

**2014 Annual Status Report
for the Boomsnub/Airco Superfund Site
Hazel Dell, Washington**

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LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|----------|--|
| AFCEE | Air Force Center for Environmental Excellence |
| ALS | ALS Environmental |
| Boomsnub | Boomsnub Corporation |
| CD | Consent Decree |
| City | City of Vancouver |
| COV | Coefficient of variation |
| 1,1-DCE | 1,1-Dichloroethene |
| EA | EA Engineering, Science, and Technology, Inc. |
| Ecology | Washington State Department of Ecology |
| EPA | U.S. Environmental Protection Agency |
| ft | Feet |
| IWS | In-well stripping |
| lb | pound |
| Linde | Linde LLC (formally known as BOC Gases) |
| MAROS | Monitoring and Remediation Optimization System |
| MDL | Method detection limit |
| MRL | Method reporting limit |
| O&M | Operation and Maintenance |
| OU | Operable Unit |
| QASP | Quality Assurance and Sampling Plan |
| ROD | Record of Decision |
| Site | Boomsnub/Airco Superfund Site |
| SVE | Soil vapor extraction |
| TCE | Trichloroethene |
| TOPPS | Toe-of-Plume Pilot Study |
| µg/L | Micrograms per liter |
| URS | URS Group, Inc. |
| VOC | Volatile organic compound |

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EXECUTIVE SUMMARY

Introduction

This Annual Status Report summarizes information on activities that took place during 2014 at the Boomsnub/Airco Superfund Site (Site) in Hazel Dell, Washington. EA Engineering, Science, and Technology, Inc. (EA), under contract to Linde, LLC (Linde; formerly known as BOC Gases), is currently operating and maintaining a Site-wide groundwater extraction and treatment system and a volatile organic compound (VOC) source removal system. Work at the Site is currently conducted under a Consent Decree (CD) between the U.S. Environmental Protection Agency (EPA) and Linde (Docket No. CO7-5163FDB), which was entered by the court on 29 June 2007.

Site Background and Operating Objectives

In 1987, the Washington State Department of Ecology determined that a plume of chromium-contaminated groundwater was emanating from the Boomsnub Corporation (Boomsnub) manufacturing facility. In 1991, during cleanup activities at the Boomsnub facility, a second plume containing VOCs was detected and determined to be coming from the Linde industrial gas production facility, located east of the Boomsnub facility. The two contaminant plumes overlap and become commingled downgradient of the source areas.

The Site is divided into three operable units (OUs) to manage cleanup activities: OU-1 (Boomsnub Soil); OU-2 (Linde Soil); and OU-3 (Site-wide Groundwater). The primary VOC of concern is trichloroethene (TCE), which serves as an indicator of VOC presence at the Site. The operating objectives are to remove sources of VOCs and chromium that may be acting as the source to groundwater, remove VOCs and chromium from the groundwater, halt the off-property migration of VOCs and chromium in groundwater, and reduce contaminant migration into the deeper Troutdale aquifer which serves as the drinking water source for the area.

In 1994 and 2001 EPA conducted removal actions at OU-1 to remove the majority of the hexavalent chromium contaminated soils which were serving as a source for groundwater contamination.

The OU-2 selected remedial action was a combination of in-well stripping (IWS) and soil vapor extraction (SVE) systems to remove VOCs from both the soil and groundwater. The systems became operational in February 2004. The SVE system was operated to treat the vadose zone soil in OU-2 until 2008, when it was turned off with EPA approval. The IWS system was operated to treat groundwater in OU-2, until it was turned off with EPA approval on 9 August 2013. The IWS system will remain turned off for a period of two years, during which time groundwater samples will be collected from monitoring wells within the TCE source area to monitor for changes/rebound in VOC concentrations.

The OU-3 groundwater extraction and treatment system is designed to operate continuously with minimal operator supervision. The treatment system is composed of an ion-exchange system to remove chromium from extracted groundwater, and a granular activated carbon air stripper system to remove TCE and other volatile contaminants from groundwater. The treatment facility is located on the Boomsnub property. Treated groundwater is discharged to an infiltration gallery located on the Linde property. The groundwater treatment system has been in operation since 1990.

In 2008, an investigation identified another plume of VOC contamination in groundwater north of the Boomsnub/Airco Plume (OU-3 plume), in the area around well AMW-18. This offsite plume is referred to as the Northern Plume. A new monitoring well (AMW-64) was installed in February 2012, at the request of the EPA, to monitor the Northern Plume northwest of well AMW-17. The Northern Plume continues to be monitored along with the OU-3 plume to evaluate potential impacts to the Site and treatment system. The source of this plume is unknown; however, it does not appear to be due to activities on the Boomsnub or Linde properties.

2013 OU-2 System Operations

The IWS system began operating in 2004 and was shut off on 9 August 2013, with EPA approval. The system had reached asymptotic removal rates, and operation of the system was not effective at further removal of TCE. The IWS system will remain turned off for a period of two years, during which time groundwater samples will continue to be collected from monitoring wells within the TCE source area to monitor for changes or possible rebound in VOC concentrations. This sampling is being performed in accordance with the IWS System Shutdown Plan.

To monitor the IWS System performance, groundwater samples were collected from five OU-2 monitoring wells in January, April, July and October 2014. An additional nine wells were sampled in Fall 2014. During the reporting period, groundwater samples from five of the 14 wells sampled had TCE concentrations above the cleanup level of 5 µg/L; AMW-1A, AMW-2A, AMW-12A, AMW-53A, and MW-1A.

2014 OU-3 System Operations

During the 2014 reporting period, 65,592,564 gallons of groundwater were treated and discharged to the Linde infiltration gallery. The groundwater extraction and treatment system operated within the performance standards established for the Site. The system was in operation approximately 99 percent of the reporting period. The percent availability includes actual minutes of operation and scheduled down time. Routine monitoring of the treatment system influent and effluent was conducted throughout the year and included monthly sampling and analysis of TCE, chromium, and pH. In addition, semiannual site-wide groundwater monitoring was conducted in Spring 2014 and Fall 2014.

The mass of contaminants removed during the reporting period continued to decline compared to the previous reporting period. This is primarily due to the continuing downward trend in contaminant concentrations in Site groundwater, as reflected in the average influent concentrations of chromium and TCE at the Site over the years.

Annual Screening of Groundwater Monitoring Data

Annual screening of groundwater monitoring data is conducted for each alluvial aquifer monitoring and extraction well currently sampled. The data are used to determine what changes, if any, should be made to current system operations and the well sampling schedule. The Air Force Center for Environmental Excellence Monitoring and Remediation Optimization System (MAROS), a computer program that was developed to optimize long-term groundwater monitoring, determine when to terminate groundwater treatment, and determine if concentrations in groundwater are statistically below the cleanup level, was used to evaluate the data.

Based on the results of the annual screening of groundwater monitoring data through 2014, the following conclusions are made:

- No modifications to system operations are necessary at this time.
- Changes to sampling frequencies are recommended for 32 wells based on the results of the MAROS evaluation and on the qualitative review.

Status of Previous Recommendations From 2014

In order to meet the operating objectives for OU-2 and OU-3, planned activities for 2014 were recommended in the 2013 Annual Status report. The status of those planned activities is summarized below:

- **Well Sampling** – Wells were sampled in accordance with the updated sampling schedule.
- **Infrastructure Removal** – A revised proposal for removal of selected infrastructure in the original Toe-of-Plume area has been delayed. This infrastructure is no longer needed for Site remediation or monitoring, and is planned for removal to allow development of Parcel No. 144718-000 by the owner. EA plans to complete a Work Plan in 2015.
- **In Situ Treatments** – *In situ* treatments in the area of wells MW-35 and AMW-27, as described in the Work Plan for In Situ Treatment of Areas of Residual Contamination (EA 2012b) were not completed in 2014. EPA approval of the work plan has not yet been received.
- **IWS System Rebound Testing** –OU-2 wells continue to be sampled to monitor for possible contaminant rebound since the IWS system was shut off on 9 August 2013, with EPA approval.

- **Monitoring Well MW-38** – The TCE concentration in groundwater samples from MW-38 increased rapidly between Fall 2012 and Fall 2013, indicating the apparent arrival of the Northern Plume at this well. The results of sampling in 2014 confirm the presence of elevated TCE concentrations in groundwater samples from this well; therefore, well MW-38 has been grouped with the Northern Plume wells for data reporting and evaluation.
- **Easement Agreements and Restrictive Covenants** – EA continued efforts toward obtaining easement agreements and restrictive covenants with neighboring property owners. EPA assistance has been requested with this.

7.2 Recommendations and Planned Activities for 2015

The following activities are planned for the 2015 reporting period:

- **Well Sampling** – Sample wells in accordance with the updated sampling schedule.
- **Infrastructure Removal** – Submit a revised proposal for removal of selected infrastructure in the original Toe-of-Plume area to EPA. This infrastructure is no longer needed for Site remediation or monitoring, and is planned for removal to allow development of Parcel No. 144718-000 by the owner.
- **In Situ Treatments** – Following receipt of EPA approval of the work plan, and EPA submittal/approval of an Explanation of Significant Differences to the ROD, if needed, implement *in situ* treatments in the area of wells MW-35 and AMW-27, as described in the Work Plan for In Situ Treatment of Areas of Residual Contamination.
- **Easement Agreements and Restrictive Covenants** – Continue to request EPA assistance with obtaining the required agreements with non-responsive property owners. EA will continue efforts to obtain agreements as opportunities arise.
- **IWS System Rebound Testing** – Continue to perform groundwater sampling in OU-2 to monitor for possible contaminant rebound following shutdown of the system. After two years of sampling are completed in late 2015, the system will be evaluated to determine if rebound is occurring and if the system can remain off.
- **Padden Parkway** – Continue to work with the owner/developer of the Padden Parkway Business Park as they develop their property. Once the potential impacts of the development on Site infrastructure are clear, the planned modifications will be summarized and presented to EPA for approval. Development activities are anticipated to start in early to mid-2015, and this will require a rapid review and approval.

1. INTRODUCTION

This Annual Status Report summarizes information on activities that took place during 2014 at the Boomsnub/Airco Superfund Site (Site) in Hazel Dell, Washington. EA Engineering, Science, and Technology, Inc. (EA), under contract to Linde LLC (Linde; formerly known as BOC Gases), is currently operating and maintaining a Site-wide groundwater extraction and treatment system. Work at the Site is currently conducted under a Consent Decree (CD) between the U.S. Environmental Protection Agency (EPA) and Linde (Docket No. CO7-5163FDB), which was entered by the court on 29 June 2007 (EPA 2007a).

1.1 Background

The Site is located just north of the city limits of Vancouver, Washington, in the area depicted on Figure 1. It includes two adjacent facilities, the former Boomsnub Corporation (Boomsnub) chrome plating facility and the Linde industrial gas production facility. The Linde plant manufactures compressed and liquefied gas products including nitrogen, oxygen, and argon. The plant also stores and distributes other specialty gases such as hydrogen and helium. The facility was built by Air Liquide America Corporation in 1963 and has been in operation since 1964.

In 1987, the Washington State Department of Ecology (Ecology) determined that a plume of chromium-contaminated groundwater was emanating from the Boomsnub facility. While cleanup activities were being conducted at the Boomsnub facility, volatile organic compounds (VOCs) were detected in groundwater samples and were suspected to be coming from the Linde property. Linde began investigating the nature and extent of VOCs in 1991. In June 1994, EPA took over the role of lead regulatory agency from Ecology and in April 1995 the Site was placed on the National Priorities List. The primary constituents of concern at the Site are hexavalent chromium and selected VOCs. Previous studies indicated that almost all chromium in groundwater was hexavalent chromium (ICF Kaiser 1999). For this reason, most historical and recent samples have only been analyzed for total chromium to represent hexavalent chromium. The primary VOC of concern is trichloroethene (TCE), which serves as an indicator of VOC presence at the Site. The chromium and TCE groundwater contaminant plumes overlap and are commingled downgradient of the source areas. In the 1990s, the plumes were found to extend approximately 4,400 feet (ft) in a west-northwest direction from the sources.

The Site is divided into three operable units (OUs) to manage cleanup activities: OU-1, Boomsnub Soil; OU-2, Linde Soil; and OU-3, Site-wide Groundwater. EPA conducted soil removal actions at OU-1 in 1994 and 2001 to remove the majority of the hexavalent chromium-contaminated soils serving as a source for groundwater contamination. Linde has conducted numerous site investigations, conducted a removal action, and operated a VOC source removal system on their property at OU-2.

The highest concentrations of Site contaminants have occurred in a shallow groundwater-bearing zone referred to as the alluvial aquifer. The alluvial aquifer is not used as a municipal water supply, although a limited number of private wells pump from this aquifer. TCE and chromium

have been detected, although at considerably lower concentrations, in the deeper groundwater-bearing zone, the Troutdale aquifer. The Troutdale aquifer serves as a municipal water supply for the city of Vancouver (City) and Clark County. Municipal water supply wells are not located in areas known to contain elevated concentrations of chemicals detected at the Site.

A groundwater extraction and treatment system is used to capture and treat Site groundwater. The groundwater extraction and treatment system has been operational since 1990 and was constructed along the axis of the chromium plume. Since the initial system was installed, it has been modified, upgraded, and expanded several times to handle the VOCs and chromium, to increase pumping and treatment capacity, and to increase removal efficiency. The monitoring and extraction well network for the Site is presented on Figure 2. In recent years, selected portions of the extraction system have been shut down as the contaminant plumes have decreased in extent.

Chromium is removed from the extracted groundwater using an ion-exchange system. VOCs are removed from the extracted groundwater using air stripping with granular activated carbon treatment of the off-gases. The treatment facility is located on the Boomsnub property. Treated groundwater is discharged to an infiltration gallery located on the Linde property. The infiltration gallery was constructed during September and October 2005 and began receiving water in February 2006 (EA 2006). Prior to the construction of the infiltration gallery, the treated groundwater was discharged to the City sanitary sewer system.

The Record of Decision (ROD) for the Site, dated February 2000, identified the remedy for OU-3 as continued groundwater extraction and treatment until groundwater cleanup levels are achieved throughout the groundwater plume (EPA 2000). The remediation goals include the reduction of total chromium in groundwater to 80 micrograms per liter ($\mu\text{g/L}$) and the reduction of TCE to 5 $\mu\text{g/L}$.

An Action Memorandum, dated September 2001, was issued by EPA identifying the requirements for remediation activities for OU-2 (EPA 2001). On 18 September 2002, Linde and EPA entered into an Administrative Order on Consent (EPA Docket Number CERCLA 10-2002-0052; EPA 2002), addressing the specific design, construction, and operational requirements for a Non-Time-Critical Removal Action for OU-2 to implement the requirements of the Action Memorandum.

On 1 April 2002, Linde assumed interim responsibility for the operation and maintenance (O&M) of the groundwater extraction and treatment system. Linde continues with O&M of the system.

In October 2002, URS Group, Inc. (URS), working under contract with EPA and in cooperation with representatives from the EPA Environmental Services Assistance Team, conducted additional soil characterization activities on the Boomsnub property around the groundwater extraction and treatment system building. The purpose of the work was to identify areas in the shallow soils (15 ft or less deep) with concentrations of chromium above the cleanup levels specified in the ROD. The results of the soil characterization activities were presented in the *Soil*

Characterization: Groundwater Treatment System Compound report, finalized in April 2003 (URS 2003).

In September 2003, Linde began construction of the Non-Time Critical Removal Action at their facility to address the VOC source area (OU-2). The selected remedial action was a combination of in-well stripping (IWS) and soil vapor extraction (SVE) systems to remove VOCs from both the groundwater and soil. The systems became operational in February 2004. The SVE system was operated to treat the vadose zone soil in OU-2 until 2008, when it was turned off with EPA approval. The IWS system was operated to treat groundwater in OU-2, until it was turned off with EPA approval on 9 August 2013. The IWS system will remain off for a period of two years, during which time groundwater samples will be collected from monitoring wells within the TCE source area to monitor for changes/rebound in VOC concentrations.

The Toe-of-Plume Pilot Study (TOPPS), an *in situ* treatment program, was performed in 2006 to treat an area of recalcitrant contamination near the original toe of the groundwater contaminant plumes. Chromium and TCE concentrations in the TOPPS monitoring wells have remained below the cleanup level since that time, indicating that the TOPPS treatment was effective.

In 2008, an investigation identified another plume of VOC contamination in groundwater north of the Boomsnub/Airco Plume (OU-3 plume), in the area around well AMW-18 (EA 2008). This offsite plume is referred to as the Northern Plume. A new monitoring well (AMW-64) was installed in February 2012, at the request of the EPA, to monitor the Northern Plume northwest of well AMW-18 (EA 2012a). The Northern Plume continues to be monitored, along with the OU-3 plume, to evaluate potential impacts to the Site and treatment system. The source of this plume is unknown; however, it does not appear to be due to activities on the Boomsnub or Linde properties.

1.2 Purpose

The purpose of this report is to provide an overview of Site activities at OU-2 and OU-3. The reporting period is 1 January through 31 December 2014.

1.3 Operating Objectives

The operating objectives for OU-2, identified in the 2001 Action Memorandum (EPA 2001), include the following:

- Remove VOCs from the vadose zone that may be acting as the source to groundwater.
- Remove VOCs from groundwater on the western portion of the Linde property.
- Halt off-property migration of VOCs in groundwater.

The operating objectives for OU-3 are defined in the ROD (EPA 2000). Activities at the Site are designed to meet the following overall objectives:

- Reduce contaminant migration within the alluvial aquifer (expansion of the plumes).

- Continue mass removal activities designed to restore impacted groundwater to Site-specific cleanup levels.
- Reduce contaminant migration into the Troutdale aquifer by reducing contamination in the alluvial aquifer.

1.4 Organization of this Document

This report is divided into eight sections and three appendices:

- Section 1 provides the background, purpose, and operating objectives.
- Sections 2 and 3 present summaries of the system operations and monitoring for OU-2 and OU-3, respectively.
- Section 4 provides a discussion of groundwater monitoring results and trends.
- Section 5 summarizes additional Site activities conducted during the reporting period.
- Section 6 presents the results of the annual screening of groundwater monitoring data to determine what changes, if any, should be made to current system operations and/or the well sampling schedule.
- Section 7 summarizes the status of recommended activities for 2014 and presents recommendations and planned activities for 2015.
- Section 8 lists the references cited in this document.

Information on chromium and TCE concentrations in groundwater is presented in Appendices A and B, respectively. The information is presented both by well groupings and by individual wells. Appendices A and B are organized in sections, as follows:

- Tables reporting chromium and TCE groundwater concentrations for the last four semiannual sampling events are provided in Appendices A-1 and B-1, respectively. Only wells sampled during the 2014 reporting period are included.
- Graphs showing chromium and TCE concentration trends by well grouping are presented in Appendices A-2 and B-2, respectively. Only wells sampled during the 2014 reporting period are included. These graphs allow a comparison of trends within geographical or hydrogeological groupings. They also allow immediate comparison of concentrations between wells in a grouping and the ability to identify potential outliers.
- Graphs showing chromium and TCE concentrations over time for individual wells are presented in Appendices A-3 and B-3, respectively. All wells in the active sampling program are included. Additional information obtained as part of the annual screening of groundwater monitoring data is included with each graph for alluvial aquifer wells. Data provided in the graphs for the alluvial aquifer wells have been consolidated and are presented as the geometric mean for each year.

Tables and outputs created during the annual evaluation of groundwater monitoring data using the Monitoring and Remediation Optimization System (MAROS) software (AFCEE 2012) are included in Appendix C. Appendix C-1 contains a table summarizing the MAROS results. Appendices C-2 and C-3 provide MAROS outputs for chromium and TCE, respectively.

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2. OU-2 SYSTEM OPERATIONS AND MONITORING

This section provides a summary of the OU-2 IWS system operations and monitoring conducted between 1 January and 31 December 2014. Groundwater sampling and analyses were conducted to monitor the OU-2 systems in accordance with the procedures in EA's EPA-approved *Operation and Maintenance Manual, Combined In-Well Stripping and Soil Vapor Extraction System* (EA 2004a). Locations of the OU-2 treatment and monitoring wells are shown on Figure 3.

2.1 IWS System Operations

The IWS system began operating in 2004 and was shut off on 9 August 2013, with EPA approval. The system had reached asymptotic removal rates, and operation of the system was not effective at further removal of TCE. The IWS system will remain turned off for a period of two years, during which time groundwater samples will continue to be collected from monitoring wells within the TCE source area to monitor for changes or possible rebound in VOC concentrations. This sampling is being performed in accordance with the IWS System Shutdown Plan (EA 2013).

2.2 IWS System Monitoring

To monitor the IWS System performance, groundwater samples were collected from five OU-2 monitoring wells in January, April, July and October 2014. An additional nine wells were sampled in Fall 2014. The samples were submitted to ALS Environmental (ALS) of Kelso, Washington and analyzed for VOCs using EPA Method 8260C.

During the reporting period, groundwater samples from five of the 14 wells sampled had TCE concentrations above the cleanup level of 5 µg/L; AMW-1A, AMW-2A, AMW-12A, AMW-53A, and MW-1A. Section 4.2.2.2 provides a discussion and presents the TCE data from OU-2 wells sampled during the 2014 reporting period.

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3. OU-3 SYSTEM OPERATIONS AND MONITORING

This section provides a summary of OU-3 system operations, system performance, and plume monitoring conducted from 1 January to 31 December 2014. Groundwater sampling and analyses were conducted in accordance with the procedures in the EPA-approved Site Quality Assurance and Sampling Plan (QASP; EA 2004b), and subsequent EPA-approved QASP addenda.

3.1 System Operations

Routine system operation details are presented in the Progress Reports (EA 2014c and EA 2014j) submitted to EPA twice a year. The groundwater extraction and treatment system operated within the performance standards established for the Site.

3.1.1 Groundwater Extraction System

The extraction well pumping rates were recorded once a month during the reporting period. The recorded pumping rates are shown in Table 1. Other than minor fluctuations and adjustments, no changes were made to extraction well pumping rates during 2014.

3.1.2 Groundwater Treatment System

Routine monitoring of the treatment system influent and effluent was conducted throughout the year including monthly sampling and analysis of VOCs, chromium, and pH. Treatment system components are briefly described in the following sections.

3.1.2.1 Ion-Exchange and Air Stripper Systems

Monthly influent and effluent sample concentrations were used to determine approximate chromium and TCE removal rates on a monthly basis. Based on this, the ion-exchange system had an annual average chromium removal rate of approximately 98 percent and the air stripper system an annual average VOC removal rate of approximately 98 percent.

3.1.2.2 Linde Infiltration Gallery

Treated groundwater from the Site treatment system is discharged back into the alluvial aquifer through an infiltration gallery. The infiltration gallery is located in the southeast corner of the Linde property and is designed to accept treated water at 160 gallons per minute. No modifications or significant repairs were made to the infiltration gallery during the reporting period.

TCE and chromium concentrations in effluent discharged to the infiltration gallery during 2014 were consistently below the maximum allowable effluent concentrations of 1.9 µg/L for TCE

and 19.2 µg/L for chromium. Effluent monitoring results are provided in the Progress Reports (EA 2014c and EA 2014j).

3.2 System Performance

OU-3 system performance for 2014 is summarized in the following table. Additional details are provided in the Progress Reports.

| OU-3 System Performance Summary, 2014 | | | | |
|--|--------------------|---------------------------------|---------------------|-----------------------|
| Month | Hours/Month | Hours of Operation/Month | Availability | Flow (gallons) |
| January | 744 | 744 | 100 | 5,474,479 |
| February | 672 | 670.05 | 99.71 | 4,577,360 |
| March | 744 | 738.02 | 99.2 | 5,248,211 |
| April | 720 | 719.6 | 99.94 | 5,503,813 |
| May | 744 | 743.1 | 99.88 | 5,751,239 |
| June | 720 | 717.43 | 99.64 | 5,519,630 |
| July | 744 | 744 | 100 | 5,729,359 |
| August | 744 | 744 | 100 | 5,693,783 |
| September | 720 | 720 | 100 | 5,451,950 |
| October | 744 | 734.55 | 98.73 | 5,597,369 |
| November | 720 | 719.93 | 99.99 | 5,463,490 |
| December | 744 | 743.65 | 99.95 | 5,581,881 |
| 2014 Totals | 8760 | 8738.33 | 99.75% | 65,592,564 |

3.2.1 Water Treated

During the reporting period, 65,592,564 gallons of groundwater were treated and discharged to the Linde infiltration gallery.

3.2.2 System Availability

The treatment system was operational for 8,738 hours, or approximately 99 percent of the reporting period, exceeding the 90 percent requirement of the CD. The percent availability includes actual minutes of operation and scheduled down time. Details are provided in the Progress Reports (EA 2014c and EA 2014j).

3.2.3 Mass Removal

The following table presents cumulative chromium and TCE removed in 2014, along with monthly influent data and flow.

| OU-3 Chromium and TCE Removal Summary, 2014 | | | | | | | |
|--|-------------------------------|---------------------------------|----------------------------|---------------------------------------|----------------------------------|--|-------------------------------------|
| Date | Monthly Flow (Gallons) | Influent Chromium (µg/L) | Influent TCE (µg/L) | Monthly Chromium Removal (lbs) | Monthly TCE Removal (lbs) | Cumulative Chromium Removed (lbs) | Cumulative TCE Removed (lbs) |
| January | 5,474,479 | 55.6 | 16 | 2.5 | 0.7 | 22,334.6 | 2,198.1 |
| February | 4,577,360 | 56.1 | 20 | 2.1 | 0.8 | 22,336.7 | 2,198.9 |
| March | 5,248,211 | 58.7 | 19 | 2.6 | 0.8 | 22,339.3 | 2,199.7 |
| April | 5,503,813 | 58.3 | 15 | 2.7 | 0.7 | 22,342.0 | 2,200.4 |
| May | 5,751,239 | 54.5 | 16 | 2.6 | 0.8 | 22,344.6 | 2,201.2 |
| June | 5,519,630 | 54.5 | 16 | 2.5 | 0.7 | 22,347.1 | 2,201.9 |
| July | 5,729,359 | 55.6 | 19 | 2.7 | 0.9 | 22,349.7 | 2,202.8 |
| August | 5,693,783 | 51.8 | 17 | 2.5 | 0.8 | 22,352.2 | 2,203.7 |
| September | 5,451,950 | 51.4 | 16 | 2.3 | 0.7 | 22,354.5 | 2,204.4 |
| October | 5,597,369 | 52.2 | 17 | 2.4 | 0.8 | 22,357.0 | 2,205.2 |
| November | 5,463,490 | 53.0 | 15 | 2.4 | 0.7 | 22,359.4 | 2,205.9 |
| December | 5,581,881 | 51.9 | 16 | 2.4 | 0.7 | 22,361.8 | 2,206.6 |

On the basis of measured influent and effluent concentrations and the total monthly treatment system flow, approximately 30 pounds (lbs) of chromium and 9 lbs of TCE were removed by the groundwater extraction and treatment system during 2014. This brings the cumulative total mass of chromium and TCE removed to approximately 22,362 and 2,207 lbs, respectively, since initiating operations in 1990. The mass of contaminants removed during the reporting period continued to decline compared to the previous reporting period. This is primarily due to the continuing downward trend in contaminant concentrations in Site groundwater, as reflected in the average influent concentrations of chromium and TCE at the Site over the years.

Figure 4 shows the cumulative removal amounts for total chromium and TCE since June 1999. Figure 5 depicts the total chromium and TCE concentrations in the treatment system influent and effluent since 1999. Figure 6 provides an annual comparison of influent chromium and TCE concentrations over the past 14 years.

3.3 Plume Monitoring

3.3.1 Semiannual Site-wide Groundwater Monitoring

Semiannual Site-wide groundwater monitoring was conducted in Spring and Fall 2014, following EPA approval of the associated QASP addenda (EA 2014a and EA 2014g). The semiannual sampling events were conducted as planned and no significant issues or problems were encountered.

Groundwater samples were submitted to ALS of Kelso, Washington for analysis. The samples were analyzed for chromium using EPA Method 200.7 and/or VOCs using EPA Method 8260C.

Groundwater monitoring results and concentration trends are discussed in Section 4. Note that quarterly monitoring of a very limited number of wells, primarily in the OU-2 and Northern Plume areas, was also performed. Results of the quarterly monitoring are also provided in Section 4, where applicable.

3.3.2 Water Level Gauging Program

Depth-to-groundwater measurements were collected from monitoring and extraction wells at the Site during the Spring and Fall semiannual sampling events. Groundwater level data are collected to determine the groundwater flow direction and gradient. During both semiannual events in 2014, the measurements were made while the groundwater treatment system was actively pumping to assess groundwater flow under drawdown conditions.

Generalized groundwater elevation contour maps for the alluvial and Troutdale aquifers for the Spring and Fall 2014 water level gauging events are provided in the Semiannual Groundwater Sampling Reports (EA 2014f and 2015). The groundwater elevation contours maps for the Fall event are also presented as Figures 7 and 8, herein. The flow direction and horizontal gradient in both aquifers were similar to those observed previously. The alluvial aquifer groundwater elevations measured in Fall 2014 were generally about 2 to 3 ft lower than those measured in Spring 2014, reflecting the seasonal variation in rainfall. In the deeper, semi-confined Troutdale aquifer, the groundwater elevations measured in Fall 2014 were generally about 1 to 2 ft lower than those measured in Spring 2014.

The vertical hydraulic gradient varies at the Site due to the groundwater pumping. Water levels in alluvial aquifer well clusters tend to be similar at the different depths, except near active extraction wells where groundwater withdrawals impact the flow patterns. However, there is a significant downward hydraulic gradient from the alluvial aquifer to the semi-confined Troutdale aquifer.

The horizontal gradients for the alluvial and Troutdale aquifers were determined using data from the Fall 2014 water level gauging event. In the alluvial aquifer, the hydraulic gradient across the Linde property was approximately 0.008 ft/ft; this area is impacted by the infiltration gallery. Downgradient, within the plume area, (using an average from just west of the Linde property to the original toe of plume area) the gradient was approximately 0.004 ft/ft. The flow direction within the alluvial aquifer is generally to the west-northwest.

In the Troutdale aquifer, the average hydraulic gradient across the Site area was approximately 0.006 ft/ft. The flow direction in this aquifer is generally to the west-southwest.

4. GROUNDWATER MONITORING RESULTS AND TRENDS

This section presents the concentration trends observed in groundwater since 1995, when EPA assumed regulatory responsibility for the Site, with a focus on data collected during 2014. More detailed presentations of the 2014 groundwater monitoring data are provided in the Spring and Fall Semiannual Groundwater Monitoring reports (EA 2014f and EA 2015).

Groundwater sampling and analyses were conducted to monitor the groundwater quality in extraction and monitoring wells in accordance with the procedures in the Site QASP (EA 2004b). Groundwater sampling and analysis of the OU-2 monitoring wells on the Linde property was conducted in accordance with the OU-2 O&M Manual (EA 2004a). Task-specific QASP addenda are prepared for each semiannual sampling event to be compliant with the schedule established in the Long-Term Monitoring Plan (EA 2007) and subsequent updates. The sampling schedule is reviewed and updated annually. The sampling schedule for 2014 was presented in the 2013 Annual Status Report (EA 2014b).

Table 2 presents the 2014 well sampling frequencies along with the recommended changes for 2015, based on the annual screening of groundwater monitoring data (see Section 6). Also included in Table 2 are well construction details, historic maximum concentrations of TCE and chromium in each well (using data from 1995 through 2014), and the most recent concentrations of TCE and chromium in each well.

The Fall 2014 sampling event was a large event because it included all wells in the current sampling program, including wells on a quarterly, semiannual, annual, biennial, and every-five-years sampling schedule. Note that two small quarterly sampling events also took place during 2014; in Winter (January) and Summer (July). Selected wells, primarily associated with the OU-2 and Northern Plume areas, were sampled during these events. Results for these samples were provided in letter reports to EPA (EA 2014d, e, h, and i) and are included in the following discussions, as appropriate.

4.1 Well Groupings

To facilitate analysis of contaminant concentrations across the Site, sampling data are grouped by aquifer and geographical location as follows:

- Alluvial aquifer wells
 - Upgradient wells
 - TCE Source wells (includes OU-2 monitoring wells)
 - Proximal wells
 - Intermediate wells
 - Church of God wells
 - Toe-of-Plume wells
- Troutdale aquifer wells.

The aquifer and geographic well groupings are presented on Figure 9. All wells except those identified as Troutdale aquifer wells are screened within or slightly below the alluvial aquifer.

4.2 Groundwater Trends

4.2.1 Overview

Groundwater monitoring results indicate that the current pumping scheme is maintaining control of the plume and that overall concentrations for both chromium and TCE continue on decreasing trends. The extent of impacted groundwater in the alluvial aquifer, as determined from groundwater sampling data obtained in 1995 and Fall 2014, is presented on Figure 10 for chromium and on Figure 11 for TCE (OU-3 plume). These figures illustrate that groundwater remedial actions have been effective in mass removal and in reducing the footprints of both the chromium and TCE plumes. Because of the large number of wells sampled during the Fall 2014 event, better definition of the contaminant plumes was possible. Based on the Fall 2014 analytical results, the plume footprints for chromium and TCE have been updated to show a separation between the source areas and the downgradient plumes.

Chromium and TCE concentrations detected in groundwater during sampling in 2014 are presented in Appendices A-1 and B-1, respectively. The highest concentration of chromium during the 2014 reporting period was detected in the sample collected from well MW-4B (809 $\mu\text{g/L}$), located within the Proximal well group (in the chromium source area), during the Fall 2014 sampling event. The highest concentration of TCE was detected in the sample collected from Northern Plume well AMW-17 (180 $\mu\text{g/L}$) during the Winter 2014 event. The highest concentration of TCE detected within the OU-3 plume was in the groundwater sample from well MW-18E (96 $\mu\text{g/L}$), located in the Intermediate well group, during the Fall 2014 event. Wells with 2014 groundwater sampling results exceeding the Site cleanup levels of 80 $\mu\text{g/L}$ for chromium and 5 $\mu\text{g/L}$ TCE are highlighted on Figures 12 and 13, respectively.

For this report, tables, figures, and graphs were used to assist in evaluating groundwater trends across the Site. Chromium and TCE concentration trends are presented in Appendices A and B, respectively. The information is presented both by well groupings and by individual wells. Data provided for the individual alluvial aquifer wells have been consolidated and are presented as the geometric mean for each year. Concentration trend charts for individual alluvial aquifer wells include additional statistical information obtained from the MAROS evaluation. This is discussed further in Section 6.

Specific information on trends observed within each well grouping is discussed in the following sections; and data and trend charts for chromium and TCE are presented in Appendices A and B respectively. Analytical results for 2014 are provided along with prior results for comparison purposes. In data summary tables presented in this report, analytical results shown in bold are above the Site-specific cleanup level of 80 $\mu\text{g/L}$ for chromium or 5 $\mu\text{g/L}$ for TCE. For duplicate samples, the higher of the two results is reported.

4.2.2 Alluvial Aquifer

4.2.2.1 Upgradient Wells

The Upgradient wells are located near the upgradient (eastern) Site boundary. Analytical results for these wells during the 2014 reporting period are as follows.

Chromium

During the 2014 reporting period, chromium concentrations were below the 80 µg/L cleanup level in groundwater samples collected from the five wells sampled, as presented in the following table.

| Upgradient Well Chromium Concentrations, in µg/L | | | | |
|--|-------------|-----------|-------------|-----------|
| Well | Spring 2013 | Fall 2013 | Spring 2014 | Fall 2014 |
| AMW-6A | -- | -- | -- | 9.6 |
| AMW-7A | -- | -- | -- | 0.7 J |
| AMW-8A | -- | -- | -- | 8.3 |
| AMW-10A | -- | -- | -- | 1.7 J |
| AMW-11A | -- | -- | -- | 9.6 |
| Note: -- No sample collected. | | | | |

TCE

During the 2014 reporting period, TCE concentrations were below the 5 µg/L cleanup level in groundwater samples collected from the five wells sampled, as presented in the following table.

| Upgradient Well TCE Concentrations, in µg/L | | | | |
|---|-------------|-----------|-------------|-----------|
| Well | Spring 2013 | Fall 2013 | Spring 2014 | Fall 2014 |
| AMW-6A | -- | -- | -- | 0.24 J |
| AMW-7A | -- | -- | -- | 0.21 J |
| AMW-8A | -- | 0.4 J | -- | 0.46 J |
| AMW-10A | -- | -- | -- | 0.14 J |
| AMW-11A | -- | -- | -- | 0.27 J |
| Note: -- No sample collected. | | | | |

4.2.2.2 TCE Source Wells

The TCE Source wells are located on the western half of the Linde property (Figure 9), in the vicinity of the TCE-impacted soil. These wells are typically sampled for VOCs only, as part of the OU-2 monitoring program, as these wells are upgradient of the chromium source area.

Chromium

Well MW-1A was the only well sampled for chromium during the reporting period and the analytical result (16.1 UJ $\mu\text{g/L}$) was below the cleanup level of 80 $\mu\text{g/L}$ (Appendix A).

TCE

During the 2014 reporting period, TCE concentrations were below the 5 $\mu\text{g/L}$ cleanup level in groundwater samples collected from 9 of the 14 wells sampled, as presented in the following table.

| TCE Source Well TCE Concentrations, in $\mu\text{g/L}$ | | | | | | |
|--|-------------|-----------|-------------|-------------|-------------|------------|
| Well | Spring 2013 | Fall 2013 | Winter 2014 | Spring 2014 | Summer 2014 | Fall 2014 |
| AMW-1A | 9.9 | 22 | 15 | 0.73 | 0.55 | 2.3 |
| AMW-2A | 9.3 | 3.8 | 4.8 | 5.6 | 26 | 60 |
| AMW-2B | -- | 0.37 J | -- | -- | -- | 0.34 J |
| AMW-3A | -- | 0.44 J | -- | -- | -- | 0.34 J |
| AMW-12A | 29 | 26 | 26 | 26 | 21 | 23 |
| AMW-13A | -- | 0.17 J | -- | -- | -- | 0.18 J |
| AMW-19A | -- | 1.1 | -- | -- | -- | 1.2 |
| AMW-26 | -- | -- | -- | -- | -- | 0.7 |
| AMW-52A | -- | 0.1 J | -- | -- | -- | 0.5 U |
| AMW-53A | 5.3 | 13 | 14 | 16 | 31 | 0.13 J |
| AMW-54A | -- | 1.8 | -- | -- | -- | 2.9 |
| AMW-55A | -- | 1.1 | -- | -- | -- | 1.0 |
| AMW-56A | -- | 2.4 | -- | -- | -- | 1.7 |
| MW-1A | 8.2 | 10 | 7.5 | 7.9 | 7.2 | 6.8 |

Note:
 -- No sample collected.
 Results shown in **bold and shaded** exceed the established cleanup level of 5 $\mu\text{g/L}$.

Since the IWS system was turned off on 9 August 2013, groundwater samples from the TCE source Area have been collected to monitor for changes/rebound in VOC concentrations. Groundwater collected from five wells had TCE concentrations above the cleanup level of 5 $\mu\text{g/L}$ during the 2014 reporting period (AMW-1A, AMW-2A, AMW-12A, AMW-53A and MW-1A), all of which are "A" level wells. "A" level wells are the shallowest wells of a well cluster and are the most impacted wells in this area.

The TCE concentrations in wells in the OU-2 TCE source area tend to fluctuate. While there appears to be some correlation between lower water levels (Summer and Fall events) and increased TCE concentrations, this is not consistently true. Based on the results of the five sampling events completed since shutdown of the IWS system, the TCE concentrations in wells AMW-1A, AMW-12A, and MW-1A are decreasing or relatively consistent. In wells AMW-2A and AMW-53A, the TCE concentration increased during several monitoring events, and the

concentration in well AMW-2A remained above, while the concentration in well AMW-53A dropped below the cleanup level during the Fall event (Appendix B).

As described in the OU-2 shutdown plan (EA 2013), following one year of quarterly monitoring, the sampling frequency for the five most-impacted wells was to be reevaluated. Based on the results, a reduction in sampling frequency from quarterly to semiannually is recommended for wells AMW-1A, AMW-12A, and MW-1A (EA 2014b). For wells AMW-2A and AMW-53A, continued quarterly monitoring is recommended to further evaluate the TCE concentration trends.

4.2.2.3 Proximal Wells

The Proximal wells are located west of the maintenance building (former machine shop) on the Boomsnub property and east of NE St. Johns Road (Figure 9). These wells are proximal to the chromium source. All four extraction wells in this group (MW-6B, MW-10B, MW-10C, and PW-1B) were actively pumping when they were sampled during both the Spring and Fall sampling events.

Chromium

During the 2014 reporting period, chromium concentrations were below the 80 µg/L cleanup level in groundwater samples collected from four of the eight wells sampled, as presented in the following table.

| Proximal Well Chromium Concentrations, in µg/L | | | | |
|--|-------------|------------|-------------|------------|
| Well | Spring 2013 | Fall 2013 | Spring 2014 | Fall 2014 |
| MW-2A | 489 | 220 | -- | 130 |
| MW-3A | 54.5 | 72.1 | -- | 63.6 |
| MW-4A | 505 | 376 | -- | 495 |
| MW-4B | 638 | 787 | -- | 809 |
| MW-6B | 19.8 | 20.8 | 39.4 | 14.8 |
| MW-10B | 37.6 | 34.6 | 37.6 | 34.1 |
| MW-10C | 96 | 76.3 | 96.6 | 67.3 |
| PW-1B | 42.8 | 44.2 | 46.5 | 35.7 |

Note:
 -- No sample collected.
 Results shown in **bold and shaded** exceed the established cleanup level of 80 µg/L.

Groundwater samples from wells MW-4A and MW-4B continue to have some of the highest concentrations of chromium in groundwater at the Site. The chromium concentrations in wells MW-2A, MW-4A, and MW-4B have consistently remained above the cleanup level. Chromium concentrations in well MW-10C fluctuated above and below the cleanup level. Historically, chromium concentrations in groundwater from wells in this area fluctuate, with an overall decreasing trend (Appendix A).

TCE

During the 2014 reporting period, TCE concentrations were below the 5 µg/L cleanup level in groundwater samples collected from 11 of the 12 wells sampled, as presented in the following table.

| Proximal Well TCE Concentrations, in µg/L | | | | |
|---|-------------|-----------|-------------|-----------|
| Well | Spring 2013 | Fall 2013 | Spring 2014 | Fall 2014 |
| MW-2A | -- | -- | -- | 1.9 |
| MW-3B | -- | -- | -- | 1.4 |
| MW-4B | -- | -- | -- | 3.4 |
| MW-6B | 5.4 | 4.4 | 4.1 | 3.7 |
| MW-7B | -- | -- | -- | 3.6 |
| MW-8B | -- | -- | -- | 1.8 |
| MW-9B | -- | -- | -- | 2.8 |
| MW-10B | 14 | 14 | 12 | 11 |
| MW-10C | 2.6 | 2.6 | 2.0 | 2.0 |
| MW-12C | -- | -- | -- | 0.89 |
| MW-13C | -- | -- | -- | 2.4 |
| PW-1B | 3.0 | 2.6 | 2.2 | 2.0 |
| Note: -- No sample collected. Results shown in bold and shaded exceed the established cleanup level of 5 µg/L. | | | | |

The TCE concentration remained above the cleanup level in well MW-10B. In well MW-6B, the TCE concentration has been fluctuating above and below the cleanup level for several years but has remained below the cleanup level for the last three sampling events. Historically, TCE concentrations in groundwater samples from this area have been on a decreasing trend (Appendix B).

4.2.2.4 Intermediate Wells

The Intermediate wells are located west of NE St. Johns Road, north and south of NE 78th Street (Figure 9). All five extraction wells in this area (MW-14C, MW-14E, MW-18D, MW-19D, and MW-20D) were actively pumping during both the Spring and Fall 2014 sampling events.

Chromium

During the reporting period, chromium concentrations remained above the 80 µg/L cleanup level in groundwater samples collected from two wells (MW-18D and MW-19D), as presented in the following table.

| Intermediate Well Chromium Concentrations, in $\mu\text{g/L}$ | | | | |
|---|-------------|-------------|-------------|-------------|
| Well | Spring 2013 | Fall 2013 | Spring 2014 | Fall 2014 |
| CPU-14 | -- | 46.8 | -- | 53.6 |
| MW-14C | 67.1 | 63.7 | 65 | 67.6 |
| MW-14E | 41.7 | 39.9 | 40.2 | 42 |
| MW-18D | 106 | 96.6 | 92.3 | 91.1 |
| MW-19D | 99.2 | 94.8 | 95.9 | 91.7 |
| MW-20D | 61.4 | 55 | 57.1 | 55.5 |

Note:
 -- No sample collected.
 Results shown in **bold and shaded** exceed the established cleanup level of 80 $\mu\text{g/L}$.

Chromium concentrations in groundwater samples from wells in this area remained relatively stable or decreased in comparison to previous sampling results. Historically, chromium concentrations in groundwater from wells in this area have been on a decreasing trend (Appendix A).

TCE

TCE concentrations exceeded the groundwater cleanup level of 5 $\mu\text{g/L}$ in samples from 14 of the 15 wells sampled in this area (Appendix B)

Sampling included five monitoring wells (AMW-16, AMW-17, AMW-18, AMW-64 and MW-38) which are impacted by the offsite Northern Plume. Northern Plume wells are sampled to evaluate potential impacts to the Site and treatment system. During 2014, wells AMW-17, AMW-18, and AMW-64 were sampled on a quarterly basis and wells MW-38 and AMW-16 were sampled on a semiannual basis. TCE concentrations in samples collected from all five Northern Plume wells remain above the cleanup level as shown in the following table.

| Intermediate Well TCE Concentrations, in $\mu\text{g/L}$ – Northern Plume Wells | | | | | | |
|---|-------------|------------|-------------|-------------|-------------|------------|
| Well | Spring 2013 | Fall 2013 | Winter 2014 | Spring 2014 | Summer 2014 | Fall 2014 |
| AMW-16 | 2.0 | 4.4 | -- | 27 | -- | 72 |
| AMW-17 | 240 | 180 | 180 | 130 | 150 | 120 |
| AMW-18 | 44 | 34 | 36 | 27 | 30 | 34 |
| AMW-64 | 94 | 75 | -- | 61 | 67 | 55 |
| MW-38 | -- | 70 | -- | 54 | -- | 78 |

Note:
 -- No sample collected.
 Results shown in **bold and shaded** exceed the established cleanup level of 5 $\mu\text{g/L}$.

TCE concentrations in groundwater from well AMW-16 had been on a decreasing trend since the well was first sampled in 1995 and concentrations had been below the cleanup level since 2005.

However, in Spring 2014, TCE in groundwater from this well increased to a concentration exceeding the cleanup level and increased further in Fall 2014, indicating the apparent arrival of the Northern Plume at the AMW-16 location. Additional discussion of the Northern Plume, including previous monitoring results, is provided in Appendix E of the 2014 Fall Semiannual Sampling Report (EA 2015).

TCE concentrations in samples collected from the OU-3 plume remain above the 5 µg/L cleanup level in all wells sampled in this area with the exception MW-15E. The maximum TCE concentration detected in OU-3 wells in this area was 96 µg/L in well MW-18E. With the exception of PZ-39, TCE concentrations in groundwater samples collected from the OU-3 plume wells decreased in comparison to previous sampling results, as shown in the following table. If the increase in TCE concentration in PZ-39 is confirmed during the next sampling event, the arrival of the Northern Plume at that well will be confirmed.

| Intermediate Well TCE Concentrations, in µg/L | | | | |
|---|-------------|------------|-------------|------------|
| Well | Spring 2013 | Fall 2013 | Spring 2014 | Fall 2014 |
| AMW-59 | -- | -- | -- | 58 |
| CPU-14 | -- | 6.4 | -- | 5.2 |
| MW-14C | 14 | 12 | 12 | 12 |
| MW-14E | 75 | 74 | 55 | 51 |
| MW-15E | 3.4 | 3.2 | 2.2 | 2.3 |
| MW-18D | 42 | 41 | 32 | 31 |
| MW-18E | -- | 120 | -- | 96 |
| MW-19D | 27 | 29 | 21 | 21 |
| MW-20D | 44 | 39 | 27 | 27 |
| PZ-39 | 53 | 43 | 29 | 45 |

Note:
 -- No sample collected.
 Results shown in **bold and shaded** exceed the established cleanup level of 5 µg/L.

Historically, TCE concentrations in groundwater samples from wells in the Intermediate area have been on a decreasing trend, except where impacted by the Northern Plume (Appendix B).

4.2.2.5 Church of God Wells

The Church of God wells are located north of NE 78th Street between the west side of the Clark County sports field complex and the western Church of God property line (Figure 9). Two extraction wells in this area (MW-21D and MW-22D) were actively pumping during both the Spring and Fall 2014 sampling events. Church of God wells sampled for chromium and TCE during 2014 are shown in the following tables.

Chromium

Chromium was not detected above the 80 µg/L cleanup level in any of the groundwater samples collected during 2014 from Church of God wells, as presented in the following table.

| Well | Spring 2013 | Fall 2013 | Spring 2014 | Fall 2014 |
|--------|-------------|-----------|-------------|-----------|
| AMW-27 | 4.8 | -- | -- | 4.7 UJ |
| CPU-13 | 25.3 | 44.8 | 54.8 | 45.7 |
| MW-21D | 9.3 | 8.8 | 9.1 | 8.9 |
| MW-22D | 22.8 | 23.3 | 27.8 | 20.3 |
| MW-25D | 3.3 J | 3.9 J | -- | 6.3 |
| MW-26D | 38.6 | 7.0 | -- | 11.4 |
| MW-27D | -- | 18.9 UJ | -- | 6.8 UJ |
| MW-49 | 11.6 | 11.4 | -- | 12.2 |

Note:
-- No sample collected.

TCE

During the 2014 reporting period, TCE concentrations were below the 5 µg/L cleanup level in eight of the 11 groundwater samples collected, as presented in the following table.

| Church of God Well TCE Concentrations, in µg/L | | | | | | |
|--|-------------|------------|-------------|-------------|-------------|------------|
| Well | Spring 2013 | Fall 2013 | Winter 2014 | Spring 2014 | Summer 2014 | Fall 2014 |
| CPU-12 | -- | 4.4 | -- | -- | -- | 5.1 |
| CPU-13 | 1.2 | 0.92 | -- | 1.2 | -- | 0.94 |
| AMW-27 | 5.0 | 6.6 | 5.3 | 4.1 | 5.3 | 1.6 |
| AMW-61 | 2.4 | 8.5 | -- | -- | -- | 6.8 |
| MW-21D | 4.3 | 3.5 | -- | 2.9 | -- | 2.4 |
| MW-22D | 4.5 | 3.7 | -- | 4.0 | -- | 2.6 |
| MW-23D | -- | 1.2 | -- | -- | -- | 1.4 |
| MW-25D | 2.6 | 3.0 | -- | -- | -- | 1.7 |
| MW-26D | 2.1 | 0.46 J | -- | -- | -- | 0.35 J |
| MW-27D | -- | 1.1 | -- | -- | -- | 1.5 |
| MW-49 | 1.5 | 1.7 | -- | -- | -- | 1.6 |

Note:
-- No sample collected.
Results shown in **bold and shaded** exceed the established cleanup level of 5 µg/L.

TCE concentrations were above the 5 µg/L cleanup level in groundwater samples collected from three wells (AMW-27, silt well AMW-61, and CPU-12). Former extraction well AMW-27 was sampled on a quarterly basis during 2014, following shut down of the pump in January 2013.

TCE concentrations in well AMW-27 and silt well AMW-61 fluctuate but continue on a decreasing trend. The TCE concentration in well CPU-12 increased to just above the cleanup level. Historically, TCE concentrations in samples collected from wells in this area have been on an overall decreasing trend (Appendix B).

4.2.2.6 Toe-of-Plume Wells

The Toe-of Plume wells are located west of the Church of God building (Figure 9). Groundwater samples were collected from four wells in this area.

Chromium

Chromium concentrations were below the 80 µg/L cleanup level in groundwater samples collected from all four wells sampled, as presented in the following table.

| Toe-of-Plume Well Chromium Concentrations, in µg/L | | | | |
|---|--------------------|------------------|--------------------|------------------|
| Well | Spring 2013 | Fall 2013 | Spring 2014 | Fall 2014 |
| AMW-42 | -- | -- | -- | 26.6 UJ |
| AMW-63 | -- | -- | -- | 11.4 UJ |
| MW-35 | -- | 17.6 | -- | 29.3 |
| MW-41 | -- | -- | -- | 4.0 U |
| Note: -- No sample collected. | | | | |

TCE

During the 2014 reporting period, TCE concentrations remained below the 5 µg/L cleanup level in groundwater samples collected from all four wells sampled, as presented in the following table.

| Toe-of-Plume Well TCE Concentrations, in µg/L | | | | |
|--|--------------------|------------------|--------------------|------------------|
| Well | Spring 2013 | Fall 2013 | Spring 2014 | Fall 2014 |
| AMW-42 | -- | -- | -- | 0.65 |
| AMW-63 | -- | -- | -- | 0.17 J |
| MW-35 | 5.0 | 4.6 | -- | 2.8 |
| MW-41 | -- | -- | -- | 0.5 U |
| Note: -- No sample collected. | | | | |

4.2.3 Troutdale Aquifer Wells

The Troutdale aquifer serves as a municipal water supply for the City and Clark County. Groundwater samples were collected from 11 Troutdale aquifer wells, including the Bennett private well, during the 2014 reporting period.

