monitoring Goals and Objectives

The primary groundwater monitoring goals for the Newmark Site include developing a data set to 1) evaluate the efficacy of the chosen remedy to prevent downgradient migration of the plume, 2) evaluate long-term reduction in contaminant mass and 3) determine if basin activities such as artificial recharge or groundwater or natural processes are exceeding the capacity of the pumping system to capture the plume. Specifically, monitoring data will be used to delineate the extent of affected groundwater in support of implementation of institutional controls on the plume. As part of the institutional controls, Newmark Site monitoring data will be used to evaluate concentration trends near the extraction front. A secondary objective of groundwater monitoring at the Newmark Site is to provide data to support groundwater transport modeling efforts.

Project Goals and Objectives

The goal of long-term monitoring optimization (LTMO) is to review the current groundwater monitoring program and provide recommendations for improving the efficiency and accuracy of the network in supporting site monitoring objectives. Specifically, the LTMO process provides information on the site characterization, stability of the plume, sufficiency and redundancy of monitoring locations and the appropriate frequency of network sampling. Tasks involved in the LTMO process include:

- Evaluate well locations and screened intervals within the context of the hydrogeologic regime to determine if the site is well characterized;
- Evaluate overall plume stability through trend and moment analysis;
- Evaluate individual well concentration trends over time for target constituents of concern (COCs);
- Develop sampling location recommendations based on an analysis of spatial uncertainty;

- Develop sampling frequency recommendations based on qualitative and quantitative statistical analysis results;
- Evaluate individual well analytical data for statistical sufficiency and identify locations that have achieved clean-up goals.

The end product of the LTMO process at the Newmark Site is a recommendation for specific sampling locations and frequencies that best address site monitoring goals and objectives listed above.

The recommendations contained in this report are made on a technical basis and are independent of the existing regulatory of enforcement requirements.

Site Assumptions

Affected groundwater at the Newmark Superfund Site covers an area of over 36 square miles and roughly 1,200 feet in depth with very few major geologic discontinuities. In order to evaluate the full extent of the plume, the dataset was divided into multiple analysis groups. Monitoring locations were grouped according to operable unit and, in the case of the Muscoy and Newmark OUs, analytical data were grouped by depth. The depth intervals used in the following report include shallow, intermediate and deep groups for the Muscoy and Newmark OUs, which do not necessarily correspond to hydrogeologic strata defined for the modeling effort. The depth intervals represent 2-dimensional ‘slices’ of the aquifer for the purpose of the analysis. Depth zones used in this report are a simplification defined for the purpose of the LTMO analysis and do not constitute an alteration of the conceptual site model.

The precise locations and mechanisms of entry of contaminants into Newmark Site groundwater are not fully defined. For the purpose of the analysis, the site source was assumed to be in the area of wells CJ-10 and CJ-17, locations with historically high concentrations of site constituents. Aquifer properties such as seepage velocity and porosity were estimated based on the predominant geologic matrix at the site.

Results

Statistical and qualitative evaluations of Newmark Site analytical data have been conducted and the following general conclusions have been drawn based on the results of these analyses:

- After a qualitative evaluation of well locations, screened intervals and hydrogeologic characteristics, affected groundwater at the Newmark Site is delineated to EPA MCLs for the compounds investigated. Groundwater areas where concentrations routinely exceed MCLs are bounded by wells where results are below MCLs. No major data gaps in site characterization were found.
- The groundwater plumes evaluated are largely stable, even though many concentration trends (for both individual wells and plume moments) show no statistical trend. Many “no trend’ results are an artifact of censored data (analytical results varying between no detections and low detections of COCs). Another source of data variance includes concentrations that were increasing before remedy start-up and have since reversed in trend.

- For 161 wells evaluated in all Newmark Site OUs for long-term PCE trends, the majority of locations showed stable to decreasing trends or no detections (57%). Increasing trends were calculated for 12% of locations. No statistically significant trend was found at 29% of locations. Two locations had insufficient data to perform the analysis.
- Results from the spatial redundancy analysis indicate that several wells could be considered for removal from routine monitoring, as they do not provide unique information. Wells identified as redundant are listed in Tables 3-10. However, due to the spatial extent of the plume, no wells are recommended for removal at this time (see Recommendations below).
- The spatial analysis identified one area of high concentration uncertainty that may be a candidate location for a new well. The area of uncertainty is in the southwest corner of the Newmark OU in the deeper groundwater zone near the Muscoy Intermediate Zone.
- The sampling frequency analysis recommended a reduced sampling frequency for the majority of wells. Annual to biennial sampling frequencies were recommended by the MAROS algorithm based on the rate of change and trend of well concentrations.
- 95 of 160 locations (59%) evaluated were statistically below the MCL for PCE using the sequential T-test. Approximately one-quarter (25%) of monitoring locations had a sufficient data record at sufficiently low concentrations to have 'attained' clean-up goals with 80% or greater statistical power.

Recommendations

The following general recommendations are made based on the findings of the technical analysis summarized above and those described in Section 3 below. More detailed recommendations are presented for each of the OUs in Section 4.

- *All locations within the monitoring network are recommended for inclusion* in the current monitoring program. While areas of statistical spatial redundancy were identified, the depth heterogeneity and aerial extent of the plume provided sufficient qualitative reasons for maintaining all sampling locations in the network. Currently, all locations in the plume provide information on spatial distribution and concentration trends of chemical constituents.
- *Wells with non-detect results and the 59% of wells that are statistically below the MCL for PCE should remain in the monitoring program as delineation locations* and as sentinel wells to detect increasing concentrations in largely 'clean' areas. Examples of low-detection wells important to delineation include Source OU locations CJ-2 and CJ-7.
- *No new monitoring locations are recommended*. One area of statistical spatial uncertainty was identified in the deeper, southwestern area of the Newmark OU. This area is very close to intermediate depths in the Muscoy OU. Continue monitoring the area downgradient of the Shandin Hills, between the Newmark Deep and Muscoy Intermediate zones and consider an additional well should modeling or capture zone analysis indicate possible transport of COCs downgradient.

- *Reduce the frequency of monitoring.* The plumes are not changing rapidly. Mass appears to be shifting downgradient towards the extraction wells, but not extremely rapidly. Two levels of monitoring effort are recommended –
    - Annual to biennial monitoring on a plume wide-level to delineate the overall plume,
    - Semi-annual monitoring for the plume-front and areas with high historic concentrations to confirm that the plume does not expand past the current position. (Specific monitoring recommendations are shown in Table 11.)
- *Continue evaluating concentration trends* for monitoring locations at the Newmark Site. Stakeholders should develop an agreement on a consistent method by which to evaluate trends, including the time-frame over which to evaluate the data. A nonparametric Mann-Kendall trend test like the one used in the MAROS software is recommended. Recent trends (~2 years) should be compared with trends calculated from the full dataset to better detect long-term variations in analytical results. For locations in the plume-front region, the statistical test should be conducted after each sampling event.
- *Continue refinement of the conceptual site model through modeling and statistical analyses*.
    - Monitoring data at the Newmark Site show high variance relative to concentrations (resulting in lack of statistical trends). In most cases, variance in the data can be explained by site characteristics and processes. Continue monitoring for concentration trends, with careful consideration of factors that may contribute to underlying variance in the data (i.e. large percentage of non-detect results, seasonal aquifer changes, proximity to pumping wells).
    - The challenge for the monitoring network at the Newmark Site is to provide data for a large aerial extent (8 miles in length) and from great depths. The current approach of combining an extensive monitoring program with development of a site-wide database, groundwater transport models and capture zone analysis is anticipated to provide complementary information to support site management decisions.
- *Review the monitoring program again in 3-5 years.* Wells installed recently (2005-2007) will have a statistically significant data set, and the efficacy of the remedial system will be better documented. If current groundwater conditions and mass removal trends continue, reduced monitoring effort may be appropriate in the future.
- *Continue development of the site-wide database* available to all stakeholders. The database should including monitoring location coordinates, analytical results and results of hydrogeologic sampling.

1.0 INTRODUCTION

The Newmark Groundwater Contamination Site (Newmark Site) is a National Priorities Listed (NPL) site being administered under the Comprehensive Environmental Response, Compensation and Liability Act (Superfund). The site is located within the broader Bunker Hill Basin near the city of San Bernardino, California (see Figure 1). Groundwater resources in the area are the sole water-supply for approximately 500,000 basin residents (URS, 2006). Discovery of chlorinated compounds in the aquifer above regulatory screening levels resulted in closure of a number of municipal water-supply wells and represents an on-going public health concern. Remedial systems are currently in place to control the spread of affected groundwater and assist in long-term resource restoration.

Groundwater monitoring plays a critical role in long-term restoration of affected aquifers. The purpose of the LTMO evaluation is to review the current groundwater monitoring network and provide recommendations for improving the efficiency and accuracy of the network for supporting site management decisions.

Monitoring goals define why and how data collected from the site will be used. The primary groundwater monitoring goals for the Newmark Site include developing a data set to 1) evaluate the efficacy of the chosen remedy to prevent downgradient migration of the plume, 2) evaluate long-term reduction in contaminant mass and 3) determine if basin activities such as groundwater artificial recharge or natural processes are affecting the efficiency of the pumping system to capture the plume. Specifically, monitoring data will be used to delineate the extent of affected groundwater in support of implementation of institutional controls on the plume. Additionally, Newmark Site monitoring data will be used to evaluate concentration trends near the extraction front. A secondary objective of groundwater monitoring at the Newmark Site is to provide data to support groundwater transport modeling efforts.

In order to recommend an optimized network that addresses the stated monitoring objectives, spatial and analytical data from the site were analyzed using a series of quantitative and qualitative tools. Tasks performed during LTMO analyses include:

- Evaluate well locations and screened intervals within the context of the hydrogeologic regime to determine if the site is well characterized;
- Evaluate overall plume stability through trend and moment analysis;
- Evaluate individual well concentration trends over time for target constituents of concern (COCs);
- Develop sampling location recommendations based on an analysis of spatial uncertainty;
- Develop sampling frequency recommendations based on both qualitative and quantitative statistical analysis results;
- Evaluate individual well analytical data for statistical sufficiency and identify locations that have achieved clean-up goals.

A discussion of site background and regulatory context for the Newmark Site is provided in Section 1 below. Section 2 details the analytical and statistical approach taken during the LTMO evaluation. Additional information on statistical techniques used in the MAROS software is located in Appendix A. A detailed discussion of results for each OU and depth monitoring network is provided in Section 3. Summary conclusions and recommendations are presented in Section 4.0.

1.1 Site Background

1.1.1 Regulatory History

During a 1980 groundwater investigation by the California State Department of Health Services - Department of Toxic Substances Control (DHS/DTSC), municipal water-supply wells in the City of San Bernardino were found to contain chlorinated solvents in excess of state drinking water action levels. Subsequent groundwater investigations indicated a broad region of affected groundwater. Because of the extent of groundwater contamination and the aquifer's critical role as a water supply, the site was added to the NPL in March 1989 by the US Environmental Protection Agency (EPA).

The Newmark Site consists of three operable units (OUs). OUs were designated by regulators to manage site assessment and restoration activities for smaller areas within the overall Newmark Site. The US Environmental Protection Agency (EPA) conducted a remedial investigation/feasibility study (RI/FS) for the Newmark OU from 1990 to 1993 and issued a Record of Decision (ROD) in 1993 (EPA, 1993). The RI/FS for the Muscoy OU was completed in 1994 (URS, 1994), with an Interim ROD issued in March, 1995.

A 1996 technical memorandum from EPA suggests that the primary source of contamination for both the Muscoy and Newmark OUs may be the former San Bernardino Army Depot north of the Shandin Hills (URS, 1996). The Army Depot served several key functions during and immediately after World War II. Land leased by the Department of Defense (DOD) from the Muscoy Water Company in the area served as a storage depot, ammunition supply, dry cleaning facility, sewage spreading facility, tent manufacturing, railcar degreasing and prisoner of war camp, among other activities, between 1940 and 1948 (CA State Military Museum, 2007). The Source OU to the north of the Newmark and Muscoy OUs was designated in 1993.

Outlines of the OUs are shown on Figure 1. A brief description of each OU is provided below.

- *Source OU*: The Source OU is located on the northern/northeastern edge of the site, north of the Shandin Hills and covers approximately 6.3 square miles. The OU is bounded on the west/southwest by Lytle Creek and on the east by Highway 215. The Source OU contains both the Cajon Landfill and former Camp Ono Army Supply Depot and represents the most upgradient area of affected groundwater.

- *Newmark OU*: The Newmark OU covers roughly 6.7 square miles north and east of the Shandin Hills. The OU encompasses affected groundwater wrapping around the Shandin Hills and extends south to the plume-front south of Baseline Road.

- Muscoy OU: The Muscoy OU is located downgradient, south of the Source OU and west of the Shandin Hills. The OU covers approximately 7.75 square miles.

1.1.2 Current Conditions

Because of the extent of affected groundwater, the relatively dilute concentrations and the subsurface geochemistry, remedial options for the site are somewhat limited. The primary interim remedy for the Newmark Site involves groundwater extraction, subsequent treatment with conventional technologies to drinking water standards and distribution of the water to municipal suppliers. The objectives of the interim remedy are to capture the plume and prevent it from migrating to cleaner areas of the aquifer. The remedy for the Newmark OU was completed in 1998 and the Muscoy OU remedy has been in operation since 2005. Currently, groundwater at the Newmark Site is monitored at over 160 locations.

In August 2004, the EPA issued an Explanation of Significant Differences (ESD) to supplement the interim ROD with an institutional controls (IC) program. The ESD stipulates that any activities that may impact the barrier function of the pumping wells be controlled through permitting or other mechanism. Activities such as installation of new wells or operation of spreading basins (artificial recharge) must not degrade the capture function of the remedy. The IC is in the form of a local ordinance by the City of San Bernardino. The IC is crafted to ensure that the function of the pump and treat system remains effective in meeting long-term risk-reduction objectives.

Currently, a dilute plume composed primarily of tetrachloroethene (PCE), trichloroethene (TCE) dichlorodifluoromethane (DCDFM) and trichlorofluoromethane (TCFM) is dispersed approximately 5 miles downgradient on the Newmark (east) side of the Shandin Hills and 3 miles downgradient on the Muscoy (west) side. PCE is present in the highest concentration relative to the applicable regulatory screening levels. Affected groundwater is present in both the upper and lower aquifers and may extend to the bedrock.

1.1.3 Area Groundwater Management

In addition to addressing site contamination, monitoring networks at the Newmark Site provide critical information for area-wide groundwater management. The Newmark Site is located in a geologically active zone beside the San Andreas Fault. Due to potential seismic activity, groundwater management efforts in the Bunker Hill Basin must address liquefaction hazards as well as municipal water supply, ecological and drainage issues. Future basin-wide management efforts include attempts to stabilize aquifer water levels by controlling and directing infiltration. Potential hazards involving groundwater must be balanced through a comprehensive management strategy. Groundwater management efforts for the Basin involve cooperation between a number of public stakeholders including EPA, San Bernardino Municipal Water District (SBMWD), Santa Ana Regional Water Quality Control Board (RWQCB) and the California Department of Toxic

Substances Control (DTSC). Data from the Newmark Site network have been used in developing and calibrating both a site-wide and basin-wide groundwater model.

1.2 Geology and Hydrogeology

The Newmark Site is located at the base of the San Bernardino Mountains between the San Andreas and Loma Linda and San Jacinto faults. Area geology is characterized by a series of confluent alluvial fans formed from major drainages descending from the San Gabriel and San Bernardino Mountains to the north. The alluvial deposits form the broad plain of the San Bernardino Valley. Alluvium in the Newmark Site area consists of boulders, gravel, and sand with silt and clay lenses interspersed toward the central and southern portions of the site. The Shandin and Wiggins Hills are bedrock protrusions rising above the alluvial valley.

The aquifer underlying the Newmark Site consists of two units, an upper unconfined aquifer composed of younger alluvium (the upper water bearing member (UWBM) and a lower aquifer, confined by overlying silt and clay lenses (lower water bearing member (LWBM). In the northern region of the Newmark Site near the base of the San Bernardino Mountains the alluvial layer is primarily sand, gravel and boulders with little clay. Alluvial thickness is approximately 400 ft in this area. Southward toward the Loma Linda and San Jacinto faults, the alluvial thickness increases to 2,100 ft. The number and thickness of silt and clay lenses increases from north to south across the site, increasing the distinction between the upper and lower saturated units (URS, 2006).

Groundwater characterization and modeling efforts in the Newmark Site area have resulted in the identification of various hydrostratigraphic zones in the Muscoy and Newmark regions. Hydrostratigraphic zones were defined based on measured water levels, responses to pumping and the conceptual hydrogeologic model (URS, 2006). Modeling efforts are on-going and should provide more highly refined information on subsurface strata and possible vertical gradients in the future. Current hydrostratigraphic zone designations were considered along with relative well screen depths to separate site data into two-dimensional aquifer 'slices' for the MAROS spatial analysis. The 'slices' were defined for the purpose of the analysis and are not meant to reflect a precise description of subsurface stratification.

The surface elevation across the Newmark Site drops from about 1,700 feet above mean sea level (ft amsl) in the north/northwest to approximately 1,100 ft amsl at the southern extent of the plume. Groundwater flow generally follows the surface elevation, trending from northwest to south/southeast. Predominant groundwater flow directions are indicated on Figure 1. Localized variations in groundwater flow occur around the Shandin Hills. Outlines of the Newmark OU follow the flow of groundwater around the Shandin Hills. Major faults in the region off-set the bedrock, acting as barriers to lateral flow.

Recharge to the Newmark Site aquifers occurs as a result of surface runoff from the surrounding mountains during storm periods. Surface runoff follows the canyons along the valley perimeter and moves down alluvial fans, infiltrating into the permeable surface layers. The magnitude of aquifer recharge is dependent on rainfall.

Aquifer physical parameters employed for the analyses are shown in Appendix B Tables B.2a-c. A consensus seepage velocity was not available from the stakeholder group, so a maximum seepage velocity was estimated for the area. The seepage velocity is used in a qualitative manner to categorize the aquifer (fast, medium, slow, etc.).

2.0 ANALYTICAL APPROACH

Evaluation of the groundwater monitoring network in the vicinity of the Newmark Site consisted of both quantitative and qualitative methods. A quantitative statistical evaluation of the site was conducted using tools in the MAROS software. The qualitative evaluation reviewed hydrogeologic conditions, well construction and placement. Both quantitative statistical and qualitative evaluations were combined using a 'lines of evidence' approach to recommend a final groundwater monitoring strategy to support site monitoring objectives.

2.1 MAROS Method

The MAROS 2.2 software was used to evaluate the long-term monitoring (LTM) network at the Newmark Site. MAROS is a collection of tools in one software package that is used in an explanatory, non-linear but linked fashion to statistically evaluate groundwater monitoring programs. The tool includes models, statistics, heuristic rules, and empirical relationships to assist in optimizing a groundwater monitoring network system. Results generated from the software tool can be used to develop lines of evidence, which, in combination with professional judgment, can be used to inform regulatory decisions for safe and economical long-term monitoring of groundwater plumes. A summary description of each tool used in the analysis is provided in Appendix A of this report. For a detailed description of the structure of the software and further utilities, refer to the MAROS 2.2 Manual (AFCEE, 2003; http://www.gsi-net.com/software/MAROS_V2_2Manual.pdf) and Aziz et al., 2003.

In MAROS 2.2, two levels of analysis are used for optimizing long-term monitoring plans: 1) an overview statistical evaluation with interpretive trend analysis based on temporal trend analysis resulting in plume stability information; and 2) a more detailed statistical optimization based on spatial and temporal redundancy reduction methods (see Appendix A or the MAROS Users Manual (AFCEE, 2003)).

The approach used for the quantitative evaluation of the Newmark Site involved analyzing each depth in each OU separately. Spatial analysis tools in MAROS are designed for two-dimensional spatial analysis. Shallow, Intermediate and Deep groundwater zones were defined for the Newmark and Muscoy OUs. Each zone was evaluated for plume stability, spatial redundancy and sufficiency; optimal sampling frequency and data sufficiency. The results of each of these analyses are presented in Section 3.0 below. A brief summary of each of these methods is provided below.

2.1.1 Plume Stability

Within MAROS, historical analytical data are analyzed to develop a conclusion about plume stability. If a plume is found to be stable, in many cases, the number of locations and monitoring frequency can be reduced without loss of information. Plume stability results are assessed from time-series concentration data with the application of two types of statistical tools: individual well concentration trend analyses and plume-wide moment analysis.

Individual well concentrations are evaluated using both Mann-Kendall and Linear Regression trend tools. The Mann-Kendall nonparametric evaluation is considered one of the best methods to evaluate concentration trend as it does not assume the data fit a particular distribution (Gilbert, 1987). For the Newmark site, concentration trends were calculated for the four priority COCs for the time period 1999 to 2007. Individual well Mann-Kendall trends were also used in the sampling frequency analysis, where trends determined for the 2005 to 2007 interval were compared with trends calculated using the entire dataset for each well. During the final 'lines of evidence' evaluation, individual well concentration trends are considered along with summary statistics such as percent detection and historic maximum concentration to prioritize wells in the network.

Moment analysis algorithms in MAROS are simple approximations of complex calculations and are meant to estimate the total dissolved mass (zeroth moment), the location of the center of mass (first moment) and spread of mass (second moment) for each sample event. Temporal trends for each of these spatial metrics are determined using the Mann-Kendall method. Results of the moment analyses provide a plume-wide metric of plume stability.

The trend in the zeroth moment is determined from comparing the total mass estimates for each sample event (or consolidated time period) over time. The trend indicates if total mass within the network is increasing, decreasing or stable. (The zeroth moment does not estimate the dissolved mass outside of the current network.) The first moment tool estimates the X,Y coordinates of the center or mass of the plume for each sample event. Trend evaluation indicates if the center of mass is getting father from the source (increasing trend) or if the center is retreating toward the identified source (decreasing trend). The trend in first moments reflects the change in the relative amount of mass in the source area versus that in the downgradient tail region over time. For example, an increasing trend may indicate decreases in mass in the source area or increasing concentrations in downgradient wells. Decreasing trends in the first moment can indicate degradation of constituents in the tail of the plume or continued input of dissolved mass in the source area (i.e. 'uncontrolled' source).

Trends in the second moments indicate the relative spread or distribution of mass from the center of the plume to the edges, both in the direction of groundwater flow (x-direction) and perpendicular to groundwater flow (y-direction). An increasing second moment indicates an increase in the amount of mass on the edge of the plume relative to the center, as when an extraction well removes mass from the center of the plume.

The moment analysis module is sensitive to the number and arrangement of wells in each sampling event, so data are sometimes consolidated (semi-annually or annually) to ensure that the number and identity of wells during monitoring events are comparable. For the Newmark site, moments were calculated using the annual average concentration at each location. The trends for the moments estimated for PCE were used to evaluate plume stability over time. Results for the three other priority COCs were reviewed and incorporated as part of the qualitative analysis, when necessary.

2.1.2 Well Redundancy and Sufficiency

Sample locations are evaluated in MAROS for their importance in providing information to define concentrations within the groundwater plume. Wells identified as providing information redundant with surrounding wells are recommended for elimination from the program. (Note: elimination from the program does not necessarily mean plugging and abandoning the well. See Section 2.3 below.) Well sufficiency is evaluated in MAROS using the same spatial analysis as that for redundancy. Areas identified as having high levels of concentration uncertainty are possible sites for additional monitoring locations.

The well redundancy and sufficiency analysis uses the Delaunay method and is designed to select the minimum number of sampling locations based on the spatial analysis of the relative importance of each sampling location in the monitoring network. The importance of each sampling location is assessed by calculating a slope factor (SF) and concentration and area ratios (CR and AR respectively). Sampling locations with a high SF provide unique information and are retained in the network. Locations with low SF are considered for removal. Areas defined by many wells with high SF may be candidates for new wells. SF were calculated for all wells at the Newmark Site and the results were used to determine the importance of the well in the network.

Spatial analysis modules in MAROS recommend elimination of sampling locations that have little impact on the historical characterization of a contaminant plume while identifying areas in the plume where additional data are needed. For details on the redundancy and sufficiency analyses, see Appendix A or the MAROS Users Manual (AFCEE, 2003).

The results from the Delaunay method and the method for determining new sampling locations are derived solely from the spatial configuration of the monitoring network and the spatial pattern of the contaminant plume based on a two-dimensional assumption. No parameters such as the hydrogeologic conditions are considered in the analysis. Therefore, professional judgment and regulatory considerations must be used to make final decisions.

2.1.3 Sampling Frequency

MAROS uses a Modified Cost Effective Sampling (MCES) method to optimize sampling frequency for each location based on the magnitude, direction, and uncertainty of its concentration trends. The MCES method was developed on the basis of the Cost Effective Sampling (CES) method developed by Ridley et al (1995). The MCES method estimates a conservative lowest-frequency sampling schedule for a given groundwater monitoring location that still provides needed information for regulatory and remedial decision-making.

MAROS has recommended a preliminary location sampling frequency (PLSF) for each monitoring location at the Newmark Site based on a combination of recent and long-term trends and the magnitude and rate of concentration change. The PLSF has been reviewed qualitatively and a final optimal sampling frequency has been recommended consistent with monitoring objectives and regulatory requirements.

2.1.4 Data Sufficiency

The MAROS Data Sufficiency module employs simple statistical methods to evaluate whether analytical data are adequate both in quantity and in quality for revealing changes in constituent concentrations. Statistical tests for the MAROS module were taken from the USEPA *Methods for Evaluating the Attainment of Cleanup Standards Volume 2: Groundwater* statistical guidance document (EPA, 1992).

Two types of statistical analyses have been performed on analytical samples from each individual well. First, hypothesis testing using a sequential T-test has been performed to determine if groundwater concentration is statistically below the screening level for PCE (screening levels were set to EPA Maximum Contaminant Levels (MCLS). The sequential T-test indicates if the well has a sufficient number of samples at low enough concentrations to be categorized as “statistically below the MCL”. If measured concentrations are high or there are an insufficient number of data points, then the well is recommended for further sampling.

A statistical power analysis was also performed in the Data Sufficiency module to assess the reliability of the hypothesis test and to suggest the number of additional samples that may be required to reach statistical significance. The power analysis uses the number of samples (n), the variance of the samples, the minimum detectible difference and the significance (α) of the test to determine if the well is below the screening level with very high confidence. The power analysis is a more stringent test than the sequential T-test and provides a higher level of certainty that the well is not affected above risk-based levels. Locations that pass the power test are considered “statistically clean”.

Locations that monitor groundwater areas “statistically below MCL” or “statistically clean” may be considered for reduced sampling frequency or elimination from the program. These locations may also be retained in the program to help define the plume, set institutional control boundaries or function as surrogate “point of exposure” locations.

2.2 Data Input, Consolidation and Site Assumptions

Groundwater analytical data from the Newmark Site area were supplied by URS (URS, 2006), supplemented with information from historic site reports and on-going modeling efforts. Site reports were accessed from the Newmark Superfund Site website (EPA, 2007). Groundwater monitoring locations included in the evaluation are listed in Table 1, with additional details provided in Appendix B Table B.1.

Chemical analytical data collected between May 1987 and January 2007 and well information data were organized in a database, from which summary statistics were calculated. In all, 160 sample locations were considered in the network evaluation for the three OUs. Well locations are illustrated on Figures 1-14. Locations with no geographic coordinates and those locations that have not been sampled since 2004 were considered to have insufficient data and were not included in the analysis.

2.2.1 Saturated Intervals

In order to perform the analysis for the Newmark Site, the dataset was divided into multiple analysis groups to create 2-dimensional 'slices' of the aquifer. Monitoring locations were grouped according to operable unit and, in the case of the Muscoy and Newmark OUs, data were grouped by depth. The depth intervals used for the analysis include shallow, intermediate and deep groups, which do not necessarily correspond to hydrogeologic strata. Depth zones used in this report are defined for the purpose of the LTMO analysis and do not correspond with other zone classifications for site modeling.

Well screened intervals and hydrostratigraphic zones identified in the site database were used to group sample locations into Shallow, Intermediate and Deep Zone monitoring points for the Newmark and Muscoy OUs. Site wells were grouped to create layers for the MAROS analysis as the spatial analysis component of MAROS is based on a two-dimensional assumption. The designation of depth intervals was accomplished based on the best information currently available. Site-wide and basin-wide groundwater model development is on-going, and may improve and refine information on vertical connection between groundwater zones in the future. The Source OU was analyzed as one layer.

Analysis groups based on OU and depth interval are described briefly below. Wells in each analysis group are listed in Appendix B Table B.1. Each of the MAROS analysis groups was evaluated for plume stability, well sufficiency, well redundancy, monitoring frequency and data sufficiency.

MAROS Analysis Group Name	Comment
Source OU	Wells in the Source OU were analyzed as a group in MAROS, regardless of depth. Screened interval depth was considered in the qualitative evaluation.
Newmark OU	
• Shallow Zone	Area east of the Shandin Hills Wells listed in hydrostratigraphic zone 1, generally locations with screened intervals above 400 ft bgs. (EW-108PA considered for both Newmark and Muscoy OU shallow zones). Data from the Source OU was added for the spatial analysis.
• Intermediate Zone	Area east of the Shandin Hills. Wells listed in hydrostratigraphic zone 2, generally locations with screened intervals between 300 and 700 ft bgs. Source OU wells were included for the spatial analysis as source zone wells.
• Deep Zone	Area east of the Shandin Hills. Wells listed in hydrostratigraphic zone 3 or the LWBM, generally locations with screened intervals between 500 and 1,100 ft bgs. Locations in the Newmark Intermediate Zone were included as source wells for the spatial analysis and wells from the Muscoy Intermediate Zone were included on the western edge of the plume.
Muscoy OU	
• Shallow Zone	Area west of the Shandin Hills. Wells listed in hydrostratigraphic zone 1, generally locations with screened intervals above 400 ft bgs. (EW-108PA considered for both Newmark and Muscoy OU shallow zones).
• Intermediate Zone	Area west of the Shandin Hills. Wells listed in hydrostratigraphic zones 1.5 to 2, generally locations with screened intervals between 300 and 1,000 ft bgs. Source OU wells were included for the spatial analysis as source zone wells.
• Deep Zone	Area west of the Shandin Hills. Wells listed in hydrostratigraphic zone 3, generally locations with screened intervals below 600 ft bgs. Muscoy Intermediate Zone wells were included as source wells for the spatial analysis. Two deep wells from the Newmark OU were included on the eastern edge of the plume.

2.2.2 Time Interval and Data Consolidation

Typically, raw data from groundwater monitoring networks have been measured irregularly in time or contain many non-detects, trace level results, and duplicates. In some cases, specific locations are sampled much more frequently than the rest of the network, for example locations where samples are used to characterize input to a remedial system, or develop pump-test data. Therefore, before the data can be further analyzed using MAROS, raw data are reviewed and, if necessary, filtered, consolidated, transformed, and possibly smoothed to allow for a consistent dataset meeting the minimum data requirements for statistical analysis.

Data prior to 1999 are available for a subset of Newmark Site wells, however, the majority of wells in the network have been installed since 1996 with some as recently as 2006 (wells installed in 2007 are not considered in this report). In order to provide reasonable consistency in statistical comparisons, analyses have been limited to certain time-frames. Individual well trend evaluations were performed for data collected between 1999 and 2007. The data represent a 10 year record for many wells, and provide an indication of long-term trends in site constituent concentrations.

For sample locations with more than 40 sample events (n>40) (largely in the Source OU), data were consolidated quarterly. That is, for locations with more than one sample result for one calendar quarter (3 month period), the average concentration was used in the statistical analysis. Duplicate samples were also averaged to develop one result for each COC for each quarter.

The moment analysis is sensitive to the number and location of wells in the network. In order to compare results for the moments over time and determine trends, moments had to be calculated from the same set of wells. For the Newmark OU, where a longer data record is available, annual average concentrations were found for each well for the years 1999 to 2006. The average annual concentration at each location was used to calculate the total dissolved mass, center of mass and spread of mass plume-wide for each year. Moments calculated annually were compared and a Mann-Kendall trend was evaluated. For the Muscoy OU, where there is a shorter data record, data were consolidated semi-annually for 2005 through 2006 (4 time periods).

For the sampling frequency analysis, the rate of concentration change for each location has been determined for recent data and for the full set of data. The recent time-frame was defined as April 2005 through January 2007. MAROS recommends a PLSF using decision logic considering both recent and long-term rates of concentration change and trends.

2.2.3 COC Choice

For groundwater networks with a single source, the optimization strategy usually addresses one to three priority contaminants. MAROS includes a short module that provides recommendations on prioritizing COCs based on toxicity, prevalence, and mobility of the compound. *Priority* COCs have been defined as those compounds exceeding regulatory screening levels (California Drinking water standards, MCLs or Region 9 Preliminary Remediation Goals (PRG)) to the greatest extent across the widest distribution and those with high mobility.

At the Newmark Site, PCE is the constituent found in the highest concentration above regulatory screening levels at the greatest frequency. Dichlorodifluoromethane (DCDFM) is perhaps more widely distributed across the Newmark Site (comparing the number of non-detect results in the Mann-Kendall summaries). However, owing to DCDFM's relatively high regulatory screening level (390 ug/L), it poses a significantly lower risk. TCE and TCFM have also been detected in site wells, but at low concentrations relative to the screening levels. Overall, the Newmark Site has very low concentrations of contaminants. The majority of the analytical results show concentrations below regulatory screening levels for all COCs. For the Newmark and Muscoy OUs, the MAROS software did not identify any priority constituents. For the Source OU, MAROS identified only PCE as being present above screening levels (see Appendix C for COC prioritization report for Source OU). PCE was used as the priority COC for all monitoring network analyses, with the other COCs considered as secondary contaminants.

2.3 Qualitative Evaluation

Multiple factors should be considered in developing recommendations for monitoring at sites undergoing long-term groundwater restoration. The LTMO process for Newmark includes developing a 'lines of evidence' approach, combining statistical analyses with qualitative review to recommend an improved monitoring network. For the Newmark Site, results from the statistical analyses in combination with a qualitative review were used to determine continuation or cessation of monitoring at each well location along with a proposed frequency of monitoring for those locations retained in the network.

The primary consideration in developing any monitoring network is to ensure that information collected efficiently supports site management decisions. Site information needs are reflected in the monitoring objectives for the network. For this reason, any proposed changes to the network are reviewed to be consistent with and supportive of the stated monitoring objectives. The qualitative review process starts with evaluating each monitoring location for the role it plays supporting site monitoring objectives. For example, a location may provide vertical or horizontal delineation of the plume or may provide information on decay rates in the source area. Each well in the Newmark Site network was evaluated for its contribution to site monitoring objectives. Qualitatively, redundant locations are those where multiple wells address the same monitoring objective in approximately the same location.

A recommendation to eliminate chemical analytical monitoring at a particular location based on the data reviewed does not necessarily constitute a recommendation to physically abandon the well. A change in site conditions might warrant resumption of monitoring at some time in the future at wells that are not currently recommended for continued sampling. In some cases, stakeholders may pursue a comprehensive monitoring event for all historic wells every five to ten years to provide a broad view of plume changes over time. In general, continuation of water level measurements in all site wells is recommended. Data on hydraulic gradients and potentiometric surfaces are often relatively inexpensive to collect and can be used to support model development and support resource planning.

Qualitative evaluation for sampling frequency recommendations includes looking at factors such as the rate of change of concentrations, the groundwater flow velocity, and the type and frequency of decisions that must be made about the site. Additionally, consideration is given to the concentration at a particular location relative to the regulatory screening level, the length of the monitoring history and the location relative to potential receptors.

A summary of the lines of evidence used to develop a final monitoring network recommendation is presented below.

Key Point: *Several lines of evidence were used to develop recommendations for the monitoring network.*

Lines of Evidence	Method
▪ Individual well trend	▪ Mann-Kendall (Linear regression)
▪ Plume-Wide Trends	▪ Moment Analysis: Total dissolved mass, center of mass and spread of mass trends.
▪ Well Redundancy and Sufficiency	▪ Delaunay triangulation and slope factor calculation, along with area ratios and concentration ratios.
▪ Sampling Frequency	▪ Modified Cost Effective Sampling
▪ Data Sufficiency	▪ Sequential T-Test and Power Analysis
▪ Qualitative Evaluation	▪ Consider hydrogeologic factors, monitoring objectives, stakeholder concerns and all statistical results to develop final recommendation.

3.0 SITE RESULTS

3.1 Source OU

Data from 25 monitoring wells at various depths were included in the quantitative network analysis for the Source OU. Data from wells south of MW-127A and B were included in the Muscoy OU and locations south of CJ-13 were included in the Newmark OU. Source OU well locations are illustrated in Figures 1 and 2. Average concentrations for PCE in the Source OU are illustrated on Figure 2 (panel A). Areas of historic high concentrations include wells CJ-17, CJ-16, CJ-10 and MWCOE004, with CJ-6 and CJ-3, CJ-15 and MWCOE001B making up the higher concentration centerline wells. The plume is well delineated upgradient, and cross-gradient by low-level and non-detect wells.

3.1.1 Plume Stability

3.1.1.1 Concentration Trends

Individual well concentration trends using the Mann-Kendall method for data collected between 1999 and 2007 are summarized in the table below with detailed results in Appendix B Table B.3. Results of the individual well Mann-Kendall trends for PCE are also illustrated in Figure 2 panel B. Detailed Mann-Kendall reports for each well in the Source OU are located in Appendix C.

COC	Total Wells	Source OU Mann-Kendall Trend Analysis				
		ND	PD, D	S	I, PI	N/A, NT
PCE	25	2 (8%)	8 (32%)	5 (20%)	4 (16%)	6 (24%)
TCE	25	9 (36%)	4(16%)	2 (8%)	0	10 (40%)
DCDFM	25	1 (4%)	2 (8%)	6 (24%)	3 (12%)	13 (52%)
TCFM	25	8 (32%)	2 (8%)	6 (24%)	2 (8%)	7 (28%)

Note: Insufficient Data (N/A), Decreasing (D), Probably Decreasing (PD), Stable (S), Probably Increasing (PI), and Increasing (I), No Trend (NT); and non-detect for all sample events (ND).

Relative to the entire Newmark Site, PCE is found in highest concentration across the Source OU. Trend results for PCE indicate that the majority of wells have a decreasing or probably decreasing trend (D or PD). Overall 60% of wells in the Source OU have stable, decreasing or non-detect concentration status. Four locations showed an increasing or probably increasing trend for PCE: CJ-2, CJ-6, CJ-7 and CJ-11. Locations CJ-2, CJ-7 and CJ-11 moved from non-detect status to very low-level detections for PCE during the time-interval investigated. These wells represent horizontal delineation wells to the west (CJ-2 and CJ-7) and to the east, and may reflect spreading due to dispersion from the center of the plume. Well CJ-6 is in the center of the plume, and the probably increasing trend is fairly weak (confidence factor = 90.1%) and the trend may represent a sampling artifact.

Roughly one quarter of wells showed no trend, or variability in PCE concentrations. The percentage of no trend wells for other priority COCs is higher. A ‘no trend’ result can occur when analytical results vacillate between non-detect and low-level detections (as an example see Appendix C MAROS Reports for well MWCOE006) or when there is a cyclical pattern (see MAROS Report for CJ-3). Some time versus concentration plots of wells in the source area indicate an increasing trend that reverses to a decreasing trend around 2002 (see MAROS Reports for CJ-14 and CJ-15). For wells with no trend, it is important to understand the underlying reason for variability in the data.

For TCE and TCFM, the majority of trend results are either non-detect or show no trend due to intermittent detections. No increasing trends for TCE were calculated. Results for DCDFM show that only one well of the 25 has no detections of this compound. DCDFM is widely distributed in the Source OU, and shows greater variance in concentration results than other compounds (based on the number of no trend results). However, DCDFM concentrations are largely below MCLs, and pose very low risk.

3.1.1.2 Moments

Moment analysis was used to estimate the dissolved mass (Zeroth Moment), center of mass (First Moment) and spread or distribution of mass (Second Moment) for the plume and the trend of these metrics over time. Estimates of the zeroth and first moments for the Source and Newmark OUs are shown in Table 3. Moments for PCE and TCE in the Source OU are summarized in the table below, and Source OU first moments are illustrated on Figure 2 in panel B.

Moment Type	Moment Analysis Source OU		Comment
	PCE Trend	TCE Trend	
Zeroth	Decreasing	Decreasing	The estimate of total dissolved mass of PCE and TCE within the Source OU was decreasing between 1999 and 2006.
First	Probably Increasing	Stable	The distance of the plume center of mass from the source shows a probably increasing trend for PCE between 1999 and 2006 and a stable trend for TCE. Relatively more mass of PCE is detected downgradient in recent years.
Second	No Trend	No Trend/ Stable	The plume spread about the center of mass has No Trend in the direction of groundwater flow as well as perpendicular to groundwater flow for PCE indicating no clear redistribution of mass from the center to the edge of the plume. TCE distribution is Stable perpendicular to groundwater flow.

Between 1999 and 2007 the total dissolved mass in the Source OU showed a decreasing trend for both PCE and TCE. A decreasing trend is consistent with the finding that 32% of individual well concentration trends for PCE were decreasing. While total mass is decreasing, the center of mass for PCE is probably increasing. These results may indicate that some mass in the upper Source OU is decreasing faster than mass downgradient or mass may be migrating toward the Muscoy and Newmark OUs; but the trend is not strong.

3.1.2 Redundancy and Sufficiency

The Source OU spatial redundancy analysis was performed for PCE using data collected between 2000 and 2007. Summary results for the redundancy analysis are presented on Table 3.

Four locations were identified as candidates for removal based on PCE data: CJ-6, CJ-16, MWCOE001A and MWCOE007. Because wells screened at different depths were included together in the Source OU analysis, wells such as MWCOE001A that are part of a nested pair were identified for removal from the monitoring program. Based on a qualitative review, all wells were recommended for retention in the monitoring network for the immediate future; however, most locations were recommended for reduced monitoring frequency.

The well sufficiency analysis for the Source OU is illustrated in Figure 3. MAROS uses the Delaunay triangulation and SF calculations to identify areas with concentration uncertainties. Figure 3 shows the polygons created by the triangulation method and indicates areas of high uncertainty with an “L” or and “E” in the center of the triangle. For the Source OU no areas of high concentration uncertainty were found, and no new locations are recommended.

3.1.3 Sampling Frequency

Table 3 summarizes the results of the MAROS preliminary sampling frequency recommendation, the qualitative evaluation of the well in the network and the final sampling frequency recommendation for each sample location in the Source OU. Detailed results of the trend and concentration rate of change analyses (including trends determined for data 2005 – 2007) are shown in Appendix B Table B.11. For the majority of Source OU wells, a reduced monitoring frequency was recommended.

The table below summarizes the current monitoring frequency for wells in the Source OU and the sampling frequency recommended after the lines of evidence evaluation.

Monitoring Wells	**Well Sampling Frequency Analysis Source OU**		
	Sampling Frequency	**Current Sampling Frequency**	**Sampling Frequency Recommendation**
	Quarterly	5	0
	Semi-annual	19	8
	Annual	0	7
	Biennial	0	10
Total Samples (average per year)		**58**	**28**
Total Wells		**25**	**25**

The current sampling frequency is estimated from the sample dates in the site analytical database (URS, 2006).

All 25 wells are recommended for inclusion in the monitoring program, but most are retained at a reduced sampling frequency. Because the well concentrations are not changing rapidly, wells can be sampled less frequently without a loss of plume information.

3.1.4 Data Sufficiency

Among Source OU wells, seven of 25 wells are statistically below the MCL for PCE (0.005 mg/L) assuming a log-normal data distribution. Of these wells, three have data with sufficient statistical power to say that they have reliably 'attained' clean-up goals. The clean-up status of each well in the network is indicated in the 'lines of evidence' summary Table 3. Wells labeled with N/C have insufficient number of samples to provide statistical significance, even though their concentration may be quite low.

The statistically 'clean' wells are CJ-1, CJ-1A and CJ-8. These wells can be categorized as statistically clean, in part, because they have been sampled many times and have sufficiently high sample size (n) to provide statistical significance with high power. Wells that are statistically clean and those that are statistically below the MCL can be considered 'delineation wells'. Locations that monitor groundwater with concentrations below regulatory screening levels were recommended for reduced sampling frequency, and may be considered for elimination from the network in the future.

3.2 Newmark OU Results

3.2.1 Newmark Shallow Zone

The Shallow Zone analysis ground for the Newmark OU includes 26 wells (see Figure 4) with sample collection dates between 1987 and 2007. The Newmark Shallow Zone was evaluated for plume stability, redundancy and sufficiency as if it were an independent groundwater unit. Figure 4 illustrates the average concentrations of PCE for locations sampled between 1999 and 2007. Most locations show concentrations well below screening levels with the exception of MW07A, EW-7, MW09A and MUNI-16. Higher concentrations are found in the northern area of the Newmark OU, near the Source OU. The Shallow Zone is well delineated by wells that exhibit no or very low concentrations of COCs.

3.2.1.1 Plume Stability

Concentration Trends
Individual well trends for the Newmark Shallow Zone indicate that the majority of wells have no distinct trend. In several locations COC concentrations in this groundwater zone vary between non-detect and low level detections resulting in many wells with no trend results. A summary of Mann-Kendall trends is provided in the table below and detailed in Appendix B Table B.4. The spatial distribution of Mann-Kendall trends for PCE is illustrated on Figure 4 panel B. Detailed MAROS reports on the Mann-Kendall trends are located in Appendix C.

COC	Total Wells	Newmark OU Shallow Mann-Kendall Trend Analysis				
		ND	PD, D	S	I, PI	N/A, NT
PCE	26	2 (7%)	5 (20%)	5 (20%)	2 (7%)	12 (46%)
TCE	26	6 (23%)	4 (15%)	1 (4%)	1 (4%)	14 (54%)
DCDFM	26	0	3 (12%)	2 (7%)	1 (4%)	20 (77%)
TCFM	26	1 (4%)	4 (15%)	2 (7%)	1 (4%)	18 (70%)

Note: Insufficient Data (N/A), Decreasing (D), Probably Decreasing (PD), Stable (S), Probably Increasing (PI), and Increasing (I), No Trend (NT); and non-detect for all sample events (ND).

Upgradient wells in the Newmark Shallow Zone show intermittent detections, with several wells exhibiting only one detection 1999 – 2007 (MUNI07B, MUNI09B, MW04A, and MW17A). Wells MW09A and MW07A and extraction well EW-7 are the only locations where concentrations are routinely detected above the MCL. However, MW07A and EW-7 demonstrate strongly decreasing concentration trends for PCE. Relatively few monitoring locations exist in the center of the Newmark OU. Only one location in the Shallow Zone, MUNI-16, demonstrates historic concentrations above the MCL, however, concentrations at this location show a strongly decreasing trend, as well.

Only two wells in the Newmark OU Shallow Zone show increasing/probably increasing concentration trends for PCE. Wells MW12A and EW-2PA in the plume-front area have increasing trends with very low average concentrations. All other wells in the plume-front area show variable PCE concentrations. Shallow wells in the plume-front showed largely non-detect results until early 2001, when PCE concentrations spiked. Most wells dropped below detection limits again in late 2004 (see Appendix C for concentration vs. time plots). Variable results are consistent with the installation and operation of several extraction wells in the area. Based on the trend results and the downgradient location of wells in the plume-front continued monitoring in this area is recommended.

Moments

A summary of estimated zeroth and first moments is shown on Table 2 and first moments over time are illustrated on Figure 4. The trend of total dissolved mass in the Newmark OU Shallow Zone (Zeroth Moment) is increasing for both PCE and TCE. The increasing result is probably influenced by the addition of wells to the network in 2002, increasing the total mass estimate. Two Shallow Zone locations show increasing individual concentration trends. Low concentrations and intermittent detections in other parts of the zone increase the statistical effect of the wells. The increasing total mass trend result is probably not an indication of export of mass from the source into the Newmark OU, but may indicate movement of mass to downgradient monitoring locations from the sparsely monitored center of the plume.

The center of mass for PCE shows a stable trend, indicating that even though the total mass estimate is increasing, the distribution of mass between upgradient and downgradient locations remains fairly constant. Upgradient concentrations are, in general, much higher than concentrations at downgradient locations. High upgradient concentrations control the first moment results.

The trend in second moments reflects how COC mass on the edge of the plume is changing relative to the center. For the Newmark OU Shallow Zone, the trend is stable in the direction of groundwater flow and decreasing (less mass on the edges relative to the center) perpendicular to groundwater flow. The decreasing trend may be due to wells on the edge of the plume dropping below the detection limits.

Moment Type	Moment Analysis Newmark OU Shallow		Comment
	PCE Trend	TCE Trend	
Zeroth	Increasing	Increasing	The estimate of total dissolved mass of PCE and TCE is Increasing between 1999 and 2007. This is most likely an artifact of well additions and very low to non-detect concentrations across the plume.
First	Stable	No Trend	Center of mass is remaining relatively stable. No Trend in TCE first moments may be due to intermittent detections at some wells.
Second	Stable/ Decreasing	Stable/ Decreasing	The plume spread about the center of mass is Stable for both COCs in the direction of groundwater flow and Decreasing perpendicular to groundwater flow indicating that mass is not diffusing to the edges of the plume.

3.2.1.2 Redundancy and Sufficiency

Summary results for the Newmark OU Shallow Zone redundancy analysis (average SF and redundant locations) are presented on Table 4. Three locations were identified as candidates for removal based on PCE data: EW-4PA in the plume-front area and MW02A and MW17A. in the upgradient area. Many locations in the Newmark OU Shallow Zone have very low SF (<0.25) and there appears to be a good deal of statistical redundancy among locations with non-detect and intermittent detection results in the northern part of the plume. Based on a qualitative review, all wells were recommended for retention in the monitoring network.

The well sufficiency analysis for the Newmark OU Shallow Zone is illustrated in Figure 5. MAROS identifies areas of high uncertainty with an “L” or and “E” in the center of the triangle. For the Newmark Shallow Zone no areas of high concentration uncertainty were found, and no new locations are recommended.

3.2.1.3 Sampling Frequency

Table 4 summarizes the results of the MAROS preliminary sampling frequency recommendation for the Newmark OU Shallow Zone. The final sampling frequency recommendation is based on the quantitative statistical evaluation along with the qualitative evaluation. Detailed results of the trend and concentration rate of change analyses that are the basis of the Sampling Frequency evaluation are shown in Appendix B Table B.12.

Current and proposed monitoring frequency for wells in the Newmark OU Shallow Zone are summarized below. All 26 wells are recommended for inclusion in the monitoring program, but several wells were recommended for reduced sampling frequency and possible elimination in the future. The annual number of samples for the network has been reduced by 19 samples.

Monitoring Wells	**Well Sampling Frequency Analysis Newmark OU Shallow**		
	Sampling Frequency	**Current Sampling frequency**	**Sampling frequency Recommendation**
	Quarterly	1	0
	Semi-annual	25	12
	Annual	0	8
	Biennial	0	6
Total Samples (average per year)		54	35
Total Wells		26	26

The current sampling frequency is estimated from the sample dates in the site analytical database (URS, 2006). Wells sampled through semi-annually through 2005, but with no data from 2006-2007 were included as 'semi-annual' frequency.

3.2.1.4 Data Sufficiency

Among the Newmark OU Shallow Zone wells, 21 of 26 wells monitor groundwater statistically below the MCL for PCE (0.005 mg/L) assuming a log-normal data distribution. Of these wells, 7 have data with sufficient statistical power to say that they have reliably attained clean-up goals. Data sufficiency and clean-up status are considered in the lines of evidence approach to recommend sample locations and frequency. Results of the data sufficiency analysis each well are indicated in the lines of evidence summary Table 4.

3.2.2 Newmark Intermediate Zone

The Intermediate Zone of the Newmark OU is defined by 27 wells for the MAROS analysis. Locations are shown on Figure 6 along with average PCE concentrations 1999 – 2007. Well MUNI-11B had insufficient data to perform a statistical evaluation, so results for this location are not shown in the result tables. Plume concentrations are higher in the upgradient area of the plume, with wells MW08B, MW04B, MW05B, MW16B and MW09B showing concentrations above the MCL. The Intermediate Zone differs from the Shallow Zone in that shallower nested wells at these locations show much lower concentrations than the Intermediate Zone. Plume-front monitoring wells have very low concentrations. The Intermediate Zone is adequately delineated as areas of high concentration are bounded down and cross gradient by locations below regulatory standards.

3.2.2.1 Plume Stability

Concentration Trends

Mann-Kendall trend results for PCE 1999 - 2007 are shown on Figure 6 and are summarized in the table below. Detailed results of the trend analyses can be found in Appendix B Table B.5. As seen in the Shallow Zone, several wells show no trend for COC concentrations, largely due to intermittent detections. The Intermediate groundwater zone has a higher percentage of wells that show decreasing or probably decreasing trends than the Shallow Zone. Two locations in the middle section of the plume, MUNI-18 and MUNI-09C, show increasing PCE concentration trends. Concentrations at these locations are currently below MCL, but should be monitored for future changes.

COC	Total Wells	Newmark OU Intermediate Mann-Kendall Trend Analysis				
		ND	PD, D	S	I, PI	N/A, NT
PCE	27	5 (19%)	9 (33%)	4 (15%)	2 (7%)	7 (26%)
TCE	27	6 (22%)	6 (22%)	8 (30%)	0	7 (26%)
DCDFM	27	0	6 (22%)	4 (15%)	1 (4%)	16 (60%)
TCFM	27	3 (11%)	4 (15%)	8 (30%)	0	12 (44%)

Note: Insufficient Data (N/A), Decreasing (D), Probably Decreasing (PD), Stable (S), Probably Increasing (PI), and Increasing (I), No Trend (NT); and non-detect for all sample events (ND).

For PCE, the majority of well trends are stable, decreasing or non-detect, with close to 20% of wells with no detections. Several plume-front locations have no detections for PCE. MW12B, MW13A and B, and MW 14B provide delineation for the plume in the downgradient area of the Newmark OU.

Moments

Estimates of total dissolved mass and center of mass for the Newmark Intermediate Zone are shown in Table 2 and the center of mass over time is illustrated on Figure 6. Total dissolved mass is stable for both TCE and PCE indicating no large influx or removal of mass from this layer. The center of mass shows No Trend for PCE and is stable for TCE. The trend of second moments in the direction of groundwater flow (X direction) is increasing indicating increasing mass on the edge of the plume relative to the center of mass.

Moment Type	Moment Analysis Newmark OU Intermediate		Comment
	PCE Trend	TCE Trend	
Zeroth	Stable	Stable	The estimate of total dissolved mass of PCE and TCE is Stable between 1999 and 2007. No major increase or decrease in mass is detectible during this time frame.
First	No Trend	Stable	Center of mass is remaining relatively stable to No Trend.
Second	Probably Increasing/ No Trend	Increasing/ No Trend	The plume spread about the center of mass is Increasing for both COCs in the direction of groundwater flow, showing a shift of mass from the center of the plume to the edge. No Trend is present perpendicular to groundwater flow.

3.2.2.2 Redundancy and Sufficiency

Summary results for the Newmark OU Intermediate Zone redundancy analysis (average SF) are presented on Table 5, along with a qualitative evaluation of the purpose of the well in the network and other lines of evidence results. Eight locations were identified as candidates for removal from the network based on PCE data: EW-1PA, MW03B, MW07B, MW08B, MW11A, MW13A and B, and MW14B. As with the shallower zone, many locations have very low SF (<0.25) due to the low concentrations spread across the plume. Plume-front monitoring locations identified for possible removal were retained in the proposed network to address the efficacy of the pumping network to capture the plume.

The well sufficiency analysis for the Newmark OU Intermediate Zone is illustrated in Figure 7. For the Intermediate Zone no areas of high concentration uncertainty were found, and no new locations are recommended.

3.2.2.3 Sampling Frequency

Table 5 summarizes the specific results of the MAROS preliminary sampling frequency recommendation for the Newmark Intermediate Zone as well as the qualitative evaluation of the well in the network. Detailed results of the trend and concentration rate of change analyses are shown in Appendix B Table B.13.

The table below summarizes the current and proposed monitoring frequency for wells in the Newmark OU Intermediate zone. Twenty six wells are recommended for inclusion in the monitoring program (excluding MUNI-11B, which has not been sampled recently). The sampling frequency analysis indicates that many wells can be reduced to annual frequency without loss of significant information. Several wells were recommended for reduced sampling frequency and possible elimination in the future. The annual number of samples for the network has been reduced by 16.5 samples.

Monitoring Wells	**Well Sampling Frequency Analysis Newmark OU Intermediate**		
	Sampling Frequency	**Current Sampling frequency**	**Sampling frequency Recommendation**
	Quarterly	5	0
	Semi-annual	25	10
	Annual	1	13
	Biennial	0	3
Total Samples (average per year)		51	34.5
Total Wells		26	26

The current sampling frequency is estimated from the sample dates in the site analytical database (URS, 2006). Wells sampled semi-annually through 2005 were interpreted as having semi-annual sampling currently. Well MUNI-11B has not been sampled recently and was excluded from consideration.

3.2.2.4 Data Sufficiency

Among the Newmark OU Intermediate Zone wells, 15 of 26 wells are statistically below the MCL for PCE (0.005 mg/L) assuming a log-normal data distribution. Of these wells, 11 have data with sufficient statistical power to say that they have reliably attained clean-up goals. Some wells that are statistically clean or statistically below the MCL were recommended for reduced sampling frequency in the qualitative evaluation, and may be considered for elimination from the network in the future. Plume-front wells were not considered for a reduced frequency based on clean-up status. The clean-up status of each well is indicated in the lines of evidence summary Table 5.

3.2.3 Newmark Deep Zone

The Deep Zone of the Newmark OU is monitored at 23 locations (see Figure 8). Average concentrations for PCE (Figure 8 panel A) in the network are low along the plume-front with higher concentrations at wells MW10C, MUNI11C and MW11B.

3.2.3.1 Plume Stability

Concentration Trends

Well trend results are summarized in the table below on Figure 8 panel B. Detailed trend results are listed in Appendix B Table B14. Unlike the Shallow and Intermediate Zones, several plume-front wells in the Deep Zone show long-term increasing or probably increasing trends. The PCE plume is fairly well delineated to the southeast by non-detect wells MW13C, MW-15B and C. However, in the western part of the plume, toward the Muscoy OU, results show increasing trends for PCE around EW-1, EW-2 and EW-3.

Trends were calculated from data collected between 1999 and 2007, and, in some cases, the trends may be leveling or reversing in the recent time-frame (see Appendix C, time vs. concentration graphs for individual wells). Several plume-front wells showed maximum concentrations in 2004 with recent results decreasing. Continued monitoring in this area is highly recommended. Upgradient wells MW10C, MW11B and MUNI-11C with historic high concentrations show decreasing trends.

COC	Total Wells	Newmark OU Deep Mann-Kendall Trend Analysis				
		ND	PD, D	S	I, PI	N/A, NT
PCE	23	3 (13%)	5 (22%)	6 (26%)	7 (30%)	2 (9%)
TCE	23	3 (13%)	5 (22%)	5 (22%)	7 (30%)	3 (13%)
DCDFM	23	0	5 (22%)	6 (26%)	4 (17%)	8 (35%)
TCFM	23	2 (9%)	2 (9%)	6 (26%)	3 (13%)	10 (43%)

Note: Insufficient Data (N/A), Decreasing (D), Probably Decreasing (PD), Stable (S), Probably Increasing (PI), and Increasing (I), No Trend (NT); and non-detect for all sample events (ND).

Moments

Moment trends in the Newmark OU Deep Zone show largely stable to no trend results. The estimate of total dissolved mass in the Deep Zone has remained stable between 1999 and 2007 for both PCE and TCE. First moments, illustrated on Figure 8 panel B, show no trend, largely as a result of an outlying value in 2001. In 2001, only 14 of the 22 wells routinely included in the network were sampled. Results from this year are not necessarily comparable with other years with near full complements of wells. Removing 2001 data from the first moment calculation results in an increasing first moment trend for PCE. An increasing distance of the center of mass from the source is consistent with increasing individual well trends along the plume-front. The spread of mass for PCE and TCE shows no distinct trend.

Moment Type	Moment Analysis Newmark OU Deep		Comment
	PCE Trend	TCE Trend	
Zeroth	Stable	Stable	The estimate of total dissolved mass of PCE and TCE is Stable between 1999 and 2007. No major increase or decrease in mass is detectible during this time frame.
First	No Trend	No Trend	Center of mass for PCE and TCE shows No Trend, indicating variability in the distribution of mass in the plume.
Second	Stable/No Trend	No Trend/ No Trend	The plume spread about the center of mass is Stable for PCE in the direction of groundwater flow. There is No Trend for both COCs perpendicular to groundwater flow and No Trend in the direction of groundwater flow for TCE.

3.2.3.2 Redundancy and Sufficiency

Slope factor calculations and results for the redundancy analysis are presented on Table 6. Twelve of twenty-three locations were identified by MAROS as redundant based on PCE data. MAROS identified a high degree of spatial redundancy in the plume-front area, especially in the eastern part of the plume-front. High redundancy results are due to the relatively low concentrations combined with the high density of extraction and monitoring wells. While these wells are somewhat redundant, continued inclusion of these wells is essential to fulfilling the monitoring goals of the network, particularly for evaluating containment of the plume.

The well sufficiency analysis for the Newmark OU Deep Zone is illustrated in Figure 9. For the Deep Zone one general area of high concentration uncertainty was found between wells EW-108, EW-108PB, MW12C, EW-1, EW-1PB and MW13C. The region includes the extraction wells EW-108 and EW-1 that have increasing concentration trends and higher concentrations than adjacent locations EW-108PB and EW-1PB. Because these locations have different screened intervals and have very different functions, higher uncertainty in this area is not surprising. EW-108 and EW-1 are also close to MW12C and MW13C, which show intermittent, low detections and non-detect results, respectively. Increasing concentration trends adjacent to areas or no detections are often identified as demonstrating high spatial uncertainty.

No new wells are recommended for this area (aside from the new well being installed (2007) at EW-108S in the Shallow Zone). The high spatial uncertainty can be explained by concentration heterogeneity at different depths and by the inclusion of extraction wells in the analysis.

3.2.3.3 Sampling Frequency

MAROS recommended preliminary sampling frequencies for the Newmark OU Deep Zone are listed in Table 6 with details shown Appendix B Table B.14. The final sampling frequency recommendation is based on the MAROS evaluation along with the qualitative evaluation. Deep Zone plume-front wells serve an important delineation function at the Newmark Site. Wells that provide data that strongly support the primary monitoring objective have been prioritized in the network, and are included in the monitoring program at high sampling frequency.

Monitoring Wells	Well Sampling Frequency Analysis Newmark OU Deep		
	Sampling Frequency	**Current Sampling frequency**	**Sampling frequency Recommendation**
	Quarterly	4	0
	Semi-annual	19	21
	Annual	0	2
	Biennial	0	0
Total Samples (average per year)		54	44
Total Wells		23	23

The current sampling frequency is estimated from the sample dates in the site analytical database (URS, 2006).

The table above summarizes the current and proposed monitoring frequency for wells in the Newmark OU Deep Zone. All twenty three wells are recommended for inclusion in the monitoring program. The majority of wells are recommended to remain at a semi-annual sampling frequency. The annual number of samples for the network has been reduced by 10 samples, largely by eliminating quarterly sampling.

3.2.3.4 Data Sufficiency

The Newmark OU Deep Zone is monitored by 23 locations, of which 17 have concentrations statistically below the MCL for PCE. Five locations have data with sufficient statistical power to say that they are statistically below MCL and have reliably attained clean-up goals. Even though locations in the Deep Zone are below risk-based screening levels, they fulfill monitoring goals associated with confirming that the remedy is containing the plume. The clean-up status of each well is indicated in the lines of evidence summary Table 6.

3.3 Muscoy OU Results

3.3.1 Muscoy Shallow Zone

The Muscoy OU Shallow Zone is defined by 23 locations south of Source OU locations MWCOE001A and B. Average PCE concentrations for 1999-2007 in the Shallow Zone are illustrated on Figure 10 panel A. The majority of locations have fairly low historic concentrations. However, a line of wells on the eastern side of the OU near the Shandin Hills demonstrates higher historic concentrations. MW-132A, MW-128A and EW110-PZA define a center-line of high concentration extending downgradient from the Source OU.

3.3.1.1 Plume Stability

Concentration Trends

Results of individual well trend analysis for the Muscoy OU Shallow Zone are summarized below with details provided in Appendix B Table B.7. Mann-Kendall trend results are illustrated on Figure 10, panel B.

COC	Total Wells	Muscoy OU Shallow Mann-Kendall Trend Analysis				
		ND	**PD, D**	**S**	**I, PI**	**N/A, NT**
PCE	23	0	7 (30%)	3 (13%)	2 (9%)	11 (48%)
TCE	23	3 (13%)	6 (26%)	2 (9%)	1 (4%)	11 (48%)
DCDFM	23	0	4 (17%)	2 (9%)	3 (13%)	13 (57%)
TCFM	23	0	2 (9%)	4 (17%)	6 (26%)	11 (48%)

Note: Insufficient Data (N/A), Decreasing (D), Probably Decreasing (PD), Stable (S), Probably Increasing (PI), and Increasing (I), No Trend (NT); and non-detect for all sample events (ND).

The Muscoy OU Shallow Zone is widely affected by low levels of COCs as evidenced by the relative lack of unaffected wells (ND) in the zone. As with other areas across the Newmark Site, a large percentage of locations have 'no trend' Mann-Kendall results. Several locations with consistent detections show maximum concentrations in the first quarter of 2006 with decreasing concentrations after this time resulting in high variance or no trend. Concentrations at MW-128A show cyclic fluctuations that may indicate a seasonal process causing variation in plume concentrations. Another category of wells with no trend results includes those with intermittent low-level detections, such as MW-134 and MW-139A.

Only two locations show probably increasing trends for PCE: MW-135A and MW-133A. MW-133A is slightly downgradient and to the west of high concentration well MW-132A. MW-135A demonstrated higher concentrations in early 2006, but recent concentrations have been decreasing. MW-135A represents a priority monitoring location as it is the furthest downgradient delineation point in the Muscoy OU plume-front, monitoring the area between the Muscoy and Newmark OUs. This area has already been identified as an area of concentration uncertainty for the Newmark OU Deep Zone.

Moments

Results of the zeroth and first moment analyses are summarized below and in Table 7. First moment (center or mass) locations are shown on Figure 10, panel B. Moments for the Muscoy OU were calculated using data collected between 2005 and 2007, due to the recent installation of several key monitoring locations (EW-109, EW-110, EW-111 and MW-140 nested locations). Overall, the moments indicate a fairly stable plume for PCE in the Shallow Zone, with stable trend results for total dissolved mass, and center of mass. Decreasing trends were found for second moments (indicating dilution on the edges of the plume).

Moment Type	Moment Analysis Muscoy OU Shallow		Comment
	PCE Trend	**TCE Trend**	
Zeroth	Stable	No Trend	The estimate of total dissolved mass of PCE and TCE is Stable and No Trend between 1999 and 2007. No major increase or decrease in mass is detectible during this time frame.
First	Stable	Stable	Center of mass for PCE and TCE is Stable, indicating no major movement of mass downgradient relative to the source.
Second	Decreasing	Decreasing/ Stable	The plume spread about the center of mass is Decreasing for both COCs in the direction of groundwater flow, and Decreasing and Stable perpendicular to groundwater flow, indicating dilution of concentrations on the edges of the plume relative to the center.

3.3.1.2 Redundancy and Sufficiency

Summary results for the redundancy analysis are presented on Table 8 other lines of evidence results. Four locations in the Muscoy OU Shallow Zone were determined to be redundant by the spatial analysis. Locations EW-109PZA, MW-130A, MW-133A and MW138A were identified as providing little unique information. EW-109PZA, MW-130A and MW-138A are part of the densely monitored plume-front network, and each location is part of a nested group. As these wells provide important qualitative information on the efficacy of plume capture, they are recommended for retention in the network. Location MW-133A is an upgradient location that provides horizontal plume delineation in the Source OU area. MW-133A is recommended for retention to confirm that the plume is not spreading laterally near the Source OU. Based on a qualitative review, all wells were recommended for retention in the monitoring network for the immediate future.

The well sufficiency analysis for the Muscoy OU Shallow Zone is illustrated in Figure 11. No areas of high concentration uncertainty were found, and no new locations are recommended.

3.3.1.3 Sampling Frequency

The table below summarizes the current monitoring frequency for wells in the Muscoy OU Shallow Zone (and associated parts of the Source OU). Table 8 summarizes the results of the MAROS preliminary sampling frequency recommendation, the qualitative evaluation of the well in the network and the final sampling frequency recommendation. Detailed results of the MCES analysis along with concentration rate of change analyses are shown in Appendix B Table B.15.

All 23 locations in the Muscoy OU Shallow Zone network are recommended for inclusion in the monitoring program. MUNI-109 and MUNI 104A have only been sampled intermittently, recently, but are retained for biennial monitoring. Most wells are retained at a reduced sampling frequency, particularly those plume-front wells that have been sampled quarterly. Quarterly sampling is appropriate for newly installed wells, but most locations currently have more than 8 sample events, providing a statistically significant data set. Based on the rate of change at the wells, the historic sample record and the trend evaluated at these locations, most plume-front wells have been retained in the program at a semi-annual frequency. The proposed monitoring program reduces the number of annual samples by 38.

Monitoring Wells	**Well Sampling Frequency Analysis Muscoy OU Shallow**		
	Sampling Frequency	**Current Sampling Frequency**	**Sampling Frequency Recommendation**
	Quarterly	14	0
	Semi-annual	6	12
	Annual	3	7
	Biennial	0	4
Total Samples (average per year)		71	33
Total Wells		23	23

The current sampling frequency is estimated from the sample dates in the site analytical database (URS, 2006).

3.3.1.4 Data Sufficiency

Of 23 wells evaluated for data sufficiency, 12 have concentrations statistically below the MCL for PCE. Four wells have insufficient data to perform the sequential T-test (with data 1999-2007). No locations have sufficient data to perform the power analysis. Site investigation activities at the Muscoy OU have been conducted relatively recently. More monitoring data from wells in the Shallow Zone is required to develop a statistically significant data set for power analysis.

3.3.2 Muscoy Intermediate Zone

The Muscoy OU Intermediate Zone analysis group includes 32 locations from the Source OU downgradient to the plume-front. Average PCE concentrations at monitoring locations (1999 – 2007) in the Intermediate Zone are illustrated on Figure 12 panel A. High concentration wells in the Intermediate Zone include MW140B and C, MW-130B, EW-111, EW-110PZC and EW-110PZD.

3.3.2.1 Plume Stability

Concentration Trends

Results of individual well trend analyses for the Muscoy OU Intermediate Zone are summarized below with details provided in Appendix B Table B.8. Spatial location of Mann-Kendall trend results are illustrated on Figure 12, panel B.

Muscoy OU nested wells MW-140 A-C were installed in 2006 and have a relatively short data record. The well nest includes location MW-140A, which is screened between 300 and 400 ft bgs. Data collected from discreet intervals of MW-140A were analyzed separately due to the fine resolution of depths sampled, with trend results shown in Appendix B Table B.10. Locations MW-140B and C are included in the Muscoy OU Intermediate Zone analysis. Trend results from all of the MW-140 depths are shown in Appendix B Table B.10.

Mann-Kendall concentration trends across the Intermediate Zone show a high percentage of no trend results, consistent with intermittent detections at some wells, and fluctuating concentrations at others. Taken together, non-detect, stable and decreasing trends characterize over 50% of PCE monitoring locations. Increasing trends are found at four locations near extraction wells on the plume-front.

As illustrated on Figure 12 panel B, several locations with increasing concentrations trends for PCE are arranged along a line from MW-129B to EW-108 across to EW-1PB to MW11C in the Newmark OU. The locations include extraction wells and wells in close proximity them. Increasing trends across this region most likely indicate proper performance of the extraction remedy, by drawing in and removing contaminant mass, Results from a line of wells to the south (downgradient) of the extraction and extraction monitoring wells show no or intermittent detections, indicating that mass capture is occurring.

COC	Total Wells	Muscoy OU Intermediate Mann-Kendall Trend Analysis				
		ND	PD, D	S	I, PI	N/A, NT
PCE	32	3 (10%)	7 (23%)	7 (23%)	4 (13%)	9 (30%)
TCE	32	1 (3%)	5 (17%)	4 (13%)	2 (7%)	18 (60%)
DCDFM	32	0	2 (7%)	7 (23%)	8 (27%)	13 (43%)
TCFM	32	2 (7%)	2 (7%)	4 (13%)	5 (17%)	17 (57%)

Note: Insufficient Data (N/A), Decreasing (D), Probably Decreasing (PD), Stable (S), Probably Increasing (PI), and Increasing (I), No Trend (NT); and non-detect for all sample events (ND).

Moments

Estimates of total dissolved mass and distance of the center of mass from the source for the Muscoy Intermediate Zone are shown in Table 7. First moments are illustrated on Figure 12, panel B. The zeroth moment, or total dissolved mass, exhibits no trend or variation in total dissolved mass estimates during the time-frame evaluated. The estimate of mass is most likely influenced by fluctuating concentrations at the small number of higher concentration wells. The distance of the center of mass from the source is increasing away from the source and toward the extraction system, which is consistent with the increasing trends seen in wells monitoring the extraction area.

Moments for the Intermediate Zone of the Muscoy OU indicate the plume may be shifting more rapidly than other areas of the plumes under the influence of the extraction wells. Qualitative information from the multiple depths in the Intermediate Zone indicate mass may be increasing more rapidly at certain depths, most likely due to subsurface heterogeneities resulting in higher velocity groundwater influenced by downgradient pumping.

Moment Type	Moment Analysis Muscoy OU Intermediate		Comment
	PCE Trend	**TCE Trend**	
Zeroth	No Trend	No Trend	The estimate of total dissolved mass of PCE and TCE is No Trend between 1999 and 2007. No major increase or decrease in mass is detectible during this time frame.
First	Increasing	Increasing	Center of mass for PCE and TCE is Increasing, indicating movement of mass downgradient relative to the source.
Second	Stable	Stable / Decreasing	The plume spread about the center of mass is Stable for both COCs in the direction of groundwater flow, and Decreasing perpendicular to groundwater flow for TCE, indicating no significant change in relative concentrations between the center and edge of the plume.

The spread of mass shows a largely stable trend, indicating no major changes in the ratio of mass in the center of the plume to that on the edges.

3.3.2.2 Redundancy and Sufficiency

Summary results for the redundancy analysis are presented on Table 9, along with other lines of evidence results. MAROS identified 12 of 32 wells in the Intermediate Zone as statistically redundant. The plume-front area has a large number of wells over a relatively small aerial extent. Based on a qualitative review, including consideration of remedial activity in the area and depth of the aquifer, all wells were recommended for retention in the monitoring network for the immediate future.

The well sufficiency analysis for the Muscoy OU Intermediate Zone is illustrated in Figure 13. Because most locations in the network show very low SF (<0.25), there is little spatial uncertainty in the plume. For the Muscoy OU Intermediate Zone, no areas of high concentration uncertainty were found, and no new locations are recommended. However, groundwater in the Newmark OU adjacent to the Muscoy OU Intermediate Zone was identified as a possible location for a new well.

3.3.2.3 Sampling Frequency

The table below summarizes the current monitoring frequency for wells in the Muscoy OU Intermediate Zone and the recommended sampling frequency based on the lines of evidence. Table 9 summarizes the results of the MAROS preliminary sampling frequency recommendation and provides specific recommendations for each sample location. Detailed results of the trend and concentration rate of change analyses are shown in Appendix B Table B.16.

All 32 locations in the network are recommended for inclusion in the monitoring program, including locations MW-131 B and C, which have not been sampled since 2004. Most wells are retained at a reduced sampling frequency, particularly those plume-front wells that have been sampled quarterly. Based on the rate of change at the wells, the historic sample record and the trend evaluated at these locations, most plume-front wells have been retained in the program at a semi-annual monitoring frequency.

The proposed monitoring program reduces the number of annual samples in the Intermediate Zone by roughly 50%.

Monitoring Wells	Well Sampling Frequency Analysis Muscoy OU Intermediate		
	Sampling Frequency	**Current Sampling frequency**	**Sampling frequency Recommendation**
	Quarterly	24	0
	Semi-annual	5	20
	Annual	1	9
	Biennial	0	3
Total Samples (average per year)		107	50.5
Total Wells		30	32

The current sampling frequency is estimated from the sample dates in the site analytical database (URS, 2006).

3.3.2.4 Data Sufficiency

Of 32 wells evaluated 17 have concentrations statistically below the MCL for PCE. Two wells have insufficient data to perform the sequential T-test (with data 1999-2007). Data for eight locations have sufficient statistical power to say that they have attained clean-up goals.

3.3.3 Muscoy Deep Zone

The Deep Zone of the Muscoy OU has a limited number of monitoring points. Only one location has exceeded the EPA MCL for PCE (EW-111PZD), the other 9 locations included in this group were non-detect for PCE or display intermittent detections.

3.3.3.1 Plume Stability

Concentration Trends

Wells in the Deep Zone of the Muscoy OU are not highly affected by site COCs. Summary results of the Mann-Kendall trend evaluation for PCE are shown in the table below and illustrated on Figure 14 panel B, with detailed results in Appendix B Table B.9. Well locations MW-135 B and C were included in the Muscoy OU Deep Zone as well as the Newmark OU Deep Zone analysis, as these locations fall between the two OUs. Trend summary result for MW-135 B and C are included below to provide more information on the zone.

The majority of locations in the Deep Zone show only intermittent detections of constituents. DCDFM and TCFM are found near detection limits at most locations, which result in stable Mann-Kendall trends for these COCs. No locations show increasing trends for any of the COCs. EW-111PZD is the most highly affected well in the zone, but demonstrates decreasing trends for all COCs.

COC	Total Wells	Muscoy OU Deep Mann-Kendall Trend Analysis				
		ND	PD, D	S	I, PI	N/A, NT
PCE	10	3 (30%)	1 (10%)	3 (30%)	0	3 (30%)
TCE	10	2 (20%)	1 (10%)	6 (60%)	0	1 (10%)
DCDFM	10	0	1 (10%)	7 (70%)	0	2 (20%)
TCFM	10	0	0	10 (100%)	0	0

Note: Insufficient Data (N/A), Decreasing (D), Probably Decreasing (PD), Stable (S), Probably Increasing (PI), and Increasing (I), No Trend (NT); and non-detect for all sample events (ND).

Moments

Moment results for the Muscoy Deep Zone are shown in Table 7 and on Figure 14 panel B. Due to the low COC concentrations in the Deep Zone and the relatively short monitoring history, little change is seen in the amount and distribution of mass. The plume is largely stable, with possible decreases in dissolved mass of TCE.

Moment Type	Moment Analysis Muscoy OU Deep		Comment
	PCE Trend	TCE Trend	
Zeroth	Stable	Decreasing	The trend of the estimate for total dissolved mass of PCE is stable and for TCE is No Trend between 1999 and 2007. No major increase or decrease in mass is detectible during this time frame.
First	No Trend	No Trend	There is no trend for center of mass for PCE and TCE.
Second	No Trend	No Trend	The plume spread about the center of mass shows no trend for both COCs in the direction of groundwater flow and perpendicular to groundwater flow.

3.3.3.2 Well Redundancy and Sufficiency

Summary results for the Muscoy Deep Zone redundancy analysis are presented on Table 10. Average slope factors for PCE in this groundwater zone are quite low, indicating very low concentration uncertainty between monitoring locations. The MAROS program identified 5 of the 10 locations for removal from the program.

While there is some redundancy in the network in the Deep Zone, no wells are recommended for removal at this time. The Muscoy OU Deep Zone network delineates both the horizontal and vertical extent of the Muscoy OU. A qualitative evaluation of the wells indicates monitoring in this area should continue on a semi-annual basis. Should concentrations stay below or at detection limits, then a reduced monitoring schedule may be considered when a larger, more statistically significant, data set is collected.

Results of the well sufficiency analysis for PCE for the Deep Zone are illustrated in Figure 15. For the Muscoy OU deep zone, no areas of high concentration uncertainty were found, and no new locations are recommended. This result is consistent with the very low average slope factors reported in Table 10.

3.3.3.3 Sampling Frequency

The table below summarizes the current monitoring frequency for wells in the Muscoy OU Deep Zone and the recommended sampling frequency. Table 10 summarizes the results of the MAROS preliminary sampling frequency recommendation, along with other lines of evidence. Detailed results of the trend and concentration rate of change analyses are shown in Appendix B Table B.17. Two locations included for the spatial analysis (MW-135B and C) are included in the Newmark OU Deep Zone recommendations, and are not included below.

Monitoring Wells	**Well Sampling Frequency Analysis Muscoy OU Deep**		
	Sampling Frequency	**Current Sampling frequency**	**Sampling frequency Recommendation**
	Quarterly	8	0
	Semi-annual	0	8
	Annual	0	0
	Biennial	0	0
Total Samples (average per year)		32	16
Total Wells		8	8

The current sampling frequency is estimated from the sample dates in the site analytical database (URS, 2006). Wells MW-135B and C were included in the Newmark OU Deep Zone recommendations, although the wells monitor both OUs.

All 8 unique locations in the deep network are recommended for inclusion in the monitoring program at a semi-annual frequency. The locations are currently sampled on a quarterly basis. The statistical and decision logic module in MAROS recommended largely biennial sampling (once every two years) for the network, based on the concentrations and rate of change. However, the network monitoring objectives in this area require frequent evaluation of COC concentrations to ensure effective plume capture.

3.3.3.4 Data Sufficiency

Nine of ten locations evaluated in the Muscoy OU Deep Zone are statistically below the regulatory screening level (including MW-135 B and C). Six of the ten wells have a data set sufficient to be statistically below the MCL with 80% or greater power. For the most part, the Deep Zone is ‘clean’, and wells in this area define the clean edge of the Muscoy OU plume.

Summary Results Table

MAROS Analysis Group Name	Result Summary
Source OU	▪ 39% of wells Decreasing trend for PCE; ▪ Decreasing trend for total dissolved mass; ▪ Center of mass shows weak trend moving away from source; ▪ 4 wells found to be redundant, but justified for depth profiling; ▪ No new wells recommended, area well delineated; ▪ 28 total samples recommended per year from 25 locations.
Newmark OU	
• Shallow Zone	▪ 46% of wells No Trend for PCE due to intermittent detects; ▪ 40% wells have Stable to Decreasing trends, including highest concentration wells; ▪ Increasing trend for total dissolved mass – likely an artifact of recent addition of wells; ▪ Center of mass shows Stable distance from source; ▪ No new wells recommended; Low spatial uncertainty in plume--keep all wells in network, but at reduced frequency; ▪ 12 wells recommended for semi-annual sampling, 8 for annual, 6 for biennial; ▪ 21 of 26 locations statistically below the MCL for PCE.
• Intermediate Zone	▪ 33% of wells Decreasing trend and 19% Non-detect for PCE; ▪ Stable trend for total dissolved mass; ▪ No trend in the distance of the center of mass from the source; ▪ 8 wells statistically redundant, all retained at reduced frequency; ▪ No new wells recommended; ▪ 10 wells recommended for semi-annual sampling, 13 for annual, 3 for biennial; a total of 34.5 samples annually from 26 locations; ▪ 15 of 26 locations statistically below the MCL for PCE.
• Deep Zone	▪ 30% of wells Increasing trends, mainly near extraction wells; ▪ 63% of wells Stable, Decreasing or ND; ▪ Stable trend for total dissolved mass; ▪ Center of mass shows no trend moving relative to source; ▪ Low spatial uncertainty -12 wells statistically redundant, but retained to evaluate performance of extraction wells; ▪ No new wells recommended; however, southwest area of plume shows higher spatial uncertainty, near wells with increasing trends; ▪ 21 wells recommended for semi-annual sampling, 2 for annual; a total of 44 samples annually from 23 locations. ▪ 17 of 23 locations statistically below the MCL for PCE.

Muscoy OU	
• Shallow Zone	▪ PCE detected at all wells; 48% show No Trend due to intermittent detections and possible seasonal influence; ▪ Stable trend for total dissolved mass; ▪ Center of mass stable relative to source; ▪ 4 wells statistically redundant, retained to evaluate performance of extraction wells; ▪ No new wells recommended; ▪ 12 wells recommended for semi-annual sampling, 7 for annual, 4 for biennial; 33 samples annually from 23 locations; ▪ 12 of 23 locations statistically below the MCL for PCE.
• Intermediate Zone	▪ 56% of wells Stable, Decreasing or ND trends; ▪ 30% of wells show No Trend due to intermittent detections and possible seasonal influence; ▪ Variable results for total dissolved mass; ▪ Center of mass moving downgradient relative to source, mass may be mobilizing under influence of pumping wells; ▪ 12 wells statistically redundant, retained to evaluate performance of extraction wells; ▪ No new wells recommended, little spatial uncertainty; ▪ 20 wells recommended for semi-annual sampling, 9 for annual, 3 for biennial; 50.5 samples annually from 32 locations; ▪ 17 of 32 locations statistically below the MCL for PCE.
• Deep Zone	▪ 30% of wells Decreasing, 30% ND and 30% Increasing trend for PCE; ▪ Stable trend for total dissolved mass; ▪ Center of mass shows no trend relative to source; ▪ 5 wells may be redundant, retained to evaluate performance of extraction wells; ▪ 8 wells recommended for semi-annual sampling; ▪ 9 of 10 locations statistically below the MCL for PCE (2 locations also considered part of Newmark OU Deep Zone)

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 General Conclusions

The primary goal of developing an optimized monitoring strategy at the Newmark Site is to create a dataset that fully supports site management decisions while minimizing time and expense associated with collecting and interpreting the data. A summary of the final recommended monitoring network is presented in Table 11. The recommended network reduces monitoring effort and cost by reducing the frequency of groundwater sampling at many locations without loss of critical temporal or spatial information.

Newmark Site groundwater is characterized by an extensive area of very low concentrations of the major chlorinated constituents. This is illustrated by the finding that 70% of wells in the Newmark OU and 63% or wells in the Muscoy OU monitor groundwater statistically below the MCL for PCE. Analytical data for the site show a high frequency of non-detects, making meaningful temporal trend evaluations difficult in some areas. Low overall concentrations also result in low spatial uncertainty with accompanying findings of spatial redundancy within the network of wells.

However, the extensive area of the plume (over 36 square miles), the depth of the saturated units (~1200 ft) and the critical nature of the resource require the inclusion of the maximum number of wells in the monitoring program. Non-detect wells and wells monitoring groundwater below MCLs are valuable to delineate the plumes both horizontally and vertically over the large affected area.

Monitoring goals at the Newmark Site include 1) evaluating the efficacy of the chosen remedy to prevent downgradient migration of the plume, 2) evaluating long-term reduction in contaminant mass and 3) determining if basin activities are exceeding the capacity of the pumping system to capture the plume. Monitoring data from low and non-detect wells are uniquely suited to delineate the extent of affected groundwater in support of implementation of institutional controls on the plume, and are, therefore, recommended for retention in the network in the near future. As concentrations are not changing rapidly, in most areas, the frequency of sampling can be reduced while still meeting site monitoring objectives.

Tasks identified in the Section 1 were performed for each of the OUs at several depths. A summary of general results for each task is presented below:

- *Evaluate well locations and screened intervals within the context of the hydrogeologic regime to determine if the site is well characterized.*

  Result: Part of the network optimization process is to identify possible gaps in site characterization that may require additional sampling locations or site investigation. Based on well locations, screened intervals and hydrogeologic characteristics, affected groundwater at the Newmark Site is delineated to EPA MCLs for the compounds investigated. Groundwater areas where concentrations routinely exceed MCLs are bounded by wells where results are below MCLs. The majority of wells in the network have a sufficiently large data set to perform statistical calculations. No major data gaps were identified during the qualitative evaluation.

Recommendation: LTMO is appropriate for the site at this time. No additional fundamental site investigation is recommended at this time.

- *Evaluate overall plume stability through trend and moment analysis.*

Result: The groundwater plumes evaluated are largely stable, even though many concentration trends (for both individual wells and plume moments) show no trend. Many “no trend’ results are an artifact of analytical results for a number of wells varying between no detections and low detections of COCs. Another source of data variance includes concentrations that were increasing before remedy start-up and have since reversed in trend. Moment estimates for the Muscoy OU are based on a short data history, and should be reevaluated, particularly for the Intermediate Zone when a larger data set has been collected.

First moments for each of the data analysis groups are summarized below. Two well groupings indicate increasing trends in the distance of the center of mass from the source – the Source OU and the Intermediate Zone of the Muscoy OU.

Operable Unit	Depth	Well Screened Intervals	First Moment Trend Results PCE
Source OU	All	77-438 ft bgs	Probably Increasing
Newmark OU	Shallow	115-660 ft bgs	Stable
	Intermediate	243-700 ft bgs	No Trend
	Deep	240-1190 ft bgs	No Trend
Muscoy OU	Shallow	60- 473 ft bgs	Stable
	Intermediate	225-1050 ft bgs	Increasing
	Deep	620-980 ft bgs	No Trend

First moment trends represent the Mann-Kendall trend for the distance of the center of mass from the source area for each year of data. The screened intervals represent the top of the shallowest screen in the group to the deepest bottom of the top screen, as indicated in the site database. The screen depths do not account for the change in elevation across the site.

Recommendation: Reduced monitoring effort is appropriate for stable plumes, and plumes approaching clean-up goals. Monitoring frequency can be reduced for plumes where groundwater concentrations are not changing rapidly. As a general observation, groundwater concentrations are not changing rapidly at the Newmark Site. Monitoring locations in groundwater that has attained clean-up goals can be monitored at reduced frequency or excluded from the program in the future if current trends continue. First moment results indicate that the shallow areas of the Newmark and Muscoy OUs are statistically stable. First moment results are illustrated on figures for each analysis group.

- *Evaluate individual well concentration trends over time for target constituents of concern (COCs);*

  Result: For 161 wells evaluated in all Newmark Site OUs for long-term PCE trends, the majority of locations showed stable to decreasing trends or no detections (57%). Increasing trends were calculated for 12% of locations. No statistically significant trend was found at 29% of locations. Two locations had insufficient data to perform the analysis.

  Recommendation: Individual well trend evaluations at the Newmark Site provide support for the conclusion that the plumes are largely stable. Monitoring frequency can be reduced for locations where concentrations are not changing rapidly. Evaluation of concentration trends at individual wells also identified locations where monitoring effort should not be reduced, such as the extraction well areas in the southern part of the Newmark and Muscoy OUs, in the intermediate to deep groundwater zones (see discussion below).

  To assess the efficacy of the remedial system, wells downgradient of the extraction well area should be monitored semi-annually for changes in short-term trends. Several extraction wells (EW-1, EW-108, EW-2) and associated monitoring wells (EW-1PA and B, EW-2PB, EW-3PB, MW-135A, MW-11C, EW-110PZC and D, MW-129B, and EW-111C) in the downgradient portion of the plumes, demonstrate increasing or probably increasing concentration trends. Increasing trends indicate the extraction system is performing correctly by capturing mass from the plume for treatment. However, as the extraction system is very close to the downgradient boundary of the plume, increasing trends may be worrisome.

  The extraction area of the plume should be prioritized for careful scrutiny of monitoring results. Priority locations to monitor for containment of the plume include: MW-139 A-C, MUNI-101, MW-138 A-C, MW-137 A-C, MW-136 A-C, MW-135A-C, MW 12A-C, MW13A-C, MW14A-C and MW15A-C. Data from priority wells should be carefully evaluated after every sampling event for trends or data outliers that may signal a change in plume capture. Increasing trends at the above mentioned downgradient delineation wells may indicate a modification in pumping effort should be considered.

  While a reduced monitoring frequency is recommended for wells that delineate the plume in cross-gradient locations, trends should be carefully evaluated at these locations as well. Increasing or probably increasing trends that indicate a possible future exceedence of regulatory screening levels may require installation of new delineation wells or expansion of institutional controls.

- *Develop sampling location recommendations based on an analysis of spatial uncertainty;*

  Result: The spatial redundancy analysis indicated that several wells could be removed from the routine monitoring program, as they do not provide unique information. The area near the extraction wells for the Newmark and Muscoy OUs has very high well density in an area of low concentrations.

The spatial analysis identified one area of high spatial uncertainty that may be a candidate location for a new well. The area of uncertainty is in the southwest corner of the Newmark OU in the deeper groundwater zone near the Muscoy Intermediate Zone

Recommendation: Despite the finding of spatial redundancy, all locations within the current monitoring network are recommended for inclusion in the monitoring program. The depth and aerial extent of the plume in addition to the stated monitoring objectives for the network provide sufficient qualitative reasons for including all locations. If future trends continue (generally stable plume and stable extraction system performance) wells identified as redundant may be considered for removal from the program.

No new monitoring locations are recommended. Continue monitoring the area between the Newmark OU Deep and Muscoy OU Intermediate zones and consider an additional well should modeling or capture zone analysis indicate possible transport of COCs downgradient.

- *Develop sampling frequency recommendations based on both qualitative and quantitative statistical analysis results;*

  Result: The sampling frequency analysis recommended a reduced sampling frequency for the majority of wells. Largely annual to biennial sampling frequencies were recommended by the algorithm based on the rate of change and trend of well concentrations.

  Recommendation: Reduce the frequency of monitoring. Wells along the plume-front and in historic high concentration areas are recommended for semi-annual monitoring. Wells that delineate the lateral and upgradient extent of the plume are recommended for a combination of annual and biennial sampling. Specific sampling frequency recommendations are listed in Table 11 and detailed in Tables 3 - 10.

- *Evaluate individual well analytical data for statistical sufficiency and identify locations that have achieved clean-up goals.*

  Result: 95 of 160 locations evaluated were statistically below the MCL for PCE using the sequential T-test. Approximately one-quarter of monitoring locations had a sufficient data record at sufficiently low concentrations to have ‘attained’ clean-up goals with 80% or greater statistical power. Over the majority of the OUs, the plume has attained risk-based clean-up goals associated with the groundwater ingestion exposure pathway.

  Recommendation: Locations that monitor groundwater statistically below regulatory screening levels can be considered for reduced monitoring effort. Clean locations can be monitored less frequently or removed from the monitoring program if they do not serve a specific function supporting monitoring objectives (i.e. delineates the plume cross-gradient).