Chromium

Chromium concentrations were below the 80 µg/L cleanup level in all 11 wells sampled, as presented in the following table. This is consistent with previous results (Appendix A).

| Troutdale Aquifer Well Chromium Concentrations, in µg/L | | | | |
|--|--------------------|------------------|--------------------|------------------|
| Well | Spring 2013 | Fall 2013 | Spring 2014 | Fall 2014 |
| BENNETT | 4.0 U | 4.0 U | 4.0 U | 4.0 U |
| CPU-2 | -- | -- | -- | 1.9 UJ |
| CPU-3D | -- | -- | -- | 3.8 J |
| CPU-10 | -- | -- | -- | 4.5 UJ |
| AMW-24 | -- | 6.6 | -- | 13.6 |
| AMW-25 | -- | -- | -- | 1.2 J |
| AMW-50 | -- | -- | - | 9.8 |
| AMW-51 | -- | -- | -- | 4.1 |
| AMW-62 | -- | -- | -- | 1.5 J |
| MW-33 | -- | -- | -- | 2.2 J |
| MW-34 | -- | 1.9 J | -- | 4.0 U |

Note:
-- No sample collected.

TCE

During the 2014 reporting period, TCE concentrations were below the 5 µg/L cleanup level in eight of the 11 groundwater samples collected, as presented in the following table.

| Troutdale Aquifer Well TCE Concentrations, in µg/L | | | | |
|---|--------------------|------------------|--------------------|------------------|
| Well | Spring 2013 | Fall 2013 | Spring 2014 | Fall 2014 |
| BENNETT | 3.1 | 4.6 | 2.0 | 5.1 |
| CPU-2 | -- | -- | -- | 0.5 U |
| CPU-3D | -- | -- | -- | 0.5 U |
| CPU-10 | -- | -- | -- | 0.5 U |
| AMW-24 | -- | 11 | -- | 10 |
| AMW-25 | -- | -- | -- | 0.5 U |
| AMW-50 | -- | -- | -- | 0.5 U |
| AMW-51 | -- | -- | -- | 0.15 J |
| AMW-62 | -- | -- | -- | 0.5 U |
| MW-33 | -- | 11 | -- | 11 |
| MW-34 | -- | -- | -- | 0.5 U |

Note:
-- No sample collected.
Results shown in **bold and shaded** exceed the established cleanup level of 5 µg/L.

TCE concentrations were above the 5 µg/L cleanup level in groundwater samples collected from three wells (AMW-24, MW-33, and the Bennett private well). TCE concentrations in groundwater from wells AMW-24 and MW-33 have fluctuated somewhat but have consistently remained above the cleanup level. The TCE concentration in groundwater from the Bennett private well historically fluctuates above and below the cleanup level (Appendix B).

4.2.4 TCE as a VOC Indicator

In addition to chromium and TCE, groundwater samples were analyzed for additional VOCs as listed in the ROD (EPA 2000). Of these additional parameters only 1,1-dichloroethene (1,1-DCE) exceeded the cleanup level of 1 µg/L during the reporting period.

TCE analytical results are used as a surrogate for the other VOCs in order to streamline data reporting. TCE continues to be an effective indicator of VOCs. In OU-2 and OU-3 wells where TCE concentrations are below the cleanup level, the associated VOCs have typically been below the cleanup level. Concentrations of 1,1-DCE above the cleanup level were only detected in wells where TCE was also detected at concentrations above the cleanup level, with one exception noted in Fall 2014. As shown in the following table, in well MW-23D, the concentration of 1,1-DCE (2.7 µg/L) was above the cleanup level of 1 µg/L but the concentration of TCE (1.4 µg/L) was below the cleanup level of 5 µg/L during Fall 2014. The table presents TCE and 1,1-DCE results from the Fall 2014 sampling event for wells where 1,1-DCE exceeded the cleanup level. Wells where only TCE concentrations exceeded the cleanup level are not included on the table.

| Wells with 1,1-DCE Concentrations Exceeding the Cleanup Level in Fall 2014 | | | |
|--|-------------|-------------------|-----------------------|
| Well Group | Well | TCE (µg/L) | 1,1-DCE (µg/L) |
| Intermediate | AMW-16 | 72 | 1.3 |
| | AMW-59 | 58 | 10 |
| | MW-14E | 51 | 2.1 |
| | MW-18E | 96 | 8.3 |
| | MW-20D | 27 | 1.9 |
| | PZ-39 | 45 | 3.3 |
| Church of God | MW-23D | 1.4 | 2.7 |
| Troutdale | AMW-24 | 10 | 1.3 |
| | MW-33 | 11 | 1.4 |
| Cleanup or Guidance Level | | 5 | 1 |
| Note: Results shown in bold and shaded exceed the established cleanup or guidance level. | | | |

5. OTHER ACTIVITIES

During the 2014 reporting period, the following additional activities were performed.

5.1 Access Agreements and Easements

EA, on behalf of Linde, continued pursuing access agreements and restrictive covenants for non-Linde owned properties, as required by Sections 25 and 26 of the CD (EPA 2007a). Further progress is pending EPA assistance to gain access agreements and restrictive covenants from non-responsive property owners.

5.2 Biological Growth in MW-22D

During late 2013 and early 2014, a biological growth in extraction well MW-22D caused frequent clogging of the influent canister filters in the treatment system, causing the treatment system to shut off frequently. To resolve this issue, in March 2014, the well, pump, and cable were cleaned and treated. Following treatment and flushing of the well, the extraction pump was turned back on and the pumping rate was gradually increased to the planned flow rate. For more details see the October 2013 through March 2014 Progress Report (EA 2014c). There were no additional issues associated with this well during the reporting period.

5.3 Padden Parkway

The owner of Parcel no. 144527-000, a large parcel located southwest of the intersection of NE 78th Street and NE St. Johns Road, has a Clark County-approved plan for development of the Padden Parkway Business Park. Development of this parcel is anticipated to begin in early 2015. EA met with the property owner several times during 2014 to discuss potential impacts to Site infrastructure and needed modifications. These potential modifications were brought to the attention of EPA during a Site visit in October 2014.

5.4 Sustainability Practices

Linde and EA have a commitment to sustainable practices. In the office and in the field, attempts are made to reduce, reuse, and recycle whenever possible. In addition, the following monitoring and O&M activities are in place:

- Using passive diffusion bags or dedicated pumps for groundwater sampling wherever possible to eliminate the use of disposable tubing and decontamination solutions.
- Using the infiltration gallery to discharge treated groundwater from the OU-3 treatment system back into the alluvial aquifer instead of the sanitary sewer, eliminating the processing of millions of gallons per year of clean water through the City sewage treatment plant.

- Upgrading the groundwater treatment system to minimize energy usage by using variable frequency drives and smaller pumps, optimizing water flow to minimize head loss, removing redundant tanks (and pumps), and replacing air stripper packing.

6. ANNUAL SCREENING OF GROUNDWATER MONITORING DATA

This section summarizes the seventh annual screening of groundwater monitoring data for the Site, conducted in accordance with the revised Draft Closure Plan (EA 2009). The annual screening evaluates data collected at the Site since 1995 (the year the Site was placed on the National Priorities List) for each alluvial aquifer monitoring and extraction well currently sampled. The data are used to determine what changes, if any, should be made to current system operations and the well sampling schedule.

A combination of quantitative and qualitative evaluations of the Site data was used to derive the recommendations for the annual screening. The Air Force Center for Engineering and the Environment (AFCEE) MAROS version 3.0 was used for the quantitative evaluation for alluvial aquifer wells. MAROS is a computer program developed to optimize long-term groundwater monitoring (AFCEE 2012). Using statistical analyses, MAROS makes recommendations on sampling frequencies and determines if groundwater concentrations are statistically below cleanup levels. The qualitative evaluation consisted of professional judgment based on Site experience. The quantitative and qualitative evaluations do not always reach the same conclusions. When this occurs, professional judgment takes priority. The annual screening evaluations were based on TCE and chromium concentrations in groundwater. The site constituent of concern is hexavalent chromium with a cleanup level of 80 µg/L. Hexavalent chromium has been measured in groundwater as a surrogate for total chromium because previous studies indicated that almost all chromium in the groundwater was hexavalent chromium. Concentrations were consolidated by year using the geometric mean of the data for that year.

Annual screening recommendations fall into five categories:

- **Redundancy**: Determines if a well provides duplicate data or unique data on a constituent (TCE and/or chromium) that cannot be seen in other wells.
- **System Operations**: Determines if modifications to operations are necessary to achieve concentrations below cleanup levels.
- **Termination**: Determines whether constituents detected in groundwater samples from wells are statistically below cleanup levels. Aids in the decision to terminate treatment and/or discontinue monitoring.
- **Sampling Frequency**: Determines sampling frequencies for wells that require continued monitoring.

Factors used in the quantitative evaluation are presented in the 2014 MAROS Results Summary Table (Table C-1). In the table, wells are presented by well groupings (as presented in Section 4.1) to demonstrate what is happening in specific areas of the plume. Note that wells designated for no further sampling in the 2013 Annual Report, or prior, are not included in this evaluation. Statistical summaries for each alluvial aquifer well are included in Appendices A-3

(chromium) and B-3 (TCE). Additional outputs created by MAROS during the evaluation are included in Appendix C.

The following sections describe how the five categories are evaluated, and also include the results of the evaluation for each category.

6.1 Redundancy

Monitoring of a well may be discontinued based on the redundancy analysis in MAROS. This analysis evaluates whether or not a well provides unique information and recommends elimination of wells that do not provide unique information. If MAROS indicates a well is statistically redundant for both TCE and chromium, it may be eliminated from future monitoring because there will be no statistically significant loss of information.

The MAROS redundancy analysis is based on the 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” (EPA 2007b).

The slope factor determines the relative importance of a sample location. The slope factor is the standardized difference between the concentration measured at a location and the concentration estimated for that location based on concentrations at nearby wells. The magnitude of slope factors ranged from 0 to 1, with 0 meaning the concentration at a location can be exactly estimated by the surrounding wells (EPA 2007b).

The following wells were identified as redundant for TCE: MW-6B, MW-9B, MW-14C, MW-19D, and MW-22D (Table C-1). None of the wells were identified as redundant for chromium. Wells MW-6B, MW-14C, MW-19D, and MW-22D are active extraction wells; therefore, they will continue to be monitored on a semiannual basis for TCE and chromium. The sampling frequency for MW-9B remains as biennial to allow better definition of the extent of the TCE plume.

6.2 System Operations

If contaminant concentration trends in a well are increasing or fluctuating above and below cleanup levels, modifications to the extraction system operations may be necessary. Trend analysis was conducted using MAROS and graphs of contaminant concentrations. Professional judgment was used to determine if continued operations are anticipated to bring the well into compliance with cleanup levels or if modifications to system operations are necessary.

MAROS uses the Mann-Kendall nonparametric evaluation to determine the concentration trend (Mann-Kendall trend) for each well. The Mann-Kendall evaluation is considered to be an efficient way to evaluate concentration trends because it handles data variation well and it does not assume the data fits into a specific distribution (EPA 2007b). Some wells will not have

sufficient data for the Mann-Kendall evaluation to output a trend and MAROS will indicate that the well concentration has no trend.

In some cases where the Mann-Kendall trend indicates an increasing or a possibly increasing concentration trend, the trend may be due to data outliers or different detection limits and may not be a true representation of the trend. An increasing or possibly increasing trend may be indicated due to recently reported “J” flagged (estimated) concentrations, between the method detection limit (MDL) and the method reporting limit (MRL). MAROS interprets these results as higher than “U” flagged concentrations, or concentrations reported below the MRL. For example, MAROS would interpret a result of 0.32 J (estimated) $\mu\text{g/L}$ as higher than 0.5 U (not detected) $\mu\text{g/L}$. For wells where an increasing or possibly increasing trend is indicated, a qualitative evaluation of the data and trend graphs is used to determine if any action needs to be taken.

The Mann-Kendall trends for TCE and chromium are presented in Table C-1. Increasing trends are indicated for TCE in wells AMW-7A and AMW-18. In infiltration gallery monitoring well AMW-7A, TCE concentrations increased to detectable levels following initial disposal of treated groundwater in this area in 2006; however, the concentrations have not increased since that time. In Northern Plume monitoring well AMW-18, TCE concentrations increased during 2006-2008 as the offsite plume reached this well, but have been decreasing since that time. TCE contamination in well AMW-18 is related to the Northern Plume and is separate from the OU-3 plume (EA 2011).

A potentially increasing trend is indicated for TCE in well CPU-12. The TCE concentration in this well had been below the cleanup level since 2003; however, it increased slightly, to a concentration of 5.1 $\mu\text{g/L}$ (just above the cleanup level) in 2014. The TCE sampling frequency for this well will be increased from annual to semiannual for 2015. No system modifications are recommended based on the trend results for the three monitoring wells with increasing or potentially increasing trends.

6.3 Termination

“Termination”, in this annual screening process, refers to the termination (shutdown) of an extraction well or the discontinuation of monitoring of a well. The MAROS Data Sufficiency module uses the sequential T-test to determine if contaminants in groundwater are statistically below cleanup levels (AFCEE 2012). This aids in the decision to terminate treatment and/or discontinue monitoring.

The sequential T-test outputs two “cleanup statuses” per well, one for data with a normal distribution and one for a lognormal distribution. The coefficient of variation (COV) was used to determine which distribution best represents the data collected from each well. The COV is a measure of the variation of data points from the mean. If the COV was less than 1.00, the data showed little scatter and the normal distribution results were used. If the COV was greater than 1.00, the lognormal distribution results were used.

The sequential T-test classifies wells as Attained, Not Attained, Continue Sampling, or Insufficient Data. “Attained indicates the mean concentration is significantly below the cleanup goal, and has achieved the TargetLevel” (AFCEE 2012). The TargetLevel default value is 0.8 times the cleanup goal. MAROS recommends continuing sampling for wells that need more data to be considered attained and statistically below cleanup levels. The sequential T-test was not conducted (N/C) on wells with insufficient data due to their small sample size (less than four years’ worth of data). Since data have been consolidated annually in order for MAROS to handle the data, the number of samples corresponds with the number of years sampled.

Attained means that contaminant concentrations in a specific well are statistically below the cleanup level, as determined by the MAROS evaluation. Note that the MAROS definition of attainment does not correspond to EPA’s definition of attainment. Once the MAROS evaluation indicates that a well and constituent are “attained”, that well and constituent are typically recommended for no further sampling.

The cleanup status, shown on Table C-1, was used to determine if the contaminant concentration was statistically below cleanup levels. With the exception of TCE Source wells, only wells that were classified as attained for both chromium and TCE were considered statistically below cleanup levels based on the MAROS definition. TCE Source wells only need to be statistically below cleanup levels for TCE, since the area is upgradient of the chromium plume and not monitored for chromium.

For extraction wells that are actively pumping when MAROS indicates cleanup has been achieved for TCE and chromium, pumping may be terminated. Monitoring will continue at these wells to ensure that cleanup levels are maintained as the well returns to equilibrium.

For some monitoring wells, the most recent MAROS evaluation concluded that TCE and/or chromium concentrations are statistically below the cleanup level and no further sampling is required. These wells are indicated on Tables 2 and C-1. Wells for which previous MAROS evaluations concluded that TCE and/or chromium concentrations were statistically below the cleanup level, and which were previously designated for no further sampling, are listed in Table 5.

Wells in the Sentinel Toe well grouping are monitoring wells located at or beyond the historical leading edge of the chromium plume and are a part of the Toe-of-Plume wells. Chromium concentrations in groundwater samples collected from the Sentinel Toe well grouping have remained consistently below the cleanup level. TCE has never been detected in the Sentinel Toe well grouping. The 2008 MAROS analysis determined that groundwater samples from wells in the Sentinel Toe well group had attained (per the MAROS definition) the chromium and TCE cleanup levels. With EPA approval, this area of the plume is no longer monitored. The “Other Toe of Plume” area is now the most downgradient plume area being monitored.

Although MAROS recommended no further sampling for the four infiltration gallery monitoring wells (AMW-6A, AMW-7A, AMW-10A, and AMW-11A), these wells will continue to be sampled to monitor potential impacts of the use of the infiltration gallery. Additionally, although

MAROS recommended no further sampling for Toe-of-Plume wells AMW-63 (TCE and chromium) and MW-41 (TCE), these wells will continue to be sampled at the request of EPA.

6.4 Sampling Frequency

As part of the Annual Screening, the current sampling frequency for each well is evaluated and, if appropriate, revised. When proposing a revised sampling frequency for a well, the following factors are considered: the current sampling frequency, the MAROS recommended sampling frequency, the use of the well at the Site, and whether the constituents of concern are statistically below the cleanup levels. These factors are presented in the Wells and Recommended Sampling Frequencies Table (Table 2).

For wells with groundwater concentrations statistically below cleanup levels for TCE and/or chromium, sampling will be discontinued for TCE and/or chromium unless the qualitative analysis identifies a need for data from the well. For wells that are not identified for discontinuing sampling, MAROS uses a Modified Cost Effective Sampling Method to propose sampling frequencies for individual wells (AFCEE 2012). The resulting frequencies are “based on the magnitude, direction, and uncertainty of its concentration trends” (EPA 2007b). The recommendations made by MAROS are considered preliminary since they are the lowest frequencies needed to provide the adequate amount of data to reach statistical cleanup and may not correspond with the monitoring objectives for that well. For example, if MAROS recommends biennial sampling, but the well is used to monitor treatment system performance, sampling may be conducted more frequently until the treatment is complete. In some cases, MAROS may recommend more sampling than is necessary for the Site objectives.

A number of Site monitoring wells are part of a well cluster. Well clusters may include wells with designations of A, B, C, D, and E. These alphabetical designations represent different well screen depths. In each well cluster, typically the most impacted well is sampled the most frequently. In some well clusters, this means that chromium is sampled more frequently in one well while TCE is sampled more frequently in another well. In a few cases, one of the wells in a cluster is an extraction well and is sampled according to the schedule for extraction wells. Following many years of sampling well cluster wells, the most impacted wells have typically remained the same. Sampling of wells screened at less impacted depths in a cluster does not provide any additional data of use in site decision making; therefore, those wells may be recommended for no further sampling.

Table 2 shows the current (2014) sampling frequency for each well, along with the MAROS recommended sampling frequency. These were evaluated for each well and sampling frequency recommendations for 2015 were determined using professional judgment. Recommended changes to the sampling frequencies (2015 recommendations) are included in Table 2 and summarized in Table 3. More detailed descriptions of the reasoning behind the recommended changes are provided in Table 4.

General information for Troutdale aquifer wells is provided in Table 2; however, since the OU-3 groundwater pump and treat system treats the alluvial aquifer and not the Troutdale aquifer, the

MAROS analysis was not performed on Troutdale wells. A qualitative analysis was completed to re-evaluate the sampling frequencies for the Troutdale wells. No changes in TCE sampling frequency were recommended for these wells. However, changes to the sampling frequency for chromium are recommended for all Troutdale wells. Chromium has never been detected at concentrations above the cleanup level in Troutdale aquifer monitoring wells. No indication that chromium contamination from the Site has entered the Troutdale aquifer has been observed. Therefore, no further sampling for chromium is recommended for eight of the Troutdale wells. In the three TCE-impacted Troutdale wells, a reduction in the frequency of sampling for chromium is recommended.

Wells designated for no further sampling as of the previous (2013) Annual Report have been removed from the MAROS evaluation tables and sampling frequency tables. These wells, along with a brief description of the basis for their removal from sampling, are listed in Table 5. Wells and/or parameters (TCE or chromium) in a well which are designated for no further sampling as of this report are included in the MAROS evaluation tables and the sample frequency table (Table 2), and are further described in Table 4.

TCE and chromium concentrations continue to decrease at the Site (excluding wells impacted by TCE from the offsite Northern Plume). The most important data continue to be those from the active remediation areas, including the OU-3 extraction wells and wells in the OU-2 source removal area. These data are critical to decision making at the site. Frequent sampling of wells with no detectable TCE or chromium, or with TCE and chromium concentrations consistently below the cleanup levels, does not aid in decision making. If increases in contaminant concentrations are noted in a sampled well, additional samples may be collected from nearby wells. Wells recommended for no further sampling will still be available for future sampling, if needed.

Changes to monitoring frequencies have been recommended for 32 wells. The majority of these changes relate to the following: Troutdale aquifer wells where routine chromium monitoring is not needed; OU-2 monitoring wells (TCE Source area) where TCE concentration trends continue to be monitored following shut-down of the IWS system; Northern Plume wells (Intermediate area), where TCE concentration trends have been consistent for several years; and former extraction wells (Church of God area) where contaminant concentrations continue to decrease since shut-down of the pumps. These recommendations and the reason for the changes are summarized in Table 4.

6.5 Annual Well Screening Conclusions and Recommendations

Based on the results of the annual screening of groundwater monitoring data through 2014, the following conclusions are made:

- No modifications to system operations are necessary at this time.

- Changes to sampling frequencies are recommended for 32 wells based on the results of the MAROS evaluation and on the qualitative review. Well sampling frequency recommendations for 2015 are provided in Table 2 and summarized in Table 3.

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7. RECOMMENDATIONS AND PLANNED ACTIVITIES

The following sections summarize activities conducted during the 2014 reporting period, as well as recommendations and planned activities for 2015.

7.1 Status of Previous Recommendations From 2014

In order to meet the operating objectives for OU-2 and OU-3, planned activities for 2014 were recommended in the 2013 Annual Status report. The status of those planned activities is summarized below:

- **Well Sampling** – Wells were sampled in accordance with the updated sampling schedule.
- **Infrastructure Removal** – A revised proposal for removal of selected infrastructure in the original Toe-of-Plume area has been delayed. This infrastructure is no longer needed for Site remediation or monitoring, and is planned for removal to allow development of Parcel No. 144718-000 by the owner. EA plans to complete a Work Plan in 2015.
- **In Situ Treatments** – *In situ* treatments in the area of wells MW-35 and AMW-27, as described in the Work Plan for In Situ Treatment of Areas of Residual Contamination (EA 2012b) were not completed in 2014. EPA approval of the work plan has not yet been received.
- **IWS System Rebound Testing** –OU-2 wells continue to be sampled to monitor for possible contaminant rebound since the IWS system was shut off on 9 August 2013, with EPA approval.
- **Monitoring Well MW-38** – The TCE concentration in groundwater samples from MW-38 increased rapidly between Fall 2012 and Fall 2013, indicating the apparent arrival of the Northern Plume at this well. The results of sampling in 2014 confirm the presence of elevated TCE concentrations in groundwater samples from this well; therefore, well MW-38 has been grouped with the Northern Plume wells for data reporting and evaluation.
- **Easement Agreements and Restrictive Covenants** – EA continued efforts toward obtaining easement agreements and restrictive covenants with neighboring property owners. EPA assistance has been requested with this.

7.2 Recommendations and Planned Activities for 2015

The following activities are planned for the 2015 reporting period:

- **Well Sampling** – Sample wells in accordance with the updated sampling schedule.

- **Infrastructure Removal** – Submit a revised proposal for removal of selected infrastructure in the original Toe-of-Plume area to EPA. This infrastructure is no longer needed for Site remediation or monitoring, and is planned for removal to allow development of Parcel No. 144718-000 by the owner.
- ***In Situ* Treatments** – Following receipt of EPA approval of the work plan, and EPA submittal/approval of an Explanation of Significant Differences to the ROD, if needed, implement *in situ* treatments in the area of wells MW-35 and AMW-27, as described in the Work Plan for In Situ Treatment of Areas of Residual Contamination (EA 2012b).
- **Easement Agreements and Restrictive Covenants** – Continue to request EPA assistance with obtaining the required agreements with non-responsive property owners. EA will continue efforts to obtain agreements as opportunities arise.
- **IWS System Rebound Testing** – Continue to perform groundwater sampling in OU-2 to monitor for possible contaminant rebound following shutdown of the system. After two years of sampling are completed in late 2015, the system will be evaluated to determine if rebound is occurring and if the system can remain off (EA 2013).
- **Padden Parkway** – Work with the owner/developer of the Padden Parkway Business Park as they develop their property. Once the potential impacts of the development on Site infrastructure are clear, the planned modifications will be summarized and presented to EPA for approval. Development activities are anticipated to start in early to mid-2015, and this will require a rapid review and approval.

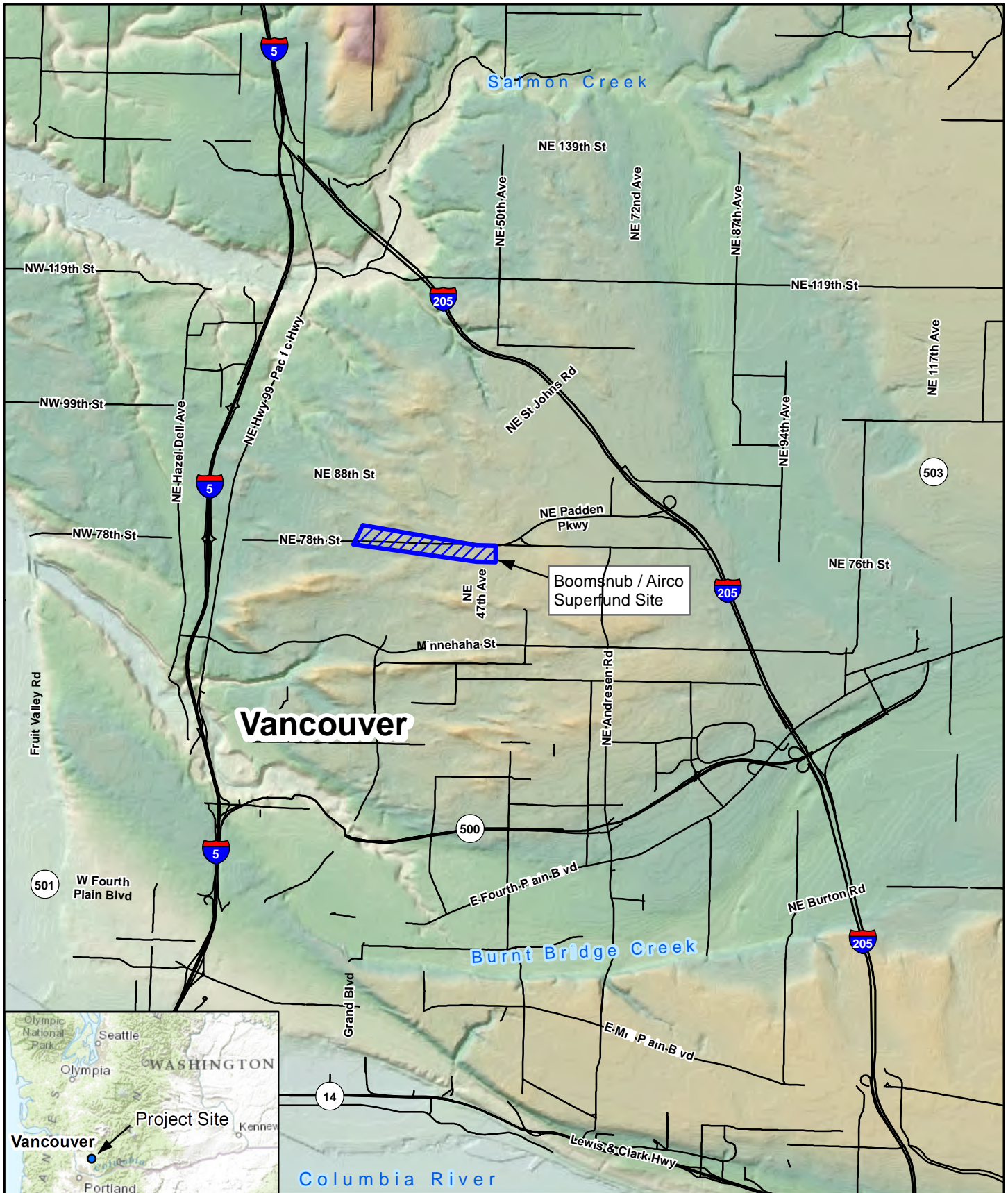
8. REFERENCES

- AFCEE 2012. Air Force Center for Environmental Excellence, Monitoring and Remediation Optimization system (MAROS), Software Version 3.0, User's Guide and Technical Manual. September.
- EA 2004a. Operation and Maintenance Manual, Combined In-Well Stripping and Soil Vapor Extraction System, Boomsnub/Airco Superfund Site, Hazel Dell, Washington. August.
- EA 2004b. Quality Assurance and Sampling Plan, Boomsnub/Airco Superfund Site, Hazel Dell, Washington. August.
- EA 2006. Construction Report, BOC Infiltration Gallery, Boomsnub/Airco Superfund Site, Hazel Dell, Washington. February.
- EA 2007. Long-Term Monitoring Plan, Boomsnub/Airco Superfund Site, Hazel Dell, Washington. March.
- EA 2008. AMW-18 Area Investigation Report, Boomsnub/Airco Superfund Site, Hazel Dell, Washington. August.
- EA 2009. Draft Closure Plan, Volume Operable Units 2 and 3, Boomsnub/Airco Superfund Site, Hazel Dell, Washington. Revision 1. February.
- EA 2011. Northern Plume Investigation Report, Hazel Dell, Washington, Revision 1. December.
- EA 2012a. Work Plan, Monitoring Well Installation and Sampling in the Northern Plume Area Hazel Dell, Washington, Revision 1. January.
- EA 2012b. Work Plan for In-Situ Treatment of Areas of Residual Contamination, Boomsnub/Airco Superfund Site Hazel Dell, Washington, November.
- EA 2013. Operable Unit 2 In-well Stripping System Shutdown, Boomsnub/Airco Superfund Site, Hazel Dell, Washington. Letter # LN1337. June.
- EA 2014a. QASP Addendum for the Spring 2014 Semiannual Sampling Event, Boomsnub/Airco Superfund Site, Hazel Dell, Washington. February.
- EA 2014b. 2013 Annual Status Report for the Boomsnub/Airco Superfund Site, Hazel Dell, Washington, Draft. April.
- EA 2014c. Progress Report, October 2013—March 2014. Boomsnub/Airco Superfund Site, Hazel Dell, Washington. May.

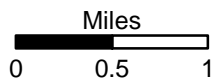
- EA 2014d. Results of Quarterly OU-2 Monitoring Well Sampling – Winter 2014. Boomsnub/Airco Superfund Site, Hazel Dell, Washington. LN1385. 8 May.
- EA 2014e. Results of Quarterly Monitoring Well Sampling – Winter 2014. Northern Plume Area, Hazel Dell, Washington. LN1386. 8 May.
- EA 2014f. Spring 2014 Semiannual Groundwater Sampling Report. Boomsnub/Airco Superfund Site, Hazel Dell, Washington. August.
- EA 2014g. QASP Addendum for the Fall 2014 Semiannual Sampling Event, Boomsnub/Airco Superfund Site, Hazel Dell, Washington, Revision 1. September.
- EA 2014h. Results of Quarterly OU-2 Monitoring Well Sampling – Summer 2014. Boomsnub/Airco Superfund Site, Hazel Dell, Washington. LN1414. 28 October.
- EA 2014i. Results of Quarterly Monitoring Well Sampling – Summer 2014. Northern Plume Area, Hazel Dell, Washington. LN1415. 28 October.
- EA 2014f. Progress Report, April—September 2014. Boomsnub/Airco Superfund Site, Hazel Dell, Washington. November.
- EA 2015. Fall 2014 Semiannual Groundwater Sampling Report, Boomsnub/Airco Superfund Site, Hazel Dell, Washington. February.
- EPA 2000. EPA, Region 10, Record of Decision. Boomsnub/Airco Superfund Site, Hazel Dell, Washington. February.
- EPA 2001. Action Memorandum for OU-2. Boomsnub/Airco Superfund Site, Hazel Dell, Washington. September.
- EPA 2002. Administrative Order on Consent. EPA Docket Number CERCLA 10-2002-0052. September.
- EPA 2007a. Consent Decree between the BOC Group, Inc. and the United States of America, Docket Number C07-5163FDB.
- EPA 2007b. Groundwater Monitoring Network Optimization: Frontier Hard Chrome Superfund Site, Vancouver, Washington. December 2007.
- ICF Kaiser 1999. Remedial Investigation Report. Boomsnub/Airco Superfund Site, Hazel Dell, Washington. March.
- URS 2003. Soil Characterization: Groundwater Treatment System Compound. Boomsnub/Airco Superfund Site, Hazel Dell, Washington. April.

FIGURES

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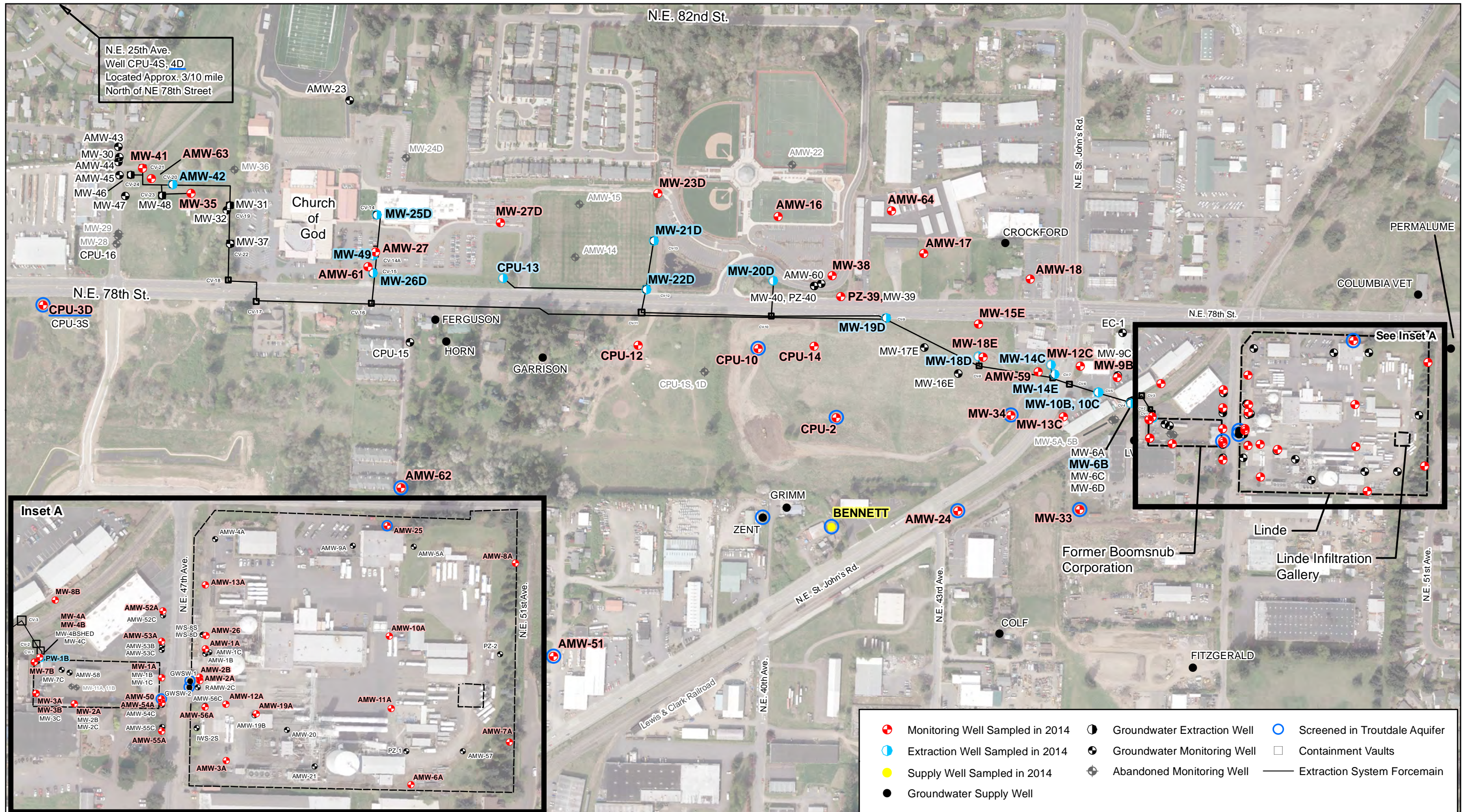


BOOMSNUB / AIRCO SUPERFUND SITE
 HAZEL DELL, WASHINGTON

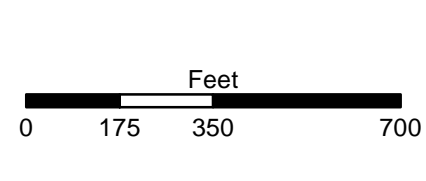
FIGURE 1
 SITE LOCATION MAP

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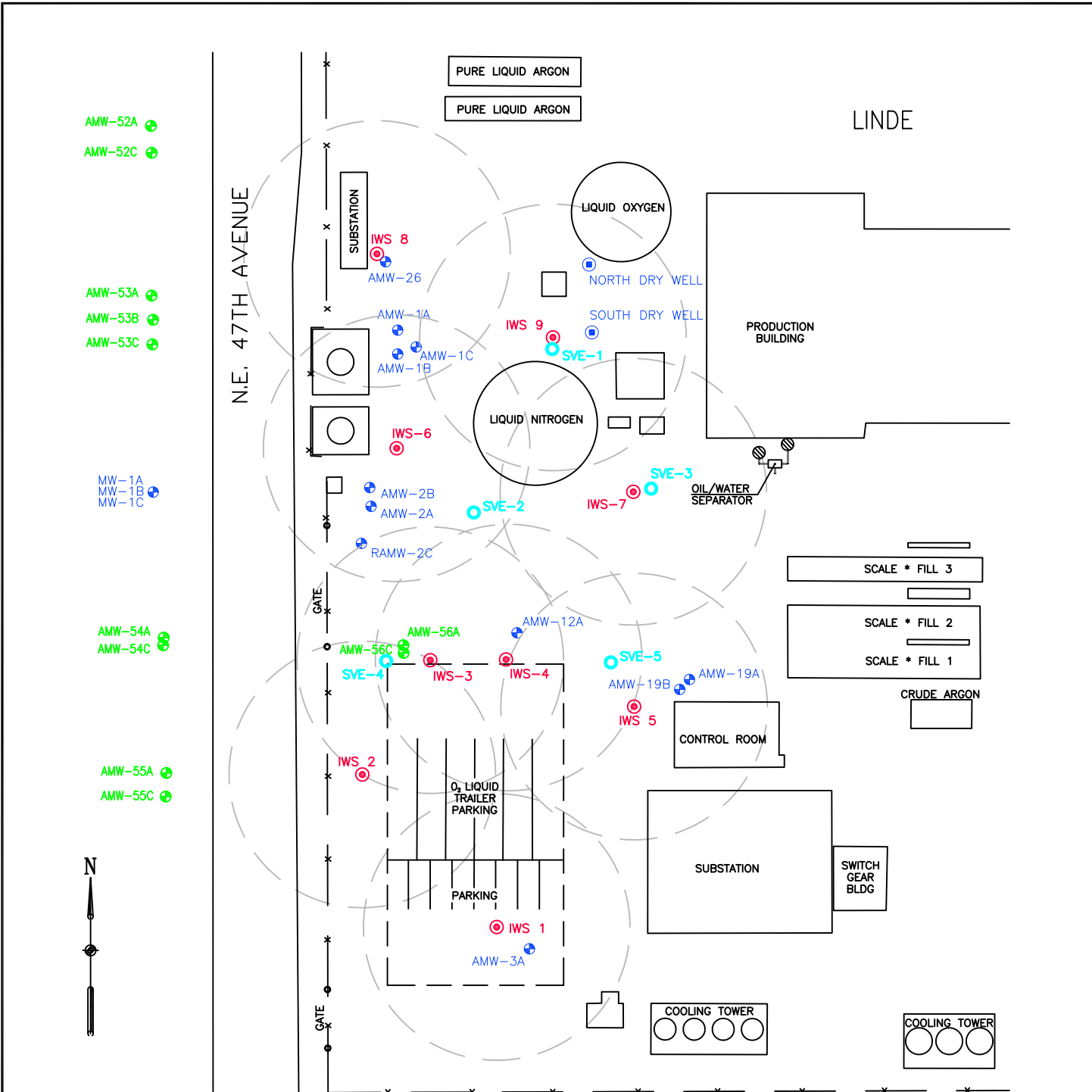


**BOOMSNUB / AIRCO SUPERFUND SITE
 HAZEL DELL, WASHINGTON**

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**FIGURE 2
 MONITORING AND EXTRACTION WELL
 NETWORK**

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LINDE

NE. 47TH AVENUE

AMW-52A
AMW-52C

AMW-53A
AMW-53B
AMW-53C

MW-1A
MW-1B
MW-1C

AMW-54A
AMW-54C

AMW-55A
AMW-55C



PURE LIQUID ARGON

PURE LIQUID ARGON

LIQUID OXYGEN

NORTH DRY WELL

SOUTH DRY WELL

PRODUCTION BUILDING

LIQUID NITROGEN

OIL/WATER SEPARATOR

SCALE * FILL 3

SCALE * FILL 2

SCALE * FILL 1

CRUDE ARGON

CONTROL ROOM

SUBSTATION

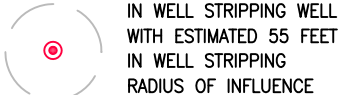
SWITCH GEAR BLDG

COOLING TOWER

COOLING TOWER

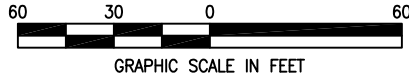
LEGEND

- DRY WELL
- AMW-3A SOURCE AREA MONITORING WELL
- AMW-55C DOWNGRADIENT MONITORING WELL
- IWS IN WELL STRIPPING WELL
- SVE-5 SOIL VAPOR EXTRACTION WELL



IN WELL STRIPPING WELL WITH ESTIMATED 55 FEET IN WELL STRIPPING RADIUS OF INFLUENCE

- A - SCREENED AT WATER TABLE ~ 25' TO 35' BGS
- B - SCREENED AT MIDAQUIFER ~ 45' TO 55' BGS
- C - SCREENED AT BASE OF AQUIFER ~ 60' TO 70' BGS



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FIGURE 3
OU-2 TREATMENT AND MONITORING WELLS

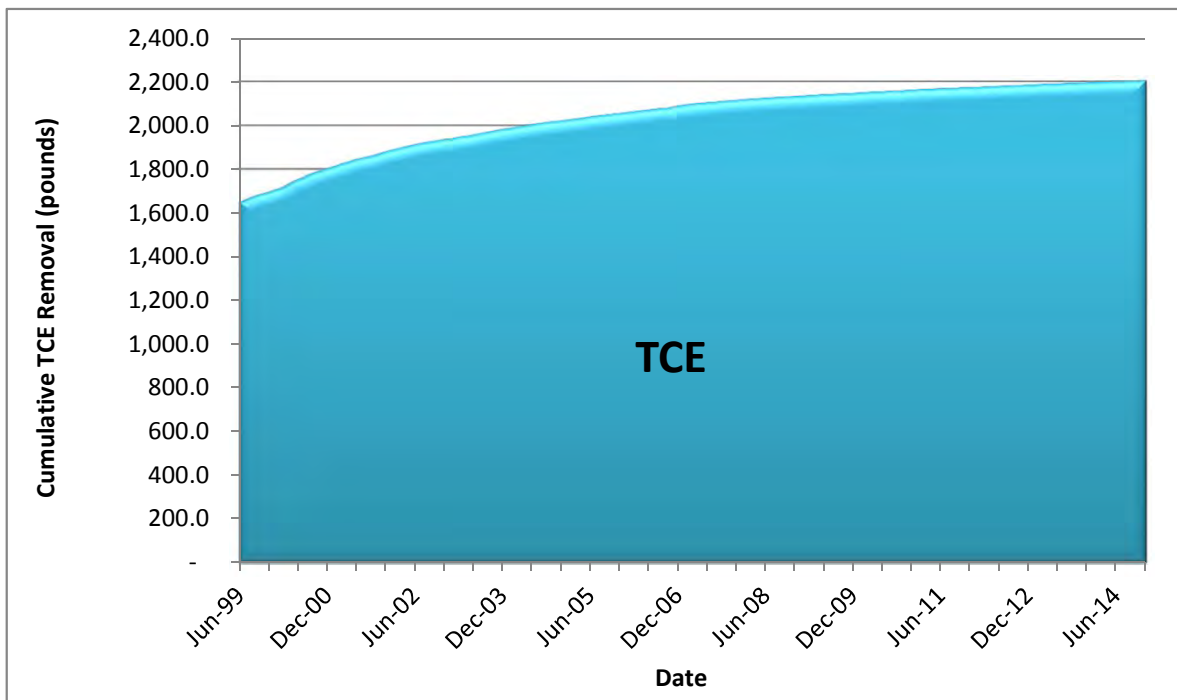
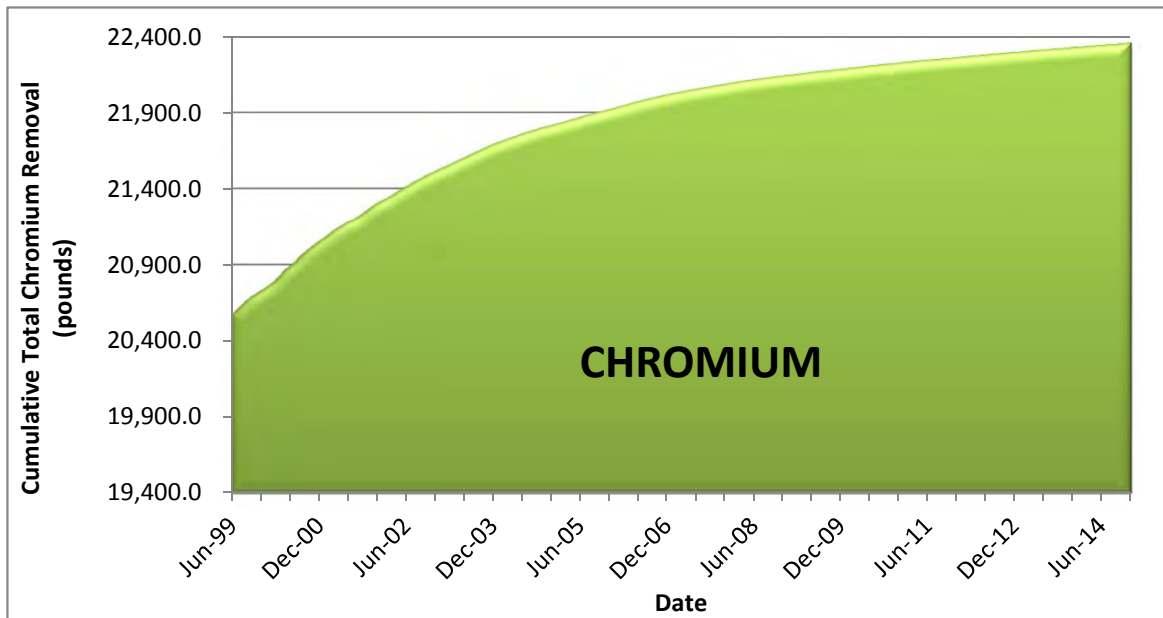


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NOTE: WELL LOCATIONS ARE APPROXIMATE

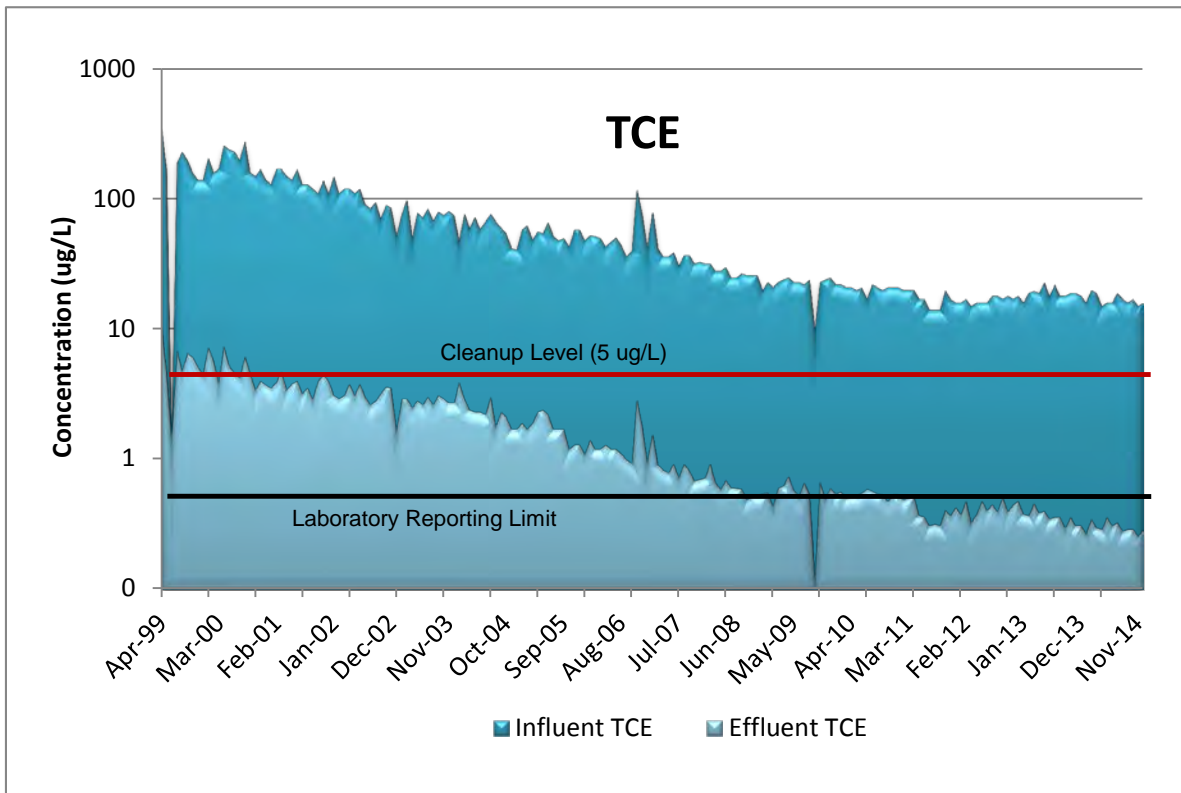
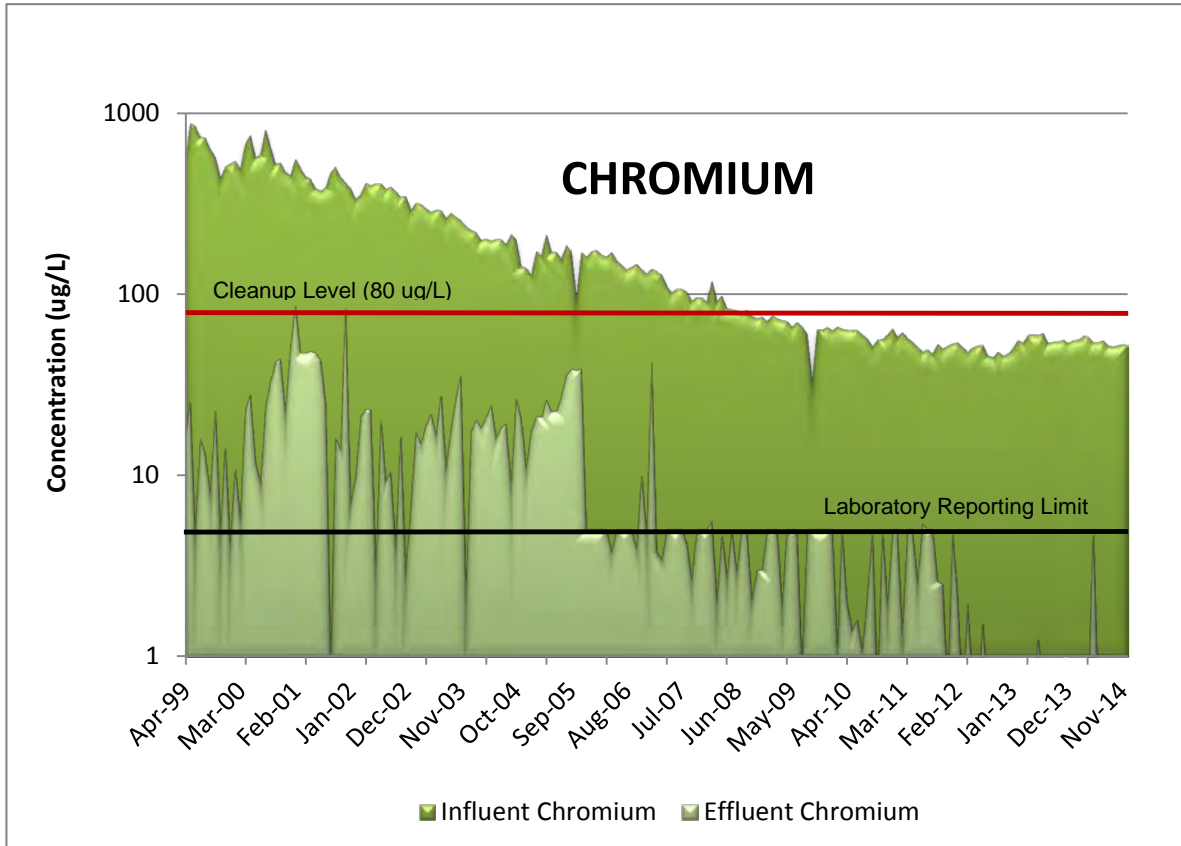
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FIGURE 4. OU-3 CUMULATIVE TOTAL REMOVAL OVER TIME