Additional Recommendations:

- Continue evaluating concentration trends for monitoring locations at the Newmark Site. Stakeholders should develop an agreement on a consistent method by which to evaluate trends, including the time-frame over which to evaluate the data. A nonparametric Mann-Kendall trend test like the one used in the MAROS software is recommended. Recent trends (~2 years) should be compared with trends calculated from the full dataset to better detect long-term variations in analytical data. For locations in the plume-front region, the statistical test should be conducted after each sampling event.
- Monitoring data at the Newmark Site show high variance relative to concentrations (resulting in no trend). In most cases, variance in the data can be explained by site characteristics and processes. Continue monitoring for concentration trends, with careful consideration of factors that may contribute to underlying variance in the data (i.e. large percentage of non-detect results, seasonal aquifer changes, proximity to pumping wells).
- The challenge for the monitoring network at the Newmark Site is to provide data for a large aerial extent (8 miles in length) and from great depths. The current approach of combining an extensive monitoring program with development of a site-wide database, groundwater transport models and capture zone analysis is anticipated to provide complementary information to support site management decisions.

o Continue development and updating of the comprehensive site database. Validated analytical data for all wells in the area should be added to database within a reasonable time after sampling. Each well should have a complete record of historic sampling events. Continue confirmation of location coordinates of sampling locations.

o Continue development of a comprehensive site-wide transport model. Due to the size and complexity of the site and the cost of monitoring locations, a site-wide model will provide important predictive information for long-term plume management.

o Continue routine capture zone analysis for the plume-front area.

4.2 Source OU

4.2.1 Summary Findings

The Source OU is the area of highest historic concentrations at the Newmark Site. Monitoring objectives specific to the Source OU include providing data to delineate high concentration areas, confirm the plume is not expanding into Newmark and Muscoy OUs and to document attenuation of mass over time.

Based on individual well and moment trend analyses, the plume in the Source OU shows largely stable to decreasing trends with several high concentration wells showing strongly decreasing trends (CJ-8, CJ-16, MWCOE001B). The estimate of total dissolved mass for both TCE and PCE shows decreasing trends over an eight year time-frame. The probably increasing first moment for PCE may indicate some downgradient movement of mass, but the trend is not strong.

Increasing concentration trends were found at some wells on the edge of the plume (CJ-2, CJ-7 and CJ-11), suggesting there may be some spread of the plume perpendicular to groundwater flow. Second moments in the Y direction show no trend, indicating that possible plume spreading is not a strong trend. The edge locations do not exceed regulatory screening levels, but require continued monitoring to document any possible increase in groundwater area exceeding risk-based levels.

Based on the spatial analysis, several wells in the Source OU were identified as ‘redundant’ locations, or locations that do not provide unique information. While there may be some redundancy in the network, the saturated thickness of the aquifer is sufficient so that wells at varying well depths provide important information. Due to the low-level concentrations and wells that delineate high concentration areas, no new well locations are recommended.

The MAROS sampling frequency analysis indicated that most locations could be sampled annually to biennially, without loss of critical information. Most locations in the Source OU have a sufficiently long sampling history to perform statistical analyses with fairly high power. Several locations were found to be statistically below screening levels, with three having sufficient statistical power to have ‘attained’ clean-up goals, based on EPA statistical guidelines (EPA, 1992).

4.2.2 Recommendations

Source OU

- Monitor 25 wells in the Source OU at semi-annual (8 locations), annual (7 locations) and biennial (10 locations) sample frequencies No new wells are recommended at this time. The background well MUNI-112 can be monitored annually to biennially to provide a baseline for groundwater quality.
- Priority monitoring locations in the Source OU include wells CJ-2 and CJ-7 to monitor possible lateral plume spread. High concentration center-line wells CJ-17, CJ-10, CJ-15, CJ-16, CJ-3, MWCOE004 and MWCOE001B should be

monitored to evaluate export of mass from the source area to downgradient locations.

- Consider removing redundant wells (CJ-1A and MWCOE005 through MWCOE009) from the routine monitoring if current trends continue

4.3 Newmark OU

4.3.1 Summary Findings

Statistical and qualitative results for the Newmark OU indicate widely distributed but very low level concentrations of COCs. The data sufficiency analysis was performed to identify wells that have statistically attained clean-up goals as described in EPA guidance (EPA, 1992). In the Newmark OU, 70% of all sample locations are statistically below the MCL for PCE while 30% of wells have sufficient statistical power to have statistically attained clean-up goals. A summary of the data sufficiency results for the Newmark OU as a whole is presented below.

Data sufficiency analysis provides information on attainment of risk-based goals as well as determining when a sufficient number of samples has been collected to provide statistical significance. These results not only identify and confirm areas with concentrations below risk-based standards, but indicate that sampling effort can be reduced as long as current conditions remain stable.

Groundwater Zone	**Total Wells**	**Newmark OU Data Sufficiency for PCE**	
		Wells Statistically Below MCL	**Wells Statistically “Attained” Clean-up Goals**
Shallow Zone	26	17 (65%)	5 (19%)
Intermediate Zone	26	15 (58%)	11 (42%)
Deep Zone	23	21 (91%)	7 (30%)
Total	75	53 (70%)	23 (30%)

Based on Mann-Kendall results, roughly half of the wells in each depth zone (shallow, intermediate and deep) have stable to decreasing trends or are non-detect. The majority of stable to decreasing locations for all depths are located in the northern section of the plume. Decreasing trend results in this area indicate that COCs are not migrating out of the source area to the Newmark OU in significant amounts. The northern part of the plume is fairly stable and reduced monitoring effort may be appropriate in this area.

For the Newmark OU, the majority of “no trend” (NT) results at each depth result from concentrations varying between detect and non-detect status. Many of the locations with no trend results were identified as statistically below MCLs in the data sufficiency analysis, providing support that sampling frequency can be reduced for these locations.

Long-term increasing concentration trends were found most frequently in the Newmark OU Deep Zone, near the extraction well front (see Figure 8). The Shallow Zone also showed two locations with long-term increasing trends in the plume-front area. Recent trends for these locations may be reversing, but continued monitoring in this area is a priority. Two locations in the middle section of the Intermediate Zone, MUNI-18 and MUNI-09C, show increasing PCE concentration trends. Concentrations at these locations are currently below MCL, but should be monitored for future changes.

Trend estimates of total dissolved mass, center of mass and spread of mass (zeroth, first, and second moments) for the Newmark OU are largely stable. No strong increasing or decreasing trends in dissolved mass indicate that no strong influx of mass is occurring from the Source OU and no dramatic reductions in mass are seen from the pumping system, at this time. First moments were largely stable or displayed no trend indicating that the extraction system has not shifted a large amount of mass downgradient. The analysis of moments indicates that the Newmark OU plume has been fairly stable over the 1999-2007 time-frame.

Due to overall low concentrations in the Newmark OU, several wells were identified as candidates for elimination during the spatial analysis. The plume-front has a high density of wells at very low concentrations, and this area was identified as having the most redundant locations (with one exception discussed below). However, no locations in the Newmark OU were recommended for removal from the program at this time. Despite very low concentrations, the plume is very widely distributed and extends deep into the aquifer and retaining all wells for spatial monitoring is appropriate.

During the spatial analysis, only one region was found to have a high degree of concentration uncertainty. The western area of the Deep Zone was found to have high variability between aerially adjacent locations. Individual well concentration trends in the deeper plume-front region are also increasing. Locations EW-1, EW-2, EW-3, EW-108 and MW11C show long-term increasing trends for PCE. In the adjacent Muscoy OU Intermediate Zone, increasing trends are found at locations along a line east to west in the same approximate depth zone (EW-110PZD, EW-111PZC). The spatial uncertainty result combined with the long-term trends indicates that this area should be prioritized in terms of monitoring effort.

The high spatial uncertainty around well EW-108 can be explained to a large degree by concentration heterogeneity at different depths and by the inclusion of extraction wells in the analysis. Recent data indicate the concentration trends may be reversing. However, continued semi-annual monitoring, particularly in the area between the Muscoy and Newmark OUs is highly recommended. Data from these wells should be used in capture zone analysis to evaluate the efficacy of the remedy.

Based on the statistical (MCES) analysis, other lines of evidence and a qualitative evaluation of the network, sampling frequencies in the Newmark OU can be reduced without loss of information to support management decisions.

The Newmark OU can be divided into two distinct areas in terms of monitoring effort: upgradient and plume-front locations. Most upgradient wells can be reduced to annual or biennial sampling due to the very low rate of concentrations change and the low risk posed by changes in concentration. While concentrations in the plume-front are not changing rapidly, the monitoring system objective is to identify any migration of the plume mass past the extraction wells. Due to this constraint, changes in concentration trigger contingent responses in this area and must, therefore, be monitored frequently to provide advance warning for any possible plume migration.

4.3.2 Recommendations

Newmark OU

- Monitor 75 locations in the Newmark OU, representing shallow, intermediate and deep groundwater zones.
- Biennial monitoring (once every two years) is recommended for nine (9) locations in the upgradient area. Consider removing these locations from the routine monitoring program, should current conditions continue.
- Twenty three (23) locations are recommended for annual sampling to support horizontal and vertical delineation of the plume.
- Forty-three (43) wells are recommended for semi-annual sampling in priority areas of the plume (plume-front, extraction well and historic high concentration areas).
- The area around the EW-108 nested wells was identified as having higher spatial uncertainty. While no new wells are recommended for this area at this time, the area between Muscoy OU and Newmark OU should be monitored carefully for changes in concentrations.

4.4 Muscoy OU

4.4.1 Summary Findings

The Muscoy OU analysis looked at 65 sample locations. Like the Newmark OU, chlorinated constituents are distributed at very low levels across a large area. While some areas of higher concentrations are present, the majority of the plume concentrations are below regulatory screening levels.

While the Newmark OU can be divided into upgradient and plume-front areas in terms of concentrations and trends, the Muscoy OU is more appropriately divided into central high concentration areas and peripheral wells. More highly affected locations include the center-line of wells MW-132A, MW-128A, MW-140A, B, C, MW-130B and EW-110 B, C. Wells west and south of the center-line locations show low to non-detect concentrations and delineate the plume.

The data sufficiency analysis identifies wells that have statistically attained clean-up goals. In the Muscoy OU 63% of wells are statistically below screening levels. A comparison of the two Newmark and Muscoy OUs indicates a similar distribution of statistically clean locations even though the Muscoy OU has a shorter monitoring history (a small data set).

Groundwater Zone	Total Wells	Muscoy OU Data Sufficiency for PCE	
		Wells Statistically Below MCL	Wells Statistically "Attained" Clean-up Goals
Shallow Zone	23	12 (52%)	0
Intermediate Zone	32	17 (53%)	8 (25%)
Deep Zone*	10	9 (90%)	6 (60%)
Total	65	41 (63%)	14 (22%)

*Includes wells MW-135B and C and EW-108 also included in the Newmark OU Deep Zone analysis

The large percentage of locations where groundwater concentrations are below MCLs indicates the plume is very dilute and close to achieving clean-up goals in many areas. Reduced monitoring effort is appropriate for locations where groundwater has dropped below risk-based concentration levels. A summary of the data sufficiency results for the Muscoy OU as a whole is presented below.

Results for individual well trends contribute to the conclusion that Muscoy OU is a largely stable to decreasing plume. Individual well trend evaluation for the Muscoy OU results in a significant number of locations with no trend results for PCE (22 of 65). For slightly over one-third of these locations (8), the detection frequency is below 50%. Overall, locations with stable, decreasing or non-detect trends comprise over half of the monitoring locations in the Muscoy OU. Wells with stable to decreasing concentration trends can be considered for reduced monitoring frequency.

Concentrations at some levels of the MW-140 well group are high given the surrounding well concentrations. The monitoring record at this location is short (quarterly samples for 1 year). The short term trends for concentrations measured at various depths are stable to decreasing. The location provides unique information for vertical delineation in the central area of the plume and trend evaluation should continue as a more statistically significant data set is collected.

Another location that provides important information on the vertical distribution of mass is MUNI-104B. The long screened interval of MUNI-104B provides information on the vertical and horizontal distribution of mass in the western part of the Muscoy OU. Routine semi-annual monitoring is recommended, but more extensive sampling may be conducted on an annual basis to sample groundwater from discreet intervals. Interval sampling may indicate areas of higher concentration or depths where higher groundwater velocity affects the movement of constituent mass downgradient. Trends for each interval can be developed and monitored over time.

One area of increasing trends was found in the Intermediate Zone plume-front region in the area of MW-129B, EW-111PZC, EW-110PZD and EW-108. The locations are all screened below approximately 500 ft bgs. When viewed with trend results from the Newmark OU Deep Zone (see Figures 8 and 12), a line of increasing trends extends from MW-129B in the west to EW-108 in the center to MW-11C in the east. Extraction wells EW-108, EW-110, EW-111 EW-1, EW-2 and EW-3 are most likely contributing to mass movement in the area, resulting in increasing trends for locations screened in approximately the same interval. Increasing concentrations in the area defined by these extraction wells and associated downgradient locations in the Muscoy and Newmark OUs constitute a high-priority monitoring region for long-term management.

Well redundancy analysis for the Muscoy OU resulted in several locations identified for possible removal from the network. Many of these locations were in the plume-front area, where well density is high and concentrations are fairly low. Monitoring objectives for the Newmark Site include documenting plume capture by the extraction system,. Because there is a relatively short travel distance between the extraction wells and the most downgradient monitoring locations, all wells were retained in the monitoring program. Consistent with the finding that SF across the OU are fairly low, no new monitoring locations are recommended for the Muscoy OU.

Sample frequencies for Muscoy OU wells were developed based on results of the MCES analysis as well as well trends, redundancy evaluations and data sufficiency results. Each well was reviewed qualitatively for its support of monitoring objectives. MCES results recommended reduced monitoring frequency for most locations in the network.

<u>*4.4.2 Recommendations*</u>

- Monitor 65 locations in the Muscoy OU representing all depths.
- Biennial monitoring is recommended for seven (7) wells in the Shallow and Intermediate Zones. Consider reducing frequencies or removing these locations from routine monitoring if current trends continue.
- Sixteen (16) locations are recommended for annual sampling to provide delineation of the plume. Annual sampling is appropriate for low to no-detection locations that function as horizontal and vertical delineation points in a stable plume.
- Forty-two wells (42), including all of the Deep Zone locations, are recommended for semi-annual monitoring.
- The MW-140 nested wells have a limited sample record, with detections above MCLs at some depths. Multiple screen depths at this location delineate the vertical extent of contamination. Semi-annual sampling is recommended at MW-140B and C, while annual sampling of all levels of MW-140A is recommended.
- No new wells are recommended for the network, at this time.
- The area of the plume-front, between the Muscoy and Newmark OUs has been identified as an area of possible concentration uncertainty; however, the density of wells in the current network is sufficient to accomplish monitoring goals. Should capture zone analysis or groundwater modeling indicate possible by-pass of delineation wells in this area, additional monitoring locations may be considered.
- Careful monitoring of wells downgradient of the extraction wells will provide data for delineation of affected groundwater and assessment of the efficacy of the extraction system for both Newmark and Muscoy OUs. Semi-annual monitoring is recommended in this zone Priority locations to address these objectives include the following nested wells: MW-139 A-C, MW-138 A-C, MW-137 A-C, MW-136 A-C, MW-135A-C, MW12A-C, MW13A-C, MW14A-C and MW15A-C.

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GROUNDWATER MONITORING NETWORK OPTIMIZATION
NEWMARK, MUSCOY AND SOURCE OU
NEWMARK SUPERFUND SITE

San Bernardino, California

TABLES

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Table 2 Source and Newmark OU Annual Moment Estimates and Trends

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Table 6 Lines of Evidence Summary Results: Newmark Deep Zone

Table 7 Muscoy OU Recent Moment Estimates and Trends

Table 8 Lines of Evidence Summary Results: Muscoy Shallow Zone

Table 9 Lines of Evidence Summary Results: Muscoy Intermediate Zone

Table 10 Lines of Evidence Summary Results: Muscoy Deep Zone

Table 11 Final Monitoring Network Recommendations

TABLE 1
NEWMARK SITE MONITORING LOCATIONS

LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Source OU Wells	Newmark OU Shallow Zone	Newmark OU Intermediate Zone	Newmark OU Deep Zone	Muscoy OU Shallow Zone	Muscoy OU Intermediate Zone	Muscoy OU Deep Zone
CJ-1	EW-108PA	EW-1PA	EW-1	EW-108PA	EW-108	EW-109PZC
CJ-10	EW-2PA	EW-7PA	EW-108	EW-109PZA	EW-108PB	EW-110PZE
CJ-11	EW-3PA	MUNI-07C	EW-108PB	EW-110PZA	EW-109	EW-111PZD
CJ-12	EW-4PA	MUNI-09C	EW-1PB	EW-110PZB	EW-109PZB	MW-129C
CJ-13	EW-5PA	MUNI-14	EW-2	EW-111PZA	EW-110	MW-136C
CJ-14	EW-6	MUNI-18	EW-2PB	EW-112PA	EW-110PZC	MW-137C
CJ-15	EW-6PA	MUNI-22	EW-3	MUNI-102	EW-110PZD	MW-138C
CJ-16	EW-7	MUNI-24	EW-3PB	MUNI-103	EW-111	MW-139C
CJ-17	MUNI-01	MW02B	EW-4	MUNI-104A	EW-111PZB	--
CJ-1A	MUNI-07B	MW03B	EW-4PB	MUNI-109	EW-111PZC	--
CJ-2	MUNI-09B	MW04B	EW-5	MW-127A	EW-112	--
CJ-3	MUNI-11A	MW05B	EW-5PB	MW-127B	EW-112PB	--
CJ-6	MUNI-13	MW06B	MUNI-11C	MW-128A	MUNI-101	--
CJ-7	MUNI-16	MW07B	MW10C	MW-129A	MUNI-104B	--
CJ-8	MW02A	MW08B	MW11B	MW-130A	MUNI-108	--
MWCOE001A	MW03A	MW09B	MW11C	MW-131A	MUNI-116	--
MWCOE001B	MW04A	MW10A	MW12C	MW-132A	MW-128B	--
MWCOE002	MW05A	MW10B	MW-135B	MW-133A	MW-128C	--
MWCOE003	MW06A	MW11A	MW-135C	MW-134	MW-129B	--
MWCOE004	MW07A	MW12B	MW13C	MW-135A	MW-130B	--
MWCOE005	MW08A	MW13A	MW14C	MW-137A	MW-130C	--
MWCOE006	MW09A	MW13B	MW15B	MW-138A	MW-131B	--
MWCOE007	MW12A	MW14B	MW15C	MW-139A	MW-131C	--
MWCOE008	MW14A	MW15A	--	--	MW-132B	--
MWCOE009	MW16A	MW16B	--	--	MW-133B	--
--	MW17A	MW17B	--	--	MW-136A	--
--	--	--	--	--	MW-136B	--
--	--	--	--	--	MW-137B	--
--	--	--	--	--	MW-138B	--
--	--	--	--	--	MW-139B	--
--	--	--	--	--	MW-140B	--
--	--	--	--	--	MW-140C	--

Notes:
1. More detailed information on the wells is provided in Appendix B Table B.1
2. Wells were grouped according to hydrostratigarphic zone and screened interval, based on database values (URS, 2006).
2. Wells not sampled since 2002, such as MW-01 were not considered as part of the current monitoring program.
   Wells without location coordiantes were not included in the analysis.
3. Well MW-140A is sampled from multiple depths and is evaluated separately.
4. Certain wells are included in multiple analysis groups for spatial analysis, as they span different study areas.

TABLE 2
NEWMARK AND SOURCE OU ANNUAL MOMENT ESTIMATES AND TRENDS

SOURCE OU AND NEWMARK OU
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

COC	Effective Sample Event Date	Number of wells in network	COC Mass Estimate [Kg]	Distance of Center of Mass from Source [ft]
Source OU				
PCE	7/1/1999	23	96.05	873
	7/1/2000	19	92.59	385
	7/1/2001	16	111.69	399
	7/1/2002	15	93.01	975
	7/1/2003	13	99.17	867
	7/1/2004	17	91.76	552
	7/1/2005	25	83.63	1,078
	7/1/2006	25	63.15	1,158
	PCE Trend		**D**	**PI**
TCE	7/1/1999	23	13.75	787
	7/1/2000	16	9.45	317
	7/1/2001	13	23.13	508
	7/1/2002	14	10.11	786
	7/1/2003	13	9.35	325
	7/1/2004	17	6.74	361
	7/1/2005	23	7.71	668
	7/1/2006	24	8.15	621
	TCE Trend		**D**	**S**
Newmark OU Shallow Zone				
PCE	7/1/1999	24	345.84	25,711
	7/1/2000	23	364.08	25,820
	7/1/2001	14	446.98	26,044
	7/1/2002	25	277.60	25,269
	7/1/2003	26	452.85	25,181
	7/1/2004	26	545.21	25,695
	7/1/2005	26	546.74	25,964
	PCE Trend		**I**	**S**
TCE	7/1/1999	24	100.22	25,219
	7/1/2000	23	118.43	25,728
	7/1/2001	14	171.68	25,541
	7/1/2002	25	110.36	25,453
	7/1/2003	26	186.65	25,411
	7/1/2004	26	212.80	25,525
	7/1/2005	26	288.20	26,595
	TCE Trend		**I**	**NT**

See notes end of table.

TABLE 2
NEWMARK AND SOURCE OU ANNUAL MOMENT ESTIMATES AND TRENDS

SOURCE OU AND NEWMARK OU
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

COC	Effective Sample Event Date	Number of wells in network	COC Mass Estimate [Kg]	Distance of Center of Mass from Source [ft]
Newmark Intermediate Zone				
PCE	7/1/1999	30	2599.75	17,752
	7/1/2000	29	2229.33	18,022
	7/1/2001	16	3224.84	18,528
	7/1/2002	27	1120.41	21,731
	7/1/2003	28	1131.50	21,217
	7/1/2004	27	1088.41	20,972
	7/1/2005	27	1427.50	19,835
	PCE Trend		**S**	**NT**
TCE	7/1/1999	30	851.57	19745.28
	7/1/2000	29	790.68	19807.31
	7/1/2001	16	1040.40	19718.42
	7/1/2002	27	630.65	21430.90
	7/1/2003	28	742.95	21323.66
	7/1/2004	27	653.18	20386.91
	7/1/2005	27	964.27	23443.31
	TCE Trend		**S**	**PI**
Newmark Deep Zone				
PCE	7/1/1999	19	3343.52	12,576
	7/1/2000	19	3001.48	12,638
	7/1/2001*	14	311.75	16,957
	7/1/2002	22	1874.59	13,528
	7/1/2003	22	1875.64	13,503
	7/1/2004	22	1255.30	13,878
	7/1/2005	22	1606.42	13,279
	PCE Trend		**S**	**NT**
TCE	7/1/1999	19	752.47	13,421
	7/1/2000	19	695.69	13,473
	7/1/2001*	14	156.80	17,051
	7/1/2002	22	627.86	13,929
	7/1/2003	22	654.96	13,975
	7/1/2004	22	414.98	13,840
	7/1/2005	22	442.05	13,867
	TCE Trend		**S**	**NT**

Notes:
1. Input parameters for the moment analysis are listed in Appendix B Table B.2a-c.
2. Moments are based on annual averages of all wells sampled during the year of the effective date indicated.
3. Number of wells is the total number of locations sampled for the plume during the year indicated.
4. Estimated mass is the total dissolved mass (zeroth moment) of the indicated COC.
   based on the average concentrations at wells sampled during the calendar year.
5. Trends are Mann Kendall trends on the moments, S=Stable, PI = Probably Increasing, NT = No Trend
   D = Decreasing.
6. For the Newmark Deep Zone, extraction wells EW-1-5 were removed from the moment analysis.
7. The Newmark Shallow Zone moments did not include the Source OU wells,
   and represent shallow zone wells downgradient of the Source OU.

TABLE 3
LINES OF EVIDENCE SUMMARY RESULTS

SOURCE OU
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Name	Mann-Kendall Trend PCE 1999-2007	Below MCL?[2]	Below MCL with High Power[3]	Average Slope Factor PCE	MAROS Recommends for Removal	MAROS Preliminary Sample Frequency	Qualitative Evaluation	Final Recommendation	Future Consideration
CJ-1	S	√	√	0.25		Biennial	Upgradient source area well, historic exceedence but currently statistically below MCL, Recent trends stable to decreasing, very long sample record.	Biennial	Once every 5 years
CJ-10	S			0.33		Annual	Source area of highest concentration, retain for semi-annual monitoring	Semi-annual	Annual
CJ-11	PI			0.30		Annual	Source area centerline well shallow close to CJ12. Recent trends stable to decreasing, Annual monitoring	Annual	Annual
CJ-12	D	N/C	N/C	0.36		Annual	Source area centerline well deeper close to CJ11. Decreasing trend	Annual	Annual
CJ-13	NT	N/C	N/C	0.29		Annual	Far eastern boundary well for source area, intermittent detections delineating far eastern edge.	Biennial	Biennial
CJ-14	NT	N/C	N/C	0.26		Annual	Western boundary well for source area, insufficient data for statistical determination of below MCL. Occasional sampling necessary to acquire statistically significant data set.	Biennial	Biennial
CJ-15	NT			0.18		Annual	Source area of highest concentration, recent Increasing overall trend, recent stable trends, retain for semi-annual monitoring, deeper zone	Semi-annual	Annual
CJ-16	D			0.17	√	Annual	Retain for source area monitoring in deeper area near MW17., High concentration but decreasing trend	Semi-annual	Annual
CJ-17	PD			0.30		Annual	Source area of highest concentration, retain for semi-annual monitoring, shallower than MW16.	Semi-annual	Annual
CJ-1A	ND	√	√	0.59		Biennial	Source area well, deeper area, recent non-detect, attained clean-up level with high confidence	Biennial	Exclude
CJ-2	I	√		0.40		Biennial	Western boundary well for source area, statistically below MCL, but well went from ND to detect status in 2005, resulting in a long-term increasing trend. If well drops below detection, consider biennieal sampling.	Annual	Monitor for increasing concentrations
CJ-3	NT			0.21		Biennial	Source area well, deeper area, historic very high concentration. Overall Decreasing concentration trend, but recent variability	Semi-annual	Annual
CJ-6	PI			0.16	√	SemiAnnual	Historic high concentration, centerline well, somewhat redundant with CJ-10 and CJ-3	Semi-annual	Annual

See notes end of table.

TABLE 3
LINES OF EVIDENCE SUMMARY RESULTS

SOURCE OU
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Name	Mann-Kendall Trend PCE 1999-2007	Below MCL?[2]	Below MCL with High Power[3]	Average Slope Factor PCE	MAROS Recommends for Removal	MAROS Preliminary Sample Frequency	Qualitative Evaluation	Final Recommendation	Future Consideration
CJ-7	I	N/C	N/C	0.40		Annual	Low concentration western boundary well for source area, recent increasing trend, retain for horizontal delineation.	Annual	Monitor for increasing concentrations
CJ-8	D	√	√	0.31		Annual	Northern boundary well, similar to CJ-1, statistically below MCL with decreasing trend.	Annual	Biennial
MWCOE001A	S			0.16	√	Annual	Downgradient centerline well, decreasing trends, nested with MWCE001B, Recommended for removal. Retain to monitor shallow area.	Biennial	Exclude
MWCOE001B	D			0.23		Annual	Downgradient centerline nested well, higher concentrations deeper screen, retain to monitor downgradient centerline.	Semi-annual	Annual
MWCOE002	ND			0.48		Annual	Non-detect near centerline wells, retain for vertical delineation. Insufficent data to statistically confirm below MCL.	Biennial	Exclude
MWCOE003	NT			0.17		Annual	Centerline nested deep well, vertical delineation. Low SF and recent detections. Insufficent data to statistically confirm below MCL.	Annual	Biennial
MWCOE004	S			0.23		Annual	High concentration well near CJ-10, deep well eastern boundary, stable trend	Semi-annual	Annual
MWCOE005	D	√		0.07		Annual	Northern boundary well, statistically below MCL but lower power, decreasing trend and low slope factor.	Biennial	Exclude
MWCOE006	NT	√		0.59		Annual	Very shallow vertical delineation well, upgradient northern boundary well, statistically below MCL, only intermittent detections	Annual	Exclude
MWCOE007	S	√		0.16	√	Annual	Shallow upgradient well, stable trend, recommended for removal, statistically below MCL.	Biennial	Exclude
MWCOE008	PD			0.55		Biennial	Low concentration very shallow eastern boundary, delineates both horizontaly and vertically	Biennial	Exclude
MWCOE009	PD			0.42		Biennial	Very shallow eastern boundary well, near CJ-17	Biennial	Exclude

Notes:
1. Mann Kendall trend for PCE 1999-2007. D = Decreasing, PD = Probably Decreasing, S = Stable, NT = No Trend, PI = Probably Increasing, I = Increasing, ND = Non-detect.
2. Well concentration is statistically below MCL for PCE (5 ppb) using the Sequential T-Test hypothesis testing algorithm assuming (log-normal distribution). NC = Insufficient data.
3. Power analysis with (γ=0.8) indicates well concentration is concentration is statistically below MCL with very high confidence (assuming log-normal distribution).
4. Average Slope Factor (SF) for PCE 2000-2007. SF is a measure of the importance of a well in the network. Low SF wells are candidates for removal.
5. MAROS recommends wells for removal if the SF is below 0.25, the area ratio loss is below 80% and the concentration ratio loss is below 90%.
6. The MAROS Preliminary Sample Frequency is the sample frequency based on the rate of concentration change and the concentration trend at the well.
7. The qualitative review is based on an anlysis of non-statistical factors, such as monitoring objectives and hydrogeologic factors.
8. Exclude = remove from the program (do not plug). The Final Recommendation is based on a combination between the statistical results and the qualitative review.
9. Future Recommendations are possible changes to the monitoring program if trends continue as they are now. Consider reviewing the network after 2-3 years.

TABLE 4
LINES OF EVIDENCE SUMMARY RESULTS

NEWMARK OU SHALLOW ZONE
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Name	Mann-Kendall Trend PCE 1999-2007	Below MCL?[2]	Below MCL with High Power[3]	Average Slope Factor PCE	MAROS Recommends for Removal	MAROS Preliminary Sample Frequency	Qualitative Evaluation	Final Recommendation	Future Consideration
EW-2PA	PI	√		0.08		Annual	Plume front well, statistically below MCL but possible increasing trend, retained to monitor shallow depth at plume front extraction wells.	Semi-annual	Semi-annual
EW-3PA	NT	√		0.24		Annual	Plume front well, statistically below MCL, intermittent detctions, retained to monitor shallow depth at plume front extraction wells.	Semi-annual	Semi-annual
EW-4PA	NT	√		0.24	√	Annual	Plume front well, statistically below MCL, no detections since 2003 retained to monitor shallow depth at plume front extraction wells.	Semi-annual	Remove from program after 8 consecutive ND
EW-5PA	NT	√		0.15		Annual	Plume front well, statistically below MCL, intermittent detctions, retained to monitor shallow depth at plume front extraction wells.	Semi-annual	Semi-annual
EW-6	D	√		0.22		SemiAnnual	Uppergradient western plume extraction well, statistically below MCL, decreasing trend retained to monitor concentration of extracted water..	SemiAnnual	Annual
EW-6PA	PD	√		0.22		Annual	Upper western plume, statistically below MCL, retained to monitor shallow depth near extraction well.	Annual	Biennial
EW-7	D			0.49		SemiAnnual	Upper western plume, High concentration extraction well, exceeds MCL	Semi-annual	Annual
MUNI-01	NT	√		0.24		Annual	Upgradient northern boundary well, statistically below MCL, biennial	Annual	Biennial
MUNI-07B	NT	√	√	0.10		Annual	Upgradient well, eastern edge near bend, deeper shallow zone, statistically clean, single detection (?), low SF.	Annual	Biennial
MUNI-09B	NT	√	√	0.23		Annual	Eastern boundary well, non-detect except for single detection (?), statistically clean.	Annual	Biennial
MUNI-11A	S	√		0.16		Annual	Shallow Centerline well, bend of plume, statistically below MCL, low SF and stable trend.	Annual	Biennial
MUNI-13	S	√	√	0.18		Biennial	Shallow Centerline well, bend of plume, statistically clean, low SF and stable trend	Annual	Biennial
MUNI-16	D			0.17		SemiAnnual	Centerline well, higher concentrations with decreasing trend, deeper well, retain to monitor center of plume.	Semi-annual	Annual

See notes end of table.

TABLE 4
LINES OF EVIDENCE SUMMARY RESULTS

NEWMARK OU SHALLOW ZONE
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Name	Mann-Kendall Trend PCE 1999-2007	Below MCL?[2]	Below MCL with High Power[3]	Average Slope Factor PCE	MAROS Recommends for Removal	MAROS Preliminary Sample Frequency	Qualitative Evaluation	Final Recommendation	Future Consideration
MW02A	S	√	√	0.00	√	Biennial	Upgradient shallow well, statistically clean, redundant with surrounding wells	Biennial	Eliminate
MW03A	S	√		0.18		Biennial	Upgradient shallow well, statistically below MCL with only two detections, low SF.	Biennial	Eliminate
MW04A	NT	√		0.28		Annual	Upgradient shallow well, statistically below MCL with one detection (?).	Biennial	Eliminate
MW05A	ND	√	√	0.17		Biennial	Upgradient shallow well, statistically clean, low SF redundant with surrounding wells.	Biennial	Eliminate
MW06A	ND	√	√	0.19		Annual	Upgradient shallow well, ND, low SF redundant with surrounding wells.	Biennial	Eliminate
MW07A	D			0.46		Quarterly	Higher concentration centerline well, decreasing trend with relatively rapid rate of change and high SF	Semi-annual	Semi-annual
MW08A	S	√	√	0.42		Annual	Most upgradient location, Low concentration well with intermittent detections, statisticlly clean	Annual	Biennial
MW09A	NT			0.46		Quarterly	High concentration centerline well, with variable PCE trend.	Semi-annual	Semi-annual
MW12A	I	√		0.20		Annual	Increasing trend may be due to extraction wells, currently statistically below MCL, plume front location monitors possible migration of plume.	Semi-annual	Semi-annual
MW14A	NT	√		0.42		Annual	Plume front location, most downgradient well, high detection rate, but statistically below MCL, part of nested group, screened interval (270 to 300 ft bgs) High SF indicates a priority location.	Semi-annual	Semi-annual
MW16A	NT	√		0.50		Annual	Upgradient location, statistically below MCL with intermittent detections	Annual	Annual
MW17A	NT	√		0.00	√	Annual	Upgradient eastern edge delineation well, statistically below MCL with one detection (?), recommended for removal.	Biennial	Eliminate
EW-108PA	NT			0.22		Annual	Plume front location, also monitors Muscoy OU as part of a nested group, high variance in data.	Semi-annual	Semi-annual

Notes:
1. Mann Kendall trend for PCE 1999-2007. D = Decreasing, PD = Probably Decreasing, S = Stable, NT = No Trend, PI = Probably Increasing, I = Increasing, ND = Non-detect.
2. Well concentration is statistically below MCL for PCE (5 ppb) using the Sequential T-Test hypothesis testing algorithm assuming (log-normal distribution). NC = Insufficient data.
3. Power analysis with (γ=0.8) indicates well concentration is concentration is statistically below MCL with very high confidence (assuming log-normal distribution).
4. Average Slope Factor (SF) for PCE 2000-2007. SF is a measure of the importance of a well in the network. Low SF wells are candidates for removal.
5. MAROS recommends wells for removal if the SF is below 0.25, the area ratio loss is below 80% and the concentration ratio loss is below 90%.
6. The MAROS Preliminary Sample Frequency is the sample frequency based on the rate of concentration change and the concentration trend at the well.
7. The qualitative review is based on an anlysis of non-statistical factors, such as monitoring objectives and hydrogeologic factors.
8. The Final Recommendation is based on a combination between the statistical results and the qualitative review.
9. Future Recommendations are possible changes to the monitoring program if trends continue as they are now. Consider reviewing the network after 2-3 years.

TABLE 5
LINES OF EVIDENCE SUMMARY RESULTS

NEWMARK INTERMEDIATE ZONE
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Name	Mann-Kendall Trend PCE 1999-2007	Below MCL?[2]	Below MCL with High Power[3]	Average Slope Factor PCE	MAROS Recommends for Removal	MAROS Preliminary Sample Frequency	Qualitative Evaluation	Final Recommendation	Future Consideration
EW-1PA	NT	√	√	0.04	√	Biennial	Plume front well, statistically clean with only a couple of low detections, retained to monitor the plume front extraction wells.	Semi-annual	Semi-annual
EW-7PA	NT	√		0.57		Annual	Upgradient well, statistically below MCL, intermittent non-detects, retained to monitor upgradient extraction wells.	Annual	Annual
MUNI-07C	S	√	√	0.53		Biennial	Upgradient well, eastern edge near bend, statistically clean, two detections.	Annual	Annual
MUNI-09C	I			0.40		Annual	Eastern boundary well, increasing trend but average concentration below MCL, nested below statistically clean MUNI-09B.	Semi-annual	Annual
MUNI-14	D			0.35		Annual	Center of plume, average concentration above MCL with decreasing trend; monitor as plume centerline well.	Semi-annual	Annual
MUNI-18	I	√		0.26		Annual	Western delineation well, statistically below MCL, but increasing trend	Annual	Biennial
MUNI-22	NT	√		0.66		Biennial	Centerline well south of MUNI-14, statistically below MCL but high variability in data.	Annual	Annual
MUNI-24	NT	√	√	0.41		Annual	Downgradient eastern boundary of Newmark OU, intermittent detections, statistically clean, eastern delineation well.	Annual	Biennial
MW02B	PD			0.23		Biennial	Upgradient well, part of nested pair where upper level is statistically clean, probably decreasing trend with recent non-detcts.	Biennial	Exclude
MW03B	NT			0.13	√	Biennial	Upgradient location, part of nester pair where upper well is statistically below MCL, recent non-detects. Recommended for elimination.	Biennial	Exclude
MW04B	D			0.27		Annual	Upgradient location, part of nester pair where upper well is statistically below MCL, historic highs with decreasing trend with recent non-detect.	Annual	Biennial
MW05B	D			0.23		Biennial	Upgradient location, part of nester pair where upper well is ND, historic highs with decreasing trend.	Annual	Biennial
MW06B	ND	√	√	0.20		Biennial	Most upgradient location, ND well, statistically clean.	Biennial	Exclude
MW07B	D			0.34	√	Biennial	Upgradient location, part of nested pair where upper well is high concentration, decreasing trend, recommended for removal.	Annual	Biennial
MW08B	D			0.08	√	Annual	Upgradient location with historic highs, but decreasing trend, part of nested pair where the upper well is statistically clean.	Annual	Biennial

See notes end of table.

TABLE 5
LINES OF EVIDENCE SUMMARY RESULTS

NEWMARK INTERMEDIATE ZONE
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Name	Mann-Kendall Trend PCE 1999-2007	Below MCL?[2]	Below MCL with High Power[3]	Average Slope Factor PCE	MAROS Recommends for Removal	MAROS Preliminary Sample Frequency	Qualitative Evaluation	Final Recommendation	Future Consideration
MW09B	D			0.41		Annual	Upgradient location with historic highs but decreasing trend, part of nested pair where shallow well has high concentrations, increased frequency to match MW09A.	Semi-annual	Semi-annual
MW10A	S	√	√	0.83		Biennial	Center of plume, statistically clean, one detection, most shallow well of nest (screen 350-380 ft bgs).	Annual	Biennial
MW10B	D	√		0.83		Biennial	Center of plume, statistically below MCL, decreasing trend with recent low-level detections, middle location of three nested wells (490-520 ft bgs)..	Annual	Biennial
MW11A	S	√	√	0.21	√	Biennial	Downgradient center of plume, statistically clean with stable trend, recommended for elimination. Location upgradient of plume-front is prioritized as early warning for possible plume migration.	Annual	Annual
MW12B	ND	√	√	0.07		Biennial	ND well on western plume-front boundary, near Muscoy OU, part of nest with MW12A, which has increasing trend. Retain to monitor plume-front.	Semi-annual	Semi-annual
MW13A	ND	√	√	0.00	√	Biennial	ND well on plume-front, part of delineation of plume in this zone.	Semi-annual	Semi-annual
MW13B	ND	√	√	0.00	√	Biennial	ND well on plume-front, part of delineation of plume in this zone.	Semi-annual	Semi-annual
MW14B	ND	√	√	0.00	√	Biennial	ND well on plume-front, part of a nested group, (screened 570 to 600 ft bgs), upper well high detection rate, part of delineation of plume in this zone.	Semi-annual	Semi-annual
MW15A	S	√		0.02		Biennial	Low concentration well on plume-front, delineates end of plume to the east. Retain as part of downgradient point of compliance nest of wells.	Semi-annual	Semi-annual
MW16B	D			0.29		Quarterly	Upgradient locations with historic concentrations above MCLs, decreasing trend, monitor as part of centerline area of highest concentration.	Semi-annual	Semi-annual
MW17B	NT			0.24		Annual	Upgradient eastern edge delineation well, variable trend, part of nested pair where shallow well is below MCL.	Annual	Annual

Notes:
1. Mann Kendall trend for PCE 1999-2007. D = Decreasing, PD = Probably Decreasing, S = Stable, NT = No Trend, PI = Probably Increasing, I = Increasing, ND = Non-detect.
2. Well concentration is statistically below MCL for PCE (5 ppb) using the Sequential T-Test hypothesis testing algorithm assuming (log-normal distribution). NC = Insufficient data.
3. Power analysis with (γ=0.8) indicates well concentration is concentration is statistically below MCL with very high confidence (assuming log-normal distribution).
4. Average Slope Factor (SF) for PCE 2000-2007. SF is a measure of the importance of a well in the network. Low SF wells are candidates for removal.
5. MAROS recommends wells for removal if the SF is below 0.25, the area ratio loss is below 80% and the concentration ratio loss is below 90%.
6. The MAROS Preliminary Sample Frequency is the sample frequency based on the rate of concentration change and the concentration trend at the well.
7. The qualitative review is based on an anlysis of non-statistical factors, such as monitoring objectives and hydrogeologic factors.
8. The Final Recommendation is based on a combination between the statistical results and the qualitative review.
9. Future Recommendations are possible changes to the monitoring program if trends continue as they are now. Consider reviewing the network after 2-3 years.

TABLE 6
LINES OF EVIDENCE SUMMARY RESULTS

NEWMARK DEEP ZONE
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Name	Mann-Kendall Trend PCE 1999-2007	Below MCL?[2]	Below MCL with High Power[3]	Average Slope Factor PCE	MAROS Recommends for Removal	MAROS Preliminary Sample Frequency	Qualitative Evaluation	Final Recommendation	Future Consideration
EW-1	I			0.39		Quarterly	Plume front extraction well, increasing trend, consistent with movement of mass toward the pumping well,.monitor as part of remedy effectiveness determination.	Semi-annual	Semi-annual
EW-108	I			0.74		Annual	Extraction well, west of Newmark OU, also part of Muscoy OU, part of nested group, increasing trend, monitor as part of remedy effectiveness determination.	Semi-annual	Semi-annual
EW-108PB	S	√		0.74		Biennial	Western monitoring point, part of nested group, stable trend statistically below MCL, monitor all nested wells together.	Semi-annual	Semi-annual
EW-1PB	I	√		0.39		Annual	Plume front well monitors EW-1 extraction well, increasing trend, but statistically below MCL.	Semi-annual	Semi-annual
EW-2	I			0.17	√	Quarterly	Plume-front extraction well, increasing trend, low SF, recommended for removal as spatially redundant, rapid concentration change results in quaeterly monitoring frequency, monitor as part of remedy effectiveness determination.	Semi-annual	Semi-annual
EW-2PB	I	√		0.17	√	SemiAnnual	Plume-front location monitoring extraction well, low SF, recommended for removal as spatially redundant, increasing trend, statistically below MCL.	Semi-annual	Semi-annual
EW-3	S	√	√	0.07	√	SemiAnnual	Plume-front extraction well, stable trend, low SF, recommended for removal as spatially redundant, statistically clean location, monitor as part of remedy effectiveness determination.	Semi-annual	Semi-annual
EW-3PB	I	√		0.07	√	SemiAnnual	Plume-front location monitoring extraction well, low SF, recommended for removal as spatially redundant, increasing trend, statistically below MCL.	Semi-annual	Semi-annual
EW-4	S	√		0.31		Annual	Plume-front extraction well, stable trend, statistically below MCL, monitor as part of remedy effectiveness determination.	Semi-annual	Semi-annual
EW-4PB	NT	√		0.31		Annual	Plume-front location monitoring extraction well, no trend, statistically below MCL.	Semi-annual	Semi-annual
EW-5	D	√		0.00	√	Annual	Plume-front extraction well, decreasing trend, low SF, recommended for removal as spatially redundant, statistically below MCL, monitor as part of remedy effectiveness determination.	Semi-annual	Semi-annual
EW-5PB	NT	√		0.00	√	Annual	Plume-front location monitoring extraction well, low SF, recommended for removal as spatially redundant, no trend, statistically below MCL.	Semi-annual	Semi-annual

See notes end of table.

TABLE 6
LINES OF EVIDENCE SUMMARY RESULTS

NEWMARK DEEP ZONE
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Name	Mann-Kendall Trend PCE 1999-2007	Below MCL?[2]	Below MCL with High Power[3]	Average Slope Factor PCE	MAROS Recommends for Removal	MAROS Preliminary Sample Frequency	Qualitative Evaluation	Final Recommendation	Future Consideration
MUNI-11C	D			0.11		Quarterly	Most upgradient location in the deep zone, historic highs but decreasing trend. Quarterly monitoring result due to rapid concentration change.	Semi-annual	Semi-annual
MW10C	D			0.49		Quarterly	Upgradient centerline location, part of nested group where upper wells are statistically clean, historic highs with decreasing trend.	Semi-annual	Semi-annual
MW11B	D			0.16	√	Annual	Downagradient center location, part of a nested group, middle level screen (770 to 800 ft bgs), upper screened interval statistically clean, decreasing trend, spatially redundant due to high density of plume front wells..	Annual	Annual
MW11C	I	√		0.16	√	Annual	Downgradient center of plume, statistically below MCL but increasing trend, recommended for elimination as spatially redundant, part of nested group, deepest screen (1070-1100 ft bgs).	Annual	Annual
MW12C	S	√		0.73		Annual	Monitoring location downgradient, western edge of Newmark OU, statistically below MCL, intermittent detections. Retained as most downgradient point of compliance location.	Semi-annual	Semi-annual
MW-135B	ND*	√	√	0.00	√	Biennial	Downgradient western monitoring location near Muscoy, only one detcetion, close to non-detect, statistically clean, identified as spatially redundant. Retained as downgradient point of compliance location.	Semi-annual	Semi-annual
MW-135C	ND*	√		0.00	√	Biennial	Downgradient western monitoring location near Muscoy, only one detcetion, close to non-detect, statistically clean, identified as spatially redundant. Retained as downgradient point of compliance location.	Semi-annual	Semi-annual
MW13C	ND	√	√	0.71		Annual	ND well in center of plume-front boundary, part of nest with MW13A,and B, also ND wells. Retain to monitor plume-front.	Semi-annual	Semi-annual
MW14C	D	√		0.01	√	Annual	Downgradient plume-front well, part of nested group (1060 -1090 ft bgs) , decreasing trend, identified as spatially redundant due to well density in plume-front area.	Semi-annual	Semi-annual
MW15B	ND	√	√	0.51		Annual	ND well on plume-front, part of delineation of plume in this zone.	Semi-annual	Semi-annual
MW15C	ND	√	√	0.00	√	Biennial	ND well on plume-front, part of delineation of plume in this zone.	Semi-annual	Semi-annual

Notes:
1. Mann Kendall trend for PCE 1999-2007. D = Decreasing, PD = Probably Decreasing, S = Stable, NT = No Trend, PI = Probably Increasing, I = Increasing, ND = Non-detect.
2. Well concentration is statistically below MCL for PCE (5 ppb) using the Sequential T-Test hypothesis testing algorithm assuming (log-normal distribution). NC = Insufficient data.
3. Power analysis with (γ=0.8) indicates well concentration is concentration is statistically below MCL with very high confidence (assuming log-normal distribution).
4. Average Slope Factor (SF) for PCE 2000-2007. SF is a measure of the importance of a well in the network. Low SF wells are candidates for removal.
5. MAROS recommends wells for removal if the SF is below 0.25, the area ratio loss is below 80% and the concentration ratio loss is below 90%.
6. The MAROS Preliminary Sample Frequency is the sample frequency based on the rate of concentration change and the concentration trend at the well.
7. The qualitative review is based on an anlysis of non-statistical factors, such as monitoring objectives and hydrogeologic factors.
8. The Final Recommendation is based on a combination between the statistical results and the qualitative review.
9. Future Recommendations are possible changes to the monitoring program if trends continue as they are now. Consider reviewing the network after 2-3 years.

TABLE 7
MUSCOY OU RECENT MOMENT ESTIMATES AND TRENDS

MUSCOY OU
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

COC	Sample Event Effective Date	Number of wells in network	COC Mass Estimate [Kg]	Distance of Center of Mass from Source [ft]
Muscoy Shallow Zone				
PCE	3/1/2005	39	212.23	18,514
	9/1/2005	42	496.71	17,269
	3/1/2006	41	418.98	18,181
	9/1/2006	40	330.34	16,932
	PCE Trend		**S**	**S**
TCE	3/1/2005	37	52.42	20,283
	9/1/2005	40	90.42	20,399
	3/1/2006	40	96.84	19,861
	9/1/2006	40	66.24	19,060
	TCE Trend		**NT**	**S**
Muscoy Intermediate Zone				
PCE	3/1/2005	32	297.76	16,811
	9/1/2005	33	320.63	17,363
	3/1/2006	32	383.12	18,440
	9/1/2006	33	334.16	19,281
	PCE Trend		**NT**	**I**
TCE	3/1/2005	32	77.97	19,081
	9/1/2005	33	104.45	19,500
	3/1/2006	32	81.46	20,804
	9/1/2006	33	87.28	21,586
	TCE Trend		**NT**	**I**
Muscoy Deep Zone				
PCE	5/15/2006	10	181.47	5,518
	8/15/2006	10	226.47	5,795
	11/15/2006	10	192.32	5,729
	1/15/2007	12	180.52	5,815
	PCE Trend		**S**	**NT**
TCE	5/15/2006	10	92.38	6,433
	8/15/2006	10	91.75	6,054
	11/15/2006	10	91.29	6,401
	1/15/2007	12	85.20	6,681
	TCE Trend		**D**	**NT**

Notes:
1. Input parameters for the moment analyses are listed in Appendix B Tables B.2a-c.
2. Sample event effective date is an average date during the time period of data consolidation. Shallow and intermediate zones data are consolidated semi-annually 2005 -2006 Deep zone moments are from quarterly data 2006-2007.
3. The mass estimate is an estimate of the total dissolved mass in the plume area using data from the wells sampled during the time interval.
4. Number of wells in the network includes some Source OU wells for the Muscoy shallow and Intermediate zones. Some Muscoy OU deep wells are also in the Newmark OU.

TABLE 8
LINES OF EVIDENCE SUMMARY RESULTS: 1999-2007

MUSCOY OU SHALLOW ZONE
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Name	Mann-Kendall Trend PCE 1999-2007	Below MCL?[2]	Below MCL with High Power[3]	Average Slope Factor PCE	MAROS Recommends for Removal	MAROS Preliminary Sample Frequency	Qualitative Evaluation	Final Recommendation	Future Consideration
EW-108PA	NT			0.29		Annual	Plume-front location, monitors extraction well, also monitors western Newmark OU as part of a nested group, high variance in data. Retain to monitor plume-front and assess efficacy of remedy.	Semi-annual	Semi-annual
EW-109PZA	S	N/C		0.17	√	Annual	Monitors extraction well, eastern part of Muscoy OU, part of nested group, stable trend, but insufficient data for some statistics, recommended for removal but retained to monitor remedy effectiveness.	Semi-annual	Semi-annual
EW-110PZA	NT	N/C		0.23		Annual	Monitors extraction well, eastern part of Muscoy OU, part of nested group, no trend, insufficient data for some statistics, monitor as part of remedy effectiveness determination.	Semi-annual	Semi-annual
EW-110PZB	NT			0.23		Annual	Monitors extraction well, eastern part of Muscoy OU, part of nested group, no trend, high rate of detection and high concentrations, monitor as part of remedy effectiveness determination.	Semi-annual	Semi-annual
EW-111PZA	PD	N/C		0.25		Annual	Monitors extraction well upgradient from plume-front, probably decreasing trend, but insufficient data for attainment statistics. Part of nested group.	SemiAnnual	Semi-annual
EW-112PA	PD			0.28		Annual	Plume-front location monitoring extraction well, probably decreasing trend, retain as part of nested group.	SemiAnnual	Semi-annual
MUNI-102	S	√		0.37		Annual	Western delineation well for shallow Muscoy OU, statistically below MCL, 50% detection rate, stable trend.	Annual	Annual
MUNI-103	NT	√		0.38		Annual	Western delineation well for shallow Muscoy OU, statistically below MCL, slightly upgradient from MUNI-102, only one detection.	Annual	Annual
MUNI-104A	N/A	N/C		0.37		SemiAnnual	Mid-gradient monitoring location, insufficient data to determine a trend, sampled intermittently. Retain at low sample frequency to delineate plume to west.	Biennial	Biennial
MUNI-109	D	N/C		--	––	--	Not sampled since 2004. Retain to monitor centerline of plume between areas of high concentrations.	Biennial	Biennial
MW-127A	D	√		0.24		Annual	Upgradient well in Source OU, monitors possible movement of constituents from source into Muscoy OU. Decreasing trend, statistically below MCL, but historic concentrations above MCL.	Annual	Annual
MW-127B	NT	√		0.24		Annual	Upgradient well in Source OU, monitors possible movement of constituents from source into Muscoy OU. Nested with MW127A, no trend, statistically below MCL, but historic concentrations above MCL.	Annual	Annual

See notes end of table

TABLE 8
LINES OF EVIDENCE SUMMARY RESULTS: 1999-2007

MUSCOY OU SHALLOW ZONE
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Name	Mann-Kendall Trend PCE 1999-2007	Below MCL?[2]	Below MCL with High Power[3]	Average Slope Factor PCE	MAROS Recommends for Removal	MAROS Preliminary Sample Frequency	Qualitative Evaluation	Final Recommendation	Future Consideration
MW-128A	NT			0.49		Quarterly	Historic high concentration well, concentrations above MCL, possible seasonal variation in concentrations producing NT. Nested group (410-440 ft bgs) Center of plume, retain to monitor centerline area of high concentration.	SemiAnnual	Semi-annual
MW-129A	D	√		0.54		Biennial	Delineates plume to the west, upgradient of plume-front, decreasing trend, part of nested group (443-473 ft bgs) statistically below MCL. Retain to monitor shallow center of plume.	Biennial	Biennial
MW-130A	D	√		0.08	√	Annual	Delineates plume to the east, south of MW-128A. Decreasing trend, statistically below MCL, recommended or removal as redundant. Retain to define plume to east.	Annual	Biennial
MW-131A	S	√		0.36		Annual	Upgradient Source OU well, defines western edge of plume, stable trend, statistically below MCL. Retain to delineate plume.	Annual	Annual
MW-132A	NT			0.54		SemiAnnual	Upgradient historic high concentration well in Source OU, above MCL, monitors eastern edge of Source OU and due north of Muscoy OU. Variable concentration trend.	Semi-annual	Semi-annual
MW-133A	PI	√		0.12	√	Biennial	Upgradient historic low concentration well, statistically below MCL, non-detect in 2000, but probably increasing trend, recommended for removal, retain to monitor possible spread of plume to west from high concentration area at MW-132A.	Annual	Annual
MW-134	NT	√		0.63		Biennial	Monitors border between Source OU and Muscoy OU, downgradient of high concentration MW-132A, but apparently not affected. Statistically below MCL with only one detection (?). Retain at low sample frequency to monitor possible spread of plume to shallow area near Shandlin Hills.	Biennial	Biennial
MW-135A	PI	√		0.09		Annual	Most downgradient location Muscoy OU, plume-front well, statistically below MCL, but probably increasing trend. Retain to monitor capture zone.	Semi-annual	Semi-annual
MW-137A	D			0.24		Annual	Downgradient plume-front well, decreasing trend, retain to monitor center of Muscoy plume-front.	Semi-annual	Semi-annual
MW-138A	NT	√		0.18	√	Annual	Downgradient plume-front well, no trend, retain to monitor Muscoy plume-front.	Semi-annual	Semi-annual
MW-139A	NT	√		0.40		Biennial	Downgradient plume-front well, no trend, retain to monitor Muscoy plume-front.	Semi-annual	Semi-annual

Notes:
1. Mann Kendall trend for PCE 1999-2007. D = Decreasing, PD = Probably Decreasing, S = Stable, NT = No Trend, PI = Probably Increasing, I = Increasing, ND = Non-detect.
2. Well concentration is statistically below MCL for PCE (5 ppb) using the Sequential T-Test hypothesis testing algorithm assuming (log-normal distribution). NC = Insufficient data.
3. Power analysis with (γ=0.8) indicates well concentration is concentration is statistically below MCL with very high confidence (assuming log-normal distribution).
4. Average Slope Factor (SF) for PCE 2000-2007. SF is a measure of the importance of a well in the network. Low SF wells are candidates for removal.
5. MAROS recommends wells for removal if the SF is below 0.25, the area ratio loss is below 80% and the concentration ratio loss is below 90%.
6. The MAROS Preliminary Sample Frequency is the sample frequency based on the rate of concentration change and the concentration trend at the well.
7. The qualitative review is based on an anlysis of non-statistical factors, such as monitoring objectives and hydrogeologic factors.
8. The Final Recommendation is based on a combination between the statistical results and the qualitative review.
9. Future Recommendations are possible changes to the monitoring program if trends continue as they are now. Consider reviewing the network after 2-3 years.

TABLE 9
LINES OF EVIDENCE SUMMARY RESULTS: 1999-2007

MUSCOY OU INTERMEDIATE ZONE
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Name	Mann-Kendall Trend PCE 1999-2007	Below MCL?[2]	Below MCL with High Power[3]	Average Slope Factor PCE	MAROS Recommends for Removal	MAROS Preliminary Sample Frequency	Qualitative Evaluation	Final Recommendation	Future Consideration
EW-108	I			0.12		Annual	Extraction well, west of Newmark OU, also part of Muscoy OU, part of nested group, increasing trend, monitor as part of remedy effectiveness determination.	Semi-annual	Semi-annual
EW-108PB	S	√		0.57		Biennial	Monitors extraction well, eastern part of Muscoy OU, deepest well in nested group, stable trend, statistically below MCL, delineates depth and eastern extent of Muscoy OU.	Semi-annual	Annual
EW-109	D	√		0.24		Annual	Extraction well, eastern part of Muscoy OU, part of nested group, statistically below MCL, monitor as part of remedy effectiveness determination.	Semi-annual	Semi-annual
EW-109PZB	NT			0.24		Annual	Monitors extraction well, eastern part of Muscoy OU, part of nested group (430-350 ft bgs), no trend, monitor as part of remedy effectiveness determination.	Semi-annual	Semi-annual
EW-110	D			0.13	√	Annual	Extraction well on from plume-front, decreasing trend, Part of nested group. Recommended for removal, retained to monitor remedy effectiveness.	Semi-annual	Semi-annual
EW-110PZC	NT			0.13	√	Annual	Monitors extraction well on from plume-front, no trend, concentrations have what may be cyclic pattern, historic high concentrations. Part of nested group. Recommended for removal, retained to monitor remedy effectiveness and possible increasing trends in this area.	Semi-annual	Semi-annual
EW-110PZD	I			0.07	√	SemiAnnual	Monitors extraction well on from plume-front, increasing overall trend, but possible recent decreasing trend, historic high concentrations. Part of nested group. Recommended for removal, retained to monitor remedy effectiveness and possible increasing trends in this area.	Semi-annual	Semi-annual
EW-111	D			0.12	√	Annual	Extraction well in center of downgradient plume, decreasing trend, recommended for removal, but retained to monitor remedy effectiveness.	Semi-annual	Semi-annual
EW-111PZB	NT			0.08	√	Annual	Monitors extraction well in center of downgradient plume, no trend, part of nest (375 - 395 ft bgs) where well below shows increasing trend, recommended for removal, but retained to monitor remedy effectiveness.	Semi-annual	Semi-annual
EW-111PZC	I			0.12	√	Quarterly	Monitors extraction well in center of downgradient plume, strong increasing trend, part of nest (456 - 476 ft bgs), recommended for removal, but retained to monitor remedy effectiveness.	Semi-annual	Semi-annual

See notes end of table.

TABLE 9
LINES OF EVIDENCE SUMMARY RESULTS: 1999-2007

MUSCOY OU INTERMEDIATE ZONE
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Name	Mann-Kendall Trend PCE 1999-2007	Below MCL?[2]	Below MCL with High Power[3]	Average Slope Factor PCE	MAROS Recommends for Removal	MAROS Preliminary Sample Frequency	Qualitative Evaluation	Final Recommendation	Future Consideration
EW-112	D	√	√	0.37		Annual	Extraction well western part of downgradient plume, decreasing trend, statistically clean, but retained to monitor remedy effectiveness and western extent of plume.	Semi-annual	Annual
EW-112PB	PD	√		0.37		Annual	Monitors extraction well western part of downgradient plume, probably decreasing trend, statistically below MCL, but retained to monitor remedy effectiveness and western extent of plume.	Semi-annual	Annual
MUNI-101	S	√		0.28		Annual	Farthest downgradient well, statistically below MCL, delineates southern extent of plume, stable trend. Current annual monitoring. Retain to as delineation well and to monitor effectiveness of capture zone.	Annual	Annual
MUNI-104B	NT			0.38		Quarterly	Monitors center of plume, western edge, no trend, occasional detections above MCL., retain to monitor spread of plume on western edge.	Semi-annual	Semi-annual
MUNI-108	ND*	√	√	0.42		Annual	Western delineation well, only one detection, statistically clean, retain for delineation purposes.	Annual	Biennial
MUNI-116	NT	√		0.18		Annual	Western delineation well, occasional detections, statistically below MCL, retain for delineation purposes.	Annual	Biennial
MW-128B	ND	√	√	0.03	√	Biennial	Part of nested group (690-720 ft bgs), non-detect location but high concentrations found in shallow zone above. Recommended for removal, retain at lower frequency to monitor possible vertical spread of plume.	Annual	Annual
MW-128C	S	√	√	0.03	√	Biennial	Part of nested group (860-890 ft bgs), non-detect location but high concentrations found in shallow zone above. Recommended for removal, retain at lower frequency to monitor possible vertical spread of plume.	Annual	Annual
MW-129B	I			0.23		Annual	Delineates plume to the west, upgradient of plume-front, increasing trend overall, but decreasing recent trend, part of nested group (730-760 ft bgs). Retain to monitor intermediate zone, center of plume.	Annual	Annual
MW-130B	D			0.68		Annual	Eastern area, upgradient of plume-front. Decreasing trend, part of nested group (550-580 ft bgs).	Annual	Biennial

See notes end of table.

TABLE 9
LINES OF EVIDENCE SUMMARY RESULTS: 1999-2007

MUSCOY OU INTERMEDIATE ZONE
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Name	Mann-Kendall Trend PCE 1999-2007	Below MCL?[2]	Below MCL with High Power[3]	Average Slope Factor PCE	MAROS Recommends for Removal	MAROS Preliminary Sample Frequency	Qualitative Evaluation	Final Recommendation	Future Consideration
MW-130C	ND*	√	√	0.68		Biennial	Eastern area, upgradient of plume-front. One detection, statistically clean, part of nested group (890-920 ft bgs).	Annual	Biennial
MW-131B	PD	NC	NC	0.07	√	Annual	Upgradient location in Source OU, delineates western edge, not sampled since 2004 and recommended for removal. Sample periodically to monitor edge of plume in Source OU.	Biennial	Biennial
MW-131C	D	NC	NC	0.07	√	Annual	Upgradient location in Source OU, delineates western edge, not sampled since 2004 and recommended for removal. Sample periodically to monitor edge of plume in Source OU.	Biennial	Biennial
MW-132B	D	√		0.23		Biennial	Upgradient location in Source OU, decreasing trend, statistically below MCL.	Biennial	Biennial
MW-133B	S	√		0.29		Biennial	Location at southern edge of Source OU, shallow nested well has high concentrations, intermediate depth shows intermittent detections, stable trend, statistically below MCL. Monitoring consistent with MW-133A to delineate vertically.	Annual	Annual
MW-136A	NT	√		0.03	√	Biennial	Delineates southern part of Muscoy OU, two detections, statistically below MCL, recommended for removal but retained to delineate plume and monitor efficacy of remedy.	Semi-annual	Semi-annual
MW-136B	NT	√		0.02		Biennial	Delineates southern part of Muscoy OU, only two PCE detections, statistically below MCL, retained to delineate plume and monitor efficacy of remedy.	Semi-annual	Semi-annual
MW-137B	ND*	√	√	0.48		Biennial	Farthest downgradient well, statistically clean, delineates southern extent of plume, only one PCE detection. Retain to as delineation well and to monitor effectiveness of capture zone.	Semi-annual	Semi-annual
MW-138B	ND	√	√	0.36		Biennial	Southern delineation well, retain to confirm plume containment.	Semi-annual	Semi-annual
MW-139B	ND	√	√	0.45		Biennial	Southern delineation well, retain to confirm plume containment.	Semi-annual	Semi-annual
MW-140B	S			0.20		Annual	Plume centerline well, stable trend, hitoric high concentrations. Part of nested group, monitor to assess high concentration center area of plume.	Semi-annual	Annual
MW-140C	S			0.10	√	Annual	Plume centerline well, stable trend, hitoric high concentrations. Part of nested group, monitor to assess high concentration center area of plume.	Semi-annual	Annual

Notes:
1. Mann Kendall trend for PCE 1999-2007. D = Decreasing, PD = Probably Decreasing, S = Stable, NT = No Trend, PI = Probably Increasing, I = Increasing, ND = Non-detect, ND* = one detection.
2. Well concentration is statistically below MCL for PCE (5 ppb) using the Sequential T-Test hypothesis testing algorithm assuming (log-normal distribution). NC = Insufficient data.
3. Power analysis with (γ=0.8) indicates well concentration is concentration is statistically below MCL with very high confidence (assuming log-normal distribution).
4. Average Slope Factor (SF) for PCE 2000-2007. SF is a measure of the importance of a well in the network. Low SF wells are candidates for removal.
5. MAROS recommends wells for removal if the SF is below 0.25, the area ratio loss is below 80% and the concentration ratio loss is below 90%.
6. The MAROS Preliminary Sample Frequency is the sample frequency based on the rate of concentration change and the concentration trend at the well.
7. The qualitative review is based on an analysis of non-statistical factors, such as monitoring objectives and hydrogeologic factors.
8. The Final Recommendation is based on a combination between the statistical results and the qualitative review.
9. Future Recommendations are possible changes to the monitoring program if trends continue as they are now. Consider reviewing the network after 2-3 years.

TABLE 10
LINES OF EVIDENCE SUMMARY RESULTS: 1999-2007

MUSCOY OU DEEP ZONE
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Name	Mann-Kendall Trend PCE 1999-2007	Below MCL?[2]	Below MCL with High Power[3]	Average Slope Factor PCE	MAROS Recommends for Removal	MAROS Preliminary Sample Frequency	Qualitative Evaluation	Final Recommendation	Future Consideration
EW-109PZC	NT	√		0.32		Biennial	Monitors extraction well, deep zone east Muscoy OU, part of nested group, no trend with intermittent ND, statistically below MCL, monitor as part of remedy effectiveness determination.	Semi-annual	Annual
EW-110PZE	NT	√	√	0.29		Biennial	Monitors extraction well, deep zone Muscoy OU, part of nested group, no trend with intermittent ND, statistically clean, monitor as part of remedy effectiveness determination.	Semi-annual	Annual
EW-111PZD	D			0.25		Annual	Monitors extraction well, deep zone Muscoy OU, part of nested group, decreasing trend with intermittent ND, monitor as part of remedy effectiveness determination.	Semi-annual	Semi-annual
MW-129C	ND*	√		0.26	√	Biennial	Most upgradient deep zone well, single detection, statistically below MCL, recommended for removal. Retained to delineate vertical extent of affected groundwater in deep zone.	Semi-annual	Annual
MW-135B	ND*	√	√	0.00	√	Biennial	Downgradient western monitoring location near Muscoy, only one detcetion, close to non-detect, statistically clean, identified as spatially redundant. Retained as downgradient point of compliance	Semi-annual	Semi-annual
MW-135C	ND*	√		0.00	√	Biennial	Downgradient western monitoring location near Muscoy, only one detcetion, close to non-detect, statistically clean, identified as spatially redundant. Retained as downgradient point of compliance location.	Semi-annual	Semi-annual
MW-136C	ND	√	√	0.12	√	Biennial	Delineation well (ND) in southern plume-front, deep zone. Recommended for removal, retain as point of compliance.	Semi-annual	Annual
MW-137C	ND*	√	√	0.10	√	Biennial	Delineation well (ND) in southern plume-front, deep zone. Recommended for removal, retain as point of compliance.	Semi-annual	Annual
MW-138C	ND	√	√	0.05		Biennial	Delineation well (ND) in southern plume-front, deep zone. Retain as point of compliance.	Semi-annual	Annual
MW-139C	ND	√	√	0.00		Biennial	Delineation well (ND) in southern plume-front, deep zone. Retain as point of compliance.	Semi-annual	Annual

Notes:
1. Mann Kendall trend for PCE 1999-2007. D = Decreasing, PD = Probably Decreasing, S = Stable, NT = No Trend, PI = Probably Increasing, I = Increasing, ND = Non-detect, ND* = one detection.
2. Well concentration is statistically below MCL for PCE (5 ppb) using the Sequential T-Test hypothesis testing algorithm assuming (log-normal distribution). NC = Insufficient data.
3. Power analysis with (γ=0.8) indicates well concentration is concentration is statistically below MCL with very high confidence (assuming log-normal distribution).
4. Average Slope Factor (SF) for PCE 2000-2007. SF is a measure of the importance of a well in the network. Low SF wells are candidates for removal.
5. MAROS recommends wells for removal if the SF is below 0.25, the area ratio loss is below 80% and the concentration ratio loss is below 90%.
6. The MAROS Preliminary Sample Frequency is the sample frequency based on the rate of concentration change and the concentration trend at the well.
7. The qualitative review is based on an analysis of non-statistical factors, such as monitoring objectives and hydrogeologic factors.
8. The Final Recommendation is based on a combination between the statistical results and the qualitative review.
9. Future Recommendations are possible changes to the monitoring program if trends continue as they are now. Consider reviewing the network after 2-3 years.
10. Wells MW-135 B and C are included in the Newmark OU Deep Zone analysis, as well.

TABLE 11
FINAL MONITORING NETWORK RECOMMENDATIONS

LONG-TERM MONITORING OPTIMIZATION
Newmark Site, San Bernardino, California

Wells Recommended for Biennial Monitoring							
Source OU	All Depths	CJ-1	CJ-13	CJ-14	CJ-1A	MWCOE001A	
		MWCOE002	MWCOE005	MWCOE007	MWCOE008	MWCOE009	
Newmark OU	Shallow Zone	MW02A	MW03A	MW04A	MW05A	MW06A	MW17A
	Intermediate Zone	MW06B	MW03B	MW02B			
	Deep Zone	(None)					
Muscoy OU	Shallow Zone	MW-134	MW-129A	MUNI-109	MUNI-104A		
	Intermediate Zone	MW-131B	MW-131C	MW-132B			
	Deep Zone	(None)					
Wells Recommended for Annual Monitoring							
Source OU	All Depths	CJ-11	CJ-12	CJ-2	CJ-7		
		CJ-8	MWCOE003	MWCOE006			
Newmark OU	Shallow Zone	MW16A	MW08A	MUNI-13	MUNI-11A	MUNI-09B	MUNI-07B
		MUNI-01	EW-6PA				
	Intermediate Zone	MW17B	MW11A	MW10B	MW10A	MW08B	MW07B
		MW05B	MW04B	MUNI-24	MUNI-22	MUNI-18	MUNI-07C
		EW-7PA					
	Deep Zone	MW-11B	MW-11C				
Muscoy OU	Shallow Zone	MW-133A	MW-131A	MW-130A	MW-127B	MW-127A	MUNI-103
		MUNI-102					
	Intermediate Zone	MW-133B	MW-130C	MW-130B	MW-129B	MW-128C	MW-128B
		MUNI-116	MUNI-108	MUNI-101			
	Deep Zone	(None)					
Wells Recommended for Semi-annual Monitoring							
Source OU	All Depths	CJ-10	CJ-15	CJ-16	CJ-17	CJ-3	CJ-6
		MWCOE001B	MWCOE004				
Newmark OU	Shallow Zone	MW14A	MW12A	MW09A	MW07A	MUNI-16	EW-7
		EW-6	EW-5PA	EW-4PA	EW-3PA	EW-2PA	EW-108PA
	Intermediate Zone	MW16B	MW15A	MW14B	MW13B	MW13A	MW12B
		MW09B	MUNI-14	MUNI-09C	EW-1PA		
	Deep Zone	EW-5PB	EW-108	EW-108PB	EW-1PB	EW-2	EW-2PB
		EW-3	EW-3PB	EW-4	EW-1	EW-5	MW15C
		MUNI-11C	MW10C	MW12C	MW-135B	MW-135C	MW13C
		MW14C	MW15B	EW-4PB			
Muscoy OU	Shallow Zone	MW-132A	MW-128A	MW-139A	MW-138A	MW-137A	MW-135A
		EW-112PA	EW-111PZA	EW-110PZB	EW-110PZA	EW-109PZA	EW-108PA
	Intermediate Zone	MUNI-104B	EW-109PZB	EW-110	EW-110PZC	EW-110PZD	EW-111
		EW-111PZB	EW-111PZC	EW-109	EW-112PB	MW-140C	MW-136A
		MW-136B	MW-137B	MW-138B	MW-139B	MW-140B	EW-108
		EW-108PB	EW-112				
	Deep Zone	MW-129C	MW-135C	MW-135B	MW-139C	MW-138C	MW-137C
		MW-136C	EW-111PZD	EW-110PZE	EW-109PZC		

Notes: Lines of evidence supporting monitoring recommendations for each well are shown on Tables 3 - 6 and Tables 8-10.

GROUNDWATER MONITORING NETWORK OPTIMIZATION
NEWMARK, MUSCOY AND SOURCE OU
NEWMARK SUPERFUND SITE

San Bernardino, California

FIGURES

Figure 1 Newmark Superfund Site, Operable Units and Monitoring Locations

Figure 2 Source OU PCE Average Concentrations, First Moments and Mann Kendall Trends 1999-2007

Figure 3 Source OU Well Sufficiency Results PCE

Figure 4 Newmark OU Shallow Zone PCE Average Concentrations, First Moments and Mann Kendall Trends 1999-2007

Figure 5 Newmark OU Shallow Zone Well Sufficiency Results PCE

Figure 6 Newmark OU Intermediate Zone PCE Average Concentrations, First Moments and Mann Kendall Trends 1999-2007

Figure 7 Newmark OU Intermediate Zone Well Sufficiency Results PCE

Figure 8 Newmark OU Deep Zone PCE Average Concentrations, First Moments and Mann Kendall Trends 1999-2007

Figure 9 Newmark OU Deep Zone Well Sufficiency Results PCE

Figure 10 Muscoy OU Shallow Zone PCE Average Concentrations, First Moments and Mann Kendall Trends 1999-2007

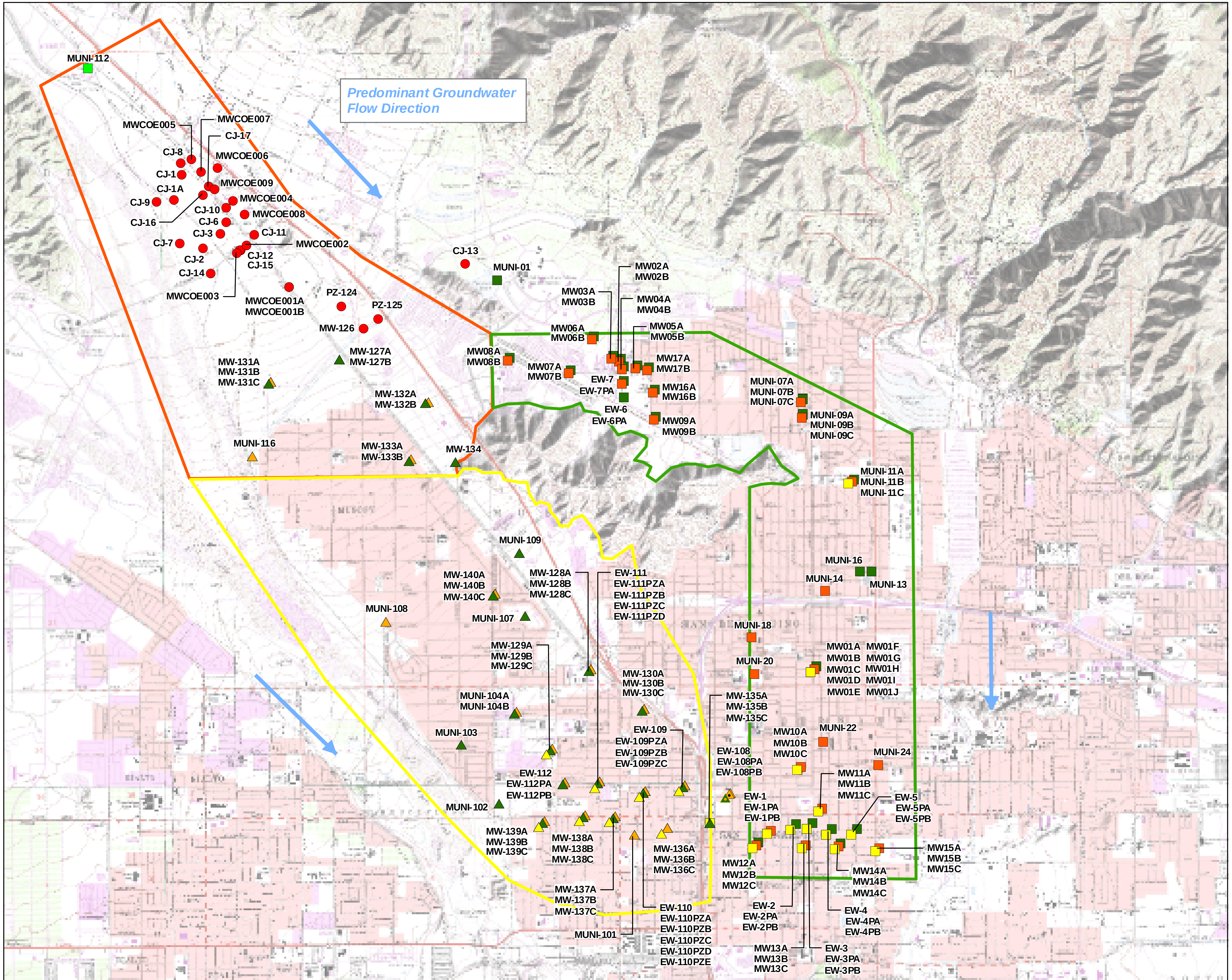
Figure 11 Muscoy OU Shallow Zone Well Sufficiency Results PCE

Figure 12 Muscoy OU Intermediate Zone PCE Average Concentrations, First Moments and Mann Kendall Trends 1999-2007

Figure 13 Muscoy OU Intermediate Zone Well Sufficiency Results PCE

Figure 14 Muscoy OU Deep Zone PCE Average Concentrations, First Moments and Mann Kendall Trends 1999-2007

Figure 15 Muscoy OU Deep Zone Well Sufficiency Results PCE



N

LEGEND

Operational Units (OU)

- Muscoy OU
- Newmark OU
- Source OU

Monitoring Locations

- Source OU
- Background Well
- Muscoy OU Deep Zone
- Muscoy OU Intermediate Zone
- Muscoy OU Intermediate/Newmark OU Deep
- Muscoy OU Shallow Zone
- Muscoy OU Shallow/Newmark OU Shallow
- Newmark OU Deep Zone
- Newmark OU Deep/Muscoy OU Deep
- Newmark OU Intermediate Zone
- Newmark OU Shallow Zone

Notes:
1. Well locations from URS database, 2006. Map in NAD 83 State Plane California V, ft.
2. Well depths from URS database, 2006.
3. Well depth zones were assigned for the purpose of the MAROS analysis based on screened depth and hydrostratigraphic designation. Well depths do not represent true physical separation within the aquifer.

SCALE (ft)
0 2,000 4,000

NEWMARK SUPERFUND SITE OPERABLE UNITS AND MONITORING LOCATIONS

San Bernadino, California

Coord. Sys.	NAD 83 SP Cal. V	Issued:	21-AUG-07
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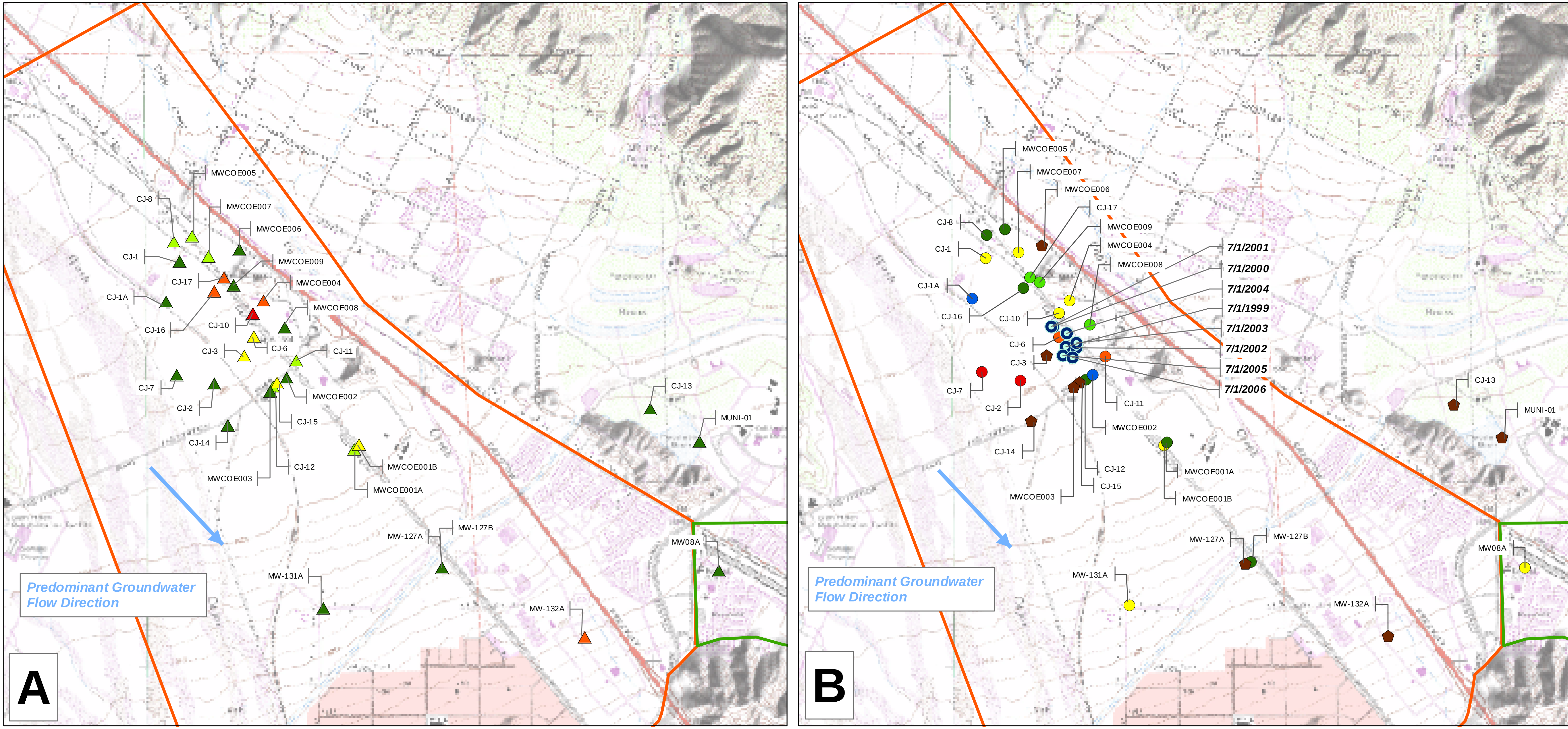
Chk'd By:	MV	Map ID:	----
Appv'd By:	MV		FIGURE 1



Legend

Average PCE Concentration [mg/L]

- ND - 0.001
- 0.001 - 0.005
- 0.005 - 0.01
- 0.01 - 0.02
- 0.02 - 0.0357

EPA MCL for PCE = 0.005 mg/L

Mann Kendall Trend PCE

- Decreasing
- Probably Decreasing
- Stable
- Probably Increasing
- Increasing
- Non Detect (1999-2006)
- No Trend
- Insufficient Data

PCE First Moments

- First Moments PCE (Effective Date of Moment Indicated)

Notes:
1. Average PCE concentrations calculated using lowest detection limit substituted for ND values. Data 1999-2007.
2. First Moments are the center of mass for PCE using annually consolidated data.
3. Mann Kendall trends were determined for PCE 1999-2007.
4. Some wells in the shallow Muscoy and Newmark OUs are shown, as well.

N

Scale (ft)
0 1,200 2,400

SOURCE OU
PCE AVERAGE CONCENTRATIONS, FIRST MOMENTS AND MANN-KENDALL TRENDS
1999-2007
San Bernadino, California

Coord. Sys.	NAD 83 SP Cal. V	Issued:	21-AUG-07
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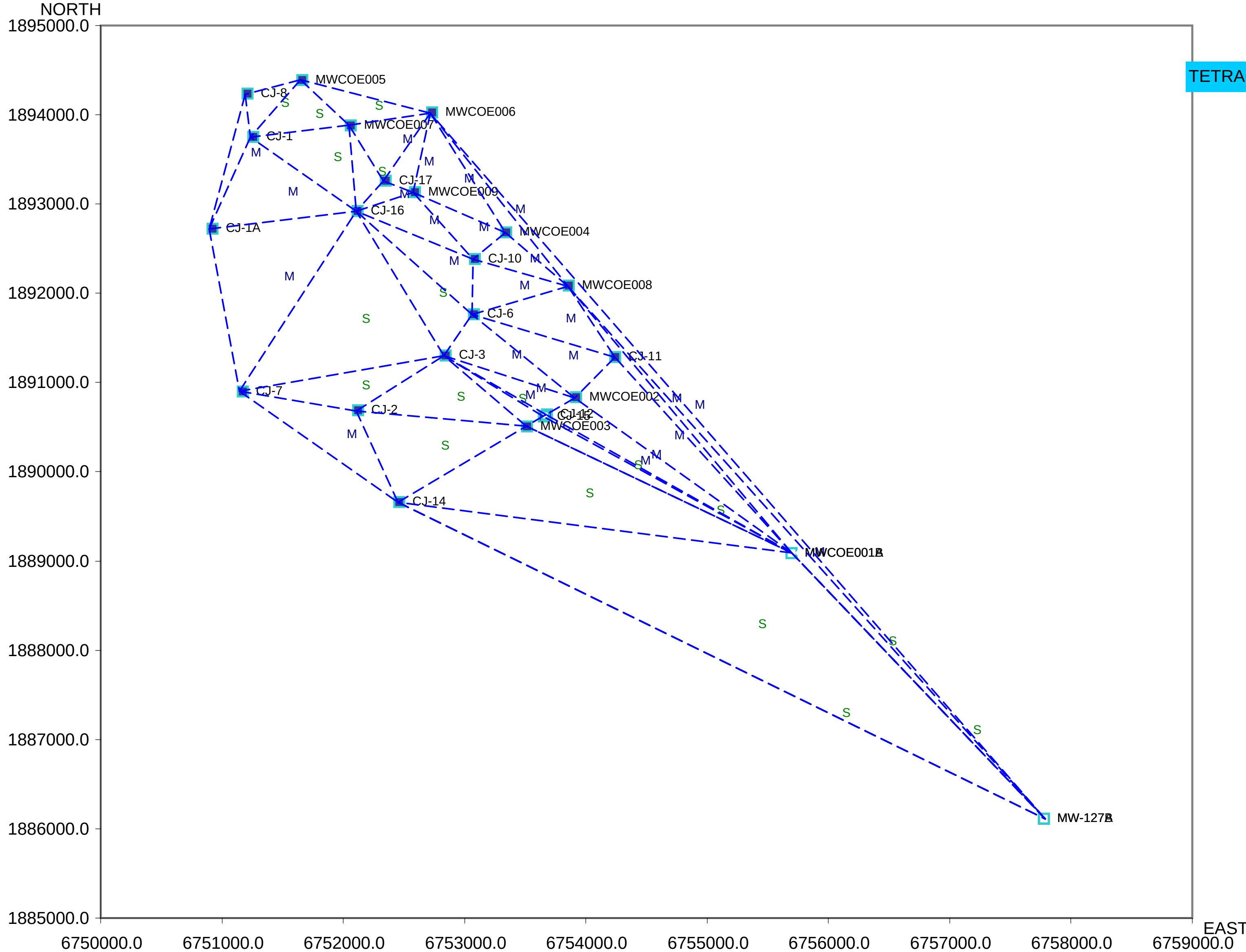
Issued: 28-AUG-07

Figure 3
Source OU
Well Sufficiency Results PCE



New Location Analysis for

TETRACHLOROETHYLENE(PCE)

Existing Locations

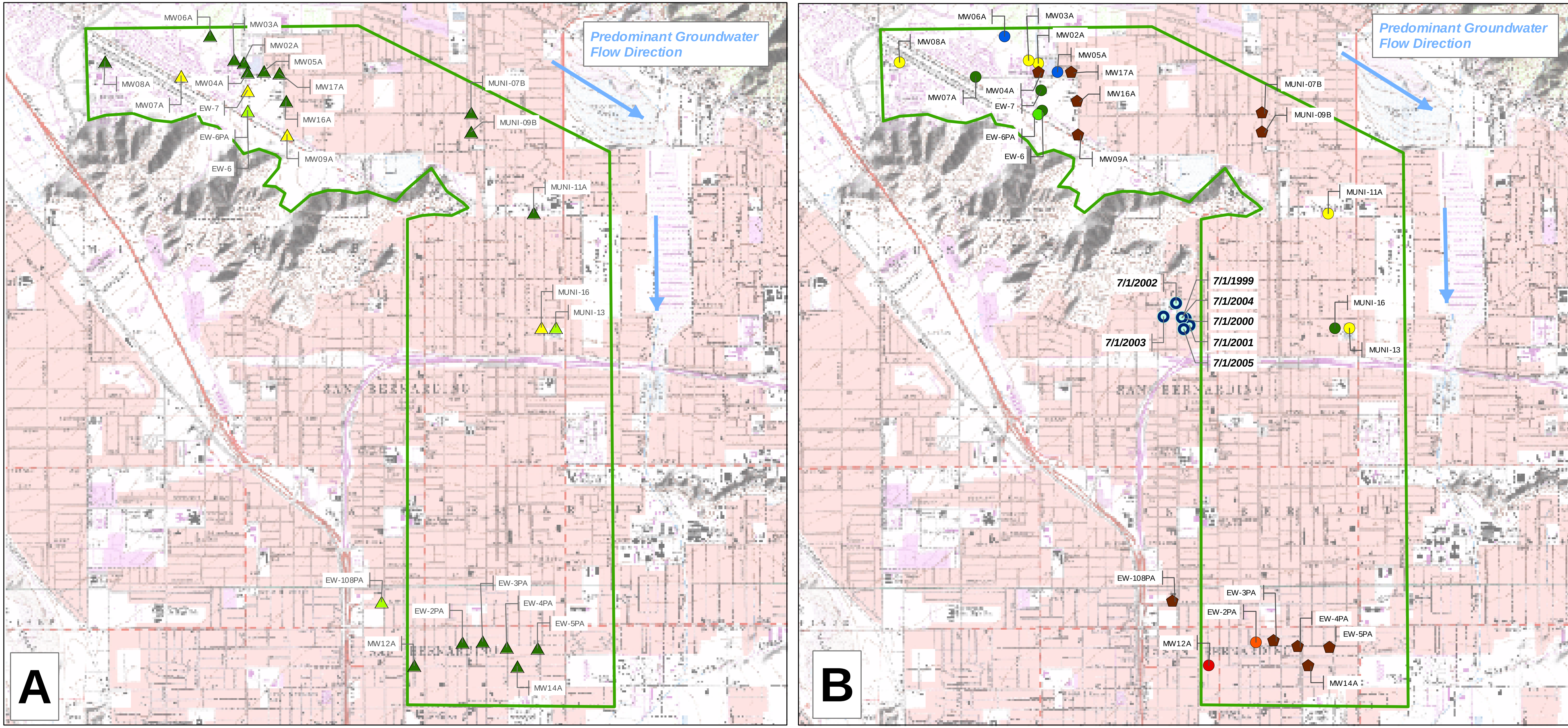
Potential areas for new locations are indicated by triangles with a high SF level.

Estimated SF Level:
S - Small
M - Moderate
L - Large
E - Extremely large

High SF -> high estimation error -> possible need for new locations

Low SF -> low estimation error -> no need for new locations

Back to Access



Legend

Average PCE Concentration [mg/L]

- ND - 0.001
- 0.001 - 0.005
- 0.005 - 0.01
- 0.01 - 0.02
- 0.02 - 0.0357

EPA MCL for PCE = 0.005 mg/L

Mann Kendall Trend PCE

- Decreasing
- Probably Decreasing
- Stable
- Probably Increasing
- Increasing
- Non Detect (1999-2006)
- No Trend
- Insufficient Data

PCE First Moments

- First Moments PCE (Effective Date of Moment Indicated)

Notes:
1. Average PCE concentrations calculated using lowest detection limit substituted for ND values. Data 1999-2007.
2. First Moments are the center of mass for PCE using annually consolidated data.
3. Mann Kendall trends were determined for PCE 1999-2007.

N

Scale (ft)
0 1,600 3,200

NEWMARK OU SHALLOW ZONE
PCE AVERAGE CONCENTRATIONS, FIRST MOMENTS AND MANN-KENDALL TRENDS
1999-2007
San Bernadino, California

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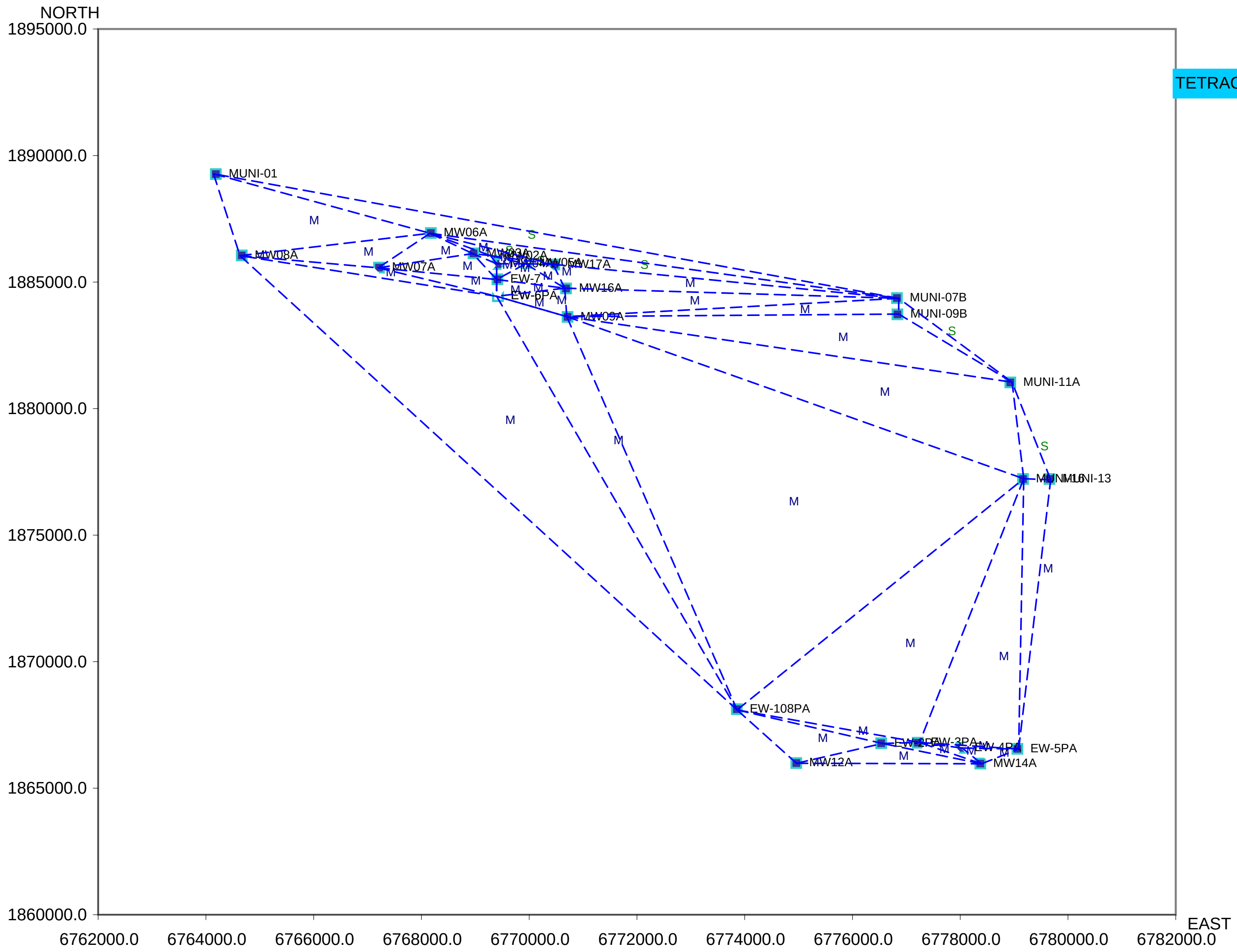
Issued: 21-AUG-07

Figure 5
Newmark OU Shallow Zone
Well Sufficiency Results PCE



New Location Analysis for

TETRACHLOROETHYLENE(PCE)

Existing Locations

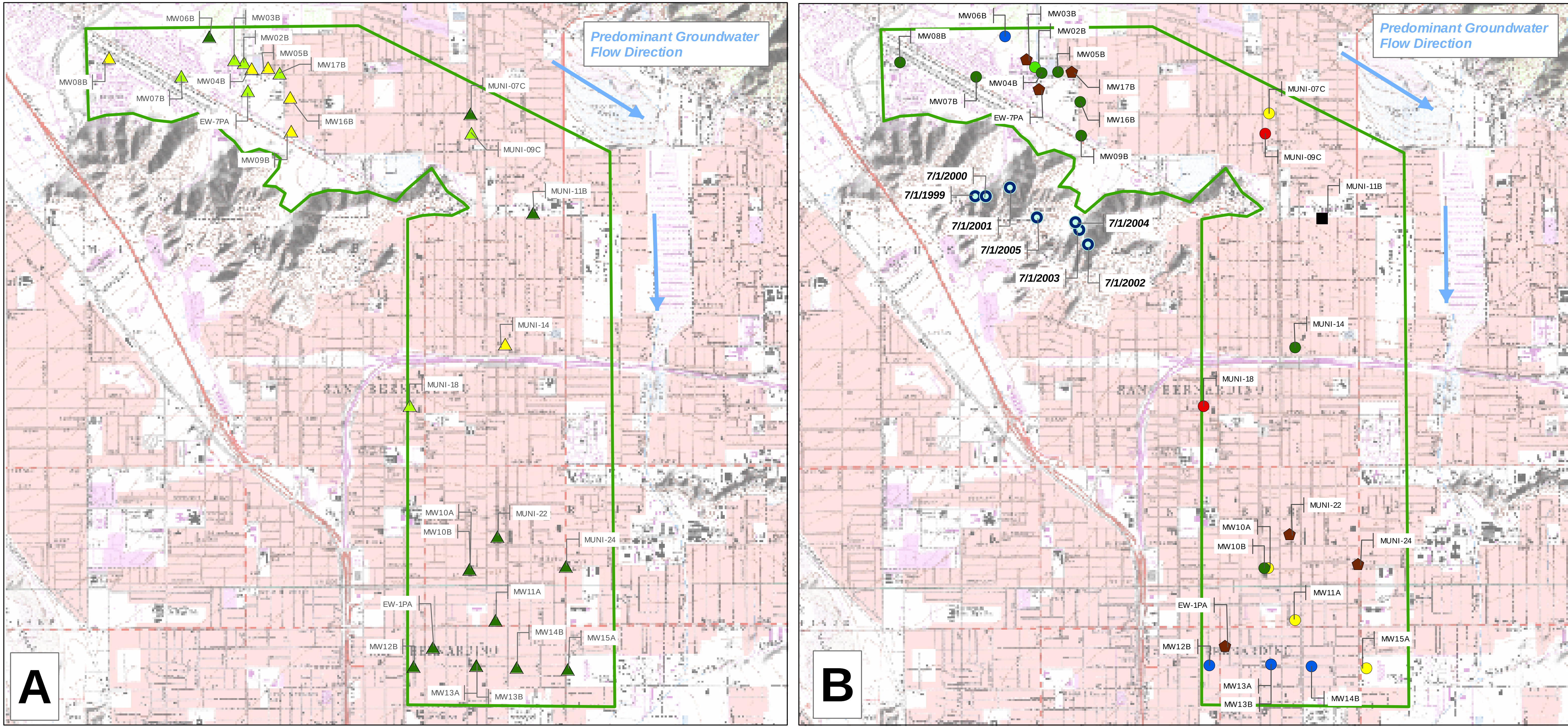
Potential areas for new locations are indicated by triangles with a high SF level.

Estimated SF Level:
S - Small
M - Moderate
L - Large
E - Extremely large

High SF -> high estimation error -> possible need for new locations

Low SF -> low estimation error -> no need for new locations

Back to Access



Legend

Average PCE Concentration [mg/L]

- ND - 0.001
- 0.001 - 0.005
- 0.005 - 0.01
- 0.01 - 0.02
- 0.02 - 0.0357

EPA MCL for PCE = 0.005 mg/L

Mann Kendall Trend PCE

- Decreasing
- Probably Decreasing
- Stable
- Probably Increasing
- Increasing
- Non Detect (1999-2006)
- No Trend
- Insufficient Data

PCE First Moments

- First Moments (Effective Date of Moment Indicated)

Notes:
1. Average PCE concentrations calculated using lowest detection limit substituted for ND values. Data 1999-2007.
2. First Moments are the center of mass for PCE using annually consolidated data.
3. Mann Kendall trends were determined for PCE 1999-2007.

N

Scale (ft)
0 1,600 3,200

NEWMARK OU INTERMEDIATE ZONE
PCE AVERAGE CONCENTRATIONS, FIRST MOMENTS MANN-KENDALL TRENDS 1999-2007
San Bernadino, California

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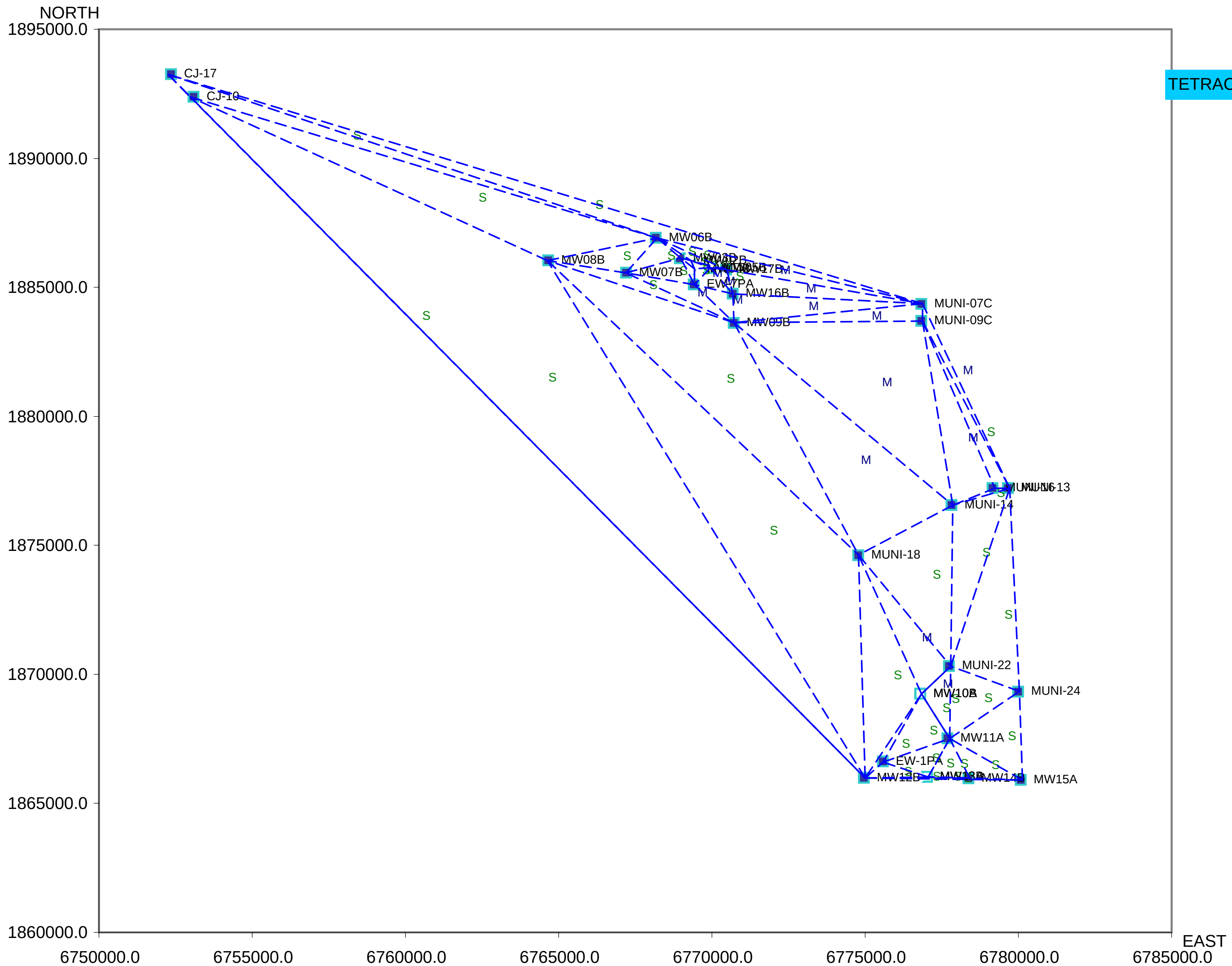
Figure 7
Newmark OU Intermediate Zone
Well Sufficiency Results PCE



New Location Analysis for

TETRACHLOROETHYLENE(PCE)

Existing Locations

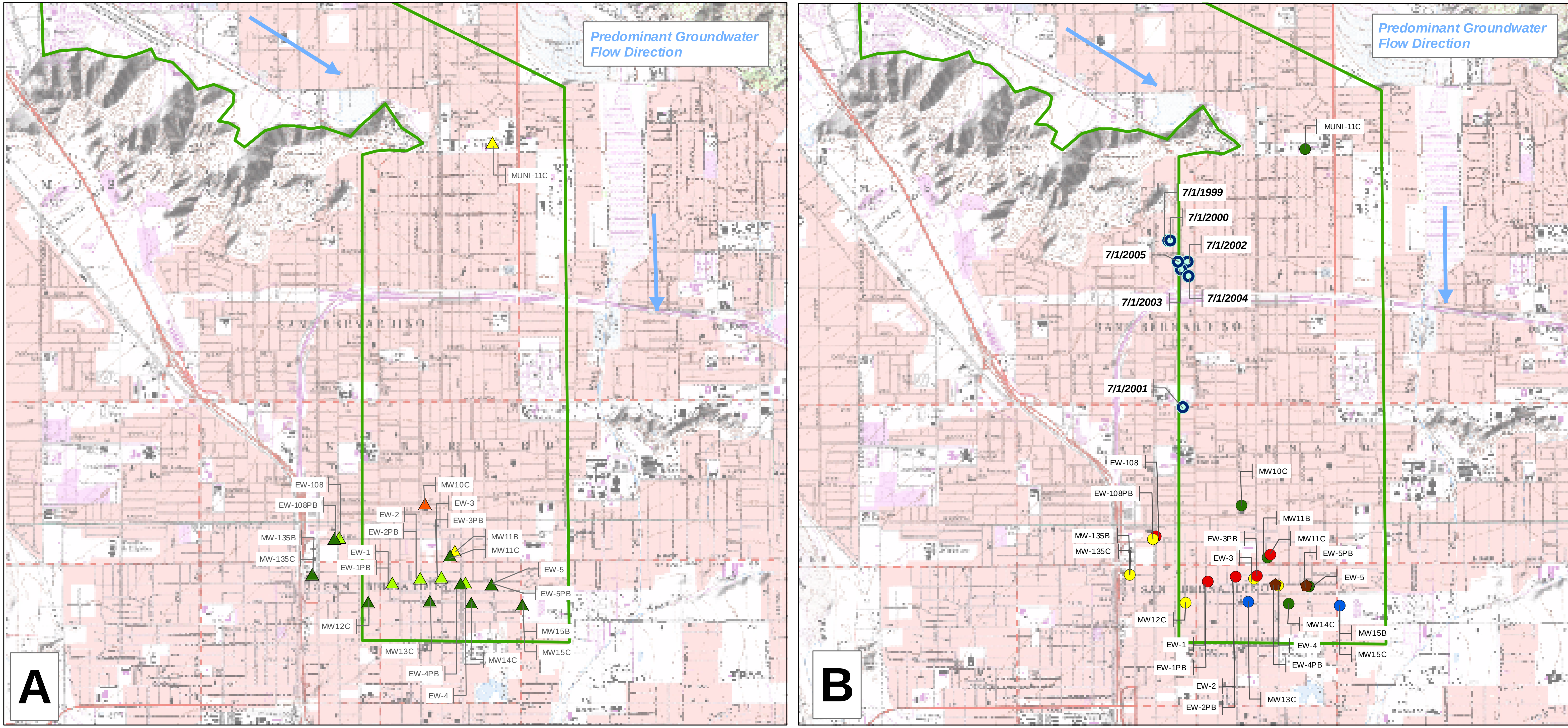
Potential areas for new locations are indicated by triangles with a high SF level.

Estimated SF Level:
S - Small
M - Moderate
L - Large
E - Extremely large

High SF -> high estimation error -> possible need for new locations

Low SF -> low estimation error -> no need for new locations

Back to Access



Legend

Average PCE Concentration [mg/L]

- ND - 0.001
- 0.001 - 0.005
- 0.005 - 0.01
- 0.01 - 0.02
- 0.02 - 0.0357

EPA MCL for PCE = 0.005 mg/L

Mann Kendall Trend PCE

- Decreasing
- Probably Decreasing
- Stable
- Probably Increasing
- Increasing
- Non Detect (1999-2006)
- No Trend
- Insufficient Data

PCE First Moments

- First Moments (Effective Date of Moment Indicated)

N

Notes:
1. Average PCE concentrations calculated using lowest detection limit substituted for ND values. Data 1999-2007.
2. First Moments are the center of mass for PCE using annually consolidated data.
3. Mann Kendall trends were determined for PCE 1999-2007.

Scale (ft)
0 1,600 3,200

NEWMARK OU DEEP ZONE
PCE AVERAGE CONCENTRATIONS, FIRST MOMENTS AND MANN-KENDALL TRENDS
1999-2007
San Bernadino, California

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Chk'd By:	MV	Map ID:	----
Appv'd By:	MV		**FIGURE 8**

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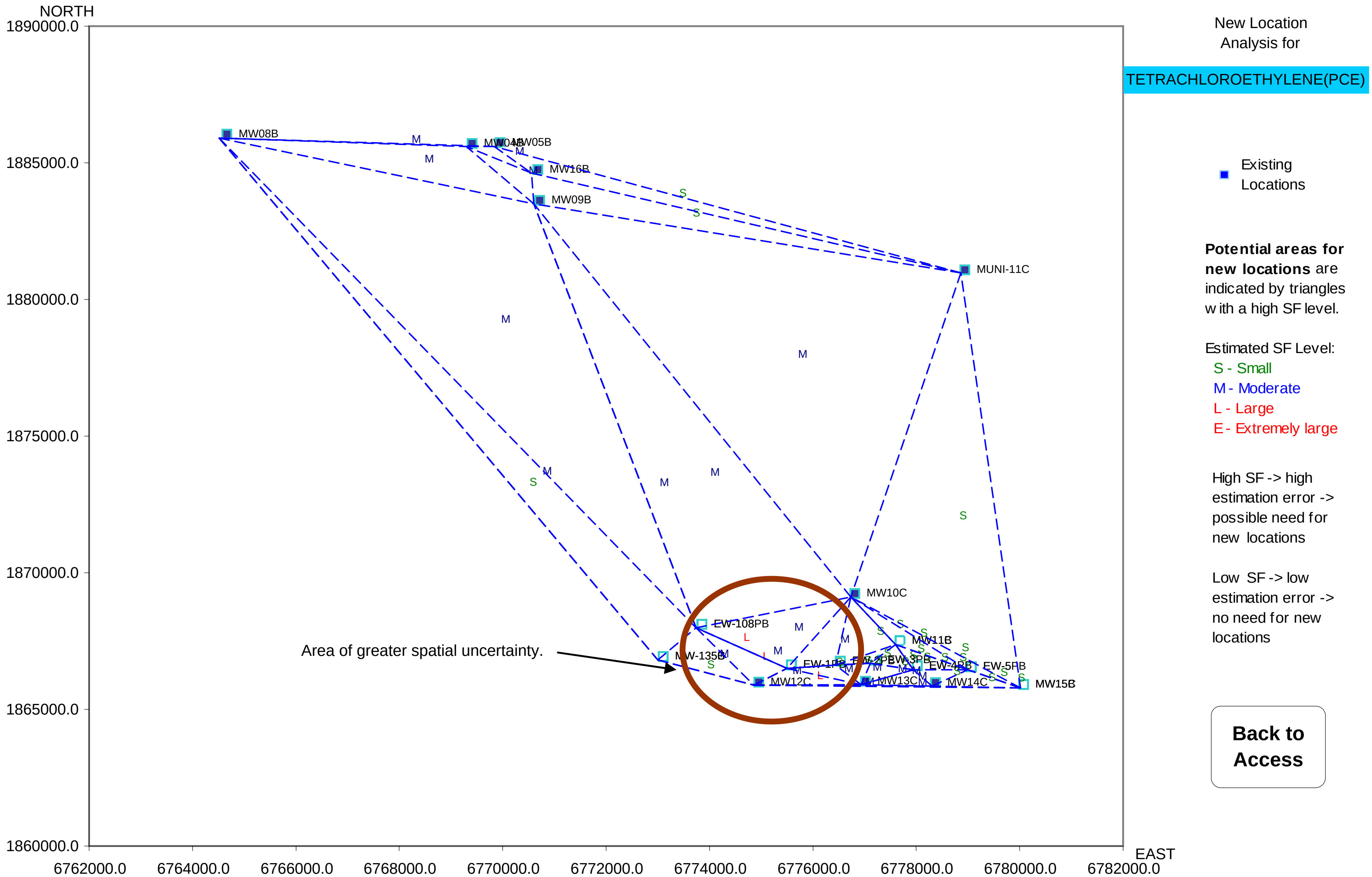
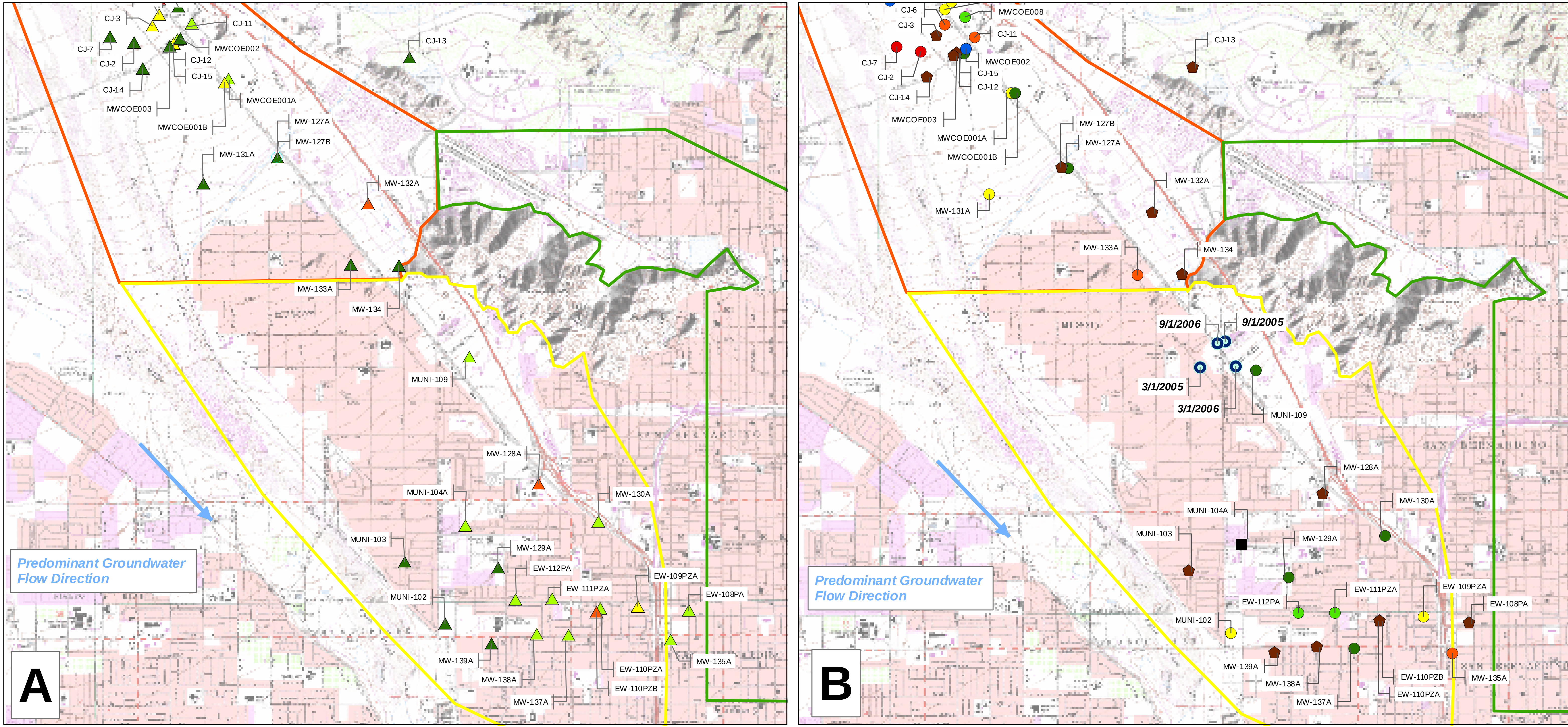
Figure 9
Newmark OU Deep Zone
Well Sufficiency Results PCE





Legend

Average PCE Concentration [mg/L]

- ND - 0.001
- 0.001 - 0.005
- 0.005 - 0.01
- 0.01 - 0.02
- 0.02 - 0.0357

EPA MCL for PCE = 0.005 mg/L

Mann Kendall PCE

- Decreasing
- Probably Decreasing
- Stable
- Probably Increasing
- Increasing
- Non Detect (1999-2006)
- No Trend
- Insufficient Data

PCE First Moments

- First Moments (Effective Date of Moment Indicated)

Notes:
1. Average PCE concentrations calculated using lowest detection limit substituted for ND values. Data 1999-2007.
2. First Moments are the center of mass for PCE using annually consolidated data.
3. Mann Kendall trends were determined for PCE 1999-2007.

N

Scale (ft)
0 1,800 3,600

MUSCOY OU SHALLOW ZONE
PCE AVERAGE CONCENTRATIONS, FIRST MOMENTS AND MANN-KENDALL TRENDS
1999-2007
San Bernadino, California

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Appv'd By:			**FIGURE 10**

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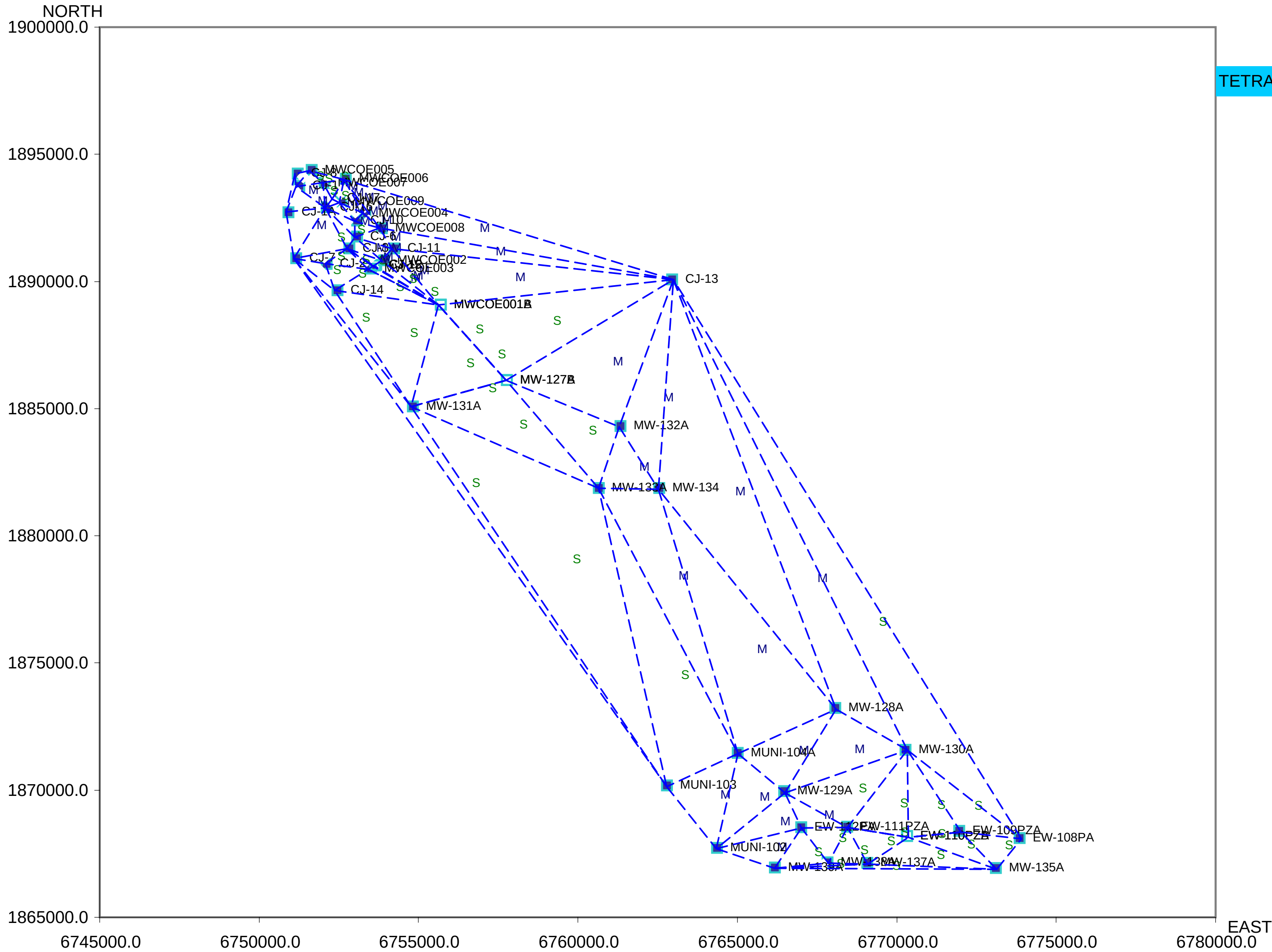
Figure 11
Muscoy Shallow Zone
Well Sufficiency Results PCE



New Location Analysis for

TETRACHLOROETHYLENE(PCE)

Existing Locations

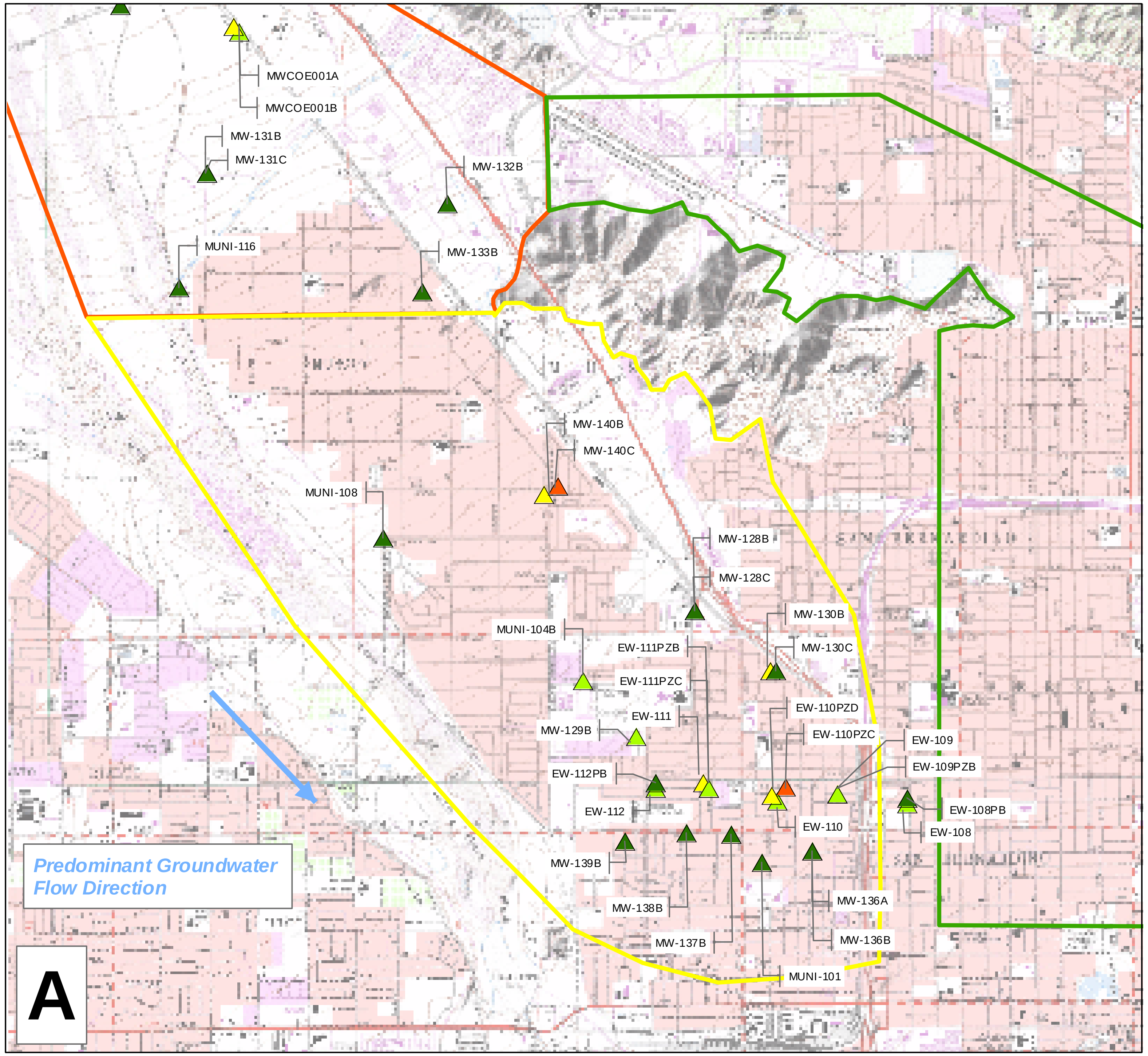
Potential areas for new locations are indicated by triangles with a high SF level.

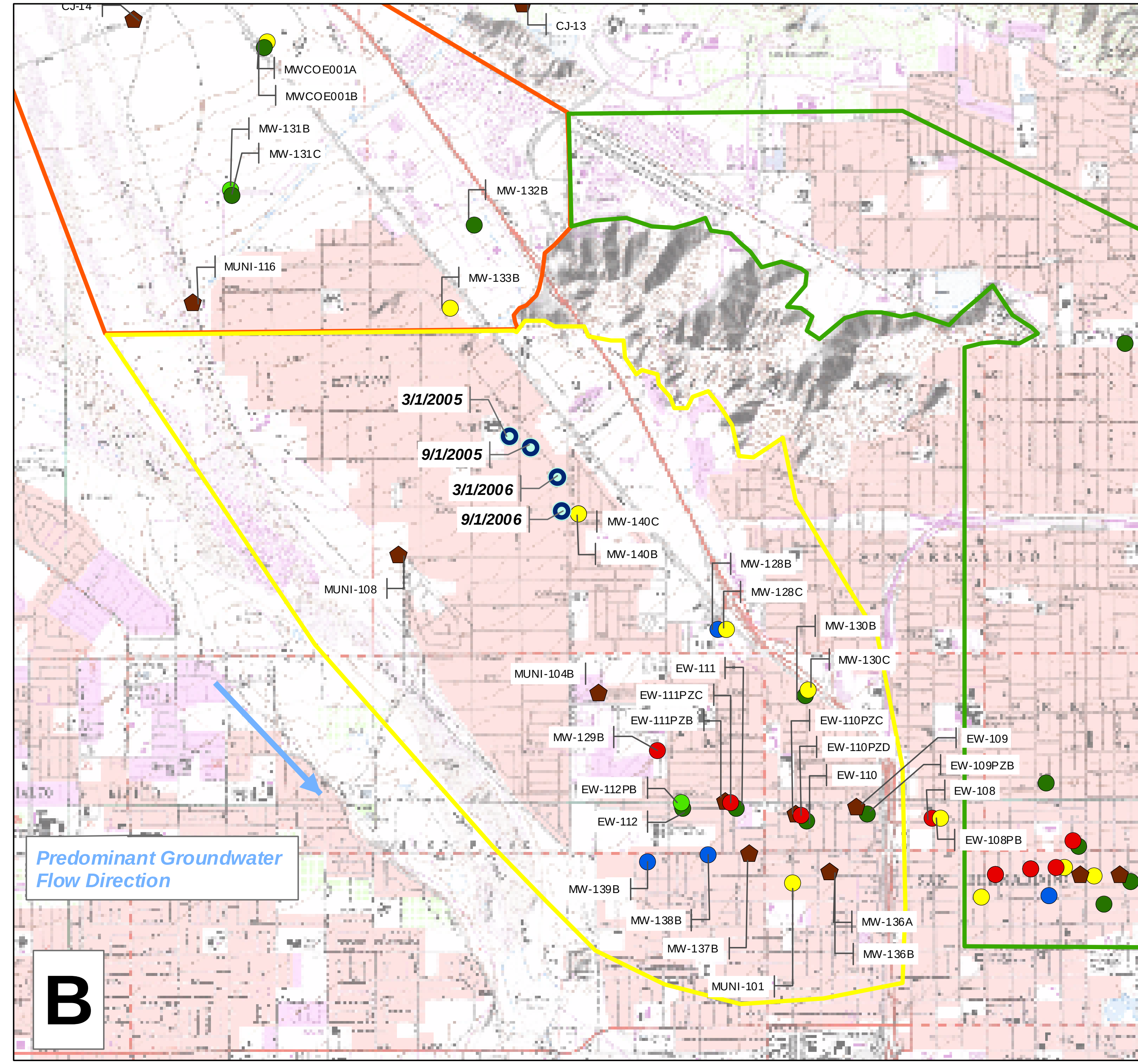
Estimated SF Level:
S - Small
M - Moderate
L - Large
E - Extremely large

High SF -> high estimation error -> possible need for new locations

Low SF -> low estimation error -> no need for new locations

Back to Access





Legend

Average PCE Concentration [mg/L]

- ND - 0.001
- 0.001 - 0.005
- 0.005 - 0.01
- 0.01 - 0.02
- 0.02 - 0.0357

EPA MCL for PCE = 0.005 mg/L

Mann Kendall PCE

- Decreasing
- Probably Decreasing
- Stable
- Probably Increasing
- Increasing
- Non Detect (1999-2006)
- No Trend
- Insufficient Data

PCE First Moments

- First Moments (Effective Date of Moment Indicated)

Notes:
1. Average PCE concentrations calculated using lowest detection limit substituted for ND values. Data 1999-2007.
2. First Moments are the center of mass for PCE using annually consolidated data.
3. Mann Kendall trends were determined for PCE 1999-2007. Newmark OU Deep Zone trend results are shown.

N

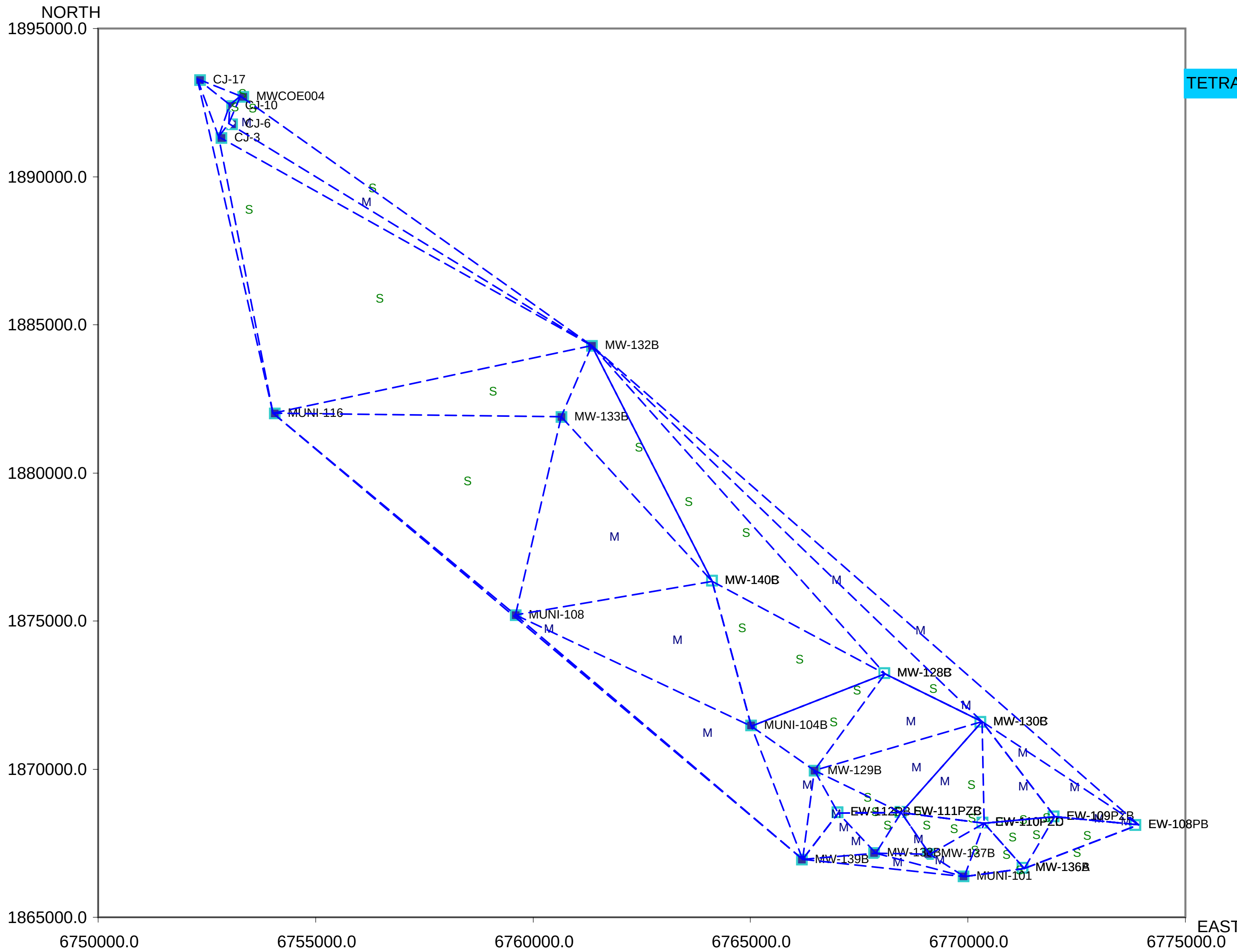
Scale (ft)
0 1,800 3,600

MUSCOY OU INTERMEDIATE ZONE
PCE AVERAGE CONCENTRATIONS, FIRST MOMENTS AND MANN-KENDALL TRENDS
1999-2007
San Bernadino, California

Coord. Sys.	NAD 83 SP Cal. V FT	Issued:	21-AUG-07
Drawn By:	CDM	Revised:	----
Chk'd By:	MV	Map ID:	----
Appv'd By:			**FIGURE 12**

Issued: 21-AUG-07

Figure 13
Muscoy OU Intermediate Zone
Well Sufficiency Results PCE



New Location Analysis for

TETRACHLOROETHYLENE(PCE)

Existing Locations

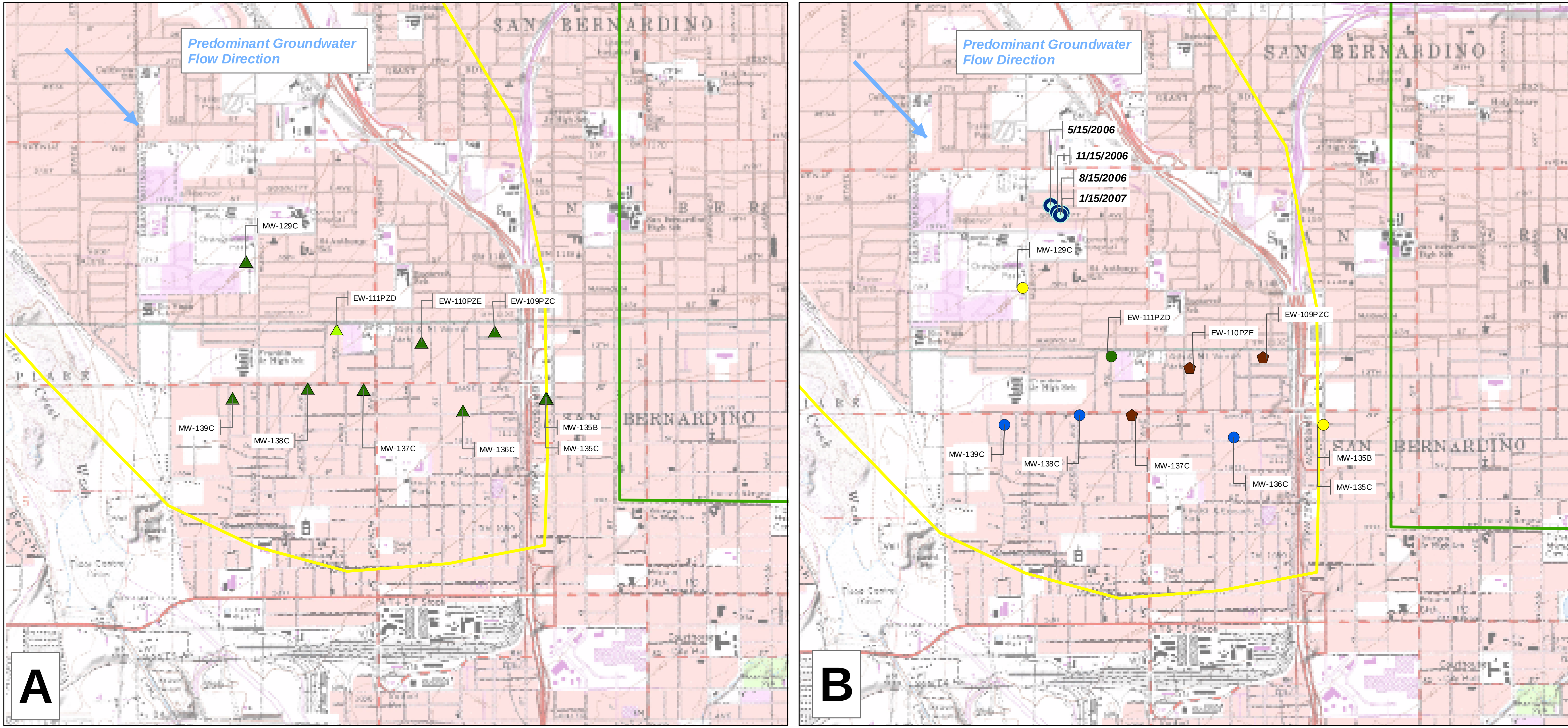
Potential areas for new locations are indicated by triangles with a high SF level.

Estimated SF Level:
S - Small
M - Moderate
L - Large
E - Extremely large

High SF -> high estimation error -> possible need for new locations

Low SF -> low estimation error -> no need for new locations

Back to Access



Legend

Average PCE Concentration [mg/L]

- ND - 0.001
- 0.001 - 0.005
- 0.005 - 0.01
- 0.01 - 0.02
- 0.02 - 0.0357

EPA MCL for PCE = 0.005 mg/L

Mann Kendall PCE

- Decreasing
- Probably Decreasing
- Stable
- Probably Increasing
- Increasing
- Non Detect (1999-2006)
- No Trend
- Insufficient Data

PCE First Moments

- First Moments (Effective Date of Moment Indicated)

Notes:
1. Average PCE concentrations calculated using lowest detection limit substituted for ND values. Data 1999-2007.
2. First Moments are the center of mass for PCE using annually consolidated data.
3. Mann Kendall trends were determined for PCE 1999-2007.

N

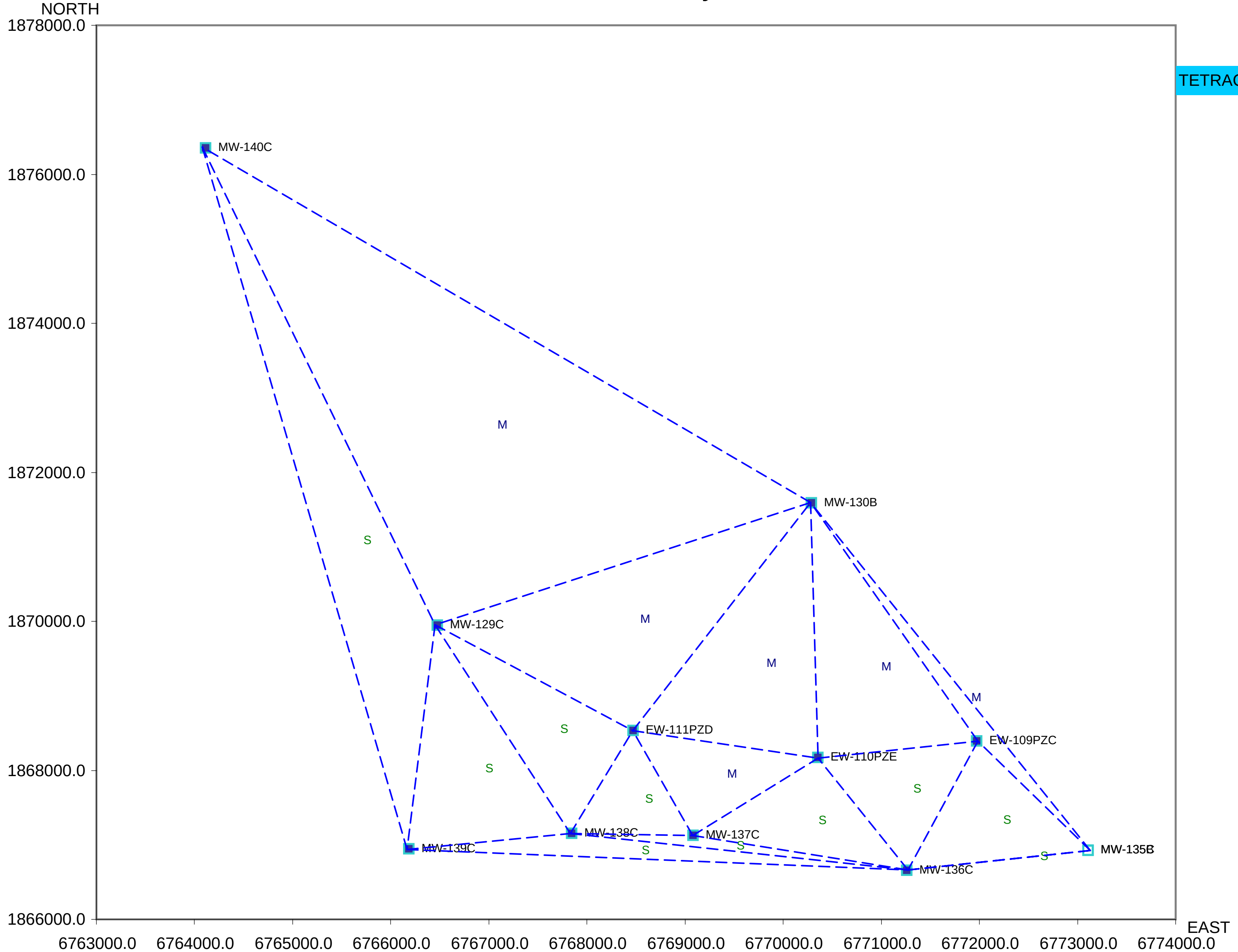
Scale (ft)
0 900 1,800

MUSCOY OU DEEP ZONE
PCE AVERAGE CONCENTRATIONS, FIRST MOMENTS AND MANN-KENDALL TRENDS 1999-2007
San Bernadino, California

Coord. Sys.	NAD 83 SP Cal. V FT	Issued:	21-AUG-07
Drawn By:	CDM	Revised:	----
Chk'd By:	MV	Map ID:	----
Appv'd By:	MV		FIGURE 14

Issued: 21-AUG-2007

Figure 15
Muscoy OU Deep Zone
Well Sufficiency Results PCE



New Location Analysis for

TETRACHLOROETHYLENE(PCE)

Existing Locations

Potential areas for new locations are indicated by triangles with a high SF level.

Estimated SF Level:
S - Small
M - Moderate
L - Large
E - Extremely large

High SF -> high estimation error -> possible need for new locations

Low SF -> low estimation error -> no need for new locations

Back to Access

GROUNDWATER MONITORING NETWORK OPTIMIZATION
NEWMARK, MUSCOY AND SOURCE OU
NEWMARK SUPERFUND SITE

San Bernardino, California

APPENDIX A:

MAROS 2.2 Methodology

APPENDIX A
MAROS 2.2 METHODOLOGY

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2.0 Data Management 2

3.0 Site Details 2

4.0 Constituent Selection 3

5.0 Data Consolidation 3

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Table 2 Linear Regression Analysis Decision Matrix

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Figure 2 MAROS Overview Statistics Trend Analysis Methodology
Figure 3 Decision Matrix for Determining Provisional Frequency

MAROS METHODOLOGY

MAROS is a collection of tools in one software package that is used in an explanatory, non-linear but linked fashion. The tool includes models, statistics, heuristic rules, and empirical relationships to assist the user in optimizing a groundwater monitoring network system. The final optimized network maintains adequate delineation while providing information on plume dynamics over time. Results generated from the software tool can be used to develop lines of evidence, which, in combination with expert opinion, can be used to inform regulatory decisions for safe and economical long-term monitoring of groundwater plumes. For a detailed description of the structure of the software and further utilities, refer to the MAROS 2.2 Manual (AFCEE, 2003; http://www.gsi-net.com/software/MAROS_V2_1Manual.pdf) and Aziz et al., 2003.

1.0 MAROS Conceptual Model

In MAROS 2.2, two levels of analysis are used for optimizing long-term monitoring plans: 1) an overview statistical evaluation with interpretive trend analysis based on temporal trend analysis and plume stability information; and 2) a more detailed statistical optimization based on spatial and temporal redundancy reduction methods (see Figures A.1 and A.2 for further details). In general, the MAROS method applies to 2-D aquifers that have relatively simple site hydrogeology. However, for a multi-aquifer (3-D) system, the user has the option to apply the statistical analysis layer-by-layer.

The overview statistics or interpretive trend analysis assesses the general monitoring system category by considering individual well concentration trends, overall plume stability, hydrogeologic factors (e.g., seepage velocity, and current plume length), and the location of potential receptors (e.g., property boundaries or drinking water wells). The method relies on temporal trend analysis to assess plume stability, which is then used to determine the general monitoring system category. Since the monitoring system category is evaluated for both source and tail regions of the plume, the site wells are divided into two different zones: the source zone and the tail zone.

Source zone monitoring wells could include areas with non-aqueous phase liquids (NAPLs), contaminated vadose zone soils, and areas where aqueous-phase releases have been introduced into ground water. The source zone generally contains locations with historical high ground water concentrations of the COCs. The tail zone is usually the area downgradient of the contaminant source zone. Although this classification is a simplification of the plume conceptual model, this broadness makes the user aware on an individual well basis that the concentration trend results can have a different interpretation depending on the well location in and around the plume. The location and type of the individual wells allows further interpretation of the trend results, depending on what type of well is being analyzed (e.g., remediation well, leading plume edge well, or monitoring well). General recommendations for the monitoring network frequency and density are suggested based on heuristic rules applied to the source and tail trend results.

The detailed statistics level of analysis or sampling optimization consists of well redundancy and well sufficiency analyses using the Delaunay method, a sampling frequency analysis using the Modified Cost Effective Sampling (MCES) method and a data sufficiency analysis including statistical power analysis. The well redundancy analysis is designed to minimize monitoring locations and the Modified CES method is designed to minimize the frequency of sampling. The data sufficiency analysis uses simple statistical methods to assess the sampling record to determine if groundwater concentrations are statistically below target levels and if the current monitoring network and record is sufficient in terms of evaluating concentrations at downgradient locations.

2.0 Data Management

In MAROS, ground water monitoring data can be imported from simple database-format Microsoft® Excel spreadsheets, Microsoft Access tables, previously created MAROS database archive files, or entered manually. Monitoring data interpretation in MAROS is based on historical analytical data from a consistent set of wells over a series of sampling events. The analytical data is composed of the well name, coordinate location, constituent, result, detection limit and associated data qualifiers. Statistical validity of the concentration trend analysis requires constraints on the minimum data input of at least four wells (ASTM 1998) in which COCs have been detected. Individual sampling locations need to include data from at least six most-recent sampling events. To ensure a meaningful comparison of COC concentrations over time and space, both data quality and data quantity need to be considered. Prior to statistical analysis, the user can consolidate irregularly sampled data or smooth data that might result from seasonal fluctuations or a change in site conditions. Because MAROS is a terminal analytical tool designed for long-term planning, impacts of seasonal variation in the water unit are treated on a broad scale, as they relate to multi-year trends.

Imported ground water monitoring data and the site-specific information entered in Site Details can be archived and exported as MAROS archive files. These archive files can be appended as new monitoring data becomes available, resulting in a dynamic long-term monitoring database that reflects the changing conditions at the site (i.e. biodegradation, compliance attainment, completion of remediation phase, etc.). For wells with a limited monitoring history, addition of information as it becomes available can change the frequency or identity of wells in the network.

3.0 Site Details

Information needed for the MAROS analysis includes site-specific parameters such as seepage velocity and current plume length and width. Information on the location of potential receptors relative to the source and tail regions of the plume is entered at this point. Part of the trend analysis methodology applied in MAROS focuses on where the monitoring well is located, therefore the user needs to divide site wells into two different zones: the source zone or the tail zone. Although this classification is a simplification of the well function, this broadness makes the user aware on an individual well basis that the concentration trend results can have a different interpretation depending on the well location in and around the plume. It is up to the user to make further interpretation of the trend results, depending on what type of well is being analyzed (e.g., remediation well, leading plume edge well, or monitoring well). The Site Details section of MAROS contains a preliminary map of well locations to confirm well coordinates.

4.0 Constituent Selection

A database with multiple COCs can be entered into the MAROS software. MAROS allows the analysis of up to 5 COCs concurrently and users can pick COCs from a list of compounds existing in the monitoring data. MAROS runs separate optimizations for each compound. For sites with a single source, the suggested strategy is to choose one to three priority COCs for the optimization. If, for example, the site contains multiple chlorinated volatile organic compounds (VOCs), the standard sample chemical analysis will evaluate all VOCs, so the sample locations and frequency should based on the concentration trends of the most prevalent, toxic or mobile compounds. If different chemical classes are present, such as metals and chlorinated VOCs, choose and evaluate the priority constituent in each chemical class.

MAROS includes a short module that provides recommendations on prioritizing COCs based on toxicity, prevalence, and mobility of the compound. The toxicity ranking is determined by examining a representative concentration for each compound for the entire site. The representative concentration is then compared to the screening level (PRG or MCL) for that compound and the COCs are ranked according to the representative concentrations percent exceedence of the screening level. The evaluation of prevalence is performed by determining a representative concentration for each well location and evaluating the total exceedences (values above screening levels) compared to the total number of wells. Compounds found over screening levels are ranked for mobility based on Kd (sorption partition coefficient). The MAROS COC assessment provides the relative ranking of each COC, but the user must choose which COCs are included in the analysis.

5.0 Data Consolidation

Typically, raw data from long-term monitoring have been measured irregularly in time or contain many non-detects, trace level results, and duplicates. Therefore, before the data can be further analyzed, raw data are filtered, consolidated, transformed, and possibly smoothed to allow for a consistent dataset meeting the minimum data requirements for statistical analysis mentioned previously.

MAROS allows users to specify the period of interest in which data will be consolidated (i.e., monthly, bi-monthly, quarterly, semi-annual, yearly, or a biennial basis). In computing the representative value when consolidating, one of four statistics can be used: median, geometric mean, mean, and maximum. Non-detects can be transformed to one half the reporting or method detection limit (DL), the DL, or a fraction of the DL. Trace level results can be represented by their actual values, one half of the DL, the DL, or a fraction of their actual values. Duplicates are reduced in MAROS by one of three ways: assigning the average, maximum, or first value. The reduced data for each COC and each well can be viewed as a time series in a graphical form on a linear or semi-log plot generated by the software.

6.0 Overview Statistics: Plume Trend Analysis

Within the MAROS software there are historical data analyses that support a conclusion about plume stability (e.g., increasing plume, etc.) through statistical trend analysis of historical monitoring data. Plume stability results are assessed from time-series concentration data with the application of three statistical tools: Mann-Kendall Trend analysis, linear regression trend analysis and moment analysis. The two trend methods are used to estimate the concentration trend for each well and each COC based on a statistical trend analysis of concentrations versus time at each well. These trend analyses are then consolidated to give the user a general plume stability estimate and general monitoring frequency and density recommendations (see Figures A.1 through A.3 for further step-by-step details). Both qualitative and quantitative plume information can be gained by these evaluations of monitoring network historical data trends both spatially and temporally. The MAROS Overview Statistics are the foundation the user needs to make informed optimization decisions at the site. The Overview Statistics are designed to allow site personnel to develop a better understanding of the plume behavior over time and understand how the individual well concentration trends are spatially distributed within the plume. This step allows the user to gain information that will support a more informed decision to be made in the next level or detailed statistics optimization analysis.

6.1 Mann-Kendall Analysis

The Mann-Kendall test is a statistical procedure that is well suited for analyzing trends in data over time. The Mann-Kendall test can be viewed as a non-parametric test for zero slope of the first-order regression of time-ordered concentration data versus time. One advantage of the Mann-Kendall test is that it does not require any assumptions as to the statistical distribution of the data (e.g. normal, lognormal, etc.) and can be used with data sets which include irregular sampling intervals and missing data. The Mann-Kendall test is designed for analyzing a single groundwater constituent, multiple constituents are analyzed separately. The Mann-Kendall S statistic measures the trend in the data: positive values indicate an increase in concentrations over time and negative values indicate a decrease in concentrations over time. The strength of the trend is proportional to the magnitude of the Mann-Kendall statistic (i.e., a large value indicates a strong trend). The confidence in the trend is determined by consulting the S statistic and the sample size, n, in a Kendall probability table such as the one reported in Hollander and Wolfe (1973).

The concentration trend is determined for each well and each COC based on results of the S statistic, the confidence in the trend, and the Coefficient of Variation (COV). The decision matrix for this evaluation is shown in Table 3. A Mann-Kendall statistic that is greater than 0 combined with a confidence of greater than 95% is categorized as an Increasing trend while a Mann-Kendall statistic of less than 0 with a confidence between 90% and 95% is defined as a probably Increasing trend, and so on.

Depending on statistical indicators, the concentration trend is classified into six categories:

- Decreasing (D),
- Probably Decreasing (PD),
- Stable (S),
- No Trend (NT),
- Probably Increasing (PI)
- Increasing (I).

These trend estimates are then analyzed to identify the source and tail region overall stability category (see Figure 2 for further details).

6.2 Linear Regression Analysis

Linear Regression is a parametric statistical procedure that is typically used for analyzing trends in data over time. Using this type of analysis, a higher degree of scatter simply corresponds to a wider confidence interval about the average log-slope. Assuming the sign (i.e., positive or negative) of the estimated log-slope is correct, a level of confidence that the slope is not zero can be easily determined. Thus, despite a poor goodness of fit, the overall trend in the data may still be ascertained, where low levels of confidence correspond to “Stable” or “No Trend” conditions (depending on the degree of scatter) and higher levels of confidence indicate the stronger likelihood of a trend. The linear regression analysis is based on the first-order linear regression of the log-transformed concentration data versus time. The slope obtained from this log-transformed regression, the confidence level for this log-slope, and the COV of the untransformed data are used to determine the concentration trend. The decision matrix for this evaluation is shown in Table 4.

To estimate the confidence in the log-slope, the standard error of the log-slope is calculated. The coefficient of variation, defined as the standard deviation divided by the average, is used as a secondary measure of scatter to distinguish between “Stable” or “No Trend” conditions for negative slopes. The Linear Regression Analysis is designed for analyzing a single groundwater constituent; multiple constituents are analyzed separately, (up to five COCs simultaneously). For this evaluation, a decision matrix developed by Groundwater Services, Inc. is also used to determine the “Concentration Trend” category (plume stability) for each well.

Depending on statistical indicators, the concentration trend is classified into six categories:

- Decreasing (D),
- Probably Decreasing (PD),
- Stable (S),
- No Trend (NT),
- Probably Increasing (PI)
- Increasing (I).

The resulting confidence in the trend, together with the log-slope and the COV of the untransformed data, are used in the linear regression analysis decision matrix to determine the concentration trend. For example, a positive log-slope with a confidence of less than 90% is categorized as having No Trend whereas a negative log-slope is considered Stable if the COV is less than 1 and categorized as No Trend if the COV is greater than 1.

6.3 Overall Plume Analysis

General recommendations for the monitoring network frequency and density are suggested based on heuristic rules applied to the source and tail trend results.

Individual well trend results are consolidated and weighted by the MAROS according to user input, and the direction and strength of contaminant concentration trends in the source zone and tail zone for each COC are determined. Based on

- **i)** the consolidated trend analysis,
- **ii)** hydrogeologic factors (e.g., seepage velocity), and
- **iii)** location of potential receptors (e.g., wells, discharge points, or property boundaries),

the software suggests a general optimization plan for the current monitoring system in order to efficiently but effectively monitor groundwater in the future. A flow chart utilizing the trend analysis results and other site-specific parameters to form a general sampling frequency and well density recommendation is outlined in Figure 2. For example, a generic plan for a shrinking petroleum hydrocarbon plume (BTEX) in a slow hydrogeologic environment (silt) with no nearby receptors would entail minimal, low frequency sampling of just a few indicators. On the other hand, the generic plan for a chlorinated solvent plume in a fast hydrogeologic environment that is expanding but has very erratic concentrations over time would entail more extensive, higher frequency sampling. The generic plan is based on a heuristically derived algorithm for assessing future sampling duration, location and density that takes into consideration plume stability. For a detailed description of the heuristic rules used in the MAROS software, refer to the MAROS 2.2Manual (AFCEE, 2003).

6.4 Moment Analysis

An analysis of moments can help resolve plume trends, where the zeroth moment shows change in dissolved mass vs. time, the first moment shows the center of mass location vs. time, and the second moment shows the spread of the plume vs. time. Moment calculations can predict how the plume will change in the future if further statistical analysis is applied to the moments to identify a trend (in this case, Mann Kendall Trend Analysis is applied). The trend analysis of moments can be summarized as:

- Zeroth Moment: An estimate of the total mass of the constituent for each sample event
- First Moment: An estimate of the center of mass for each sample event
- Second Moment: An estimate of the spread of the plume around the center of mass

The role of moment analysis in MAROS is to provide a relative estimate of plume stability and condition within the context of results from other MAROS modules. The Moment analysis algorithms in MAROS are simple approximations of complex calculations and are meant to estimate changes in total mass, center of mass and spread of mass for complex well networks. The Moment Analysis module is sensitive to the number and arrangement of wells in each sampling event, so, changes in the number and identity of wells during monitoring events, and the parameters chosen for data consolidation can cause changes in the estimated moments.

Plume stability may vary by constituent, therefore the MAROS Moment analysis can be used to evaluate multiple COCs simultaneously which can be used to provide a quick way of comparing individual plume parameters to determine the size and movement of constituents relative to one another. Moment analysis in the MAROS software can also be used to assist the user in evaluating the impact on plume delineation in future sampling events by removing identified “redundant” wells from a long-term monitoring program (this analysis was not performed as part of this study, for more details on this application of moment analysis refer to the MAROS Users Manual (AFCEE, 2003)).

The **zeroth moment** is the sum of concentrations for all monitoring wells and is a mass estimate. The zeroth moment calculation can show high variability over time, largely due to the fluctuating concentrations at the most contaminated wells as well as varying monitoring well network. Plume analysis and delineation based exclusively on concentration can exhibit fluctuating temporal and spatial values. The mass estimate is also sensitive to the extent of the site monitoring well network over time. The zeroth moment trend over time is determined by using the Mann-Kendall Trend Methodology. The zeroth Moment trend test allows the user to understand how the plume mass has changed over time. Results for the trend include: Increasing, probably Increasing, no trend, stable, probably decreasing, decreasing or not applicable (N/A) (Insufficient Data). When considering the results of the zeroth moment trend, the following factors should be considered which could effect the calculation and interpretation of the plume mass over time: 1) Change in the spatial distribution of the wells sampled historically 2) Different wells sampled within the well network over time (addition and subtraction of well within the network). 3) Adequate versus inadequate delineation of the plume over time

The **first moment** estimates the center of mass, coordinates (Xc and Yc) for each sample event and COC. The changing center of mass locations indicate the movement of the center of mass over time. Whereas, the distance from the original source location to the center of mass locations indicate the movement of the center of mass over time relative to the original source. Calculation of the first moment normalizes the spread by the concentration indicating the center of mass. The first moment trend of the distance to the center of mass over time shows movement of the plume in relation to the original source location over time. Analysis of the movement of mass should be viewed as it relates to 1) the original source location of contamination 2) the direction of groundwater flow and/or 3) source removal or remediation. Spatial and temporal trends in the center of mass can indicate spreading or shrinking or transient movement based on season variation in rainfall or other hydraulic considerations. No appreciable movement or a neutral trend in the center of mass would indicate plume stability. However, changes in the first moment over time do not necessarily completely characterize the changes in the concentration distribution (and the mass) over time. Therefore, in order to fully characterize the plume the First Moment trend should be compared to the zeroth moment trend (mass change over time).

The **second moment** indicates the spread of the contaminant about the center of mass (Sxx and Syy), or the distance of contamination from the center of mass for a particular COC and sample event. The Second Moment represents the spread of the plume over time in both the x and y directions. The Second Moment trend indicates the spread of the plume about the center of mass. Analysis of the spread of the plume should be viewed as it relates to the direction of groundwater flow. An Increasing trend in the second moment indicates an expanding plume, whereas a declining trend in the second moment indicates a shrinking plume. No appreciable movement or a neutral trend in the center of mass would indicate plume stability. The second moment provides a measure of the spread of the concentration distribution about the plume’s center of mass.

However, changes in the second moment over time do not necessarily completely characterize the changes in the concentration distribution (and the mass) over time. Therefore, in order to fully characterize the plume the Second Moment trend should be compared to the zeroth moment trend (mass change over time).

7.0 Detailed Statistics: Optimization Analysis

Although the overall plume analysis shows a general recommendation regarding sampling frequency reduction and a general sampling density, a more detailed analysis is also available with the MAROS 2.2 software in order to allow for further reductions on a well-by-well basis for frequency, well redundancy, well sufficiency and sampling sufficiency. The MAROS Detailed Statistics allows for a quantitative analysis for spatial and temporal optimization of the well network on a well-by-well basis. The results from the Overview Statistics should be considered along with the MAROS optimization recommendations gained from the Detailed Statistical Analysis described previously. The MAROS Detailed Statistics results should be reassessed in view of site knowledge and regulatory requirements as well as in consideration of the Overview Statistics (Figure 2).

The Detailed Statistics or Sampling Optimization MAROS modules can be used to determine the minimal number of sampling locations and the lowest frequency of sampling that can still meet the requirements of sampling spatially and temporally for an existing monitoring program. It also provides an analysis of the sufficiency of data for the monitoring program.

Sampling optimization in MAROS consists of four parts:

- Well redundancy analysis using the Delaunay method
- Well sufficiency analysis using the Delaunay method
- Sampling frequency determination using the Modified CES method
- Data sufficiency analysis using statistical power analysis.

The well redundancy analysis using the Delaunay method identifies and eliminates redundant locations from the monitoring network. The well sufficiency analysis can determine the areas where new sampling locations might be needed. The Modified CES method determines the optimal sampling frequency for a sampling location based on the direction, magnitude, and uncertainty in its concentration trend. The data sufficiency analysis examines the risk-based site cleanup status and power and expected sample size associated with the cleanup status evaluation.

7.1 Well Redundancy Analysis – Delaunay Method

The well redundancy analysis using the Delaunay method is designed to select the minimum number of sampling locations based on the spatial analysis of the relative importance of each sampling location in the monitoring network. The approach allows elimination of sampling locations that have little impact on the historical characterization of a contaminant plume. An extended method or wells sufficiency analysis, based on the Delaunay method, can also be used for recommending new sampling locations.

Details about the Delaunay method can be found in Appendix A.2 of the MAROS Manual (AFCEE, 2003).

Sampling Location determination uses the Delaunay triangulation method to determine the significance of the current sampling locations relative to the overall monitoring network. The Delaunay method calculates the network Area and Average concentration of the plume using data from multiple monitoring wells. A slope factor (SF) is calculated for each well to indicate the significance of this well in the system (i.e. how removing a well changes the average concentration.)

The Sampling Location optimization process is performed in a stepwise fashion. Step one involves assessing the significance of the well in the system, if a well has a small SF (little significance to the network), the well may be removed from the monitoring network. Step two involves evaluating the information loss of removing a well from the network. If one well has a small SF, it may or may not be eliminated depending on whether the information loss is significant. If the information loss is not significant, the well can be eliminated from the monitoring network and the process of optimization continues with fewer wells. However if the well information loss is significant then the optimization terminates. This sampling optimization process allows the user to assess “redundant” wells that will not incur significant information loss on a constituent-by-constituent basis for individual sampling events.

7.2 Well Sufficiency Analysis – Delaunay Method

The well sufficiency analysis, using the Delaunay method, is designed to recommend new sampling locations in areas *within* the existing monitoring network where there is a high level of uncertainty in contaminant concentration. Details about the well sufficiency analysis can be found in Appendix A.2 of the MAROS Manual (AFCEE, 2003).

In many cases, new sampling locations need to be added to the existing network to enhance the spatial plume characterization. If the MAROS algorithm calculates a high level of uncertainty in predicting the constituent concentration for a particular area, a new sampling location is recommended. The Slope Factor (SF) values obtained from the redundancy evaluation described above are used to calculate the concentration estimation error for each triangle area formed in the Delaunay triangulation. The estimated SF value for each area is then classified into four levels: Small, Moderate, Large, or Extremely large (S, M, L, E) because the larger the estimated SF value, the higher the estimation error at this area. Therefore, the triangular areas with the estimated SF value at the Extremely large or Large level can be candidate regions for new sampling locations.

The results from the Delaunay method and the method for determining new sampling locations are derived solely from the spatial configuration of the monitoring network and the spatial pattern of the contaminant plume. No parameters such as the hydrogeologic conditions are considered in the analysis. Therefore, professional judgment and regulatory considerations must be used to make final decisions.

7.3 Sampling Frequency Determination - Modified CES Method

The Modified CES method optimizes sampling frequency for each sampling location based on the magnitude, direction, and uncertainty of its concentration trend derived from its recent and historical monitoring records. The Modified Cost Effective Sampling (MCES) estimates a conservative lowest-frequency sampling schedule for a given groundwater monitoring location that still provides needed information for regulatory and remedial decision-making. The MCES method was developed on the basis of the Cost Effective Sampling (CES) method developed by Ridley et al (1995). Details about the MCES method can be found in Appendix A.9 of the MAROS Manual (AFCEE, 2003).

In order to estimate the least frequent sampling schedule for a monitoring location that still provides enough information for regulatory and remedial decision-making, MCES employs three steps to determine the sampling frequency. The first step involves analyzing frequency based on recent trends. A preliminary location sampling frequency (PLSF) is developed based on the rate of change of well concentrations calculated by linear regression along with the Mann-Kendall trend analysis of the most recent monitoring data (see Figure 3). The variability within the sequential sampling data is accounted for by the Mann-Kendall analysis. The rate of change vs. trend result matrix categorizes wells as requiring annual, semi-annual or quarterly sampling. The PLSF is then reevaluated and adjusted based on overall trends. If the long-term history of change is significantly greater than the recent trend, the frequency may be reduced by one level.

The final step in the analysis involves reducing frequency based on risk, site-specific conditions, regulatory requirements or other external issues. Since not all compounds in the target being assessed are equally harmful, frequency is reduced by one level if recent maximum concentration for a compound of high risk is less than 1/2 of the Maximum Concentration Limit (MCL). The result of applying this method is a suggested sampling frequency based on recent sampling data trends and overall sampling data trends and expert judgment.

The final sampling frequency determined from the MCES method can be Quarterly, Semiannual, Annual, or Biennial. Users can further reduce the sampling frequency to, for example, once every three years, if the trend estimated from Biennial data (i.e., data drawn once every two years from the original data) is the same as that estimated from the original data.

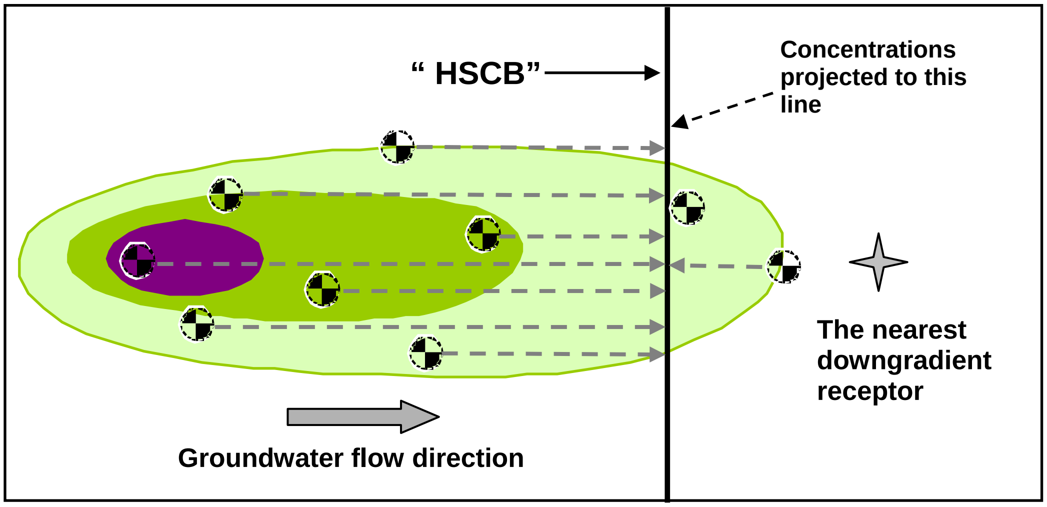
7.4 Data Sufficiency Analysis – Power Analysis

The MAROS Data Sufficiency module employs simple statistical methods to evaluate whether the collected data are adequate both in quantity and in quality for revealing changes in constituent concentrations. The first section of the module evaluates individual well concentrations to determine if they are statistically below a target screening level. The second section includes a simple calculation for estimating projected groundwater concentrations at a specified point downgradient of the plume. A statistical Power analysis is then applied to the projected concentrations to determine if the downgradient concentrations are statistically below the cleanup standard. If the number of projected concentrations is below the level to provide statistical significance, then the number of sample events required to statistically confirm concentrations below standards is estimated from the Power analysis.

Before testing the cleanup status for individual wells, the stability or trend of the contaminant plume should be evaluated. Only after the plume has reached stability or is reliably diminishing can we conduct a test to examine the cleanup status of wells. Applying the analysis to wells in an expanding plume may cause incorrect conclusions and is less meaningful.

Statistical power analysis is a technique for interpreting the results of statistical tests. The Power of a statistical test is a measure of the ability of the test to detect an effect given that the effect actually exists. The method provides additional information about a statistical test: 1) the power of the statistical test, i.e., the probability of finding a difference in the variable of interest when a difference truly exists; and 2) the expected sample size of a future sampling plan given the minimum detectable difference it is supposed to detect. For example, if the mean concentration is lower than the cleanup goal but a statistical test cannot prove this, the power and expected sample size can tell the reason and how many more samples are needed to result in a significant test. The additional samples can be obtained by a longer period of sampling or an increased sampling frequency. Details about the data sufficiency analysis can be found in Appendix A.6 of the MAROS Manual (AFCEE, 2003).

When applying the MAROS power analysis method, a hypothetical statistical compliance boundary (HSCB) is assigned to be a line perpendicular to the groundwater flow direction (see figure below). Monitoring well concentrations are projected onto the HSCB using the distance from each well to the compliance boundary along with a decay coefficient. The projected concentrations from each well and each sampling event are then used in the risk-based power analysis. Since there may be more than one sampling event selected by the user, the risk-based power analysis results are given on an event-by-event basis. This power analysis can then indicate if target are statistically achieved at the HSCB. For instance, at a site where the historical monitoring record is short with few wells, the HSCB would be distant; whereas, at a site with longer duration of sampling with many wells, the HSCB would be close. Ultimately, at a site the goal would be to have the HSCB coincide with or be within the actual compliance boundary (typically the site property line).



In order to perform a risk-based cleanup status evaluation for the whole site, a strategy was developed as follows.

- Estimate concentration versus distance decay coefficient from plume centerline wells.
- Extrapolate concentration versus distance for each well using this decay coefficient.
- Comparing the extrapolated concentrations with the compliance concentration using power analysis.

Results from this analysis can be *Attained* or *Not Attained*, providing a statistical interpretation of whether the cleanup goal has been met on the site-scale from the risk-based point of view. The results as a function of time can be used to evaluate if the monitoring system has enough power at each step in the sampling record to indicate certainty of compliance by the plume location and condition relative to the compliance boundary. For example, if results are *Not Attained* at early sampling events but are *Attained* in recent sampling events, it indicates that the recent sampling record provides a powerful enough result to indicate compliance of the plume relative to the location of the receptor or compliance boundary.

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TABLE 1
Mann-Kendall Analysis Decision Matrix (Aziz, et. al., 2003)

Mann-Kendall Statistic	Confidence in the Trend	Concentration Trend
$S > 0$	> 95%	Increasing
$S > 0$	90 - 95%	Probably Increasing
$S > 0$	< 90%	No Trend
$S \leq 0$	< 90% and $COV \geq 1$	No Trend
$S \leq 0$	< 90% and $COV < 1$	Stable
$S < 0$	90 - 95%	Probably Decreasing
$S < 0$	> 95%	Decreasing

TABLE 2
Linear Regression Analysis Decision Matrix (Aziz, et. al., 2003)

Confidence in the Trend	Log-slope	
	Positive	**Negative**
< 90%	No Trend	$COV < 1$ Stable $COV > 1$ No Trend
90 - 95%	Probably Increasing	Probably Decreasing
> 95%	Increasing	Decreasing

MAROS: Decision Support Tool

MAROS is a collection of tools in one software package that is used in an explanatory, non-linear fashion. The tool includes models, geostatistics, heuristic rules, and empirical relationships to assist the user in optimizing a groundwater monitoring network system while maintaining adequate delineation of the plume as well as knowledge of the plume state over time. Different users utilize the tool in different ways and interpret the results from a different viewpoint.

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Overview Statistics

What it is: Simple, qualitative and quantitative plume information can be gained through evaluation of monitoring network historical data trends both spatially and temporally. The MAROS Overview Statistics are the foundation the user needs to make informed optimization decisions at the site.

What it does: The Overview Statistics are designed to allow site personnel to develop a better understanding of the plume behavior over time and understand how the individual well concentration trends are spatially distributed within the plume. This step allows the user to gain information that will support a more informed decision to be made in the next level of optimization analysis.

What are the tools: Overview Statistics includes two analytical tools:

1) **Trend Analysis:** includes Mann-Kendall and Linear Regression statistics for individual wells and results in general heuristically-derived monitoring categories with a suggested sampling density and monitoring frequency.

2) **Moment Analysis:** includes dissolved mass estimation (0^{th} Moment), center of mass (1^{st} Moment), and plume spread (2^{nd} Moment) over time. Trends of these moments show the user another piece of information about the plume stability over time.

What is the product: A first-cut blueprint for a future long-term monitoring program that is intended to be a foundation for more detailed statistical analysis.

↓

Detailed Statistics

What it is: The MAROS Detailed Statistics allows for a quantitative analysis for spatial and temporal optimization of the well network on a well-by-well basis.

What it does: The results from the Overview Statistics should be considered along side the MAROS optimization recommendations gained from the Detailed Statistical Analysis. The MAROS Detailed Statistics results should be reassessed in view of site knowledge and regulatory requirements as well as the Overview Statistics.

What are the tools: Detailed Statistics includes four analytical tools:

1) **Sampling Frequency Optimization:** uses the Modified CES method to establish a recommended future sampling frequency.

2) **Well Redundancy Analysis:** uses the Delaunay Method to evaluate if any wells within the monitoring network are redundant and can be eliminated without any significant loss of plume information.

3) **Well Sufficiency Analysis:** uses the Delaunay Method to evaluate areas where new wells are recommended within the monitoring network due to high levels of concentration uncertainty.

4) **Data Sufficiency Analysis:** uses Power Analysis to assess if the historical monitoring data record has sufficient power to accurately reflect the location of the plume relative to the nearest receptor or compliance point.

What is the product: List of wells to remove from the monitoring program, locations where monitoring wells may need to be added, recommended frequency of sampling for each well, analysis if the overall system is statistically powerful to monitor the plume.