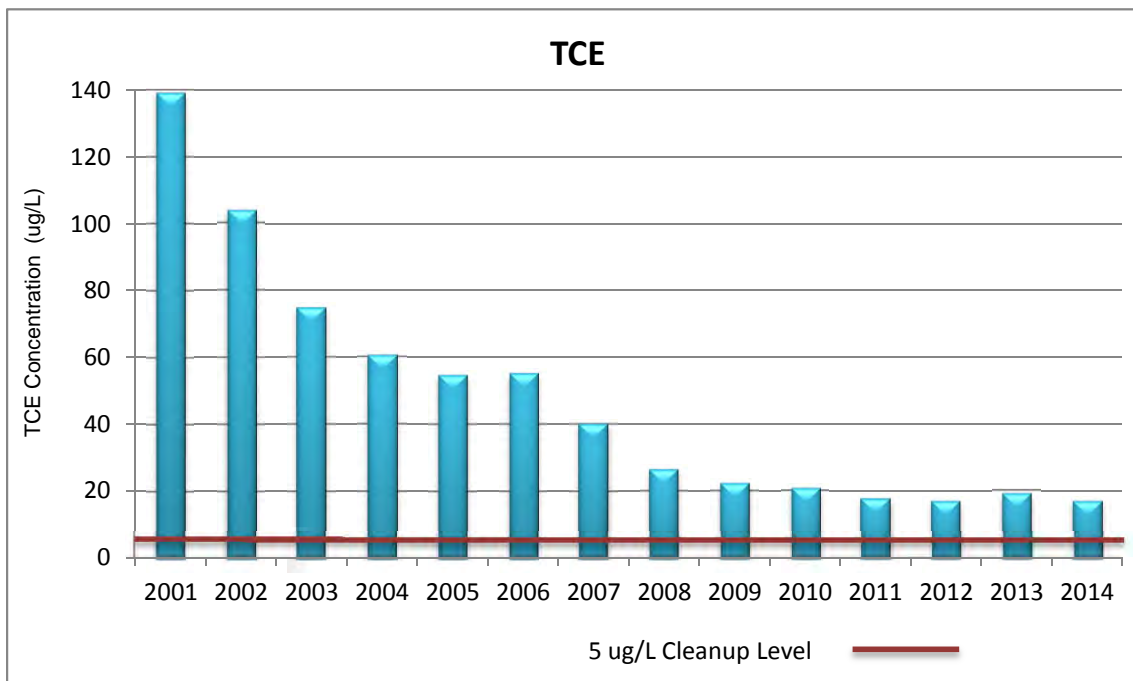
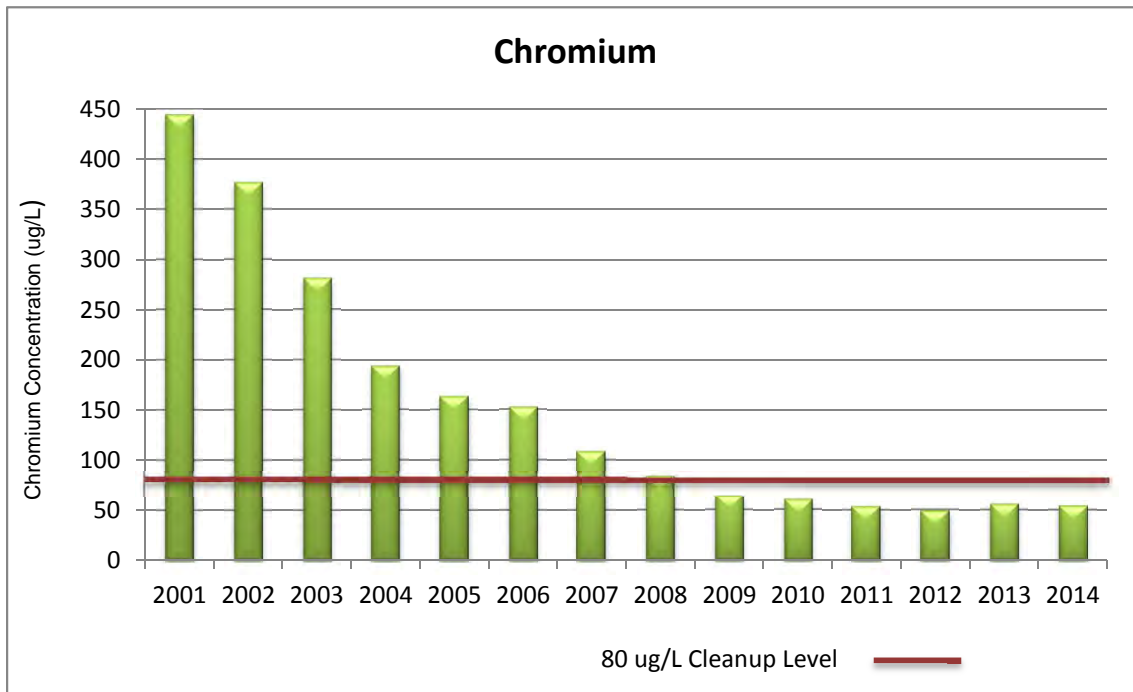
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FIGURE 5. OU-3 INFLUENT AND EFFLUENT CONCENTRATIONS VERSUS TIME - LOGARITHMIC SCALE



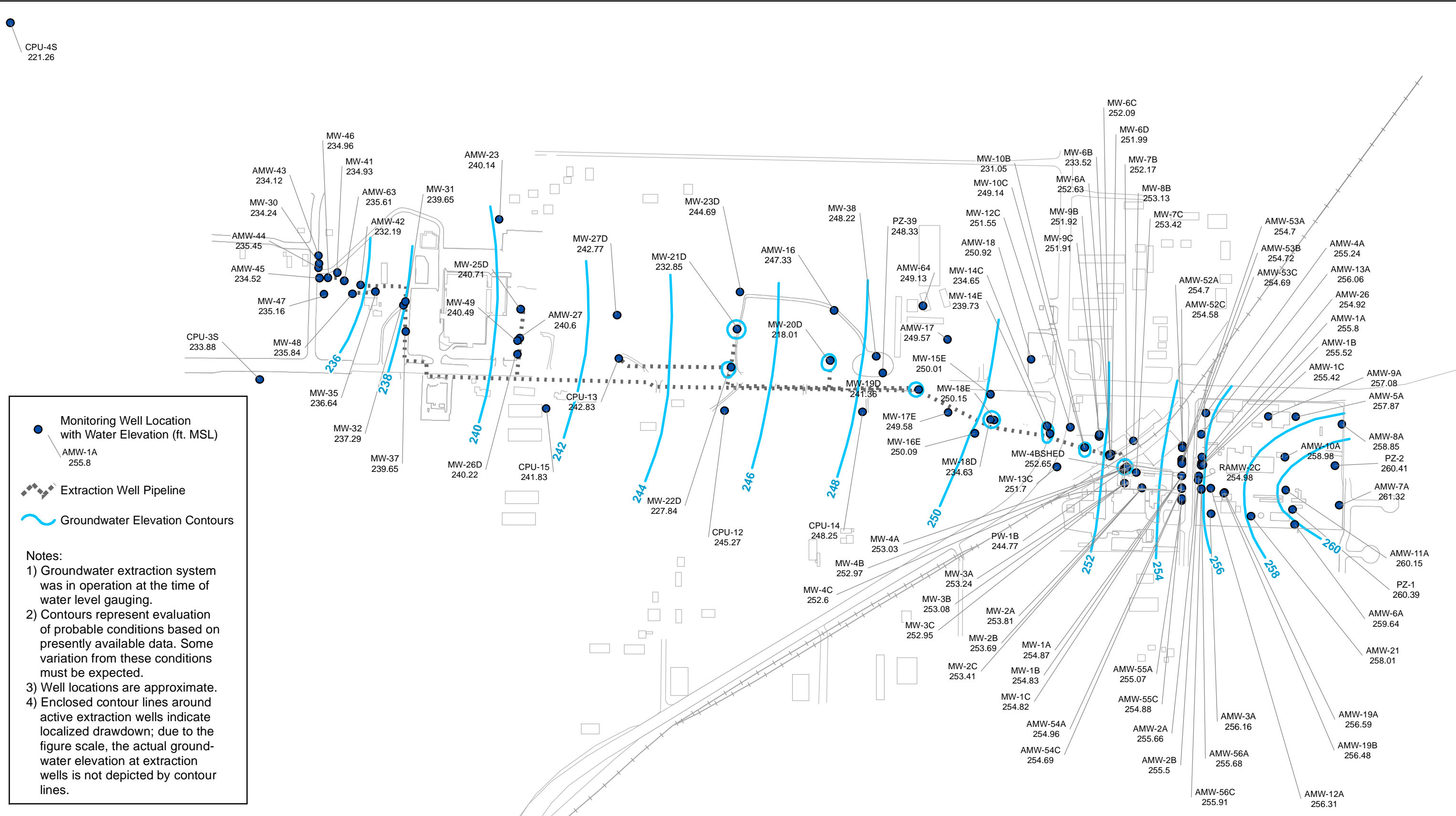
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FIGURE 6. OU-3 INFLUENT CONCENTRATIONS OVER TIME



Note: Concentrations per year are an average of monthly data.

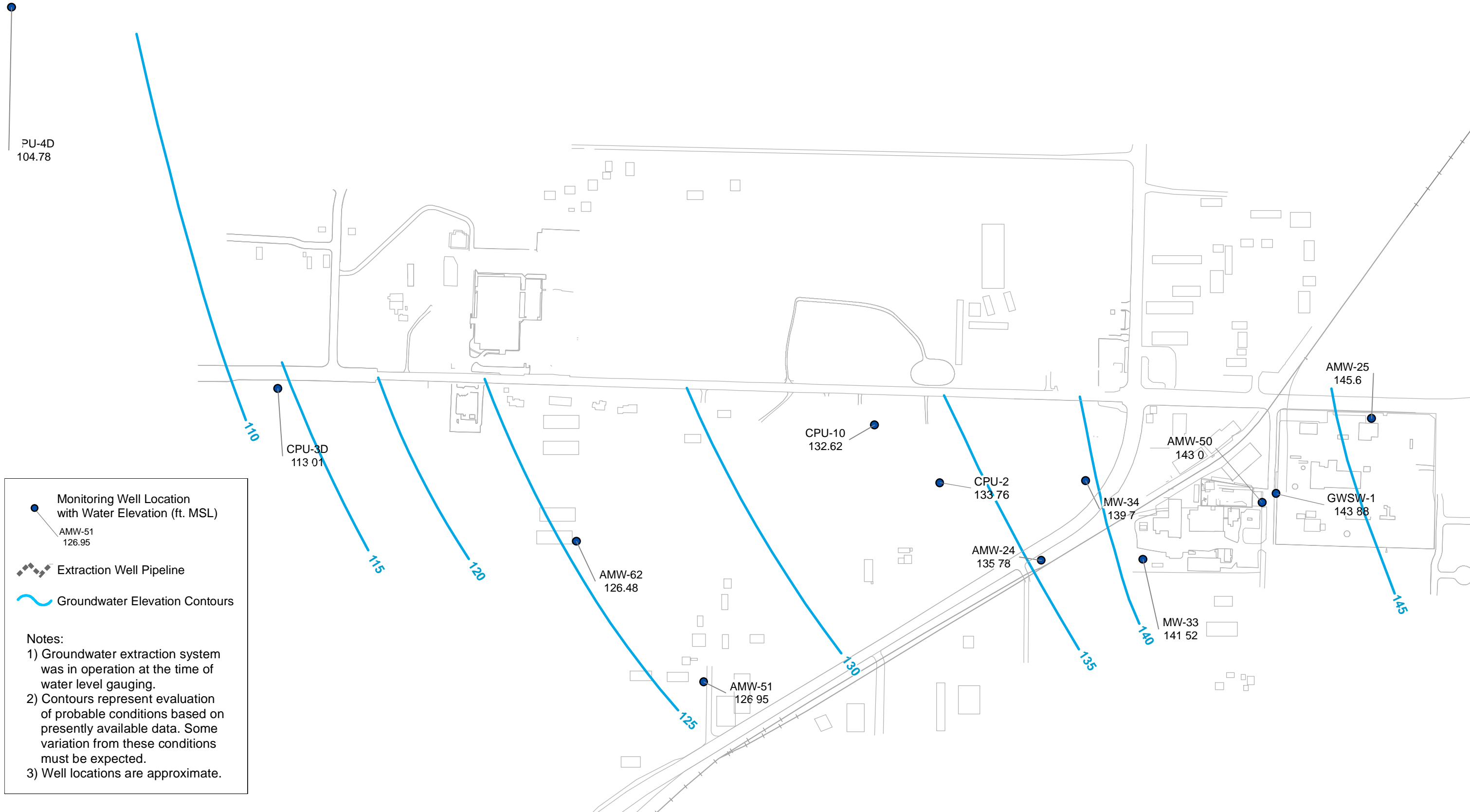
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● Monitoring Well Location with Water Elevation (ft. MSL)
 --- Extraction Well Pipeline
 ~~~~~ Groundwater Elevation Contours

**Notes:**  
 1) Groundwater extraction system was in operation at the time of water level gauging.  
 2) Contours represent evaluation of probable conditions based on presently available data. Some variation from these conditions must be expected.  
 3) Well locations are approximate.  
 4) Enclosed contour lines around active extraction wells indicate localized drawdown; due to the figure scale, the actual groundwater elevation at extraction wells is not depicted by contour lines.

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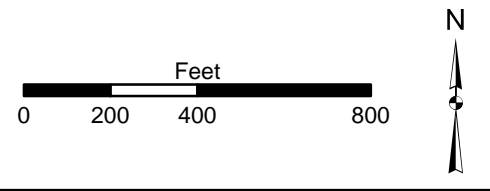
Monitoring Well Location with Water Elevation (ft. MSL)  
 AMW-51  
 126.95

Extraction Well Pipeline

Groundwater Elevation Contours

**Notes:**  
 1) Groundwater extraction system was in operation at the time of water level gauging.  
 2) Contours represent evaluation of probable conditions based on presently available data. Some variation from these conditions must be expected.  
 3) Well locations are approximate.

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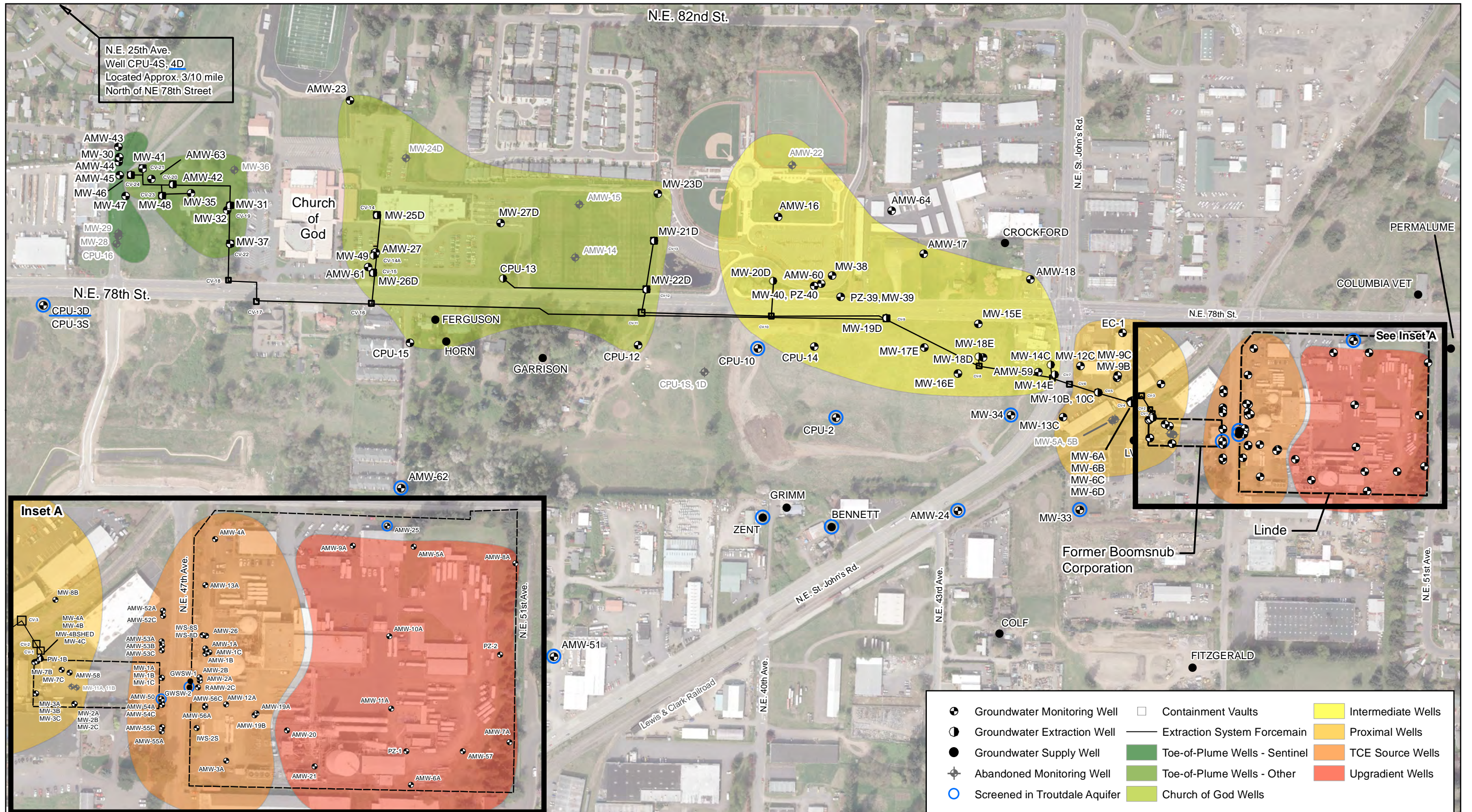


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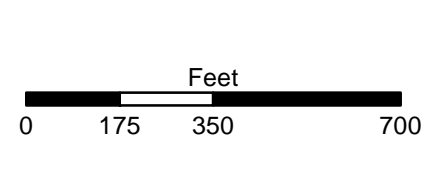
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 File Name: Fig\_8\_GW\_Troutdale\_2014

**FIGURE 8**  
**TROUTDALE AQUIFER GROUNDWATER CONTOURS**  
**FALL 2014**

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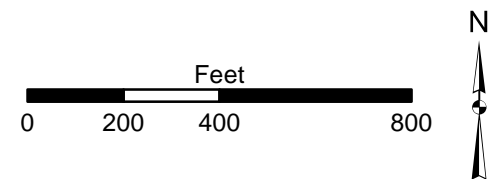
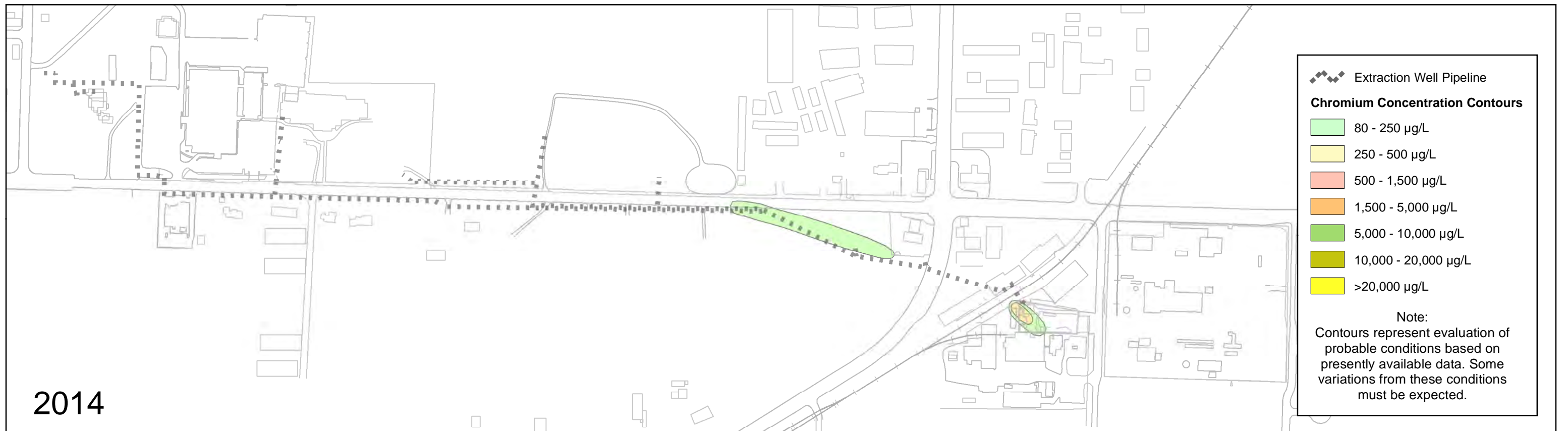
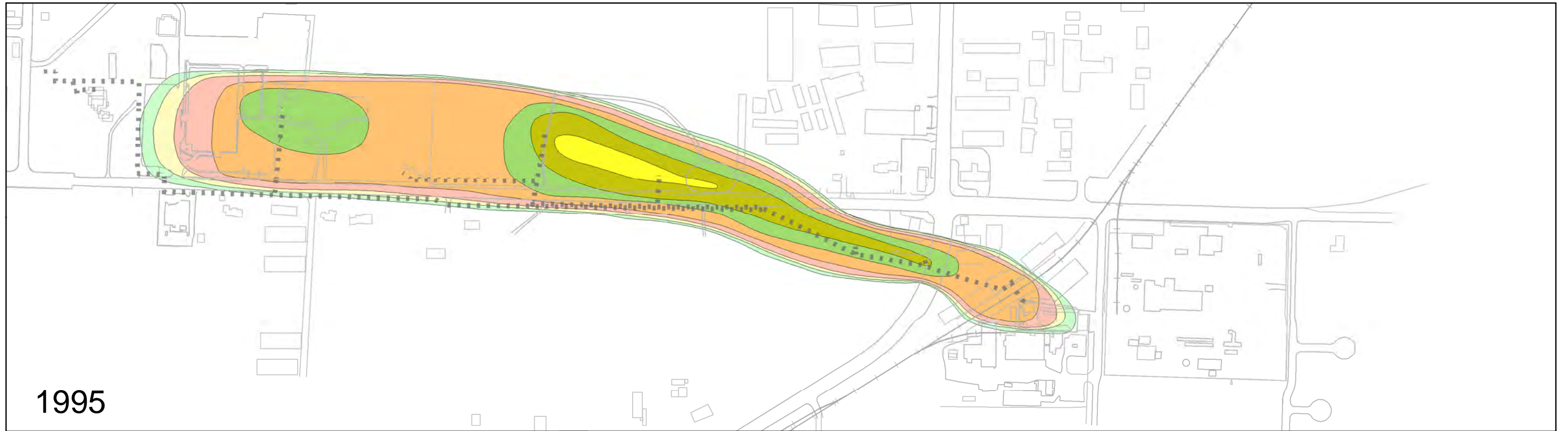


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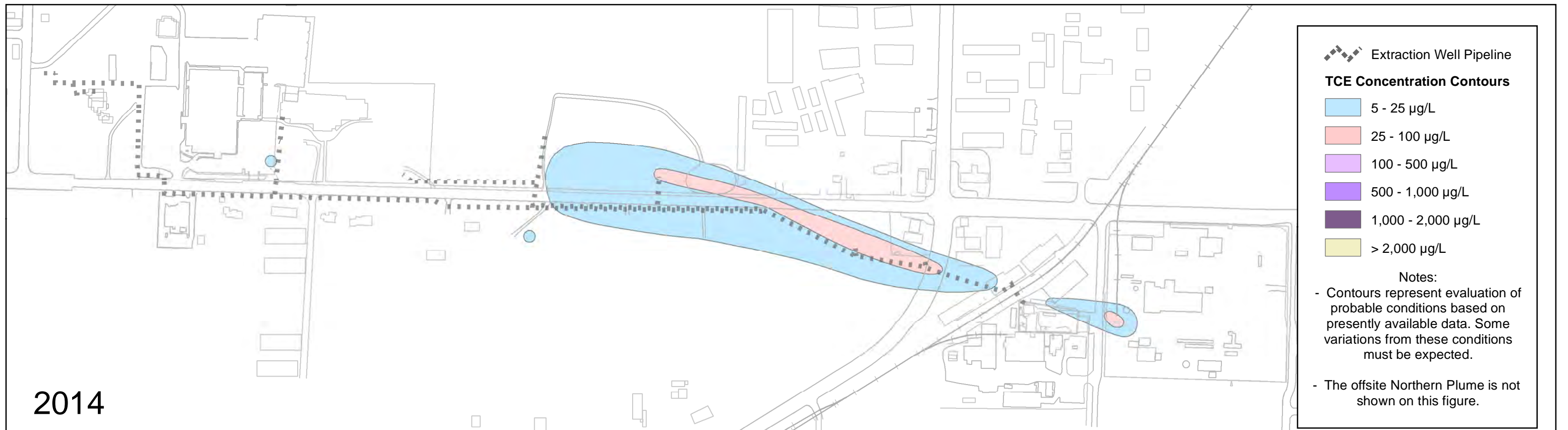
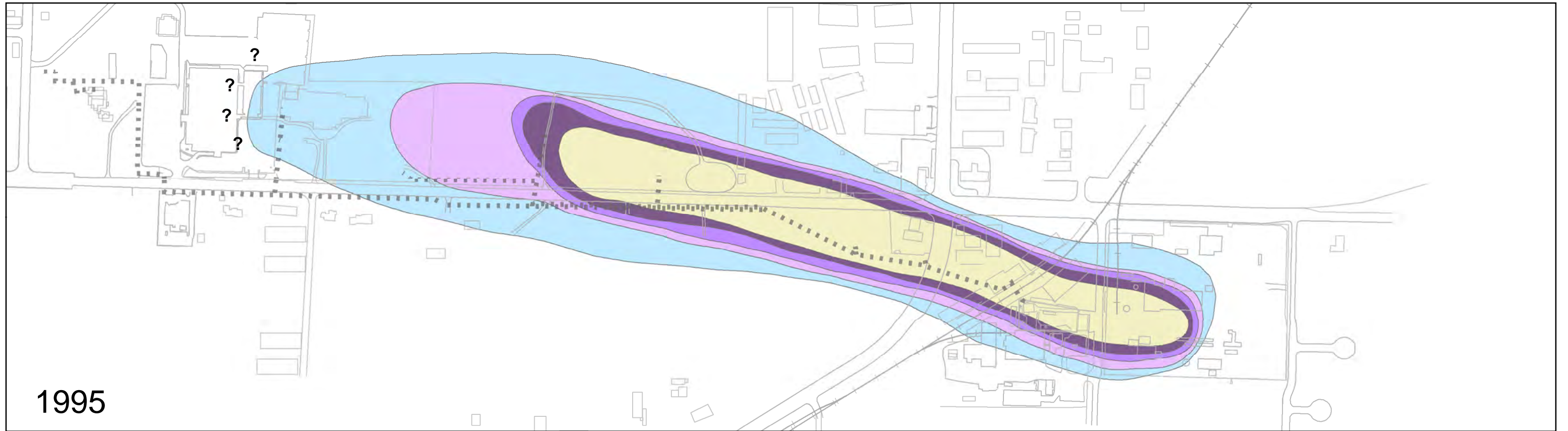
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**FIGURE 9  
 EXTRACTION AND MONITORING  
 WELL GROUPINGS**

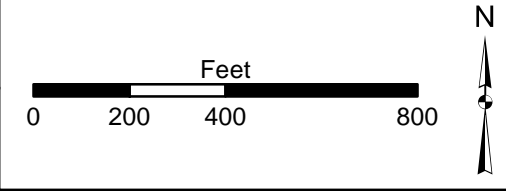
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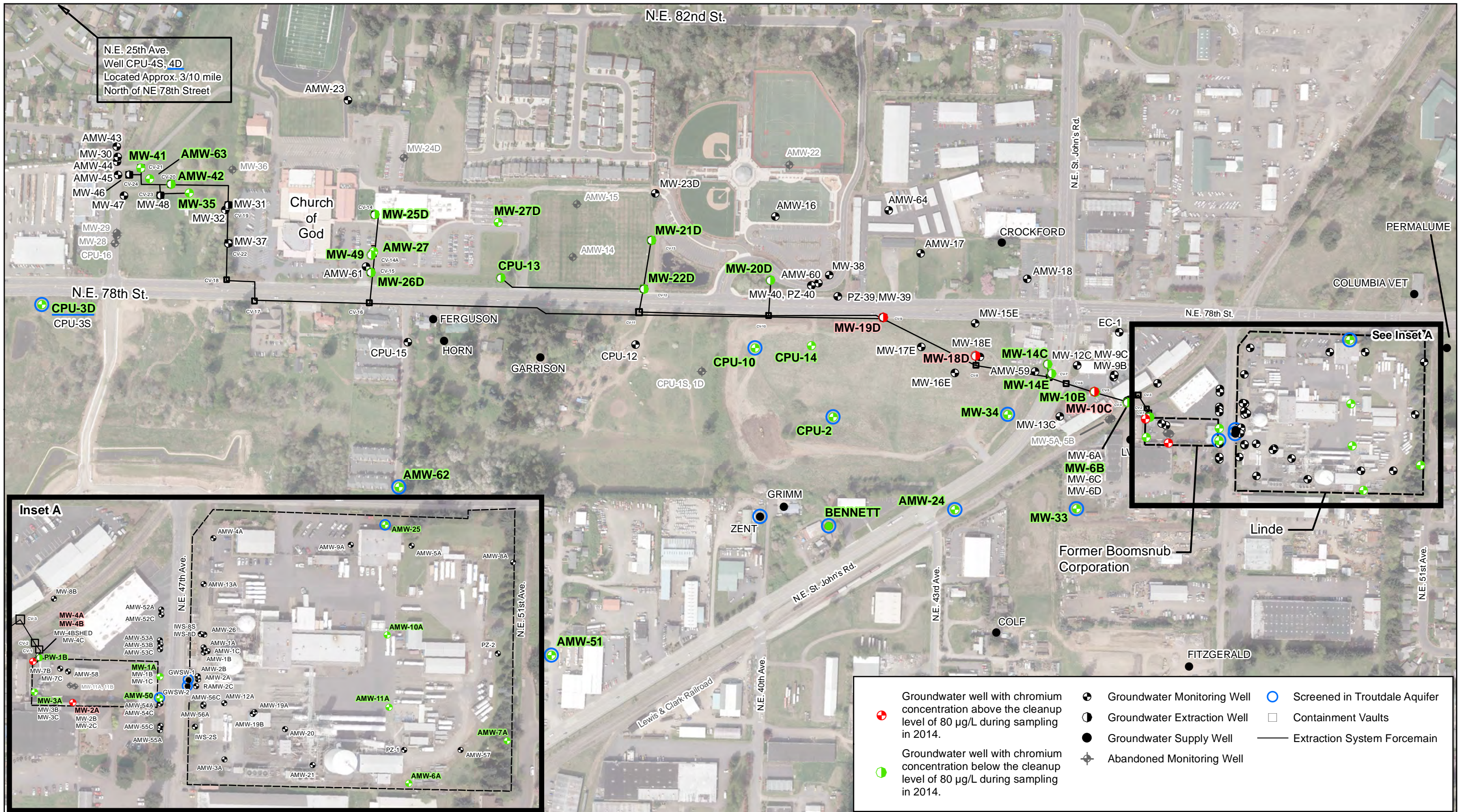


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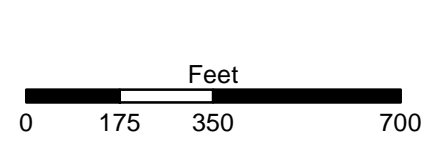
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 File Name: Fig\_11\_TCE\_Plume

FIGURE 11  
 TRICHLOROETHENE PLUME COMPARISON  
 1995 VS. 2014

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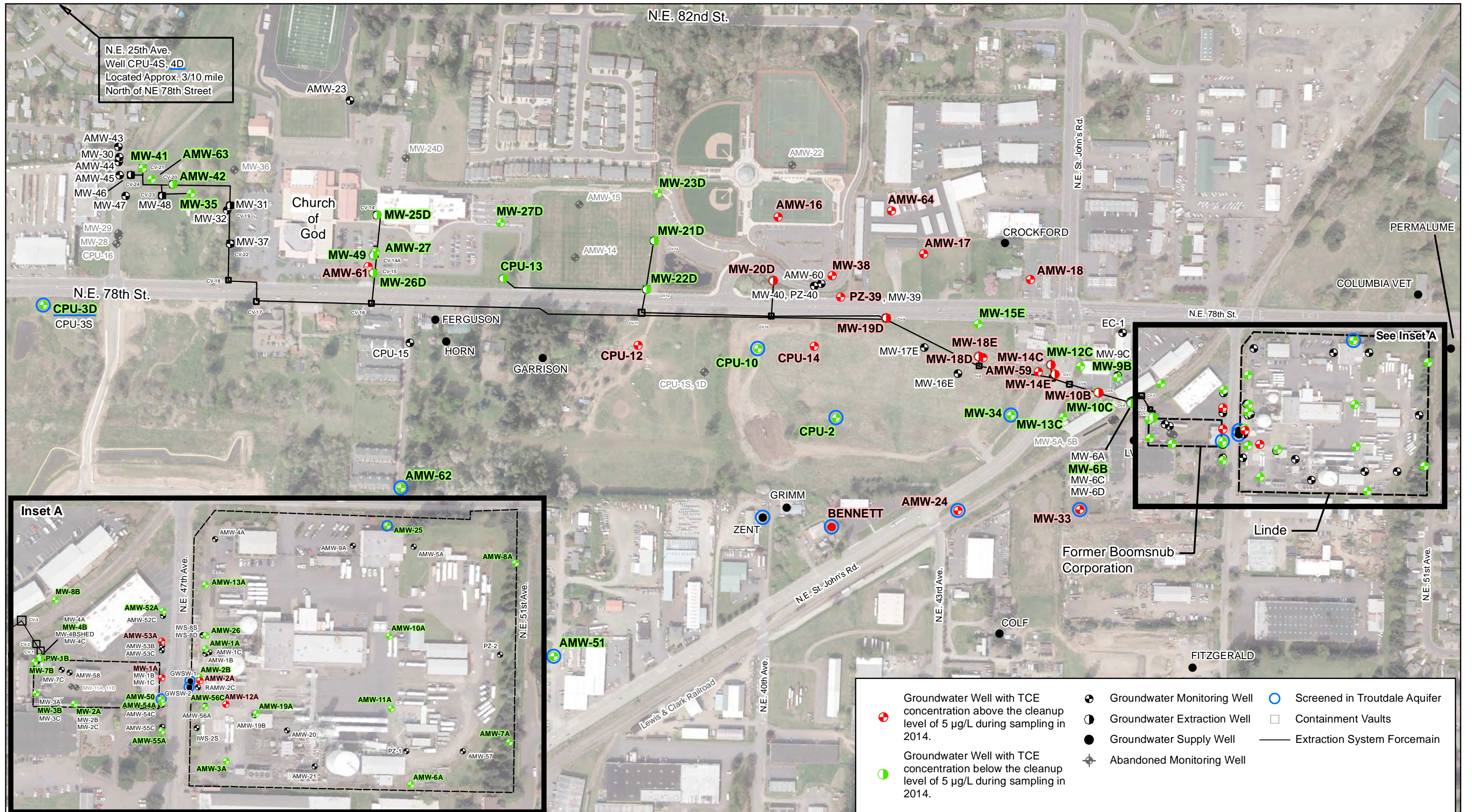


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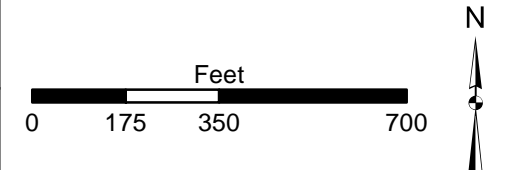
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**FIGURE 12  
 WELLS WITH CHROMIUM CONCENTRATIONS  
 ABOVE THE CLEANUP LEVEL IN 2014**

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EA Project No. 1449545  
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**FIGURE 13  
 WELLS WITH TCE CONCENTRATIONS  
 ABOVE THE CLEANUP LEVEL IN 2014**

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## **TABLES**

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TABLE 1. 2014 EXTRACTION WELL PUMPING RATES

| Flow Rates (gpm)                                                                                                                                                              |              |              |              |              |              |              |              |              |              |              |              |              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Well ID                                                                                                                                                                       | January      | February     | March        | April        | May          | June         | July         | August       | September    | October      | November     | December     |
| MW-6B                                                                                                                                                                         | 6.7          | 7.0          | 7.8          | 7.2          | 7.2          | 7.2          | 6.8          | 6.8          | 6.2          | 6.2          | 6.2          | 6.8          |
| MW-10B                                                                                                                                                                        | 9.0          | 9.0          | 9.0          | 9.0          | 9.0          | 9.0          | 9.0          | 9.0          | 10.0         | 11.0         | 11.0         | 10.0         |
| MW-10C                                                                                                                                                                        | 10.1         | 10.1         | 10.5         | 10.4         | 10.4         | 10.4         | 10.3         | 10.3         | 11.1         | 10.0         | 10.0         | 11.2         |
| MW-14C                                                                                                                                                                        | 14.0         | 14.0         | 14.0         | 14.0         | 14.0         | 14.0         | 14.0         | 14.0         | 13.0         | 12.4         | 12.4         | 13.2         |
| MW-14E                                                                                                                                                                        | 6.7          | 6.7          | 6.7          | 6.5          | 6.5          | 6.7          | 5.7          | 5.7          | 5.3          | 5.5          | 5.5          | 6.2          |
| MW-18D                                                                                                                                                                        | 16.0         | 16.0         | 17.0         | 17.0         | 17.0         | 17.0         | 17.0         | 17.0         | 17.0         | 17.0         | 17.0         | 17.0         |
| MW-19D                                                                                                                                                                        | 10.0         | 10.0         | 10.0         | 10.0         | 10.0         | 10.0         | 9.2          | 9.2          | 9.0          | 9.0          | 10.0         | 9.0          |
| MW-20D                                                                                                                                                                        | 16.0         | 16.8         | 17.5         | 16.3         | 16.3         | 16.3         | 16.2         | 16.4         | 15.0         | 15.7         | 15.9         | 15.7         |
| MW-21D                                                                                                                                                                        | 11.2         | 12.3         | 12.9         | 12.7         | 12.7         | 13.0         | 12.7         | 12.7         | 10.0         | 10.0         | 10.1         | 9.9          |
| MW-22D                                                                                                                                                                        | 12.2         | Off          | 9.7          | 16.6         | 16.2         | 15.9         | 16.4         | 16.4         | 16.0         | 15.7         | 15.7         | 15.7         |
| PW-1B                                                                                                                                                                         | 10.0         | 10.0         | 11.0         | 10.4         | 10.4         | 10.3         | 10.2         | 10.2         | 11.0         | 11.1         | 11.0         | 11.2         |
| <b>Total</b>                                                                                                                                                                  | <b>121.9</b> | <b>111.9</b> | <b>126.1</b> | <b>130.1</b> | <b>129.7</b> | <b>129.8</b> | <b>127.5</b> | <b>127.7</b> | <b>123.6</b> | <b>123.6</b> | <b>124.8</b> | <b>125.9</b> |
| Notes:<br>MW-22D was off for part of February for maintenance due to fouling from microbial growth. The well was cleaned and returned to service.<br>gpm = gallons per minute |              |              |              |              |              |              |              |              |              |              |              |              |

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TABLE 2. WELLS AND RECOMMENDED SAMPLING FREQUENCIES

| Well Name               | Well Type | GW Model Layer | Top of Screen |           | Bottom of Screen |           | TCE               |                   |                          |                             |                         |                            | Chromium                                              |                   |                   |                          |                             |                         | MAROS Recommended Sampling Frequency |                                                       | 2014 Sampling Frequency <sup>1</sup> |          | 2015 Recommendations <sup>2</sup> |          | Rationale for Frequency |            |            |               |                                                                                                |
|-------------------------|-----------|----------------|---------------|-----------|------------------|-----------|-------------------|-------------------|--------------------------|-----------------------------|-------------------------|----------------------------|-------------------------------------------------------|-------------------|-------------------|--------------------------|-----------------------------|-------------------------|--------------------------------------|-------------------------------------------------------|--------------------------------------|----------|-----------------------------------|----------|-------------------------|------------|------------|---------------|------------------------------------------------------------------------------------------------|
|                         |           |                | Depth         | Elevation | Depth            | Elevation | Min. Conc. (ug/L) | Max. Conc. (ug/L) | Most Recent Conc. (ug/L) | Most Recent Data Qualifiers | Most Recent Sample Date | Conc. Below Cleanup Levels | Conc. Statistically Below Cleanup Levels <sup>3</sup> | Min. Conc. (ug/L) | Max. Conc. (ug/L) | Most Recent Conc. (ug/L) | Most Recent Data Qualifiers | Most Recent Sample Date | Conc. Below Cleanup Levels           | Conc. Statistically Below Cleanup Levels <sup>3</sup> | TCE                                  | Chromium | TCE                               | Chromium |                         | TCE        | Chromium   |               |                                                                                                |
|                         |           |                |               |           |                  |           |                   |                   |                          |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                                      |                                                       |                                      |          |                                   |          |                         |            |            |               |                                                                                                |
| <b>Troutdale Wells</b>  |           |                |               |           |                  |           |                   |                   |                          |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                                      |                                                       |                                      |          |                                   |          |                         |            |            |               |                                                                                                |
| AMW-24                  | M/D       | 6              | 190           | 74.72     | 200              | 64.72     | 9.00              | 25.0              | 10.0                     |                             |                         | 10/14/2014                 | No                                                    | NA                | U                 | 13.60                    | 13.6                        |                         |                                      | 10/14/2014                                            | Yes                                  | NA       | NA                                | NA       | Annual                  | Annual     | NC         | Every 5 Years | Troutdale well - TCE impacted                                                                  |
| AMW-25                  | M/D       | 6              | 215           | 67.94     | 225              | 57.94     | U                 | U                 | U                        | U                           |                         | 10/14/2014                 | Yes                                                   | NA                | U                 | 4.10                     | 1.2                         | J                       |                                      | 10/14/2014                                            | Yes                                  | NA       | NA                                | NA       | Biennial                | Biennial   | NC         | NFS           | Troutdale well - unimpacted; upgradient well                                                   |
| AMW-50                  | M/D       | 6              | 185.19        | 97.59     | 195.19           | 87.59     | U                 | 0.16              | U                        | U                           |                         | 10/14/2014                 | Yes                                                   | NA                | U                 | 37.7                     | 9.80                        |                         |                                      | 10/14/2014                                            | Yes                                  | NA       | NA                                | NA       | Biennial                | Biennial   | NC         | NFS           | Troutdale well - unimpacted                                                                    |
| AMW-51                  | M/D       | 6              | 185.7         | 72.74     | 195.7            | 62.74     | U                 | 0.32              | 0.15                     | J                           |                         | 10/14/2014                 | Yes                                                   | NA                | U                 | 10.1                     | 4.10                        |                         |                                      | 10/14/2014                                            | Yes                                  | NA       | NA                                | NA       | Biennial                | Biennial   | NC         | NFS           | Troutdale well - unimpacted                                                                    |
| AMW-62                  | M/D       | 6              | 185.73        | 72.93     | 195.73           | 62.93     | U                 | U                 | U                        | U                           |                         | 10/14/2014                 | Yes                                                   | NA                | U                 | 1.5                      | 1.5                         | J                       |                                      | 10/14/2014                                            | Yes                                  | NA       | NA                                | NA       | Biennial                | Biennial   | NC         | NFS           | Troutdale well - unimpacted                                                                    |
| CPU-2                   | M         | 6              | 186.13        | 73.4      | 196.13           | 63.4      | U                 | U                 | U                        | U                           |                         | 10/16/2014                 | Yes                                                   | NA                | U                 | 14.0                     | U                           | UJ                      |                                      | 10/16/2014                                            | Yes                                  | NA       | NA                                | NA       | Biennial                | Biennial   | NC         | NFS           | Troutdale well - unimpacted                                                                    |
| CPU-3D                  | M/D       | 6              | 212.38        | 34.39     | 217.38           | 29.39     | U                 | U                 | U                        | U                           |                         | 10/14/2014                 | Yes                                                   | NA                | U                 | 11.0                     | 3.80                        | J                       |                                      | 10/14/2014                                            | Yes                                  | NA       | NA                                | NA       | Biennial                | Biennial   | NC         | NFS           | Troutdale well - unimpacted                                                                    |
| CPU-10                  | M         | 6              | 186.9         | 74.34     | 196.9            | 64.34     | U                 | U                 | U                        | U                           |                         | 10/21/2014                 | Yes                                                   | NA                | U                 | 23.2                     | U                           | UJ                      |                                      | 10/21/2014                                            | Yes                                  | NA       | NA                                | NA       | Biennial                | Biennial   | NC         | NFS           | Troutdale well - unimpacted                                                                    |
| MW-33                   | M/D       | 6              | 205           | 67.55     | 215              | 57.55     | 6.40              | 19.0              | 11.0                     |                             |                         | 10/14/2014                 | No                                                    | NA                | U                 | 40.5                     | 2.2                         | J                       |                                      | 10/14/2014                                            | Yes                                  | NA       | NA                                | NA       | Annual                  | Annual     | NC         | Every 5 Years | Troutdale well - TCE impacted                                                                  |
| MW-34                   | M/D       | 6              | 195           | 72.33     | 205              | 62.33     | U                 | U                 | U                        | U                           |                         | 10/14/2014                 | Yes                                                   | NA                | U                 | 25.4                     | U                           | U                       |                                      | 10/14/2014                                            | Yes                                  | NA       | NA                                | NA       | Biennial                | Biennial   | NC         | NFS           | Troutdale well - unimpacted                                                                    |
| BENNETT                 | Other     | N/A            | N/A           | N/A       | 180              | N/A       | 2.00              | 10.0              | 5.1                      |                             |                         | 10/15/2014                 | No                                                    | NA                | U                 | U                        | U                           | U                       |                                      | 10/15/2014                                            | Yes                                  | NA       | NA                                | NA       | Semiannual              | Semiannual | NC         | Biennial      | Troutdale well - TCE impacted; CPU request for semiannual sampling for TCE                     |
| <b>Upgradient Wells</b> |           |                |               |           |                  |           |                   |                   |                          |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                                      |                                                       |                                      |          |                                   |          |                         |            |            |               |                                                                                                |
| AMW-6A                  | M/D       | 1              | 24            | 260.56    | 34               | 250.56    | U                 | 0.93              | 0.24                     | J                           |                         | 10/14/2014                 | Yes                                                   | Yes               | U                 | 17.7                     | 9.60                        |                         |                                      | 10/14/2014                                            | Yes                                  | Yes      | NFS                               | NFS      | Biennial                | Biennial   | NC         | NC            | Infiltration gallery monitoring well                                                           |
| AMW-7A                  | M/D       | 1              | 24.25         | 260.77    | 34.25            | 250.77    | U                 | 1.00              | 0.21                     | J                           |                         | 10/14/2014                 | Yes                                                   | Yes               | U                 | 5.20                     | 0.70                        | J                       |                                      | 10/14/2014                                            | Yes                                  | Yes      | NFS                               | NFS      | Biennial                | Biennial   | NC         | NC            | Infiltration gallery monitoring well                                                           |
| AMW-8A                  | M         | 1              | 24.5          | 260.99    | 34.5             | 250.99    | 0.33              | 692               | 0.46                     | J                           |                         | 10/16/2014                 | Yes                                                   | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Biennial                | NA         | NC         | NA            | Upgradient well - check for possible offsite TCE impacts                                       |
| AMW-10A                 | M/D       | 1              | 21.5          | 262.51    | 31.5             | 252.51    | U                 | 0.79              | 0.14                     | J                           |                         | 10/14/2014                 | Yes                                                   | Yes               | U                 | 18.7                     | 8.30                        |                         |                                      | 10/14/2014                                            | Yes                                  | Yes      | NFS                               | NFS      | Biennial                | Biennial   | NC         | NC            | Infiltration gallery monitoring well                                                           |
| AMW-11A                 | M/D       | 1              | 24            | 259.21    | 34               | 249.21    | U                 | 1.50              | 0.27                     | J                           |                         | 10/14/2014                 | Yes                                                   | Yes               | U                 | 9.40                     | 1.70                        | J                       |                                      | 10/14/2014                                            | Yes                                  | Yes      | NFS                               | NFS      | Biennial                | Biennial   | NC         | NC            | Infiltration gallery monitoring well                                                           |
| <b>TCE Source Wells</b> |           |                |               |           |                  |           |                   |                   |                          |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                                      |                                                       |                                      |          |                                   |          |                         |            |            |               |                                                                                                |
| AMW-1A                  | M         | 1              | 24.24         | 259.85    | 34.24            | 249.85    | U                 | 1290              | 2.3                      |                             |                         | 10/16/2014                 | Yes                                                   | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Quarterly               | NA         | Semiannual | NA            | OU2 IWS shutdown monitoring (TCE fluctuating above and below cleanup level)                    |
| AMW-2A                  | M         | 1              | 24.2          | 259.83    | 34.2             | 249.83    | 1.1               | 5350              | 60.0                     |                             |                         | 10/16/2014                 | No                                                    | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Quarterly               | NA         | NC         | NA            | OU2 IWS shutdown monitoring; well cluster - most impacted (TCE above cleanup level)            |
| AMW-2B                  | M         | 1/2            | 47            | 237.11    | 57               | 227.11    | U                 | 30.8              | 0.34                     | J                           |                         | 10/16/2014                 | Yes                                                   | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Annual                  | NA         | NC         | NA            | OU2 IWS shutdown monitoring; well cluster - less frequent sampling                             |
| AMW-3A                  | M         | 1              | 24.5          | 259.42    | 34.5             | 249.42    | 0.16              | 34.0              | 0.34                     | J                           |                         | 10/16/2014                 | Yes                                                   | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Annual                  | NA         | NC         | NA            | OU2 IWS shutdown monitoring (TCE below cleanup level)                                          |
| AMW-12A                 | M         | 1              | 24.05         | 259.69    | 34.05            | 249.69    | 19.0              | 19300             | 23                       |                             |                         | 10/16/2014                 | No                                                    | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Quarterly               | NA         | Semiannual | NA            | OU2 IWS shutdown monitoring (TCE above cleanup level)                                          |
| AMW-13A                 | M         | 1              | 23.8          | 260.08    | 33.8             | 250.08    | U                 | 74.8              | 0.18                     | J                           |                         | 10/16/2014                 | Yes                                                   | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Annual                  | NA         | NC         | NA            | OU2 IWS shutdown monitoring (TCE below cleanup level)                                          |
| AMW-19A                 | M         | 1              | 25            | 258.94    | 35               | 248.94    | 1.10              | 490               | 1.20                     |                             |                         | 10/16/2014                 | Yes                                                   | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Annual                  | NA         | NC         | NA            | OU2 IWS shutdown monitoring (TCE below cleanup level)                                          |
| AMW-26                  | M         | 1              | 24.2          | 258.82    | 34.2             | 248.82    | U                 | 100               | 0.70                     |                             |                         | 10/16/2014                 | Yes                                                   | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Biennial                | NA         | NC         | NA            | OU-2 monitoring well (TCE below cleanup level)                                                 |
| AMW-52A                 | M         | 1              | 24.55         | 255.85    | 34.55            | 245.85    | U                 | 29.0              | U                        | U                           |                         | 10/15/2014                 | Yes                                                   | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Annual                  | NA         | NC         | NA            | OU2 IWS shutdown monitoring (TCE below cleanup level)                                          |
| AMW-53A                 | M         | 1              | 22.2          | 258.85    | 32.2             | 248.85    | 0.13              | 240               | 0.1                      | J                           |                         | 10/15/2014                 | Yes                                                   | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Quarterly               | NA         | NC         | NA            | OU2 IWS shutdown monitoring (TCE fluctuating above and below cleanup level)                    |
| AMW-54A                 | M         | 1              | 24.3          | 259.01    | 34.3             | 249.01    | 0.53              | 190               | 2.90                     |                             |                         | 10/15/2014                 | Yes                                                   | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Annual                  | NA         | NC         | Biennial      | OU2 IWS shutdown monitoring (TCE below cleanup level); adding as Cr background well            |
| AMW-55A                 | M         | 1              | 20.83         | 261.28    | 30.83            | 251.28    | 0.40              | 39.0              | 1.00                     |                             |                         | 10/15/2014                 | Yes                                                   | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Annual                  | NA         | NC         | NA            | OU2 IWS shutdown monitoring (TCE below cleanup level)                                          |
| AMW-56A                 | M         | 1              | 25.24         | 258.43    | 35.24            | 248.43    | 0.38              | 610               | 1.70                     |                             |                         | 10/16/2014                 | Yes                                                   | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Annual                  | NA         | NC         | NA            | OU2 IWS shutdown monitoring (TCE below cleanup level)                                          |
| MW-1A                   | M         | 1              | 28.36         | 257.13    | 38.26            | 247.23    | 4.80              | 3900              | 6.8                      |                             |                         | 10/21/2014                 | No                                                    | No                | U                 | 162.0                    | U                           | UJ                      |                                      | 10/21/2014                                            | Yes                                  | No       | Biennial                          | Biennial | Quarterly               | Biennial   | Semiannual | NFS           | OU2 IWS shutdown monitoring (TCE fluctuating above and below cleanup level)                    |
| <b>Proximal Wells</b>   |           |                |               |           |                  |           |                   |                   |                          |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                                      |                                                       |                                      |          |                                   |          |                         |            |            |               |                                                                                                |
| MW-2A                   | M         | 1              | 32.09         | 250.48    | 37.09            | 245.48    | 1.70              | 24.7              | 1.90                     |                             |                         | 10/22/2014                 | Yes                                                   | No                | 29.2              | 2660                     | 130                         |                         |                                      | 10/22/2014                                            | No                                   | No       | Biennial                          | Biennial | Biennial                | Annual     | NC         | NC            | Well cluster - most impacted and Cr residual contamination                                     |
| MW-3A                   | M         | 1              | 22.34         | 257.87    | 32.34            | 247.87    |                   |                   |                          |                             |                         |                            |                                                       |                   | 54.5              | 1820                     | 64                          |                         |                                      | 10/21/2014                                            | Yes                                  | No       | NA                                | Biennial | NFS (2009)              | Annual     | NA         | Biennial      | Well cluster - most Cr impacted; TCE statistically below cleanup level, Cr below cleanup level |
| MW-3B                   | M         | 1              | 51.39         | 228.94    | 56.39            | 223.94    | 1.40              | 32.0              | 1.40                     |                             |                         | 10/15/2014                 | Yes                                                   | No                |                   |                          |                             |                         |                                      |                                                       |                                      |          | Biennial                          | NA       | Biennial                | NFS (2009) | NC         | NA            | Well cluster - most TCE impacted; Cr statistically below cleanup level                         |

TABLE 2. WELLS AND RECOMMENDED SAMPLING FREQUENCIES

| Well Name                  | Well Type | GW Model Layer | Top of Screen |           | Bottom of Screen |           | TCE               |                   |                          |                             |                         |                            | Chromium                                              |                   |                   |                          |                             |                         | MAROS Recommended Sampling Frequency |                                                       | 2014 Sampling Frequency <sup>1</sup> |               | 2015 Recommendations <sup>2</sup> |               | Rationale for Frequency |                                                                                                                             |                                              |
|----------------------------|-----------|----------------|---------------|-----------|------------------|-----------|-------------------|-------------------|--------------------------|-----------------------------|-------------------------|----------------------------|-------------------------------------------------------|-------------------|-------------------|--------------------------|-----------------------------|-------------------------|--------------------------------------|-------------------------------------------------------|--------------------------------------|---------------|-----------------------------------|---------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
|                            |           |                | Depth         | Elevation | Depth            | Elevation | Min. Conc. (ug/L) | Max. Conc. (ug/L) | Most Recent Conc. (ug/L) | Most Recent Data Qualifiers | Most Recent Sample Date | Conc. Below Cleanup Levels | Conc. Statistically Below Cleanup Levels <sup>3</sup> | Min. Conc. (ug/L) | Max. Conc. (ug/L) | Most Recent Conc. (ug/L) | Most Recent Data Qualifiers | Most Recent Sample Date | Conc. Below Cleanup Levels           | Conc. Statistically Below Cleanup Levels <sup>3</sup> | TCE                                  | Chromium      | TCE                               | Chromium      |                         | TCE                                                                                                                         | Chromium                                     |
|                            |           |                |               |           |                  |           |                   |                   |                          |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                                      |                                                       |                                      |               |                                   |               |                         |                                                                                                                             |                                              |
| MW-4A                      | M         | 1              | 26.81         | 253.49    | 36.81            | 243.49    |                   |                   |                          |                             |                         |                            | 362                                                   | 5320              | 495               |                          | 10/22/2014                  | No                      | No                                   | NA                                                    | Biennial                             | NFS (2010)    | Annual                            | NA            | Every 5 years           | Well cluster - not optimal depth                                                                                            |                                              |
| MW-4B                      | M         | 1              | 39.7          | 240.45    | 44.7             | 235.45    | 0.94              | 600               | 3.40                     |                             |                         |                            | 353                                                   | 15500             | 809               |                          | 10/22/2014                  | No                      | No                                   | Biennial                                              | Biennial                             | Biennial      | Annual                            | NC            | NC                      | Well cluster - most impacted and Cr residual contamination                                                                  |                                              |
| MW-6A                      | M         | 1              | 18.25         | 260.52    | 28.25            | 250.52    |                   |                   |                          |                             |                         |                            | U                                                     | 167               | 133               |                          | 10/16/2013                  | No                      | No                                   | NA                                                    | Biennial                             | NFS (2009)    | Every 5 years                     | NA            | NC                      | Well cluster - not optimal depth.                                                                                           |                                              |
| MW-6B                      | E         | 1              | 45.75         | 227.57    | 55.75            | 217.57    | 3.70              | 1230              | 3.70                     |                             |                         |                            | 10.9                                                  | 13000             | 14.8              |                          | 10/13/2014                  | Yes                     | No                                   | Biennial                                              | Biennial                             | Semiannual    | Semiannual                        | NC            | NC                      | Extraction well - active (also well cluster)                                                                                |                                              |
| MW-7B                      | M         | 1              | 47            | 233.02    | 57               | 223.02    | 3.60              | 984               | 3.60                     |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                                      | Biennial                                              | NA                                   | Every 5 years | NFS (2009)                        | NC            | NA                      | Well cluster - adjacent to MW-4 cluster, less frequent sampling; Cr below cleanup level since 1998                          |                                              |
| MW-8B                      | M         | 1              | 46.9          | 233.8     | 56.9             | 223.8     | 1.80              | 3070              | 1.80                     |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                                      | Biennial                                              | NA                                   | Biennial      | NFS (2009)                        | Every 5 years | NA                      | Plume area - not included in any other category; Cr statistically below cleanup level, TCE below cleanup level              |                                              |
| MW-9B                      | M         | 1              | 44.9          | 230.52    | 54.9             | 220.52    | 2.80              | 2100              | 2.80                     |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                                      | Biennial                                              | NA                                   | Biennial      | NFS (2009)                        | NC            | NA                      | Well cluster - most TCE impacted; Cr below cleanup level since 1997, TCE below cleanup level since 2012                     |                                              |
| MW-10B                     | E         | 1              | 48            | 225.24    | 58               | 215.24    | 5.20              | 1300              | 11.0                     |                             |                         |                            | 31.0                                                  | 3600              | 34.1              |                          | 10/14/2014                  | Yes                     | No                                   | Biennial                                              | Biennial                             | Semiannual    | Semiannual                        | NC            | NC                      | Extraction well - active (also well cluster)                                                                                |                                              |
| MW-10C                     | E         | 1              | 70            | 203.25    | 80               | 193.25    | 2.00              | 1500              | 2.00                     |                             |                         |                            | 67.2                                                  | 6400              | 67.3              |                          | 10/14/2014                  | Yes                     | No                                   | Biennial                                              | Biennial                             | Semiannual    | Semiannual                        | NC            | NC                      | Extraction well - active (also well cluster)                                                                                |                                              |
| MW-12C                     | M         | 1              | 71.2          | 203.11    | 81.2             | 193.11    | 0.89              | 9430              | 0.9                      |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                                      | Biennial                                              | NA                                   | Biennial      | NFS (2010)                        | NC            | NA                      | TCE Plume boundary; Cr statistically below cleanup level                                                                    |                                              |
| MW-13C                     | M         | 1              | 65.03         | 206.94    | 75.03            | 196.94    | 2.10              | 35.0              | 2.40                     |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                                      | Biennial                                              | NA                                   | Biennial      | NFS (2010)                        | NC            | NA                      | TCE Plume boundary; Cr statistically below cleanup level, TCE fluctuates above and below cleanup level                      |                                              |
| PW-1B                      | E         | 1              | 48            | 228.56    | 58               | 218.56    | 2.00              | 900               | 2.00                     |                             |                         |                            | 34.1                                                  | 13000             | 35.7              |                          | 10/13/2014                  | Yes                     | No                                   | Biennial                                              | Biennial                             | Semiannual    | Semiannual                        | NC            | NC                      | Extraction well - active                                                                                                    |                                              |
| <b>Intermediate Wells</b>  |           |                |               |           |                  |           |                   |                   |                          |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                                      |                                                       |                                      |               |                                   |               |                         |                                                                                                                             |                                              |
| AMW-16                     | M         | 2              | 76.83         | 185.15    | 86.83            | 175.15    | 0.17              | 87.0              | 72.00                    | D                           | 10/16/2014              | No                         | No                                                    |                   |                   |                          |                             |                         |                                      | Biennial                                              | NA                                   | Semiannual    | NFS (2010)                        | NC            | NA                      | Northern Plume area; Cr statistically below the cleanup level                                                               |                                              |
| AMW-17                     | M/D       | 1              | 81            | 180.87    | 91               | 170.87    | 1.10              | 240.0             | 120.00                   | D                           | 10/16/2014              | No                         | No                                                    |                   |                   |                          |                             |                         |                                      | SemiAnnual                                            | NA                                   | Quarterly     | NFS (2008)                        | Semiannual    | NA                      | Northern Plume monitoring well; Cr statistically below the cleanup level                                                    |                                              |