Figure 1. MAROS Decision Support Tool Flow Chart

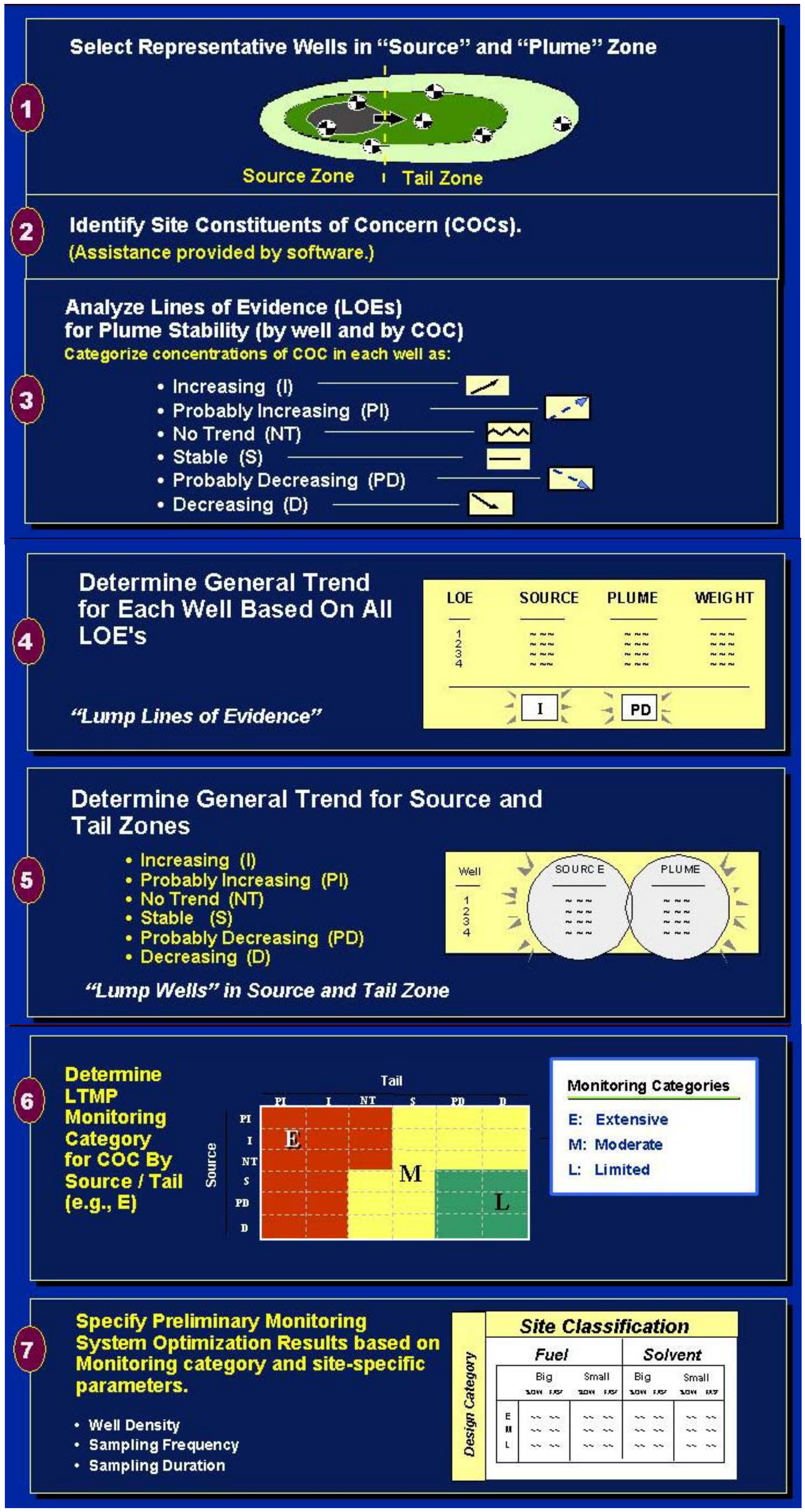


Figure 2:
MAROS Overview Statistics Trend Analysis Methodology

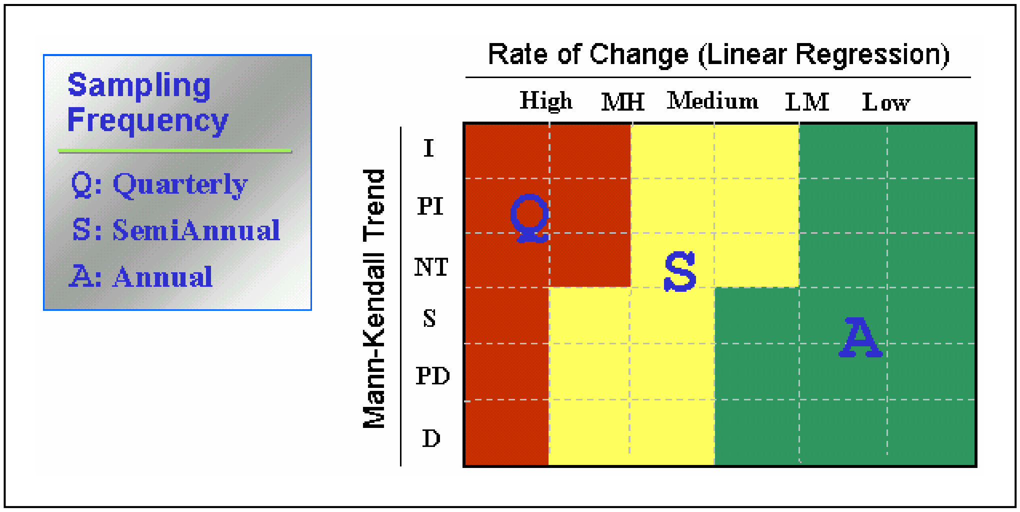


Figure 3. Decision Matrix for Determining Provisional Frequency (*Figure A.3.1 of the MAROS Manual (AFCEE 2003*)

GROUNDWATER MONITORING NETWORK OPTIMIZATION
NEWMARK, MUSCOY AND SOURCE OU
NEWMARK SUPERFUND SITE

San Bernardino, California

APPENDIX B:

Table B.1 Groundwater Monitoring Locations Newmark Superfund Site

Table B.2a Aquifer Input Parameters: Source OU

Table B.2b Aquifer Input Parameters: Newmark OU

Table B.2c Aquifer Input Parameters: Muscoy OU

Table B.3 Well Trend Summary Results: Source OU

Table B.4 Well Trend Summary Results: Newmark OU Shallow Zone

Table B.5 Well Trend Summary Results: Newmark OU Intermediate Zone

Table B.6 Well Trend Summary Results: Newmark OU Deep Zone

Table B.7 Well Trend Summary Results: Muscoy OU Shallow Zone

Table B.8 Well Trend Summary Results: Muscoy OU Intermediate Zone

Table B.9 Well Trend Summary Results: Muscoy OU Deep Zone

Table B.10 Well Trend Summary Results: MW-140 Well Cluster

Table B.11 MCES Sampling Frequency Analysis Results: Source OU

Table B.12 MCES Sampling Frequency Analysis Results: Newmark OU Shallow Zone

Table B.13 MCES Sampling Frequency Analysis Results: Newmark OU Intermediate Zone

Table B.14 MCES Sampling Frequency Analysis Results: Newmark OU Deep Zone

Table B.15 MCES Sampling Frequency Analysis Results: Muscoy OU Shallow Zone

Table B.16 MCES Sampling Frequency Analysis Results: Muscoy OU Intermediate Zone

Table B.17 MCES Sampling Frequency Analysis Results: Muscoy OU Deep Zone

TABLE B.1
GROUNDWATER MONITORING LOCATIONS NEWMARK SUPERFUND SITE

LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Type	Well Name	Elevation ft msl	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Sample Date Range		Recent Sampling Frequency
Source OU							
S	CJ-1	1757.8	276	316	12/1/1987	1/1/2006	Quarterly
S	CJ-10	1711.43	135	145	3/1/1995	10/17/2006	Semi-annual
S	CJ-11	1676.07	179	189	3/1/1995	10/17/2006	Semi-annual/Quarterly
S	CJ-12	1668.02	246	256	3/1/1995	10/17/2006	Semi-annual
S	CJ-13	1666.77	245	255	3/1/1995	10/17/2006	Semi-annual
S	CJ-14	1664.69	245	255	3/1/1995	10/17/2006	Semi-annual
S	CJ-15	1667.88	355	378	3/1/1995	10/17/2006	Semi-annual/Quarterly
S	CJ-16	1734.46	250	270	3/1/1996	10/17/2006	Semi-annual/Quarterly
S	CJ-17	1738.81	139	159	5/1/1996	10/17/2006	Semi-annual
S	CJ-1A	1741.68	311	351	12/1/1987	1/1/2006	Quarterly
S	CJ-2	1689.45	278	320	12/1/1987	1/1/2006	Quarterly
S	CJ-3	1691.89	289	330	12/1/1987	10/17/2006	Quarterly
S	CJ-6	1696.6	240	280	6/1/1988	1/1/2006	Quarterly
S	CJ-7	1699.24	278	318	6/1/1988	7/1/2005	Semi-annual (2005)
S	CJ-8	1768.31	234	244	3/1/1995	10/17/2006	Semi-annual
S	MWCOE001A	1619.38	289	309	12/2/1996	10/12/2006	Semi-annual
S	MWCOE001B	1619.25	345	365	12/2/1996	10/12/2006	Semi-annual
S	MWCOE002	1669.47	330	350	4/28/1999	10/4/2006	Semi-annual
S	MWCOE003	1667.23	418	438	4/28/1999	10/4/2006	Semi-annual
S	MWCOE004	--	100	120	2/11/2004	10/4/2006	Semi-annual
S	MWCOE005	1763.83	140	160	9/24/1999	10/3/2006	Semi-annual
S	MWCOE006	1745	98	118	9/24/1999	10/3/2006	Semi-annual
S	MWCOE007	1752.4	125	145	9/23/1999	10/3/2006	Semi-annual
S	MWCOE008		77	97	2/11/2004	10/4/2006	Semi-annual
S	MWCOE009	1781	77	97	2/16/2004	10/12/2006	Semi-annual
Newmark OU Shallow Zone							
T	EW-108PA**	1119.26	370	390	8/21/2002	1/3/2007	Quarterly
T	EW-2PA	1091.7	230	250	7/30/1998	11/9/2005	Semi-annual (2005)
T	EW-3PA	1090.22	230	250	7/30/1998	11/9/2005	Semi-annual (2005)
T	EW-4PA	1086.27	310	330	7/30/1998	11/10/2005	Semi-annual (2005)
T	EW-5PA	1083.27	230	250	7/30/1998	11/14/2005	Semi-annual (2005)
T	EW-6		115	315	7/28/1998	11/10/2005	Semi-annual (2005)
T	EW-6PA		230	250	7/30/1998	11/10/2005	Semi-annual (2005)
T	EW-7		200	470	7/28/1998	11/10/2005	Semi-annual (2005)
T	MUNI-01	1530	186	236	3/12/1992	10/3/2006	Semi-annual
T	MUNI-07B	1311.07	236	246	12/27/1990	10/16/2006	Semi-annual
T	MUNI-09B	1307.84	252	262	12/27/1990	10/16/2006	Semi-annual
T	MUNI-11A	1287.34	199	209	3/25/1992	10/16/2006	Semi-annual
T	MUNI-13	1244.4	258	267	8/3/1987	10/3/2006	Semi-annual
T	MUNI-16	1239.67	450	660	7/6/1987	10/3/2006	Semi-annual
T	MW02A		280	300	4/9/1992	10/16/2006	Semi-annual
T	MW03A		240	260	4/6/1992	10/12/2006	Semi-annual
T	MW04A		265	275	3/10/1992	11/8/2005	Semi-annual
T	MW05A		278	298	3/24/1992	10/16/2006	Semi-annual
T	MW06A		250	270	4/21/1992	10/12/2006	Semi-annual
T	MW07A		305	325	6/28/1992	11/8/2005	Semi-annual (2005)
T	MW08A		275	295	7/9/1992	10/12/2006	Semi-annual
T	MW09A		265	285	12/13/1994	11/8/2005	Semi-annual (2005)
T	MW12A		240	270	10/17/1997	11/9/2005	Semi-annual (2005)
T	MW14A		270	300	7/29/1998	11/9/2005	Semi-annual (2005)
T	MW16A		220	240	11/11/1997	11/8/2005	Semi-annual (2005)
T	MW17A		270	290	10/29/1997	11/8/2005	Semi-annual (2005)

See Notes end of Table

TABLE B.1
GROUNDWATER MONITORING LOCATIONS NEWMARK SUPERFUND SITE

LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Type	Well Name	Elevation ft msl	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Sample Date Range		Recent Sampling Frequency
Newmark OU Intermediate Zone							
T	EW-1PA	1093.9	380	400	7/30/1998	11/8/2005	Semi-annual (2005)
T	EW-7PA		320	340	7/30/1998	11/10/2005	Semi-annual (2005)
T	MUNI-07C	1311.16	389	399	12/27/1990	10/16/2006	Semi-annual
T	MUNI-09C	1307.51	418	428	12/27/1990	10/16/2006	Semi-annual
T	MUNI-14	1233.01	325	553	10/15/1987	5/9/2006	Semi-annual
T	MUNI-18	1184.07	243	259	5/27/1987	10/3/2006	Semi-annual
T	MUNI-22	1141.9	494	571	3/11/1992	10/3/2006	Semi-annual
T	MUNI-24	1123.33	480	603	3/12/1992	10/3/2006	Annual
T	MW02B		370	390	4/7/1992	10/16/2006	Semi-annual
T	MW03B		340	360	3/26/1992	10/12/2006	Semi-annual
T	MW04B		385	395	3/12/1992	11/8/2005	Semi-annual
T	MW05B		432	452	3/24/1992	10/16/2006	Semi-annual
T	MW06B		317	337	4/20/1992	10/12/2006	Semi-annual
T	MW07B		486	506	6/28/1992	11/8/2005	Semi-annual (2005)
T	MW08B		470	490	7/9/1992	10/12/2006	Semi-annual
T	MW09B		345	365	12/13/1994	11/8/2005	Semi-annual (2005)
T	MW10A		350	380	11/15/1994	11/9/2005	Semi-annual (2005)
T	MW10B		490	520	11/15/1994	11/9/2005	Semi-annual (2005)
T	MW11A		500	530	11/16/1994	11/9/2005	Semi-annual (2005)
T	MW12B		670	700	10/17/1997	11/9/2005	Semi-annual (2005)
T	MW13A		365	395	9/26/1997	11/9/2005	Semi-annual (2005)
T	MW13B		525	555	9/26/1997	11/9/2005	Semi-annual (2005)
T	MW14B		570	600	7/29/1998	11/9/2005	Semi-annual (2005)
T	MW15A		520	550	7/29/1998	11/9/2005	Semi-annual (2005)
T	MW16B		430	450	11/11/1997	4/20/2005	Semi-annual (2005)
T	MW17B		400	420	10/29/1997	11/8/2005	Semi-annual (2005)
Newmark OU Deep Zone							
T	EW-1	1093.9	600	1190	7/28/1998	11/8/2005	Semi-annual (2005)
T	EW-108**	1119.26	510	590	5/7/2003	1/3/2007	Quarterly
T	EW-108PB**	1119.26	740	760	8/21/2002	1/3/2007	Quarterly
T	EW-1PB	1093.9	980	1000	7/30/1998	11/8/2005	Semi-annual (2005)
T	EW-2	1091.7	500	1070	7/28/1998	11/9/2005	Semi-annual (2005)
T	EW-2PB	1091.7	880	900	7/30/1998	11/9/2005	Semi-annual (2005)
T	EW-3	1090.22	240	200	7/28/1998	11/9/2005	Semi-annual (2005)
T	EW-3PB	1090.22	760	780	7/30/1998	11/9/2005	Semi-annual (2005)
T	EW-4	1086.27	490	1180	7/28/1998	11/10/2005	Semi-annual (2005)
T	EW-4PB	1086.27	980	1000	7/30/1998	11/10/2005	Semi-annual (2005)
T	EW-5	1083.27	400	1130	7/28/1998	11/10/2005	Semi-annual (2005)
T	EW-5PB	1083.27	880	900	7/30/1998	11/10/2005	Semi-annual (2005)
T	MUNI-11C	1287.03	492	502	12/27/1990	10/16/2006	Semi-annual
T	MW10C		750	780	11/16/1994	11/9/2005	Semi-annual (2005)
T	MW11B		770	800	11/16/1994	11/9/2005	Semi-annual (2005)
T	MW11C		1070	1100	12/12/1994	11/9/2005	Semi-annual (2005)
T	MW12C		1040	1070	12/3/1997	11/9/2005	Semi-annual (2005)
T	MW-135B**	1111.28	620	640	8/22/2002	1/23/2007	Quarterly
T	MW-135C**	1111.3	850	870	8/22/2002	1/23/2007	Quarterly
T	MW13C		815	845	9/26/1997	11/9/2005	Semi-annual (2005)
T	MW14C		1060	1090	7/29/1998	11/9/2005	Semi-annual (2005)
T	MW15B		690	720	7/29/1998	11/9/2005	Semi-annual (2005)
T	MW15C		1020	1050	7/29/1998	11/9/2005	Semi-annual (2005)

See Notes end of Table

TABLE B.1
GROUNDWATER MONITORING LOCATIONS NEWMARK SUPERFUND SITE

LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Type	Well Name	Elevation ft msl	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Sample Date Range		Recent Sampling Frequency
Muscoy Shallow							
T	EW-108PA**	1119.26	370	390	8/21/2002	1/3/2007	Quarterly
T	EW-109PZA	1137.0507	310	330	4/13/2005	1/24/2007	Quarterly
T	EW-110PZA	1145.5005	193.5	243.5	4/19/2005	1/23/2007	Quarterly
T	EW-110PZB	1145.5005	301.5	321.5	1/7/2004	1/23/2007	Quarterly
T	EW-111PZA	1165.6822	193.5	243.5	4/26/2005	1/23/2007	Quarterly
T	EW-112PA	1181.79	300	302	8/21/2002	1/24/2007	Quarterly
T	MUNI-102	1185.56	126	184	4/22/1993	10/4/2006	Semi-annual
T	MUNI-103	1214.58	60	128	5/4/1993	11/11/2005	Semi-annual (2005)
T	MUNI-104A	1230.3	150	276	6/15/1987	10/3/2006	Annual
T	MUNI-109	1328	227	431	5/6/1993	2/18/2004	Annual (2004)
S	MW-127A**	1545.9	341	361	2/1/1995	10/12/2006	Semi-annual
S	MW-127B**	1545.9	431	451	2/1/1995	10/12/2006	Semi-annual
T	MW-128A	1215.04	410	440	12/14/1994	1/23/2007	Quarterly
T	MW-129A	1199.32	443	473	9/12/1996	1/24/2007	Quarterly
T	MW-130A	1175.22	340	370	9/16/1996	1/23/2007	Quarterly
T	MW-131A	1546.75	300	340	9/13/2001	4/18/2005	Annual (2005)
T	MW-132A	1479.3	142	182	8/29/2000	10/12/2006	Semi-annual
T	MW-133A	1435.39	185	225	8/28/2000	10/12/2006	Semi-annual
T	MW-134	1428.44	140	180	8/29/2000	10/12/2006	Quarterly
T	MW-135A	1111.28	360	380	8/22/2002	1/23/2007	Quarterly
T	MW-137A	1144.05	330	350	8/22/2002	1/23/2007	Quarterly
T	MW-138A	1156.87	320	340	8/22/2002	1/24/2007	Quarterly
T	MW-139A	1168.76	360	380	8/22/2002	1/24/2007	Quarterly
T	MW-140A*	1304.4069	162	176	5/3/2006	10/11/2006	Quarterly (2006)
Muscoy Intermediate							
T	EW-108**	1119.26	510	590	5/7/2003	1/3/2007	Quarterly
T	EW-108PB**	1119.26	740	760	8/21/2002	1/3/2007	Quarterly
T	EW-109	1137.0507	260	330	4/13/2005	1/24/2007	Quarterly
T	EW-109PZB	1137.0507	430	450	4/13/2005	1/24/2007	Quarterly
T	EW-110	1145.5005	225	270	4/12/2005	1/24/2007	Quarterly
T	EW-110PZC	1145.5005	411.5	431.5	4/19/2005	1/23/2007	Quarterly
T	EW-110PZD	1145.5005	491.5	511.5	1/7/2004	1/23/2007	Quarterly
T	EW-111	1165.6822	235	265	4/26/2005	1/24/2007	Quarterly
T	EW-111PZB	1165.6822	375.5	395.5	1/7/2004	1/23/2007	Quarterly
T	EW-111PZC	1165.6822	456	476	1/7/2004	1/23/2007	Quarterly
T	EW-112	1181.79	280	740	5/7/2003	1/24/2007	Quarterly
T	EW-112PB	1181.79	660	680	8/21/2002	1/24/2007	Quarterly
T	MUNI-101	1130	350	1050	1/3/1991	10/3/2006	Annual
T	MUNI-104B	1236.25	470	512	6/15/1987	5/9/2006	Semi-annual
T	MUNI-108	1319	350	448	4/20/1993	10/3/2006	Semi-annual
T	MUNI-116	1475.33	--	--	2/2/1995	10/4/2006	Semi-annual
T	MW-128B	1215.04	690	720	12/12/1994	1/23/2007	Quarterly
T	MW-128C	1215.04	860	890	12/12/1994	1/23/2007	Quarterly
T	MW-129B	1198.91	730	760	9/12/1996	1/24/2007	Quarterly
T	MW-130B***	1174.58	550	580	9/14/1996	1/23/2007	Quarterly
T	MW-130C	1174.56	890	920	9/14/1996	1/23/2007	Quarterly
T	MW-131B	1546.75	435	475	9/13/2001	11/15/2004	(NS 2004)
T	MW-131C	1546.75	515	555	9/13/2001	11/15/2004	(NS 2004)
T	MW-132B	1478.94	370	410	8/29/2000	10/12/2006	Semi-annual
T	MW-133B	1435.39	280	320	8/28/2000	10/12/2006	Semi-annual
T	MW-136A	1121.67	420	440	8/22/2002	1/3/2007	Quarterly
T	MW-136B	1121.63	500	520	8/22/2002	1/3/2007	Quarterly
T	MW-137B	1144.1	520	540	8/22/2002	1/23/2007	Quarterly
T	MW-138B	1156.92	550	570	8/22/2002	1/24/2007	Quarterly
T	MW-139B	1168.71	540	560	8/22/2002	1/24/2007	Quarterly
T	MW-140B	1304.3882	243	258	5/3/2006	1/25/2007	Quarterly (2006)
T	MW-140C***	1304.3947	312	352	5/3/2006	1/25/2007	Quarterly (2006)

See Notes end of Table

TABLE B.1
GROUNDWATER MONITORING LOCATIONS NEWMARK SUPERFUND SITE

LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

Well Type	Well Name	Elevation ft msl	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Sample Date Range		Recent Sampling Frequency
Muscoy Deep							
T	EW-109PZC	1137.0507	800	820	4/13/2005	1/24/2007	Quarterly
T	EW-110PZE	1145.5005	830	850	4/12/2005	1/24/2007	Quarterly
T	EW-111PZD	1165.6822	780	800	4/26/2005	1/24/2007	Quarterly
T	MW-129C	1198.92	851	881	9/12/1996	1/24/2007	Quarterly
T	MW-136C	1121.61	730	750	8/22/2002	1/3/2007	Quarterly
T	MW-137C	1144.07	790	810	8/22/2002	1/23/2007	Quarterly
T	MW-138C	1156.99	960	980	8/22/2002	1/24/2007	Quarterly
T	MW-139C	1168.85	790	810	8/22/2002	1/24/2007	Quarterly

Notes:
1. Well Type S = Source area; T = Tail area (designations for MAROS software).
2. Wells listed above had sufficient data to be included in both quantitative and qualitative evaluations.
   Well locations are shown on Figure 1.
3. Well elevations and screened intervals from URS database, 2006. No value indicates there is no value is available from the database.
4. ft msl = feet above mean sea level; ft bgs = feet below ground surface.
5. Recent sampling frequency determined from approximate frequency of 2005-2006 sample events.
6. Wells are grouped according to aerial (X,Y coordinates) location in either the Muscoy, Newmark or Source
   Operation Units, and by depth based on screened intervals.
7. No data were received for PZ-124, PZ-125 and CJ-9 in the Source OU, MUNI-09A, and MUNI-07A in the Newmark OU.
8. Wells not sampled since 2002, such as MW-01 were not considered as part of the current monitoring program.
   Wells without location coordiantes were not included in the analysis.
9. * = Well MW-140A is sampled from multiple depths and is evaluated separately.
10. ** = Certain wells are included in multiple analysis groups for spatial analysis, as they span different study areas.
11. *** = Upgradient wells used as 'source' to lower depth, downgradient network.

TABLE B.2a
AQUIFER INPUT PARAMETERS: SOURCE OUs

LONG-TERM MONITORING OPTIMIZATION
Newmark Superfund Site, San Bernardino, California

Parameter	Value	Units
Current Plume Length	22,000	ft
Maximum Plume Length	22,000	ft
PlumeWidth	8,000	ft
SeepageVelocity (ft/yr)*	640	ft/yr
Distance to Receptors (Migration downgradient	1000	ft
GWFluctuations	No	--
SourceTreatment	Pump and Treat	--
PlumeType	Chlorinated Solvent	--
NAPL Present	No	--
Priority Constituents	**Screening Levels**	
Tetrachloroethene (PCE)	5	ug/L
Trichloroethene (TCE)	5	ug/L
Dichlorodifluoromethane	390	ug/L
Trichlorofluoromethane	1,300	ug/L
Parameter	**Value**	
Groundwater flow direction	E/SE	315
Porosity	0.25	--
Source Location near Well	CJ-10	--
Source X-Coordinate	6753089	ft
Source Y-Coordinate	1892380	ft
Saturated Thickness UWBM	200	ft

Notes:
1. Aquifer data from URS database (2007) and SECOR (2005).
2. Priority COCs defined by prevalence, toxicty and mobility.
   Screening levels are USEPA MCLs.
3. Saturated thicknesses represent 2-D layers defined by well screened intervals.
5. ft = Coordinates in NAD 1983 State Plane California V feet.
6. Plume length estimated from Source OU to based of Newmark OU.
7. * = Maximum seepage velocity estimated from site data. See Attachment A.

TABLE B.2b
AQUIFER INPUT PARAMETERS: NEWMARK OU

LONG-TERM MONITORING OPTIMIZATION
Newmark Superfund Site, San Bernardino, California

Parameter	Value	Units
Current Plume Length (from Source)	42,000	ft
Maximum Plume Length	42,000	ft
PlumeWidth	8,000	ft
SeepageVelocity (ft/yr)*	640	ft/yr
Distance to Receptors (Migration downgradient)	1000	ft
GWFluctuations	No	--
Remedial Treatment	Pump and Treat	--
PlumeType	Chlorinated Solvent	--
NAPL Present	No	--
Priority Constituents	**Screening Levels**	
Tetrachloroethene (PCE)	5	ug/L
Trichloroethene (TCE)	5	ug/L
Dichlorodifluoromethane	390	ug/L
Trichlorofluoromethane	1,300	ug/L
Parameter	**Value**	
Groundwater flow direction	E/SE	315°
Porosity	0.25	--
Source Location near Well		--
Shallow Zone	CJ-10	
Intermediate Zone	CJ-10	
Deep Zone	MW-08B	
Saturated Thickness		
Shallow Zone	200	ft
Intermediate Zone	400	ft
Deep Zone	400	ft

Notes:
1. Aquifer data from URS database (2007) and SECOR (2005).
2. Priority COCs defined by prevalence, toxicty and mobility.
   Screening levels are USEPA MCLs.
3. Saturated thicknesses represent 2-D layers defined by well screened intervals.
5. ft = Coordinates in NAD 1983 State Plane California V feet.
6. Plume length estimated from Source OU to base of Newmark OU.
7. * = Maximum seepage velocity estimated from site data. See Attachment A.

TABLE B.2c
AQUIFER INPUT PARAMETERS: MUSCOY OU

LONG-TERM MONITORING OPTIMIZATION
Newmark Superfund Site, San Bernardino, California

Parameter	Value	Units
Current Plume Length	34,000	ft
Maximum Plume Length	34,000	ft
PlumeWidth	7,000	ft
SeepageVelocity (ft/yr)*	640	ft/yr
Distance to Receptors (Migration downgradient	1000	ft
GWFluctuations	No	--
SourceTreatment	Pump and Treat	--
PlumeType	Chlorinated Solvent	--
NAPL Present	No	--
Trichloroethene (TCE)	**Screening Levels**	
Tetrachloroethene (PCE)	5	ug/L
Trichloroethene (TCE)	5	ug/L
Dichlorodifluoromethane	390	ug/L
Trichlorofluoromethane	1,300	ug/L
Parameter	**Value**	
Groundwater flow direction	S	300
Porosity	0.25	--
Source Location near Well		--
Shallow Zone	CJ-10	ft
Intermediate Zone	CJ-10	ft
Deep Zone	MW-140	ft
Saturated Thickness		
Shallow Zone	200	ft
Intermediate Zone	400	ft
Deep Zone	400	ft

Notes:
1. Aquifer data from URS database (2007) and SECOR (2005).
2. Priority COCs defined by prevalence, toxicty and mobility.
   Screening levels are USEPA MCLs.
3. Saturated thicknesses represent 2-D layers defined by well screened intervals.
5. ft = Coordinates in NAD 1983 State Plane California V feet.
6. Plume length estimated from Source OU to based of Newmark OU.
7. * = Maximum seepage velocity estimated from site data. See Attachment A.

TABLE B.3
WELL TREND SUMMARY RESULTS: 1999-2007

SOURCE OU
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

WellName	Number of Samples	Number of Detects	Percent Detection 1999-2006	Maximum Historic Result 1987 - 2006 [ug/L]	Max Result Above MCL?	Average Result [ug/L]	Average Result Above MCL?	Mann Kendall Trend	Linear Regression Trend	Overall Trend Result
Tetrachloroethene -- Source OU										
CJ-1	29	24	83%	5	Yes	0.799	No	S	I	PI
CJ-10	14	13	93%	65.6	Yes	35.7	Yes	S	NT	S
CJ-11	18	15	83%	11	Yes	4.89	No	PI	I	PI
CJ-12	5	4	80%	8.2	Yes	1.27	No	D	D	D
CJ-13	5	2	40%	1.2	No	0.25	No	NT	NT	NT
CJ-14	5	3	60%	1.9	No	0.636	No	NT	NT	NT
CJ-15	18	18	100%	15	Yes	5.22	Yes	NT	I	PI
CJ-16	29	29	100%	17	Yes	10.1	Yes	D	D	D
CJ-17	14	14	100%	48.4	Yes	19.7	Yes	PD	D	D
CJ-1A	19	0	0%	5.6	Yes	<0.08	No	--	--	ND
CJ-2	15	4	27%	4	No	0.26	No	I	I	I
CJ-3	15	15	100%	130	Yes	5.13	Yes	NT	D	S
CJ-6	29	28	97%	29	Yes	6.61	Yes	PI	S	NT
CJ-7	13	5	38%	5.9	Yes	0.195	No	I	I	I
CJ-8	13	13	100%	5.9	Yes	3.85	No	D	D	D
MWCOE001A	6	6	100%	8	Yes	4.67	No	S	D	PD
MWCOE001B	13	12	92%	18	Yes	9.21	Yes	D	D	D
MWCOE002	5	0	0%	ND	No	<0.08	No	--	--	ND
MWCOE003	5	3	60%	1.3	No	0.524	No	NT	I	PI
MWCOE004	6	6	100%	25	Yes	14.5	Yes	S	PD	S
MWCOE005	13	13	100%	4	No	2.9	No	D	D	D
MWCOE006	12	2	17%	0.5	No	0.15	No	NT	NT	NT
MWCOE007	13	13	100%	6.4	Yes	2.9	No	S	S	S
MWCOE008	6	4	67%	0.43	No	0.185	No	PD	D	D
MWCOE009	6	6	100%	1	No	0.617	No	PD	S	S
Trichloroethene -- Source OU										
CJ-1	29	0	0%	6.4	Yes	<0.05	No	--	--	ND
CJ-10	14	14	100%	4.9	No	2.59	No	S	I	PI
CJ-11	18	2	11%	2.5	No	0.197	No	NT	NT	NT
CJ-12	5	0	0%	1.7	No	<0.05	No	--	--	ND
CJ-13	5	0	0%	0.6	No	<0.05	No	--	--	ND
CJ-14	5	1	20%	1	No	0.24	No	NT	NT	NT
CJ-15	18	12	67%	1	No	0.307	No	S	NT	S
CJ-16	29	29	100%	3.7	No	2.38	No	D	D	D
CJ-17	14	14	100%	3.9	No	0.687	No	D	D	D
CJ-1A	2	0	0%	0	No	0	No	N/A	N/A	ND
CJ-2	7	1	14%	0.35	No	0.0929	No	NT	NT	NT
CJ-3	15	8	53%	41	Yes	0.624	No	NT	PD	S
CJ-6	29	28	97%	6.1	Yes	2.34	No	PD	D	D
CJ-7	3	0	0%	ND	No	<0.05	No	N/A	N/A	ND
CJ-8	13	2	15%	0.5	No	0.119	No	NT	NT	NT
MWCOE001A	6	0	0%	0.2	No	<0.05	No	ND	S	ND
MWCOE001B	13	9	69%	1	No	0.524	No	D	D	D
MWCOE002	5	0	0%	ND	No	<0.05	No	ND	S	ND
MWCOE003	5	0	0%	ND	No	<0.05	No	--	--	ND
MWCOE004	6	0	0%	ND	No	<0.05	No	--	--	ND
MWCOE005	13	2	15%	0.5	No	0.119	No	NT	NT	NT
MWCOE006	12	2	17%	0.5	No	0.125	No	NT	NT	NT
MWCOE007	13	1	8%	0.5	No	0.0846	No	NT	NT	NT
MWCOE008	6	0	0%	ND	No	<0.05	No	--	--	ND
MWCOE009	6	0	0%	ND	No	<0.05	No	--	--	ND

Notes:

1. Wells were grouped according to operation unit, hydrostratigrapic zone (1) and screened interval indicated on Table B1.
2. Data between January 1999 and January 2007 were included in the trend analyses. 'Number of Samples' indicates the number of quarters the well was sampled for the indicated compound, and 'Number of Detections' indicates the number of quarters the compound was detected between 1999 and 2007.
3. Trends evaluated using the Mann-Kendall (MK) and Linear Regression (LR) methods are shown. Overall Trend is a combination of MK and LR results.
   Trend results: I = Increasing, PI = Probably Increasing, S = Stable, PD = Probably Decreasing, D = Decreasing,
   NT = No Trend, N/A = Insufficient data to determine trend, ND = Non-detect for all events.
4. Maximum Result is the maximum value for the entire data set (date range for each well indicated in Table 1).
   Average Result is the average concentration at the monitoring location for all samples between 1999 and 2006.
5. Screening levels were set to the USEPA MCL for PCE and TCE = 0.005 mg/L.
   "Above Screening Level" indicates locations where the average result is above the MCL.

TABLE B.4
WELL TREND SUMMARY RESULTS: 1999-2007

SHALLOW ZONE NEWMARK OU
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

WellName	Number of Samples	Number of Detects	Percent Detection 1999-2007	Maximum Historic Result 1987 - 2007	Max Result Above MCL?	Average Result [ug/L]	Average Result Above MCL?	Mann Kendall Trend	Linear Regression Trend	Overall Trend Result
Tetrachloroethene -- Shallow Zone Newmark OU										
EW-108PA	11	9	82%	12	Yes	2.66	No	NT	NT	NT
EW-2PA	13	7	54%	2	No	0.354	No	PI	PI	PI
EW-3PA	13	5	38%	0.93	No	0.185	No	NT	NT	NT
EW-4PA	13	4	31%	0.5	No	0.14	No	NT	I	PI
EW-5PA	13	4	31%	0.5	No	0.155	No	NT	NT	NT
EW-6	13	13	100%	5	Yes	3.67	No	D	D	D
EW-6PA	13	13	100%	3	No	1.28	No	PD	S	S
EW-7	11	11	100%	8	Yes	5.16	Yes	D	D	D
MUNI-01	13	3	23%	0.5	No	0.177	No	NT	NT	NT
MUNI-07B	13	1	8%	0.5	No	0.112	No	NT	NT	NT
MUNI-09B	13	1	8%	27	Yes	0.112	No	NT	NT	NT
MUNI-11A	6	6	100%	32	Yes	0.977	No	S	NT	S
MUNI-13	13	12	92%	27.6	Yes	1.64	No	S	NT	S
MUNI-16	12	12	100%	57.3	Yes	5.14	Yes	D	PD	D
MW02A	15	3	20%	0.8	No	0.133	No	S	S	S
MW03A	12	2	17%	0.5	No	0.123	No	S	NT	S
MW04A	12	1	8%	0.5	No	0.115	No	NT	I	PI
MW05A	13	0	0%	0.6	No	<0.08	No	--	--	ND
MW06A	11	0	0%	ND	No	<0.08	No	--	--	ND
MW07A	13	13	100%	19	Yes	7.95	Yes	D	PD	D
MW08A	12	3	25%	0.6	No	0.0975	No	S	S	S
MW09A	13	13	100%	10	Yes	5.98	Yes	NT	NT	NT
MW12A	13	5	38%	0.5	No	0.155	No	I	PI	PI
MW14A	12	10	83%	0.68	No	0.386	No	NT	NT	NT
MW16A	10	3	30%	4.4	No	0.546	No	NT	NT	NT
MW17A	13	1	8%	0.5	No	0.112	No	NT	NT	NT
Trichloroethene -- Shallow Zone Newmark OU										
EW-108PA	11	6	55%	3.3	No	0.895	No	NT	NT	NT
EW-2PA	13	5	38%	0.8	No	0.2	No	NT	NT	NT
EW-3PA	13	2	15%	0.5	No	0.119	No	NT	NT	NT
EW-4PA	13	3	23%	1.2	No	0.208	No	NT	PI	PI
EW-5PA	13	2	15%	0.5	No	0.119	No	NT	NT	NT
EW-6	13	13	100%	0.9	No	0.738	No	D	D	D
EW-6PA	13	11	85%	0.6	No	0.276	No	NT	NT	NT
EW-7	11	11	100%	1	No	0.728	No	D	D	D
MUNI-01	13	2	15%	1	No	0.119	No	NT	NT	NT
MUNI-07B	13	1	8%	0.5	No	0.0846	No	NT	NT	NT
MUNI-09B	13	1	8%	6	Yes	0.0846	No	NT	NT	NT
MUNI-11A	6	5	83%	7	Yes	0.468	No	NT	PI	PI
MUNI-13	13	9	69%	8.3	Yes	0.868	No	NT	PI	PI
MUNI-16	12	12	100%	13	Yes	1.77	No	D	D	D
MW02A	15	0	0%	ND	No	<0.05	No	--	--	ND
MW03A	12	0	0%	ND	No	<0.05	No	--	--	ND
MW04A	12	0	0%	0.3	No	<0.05	No	--	--	ND
MW05A	13	0	0%	0.2	No	<0.05	No	--	--	ND
MW06A	11	0	0%	ND	No	<0.05	No	--	--	ND
MW07A	13	12	92%	4	No	1.51	No	D	S	PD
MW08A	12	0	0%	ND	No	<0.05	No	S	S	ND
MW09A	13	13	100%	2	No	1.31	No	NT	NT	NT
MW12A	13	9	69%	0.77	No	0.296	No	I	I	I
MW14A	12	6	50%	0.22	No	0.1	No	S	S	S
MW16A	10	6	60%	3	No	0.479	No	NT	NT	NT
MW17A	13	1	8%	0.5	No	0.0846	No	NT	NT	NT

Notes:

1. Wells were grouped according to operation unit, hydrostratigrapic zone (1) and screened interval indicated on Table B1.
2. Data between January 1999 and January 2007 were included in the trend analyses. 'Number of Samples' indicates the number of quarters the well was sampled for the indicated compound, and 'Number of Detections' indicates the number of quarters the compound was detected between 1999 and 2007.
3. Trends evaluated using the Mann-Kendall (MK) and Linear Regression (LR) methods are shown. Overall Trend is a combination of MK and LR results. Trend results: I = Increasing, PI = Probably Increasing, S = Stable, PD = Probably Decreasing, D = Decreasing, NT = No Trend, N/A = Insufficient data to determine trend, ND = Non-detect for all events.
4. Maximum Result is the maximum value for the entire data set (date range for each well indicated in Table B1). Average Result is the average concentration at the monitoring location for all samples between 1999 and 2007.
5. Screening levels were set to the USEPA MCL for PCE and TCE = 0.005 mg/L. "Above Screening Level" indicates locations where the indicated result is above the MCL.

TABLE B.5
WELL TREND SUMMARY RESULTS: 1999-2007

INTERMEDIATE ZONE NEWMARK OU
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

WellName	Number of Samples	Number of Detects	Percent Detection 1999-2006	Maximum Historic Result 1987 - 2006 [ug/L]	Max Result Above MCL?	Average Result [ug/L]	Average Result Above MCL?	Mann Kendall Trend	Linear Regression Trend	Overall Trend Result
Tetrachloroethene (PCE) -- Newmark Intermediate Zone										
EW-1PA	13	4	31%	0.8	No	0.481	No	NT	I	PI
EW-7PA	11	7	64%	20	Yes	1.71	No	NT	NT	NT
MUNI-07C	13	2	15%	0.5	No	0.47	No	S	S	S
MUNI-09C	10	7	70%	8.1	Yes	2.14	No	I	I	I
MUNI-14	13	12	92%	26.3	Yes	6.11	Yes	D	PD	D
MUNI-18	13	13	100%	36.5	Yes	1.17	No	I	I	I
MUNI-22	13	10	77%	6	Yes	0.748	No	NT	NT	NT
MUNI-24	11	5	45%	0.5	No	0.445	No	NT	S	S
MW02B	15	11	73%	17	Yes	3.77	No	PD	D	D
MW03B	13	6	46%	22	Yes	2.23	No	NT	D	S
MW04B	13	12	92%	13	Yes	5.92	Yes	D	D	D
MW05B	13	13	100%	32	Yes	5.08	Yes	D	D	D
MW06B	11	0	0%	0.6	No	<0.5	No	--	--	ND
MW07B	12	11	92%	19	Yes	4.15	No	D	D	D
MW08B	12	11	92%	25	Yes	5.49	Yes	D	D	D
MW09B	14	13	93%	11	Yes	6.98	Yes	D	PD	D
MW10A	12	1	8%	0.5	No	0.5	No	S	I	PI
MW10B	12	9	75%	0.58	No	0.285	No	D	D	D
MW11A	14	1	7%	0.5	No	0.5	No	S	D	PD
MW12B	13	0	0%	<0.5	No	<0.5	No	--	--	ND
MW13A	12	0	0%	<0.5	No	<0.5	No	--	--	ND
MW13B	13	0	0%	<0.5	No	<0.5	No	--	--	ND
MW14B	13	0	0%	<0.5	No	<0.5	No	--	--	ND
MW15A	12	2	17%	0.1	No	0.425	No	S	I	PI
MW16B	10	9	90%	16	Yes	8.69	Yes	D	D	D
MW17B	11	11	100%	17	Yes	4.23	No	NT	NT	NT
Trichloroethene (TCE) -- Newmark Intermediate Zone										
EW-1PA	13	5	38%	0.6	No	0.405	No	S	S	S
EW-7PA	11	6	55%	4	No	0.462	No	NT	NT	NT
MUNI-07C	13	2	15%	0.5	No	0.469	No	S	S	S
MUNI-09C	10	7	70%	1.3	No	0.407	No	NT	S	S
MUNI-14	13	12	92%	6.4	Yes	1.24	No	S	S	S
MUNI-18	13	9	69%	9.1	Yes	0.698	No	NT	NT	NT
MUNI-22	13	5	38%	11	Yes	1.28	No	NT	NT	NT
MUNI-24	11	3	27%	2.2	No	0.655	No	NT	PI	PI
MW02B	15	7	47%	3	No	0.692	No	PD	PD	PD
MW03B	13	4	31%	4	No	0.515	No	S	S	S
MW04B	13	11	85%	1	No	0.55	No	D	D	D
MW05B	13	12	92%	6	Yes	0.547	No	D	D	D
MW06B	11	0	0%	<0.5	No	<0.5	No	--	--	ND
MW07B	12	6	50%	3	No	0.656	No	D	D	D
MW08B	12	7	58%	3	No	0.562	No	D	PD	D
MW09B	14	13	93%	3	No	1.91	No	S	S	S
MW10A	12	1	8%	0.5	No	0.5	No	S	I	PI
MW10B	12	4	33%	0.52	No	0.431	No	S	S	S
MW11A	14	1	7%	1	No	0.5	No	S	D	PD
MW12B	13	0	0%	<0.5	No	<0.5	No	--	--	ND
MW13A	12	0	0%	<0.5	No	<0.5	No	--	--	ND
MW13B	13	0	0%	<0.5	No	<0.5	No	--	--	ND
MW14B	13	0	0%	<0.5	No	<0.5	No	--	--	ND
MW15A	12	0	0%	<0.5	No	<0.5	No	--	--	ND
MW16B	10	10	100%	2	No	0.98	No	D	D	D
MW17B	11	9	82%	2	No	0.503	No	NT	NT	NT

Notes:

1. Source OU locations CJ-10 and CJ-17 were included as source wells in the spatial analysis of the intermediate zone.
   Wells were grouped according to operation unit, hydrostratigrapic zone (2) and screened interval indicated on Table 1.
2. Data between January 1999 and January 2007 were included in the trend analyses. 'Number of Samples' indicates the number of quarters the well was sampled for the indicated compound, and 'Number of Detections' indicates the number of quarters the compound was detected between 1999 and 2007.
3. Trends evaluated using the Mann-Kendall (MK) and Linear Regression (LR) methods are shown. Overall Trend is a combination of MK and LR results.
   Trend results: I = Increasing, PI = Probably Increasing, S = Stable, PD = Probably Decreasing, D = Decreasing,
   NT = No Trend, N/A = Insufficient data to determine trend, ND = Non-detect for all events.
4. Maximum Result is the maximum value for the entire data set (date range for each well indicated in Table B1).
   Average Result is the average concentration at the monitoring location for all samples between 1999 and 2007.
5. Screening levels were set to the USEPA MCL for PCE and TCE = 0.005 mg/L.
   "Above Screening Level" indicates locations where the indicated result is above the MCL.

TABLE B.6
WELL TREND SUMMARY RESULTS: 1999-2007

DEEP ZONE NEWMARK OU
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

WellName	Number of Samples	Number of Detects	Percent Detection 1999-2006	Maximum Historic Result 1987 - 2006 [ug/L]	Max Result Above MCL?	Average Result [ug/L]	Average Result Above MCL?	Mann Kendall Trend	Linear Regression Trend	Overall Trend Result
Tetrachloroethene (PCE) -- Newmark Deep Zone										
EW-1	13	13	100%	7.5	Yes	3.8	No	I	I	I
EW-108	9	8	89%	2.9	No	1.93	No	I	I	I
EW-108PB	11	3	27%	0.5	No	0.226	No	S	PD	S
EW-1PB	13	8	62%	4.6	No	1.08	No	I	I	I
EW-2	13	13	100%	8.2	Yes	4.27	No	I	I	I
EW-2PB	13	9	69%	3.7	No	1.38	No	I	I	I
EW-3	13	13	100%	5.2	Yes	4.02	No	S	S	S
EW-3PB	13	11	85%	5	Yes	1.51	No	I	I	I
EW-4	13	12	92%	2.5	No	1.78	No	S	D	PD
EW-4PB	13	4	31%	1	No	0.354	No	NT	NT	NT
EW-5	13	8	62%	0.5	No	0.285	No	D	D	D
EW-5PB	13	7	54%	0.5	No	0.248	No	NT	S	S
MUNI-11C	11	11	100%	38.5	Yes	7.23	Yes	D	D	D
MW10C	12	12	100%	24	Yes	13.9	Yes	D	PD	D
MW11B	14	14	100%	25	Yes	8.23	Yes	D	D	D
MW11C	14	8	57%	2.3	No	0.632	No	I	I	I
MW12C	13	3	23%	0.5	No	0.212	No	S	S	S
MW-135B	12	1	8%	0.5	No	0.225	No	S	S	ND*
MW-135C	12	1	8%	0.7	No	0.242	No	S	D	ND*
MW13C	13	0	0%	1	No	0.2	No	--	--	ND
MW14C	13	7	54%	2	No	0.572	No	D	D	D
MW15B	13	0	0%	<0.1	No	<0.2	No	--	--	ND
MW15C	13	0	0%	<0.5	No	<0.2	No	--	--	ND
Trichloroethene (TCE) -- Newmark Deep Zone										
EW-1	13	13	100%	2.3	No	1.36	No	I	I	I
EW-108	9	7	78%	0.72	No	0.489	No	NT	NT	NT
EW-108PB	11	2	18%	0.5	No	0.236	No	S	S	S
EW-1PB	13	8	62%	4.2	No	0.888	No	I	I	I
EW-2	13	13	100%	2.2	No	1.32	No	I	I	I
EW-2PB	13	9	69%	3	No	0.589	No	I	I	I
EW-3	13	13	100%	1.4	No	1.02	No	S	S	S
EW-3PB	13	9	69%	1	No	0.376	No	I	NT	PI
EW-4	13	12	92%	1	No	0.752	No	D	D	D
EW-4PB	13	5	38%	1	No	0.369	No	NT	NT	NT
EW-5	13	4	31%	0.5	No	0.223	No	PI	S	NT
EW-5PB	13	5	38%	0.5	No	0.244	No	NT	NT	NT
MUNI-11C	11	11	100%	7.6	Yes	1.26	No	D	D	D
MW10C	12	12	100%	6	Yes	3.91	No	D	D	D
MW11B	14	11	79%	7	Yes	1.71	No	D	D	D
MW11C	14	8	57%	6.5	Yes	1.98	No	I	I	I
MW12C	13	1	8%	0.5	No	0.223	No	S	S	ND*
MW-135B	12	1	8%	0.5	No	0.225	No	S	S	ND*
MW-135C	12	1	8%	0.3	No	0.208	No	S	D	ND*
MW13C	13	0	0%	0.6	No	0.2	No	--	--	ND
MW14C	13	11	85%	3	No	0.845	No	D	D	D
MW15B	13	0	0%	<0.1	No	<0.2	No	--	--	ND
MW15C	13	0	0%	<0.1	No	<0.2	No	--	--	ND

Notes:

1. Newmark Intermediate wells MW04B, MW05B, MW08B and MW09B were included as source wells in the spatial analysis of the deep zone.
   Wells were grouped according to operation unit, hydrostratigrapic zone (3) and screened interval indicated on Table 1.
2. Data between January 1999 and January 2007 were included in the trend analyses. 'Number of Samples' indicates the number of quarters the well was sampled
   for the indicated compound, and 'Number of Detections' indicates the number of quarters the compound was detected between 1999 and 2007.
3. Trends evaluated using the Mann-Kendall (MK) and Linear Regression (LR) methods are shown. Overall Trend is a combination of MK and LR results.
   Trend results: I = Increasing, PI = Probably Increasing, S = Stable, PD = Probably Decreasing, D = Decreasing,
   NT = No Trend, N/A = Insufficient data to determine trend, ND = Non-detect for all events, ND* = only one detection.
4. Maximum Result is the maximum value for the entire data set (date range for each well indicated in Table B.1).
   Average Result is the average concentration at the monitoring location for all samples between 1999 and 2007.
5. Screening levels were set to the USEPA MCL for PCE and TCE = 0.005 mg/L.
   "Above Screening Level" indicates locations where the indicated result is above the MCL.

TABLE B.7
WELL TREND SUMMARY RESULTS: 1999-2007

SHALLOW ZONE MUSCOY OU
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

WellName	Number of Samples	Number of Detects	Percent Detection 1999-2007	Maximum Historic Result 1987 - 2007 [ug/L]	Max Result Above MCL?	Average Result [ug/L]	Average Result Above MCL?	Mann Kendall Trend	Linear Regression Trend	Overall Trend Result
Tetrachloroethene (PCE) -- Muscoy Shallow Zone										
EW-108PA	11	9	82%	12	Yes	2.66	No	NT	NT	NT
EW-109PZA	8	8	100%	13	Yes	9.38	Yes	S	S	S
EW-110PZA	8	8	100%	3.6	No	2.44	No	NT	NT	NT
EW-110PZB	9	9	100%	18	Yes	11.3	Yes	NT	I	PI
EW-111PZA	8	5	63%	6.9	Yes	2.58	No	PD	D	D
EW-112PA	11	10	91%	3.7	No	1.96	No	PD	NT	S
MUNI-102	12	6	50%	0.5	No	0.17	No	S	S	S
MUNI-103	11	1	9%	0.5	No	0.118	No	NT	NT	NT
MUNI-104A	2	2	100%	6	Yes	2.8	No	N/A	N/A	N/A
MUNI-109	8	8	100%	10	Yes	1.67	No	D	D	D
MW-127A	11	11	100%	5	Yes	0.819	No	D	D	D
MW-127B	11	8	73%	26	Yes	0.453	No	NT	NT	NT
MW-128A	18	18	100%	30	Yes	12.6	Yes	NT	S	S
MW-129A	17	5	29%	0.9	No	0.255	No	D	D	D
MW-130A	18	18	100%	6	Yes	2.8	No	D	D	D
MW-131A	6	5	83%	0.5	No	0.203	No	S	S	S
MW-132A	9	9	100%	25	Yes	16.9	Yes	NT	S	S
MW-133A	10	9	90%	1.7	No	0.899	No	PI	I	PI
MW-134	10	1	10%	0.5	No	0.122	No	NT	NT	NT
MW-135A	12	12	100%	6	Yes	3.37	No	PI	I	PI
MW-137A	12	11	92%	10	Yes	4.08	No	D	D	D
MW-138A	12	12	100%	4.2	No	2.31	No	NT	I	PI
MW-139A	12	9	75%	0.58	No	0.263	No	NT	NT	NT
Trichloroethene (TCE) -- Muscoy Shallow Zone										
EW-108PA	11	6	55%	3.3	No	0.895	No	NT	NT	NT
EW-109PZA	8	8	100%	3.5	No	2.4	No	D	D	D
EW-110PZA	8	8	100%	0.7	No	0.489	No	NT	NT	NT
EW-110PZB	9	9	100%	2.7	No	1.94	No	NT	NT	NT
EW-111PZA	8	4	50%	0.55	No	0.233	No	S	S	S
EW-112PA	11	5	45%	0.54	No	0.153	No	D	PD	D
MUNI-102	12	2	17%	0.5	No	0.125	No	NT	NT	NT
MUNI-103	11	1	9%	0.5	No	0.0909	No	NT	NT	NT
MUNI-104A	2	0	0%	2.9	No	<0.05	No	N/A	N/A	ND
MUNI-109	8	4	50%	1	No	0.225	No	PD	D	D
MW-127A	11	0	0%	0.3	No	<0.05	No	--	--	ND
MW-127B	11	0	0%	4	No	<0.05	No	--	--	ND
MW-128A	18	18	100%	8	Yes	4.76	No	NT	NT	NT
MW-129A	17	2	12%	0.5	No	0.0897	No	NT	NT	NT
MW-130A	18	16	89%	1.2	No	0.655	No	D	D	D
MW-131A	6	2	33%	0.5	No	0.15	No	PD	D	D
MW-132A	9	9	100%	6.1	Yes	3.69	No	NT	NT	NT
MW-133A	10	7	70%	0.5	No	0.203	No	S	S	S
MW-134	10	1	10%	0.5	No	0.095	No	NT	NT	ND*
MW-135A	12	12	100%	2.1	No	1.4	No	I	I	I
MW-137A	12	10	83%	3	No	1.19	No	D	D	D
MW-138A	12	10	83%	0.76	No	0.312	No	NT	PI	PI
MW-139A	12	0	0%	ND	No	<0.05	No	--	--	ND

Notes:

1. Source OU locations were included as source wells in the spatial analysis of the shallow Muscoy OU. Trend results for Source OU are shown on the Newmark Shallow Zone tables. Wells were grouped according to operation unit, hydrostratigrapic zone (1) and screened interval indicated on Table 1.
2. Data between January 1999 and January 2007 were included in the trend analyses. 'Number of Samples' indicates the number of quarters the well was sampled for the indicated compound, and 'Number of Detections' indicates the number of quarters the compound was detected between 1999 and 2007.
3. Trends evaluated using the Mann-Kendall (MK) and Linear Regression (LR) methods are shown. Overall Trend is a combination of MK and LR results.
Trend results: I = Increasing, PI = Probably Increasing, S = Stable, PD = Probably Decreasing, D = Decreasing,
NT = No Trend, N/A = Insufficient data to determine trend, ND = Non-detect for all events, ND*= Only one detection.
4. Maximum Result is the maximum value for the entire data set (date range for each well indicated in Table B1).
Average Result is the average concentration at the monitoring location for all samples between 1999 and 2007.
5. Screening levels were set to the USEPA MCL for PCE and TCE = 0.005 mg/L. (5ppb).
"Above Screening Level" indicates locations where the indicated result was above the MCL..

TABLE B.8
WELL TREND SUMMARY RESULTS: 1999-2007

INTERMEDIATE ZONE MUSCOY OU
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

WellName	Number of Samples	Number of Detects	Percent Detection 1999-2007	Maximum Historic Result 1987 - 2006 [ug/L]	Max Result Above MCL?	Average Result [ug/L]	Average Result Above MCL?	Mann Kendall Trend	Linear Regression Trend	Overall Trend Result
Tetrachloroethene (PCE) -- Muscoy Intermediate Zone										
EW-108	9	8	88%	2.9	No	1.9	No	I	I	I
EW-108PB	11	3	27%	0.5	No	0.22	No	S	PD	S
EW-109	8	8	100%	8.3	Yes	3.82	No	D	D	D
EW-109PZB	8	8	100%	7	Yes	1.68	No	NT	NT	NT
EW-110	8	8	100%	11	Yes	4.91	No	D	D	D
EW-110PZC	8	8	100%	24	Yes	15.3	Yes	NT	NT	NT
EW-110PZD	9	9	100%	12	Yes	6.62	Yes	I	I	I
EW-111	8	8	100%	8.8	Yes	5.01	Yes	D	D	D
EW-111PZB	9	9	100%	9.6	Yes	4.53	No	NT	NT	NT
EW-111PZC	9	9	100%	9.2	Yes	4.85	No	I	I	I
EW-112	9	9	100%	4.1	No	2.47	No	D	D	D
EW-112PB	11	8	73%	3.4	No	0.674	No	PD	NT	S
MUNI-101	12	9	75%	1.4	No	0.553	No	S	S	S
MUNI-104B	12	11	92%	8.5	Yes	4.07	No	NT	NT	NT
MUNI-108	13	1	8%	0.5	No	0.112	No	NT	NT	ND*
MUNI-116	12	5	42%	4.7	No	0.573	No	NT	NT	NT
MW-128B	16	0	0%	0.1	No	<0.08	No	--	--	ND
MW-128C	14	2	14%	0.4	No	0.0936	No	S	I	PI
MW-129B	17	14	82%	8.1	Yes	2.64	No	I	I	I
MW-130B	18	18	100%	14	Yes	8.05	Yes	D	S	PD
MW-130C	18	1	6%	0.5	No	0.103	No	S	S	ND*
MW-131B	5	2	40%	0.5	No	0.188	No	PD	PD	PD
MW-131C	5	3	60%	0.5	No	0.212	No	D	D	D
MW-132B	10	9	90%	0.7	No	0.367	No	D	D	D
MW-133B	10	7	70%	0.5	No	0.185	No	S	S	S
MW-136A	12	2	17%	2.2	No	0.263	No	NT	NT	NT
MW-136B	12	2	17%	0.82	No	0.177	No	NT	NT	NT
MW-137B	12	1	8%	0.52	No	0.0922	No	NT	NT	ND*
MW-138B	12	0	0%	ND	No	<0.08	No	--	--	ND
MW-139B	12	0	0%	ND	No	<0.08	No	--	--	ND
MW-140B	4	4	100%	7.1	Yes	6.05	Yes	S	PD	S
MW-140C	4	4	100%	13	Yes	12	Yes	S	S	S
Trichloroethene (TCE) -- Muscoy Intermediate Zone										
EW-108	9	7	77%	0.7	No	0.4	No	NT	NT	NT
EW-108PB	11	2	18%	0.5	No	0.2	No	S	S	S
EW-109	8	8	100%	1.8	No	0.988	No	PD	D	D
EW-109PZB	8	5	63%	1.4	No	0.257	No	NT	NT	NT
EW-110	8	8	100%	1.6	No	0.973	No	D	PD	D
EW-110PZC	8	8	100%	5.3	Yes	3.83	No	NT	NT	NT
EW-110PZD	9	9	100%	7	Yes	3.58	No	NT	I	PI
EW-111	8	8	100%	1.2	No	0.797	No	D	D	D
EW-111PZB	9	9	100%	1.9	No	0.906	No	NT	S	S
EW-111PZC	9	8	89%	3.2	No	1.04	No	I	I	I
EW-112	9	6	67%	0.4	No	0.182	No	S	S	S
EW-112PB	11	3	27%	0.5	No	0.15	No	PD	D	D
MUNI-101	12	5	42%	0.5	No	0.168	No	NT	NT	NT
MUNI-104B	12	7	58%	2.1	No	0.343	No	I	I	I
MUNI-108	13	2	15%	0.5	No	0.119	No	NT	NT	NT
MUNI-116	12	4	33%	0.5	No	0.2	No	NT	D	S
MW-128B	16	0	0%	ND	No	<0.05	No	--	--	ND
MW-128C	14	1	7%	0.3	No	0.0577	No	S	D	ND*
MW-129B	17	10	59%	1.5	No	0.414	No	NT	PI	PI
MW-130B	18	18	100%	5	Yes	2.9	No	D	S	PD
MW-130C	18	1	6%	0.5	No	0.0765	No	NT	NT	ND*
MW-131B	5	2	40%	0.5	No	0.15	No	PD	PD	PD
MW-131C	5	1	20%	0.5	No	0.14	No	NT	NT	NT
MW-132B	10	3	30%	0.5	No	0.145	No	NT	NT	NT
MW-133B	10	3	30%	0.5	No	0.142	No	NT	NT	NT
MW-136A	12	2	17%	1	No	0.142	No	NT	NT	NT
MW-136B	12	2	17%	0.5	No	0.127	No	NT	NT	NT
MW-137B	12	1	8%	0.16	No	0.0533	No	NT	NT	ND*
MW-138B	12	1	8%	0.15	No	0.053	No	NT	NT	ND*
MW-139B	12	1	8%	0.12	No	0.0521	No	NT	NT	ND*
MW-140B	4	4	100%	1.5	No	1.37	No	S	S	S
MW-140C	4	4	100%	2	No	1.87	No	NT	NT	NT

Notes:

1. Source OU locations were included as source wells in the spatial analysis of the intermediate Muscoy OU.
   Wells were grouped according to operation unit, hydrostratigrapic zone (1) and screened interval indicated on Table 1.
2. Data between January 1999 and January 2007 were included in the trend analyses. 'Number of Samples' indicates the number of quarters the well was sampled for the indicated compound, and 'Number of Detections' indicates the number of quarters the compound was detected between 1999 and 2007.
3. Trends evaluated using the Mann-Kendall (MK) and Linear Regression (LR) methods are shown. Overall Trend is a combination of MK and LR results.
   Trend results: I = Increasing, PI = Probably Increasing, S = Stable, PD = Probably Decreasing, D = Decreasing,
   NT = No Trend, N/A = Insufficient data to determine trend, ND = Non-detect for all events, ND*= Only one detection.
4. Maximum Result is the maximum value for the entire data set (date range for each well indicated in Table 1).
   Average Result is the average concentration at the monitoring location for all samples between 1999 and 2007.
5. Screening levels were set to the USEPA MCL for PCE and TCE = 0.005 mg/L.
   "Above Screening Level" indicates locations where the indicated result is above the MCL.

TABLE B.9
WELL TREND SUMMARY RESULTS: 1999-2007

DEEP ZONE MUSCOY OU
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

WellName	1999-2007			Maximum Historic Result 1987 - 2006 [ug/L]	Max Result Above MCL?	Average Result [ug/L]	Average Result Above MCL?	Mann Kendall Trend	Linear Regression Trend	Overall Trend Result
	Number of Samples	Number of Detects	Percent Detection 1999-2007							
Tetrachloroethene (PCE) -- Muscoy Deep Zone										
EW-109PZC	6	4	67%	0.67	No	0.42	No	NT	NT	NT
EW-110PZE	8	4	50%	0.86	No	0.454	No	NT	NT	NT
EW-111PZD	8	7	88%	11	Yes	2.36	No	D	D	D
MW-129C	18	1	6%	2	No	0.5	No	S	I	ND*
MW-136C	12	0	0%	ND	No	<0.5	No	--	--	ND
MW-137C	12	1	8%	0.5	No	0.5	No	NT	D	ND*
MW-138C	12	0	0%	ND	No	<0.5	No	--	--	ND
MW-139C	12	0	0%	ND	No	<0.5	No	--	--	ND
Trichloroethene (TCE) -- Muscoy Deep Zone										
EW-109PZC	6	1	17%	0.14	No	0.44	No	S	S	ND*
EW-110PZE	8	3	38%	0.5	No	0.455	No	PD	S	S
EW-111PZD	8	3	38%	1.2	No	0.598	No	S	PD	S
MW-129C	18	1	6%	0.5	No	0.5	No	S	I	ND*
MW-136C	12	1	8%	0.12	No	0.489	No	S	S	ND*
MW-137C	12	1	8%	0.5	No	0.5	No	NT	D	ND*
MW-138C	12	0	0%	ND	No	<0.5	No	--	--	ND
MW-139C	12	0	0%	ND	No	<0.5	No	--	--	ND

Notes:
1. Wells were grouped according to operation unit, hydrostratigrapic zone (3) and screened interval indicated on Table 1.
2. Data between January 1999 and January 2007 were included in the trend analyses. 'Number of Samples' indicates the number of quarters the well was sampled for the indicated compound, and 'Number of Detections' indicates the number of quarters the compound was detected between 1999 and 2007.
3. Trends evaluated using the Mann-Kendall (MK) and Linear Regression (LR) methods are shown. Overall Trend is a combination of MK and LR results.
   Trend results: I = Increasing, PI = Probably Increasing, S = Stable, PD = Probably Decreasing, D = Decreasing,
   NT = No Trend, N/A = Insufficient data to determine trend, ND = Non-detect for all events; ND*= one detection early in the record.
4. Maximum Result is the maximum value for the entire data set (date range for each well indicated in Table B1).
   Average Result is the average concentration at the monitoring location for all samples between 1999 and 2007.
5. Screening levels were set to the USEPA MCL for PCE and TCE = 0.005 mg/L.
   "Above Screening Level" indicates locations where the indicated result is above the MCL.

TABLE B.10
WELL TREND SUMMARY RESULTS: 2006-2007

MW-140 Well Cluster
LONG-TERM MONITORING OPTIMIZATION
San Bernardino, California

WellName	Screen Depth [ft bgs]	Number of Samples	Number of Detects	Percent Detection 2006-2007	Maximum Historic Result [ug/L]	Max Result Above MCL?	Average Result [ug/L]	Average Result Above MCL?	Mann Kendall Trend	Linear Regression Trend	Overall Trend Result
Tetrachloroethene (PCE) -- MW-140 Well Cluster											
MW-140A330	330	1	1	100%	2.2	No	2.2	No	N/A	N/A	N/A
MW-140A340	340	4	4	100%	4.2	No	3.88	No	NT	NT	NT
MW-140A350	350	4	4	100%	5.3	Yes	3.45	No	D	PD	PD
MW-140A360	360	4	4	100%	4.6	No	3	No	S	PD	S
MW-140A370	370	4	4	100%	6.1	Yes	5.15	Yes	S	S	S
MW-140A380	380	4	4	100%	7.8	Yes	6.48	Yes	D	D	D
MW-140A390	390	4	4	100%	6.2	Yes	4.83	No	S	S	S
MW-140B	243	4	4	100%	7	Yes	6.05	Yes	S	PD	S
MW-140C	312	4	4	100%	13	Yes	12	Yes	S	S	S
Trichloroethene (TCE) -- MW-140 Well Cluster											
MW-140A330	330	1	0	0%	ND	No	<0.5	No	N/A	N/A	ND
MW-140A340	340	4	4	100%	1	No	0.805	No	NT	NT	NT
MW-140A350	350	4	4	100%	1.2	No	0.963	No	S	PD	S
MW-140A360	360	4	4	100%	1.2	No	1.01	No	S	S	S
MW-140A370	370	4	4	100%	1.9	No	1.45	No	S	S	S
MW-140A380	380	4	4	100%	1.5	No	1.21	No	S	S	S
MW-140A390	390	4	4	100%	1.5	No	1.16	No	S	S	S
MW-140B	243	4	4	100%	1.5	No	1.17	No	S	S	S
MW-140C	312	4	4	100%	2	No	1.83	No	NT	NT	NT

Notes:

1. The MW-140 well cluster is located in the Muscoy OU.
2. Data between May 2006 and January 2007 were included in the trend analyses. 'Number of Samples' indicates the number of samples in the interval. for the indicated compound, and 'Number of Detections' indicates the number of samples where the COC was detected.
3. Trends evaluated using the Mann-Kendall (MK) and Linear Regression (LR) methods are shown. Overall Trend is a combination of MK and LR results. Trend results: I = Increasing, PI = Probably Increasing, S = Stable, PD = Probably Decreasing, D = Decreasing, NT = No Trend, N/A = Insufficient data to determine trend, ND = Non-detect for all events.
4. Maximum Result is the maximum value for the entire data set (date range for each well indicated in Table B1). Average Result is the average concentration at the monitoring location for all samples between 2006 and 2007.
5. Screening levels were set to the USEPA MCL for PCE and TCE = 0.005 mg/L. "Above Screening Level" indicates locations where the average result is above the MCL.

TABLE B.11
MCES SAMPLING FREQUENCY ANALYSIS RESULTS

SOURCE OU
LONG-TERM MONITORING OPTIMIZATION
Newmark Superfund Site, San Bernardino, California

Well Name	Recent Concentration Rate of Change [mg/yr]	Recent MK Trend (2005-2007)	Frequency Based on Recent Data	Overall Concentration Rate of Change [mg/yr]	Overall MK Trend (1987-2007)	Frequency Based on Overall Data	Final Result Frequency	Current Sample Frequency	Final Recommended Frequency
Tetrachloroethene (PCE) -- Newmark Source Zone									
CJ-1	0	D	Annual	-2.85E-07	D	Annual	Biennial	Quarterly	Biennial
CJ-10	-8.25E-06	S	Annual	-1.71E-06	D	Annual	Annual	Semi-annual	Semi-annual
CJ-11	-1.58E-05	NT	Annual	1.68E-06	I	Annual	Annual	Semi-annual/Quarterly	Annual
CJ-12	0	N/A	Annual	7.53E-09	I	Annual	Annual	Semi-annual	Annual
CJ-13	0	N/A	Annual	6.56E-08	PI	Annual	Annual	Semi-annual	Biennial
CJ-14	0	N/A	Annual	1.02E-07	NT	Annual	Annual	Semi-annual	Biennial
CJ-15	0	S	Annual	1.76E-06	I	Annual	Annual	Semi-annual/Quarterly	Semi-annual
CJ-16	0	NT	Annual	-2.79E-08	S	Annual	Annual	Semi-annual/Quarterly	Semi-annual
CJ-17	0	NT	Annual	-6.17E-06	D	Annual	Annual	Semi-annual	Semi-annual
CJ-1A	0	S	Annual	-1.38E-07	D	Annual	Biennial	Quarterly	Biennial
CJ-2	0	D	Annual	-1.12E-07	D	Annual	Biennial	Quarterly	Biennial
CJ-3	0	NT	Annual	-8.69E-06	D	Annual	Biennial	Quarterly	Semi-annual
CJ-6	0	NT	SemiAnnual	-3.35E-07	I	Annual	SemiAnnual	Quarterly	Semi-annual
CJ-7	0	N/A	Annual	-4.17E-07	D	Annual	Annual	Semi-annual (2005)	Annual
CJ-8	7.64E-07	NT	Annual	6.11E-07	I	Annual	Annual	Semi-annual	Annual
MWCOE001A	0	N/A	Annual	-1.10E-06	S	Annual	Annual	Semi-annual	Biennial
MWCOE001B	0	NT	Annual	-3.35E-06	D	Annual	Annual	Semi-annual	Semi-annual
MWCOE002	0	N/A	Annual	0.00E+00	S	Annual	Annual	Semi-annual	Biennial
MWCOE003	0	N/A	Annual	2.79E-07	NT	Annual	Annual	Semi-annual	Annual
MWCOE004	0	NT	Annual	-1.51E-05	S	Annual	Annual	Semi-annual	Semi-annual
MWCOE005	0	I	Annual	-7.70E-07	D	Annual	Annual	Semi-annual	Biennial
MWCOE006	0	N/A	Annual	-2.65E-08	NT	Annual	Annual	Semi-annual	Annual
MWCOE007	0	NT	Annual	-3.76E-07	S	Annual	Annual	Semi-annual	Biennial
MWCOE008	0	S	Annual	0	PD	Annual	Biennial	Semi-annual	Biennial
MWCOE009	0	S	Annual	0	PD	Annual	Biennial	Semi-annual	Biennial

Notes:
1. 'Recent' concentration rate of change and MK trend is calculated from data collected Apr. 2005 - Jan. 2007.
2. D = Decreasing, PD = Probably Decreasing, S = Stable, NT = No Trend, PI = Probably Increasing, I = Increasing, ND = Non-detect, N/A = insufficient data, "--" = no result.
3. Recent data frequency is the estimated sample frequency based on the recent trend.
4. Overall rate of change and MK trend are for the full data set (see Table B1) for each well.
5. The overall result is the estimated sample frequncy based on the full data record.
6. Final Result Frequency is the recommended frequency based on both recent and overall trends.
7. Current frequency is the approximate sample frequency currently implemented.
8. The final recommended sampling frequency is based on a combination of qualitative and statistical evaluations.

TABLE B.12
MCES SAMPLING FREQUENCY ANALYSIS RESULTS

NEWMARK OU SHALLOW ZONE
LONG-TERM MONITORING OPTIMIZATION
Newmark Superfund Site, San Bernardino, California

Well Name	Recent Concentration Rate of Change [mg/yr]	Recent MK Trend (2005-2007)	Frequency Based on Recent Data	Overall Concentration Rate of Change [mg/yr]	Overall MK Trend (1987-2007)	Frequency Based on Overall Data	Final Result Frequency	Current Sample Frequency	Final Recommended Frequency
Tetrachloroethene (PCE) -- Newmark Shallow Zone									
EW-108PA	0	NT	Annual	0	NT	Annual	Annual	Quarterly	Semi-annual
EW-2PA	0	N/A	Annual	0	I	Annual	Annual	Semi-annual (2005)	Semi-annual
EW-3PA	0	N/A	Annual	2.10E-08	NT	Annual	Annual	Semi-annual (2005)	Semi-annual
EW-4PA	0	N/A	Annual	6.07E-09	S	Annual	Annual	Semi-annual (2005)	Semi-annual
EW-5PA	0	N/A	Annual	2.09E-08	NT	Annual	Annual	Semi-annual (2005)	Semi-annual
EW-6	0	N/A	SemiAnnual	-5.81909E-07	D	SemiAnnual	SemiAnnual	Semi-annual (2005)	SemiAnnual
EW-6PA	0	N/A	Annual	-1.50191E-07	S	Annual	Annual	Semi-annual (2005)	Annual
EW-7	0	N/A	SemiAnnual	-8.32241E-07	D	SemiAnnual	SemiAnnual	Semi-annual (2005)	Semi-annual
MUNI-01	0	N/A	Annual	2.68273E-08	NT	Annual	Annual	Semi-annual	Annual
MUNI-07B	0	N/A	Annual	4.01995E-09	NT	Annual	Annual	Semi-annual	Annual
MUNI-09B	0	N/A	Annual	-2.79964E-06	D	Annual	Annual	Semi-annual	Annual
MUNI-11A	0	N/A	Annual	-6.21716E-06	NT	Annual	Annual	Semi-annual	Annual
MUNI-13	-6.03001E-07	S	Annual	-2.15026E-06	D	Annual	Biennial	Semi-annual	Annual
MUNI-16	0	N/A	SemiAnnual	-6.81402E-06	D	SemiAnnual	SemiAnnual	Semi-annual	Semi-annual
MW02A	0	S	Annual	-6.40301E-09	S	Annual	Biennial	Semi-annual	Biennial
MW03A	0	S	Annual	3.48827E-09	S	Annual	Biennial	Semi-annual	Biennial
MW04A	0	N/A	Annual	-6.36251E-09	S	Annual	Annual	Semi-annual	Biennial
MW05A	0	S	Annual	-5.18044E-08	NT	Annual	Biennial	Semi-annual	Biennial
MW06A	0	N/A	Annual	2.3816E-39	S	Annual	Annual	Semi-annual	Biennial
MW07A	0	N/A	Quarterly	-2.56685E-06	D	Quarterly	Quarterly	Semi-annual (2005)	Semi-annual
MW08A	0	N/A	Annual	-5.68816E-08	D	Annual	Annual	Semi-annual	Annual
MW09A	0	N/A	Quarterly	1.3943E-07	NT	Quarterly	Quarterly	Semi-annual (2005)	Semi-annual
MW12A	0	N/A	Annual	5.26805E-08	I	Annual	Annual	Semi-annual (2005)	Semi-annual
MW14A	0	N/A	Annual	6.24782E-08	NT	Annual	Annual	Semi-annual (2005)	Semi-annual
MW16A	0	N/A	Annual	3.28799E-07	NT	Annual	Annual	Semi-annual (2005)	Annual
MW17A	0	N/A	Annual	-9.10897E-09	S	Annual	Annual	Semi-annual (2005)	Biennial

Notes:
1. 'Recent' concentration rate of change and MK trend is calculated from data collected Apr. 2005 - Jan. 2007.
2. D = Decreasing, PD = Probably Decreasing, S = Stable, NT = No Trend, PI = Probably Increasing, I = Increasing, ND = Non-detect, N/A = insufficient data, "--" = no result.
3. Recent data frequency is the estimated sample frequency based on the recent trend.
4. Overall rate of change and MK trend are for the full data set (see Table B1) for each well.
5. The overall result is the estimated sample frequncy based on the full data record.
6. Final Result Frequency is the recommended frequency based on both recent and overall trends.
7. Current frequency is the approximate sample frequency currently implemented.
8. The final recommended sampling frequency is based on a combination of qualitative and statistical evaluations.

TABLE B.13
MCES SAMPLING FREQUENCY ANALYSIS RESULTS

NEWMARK OU INTERMEDIATE ZONE
LONG-TERM MONITORING OPTIMIZATION
Newmark Superfund Site, San Bernardino, California

Well Name	Recent Concentration Rate of Change [mg/yr]	Recent MK Trend (2005-2007)	Frequency Based on Recent Data	Overall Concentration Rate of Change [mg/yr]	Overall MK Trend	Frequency Based on Overall Data	Final Result Frequency	Current Frequency	Final Recommended Frequency
Tetrachloroethene (PCE) -- Newmark Intermediate Zone									
EW-1PA	-3.06E-08	S	Annual	5.81E-09	NT	Annual	Biennial	Semi-annual (2005)	Semi-annual
EW-7PA	0	N/A	Annual	-3.07E-07	NT	Annual	Annual	Semi-annual (2005)	Annual
MUNI-07C	0	NT	Annual	-3.04E-08	S	Annual	Biennial	Semi-annual	Annual
MUNI-09C	0	S	Annual	1.43E-06	I	Annual	Annual	Semi-annual	Semi-annual
MUNI-14	0	S	Annual	-1.41E-06	D	Annual	Annual	Semi-annual	SemiAnnual
MUNI-18	0	NT	Annual	7.72E-07	I	Annual	Annual	Semi-annual	Annual
MUNI-22	0	S	Annual	-2.21E-07	NT	Annual	Biennial	Semi-annual	Annual
MUNI-24	0	N/A	Annual	-2.70E-08	NT	Annual	Annual	Annual	Annual
MW02B	0	NT	Annual	-2.96E-06	PD	Annual	Biennial	Semi-annual	Biennial
MW03B	0	S	Annual	-2.39E-06	NT	Annual	Biennial	Semi-annual	Biennial
MW04B	-1.34E-06	S	Annual	-3.82E-06	D	Annual	Annual	Semi-annual	Annual
MW05B	0	S	Annual	-5.08E-06	D	Annual	Biennial	Semi-annual	Annual
MW06B	0	S	Annual	0.00E+00	S	Annual	Biennial	Semi-annual	Biennial
MW07B	0	S	Annual	-4.16E-06	D	Annual	Biennial	Semi-annual (2005)	Annual
MW08B	0	I	Annual	-6.79E-06	D	Annual	Annual	Semi-annual	Annual
MW09B	0	NT	Annual	-1.64E-06	D	Annual	Annual	Semi-annual (2005)	Semi-annual
MW10A	0	S	Annual	-1.57E-23	S	Annual	Biennial	Semi-annual (2005)	Biennial
MW10B	0	S	Annual	-1.28E-07	D	Annual	Biennial	Semi-annual (2005)	Biennial
MW11A	0	S	Annual	-6.06E-24	S	Annual	Biennial	Semi-annual (2005)	Annual
MW12B	0	S	Annual	0	S	Annual	Biennial	Semi-annual (2005)	Semi-annual
MW13A	0	S	Annual	0	S	Annual	Biennial	Semi-annual (2005)	Semi-annual
MW13B	0	S	Annual	0	S	Annual	Biennial	Semi-annual (2005)	Semi-annual
MW14B	0	S	Annual	0	S	Annual	Biennial	Semi-annual (2005)	Semi-annual
MW15A	0	S	Annual	1.93E-09	S	Annual	Biennial	Semi-annual (2005)	Semi-annual
MW16B	0	N/A	Quarterly	-5.71E-06	D	Quarterly	Quarterly	Semi-annual (2005)	Semi-annual
MW17B	-3.87301E-07	S	Annual	-5.42E-07	NT	Annual	Annual	Semi-annual (2005)	Annual

Notes:
1. 'Recent' concentration rate of change and MK trend is calculated from data collected Apr. 2005 - Jan. 2007.
2. D = Decreasing, PD = Probably Decreasing, S = Stable, NT = No Trend, PI = Probably Increasing, I = Increasing, ND = Non-detect, N/A = insufficient data, "--" = no result.
3. Recent data frequency is the estimated sample frequency based on the recent trend.
4. Overall rate of change and MK trend are for the full data set (see Table B1) for each well.
5. The overall result is the estimated sample frequncy based on the full data record.
6. Final Result Frequency is the recommended frequency based on both recent and overall trends.
7. Current frequency is the approximate sample frequency currently implemented.
8. The final recommended sampling frequency is based on a combination of qualitative and statistical evaluations.

TABLE B.14
MCES SAMPLING FREQUENCY ANALYSIS RESULTS

NEWMARK OU DEEP ZONE
LONG-TERM MONITORING OPTIMIZATION
Newmark Superfund Site, San Bernardino, California

Well Name	Recent Concentration Rate of Change [mg/yr]	Recent MK Trend (2005-2007)	Frequency Based on Recent Data	Overall Concentration Rate of Change [mg/yr]	Overall MK Trend	Frequency Based on Overall Data	Final Result Frequency	Current Frequency	Final Recommended Frequency
Tetrachloroethene (PCE) -- Newmark Deep Zone									
EW-1	0	N/A	Quarterly	2.26E-06	I	Quarterly	Quarterly	Semi-annual (2005)	Semi-annual
EW-108	1.76E-06	PI	Annual	1.80E-06	I	Annual	Annual	Quarterly	Semi-annual
EW-108PB	1.31E-09	NT	Annual	-7.97E-08	S	Annual	Biennial	Quarterly	Semi-annual
EW-1PB	0	N/A	Annual	1.01E-06	I	Annual	Annual	Semi-annual (2005)	Annual
EW-2	0	N/A	Quarterly	1.76E-06	I	Quarterly	Quarterly	Semi-annual (2005)	Annual
EW-2PB	0	N/A	SemiAnnual	1.36E-06	I	SemiAnnual	SemiAnnual	Semi-annual (2005)	Semi-annual
EW-3	0	N/A	SemiAnnual	-1.65E-07	S	SemiAnnual	SemiAnnual	Semi-annual (2005)	Annual
EW-3PB	0	N/A	SemiAnnual	9.43E-07	I	SemiAnnual	SemiAnnual	Semi-annual (2005)	Semi-annual
EW-4	0	N/A	Annual	-4.34E-07	S	Annual	Annual	Semi-annual (2005)	Annual
EW-4PB	0	N/A	Annual	1.73E-08	NT	Annual	Annual	Semi-annual (2005)	Annual
EW-5	0	N/A	Annual	-9.91E-08	D	Annual	Annual	Semi-annual (2005)	Annual
EW-5PB	0	N/A	Annual	4.92E-10	NT	Annual	Annual	Semi-annual (2005)	Semi-annual
MUNI-11C	0	N/A	Quarterly	-3.37E-06	D	Quarterly	Quarterly	Semi-annual	Semi-annual
MW04B	0	N/A	SemiAnnual	-3.86E-06	D	SemiAnnual	SemiAnnual	Semi-annual	Semi-annual
MW05B	1.08E-07	NT	Annual	-5.08E-06	D	Annual	Biennial	Semi-annual	Annual
MW08B	0	N/A	Annual	-6.77E-06	PD	Annual	Annual	Semi-annual	Annual
MW09B	0	N/A	Quarterly	-1.75E-06	D	Quarterly	Quarterly	Semi-annual (2005)	Semi-annual
MW10C	0	N/A	Quarterly	-4.21E-06	D	Quarterly	Quarterly	Semi-annual (2005)	Semi-annual
MW11B	0	N/A	Annual	-9.10E-06	D	Annual	Annual	Semi-annual (2005)	Annual
MW11C	0	N/A	Annual	6.62E-07	I	Annual	Annual	Semi-annual (2005)	Annual
MW12C	0	N/A	Annual	-1.72E-08	S	Annual	Annual	Semi-annual (2005)	Semi-annual
MW-135B	0	S	Annual	-2.00E-08	S	Annual	Biennial	Quarterly	Semi-annual
MW-135C	0	S	Annual	-1.73E-07	S	Annual	Biennial	Quarterly	Semi-annual
MW13C	0	N/A	Annual	0	S	Annual	Annual	Semi-annual (2005)	Annual
MW14C	0	N/A	Annual	-5.46E-07	D	Annual	Annual	Semi-annual (2005)	Annual
MW15B	0	N/A	Annual	0	S	Annual	Annual	Semi-annual (2005)	Biennial
MW15C	0	N/A	Annual	0	S	Annual	Annual	Semi-annual (2005)	Biennial
MW16B	0	N/A	Quarterly	-5.76E-06	D	Quarterly	Quarterly	Semi-annual (2005)	Exclude

Notes:
1. Current concentration rate of change is the rate of concentration change Apr. 2005 - Jan. 2007.
2. Current MK trend is the Mann-Kendall trend between Apr. 2005 and Jan. 2007.
3. Current Result is the estimated sample frequency based on the recent trend.
4. Overall rate of change and MK trend are for the entire data set for each well.
5. The overall result is the estimated sample frequncy based on the full data record.
6. Final Result Frequency is the recommended frequency based on both recent and overall trends.
7. Current frequency is the sample frequency currently implemented.

TABLE B.15
MCES SAMPLING FREQUENCY ANALYSIS RESULTS

MUSCOY OU SHALLOW ZONE
LONG-TERM MONITORING OPTIMIZATION
Newmark Superfund Site, San Bernardino, California

Well Name	Recent Concentration Rate of Change [mg/yr]	Recent MK Trend (2005-2007)	Frequency Based on Recent Data	Overall Concentration Rate of Change [mg/yr]	Overall MK Trend	Frequency Based on Overall Data	Final MAROS Frequency	Current Frequency	Final Recommended Frequency
Muscoy Shallows Zone Wells									
EW-108PA	-5.48E-06	NT	Annual	2.42E-07	NT	Annual	Annual	Quarterly	Semi-annual
EW-109PZA	-1.42E-06	S	Annual	-1.43E-06	S	Annual	Annual	Quarterly	Semi-annual
EW-110PZA	1.02E-06	NT	Annual	9.45E-07	NT	Annual	Annual	Quarterly	Semi-annual
EW-110PZB	-2.42E-07	S	Annual	4.11E-06	NT	Annual	Annual	Quarterly	Semi-annual
EW-111PZA	-6.86E-06	PD	Annual	-6.71E-06	PD	Annual	Annual	Quarterly	SemiAnnual
EW-112PA	-3.35E-06	D	Annual	-8.17E-08	PD	Annual	Annual	Quarterly	SemiAnnual
MUNI-102	--	N/A	Annual	-1.97E-08	S	Annual	Annual	Semi-annual	Annual
MUNI-103	--	N/A	Annual	-1.81E-08	NT	Annual	Annual	Semi-annual (2005)	Annual
MUNI-104A	--	N/A	SemiAnnual	--	N/A	SemiAnnual	SemiAnnual	Annual	Biennial
MW-127A	--	N/A	Annual	-4.85E-07	D	Annual	Annual	Semi-annual	Biennial
MW-127B	--	N/A	Annual	1.71E-07	NT	Annual	Annual	Semi-annual	Annual
MW-128A	2.23E-05	I	Quarterly	-5.27E-07	NT	Annual	Quarterly	Quarterly	SemiAnnual
MW-129A	-1.42E-07	S	Annual	-2.68E-07	D	Annual	Biennial	Quarterly	Biennial
MW-130A	-1.57E-06	D	Annual	-9.42E-07	D	Annual	Annual	Quarterly	Annual
MW-131A	--	N/A	Annual	-1.72E-07	S	Annual	Annual	Annual (2005)	Annual
MW-132A	1.97E-05	NT	SemiAnnual	-9.39E-08	NT	Annual	SemiAnnual	Semi-annual	Semi-annual
MW-133A	-5.07E-07	S	Annual	4.22E-07	PI	Annual	Biennial	Semi-annual	Annual
MW-134	--	S	Annual	-6.77E-08	NT	Annual	Biennial	Quarterly	Biennial
MW-135A	8.06E-07	S	Annual	1.65E-06	PI	Annual	Annual	Quarterly	Semi-annual
MW-137A	-4.49E-06	S	Annual	-5.25E-06	D	Annual	Annual	Quarterly	Semi-annual
MW-138A	-3.74E-07	S	Annual	1.09E-06	NT	Annual	Annual	Quarterly	Semi-annual
MW-139A	-1.22E-07	S	Annual	8.26E-08	NT	Annual	Biennial	Quarterly	Semi-annual

Notes:
1. 'Recent' concentration rate of change and MK trend is calculated from data collected Apr. 2005 - Jan. 2007.
2. D = Decreasing, PD = Probably Decreasing, S = Stable, NT = No Trend, PI = Probably Increasing, I = Increasing, ND = Non-detect, N/A = insufficient data, "--" = no result.
3. Recent data frequency is the estimated sample frequency based on the recent trend.
4. Overall rate of change and MK trend are for the full data set (see Table B1) for each well.
5. The overall result is the estimated sample frequncy based on the full data record.
6. Final Result Frequency is the recommended frequency based on both recent and overall trends.
7. Current frequency is the approximate sample frequency currently implemented.
8. The final recommended sampling frequency is based on a combination of qualitative and statistical evaluations.

TABLE B.16
MCES SAMPLING FREQUENCY ANALYSIS RESULTS

MUSCOY OU INTERMEDIATE ZONE
LONG-TERM MONITORING OPTIMIZATION
Newmark Superfund Site, San Bernardino, California

Well Name	Recent Concentration Rate of Change [mg/yr]	Recent MK Trend (2005-2007)	Frequency Based on Recent Data	Overall Concentration Rate of Change [mg/yr]	Overall MK Trend	Frequency Based on Overall Data	Final Result Frequency	Current Frequency	Final Recommended Frequency
Tetrachloroethane -- Muscoy Intermediate Zone Wells									
EW-109	-6.43E-06	D	Annual	-6.23E-06	D	Annual	Annual	Quarterly	Semi-annual
EW-109PZB	2.30E-06	NT	Annual	2.43E-06	NT	Annual	Annual	Quarterly	Semi-annual
EW-110	-7.93E-06	D	Annual	-7.70E-06	D	Annual	Annual	Quarterly	Semi-annual
EW-110PZC	8.33E-07	NT	Annual	7.62E-07	NT	Annual	Annual	Quarterly	Semi-annual
EW-110PZD	8.22E-06	PI	Annual	8.18E-06	I	SemiAnnual	SemiAnnual	Quarterly	Semi-annual
EW-111	-6.88E-06	D	Annual	-6.72E-06	D	Annual	Annual	Quarterly	Semi-annual
EW-111PZB	3.95E-06	NT	Annual	2.99E-06	NT	Annual	Annual	Quarterly	Semi-annual
EW-111PZC	1.58E-05	I	Quarterly	8.97E-06	I	SemiAnnual	Quarterly	Quarterly	Semi-annual
EW-112	-3.18E-06	D	Annual	-1.22933E-06	D	Annual	Annual	Quarterly	Semi-annual
EW-112PB	-2.29E-06	D	Annual	-2.71651E-07	PD	Annual	Annual	Quarterly	Semi-annual
MUNI-101	0.00E+00	N/A	Annual	4.47764E-08	S	Annual	Annual	Annual	Annual
MUNI-104B	0.00E+00	N/A	Quarterly	1.24261E-06	NT	Quarterly	Quarterly	Semi-annual	SemiAnnual
MUNI-108	0.00E+00	N/A	Annual	7.79345E-09	NT	Annual	Annual	Semi-annual	**Annual**
MUNI-116	0.00E+00	N/A	Annual	-2.88788E-07	NT	Annual	Annual	Semi-annual	Annual
MW-128B	0.00E+00	S	Annual	0	S	Annual	Biennial	Quarterly	Annual
MW-128C	-6.67E-08	S	Annual	8.78249E-10	S	Annual	Biennial	Quarterly	Annual
MW-129B	-7.16E-06	D	Annual	1.36647E-06	I	Annual	Annual	Quarterly	Annual
MW-130B	-4.81E-06	PD	Annual	-1.25943E-06	D	Annual	Annual	Quarterly	Annual
MW-130C	0.00E+00	S	Annual	-2.22632E-08	S	Annual	Biennial	Quarterly	Annual
MW-132B	-3.94E-07	S	Annual	-1.50772E-07	D	Annual	Biennial	Semi-annual	Biennial
MW-133B	-1.62E-08	S	Annual	-3.77618E-08	S	Annual	Biennial	Semi-annual	Annual
MW-136A	2.96E-08	NT	Annual	-1.31085E-07	NT	Annual	Biennial	Quarterly	Semi-annual
MW-136B	0.00E+00	S	Annual	-1.46135E-07	NT	Annual	Biennial	Quarterly	Semi-annual
MW-137B	-5.86E-08	S	Annual	8.343E-09	NT	Annual	Biennial	Quarterly	Semi-annual
MW-138B	0.00E+00	S	Annual	-8.35117E-39	S	Annual	Biennial	Quarterly	Semi-annual
MW-139B	0.00E+00	S	Annual	-8.35117E-39	S	Annual	Biennial	Quarterly	Semi-annual
MW-140B	-1.15E-05	S	Annual	-1.08696E-05	S	Annual	Annual	Quarterly (2006)	Semi-annual
MW-140C	8.99E-07	S	Annual	-2.45944E-22	S	Annual	Annual	Quarterly (2006)	Semi-annual

Notes:
1. 'Recent' concentration rate of change and MK trend is calculated from data collected Apr. 2005 - Jan. 2007.
2. D = Decreasing, PD = Probably Decreasing, S = Stable, NT = No Trend, PI = Probably Increasing, I = Increasing, ND = Non-detect, N/A = insufficient data, "--" = no result.
3. Recent data frequency is the estimated sample frequency based on the recent trend.
4. Overall rate of change and MK trend are for the full data set (see Table B1) for each well.
5. The overall result is the estimated sample frequncy based on the full data record.
6. Final Result Frequency is the recommended frequency based on both recent and overall trends.
7. Current frequency is the approximate sample frequency currently implemented.
8. The final recommended sampling frequency is based on a combination of qualitative and statistical evaluations.
9. Wells MW-131B and MW-131C had insufficient data for analysis.

TABLE B.17
MUSCOY OU MCES SAMPLING FREQUENCY ANALYSIS RESULTS: DEEP ZONE

MUSCOY OU DEEP ZONE
LONG-TERM MONITORING OPTIMIZATION
Newmark Superfund Site, San Bernardino, California

Well Name	Recent Concentration Rate of Change [mg/yr]	Recent MK Trend (2005-2007)	Frequency Based on Recent Data	Overall Concentration Rate of Change [mg/yr]	Overall MK Trend	Frequency Based on Overall Data	Final Result Frequency	Current Frequency	Final Recommended Frequency
Tetrachloroethane -- Muscoy Deep Zone Wells									
EW-109PZC	4.83E-08	S	Annual	3.59E-07	NT	Annual	Biennial	Quarterly	Semi-annual
EW-110PZE	4.78E-07	NT	Annual	3.33E-07	NT	Annual	Biennial	Quarterly	Semi-annual
EW-111PZD	-3.87E-06	NT	Annual	-1.22E-05	D	Annual	Annual	Quarterly	Semi-annual
MW-129C	0.00E+00	ND	Annual	-1.72E-23	S	Annual	Biennial	Quarterly	Semi-annual
MW-136C	0.00E+00	ND	Annual	0.00E+00	ND	Annual	Biennial	Quarterly	Semi-annual
MW-137C	-1.82E-22	S	Annual	6.17E-24	NT	Annual	Biennial	Quarterly	Semi-annual
MW-138C	0.00E+00	ND	Annual	0.00E+00	ND	Annual	Biennial	Quarterly	Semi-annual
MW-139C	0.00E+00	ND	Annual	0.00E+00	ND	Annual	Biennial	Quarterly	Semi-annual

Notes:
1. 'Recent' concentration rate of change and MK trend is calculated from data collected Apr. 2005 - Jan. 2007.
2. D = Decreasing, PD = Probably Decreasing, S = Stable, NT = No Trend, PI = Probably Increasing, I = Increasing, ND = Non-detect, N/A = insufficient data, "--" = no result.
3. Recent data frequency is the estimated sample frequency based on the recent trend.
4. Overall rate of change and MK trend are for the full data set (see Table B1) for each well.
5. The overall result is the estimated sample frequncy based on the full data record.
6. Final Result Frequency is the recommended frequency based on both recent and overall trends.
7. Current frequency is the approximate sample frequency currently implemented.
8. The final recommended sampling frequency is based on a combination of qualitative and statistical evaluations.

GROUNDWATER MONITORING NETWORK OPTIMIZATION
NEWMARK, MUSCOY AND SOURCE OU
NEWMARK SUPERFUND SITE

San Bernardino, California

APPENDIX C:

MAROS Reports

Source OU

COC Assessment Report
Mann-Kendall Reports

Newmark OU:

Mann-Kendall Reports

Muscoy OU:

Mann-Kendall Reports

GROUNDWATER MONITORING NETWORK OPTIMIZATION
NEWMARK, MUSCOY AND SOURCE OU
NEWMARK SUPERFUND SITE

San Bernardino, California

Source OU MAROS Reports

COC Assessment Report
Mann-Kendall Reports

MAROS COC Assessment

Project: Newmark Source OU **User Name:** MV

Location: San Bernardino **State:** California

Toxicity:

Contaminant of Concern	Representative Concentration (mg/L)	PRG (mg/L)	Percent Above PRG
TETRACHLOROETHYLENE(PCE)	5.7E-03	5.0E-03	13.7%

Note: Top COCs by toxicity were determined by examining a representative concentration for each compound over the entire site. The compound representative concentrations are then compared with the chosen PRG for that compound, with the percentage excedence from the PRG determining the compound's toxicity. All compounds above exceed the PRG.

Prevalence:

Contaminant of Concern	Class	Total Wells	Total Excedences	Percent Excedences	Total detects
TETRACHLOROETHYLENE(PCE)	ORG	26	7	26.9%	25

Note: Top COCs by prevalence were determined by examining a representative concentration for each well location at the site. The total excedences (values above the chosen PRGs) are compared to the total number of wells to determine the prevalence of the compound.

Mobility:

Contaminant of Concern	Kd
TETRACHLOROETHYLENE(PCE)	0.923

Note: Top COCs by mobility were determined by examining each detected compound in the dataset and comparing their mobilities (Koc's for organics, assume foc = 0.001, and Kd's for metals).