| AMW-18                     | M         | 1              | 92.69         | 186.15    | 102.69           | 176.15    | U                 | 460               | 34                       |                             | 10/15/2014              | No                         | No                                                    |                   |                   |                          |                             |                         |                                      | Quarterly                                             | NA                                   | Quarterly     | NFS (2008)                        | Semiannual    | NA                      | Northern Plume monitoring well; Cr statistically below the cleanup level                                                    |                                              |
| AMW-59                     | M/D       | 3              | 134.74        | 134.6295  | 139.74           | 129.6295  | 58.0              | 310               | 58                       |                             | 10/15/2014              | No                         | No                                                    |                   |                   |                          |                             |                         |                                      | Biennial                                              | NA                                   | Biennial      | NFS (2009)                        | NC            | NA                      | Plume area - silt well; Cr statistically below the cleanup level                                                            |                                              |
| AMW-64                     | M         | 2              | 88.4          | 177.73    | 98.4             | 167.73    | 110               | 190               | 110                      |                             | 10/23/2012              | No                         | No                                                    |                   |                   |                          |                             |                         |                                      | Quarterly                                             | NA                                   | Quarterly     | NA                                | Semiannual    | NA                      | Northern Plume monitoring well (installed in 2012)                                                                          |                                              |
| CPU-14                     | M         | 2              | 60.43         | 197.13    | 70.43            | 187.13    | 5.20              | 63.0              | 5.2                      |                             | 10/21/2014              | No                         | No                                                    | 31.9              | 957               | 53.6                     |                             | 10/21/2014              | Yes                                  | No                                                    | Biennial                             | Biennial      | Annual                            | Annual        | NC                      | Biennial                                                                                                                    | Plume boundary                               |
| MW-14C                     | E         | 1              | 70            | 201.22    | 80               | 191.22    | 11.0              | 2500              | 12.0                     |                             | 10/13/2014              | No                         | No                                                    | 63.7              | 20000             | 67.6                     |                             | 10/13/2014              | Yes                                  | No                                                    | Biennial                             | Biennial      | Semiannual                        | Semiannual    | NC                      | NC                                                                                                                          | Extraction well - active (also well cluster) |
| MW-14E                     | E         | 2              | 115           | 153.95    | 125              | 143.95    | 51.0              | 6540              | 51.0                     |                             | 10/13/2014              | No                         | No                                                    | 39.9              | 21200             | 42                       |                             | 10/13/2014              | Yes                                  | No                                                    | Biennial                             | Biennial      | Semiannual                        | Semiannual    | NC                      | NC                                                                                                                          | Extraction well - active (also well cluster) |
| MW-15E                     | M         | 3              | 95.7          | 168.97    | 105.7            | 158.97    | 2.20              | 1100              | 2.30                     |                             | 10/15/2014              | Yes                        | No                                                    |                   |                   |                          |                             |                         |                                      | Biennial                                              | NA                                   | Semiannual    | NFS (2008)                        | Annual        | NA                      | Plume area; Cr statistically below the cleanup level, TCE below cleanup level since 2012. Check for Northern Plume impacts. |                                              |
| MW-18D                     | E         | 1              | 73.4          | 189.34    | 93.4             | 169.34    | 31.0              | 7800              | 31.0                     |                             | 10/13/2014              | No                         | No                                                    | 91.1              | 23100             | 91.1                     |                             | 10/13/2014              | No                                   | No                                                    | Biennial                             | Biennial      | Semiannual                        | Semiannual    | NC                      | NC                                                                                                                          | Extraction well - active (also well cluster) |
| MW-18E                     | M/D       | 3              | 112.57        | 149.1965  | 122.57           | 139.1965  | 96                | 2700              | 96                       | D                           | 10/15/2014              | No                         | No                                                    |                   |                   |                          |                             |                         |                                      | Biennial                                              | NA                                   | Annual        | NFS (2010)                        | NC            | NA                      | Plume area - TCE residual contamination                                                                                     |                                              |
| MW-19D                     | E         | 1              | 76.2          | 181.78    | 91.2             | 166.78    | 12.0              | 6300              | 21.0                     |                             | 10/13/2014              | No                         | No                                                    | 91.7              | 23000             | 91.7                     |                             | 10/13/2014              | No                                   | No                                                    | Biennial                             | Biennial      | Semiannual                        | Semiannual    | NC                      | NC                                                                                                                          | Extraction well - active                     |
| MW-20D                     | E         | 2              | 79.7          | 193.45    | 89.7             | 183.45    | 27.0              | 4100              | 27.0                     |                             | 10/13/2014              | No                         | No                                                    | 55                | 51000             | 55.5                     |                             | 10/13/2014              | Yes                                  | No                                                    | Biennial                             | Biennial      | Semiannual                        | Semiannual    | NC                      | NC                                                                                                                          | Extraction well - active                     |
| MW-38                      | M         | 1              | 77            | 187.2     | 82               | 182.2     | 7.4               | 78                | 78.0                     |                             | 10/16/2014              | No                         | No                                                    |                   |                   |                          |                             |                         |                                      | Quarterly                                             | NA                                   | Semiannual    | NA                                | NC            | NA                      | Monitoring for Northern Plume impacts                                                                                       |                                              |
| PZ-39                      | M         | 2              | 88            | 176.37    | 90               | 174.37    | 29.0              | 2100              | 45.0                     |                             | 10/16/2014              | No                         | No                                                    |                   |                   |                          |                             |                         |                                      | Biennial                                              | NA                                   | Semiannual    | NFS (2010)                        | NC            | NA                      | Monitoring for potential Northern Plume impacts                                                                             |                                              |
| <b>Church of God Wells</b> |           |                |               |           |                  |           |                   |                   |                          |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                                      |                                                       |                                      |               |                                   |               |                         |                                                                                                                             |                                              |
| AMW-27                     | E         | 3              | 78            | 194.60    | 88               | 184.6     | 1.6               | 81.0              | 1.6                      |                             | 10/20/2014              | Yes                        | No                                                    | U                 | 7630              | U                        | UJ                          | 10/20/2014              | Yes                                  | No                                                    | Biennial                             | Biennial      | Semiannual                        | Biennial      | NC                      | Every 5 Years                                                                                                               | Extraction well - inactive                   |

TABLE 2. WELLS AND RECOMMENDED SAMPLING FREQUENCIES

| Well Name        | Well Type | GW Model Layer | Top of Screen |           | Bottom of Screen |           | TCE               |                   |                          |                             |                         |                            |                                                       | Chromium          |                   |                          |                             |                         |                            |                                                       | MAROS Recommended Sampling Frequency |          | 2014 Sampling Frequency <sup>1</sup> |               | 2015 Recommendations <sup>2</sup> |                      | Rationale for Frequency                                                                   |
|------------------|-----------|----------------|---------------|-----------|------------------|-----------|-------------------|-------------------|--------------------------|-----------------------------|-------------------------|----------------------------|-------------------------------------------------------|-------------------|-------------------|--------------------------|-----------------------------|-------------------------|----------------------------|-------------------------------------------------------|--------------------------------------|----------|--------------------------------------|---------------|-----------------------------------|----------------------|-------------------------------------------------------------------------------------------|
|                  |           |                | Depth         | Elevation | Depth            | Elevation | Min. Conc. (ug/L) | Max. Conc. (ug/L) | Most Recent Conc. (ug/L) | Most Recent Data Qualifiers | Most Recent Sample Date | Conc. Below Cleanup Levels | Conc. Statistically Below Cleanup Levels <sup>3</sup> | Min. Conc. (ug/L) | Max. Conc. (ug/L) | Most Recent Conc. (ug/L) | Most Recent Data Qualifiers | Most Recent Sample Date | Conc. Below Cleanup Levels | Conc. Statistically Below Cleanup Levels <sup>3</sup> | TCE                                  | Chromium | TCE                                  | Chromium      | TCE                               | Chromium             |                                                                                           |
|                  |           |                |               |           |                  |           |                   |                   |                          |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                            |                                                       |                                      |          |                                      |               |                                   |                      |                                                                                           |
| AMW-61           | M         | 3              | 91.86         | 181.92    | 96.86            | 176.92    | 2.40              | 43.0              | 6.80                     |                             | 10/16/2014              | No                         | No                                                    |                   |                   |                          |                             |                         |                            |                                                       | Biennial                             | NA       | Annual                               | NFS (2010)    | NC                                | NA                   | Plume area - silt well (Cr below cleanup level)                                           |
| CPU-12           | M         | 2              | 61.12         | 214.11    | 71.12            | 204.11    | U                 | 13.0              | 5.10                     |                             | 10/16/2014              | No                         | No                                                    |                   |                   |                          |                             |                         |                            |                                                       | Biennial                             | NA       | Annual                               | NFS (2010)    | <b>Semiannual</b>                 | NA                   | TCE Plume boundary (Cr below cleanup level)                                               |
| CPU-13           | E         | 3              | 80            | 198.99    | 90               | 188.99    | 0.92              | 110               | 0.94                     |                             | 10/14/2014              | Yes                        | No                                                    | 16.4              | 5000              | 45.7                     |                             | 10/14/2014              | Yes                        | No                                                    | Biennial                             | Biennial | Semiannual                           | Semiannual    | <b>Biennial</b>                   | <b>Biennial</b>      | Extraction well - inactive; TCE and Cr below cleanup levels                               |
| MW-21D           | E         | 2              | 56            | 201.56    | 66               | 191.56    | 2.4               | 3000              | 2.4                      |                             | 10/13/2014              | Yes                        | No                                                    | 6.7               | 35000             | 8.9                      |                             | 10/13/2014              | Yes                        | No                                                    | Biennial                             | Biennial | Semiannual                           | Semi-annual   | NC                                | NC                   | Extraction well - active                                                                  |
| MW-22D           | E         | 3              | 54            | 215.02    | 64               | 205.02    | 2.6               | 390               | 2.6                      |                             | 10/13/2014              | Yes                        | No                                                    | 20.3              | 11000             | 20.3                     |                             | 10/13/2014              | Yes                        | No                                                    | Biennial                             | Biennial | Semiannual                           | Semiannual    | NC                                | NC                   | Extraction well - active                                                                  |
| MW-23D           | M         | 3              | 75.86         | 191.70    | 90.86            | 176.70    | U                 | 67.0              | 1.40                     |                             | 10/16/2014              | Yes                        | No                                                    |                   |                   |                          |                             |                         |                            |                                                       | Biennial                             | NA       | Annual                               | NFS (2010)    | NC                                | NA                   | TCE Plume boundary; Cr statistically below cleanup level                                  |
| MW-25D           | E         | 2              | 70            | 202.13    | 80               | 192.13    | 1.20              | 200               | 1.70                     |                             | 10/13/2014              | Yes                        | No                                                    | U                 | 16000             | 6.30                     |                             | 10/13/2014              | Yes                        | No                                                    | Biennial                             | Biennial | Annual                               | Annual        | <b>Biennial</b>                   | <b>Biennial</b>      | Extraction well - inactive; TCE and Cr below cleanup levels                               |
| MW-26D           | E         | 3              | 83            | 189.86    | 93               | 179.86    | U                 | 52                | 0.35                     | J                           | 10/13/2014              | Yes                        | No                                                    | 6.6               | 4800              | 11.4                     |                             | 10/13/2014              | Yes                        | No                                                    | Biennial                             | Biennial | Annual                               | Annual        | <b>Biennial</b>                   | <b>Biennial</b>      | Extraction well - inactive; TCE and Cr below cleanup levels                               |
| MW-27D           | E         | 2              | 61.1          | 208.15    | 71.1             | 198.15    | U                 | 280               | 1.5                      |                             | 10/20/2014              | Yes                        | No                                                    | U                 | 6940              | U                        | UJ                          | 10/20/2014              | Yes                        | No                                                    | Biennial                             | Biennial | Annual                               | Annual        | <b>Biennial</b>                   | <b>Biennial</b>      | Extraction well - inactive; TCE and Cr below cleanup levels                               |
| MW-49            | E         | 2              | 71.2          | 200.48    | 81.2             | 190.48    | U                 | 340               | 1.6                      |                             | 10/13/2014              | Yes                        | No                                                    | U                 | 36800             | 12.2                     |                             | 10/13/2014              | Yes                        | No                                                    | Biennial                             | Biennial | Annual                               | Annual        | <b>Biennial</b>                   | <b>Biennial</b>      | Extraction well - inactive; TCE and Cr below cleanup levels                               |
| <b>Toe Wells</b> |           |                |               |           |                  |           |                   |                   |                          |                             |                         |                            |                                                       |                   |                   |                          |                             |                         |                            |                                                       |                                      |          |                                      |               |                                   |                      |                                                                                           |
| AMW-42           | E         | 3              | 87            | 168.88    | 102              | 153.88    | U                 | 73.0              | 0.65                     |                             | 10/15/2014              | Yes                        | No                                                    | U                 | 2280              | U                        | UJ                          | 10/15/2014              | Yes                        | No                                                    | Biennial                             | Biennial | Biennial                             | Biennial      | <b>Every 5 years</b>              | <b>Every 5 years</b> | Sentinel well downgradient of MW-35 - TCE and Cr are below the cleanup level              |
| AMW-63           | M         | 2              | 76.13         | 181.29    | 86.13            | 171.29    | U                 | 0.17              | 0.17                     | J                           | 10/15/2014              | Yes                        | Yes                                                   | U                 | 12.4              | U                        | UJ                          | 10/15/2014              | Yes                        | Yes                                                   | NFS                                  | NFS      | Every 5 years                        | Every 5 years | NC                                | NC                   | TCE and Cr are statistically below cleanup level. EPA request for sampling every 5 years. |
| MW-31            | E         | 2              | 75            | 187.88    | 85               | 177.88    | 0.20              | 32                | 0.26                     | J                           | 10/15/2012              | Yes                        | No                                                    | U                 | 535               | 11.40                    |                             | 10/15/2012              | Yes                        | No                                                    | Biennial                             | Biennial | Biennial                             | Biennial      | <b>Every 5 years</b>              | <b>Every 5 years</b> | TCE and Cr are below the cleanup level                                                    |
| MW-35            | E/M       | 2              | 79.5          | 176.20    | 89.5             | 166.20    | 0.82              | 110               | 2.80                     |                             | 10/20/2014              | Yes                        | No                                                    | U                 | 4690              | 29.3                     |                             | 10/20/2014              | Yes                        | No                                                    | Biennial                             | Biennial | Semiannual                           | Biennial      | NC                                | NC                   | Former extraction well - inactive - local TCE hot spot, Cr below the cleanup level        |
| MW-41            | E/M       | 2              | 74            | 179.08    | 84               | 169.08    | U                 | 8.3               | U                        | U                           | 10/15/2014              | Yes                        | Yes                                                   | U                 | 216               | U                        | U                           | 10/15/2014              | Yes                        | No                                                    | NFS                                  | Biennial | Every 5 years                        | Every 5 years | NC                                | NC                   | TCE and Cr are statistically below cleanup level. EPA request for sampling every 5 years. |

**NOTES:**  
<sup>1</sup> The 2014 sampling frequencies shown are those recommended in the 2013 Annual Status R  
<sup>2</sup> For wells with 2015 recommendations for a change in sampling frequency, additional explanation is provided in Table 4.  
<sup>3</sup> The "concentration statistically below cleanup levels" determination is per the MAROS evaluation; this does not meet the EPA requirements for determining site closure.

Cr = Chromium.  
 E = Extraction well.  
 E/M = Extraction well with pump pulled; now sampled as a monitoring well.  
 EPA = U.S. Environmental Protection Agency.  
 GW = Groundwater.  
 IWS = In-well stripping  
 M = Monitoring well.  
 MAROS = Monitoring and Remediation Optimization System.  
 M/D = Monitoring well with dedicated pump installed.  
 NA = Not applicable.  
 NFS = No further sampling (dates in parentheses indicate the Annual Report in which this recommendation was first made.)  
 NC = No change to the current sampling frequency.  
 TCE = Trichloroethene.  
 TOPPS = Toe of plume pilot study.  
 U = Analyte not detected above the specified reporting limit.  
 ug/L = Micrograms per liter.  
 Data used for the Annual Screening are from 1995 to the present. Maximum concentrations presented are based on data collected from 1995 through the present.  
 Biennial sampling - these wells will be sampled next in Fall 2016.  
 Every 5 years - these wells will be sampled next in Fall 2019.  
 Wells designated NFS in previous Annual Reports have been deleted from this table.  
 Where no entries are present for one of the two constituents (TCE or Cr), that constituent is not being sampled in that well.  
**Bold, highlighted text** indicates changes from the 2013 Annual Report for recommendations for sampling frequency.

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TABLE 3. SUMMARY OF 2015 WELL SAMPLING FREQUENCIES

| Well Name               | Recommendation |           |             |        |          |               | Rationale for Recommendation                                                                   |
|-------------------------|----------------|-----------|-------------|--------|----------|---------------|------------------------------------------------------------------------------------------------|
|                         | Well Type      | Quarterly | Semi-annual | Annual | Biennial | Every 5 Years |                                                                                                |
| <b>Troutdale wells</b>  |                |           |             |        |          |               |                                                                                                |
| AMW-24                  | M/D            |           |             | TCE    |          | Cr            | Troutdale well - TCE impacted                                                                  |
| AMW-25                  | M/D            |           |             |        | TCE      |               | Troutdale well - unimpacted; upgradient well                                                   |
| AMW-50                  | M/D            |           |             |        | TCE      |               | Troutdale well - unimpacted                                                                    |
| AMW-51                  | M/D            |           |             |        | TCE      |               | Troutdale well - unimpacted                                                                    |
| AMW-62                  | M/D            |           |             |        | TCE      |               | Troutdale well - unimpacted                                                                    |
| CPU-2                   | M              |           |             |        | TCE      |               | Troutdale well - unimpacted                                                                    |
| CPU-3D                  | M/D            |           |             |        | TCE      |               | Troutdale well - unimpacted                                                                    |
| CPU-10                  | M              |           |             |        | TCE      |               | Troutdale well - unimpacted                                                                    |
| MW-33                   | M/D            |           |             | TCE    |          | Cr            | Troutdale well - TCE impacted                                                                  |
| MW-34                   | M/D            |           |             |        | TCE      |               | Troutdale well - unimpacted                                                                    |
| BENNETT                 | Other          |           | TCE         |        |          | Cr            | Troutdale well - TCE impacted; CPU request for semiannual sampling for TCE                     |
| <b>Upgradient Wells</b> |                |           |             |        |          |               |                                                                                                |
| AMW-6A                  | M/D            |           |             |        | X        |               | Infiltration gallery monitoring well                                                           |
| AMW-7A                  | M/D            |           |             |        | X        |               | Infiltration gallery monitoring well                                                           |
| AMW-8A                  | M              |           |             |        | TCE      |               | Upgradient well - check for possible offsite TCE impacts                                       |
| AMW-10A                 | M/D            |           |             |        | X        |               | Infiltration gallery monitoring well                                                           |
| AMW-11A                 | M/D            |           |             |        | X        |               | Infiltration gallery monitoring well                                                           |
| <b>TCE Source Wells</b> |                |           |             |        |          |               |                                                                                                |
| AMW-1A                  | M              |           | TCE         |        |          |               | OU2 IWS shutdown monitoring (TCE fluctuating above and below cleanup level)                    |
| AMW-2A                  | M              | TCE       |             |        |          |               | OU2 IWS shutdown monitoring; well cluster - most impacted (TCE above cleanup level)            |
| AMW-2B                  | M              |           |             | TCE    |          |               | OU2 IWS shutdown monitoring; well cluster - less frequent sampling                             |
| AMW-3A                  | M              |           |             | TCE    |          |               | OU2 IWS shutdown monitoring (TCE below cleanup level)                                          |
| AMW-12A                 | M              |           | TCE         |        |          |               | OU2 IWS shutdown monitoring (TCE above cleanup level)                                          |
| AMW-13A                 | M              |           |             | TCE    |          |               | OU2 IWS shutdown monitoring (TCE below cleanup level)                                          |
| AMW-19A                 | M              |           |             | TCE    |          |               | OU2 IWS shutdown monitoring (TCE below cleanup level)                                          |
| AMW-26                  | M              |           |             |        | TCE      |               | OU-2 monitoring well (TCE below cleanup level)                                                 |
| AMW-52A                 | M              |           |             | TCE    |          |               | OU2 IWS shutdown monitoring (TCE below cleanup level)                                          |
| AMW-53A                 | M              | TCE       |             |        |          |               | OU2 IWS shutdown monitoring (TCE fluctuating above and below cleanup level)                    |
| AMW-54A                 | M              |           |             | TCE    | Cr       |               | OU2 IWS shutdown monitoring (TCE below cleanup level); adding as Cr background well            |
| AMW-55A                 | M              |           |             | TCE    |          |               | OU2 IWS shutdown monitoring (TCE below cleanup level)                                          |
| AMW-56A                 | M              |           |             | TCE    |          |               | OU2 IWS shutdown monitoring (TCE below cleanup level)                                          |
| MW-1A                   | M              |           | TCE         |        |          |               | OU2 IWS shutdown monitoring (TCE fluctuating above and below cleanup level)                    |
| <b>Proximal Wells</b>   |                |           |             |        |          |               |                                                                                                |
| MW-2A                   | M              |           |             | Cr     | TCE      |               | Well cluster - most impacted and Cr residual contamination                                     |
| MW-3A                   | M              |           |             |        | Cr       |               | Well cluster - most Cr impacted; TCE statistically below cleanup level, Cr below cleanup level |
| MW-3B                   | M              |           |             |        | TCE      |               | Well cluster - most TCE impacted; Cr statistically below cleanup level                         |
| MW-4A                   | M              |           |             |        |          | Cr            | Well cluster - not optimal depth                                                               |
| MW-4B                   | M              |           |             | Cr     | TCE      |               | Well cluster - most impacted and Cr residual contamination                                     |
| MW-6A                   | M              |           |             |        |          | Cr            | Well cluster - not optimal depth.                                                              |

TABLE 3. SUMMARY OF 2015 WELL SAMPLING FREQUENCIES

| Well Name                  | Recommendation |           |             |        |          |               | Rationale for Recommendation                                                                                               |
|----------------------------|----------------|-----------|-------------|--------|----------|---------------|----------------------------------------------------------------------------------------------------------------------------|
|                            | Well Type      | Quarterly | Semi-annual | Annual | Biennial | Every 5 Years |                                                                                                                            |
| MW-6B                      | E              |           | X           |        |          |               | Extraction well - active (also well cluster)                                                                               |
| MW-7B                      | M              |           |             |        |          | TCE           | Well cluster - adjacent to MW-4 cluster, less frequent sampling; Cr below cleanup level since 1998                         |
| MW-8B                      | M              |           |             |        |          | TCE           | Plume area - not included in any other category; Cr statistically below cleanup level, TCE below cleanup level             |
| MW-9B                      | M              |           |             |        |          | TCE           | Well cluster - most TCE impacted; Cr below cleanup level since 1997, TCE below cleanup level since 2012                    |
| MW-10B                     | E              |           | X           |        |          |               | Extraction well - active (also well cluster)                                                                               |
| MW-10C                     | E              |           | X           |        |          |               | Extraction well - active (also well cluster)                                                                               |
| MW-12C                     | M              |           |             |        |          | TCE           | TCE Plume boundary; Cr statistically below cleanup level                                                                   |
| MW-13C                     | M              |           |             |        |          | TCE           | TCE Plume boundary; Cr statistically below cleanup level, TCE fluctuates above and below cleanup level                     |
| PW-1B                      | E              |           | X           |        |          |               | Extraction well - active                                                                                                   |
| <b>Intermediate Wells</b>  |                |           |             |        |          |               |                                                                                                                            |
| AMW-16                     | M              |           | TCE         |        |          |               | Northern Plume area; Cr statistically below the cleanup level                                                              |
| AMW-17                     | M/D            |           | TCE         |        |          |               | Northern Plume monitoring well; Cr statistically below the cleanup level                                                   |
| AMW-18                     | M              |           | TCE         |        |          |               | Northern Plume monitoring well; Cr statistically below the cleanup level                                                   |
| AMW-59                     | M/D(E)         |           |             |        |          | TCE           | Plume area - silt well; Cr statistically below the cleanup level                                                           |
| AMW-64                     | M              |           | TCE         |        |          |               | Northern Plume monitoring well (installed in 2012)                                                                         |
| CPU-14                     | M              |           |             | TCE    |          | Cr            | TCE Plume boundary                                                                                                         |
| MW-14C                     | E              |           | X           |        |          |               | Extraction well - active (also well cluster)                                                                               |
| MW-14E                     | E              |           | X           |        |          |               | Extraction well - active (also well cluster)                                                                               |
| MW-15E                     | M              |           |             | TCE    |          |               | Plume area; Cr statistically below the cleanup level, TCE below cleanup level since 2012. Check for Northern Plume impacts |
| MW-18D                     | E              |           | X           |        |          |               | Extraction well - active (also well cluster)                                                                               |
| MW-18E                     | M              |           |             | TCE    |          |               | Plume area - TCE residual contamination                                                                                    |
| MW-19D                     | E              |           | X           |        |          |               | Extraction well - active                                                                                                   |
| MW-20D                     | E              |           | X           |        |          |               | Extraction well - active                                                                                                   |
| MW-38                      | M              |           | TCE         |        |          |               | Monitoring for Northern Plume impacts                                                                                      |
| PZ-39                      | M              |           | TCE         |        |          |               | Monitoring for potential Northern Plume impacts                                                                            |
| <b>Church of God Wells</b> |                |           |             |        |          |               |                                                                                                                            |
| AMW-27                     | E              |           | TCE         |        |          | Cr            | Extraction well - inactive                                                                                                 |
| AMW-61                     | M              |           |             | TCE    |          |               | Plume area - silt well (Cr below cleanup level)                                                                            |
| CPU-12                     | M              |           |             | TCE    |          |               | TCE Plume boundary (Cr below cleanup level)                                                                                |
| CPU-13                     | E              |           |             |        |          | X             | Extraction well - inactive; TCE and Cr below cleanup levels                                                                |
| MW-21D                     | E              |           | X           |        |          |               | Extraction well - active                                                                                                   |
| MW-22D                     | E              |           | X           |        |          |               | Extraction well - active                                                                                                   |
| MW-23D                     | M              |           |             | TCE    |          |               | TCE Plume boundary; Cr statistically below cleanup level                                                                   |
| MW-25D                     | E              |           |             |        |          | X             | Extraction well - inactive; TCE and Cr below cleanup levels                                                                |
| MW-26D                     | E              |           |             |        |          | X             | Extraction well - inactive; TCE and Cr below cleanup levels                                                                |
| MW-27D                     | E              |           |             |        |          | X             | Extraction well - inactive; TCE and Cr below cleanup levels                                                                |
| MW-49                      | E              |           |             |        |          | X             | Extraction well - inactive; TCE and Cr below cleanup levels                                                                |

TABLE 3. SUMMARY OF 2015 WELL SAMPLING FREQUENCIES

| Well Name                                                                       | Recommendation     |           |             |        |          |               | Rationale for Recommendation                                                              |
|---------------------------------------------------------------------------------|--------------------|-----------|-------------|--------|----------|---------------|-------------------------------------------------------------------------------------------|
|                                                                                 | Well Type          | Quarterly | Semi-annual | Annual | Biennial | Every 5 Years |                                                                                           |
| <b>Other Toe Wells</b>                                                          |                    |           |             |        |          |               |                                                                                           |
| AMW-42                                                                          | E                  |           |             |        |          | X             | Sentinel well downgradient of MW-35 - TCE and Cr are below the cleanup level              |
| AMW-63                                                                          | M                  |           |             |        |          | X             | TCE and Cr are statistically below cleanup level. EPA request for sampling every 5 years. |
| MW-31                                                                           | E                  |           |             |        |          | X             | TCE and Cr are below the cleanup level                                                    |
| MW-35                                                                           | E/M                |           | TCE         |        | Cr       |               | Former extraction well - inactive - local TCE hot spot, Cr below the cleanup level        |
| MW-41                                                                           | E/M                |           |             |        |          | X             | TCE and Cr are statistically below cleanup level. EPA request for sampling every 5 years. |
| <b>Total Wells</b>                                                              |                    |           |             |        |          |               |                                                                                           |
| <b>Total Wells:</b>                                                             | 2                  | 23        | 18          | 30     | 12       |               | 76                                                                                        |
| (Note that TCE and Cr are on different sampling schedules in a number of wells) |                    |           |             |        |          |               |                                                                                           |
| <b>NOTES:</b>                                                                   |                    |           |             |        |          |               |                                                                                           |
| Wells designated no further sampling (NFS) have been deleted from this table.   |                    |           |             |        |          |               |                                                                                           |
| Cr                                                                              | = Chromium         |           |             |        |          | EPA           | = U.S. Environmental Protection Agency                                                    |
| TCE                                                                             | = Trichloroethene  |           |             |        |          | E             | = Extraction well                                                                         |
| X                                                                               | = TCE and chromium |           |             |        |          | E/M           | = Extraction well with pump pulled; now sampled as a monitoring well                      |
|                                                                                 |                    |           |             |        |          | M             | = Monitoring well                                                                         |
|                                                                                 |                    |           |             |        |          | M/D           | = Monitoring well with dedicated pump installed                                           |
| Wells for biennial sampling will be sampled next in Fall 2016.                  |                    |           |             |        |          |               |                                                                                           |
| Wells for sampling every five years will be sampled next in Fall 2019.          |                    |           |             |        |          |               |                                                                                           |

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TABLE 4. WELL SAMPLING FREQUENCY CHANGES FOR 2015

| Well Group   | Well ID                                                      | Sampling Frequency                       |                                      | Reason for Change                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------|--------------------------------------------------------------|------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |                                                              | From                                     | To                                   |                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Troutdale    | AMW-24                                                       | Annual for chromium                      | Every 5 years for chromium           | Chromium has never been detected at concentrations at or above the cleanup level in Troutdale wells. Chromium will be monitored in TCE-impacted Troutdale wells every five years.                                                                                                                                                                                                                                    |
|              | AMW-25, AMW-50, AMW-51, AMW-62, CPU-2, CPU-3D, CPU-10, MW-34 | Biennial for chromium                    | NFS for chromium                     | Chromium has never been detected at concentrations at or above the cleanup level in Troutdale wells. Chromium will no longer be monitored in Troutdale wells that have not been impacted by the Site.                                                                                                                                                                                                                |
|              | MW-33                                                        | Annual for chromium                      | Every 5 years for chromium           | Chromium has never been detected at concentrations at or above the cleanup level in Troutdale wells. Chromium will be monitored in TCE-impacted Troutdale wells every five years.                                                                                                                                                                                                                                    |
|              | Bennett                                                      | Semiannual for chromium                  | Biennial for chromium                | Chromium has never been detected at concentrations at or above the cleanup level in Troutdale wells. Chromium will be monitored in TCE-impacted Troutdale wells every five years.                                                                                                                                                                                                                                    |
| TCE Source   | AMW-1A                                                       | Quarterly for TCE                        | Semiannual for TCE                   | This well was sampled quarterly for one year following shutdown of the IWS system; the frequency is being reduced because the TCE results are decreasing or relatively consistent.                                                                                                                                                                                                                                   |
|              | AMW-12A                                                      | Quarterly for TCE                        | Semiannual for TCE                   | This well was sampled quarterly for one year following shutdown of the IWS system; the frequency is being reduced because the TCE results are decreasing or relatively consistent.                                                                                                                                                                                                                                   |
|              | AMW-54A                                                      | NA for chromium                          | Biennial for chromium                | Due to difficulties in pumping the existing chromium background well, MW-1A, this well will be used in the future as the upgradient well.                                                                                                                                                                                                                                                                            |
|              | MW-1A                                                        | Quarterly for TCE, biennial for chromium | Semiannual for TCE, NFS for chromium | This well was sampled quarterly for TCE for one year following shutdown of the IWS system; the frequency is being reduced because the TCE results are decreasing or relatively consistent. This well has been sampled as an upgradient well for chromium; however, due to continued difficulties obtaining samples using a pump in this well, AMW-54A will be sampled as the upgradient chromium well in the future. |
| Proximal     | MW-3A                                                        | Annual for chromium                      | Biennial for chromium                | The chromium concentration has been below the cleanup level since 2012.                                                                                                                                                                                                                                                                                                                                              |
|              | MW-4A                                                        | Annual for chromium                      | Every 5 years for chromium           | This well is part of a well cluster and is not monitoring the most chromium-impacted depth.                                                                                                                                                                                                                                                                                                                          |
|              | MW-8B                                                        | Biennial for TCE                         | Every 5 years for TCE                | The TCE concentration in this well has been below the cleanup level since 2010.                                                                                                                                                                                                                                                                                                                                      |
| Intermediate | AMW-17                                                       | Quarterly for TCE                        | Semiannual for TCE                   | The TCE concentration in this Northern Plume well previously peaked and is slowly decreasing. Less frequent sampling will be sufficient to document this.                                                                                                                                                                                                                                                            |
|              | AMW-18                                                       | Quarterly for TCE                        | Semiannual for TCE                   | The TCE concentration in this Northern Plume well previously peaked and is slowly decreasing. Less frequent sampling will be sufficient to document this.                                                                                                                                                                                                                                                            |
|              | AMW-64                                                       | Quarterly for TCE                        | Semiannual for TCE                   | The TCE concentration in this Northern Plume well previously peaked and is slowly decreasing. Less frequent sampling will be sufficient to document this.                                                                                                                                                                                                                                                            |
|              | CPU-14                                                       | Annual for chromium                      | Every 5 years for chromium           | The chromium concentration in this well has been below the cleanup level since 2005.                                                                                                                                                                                                                                                                                                                                 |
|              | MW-15E                                                       | Semiannual for TCE                       | Annual for TCE                       | The TCE concentration has been below the cleanup level since 2011. To date, no impacts from the Northern Plume have been identified in this well.                                                                                                                                                                                                                                                                    |

TABLE 4. WELL SAMPLING FREQUENCY CHANGES FOR 2015

| Well Group    | Well ID | Sampling Frequency              |                                    | Reason for Change                                                                                                                                                                                                                                                                            |
|---------------|---------|---------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |         | From                            | To                                 |                                                                                                                                                                                                                                                                                              |
| Church of God | AMW-27  | Biennial for chromium           | Every 5 years for chromium         | The pump was turned off in this well in January 2013 with no rebound observed. With the exception of one outlier, the chromium concentration in this well has been below the cleanup level since 2009. Additionally, this well does not produce sufficient water for proper metals sampling. |
|               | CPU-13  | Semiannual for TCE and chromium | Biennial for TCE and chromium      | This well was sampled semiannually following shutdown of the pump in May 2013. No significant rebound has been observed. The TCE concentrations have been below the cleanup level since 2003 and chromium concentrations have been below the cleanup level since 2005.                       |
|               | MW-25D  | Annual for TCE and chromium     | Biennial for TCE and chromium      | The TCE concentration has been below the cleanup level since 2007 and the chromium concentration has been below the cleanup level since 2001. The extraction pump was turned off in January 2013 with no rebound observed.                                                                   |
|               | MW-26D  | Annual for TCE and chromium     | Biennial for TCE and chromium      | TCE and chromium concentrations have been below the cleanup level since 2003. The extraction pump was turned off in January 2013 with no significant rebound observed.                                                                                                                       |
|               | MW-27D  | Annual for TCE and chromium     | Biennial for TCE and chromium      | The TCE concentration has been below the cleanup level since 2007 and the chromium concentration has been below the cleanup level since 2005.                                                                                                                                                |
|               | MW-49   | Annual for TCE and chromium     | Biennial for TCE and chromium      | TCE and chromium concentrations have been below the cleanup level since 2008. The extraction pump was turned off in January 2013 with no rebound observed.                                                                                                                                   |
| Toe Wells     | AMW-42  | Biennial for TCE and chromium   | Every 5 years for TCE and chromium | TCE concentrations have been below the cleanup level since 2001 and chromium concentrations have been below the cleanup level since 2003.                                                                                                                                                    |
|               | MW-31   | Biennial for TCE and chromium   | Every 5 years for TCE and chromium | TCE concentrations have been below the cleanup level since 2000 and chromium concentrations have been below the cleanup level since 1999.                                                                                                                                                    |
| NOTES:        |         |                                 |                                    |                                                                                                                                                                                                                                                                                              |
|               |         | = In-well stripping.            |                                    |                                                                                                                                                                                                                                                                                              |
| IWS           |         | = Not applicable.               |                                    |                                                                                                                                                                                                                                                                                              |
| NA            |         | = No further sampling.          |                                    |                                                                                                                                                                                                                                                                                              |
| NFS           |         | = Trichloroethene.              |                                    |                                                                                                                                                                                                                                                                                              |

TCE

TABLE 5. SUMMARY OF WELLS REQUIRING NO FURTHER SAMPLING FOR TCE AND/OR CHROMIUM

| Well Name               | TCE    |        |                |                       |                                                                                                                                                                | Chromium |      |                |                       |                                                                     |
|-------------------------|--------|--------|----------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------|----------------|-----------------------|---------------------------------------------------------------------|
|                         | Min    | Max    | No. of Samples | NFS Year <sup>1</sup> | NFS Rationale                                                                                                                                                  | Min      | Max  | No. of Samples | NFS Year <sup>1</sup> | NFS Rationale                                                       |
| <b>Troutdale Wells</b>  |        |        |                |                       |                                                                                                                                                                |          |      |                |                       |                                                                     |
| AMW-25                  |        |        |                | NA                    | NA (still sampling)                                                                                                                                            | U        | 4.10 | 8              | 2014                  | All results have been below the cleanup level.                      |
| AMW-50                  |        |        |                | NA                    | NA (still sampling)                                                                                                                                            | U        | 37.7 | 15             | 2014                  | All results have been below the cleanup level.                      |
| AMW-51                  |        |        |                | NA                    | NA (still sampling)                                                                                                                                            | U        | 10.1 | 11             | 2014                  | All results have been below the cleanup level.                      |
| AMW-62                  |        |        |                | NA                    | NA (still sampling)                                                                                                                                            | U        | 1.5  | 11             | 2014                  | All results have been below the cleanup level.                      |
| CPU-2                   |        |        |                | NA                    | NA (still sampling)                                                                                                                                            | U        | 14.0 | 23             | 2014                  | All results have been below the cleanup level.                      |
| CPU-3D                  |        |        |                | NA                    | NA (still sampling)                                                                                                                                            | U        | 11.0 | 16             | 2014                  | All results have been below the cleanup level.                      |
| CPU-10                  |        |        |                | NA                    | NA (still sampling)                                                                                                                                            | U        | 23.2 | 21             | 2014                  | All results have been below the cleanup level.                      |
| MW-34                   |        |        |                | NA                    | NA (still sampling)                                                                                                                                            | U        | 25.4 | 20             | 2014                  | All results have been below the cleanup level.                      |
| <b>TCE Source Wells</b> |        |        |                |                       |                                                                                                                                                                |          |      |                |                       |                                                                     |
| RAMW-2C                 | U      | 0.90   | 23             | 2009                  | All results except the first sample have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation. |          |      |                | NA                    | Not sampled for chromium. Well is upgradient of the chromium plume. |
| AMW-1B                  | U      | 82.20  | 31             | 2010                  | All results since 1999 have been below the cleanup level.                                                                                                      |          |      |                | NA                    | Not sampled for chromium. Well is upgradient of the chromium plume. |
| AMW-1C                  | U      | 73.9   | 24             | 2009                  | All results since 1997 (22 samples) have been below the cleanup level and MRL.                                                                                 |          |      |                | NA                    | Not sampled for chromium. Well is upgradient of the chromium plume. |
| AMW-4A                  | U      | 0.40   | 12             | 2009                  | All results have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation.                         |          |      |                | NA                    | Not sampled for chromium. Well is upgradient of the chromium plume. |
| AMW-19B                 | U      | 0.77   | 17             | 2009                  | All results have been below the cleanup level and <1 ug/L. TCE is statistically below the cleanup level according to the MAROS evaluation.                     |          |      |                | NA                    | Not sampled for chromium. Well is upgradient of the chromium plume. |
| AMW-52C                 | U      | U      | 15             | 2009                  | All results have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation.                         |          |      |                | NA                    | Not sampled for chromium. Well is upgradient of the chromium plume. |
| AMW-53B                 | 0.43 J | 2.70   | 15             | 2009                  | All results have been below the cleanup level. TCE is statistically below the cleanup level according to the MAROS evaluation.                                 |          |      |                | NA                    | Not sampled for chromium. Well is upgradient of the chromium plume. |
| AMW-53C                 | U      | 0.21 J | 15             | 2009                  | All results have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation.                         |          |      |                | NA                    | Not sampled for chromium. Well is upgradient of the chromium plume. |
| AMW-54C                 | U      | 0.36 J | 15             | 2009                  | All results have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation.                         |          |      |                | NA                    | Not sampled for chromium. Well is upgradient of the chromium plume. |
| AMW-55C                 | U      | 0.39 J | 15             | 2009                  | All results have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation.                         |          |      |                | NA                    | Not sampled for chromium. Well is upgradient of the chromium plume. |
| AMW-56C                 | U      | 0.44 J | 23             | 2009                  | All results have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation.                         |          |      |                | NA                    | Not sampled for chromium. Well is upgradient of the chromium plume. |

TABLE 5. SUMMARY OF WELLS REQUIRING NO FURTHER SAMPLING FOR TCE AND/OR CHROMIUM

| Well Name             | TCE    |      |                |                       |                                                                                                                                                                                                                                 | Chromium |      |                |                       |                                                                                                                                                                                                                                                                                                                     |
|-----------------------|--------|------|----------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------|----------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | Min    | Max  | No. of Samples | NFS Year <sup>1</sup> | NFS Rationale                                                                                                                                                                                                                   | Min      | Max  | No. of Samples | NFS Year <sup>1</sup> | NFS Rationale                                                                                                                                                                                                                                                                                                       |
| MW-1A                 |        |      |                | NA                    | NA (still sampling)                                                                                                                                                                                                             | U        | 162  | 49             | 2014                  | This well has been sampled as an upgradient well for chromium; however, due to continued difficulties obtaining samples using a pump in this well, another well will be sampled as the chromium background well in the future. The chromium concentration in this well has been below the cleanup level since 2000. |
| MW-1B                 | U      | 400  | 28             | 2009                  | All results have been below the cleanup level and MRL since 2000 (22 samples).                                                                                                                                                  |          |      |                | NA                    | Not sampled for chromium. Well is upgradient of the chromium plume.                                                                                                                                                                                                                                                 |
| MW-1C                 | U      | 92.0 | 20             | 2009                  | All results except the first sample have been below the cleanup level. Since 1997, all results have been below the MRL. TCE is statistically below the cleanup level according to the MAROS evaluation.                         | U        | 10   | 6              | 2009                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation.                                                                                                                                                                                 |
| <b>Proximal Wells</b> |        |      |                |                       |                                                                                                                                                                                                                                 |          |      |                |                       |                                                                                                                                                                                                                                                                                                                     |
| AMW-58                | 0.1 J  | 9.2  | 8              | 2012                  | TCE concentrations in this silt well have been below the cleanup level since 2005.                                                                                                                                              | U        | 34.7 | 7              | 2010                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation.                                                                                                                                                                                 |
| MW-2B                 | 2.40   | 29.0 | 14             | 2010                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness. TCE is currently below the cleanup level.                                               | U        | 26.4 | 14             | 2009                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation.                                                                                                                                                                                 |
| MW-2C                 | 0.36 J | 40.5 | 8              | 2009                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness. TCE has been below the cleanup level since 2002 (4 samples).                            | U        | 21.4 | 8              | 2009                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation.                                                                                                                                                                                 |
| MW-3A                 | U      | 2.40 | 19             | 2009                  | All results have been below the cleanup level. TCE is statistically below the cleanup level according to the MAROS evaluation.                                                                                                  |          |      |                | NA                    | NA (still sampling)                                                                                                                                                                                                                                                                                                 |
| MW-3B                 |        |      |                | NA                    | NA (still sampling)                                                                                                                                                                                                             | 5.20     | 23.3 | 11             | 2009                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation.                                                                                                                                                                                 |
| MW-3C                 | 3.80   | 20.4 | 7              | 2008                  | This well is redundant for TCE, according to the MAROS evaluation.                                                                                                                                                              | U        | 9.30 | 7              | 2008                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation.                                                                                                                                                                                 |
| MW-4A                 | 0.80   | 210  | 19             | 2010                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness.                                                                                         |          |      |                | NA                    | NA (still sampling)                                                                                                                                                                                                                                                                                                 |
| MW-4BShed             | 4.10   | 198  | 15             | 2010                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness.                                                                                         | 65.6     | 8580 | 10             | 2013                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness.                                                                                                                                                                             |
| MW-4C                 | 3.80   | 40.0 | 8              | 2009                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness. TCE has been on a decreasing trend and is currently below the cleanup level (1 sample). | 61.0     | 248  | 47             | 2009                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness. Chromium has been on a decreasing trend and was below the cleanup level (one sample).                                                                                       |

TABLE 5. SUMMARY OF WELLS REQUIRING NO FURTHER SAMPLING FOR TCE AND/OR CHROMIUM

| Well Name | TCE    |       |                |                       |                                                                                                                                                                                                                                               | Chromium |      |                |                       |                                                                                                                                                                                                           |
|-----------|--------|-------|----------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------|----------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | Min    | Max   | No. of Samples | NFS Year <sup>1</sup> | NFS Rationale                                                                                                                                                                                                                                 | Min      | Max  | No. of Samples | NFS Year <sup>1</sup> | NFS Rationale                                                                                                                                                                                             |
| MW-6A     | U      | 38.1  | 5              | 2009                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness. TCE has been below the cleanup level since 1995 (4 samples) and below the detection limit since 1997. |          |      |                | NA                    | NA (still sampling)                                                                                                                                                                                       |
| MW-6C     | 0.54   | 66.7  | 10             | 2010                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness.                                                                                                       | 8.63     | 400  | 10             | 2009                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness. Chromium has been below the cleanup level since 1995 (9 samples). |
| MW-6D     | 4.30   | 63.5  | 8              | 2010                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness.                                                                                                       | U        | 29.8 | 8              | 2009                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation.                                                                       |
| MW-7B     |        |       |                | NA                    | NA (still sampling)                                                                                                                                                                                                                           | 9.80     | 932  | 6              | 2009                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness. Chromium has been below the cleanup level since 1997 (4 samples). |
| MW-7C     | 0.18 J | 26.5  | 6              | 2009                  | This well is part of a well cluster (adjacent to the MW-4 cluster) but is not the most impacted well in the cluster and therefore provides data of limited usefulness. TCE has been below the cleanup level since 1997 (4 samples).           | U        | 174  | 8              | 2009                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness. Chromium has been below the cleanup level since 1995 (7 samples). |
| MW-8B     |        |       |                | NA                    | NA (still sampling)                                                                                                                                                                                                                           | U        | 13.0 | 11             | 2009                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation.                                                                       |
| MW-9B     |        |       |                | NA                    | NA (still sampling)                                                                                                                                                                                                                           | U        | 429  | 16             | 2009                  | Chromium has been below the cleanup level since 1997 (12 samples).                                                                                                                                        |
| MW-9C     | 3.80   | 2,280 | 9              | 2010                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness.                                                                                                       | U        | 65.4 | 22             | 2010                  | This well is part of a well cluster but is not the most impacted well in the cluster and therefore provides data of limited usefulness. Chromium has never exceeded the cleanup level.                    |
| MW-12C    |        |       |                | NA                    | NA (still sampling)                                                                                                                                                                                                                           | U        | 19.0 | 38             | 2010                  | Chromium is statistically below the cleanup level according to the MAROS evaluation.                                                                                                                      |
| MW-13C    |        |       |                | NA                    | NA (still sampling)                                                                                                                                                                                                                           | 27.5     | 122  | 38             | 2010                  | Chromium is statistically below the cleanup level according to the MAROS evaluation.                                                                                                                      |

TABLE 5. SUMMARY OF WELLS REQUIRING NO FURTHER SAMPLING FOR TCE AND/OR CHROMIUM

| Well Name                  | TCE |        |                |                       |                                                                                                                                        | Chromium |      |                |                       |                                                                                                                                                                                |
|----------------------------|-----|--------|----------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------|------|----------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | Min | Max    | No. of Samples | NFS Year <sup>1</sup> | NFS Rationale                                                                                                                          | Min      | Max  | No. of Samples | NFS Year <sup>1</sup> | NFS Rationale                                                                                                                                                                  |
| <b>Intermediate Wells</b>  |     |        |                |                       |                                                                                                                                        |          |      |                |                       |                                                                                                                                                                                |
| AMW-16                     |     |        |                | NA                    | NA (still sampling)                                                                                                                    | U        | 3.0  | 21             | 2010                  | Chromium is statistically below the cleanup level according to the MAROS evaluation.                                                                                           |
| AMW-17                     |     |        |                | NA                    | NA (still sampling)                                                                                                                    | U        | 4.60 | 19             | 2008                  | All results have been below the cleanup level and all have been below the MRL except one. Chromium is statistically below the cleanup level according to the MAROS evaluation. |
| AMW-18                     |     |        |                | NA                    | NA (still sampling)                                                                                                                    | U        | 2.40 | 14             | 2008                  | All results have been below the cleanup level and all have been below the MRL except one. Chromium is statistically below the cleanup level according to the MAROS evaluation. |
| AMW-59                     |     |        |                | NA                    | NA (still sampling)                                                                                                                    | U        | 7.90 | 8              | 2009                  | All results have been below the cleanup level and all but one have been below the MRL. Chromium is statistically below the cleanup level according to the MAROS evaluation.    |
| AMW-60                     | U   | 0.94   | 3              | 2009                  | All results have been below the cleanup level and near or below the MRL. This is a silt well.                                          | U        | 8.90 | 3              | 2009                  | All results have been below the cleanup level and near or below the MRL. This is a silt well.                                                                                  |
| MW-15E                     |     |        |                | NA                    | NA (still sampling)                                                                                                                    | U        | 18.0 | 13             | 2008                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation.                                            |
| MW-16E                     | U   | 5.70   | 12             | 2013                  | TCE is statistically below the cleanup level according to the MAROS evaluation.                                                        | U        | 16.1 | 19             | 2010                  | Chromium is statistically below the cleanup level according to the MAROS evaluation.                                                                                           |
| MW-17E                     | U   | 0.85 J | 5              | 2008                  | All results have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation. | U        | U    | 5              | 2008                  | All results have been below the cleanup level and the MRL. Chromium is statistically below the cleanup level according to the MAROS evaluation.                                |
| MW-18E                     |     |        |                | NA                    | NA (still sampling)                                                                                                                    | U        | 597  | 35             | 2010                  | With the exception of three outliers, chromium concentrations have been below the cleanup level in all samples collected since the well was installed in 1993.                 |
| PZ-39                      |     |        |                | NA                    | NA (still sampling)                                                                                                                    | 6.7      | 11.0 | 3              | 2010                  | Chromium has never exceeded the cleanup level.                                                                                                                                 |
| MW-40                      | 1.2 | 36     | 6              | 2009                  | Replaced with PZ-39.                                                                                                                   | 97.6     | 443  | 6              | 2009                  | Replaced with PZ-39.                                                                                                                                                           |
| <b>Church of God Wells</b> |     |        |                |                       |                                                                                                                                        |          |      |                |                       |                                                                                                                                                                                |
| AMW-14                     | U   | 506    | 14             | 2012                  | Decommissioned                                                                                                                         | 26       | 8300 | 14             | 2012                  | Decommissioned                                                                                                                                                                 |
| AMW-61                     |     |        |                | NA                    | NA (still sampling)                                                                                                                    | 17.3     | 1410 | 5              | 2010                  | Chromium is below the cleanup level. Due to excessive drawdown during low-flow pumping of this silt well, use of a PDB is recommended for VOC sampling only.                   |
| CPU-12                     |     |        |                | NA                    | NA (still sampling)                                                                                                                    | U        | 245  | 27             | 2010                  | Chromium concentrations have been below the cleanup level since 2002.                                                                                                          |
| MW-23D                     |     |        |                | NA                    | NA (still sampling)                                                                                                                    | U        | 6.7  | 40             | 2010                  | Chromium is statistically below the cleanup level according to the MAROS evaluation.                                                                                           |

TABLE 5. SUMMARY OF WELLS REQUIRING NO FURTHER SAMPLING FOR TCE AND/OR CHROMIUM

| Well Name                                                                                                                                          | TCE |     |                |                       |                                                                                                                                                                                      | Chromium |      |                |                       |                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|----------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------|----------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                    | Min | Max | No. of Samples | NFS Year <sup>1</sup> | NFS Rationale                                                                                                                                                                        | Min      | Max  | No. of Samples | NFS Year <sup>1</sup> | NFS Rationale                                                                                                                       |