Contaminants of Concern (COC's)

DICHLORODIFLUOROMETHANE

TETRACHLOROETHYLENE(PCE)

TRICHLOROETHYLENE (TCE)

TRICHLOROFLUOROMETHANE

MAROS Statistical Trend Analysis Summary

Project: Newmark Source OU

User Name: MV

Location: San Bernardino

State: California

Time Period: 1/1/1999 **to** 1/1/2007

Consolidation Period: Quarterly

Consolidation Type: Median

Duplicate Consolidation: Average

ND Values: Specified Detection Limit

J Flag Values : Actual Value

Well	Source/ Tail	Number of Samples	Number of Detects	Average Conc. (mg/L)	Median Conc. (mg/L)	All Samples "ND" ?	Mann-Kendall Trend	Linear Regression Trend
DICHLORODIFLUOROMETHANE								
CJ-1	S	29	11	3.1E-04	8.0E-05	No	I	I
CJ-10	S	14	13	1.4E-02	9.0E-03	No	NT	S
CJ-11	S	18	17	1.9E-02	1.7E-02	No	NT	I
CJ-12	T	5	4	9.8E-04	1.0E-03	No	S	S
CJ-14	T	5	3	5.6E-04	8.0E-04	No	S	PD
CJ-15	T	18	17	1.9E-03	1.2E-03	No	NT	PI
CJ-16	S	29	29	6.1E-03	5.2E-03	No	S	S
CJ-17	S	14	14	5.3E-03	4.5E-03	No	S	S
CJ-1A	S	19	4	3.0E-04	8.0E-05	No	PI	I
CJ-2	S	15	4	2.3E-04	8.0E-05	No	I	I
CJ-3	S	15	12	2.0E-03	9.6E-04	No	PD	D
CJ-6	S	29	28	7.9E-03	7.2E-03	No	D	D
CJ-7	S	13	2	1.2E-04	8.0E-05	No	NT	NT
CJ-8	S	13	11	5.4E-04	5.0E-04	No	NT	NT
MW-127A	T	11	8	4.1E-03	6.0E-04	No	NT	NT
MW-127B	T	11	4	3.5E-03	8.0E-05	No	NT	PI
MWCOE001A	T	6	6	1.7E-02	1.5E-02	No	NT	D
MWCOE001B	T	13	12	1.5E-02	1.3E-02	No	NT	NT
MWCOE002	T	5	0	8.0E-05	8.0E-05	Yes	S	S
MWCOE003	T	5	1	1.2E-04	8.0E-05	No	NT	NT
MWCOE004	S	6	4	4.5E-04	2.6E-04	No	NT	PD
MWCOE005	S	13	13	3.8E-03	3.0E-03	No	NT	NT
MWCOE006	S	12	6	4.1E-04	1.9E-04	No	NT	NT
MWCOE007	S	13	11	1.3E-03	8.3E-04	No	S	PD
MWCOE008	S	6	5	1.4E-03	7.5E-04	No	NT	NT
MWCOE009	S	6	3	3.3E-04	2.5E-04	No	NT	I
TETRACHLOROETHYLENE(PCE)								
CJ-1	S	29	24	8.0E-04	7.5E-04	No	S	I
CJ-10	S	14	13	3.6E-02	3.5E-02	No	S	NT
CJ-11	S	18	15	4.9E-03	6.0E-03	No	PI	I
CJ-12	T	5	4	1.3E-03	1.1E-03	No	D	D
CJ-14	T	5	3	6.4E-04	5.2E-04	No	NT	NT
CJ-15	T	18	18	5.2E-03	4.2E-03	No	NT	I
CJ-16	S	29	29	1.0E-02	9.7E-03	No	D	D

MAROS Statistical Trend Analysis Summary

Well	Source/ Tail	Number of Samples	Number of Detects	Average Conc. (mg/L)	Median Conc. (mg/L)	All Samples "ND" ?	Mann-Kendall Trend	Linear Regression Trend
TETRACHLOROETHYLENE(PCE)								
CJ-17	S	14	14	2.0E-02	2.0E-02	No	PD	D
CJ-1A	S	19	0	8.0E-05	8.0E-05	Yes	S	D
CJ-2	S	15	4	2.6E-04	8.0E-05	No	I	I
CJ-3	S	15	15	5.1E-03	2.7E-03	No	NT	D
CJ-6	S	29	28	6.6E-03	7.2E-03	No	PI	S
CJ-7	S	13	5	2.0E-04	8.0E-05	No	I	I
CJ-8	S	13	13	3.9E-03	4.0E-03	No	D	D
MW-127A	T	11	11	8.2E-04	6.0E-04	No	D	D
MW-127B	T	11	8	4.5E-04	2.0E-04	No	NT	NT
MWCOE001A	T	6	6	4.7E-03	4.5E-03	No	S	D
MWCOE001B	T	13	12	9.2E-03	1.2E-02	No	D	D
MWCOE002	T	5	0	8.0E-05	8.0E-05	Yes	S	S
MWCOE003	T	5	3	5.2E-04	5.6E-04	No	NT	I
MWCOE004	S	6	6	1.5E-02	1.2E-02	No	S	PD
MWCOE005	S	13	13	2.9E-03	3.0E-03	No	D	D
MWCOE006	S	12	2	1.5E-04	8.0E-05	No	NT	NT
MWCOE007	S	13	13	2.9E-03	3.4E-03	No	S	S
MWCOE008	S	6	4	1.9E-04	1.6E-04	No	PD	D
MWCOE009	S	6	6	6.2E-04	6.2E-04	No	PD	S
TRICHLOROETHYLENE (TCE)								
CJ-1	S	29	0	5.0E-05	5.0E-05	Yes	S	S
CJ-10	S	14	14	2.6E-03	2.7E-03	No	S	I
CJ-11	S	18	2	2.0E-04	5.0E-05	No	NT	NT
CJ-12	T	5	0	5.0E-05	5.0E-05	Yes	S	S
CJ-14	T	5	1	2.4E-04	5.0E-05	No	NT	NT
CJ-15	T	18	12	3.1E-04	2.5E-04	No	S	NT
CJ-16	S	29	29	2.4E-03	2.3E-03	No	D	D
CJ-17	S	14	14	6.9E-04	7.0E-04	No	D	D
CJ-1A	S	2	0	5.0E-05	5.0E-05	Yes	N/A	N/A
CJ-2	S	7	1	9.3E-05	5.0E-05	No	NT	NT
CJ-3	S	15	8	6.2E-04	1.3E-04	No	NT	PD
CJ-6	S	29	28	2.3E-03	2.4E-03	No	PD	D
CJ-7	S	3	0	5.0E-05	5.0E-05	Yes	N/A	N/A
CJ-8	S	13	2	1.2E-04	5.0E-05	No	NT	NT
MW-127A	T	11	0	5.0E-05	5.0E-05	Yes	S	S
MW-127B	T	11	0	5.0E-05	5.0E-05	Yes	S	S
MWCOE001A	T	6	0	5.0E-05	5.0E-05	Yes	S	S
MWCOE001B	T	13	9	5.2E-04	6.0E-04	No	D	D
MWCOE002	T	5	0	5.0E-05	5.0E-05	Yes	S	S
MWCOE003	T	5	0	5.0E-05	5.0E-05	Yes	S	S
MWCOE004	S	6	0	5.0E-05	5.0E-05	Yes	S	S
MWCOE005	S	13	2	1.2E-04	5.0E-05	No	NT	NT
MWCOE006	S	12	2	1.3E-04	5.0E-05	No	NT	NT
MWCOE007	S	13	1	8.5E-05	5.0E-05	No	NT	NT
MWCOE008	S	6	0	5.0E-05	5.0E-05	Yes	S	S

MAROS Statistical Trend Analysis Summary

Well	Source/ Tail	Number of Samples	Number of Detects	Average Conc. (mg/L)	Median Conc. (mg/L)	All Samples "ND" ?	Mann-Kendall Trend	Linear Regression Trend
TRICHLOROETHYLENE (TCE)								
MWCOE009	S	6	0	5.0E-05	5.0E-05	Yes	S	S
TRICHLOROFLUOROMETHANE								
CJ-1	S	29	10	1.9E-04	5.0E-05	No	PI	I
CJ-10	S	14	14	3.1E-03	3.0E-03	No	S	S
CJ-11	S	18	15	1.8E-03	2.2E-03	No	NT	I
CJ-12	T	5	0	5.0E-05	5.0E-05	Yes	S	S
CJ-14	T	5	0	5.0E-05	5.0E-05	Yes	S	S
CJ-15	T	18	12	3.2E-04	2.6E-04	No	S	NT
CJ-16	S	29	29	1.8E-03	1.8E-03	No	PD	S
CJ-17	S	14	14	6.7E-04	6.6E-04	No	S	D
CJ-1A	S	19	0	5.0E-05	5.0E-05	Yes	S	S
CJ-2	S	15	0	5.0E-05	5.0E-05	Yes	S	S
CJ-3	S	15	6	2.6E-04	5.0E-05	No	NT	NT
CJ-6	S	29	28	1.7E-03	1.5E-03	No	D	D
CJ-7	S	13	0	5.0E-05	5.0E-05	Yes	S	S
CJ-8	S	13	5	1.4E-04	5.0E-05	No	NT	D
MW-127A	T	11	3	2.2E-04	5.0E-05	No	NT	NT
MW-127B	T	11	2	1.3E-04	5.0E-05	No	PI	PI
MWCOE001A	T	6	6	1.7E-03	2.0E-03	No	S	D
MWCOE001B	T	13	11	1.1E-03	1.0E-03	No	NT	S
MWCOE002	T	5	0	5.0E-05	5.0E-05	Yes	S	S
MWCOE003	T	5	0	5.0E-05	5.0E-05	Yes	S	S
MWCOE004	S	6	5	2.8E-04	2.7E-04	No	S	S
MWCOE005	S	13	12	7.2E-04	7.3E-04	No	S	S
MWCOE006	S	12	9	3.8E-04	4.1E-04	No	I	I
MWCOE007	S	13	2	1.2E-04	5.0E-05	No	NT	NT
MWCOE008	S	6	1	1.3E-04	5.0E-05	No	NT	PD
MWCOE009	S	6	2	6.5E-05	5.0E-05	No	NT	NT

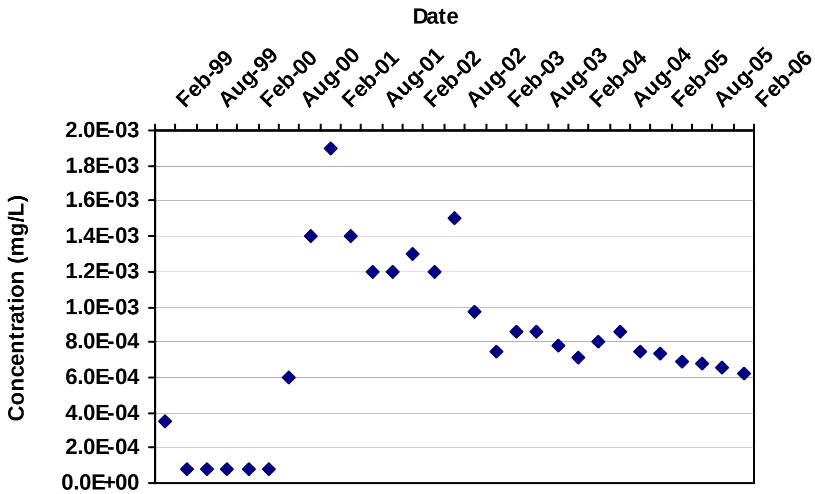
Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); No Detectable Concentration (NDC)

The Number of Samples and Number of Detects shown above are post-consolidation values.

MAROS Mann-Kendall Statistics Summary

Well: CJ-1
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -26

Confidence in Trend: 67.9%

Coefficient of Variation: 0.59

Mann Kendall Concentration Trend: (See Note) S

Data Table:

Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-1	S	2/15/1999	TETRACHLOROETHYLENE(PCE)	3.5E-04		1	1
CJ-1	S	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1	S	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1	S	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1	S	2/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1	S	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1	S	8/15/2000	TETRACHLOROETHYLENE(PCE)	6.0E-04		1	1
CJ-1	S	11/15/2000	TETRACHLOROETHYLENE(PCE)	1.4E-03		1	1
CJ-1	S	2/15/2001	TETRACHLOROETHYLENE(PCE)	1.9E-03		1	1
CJ-1	S	5/15/2001	TETRACHLOROETHYLENE(PCE)	1.4E-03		1	1
CJ-1	S	8/15/2001	TETRACHLOROETHYLENE(PCE)	1.2E-03		1	1
CJ-1	S	11/15/2001	TETRACHLOROETHYLENE(PCE)	1.2E-03		1	1
CJ-1	S	2/15/2002	TETRACHLOROETHYLENE(PCE)	1.3E-03		1	1
CJ-1	S	5/15/2002	TETRACHLOROETHYLENE(PCE)	1.2E-03		1	1
CJ-1	S	8/15/2002	TETRACHLOROETHYLENE(PCE)	1.5E-03		1	1
CJ-1	S	11/15/2002	TETRACHLOROETHYLENE(PCE)	9.7E-04		1	1
CJ-1	S	2/15/2003	TETRACHLOROETHYLENE(PCE)	7.5E-04		1	1
CJ-1	S	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.6E-04		1	1
CJ-1	S	8/15/2003	TETRACHLOROETHYLENE(PCE)	8.6E-04		1	1
CJ-1	S	11/15/2003	TETRACHLOROETHYLENE(PCE)	7.8E-04		1	1
CJ-1	S	2/15/2004	TETRACHLOROETHYLENE(PCE)	7.1E-04		1	1
CJ-1	S	5/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-04		1	1

MAROS Mann-Kendall Statistics Summary

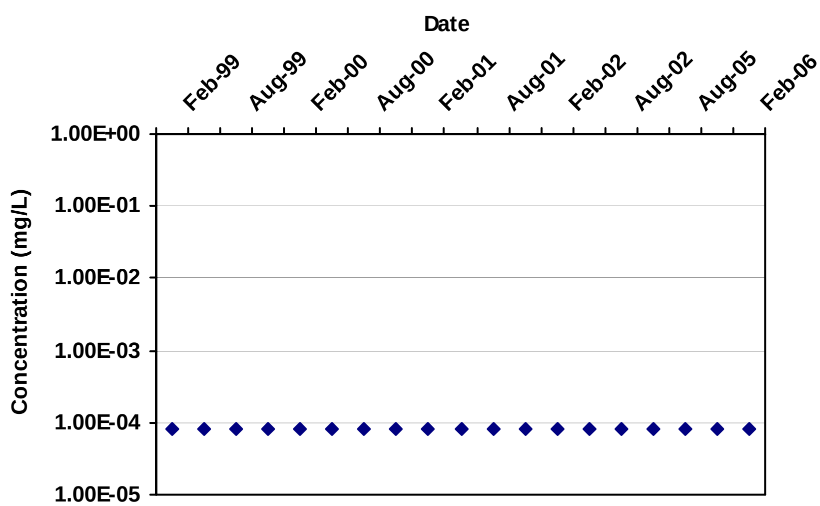
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-1	S	8/15/2004	TETRACHLOROETHYLENE(PCE)	8.6E-04		1	1
CJ-1	S	11/15/2004	TETRACHLOROETHYLENE(PCE)	7.5E-04		1	1
CJ-1	S	2/15/2005	TETRACHLOROETHYLENE(PCE)	7.3E-04		1	1
CJ-1	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	6.9E-04		1	1
CJ-1	S	8/15/2005	TETRACHLOROETHYLENE(PCE)	6.8E-04		1	1
CJ-1	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	6.6E-04		1	1
CJ-1	S	2/15/2006	TETRACHLOROETHYLENE(PCE)	6.2E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: CJ-1A
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 48.6%

Coefficient of Variation: 0.00

Mann Kendall Concentration Trend: (See Note) S

Data Table:

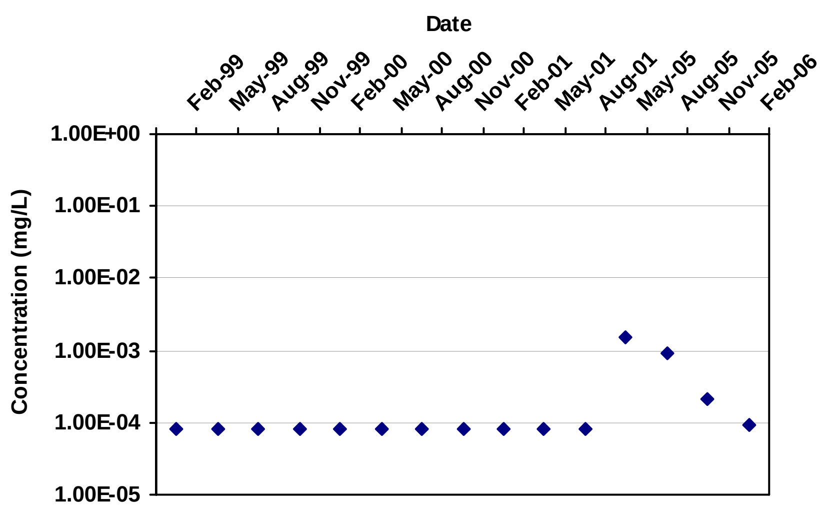
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-1A	S	2/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	2/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	8/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	2/15/2001	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	5/15/2001	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	8/15/2001	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	11/15/2001	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	2/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	5/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	8/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-1A	S	2/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: CJ-2
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:
38

Confidence in Trend:
96.7%

Coefficient of Variation:
1.71

Mann Kendall Concentration Trend: (See Note)
I

Data Table:

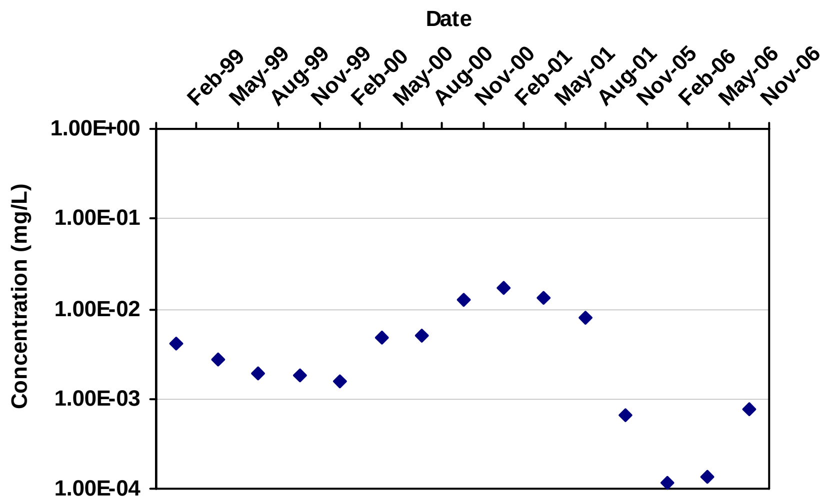
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-2	S	2/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-2	S	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-2	S	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-2	S	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-2	S	2/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-2	S	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-2	S	8/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-2	S	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-2	S	2/15/2001	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-2	S	5/15/2001	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-2	S	8/15/2001	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-2	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	1.5E-03		1	1
CJ-2	S	8/15/2005	TETRACHLOROETHYLENE(PCE)	9.2E-04		1	1
CJ-2	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	2.1E-04		1	1
CJ-2	S	2/15/2006	TETRACHLOROETHYLENE(PCE)	9.0E-05		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: CJ-3
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -15

Confidence in Trend: 75.2%

Coefficient of Variation: 1.07

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

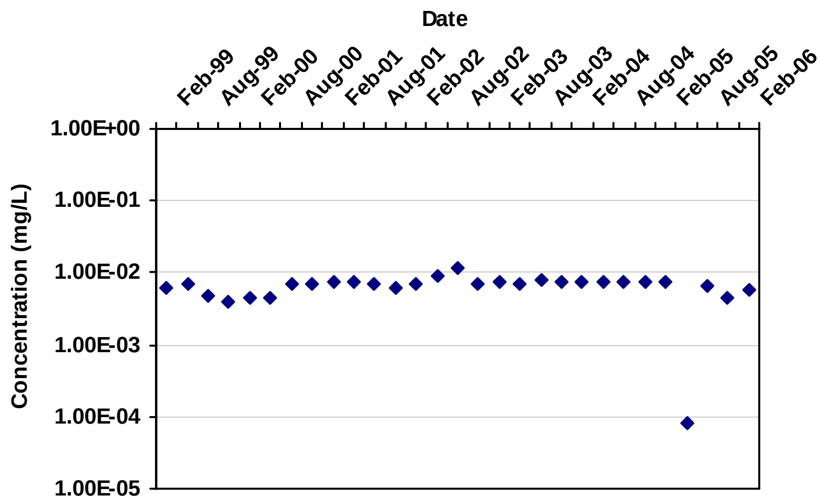
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-3	S	2/15/1999	TETRACHLOROETHYLENE(PCE)	4.1E-03		1	1
CJ-3	S	5/15/1999	TETRACHLOROETHYLENE(PCE)	2.7E-03		1	1
CJ-3	S	8/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
CJ-3	S	11/15/1999	TETRACHLOROETHYLENE(PCE)	1.8E-03		1	1
CJ-3	S	2/15/2000	TETRACHLOROETHYLENE(PCE)	1.6E-03		1	1
CJ-3	S	5/15/2000	TETRACHLOROETHYLENE(PCE)	4.8E-03		1	1
CJ-3	S	8/15/2000	TETRACHLOROETHYLENE(PCE)	5.1E-03		1	1
CJ-3	S	11/15/2000	TETRACHLOROETHYLENE(PCE)	1.3E-02		1	1
CJ-3	S	2/15/2001	TETRACHLOROETHYLENE(PCE)	1.7E-02		1	1
CJ-3	S	5/15/2001	TETRACHLOROETHYLENE(PCE)	1.3E-02		1	1
CJ-3	S	8/15/2001	TETRACHLOROETHYLENE(PCE)	8.0E-03		1	1
CJ-3	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	6.5E-04		1	1
CJ-3	S	2/15/2006	TETRACHLOROETHYLENE(PCE)	1.2E-04		1	1
CJ-3	S	5/15/2006	TETRACHLOROETHYLENE(PCE)	1.4E-04		1	1
CJ-3	S	11/15/2006	TETRACHLOROETHYLENE(PCE)	7.8E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: CJ-6
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 70

Confidence in Trend: 90.1%

Coefficient of Variation: 0.30

Mann Kendall Concentration Trend: (See Note) PI

Data Table:

Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-6	S	2/15/1999	TETRACHLOROETHYLENE(PCE)	6.0E-03		1	1
CJ-6	S	5/15/1999	TETRACHLOROETHYLENE(PCE)	7.2E-03		1	1
CJ-6	S	8/15/1999	TETRACHLOROETHYLENE(PCE)	4.7E-03		1	1
CJ-6	S	11/15/1999	TETRACHLOROETHYLENE(PCE)	3.9E-03		1	1
CJ-6	S	2/15/2000	TETRACHLOROETHYLENE(PCE)	4.5E-03		1	1
CJ-6	S	5/15/2000	TETRACHLOROETHYLENE(PCE)	4.6E-03		1	1
CJ-6	S	8/15/2000	TETRACHLOROETHYLENE(PCE)	7.1E-03		1	1
CJ-6	S	11/15/2000	TETRACHLOROETHYLENE(PCE)	7.1E-03		1	1
CJ-6	S	2/15/2001	TETRACHLOROETHYLENE(PCE)	7.3E-03		1	1
CJ-6	S	5/15/2001	TETRACHLOROETHYLENE(PCE)	7.3E-03		1	1
CJ-6	S	8/15/2001	TETRACHLOROETHYLENE(PCE)	7.2E-03		1	1
CJ-6	S	11/15/2001	TETRACHLOROETHYLENE(PCE)	6.0E-03		1	1
CJ-6	S	2/15/2002	TETRACHLOROETHYLENE(PCE)	7.2E-03		1	1
CJ-6	S	5/15/2002	TETRACHLOROETHYLENE(PCE)	9.1E-03		1	1
CJ-6	S	8/15/2002	TETRACHLOROETHYLENE(PCE)	1.2E-02		1	1
CJ-6	S	11/15/2002	TETRACHLOROETHYLENE(PCE)	6.8E-03		1	1
CJ-6	S	2/15/2003	TETRACHLOROETHYLENE(PCE)	7.7E-03		1	1
CJ-6	S	5/15/2003	TETRACHLOROETHYLENE(PCE)	6.9E-03		1	1
CJ-6	S	8/15/2003	TETRACHLOROETHYLENE(PCE)	7.8E-03		1	1
CJ-6	S	11/15/2003	TETRACHLOROETHYLENE(PCE)	7.3E-03		1	1
CJ-6	S	2/15/2004	TETRACHLOROETHYLENE(PCE)	7.3E-03		1	1
CJ-6	S	5/15/2004	TETRACHLOROETHYLENE(PCE)	7.3E-03		1	1

MAROS Mann-Kendall Statistics Summary

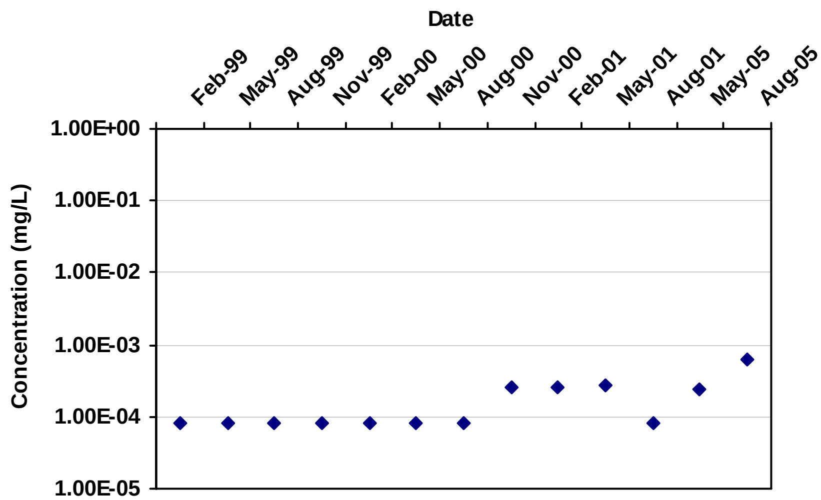
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-6	S	8/15/2004	TETRACHLOROETHYLENE(PCE)	7.5E-03		1	1
CJ-6	S	11/15/2004	TETRACHLOROETHYLENE(PCE)	7.4E-03		1	1
CJ-6	S	2/15/2005	TETRACHLOROETHYLENE(PCE)	7.6E-03		1	1
CJ-6	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-6	S	8/15/2005	TETRACHLOROETHYLENE(PCE)	6.5E-03		1	1
CJ-6	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	4.5E-03		1	1
CJ-6	S	2/15/2006	TETRACHLOROETHYLENE(PCE)	5.8E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: CJ-7
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 36

Confidence in Trend: 98.5%

Coefficient of Variation: 0.90

Mann Kendall Concentration Trend: (See Note) I

Data Table:

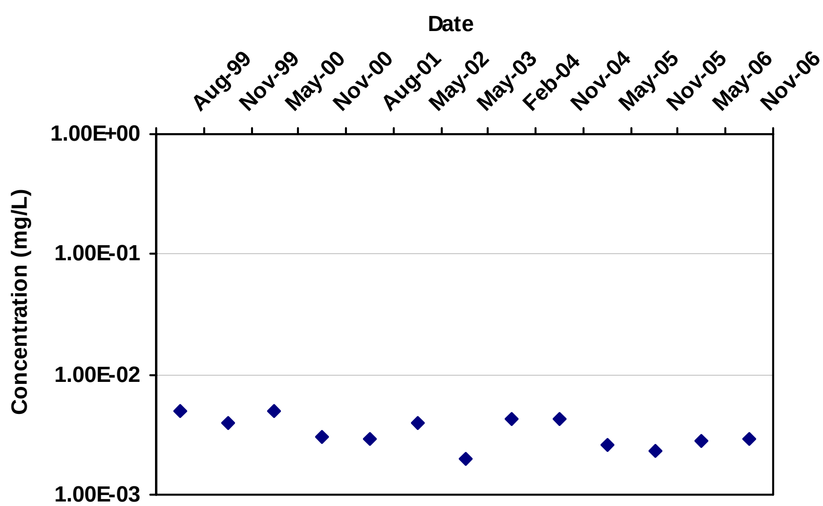
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-7	S	2/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-7	S	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-7	S	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-7	S	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-7	S	2/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-7	S	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-7	S	8/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-7	S	11/15/2000	TETRACHLOROETHYLENE(PCE)	2.6E-04		1	1
CJ-7	S	2/15/2001	TETRACHLOROETHYLENE(PCE)	2.5E-04		1	1
CJ-7	S	5/15/2001	TETRACHLOROETHYLENE(PCE)	2.7E-04		1	1
CJ-7	S	8/15/2001	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-7	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	2.5E-04		1	1
CJ-7	S	8/15/2005	TETRACHLOROETHYLENE(PCE)	6.3E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: CJ-8
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -31

Confidence in Trend: 96.7%

Coefficient of Variation: 0.29

Mann Kendall Concentration Trend: (See Note) D

Data Table:

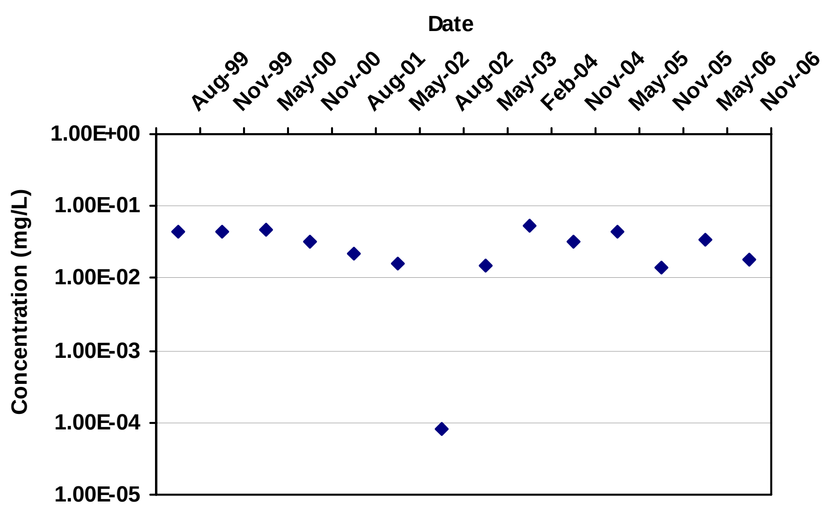
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-8	S	8/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
CJ-8	S	11/15/1999	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
CJ-8	S	5/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
CJ-8	S	11/15/2000	TETRACHLOROETHYLENE(PCE)	3.0E-03		1	1
CJ-8	S	8/15/2001	TETRACHLOROETHYLENE(PCE)	3.0E-03		1	1
CJ-8	S	5/15/2002	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
CJ-8	S	5/15/2003	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
CJ-8	S	2/15/2004	TETRACHLOROETHYLENE(PCE)	4.3E-03		1	1
CJ-8	S	11/15/2004	TETRACHLOROETHYLENE(PCE)	4.3E-03		1	1
CJ-8	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	2.6E-03		1	1
CJ-8	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	2.3E-03		1	1
CJ-8	S	5/15/2006	TETRACHLOROETHYLENE(PCE)	2.8E-03		1	1
CJ-8	S	11/15/2006	TETRACHLOROETHYLENE(PCE)	2.9E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: CJ-10
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:

-21

Confidence in Trend:

86.0%

Coefficient of Variation:

0.52

Mann Kendall Concentration Trend: (See Note)

S

Data Table:

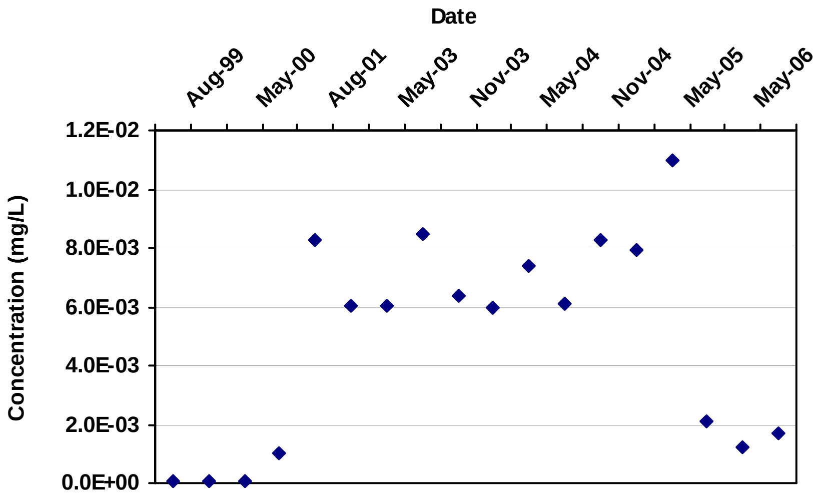
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-10	S	8/15/1999	TETRACHLOROETHYLENE(PCE)	4.3E-02		1	1
CJ-10	S	11/15/1999	TETRACHLOROETHYLENE(PCE)	4.3E-02		1	1
CJ-10	S	5/15/2000	TETRACHLOROETHYLENE(PCE)	4.7E-02		1	1
CJ-10	S	11/15/2000	TETRACHLOROETHYLENE(PCE)	3.2E-02		1	1
CJ-10	S	8/15/2001	TETRACHLOROETHYLENE(PCE)	2.3E-02		1	1
CJ-10	S	5/15/2002	TETRACHLOROETHYLENE(PCE)	1.7E-02		1	1
CJ-10	S	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-10	S	5/15/2003	TETRACHLOROETHYLENE(PCE)	1.6E-02		1	1
CJ-10	S	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.3E-02		1	1
CJ-10	S	11/15/2004	TETRACHLOROETHYLENE(PCE)	3.2E-02		1	1
CJ-10	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	4.3E-02		1	1
CJ-10	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	1.4E-02		1	1
CJ-10	S	5/15/2006	TETRACHLOROETHYLENE(PCE)	3.4E-02		1	1
CJ-10	S	11/15/2006	TETRACHLOROETHYLENE(PCE)	1.8E-02		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: CJ-11
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 39

Confidence in Trend: 92.4%

Coefficient of Variation: 0.72

Mann Kendall Concentration Trend: (See Note) PI

Data Table:

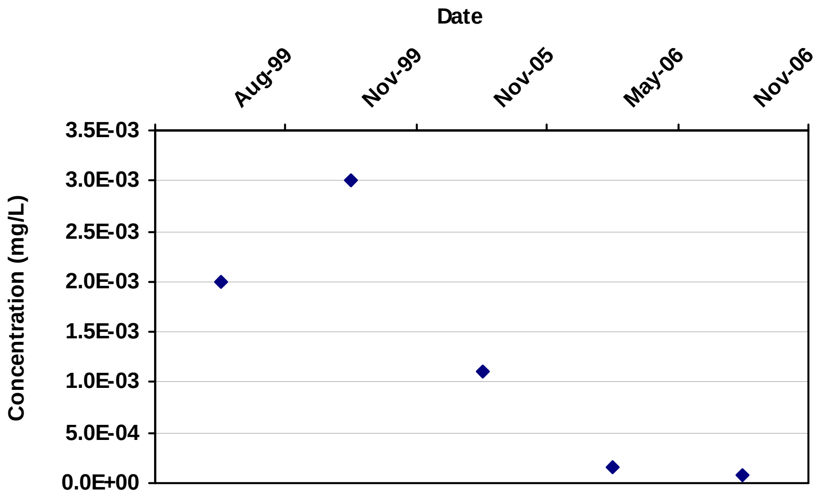
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-11	S	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-11	S	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-11	S	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-11	S	11/15/2000	TETRACHLOROETHYLENE(PCE)	1.0E-03		1	1
CJ-11	S	8/15/2001	TETRACHLOROETHYLENE(PCE)	8.3E-03		1	1
CJ-11	S	8/15/2002	TETRACHLOROETHYLENE(PCE)	6.0E-03		1	1
CJ-11	S	5/15/2003	TETRACHLOROETHYLENE(PCE)	6.0E-03		1	1
CJ-11	S	8/15/2003	TETRACHLOROETHYLENE(PCE)	8.5E-03		1	1
CJ-11	S	11/15/2003	TETRACHLOROETHYLENE(PCE)	6.4E-03		1	1
CJ-11	S	2/15/2004	TETRACHLOROETHYLENE(PCE)	6.0E-03		1	1
CJ-11	S	5/15/2004	TETRACHLOROETHYLENE(PCE)	7.4E-03		1	1
CJ-11	S	8/15/2004	TETRACHLOROETHYLENE(PCE)	6.1E-03		1	1
CJ-11	S	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.3E-03		1	1
CJ-11	S	2/15/2005	TETRACHLOROETHYLENE(PCE)	7.9E-03		1	1
CJ-11	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	1.1E-02		1	1
CJ-11	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	2.1E-03		1	1
CJ-11	S	5/15/2006	TETRACHLOROETHYLENE(PCE)	1.2E-03		1	1
CJ-11	S	11/15/2006	TETRACHLOROETHYLENE(PCE)	1.7E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: CJ-12
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -8

Confidence in Trend: 95.8%

Coefficient of Variation: 0.98

Mann Kendall Concentration Trend: (See Note) D

Data Table:

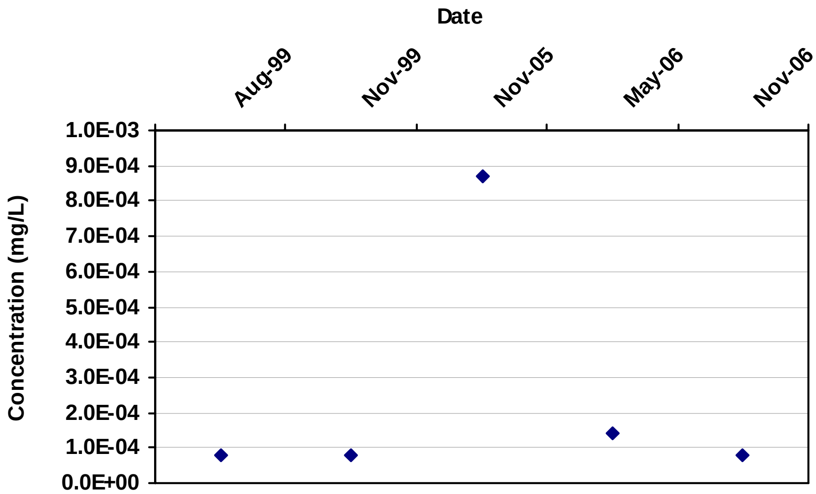
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-12	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
CJ-12	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	3.0E-03		1	1
CJ-12	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	1.1E-03		1	1
CJ-12	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	1.6E-04		1	1
CJ-12	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: CJ-13
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 1

Confidence in Trend: 50.0%

Coefficient of Variation: 1.39

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

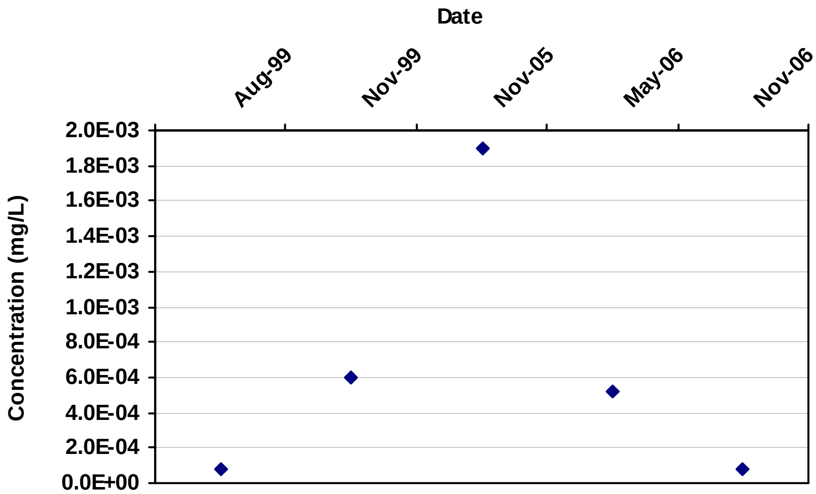
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-13	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-13	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-13	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.7E-04		1	1
CJ-13	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	1.4E-04		1	1
CJ-13	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: CJ-14
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -1

Confidence in Trend: 50.0%

Coefficient of Variation: 1.17

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

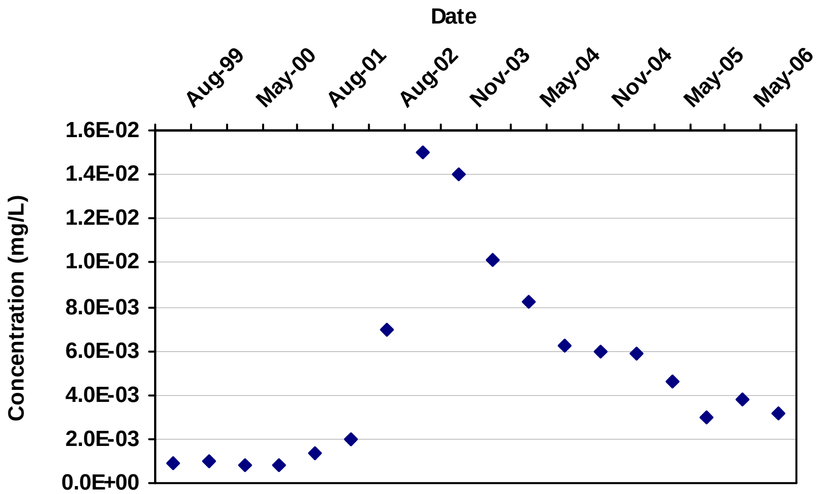
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-14	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
CJ-14	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	6.0E-04		1	1
CJ-14	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	1.9E-03		1	1
CJ-14	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	5.2E-04		1	1
CJ-14	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: CJ-15
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/1/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:

24

Confidence in Trend:

80.6%

Coefficient of Variation:

0.83

Mann Kendall Concentration Trend: (See Note)

NT

Data Table:

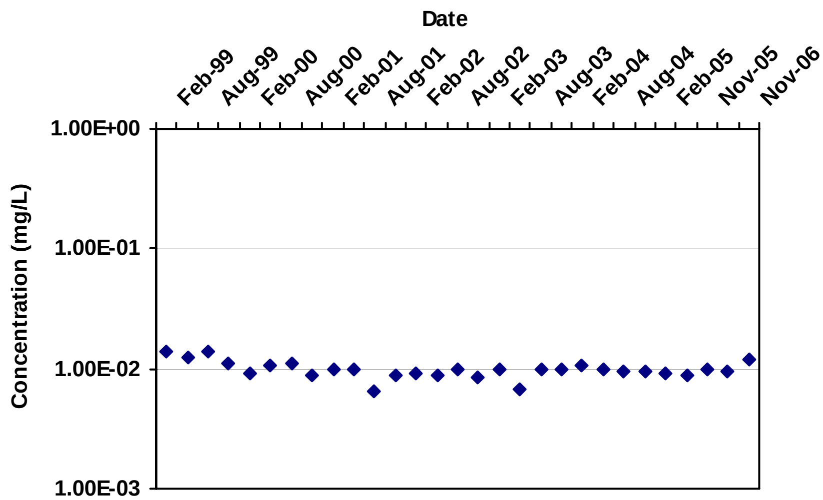
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-15	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	9.0E-04		1	1
CJ-15	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	1.0E-03		1	1
CJ-15	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-04		1	1
CJ-15	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-04		1	1
CJ-15	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	1.4E-03		1	1
CJ-15	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
CJ-15	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	7.0E-03		1	1
CJ-15	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	1.5E-02		1	1
CJ-15	T	11/15/2003	TETRACHLOROETHYLENE(PCE)	1.4E-02		1	1
CJ-15	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	1.0E-02		1	1
CJ-15	T	5/15/2004	TETRACHLOROETHYLENE(PCE)	8.2E-03		1	1
CJ-15	T	8/15/2004	TETRACHLOROETHYLENE(PCE)	6.2E-03		1	1
CJ-15	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	6.0E-03		1	1
CJ-15	T	2/15/2005	TETRACHLOROETHYLENE(PCE)	5.9E-03		1	1
CJ-15	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	4.6E-03		1	1
CJ-15	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	3.0E-03		1	1
CJ-15	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	3.8E-03		1	1
CJ-15	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	3.2E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: CJ-16
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -92

Confidence in Trend: 95.6%

Coefficient of Variation: 0.17

Mann Kendall Concentration Trend: (See Note) D

Data Table:

Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-16	S	2/15/1999	TETRACHLOROETHYLENE(PCE)	1.4E-02		1	1
CJ-16	S	5/15/1999	TETRACHLOROETHYLENE(PCE)	1.3E-02		1	1
CJ-16	S	8/15/1999	TETRACHLOROETHYLENE(PCE)	1.4E-02		1	1
CJ-16	S	11/15/1999	TETRACHLOROETHYLENE(PCE)	1.1E-02		1	1
CJ-16	S	2/15/2000	TETRACHLOROETHYLENE(PCE)	9.1E-03		1	1
CJ-16	S	5/15/2000	TETRACHLOROETHYLENE(PCE)	1.1E-02		1	1
CJ-16	S	8/15/2000	TETRACHLOROETHYLENE(PCE)	1.1E-02		1	1
CJ-16	S	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.9E-03		1	1
CJ-16	S	2/15/2001	TETRACHLOROETHYLENE(PCE)	1.0E-02		1	1
CJ-16	S	5/15/2001	TETRACHLOROETHYLENE(PCE)	9.7E-03		1	1
CJ-16	S	8/15/2001	TETRACHLOROETHYLENE(PCE)	6.5E-03		1	1
CJ-16	S	11/15/2001	TETRACHLOROETHYLENE(PCE)	8.9E-03		1	1
CJ-16	S	2/15/2002	TETRACHLOROETHYLENE(PCE)	9.3E-03		1	1
CJ-16	S	5/15/2002	TETRACHLOROETHYLENE(PCE)	9.0E-03		1	1
CJ-16	S	8/15/2002	TETRACHLOROETHYLENE(PCE)	1.0E-02		1	1
CJ-16	S	11/15/2002	TETRACHLOROETHYLENE(PCE)	8.6E-03		1	1
CJ-16	S	2/15/2003	TETRACHLOROETHYLENE(PCE)	9.7E-03		1	1
CJ-16	S	5/15/2003	TETRACHLOROETHYLENE(PCE)	6.7E-03		1	1
CJ-16	S	8/15/2003	TETRACHLOROETHYLENE(PCE)	1.0E-02		1	1
CJ-16	S	11/15/2003	TETRACHLOROETHYLENE(PCE)	9.8E-03		1	1
CJ-16	S	2/15/2004	TETRACHLOROETHYLENE(PCE)	1.1E-02		1	1
CJ-16	S	5/15/2004	TETRACHLOROETHYLENE(PCE)	1.0E-02		1	1

MAROS Mann-Kendall Statistics Summary

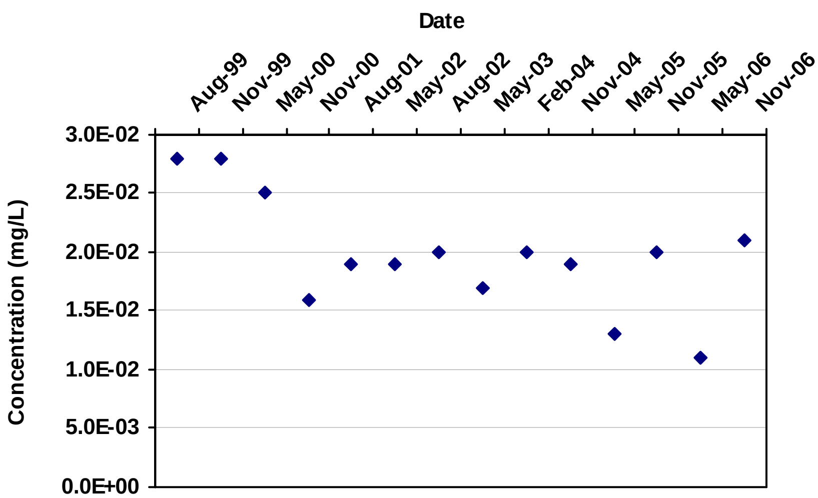
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-16	S	8/15/2004	TETRACHLOROETHYLENE(PCE)	9.6E-03		1	1
CJ-16	S	11/15/2004	TETRACHLOROETHYLENE(PCE)	9.5E-03		1	1
CJ-16	S	2/15/2005	TETRACHLOROETHYLENE(PCE)	9.2E-03		1	1
CJ-16	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.7E-03		1	1
CJ-16	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	9.7E-03		1	1
CJ-16	S	5/15/2006	TETRACHLOROETHYLENE(PCE)	9.5E-03		1	1
CJ-16	S	11/15/2006	TETRACHLOROETHYLENE(PCE)	1.2E-02		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: CJ-17
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/1/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -28

Confidence in Trend: 92.9%

Coefficient of Variation: 0.25

Mann Kendall Concentration Trend: (See Note) PD

Data Table:

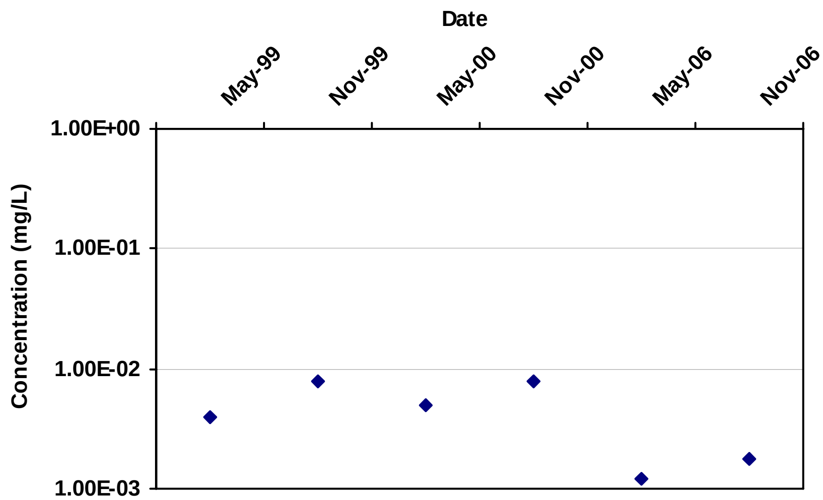
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
CJ-17	S	8/15/1999	TETRACHLOROETHYLENE(PCE)	2.8E-02		1	1
CJ-17	S	11/15/1999	TETRACHLOROETHYLENE(PCE)	2.8E-02		1	1
CJ-17	S	5/15/2000	TETRACHLOROETHYLENE(PCE)	2.5E-02		1	1
CJ-17	S	11/15/2000	TETRACHLOROETHYLENE(PCE)	1.6E-02		1	1
CJ-17	S	8/15/2001	TETRACHLOROETHYLENE(PCE)	1.9E-02		1	1
CJ-17	S	5/15/2002	TETRACHLOROETHYLENE(PCE)	1.9E-02		1	1
CJ-17	S	8/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-02		1	1
CJ-17	S	5/15/2003	TETRACHLOROETHYLENE(PCE)	1.7E-02		1	1
CJ-17	S	2/15/2004	TETRACHLOROETHYLENE(PCE)	2.0E-02		1	1
CJ-17	S	11/15/2004	TETRACHLOROETHYLENE(PCE)	1.9E-02		1	1
CJ-17	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	1.3E-02		1	1
CJ-17	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	2.0E-02		1	1
CJ-17	S	5/15/2006	TETRACHLOROETHYLENE(PCE)	1.1E-02		1	1
CJ-17	S	11/15/2006	TETRACHLOROETHYLENE(PCE)	2.1E-02		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MWCOE001
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -4

Confidence in Trend: 70.3%

Coefficient of Variation: 0.63

Mann Kendall Concentration Trend: (See Note) S

Data Table:

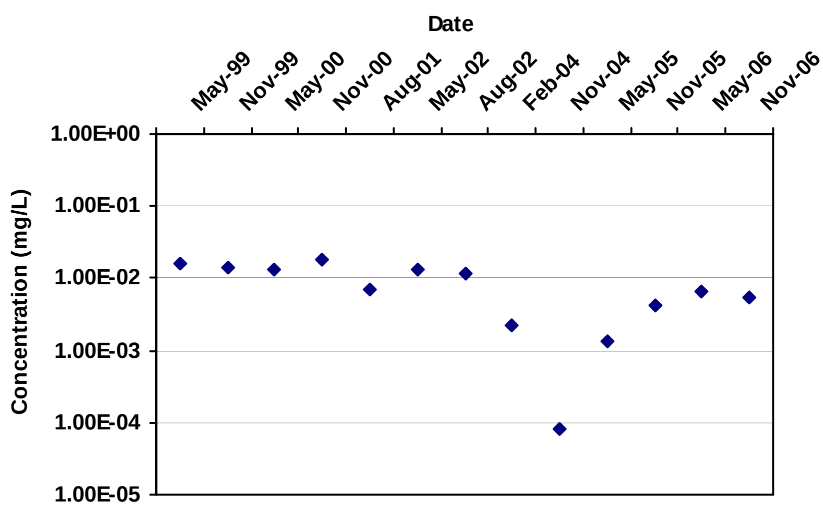
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MWCOE001A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
MWCOE001A	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-03		1	1
MWCOE001A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
MWCOE001A	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-03		1	1
MWCOE001A	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	1.2E-03		1	1
MWCOE001A	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	1.8E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MWCOE001
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -43

Confidence in Trend: 99.6%

Coefficient of Variation: 0.69

Mann Kendall Concentration Trend: (See Note) D

Data Table:

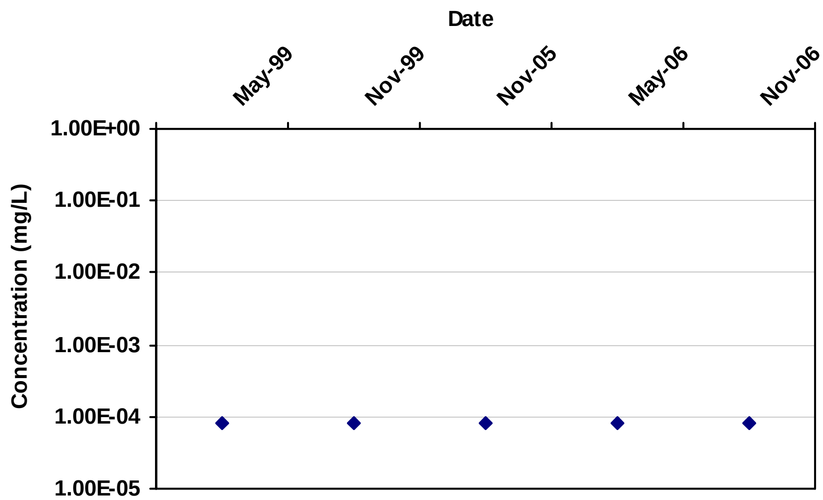
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MWCOE001B	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	1.6E-02		1	1
MWCOE001B	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	1.4E-02		1	1
MWCOE001B	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	1.3E-02		1	1
MWCOE001B	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	1.8E-02		1	1
MWCOE001B	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	7.0E-03		1	1
MWCOE001B	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	1.3E-02		1	1
MWCOE001B	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	1.2E-02		1	1
MWCOE001B	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	2.3E-03		1	1
MWCOE001B	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE001B	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	1.3E-03		1	1
MWCOE001B	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	4.3E-03		1	1
MWCOE001B	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	6.4E-03		1	1
MWCOE001B	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	5.4E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MWCOE002
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:
0

Confidence in Trend:
40.8%

Coefficient of Variation:
0.00

Mann Kendall Concentration Trend: (See Note)
S

Data Table:

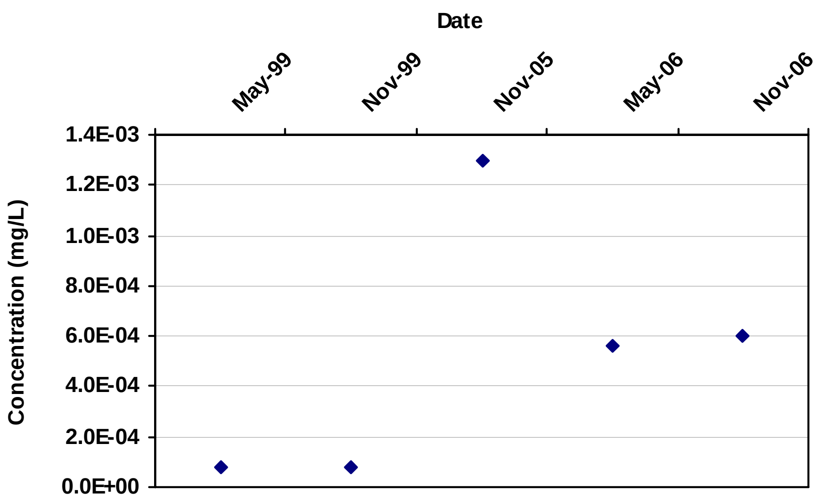
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MWCOE002	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE002	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE002	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE002	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE002	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MWCOE003
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 5

Confidence in Trend: 82.1%

Coefficient of Variation: 0.96

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

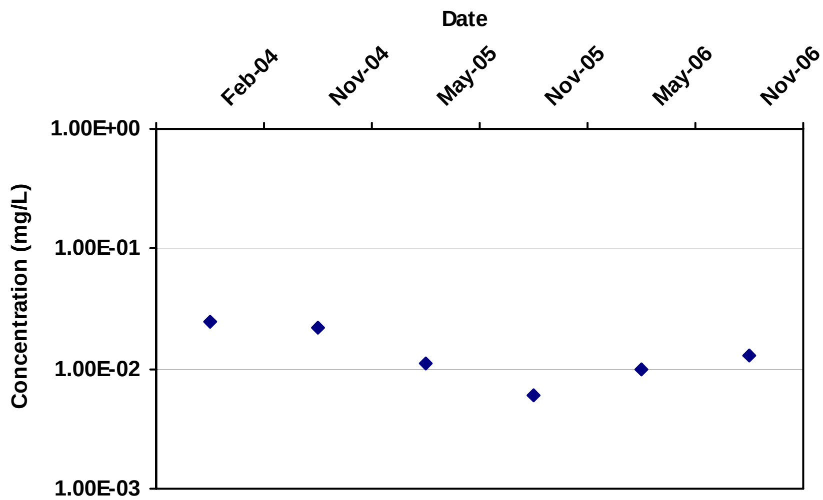
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MWCOE003	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE003	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE003	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	1.3E-03		1	1
MWCOE003	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	5.6E-04		1	1
MWCOE003	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	6.0E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MWCOE004
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -7

Confidence in Trend: 86.4%

Coefficient of Variation: 0.51

Mann Kendall Concentration Trend: (See Note) S

Data Table:

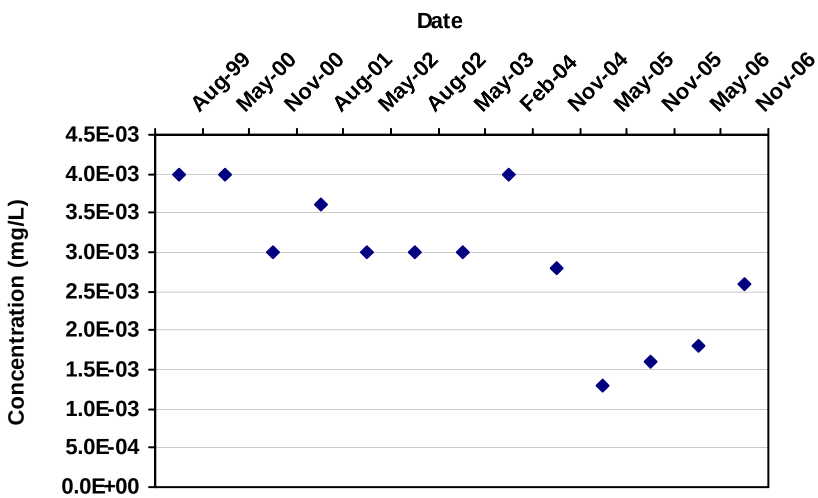
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MWCOE004	S	2/15/2004	TETRACHLOROETHYLENE(PCE)	2.5E-02		1	1
MWCOE004	S	11/15/2004	TETRACHLOROETHYLENE(PCE)	2.2E-02		1	1
MWCOE004	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	1.1E-02		1	1
MWCOE004	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	6.1E-03		1	1
MWCOE004	S	5/15/2006	TETRACHLOROETHYLENE(PCE)	1.0E-02		1	1
MWCOE004	S	11/15/2006	TETRACHLOROETHYLENE(PCE)	1.3E-02		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MWCOE005
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -45

Confidence in Trend: 99.8%

Coefficient of Variation: 0.31

Mann Kendall Concentration Trend: (See Note) D

Data Table:

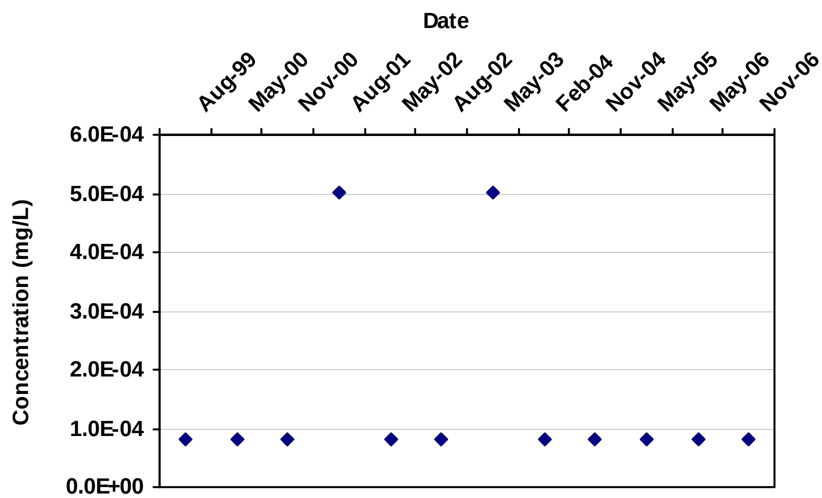
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MWCOE005	S	8/15/1999	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
MWCOE005	S	5/15/2000	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
MWCOE005	S	11/15/2000	TETRACHLOROETHYLENE(PCE)	3.0E-03		1	1
MWCOE005	S	8/15/2001	TETRACHLOROETHYLENE(PCE)	3.6E-03		1	1
MWCOE005	S	5/15/2002	TETRACHLOROETHYLENE(PCE)	3.0E-03		1	1
MWCOE005	S	8/15/2002	TETRACHLOROETHYLENE(PCE)	3.0E-03		1	1
MWCOE005	S	5/15/2003	TETRACHLOROETHYLENE(PCE)	3.0E-03		1	1
MWCOE005	S	2/15/2004	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
MWCOE005	S	11/15/2004	TETRACHLOROETHYLENE(PCE)	2.8E-03		1	1
MWCOE005	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	1.3E-03		1	1
MWCOE005	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	1.6E-03		1	1
MWCOE005	S	5/15/2006	TETRACHLOROETHYLENE(PCE)	1.8E-03		1	1
MWCOE005	S	11/15/2006	TETRACHLOROETHYLENE(PCE)	2.6E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MWCOE006
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -4

Confidence in Trend: 58.0%

Coefficient of Variation: 1.09

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

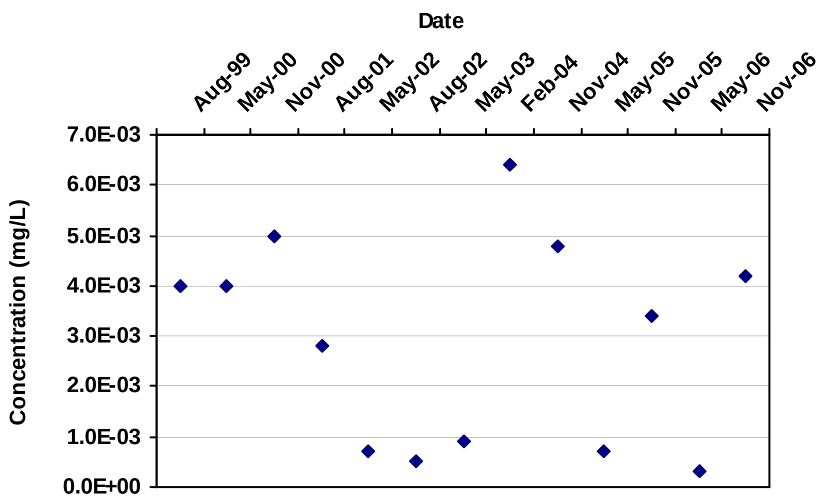
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MWCOE006	S	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE006	S	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE006	S	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE006	S	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MWCOE006	S	5/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE006	S	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE006	S	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MWCOE006	S	2/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE006	S	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE006	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE006	S	5/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE006	S	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MWCOE007
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -11

Confidence in Trend: 72.5%

Coefficient of Variation: 0.71

Mann Kendall Concentration Trend: (See Note) S

Data Table:

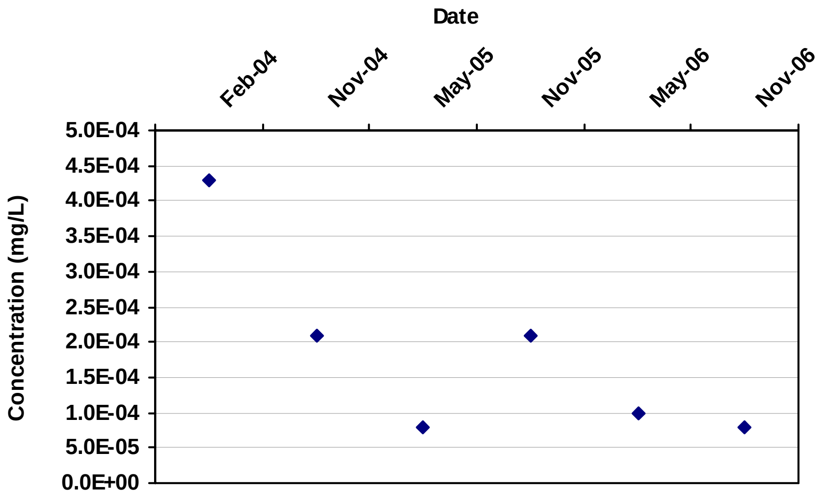
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MWCOE007	S	8/15/1999	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
MWCOE007	S	5/15/2000	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
MWCOE007	S	11/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
MWCOE007	S	8/15/2001	TETRACHLOROETHYLENE(PCE)	2.8E-03		1	1
MWCOE007	S	5/15/2002	TETRACHLOROETHYLENE(PCE)	7.0E-04		1	1
MWCOE007	S	8/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MWCOE007	S	5/15/2003	TETRACHLOROETHYLENE(PCE)	9.0E-04		1	1
MWCOE007	S	2/15/2004	TETRACHLOROETHYLENE(PCE)	6.4E-03		1	1
MWCOE007	S	11/15/2004	TETRACHLOROETHYLENE(PCE)	4.8E-03		1	1
MWCOE007	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	7.1E-04		1	1
MWCOE007	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	3.4E-03		1	1
MWCOE007	S	5/15/2006	TETRACHLOROETHYLENE(PCE)	3.0E-04		1	1
MWCOE007	S	11/15/2006	TETRACHLOROETHYLENE(PCE)	4.2E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MWCOE008
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -9

Confidence in Trend: 93.2%

Coefficient of Variation: 0.73

Mann Kendall Concentration Trend: (See Note) PD

Data Table:

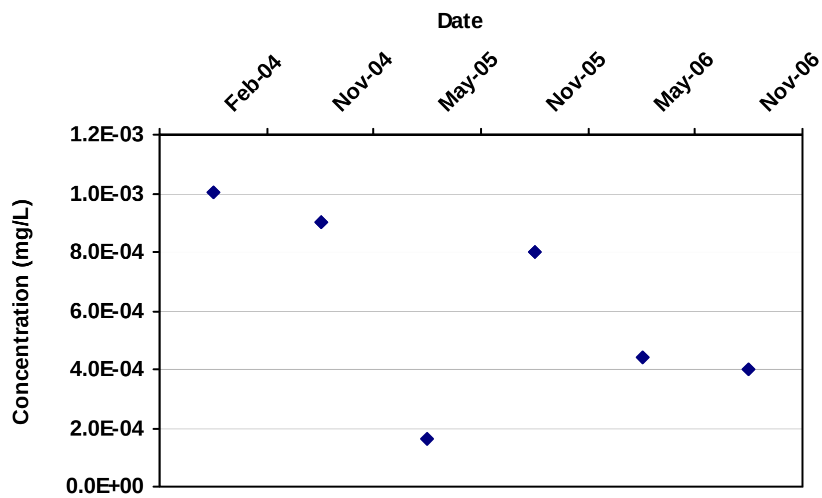
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MWCOE008	S	2/15/2004	TETRACHLOROETHYLENE(PCE)	4.3E-04		1	1
MWCOE008	S	11/15/2004	TETRACHLOROETHYLENE(PCE)	2.1E-04		1	1
MWCOE008	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MWCOE008	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	2.1E-04		1	1
MWCOE008	S	5/15/2006	TETRACHLOROETHYLENE(PCE)	1.0E-04		1	1
MWCOE008	S	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MWCOE009
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -9

Confidence in Trend: 93.2%

Coefficient of Variation: 0.54

Mann Kendall Concentration Trend: (See Note) PD

Data Table:

Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MWCOE009	S	2/15/2004	TETRACHLOROETHYLENE(PCE)	1.0E-03		1	1
MWCOE009	S	11/15/2004	TETRACHLOROETHYLENE(PCE)	9.0E-04		1	1
MWCOE009	S	5/15/2005	TETRACHLOROETHYLENE(PCE)	1.6E-04		1	1
MWCOE009	S	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-04		1	1
MWCOE009	S	5/15/2006	TETRACHLOROETHYLENE(PCE)	4.4E-04		1	1
MWCOE009	S	11/15/2006	TETRACHLOROETHYLENE(PCE)	4.0E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

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San Bernardino, California

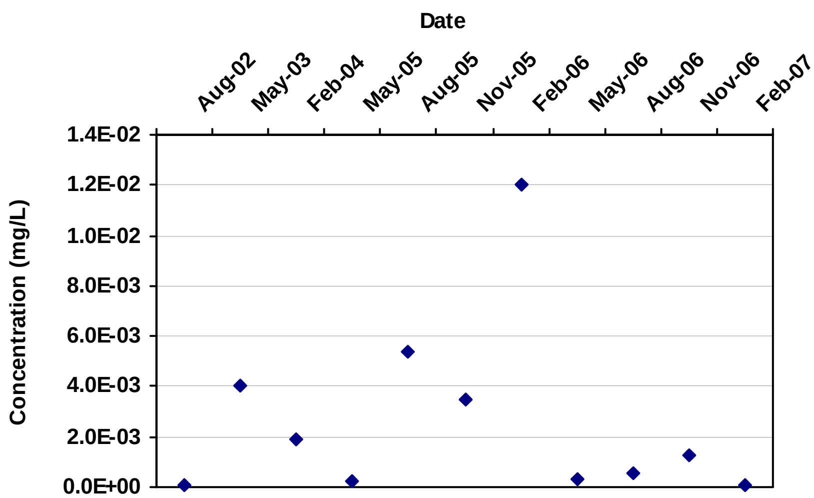
Newmark OU MAROS Reports

Mann-Kendall Reports

MAROS Mann-Kendall Statistics Summary

Well: EW-108PA
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -4

Confidence in Trend: 59.0%

Coefficient of Variation: 1.35

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

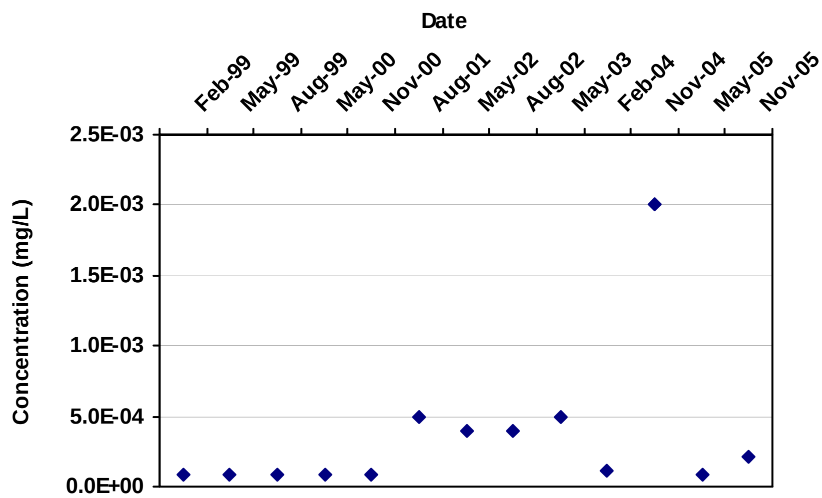
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-108PA	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-108PA	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
EW-108PA	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	1.9E-03		1	1
EW-108PA	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	2.4E-04		1	1
EW-108PA	T	8/15/2005	TETRACHLOROETHYLENE(PCE)	5.4E-03		1	1
EW-108PA	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	3.5E-03		1	1
EW-108PA	T	2/15/2006	TETRACHLOROETHYLENE(PCE)	1.2E-02		1	1
EW-108PA	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	2.9E-04		1	1
EW-108PA	T	8/15/2006	TETRACHLOROETHYLENE(PCE)	5.5E-04		1	1
EW-108PA	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	1.3E-03		1	1
EW-108PA	T	2/15/2007	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-2PA
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 27

Confidence in Trend: 94.3%

Coefficient of Variation: 1.48

Mann Kendall Concentration Trend: (See Note) PI

Data Table:

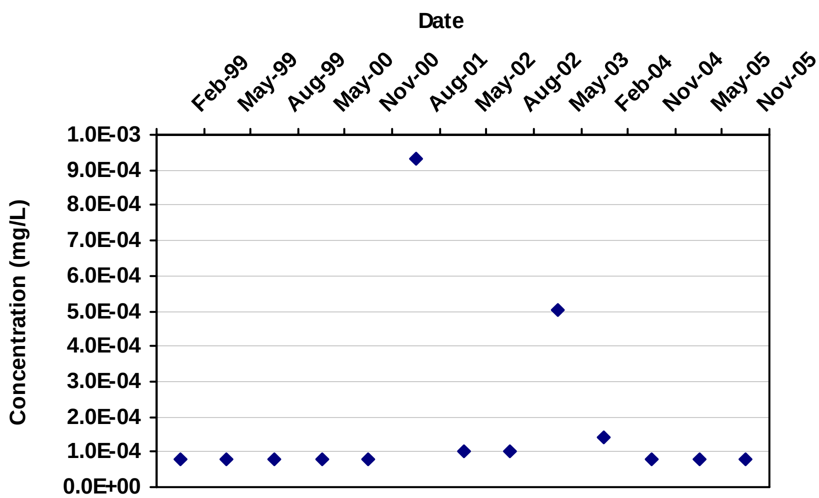
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-2PA	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-2PA	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-2PA	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-2PA	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-2PA	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-2PA	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
EW-2PA	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	4.0E-04		1	1
EW-2PA	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	4.0E-04		1	1
EW-2PA	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
EW-2PA	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	1.1E-04		1	1
EW-2PA	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
EW-2PA	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-2PA	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	2.1E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-3PA
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 9

Confidence in Trend: 68.4%

Coefficient of Variation: 1.36

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

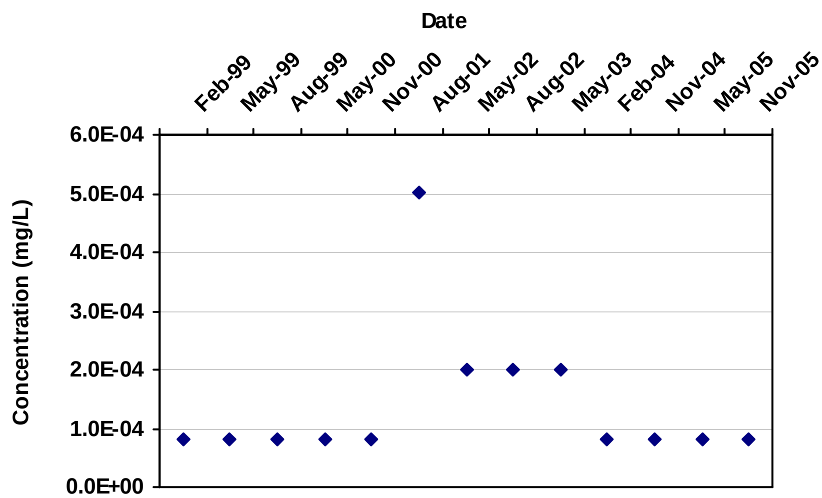
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-3PA	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-3PA	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-3PA	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-3PA	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-3PA	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-3PA	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	9.3E-04		1	1
EW-3PA	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	1.0E-04		1	1
EW-3PA	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	1.0E-04		1	1
EW-3PA	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
EW-3PA	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	1.4E-04		1	1
EW-3PA	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-3PA	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-3PA	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-4PA
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 1

Confidence in Trend: 50.0%

Coefficient of Variation: 0.86

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

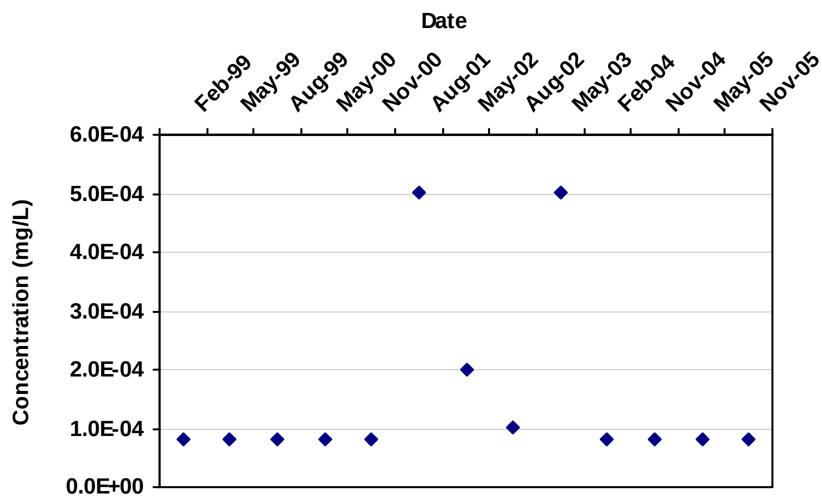
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-4PA	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-4PA	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-4PA	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-4PA	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-4PA	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-4PA	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
EW-4PA	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04		1	1
EW-4PA	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04		1	1
EW-4PA	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	2.0E-04		1	1
EW-4PA	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-4PA	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-4PA	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-4PA	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-5PA
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 3

Confidence in Trend: 54.8%

Coefficient of Variation: 1.01

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

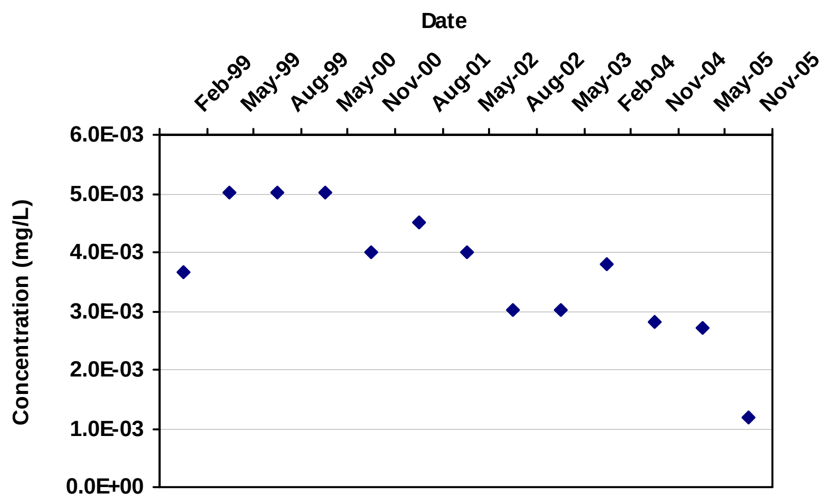
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-5PA	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-5PA	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-5PA	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-5PA	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-5PA	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-5PA	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
EW-5PA	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04		1	1
EW-5PA	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	1.0E-04		1	1
EW-5PA	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
EW-5PA	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-5PA	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-5PA	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
EW-5PA	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-6
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -53

Confidence in Trend: 100.0%

Coefficient of Variation: 0.30

Mann Kendall Concentration Trend: (See Note) D

Data Table:

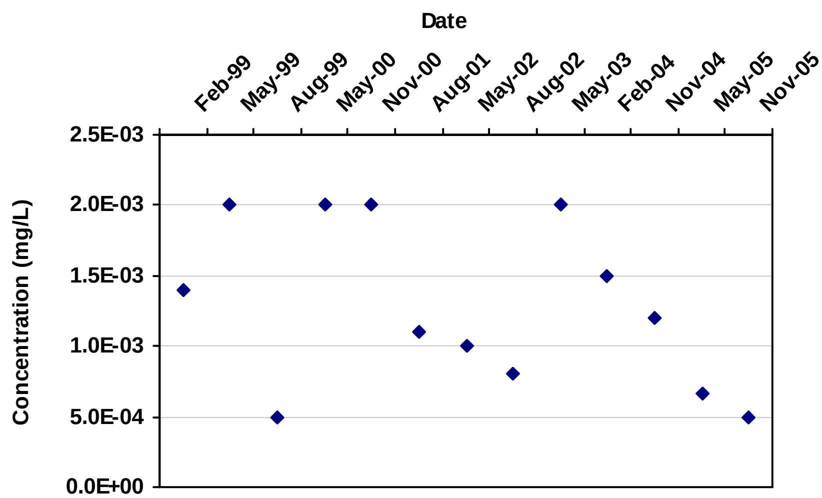
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-6	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	3.7E-03		1	1
EW-6	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
EW-6	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
EW-6	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
EW-6	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
EW-6	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	4.5E-03		1	1
EW-6	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
EW-6	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	3.0E-03		1	1
EW-6	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	3.0E-03		1	1
EW-6	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	3.8E-03		1	1
EW-6	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	2.8E-03		1	1
EW-6	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	2.7E-03		1	1
EW-6	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	1.2E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-6PA
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:
-26

Confidence in Trend:
93.6%

Coefficient of Variation:
0.46

Mann Kendall Concentration Trend: (See Note)
PD

Data Table:

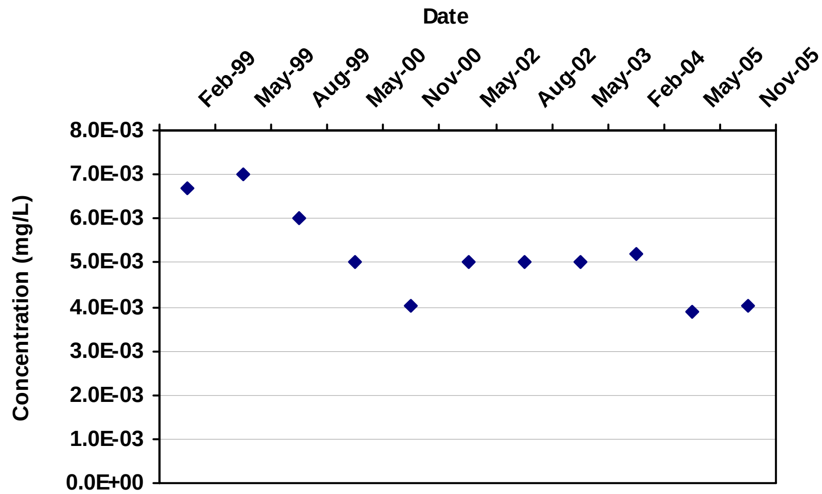
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-6PA	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	1.4E-03		1	1
EW-6PA	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
EW-6PA	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
EW-6PA	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
EW-6PA	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
EW-6PA	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	1.1E-03		1	1
EW-6PA	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	1.0E-03		1	1
EW-6PA	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-04		1	1
EW-6PA	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
EW-6PA	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	1.5E-03		1	1
EW-6PA	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	1.2E-03		1	1
EW-6PA	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	6.7E-04		1	1
EW-6PA	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	4.9E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-7
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -28

Confidence in Trend: 98.4%

Coefficient of Variation: 0.20

Mann Kendall Concentration Trend: (See Note) D

Data Table:

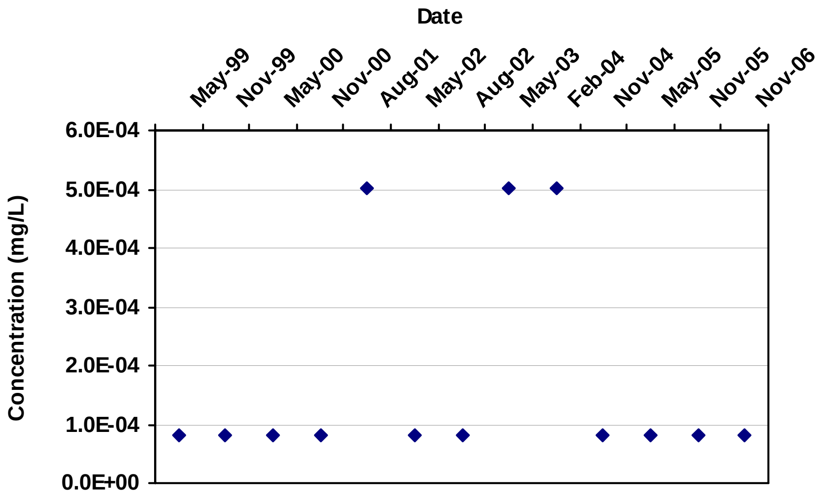
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-7	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	6.7E-03		1	1
EW-7	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	7.0E-03		1	1
EW-7	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	6.0E-03		1	1
EW-7	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
EW-7	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
EW-7	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
EW-7	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
EW-7	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
EW-7	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.2E-03		1	1
EW-7	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	3.9E-03		1	1
EW-7	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-01
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 2

Confidence in Trend: 52.4%

Coefficient of Variation: 1.04

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

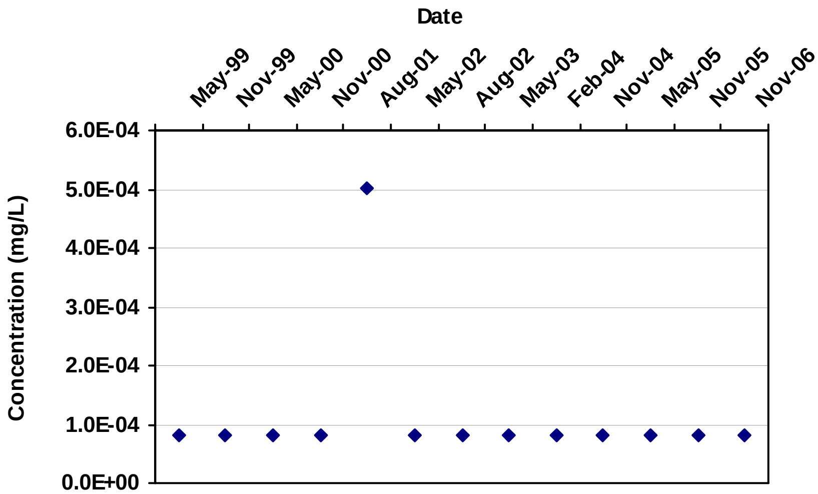
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-01	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-01	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-01	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-01	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-01	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MUNI-01	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-01	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-01	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MUNI-01	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MUNI-01	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-01	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-01	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-01	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-07B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -4

Confidence in Trend: 57.1%

Coefficient of Variation: 1.04

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

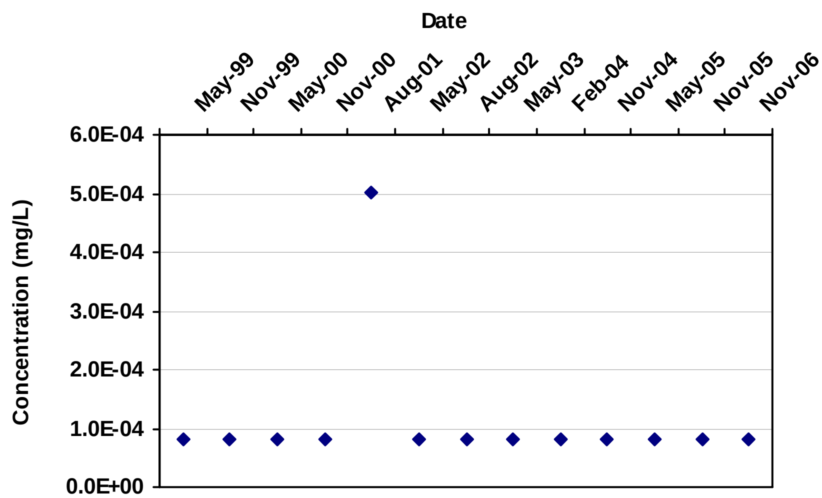
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-07B	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-07B	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-07B	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-07B	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-07B	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MUNI-07B	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-07B	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-07B	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-07B	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-07B	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-07B	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-07B	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-07B	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-09B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:
-4

Confidence in Trend:
57.1%

Coefficient of Variation:
1.04

Mann Kendall Concentration Trend: (See Note)
NT

Data Table:

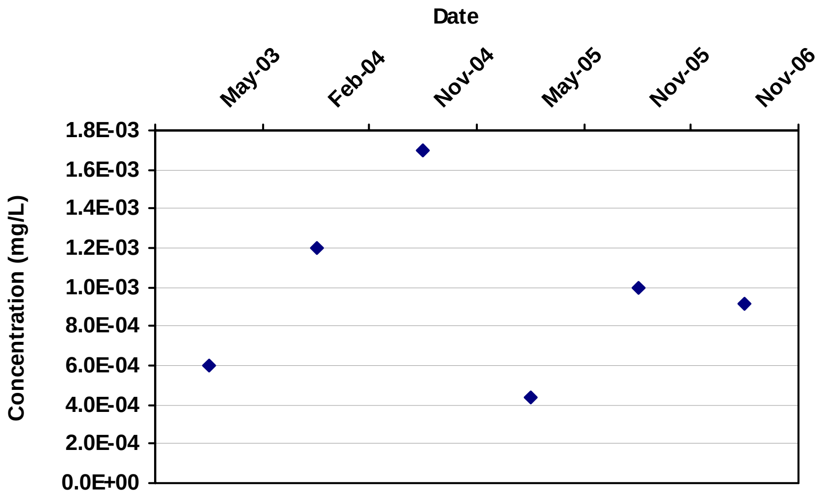
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-09B	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-09B	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-09B	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-09B	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-09B	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MUNI-09B	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-09B	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-09B	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-09B	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-09B	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-09B	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-09B	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-09B	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-11A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -1

Confidence in Trend: 50.0%

Coefficient of Variation: 0.46

Mann Kendall Concentration Trend: (See Note) S

Data Table:

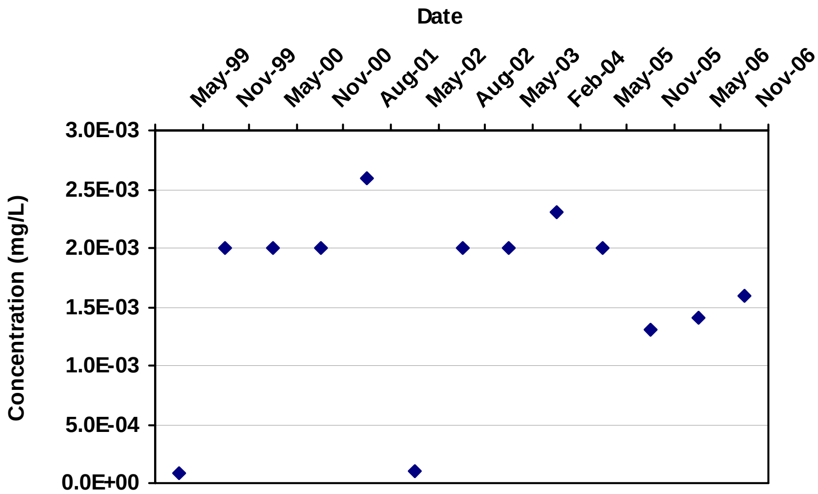
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-11A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	6.0E-04		1	1
MUNI-11A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	1.2E-03		1	1
MUNI-11A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	1.7E-03		1	1
MUNI-11A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	4.4E-04		1	1
MUNI-11A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	1.0E-03		1	1
MUNI-11A	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	9.2E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-13
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -3

Confidence in Trend: 54.8%

Coefficient of Variation: 0.47

Mann Kendall Concentration Trend: (See Note) S

Data Table:

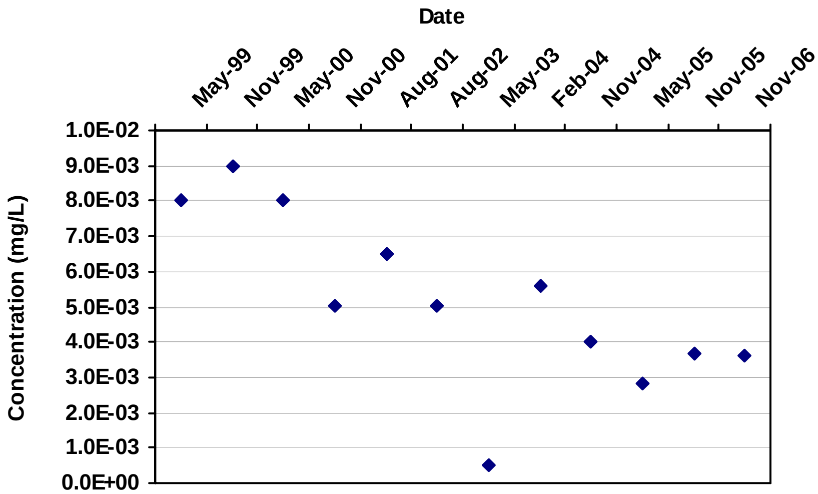
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-13	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MUNI-13	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
MUNI-13	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
MUNI-13	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
MUNI-13	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	2.6E-03		1	1
MUNI-13	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	1.0E-04		1	1
MUNI-13	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
MUNI-13	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
MUNI-13	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	2.3E-03		1	1
MUNI-13	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
MUNI-13	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	1.3E-03		1	1
MUNI-13	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	1.4E-03		1	1
MUNI-13	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	1.6E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-16
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -42

Confidence in Trend: 99.8%

Coefficient of Variation: 0.48

Mann Kendall Concentration Trend: (See Note) D

Data Table:

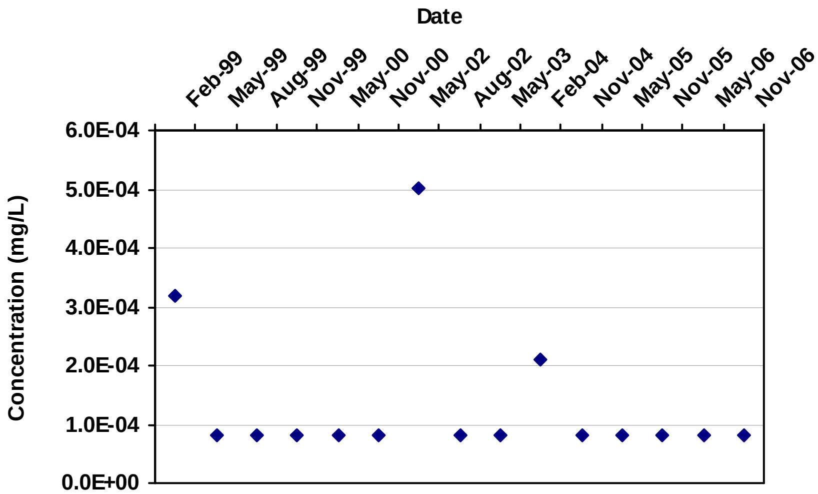
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-16	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-03		1	1
MUNI-16	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	9.0E-03		1	1
MUNI-16	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-03		1	1
MUNI-16	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
MUNI-16	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	6.5E-03		1	1
MUNI-16	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
MUNI-16	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MUNI-16	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.6E-03		1	1
MUNI-16	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
MUNI-16	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	2.8E-03		1	1
MUNI-16	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	3.7E-03		1	1
MUNI-16	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	3.6E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW02A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -13

Confidence in Trend: 72.1%

Coefficient of Variation: 0.92

Mann Kendall Concentration Trend: (See Note) S

Data Table:

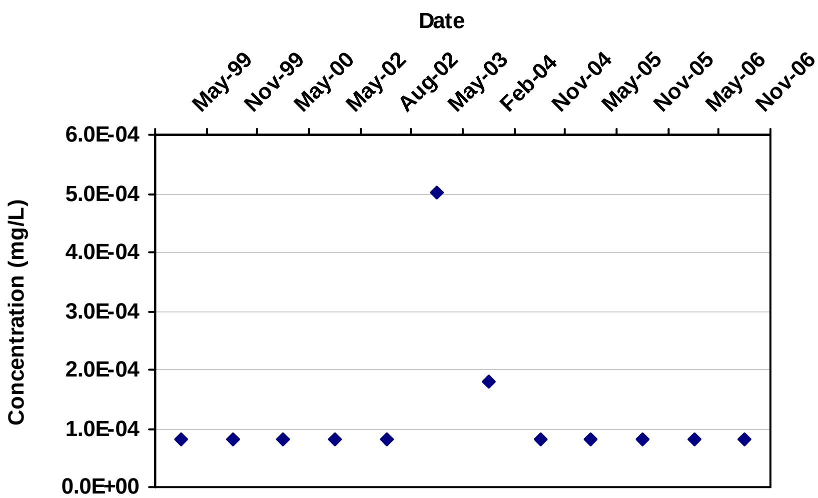
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW02A	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	3.2E-04		1	1
MW02A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW02A	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW02A	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW02A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW02A	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW02A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MW02A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW02A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW02A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	2.1E-04		1	1
MW02A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW02A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW02A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW02A	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW02A	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW03A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -1

Confidence in Trend: 50.0%

Coefficient of Variation: 0.99

Mann Kendall Concentration Trend: (See Note) S

Data Table:

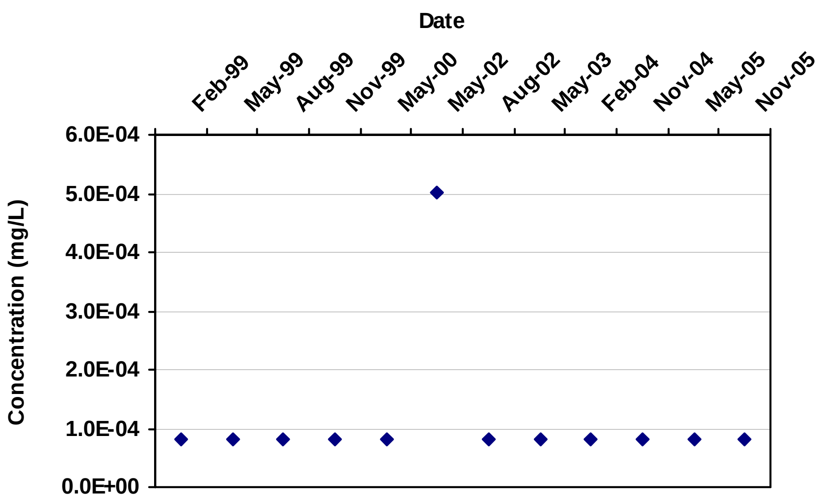
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW03A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW03A	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW03A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW03A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW03A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW03A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MW03A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	1.8E-04		1	1
MW03A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW03A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW03A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW03A	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW03A	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW04A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -1

Confidence in Trend: 50.0%

Coefficient of Variation: 1.05

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

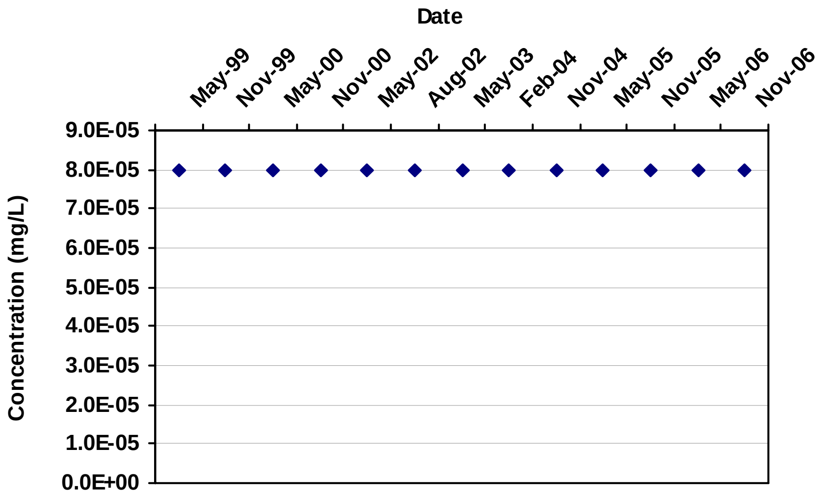
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW04A	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW04A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW04A	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW04A	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW04A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW04A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MW04A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW04A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW04A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW04A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW04A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW04A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW05A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 47.6%

Coefficient of Variation: 0.00

Mann Kendall Concentration Trend: (See Note) S

Data Table:

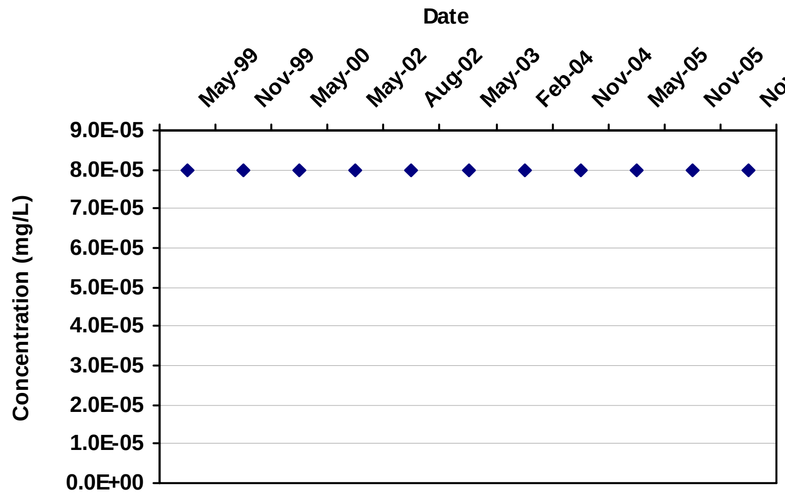
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW05A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW05A	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW05A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW05A	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW05A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW05A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW05A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW05A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW05A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW05A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW05A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW05A	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW05A	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW06A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 46.9%

Coefficient of Variation: 0.00

Mann Kendall Concentration Trend: (See Note) S

Data Table:

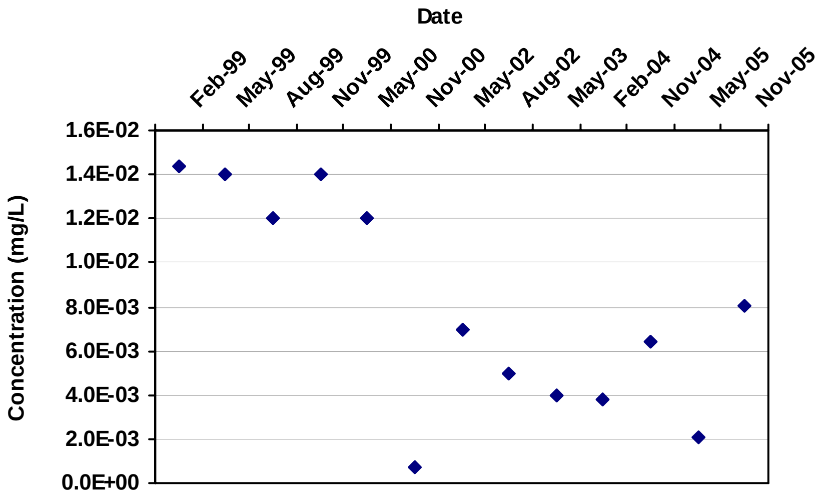
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW06A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW06A	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW06A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW06A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW06A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW06A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW06A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW06A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW06A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW06A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW06A	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW07A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -43

Confidence in Trend: 99.6%

Coefficient of Variation: 0.61

Mann Kendall Concentration Trend: (See Note) D

Data Table:

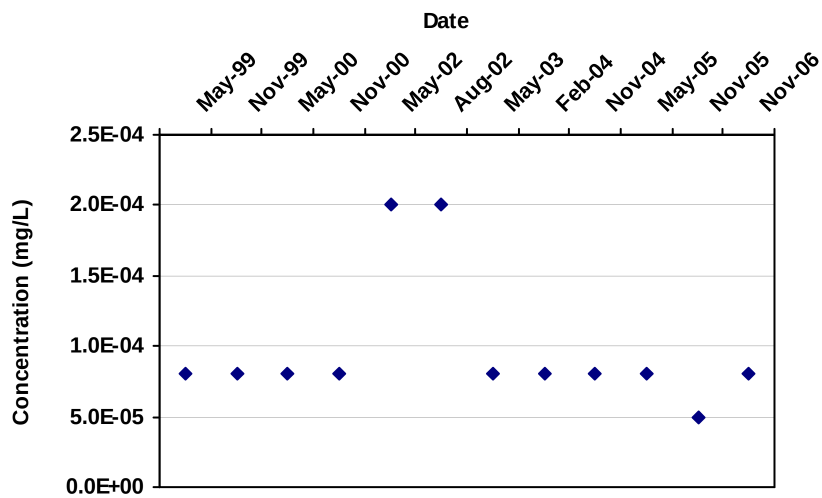
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW07A	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	1.4E-02		1	1
MW07A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	1.4E-02		1	1
MW07A	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	1.2E-02		1	1
MW07A	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	1.4E-02		1	1
MW07A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	1.2E-02		1	1
MW07A	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	7.0E-04		1	1
MW07A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	7.0E-03		1	1
MW07A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
MW07A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
MW07A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	3.8E-03		1	1
MW07A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	6.4E-03		1	1
MW07A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	2.1E-03		1	1
MW07A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW08A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -11

Confidence in Trend: 74.9%

Coefficient of Variation: 0.50

Mann Kendall Concentration Trend: (See Note) S

Data Table:

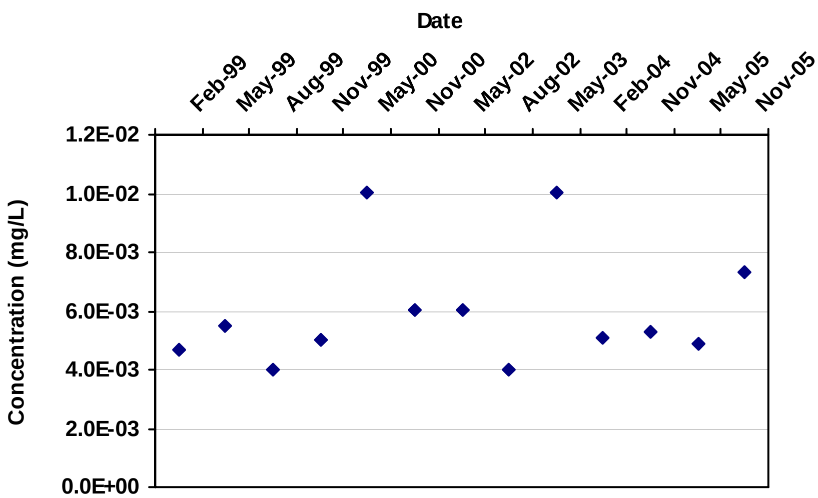
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW08A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW08A	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW08A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW08A	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW08A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04		1	1
MW08A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04		1	1
MW08A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW08A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW08A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW08A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW08A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-05		1	1
MW08A	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW09A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 13

Confidence in Trend: 76.4%

Coefficient of Variation: 0.33

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

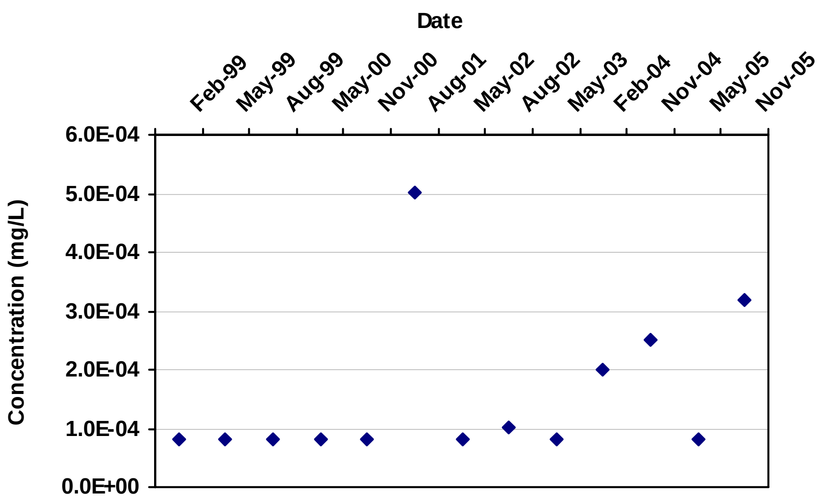
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW09A	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	4.7E-03		1	1
MW09A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	5.5E-03		1	1
MW09A	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
MW09A	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
MW09A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	1.0E-02		1	1
MW09A	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	6.0E-03		1	1
MW09A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	6.0E-03		1	1
MW09A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
MW09A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	1.0E-02		1	1
MW09A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.1E-03		1	1
MW09A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	5.3E-03		1	1
MW09A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	4.9E-03		1	1
MW09A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	7.3E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW12A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 28

Confidence in Trend: 95.0%

Coefficient of Variation: 0.85

Mann Kendall Concentration Trend: (See Note) I

Data Table:

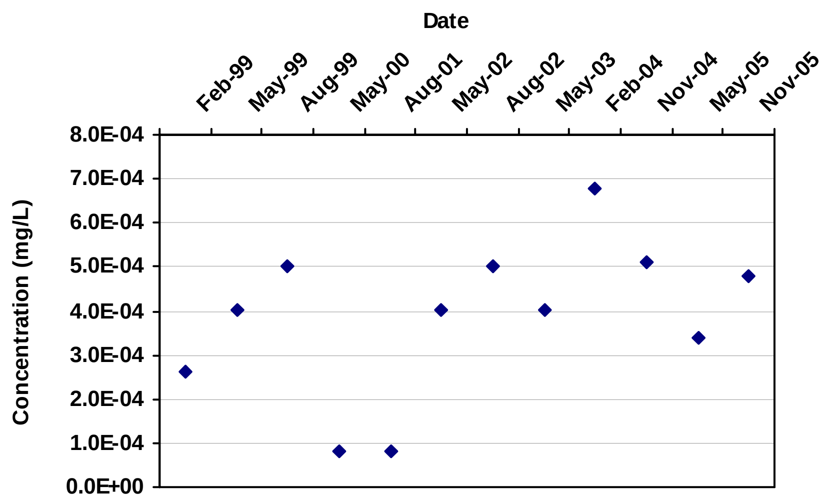
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW12A	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW12A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW12A	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW12A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW12A	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW12A	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MW12A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW12A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	1.0E-04		1	1
MW12A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW12A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	2.0E-04		1	1
MW12A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	2.5E-04		1	1
MW12A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW12A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	3.2E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW14A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 19

Confidence in Trend: 88.9%

Coefficient of Variation: 0.46

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

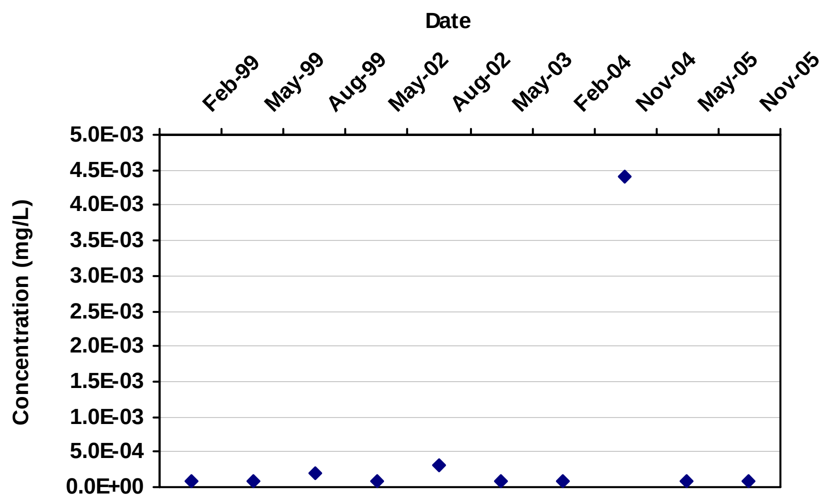
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW14A	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	2.6E-04		1	1
MW14A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	4.0E-04		1	1
MW14A	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MW14A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW14A	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW14A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	4.0E-04		1	1
MW14A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MW14A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	4.0E-04		1	1
MW14A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	6.8E-04		1	1
MW14A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	5.1E-04		1	1
MW14A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	3.4E-04		1	1
MW14A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	4.8E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW16A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 2

Confidence in Trend: 53.5%

Coefficient of Variation: 2.48

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

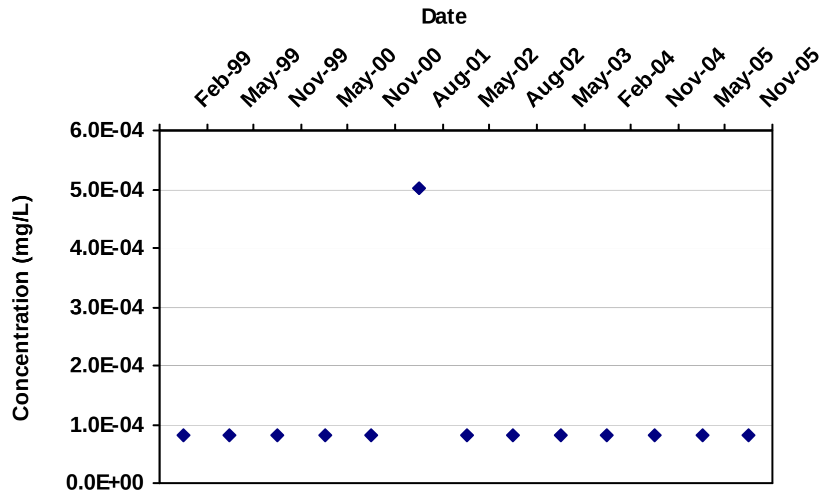
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW16A	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW16A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW16A	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04		1	1
MW16A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW16A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	3.0E-04		1	1
MW16A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW16A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW16A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	4.4E-03		1	1
MW16A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW16A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW17A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -2

Confidence in Trend: 52.4%

Coefficient of Variation: 1.04

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

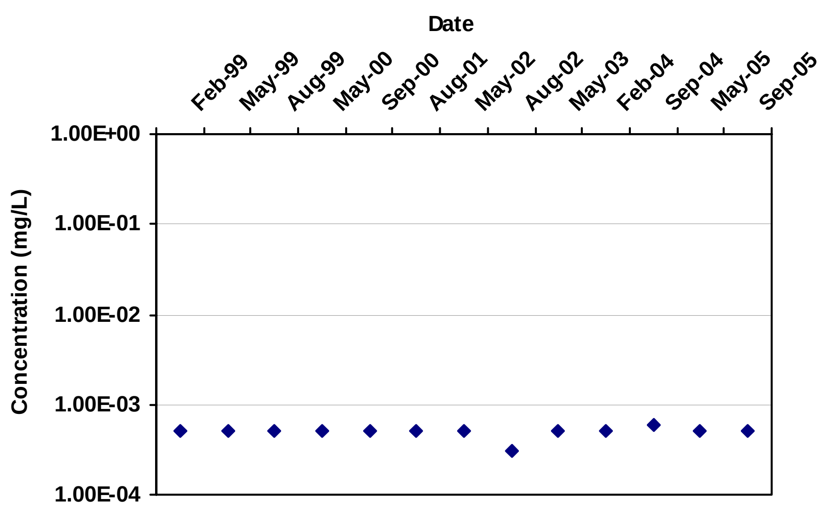
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW17A	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW17A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW17A	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW17A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW17A	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW17A	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MW17A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW17A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW17A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW17A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW17A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW17A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW17A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-1PA
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 9

Confidence in Trend: 68.4%

Coefficient of Variation: 0.13

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

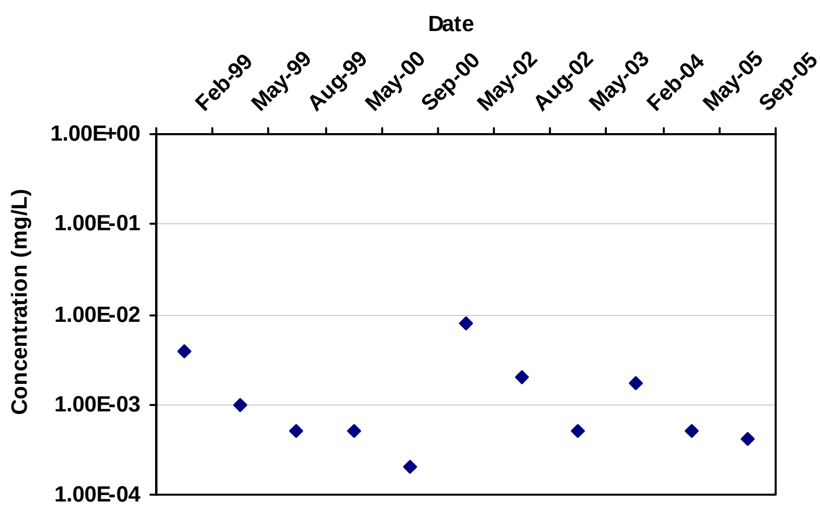
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-1PA	T	2/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	3	0
EW-1PA	T	5/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-1PA	T	8/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-1PA	T	5/15/2000	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-1PA	T	9/15/2000	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-1PA	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
EW-1PA	T	5/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-1PA	T	8/15/2002	TETRACHLOROETHYLENE(PCE	3.0E-04		1	1
EW-1PA	T	5/15/2003	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
EW-1PA	T	2/15/2004	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-1PA	T	9/15/2004	TETRACHLOROETHYLENE(PCE	6.0E-04		1	1
EW-1PA	T	5/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-1PA	T	9/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-7PA
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:

-15

Confidence in Trend:

85.9%

Coefficient of Variation:

1.34

Mann Kendall Concentration Trend: (See Note)

NT

Data Table:

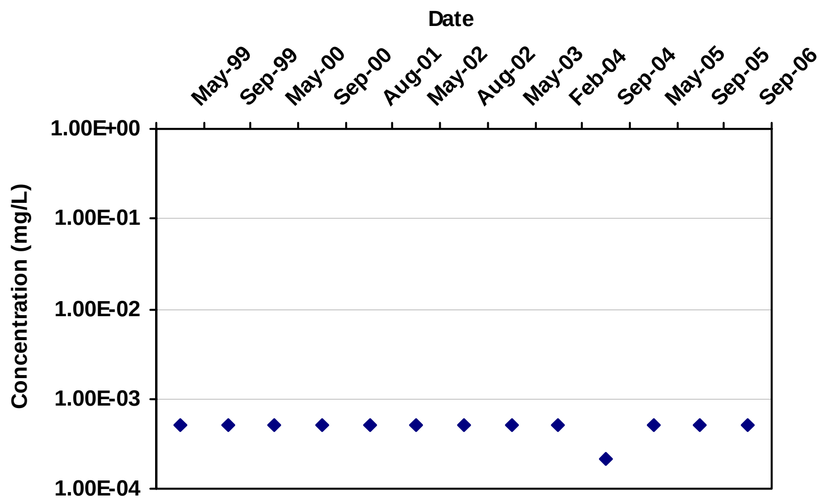
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-7PA	T	2/15/1999	TETRACHLOROETHYLENE(PCE	3.9E-03		3	3
EW-7PA	T	5/15/1999	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
EW-7PA	T	8/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-7PA	T	5/15/2000	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-7PA	T	9/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
EW-7PA	T	5/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-03		1	1
EW-7PA	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-7PA	T	5/15/2003	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-7PA	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.7E-03		1	1
EW-7PA	T	5/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-7PA	T	9/15/2005	TETRACHLOROETHYLENE(PCE	4.2E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-07C
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -9

Confidence in Trend: 68.4%

Coefficient of Variation: 0.17

Mann Kendall Concentration Trend: (See Note) S

Data Table:

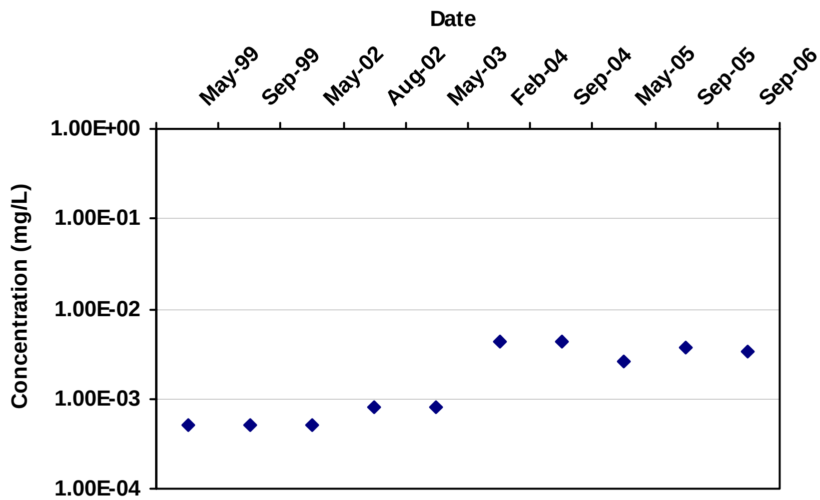
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-07C	T	5/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-07C	T	9/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-07C	T	5/15/2000	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-07C	T	9/15/2000	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-07C	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MUNI-07C	T	5/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-07C	T	8/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-07C	T	5/15/2003	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-07C	T	2/15/2004	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-07C	T	9/15/2004	TETRACHLOROETHYLENE(PCE	2.1E-04		1	1
MUNI-07C	T	5/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-07C	T	9/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-07C	T	9/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-09C
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 25

Confidence in Trend: 98.6%

Coefficient of Variation: 0.79

Mann Kendall Concentration Trend: (See Note) I

Data Table:

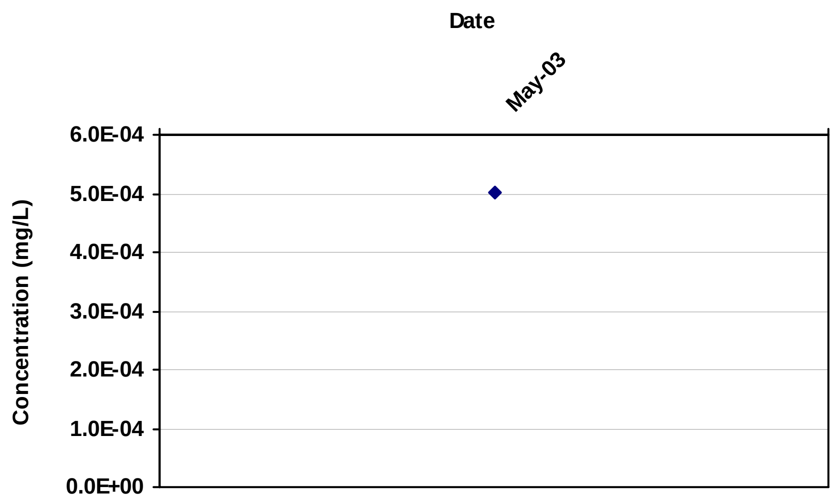
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-09C	T	5/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-09C	T	9/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-09C	T	5/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-09C	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-04		1	1
MUNI-09C	T	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-04		1	1
MUNI-09C	T	2/15/2004	TETRACHLOROETHYLENE(PCE	4.4E-03		1	1
MUNI-09C	T	9/15/2004	TETRACHLOROETHYLENE(PCE	4.3E-03		1	1
MUNI-09C	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.6E-03		1	1
MUNI-09C	T	9/15/2005	TETRACHLOROETHYLENE(PCE	3.7E-03		1	1
MUNI-09C	T	9/15/2006	TETRACHLOROETHYLENE(PCE	3.3E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-11B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 0.0%

Coefficient of Variation: 0.00

Mann Kendall Concentration Trend: (See Note) N/A

Data Table:

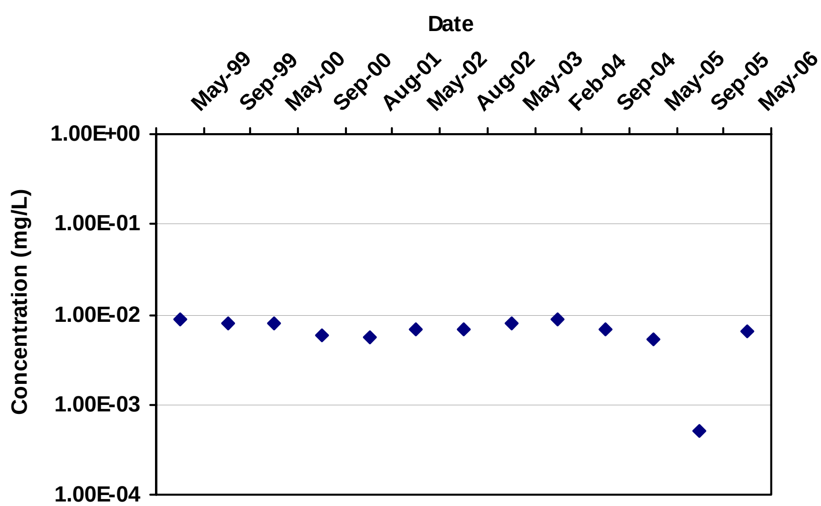
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-11B	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-14
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:

-29

Confidence in Trend:

95.6%

Coefficient of Variation:

0.33

Mann Kendall Concentration Trend: (See Note)

D

Data Table:

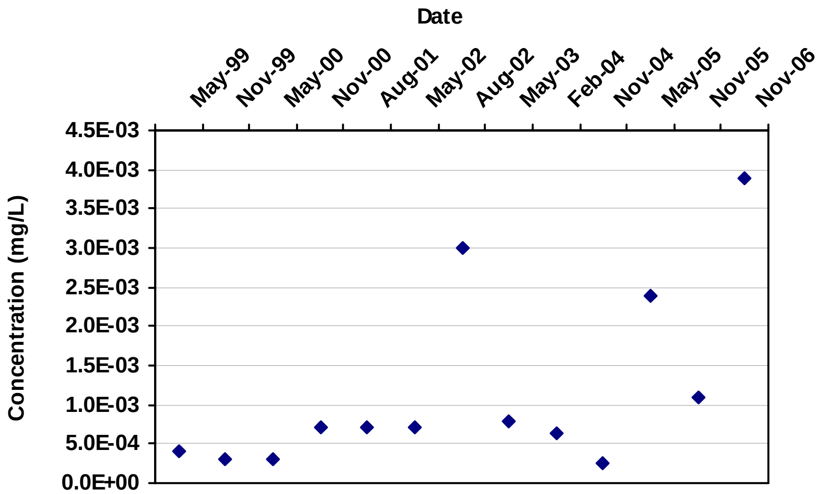
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-14	T	5/15/1999	TETRACHLOROETHYLENE(PCE	9.0E-03		1	1
MUNI-14	T	9/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-03		1	1
MUNI-14	T	5/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-03		1	1
MUNI-14	T	9/15/2000	TETRACHLOROETHYLENE(PCE	6.0E-03		1	1
MUNI-14	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.7E-03		1	1
MUNI-14	T	5/15/2002	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MUNI-14	T	8/15/2002	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MUNI-14	T	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-03		1	1
MUNI-14	T	2/15/2004	TETRACHLOROETHYLENE(PCE	9.0E-03		1	1
MUNI-14	T	9/15/2004	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MUNI-14	T	5/15/2005	TETRACHLOROETHYLENE(PCE	5.2E-03		1	1
MUNI-14	T	9/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-14	T	5/15/2006	TETRACHLOROETHYLENE(PCE	6.4E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-18
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 34

Confidence in Trend: 97.9%

Coefficient of Variation: 1.00

Mann Kendall Concentration Trend: (See Note) I

Data Table:

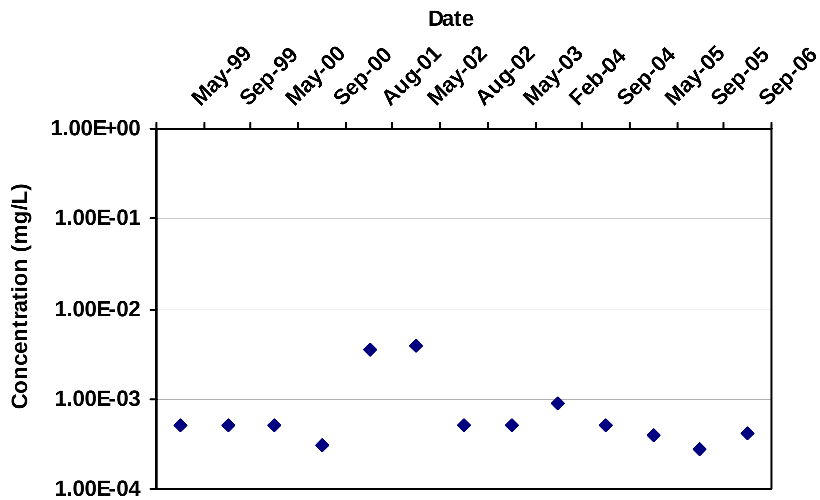
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-18	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	4.0E-04		1	1
MUNI-18	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	3.0E-04		1	1
MUNI-18	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	3.0E-04		1	1
MUNI-18	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	7.0E-04		1	1
MUNI-18	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	7.0E-04		1	1
MUNI-18	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	7.0E-04		1	1
MUNI-18	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	3.0E-03		1	1
MUNI-18	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-04		1	1
MUNI-18	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	6.4E-04		1	1
MUNI-18	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	2.5E-04		1	1
MUNI-18	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	2.4E-03		1	1
MUNI-18	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	1.1E-03		1	1
MUNI-18	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	3.9E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-22
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -8

Confidence in Trend: 66.2%

Coefficient of Variation: 1.26

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

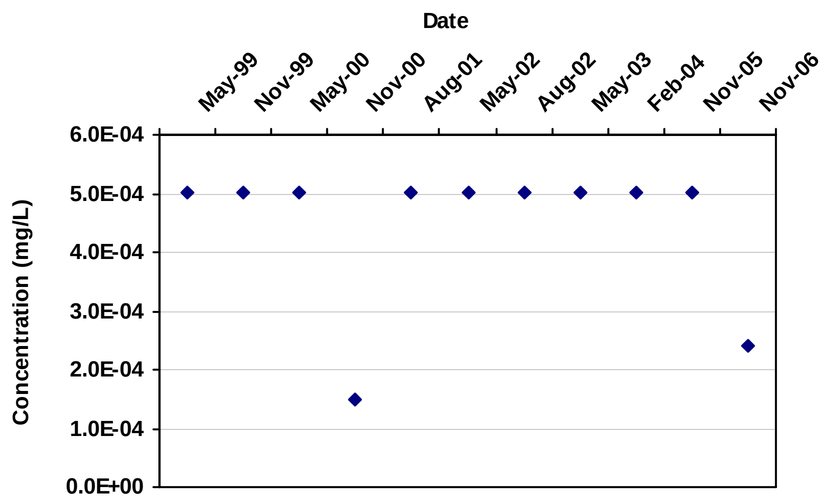
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-22	T	5/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-22	T	9/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-22	T	5/15/2000	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MUNI-22	T	9/15/2000	TETRACHLOROETHYLENE(PCE	3.0E-04		1	1
MUNI-22	T	8/15/2001	TETRACHLOROETHYLENE(PCE	3.6E-03		1	1
MUNI-22	T	5/15/2002	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
MUNI-22	T	8/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MUNI-22	T	5/15/2003	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MUNI-22	T	2/15/2004	TETRACHLOROETHYLENE(PCE	9.0E-04		1	1
MUNI-22	T	9/15/2004	TETRACHLOROETHYLENE(PCE	5.2E-04		1	1
MUNI-22	T	5/15/2005	TETRACHLOROETHYLENE(PCE	4.0E-04		1	1
MUNI-22	T	9/15/2005	TETRACHLOROETHYLENE(PCE	2.8E-04		1	1
MUNI-22	T	9/15/2006	TETRACHLOROETHYLENE(PCE	4.2E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-24
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:

5

Confidence in Trend:

61.9%

Coefficient of Variation:

0.28

Mann Kendall Concentration Trend: (See Note)

NT

Data Table:

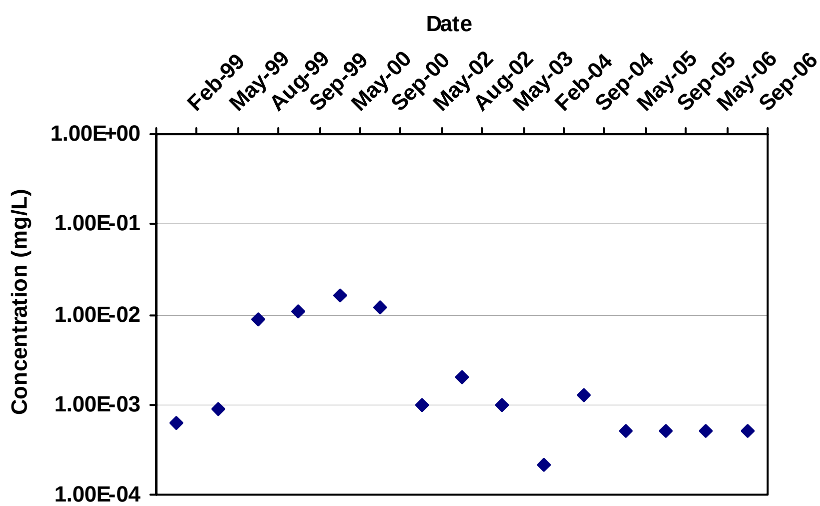
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-24	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MUNI-24	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MUNI-24	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MUNI-24	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	1.5E-04		1	1
MUNI-24	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MUNI-24	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MUNI-24	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MUNI-24	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MUNI-24	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MUNI-24	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MUNI-24	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	2.4E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW02B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -38

Confidence in Trend: 96.7%

Coefficient of Variation: 1.40

Mann Kendall Concentration Trend: (See Note) D

Data Table:

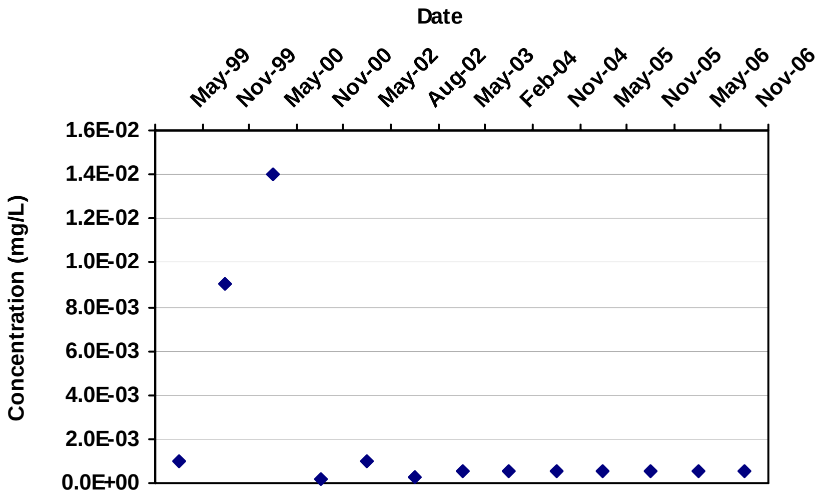
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW02B	T	2/15/1999	TETRACHLOROETHYLENE(PCE	6.3E-04		3	2
MW02B	T	5/15/1999	TETRACHLOROETHYLENE(PCE	9.0E-04		2	2
MW02B	T	8/15/1999	TETRACHLOROETHYLENE(PCE	9.0E-03		1	1
MW02B	T	9/15/1999	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1
MW02B	T	5/15/2000	TETRACHLOROETHYLENE(PCE	1.6E-02		1	1
MW02B	T	9/15/2000	TETRACHLOROETHYLENE(PCE	1.2E-02		1	1
MW02B	T	5/15/2002	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
MW02B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
MW02B	T	5/15/2003	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
MW02B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.1E-04		1	1
MW02B	T	9/15/2004	TETRACHLOROETHYLENE(PCE	1.3E-03		1	1
MW02B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW02B	T	9/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW02B	T	5/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW02B	T	9/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW03B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -18

Confidence in Trend: 84.7%

Coefficient of Variation: 1.91

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

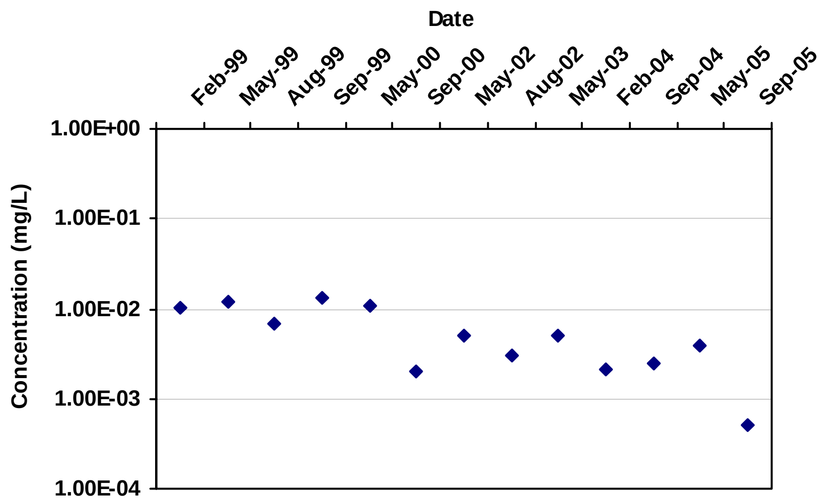
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW03B	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	1.0E-03		1	1
MW03B	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	9.0E-03		1	1
MW03B	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	1.4E-02		1	1
MW03B	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-04		1	1
MW03B	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	1.0E-03		1	1
MW03B	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	2.5E-04		1	1
MW03B	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW03B	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW03B	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW03B	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW03B	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW03B	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW03B	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW04B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -43

Confidence in Trend: 99.6%

Coefficient of Variation: 0.72

Mann Kendall Concentration Trend: (See Note) D

Data Table:

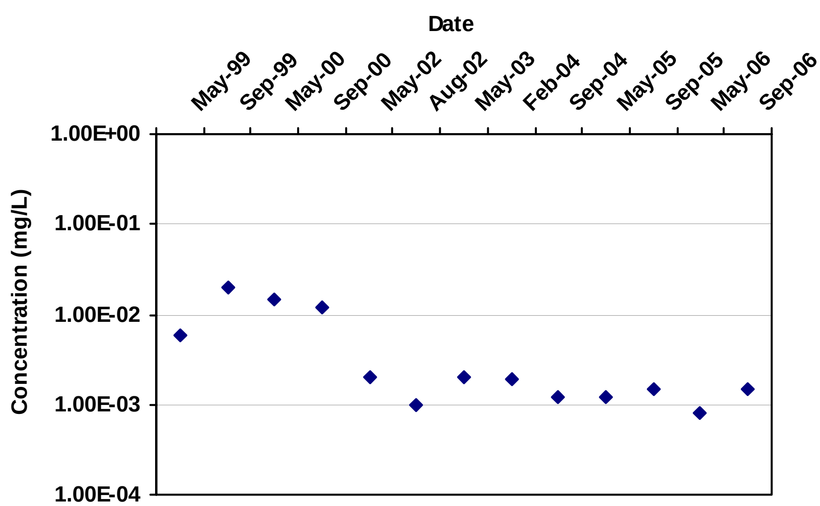
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW04B	T	2/15/1999	TETRACHLOROETHYLENE(PCE	1.0E-02		2	2
MW04B	T	5/15/1999	TETRACHLOROETHYLENE(PCE	1.2E-02		2	2
MW04B	T	8/15/1999	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MW04B	T	9/15/1999	TETRACHLOROETHYLENE(PCE	1.3E-02		1	1
MW04B	T	5/15/2000	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1
MW04B	T	9/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
MW04B	T	5/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-03		1	1
MW04B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
MW04B	T	5/15/2003	TETRACHLOROETHYLENE(PCE	5.0E-03		1	1
MW04B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.1E-03		1	1
MW04B	T	9/15/2004	TETRACHLOROETHYLENE(PCE	2.5E-03		1	1
MW04B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	3.9E-03		1	1
MW04B	T	9/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW05B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -47

Confidence in Trend: 99.9%

Coefficient of Variation: 1.26

Mann Kendall Concentration Trend: (See Note) D

Data Table:

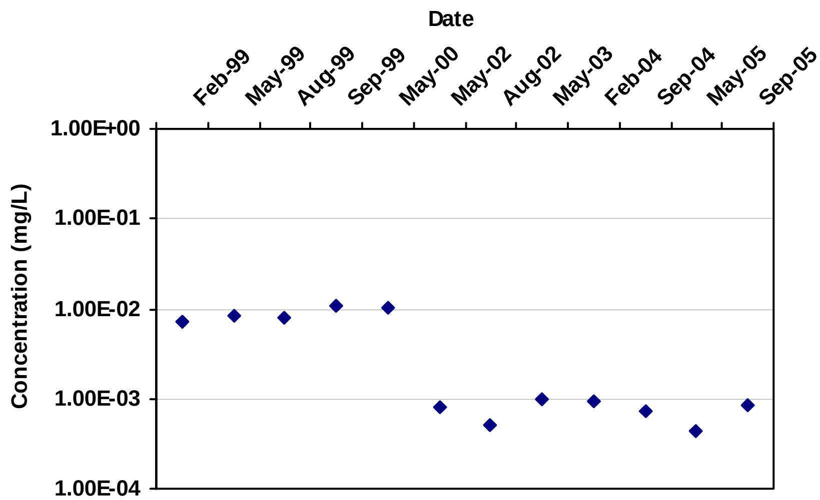
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW05B	T	5/15/1999	TETRACHLOROETHYLENE(PCE	6.0E-03		1	1
MW05B	T	9/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-02		1	1
MW05B	T	5/15/2000	TETRACHLOROETHYLENE(PCE	1.5E-02		1	1
MW05B	T	9/15/2000	TETRACHLOROETHYLENE(PCE	1.2E-02		1	1
MW05B	T	5/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
MW05B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
MW05B	T	5/15/2003	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
MW05B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.9E-03		1	1
MW05B	T	9/15/2004	TETRACHLOROETHYLENE(PCE	1.2E-03		1	1
MW05B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.2E-03		1	1
MW05B	T	9/15/2005	TETRACHLOROETHYLENE(PCE	1.5E-03		1	1
MW05B	T	5/15/2006	TETRACHLOROETHYLENE(PCE	7.9E-04		1	1
MW05B	T	9/15/2006	TETRACHLOROETHYLENE(PCE	1.5E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW07B
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -32

Confidence in Trend: 98.4%

Coefficient of Variation: 1.04

Mann Kendall Concentration Trend: (See Note) D

Data Table:

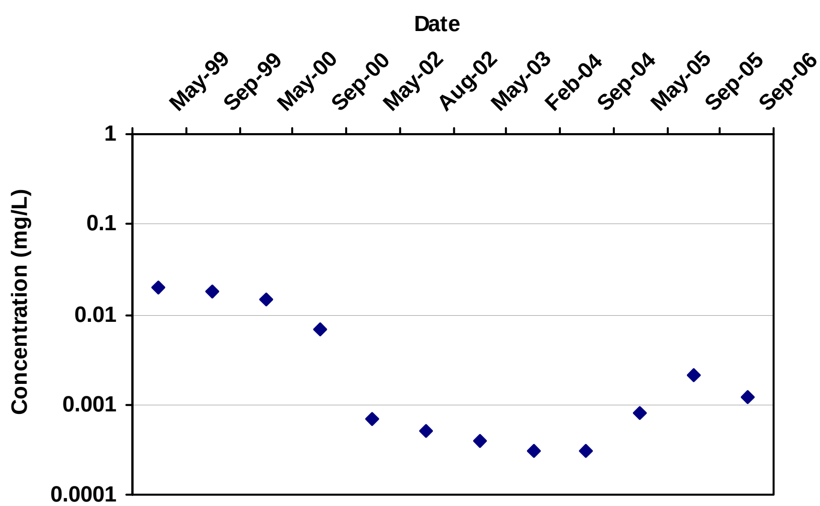
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW07B	S	2/15/1999	TETRACHLOROETHYLENE(PCE	7.3E-03		3	3
MW07B	S	5/15/1999	TETRACHLOROETHYLENE(PCE	8.5E-03		2	2
MW07B	S	8/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-03		1	1
MW07B	S	9/15/1999	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1
MW07B	S	5/15/2000	TETRACHLOROETHYLENE(PCE	1.0E-02		1	1
MW07B	S	5/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-04		1	1
MW07B	S	8/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW07B	S	5/15/2003	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
MW07B	S	2/15/2004	TETRACHLOROETHYLENE(PCE	9.2E-04		1	1
MW07B	S	9/15/2004	TETRACHLOROETHYLENE(PCE	7.2E-04		1	1
MW07B	S	5/15/2005	TETRACHLOROETHYLENE(PCE	4.3E-04		1	1
MW07B	S	9/15/2005	TETRACHLOROETHYLENE(PCE	8.3E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW08B
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -30

Confidence in Trend: 97.8%

Coefficient of Variation: 1.38

Mann Kendall Concentration Trend: (See Note) D

Data Table:

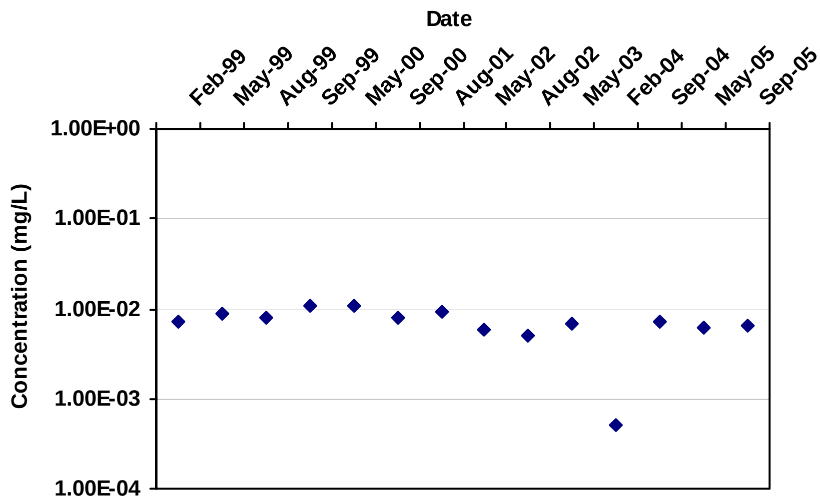
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW08B	S	5/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-02		1	1
MW08B	S	9/15/1999	TETRACHLOROETHYLENE(PCE	1.8E-02		1	1
MW08B	S	5/15/2000	TETRACHLOROETHYLENE(PCE	1.5E-02		1	1
MW08B	S	9/15/2000	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MW08B	S	5/15/2002	TETRACHLOROETHYLENE(PCE	7.0E-04		1	1
MW08B	S	8/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW08B	S	5/15/2003	TETRACHLOROETHYLENE(PCE	4.0E-04		1	1
MW08B	S	2/15/2004	TETRACHLOROETHYLENE(PCE	3.0E-04		1	1
MW08B	S	9/15/2004	TETRACHLOROETHYLENE(PCE	3.1E-04		1	1
MW08B	S	5/15/2005	TETRACHLOROETHYLENE(PCE	8.2E-04		1	1
MW08B	S	9/15/2005	TETRACHLOROETHYLENE(PCE	2.1E-03		1	1
MW08B	S	9/15/2006	TETRACHLOROETHYLENE(PCE	1.2E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW09B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -37

Confidence in Trend: 97.6%

Coefficient of Variation: 0.36

Mann Kendall Concentration Trend: (See Note) D

Data Table:

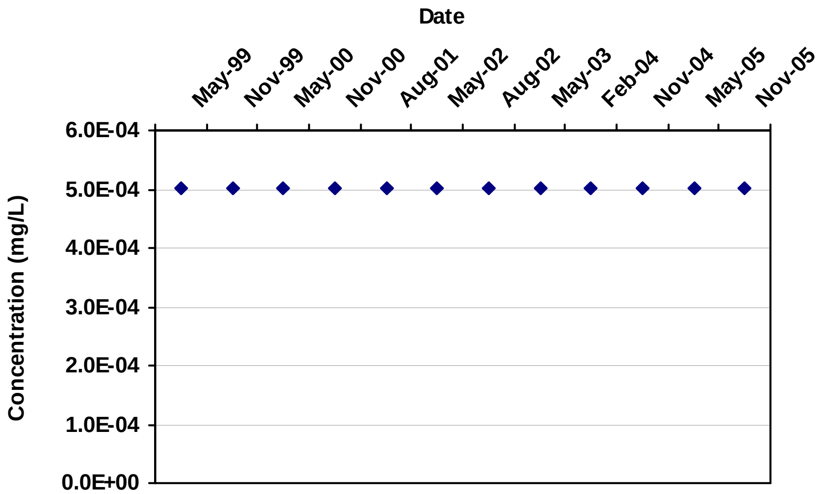
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW09B	T	2/15/1999	TETRACHLOROETHYLENE(PCE	7.3E-03		3	3
MW09B	T	5/15/1999	TETRACHLOROETHYLENE(PCE	9.0E-03		2	2
MW09B	T	8/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-03		1	1
MW09B	T	9/15/1999	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1
MW09B	T	5/15/2000	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1
MW09B	T	9/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-03		1	1
MW09B	T	8/15/2001	TETRACHLOROETHYLENE(PCE	9.3E-03		1	1
MW09B	T	5/15/2002	TETRACHLOROETHYLENE(PCE	6.0E-03		1	1
MW09B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-03		1	1
MW09B	T	5/15/2003	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MW09B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW09B	T	9/15/2004	TETRACHLOROETHYLENE(PCE	7.3E-03		1	1
MW09B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	6.3E-03		1	1
MW09B	T	9/15/2005	TETRACHLOROETHYLENE(PCE	6.6E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW10A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -3

Confidence in Trend: 55.4%

Coefficient of Variation: 0.00

Mann Kendall Concentration Trend: (See Note) S

Data Table:

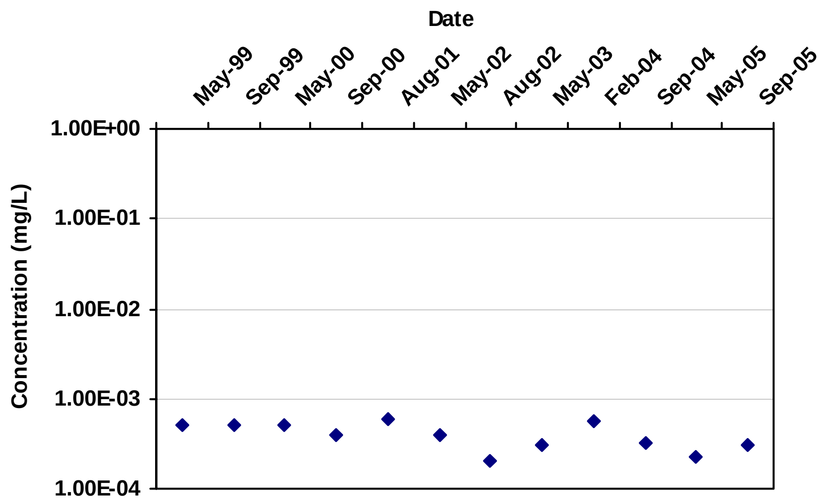
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW10A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW10A	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW10A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW10A	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW10A	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MW10A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW10A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW10A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW10A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW10A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW10A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW10A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW10B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -27

Confidence in Trend: 96.3%

Coefficient of Variation: 0.32

Mann Kendall Concentration Trend: (See Note) D

Data Table:

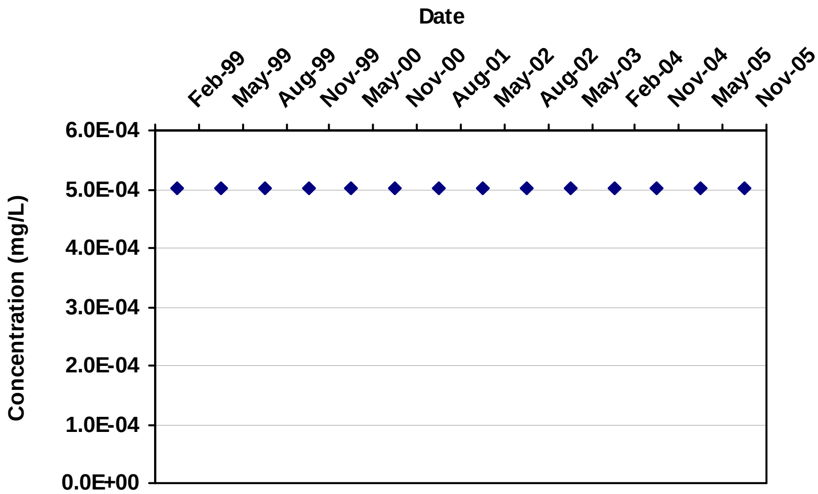
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW10B	T	5/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW10B	T	9/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW10B	T	5/15/2000	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW10B	T	9/15/2000	TETRACHLOROETHYLENE(PCE	4.0E-04		1	1
MW10B	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.8E-04		1	1
MW10B	T	5/15/2002	TETRACHLOROETHYLENE(PCE	4.0E-04		1	1
MW10B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
MW10B	T	5/15/2003	TETRACHLOROETHYLENE(PCE	3.0E-04		1	1
MW10B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	5.5E-04		1	1
MW10B	T	9/15/2004	TETRACHLOROETHYLENE(PCE	3.3E-04		1	1
MW10B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.3E-04		1	1
MW10B	T	9/15/2005	TETRACHLOROETHYLENE(PCE	3.0E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW11A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -1

Confidence in Trend: 50.0%

Coefficient of Variation: 0.00

Mann Kendall Concentration Trend: (See Note) S

Data Table:

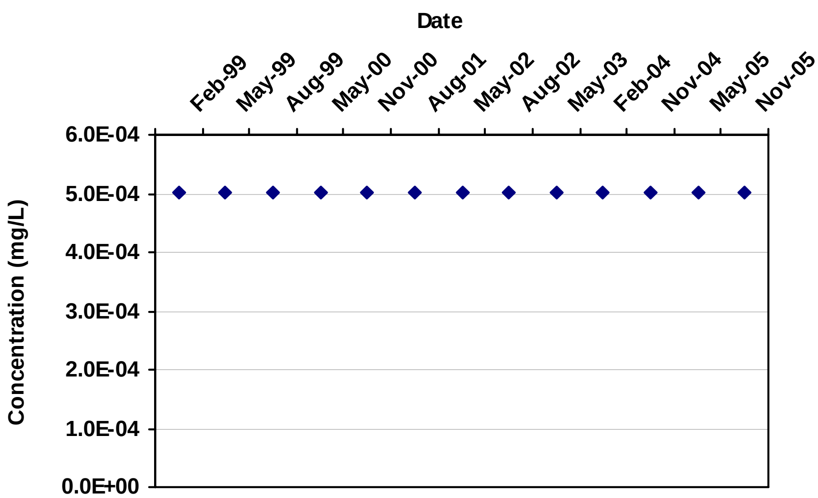
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW11A	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW11A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW11A	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW11A	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW11A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW11A	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW11A	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MW11A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW11A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW11A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW11A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW11A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW11A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW11A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW12B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 47.6%

Coefficient of Variation: 0.00

Mann Kendall Concentration Trend: (See Note) S

Data Table:

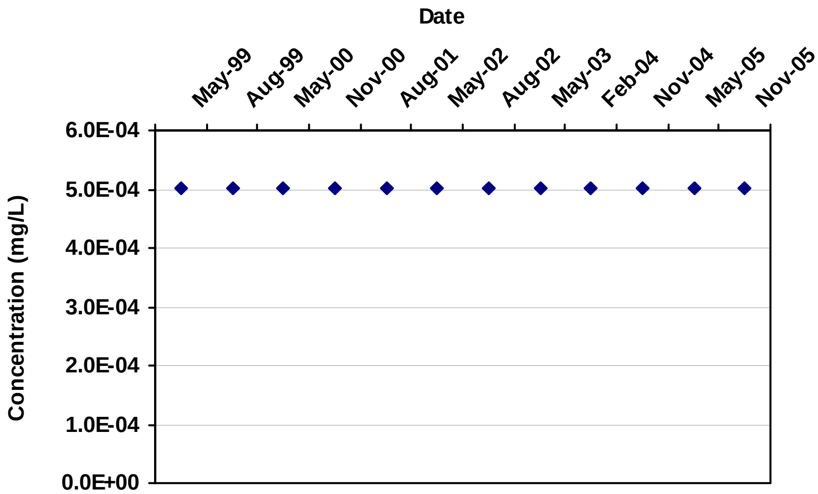
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW12B	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW12B	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW12B	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW12B	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW12B	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW12B	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW12B	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW12B	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW12B	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW12B	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW12B	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW12B	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW12B	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW13A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:
0

Confidence in Trend:
47.3%

Coefficient of Variation:
0.00

Mann Kendall Concentration Trend: (See Note)
S

Data Table:

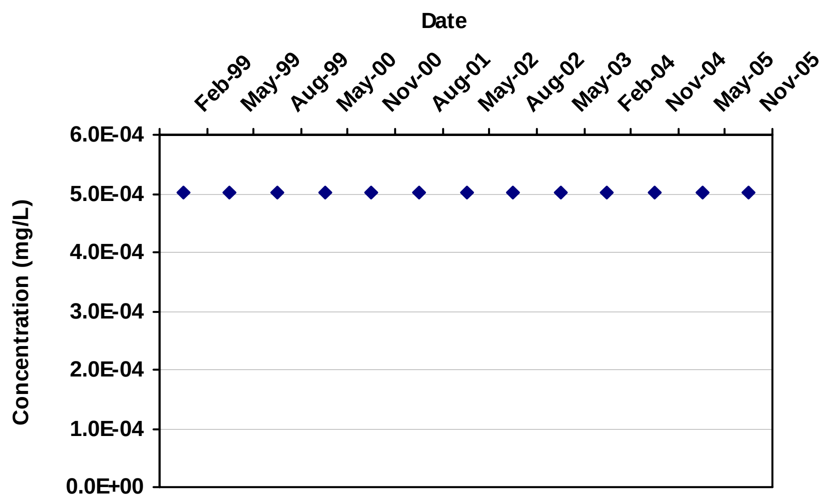
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW13A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13A	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13A	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13A	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW13B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 47.6%

Coefficient of Variation: 0.00

Mann Kendall Concentration Trend: (See Note) S

Data Table:

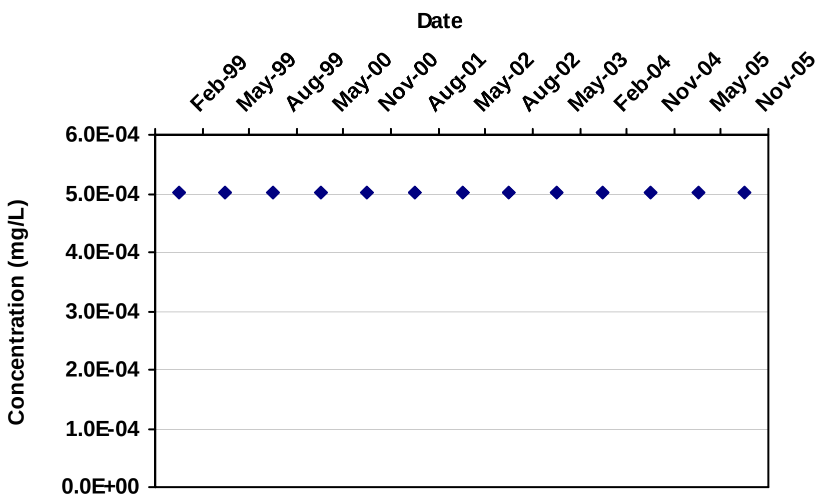
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW13B	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13B	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13B	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13B	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13B	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13B	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13B	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13B	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13B	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13B	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13B	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13B	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW13B	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW14B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 47.6%

Coefficient of Variation: 0.00

Mann Kendall Concentration Trend: (See Note) S

Data Table:

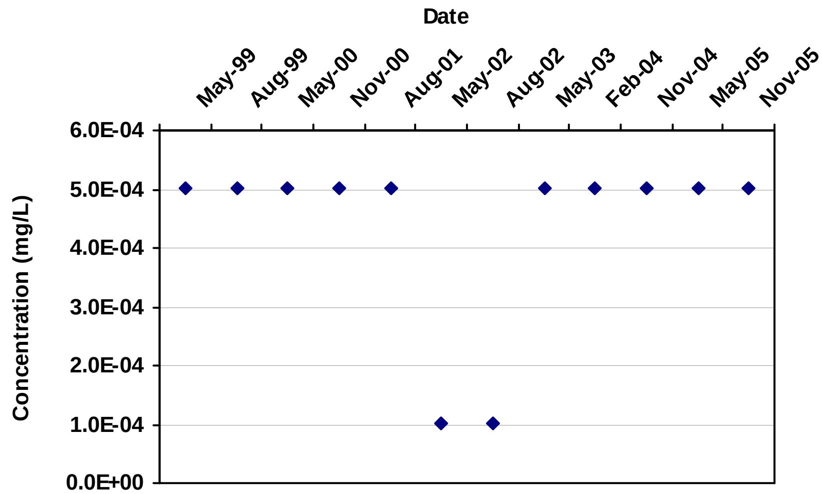
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW14B	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW14B	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW14B	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW14B	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW14B	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW14B	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW14B	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW14B	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW14B	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW14B	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW14B	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW14B	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW14B	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW15A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 11/15/2006
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 47.3%

Coefficient of Variation: 0.36

Mann Kendall Concentration Trend: (See Note) S

Data Table:

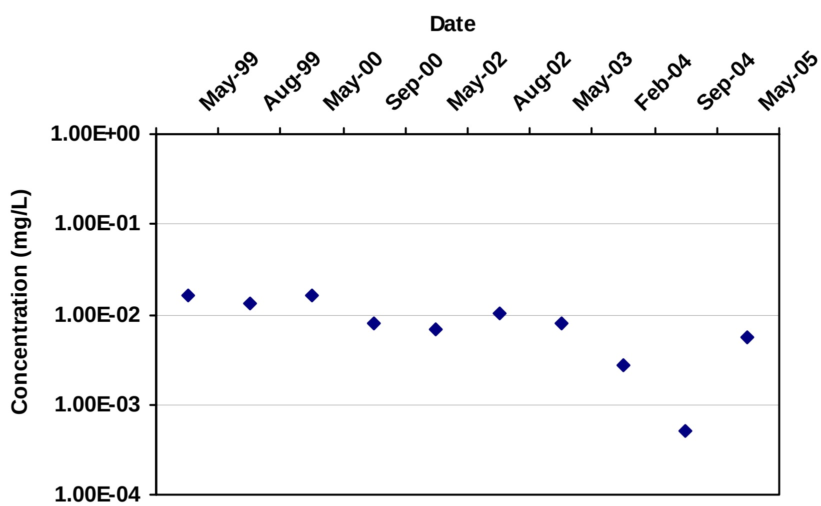
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW15A	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW15A	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW15A	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW15A	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW15A	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW15A	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	1.0E-04		1	1
MW15A	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	1.0E-04		1	1
MW15A	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW15A	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW15A	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW15A	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0
MW15A	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW16B
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:

-31

Confidence in Trend:

99.8%

Coefficient of Variation:

0.60

Mann Kendall Concentration Trend: (See Note)

D

Data Table:

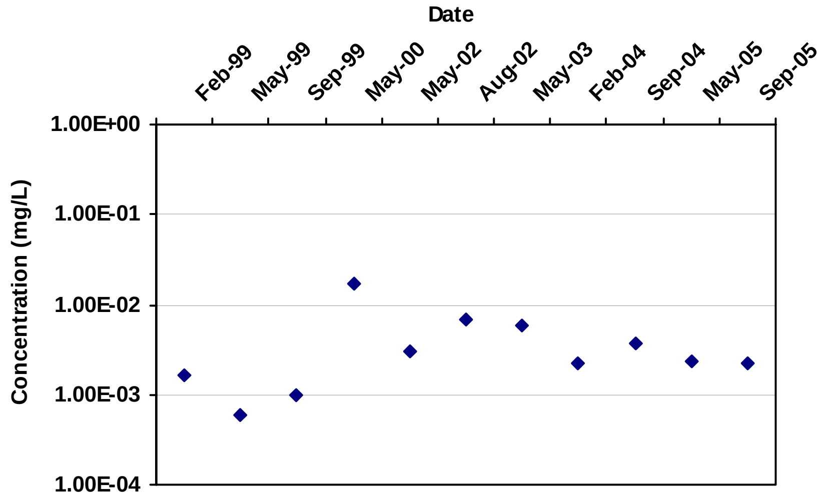
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW16B	S	5/15/1999	TETRACHLOROETHYLENE(PCE	1.6E-02		1	1
MW16B	S	8/15/1999	TETRACHLOROETHYLENE(PCE	1.3E-02		1	1
MW16B	S	5/15/2000	TETRACHLOROETHYLENE(PCE	1.6E-02		1	1
MW16B	S	9/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-03		1	1
MW16B	S	5/15/2002	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MW16B	S	8/15/2002	TETRACHLOROETHYLENE(PCE	1.0E-02		1	1
MW16B	S	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-03		1	1
MW16B	S	2/15/2004	TETRACHLOROETHYLENE(PCE	2.8E-03		1	1
MW16B	S	9/15/2004	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW16B	S	5/15/2005	TETRACHLOROETHYLENE(PCE	5.6E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW17B
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 2/15/1999 **to** 9/15/2006
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 6

Confidence in Trend: 64.8%

Coefficient of Variation: 1.09

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW17B	S	2/15/1999	TETRACHLOROETHYLENE(PCE	1.7E-03		3	3
MW17B	S	5/15/1999	TETRACHLOROETHYLENE(PCE	6.0E-04		1	1
MW17B	S	9/15/1999	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
MW17B	S	5/15/2000	TETRACHLOROETHYLENE(PCE	1.7E-02		1	1
MW17B	S	5/15/2002	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
MW17B	S	8/15/2002	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MW17B	S	5/15/2003	TETRACHLOROETHYLENE(PCE	6.0E-03		1	1
MW17B	S	2/15/2004	TETRACHLOROETHYLENE(PCE	2.2E-03		1	1
MW17B	S	9/15/2004	TETRACHLOROETHYLENE(PCE	3.8E-03		1	1
MW17B	S	5/15/2005	TETRACHLOROETHYLENE(PCE	2.4E-03		1	1
MW17B	S	9/15/2005	TETRACHLOROETHYLENE(PCE	2.2E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Project: Newmark Deep Zone

User Name: MV

Location: San Bernardino

State: California

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
DICHLORODIFLUOROMETHANE								
MW04B	S	13	12	0.73	-35	98.2%	No	D
MW08B	S	12	11	0.97	-26	95.7%	No	D
MUNI-11C	S	11	11	0.62	6	64.8%	No	NT
MW09B	S	14	13	0.42	-34	96.5%	No	D
MW05B	S	13	13	1.25	-29	95.6%	No	D
MW11B	T	14	13	1.19	-69	100.0%	No	D
MW-135C	T	12	4	1.23	-14	81.0%	No	NT
EW-3	T	13	13	0.80	-9	68.4%	No	S
EW-3PB	T	13	13	1.40	-9	68.4%	No	NT
EW-1	T	13	13	1.07	48	99.9%	No	I
MW12C	T	13	6	0.48	-4	57.1%	No	S
EW-4	T	13	12	0.76	-7	64.0%	No	S
EW-2PB	T	13	9	1.49	41	99.4%	No	I
EW-4PB	T	13	5	0.68	7	64.0%	No	NT
MW-135B	T	12	3	0.45	-7	65.6%	No	S
EW-5	T	13	10	0.51	-37	98.7%	No	D
MW10C	T	12	11	0.72	-51	100.0%	No	D
EW-5PB	T	13	9	0.53	-32	97.1%	No	D
MW11C	T	14	11	2.08	52	99.8%	No	I
MW16B	T	10	8	0.77	-26	98.9%	No	D
MW13C	T	13	3	0.49	8	66.2%	No	NT
MW15B	T	13	3	0.49	16	81.6%	No	NT
EW-1PB	T	13	7	2.27	20	87.4%	No	NT
MW15C	T	13	1	0.85	-6	61.7%	No	S
EW-108	T	9	7	1.02	7	72.8%	No	NT
EW-108PB	T	11	2	0.39	-3	56.0%	No	S
MW14C	T	13	10	0.65	-41	99.4%	No	D
EW-2	T	13	13	0.96	31	96.7%	No	I
TETRACHLOROETHYLENE(PCE)								
MUNI-11C	S	11	11	0.56	-25	97.0%	No	D
MW08B	S	12	11	1.39	-24	94.2%	No	PD
MW05B	S	13	13	1.26	-47	99.9%	No	D
MW04B	S	13	12	0.72	-43	99.6%	No	D
MW09B	S	14	13	0.37	-37	97.6%	No	D
MW16B	T	10	9	0.61	-31	99.8%	No	D
EW-1	T	13	13	0.58	57	100.0%	No	I
EW-5PB	T	13	7	0.47	9	68.4%	No	NT

Project: Newmark Deep Zone **User Name:** MV

Location: San Bernardino **State:** California

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
TETRACHLOROETHYLENE(PCE)								
EW-108	T	9	8	0.43	21	98.3%	No	I
MW15C	T	13	0	0.00	0	47.6%	Yes	S
MW10C	T	12	12	0.44	-29	97.4%	No	D
EW-5	T	13	8	0.43	-29	95.6%	No	D
EW-1PB	T	13	8	1.27	49	99.9%	No	I
MW13C	T	13	0	0.00	0	47.6%	Yes	S
EW-2PB	T	13	9	0.94	55	100.0%	No	I
MW-135C	T	12	1	0.60	-11	74.9%	No	S
EW-2	T	13	13	0.52	45	99.8%	No	I
EW-3	T	13	13	0.18	-13	76.4%	No	S
MW11B	T	14	14	1.19	-72	100.0%	No	D
MW14C	T	13	7	1.03	-40	99.3%	No	D
EW-3PB	T	13	11	1.05	45	99.8%	No	I
MW12C	T	13	3	0.43	-13	76.4%	No	S
EW-4	T	13	12	0.36	-20	87.4%	No	S
MW11C	T	14	8	1.10	42	98.9%	No	I
MW15B	T	13	0	0.00	0	47.6%	Yes	S
EW-108PB	T	11	3	0.40	-7	67.6%	No	S
EW-4PB	T	13	4	0.76	3	54.8%	No	NT
MW-135B	T	12	1	0.38	-5	60.6%	No	S
TRICHLOROETHYLENE (TCE)								
MUNI-11C	S	11	11	0.49	-32	99.4%	No	D
MW09B	S	14	13	0.29	-17	80.6%	No	S
MW05B	S	13	12	0.84	-61	100.0%	No	D
MW08B	S	12	7	0.81	-31	98.1%	No	D
MW04B	S	13	11	0.57	-46	99.8%	No	D
MW11C	T	14	8	1.24	69	100.0%	No	I
MW15B	T	13	0	0.00	0	47.6%	Yes	S
EW-3PB	T	13	9	0.65	33	97.5%	No	I
MW12C	T	13	1	0.37	-2	52.4%	No	S
EW-108PB	T	11	2	0.39	-9	72.9%	No	S
EW-4	T	13	12	0.31	-54	100.0%	No	D
EW-2PB	T	13	9	0.72	60	100.0%	No	I
EW-108	T	9	7	0.44	13	89.0%	No	NT
MW-135C	T	12	1	0.14	-11	74.9%	No	S
MW14C	T	13	11	0.98	-58	100.0%	No	D
EW-1PB	T	13	8	1.31	38	98.9%	No	I
EW-2	T	13	13	0.39	30	96.2%	No	I
MW13C	T	13	0	0.00	0	47.6%	Yes	S
MW-135B	T	12	1	0.38	-5	60.6%	No	S
MW11B	T	14	11	1.29	-76	100.0%	No	D
MW16B	T	10	10	0.69	-31	99.8%	No	D
EW-4PB	T	13	5	0.69	13	76.4%	No	NT
MW15C	T	13	0	0.00	0	47.6%	Yes	S
MW10C	T	12	12	0.41	-32	98.4%	No	D
EW-5	T	13	4	0.37	27	94.3%	No	PI
EW-3	T	13	13	0.15	-22	89.8%	No	S
EW-1	T	13	13	0.43	53	100.0%	No	I
EW-5PB	T	13	5	0.53	2	52.4%	No	NT

Project: Newmark Deep Zone

User Name: MV

Location: San Bernardino

State: California

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
TRICHLOROFLUOROMETHANE								
TRICHLOROFLUOROMETHANE								
MW04B	S	13	11	0.58	-47	99.9%	No	D
MUNI-11C	S	11	11	0.44	-9	72.9%	No	S
MW05B	S	13	9	1.09	-55	100.0%	No	D
MW08B	S	12	7	1.09	-27	96.3%	No	D
MW09B	S	14	13	0.28	-5	58.5%	No	S
MW14C	T	13	1	0.37	6	61.7%	No	NT
EW-108PB	T	11	1	0.40	-8	70.3%	No	S
EW-108	T	9	5	0.35	6	69.4%	No	NT
MW15C	T	13	1	0.37	6	61.7%	No	NT
MW15B	T	13	0	0.00	0	47.6%	Yes	S
EW-1PB	T	13	4	0.62	19	86.1%	No	NT
EW-1	T	13	12	0.60	44	99.7%	No	I
MW11C	T	14	4	0.47	17	80.6%	No	NT
MW16B	T	10	9	1.38	-25	98.6%	No	D
EW-5PB	T	13	2	0.46	2	52.4%	No	NT
EW-5	T	13	3	0.49	12	74.5%	No	NT
MW10C	T	12	12	0.54	-28	96.9%	No	D
EW-4PB	T	13	4	0.49	9	68.4%	No	NT
EW-3	T	13	12	0.31	-5	59.4%	No	S
EW-4	T	13	11	0.29	-8	66.2%	No	S
MW13C	T	13	0	0.00	0	47.6%	Yes	S
EW-3PB	T	13	8	0.51	28	95.0%	No	I
MW12C	T	13	3	0.49	4	57.1%	No	NT
MW-135B	T	12	2	0.47	-10	72.7%	No	S
EW-2PB	T	13	5	0.91	15	79.9%	No	NT
MW-135C	T	12	2	0.47	-10	72.7%	No	S
EW-2	T	13	13	0.57	44	99.7%	No	I
MW11B	T	14	9	1.30	-57	99.9%	No	D

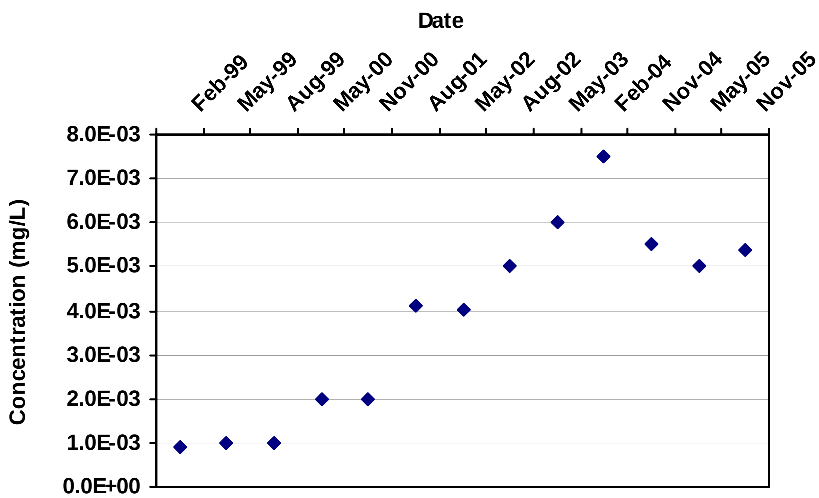
Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A)-Due to insufficient Data (< 4 sampling events); Source/Tail (S/T)

The Number of Samples and Number of Detects shown above are post-consolidation values.

MAROS Mann-Kendall Statistics Summary

Well: EW-1
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 57

Confidence in Trend: 100.0%

Coefficient of Variation: 0.58

Mann Kendall Concentration Trend: (See Note) I

Data Table:

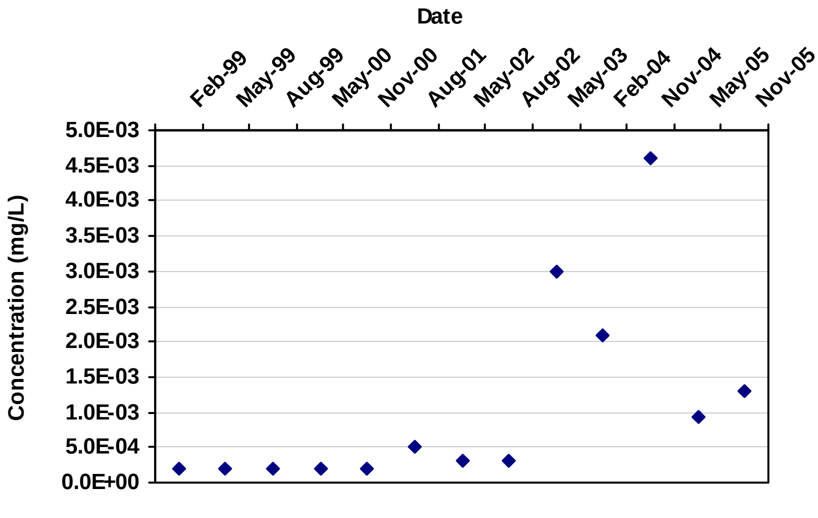
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-1	T	2/15/1999	TETRACHLOROETHYLENE(PCE	9.0E-04		1	1
EW-1	T	5/15/1999	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
EW-1	T	8/15/1999	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
EW-1	T	5/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-1	T	11/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-1	T	8/15/2001	TETRACHLOROETHYLENE(PCE	4.1E-03		1	1
EW-1	T	5/15/2002	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
EW-1	T	8/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-03		1	1
EW-1	T	5/15/2003	TETRACHLOROETHYLENE(PCE	6.0E-03		1	1
EW-1	T	2/15/2004	TETRACHLOROETHYLENE(PCE	7.5E-03		1	1
EW-1	T	11/15/2004	TETRACHLOROETHYLENE(PCE	5.5E-03		1	1
EW-1	T	5/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-03		1	1
EW-1	T	11/15/2005	TETRACHLOROETHYLENE(PCE	5.4E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-1PB
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 49

Confidence in Trend: 99.9%

Coefficient of Variation: 1.27

Mann Kendall Concentration Trend: (See Note) I

Data Table:

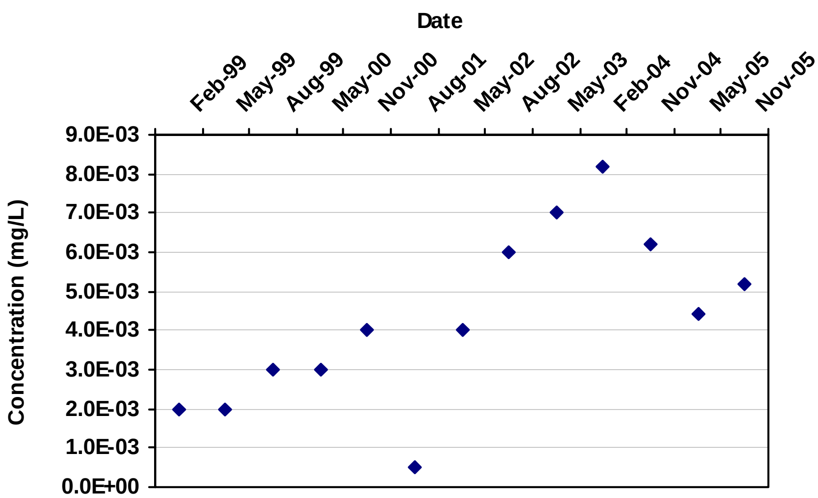
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-1PB	T	2/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-1PB	T	5/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-1PB	T	8/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-1PB	T	5/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-1PB	T	11/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-1PB	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
EW-1PB	T	5/15/2002	TETRACHLOROETHYLENE(PCE	3.0E-04		1	1
EW-1PB	T	8/15/2002	TETRACHLOROETHYLENE(PCE	3.0E-04		1	1
EW-1PB	T	5/15/2003	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
EW-1PB	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.1E-03		1	1
EW-1PB	T	11/15/2004	TETRACHLOROETHYLENE(PCE	4.6E-03		1	1
EW-1PB	T	5/15/2005	TETRACHLOROETHYLENE(PCE	9.3E-04		1	1
EW-1PB	T	11/15/2005	TETRACHLOROETHYLENE(PCE	1.3E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-2
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 45

Confidence in Trend: 99.8%

Coefficient of Variation: 0.52

Mann Kendall Concentration Trend: (See Note) I

Data Table:

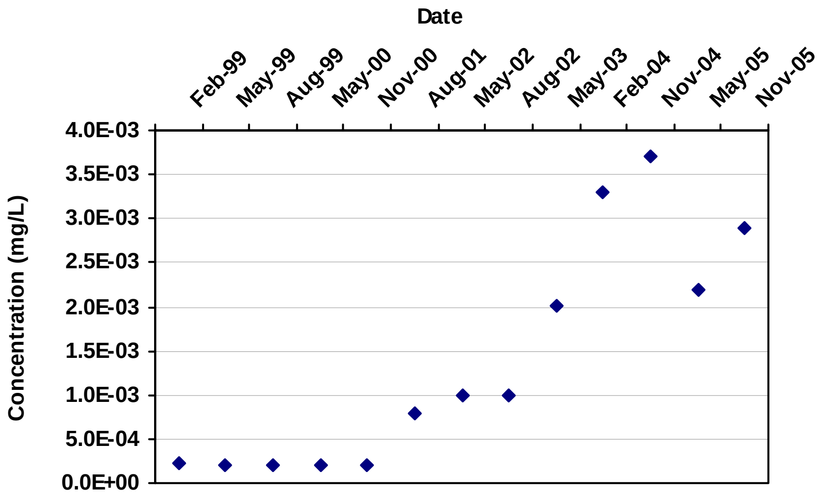
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-2	T	2/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-2	T	5/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-2	T	8/15/1999	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
EW-2	T	5/15/2000	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
EW-2	T	11/15/2000	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
EW-2	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
EW-2	T	5/15/2002	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
EW-2	T	8/15/2002	TETRACHLOROETHYLENE(PCE	6.0E-03		1	1
EW-2	T	5/15/2003	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
EW-2	T	2/15/2004	TETRACHLOROETHYLENE(PCE	8.2E-03		1	1
EW-2	T	11/15/2004	TETRACHLOROETHYLENE(PCE	6.2E-03		1	1
EW-2	T	5/15/2005	TETRACHLOROETHYLENE(PCE	4.4E-03		1	1
EW-2	T	11/15/2005	TETRACHLOROETHYLENE(PCE	5.2E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-2PB
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 55

Confidence in Trend: 100.0%

Coefficient of Variation: 0.94

Mann Kendall Concentration Trend: (See Note) I

Data Table:

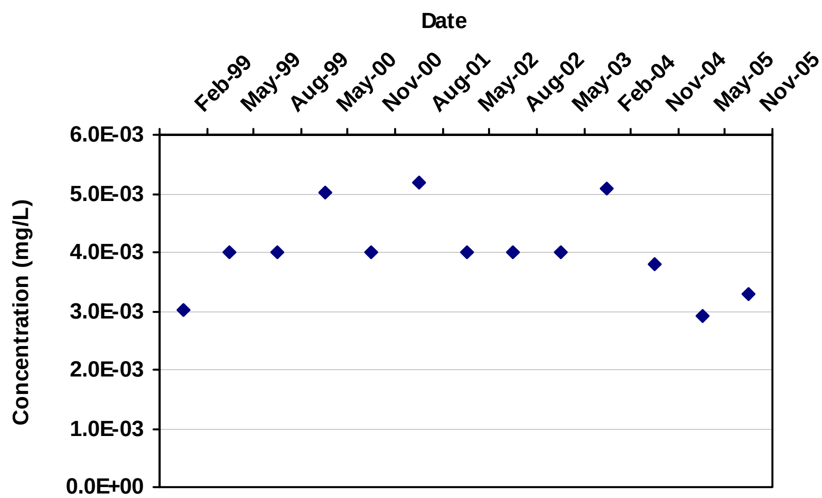
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-2PB	T	2/15/1999	TETRACHLOROETHYLENE(PCE	2.3E-04		1	1
EW-2PB	T	5/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-2PB	T	8/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-2PB	T	5/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-2PB	T	11/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-2PB	T	8/15/2001	TETRACHLOROETHYLENE(PCE	7.9E-04		1	1
EW-2PB	T	5/15/2002	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
EW-2PB	T	8/15/2002	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
EW-2PB	T	5/15/2003	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-2PB	T	2/15/2004	TETRACHLOROETHYLENE(PCE	3.3E-03		1	1
EW-2PB	T	11/15/2004	TETRACHLOROETHYLENE(PCE	3.7E-03		1	1
EW-2PB	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.2E-03		1	1
EW-2PB	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.9E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-3
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -13

Confidence in Trend: 76.4%

Coefficient of Variation: 0.18

Mann Kendall Concentration Trend: (See Note) S

Data Table:

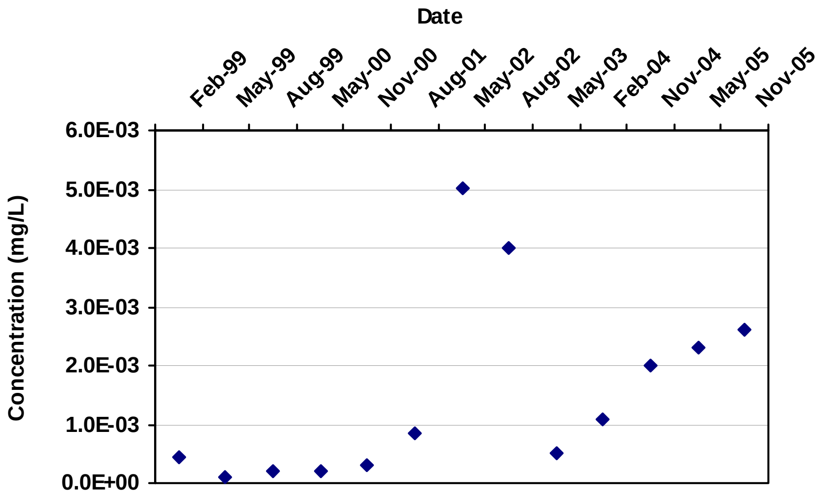
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-3	T	2/15/1999	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
EW-3	T	5/15/1999	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
EW-3	T	8/15/1999	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
EW-3	T	5/15/2000	TETRACHLOROETHYLENE(PCE	5.0E-03		1	1
EW-3	T	11/15/2000	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
EW-3	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.2E-03		1	1
EW-3	T	5/15/2002	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
EW-3	T	8/15/2002	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
EW-3	T	5/15/2003	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
EW-3	T	2/15/2004	TETRACHLOROETHYLENE(PCE	5.1E-03		1	1
EW-3	T	11/15/2004	TETRACHLOROETHYLENE(PCE	3.8E-03		1	1
EW-3	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.9E-03		1	1
EW-3	T	11/15/2005	TETRACHLOROETHYLENE(PCE	3.3E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-3PB
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 45

Confidence in Trend: 99.8%

Coefficient of Variation: 1.05

Mann Kendall Concentration Trend: (See Note) I

Data Table:

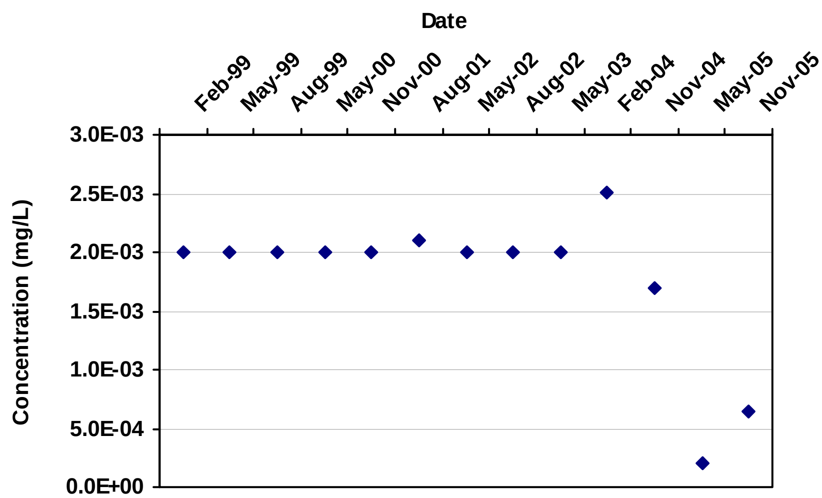
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-3PB	T	2/15/1999	TETRACHLOROETHYLENE(PCE	4.3E-04		1	1
EW-3PB	T	5/15/1999	TETRACHLOROETHYLENE(PCE	1.0E-04		1	1
EW-3PB	T	8/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-3PB	T	5/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-3PB	T	11/15/2000	TETRACHLOROETHYLENE(PCE	3.0E-04		1	1
EW-3PB	T	8/15/2001	TETRACHLOROETHYLENE(PCE	8.5E-04		1	1
EW-3PB	T	5/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-03		1	1
EW-3PB	T	8/15/2002	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
EW-3PB	T	5/15/2003	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
EW-3PB	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.1E-03		1	1
EW-3PB	T	11/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-3PB	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.3E-03		1	1
EW-3PB	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.6E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-4
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -20

Confidence in Trend: 87.4%

Coefficient of Variation: 0.36

Mann Kendall Concentration Trend: (See Note) S

Data Table:

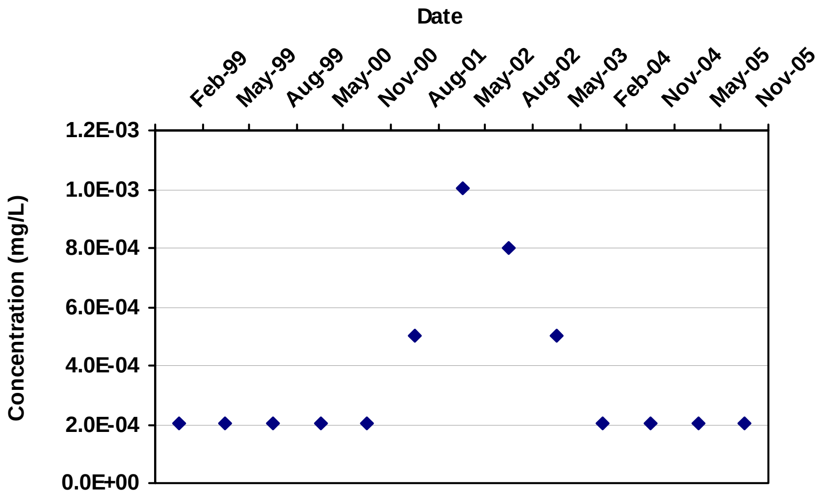
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-4	T	2/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-4	T	5/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-4	T	8/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-4	T	5/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-4	T	11/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-4	T	8/15/2001	TETRACHLOROETHYLENE(PCE	2.1E-03		1	1
EW-4	T	5/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-4	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-4	T	5/15/2003	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-4	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.5E-03		1	1
EW-4	T	11/15/2004	TETRACHLOROETHYLENE(PCE	1.7E-03		1	1
EW-4	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-4	T	11/15/2005	TETRACHLOROETHYLENE(PCE	6.4E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-4PB
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 3

Confidence in Trend: 54.8%

Coefficient of Variation: 0.76

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

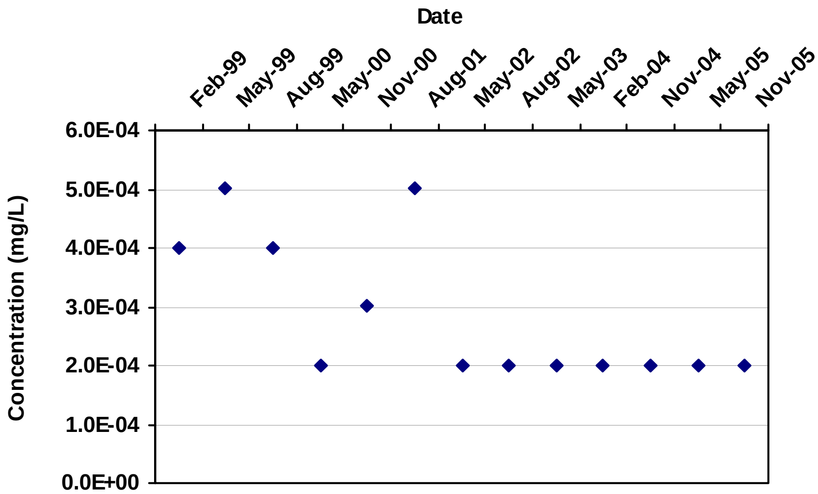
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-4PB	T	2/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-4PB	T	5/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-4PB	T	8/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-4PB	T	5/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-4PB	T	11/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-4PB	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
EW-4PB	T	5/15/2002	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
EW-4PB	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-04		1	1
EW-4PB	T	5/15/2003	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
EW-4PB	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-4PB	T	11/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-4PB	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-4PB	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-5
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:
-29

Confidence in Trend:
95.6%

Coefficient of Variation:
0.43

Mann Kendall Concentration Trend: (See Note)
D

Data Table:

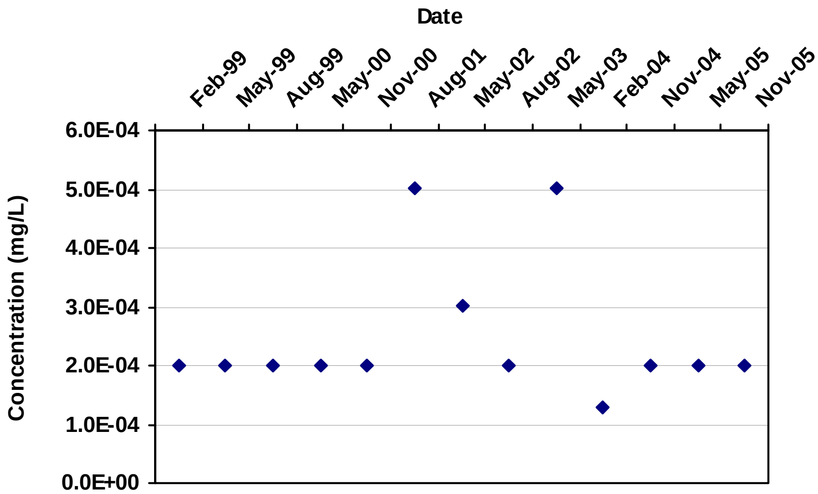
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-5	T	2/15/1999	TETRACHLOROETHYLENE(PCE	4.0E-04		1	1
EW-5	T	5/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
EW-5	T	8/15/1999	TETRACHLOROETHYLENE(PCE	4.0E-04		1	1
EW-5	T	5/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-5	T	11/15/2000	TETRACHLOROETHYLENE(PCE	3.0E-04		1	1
EW-5	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
EW-5	T	5/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
EW-5	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
EW-5	T	5/15/2003	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-5	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
EW-5	T	11/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-5	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-5	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-5PB
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 9

Confidence in Trend: 68.4%

Coefficient of Variation: 0.47

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

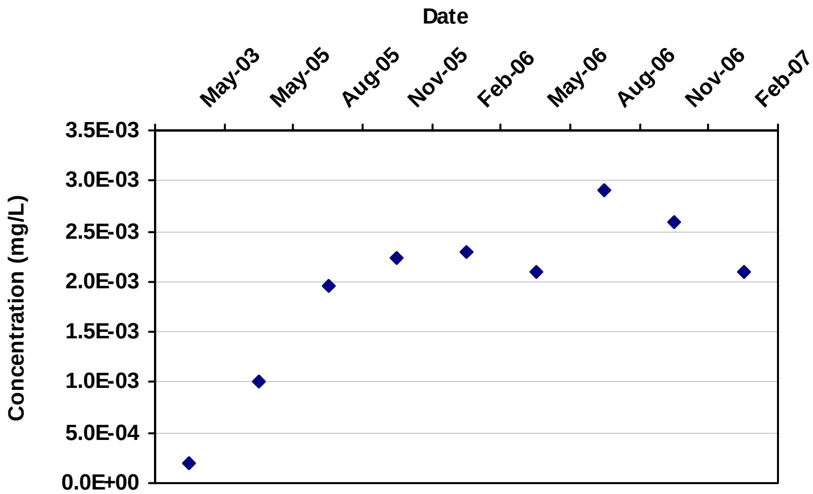
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-5PB	T	2/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
EW-5PB	T	5/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
EW-5PB	T	8/15/1999	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-5PB	T	5/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-5PB	T	11/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-5PB	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
EW-5PB	T	5/15/2002	TETRACHLOROETHYLENE(PCE	3.0E-04		1	1
EW-5PB	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
EW-5PB	T	5/15/2003	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
EW-5PB	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.3E-04		1	1
EW-5PB	T	11/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-5PB	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-5PB	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-108
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 21

Confidence in Trend: 98.3%

Coefficient of Variation: 0.43

Mann Kendall Concentration Trend: (See Note) I

Data Table:

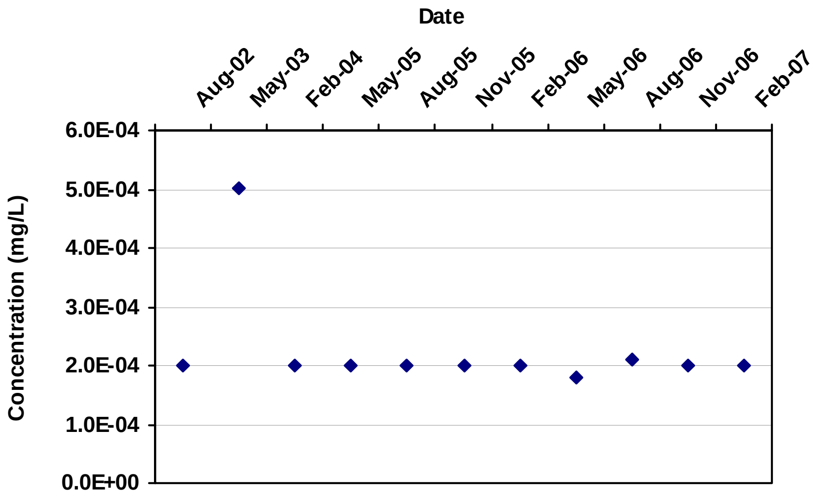
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-108	T	5/15/2003	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-108	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
EW-108	T	8/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-108	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.2E-03		1	1
EW-108	T	2/15/2006	TETRACHLOROETHYLENE(PCE	2.3E-03		1	1
EW-108	T	5/15/2006	TETRACHLOROETHYLENE(PCE	2.1E-03		1	1
EW-108	T	8/15/2006	TETRACHLOROETHYLENE(PCE	2.9E-03		1	1
EW-108	T	11/15/2006	TETRACHLOROETHYLENE(PCE	2.6E-03		1	1
EW-108	T	2/15/2007	TETRACHLOROETHYLENE(PCE	2.1E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-108PB
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -7

Confidence in Trend: 67.6%

Coefficient of Variation: 0.40

Mann Kendall Concentration Trend: (See Note) S

Data Table:

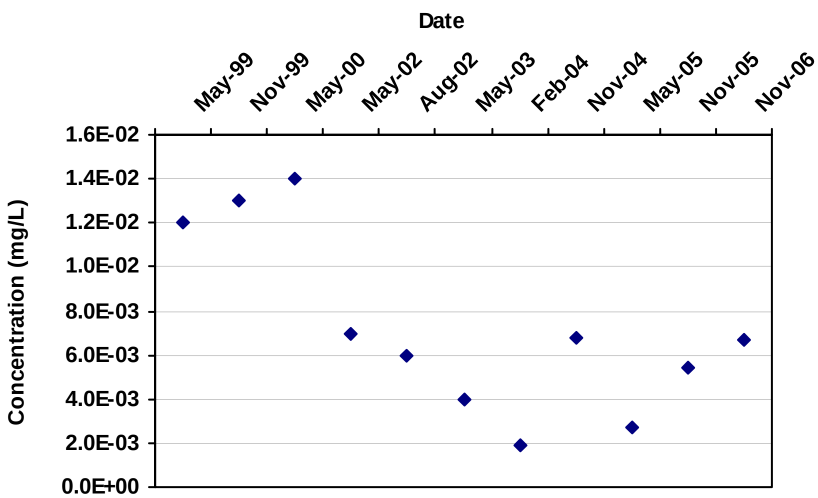
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-108PB	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-108PB	T	5/15/2003	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
EW-108PB	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-108PB	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-108PB	T	8/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-108PB	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-108PB	T	2/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-108PB	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.8E-04		1	1
EW-108PB	T	8/15/2006	TETRACHLOROETHYLENE(PCE	2.1E-04		1	1
EW-108PB	T	11/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
EW-108PB	T	2/15/2007	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-11C
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -25

Confidence in Trend: 97.0%

Coefficient of Variation: 0.56

Mann Kendall Concentration Trend: (See Note) D

Data Table:

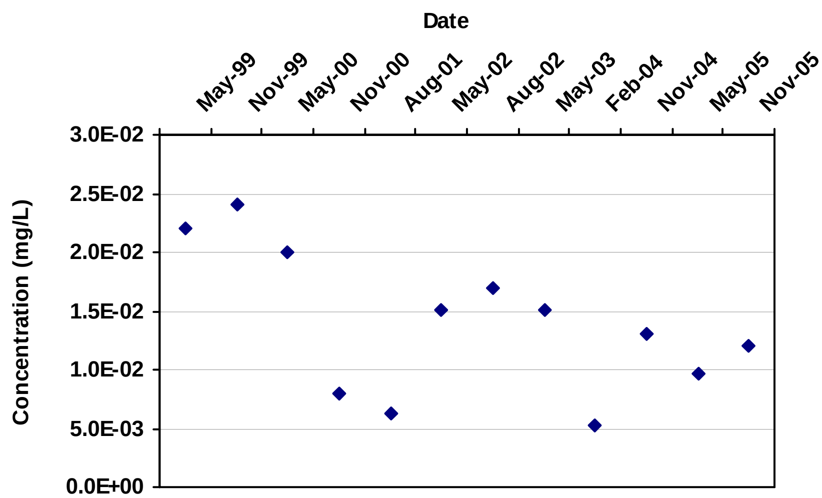
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-11C	S	5/15/1999	TETRACHLOROETHYLENE(PCE	1.2E-02		1	1
MUNI-11C	S	11/15/1999	TETRACHLOROETHYLENE(PCE	1.3E-02		1	1
MUNI-11C	S	5/15/2000	TETRACHLOROETHYLENE(PCE	1.4E-02		1	1
MUNI-11C	S	5/15/2002	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MUNI-11C	S	8/15/2002	TETRACHLOROETHYLENE(PCE	6.0E-03		1	1
MUNI-11C	S	5/15/2003	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
MUNI-11C	S	2/15/2004	TETRACHLOROETHYLENE(PCE	1.9E-03		1	1
MUNI-11C	S	11/15/2004	TETRACHLOROETHYLENE(PCE	6.8E-03		1	1
MUNI-11C	S	5/15/2005	TETRACHLOROETHYLENE(PCE	2.7E-03		1	1
MUNI-11C	S	11/15/2005	TETRACHLOROETHYLENE(PCE	5.4E-03		1	1
MUNI-11C	S	11/15/2006	TETRACHLOROETHYLENE(PCE	6.7E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW10C
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -29

Confidence in Trend: 97.4%

Coefficient of Variation: 0.44

Mann Kendall Concentration Trend: (See Note) D

Data Table:

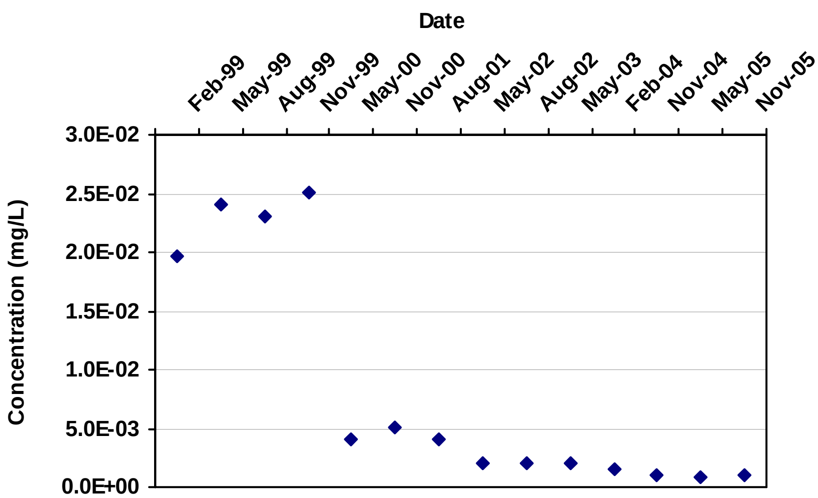
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW10C	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	2.2E-02		1	1
MW10C	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	2.4E-02		1	1
MW10C	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-02		1	1
MW10C	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-03		1	1
MW10C	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	6.2E-03		1	1
MW10C	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	1.5E-02		1	1
MW10C	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	1.7E-02		1	1
MW10C	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	1.5E-02		1	1
MW10C	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	5.3E-03		1	1
MW10C	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	1.3E-02		1	1
MW10C	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	9.7E-03		1	1
MW10C	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	1.2E-02		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW11B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -72

Confidence in Trend: 100.0%

Coefficient of Variation: 1.19

Mann Kendall Concentration Trend: (See Note) D

Data Table:

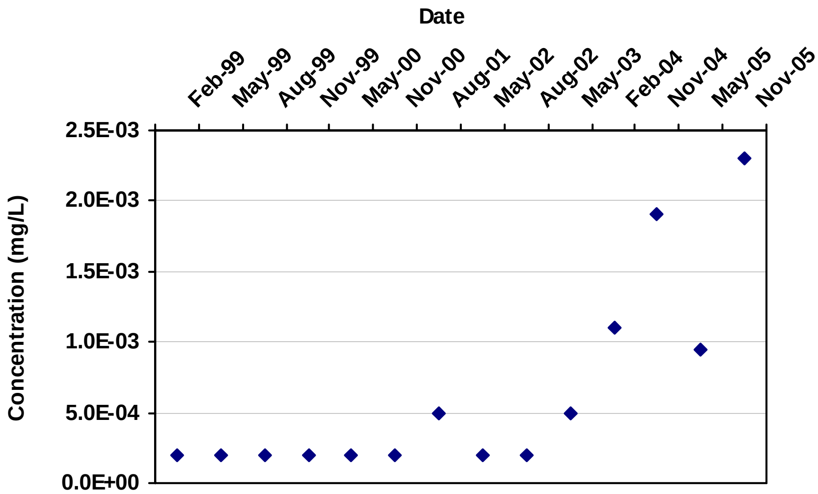
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW11B	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-02		1	1
MW11B	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	2.4E-02		1	1
MW11B	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	2.3E-02		1	1
MW11B	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	2.5E-02		1	1
MW11B	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	4.0E-03		1	1
MW11B	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	5.0E-03		1	1
MW11B	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	4.1E-03		1	1
MW11B	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
MW11B	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
MW11B	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
MW11B	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	1.6E-03		1	1
MW11B	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	1.1E-03		1	1
MW11B	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.2E-04		1	1
MW11B	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	1.0E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW11C
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 42

Confidence in Trend: 98.9%

Coefficient of Variation: 1.10

Mann Kendall Concentration Trend: (See Note) I

Data Table:

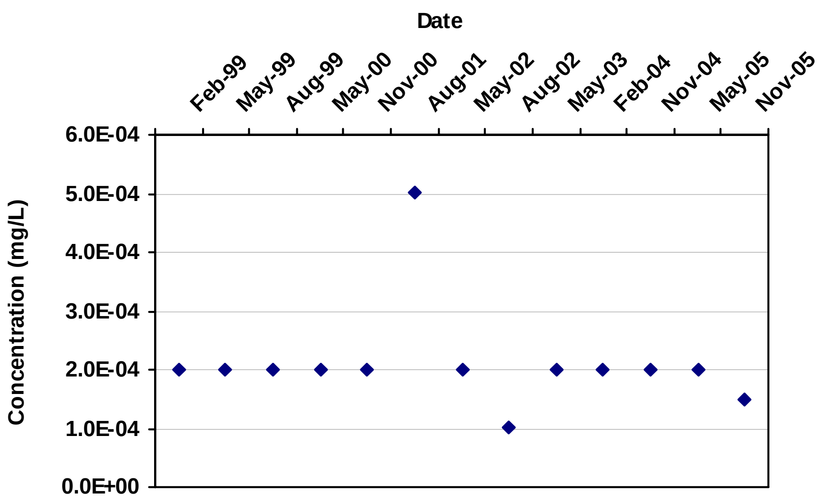
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW11C	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW11C	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW11C	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW11C	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW11C	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW11C	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW11C	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MW11C	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04		1	1
MW11C	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04		1	1
MW11C	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MW11C	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	1.1E-03		1	1
MW11C	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	1.9E-03		1	1
MW11C	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	9.5E-04		1	1
MW11C	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	2.3E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW12C
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -13

Confidence in Trend: 76.4%

Coefficient of Variation: 0.43

Mann Kendall Concentration Trend: (See Note) S

Data Table:

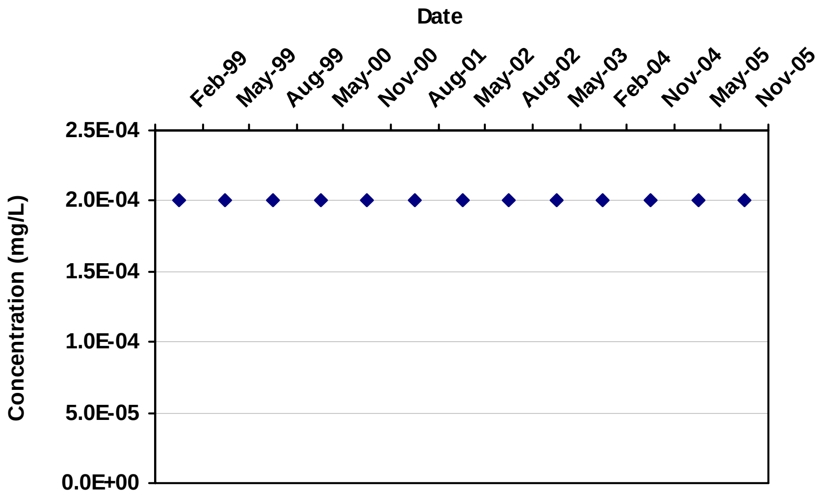
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW12C	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW12C	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW12C	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW12C	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW12C	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW12C	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	5.0E-04		1	1
MW12C	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW12C	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	1.0E-04		1	1
MW12C	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW12C	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW12C	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW12C	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW12C	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	1.5E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW13C
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 47.6%

Coefficient of Variation: 0.00

Mann Kendall Concentration Trend: (See Note) S

Data Table:

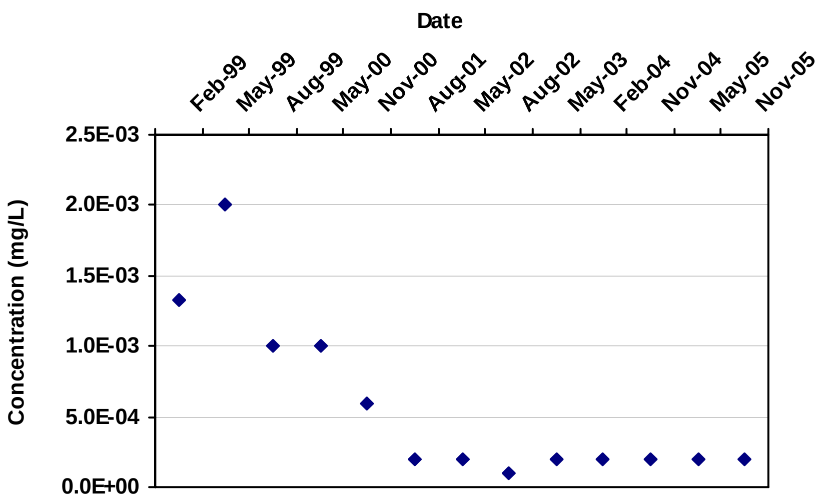
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW13C	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW13C	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW13C	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW13C	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW13C	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW13C	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW13C	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW13C	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW13C	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW13C	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW13C	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW13C	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW13C	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW14C
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -40

Confidence in Trend: 99.3%

Coefficient of Variation: 1.03

Mann Kendall Concentration Trend: (See Note) D

Data Table:

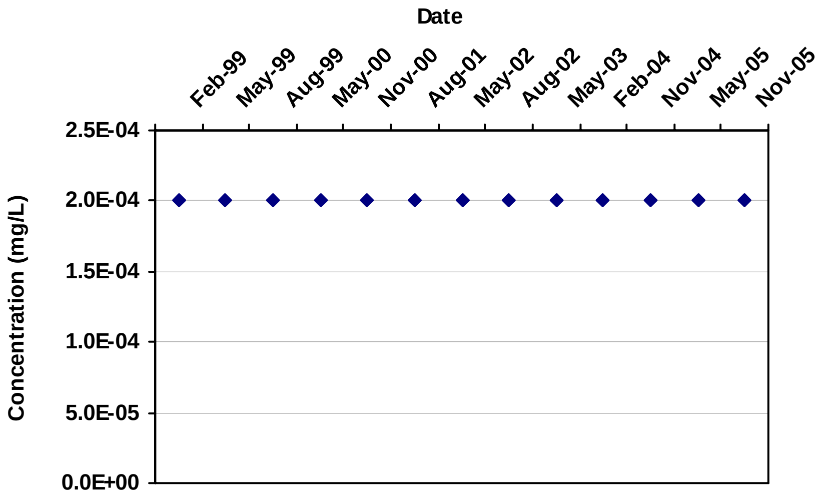
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW14C	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	1.3E-03		1	1
MW14C	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-03		1	1
MW14C	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	1.0E-03		1	1
MW14C	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	1.0E-03		1	1
MW14C	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	6.0E-04		1	1
MW14C	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW14C	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04		1	1
MW14C	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	1.0E-04		1	1
MW14C	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW14C	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW14C	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW14C	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW14C	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW15B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 47.6%

Coefficient of Variation: 0.00

Mann Kendall Concentration Trend: (See Note) S

Data Table:

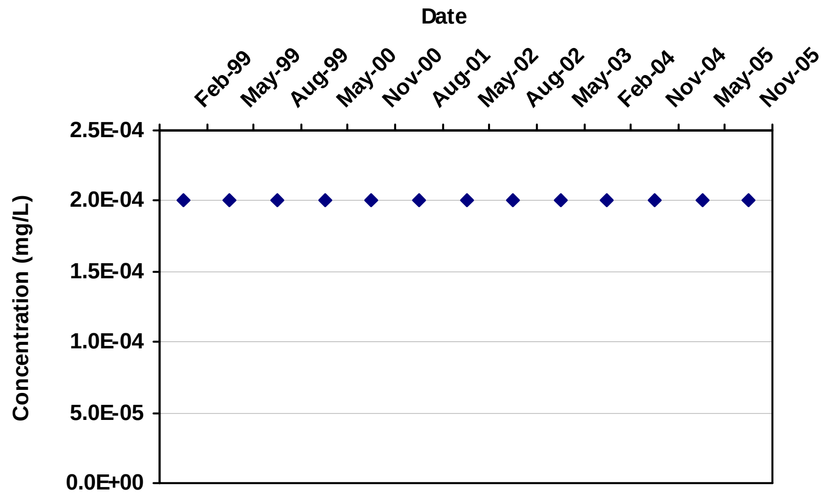
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW15B	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15B	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15B	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15B	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15B	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15B	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15B	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15B	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15B	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15B	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15B	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15B	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15B	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW15C
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 47.6%

Coefficient of Variation: 0.00

Mann Kendall Concentration Trend: (See Note) S

Data Table:

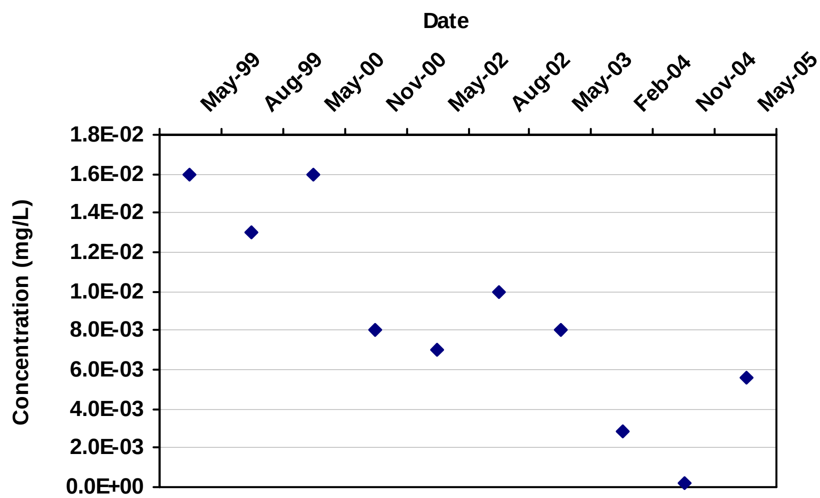
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW15C	T	2/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15C	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15C	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15C	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15C	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15C	T	8/15/2001	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15C	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15C	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15C	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15C	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15C	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15C	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW15C	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW16B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -31

Confidence in Trend: 99.8%

Coefficient of Variation: 0.61

Mann Kendall Concentration Trend: (See Note) D

Data Table:

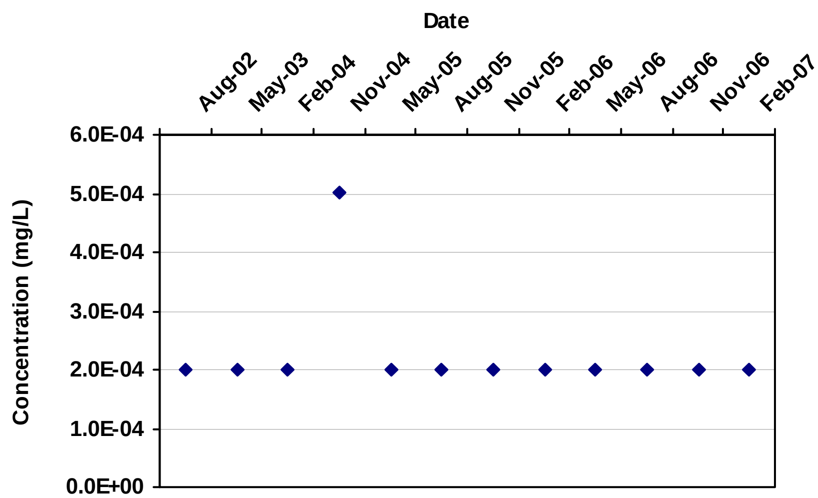
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW16B	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	1.6E-02		1	1
MW16B	T	8/15/1999	TETRACHLOROETHYLENE(PCE)	1.3E-02		1	1
MW16B	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	1.6E-02		1	1
MW16B	T	11/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-03		1	1
MW16B	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	7.0E-03		1	1
MW16B	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	1.0E-02		1	1
MW16B	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-03		1	1
MW16B	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	2.8E-03		1	1
MW16B	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	2.0E-04	ND	1	0
MW16B	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	5.6E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-135B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -5

Confidence in Trend: 60.6%

Coefficient of Variation: 0.38

Mann Kendall Concentration Trend: (See Note) S

Data Table:

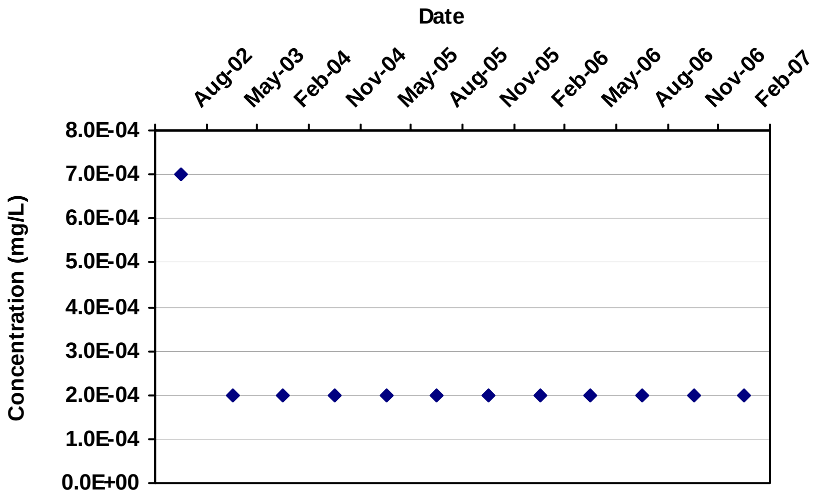
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-135B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	5/15/2003	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	11/15/2004	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-135B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	8/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	2/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	5/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	8/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	11/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	2/15/2007	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-135C
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -11

Confidence in Trend: 74.9%

Coefficient of Variation: 0.60

Mann Kendall Concentration Trend: (See Note) S

Data Table:

Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-135C	T	8/15/2002	TETRACHLOROETHYLENE(PCE	7.0E-04		1	1
MW-135C	T	5/15/2003	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	11/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	8/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	2/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	5/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	8/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	11/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	2/15/2007	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

GROUNDWATER MONITORING NETWORK OPTIMIZATION
NEWMARK, MUSCOY AND SOURCE OU
NEWMARK SUPERFUND SITE

San Bernardino, California

Muscoy OU MAROS Reports

Mann-Kendall Reports

MAROS Mann-Kendall Statistics Summary

Project: Muscoy Shallow

User Name: MV

Location: San Bernardino

State: California

Time Period: 1/1/1999 **to** 1/15/2007

Consolidation Period: Quarterly

Consolidation Type: Median

Duplicate Consolidation: Average

ND Values: Specified Detection Limit

J Flag Values : Actual Value

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
DICHLORODIFLUOROMETHANE								
CJ-17	S	14	14	0.63	-2	52.2%	No	S
MWCOE003	S	5	1	0.69	2	59.2%	No	NT
MWCOE002	S	5	0	0.00	0	40.8%	Yes	S
CJ-15	S	18	17	1.09	11	64.6%	No	NT
CJ-11	S	18	17	0.90	23	79.5%	No	NT
MWCOE004	S	6	4	1.21	-8	89.8%	No	NT
CJ-1	S	29	11	1.11	98	96.6%	No	I
CJ-16	S	29	29	0.42	-51	82.4%	No	S
CJ-8	S	13	11	0.62	7	64.0%	No	NT
CJ-7	S	13	2	0.87	1	50.0%	No	NT
CJ-6	S	29	28	0.67	-173	100.0%	No	D
CJ-14	S	5	3	0.79	-5	82.1%	No	S
CJ-13	S	5	4	0.76	-6	88.3%	No	S
MWCOE008	S	6	5	1.29	-3	64.0%	No	NT
CJ-10	S	14	13	0.83	1	50.0%	No	NT
MWCOE007	S	13	11	0.80	-22	89.8%	No	S
MWCOE001B	S	13	12	1.16	-4	57.1%	No	NT
CJ-3	S	15	12	1.02	-33	94.3%	No	PD
CJ-12	S	5	4	0.95	-5	82.1%	No	S
CJ-1A	S	19	4	2.48	38	90.1%	No	PI
MWCOE005	S	13	13	0.45	3	54.8%	No	NT
CJ-2	S	15	4	1.21	42	98.0%	No	I
MWCOE006	S	12	6	1.17	8	68.1%	No	NT
MWCOE009	S	6	3	0.87	6	81.5%	No	NT
MWCOE001A	S	6	6	0.59	4	70.3%	No	NT
MW-139A	T	12	10	1.58	-3	55.4%	No	NT
MW-138A	T	12	11	0.69	24	94.2%	No	PI
MUNI-103	T	11	3	1.07	4	59.0%	No	NT
MW-128A	T	18	18	0.64	30	86.2%	No	NT
MW-137A	T	12	12	0.47	-25	95.0%	No	PD
MUNI-104A	T	2	2	0.00	0	0.0%	No	N/A
MW-135A	T	12	11	1.20	19	88.9%	No	NT
MUNI-109	T	8	5	1.46	-10	86.2%	No	NT
MW-133A	T	10	5	1.42	1	50.0%	No	NT
MW-132A	T	9	7	1.04	16	94.0%	No	PI
MW-127A	T	11	8	1.67	-14	84.0%	No	NT
MW-131A	T	6	5	1.69	0	42.3%	No	NT
MW-130A	T	18	15	1.41	-37	91.2%	No	PD

Project: Muscoy Shallow

User Name: MV

Location: San Bernardino

State: California

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
DICHLORODIFLUOROMETHANE								
MW-127B	T	11	4	3.11	14	84.0%	No	NT
MW-129A	T	17	8	1.42	-71	99.9%	No	D
MW-134	T	10	1	1.09	-7	70.0%	No	NT
EW-110PZA	T	8	8	0.71	12	91.1%	No	PI
MUNI-102	T	12	2	1.09	-4	58.0%	No	NT
EW-108PA	T	11	6	1.49	-17	89.1%	No	NT
EW-110PZB	T	9	9	0.48	-4	61.9%	No	S
EW-111PZA	T	8	5	1.03	-19	98.9%	No	D
EW-112PA	T	11	11	1.16	-16	87.5%	No	NT
EW-109PZA	T	8	8	0.26	-6	72.6%	No	S
TETRACHLOROETHYLENE(PCE)								
MWCOE008	S	6	4	0.73	-9	93.2%	No	PD
CJ-8	S	13	13	0.28	-33	97.5%	No	D
CJ-16	S	29	29	0.14	-90	95.2%	No	D
CJ-6	S	29	28	0.30	70	90.1%	No	PI
CJ-10	S	14	13	0.35	-15	77.5%	No	S
MWCOE006	S	12	2	1.09	-4	58.0%	No	NT
CJ-17	S	14	14	0.25	-28	92.9%	No	PD
MWCOE005	S	13	13	0.31	-45	99.8%	No	D
CJ-3	S	15	15	1.06	-15	75.2%	No	NT
CJ-1A	S	19	0	0.00	0	48.6%	Yes	S
CJ-1	S	29	24	0.59	-26	67.9%	No	S
MWCOE009	S	6	6	0.54	-9	93.2%	No	PD
CJ-2	S	15	4	1.58	38	96.7%	No	I
MWCOE007	S	13	13	0.71	-11	72.5%	No	S
MWCOE001A	S	6	6	0.63	-4	70.3%	No	S
MWCOE004	S	6	6	0.51	-7	86.4%	No	S
CJ-15	S	18	18	0.83	24	80.6%	No	NT
MWCOE003	S	5	3	0.96	5	82.1%	No	NT
MWCOE001B	S	13	12	0.66	-44	99.7%	No	D
CJ-11	S	18	15	0.72	39	92.4%	No	PI
CJ-14	S	5	3	1.17	-1	50.0%	No	NT
CJ-13	S	5	2	1.39	1	50.0%	No	NT
CJ-12	S	5	4	0.98	-8	95.8%	No	D
CJ-7	S	13	5	0.93	42	99.5%	No	I
MWCOE002	S	5	0	0.00	0	40.8%	Yes	S
MW-127A	T	11	11	0.95	-30	99.0%	No	D
MUNI-102	T	12	6	0.93	-1	50.0%	No	S
MW-127B	T	11	8	1.37	-7	67.6%	No	NT
MUNI-103	T	11	1	1.07	-2	53.0%	No	NT
MUNI-109	T	8	8	0.88	-18	98.4%	No	D
EW-110PZB	T	9	9	0.20	7	72.8%	No	NT
EW-109PZA	T	8	8	0.10	-8	80.1%	No	S
MUNI-104A	T	2	2	0.00	0	0.0%	No	N/A
EW-108PA	T	11	9	1.35	-4	59.0%	No	NT
EW-111PZA	T	8	5	0.87	-13	92.9%	No	PD
EW-112PA	T	11	10	0.52	-22	94.9%	No	PD
MW-138A	T	12	12	0.48	19	88.9%	No	NT
MW-139A	T	12	9	0.55	10	72.7%	No	NT

Project: Muscoy Shallow **User Name:** MV

Location: San Bernardino **State:** California

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
TETRACHLOROETHYLENE(PCE)								
MW-137A	T	12	11	0.81	-40	99.7%	No	D
MW-135A	T	12	12	0.46	25	95.0%	No	PI
MW-134	T	10	1	1.09	-7	70.0%	No	NT
MW-133A	T	10	9	0.53	19	94.6%	No	PI
EW-110PZA	T	8	8	0.22	4	64.0%	No	NT
MW-132A	T	9	9	0.39	3	58.0%	No	NT
MW-129A	T	17	5	1.19	-54	98.6%	No	D
MW-131A	T	6	5	0.75	-8	89.8%	No	S
MW-128A	T	18	18	0.51	20	76.2%	No	NT
MW-130A	T	18	18	0.45	-90	100.0%	No	D
TRICHLOROETHYLENE (TCE)								
MWCOE002	S	5	0	0.00	0	40.8%	Yes	S
MWCOE003	S	5	0	0.00	0	40.8%	Yes	S
MWCOE004	S	6	0	0.00	0	42.3%	Yes	S
CJ-11	S	18	2	2.93	-3	53.0%	No	NT
MWCOE005	S	13	2	1.42	-6	61.7%	No	NT
MWCOE001A	S	6	0	0.00	0	42.3%	Yes	S
MWCOE006	S	12	2	1.40	-4	58.0%	No	NT
MWCOE007	S	13	1	1.47	-6	61.7%	No	NT
CJ-1	S	29	0	0.00	0	49.3%	Yes	S
MWCOE008	S	6	0	0.00	0	42.3%	Yes	S
MWCOE009	S	6	0	0.00	0	42.3%	Yes	S
CJ-10	S	14	14	0.17	-2	52.2%	No	S
CJ-13	S	5	0	0.00	0	40.8%	Yes	S
MWCOE001B	S	13	9	0.84	-42	99.5%	No	D
CJ-12	S	5	0	0.00	0	40.8%	Yes	S
CJ-15	S	18	12	0.97	-9	61.7%	No	S
CJ-2	S	7	1	1.22	0	43.7%	No	NT
CJ-7	S	3	0	0.00	0	0.0%	Yes	N/A
CJ-14	S	5	1	1.77	-4	75.8%	No	NT
CJ-1A	S	2	0	0.00	0	0.0%	Yes	N/A
CJ-3	S	15	8	1.41	-10	66.9%	No	NT
CJ-6	S	29	28	0.24	-79	92.8%	No	PD
CJ-17	S	14	14	0.31	-48	99.6%	No	D
CJ-16	S	29	29	0.19	-129	99.3%	No	D
CJ-8	S	13	2	1.42	-4	57.1%	No	NT
EW-108PA	T	11	6	1.30	-11	77.7%	No	NT
EW-109PZA	T	8	8	0.20	-20	99.3%	No	D
MUNI-102	T	12	2	1.40	-4	58.0%	No	NT
MW-127A	T	11	0	0.00	0	46.9%	Yes	S
MW-127B	T	11	0	0.00	0	46.9%	Yes	S
MW-139A	T	12	0	0.00	0	47.3%	Yes	S
MW-132A	T	9	9	0.55	6	69.4%	No	NT
MW-131A	T	6	2	1.21	-9	93.2%	No	PD
MUNI-104A	T	2	0	0.00	0	0.0%	Yes	N/A
MW-137A	T	12	10	0.75	-43	99.9%	No	D
MUNI-103	T	11	1	1.49	-2	53.0%	No	NT
MW-138A	T	12	10	0.59	6	63.1%	No	NT
MW-135A	T	12	12	0.39	30	97.8%	No	I

Project: Muscoy Shallow **User Name:** MV

Location: San Bernardino **State:** California

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
TRICHLOROETHYLENE (TCE)								
MUNI-109	T	8	4	1.01	-13	92.9%	No	PD
MW-129A	T	17	2	1.33	-7	59.6%	No	NT
EW-112PA	T	11	5	1.06	-27	98.0%	No	D
MW-134	T	10	1	1.50	-7	70.0%	No	NT
EW-111PZA	T	8	4	0.87	-4	64.0%	No	S
MW-130A	T	18	16	0.49	-80	99.9%	No	D
EW-110PZA	T	8	8	0.18	10	86.2%	No	NT
EW-110PZB	T	9	9	0.15	5	65.7%	No	NT
MW-133A	T	10	7	0.88	-4	60.3%	No	S
MW-128A	T	18	18	0.42	21	77.3%	No	NT
TRICHLOROFLUOROMETHANE								
CJ-14	S	5	0	0.00	0	40.8%	Yes	S
CJ-13	S	5	0	0.00	0	40.8%	Yes	S
CJ-15	S	18	12	0.95	-21	77.3%	No	S
CJ-12	S	5	0	0.00	0	40.8%	Yes	S
CJ-11	S	18	15	0.70	7	58.9%	No	NT
MWCOE001B	S	13	11	0.62	4	57.1%	No	NT
MWCOE002	S	5	0	0.00	0	40.8%	Yes	S
MWCOE003	S	5	0	0.00	0	40.8%	Yes	S
CJ-10	S	14	14	0.31	-3	54.3%	No	S
MWCOE004	S	6	5	0.54	-5	76.5%	No	S
MWCOE005	S	13	12	0.37	-21	88.6%	No	S
MWCOE006	S	12	9	0.74	35	99.2%	No	I
CJ-1	S	29	10	1.08	81	93.3%	No	PI
MWCOE007	S	13	2	1.42	0	47.6%	No	NT
MWCOE008	S	6	1	1.47	-5	76.5%	No	NT
MWCOE001A	S	6	6	0.56	-4	70.3%	No	S
CJ-1A	S	19	0	0.00	0	48.6%	Yes	S
MWCOE009	S	6	2	0.39	5	76.5%	No	NT
CJ-16	S	29	29	0.23	-71	90.5%	No	PD
CJ-6	S	29	28	0.37	-178	100.0%	No	D
CJ-17	S	14	14	0.31	-24	89.4%	No	S
CJ-2	S	15	0	0.00	0	48.0%	Yes	S
CJ-8	S	13	5	1.16	1	50.0%	No	NT
CJ-3	S	15	6	1.31	-8	63.3%	No	NT
CJ-7	S	13	0	0.00	0	47.6%	Yes	S
MUNI-103	T	11	4	2.73	24	96.4%	No	I
MW-139A	T	12	4	1.22	-19	88.9%	No	NT
EW-112PA	T	11	10	0.99	35	99.7%	No	I
EW-111PZA	T	8	3	0.97	-6	72.6%	No	S
EW-108PA	T	11	3	1.38	1	50.0%	No	NT
EW-110PZB	T	9	9	0.27	-8	76.2%	No	S
EW-110PZA	T	8	5	0.63	0	45.2%	No	S
EW-109PZA	T	8	8	0.16	-14	94.6%	No	PD
MUNI-102	T	12	6	1.57	32	98.4%	No	I
MW-130A	T	18	11	0.96	-25	81.6%	No	S
MW-138A	T	12	12	0.49	21	91.3%	No	PI
MW-127A	T	11	3	1.35	1	50.0%	No	NT
MW-137A	T	12	10	0.87	-47	100.0%	No	D

Project: Muscoy Shallow **User Name:** MV

Location: San Bernardino **State:** California

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
TRICHLOROFLUOROMETHANE								
MW-127B	T	11	2	2.02	19	91.8%	No	PI
MW-135A	T	12	9	0.59	12	77.0%	No	NT
MW-128A	T	18	18	0.52	34	89.3%	No	NT
MW-134	T	10	2	1.36	2	53.5%	No	NT
MW-129A	T	17	3	1.33	-10	64.2%	No	NT
MW-133A	T	10	4	1.22	5	63.6%	No	NT
MUNI-104A	T	2	2	0.00	0	0.0%	No	N/A
MW-132A	T	9	9	0.46	18	96.2%	No	I
MW-131A	T	6	2	1.16	-4	70.3%	No	NT
MUNI-109	T	8	4	1.06	11	88.7%	No	NT

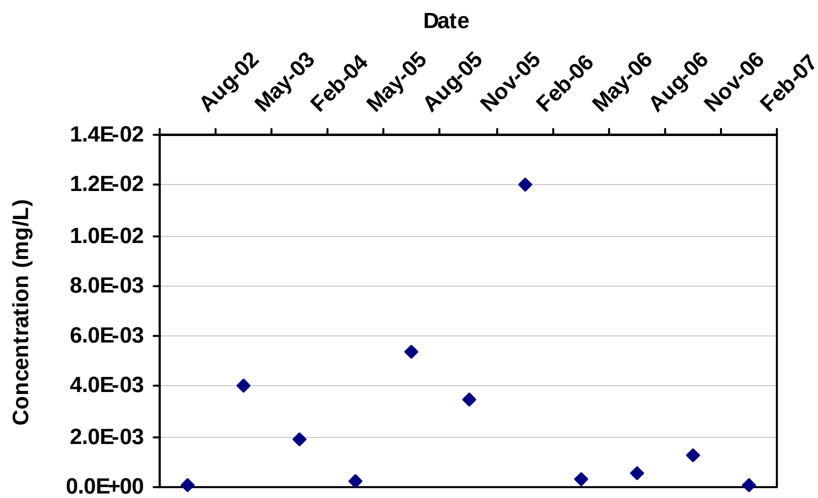
Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A)-
Due to insufficient Data (< 4 sampling events); Source/Tail (S/T)

The Number of Samples and Number of Detects shown above are post-consolidation values.

MAROS Mann-Kendall Statistics Summary

Well: EW-108PA
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -4

Confidence in Trend: 59.0%

Coefficient of Variation: 1.35

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

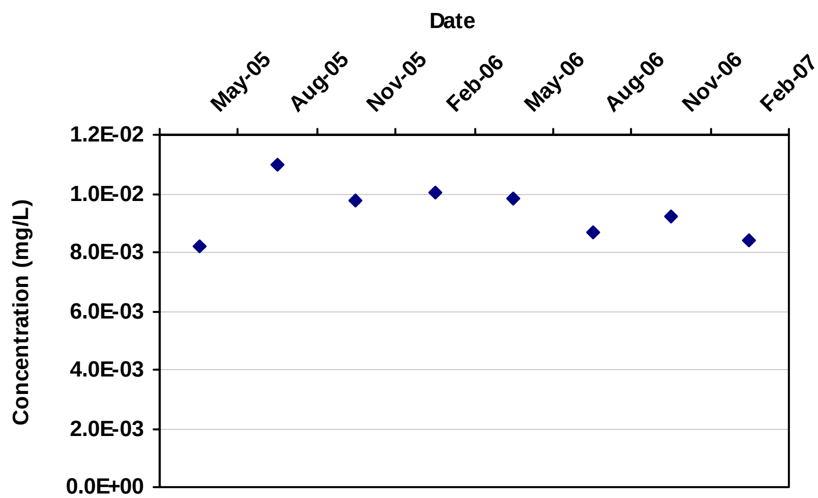
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-108PA	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
EW-108PA	T	5/15/2003	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
EW-108PA	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.9E-03		1	1
EW-108PA	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.4E-04		1	1
EW-108PA	T	8/15/2005	TETRACHLOROETHYLENE(PCE	5.4E-03		1	1
EW-108PA	T	11/15/2005	TETRACHLOROETHYLENE(PCE	3.5E-03		1	1
EW-108PA	T	2/15/2006	TETRACHLOROETHYLENE(PCE	1.2E-02		1	1
EW-108PA	T	5/15/2006	TETRACHLOROETHYLENE(PCE	2.9E-04		1	1
EW-108PA	T	8/15/2006	TETRACHLOROETHYLENE(PCE	5.5E-04		1	1
EW-108PA	T	11/15/2006	TETRACHLOROETHYLENE(PCE	1.3E-03		1	1
EW-108PA	T	2/15/2007	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-109PZA
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -8

Confidence in Trend: 80.1%

Coefficient of Variation: 0.10

Mann Kendall Concentration Trend: (See Note) S

Data Table:

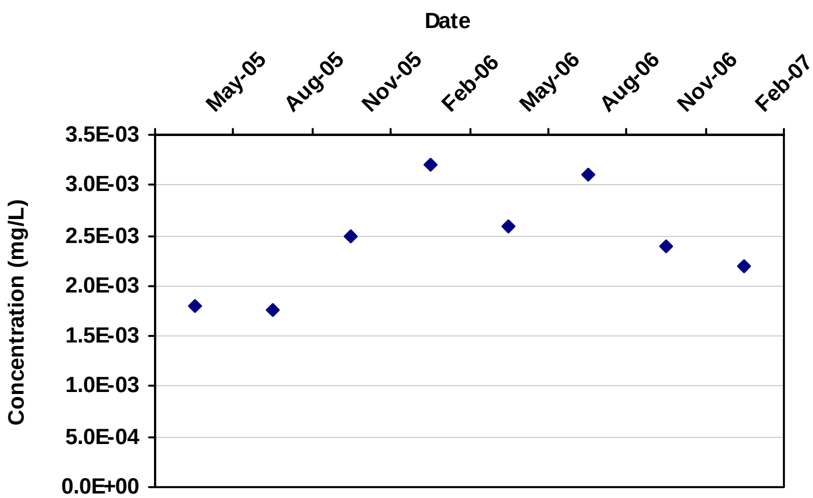
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-109PZA	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.2E-03		1	1
EW-109PZA	T	8/15/2005	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1
EW-109PZA	T	11/15/2005	TETRACHLOROETHYLENE(PCE	9.8E-03		1	1
EW-109PZA	T	2/15/2006	TETRACHLOROETHYLENE(PCE	1.0E-02		1	1
EW-109PZA	T	5/15/2006	TETRACHLOROETHYLENE(PCE	9.8E-03		1	1
EW-109PZA	T	8/15/2006	TETRACHLOROETHYLENE(PCE	8.7E-03		1	1
EW-109PZA	T	11/15/2006	TETRACHLOROETHYLENE(PCE	9.2E-03		1	1
EW-109PZA	T	2/15/2007	TETRACHLOROETHYLENE(PCE	8.4E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-110PZA
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 4

Confidence in Trend: 64.0%

Coefficient of Variation: 0.22

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

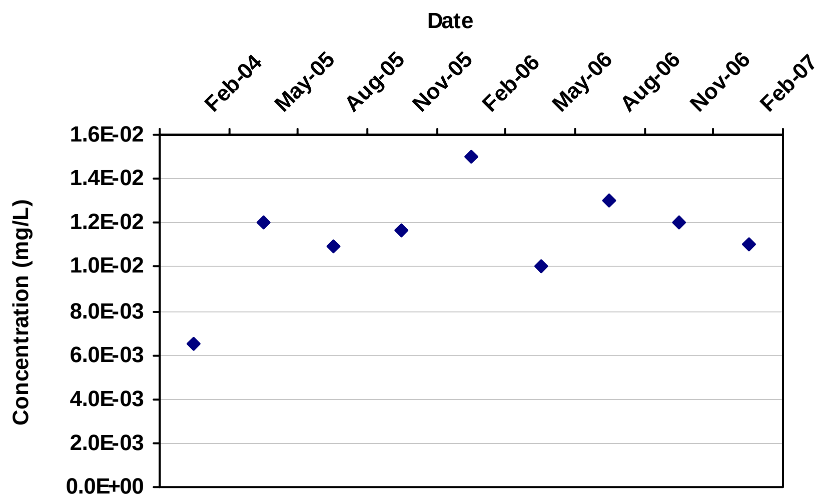
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-110PZA	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.8E-03		1	1
EW-110PZA	T	8/15/2005	TETRACHLOROETHYLENE(PCE	1.8E-03		1	1
EW-110PZA	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.5E-03		1	1
EW-110PZA	T	2/15/2006	TETRACHLOROETHYLENE(PCE	3.2E-03		1	1
EW-110PZA	T	5/15/2006	TETRACHLOROETHYLENE(PCE	2.6E-03		1	1
EW-110PZA	T	8/15/2006	TETRACHLOROETHYLENE(PCE	3.1E-03		1	1
EW-110PZA	T	11/15/2006	TETRACHLOROETHYLENE(PCE	2.4E-03		1	1
EW-110PZA	T	2/15/2007	TETRACHLOROETHYLENE(PCE	2.2E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-110PZB
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 7

Confidence in Trend: 72.8%

Coefficient of Variation: 0.20

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

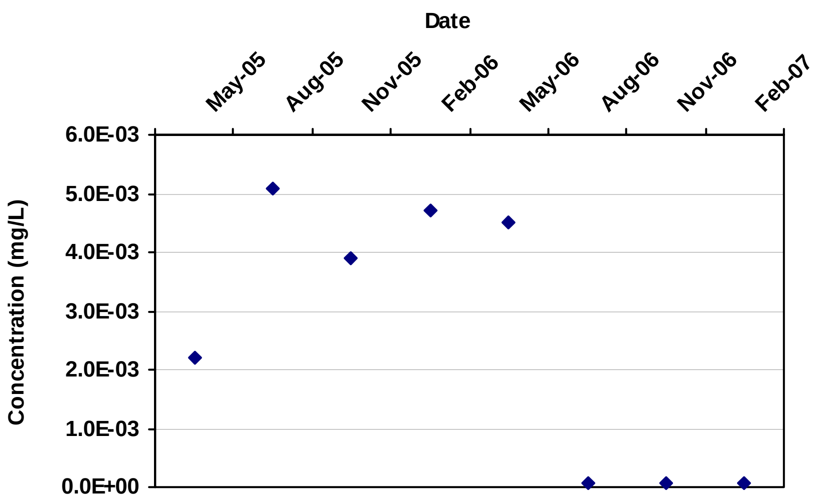
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-110PZB	T	2/15/2004	TETRACHLOROETHYLENE(PCE	6.5E-03		1	1
EW-110PZB	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.2E-02		1	1
EW-110PZB	T	8/15/2005	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1
EW-110PZB	T	11/15/2005	TETRACHLOROETHYLENE(PCE	1.2E-02		1	1
EW-110PZB	T	2/15/2006	TETRACHLOROETHYLENE(PCE	1.5E-02		1	1
EW-110PZB	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.0E-02		1	1
EW-110PZB	T	8/15/2006	TETRACHLOROETHYLENE(PCE	1.3E-02		1	1
EW-110PZB	T	11/15/2006	TETRACHLOROETHYLENE(PCE	1.2E-02		1	1
EW-110PZB	T	2/15/2007	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-111PZA
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -13

Confidence in Trend: 92.9%

Coefficient of Variation: 0.87

Mann Kendall Concentration Trend: (See Note) PD

Data Table:

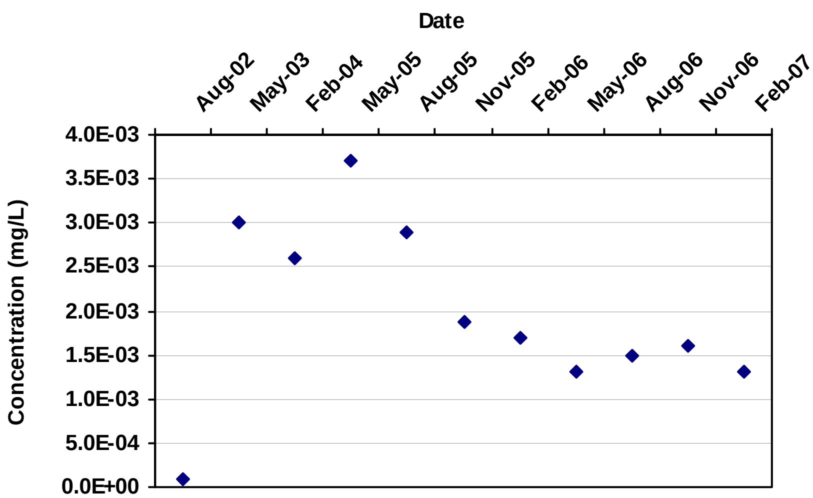
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-111PZA	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.2E-03		1	1
EW-111PZA	T	8/15/2005	TETRACHLOROETHYLENE(PCE	5.1E-03		1	1
EW-111PZA	T	11/15/2005	TETRACHLOROETHYLENE(PCE	3.9E-03		1	1
EW-111PZA	T	2/15/2006	TETRACHLOROETHYLENE(PCE	4.7E-03		1	1
EW-111PZA	T	5/15/2006	TETRACHLOROETHYLENE(PCE	4.5E-03		1	1
EW-111PZA	T	8/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
EW-111PZA	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
EW-111PZA	T	2/15/2007	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-112PA
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -22

Confidence in Trend: 94.9%

Coefficient of Variation: 0.52

Mann Kendall Concentration Trend: (See Note) PD

Data Table:

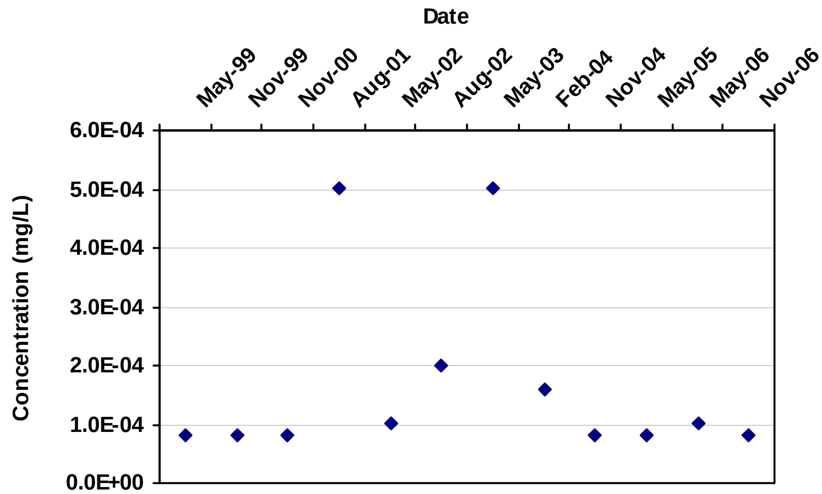
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-112PA	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
EW-112PA	T	5/15/2003	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
EW-112PA	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.6E-03		1	1
EW-112PA	T	5/15/2005	TETRACHLOROETHYLENE(PCE	3.7E-03		1	1
EW-112PA	T	8/15/2005	TETRACHLOROETHYLENE(PCE	2.9E-03		1	1
EW-112PA	T	11/15/2005	TETRACHLOROETHYLENE(PCE	1.9E-03		1	1
EW-112PA	T	2/15/2006	TETRACHLOROETHYLENE(PCE	1.7E-03		1	1
EW-112PA	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.3E-03		1	1
EW-112PA	T	8/15/2006	TETRACHLOROETHYLENE(PCE	1.5E-03		1	1
EW-112PA	T	11/15/2006	TETRACHLOROETHYLENE(PCE	1.6E-03		1	1
EW-112PA	T	2/15/2007	TETRACHLOROETHYLENE(PCE	1.3E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-102
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -1

Confidence in Trend: 50.0%

Coefficient of Variation: 0.93

Mann Kendall Concentration Trend: (See Note) S

Data Table:

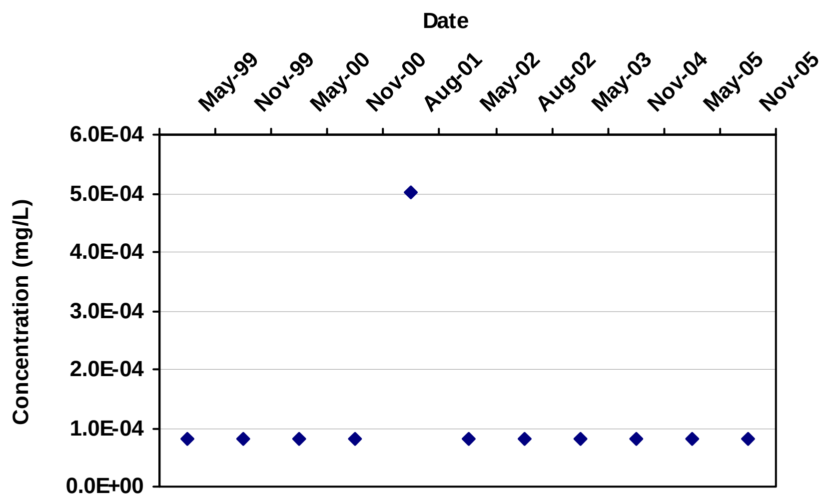
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-102	T	5/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-102	T	11/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-102	T	11/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-102	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MUNI-102	T	5/15/2002	TETRACHLOROETHYLENE(PCE	1.0E-04		1	1
MUNI-102	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
MUNI-102	T	5/15/2003	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MUNI-102	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.6E-04		1	1
MUNI-102	T	11/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-102	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-102	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.0E-04		1	1
MUNI-102	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-103
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -2

Confidence in Trend: 53.0%

Coefficient of Variation: 1.07

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

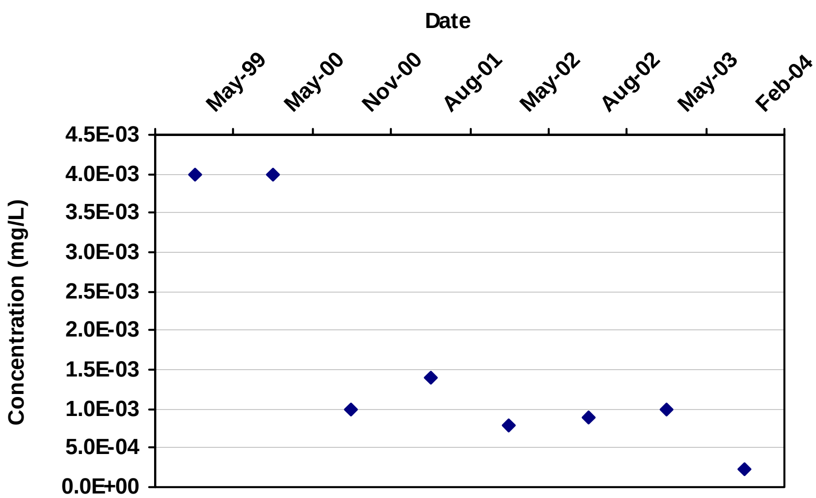
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-103	T	5/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-103	T	11/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-103	T	5/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-103	T	11/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-103	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MUNI-103	T	5/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-103	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-103	T	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-103	T	11/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-103	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-103	T	11/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-109
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -18

Confidence in Trend: 98.4%

Coefficient of Variation: 0.88

Mann Kendall Concentration Trend: (See Note) D

Data Table:

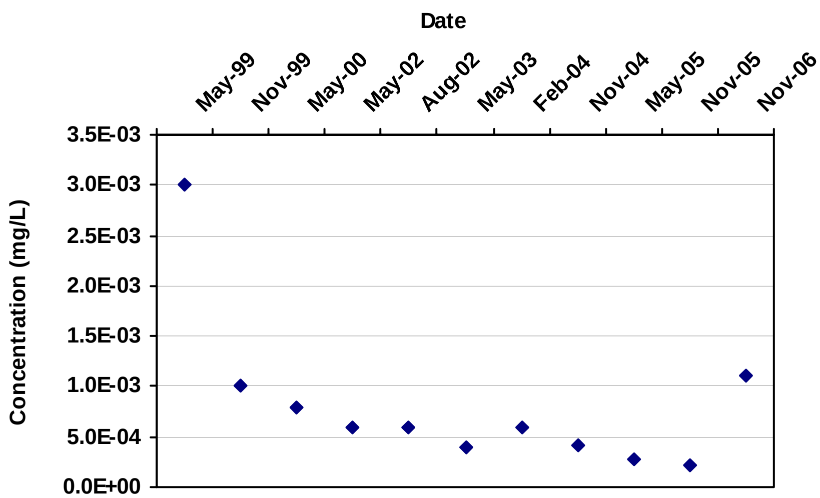
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-109	T	5/15/1999	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
MUNI-109	T	5/15/2000	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
MUNI-109	T	11/15/2000	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
MUNI-109	T	8/15/2001	TETRACHLOROETHYLENE(PCE	1.4E-03		1	1
MUNI-109	T	5/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-04		1	1
MUNI-109	T	8/15/2002	TETRACHLOROETHYLENE(PCE	9.0E-04		1	1
MUNI-109	T	5/15/2003	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
MUNI-109	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.4E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-127A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -30

Confidence in Trend: 99.0%

Coefficient of Variation: 0.95

Mann Kendall Concentration Trend: (See Note) D

Data Table:

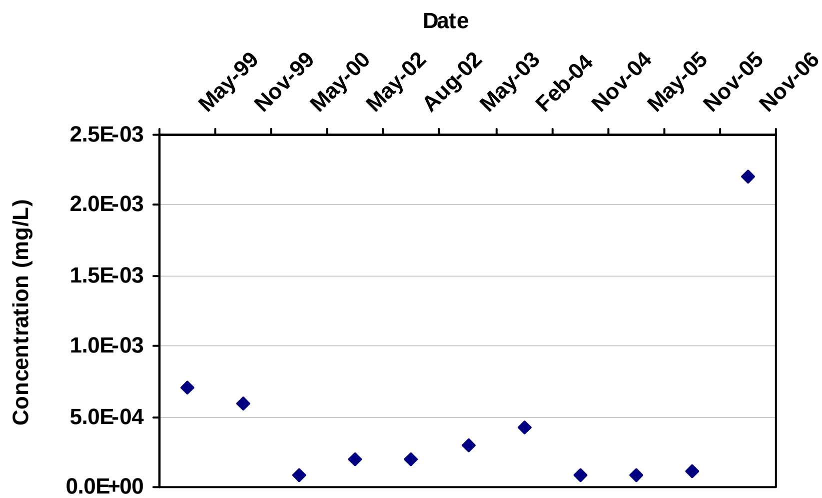
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-127A	T	5/15/1999	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
MW-127A	T	11/15/1999	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
MW-127A	T	5/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-04		1	1
MW-127A	T	5/15/2002	TETRACHLOROETHYLENE(PCE	6.0E-04		1	1
MW-127A	T	8/15/2002	TETRACHLOROETHYLENE(PCE	6.0E-04		1	1
MW-127A	T	5/15/2003	TETRACHLOROETHYLENE(PCE	4.0E-04		1	1
MW-127A	T	2/15/2004	TETRACHLOROETHYLENE(PCE	6.0E-04		1	1
MW-127A	T	11/15/2004	TETRACHLOROETHYLENE(PCE	4.2E-04		1	1
MW-127A	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.7E-04		1	1
MW-127A	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.2E-04		1	1
MW-127A	T	11/15/2006	TETRACHLOROETHYLENE(PCE	1.1E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-127B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -7

Confidence in Trend: 67.6%

Coefficient of Variation: 1.37

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

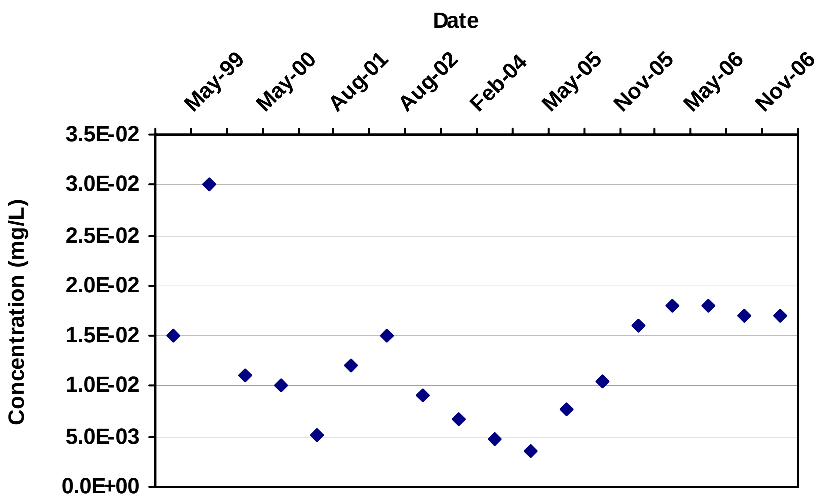
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-127B	T	5/15/1999	TETRACHLOROETHYLENE(PCE	7.0E-04		1	1
MW-127B	T	11/15/1999	TETRACHLOROETHYLENE(PCE	6.0E-04		1	1
MW-127B	T	5/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-127B	T	5/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
MW-127B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
MW-127B	T	5/15/2003	TETRACHLOROETHYLENE(PCE	3.0E-04		1	1
MW-127B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	4.3E-04		1	1
MW-127B	T	11/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-127B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-127B	T	11/15/2005	TETRACHLOROETHYLENE(PCE	1.1E-04		1	1
MW-127B	T	11/15/2006	TETRACHLOROETHYLENE(PCE	2.2E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-128A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 20

Confidence in Trend: 76.2%

Coefficient of Variation: 0.51

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

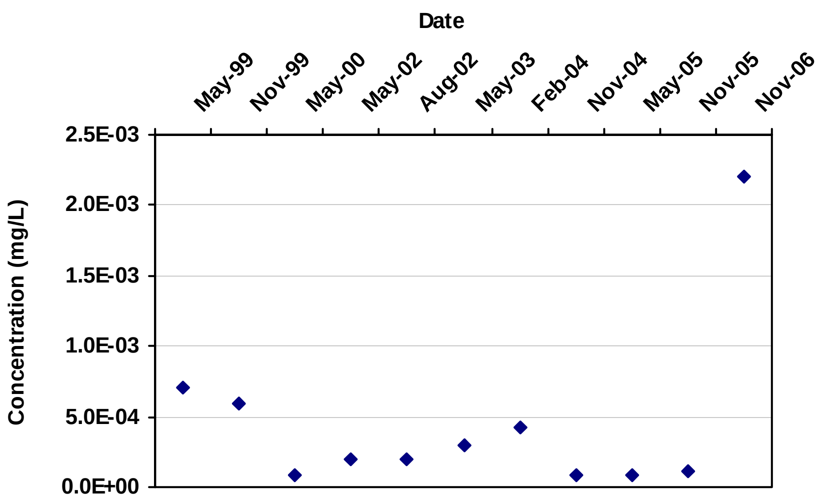
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-128A	T	5/15/1999	TETRACHLOROETHYLENE(PCE	1.5E-02		1	1
MW-128A	T	11/15/1999	TETRACHLOROETHYLENE(PCE	3.0E-02		1	1
MW-128A	T	5/15/2000	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1
MW-128A	T	11/15/2000	TETRACHLOROETHYLENE(PCE	1.0E-02		1	1
MW-128A	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.1E-03		1	1
MW-128A	T	5/15/2002	TETRACHLOROETHYLENE(PCE	1.2E-02		1	1
MW-128A	T	8/15/2002	TETRACHLOROETHYLENE(PCE	1.5E-02		1	1
MW-128A	T	5/15/2003	TETRACHLOROETHYLENE(PCE	9.0E-03		1	1
MW-128A	T	2/15/2004	TETRACHLOROETHYLENE(PCE	6.8E-03		1	1
MW-128A	T	11/15/2004	TETRACHLOROETHYLENE(PCE	4.7E-03		1	1
MW-128A	T	5/15/2005	TETRACHLOROETHYLENE(PCE	3.6E-03		1	1
MW-128A	T	8/15/2005	TETRACHLOROETHYLENE(PCE	7.8E-03		1	1
MW-128A	T	11/15/2005	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1
MW-128A	T	2/15/2006	TETRACHLOROETHYLENE(PCE	1.6E-02		1	1
MW-128A	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.8E-02		1	1
MW-128A	T	8/15/2006	TETRACHLOROETHYLENE(PCE	1.8E-02		1	1
MW-128A	T	11/15/2006	TETRACHLOROETHYLENE(PCE	1.7E-02		1	1
MW-128A	T	2/15/2007	TETRACHLOROETHYLENE(PCE	1.7E-02		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-127B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -7

Confidence in Trend: 67.6%

Coefficient of Variation: 1.37

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

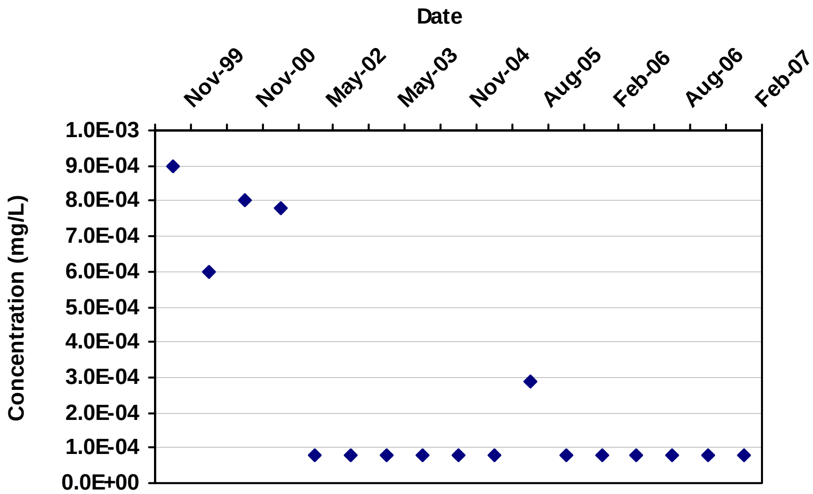
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-127B	T	5/15/1999	TETRACHLOROETHYLENE(PCE	7.0E-04		1	1
MW-127B	T	11/15/1999	TETRACHLOROETHYLENE(PCE	6.0E-04		1	1
MW-127B	T	5/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-127B	T	5/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
MW-127B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
MW-127B	T	5/15/2003	TETRACHLOROETHYLENE(PCE	3.0E-04		1	1
MW-127B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	4.3E-04		1	1
MW-127B	T	11/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-127B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-127B	T	11/15/2005	TETRACHLOROETHYLENE(PCE	1.1E-04		1	1
MW-127B	T	11/15/2006	TETRACHLOROETHYLENE(PCE	2.2E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-129A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -54

Confidence in Trend: 98.6%

Coefficient of Variation: 1.19

Mann Kendall Concentration Trend: (See Note) D

Data Table:

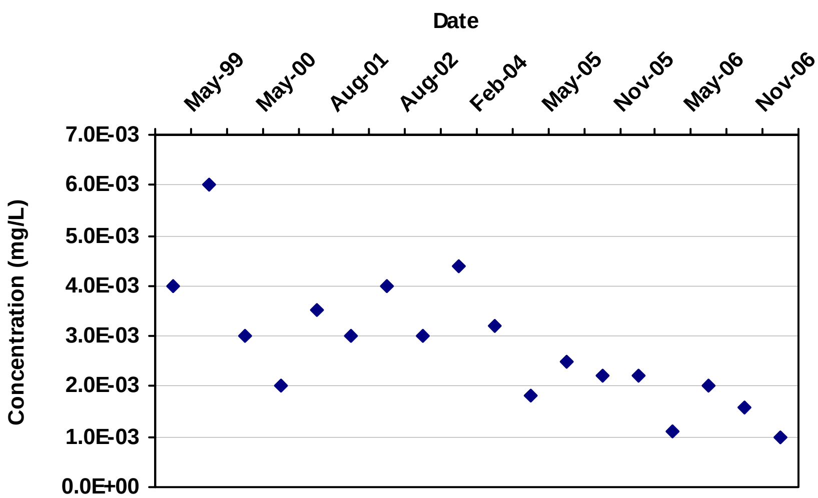
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-129A	T	11/15/1999	TETRACHLOROETHYLENE(PCE	9.0E-04		1	1
MW-129A	T	5/15/2000	TETRACHLOROETHYLENE(PCE	6.0E-04		1	1
MW-129A	T	11/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-04		1	1
MW-129A	T	8/15/2001	TETRACHLOROETHYLENE(PCE	7.8E-04		1	1
MW-129A	T	5/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-129A	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-129A	T	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-129A	T	2/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-129A	T	11/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-129A	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-129A	T	8/15/2005	TETRACHLOROETHYLENE(PCE	2.9E-04		1	1
MW-129A	T	11/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-129A	T	2/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-129A	T	5/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-129A	T	8/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-129A	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-129A	T	2/15/2007	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-130A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -90

Confidence in Trend: 100.0%

Coefficient of Variation: 0.45

Mann Kendall Concentration Trend: (See Note) D

Data Table:

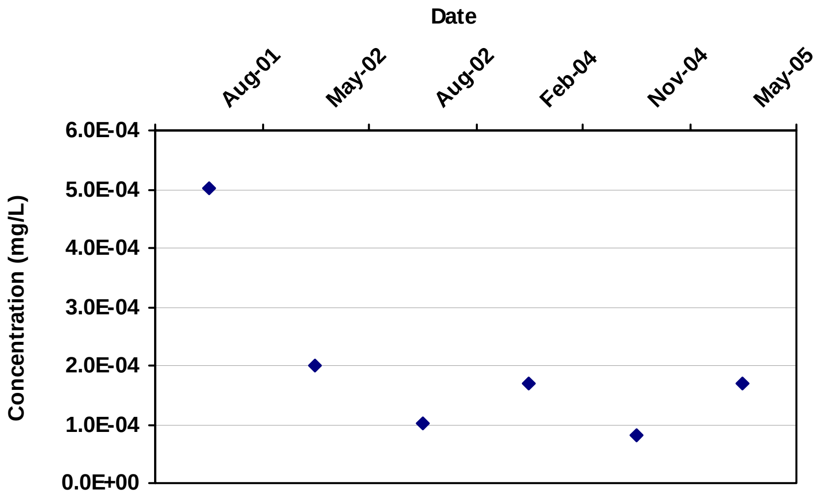
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-130A	T	5/15/1999	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
MW-130A	T	11/15/1999	TETRACHLOROETHYLENE(PCE	6.0E-03		1	1
MW-130A	T	5/15/2000	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
MW-130A	T	11/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
MW-130A	T	8/15/2001	TETRACHLOROETHYLENE(PCE	3.5E-03		1	1
MW-130A	T	5/15/2002	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
MW-130A	T	8/15/2002	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
MW-130A	T	5/15/2003	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
MW-130A	T	2/15/2004	TETRACHLOROETHYLENE(PCE	4.4E-03		1	1
MW-130A	T	11/15/2004	TETRACHLOROETHYLENE(PCE	3.2E-03		1	1
MW-130A	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.8E-03		1	1
MW-130A	T	8/15/2005	TETRACHLOROETHYLENE(PCE	2.5E-03		1	1
MW-130A	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.2E-03		1	1
MW-130A	T	2/15/2006	TETRACHLOROETHYLENE(PCE	2.2E-03		1	1
MW-130A	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.1E-03		1	1
MW-130A	T	8/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
MW-130A	T	11/15/2006	TETRACHLOROETHYLENE(PCE	1.6E-03		1	1
MW-130A	T	2/15/2007	TETRACHLOROETHYLENE(PCE	9.7E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-131A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -8

Confidence in Trend: 89.8%

Coefficient of Variation: 0.75

Mann Kendall Concentration Trend: (See Note) S

Data Table:

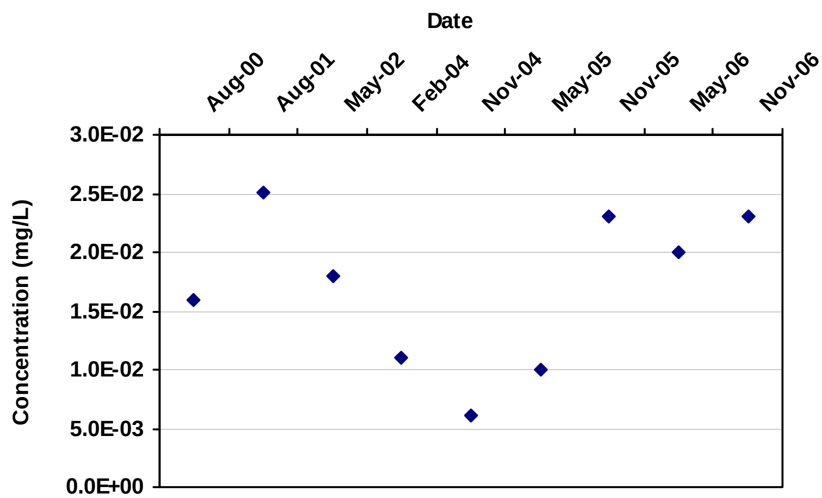
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-131A	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-131A	T	5/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
MW-131A	T	8/15/2002	TETRACHLOROETHYLENE(PCE	1.0E-04		1	1
MW-131A	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.7E-04		1	1
MW-131A	T	11/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-131A	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.7E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-132A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 3

Confidence in Trend: 58.0%

Coefficient of Variation: 0.39

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

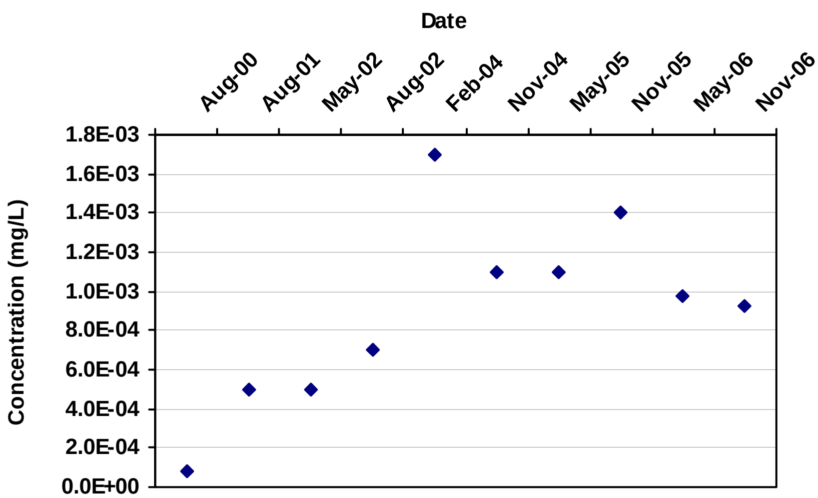
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-132A	T	8/15/2000	TETRACHLOROETHYLENE(PCE	1.6E-02		1	1
MW-132A	T	8/15/2001	TETRACHLOROETHYLENE(PCE	2.5E-02		1	1
MW-132A	T	5/15/2002	TETRACHLOROETHYLENE(PCE	1.8E-02		1	1
MW-132A	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1
MW-132A	T	11/15/2004	TETRACHLOROETHYLENE(PCE	6.1E-03		1	1
MW-132A	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.0E-02		1	1
MW-132A	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.3E-02		1	1
MW-132A	T	5/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-02		1	1
MW-132A	T	11/15/2006	TETRACHLOROETHYLENE(PCE	2.3E-02		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-133A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 19

Confidence in Trend: 94.6%

Coefficient of Variation: 0.53

Mann Kendall Concentration Trend: (See Note) PI

Data Table:

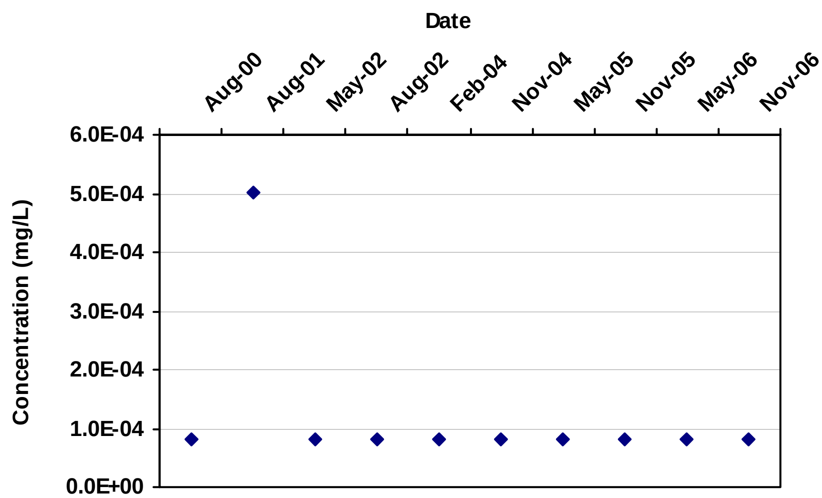
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-133A	T	8/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-133A	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-133A	T	5/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-133A	T	8/15/2002	TETRACHLOROETHYLENE(PCE	7.0E-04		1	1
MW-133A	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.7E-03		1	1
MW-133A	T	11/15/2004	TETRACHLOROETHYLENE(PCE	1.1E-03		1	1
MW-133A	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.1E-03		1	1
MW-133A	T	11/15/2005	TETRACHLOROETHYLENE(PCE	1.4E-03		1	1
MW-133A	T	5/15/2006	TETRACHLOROETHYLENE(PCE	9.8E-04		1	1
MW-133A	T	11/15/2006	TETRACHLOROETHYLENE(PCE	9.3E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-134
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -7

Confidence in Trend: 70.0%

Coefficient of Variation: 1.09

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

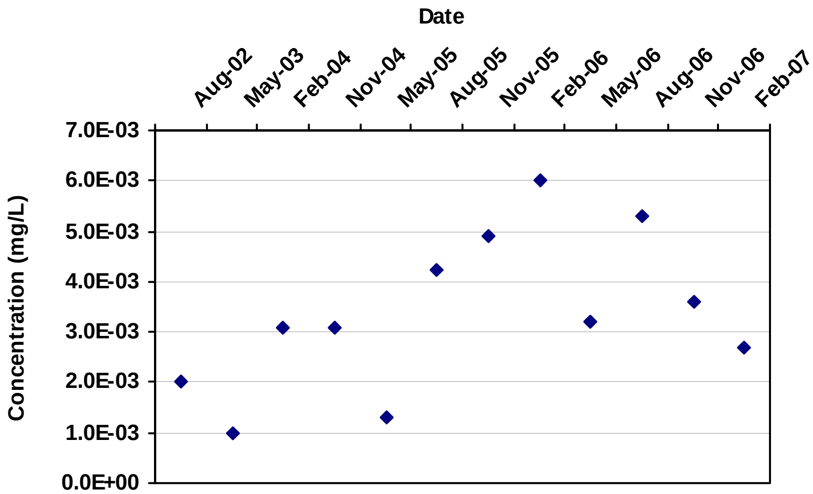
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-134	T	8/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-134	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-134	T	5/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-134	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-134	T	2/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-134	T	11/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-134	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-134	T	11/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-134	T	5/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-134	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-135A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 25

Confidence in Trend: 95.0%

Coefficient of Variation: 0.46

Mann Kendall Concentration Trend: (See Note) PI

Data Table:

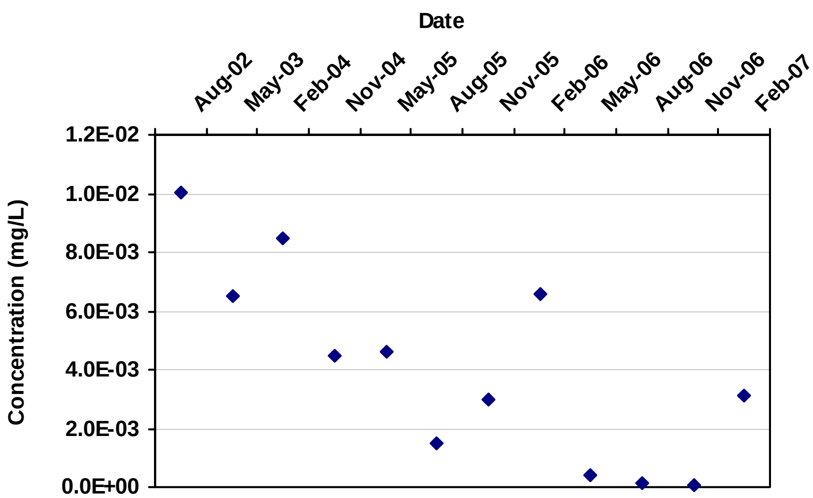
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-135A	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
MW-135A	T	5/15/2003	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
MW-135A	T	2/15/2004	TETRACHLOROETHYLENE(PCE	3.1E-03		1	1
MW-135A	T	11/15/2004	TETRACHLOROETHYLENE(PCE	3.1E-03		1	1
MW-135A	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.3E-03		1	1
MW-135A	T	8/15/2005	TETRACHLOROETHYLENE(PCE	4.3E-03		1	1
MW-135A	T	11/15/2005	TETRACHLOROETHYLENE(PCE	4.9E-03		1	1
MW-135A	T	2/15/2006	TETRACHLOROETHYLENE(PCE	6.0E-03		1	1
MW-135A	T	5/15/2006	TETRACHLOROETHYLENE(PCE	3.2E-03		1	1
MW-135A	T	8/15/2006	TETRACHLOROETHYLENE(PCE	5.3E-03		1	1
MW-135A	T	11/15/2006	TETRACHLOROETHYLENE(PCE	3.6E-03		1	1
MW-135A	T	2/15/2007	TETRACHLOROETHYLENE(PCE	2.7E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-137A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -40

Confidence in Trend: 99.7%

Coefficient of Variation: 0.81

Mann Kendall Concentration Trend: (See Note) D

Data Table:

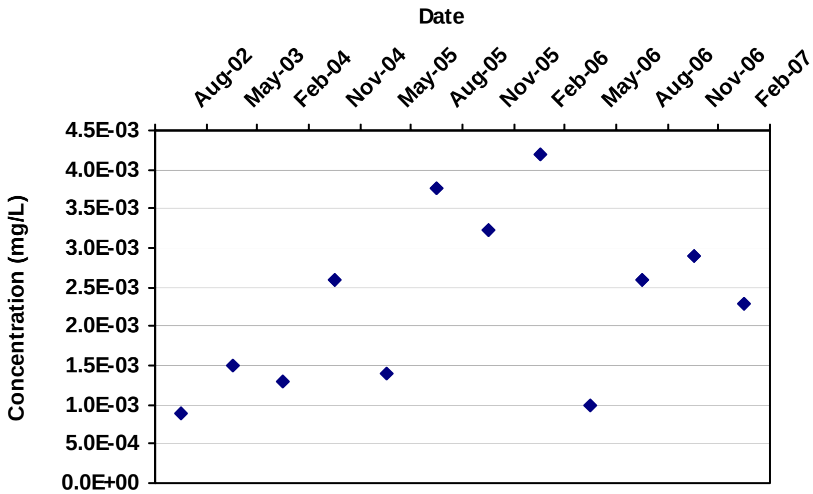
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-137A	T	8/15/2002	TETRACHLOROETHYLENE(PCE	1.0E-02		1	1
MW-137A	T	5/15/2003	TETRACHLOROETHYLENE(PCE	6.5E-03		1	1
MW-137A	T	2/15/2004	TETRACHLOROETHYLENE(PCE	8.5E-03		1	1
MW-137A	T	11/15/2004	TETRACHLOROETHYLENE(PCE	4.5E-03		1	1
MW-137A	T	5/15/2005	TETRACHLOROETHYLENE(PCE	4.6E-03		1	1
MW-137A	T	8/15/2005	TETRACHLOROETHYLENE(PCE	1.5E-03		1	1
MW-137A	T	11/15/2005	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
MW-137A	T	2/15/2006	TETRACHLOROETHYLENE(PCE	6.6E-03		1	1
MW-137A	T	5/15/2006	TETRACHLOROETHYLENE(PCE	4.1E-04		1	1
MW-137A	T	8/15/2006	TETRACHLOROETHYLENE(PCE	1.5E-04		1	1
MW-137A	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-137A	T	2/15/2007	TETRACHLOROETHYLENE(PCE	3.1E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-138A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 19

Confidence in Trend: 88.9%

Coefficient of Variation: 0.48

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

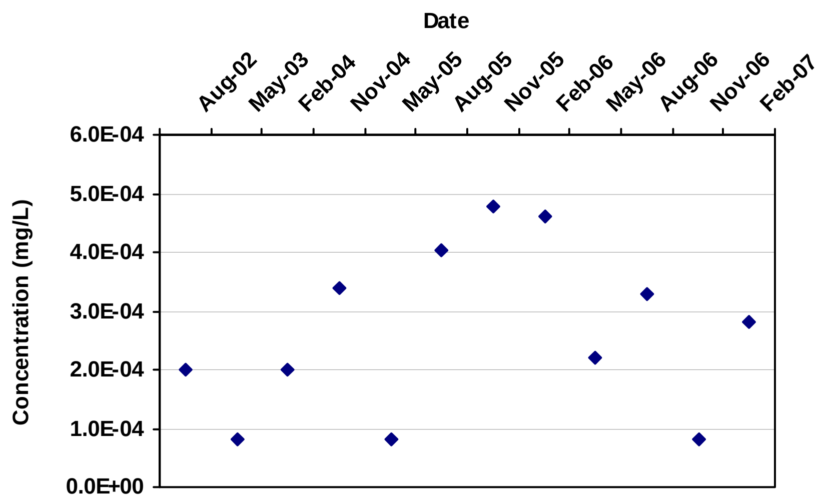
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-138A	T	8/15/2002	TETRACHLOROETHYLENE(PCE	9.0E-04		1	1
MW-138A	T	5/15/2003	TETRACHLOROETHYLENE(PCE	1.5E-03		1	1
MW-138A	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.3E-03		1	1
MW-138A	T	11/15/2004	TETRACHLOROETHYLENE(PCE	2.6E-03		1	1
MW-138A	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.4E-03		1	1
MW-138A	T	8/15/2005	TETRACHLOROETHYLENE(PCE	3.8E-03		1	1
MW-138A	T	11/15/2005	TETRACHLOROETHYLENE(PCE	3.2E-03		1	1
MW-138A	T	2/15/2006	TETRACHLOROETHYLENE(PCE	4.2E-03		1	1
MW-138A	T	5/15/2006	TETRACHLOROETHYLENE(PCE	9.8E-04		1	1
MW-138A	T	8/15/2006	TETRACHLOROETHYLENE(PCE	2.6E-03		1	1
MW-138A	T	11/15/2006	TETRACHLOROETHYLENE(PCE	2.9E-03		1	1
MW-138A	T	2/15/2007	TETRACHLOROETHYLENE(PCE	2.3E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-139A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 10

Confidence in Trend: 72.7%

Coefficient of Variation: 0.55

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-139A	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
MW-139A	T	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-139A	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
MW-139A	T	11/15/2004	TETRACHLOROETHYLENE(PCE	3.4E-04		1	1
MW-139A	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-139A	T	8/15/2005	TETRACHLOROETHYLENE(PCE	4.1E-04		1	1
MW-139A	T	11/15/2005	TETRACHLOROETHYLENE(PCE	4.8E-04		1	1
MW-139A	T	2/15/2006	TETRACHLOROETHYLENE(PCE	4.6E-04		1	1
MW-139A	T	5/15/2006	TETRACHLOROETHYLENE(PCE	2.2E-04		1	1
MW-139A	T	8/15/2006	TETRACHLOROETHYLENE(PCE	3.3E-04		1	1
MW-139A	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-139A	T	2/15/2007	TETRACHLOROETHYLENE(PCE	2.8E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Project: Muscoy Intermediate

User Name: MV

Location: San Bernardino

State: California

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
DICHLORODIFLUOROMETHANE								
MUNI-116	S	12	3	2.71	3	55.4%	No	NT
CJ-10	S	14	13	0.83	1	50.0%	No	NT
CJ-6	S	29	28	0.67	-173	100.0%	No	D
CJ-3	S	15	12	1.02	-33	94.3%	No	PD
CJ-17	S	14	14	0.63	-2	52.2%	No	S
MWCOE004	S	6	4	1.21	-8	89.8%	No	NT
MW-136A	T	12	9	1.62	-7	65.6%	No	NT
MUNI-104B	T	12	12	0.90	25	95.0%	No	PI
MUNI-108	T	13	3	1.04	8	66.2%	No	NT
MW-132B	T	10	3	1.04	-3	56.9%	No	NT
EW-110PZD	T	9	9	1.02	24	99.4%	No	I
EW-111PZB	T	9	9	0.70	0	46.0%	No	S
MW-133B	T	10	9	1.34	21	96.4%	No	I
EW-111PZC	T	9	9	0.74	17	95.1%	No	I
EW-112	T	9	9	0.47	-4	61.9%	No	S
MW-129B	T	17	14	1.44	38	93.6%	No	PI
EW-112PB	T	11	8	2.15	-14	84.0%	No	NT
MW-136B	T	12	5	0.87	-15	82.8%	No	S
MUNI-101	T	12	10	0.99	20	90.2%	No	PI
EW-111	T	8	7	0.83	4	64.0%	No	NT
MW-131B	T	5	4	1.02	2	59.2%	No	NT
MW-130C	T	18	4	1.04	2	51.5%	No	NT
MW-128B	T	16	2	0.60	7	60.5%	No	NT
MW-130B	T	18	18	0.70	59	98.7%	No	I
MW-128C	T	14	3	1.45	-10	68.6%	No	NT
MW-131C	T	5	4	0.49	-3	67.5%	No	S
MW-138B	T	12	2	1.09	-16	84.5%	No	NT
EW-110PZC	T	8	8	0.38	15	95.8%	No	I
MW-140B	T	4	4	0.62	-1	50.0%	No	S
MW-137B	T	12	10	1.46	-25	95.0%	No	PD
EW-110	T	8	7	0.79	-2	54.8%	No	S
MW-139B	T	12	3	1.07	-25	95.0%	No	PD
EW-109PZB	T	8	6	0.81	1	50.0%	No	NT
EW-108PB	T	11	2	0.99	-3	56.0%	No	S
MW-140C	T	4	4	0.61	-4	83.3%	No	S
EW-108	T	9	7	1.06	7	72.8%	No	NT
EW-109	T	8	6	0.95	1	50.0%	No	NT

Project: Muscoy Intermediate

User Name: MV

Location: San Bernardino

State: California

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
TETRACHLOROETHYLENE(PCE)								
TETRACHLOROETHYLENE(PCE)								
CJ-6	S	29	28	0.30	70	90.1%	No	PI
CJ-3	S	15	15	1.06	-15	75.2%	No	NT
CJ-17	S	14	14	0.25	-28	92.9%	No	PD
MWCOE004	S	6	6	0.51	-7	86.4%	No	S
CJ-10	S	14	13	0.35	-15	77.5%	No	S
MUNI-116	S	12	5	2.29	-2	52.7%	No	NT
MW-128B	T	16	0	0.00	0	48.2%	Yes	S
MUNI-108	T	13	1	1.04	2	52.4%	No	NT
MUNI-104B	T	12	11	0.59	16	84.5%	No	NT
MW-128C	T	14	2	0.38	-7	62.6%	No	S
MUNI-101	T	12	9	0.73	0	47.3%	No	S
EW-110PZD	T	9	9	0.52	20	97.8%	No	I
EW-112PB	T	11	8	1.31	-21	94.0%	No	PD
EW-110PZC	T	8	8	0.17	4	64.0%	No	NT
EW-112	T	9	9	0.35	-19	97.0%	No	D
EW-108PB	T	11	3	0.92	1	50.0%	No	NT
EW-111PZC	T	9	9	0.74	28	99.9%	No	I
EW-109	T	8	8	0.50	-19	98.9%	No	D
EW-111PZB	T	9	9	0.61	10	82.1%	No	NT
EW-111	T	8	8	0.32	-23	99.9%	No	D
EW-109PZB	T	8	8	0.91	4	64.0%	No	NT
EW-110	T	8	8	0.41	-24	99.9%	No	D
EW-108	T	9	8	0.45	21	98.3%	No	I
MW-130C	T	18	1	0.96	-9	61.7%	No	S
MW-137B	T	12	1	0.46	1	50.0%	No	NT
MW-129B	T	17	14	0.93	52	98.3%	No	I
MW-136B	T	12	2	1.33	-13	79.0%	No	NT
MW-138B	T	12	0	0.00	0	47.3%	Yes	S
MW-133B	T	10	7	0.91	-4	60.3%	No	S
MW-140C	T	4	4	0.10	0	37.5%	No	S
MW-130B	T	18	18	0.39	-61	98.9%	No	D
MW-132B	T	10	9	0.45	-28	99.4%	No	D
MW-136A	T	12	2	2.33	1	50.0%	No	NT
MW-139B	T	12	0	0.00	0	47.3%	Yes	S
MW-140B	T	4	4	0.24	-4	83.3%	No	S
MW-131B	T	5	2	0.97	-7	92.1%	No	PD
MW-131C	T	5	3	0.81	-8	95.8%	No	D
TRICHLOROETHYLENE (TCE)								
CJ-6	S	29	28	0.24	-79	92.8%	No	PD
MUNI-116	S	12	4	1.11	0	47.3%	No	NT
CJ-3	S	15	8	1.41	-10	66.9%	No	NT
CJ-17	S	14	14	0.31	-48	99.6%	No	D
CJ-10	S	14	14	0.17	-2	52.2%	No	S
MWCOE004	S	6	0	0.00	0	42.3%	Yes	S
MUNI-108	T	13	2	1.42	12	74.5%	No	NT
EW-111	T	8	8	0.33	-24	99.9%	No	D
MW-133B	T	10	3	1.33	-3	56.9%	No	NT

Project: Muscoy Intermediate **User Name:** MV

Location: San Bernardino **State:** California

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
TRICHLOROETHYLENE (TCE)								
MW-136A	T	12	2	2.04	1	50.0%	No	NT
EW-110PZC	T	8	8	0.17	8	80.1%	No	NT
MW-136B	T	12	2	1.37	-11	74.9%	No	NT
EW-110PZD	T	9	9	0.41	13	89.0%	No	NT
EW-110	T	8	8	0.37	-16	96.9%	No	D
EW-109PZB	T	8	5	0.97	3	59.4%	No	NT
MW-137B	T	12	1	0.20	1	50.0%	No	NT
EW-109	T	8	8	0.43	-14	94.6%	No	PD
EW-108PB	T	11	2	1.33	-9	72.9%	No	NT
EW-108	T	9	7	0.59	13	89.0%	No	NT
MW-139B	T	12	1	0.13	1	50.0%	No	NT
MW-140B	T	4	4	0.35	-3	72.9%	No	S
MW-140C	T	4	4	0.08	1	50.0%	No	NT
MW-138B	T	12	1	0.18	1	50.0%	No	NT
EW-111PZC	T	9	8	1.09	30	100.0%	No	I
EW-112PB	T	11	3	1.18	-19	91.8%	No	PD
MUNI-101	T	12	5	1.06	18	87.5%	No	NT
EW-112	T	9	6	0.74	-9	79.2%	No	S
MW-130B	T	18	18	0.41	-62	99.0%	No	D
MUNI-104B	T	12	7	0.90	43	99.9%	No	I
MW-128B	T	16	0	0.00	0	48.2%	Yes	S
MW-131C	T	5	1	1.44	-4	75.8%	No	NT
EW-111PZB	T	9	9	0.66	4	61.9%	No	NT
MW-132B	T	10	3	1.29	-11	81.0%	No	NT
MW-130C	T	18	1	1.41	-9	61.7%	No	NT
MW-129B	T	17	10	1.18	13	68.7%	No	NT
MW-128C	T	14	1	0.47	-5	58.5%	No	S
MW-131B	T	5	2	1.31	-7	92.1%	No	PD
TRICHLOROFLUOROMETHANE								
MWCOE004	S	6	5	0.54	-5	76.5%	No	S
CJ-6	S	29	28	0.37	-178	100.0%	No	D
MUNI-116	S	12	2	2.15	-5	60.6%	No	NT
CJ-17	S	14	14	0.31	-24	89.4%	No	S
CJ-10	S	14	14	0.31	-3	54.3%	No	S
CJ-3	S	15	6	1.31	-8	63.3%	No	NT
MW-140B	T	4	4	0.30	-2	62.5%	No	S
MW-130B	T	18	15	0.58	79	99.9%	No	I
MUNI-108	T	13	2	1.42	10	70.5%	No	NT
MW-129B	T	17	13	1.27	23	81.5%	No	NT
MW-139B	T	12	1	1.48	-3	55.4%	No	NT
MW-128B	T	16	0	0.00	0	48.2%	Yes	S
MW-140C	T	4	4	0.12	0	37.5%	No	S
EW-108	T	9	5	0.78	6	69.4%	No	NT
MUNI-104B	T	12	8	0.77	33	98.7%	No	I
EW-110	T	8	6	0.73	-15	95.8%	No	D
EW-111PZB	T	9	8	0.70	8	76.2%	No	NT
MW-132B	T	10	2	1.36	-8	72.9%	No	NT
EW-111	T	8	7	0.45	-10	86.2%	No	S
MW-133B	T	10	4	1.12	-1	50.0%	No	NT

Project: Muscoy Intermediate

User Name: MV

Location: San Bernardino

State: California

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
TRICHLOROFLUOROMETHANE								
MW-128C	T	14	0	0.00	0	47.8%	Yes	S
EW-111PZC	T	9	9	0.70	24	99.4%	No	I
MW-131C	T	5	2	1.07	-2	59.2%	No	NT
MW-136A	T	12	3	1.75	-15	82.8%	No	NT
MW-130C	T	18	1	1.41	-9	61.7%	No	NT
EW-112	T	9	9	0.47	19	97.0%	No	I
MW-138B	T	12	2	1.32	-5	60.6%	No	NT
MW-136B	T	12	2	1.40	-10	72.7%	No	NT
EW-112PB	T	11	3	1.15	-17	89.1%	No	NT
EW-109PZB	T	8	3	1.07	-4	64.0%	No	NT
MW-131B	T	5	1	1.44	-4	75.8%	No	NT
MW-137B	T	12	4	1.19	-19	88.9%	No	NT
EW-109	T	8	6	0.82	-17	97.7%	No	D
MUNI-101	T	12	4	1.14	11	74.9%	No	NT
EW-110PZD	T	9	8	0.77	26	99.7%	No	I
EW-108PB	T	11	1	1.49	-8	70.3%	No	NT
EW-110PZC	T	8	8	0.23	3	59.4%	No	NT

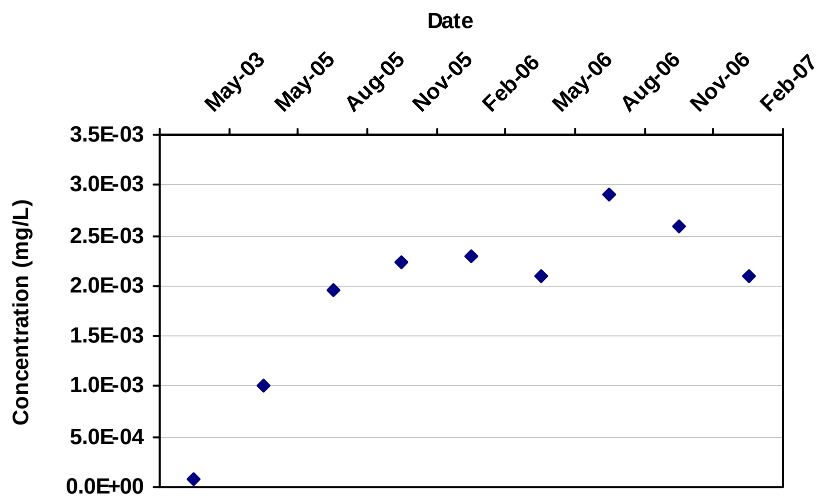
Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A)-Due to insufficient Data (< 4 sampling events); Source/Tail (S/T)

The Number of Samples and Number of Detects shown above are post-consolidation values.