| <b>Other Toe Wells</b>                                                                                                                             |     |     |                |                       |                                                                                                                                                                                      |          |      |                |                       |                                                                                                                                     |
| MW-37                                                                                                                                              | U   | U   | 28             | 2008                  | All results have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation.                                               | U        | 18.0 | 28             | 2008                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation. |
| MW-46                                                                                                                                              | U   | U   | 41             | 2009                  | All results have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation.                                               | U        | 28.0 | 42             | 2009                  | All results have been below the cleanup level.                                                                                      |
| MW-48                                                                                                                                              | U   | U   | 38             | 2009                  | All results have been below the cleanup level and MRL except one outlier in 2001. TCE is statistically below the cleanup level according to the MAROS evaluation (outlier excluded). | U        | 37.8 | 39             | 2009                  | All results have been below the cleanup level.                                                                                      |
| <b>Sentinel Toe Wells</b>                                                                                                                          |     |     |                |                       |                                                                                                                                                                                      |          |      |                |                       |                                                                                                                                     |
| AMW-43                                                                                                                                             | U   | U   | 38             | 2009                  | All results have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation.                                               | U        | 7.80 | 39             | 2009                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation. |
| AMW-44                                                                                                                                             | U   | U   | 40             | 2008                  | All results have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation.                                               | U        | 57.8 | 41             | 2008                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation. |
| AMW-45                                                                                                                                             | U   | U   | 44             | 2008                  | All results have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation.                                               | U        | 30.8 | 47             | 2008                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation. |
| MW-30                                                                                                                                              | U   | U   | 21             | 2008                  | All results have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation.                                               | U        | 5.80 | 24             | 2008                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation. |
| MW-47                                                                                                                                              | U   | U   | 32             | 2008                  | All results have been below the cleanup level and MRL. TCE is statistically below the cleanup level according to the MAROS evaluation.                                               | U        | 17.0 | 34             | 2008                  | All results have been below the cleanup level. Chromium is statistically below the cleanup level according to the MAROS evaluation. |
| Notes:                                                                                                                                             |     |     |                |                       |                                                                                                                                                                                      |          |      |                |                       |                                                                                                                                     |
| Highlighted wells indicate additions since the previous annual status report.                                                                      |     |     |                |                       |                                                                                                                                                                                      |          |      |                |                       |                                                                                                                                     |
| <sup>1</sup> Year = the Annual Status Report in which this recommendation was made.                                                                |     |     |                |                       |                                                                                                                                                                                      |          |      |                |                       |                                                                                                                                     |
| Data used are from 1995 to the present.                                                                                                            |     |     |                |                       |                                                                                                                                                                                      |          |      |                |                       |                                                                                                                                     |
| J = The result is an estimated concentration that is less than the Method Reporting Limit but greater than or equal to the Method Detection Limit. |     |     |                |                       |                                                                                                                                                                                      |          |      |                |                       |                                                                                                                                     |
| MAROS = Monitoring and Remediation Optimization Software.                                                                                          |     |     |                |                       |                                                                                                                                                                                      |          |      |                |                       |                                                                                                                                     |
| MRL = Method reporting limit.                                                                                                                      |     |     |                |                       |                                                                                                                                                                                      |          |      |                |                       |                                                                                                                                     |
| NA = Not applicable.                                                                                                                               |     |     |                |                       |                                                                                                                                                                                      |          |      |                |                       |                                                                                                                                     |
| NFS = No further sampling.                                                                                                                         |     |     |                |                       |                                                                                                                                                                                      |          |      |                |                       |                                                                                                                                     |
| TCE = Trichloroethene.                                                                                                                             |     |     |                |                       |                                                                                                                                                                                      |          |      |                |                       |                                                                                                                                     |
| U = Analyte not detected above the specified reporting limit.                                                                                      |     |     |                |                       |                                                                                                                                                                                      |          |      |                |                       |                                                                                                                                     |

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**APPENDIX A**

**CHROMIUM CONCENTRATIONS IN  
GROUNDWATER**

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**APPENDIX A-1**

**CHROMIUM CONCENTRATIONS –  
SUMMARY TABLES**

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**A-1. Chromium Concentration Summary**

| Well Group        | Well    | Spring 2013 | Fall 2013   | Spring 2014 | Fall 2014   |
|-------------------|---------|-------------|-------------|-------------|-------------|
| Upgradient        | AMW-6A  | --          | --          | --          | 9.6         |
|                   | AMW-7A  | --          | --          | --          | 0.7 J       |
|                   | AMW-10A | --          | --          | --          | 8.3         |
|                   | AMW-11A | --          | --          | --          | 1.7 J       |
| TCE Source (OU-2) | MW-1A   | --          | --          | --          | 16.1 UJ*    |
| Proximal          | MW-2A   | <b>489</b>  | <b>220</b>  | --          | <b>130</b>  |
|                   | MW-3A   | 54.5        | 72.1        | --          | 63.6        |
|                   | MW-4A   | <b>505</b>  | <b>376</b>  | --          | <b>495</b>  |
|                   | MW-4B   | <b>638</b>  | <b>787</b>  | --          | <b>809</b>  |
|                   | MW-6B   | 19.8        | 20.8        | 39.4        | 14.8        |
|                   | MW-10B  | 37.6        | 34.6        | 37.6        | 34.1        |
|                   | MW-10C  | <b>96</b>   | 76.3        | <b>96.6</b> | 67.3        |
|                   | PW-1B   | 42.8        | 44.2        | 46.5        | 35.7        |
| Intermediate      | CPU-14  | --          | 46.8        | --          | 53.6        |
|                   | MW-14C  | 67.1        | 63.7        | 65          | 67.6        |
|                   | MW-14E  | 41.7        | 39.9        | 40.2        | 42          |
|                   | MW-18D  | <b>106</b>  | <b>96.6</b> | <b>92.3</b> | <b>91.1</b> |
|                   | MW-19D  | <b>99.2</b> | <b>94.8</b> | <b>95.9</b> | <b>91.7</b> |
|                   | MW-20D  | 61.4        | 55          | 57.1        | 55.5        |
| Church of God     | AMW-27  | 4.8         | --          | --          | 4.7 UJ      |
|                   | CPU-13  | 25.3        | 44.8        | 54.8        | 45.7        |
|                   | MW-21D  | 9.3         | 8.8         | 9.1         | 8.9         |
|                   | MW-22D  | 22.8        | 23.3        | 27.8        | 20.3        |
|                   | MW-25D  | 3.3 J       | 3.9 J       | --          | 6.3         |
|                   | MW-26D  | 38.6        | 7.0         | --          | 11.4        |
|                   | MW-27D  | --          | 18.9 UJ     | --          | 6.8 UJ      |
|                   | MW-49   | 11.6        | 11.4        | --          | 12.2        |
| Toe of Plume      | AMW-42  | --          | --          | --          | 26.6 UJ     |
|                   | AMW-63  | --          | --          | --          | 11.4 UJ     |
|                   | MW-35   | --          | 17.6        | --          | 29.3        |
|                   | MW-41   | --          | --          | --          | 4.0 U       |
| Troutdale Aquifer | BENNETT | 4.0 U       | 4.0 U       | 4.0 U       | 4.0 U       |
|                   | CPU-2   | --          | --          | --          | 1.9 UJ      |
|                   | CPU-3D  | --          | --          | --          | 3.8 J       |
|                   | CPU-10  | --          | --          | --          | 4.5 UJ      |
|                   | AMW-24  | --          | 6.6         | --          | 13.6        |
|                   | AMW-25  | --          | --          | --          | 1.2 J       |
|                   | AMW-50  | --          | --          | --          | 9.8         |
|                   | AMW-51  | --          | --          | --          | 4.1         |
|                   | AMW-62  | --          | --          | --          | 1.5 J       |
|                   | MW-33   | --          | --          | --          | 2.2 J       |
|                   | MW-34   | --          | 1.9 J       | --          | 4.0 U       |

## NOTES:

Only wells sampled for chromium during 2014 are included in this table.

Results are in micrograms per liter ( $\mu\text{g/L}$ ).

Results are for total chromium, unless otherwise noted.

Results shown in **bold and shaded** exceed the established cleanup level of 80  $\mu\text{g/L}$ .

\* = A dissolved chromium sample was also collected from well MW-1A (1.6 UJ  $\mu\text{g/L}$ ) due to elevated turbidity.

J = The result is an estimated concentration that is less than the method reporting limit but greater than or equal to the method detection limit.

-- = Well not sampled during that monitoring event.

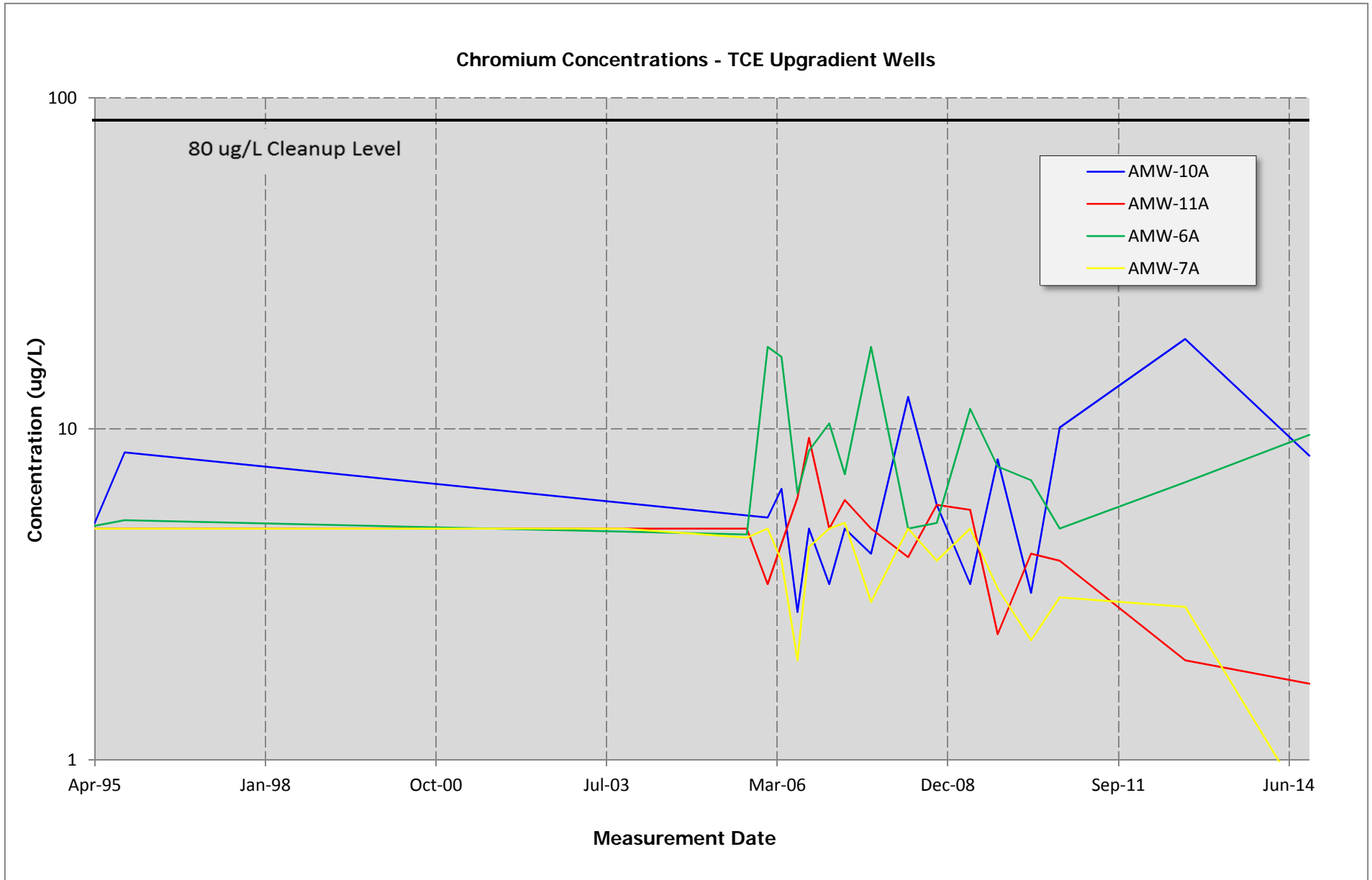
U = Analyte not detected above the specified reporting limit.

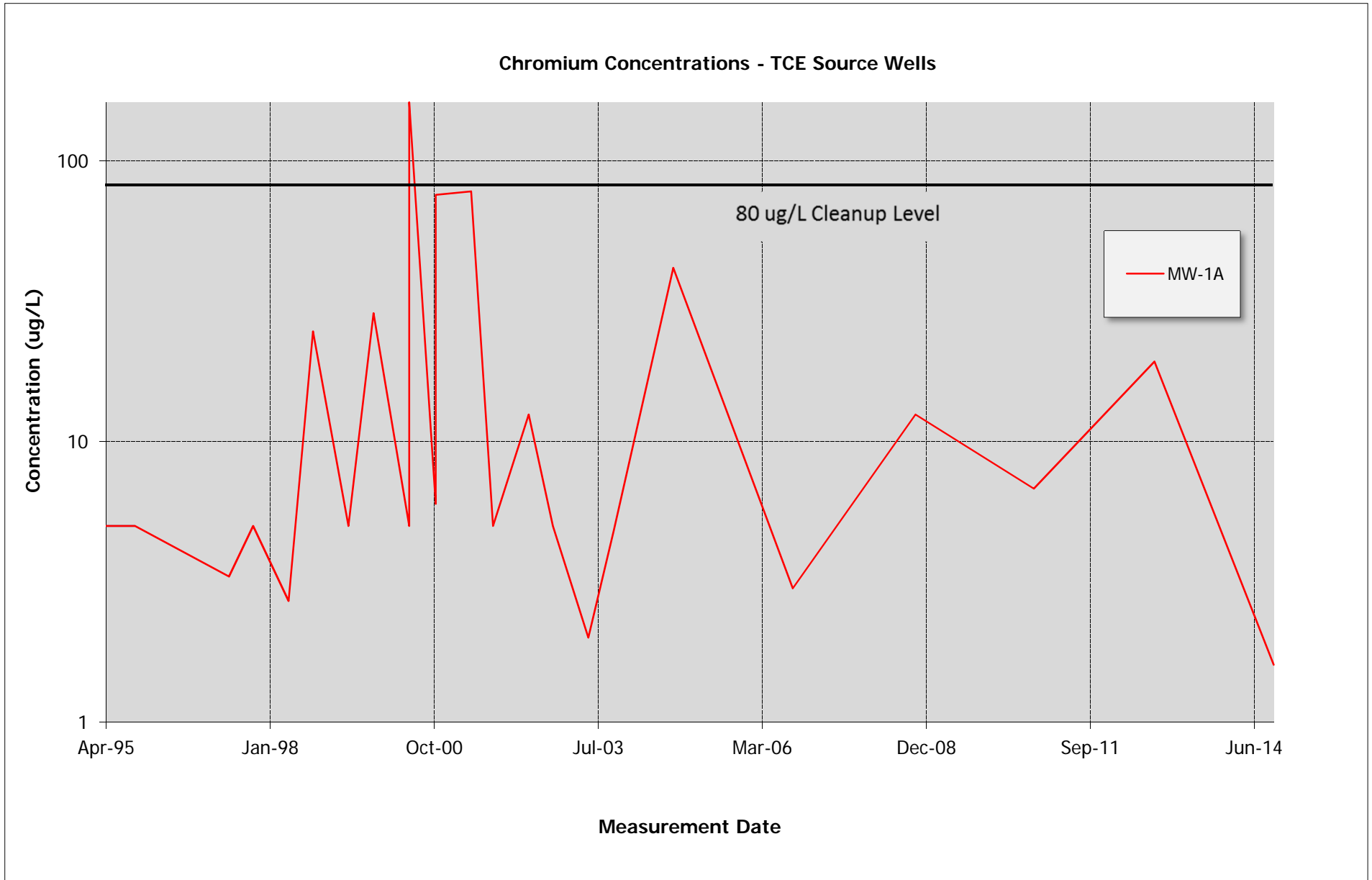
UJ = The analyte was not detected, but the associated limit of quantitation is estimated due to discrepancies in the quality control criteria.

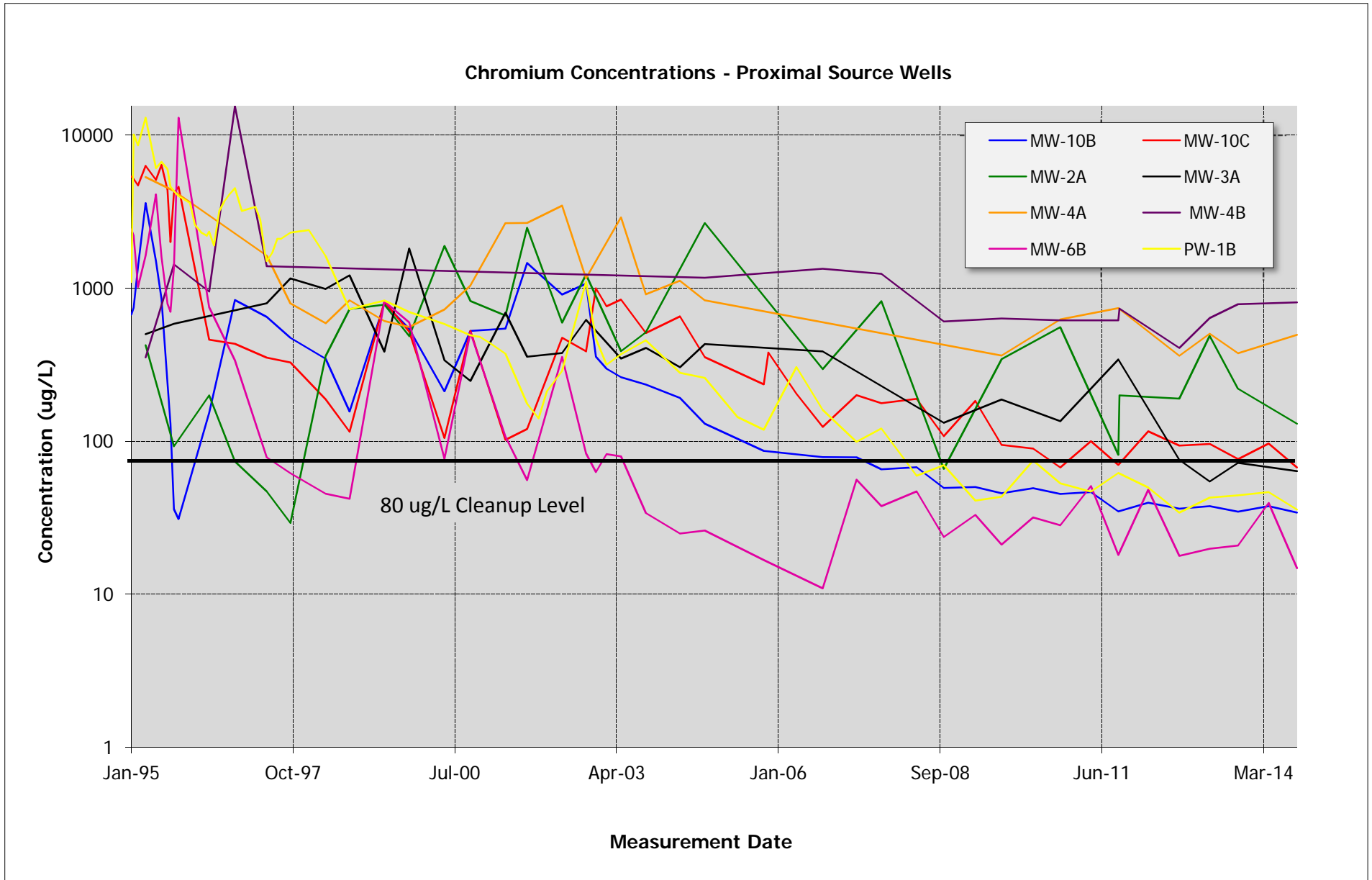
**APPENDIX A-2**

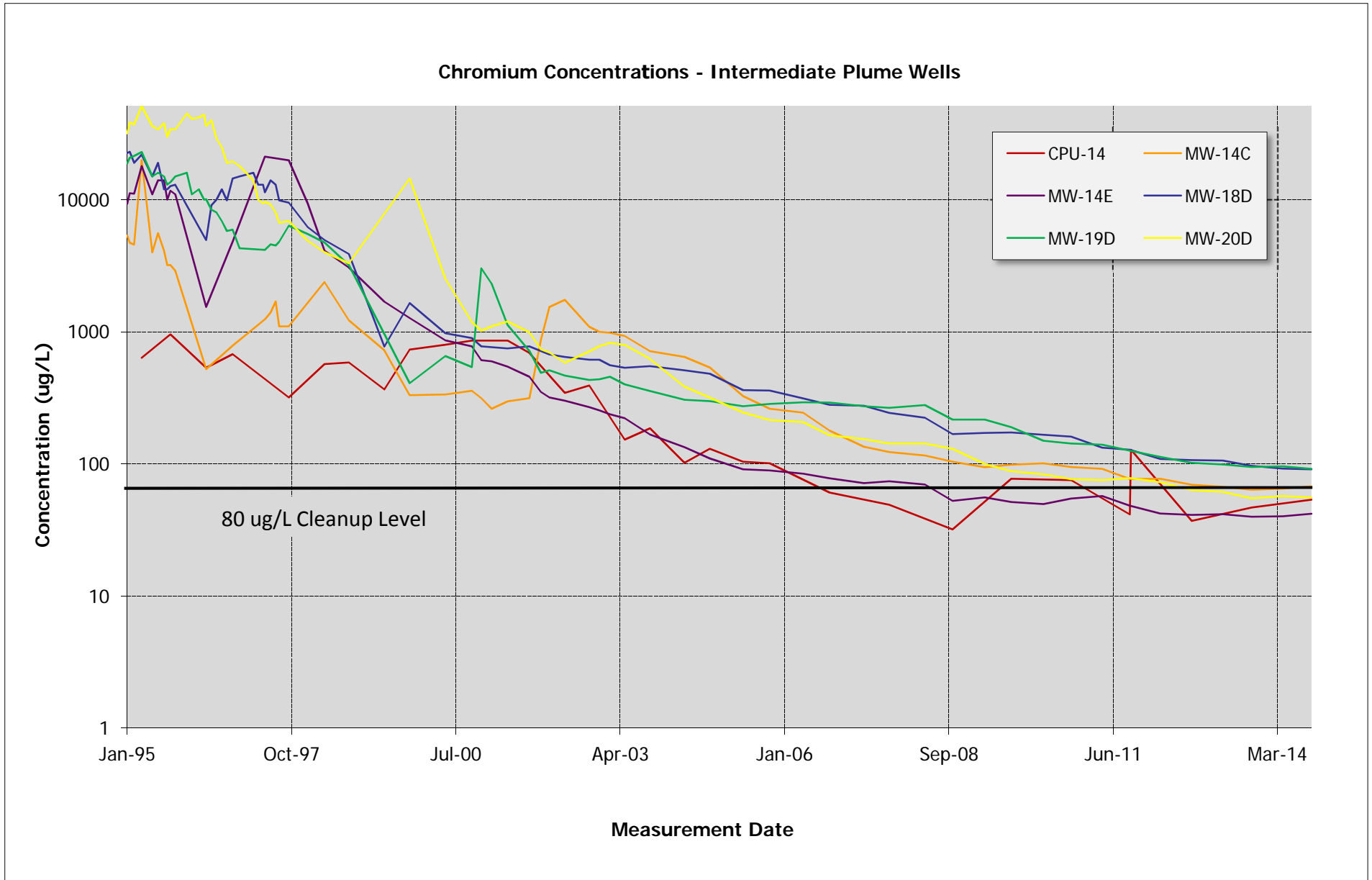
**CHROMIUM CONCENTRATIONS –  
BY WELL GROUPING**

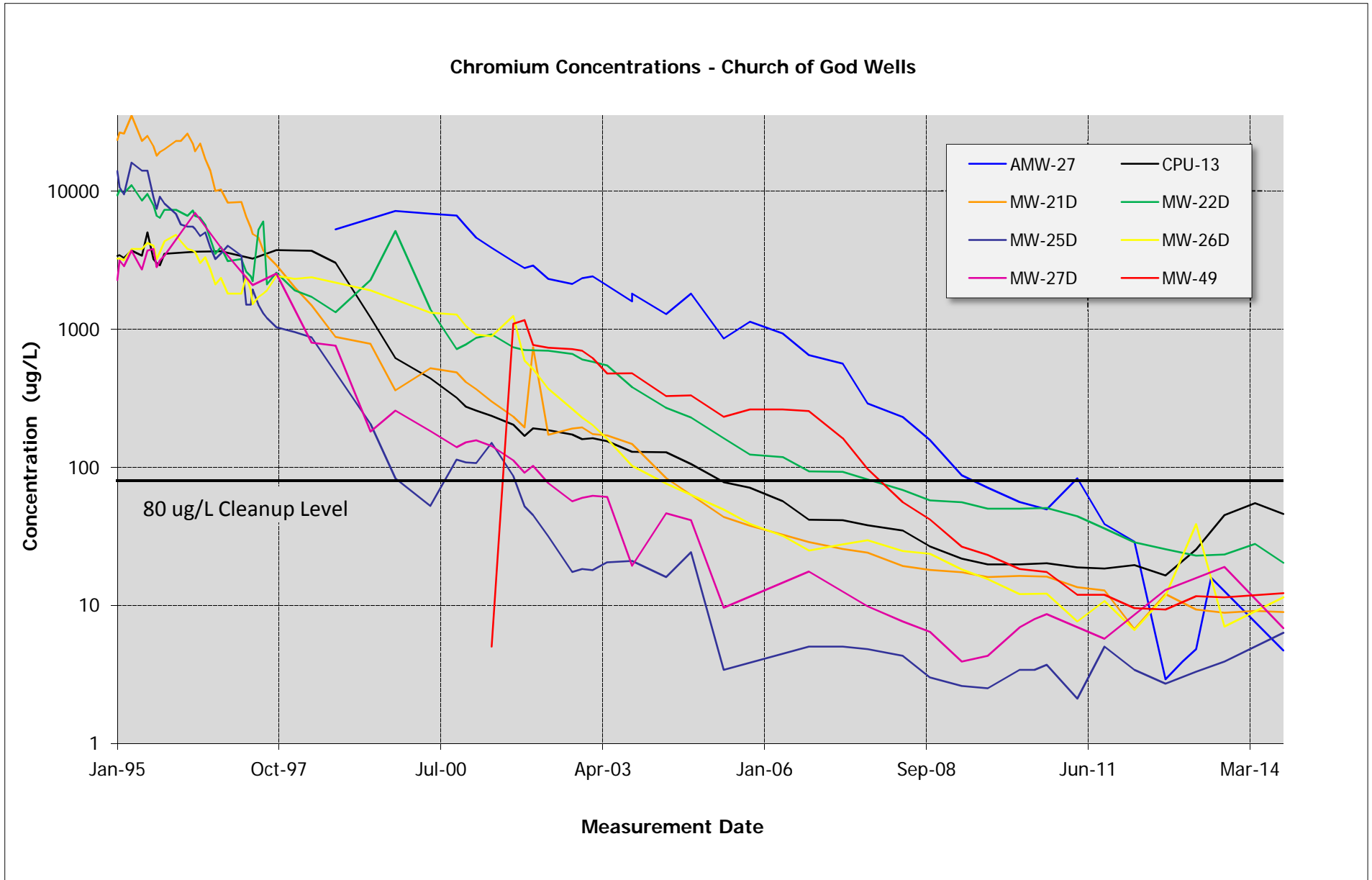
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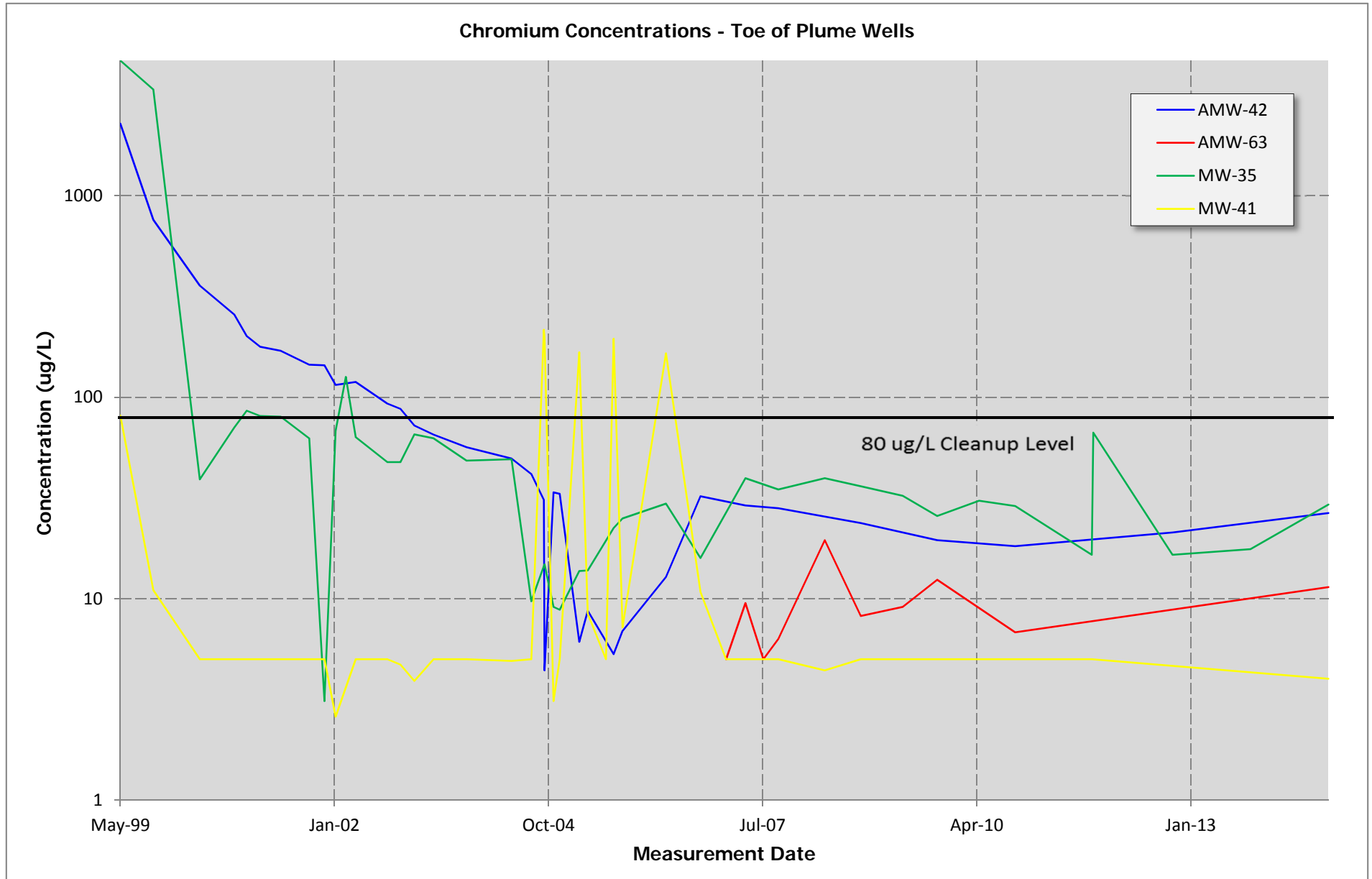


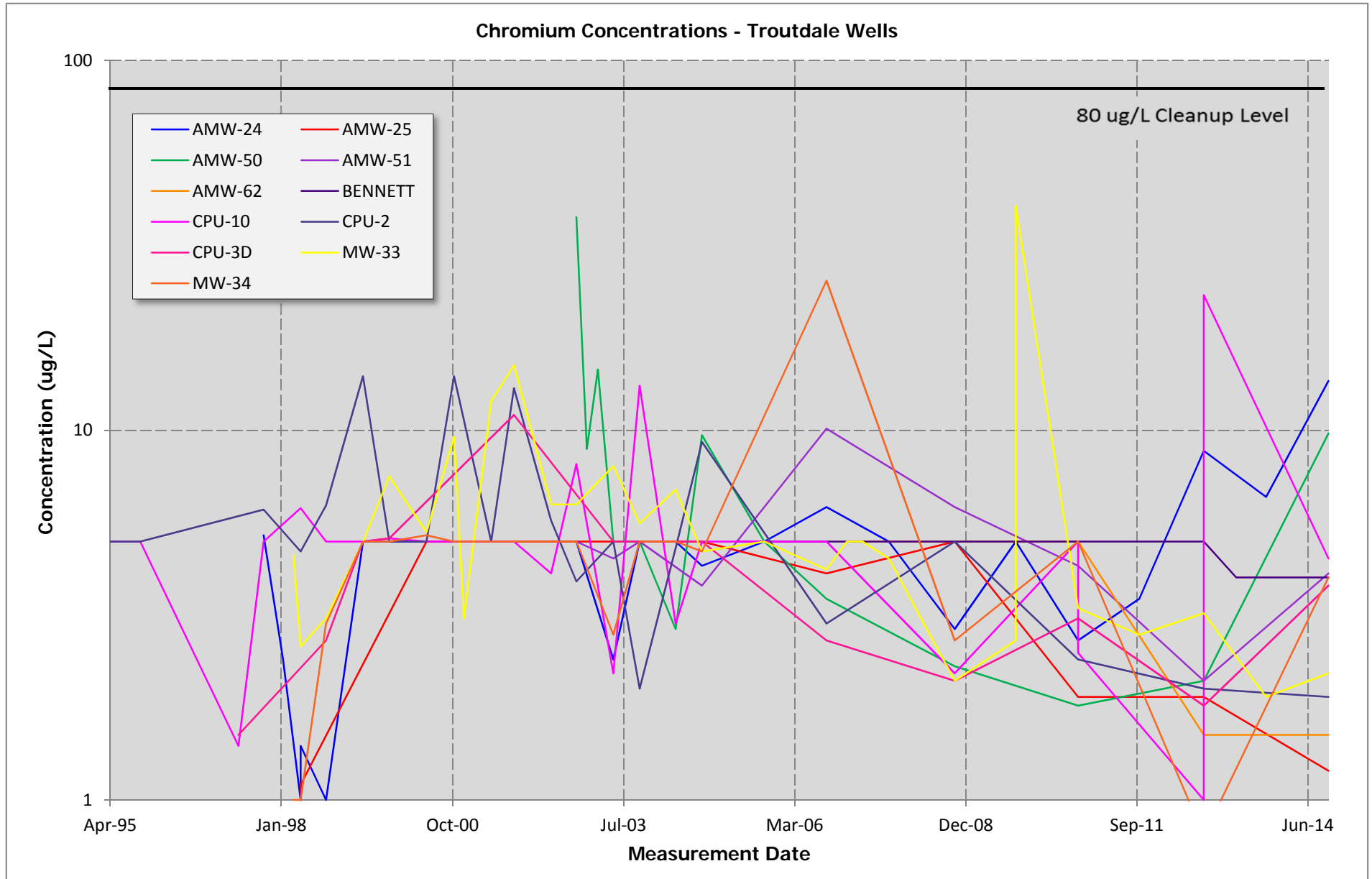












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**APPENDIX A-3**

**CHROMIUM CONCENTRATIONS –  
INDIVIDUAL WELLS**

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## APPENDIX A-3 TABLE OF CONTENTS

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| AMW-6A .....                   | 1           |
| AMW-7A .....                   | 3           |
| AMW-10A .....                  | 5           |
| AMW-11A .....                  | 7           |
| <br><b>TCE Source Wells</b>    |             |
| MW-1A .....                    | 1           |
| <br><b>Proximal Wells</b>      |             |
| MW-2A .....                    | 1           |
| MW-3A .....                    | 3           |
| MW-4A .....                    | 5           |
| MW-4B .....                    | 7           |
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| MW-6B .....                    | 10          |
| MW-10B .....                   | 12          |
| MW-10C .....                   | 14          |
| PW-1B .....                    | 16          |
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| CPU-14 .....                   | 1           |
| MW-14C .....                   | 3           |
| MW-14E .....                   | 5           |
| MW-18D .....                   | 7           |
| MW-19D .....                   | 9           |
| MW-20D .....                   | 11          |
| <br><b>Church of God Wells</b> |             |
| AMW-27 .....                   | 1           |
| CPU-13 .....                   | 3           |
| MW-21D .....                   | 5           |
| MW-22D .....                   | 7           |
| MW-25D .....                   | 9           |
| MW-26D .....                   | 11          |
| MW-27D .....                   | 13          |
| MW-49 .....                    | 15          |

**Toe of Plume – Other Toe Wells**

|              |   |
|--------------|---|
| AMW-42 ..... | 1 |
| AMW-63 ..... | 3 |
| MW-31 .....  | 4 |
| MW-35 .....  | 6 |
| MW-41 .....  | 8 |

**Troutdale Wells**

|               |    |
|---------------|----|
| BENNETT ..... | 1  |
| CPU-2 .....   | 2  |
| CPU-3D .....  | 3  |
| CPU-10 .....  | 4  |
| AMW-24 .....  | 5  |
| AMW-25 .....  | 6  |
| AMW-50 .....  | 7  |
| AMW-51 .....  | 8  |
| AMW-62 .....  | 9  |
| MW-33 .....   | 10 |
| MW-34 .....   | 11 |

## **UPGRADIENT WELLS**

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# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-6A

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

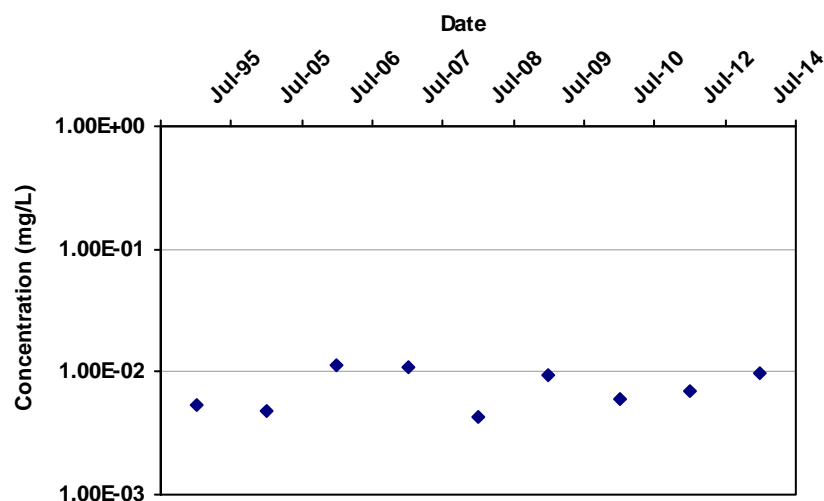
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

4

**Confidence in Trend:**

61.9%

**Coefficient of Variation:**

0.36

**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 |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| AMW-6A | T         | 7/1/1995       | CHROMIUM, HEXAV | 5.3E-03       |      | 1                 | 1                 |
| AMW-6A | T         | 7/1/2005       | CHROMIUM, HEXAV | 4.8E-03       |      | 1                 | 1                 |
| AMW-6A | T         | 7/1/2006       | CHROMIUM, HEXAV | 1.1E-02       |      | 4                 | 4                 |
| AMW-6A | T         | 7/1/2007       | CHROMIUM, HEXAV | 1.1E-02       |      | 3                 | 3                 |
| AMW-6A | T         | 7/1/2008       | CHROMIUM, HEXAV | 4.3E-03       |      | 2                 | 2                 |
| AMW-6A | T         | 7/1/2009       | CHROMIUM, HEXAV | 9.4E-03       |      | 2                 | 2                 |
| AMW-6A | T         | 7/1/2010       | CHROMIUM, HEXAV | 5.9E-03       |      | 2                 | 2                 |
| AMW-6A | T         | 7/1/2012       | CHROMIUM, HEXAV | 6.9E-03       |      | 1                 | 1                 |
| AMW-6A | T         | 7/1/2014       | CHROMIUM, HEXAV | 9.6E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

**Project:** Boomsnub/Airco Superfund Site

**User Name:**

**Location:** Hazel Dell

**State:** Washington

| <b>Well</b> | <b>Well Type</b> | <b>Effective Date</b> | <b>Constituent</b> | <b>Result (mg/L)</b> | <b>Flag</b> | <b>Number of Samples</b> | <b>Number of Detects</b> |
|-------------|------------------|-----------------------|--------------------|----------------------|-------------|--------------------------|--------------------------|
|-------------|------------------|-----------------------|--------------------|----------------------|-------------|--------------------------|--------------------------|

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-7A

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

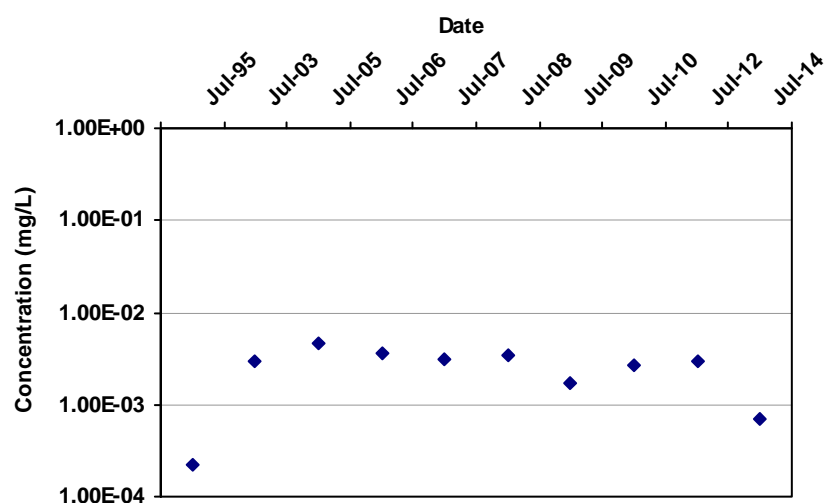
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-11

**Confidence in Trend:**

81.0%

**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 |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| AMW-7A | T         | 7/1/1995       | CHROMIUM, HEXAV | 2.2E-04       |      | 2                 | 1                 |
| AMW-7A | T         | 7/1/2003       | CHROMIUM, HEXAV | 3.0E-03       | ND   | 1                 | 0                 |
| AMW-7A | T         | 7/1/2005       | CHROMIUM, HEXAV | 4.7E-03       |      | 1                 | 1                 |
| AMW-7A | T         | 7/1/2006       | CHROMIUM, HEXAV | 3.6E-03       |      | 4                 | 4                 |
| AMW-7A | T         | 7/1/2007       | CHROMIUM, HEXAV | 3.1E-03       |      | 3                 | 2                 |
| AMW-7A | T         | 7/1/2008       | CHROMIUM, HEXAV | 3.5E-03       |      | 2                 | 1                 |
| AMW-7A | T         | 7/1/2009       | CHROMIUM, HEXAV | 1.7E-03       |      | 2                 | 1                 |
| AMW-7A | T         | 7/1/2010       | CHROMIUM, HEXAV | 2.7E-03       |      | 2                 | 2                 |
| AMW-7A | T         | 7/1/2012       | CHROMIUM, HEXAV | 2.9E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| AMW-7A | T         | 7/1/2014       | CHROMIUM, HEXAV | 7.0E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-10A

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

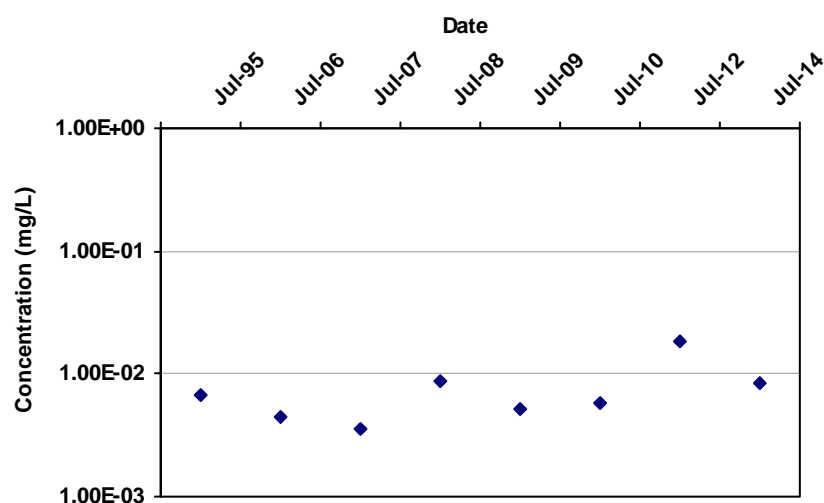
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

10

**Confidence in Trend:**

86.2%

**Coefficient of Variation:**

0.63

**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 |
|---------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| AMW-10A | T         | 7/1/1995       | CHROMIUM, HEXAV | 6.6E-03       |      | 2                 | 2                 |
| AMW-10A | T         | 7/1/2006       | CHROMIUM, HEXAV | 4.5E-03       |      | 4                 | 3                 |
| AMW-10A | T         | 7/1/2007       | CHROMIUM, HEXAV | 3.5E-03       |      | 3                 | 2                 |
| AMW-10A | T         | 7/1/2008       | CHROMIUM, HEXAV | 8.6E-03       |      | 2                 | 2                 |
| AMW-10A | T         | 7/1/2009       | CHROMIUM, HEXAV | 5.2E-03       |      | 2                 | 2                 |
| AMW-10A | T         | 7/1/2010       | CHROMIUM, HEXAV | 5.7E-03       |      | 2                 | 2                 |
| AMW-10A | T         | 7/1/2012       | CHROMIUM, HEXAV | 1.9E-02       |      | 1                 | 1                 |
| AMW-10A | T         | 7/1/2014       | CHROMIUM, HEXAV | 8.3E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

**Project:** Boomsnub/Airco Superfund Site

**User Name:**

**Location:** Hazel Dell

**State:** Washington

| <b>Well</b> | <b>Well Type</b> | <b>Effective Date</b> | <b>Constituent</b> | <b>Result (mg/L)</b> | <b>Flag</b> | <b>Number of Samples</b> | <b>Number of Detects</b> |
|-------------|------------------|-----------------------|--------------------|----------------------|-------------|--------------------------|--------------------------|
|-------------|------------------|-----------------------|--------------------|----------------------|-------------|--------------------------|--------------------------|

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-11A

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

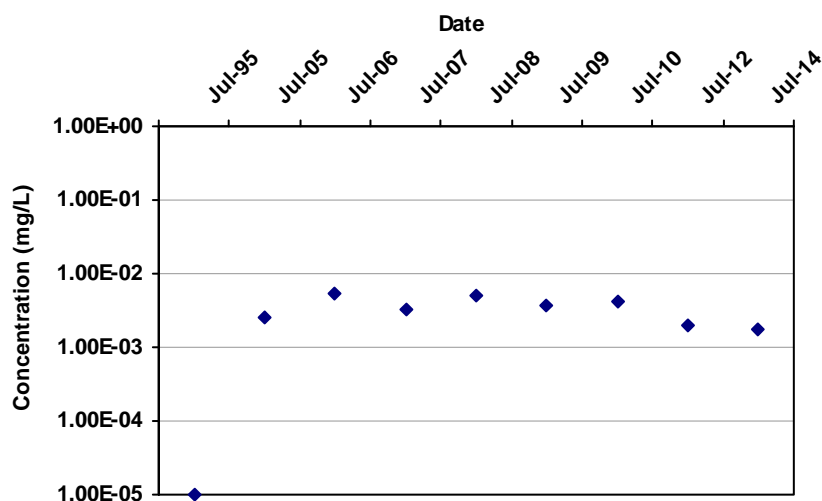
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-2

**Confidence in Trend:**

54.0%

**Coefficient of Variation:**

0.55

**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 |
|---------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| AMW-11A | T         | 7/1/1995       | CHROMIUM, HEXAV | 1.0E-05       | ND   | 2                 | 0                 |
| AMW-11A | T         | 7/1/2005       | CHROMIUM, HEXAV | 2.6E-03       |      | 1                 | 1                 |
| AMW-11A | T         | 7/1/2006       | CHROMIUM, HEXAV | 5.5E-03       |      | 4                 | 4                 |
| AMW-11A | T         | 7/1/2007       | CHROMIUM, HEXAV | 3.3E-03       |      | 3                 | 1                 |
| AMW-11A | T         | 7/1/2008       | CHROMIUM, HEXAV | 4.9E-03       |      | 2                 | 2                 |
| AMW-11A | T         | 7/1/2009       | CHROMIUM, HEXAV | 3.7E-03       |      | 2                 | 2                 |
| AMW-11A | T         | 7/1/2010       | CHROMIUM, HEXAV | 4.1E-03       |      | 2                 | 2                 |
| AMW-11A | T         | 7/1/2012       | CHROMIUM, HEXAV | 2.0E-03       |      | 1                 | 1                 |
| AMW-11A | T         | 7/1/2014       | CHROMIUM, HEXAV | 1.7E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

**Project:** Boomsnub/Airco Superfund Site

**User Name:**

**Location:** Hazel Dell

**State:** Washington

| <b>Well</b> | <b>Well Type</b> | <b>Effective Date</b> | <b>Constituent</b> | <b>Result (mg/L)</b> | <b>Flag</b> | <b>Number of Samples</b> | <b>Number of Detects</b> |
|-------------|------------------|-----------------------|--------------------|----------------------|-------------|--------------------------|--------------------------|
|-------------|------------------|-----------------------|--------------------|----------------------|-------------|--------------------------|--------------------------|

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

## **TCE SOURCE WELLS**

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# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-1A

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

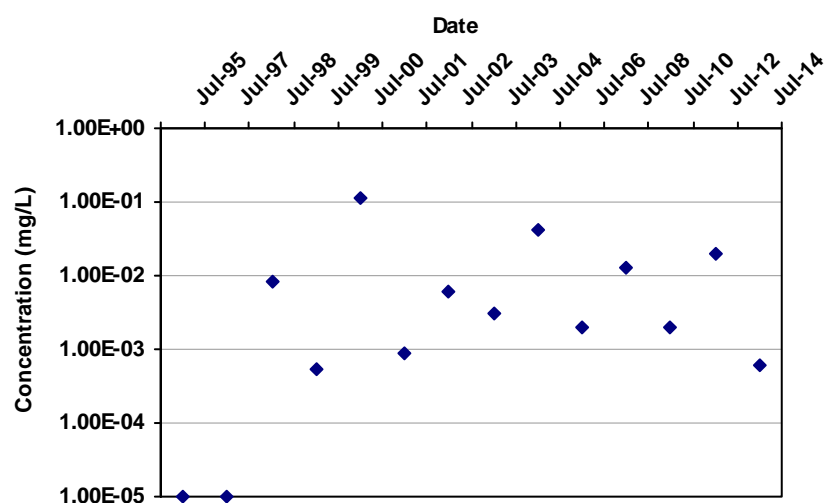
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

21

**Confidence in Trend:**

86.0%

**Coefficient of Variation:**

2.01

**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 |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-1A | T         | 7/1/1995       | CHROMIUM, HEXAV | 1.0E-05       | ND   | 2                 | 0                 |
| MW-1A | T         | 7/1/1997       | CHROMIUM, HEXAV | 1.0E-05       | ND   | 2                 | 0                 |
| MW-1A | T         | 7/1/1998       | CHROMIUM, HEXAV | 8.2E-03       |      | 2                 | 2                 |
| MW-1A | T         | 7/1/1999       | CHROMIUM, HEXAV | 5.4E-04       |      | 2                 | 1                 |
| MW-1A | T         | 7/1/2000       | CHROMIUM, HEXAV | 1.1E-01       |      | 2                 | 2                 |
| MW-1A | T         | 7/1/2001       | CHROMIUM, HEXAV | 8.8E-04       |      | 2                 | 1                 |
| MW-1A | T         | 7/1/2002       | CHROMIUM, HEXAV | 6.1E-03       |      | 2                 | 1                 |
| MW-1A | T         | 7/1/2003       | CHROMIUM, HEXAV | 3.1E-03       |      | 2                 | 2                 |
| MW-1A | T         | 7/1/2004       | CHROMIUM, HEXAV | 4.2E-02       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-1A | T         | 7/1/2006       | CHROMIUM, HEXAV | 2.0E-03       | ND   | 1                 | 0                 |
| MW-1A | T         | 7/1/2008       | CHROMIUM, HEXAV | 1.3E-02       |      | 1                 | 1                 |
| MW-1A | T         | 7/1/2010       | CHROMIUM, HEXAV | 2.0E-03       | ND   | 1                 | 0                 |
| MW-1A | T         | 7/1/2012       | CHROMIUM, HEXAV | 1.9E-02       |      | 1                 | 1                 |
| MW-1A | T         | 7/1/2014       | CHROMIUM, HEXAV | 6.0E-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

## **PROXIMAL WELLS**

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# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-2A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

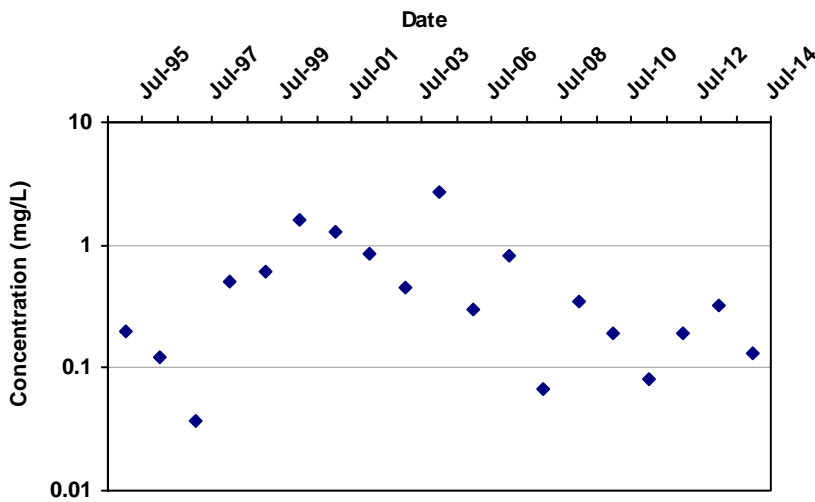
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-29

**Confidence in Trend:**

83.4%

**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 |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-2A | S         | 7/1/1995       | CHROMIUM, HEXAV | 2.0E-01       |      | 2                 | 2                 |
| MW-2A | S         | 7/1/1996       | CHROMIUM, HEXAV | 1.2E-01       |      | 2                 | 2                 |
| MW-2A | S         | 7/1/1997       | CHROMIUM, HEXAV | 3.7E-02       |      | 2                 | 2                 |
| MW-2A | S         | 7/1/1998       | CHROMIUM, HEXAV | 5.1E-01       |      | 2                 | 2                 |
| MW-2A | S         | 7/1/1999       | CHROMIUM, HEXAV | 6.2E-01       |      | 2                 | 2                 |
| MW-2A | S         | 7/1/2000       | CHROMIUM, HEXAV | 1.6E+00       |      | 2                 | 2                 |
| MW-2A | S         | 7/1/2001       | CHROMIUM, HEXAV | 1.3E+00       |      | 2                 | 2                 |
| MW-2A | S         | 7/1/2002       | CHROMIUM, HEXAV | 8.6E-01       |      | 2                 | 2                 |
| MW-2A | S         | 7/1/2003       | CHROMIUM, HEXAV | 4.5E-01       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-2A | S         | 7/1/2004       | CHROMIUM, HEXAV | 2.7E+00       |      | 1                 | 1                 |
| MW-2A | S         | 7/1/2006       | CHROMIUM, HEXAV | 3.0E-01       |      | 1                 | 1                 |
| MW-2A | S         | 7/1/2007       | CHROMIUM, HEXAV | 8.2E-01       |      | 1                 | 1                 |
| MW-2A | S         | 7/1/2008       | CHROMIUM, HEXAV | 6.6E-02       |      | 1                 | 1                 |
| MW-2A | S         | 7/1/2009       | CHROMIUM, HEXAV | 3.4E-01       |      | 1                 | 1                 |
| MW-2A | S         | 7/1/2010       | CHROMIUM, HEXAV | 1.9E-01       |      | 1                 | 1                 |
| MW-2A | S         | 7/1/2011       | CHROMIUM, HEXAV | 8.1E-02       |      | 1                 | 1                 |
| MW-2A | S         | 7/1/2012       | CHROMIUM, HEXAV | 1.9E-01       |      | 1                 | 1                 |
| MW-2A | S         | 7/1/2013       | CHROMIUM, HEXAV | 3.3E-01       |      | 2                 | 2                 |
| MW-2A | S         | 7/1/2014       | CHROMIUM, HEXAV | 1.3E-01       |      | 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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-3A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

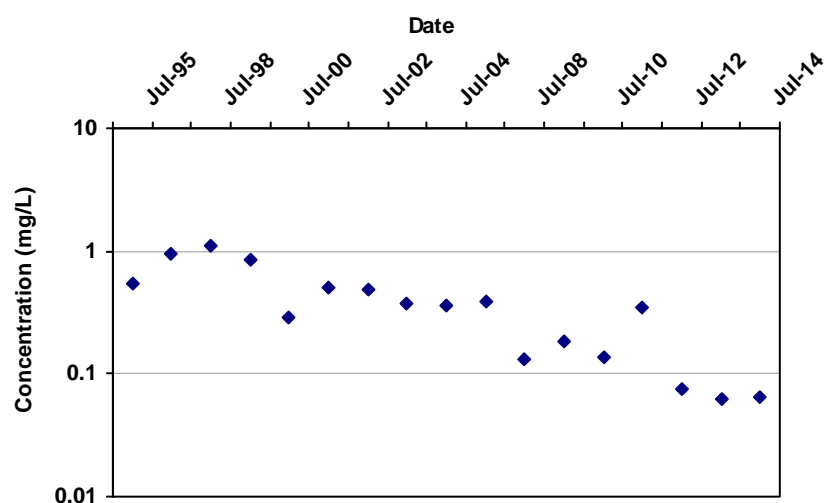
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-100

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

0.78

**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-3A | S         | 7/1/1995       | CHROMIUM, HEXAV | 5.4E-01       |      | 2                 | 2                 |
| MW-3A | S         | 7/1/1997       | CHROMIUM, HEXAV | 9.6E-01       |      | 2                 | 2                 |
| MW-3A | S         | 7/1/1998       | CHROMIUM, HEXAV | 1.1E+00       |      | 2                 | 2                 |
| MW-3A | S         | 7/1/1999       | CHROMIUM, HEXAV | 8.4E-01       |      | 2                 | 2                 |
| MW-3A | S         | 7/1/2000       | CHROMIUM, HEXAV | 2.9E-01       |      | 2                 | 2                 |
| MW-3A | S         | 7/1/2001       | CHROMIUM, HEXAV | 5.0E-01       |      | 2                 | 2                 |
| MW-3A | S         | 7/1/2002       | CHROMIUM, HEXAV | 4.8E-01       |      | 2                 | 2                 |
| MW-3A | S         | 7/1/2003       | CHROMIUM, HEXAV | 3.8E-01       |      | 2                 | 2                 |
| MW-3A | S         | 7/1/2004       | CHROMIUM, HEXAV | 3.6E-01       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-3A | S         | 7/1/2006       | CHROMIUM, HEXAV | 3.9E-01       |      | 1                 | 1                 |
| MW-3A | S         | 7/1/2008       | CHROMIUM, HEXAV | 1.3E-01       |      | 1                 | 1                 |
| MW-3A | S         | 7/1/2009       | CHROMIUM, HEXAV | 1.9E-01       |      | 1                 | 1                 |
| MW-3A | S         | 7/1/2010       | CHROMIUM, HEXAV | 1.4E-01       |      | 1                 | 1                 |
| MW-3A | S         | 7/1/2011       | CHROMIUM, HEXAV | 3.4E-01       |      | 1                 | 1                 |
| MW-3A | S         | 7/1/2012       | CHROMIUM, HEXAV | 7.5E-02       |      | 1                 | 1                 |
| MW-3A | S         | 7/1/2013       | CHROMIUM, HEXAV | 6.3E-02       |      | 2                 | 2                 |
| MW-3A | S         | 7/1/2014       | CHROMIUM, HEXAV | 6.4E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-4A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

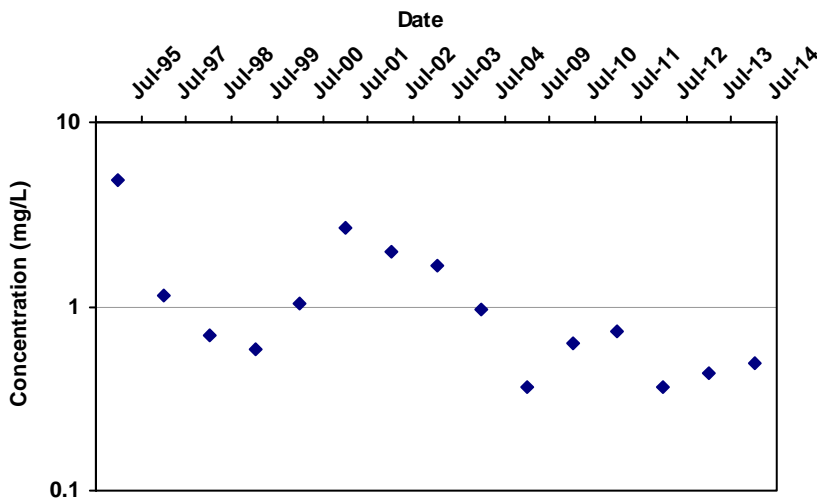
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-51

**Confidence in Trend:**

99.4%

**Coefficient of Variation:**

0.96

**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-4A | S         | 7/1/1995       | CHROMIUM, HEXAV | 4.8E+00       |      | 2                 | 2                 |
| MW-4A | S         | 7/1/1997       | CHROMIUM, HEXAV | 1.1E+00       |      | 2                 | 2                 |
| MW-4A | S         | 7/1/1998       | CHROMIUM, HEXAV | 7.0E-01       |      | 2                 | 2                 |
| MW-4A | S         | 7/1/1999       | CHROMIUM, HEXAV | 5.8E-01       |      | 2                 | 2                 |
| MW-4A | S         | 7/1/2000       | CHROMIUM, HEXAV | 1.0E+00       |      | 2                 | 2                 |
| MW-4A | S         | 7/1/2001       | CHROMIUM, HEXAV | 2.7E+00       |      | 2                 | 2                 |
| MW-4A | S         | 7/1/2002       | CHROMIUM, HEXAV | 2.0E+00       |      | 2                 | 2                 |
| MW-4A | S         | 7/1/2003       | CHROMIUM, HEXAV | 1.7E+00       |      | 2                 | 2                 |
| MW-4A | S         | 7/1/2004       | CHROMIUM, HEXAV | 9.7E-01       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-4A | S         | 7/1/2009       | CHROMIUM, HEXAV | 3.6E-01       |      | 1                 | 1                 |
| MW-4A | S         | 7/1/2010       | CHROMIUM, HEXAV | 6.3E-01       |      | 1                 | 1                 |
| MW-4A | S         | 7/1/2011       | CHROMIUM, HEXAV | 7.4E-01       |      | 1                 | 1                 |
| MW-4A | S         | 7/1/2012       | CHROMIUM, HEXAV | 3.6E-01       |      | 1                 | 1                 |
| MW-4A | S         | 7/1/2013       | CHROMIUM, HEXAV | 4.4E-01       |      | 2                 | 2                 |
| MW-4A | S         | 7/1/2014       | CHROMIUM, HEXAV | 5.0E-01       |      | 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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-4B

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

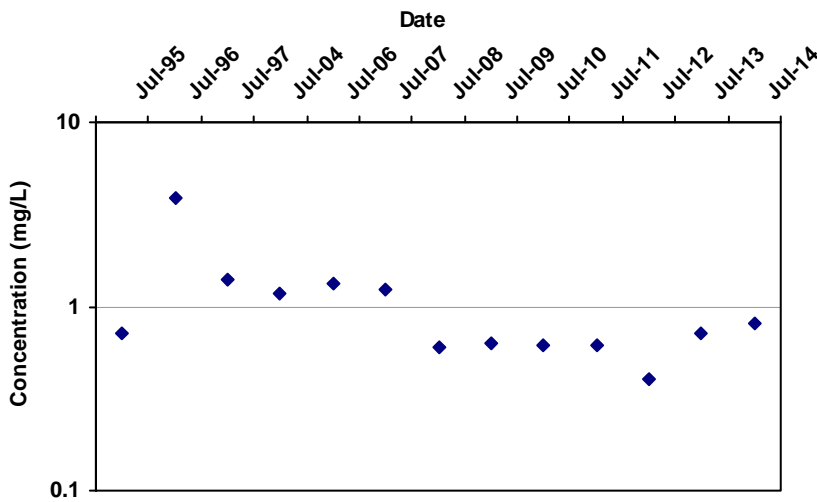
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-32

**Confidence in Trend:**

97.1%

**Coefficient of Variation:**

0.82

**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-4B | S         | 7/1/1995       | CHROMIUM, HEXAV | 7.1E-01       |      | 2                 | 2                 |
| MW-4B | S         | 7/1/1996       | CHROMIUM, HEXAV | 3.8E+00       |      | 2                 | 2                 |
| MW-4B | S         | 7/1/1997       | CHROMIUM, HEXAV | 1.4E+00       |      | 1                 | 1                 |
| MW-4B | S         | 7/1/2004       | CHROMIUM, HEXAV | 1.2E+00       |      | 1                 | 1                 |
| MW-4B | S         | 7/1/2006       | CHROMIUM, HEXAV | 1.3E+00       |      | 1                 | 1                 |
| MW-4B | S         | 7/1/2007       | CHROMIUM, HEXAV | 1.2E+00       |      | 1                 | 1                 |
| MW-4B | S         | 7/1/2008       | CHROMIUM, HEXAV | 6.1E-01       |      | 1                 | 1                 |
| MW-4B | S         | 7/1/2009       | CHROMIUM, HEXAV | 6.3E-01       |      | 1                 | 1                 |
| MW-4B | S         | 7/1/2010       | CHROMIUM, HEXAV | 6.2E-01       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-4B | S         | 7/1/2011       | CHROMIUM, HEXAV | 6.2E-01       |      | 1                 | 1                 |
| MW-4B | S         | 7/1/2012       | CHROMIUM, HEXAV | 4.1E-01       |      | 1                 | 1                 |
| MW-4B | S         | 7/1/2013       | CHROMIUM, HEXAV | 7.1E-01       |      | 2                 | 2                 |
| MW-4B | S         | 7/1/2014       | CHROMIUM, HEXAV | 8.1E-01       |      | 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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-6A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

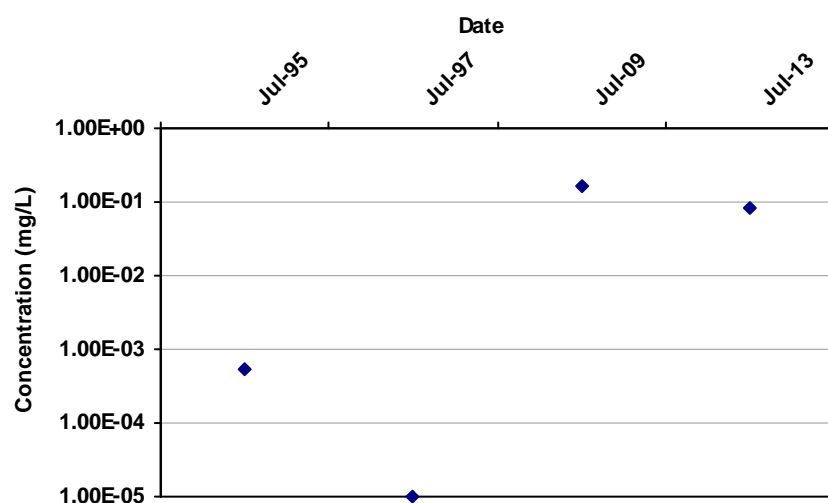
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

2

**Confidence in Trend:**

62.5%

**Coefficient of Variation:**

1.27

**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-6A | S         | 7/1/1995       | CHROMIUM, HEXAV | 5.2E-04       |      | 2                 | 1                 |
| MW-6A | S         | 7/1/1997       | CHROMIUM, HEXAV | 1.0E-05       | ND   | 1                 | 0                 |
| MW-6A | S         | 7/1/2009       | CHROMIUM, HEXAV | 1.7E-01       |      | 1                 | 1                 |
| MW-6A | S         | 7/1/2013       | CHROMIUM, HEXAV | 8.4E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-6B

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

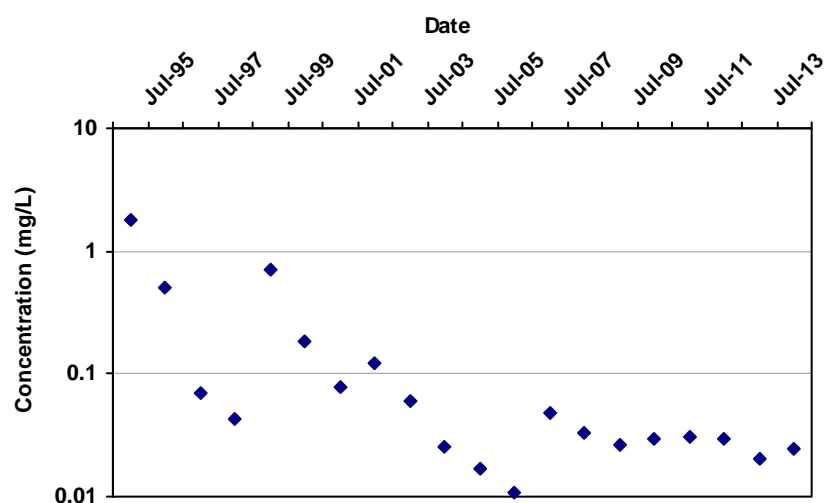
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-112

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

2.16

**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-6B | S         | 7/1/1995       | CHROMIUM, HEXAV | 1.8E+00       |      | 11                | 11                |
| MW-6B | S         | 7/1/1996       | CHROMIUM, HEXAV | 5.0E-01       |      | 2                 | 2                 |
| MW-6B | S         | 7/1/1997       | CHROMIUM, HEXAV | 7.0E-02       |      | 2                 | 2                 |
| MW-6B | S         | 7/1/1998       | CHROMIUM, HEXAV | 4.4E-02       |      | 2                 | 2                 |
| MW-6B | S         | 7/1/1999       | CHROMIUM, HEXAV | 7.0E-01       |      | 2                 | 2                 |
| MW-6B | S         | 7/1/2000       | CHROMIUM, HEXAV | 1.9E-01       |      | 3                 | 3                 |
| MW-6B | S         | 7/1/2001       | CHROMIUM, HEXAV | 7.7E-02       |      | 2                 | 2                 |
| MW-6B | S         | 7/1/2002       | CHROMIUM, HEXAV | 1.2E-01       |      | 3                 | 3                 |
| MW-6B | S         | 7/1/2003       | CHROMIUM, HEXAV | 6.1E-02       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-6B | S         | 7/1/2004       | CHROMIUM, HEXAV | 2.5E-02       |      | 2                 | 2                 |
| MW-6B | S         | 7/1/2005       | CHROMIUM, HEXAV | 1.7E-02       |      | 1                 | 1                 |
| MW-6B | S         | 7/1/2006       | CHROMIUM, HEXAV | 1.1E-02       |      | 1                 | 1                 |
| MW-6B | S         | 7/1/2007       | CHROMIUM, HEXAV | 4.9E-02       |      | 2                 | 2                 |
| MW-6B | S         | 7/1/2008       | CHROMIUM, HEXAV | 3.3E-02       |      | 2                 | 2                 |
| MW-6B | S         | 7/1/2009       | CHROMIUM, HEXAV | 2.6E-02       |      | 2                 | 2                 |
| MW-6B | S         | 7/1/2010       | CHROMIUM, HEXAV | 3.0E-02       |      | 2                 | 2                 |
| MW-6B | S         | 7/1/2011       | CHROMIUM, HEXAV | 3.0E-02       |      | 2                 | 2                 |
| MW-6B | S         | 7/1/2012       | CHROMIUM, HEXAV | 2.9E-02       |      | 2                 | 2                 |
| MW-6B | S         | 7/1/2013       | CHROMIUM, HEXAV | 2.0E-02       |      | 2                 | 2                 |
| MW-6B | S         | 7/1/2014       | CHROMIUM, HEXAV | 2.4E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-10B

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

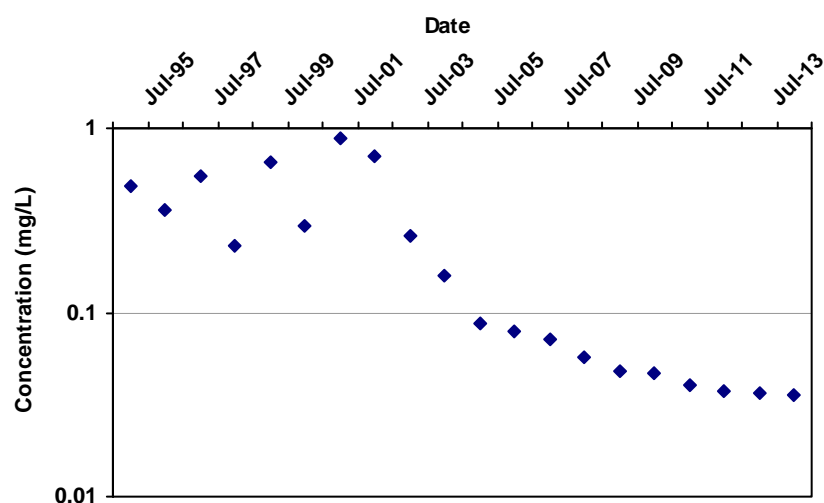
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-150

**Confidence in Trend:**

100.0%

**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 |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-10B | T         | 7/1/1995       | CHROMIUM, HEXAV | 4.9E-01       |      | 11                | 11                |
| MW-10B | T         | 7/1/1996       | CHROMIUM, HEXAV | 3.6E-01       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/1997       | CHROMIUM, HEXAV | 5.5E-01       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/1998       | CHROMIUM, HEXAV | 2.3E-01       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/1999       | CHROMIUM, HEXAV | 6.6E-01       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2000       | CHROMIUM, HEXAV | 2.9E-01       |      | 3                 | 3                 |
| MW-10B | T         | 7/1/2001       | CHROMIUM, HEXAV | 8.9E-01       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2002       | CHROMIUM, HEXAV | 7.0E-01       |      | 3                 | 3                 |
| MW-10B | T         | 7/1/2003       | CHROMIUM, HEXAV | 2.6E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-10B | T         | 7/1/2004       | CHROMIUM, HEXAV | 1.6E-01       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2005       | CHROMIUM, HEXAV | 8.7E-02       |      | 1                 | 1                 |
| MW-10B | T         | 7/1/2006       | CHROMIUM, HEXAV | 7.9E-02       |      | 1                 | 1                 |
| MW-10B | T         | 7/1/2007       | CHROMIUM, HEXAV | 7.2E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2008       | CHROMIUM, HEXAV | 5.8E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2009       | CHROMIUM, HEXAV | 4.8E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2010       | CHROMIUM, HEXAV | 4.7E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2011       | CHROMIUM, HEXAV | 4.0E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2012       | CHROMIUM, HEXAV | 3.8E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2013       | CHROMIUM, HEXAV | 3.6E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2014       | CHROMIUM, HEXAV | 3.6E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-10C

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

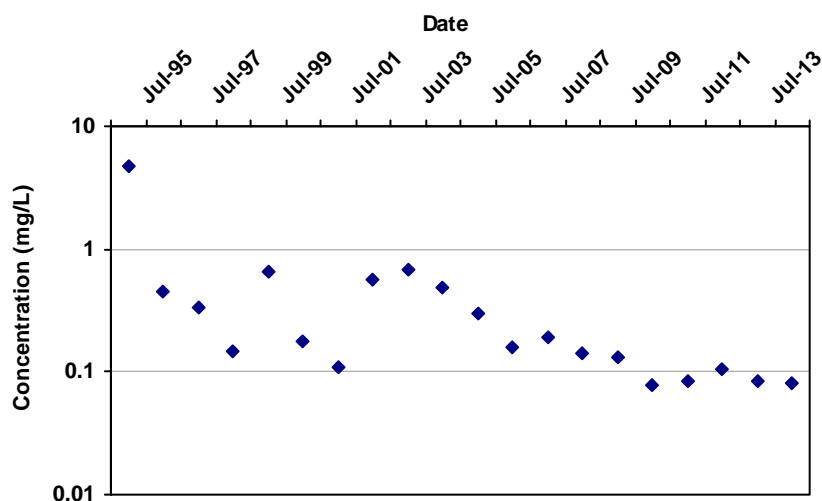
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-114

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

2.09

**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-10C | T         | 7/1/1995       | CHROMIUM, HEXAV | 4.7E+00       |      | 11                | 11                |
| MW-10C | T         | 7/1/1996       | CHROMIUM, HEXAV | 4.5E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/1997       | CHROMIUM, HEXAV | 3.4E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/1998       | CHROMIUM, HEXAV | 1.5E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/1999       | CHROMIUM, HEXAV | 6.5E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2000       | CHROMIUM, HEXAV | 1.8E-01       |      | 3                 | 3                 |
| MW-10C | T         | 7/1/2001       | CHROMIUM, HEXAV | 1.1E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2002       | CHROMIUM, HEXAV | 5.7E-01       |      | 3                 | 3                 |
| MW-10C | T         | 7/1/2003       | CHROMIUM, HEXAV | 6.9E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-10C | T         | 7/1/2004       | CHROMIUM, HEXAV | 4.8E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2005       | CHROMIUM, HEXAV | 3.0E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2006       | CHROMIUM, HEXAV | 1.6E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2007       | CHROMIUM, HEXAV | 1.9E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2008       | CHROMIUM, HEXAV | 1.4E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2009       | CHROMIUM, HEXAV | 1.3E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2010       | CHROMIUM, HEXAV | 7.7E-02       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2011       | CHROMIUM, HEXAV | 8.4E-02       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2012       | CHROMIUM, HEXAV | 1.0E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2013       | CHROMIUM, HEXAV | 8.6E-02       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2014       | CHROMIUM, HEXAV | 8.1E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: PW-1B

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

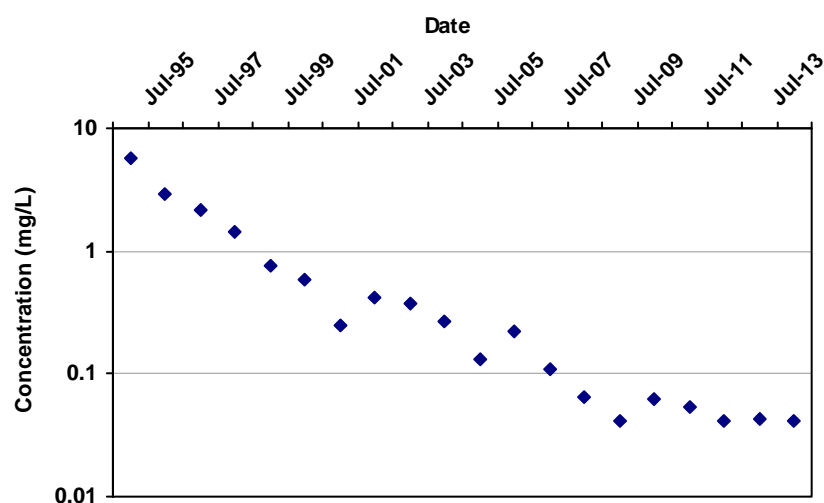
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-174

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.78

**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 |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| PW-1B | S         | 7/1/1995       | CHROMIUM, HEXAV | 5.8E+00       |      | 11                | 11                |
| PW-1B | S         | 7/1/1996       | CHROMIUM, HEXAV | 3.0E+00       |      | 12                | 12                |
| PW-1B | S         | 7/1/1997       | CHROMIUM, HEXAV | 2.1E+00       |      | 9                 | 9                 |
| PW-1B | S         | 7/1/1998       | CHROMIUM, HEXAV | 1.4E+00       |      | 3                 | 3                 |
| PW-1B | S         | 7/1/1999       | CHROMIUM, HEXAV | 7.7E-01       |      | 4                 | 4                 |
| PW-1B | S         | 7/1/2000       | CHROMIUM, HEXAV | 5.9E-01       |      | 4                 | 4                 |
| PW-1B | S         | 7/1/2001       | CHROMIUM, HEXAV | 2.5E-01       |      | 4                 | 4                 |
| PW-1B | S         | 7/1/2002       | CHROMIUM, HEXAV | 4.2E-01       |      | 4                 | 4                 |
| PW-1B | S         | 7/1/2003       | CHROMIUM, HEXAV | 3.8E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| PW-1B | S         | 7/1/2004       | CHROMIUM, HEXAV | 2.7E-01       |      | 2                 | 2                 |
| PW-1B | S         | 7/1/2005       | CHROMIUM, HEXAV | 1.3E-01       |      | 2                 | 2                 |
| PW-1B | S         | 7/1/2006       | CHROMIUM, HEXAV | 2.2E-01       |      | 2                 | 2                 |
| PW-1B | S         | 7/1/2007       | CHROMIUM, HEXAV | 1.1E-01       |      | 2                 | 2                 |
| PW-1B | S         | 7/1/2008       | CHROMIUM, HEXAV | 6.4E-02       |      | 2                 | 2                 |
| PW-1B | S         | 7/1/2009       | CHROMIUM, HEXAV | 4.2E-02       |      | 2                 | 2                 |
| PW-1B | S         | 7/1/2010       | CHROMIUM, HEXAV | 6.3E-02       |      | 2                 | 2                 |
| PW-1B | S         | 7/1/2011       | CHROMIUM, HEXAV | 5.4E-02       |      | 3                 | 3                 |
| PW-1B | S         | 7/1/2012       | CHROMIUM, HEXAV | 4.1E-02       |      | 2                 | 2                 |
| PW-1B | S         | 7/1/2013       | CHROMIUM, HEXAV | 4.3E-02       |      | 2                 | 2                 |
| PW-1B | S         | 7/1/2014       | CHROMIUM, HEXAV | 4.1E-02       |      | 2                 | 2                 |

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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## **INTERMEDIATE WELLS**

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# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: CPU-14

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

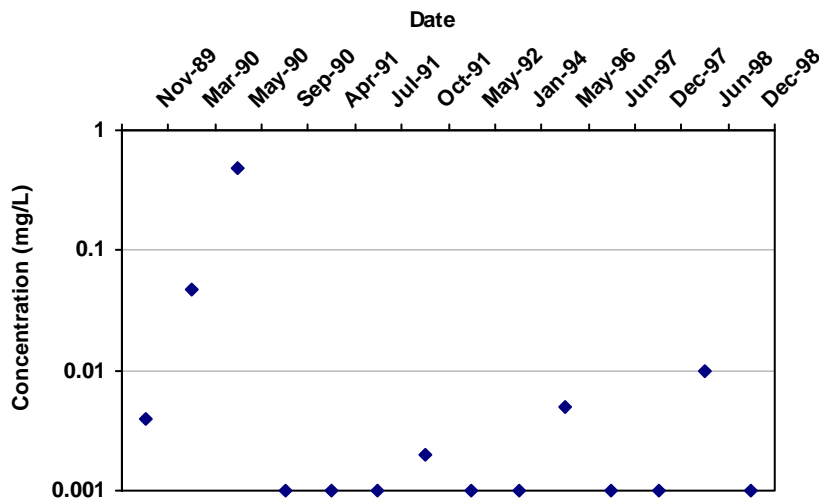
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-134

**Confidence in Trend:**

100.0%

**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 |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| CPU-14 | T         | 7/1/1995       | CHROMIUM, HEXAV | 7.8E-01       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/1996       | CHROMIUM, HEXAV | 6.0E-01       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/1997       | CHROMIUM, HEXAV | 3.2E-01       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/1998       | CHROMIUM, HEXAV | 5.8E-01       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/1999       | CHROMIUM, HEXAV | 5.2E-01       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/2000       | CHROMIUM, HEXAV | 8.3E-01       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/2001       | CHROMIUM, HEXAV | 7.7E-01       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/2002       | CHROMIUM, HEXAV | 3.7E-01       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/2003       | CHROMIUM, HEXAV | 1.8E-01       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| CPU-14 | T         | 7/1/2004       | CHROMIUM, HEXAV | 1.4E-01       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/2005       | CHROMIUM, HEXAV | 1.0E-01       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/2006       | CHROMIUM, HEXAV | 6.1E-02       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2007       | CHROMIUM, HEXAV | 5.0E-02       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2008       | CHROMIUM, HEXAV | 3.2E-02       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2009       | CHROMIUM, HEXAV | 7.7E-02       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2010       | CHROMIUM, HEXAV | 5.3E-02       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2011       | CHROMIUM, HEXAV | 4.1E-02       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2012       | CHROMIUM, HEXAV | 3.7E-02       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2013       | CHROMIUM, HEXAV | 4.7E-02       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2014       | CHROMIUM, HEXAV | 5.4E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-14C

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

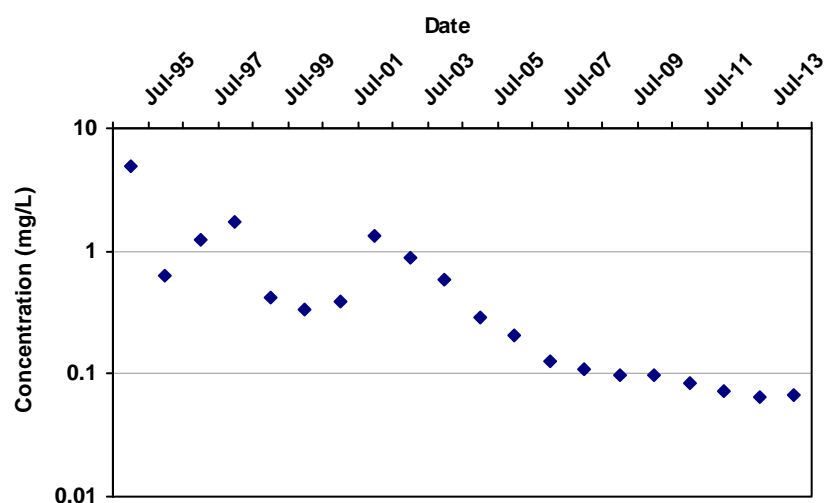
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-154

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.61

**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 |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-14C | T         | 7/1/1995       | CHROMIUM, HEXAV | 4.8E+00       |      | 11                | 11                |
| MW-14C | T         | 7/1/1996       | CHROMIUM, HEXAV | 6.4E-01       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/1997       | CHROMIUM, HEXAV | 1.3E+00       |      | 6                 | 6                 |
| MW-14C | T         | 7/1/1998       | CHROMIUM, HEXAV | 1.7E+00       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/1999       | CHROMIUM, HEXAV | 4.1E-01       |      | 3                 | 3                 |
| MW-14C | T         | 7/1/2000       | CHROMIUM, HEXAV | 3.4E-01       |      | 5                 | 5                 |
| MW-14C | T         | 7/1/2001       | CHROMIUM, HEXAV | 3.8E-01       |      | 4                 | 4                 |
| MW-14C | T         | 7/1/2002       | CHROMIUM, HEXAV | 1.3E+00       |      | 4                 | 4                 |
| MW-14C | T         | 7/1/2003       | CHROMIUM, HEXAV | 8.7E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-14C | T         | 7/1/2004       | CHROMIUM, HEXAV | 5.9E-01       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2005       | CHROMIUM, HEXAV | 2.9E-01       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2006       | CHROMIUM, HEXAV | 2.1E-01       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2007       | CHROMIUM, HEXAV | 1.3E-01       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2008       | CHROMIUM, HEXAV | 1.1E-01       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2009       | CHROMIUM, HEXAV | 9.7E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2010       | CHROMIUM, HEXAV | 9.8E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2011       | CHROMIUM, HEXAV | 8.4E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2012       | CHROMIUM, HEXAV | 7.3E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2013       | CHROMIUM, HEXAV | 6.5E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2014       | CHROMIUM, HEXAV | 6.6E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-14E

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

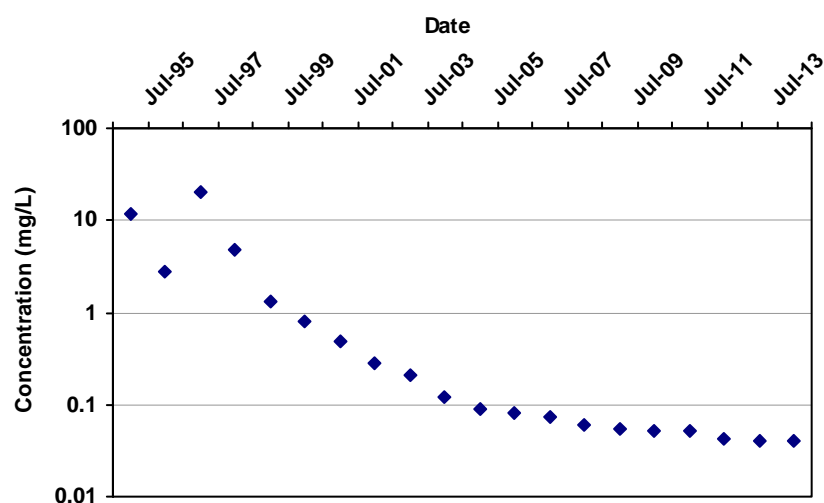
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-180

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

2.34

**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-14E | T         | 7/1/1995       | CHROMIUM, HEXAV | 1.2E+01       |      | 11                | 11                |
| MW-14E | T         | 7/1/1996       | CHROMIUM, HEXAV | 2.7E+00       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/1997       | CHROMIUM, HEXAV | 2.1E+01       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/1998       | CHROMIUM, HEXAV | 4.9E+00       |      | 3                 | 3                 |
| MW-14E | T         | 7/1/1999       | CHROMIUM, HEXAV | 1.3E+00       |      | 3                 | 3                 |
| MW-14E | T         | 7/1/2000       | CHROMIUM, HEXAV | 8.0E-01       |      | 5                 | 5                 |
| MW-14E | T         | 7/1/2001       | CHROMIUM, HEXAV | 4.8E-01       |      | 4                 | 4                 |
| MW-14E | T         | 7/1/2002       | CHROMIUM, HEXAV | 2.8E-01       |      | 4                 | 4                 |
| MW-14E | T         | 7/1/2003       | CHROMIUM, HEXAV | 2.1E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-14E | T         | 7/1/2004       | CHROMIUM, HEXAV | 1.2E-01       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2005       | CHROMIUM, HEXAV | 9.0E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2006       | CHROMIUM, HEXAV | 8.1E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2007       | CHROMIUM, HEXAV | 7.3E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2008       | CHROMIUM, HEXAV | 6.1E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2009       | CHROMIUM, HEXAV | 5.4E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2010       | CHROMIUM, HEXAV | 5.2E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2011       | CHROMIUM, HEXAV | 5.3E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2012       | CHROMIUM, HEXAV | 4.2E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2013       | CHROMIUM, HEXAV | 4.1E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2014       | CHROMIUM, HEXAV | 4.1E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-18D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

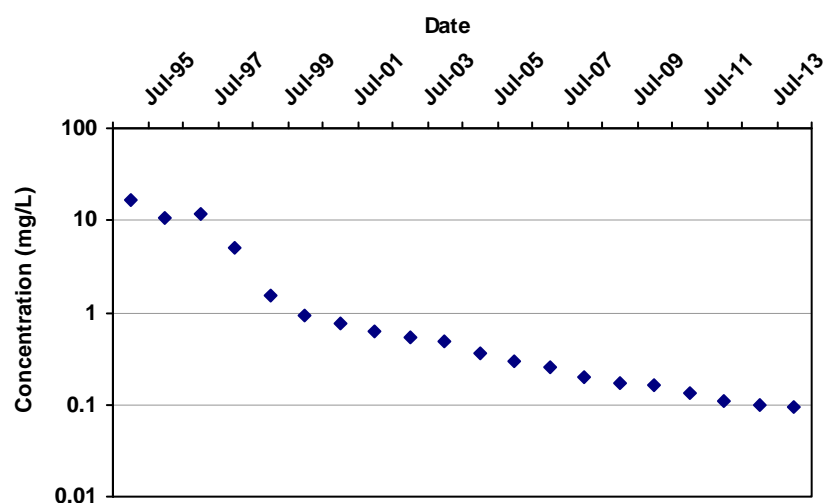
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-188

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.87

**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-18D | T         | 7/1/1995       | CHROMIUM, HEXAV | 1.7E+01       |      | 11                | 11                |
| MW-18D | T         | 7/1/1996       | CHROMIUM, HEXAV | 1.1E+01       |      | 8                 | 8                 |
| MW-18D | T         | 7/1/1997       | CHROMIUM, HEXAV | 1.2E+01       |      | 9                 | 9                 |
| MW-18D | T         | 7/1/1998       | CHROMIUM, HEXAV | 4.9E+00       |      | 3                 | 3                 |
| MW-18D | T         | 7/1/1999       | CHROMIUM, HEXAV | 1.5E+00       |      | 4                 | 4                 |
| MW-18D | T         | 7/1/2000       | CHROMIUM, HEXAV | 9.4E-01       |      | 5                 | 5                 |
| MW-18D | T         | 7/1/2001       | CHROMIUM, HEXAV | 7.6E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2002       | CHROMIUM, HEXAV | 6.4E-01       |      | 4                 | 4                 |
| MW-18D | T         | 7/1/2003       | CHROMIUM, HEXAV | 5.5E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-18D | T         | 7/1/2004       | CHROMIUM, HEXAV | 5.0E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2005       | CHROMIUM, HEXAV | 3.6E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2006       | CHROMIUM, HEXAV | 3.0E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2007       | CHROMIUM, HEXAV | 2.6E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2008       | CHROMIUM, HEXAV | 1.9E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2009       | CHROMIUM, HEXAV | 1.7E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2010       | CHROMIUM, HEXAV | 1.6E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2011       | CHROMIUM, HEXAV | 1.3E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2012       | CHROMIUM, HEXAV | 1.1E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2013       | CHROMIUM, HEXAV | 1.0E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2014       | CHROMIUM, HEXAV | 9.2E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-19D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

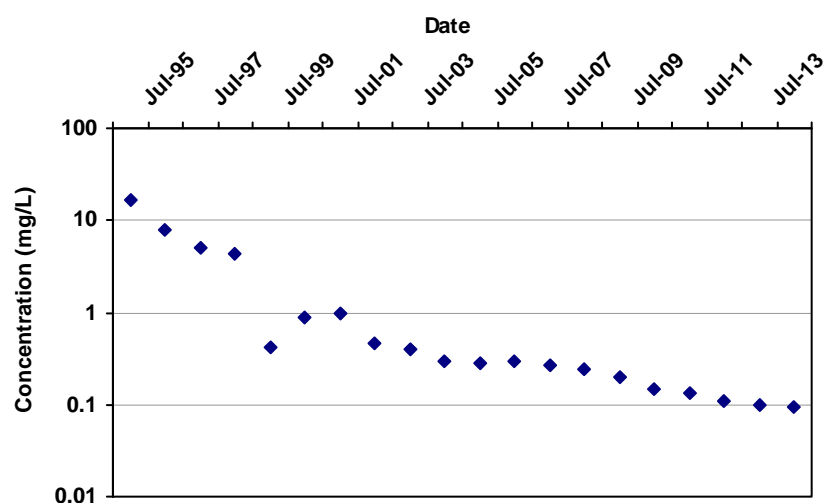
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-180

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

2.07

**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-19D | T         | 7/1/1995       | CHROMIUM, HEXAV | 1.7E+01       |      | 11                | 11                |
| MW-19D | T         | 7/1/1996       | CHROMIUM, HEXAV | 7.9E+00       |      | 12                | 12                |
| MW-19D | T         | 7/1/1997       | CHROMIUM, HEXAV | 5.0E+00       |      | 6                 | 6                 |
| MW-19D | T         | 7/1/1998       | CHROMIUM, HEXAV | 4.4E+00       |      | 3                 | 3                 |
| MW-19D | T         | 7/1/1999       | CHROMIUM, HEXAV | 4.1E-01       |      | 1                 | 1                 |
| MW-19D | T         | 7/1/2000       | CHROMIUM, HEXAV | 8.8E-01       |      | 4                 | 4                 |
| MW-19D | T         | 7/1/2001       | CHROMIUM, HEXAV | 9.8E-01       |      | 4                 | 4                 |
| MW-19D | T         | 7/1/2002       | CHROMIUM, HEXAV | 4.6E-01       |      | 4                 | 4                 |
| MW-19D | T         | 7/1/2003       | CHROMIUM, HEXAV | 4.0E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-19D | T         | 7/1/2004       | CHROMIUM, HEXAV | 3.0E-01       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2005       | CHROMIUM, HEXAV | 2.8E-01       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2006       | CHROMIUM, HEXAV | 2.9E-01       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2007       | CHROMIUM, HEXAV | 2.7E-01       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2008       | CHROMIUM, HEXAV | 2.5E-01       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2009       | CHROMIUM, HEXAV | 2.0E-01       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2010       | CHROMIUM, HEXAV | 1.5E-01       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2011       | CHROMIUM, HEXAV | 1.3E-01       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2012       | CHROMIUM, HEXAV | 1.1E-01       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2013       | CHROMIUM, HEXAV | 9.7E-02       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2014       | CHROMIUM, HEXAV | 9.4E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-20D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

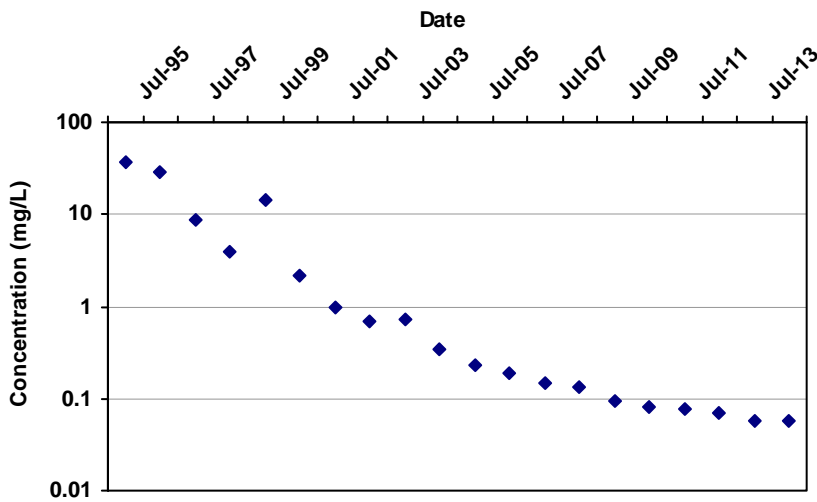
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-184

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

2.07

**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-20D | T         | 7/1/1995       | CHROMIUM, HEXAV | 3.6E+01       |      | 11                | 11                |
| MW-20D | T         | 7/1/1996       | CHROMIUM, HEXAV | 2.9E+01       |      | 12                | 12                |
| MW-20D | T         | 7/1/1997       | CHROMIUM, HEXAV | 8.7E+00       |      | 9                 | 9                 |
| MW-20D | T         | 7/1/1998       | CHROMIUM, HEXAV | 4.0E+00       |      | 3                 | 3                 |
| MW-20D | T         | 7/1/1999       | CHROMIUM, HEXAV | 1.5E+01       |      | 1                 | 1                 |
| MW-20D | T         | 7/1/2000       | CHROMIUM, HEXAV | 2.2E+00       |      | 5                 | 5                 |
| MW-20D | T         | 7/1/2001       | CHROMIUM, HEXAV | 9.9E-01       |      | 4                 | 4                 |
| MW-20D | T         | 7/1/2002       | CHROMIUM, HEXAV | 6.9E-01       |      | 4                 | 4                 |
| MW-20D | T         | 7/1/2003       | CHROMIUM, HEXAV | 7.4E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-20D | T         | 7/1/2004       | CHROMIUM, HEXAV | 3.5E-01       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2005       | CHROMIUM, HEXAV | 2.3E-01       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2006       | CHROMIUM, HEXAV | 1.8E-01       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2007       | CHROMIUM, HEXAV | 1.5E-01       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2008       | CHROMIUM, HEXAV | 1.4E-01       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2009       | CHROMIUM, HEXAV | 9.4E-02       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2010       | CHROMIUM, HEXAV | 8.0E-02       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2011       | CHROMIUM, HEXAV | 7.7E-02       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2012       | CHROMIUM, HEXAV | 6.8E-02       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2013       | CHROMIUM, HEXAV | 5.8E-02       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2014       | CHROMIUM, HEXAV | 5.6E-02       |      | 2                 | 2                 |

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

# **CHURCH OF GOD WELLS**

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# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-27

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

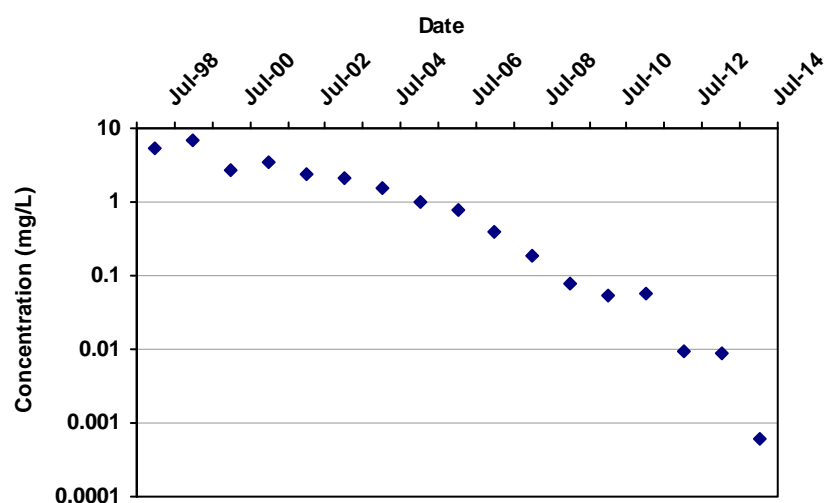
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-130

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.28

**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 |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| AMW-27 | T         | 7/1/1998       | CHROMIUM, HEXAV | 5.3E+00       |      | 1                 | 1                 |
| AMW-27 | T         | 7/1/1999       | CHROMIUM, HEXAV | 6.8E+00       |      | 4                 | 4                 |
| AMW-27 | T         | 7/1/2000       | CHROMIUM, HEXAV | 2.8E+00       |      | 5                 | 5                 |
| AMW-27 | T         | 7/1/2001       | CHROMIUM, HEXAV | 3.5E+00       |      | 4                 | 4                 |
| AMW-27 | T         | 7/1/2002       | CHROMIUM, HEXAV | 2.4E+00       |      | 4                 | 4                 |
| AMW-27 | T         | 7/1/2003       | CHROMIUM, HEXAV | 2.1E+00       |      | 3                 | 3                 |
| AMW-27 | T         | 7/1/2004       | CHROMIUM, HEXAV | 1.5E+00       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2005       | CHROMIUM, HEXAV | 9.8E-01       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2006       | CHROMIUM, HEXAV | 7.7E-01       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| AMW-27 | T         | 7/1/2007       | CHROMIUM, HEXAV | 4.0E-01       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2008       | CHROMIUM, HEXAV | 1.9E-01       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2009       | CHROMIUM, HEXAV | 7.9E-02       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2010       | CHROMIUM, HEXAV | 5.2E-02       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2011       | CHROMIUM, HEXAV | 5.7E-02       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2012       | CHROMIUM, HEXAV | 9.2E-03       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2013       | CHROMIUM, HEXAV | 8.7E-03       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2014       | CHROMIUM, HEXAV | 6.0E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: CPU-13

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

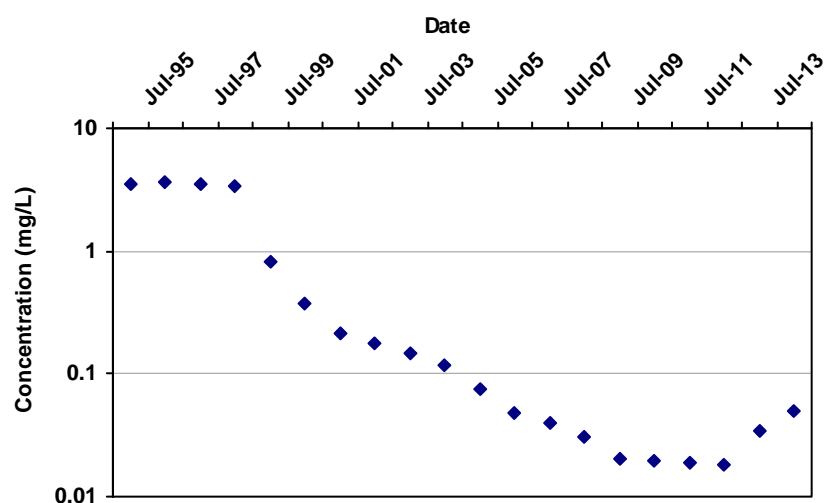
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-160

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.72

**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 |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| CPU-13 | T         | 7/1/1995       | CHROMIUM, HEXAV | 3.5E+00       |      | 11                | 11                |
| CPU-13 | T         | 7/1/1996       | CHROMIUM, HEXAV | 3.6E+00       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/1997       | CHROMIUM, HEXAV | 3.5E+00       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/1998       | CHROMIUM, HEXAV | 3.3E+00       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/1999       | CHROMIUM, HEXAV | 8.3E-01       |      | 4                 | 4                 |
| CPU-13 | T         | 7/1/2000       | CHROMIUM, HEXAV | 3.8E-01       |      | 5                 | 5                 |
| CPU-13 | T         | 7/1/2001       | CHROMIUM, HEXAV | 2.1E-01       |      | 4                 | 4                 |
| CPU-13 | T         | 7/1/2002       | CHROMIUM, HEXAV | 1.8E-01       |      | 4                 | 4                 |
| CPU-13 | T         | 7/1/2003       | CHROMIUM, HEXAV | 1.5E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| CPU-13 | T         | 7/1/2004       | CHROMIUM, HEXAV | 1.2E-01       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2005       | CHROMIUM, HEXAV | 7.4E-02       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2006       | CHROMIUM, HEXAV | 4.9E-02       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2007       | CHROMIUM, HEXAV | 4.0E-02       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2008       | CHROMIUM, HEXAV | 3.0E-02       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2009       | CHROMIUM, HEXAV | 2.1E-02       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2010       | CHROMIUM, HEXAV | 2.0E-02       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2011       | CHROMIUM, HEXAV | 1.9E-02       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2012       | CHROMIUM, HEXAV | 1.8E-02       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2013       | CHROMIUM, HEXAV | 3.4E-02       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2014       | CHROMIUM, HEXAV | 5.0E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-21D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

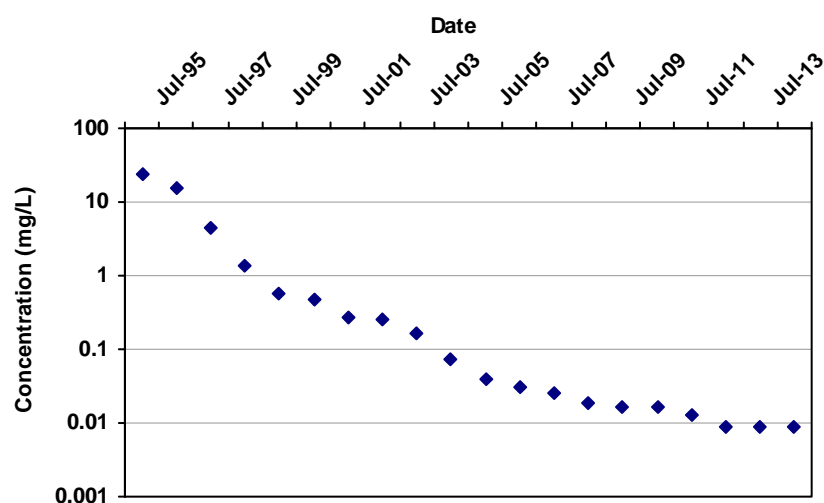
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-186

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

2.60

**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 |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-21D | T         | 7/1/1995       | CHROMIUM, HEXAV | 2.4E+01       |      | 11                | 11                |
| MW-21D | T         | 7/1/1996       | CHROMIUM, HEXAV | 1.6E+01       |      | 12                | 12                |
| MW-21D | T         | 7/1/1997       | CHROMIUM, HEXAV | 4.4E+00       |      | 9                 | 9                 |
| MW-21D | T         | 7/1/1998       | CHROMIUM, HEXAV | 1.4E+00       |      | 3                 | 3                 |
| MW-21D | T         | 7/1/1999       | CHROMIUM, HEXAV | 5.8E-01       |      | 4                 | 4                 |
| MW-21D | T         | 7/1/2000       | CHROMIUM, HEXAV | 4.8E-01       |      | 5                 | 5                 |
| MW-21D | T         | 7/1/2001       | CHROMIUM, HEXAV | 2.6E-01       |      | 4                 | 4                 |
| MW-21D | T         | 7/1/2002       | CHROMIUM, HEXAV | 2.6E-01       |      | 4                 | 4                 |
| MW-21D | T         | 7/1/2003       | CHROMIUM, HEXAV | 1.6E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-21D | T         | 7/1/2004       | CHROMIUM, HEXAV | 7.2E-02       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2005       | CHROMIUM, HEXAV | 4.0E-02       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2006       | CHROMIUM, HEXAV | 3.0E-02       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2007       | CHROMIUM, HEXAV | 2.5E-02       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2008       | CHROMIUM, HEXAV | 1.9E-02       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2009       | CHROMIUM, HEXAV | 1.7E-02       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2010       | CHROMIUM, HEXAV | 1.6E-02       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2011       | CHROMIUM, HEXAV | 1.3E-02       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2012       | CHROMIUM, HEXAV | 9.0E-03       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2013       | CHROMIUM, HEXAV | 9.0E-03       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2014       | CHROMIUM, HEXAV | 9.0E-03       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-22D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

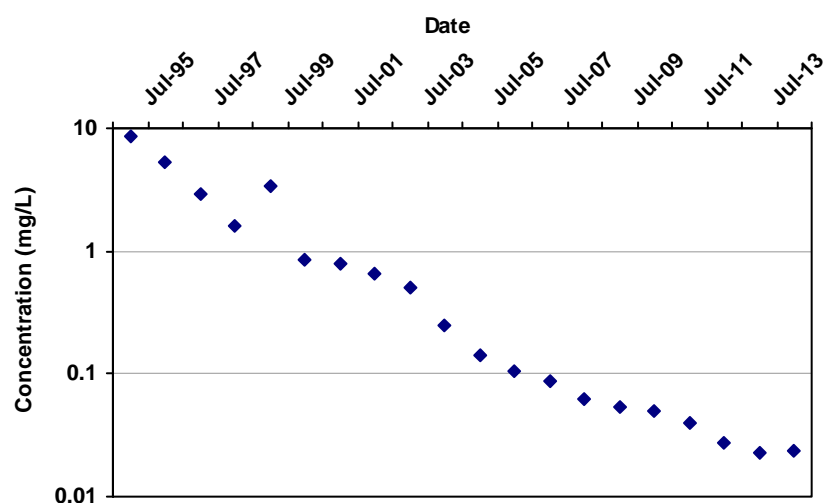
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-184

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.75

**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-22D | T         | 7/1/1995       | CHROMIUM, HEXAV | 8.6E+00       |      | 11                | 11                |
| MW-22D | T         | 7/1/1996       | CHROMIUM, HEXAV | 5.4E+00       |      | 11                | 11                |
| MW-22D | T         | 7/1/1997       | CHROMIUM, HEXAV | 2.9E+00       |      | 9                 | 9                 |
| MW-22D | T         | 7/1/1998       | CHROMIUM, HEXAV | 1.6E+00       |      | 3                 | 3                 |
| MW-22D | T         | 7/1/1999       | CHROMIUM, HEXAV | 3.4E+00       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2000       | CHROMIUM, HEXAV | 8.6E-01       |      | 4                 | 4                 |
| MW-22D | T         | 7/1/2001       | CHROMIUM, HEXAV | 8.0E-01       |      | 4                 | 4                 |
| MW-22D | T         | 7/1/2002       | CHROMIUM, HEXAV | 6.5E-01       |      | 3                 | 3                 |
| MW-22D | T         | 7/1/2003       | CHROMIUM, HEXAV | 5.0E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-22D | T         | 7/1/2004       | CHROMIUM, HEXAV | 2.5E-01       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2005       | CHROMIUM, HEXAV | 1.4E-01       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2006       | CHROMIUM, HEXAV | 1.0E-01       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2007       | CHROMIUM, HEXAV | 8.7E-02       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2008       | CHROMIUM, HEXAV | 6.3E-02       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2009       | CHROMIUM, HEXAV | 5.3E-02       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2010       | CHROMIUM, HEXAV | 5.0E-02       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2011       | CHROMIUM, HEXAV | 4.0E-02       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2012       | CHROMIUM, HEXAV | 2.7E-02       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2013       | CHROMIUM, HEXAV | 2.3E-02       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2014       | CHROMIUM, HEXAV | 2.4E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-25D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

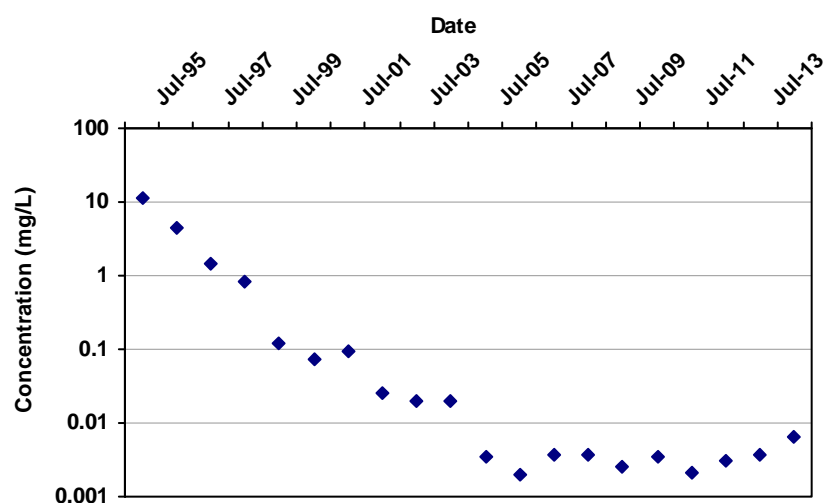
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-134

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

2.86

**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-25D | T         | 7/1/1995       | CHROMIUM, HEXAV | 1.1E+01       |      | 12                | 12                |
| MW-25D | T         | 7/1/1996       | CHROMIUM, HEXAV | 4.6E+00       |      | 12                | 12                |
| MW-25D | T         | 7/1/1997       | CHROMIUM, HEXAV | 1.5E+00       |      | 9                 | 9                 |
| MW-25D | T         | 7/1/1998       | CHROMIUM, HEXAV | 8.1E-01       |      | 3                 | 3                 |
| MW-25D | T         | 7/1/1999       | CHROMIUM, HEXAV | 1.2E-01       |      | 3                 | 3                 |
| MW-25D | T         | 7/1/2000       | CHROMIUM, HEXAV | 7.5E-02       |      | 5                 | 5                 |
| MW-25D | T         | 7/1/2001       | CHROMIUM, HEXAV | 9.2E-02       |      | 4                 | 4                 |
| MW-25D | T         | 7/1/2002       | CHROMIUM, HEXAV | 2.6E-02       |      | 4                 | 4                 |
| MW-25D | T         | 7/1/2003       | CHROMIUM, HEXAV | 2.0E-02       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-25D | T         | 7/1/2004       | CHROMIUM, HEXAV | 2.0E-02       |      | 2                 | 2                 |
| MW-25D | T         | 7/1/2005       | CHROMIUM, HEXAV | 3.4E-03       |      | 1                 | 1                 |
| MW-25D | T         | 7/1/2006       | CHROMIUM, HEXAV | 2.0E-03       | ND   | 1                 | 0                 |
| MW-25D | T         | 7/1/2007       | CHROMIUM, HEXAV | 3.8E-03       |      | 2                 | 1                 |
| MW-25D | T         | 7/1/2008       | CHROMIUM, HEXAV | 3.6E-03       |      | 2                 | 2                 |
| MW-25D | T         | 7/1/2009       | CHROMIUM, HEXAV | 2.5E-03       |      | 2                 | 2                 |
| MW-25D | T         | 7/1/2010       | CHROMIUM, HEXAV | 3.5E-03       |      | 3                 | 3                 |
| MW-25D | T         | 7/1/2011       | CHROMIUM, HEXAV | 2.0E-03       |      | 2                 | 1                 |
| MW-25D | T         | 7/1/2012       | CHROMIUM, HEXAV | 3.0E-03       |      | 2                 | 2                 |
| MW-25D | T         | 7/1/2013       | CHROMIUM, HEXAV | 3.6E-03       |      | 2                 | 2                 |
| MW-25D | T         | 7/1/2014       | CHROMIUM, HEXAV | 6.3E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-26D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

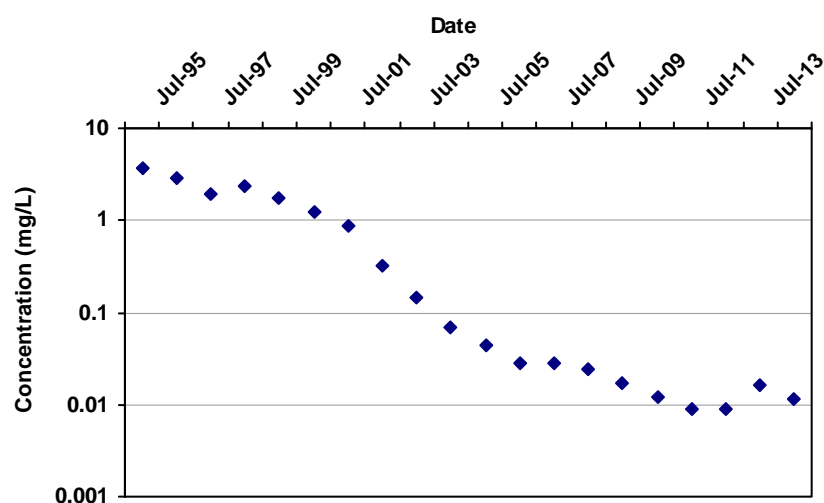
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-176

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.47

**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-26D | T         | 7/1/1995       | CHROMIUM, HEXAV | 3.6E+00       |      | 11                | 11                |
| MW-26D | T         | 7/1/1996       | CHROMIUM, HEXAV | 2.9E+00       |      | 12                | 12                |
| MW-26D | T         | 7/1/1997       | CHROMIUM, HEXAV | 1.9E+00       |      | 9                 | 9                 |
| MW-26D | T         | 7/1/1998       | CHROMIUM, HEXAV | 2.4E+00       |      | 3                 | 3                 |
| MW-26D | T         | 7/1/1999       | CHROMIUM, HEXAV | 1.7E+00       |      | 4                 | 4                 |
| MW-26D | T         | 7/1/2000       | CHROMIUM, HEXAV | 1.3E+00       |      | 4                 | 4                 |
| MW-26D | T         | 7/1/2001       | CHROMIUM, HEXAV | 8.8E-01       |      | 4                 | 4                 |
| MW-26D | T         | 7/1/2002       | CHROMIUM, HEXAV | 3.3E-01       |      | 4                 | 4                 |
| MW-26D | T         | 7/1/2003       | CHROMIUM, HEXAV | 1.5E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-26D | T         | 7/1/2004       | CHROMIUM, HEXAV | 6.9E-02       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2005       | CHROMIUM, HEXAV | 4.4E-02       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2006       | CHROMIUM, HEXAV | 2.8E-02       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2007       | CHROMIUM, HEXAV | 2.9E-02       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2008       | CHROMIUM, HEXAV | 2.4E-02       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2009       | CHROMIUM, HEXAV | 1.7E-02       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2010       | CHROMIUM, HEXAV | 1.2E-02       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2011       | CHROMIUM, HEXAV | 9.0E-03       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2012       | CHROMIUM, HEXAV | 8.8E-03       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2013       | CHROMIUM, HEXAV | 1.6E-02       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2014       | CHROMIUM, HEXAV | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-27D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

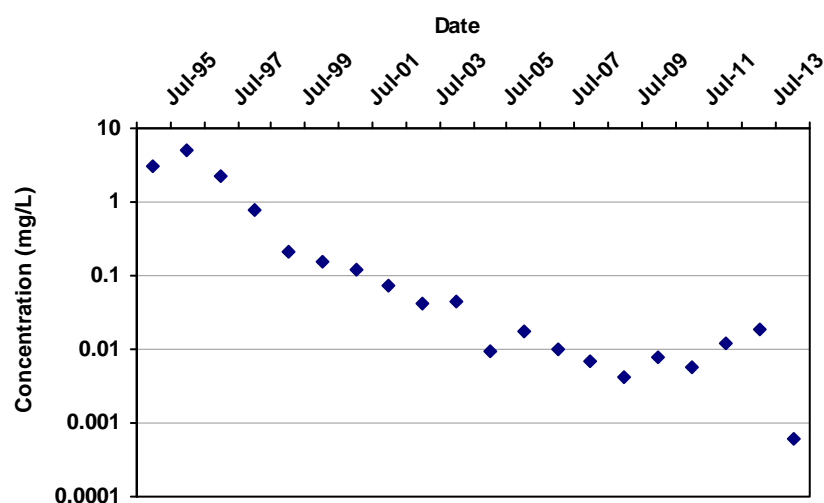
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-148

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

2.25

**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-27D | T         | 7/1/1995       | CHROMIUM, HEXAV | 3.1E+00       |      | 11                | 11                |
| MW-27D | T         | 7/1/1996       | CHROMIUM, HEXAV | 5.2E+00       |      | 2                 | 2                 |
| MW-27D | T         | 7/1/1997       | CHROMIUM, HEXAV | 2.3E+00       |      | 2                 | 2                 |
| MW-27D | T         | 7/1/1998       | CHROMIUM, HEXAV | 7.8E-01       |      | 2                 | 2                 |
| MW-27D | T         | 7/1/1999       | CHROMIUM, HEXAV | 2.2E-01       |      | 2                 | 2                 |
| MW-27D | T         | 7/1/2000       | CHROMIUM, HEXAV | 1.6E-01       |      | 3                 | 3                 |
| MW-27D | T         | 7/1/2001       | CHROMIUM, HEXAV | 1.2E-01       |      | 4                 | 4                 |
| MW-27D | T         | 7/1/2002       | CHROMIUM, HEXAV | 7.2E-02       |      | 4                 | 4                 |
| MW-27D | T         | 7/1/2003       | CHROMIUM, HEXAV | 4.2E-02       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-27D | T         | 7/1/2004       | CHROMIUM, HEXAV | 4.4E-02       |      | 2                 | 2                 |
| MW-27D | T         | 7/1/2005       | CHROMIUM, HEXAV | 9.6E-03       |      | 1                 | 1                 |
| MW-27D | T         | 7/1/2006       | CHROMIUM, HEXAV | 1.8E-02       |      | 1                 | 1                 |
| MW-27D | T         | 7/1/2007       | CHROMIUM, HEXAV | 9.8E-03       |      | 1                 | 1                 |
| MW-27D | T         | 7/1/2008       | CHROMIUM, HEXAV | 7.0E-03       |      | 2                 | 2                 |
| MW-27D | T         | 7/1/2009       | CHROMIUM, HEXAV | 4.1E-03       |      | 2                 | 2                 |
| MW-27D | T         | 7/1/2010       | CHROMIUM, HEXAV | 7.8E-03       |      | 3                 | 3                 |
| MW-27D | T         | 7/1/2011       | CHROMIUM, HEXAV | 5.7E-03       |      | 1                 | 1                 |
| MW-27D | T         | 7/1/2012       | CHROMIUM, HEXAV | 1.2E-02       |      | 1                 | 1                 |
| MW-27D | T         | 7/1/2013       | CHROMIUM, HEXAV | 1.9E-02       |      | 1                 | 1                 |
| MW-27D | T         | 7/1/2014       | CHROMIUM, HEXAV | 6.0E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-49

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

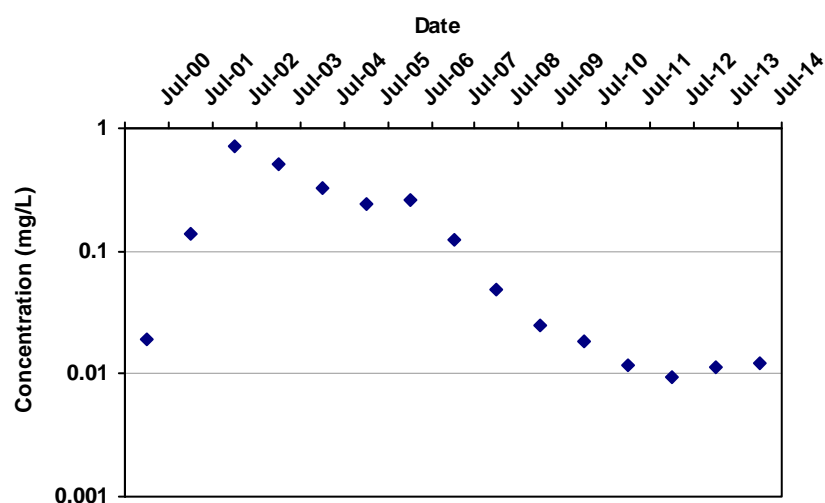
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-67

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.30

**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 |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-49 | T         | 7/1/2000       | CHROMIUM, HEXAV | 1.9E-02       |      | 2                 | 1                 |
| MW-49 | T         | 7/1/2001       | CHROMIUM, HEXAV | 1.4E-01       |      | 4                 | 4                 |
| MW-49 | T         | 7/1/2002       | CHROMIUM, HEXAV | 7.3E-01       |      | 4                 | 4                 |
| MW-49 | T         | 7/1/2003       | CHROMIUM, HEXAV | 5.2E-01       |      | 3                 | 3                 |
| MW-49 | T         | 7/1/2004       | CHROMIUM, HEXAV | 3.3E-01       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2005       | CHROMIUM, HEXAV | 2.5E-01       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2006       | CHROMIUM, HEXAV | 2.6E-01       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2007       | CHROMIUM, HEXAV | 1.3E-01       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2008       | CHROMIUM, HEXAV | 4.8E-02       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-49 | T         | 7/1/2009       | CHROMIUM, HEXAV | 2.5E-02       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2010       | CHROMIUM, HEXAV | 1.8E-02       |      | 1                 | 1                 |
| MW-49 | T         | 7/1/2011       | CHROMIUM, HEXAV | 1.2E-02       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2012       | CHROMIUM, HEXAV | 9.4E-03       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2013       | CHROMIUM, HEXAV | 1.1E-02       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2014       | CHROMIUM, HEXAV | 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

## **TOE OF PLUME WELLS**

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# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-42

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

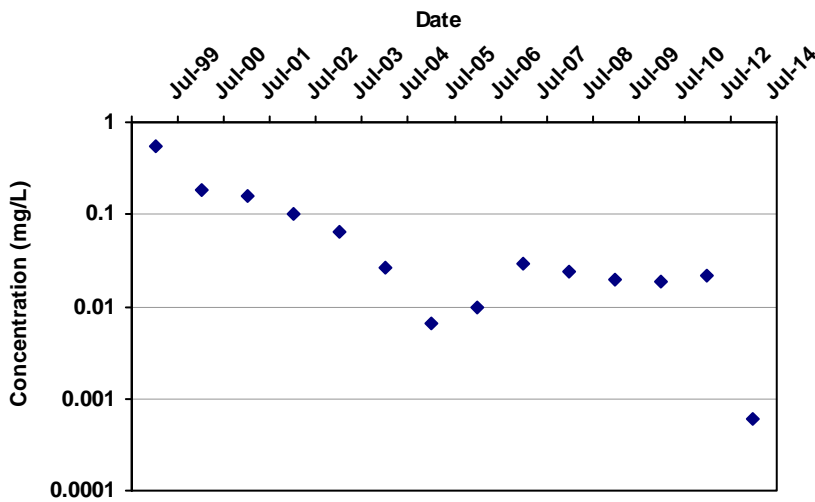
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-63

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.68

**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 |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| AMW-42 | T         | 7/1/1999       | CHROMIUM, HEXAV | 5.5E-01       |      | 10                | 10                |
| AMW-42 | T         | 7/1/2000       | CHROMIUM, HEXAV | 1.9E-01       |      | 13                | 13                |
| AMW-42 | T         | 7/1/2001       | CHROMIUM, HEXAV | 1.6E-01       |      | 4                 | 4                 |
| AMW-42 | T         | 7/1/2002       | CHROMIUM, HEXAV | 1.0E-01       |      | 4                 | 4                 |
| AMW-42 | T         | 7/1/2003       | CHROMIUM, HEXAV | 6.4E-02       |      | 3                 | 3                 |
| AMW-42 | T         | 7/1/2004       | CHROMIUM, HEXAV | 2.6E-02       |      | 6                 | 6                 |
| AMW-42 | T         | 7/1/2005       | CHROMIUM, HEXAV | 6.6E-03       |      | 4                 | 4                 |
| AMW-42 | T         | 7/1/2006       | CHROMIUM, HEXAV | 9.8E-03       |      | 2                 | 1                 |
| AMW-42 | T         | 7/1/2007       | CHROMIUM, HEXAV | 2.9E-02       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| AMW-42 | T         | 7/1/2008       | CHROMIUM, HEXAV | 2.4E-02       |      | 1                 | 1                 |
| AMW-42 | T         | 7/1/2009       | CHROMIUM, HEXAV | 2.0E-02       |      | 1                 | 1                 |
| AMW-42 | T         | 7/1/2010       | CHROMIUM, HEXAV | 1.8E-02       |      | 1                 | 1                 |
| AMW-42 | T         | 7/1/2012       | CHROMIUM, HEXAV | 2.1E-02       |      | 1                 | 1                 |
| AMW-42 | T         | 7/1/2014       | CHROMIUM, HEXAV | 6.0E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-63

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

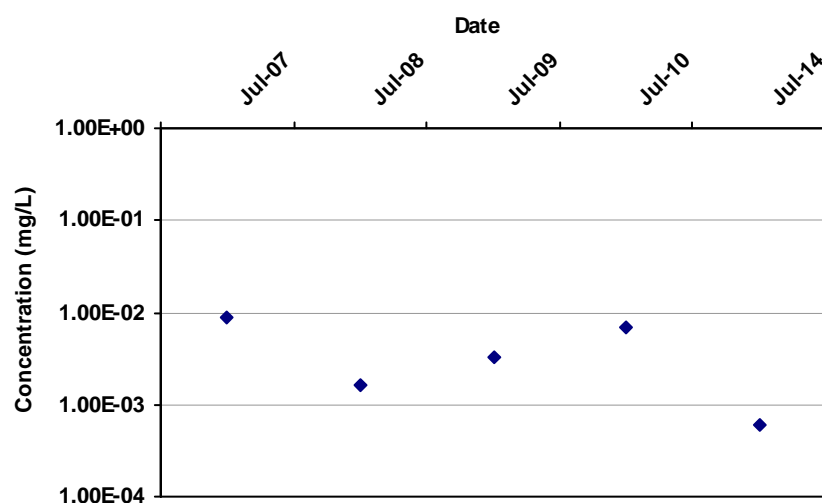
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-4

**Confidence in Trend:**

75.8%

**Coefficient of Variation:**

0.82

**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 |
|--------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| AMW-63 | T         | 7/1/2007       | CHROMIUM, HEXAV | 8.8E-03       |      | 4                 | 4                 |
| AMW-63 | T         | 7/1/2008       | CHROMIUM, HEXAV | 1.6E-03       | ND   | 2                 | 0                 |
| AMW-63 | T         | 7/1/2009       | CHROMIUM, HEXAV | 3.3E-03       |      | 2                 | 1                 |
| AMW-63 | T         | 7/1/2010       | CHROMIUM, HEXAV | 6.8E-03       |      | 1                 | 1                 |
| AMW-63 | T         | 7/1/2014       | CHROMIUM, HEXAV | 6.0E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-31

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

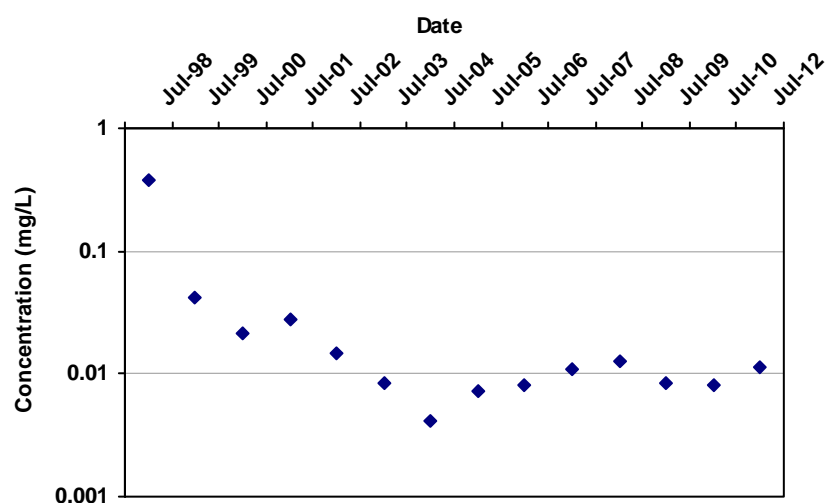
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-38

**Confidence in Trend:**

97.9%

**Coefficient of Variation:**

2.41

**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 |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-31 | T         | 7/1/1998       | CHROMIUM, HEXAV | 3.7E-01       |      | 6                 | 6                 |
| MW-31 | T         | 7/1/1999       | CHROMIUM, HEXAV | 4.2E-02       |      | 8                 | 8                 |
| MW-31 | T         | 7/1/2000       | CHROMIUM, HEXAV | 2.2E-02       |      | 12                | 12                |
| MW-31 | T         | 7/1/2001       | CHROMIUM, HEXAV | 2.7E-02       |      | 2                 | 2                 |
| MW-31 | T         | 7/1/2002       | CHROMIUM, HEXAV | 1.5E-02       |      | 3                 | 3                 |
| MW-31 | T         | 7/1/2003       | CHROMIUM, HEXAV | 8.3E-03       |      | 3                 | 3                 |
| MW-31 | T         | 7/1/2004       | CHROMIUM, HEXAV | 4.2E-03       |      | 2                 | 1                 |
| MW-31 | T         | 7/1/2005       | CHROMIUM, HEXAV | 7.3E-03       |      | 1                 | 1                 |
| MW-31 | T         | 7/1/2006       | CHROMIUM, HEXAV | 8.1E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-31 | T         | 7/1/2007       | CHROMIUM, HEXAV | 1.1E-02       |      | 1                 | 1                 |
| MW-31 | T         | 7/1/2008       | CHROMIUM, HEXAV | 1.3E-02       |      | 1                 | 1                 |
| MW-31 | T         | 7/1/2009       | CHROMIUM, HEXAV | 8.4E-03       |      | 1                 | 1                 |
| MW-31 | T         | 7/1/2010       | CHROMIUM, HEXAV | 8.1E-03       |      | 1                 | 1                 |
| MW-31 | T         | 7/1/2012       | CHROMIUM, HEXAV | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-35

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

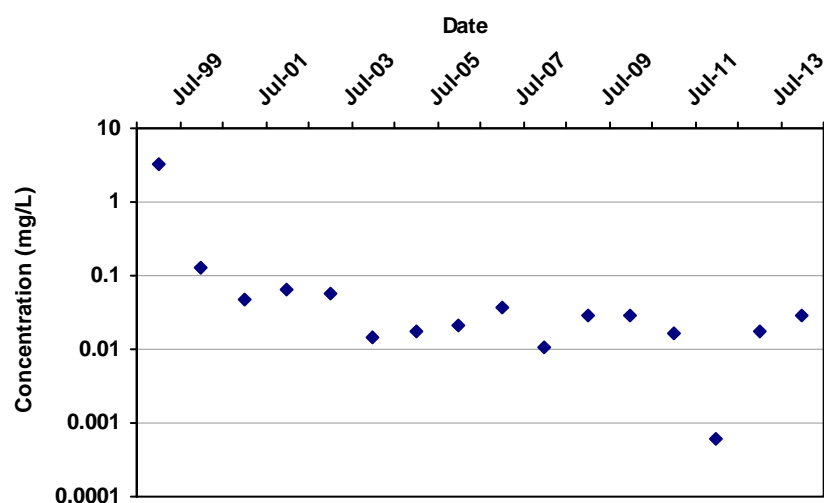
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-58

**Confidence in Trend:**

99.6%

**Coefficient of Variation:**

3.42

**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-35 | T         | 7/1/1999       | CHROMIUM, HEXAV | 3.4E+00       |      | 4                 | 4                 |
| MW-35 | T         | 7/1/2000       | CHROMIUM, HEXAV | 1.3E-01       |      | 12                | 12                |
| MW-35 | T         | 7/1/2001       | CHROMIUM, HEXAV | 4.8E-02       |      | 10                | 10                |
| MW-35 | T         | 7/1/2002       | CHROMIUM, HEXAV | 6.6E-02       |      | 7                 | 7                 |
| MW-35 | T         | 7/1/2003       | CHROMIUM, HEXAV | 5.6E-02       |      | 2                 | 2                 |
| MW-35 | T         | 7/1/2004       | CHROMIUM, HEXAV | 1.4E-02       |      | 5                 | 5                 |
| MW-35 | T         | 7/1/2005       | CHROMIUM, HEXAV | 1.8E-02       |      | 4                 | 4                 |
| MW-35 | T         | 7/1/2006       | CHROMIUM, HEXAV | 2.2E-02       |      | 2                 | 2                 |
| MW-35 | T         | 7/1/2007       | CHROMIUM, HEXAV | 3.7E-02       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-35 | T         | 7/1/2008       | CHROMIUM, HEXAV | 1.0E-02       |      | 2                 | 1                 |
| MW-35 | T         | 7/1/2009       | CHROMIUM, HEXAV | 2.9E-02       |      | 2                 | 2                 |
| MW-35 | T         | 7/1/2010       | CHROMIUM, HEXAV | 3.0E-02       |      | 2                 | 2                 |
| MW-35 | T         | 7/1/2011       | CHROMIUM, HEXAV | 1.7E-02       |      | 1                 | 1                 |
| MW-35 | T         | 7/1/2012       | CHROMIUM, HEXAV | 6.0E-04       | ND   | 1                 | 0                 |
| MW-35 | T         | 7/1/2013       | CHROMIUM, HEXAV | 1.8E-02       |      | 1                 | 1                 |
| MW-35 | T         | 7/1/2014       | CHROMIUM, HEXAV | 2.9E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-41

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

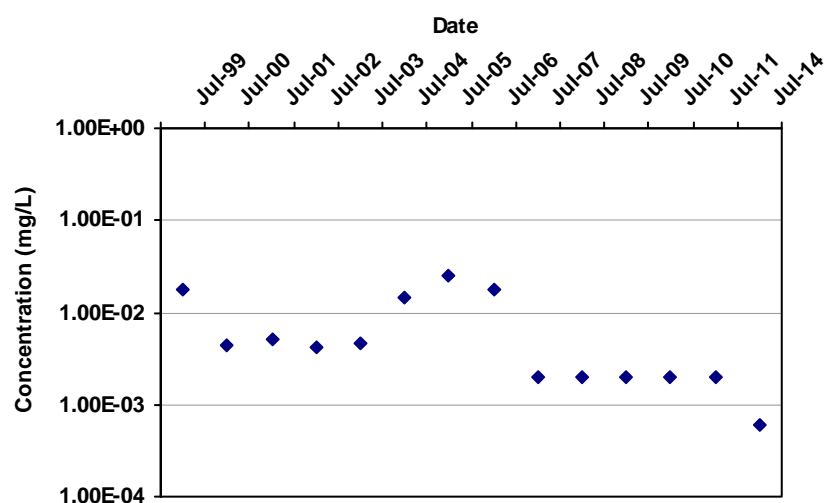
COC: CHROMIUM, HEXAVALENT

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-43

**Confidence in Trend:**

99.0%

**Coefficient of Variation:**

1.06

**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-41 | T         | 7/1/1999       | CHROMIUM, HEXAV | 1.8E-02       |      | 8                 | 8                 |
| MW-41 | T         | 7/1/2000       | CHROMIUM, HEXAV | 4.5E-03       |      | 13                | 9                 |
| MW-41 | T         | 7/1/2001       | CHROMIUM, HEXAV | 5.0E-03       | ND   | 4                 | 0                 |
| MW-41 | T         | 7/1/2002       | CHROMIUM, HEXAV | 4.2E-03       |      | 4                 | 2                 |
| MW-41 | T         | 7/1/2003       | CHROMIUM, HEXAV | 4.6E-03       |      | 3                 | 1                 |
| MW-41 | T         | 7/1/2004       | CHROMIUM, HEXAV | 1.5E-02       |      | 6                 | 3                 |
| MW-41 | T         | 7/1/2005       | CHROMIUM, HEXAV | 2.5E-02       |      | 5                 | 4                 |
| MW-41 | T         | 7/1/2006       | CHROMIUM, HEXAV | 1.8E-02       |      | 2                 | 1                 |
| MW-41 | T         | 7/1/2007       | CHROMIUM, HEXAV | 2.0E-03       | ND   | 4                 | 0                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

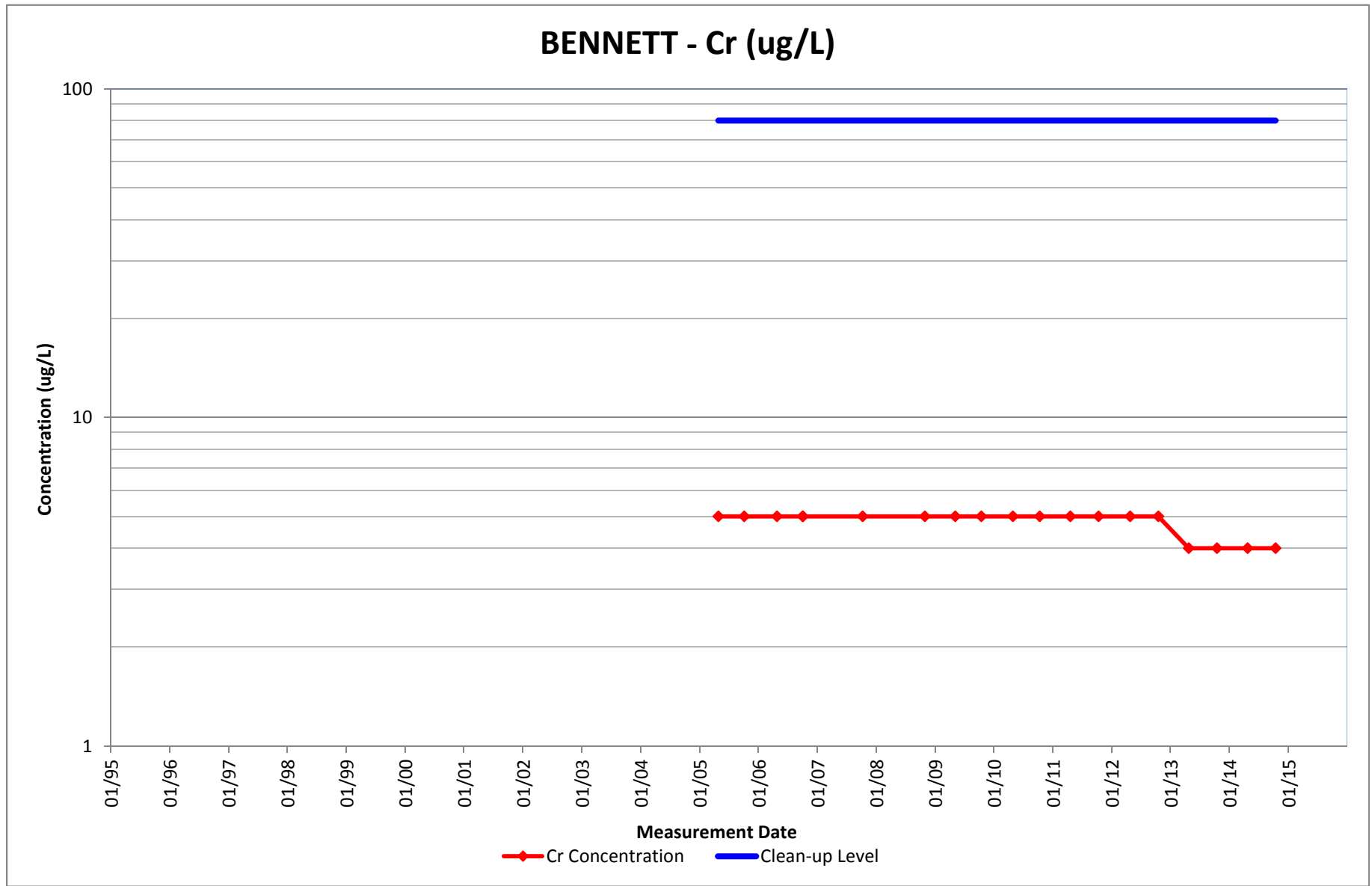
| Well  | Well Type | Effective Date | Constituent     | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|-----------------|---------------|------|-------------------|-------------------|
| MW-41 | T         | 7/1/2008       | CHROMIUM, HEXAV | 2.0E-03       | ND   | 2                 | 0                 |
| MW-41 | T         | 7/1/2009       | CHROMIUM, HEXAV | 2.0E-03       | ND   | 2                 | 0                 |
| MW-41 | T         | 7/1/2010       | CHROMIUM, HEXAV | 2.0E-03       | ND   | 1                 | 0                 |
| MW-41 | T         | 7/1/2011       | CHROMIUM, HEXAV | 2.0E-03       | ND   | 1                 | 0                 |
| MW-41 | T         | 7/1/2014       | CHROMIUM, HEXAV | 6.0E-04       | ND   | 1                 | 0                 |

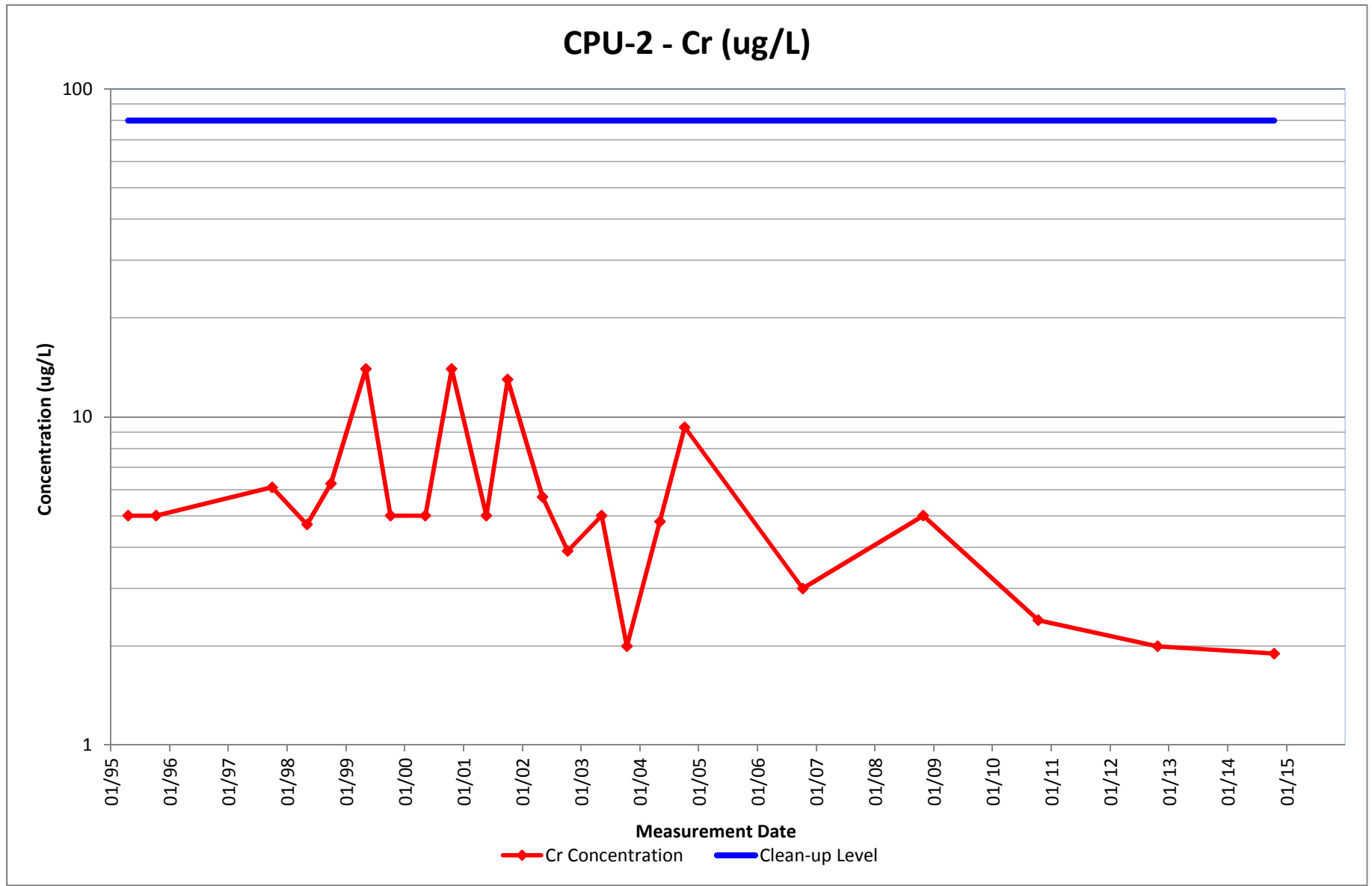
Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

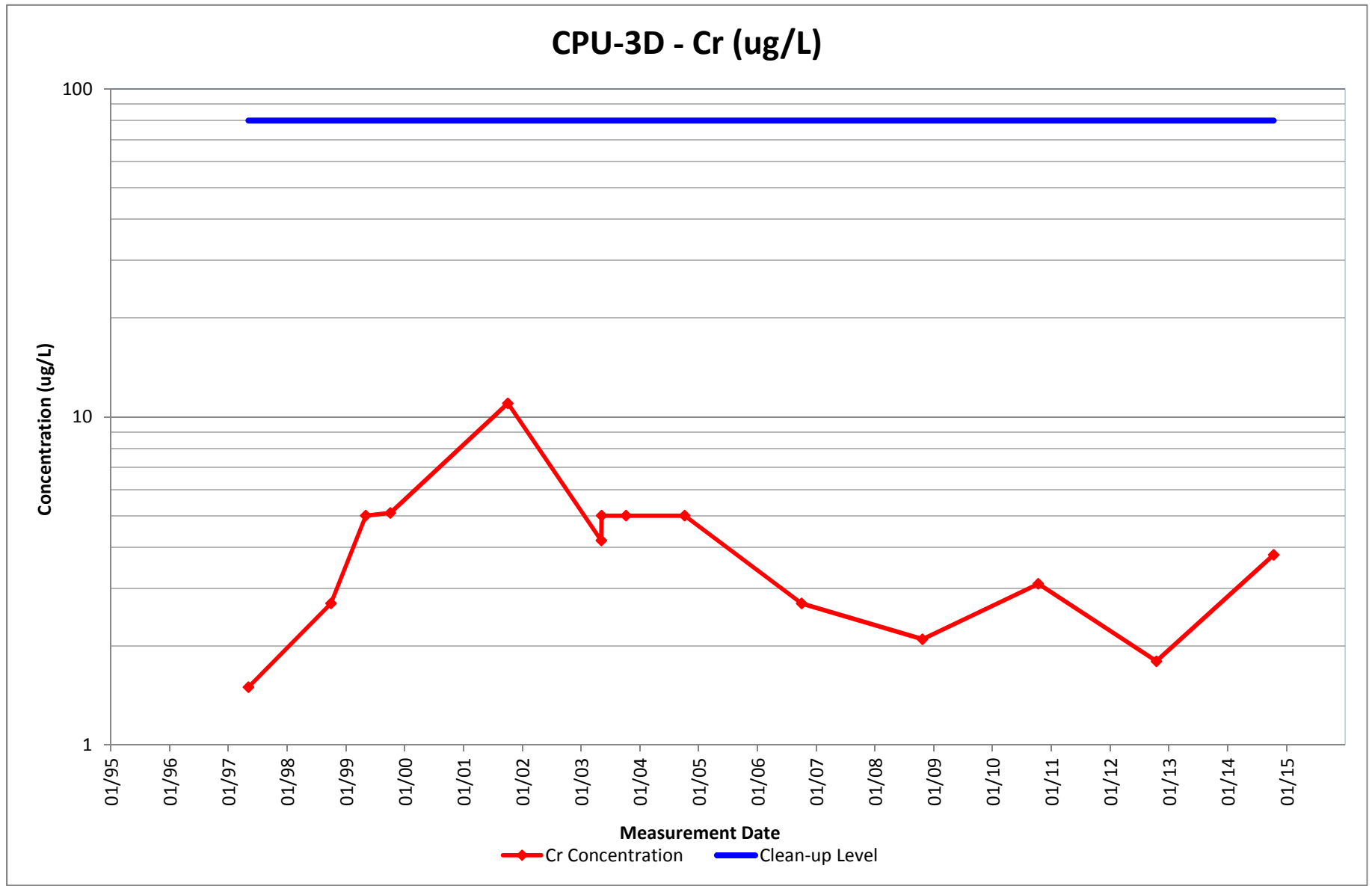
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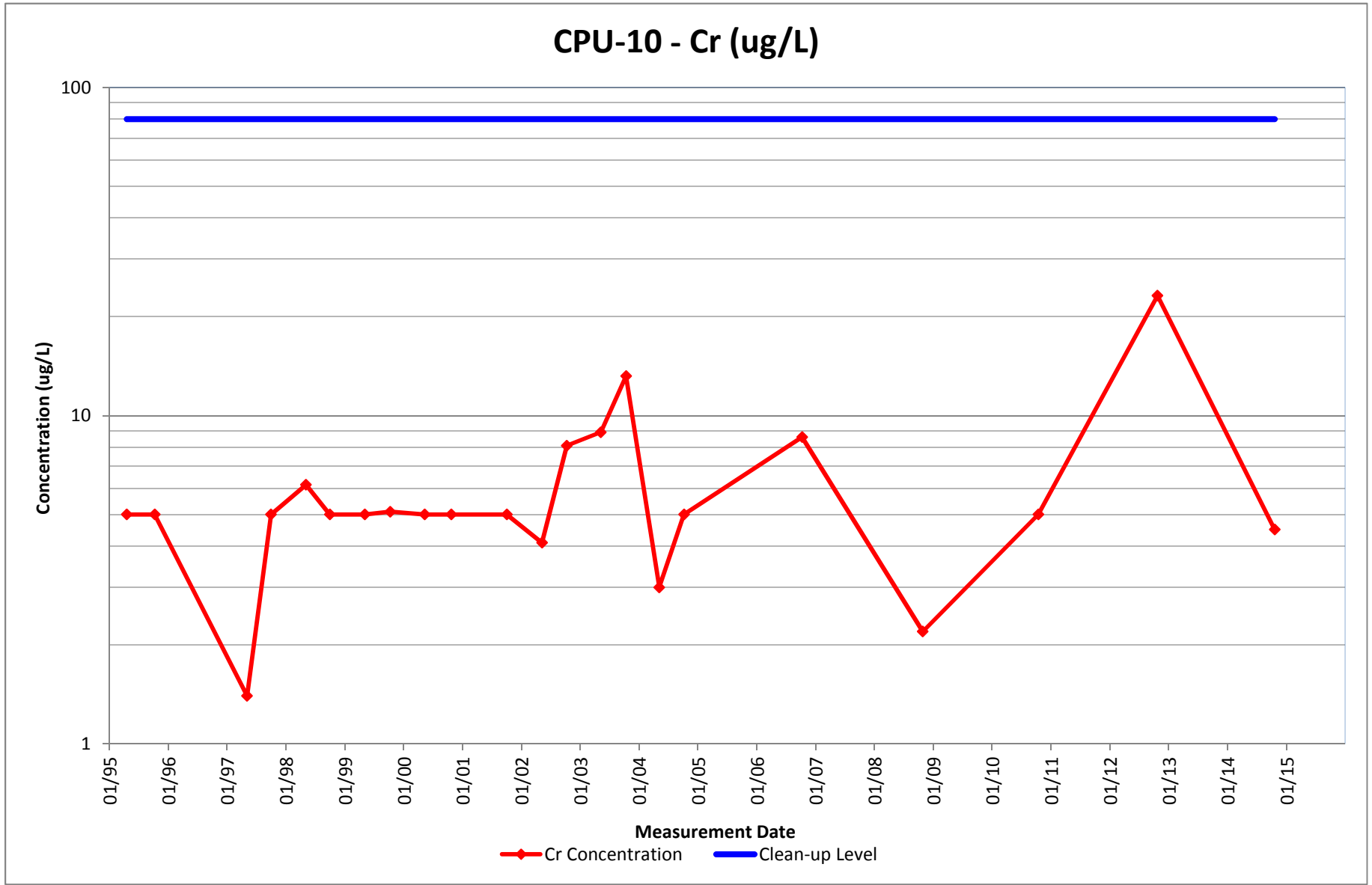
# **TROUTDALE WELLS**

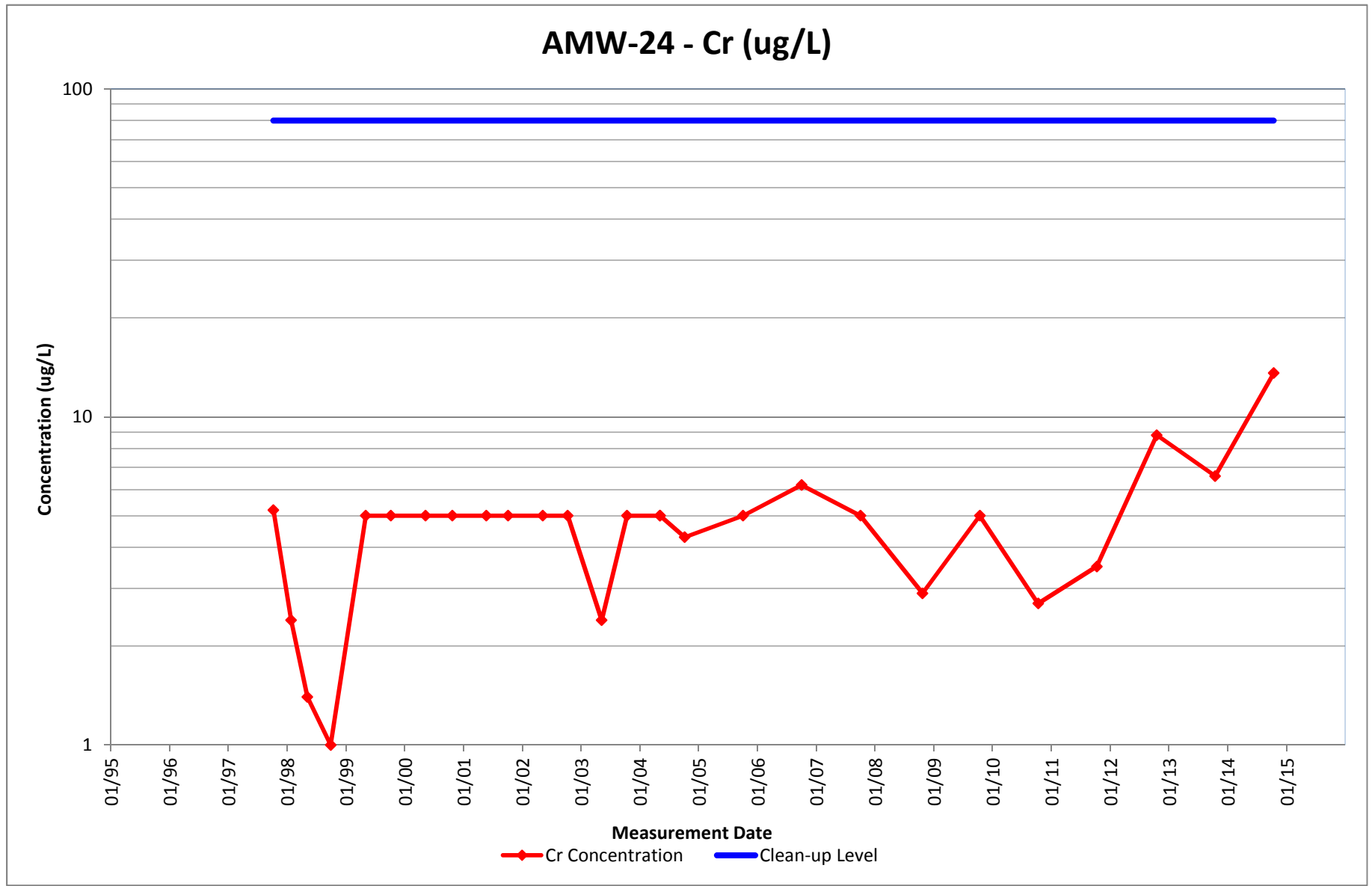
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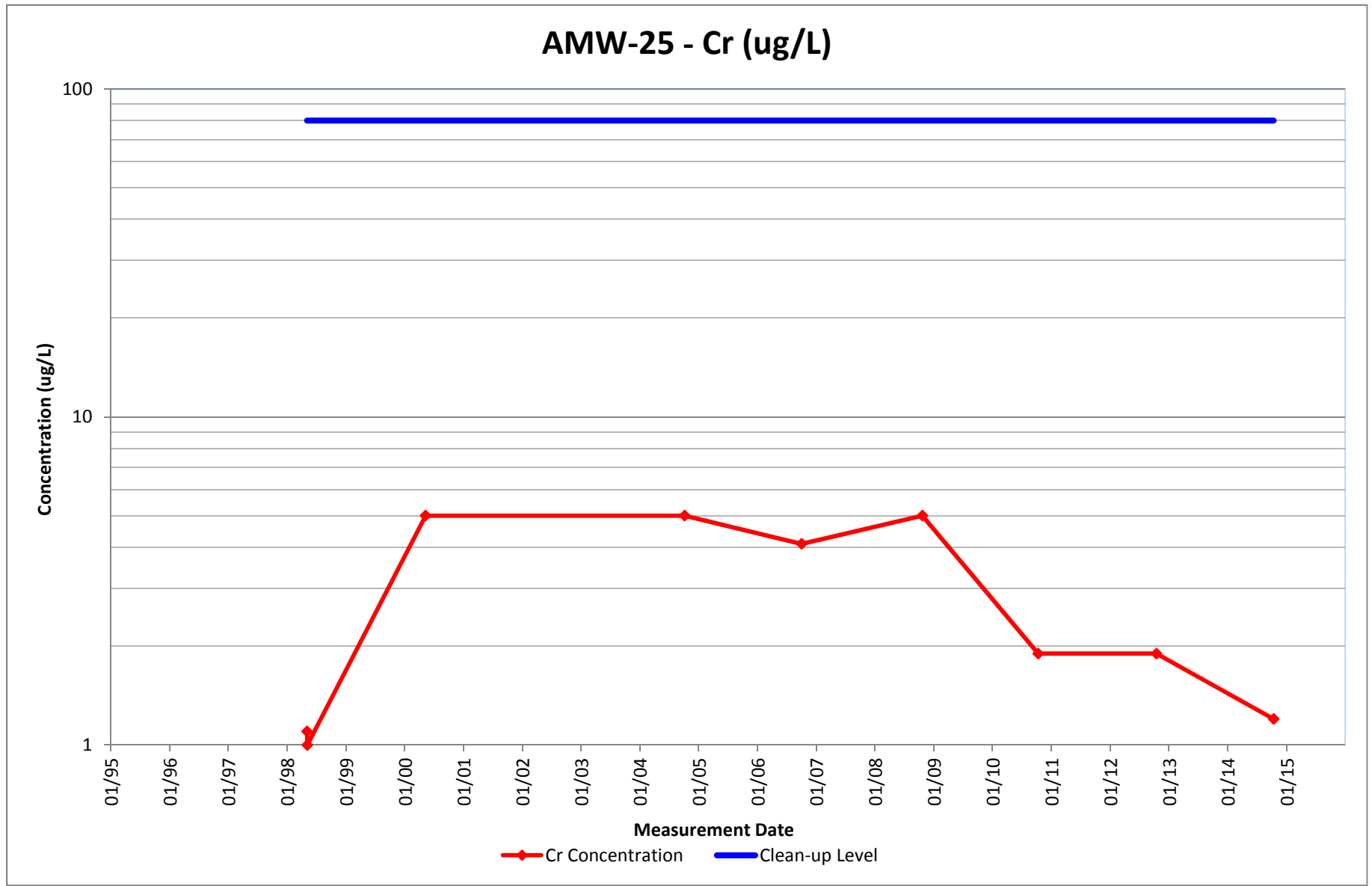


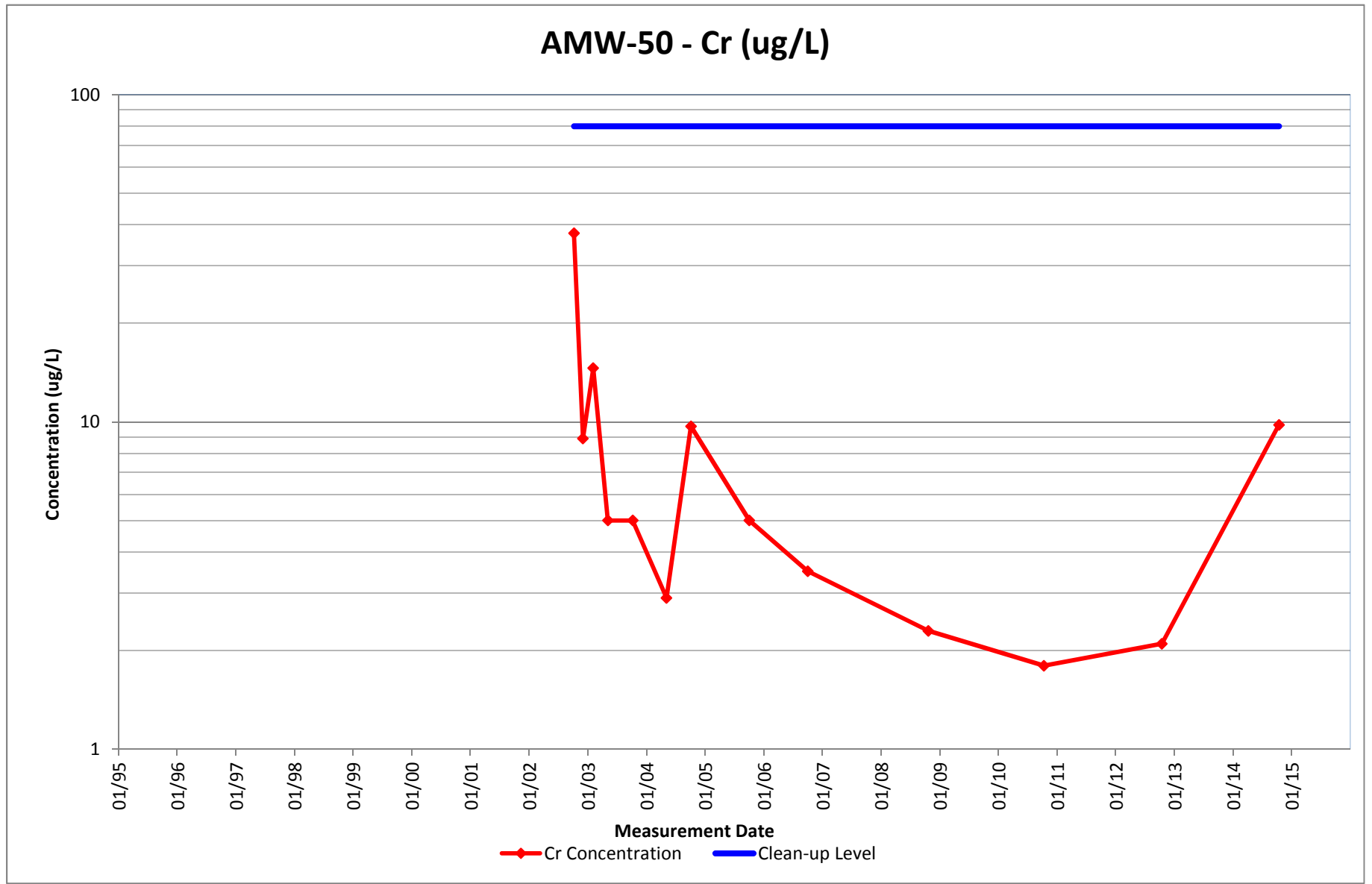


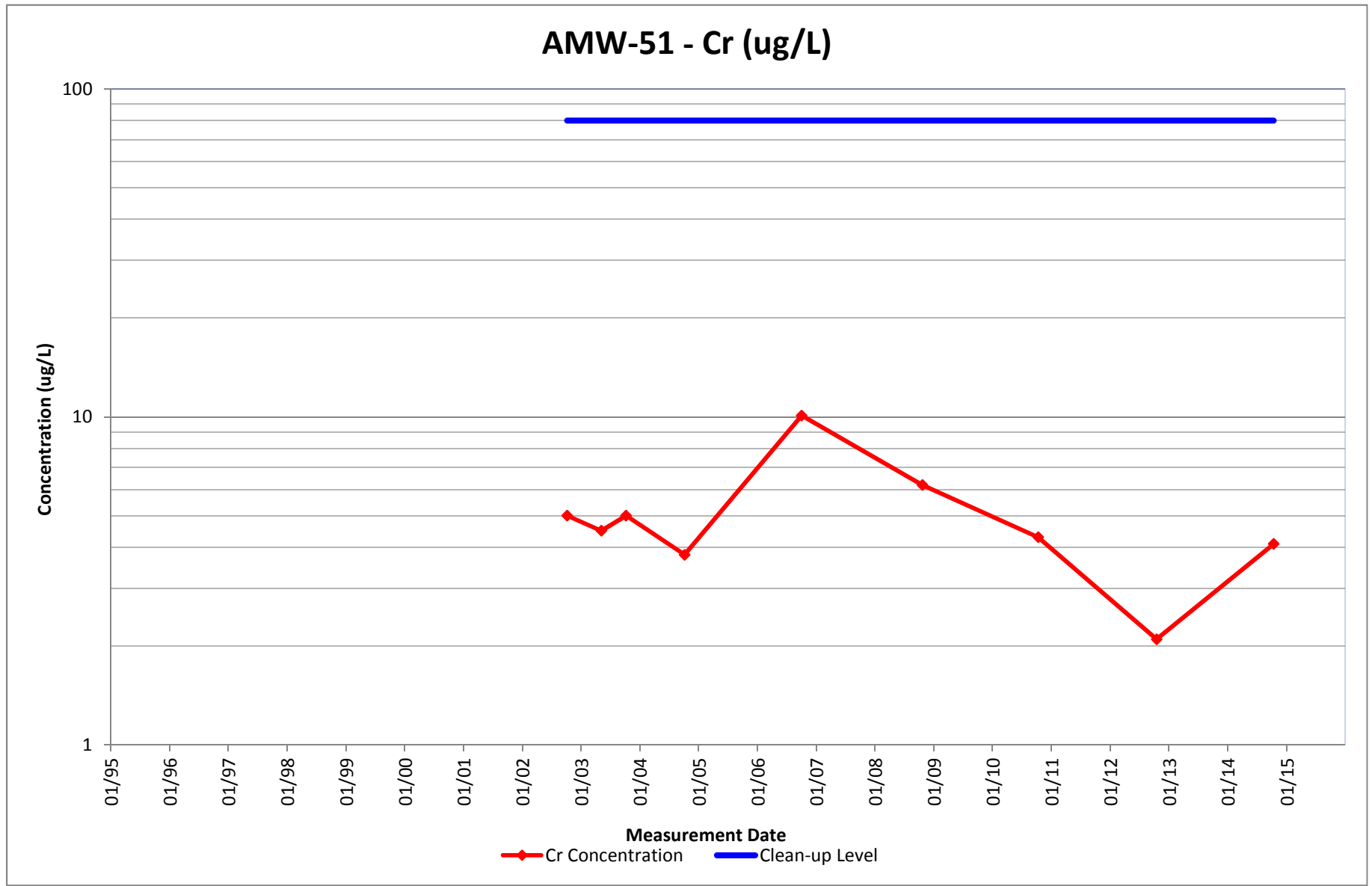


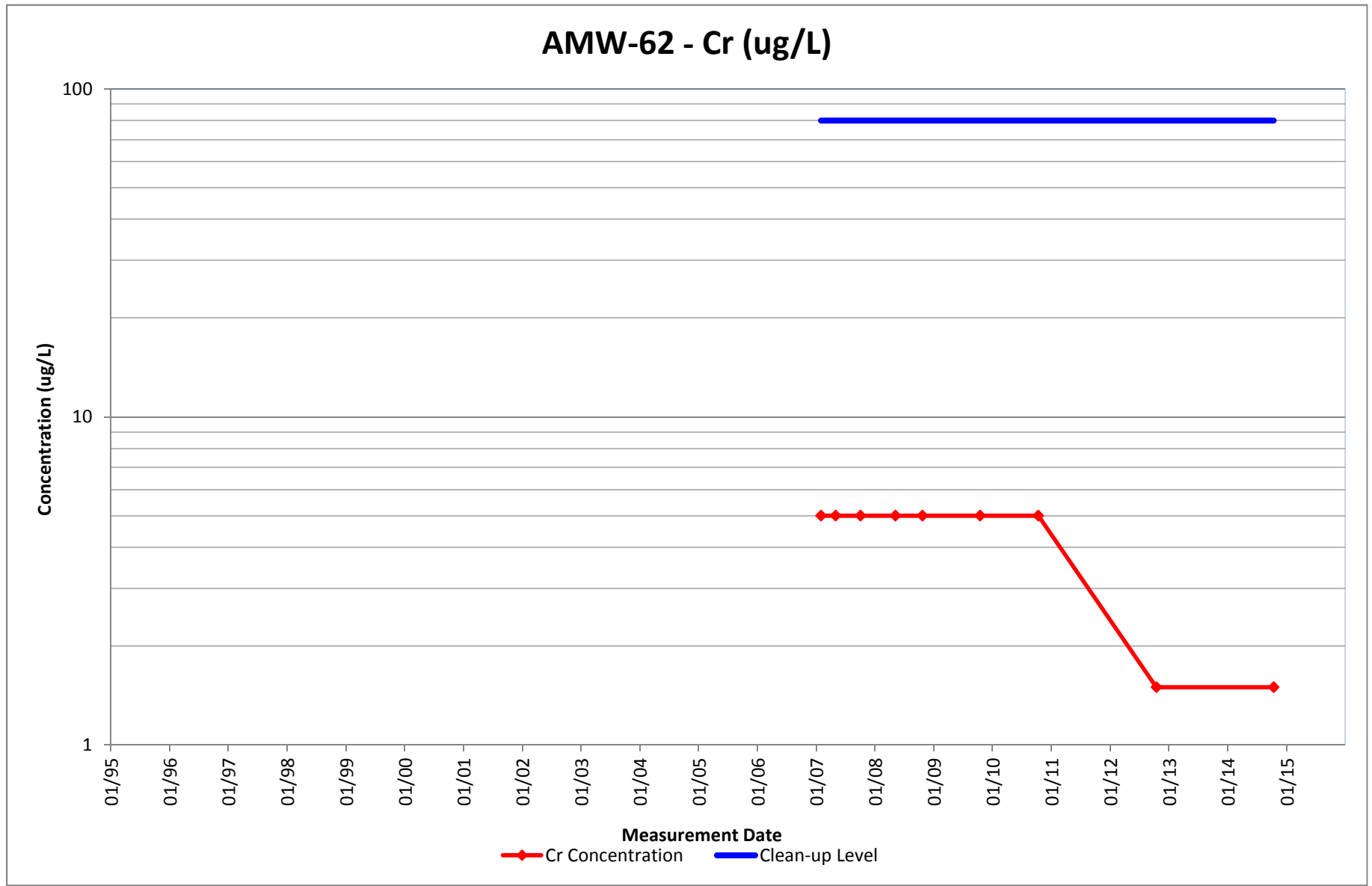


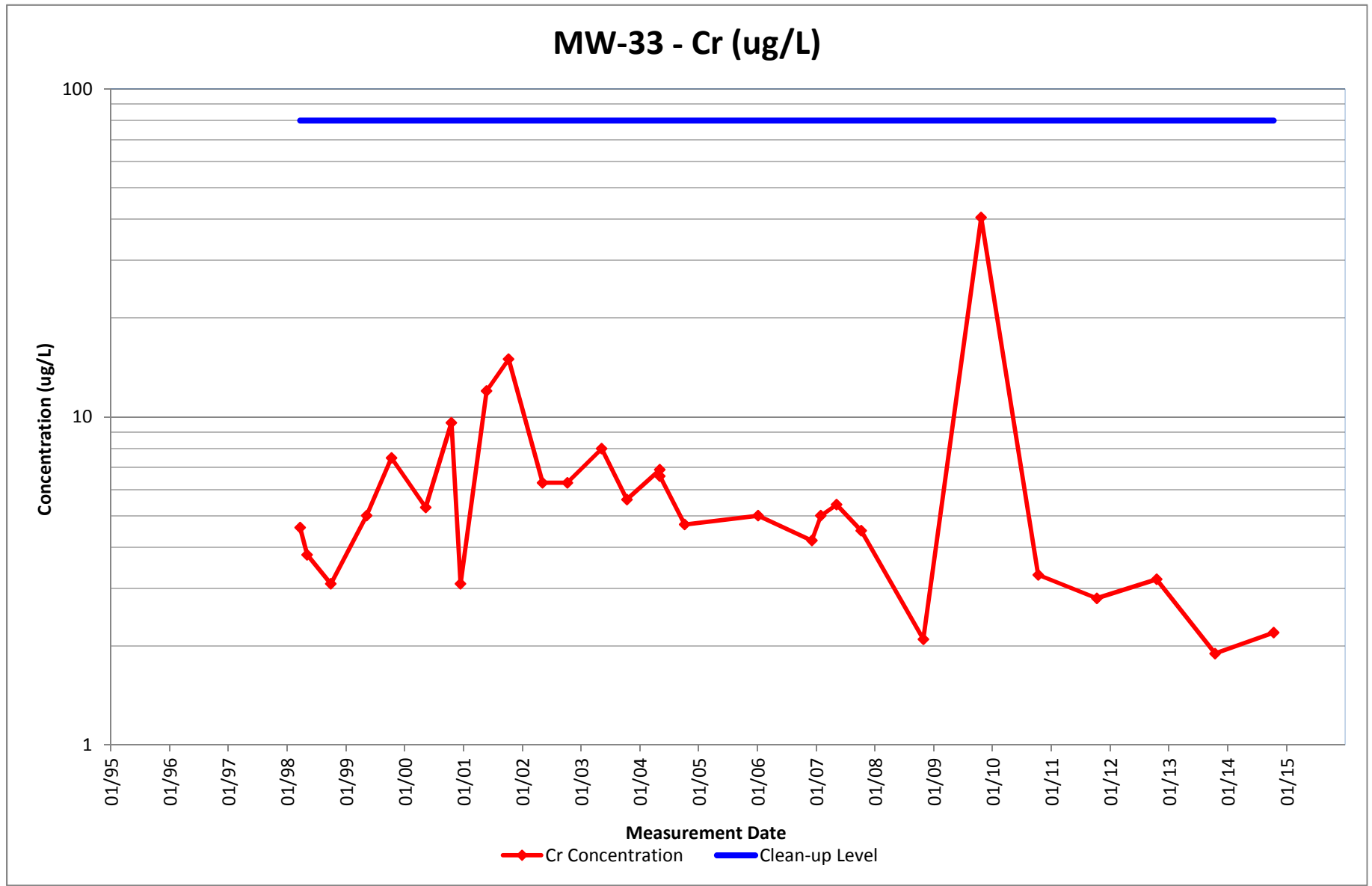


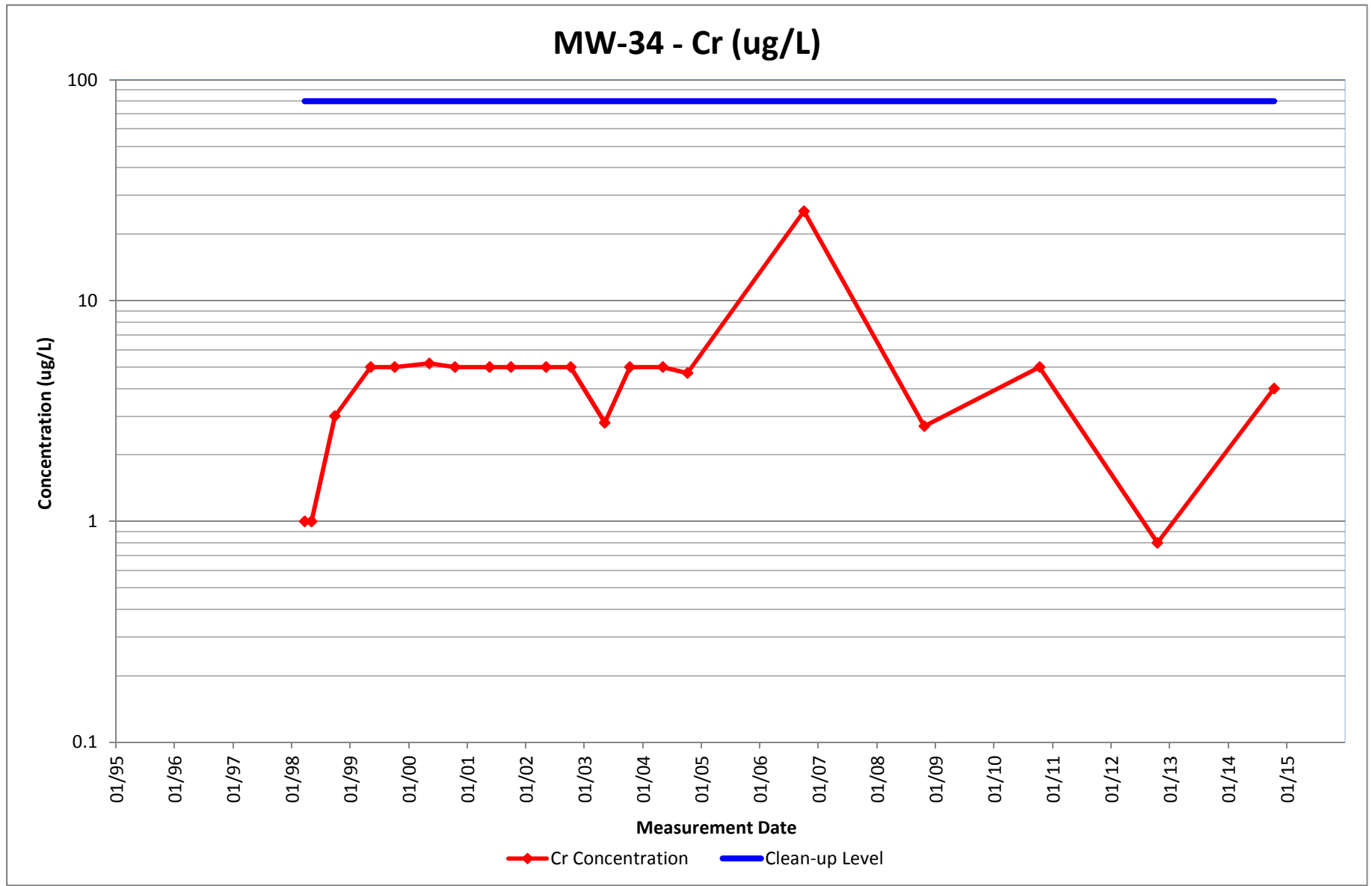












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## **APPENDIX B**

# **TCE CONCENTRATIONS IN GROUNDWATER**

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**APPENDIX B-1**

**TCE CONCENTRATIONS –  
SUMMARY TABLES**

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**B-1. TCE Concentration Summary**

| Well Group           | Well    | Spring 2013 | Fall 2013  | Winter 2014 | Spring 2014 | Summer 2014 | Fall 2014  |
|----------------------|---------|-------------|------------|-------------|-------------|-------------|------------|
| Upgradient           | AMW-6A  | --          | --         | --          | --          | --          | 0.24 J     |
|                      | AMW-7A  | --          | --         | --          | --          | --          | 0.21 J     |
|                      | AMW-8A  | --          | 0.4 J      | --          | --          | --          | 0.46 J     |
|                      | AMW-10A | --          | --         | --          | --          | --          | 0.14 J     |
|                      | AMW-11A | --          | --         | --          | --          | --          | 0.27 J     |
| TCE Source<br>(OU-2) | AMW-1A  | <b>9.9</b>  | <b>22</b>  | <b>15</b>   | 0.73        | 0.55        | 2.3        |
|                      | AMW-2A  | <b>9.3</b>  | 3.8        | 4.8         | <b>5.6</b>  | <b>26</b>   | <b>60</b>  |
|                      | AMW-2B  | --          | 0.37 J     | --          | --          | --          | 0.34 J     |
|                      | AMW-3A  | --          | 0.44 J     | --          | --          | --          | 0.34 J     |
|                      | AMW-12A | <b>29</b>   | <b>26</b>  | <b>26</b>   | <b>26</b>   | <b>21</b>   | <b>23</b>  |
|                      | AMW-13A | --          | 0.17 J     | --          | --          | --          | 0.18 J     |
|                      | AMW-19A | --          | 1.1        | --          | --          | --          | 1.2        |
|                      | AMW-26  | --          | --         | --          | --          | --          | 0.7        |
|                      | AMW-52A | --          | 0.1 J      | --          | --          | --          | 0.5 U      |
|                      | AMW-53A | <b>5.3</b>  | <b>13</b>  | <b>14</b>   | <b>16</b>   | <b>31</b>   | 0.13 J     |
|                      | AMW-54A | --          | 1.8        | --          | --          | --          | 2.9        |
|                      | AMW-55A | --          | 1.1        | --          | --          | --          | 1.0        |
|                      | AMW-56A | --          | 2.4        | --          | --          | --          | 1.7        |
|                      | MW-1A   | <b>8.2</b>  | <b>10</b>  | <b>7.5</b>  | <b>7.9</b>  | <b>7.3</b>  | <b>6.8</b> |
| Proximal             | MW-2A   | --          | --         | --          | --          | --          | 1.9        |
|                      | MW-3B   | --          | --         | --          | --          | --          | 1.4        |
|                      | MW-4B   | --          | --         | --          | --          | --          | 3.4        |
|                      | MW-6B   | <b>5.4</b>  | 4.4        | --          | 4.1         | --          | 3.7        |
|                      | MW-7B   | --          | --         | --          | --          | --          | 3.6        |
|                      | MW-8B   | --          | --         | --          | --          | --          | 1.8        |
|                      | MW-9B   | --          | --         | --          | --          | --          | 2.8        |
|                      | MW-10B  | <b>14</b>   | <b>14</b>  | --          | <b>12</b>   | --          | <b>11</b>  |
|                      | MW-10C  | 2.6         | 2.6        | --          | 2.0         | --          | 2.0        |
|                      | MW-12C  | --          | --         | --          | --          | --          | 0.89       |
|                      | MW-13C  | --          | --         | --          | --          | --          | 2.4        |
|                      | PW-1B   | 3.0         | 2.6        | --          | 2.2         | --          | 2.0        |
| Intermediate         | AMW-59  | --          | --         | --          | --          | --          | <b>58</b>  |
|                      | CPU-14  | --          | <b>6.4</b> | --          | --          | --          | <b>5.2</b> |
|                      | MW-14C  | <b>14</b>   | <b>12</b>  | --          | <b>12</b>   | --          | <b>12</b>  |
|                      | MW-14E  | <b>75</b>   | <b>74</b>  | --          | <b>55</b>   | --          | <b>51</b>  |

**B-1. TCE Concentration Summary**

| Well Group              | Well    | Spring 2013 | Fall 2013  | Winter 2014 | Spring 2014 | Summer 2014 | Fall 2014  |
|-------------------------|---------|-------------|------------|-------------|-------------|-------------|------------|
| Intermediate -<br>Cont. | MW-15E  | 3.4         | 3.2        | --          | 2.2         | --          | 2.3        |
|                         | MW-18D  | <b>42</b>   | <b>41</b>  | --          | <b>32</b>   | --          | <b>31</b>  |
|                         | MW-18E  | --          | <b>120</b> | --          | --          | --          | <b>96</b>  |
|                         | MW-19D  | <b>27</b>   | <b>29</b>  | --          | <b>21</b>   | --          | <b>21</b>  |
|                         | MW-20D  | <b>44</b>   | <b>39</b>  | --          | <b>27</b>   | --          | <b>27</b>  |
|                         | PZ-39   | <b>53</b>   | <b>43</b>  | --          | <b>29</b>   | --          | <b>45</b>  |
| Northern Plume          | AMW-16  | 2.0         | 4.4        | --          | <b>27</b>   | --          | <b>72</b>  |
|                         | AMW-17  | <b>240</b>  | <b>180</b> | <b>180</b>  | <b>130</b>  | <b>150</b>  | <b>120</b> |
|                         | AMW-18  | <b>44</b>   | <b>34</b>  | <b>36</b>   | <b>27</b>   | <b>30</b>   | <b>34</b>  |
|                         | AMW-64  | <b>94</b>   | <b>75</b>  | --          | <b>61</b>   | <b>67</b>   | <b>55</b>  |
|                         | MW-38   | --          | <b>70</b>  | --          | <b>54</b>   | --          | <b>78</b>  |
| Church of God           | CPU-12  | --          | 4.4        | --          | --          | --          | <b>5.1</b> |
|                         | CPU-13  | 1.2         | 0.92       | --          | 1.2         | --          | 0.94       |
|                         | AMW-27  | 5.0         | <b>6.6</b> | <b>5.3</b>  | 4.1         | <b>5.3</b>  | 1.6        |
|                         | AMW-61  | 2.4         | <b>8.5</b> | --          | --          | --          | <b>6.8</b> |
|                         | MW-21D  | 4.3         | 3.5        | --          | 2.9         | --          | 2.4        |
|                         | MW-22D  | 4.5         | 3.7        | --          | 4.0         | --          | 2.6        |
|                         | MW-23D  | --          | 1.2        | --          | --          | --          | 1.4        |
|                         | MW-25D  | 2.6         | 3.0        | --          | --          | --          | 1.7        |
|                         | MW-26D  | 2.1         | 0.46 J     | --          | --          | --          | 0.35 J     |
|                         | MW-27D  | --          | 1.1        | --          | --          | --          | 1.5        |
| MW-49                   | 1.5     | 1.7         | --         | --          | --          | 1.6         |            |
| Toe of Plume            | AMW-42  | --          | --         | --          | --          | --          | 0.65       |
|                         | AMW-63  | --          | --         | --          | --          | --          | 0.17 J     |
|                         | MW-35   | 5.0         | 4.6        | --          | --          | --          | 2.8        |
|                         | MW-41   | --          | --         | --          | --          | --          | 0.5 U      |
| Troutdale Aquifer       | BENNETT | 3.1         | 4.6        | --          | 2.0         | --          | <b>5.1</b> |
|                         | CPU-2   | --          | --         | --          | --          | --          | 0.5 U      |
|                         | CPU-3D  | --          | --         | --          | --          | --          | 0.5 U      |
|                         | CPU-10  | --          | --         | --          | --          | --          | 0.5 U      |
|                         | AMW-24  | --          | <b>11</b>  | --          | --          | --          | <b>10</b>  |
|                         | AMW-25  | --          | --         | --          | --          | --          | 0.5 U      |
|                         | AMW-50  | --          | --         | --          | --          | --          | 0.5 U      |

**B-1. TCE Concentration Summary**

| Well Group                 | Well   | Spring 2013 | Fall 2013 | Winter 2014 | Spring 2014 | Summer 2014 | Fall 2014 |
|----------------------------|--------|-------------|-----------|-------------|-------------|-------------|-----------|
| Troutdale Aquifer<br>Cont. | AMW-51 | --          | --        | --          | --          | --          | 0.15 J    |
|                            | AMW-62 | --          | --        | --          | --          | --          | 0.5 U     |
|                            | MW-33  | --          | <b>11</b> | --          | --          | --          | <b>11</b> |
|                            | MW-34  | --          | --        | --          | --          | --          | 0.5 U     |

## NOTES:

Only wells sampled for TCE during 2014 are included in this table.

Results are in micrograms per liter ( $\mu\text{g/L}$ ).

Results shown in **bold** and shaded exceed the cleanup level of 5  $\mu\text{g/L}$ .

Additional historical data is provided in Appendix B.

J = The result is an estimated concentration that is less than the method reporting limit but greater than or equal to the method detection limit.

-- = Well not sampled during that monitoring event.

TCE = Trichloroethene.

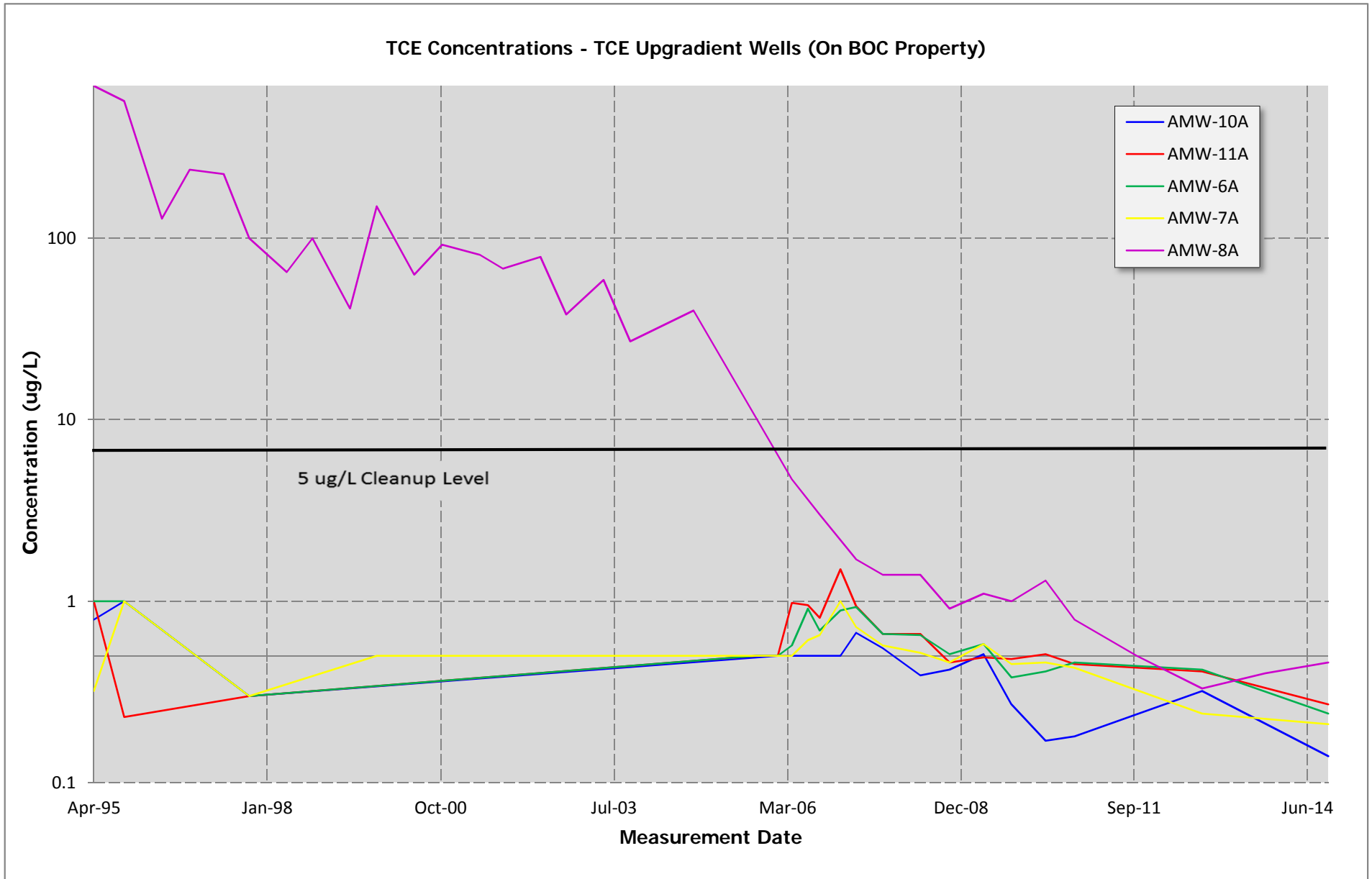
U = Analyte not detected above the specified reporting limit.

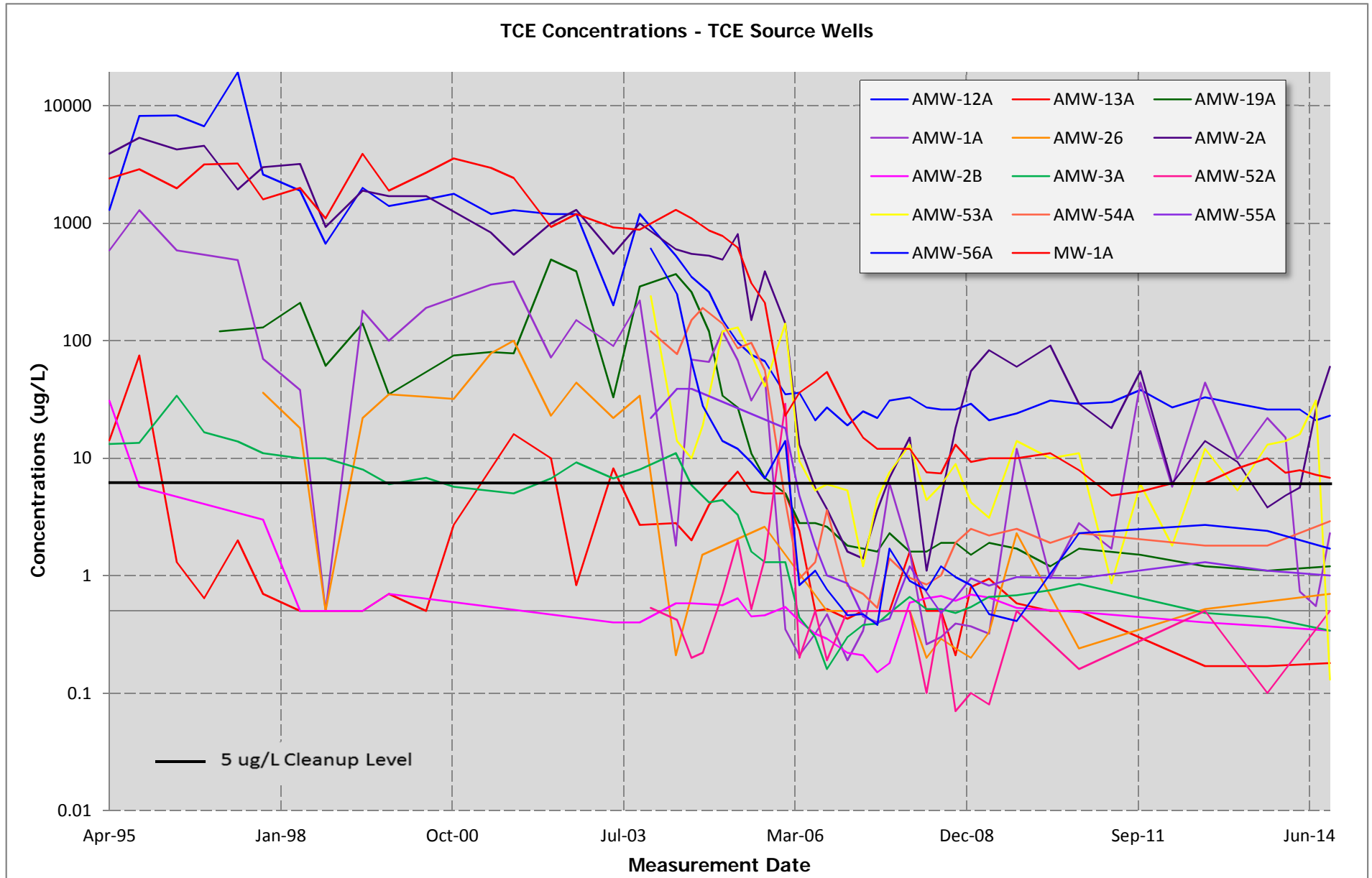
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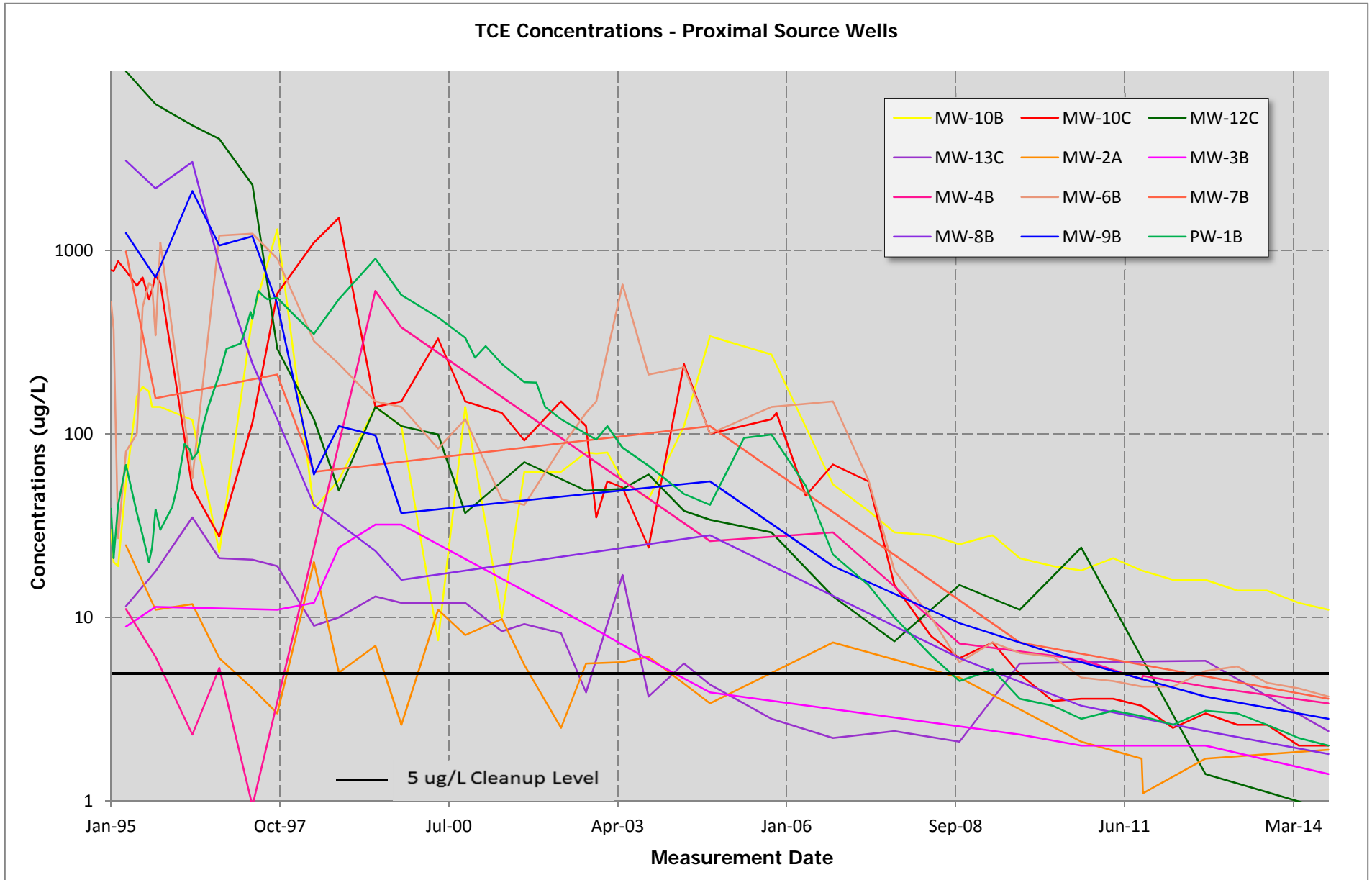
**APPENDIX B-2**