MAROS Mann-Kendall Statistics Summary

Well: EW-108
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 21

Confidence in Trend: 98.3%

Coefficient of Variation: 0.45

Mann Kendall Concentration Trend: (See Note) I

Data Table:

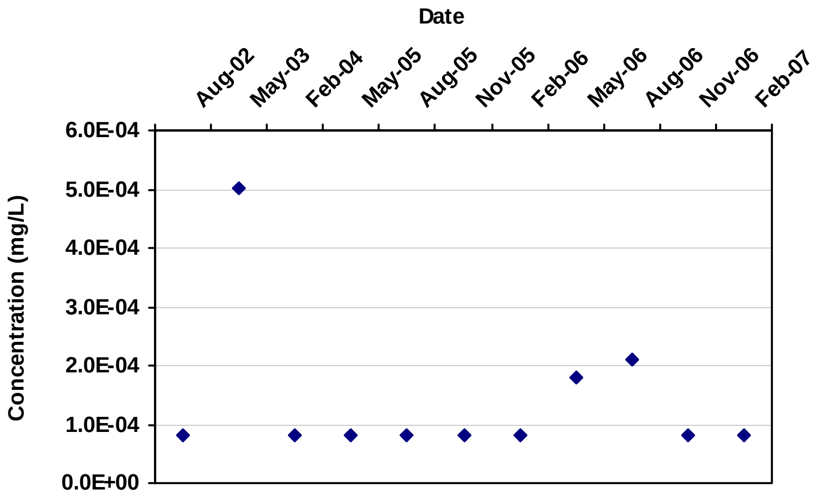
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-108	T	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
EW-108	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
EW-108	T	8/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-108	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.2E-03		1	1
EW-108	T	2/15/2006	TETRACHLOROETHYLENE(PCE	2.3E-03		1	1
EW-108	T	5/15/2006	TETRACHLOROETHYLENE(PCE	2.1E-03		1	1
EW-108	T	8/15/2006	TETRACHLOROETHYLENE(PCE	2.9E-03		1	1
EW-108	T	11/15/2006	TETRACHLOROETHYLENE(PCE	2.6E-03		1	1
EW-108	T	2/15/2007	TETRACHLOROETHYLENE(PCE	2.1E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-108PB
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 1

Confidence in Trend: 50.0%

Coefficient of Variation: 0.92

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

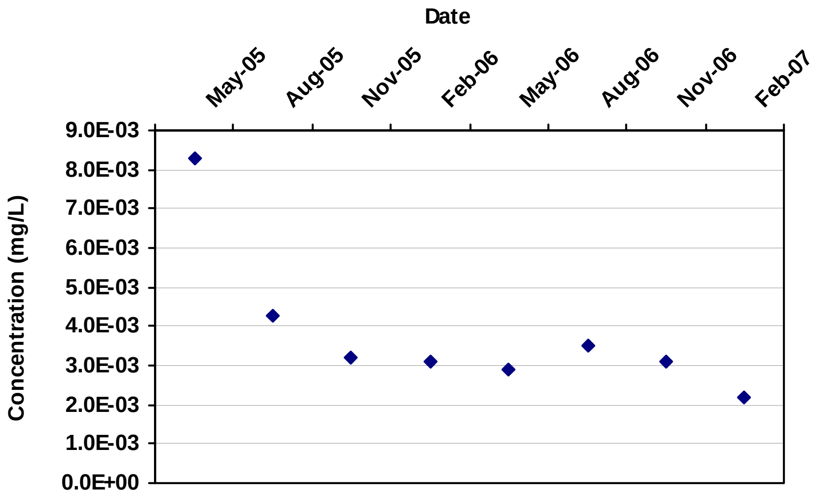
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-108PB	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
EW-108PB	T	5/15/2003	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
EW-108PB	T	2/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
EW-108PB	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
EW-108PB	T	8/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
EW-108PB	T	11/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
EW-108PB	T	2/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
EW-108PB	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.8E-04		1	1
EW-108PB	T	8/15/2006	TETRACHLOROETHYLENE(PCE	2.1E-04		1	1
EW-108PB	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
EW-108PB	T	2/15/2007	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-109
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -19

Confidence in Trend: 98.9%

Coefficient of Variation: 0.50

Mann Kendall Concentration Trend: (See Note) D

Data Table:

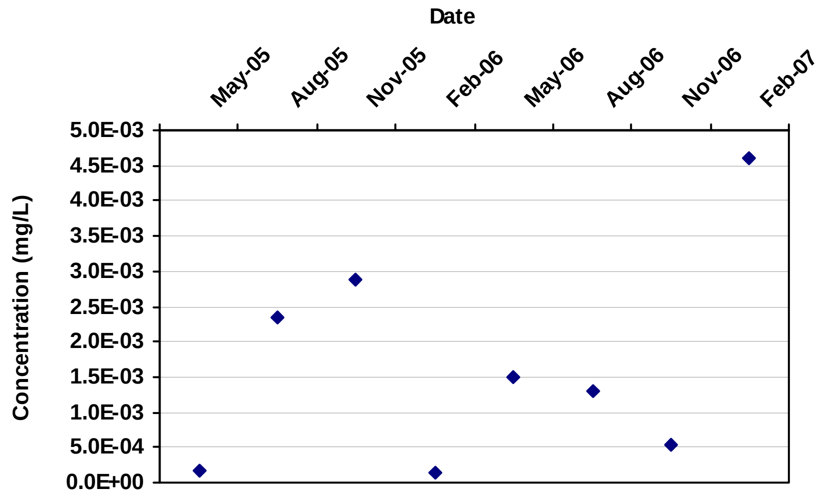
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-109	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.3E-03		1	1
EW-109	T	8/15/2005	TETRACHLOROETHYLENE(PCE	4.3E-03		1	1
EW-109	T	11/15/2005	TETRACHLOROETHYLENE(PCE	3.2E-03		1	1
EW-109	T	2/15/2006	TETRACHLOROETHYLENE(PCE	3.1E-03		1	1
EW-109	T	5/15/2006	TETRACHLOROETHYLENE(PCE	2.9E-03		1	1
EW-109	T	8/15/2006	TETRACHLOROETHYLENE(PCE	3.5E-03		1	1
EW-109	T	11/15/2006	TETRACHLOROETHYLENE(PCE	3.1E-03		1	1
EW-109	T	2/15/2007	TETRACHLOROETHYLENE(PCE	2.2E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-109PZB
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 4

Confidence in Trend: 64.0%

Coefficient of Variation: 0.91

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

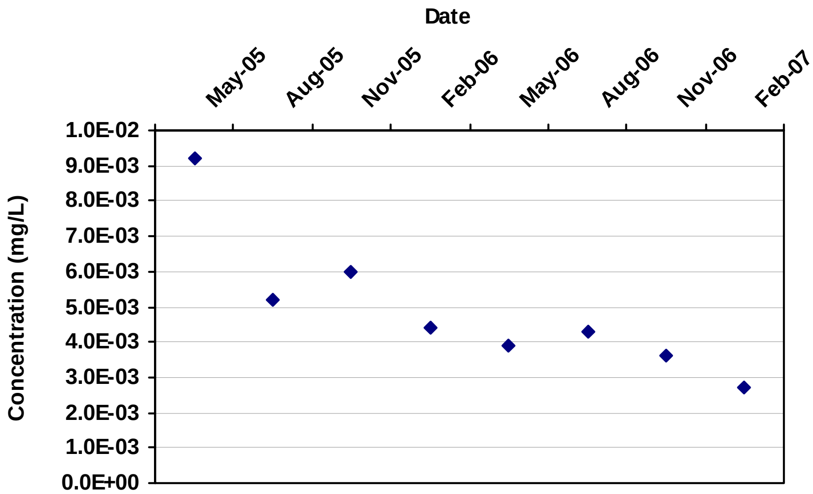
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-109PZB	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.8E-04		1	1
EW-109PZB	T	8/15/2005	TETRACHLOROETHYLENE(PCE	2.3E-03		1	1
EW-109PZB	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.9E-03		1	1
EW-109PZB	T	2/15/2006	TETRACHLOROETHYLENE(PCE	1.3E-04		1	1
EW-109PZB	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.5E-03		1	1
EW-109PZB	T	8/15/2006	TETRACHLOROETHYLENE(PCE	1.3E-03		1	1
EW-109PZB	T	11/15/2006	TETRACHLOROETHYLENE(PCE	5.5E-04		1	1
EW-109PZB	T	2/15/2007	TETRACHLOROETHYLENE(PCE	4.6E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-110
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -24

Confidence in Trend: 99.9%

Coefficient of Variation: 0.41

Mann Kendall Concentration Trend: (See Note) D

Data Table:

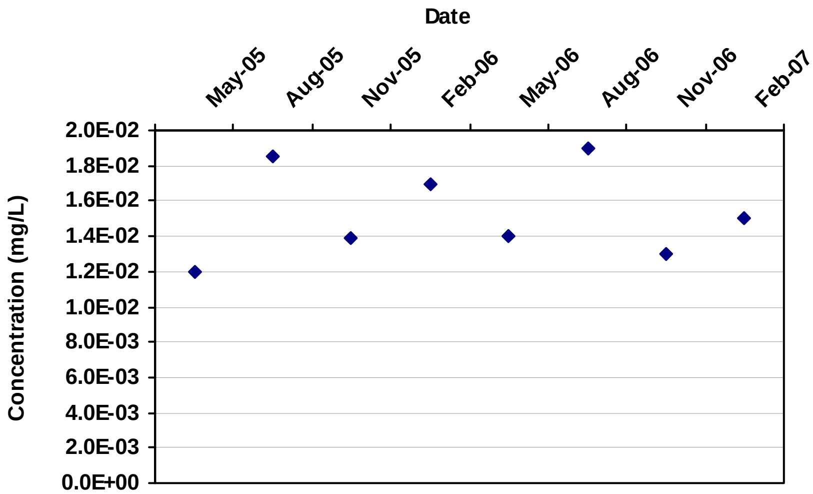
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-110	T	5/15/2005	TETRACHLOROETHYLENE(PCE	9.2E-03		1	1
EW-110	T	8/15/2005	TETRACHLOROETHYLENE(PCE	5.2E-03		1	1
EW-110	T	11/15/2005	TETRACHLOROETHYLENE(PCE	6.0E-03		1	1
EW-110	T	2/15/2006	TETRACHLOROETHYLENE(PCE	4.4E-03		1	1
EW-110	T	5/15/2006	TETRACHLOROETHYLENE(PCE	3.9E-03		1	1
EW-110	T	8/15/2006	TETRACHLOROETHYLENE(PCE	4.3E-03		1	1
EW-110	T	11/15/2006	TETRACHLOROETHYLENE(PCE	3.6E-03		1	1
EW-110	T	2/15/2007	TETRACHLOROETHYLENE(PCE	2.7E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-110PZC
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 4

Confidence in Trend: 64.0%

Coefficient of Variation: 0.17

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

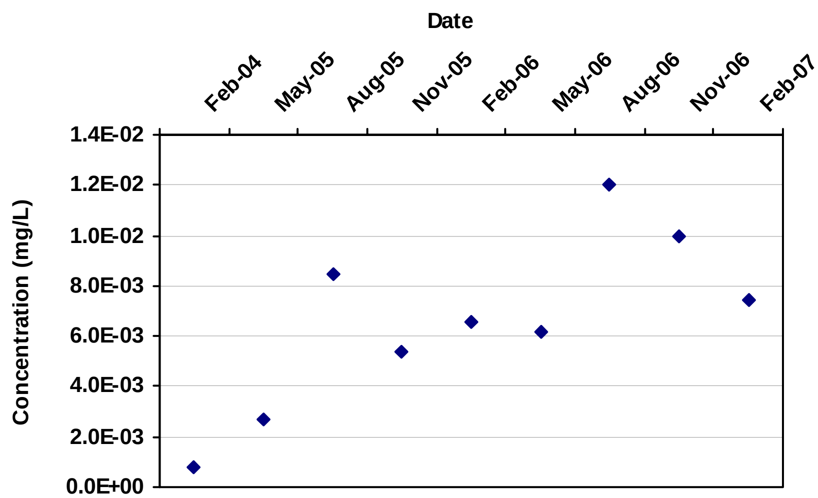
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-110PZC	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.2E-02		1	1
EW-110PZC	T	8/15/2005	TETRACHLOROETHYLENE(PCE	1.9E-02		1	1
EW-110PZC	T	11/15/2005	TETRACHLOROETHYLENE(PCE	1.4E-02		1	1
EW-110PZC	T	2/15/2006	TETRACHLOROETHYLENE(PCE	1.7E-02		1	1
EW-110PZC	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.4E-02		1	1
EW-110PZC	T	8/15/2006	TETRACHLOROETHYLENE(PCE	1.9E-02		1	1
EW-110PZC	T	11/15/2006	TETRACHLOROETHYLENE(PCE	1.3E-02		1	1
EW-110PZC	T	2/15/2007	TETRACHLOROETHYLENE(PCE	1.5E-02		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-110PZD
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 20

Confidence in Trend: 97.8%

Coefficient of Variation: 0.52

Mann Kendall Concentration Trend: (See Note) I

Data Table:

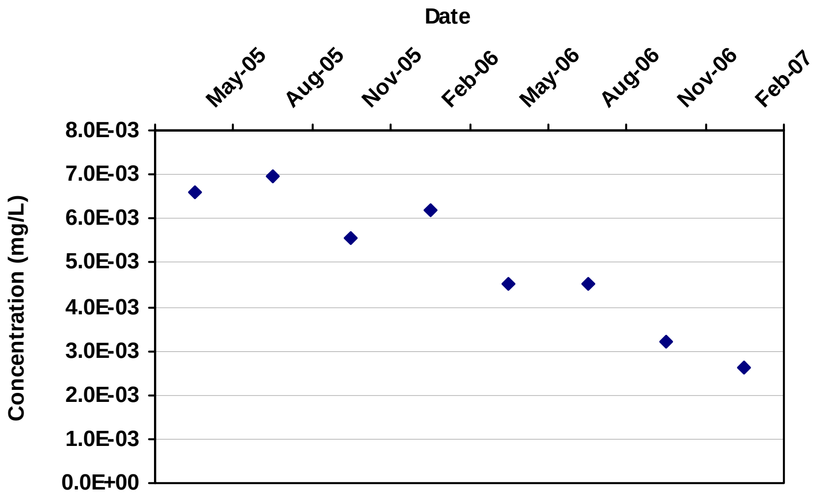
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-110PZD	T	2/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-04		1	1
EW-110PZD	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.7E-03		1	1
EW-110PZD	T	8/15/2005	TETRACHLOROETHYLENE(PCE	8.5E-03		1	1
EW-110PZD	T	11/15/2005	TETRACHLOROETHYLENE(PCE	5.4E-03		1	1
EW-110PZD	T	2/15/2006	TETRACHLOROETHYLENE(PCE	6.6E-03		1	1
EW-110PZD	T	5/15/2006	TETRACHLOROETHYLENE(PCE	6.2E-03		1	1
EW-110PZD	T	8/15/2006	TETRACHLOROETHYLENE(PCE	1.2E-02		1	1
EW-110PZD	T	11/15/2006	TETRACHLOROETHYLENE(PCE	1.0E-02		1	1
EW-110PZD	T	2/15/2007	TETRACHLOROETHYLENE(PCE	7.4E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-111
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -23

Confidence in Trend: 99.9%

Coefficient of Variation: 0.32

Mann Kendall Concentration Trend: (See Note) D

Data Table:

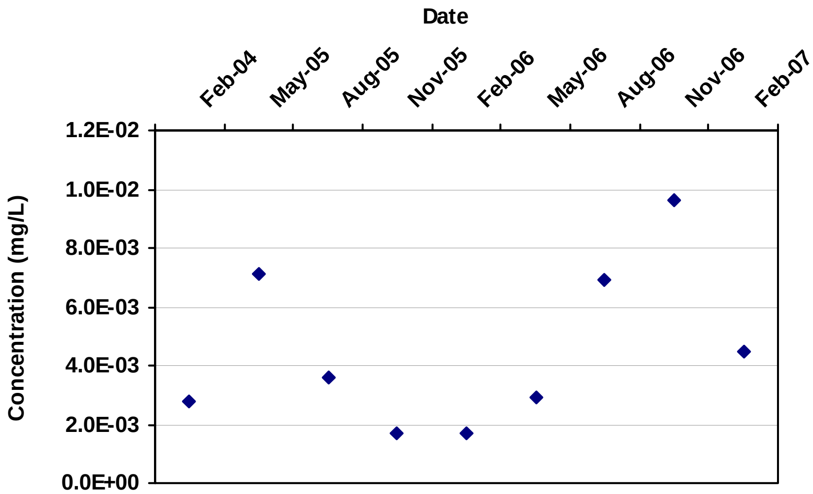
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-111	T	5/15/2005	TETRACHLOROETHYLENE(PCE	6.6E-03		1	1
EW-111	T	8/15/2005	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
EW-111	T	11/15/2005	TETRACHLOROETHYLENE(PCE	5.6E-03		1	1
EW-111	T	2/15/2006	TETRACHLOROETHYLENE(PCE	6.2E-03		1	1
EW-111	T	5/15/2006	TETRACHLOROETHYLENE(PCE	4.5E-03		1	1
EW-111	T	8/15/2006	TETRACHLOROETHYLENE(PCE	4.5E-03		1	1
EW-111	T	11/15/2006	TETRACHLOROETHYLENE(PCE	3.2E-03		1	1
EW-111	T	2/15/2007	TETRACHLOROETHYLENE(PCE	2.6E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-111PZB
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 10

Confidence in Trend: 82.1%

Coefficient of Variation: 0.61

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

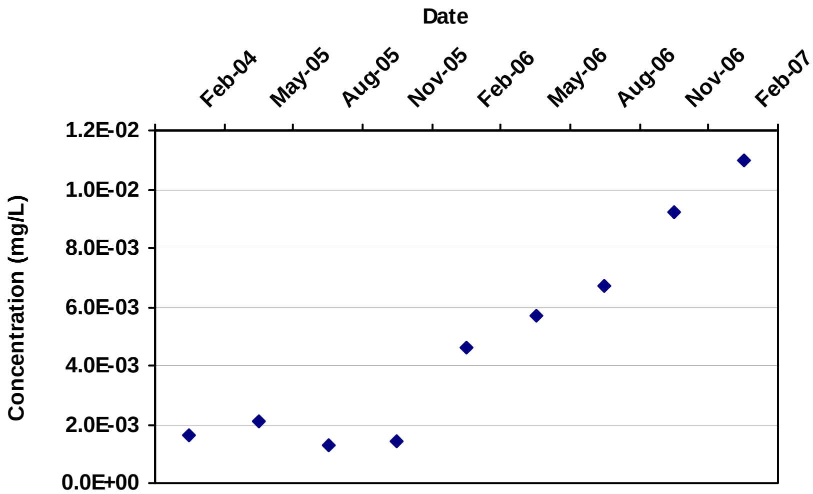
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-111PZB	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.8E-03		1	1
EW-111PZB	T	5/15/2005	TETRACHLOROETHYLENE(PCE	7.1E-03		1	1
EW-111PZB	T	8/15/2005	TETRACHLOROETHYLENE(PCE	3.6E-03		1	1
EW-111PZB	T	11/15/2005	TETRACHLOROETHYLENE(PCE	1.7E-03		1	1
EW-111PZB	T	2/15/2006	TETRACHLOROETHYLENE(PCE	1.7E-03		1	1
EW-111PZB	T	5/15/2006	TETRACHLOROETHYLENE(PCE	2.9E-03		1	1
EW-111PZB	T	8/15/2006	TETRACHLOROETHYLENE(PCE	6.9E-03		1	1
EW-111PZB	T	11/15/2006	TETRACHLOROETHYLENE(PCE	9.6E-03		1	1
EW-111PZB	T	2/15/2007	TETRACHLOROETHYLENE(PCE	4.5E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-111PZC
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 28

Confidence in Trend: 99.9%

Coefficient of Variation: 0.74

Mann Kendall Concentration Trend: (See Note) I

Data Table:

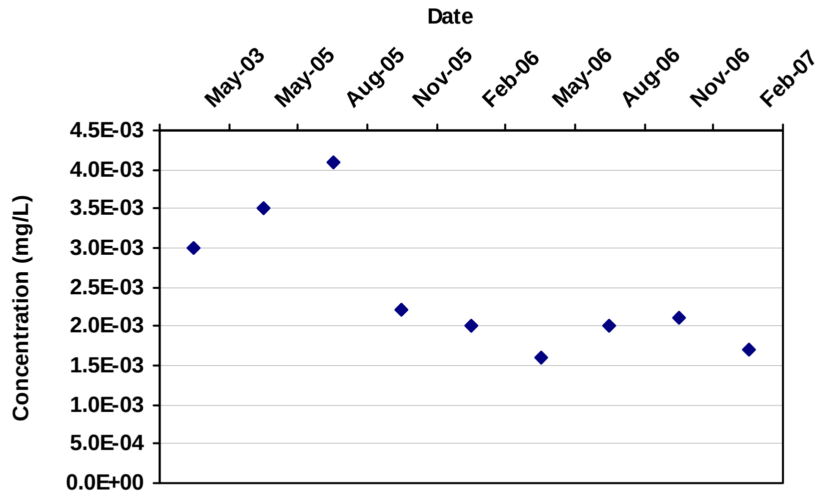
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-111PZC	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.6E-03		1	1
EW-111PZC	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.1E-03		1	1
EW-111PZC	T	8/15/2005	TETRACHLOROETHYLENE(PCE	1.3E-03		1	1
EW-111PZC	T	11/15/2005	TETRACHLOROETHYLENE(PCE	1.4E-03		1	1
EW-111PZC	T	2/15/2006	TETRACHLOROETHYLENE(PCE	4.6E-03		1	1
EW-111PZC	T	5/15/2006	TETRACHLOROETHYLENE(PCE	5.7E-03		1	1
EW-111PZC	T	8/15/2006	TETRACHLOROETHYLENE(PCE	6.7E-03		1	1
EW-111PZC	T	11/15/2006	TETRACHLOROETHYLENE(PCE	9.2E-03		1	1
EW-111PZC	T	2/15/2007	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-112
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:

-19

Confidence in Trend:

97.0%

Coefficient of Variation:

0.35

Mann Kendall Concentration Trend: (See Note)

D

Data Table:

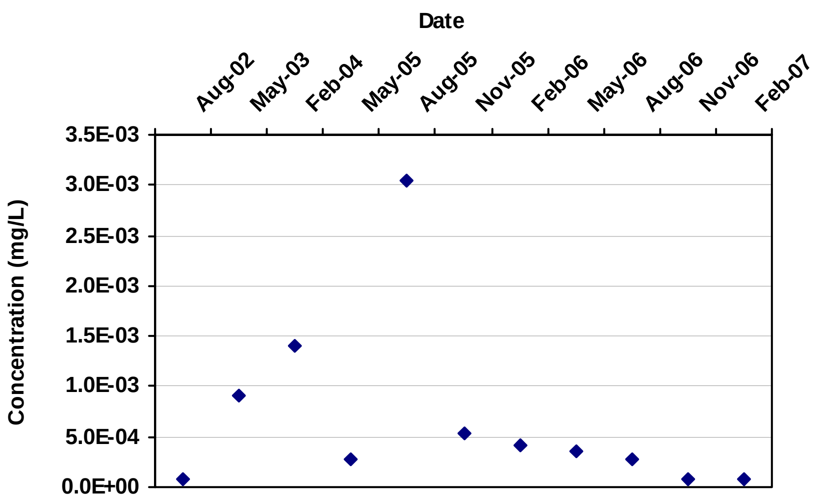
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-112	T	5/15/2003	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
EW-112	T	5/15/2005	TETRACHLOROETHYLENE(PCE	3.5E-03		1	1
EW-112	T	8/15/2005	TETRACHLOROETHYLENE(PCE	4.1E-03		1	1
EW-112	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.2E-03		1	1
EW-112	T	2/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-112	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.6E-03		1	1
EW-112	T	8/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
EW-112	T	11/15/2006	TETRACHLOROETHYLENE(PCE	2.1E-03		1	1
EW-112	T	2/15/2007	TETRACHLOROETHYLENE(PCE	1.7E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-112PB
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -21

Confidence in Trend: 94.0%

Coefficient of Variation: 1.31

Mann Kendall Concentration Trend: (See Note) PD

Data Table:

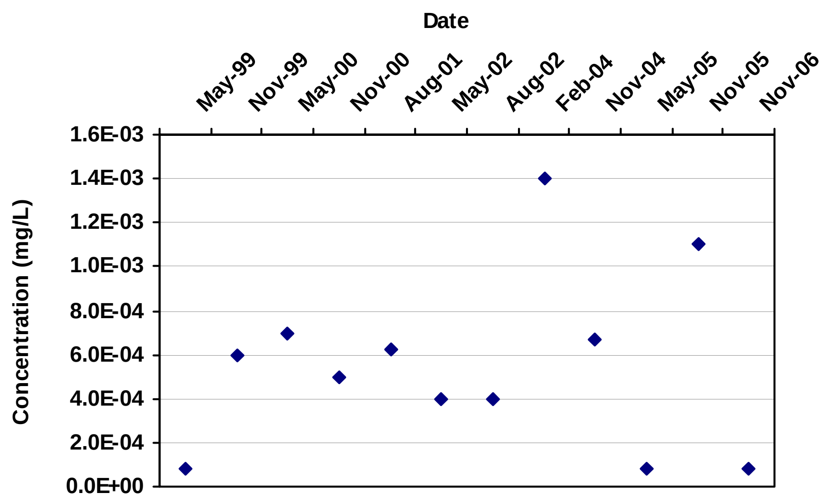
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-112PB	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
EW-112PB	T	5/15/2003	TETRACHLOROETHYLENE(PCE	9.0E-04		1	1
EW-112PB	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.4E-03		1	1
EW-112PB	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.7E-04		1	1
EW-112PB	T	8/15/2005	TETRACHLOROETHYLENE(PCE	3.1E-03		1	1
EW-112PB	T	11/15/2005	TETRACHLOROETHYLENE(PCE	5.3E-04		1	1
EW-112PB	T	2/15/2006	TETRACHLOROETHYLENE(PCE	4.1E-04		1	1
EW-112PB	T	5/15/2006	TETRACHLOROETHYLENE(PCE	3.5E-04		1	1
EW-112PB	T	8/15/2006	TETRACHLOROETHYLENE(PCE	2.7E-04		1	1
EW-112PB	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
EW-112PB	T	2/15/2007	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-101
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 47.3%

Coefficient of Variation: 0.73

Mann Kendall Concentration Trend: (See Note) S

Data Table:

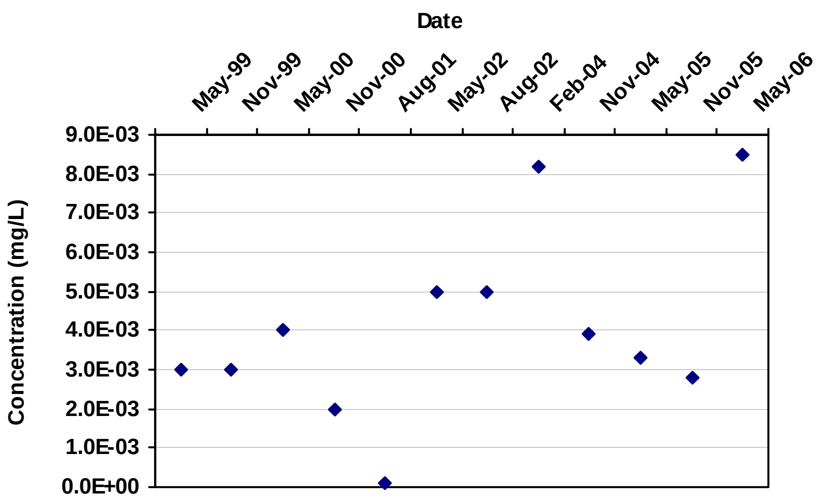
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-101	T	5/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-101	T	11/15/1999	TETRACHLOROETHYLENE(PCE	6.0E-04		1	1
MUNI-101	T	5/15/2000	TETRACHLOROETHYLENE(PCE	7.0E-04		1	1
MUNI-101	T	11/15/2000	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MUNI-101	T	8/15/2001	TETRACHLOROETHYLENE(PCE	6.2E-04		1	1
MUNI-101	T	5/15/2002	TETRACHLOROETHYLENE(PCE	4.0E-04		1	1
MUNI-101	T	8/15/2002	TETRACHLOROETHYLENE(PCE	4.0E-04		1	1
MUNI-101	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.4E-03		1	1
MUNI-101	T	11/15/2004	TETRACHLOROETHYLENE(PCE	6.7E-04		1	1
MUNI-101	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-101	T	11/15/2005	TETRACHLOROETHYLENE(PCE	1.1E-03		1	1
MUNI-101	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-104B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 16

Confidence in Trend: 84.5%

Coefficient of Variation: 0.59

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

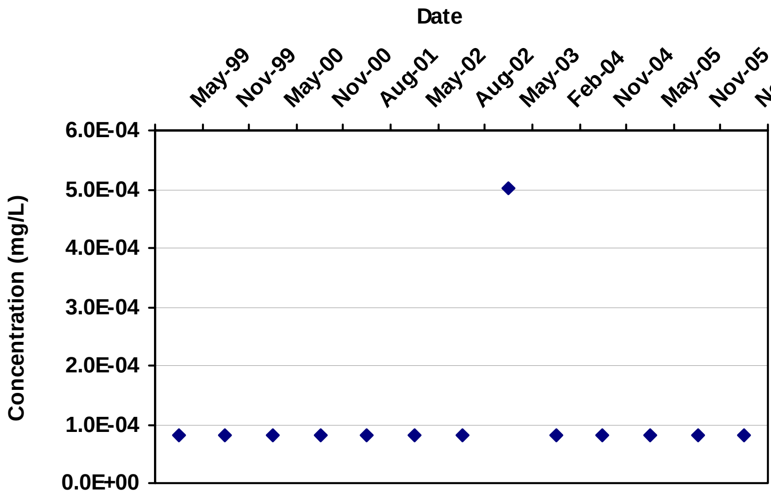
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-104B	T	5/15/1999	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
MUNI-104B	T	11/15/1999	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
MUNI-104B	T	5/15/2000	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1
MUNI-104B	T	11/15/2000	TETRACHLOROETHYLENE(PCE	2.0E-03		1	1
MUNI-104B	T	8/15/2001	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-104B	T	5/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-03		1	1
MUNI-104B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-03		1	1
MUNI-104B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	8.2E-03		1	1
MUNI-104B	T	11/15/2004	TETRACHLOROETHYLENE(PCE	3.9E-03		1	1
MUNI-104B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	3.3E-03		1	1
MUNI-104B	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.8E-03		1	1
MUNI-104B	T	5/15/2006	TETRACHLOROETHYLENE(PCE	8.5E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-108
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 2

Confidence in Trend: 52.4%

Coefficient of Variation: 1.04

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

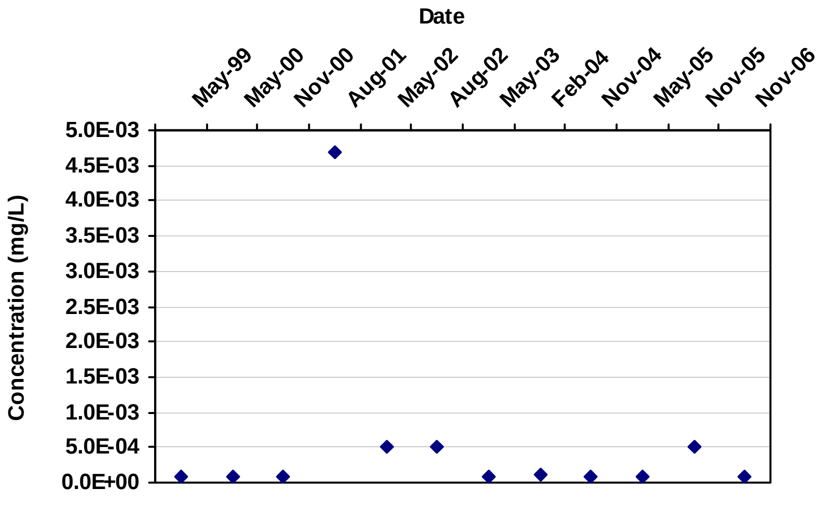
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-108	T	5/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-108	T	11/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-108	T	5/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-108	T	11/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-108	T	8/15/2001	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-108	T	5/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-108	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-108	T	5/15/2003	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MUNI-108	T	2/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-108	T	11/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-108	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-108	T	11/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-108	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MUNI-116
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -2

Confidence in Trend: 52.7%

Coefficient of Variation: 2.29

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

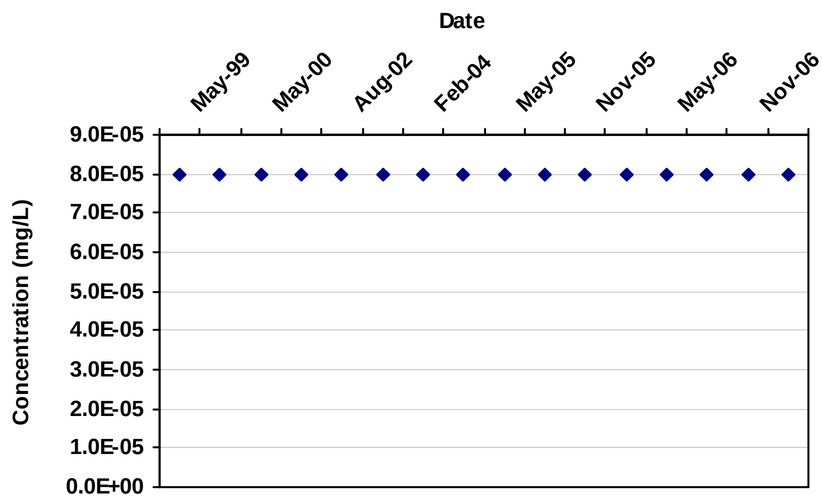
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MUNI-116	S	5/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-116	S	5/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-116	S	11/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-116	S	8/15/2001	TETRACHLOROETHYLENE(PCE	4.7E-03		1	1
MUNI-116	S	5/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MUNI-116	S	8/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MUNI-116	S	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-116	S	2/15/2004	TETRACHLOROETHYLENE(PCE	1.1E-04		1	1
MUNI-116	S	11/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-116	S	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MUNI-116	S	11/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MUNI-116	S	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-128B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 48.2%

Coefficient of Variation: 0.00

Mann Kendall Concentration Trend: (See Note) S

Data Table:

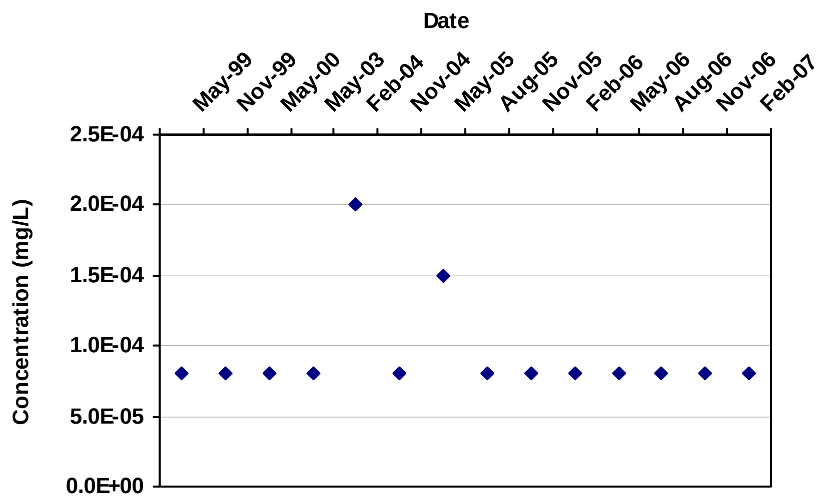
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-128B	T	5/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	11/15/1999	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	5/15/2000	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	5/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	8/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	2/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	8/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-128B	T	2/15/2007	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-128C
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -7

Confidence in Trend: 62.6%

Coefficient of Variation: 0.38

Mann Kendall Concentration Trend: (See Note) S

Data Table:

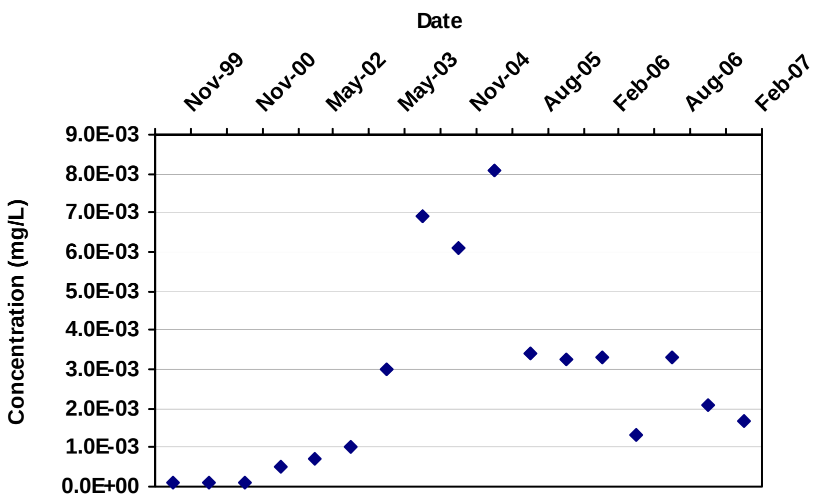
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-128C	T	5/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-128C	T	11/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-128C	T	5/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-128C	T	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-128C	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
MW-128C	T	11/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-128C	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.5E-04		1	1
MW-128C	T	8/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-128C	T	11/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-128C	T	2/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-128C	T	5/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-128C	T	8/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-128C	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-128C	T	2/15/2007	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-129B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 52

Confidence in Trend: 98.3%

Coefficient of Variation: 0.93

Mann Kendall Concentration Trend: (See Note) I

Data Table:

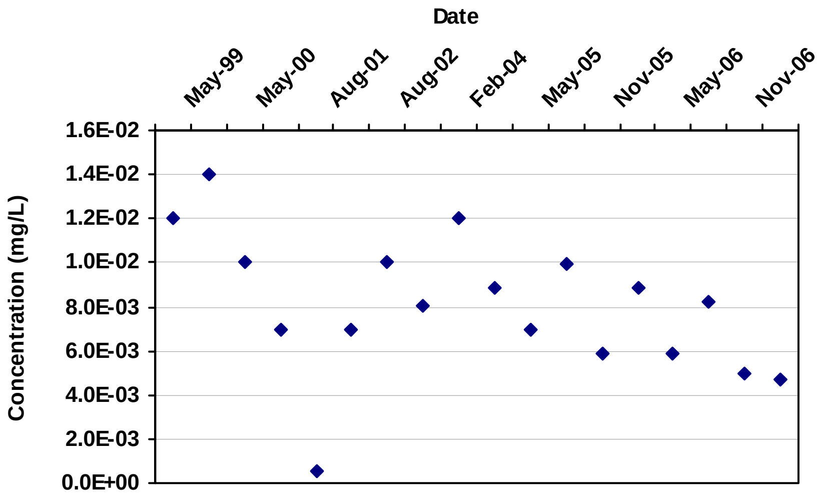
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-129B	T	11/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-129B	T	5/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-129B	T	11/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-129B	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-129B	T	5/15/2002	TETRACHLOROETHYLENE(PCE	7.0E-04		1	1
MW-129B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	1.0E-03		1	1
MW-129B	T	5/15/2003	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
MW-129B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	6.9E-03		1	1
MW-129B	T	11/15/2004	TETRACHLOROETHYLENE(PCE	6.1E-03		1	1
MW-129B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.1E-03		1	1
MW-129B	T	8/15/2005	TETRACHLOROETHYLENE(PCE	3.4E-03		1	1
MW-129B	T	11/15/2005	TETRACHLOROETHYLENE(PCE	3.2E-03		1	1
MW-129B	T	2/15/2006	TETRACHLOROETHYLENE(PCE	3.3E-03		1	1
MW-129B	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.3E-03		1	1
MW-129B	T	8/15/2006	TETRACHLOROETHYLENE(PCE	3.3E-03		1	1
MW-129B	T	11/15/2006	TETRACHLOROETHYLENE(PCE	2.1E-03		1	1
MW-129B	T	2/15/2007	TETRACHLOROETHYLENE(PCE	1.7E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-130B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -61

Confidence in Trend: 98.9%

Coefficient of Variation: 0.39

Mann Kendall Concentration Trend: (See Note) D

Data Table:

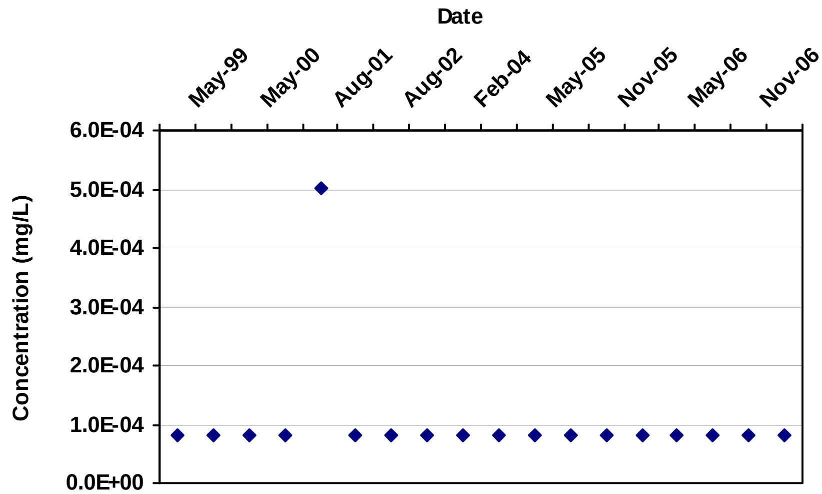
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-130B	T	5/15/1999	TETRACHLOROETHYLENE(PCE	1.2E-02		1	1
MW-130B	T	11/15/1999	TETRACHLOROETHYLENE(PCE	1.4E-02		1	1
MW-130B	T	5/15/2000	TETRACHLOROETHYLENE(PCE	1.0E-02		1	1
MW-130B	T	11/15/2000	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MW-130B	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-130B	T	5/15/2002	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MW-130B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	1.0E-02		1	1
MW-130B	T	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-03		1	1
MW-130B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.2E-02		1	1
MW-130B	T	11/15/2004	TETRACHLOROETHYLENE(PCE	8.9E-03		1	1
MW-130B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MW-130B	T	8/15/2005	TETRACHLOROETHYLENE(PCE	9.9E-03		1	1
MW-130B	T	11/15/2005	TETRACHLOROETHYLENE(PCE	5.8E-03		1	1
MW-130B	T	2/15/2006	TETRACHLOROETHYLENE(PCE	8.9E-03		1	1
MW-130B	T	5/15/2006	TETRACHLOROETHYLENE(PCE	5.9E-03		1	1
MW-130B	T	8/15/2006	TETRACHLOROETHYLENE(PCE	8.2E-03		1	1
MW-130B	T	11/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-03		1	1
MW-130B	T	2/15/2007	TETRACHLOROETHYLENE(PCE	4.7E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-130C
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -9

Confidence in Trend: 61.7%

Coefficient of Variation: 0.96

Mann Kendall Concentration Trend: (See Note) S

Data Table:

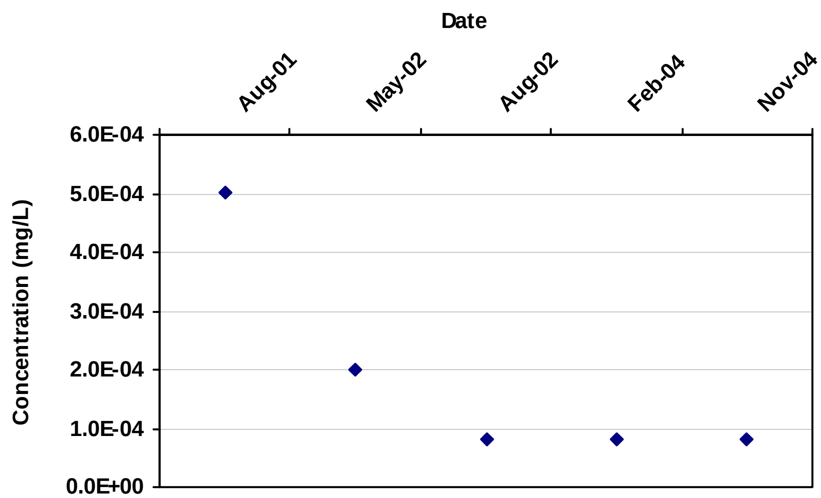
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-130C	T	5/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	11/15/1999	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	5/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	11/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-130C	T	5/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	2/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	11/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	8/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	11/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	2/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	5/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	8/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-130C	T	2/15/2007	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-131B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -7

Confidence in Trend: 92.1%

Coefficient of Variation: 0.97

Mann Kendall Concentration Trend: (See Note) PD

Data Table:

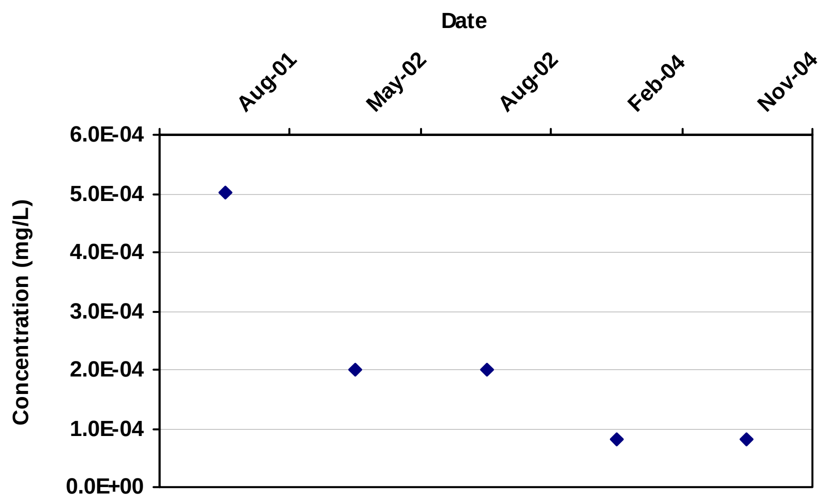
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-131B	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-131B	T	5/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
MW-131B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-131B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-131B	T	11/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-131C
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -8

Confidence in Trend: 95.8%

Coefficient of Variation: 0.81

Mann Kendall Concentration Trend: (See Note) D

Data Table:

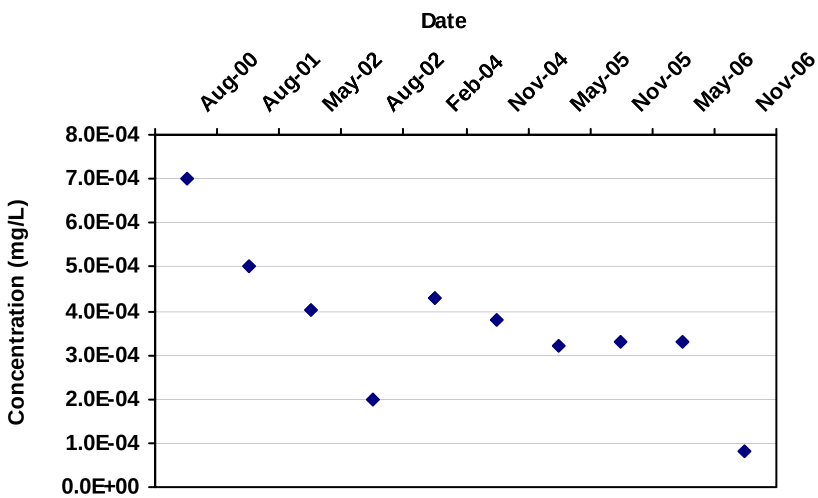
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-131C	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-131C	T	5/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
MW-131C	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
MW-131C	T	2/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-131C	T	11/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-132B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -28

Confidence in Trend: 99.4%

Coefficient of Variation: 0.45

Mann Kendall Concentration Trend: (See Note) D

Data Table:

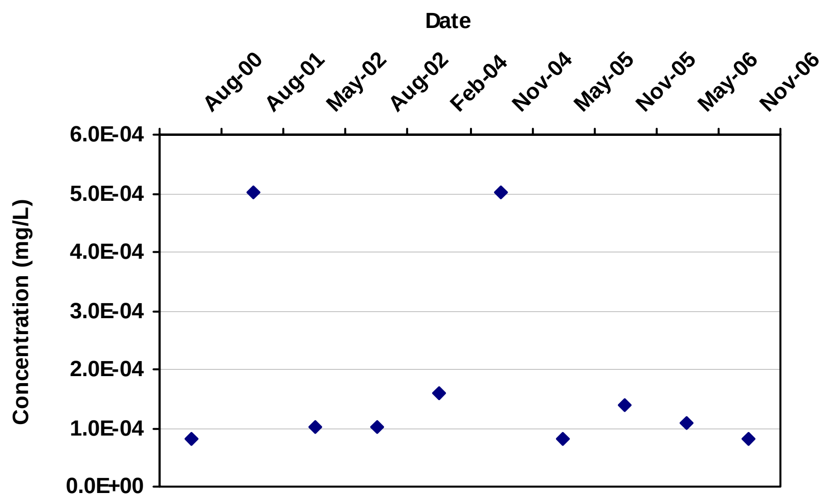
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-132B	T	8/15/2000	TETRACHLOROETHYLENE(PCE	7.0E-04		1	1
MW-132B	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-132B	T	5/15/2002	TETRACHLOROETHYLENE(PCE	4.0E-04		1	1
MW-132B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04		1	1
MW-132B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	4.3E-04		1	1
MW-132B	T	11/15/2004	TETRACHLOROETHYLENE(PCE	3.8E-04		1	1
MW-132B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	3.2E-04		1	1
MW-132B	T	11/15/2005	TETRACHLOROETHYLENE(PCE	3.3E-04		1	1
MW-132B	T	5/15/2006	TETRACHLOROETHYLENE(PCE	3.3E-04		1	1
MW-132B	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-133B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -4

Confidence in Trend: 60.3%

Coefficient of Variation: 0.91

Mann Kendall Concentration Trend: (See Note) S

Data Table:

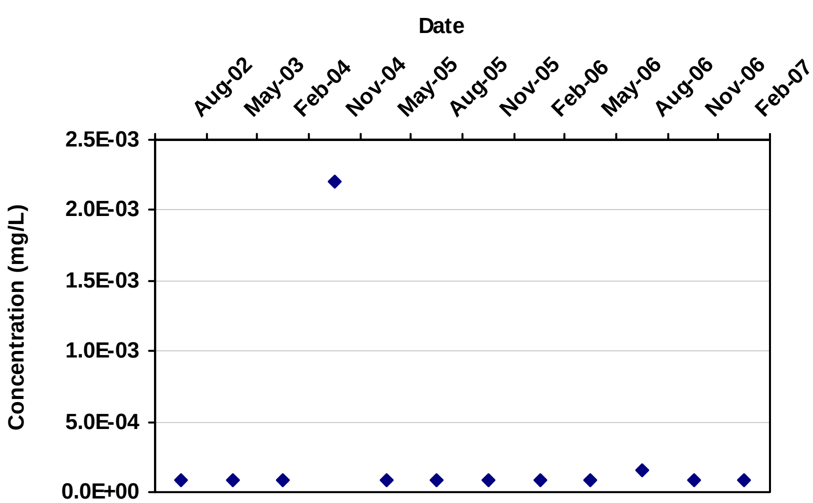
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-133B	T	8/15/2000	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-133B	T	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-133B	T	5/15/2002	TETRACHLOROETHYLENE(PCE	1.0E-04		1	1
MW-133B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	1.0E-04		1	1
MW-133B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	1.6E-04		1	1
MW-133B	T	11/15/2004	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-133B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-133B	T	11/15/2005	TETRACHLOROETHYLENE(PCE	1.4E-04		1	1
MW-133B	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.1E-04		1	1
MW-133B	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-136A
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 1

Confidence in Trend: 50.0%

Coefficient of Variation: 2.33

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

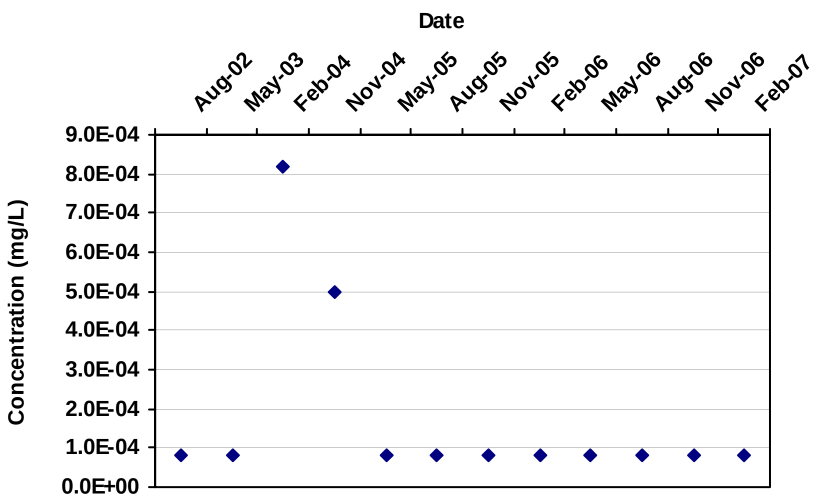
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-136A	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136A	T	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136A	T	2/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136A	T	11/15/2004	TETRACHLOROETHYLENE(PCE	2.2E-03		1	1
MW-136A	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136A	T	8/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136A	T	11/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136A	T	2/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136A	T	5/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136A	T	8/15/2006	TETRACHLOROETHYLENE(PCE	1.5E-04		1	1
MW-136A	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136A	T	2/15/2007	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-136B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -13

Confidence in Trend: 79.0%

Coefficient of Variation: 1.33

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

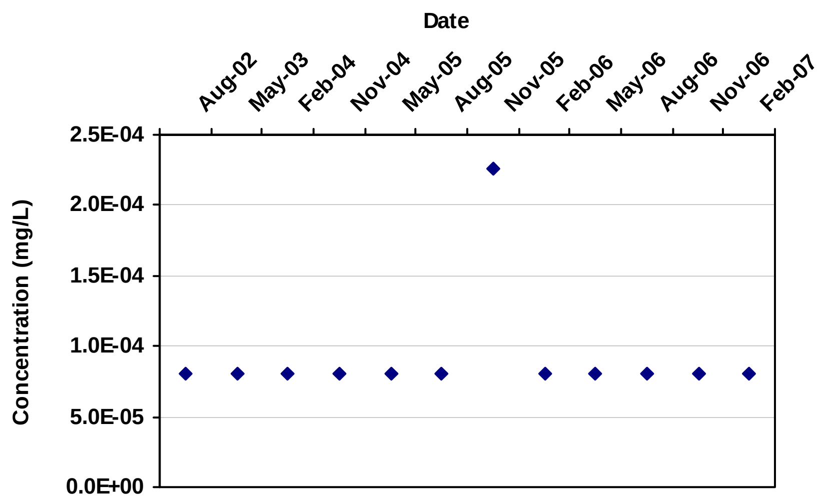
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-136B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136B	T	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	8.2E-04		1	1
MW-136B	T	11/15/2004	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-136B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136B	T	8/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136B	T	11/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136B	T	2/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136B	T	5/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136B	T	8/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136B	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-136B	T	2/15/2007	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-137B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 1

Confidence in Trend: 50.0%

Coefficient of Variation: 0.46

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

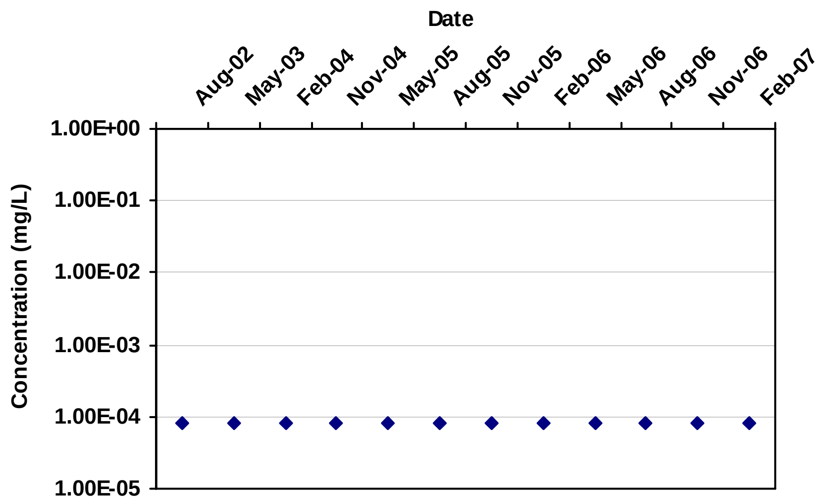
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-137B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-137B	T	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-137B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-137B	T	11/15/2004	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-137B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-137B	T	8/15/2005	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-137B	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.3E-04		1	1
MW-137B	T	2/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-137B	T	5/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-137B	T	8/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-137B	T	11/15/2006	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0
MW-137B	T	2/15/2007	TETRACHLOROETHYLENE(PCE	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-138B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 47.3%

Coefficient of Variation: 0.00

Mann Kendall Concentration Trend: (See Note) S

Data Table:

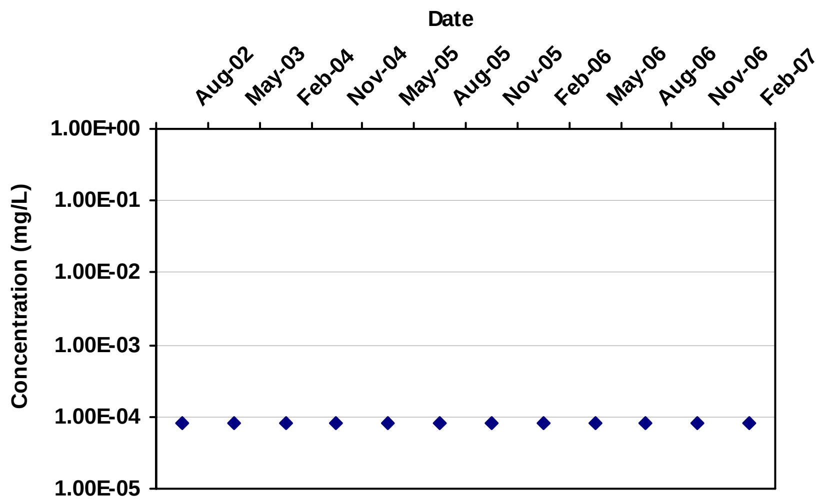
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-138B	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-138B	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-138B	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-138B	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-138B	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-138B	T	8/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-138B	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-138B	T	2/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-138B	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-138B	T	8/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-138B	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-138B	T	2/15/2007	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-139B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:
0

Confidence in Trend:
47.3%

Coefficient of Variation:
0.00

Mann Kendall Concentration Trend: (See Note)
S

Data Table:

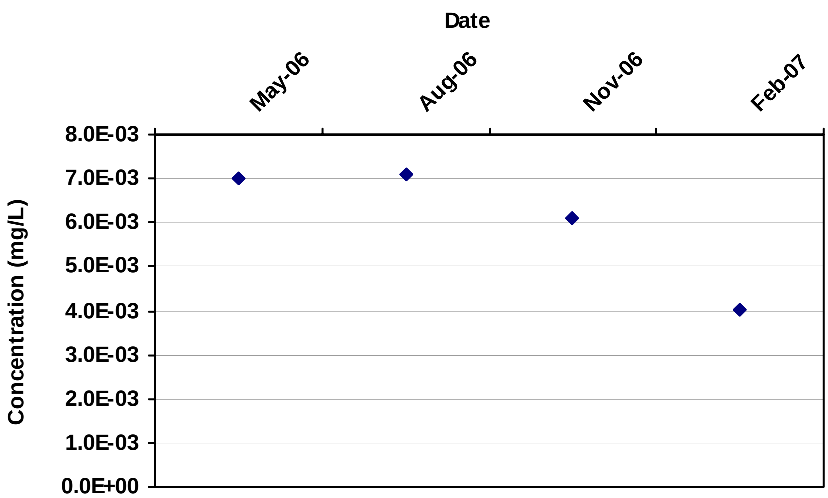
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-139B	T	8/15/2002	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-139B	T	5/15/2003	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-139B	T	2/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-139B	T	11/15/2004	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-139B	T	5/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-139B	T	8/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-139B	T	11/15/2005	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-139B	T	2/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-139B	T	5/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-139B	T	8/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-139B	T	11/15/2006	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0
MW-139B	T	2/15/2007	TETRACHLOROETHYLENE(PCE)	8.0E-05	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-140B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -4

Confidence in Trend: 83.3%

Coefficient of Variation: 0.24

Mann Kendall Concentration Trend: (See Note) S

Data Table:

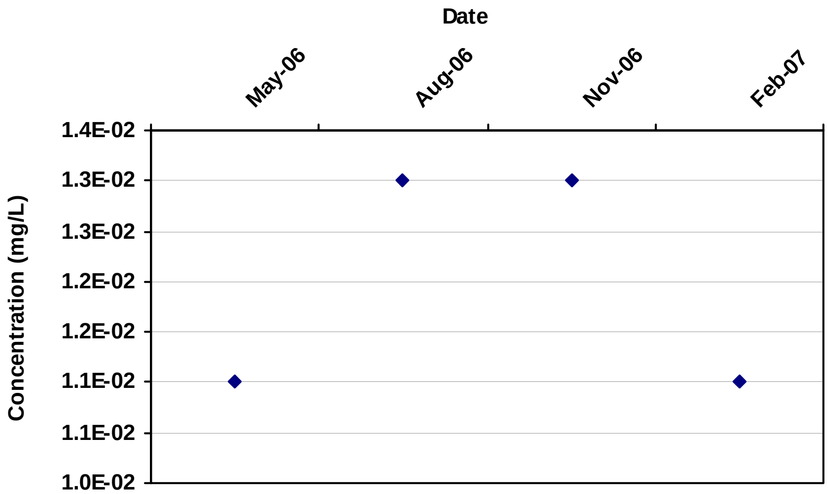
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-140B	T	5/15/2006	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MW-140B	T	8/15/2006	TETRACHLOROETHYLENE(PCE	7.1E-03		1	1
MW-140B	T	11/15/2006	TETRACHLOROETHYLENE(PCE	6.1E-03		1	1
MW-140B	T	2/15/2007	TETRACHLOROETHYLENE(PCE	4.0E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-140C
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 0

Confidence in Trend: 37.5%

Coefficient of Variation: 0.10

Mann Kendall Concentration Trend: (See Note) S

Data Table:

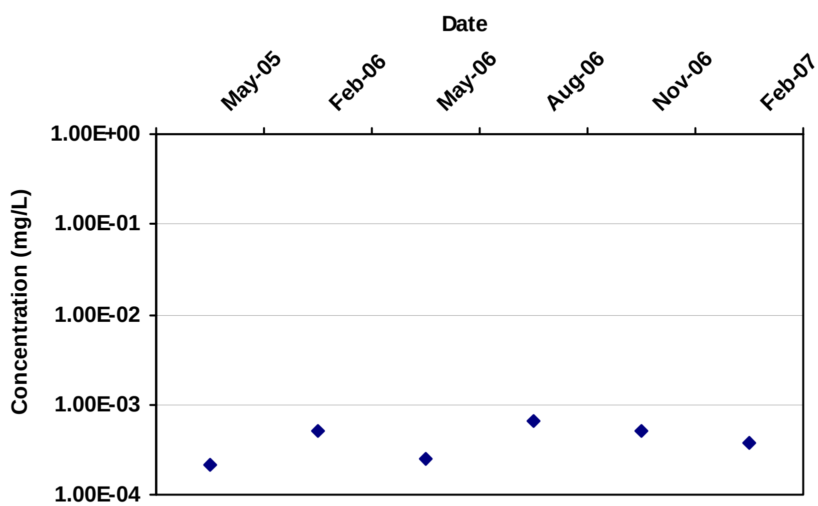
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-140C	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1
MW-140C	T	8/15/2006	TETRACHLOROETHYLENE(PCE	1.3E-02		1	1
MW-140C	T	11/15/2006	TETRACHLOROETHYLENE(PCE	1.3E-02		1	1
MW-140C	T	2/15/2007	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-109PZC
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 4

Confidence in Trend: 70.3%

Coefficient of Variation: 0.41

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

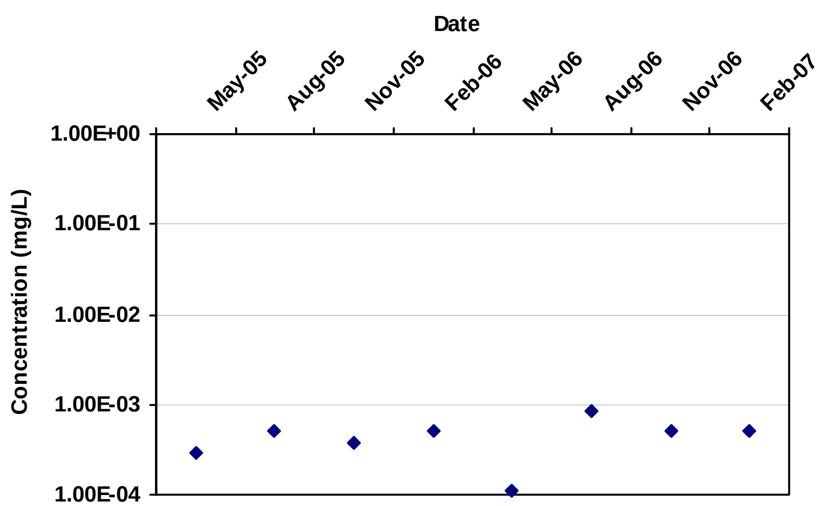
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-109PZC	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.2E-04		1	1
EW-109PZC	T	2/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-109PZC	T	5/15/2006	TETRACHLOROETHYLENE(PCE	2.5E-04		1	1
EW-109PZC	T	8/15/2006	TETRACHLOROETHYLENE(PCE	6.7E-04		1	1
EW-109PZC	T	11/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-109PZC	T	2/15/2007	TETRACHLOROETHYLENE(PCE	3.8E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-110PZE
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 8

Confidence in Trend: 80.1%

Coefficient of Variation: 0.48

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

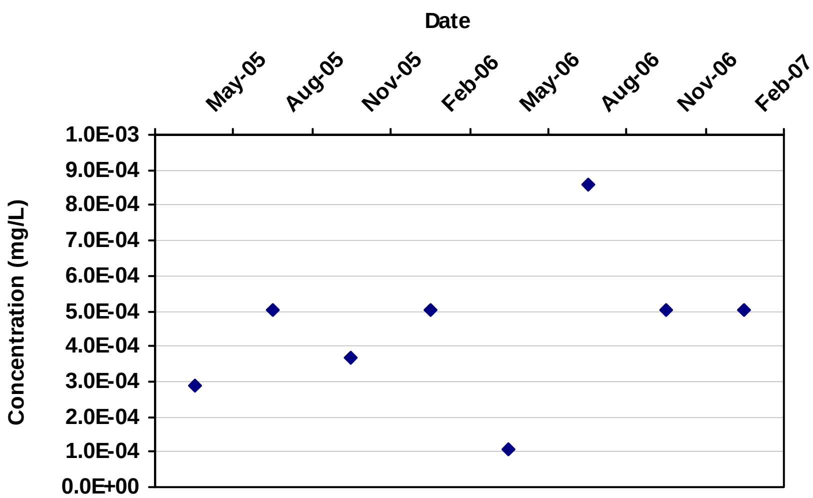
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-110PZE	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.9E-04		1	1
EW-110PZE	T	8/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-110PZE	T	11/15/2005	TETRACHLOROETHYLENE(PCE	3.7E-04		1	1
EW-110PZE	T	2/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-110PZE	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.1E-04		1	1
EW-110PZE	T	8/15/2006	TETRACHLOROETHYLENE(PCE	8.6E-04		1	1
EW-110PZE	T	11/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-110PZE	T	2/15/2007	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-110PZE
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: 8

Confidence in Trend: 80.1%

Coefficient of Variation: 0.48

Mann Kendall Concentration Trend: (See Note) NT

Data Table:

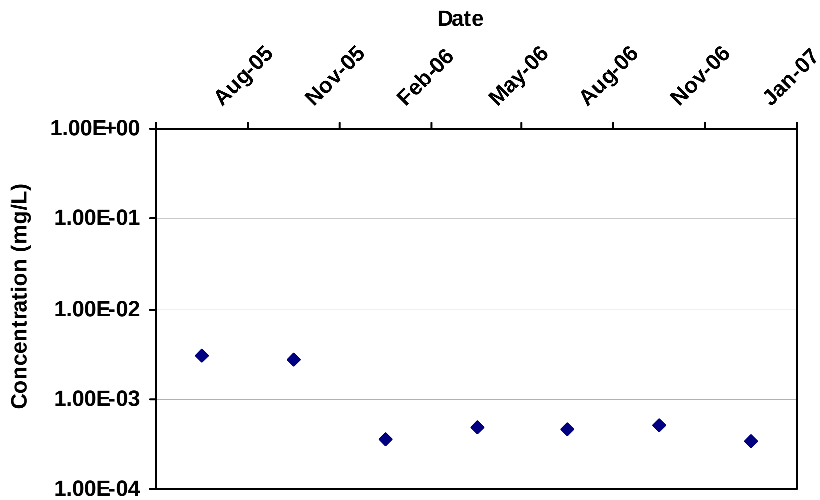
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-110PZE	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.9E-04		1	1
EW-110PZE	T	8/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-110PZE	T	11/15/2005	TETRACHLOROETHYLENE(PCE	3.7E-04		1	1
EW-110PZE	T	2/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-110PZE	T	5/15/2006	TETRACHLOROETHYLENE(PCE	1.1E-04		1	1
EW-110PZE	T	8/15/2006	TETRACHLOROETHYLENE(PCE	8.6E-04		1	1
EW-110PZE	T	11/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-110PZE	T	2/15/2007	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-111PZD
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 6/1/2005 **to** 1/15/2007
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -11

Confidence in Trend: 93.2%

Coefficient of Variation: 1.06

Mann Kendall Concentration Trend: (See Note) PD

Data Table:

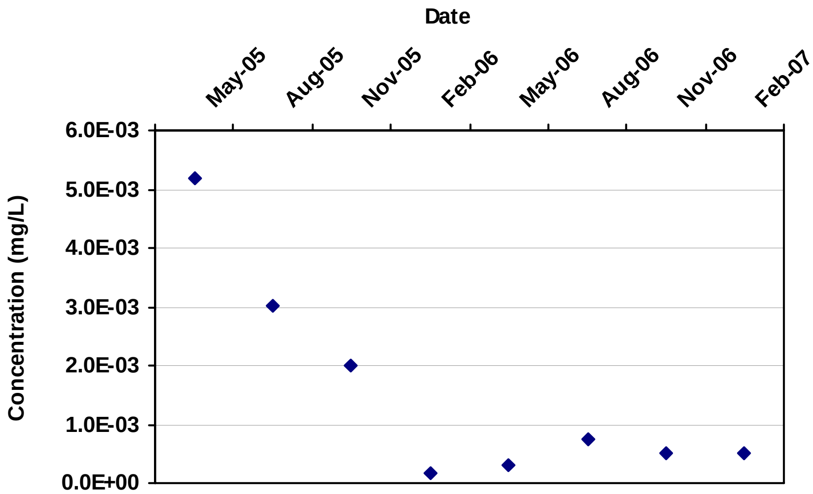
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-111PZD	T	8/15/2005	TETRACHLOROETHYLENE(PCE	3.0E-03		2	2
EW-111PZD	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.7E-03		3	3
EW-111PZD	T	2/15/2006	TETRACHLOROETHYLENE(PCE	3.6E-04		1	1
EW-111PZD	T	5/15/2006	TETRACHLOROETHYLENE(PCE	4.8E-04		1	1
EW-111PZD	T	8/15/2006	TETRACHLOROETHYLENE(PCE	4.5E-04		1	1
EW-111PZD	T	11/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-111PZD	T	1/15/2007	TETRACHLOROETHYLENE(PCE	3.4E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-111PZD
Well Type: T
COC: DICHLORODIFLUOROMETHANE

Time Period: 1/1/1999 **to** 1/30/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -13

Confidence in Trend: 92.9%

Coefficient of Variation: 1.14

Mann Kendall Concentration Trend: (See Note) PD

Data Table:

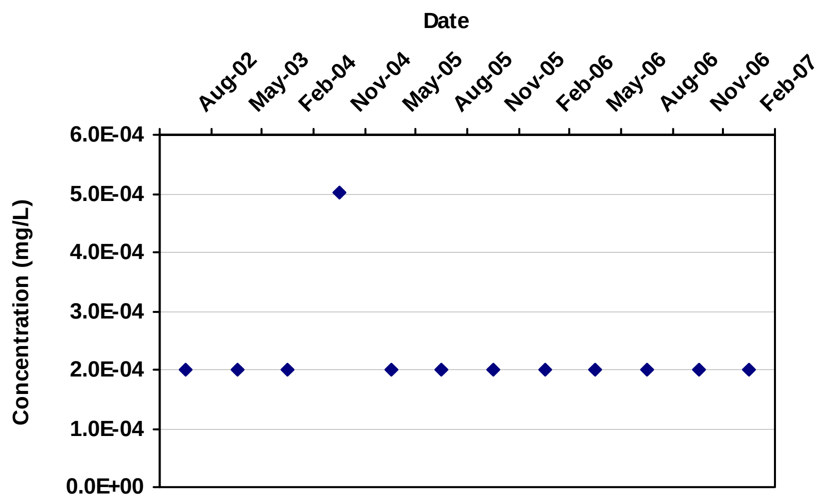
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-111PZD	T	5/15/2005	DICHLORODIFLUOROMETHANE	5.2E-03		1	1
EW-111PZD	T	8/15/2005	DICHLORODIFLUOROMETHANE	3.0E-03		1	1
EW-111PZD	T	11/15/2005	DICHLORODIFLUOROMETHANE	2.0E-03		1	1
EW-111PZD	T	2/15/2006	DICHLORODIFLUOROMETHANE	1.6E-04		1	1
EW-111PZD	T	5/15/2006	DICHLORODIFLUOROMETHANE	3.1E-04		1	1
EW-111PZD	T	8/15/2006	DICHLORODIFLUOROMETHANE	7.4E-04		1	1
EW-111PZD	T	11/15/2006	DICHLORODIFLUOROMETHANE	5.0E-04	ND	1	0
EW-111PZD	T	2/15/2007	DICHLORODIFLUOROMETHANE	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-135B
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -5

Confidence in Trend: 60.6%

Coefficient of Variation: 0.38

Mann Kendall Concentration Trend: (See Note) S

Data Table:

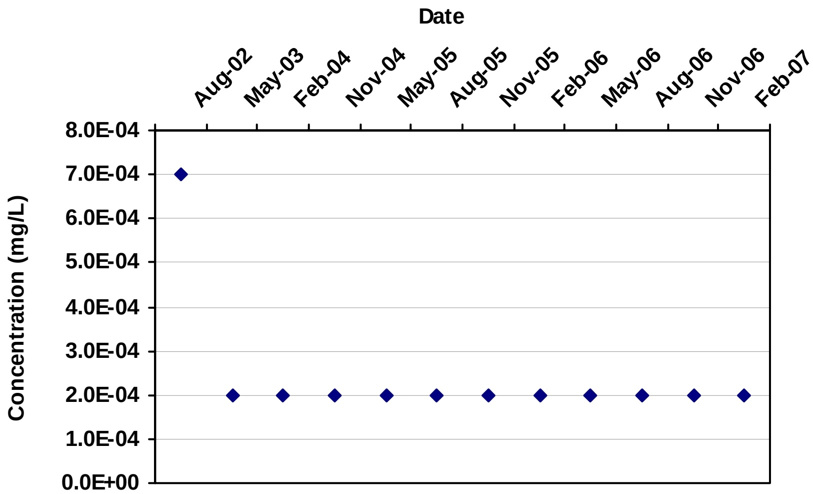
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-135B	T	8/15/2002	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	5/15/2003	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	11/15/2004	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-135B	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	8/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	2/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	5/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	8/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	11/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135B	T	2/15/2007	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-135C
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -11

Confidence in Trend: 74.9%

Coefficient of Variation: 0.60

Mann Kendall Concentration Trend: (See Note) S

Data Table:

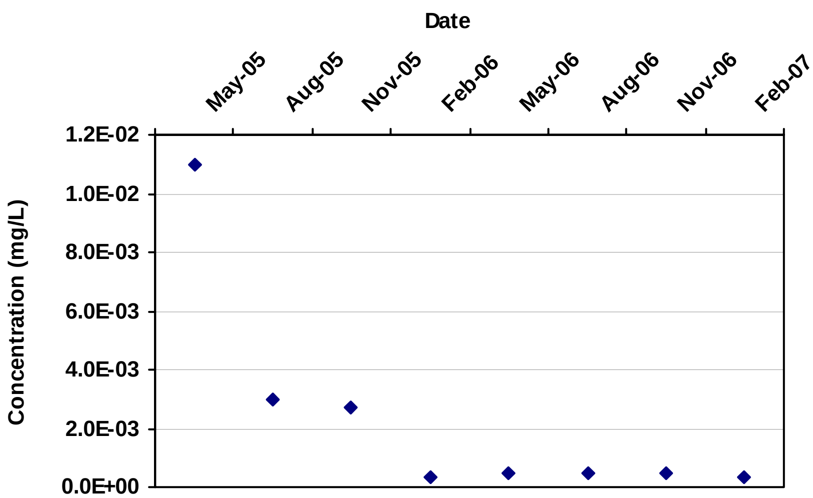
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-135C	T	8/15/2002	TETRACHLOROETHYLENE(PCE	7.0E-04		1	1
MW-135C	T	5/15/2003	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	2/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	11/15/2004	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	5/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	8/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	2/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	5/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	8/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	11/15/2006	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0
MW-135C	T	2/15/2007	TETRACHLOROETHYLENE(PCE	2.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: EW-111PZD
Well Type: T
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -18

Confidence in Trend: 98.4%

Coefficient of Variation: 1.55

Mann Kendall Concentration Trend: (See Note) D

Data Table:

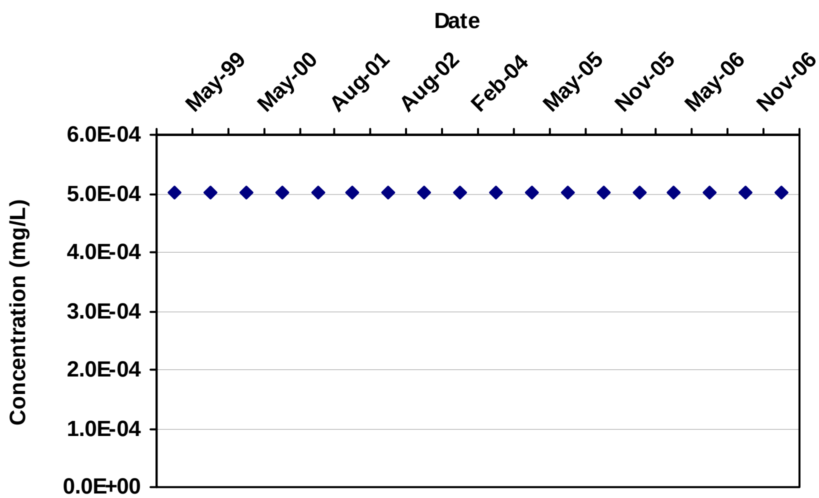
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
EW-111PZD	T	5/15/2005	TETRACHLOROETHYLENE(PCE	1.1E-02		1	1
EW-111PZD	T	8/15/2005	TETRACHLOROETHYLENE(PCE	3.0E-03		1	1
EW-111PZD	T	11/15/2005	TETRACHLOROETHYLENE(PCE	2.7E-03		1	1
EW-111PZD	T	2/15/2006	TETRACHLOROETHYLENE(PCE	3.6E-04		1	1
EW-111PZD	T	5/15/2006	TETRACHLOROETHYLENE(PCE	4.8E-04		1	1
EW-111PZD	T	8/15/2006	TETRACHLOROETHYLENE(PCE	4.5E-04		1	1
EW-111PZD	T	11/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
EW-111PZD	T	2/15/2007	TETRACHLOROETHYLENE(PCE	3.4E-04		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-129C
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic:
-9

Confidence in Trend:
61.7%

Coefficient of Variation:
0.00

Mann Kendall Concentration Trend: (See Note)
S

Data Table:

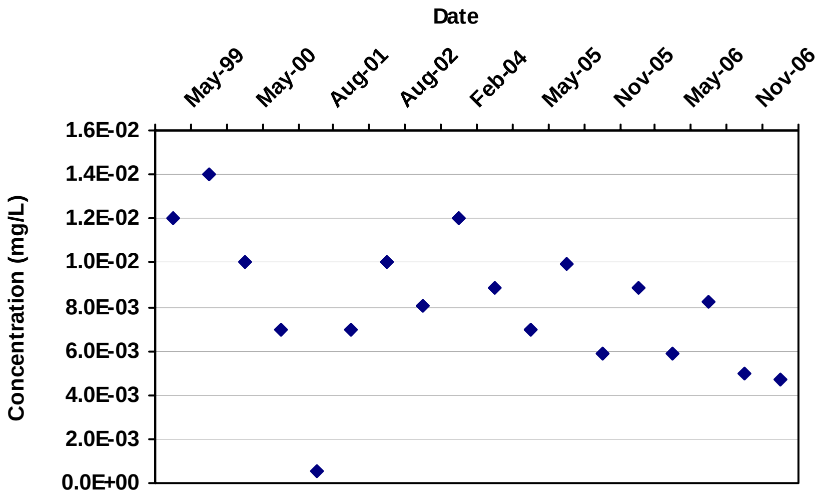
Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-129C	S	5/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	11/15/1999	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	5/15/2000	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	11/15/2000	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-129C	S	5/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	8/15/2002	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	5/15/2003	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	2/15/2004	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	11/15/2004	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	5/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	8/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	11/15/2005	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	2/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	5/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	8/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	11/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0
MW-129C	S	2/15/2007	TETRACHLOROETHYLENE(PCE	5.0E-04	ND	1	0

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

MAROS Mann-Kendall Statistics Summary

Well: MW-130B
Well Type: S
COC: TETRACHLOROETHYLENE(PCE)

Time Period: 1/1/1999 **to** 1/15/2007
Consolidation Period: Quarterly
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Specified Detection Limit
J Flag Values : Actual Value



Mann Kendall S Statistic: -61

Confidence in Trend: 98.9%

Coefficient of Variation: 0.39

Mann Kendall Concentration Trend: (See Note) D

Data Table:

Well	Well Type	Effective Date	Constituent	Result (mg/L)	Flag	Number of Samples	Number of Detects
MW-130B	S	5/15/1999	TETRACHLOROETHYLENE(PCE	1.2E-02		1	1
MW-130B	S	11/15/1999	TETRACHLOROETHYLENE(PCE	1.4E-02		1	1
MW-130B	S	5/15/2000	TETRACHLOROETHYLENE(PCE	1.0E-02		1	1
MW-130B	S	11/15/2000	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MW-130B	S	8/15/2001	TETRACHLOROETHYLENE(PCE	5.0E-04		1	1
MW-130B	S	5/15/2002	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MW-130B	S	8/15/2002	TETRACHLOROETHYLENE(PCE	1.0E-02		1	1
MW-130B	S	5/15/2003	TETRACHLOROETHYLENE(PCE	8.0E-03		1	1
MW-130B	S	2/15/2004	TETRACHLOROETHYLENE(PCE	1.2E-02		1	1
MW-130B	S	11/15/2004	TETRACHLOROETHYLENE(PCE	8.9E-03		1	1
MW-130B	S	5/15/2005	TETRACHLOROETHYLENE(PCE	7.0E-03		1	1
MW-130B	S	8/15/2005	TETRACHLOROETHYLENE(PCE	9.9E-03		1	1
MW-130B	S	11/15/2005	TETRACHLOROETHYLENE(PCE	5.8E-03		1	1
MW-130B	S	2/15/2006	TETRACHLOROETHYLENE(PCE	8.9E-03		1	1
MW-130B	S	5/15/2006	TETRACHLOROETHYLENE(PCE	5.9E-03		1	1
MW-130B	S	8/15/2006	TETRACHLOROETHYLENE(PCE	8.2E-03		1	1
MW-130B	S	11/15/2006	TETRACHLOROETHYLENE(PCE	5.0E-03		1	1
MW-130B	S	2/15/2007	TETRACHLOROETHYLENE(PCE	4.7E-03		1	1

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect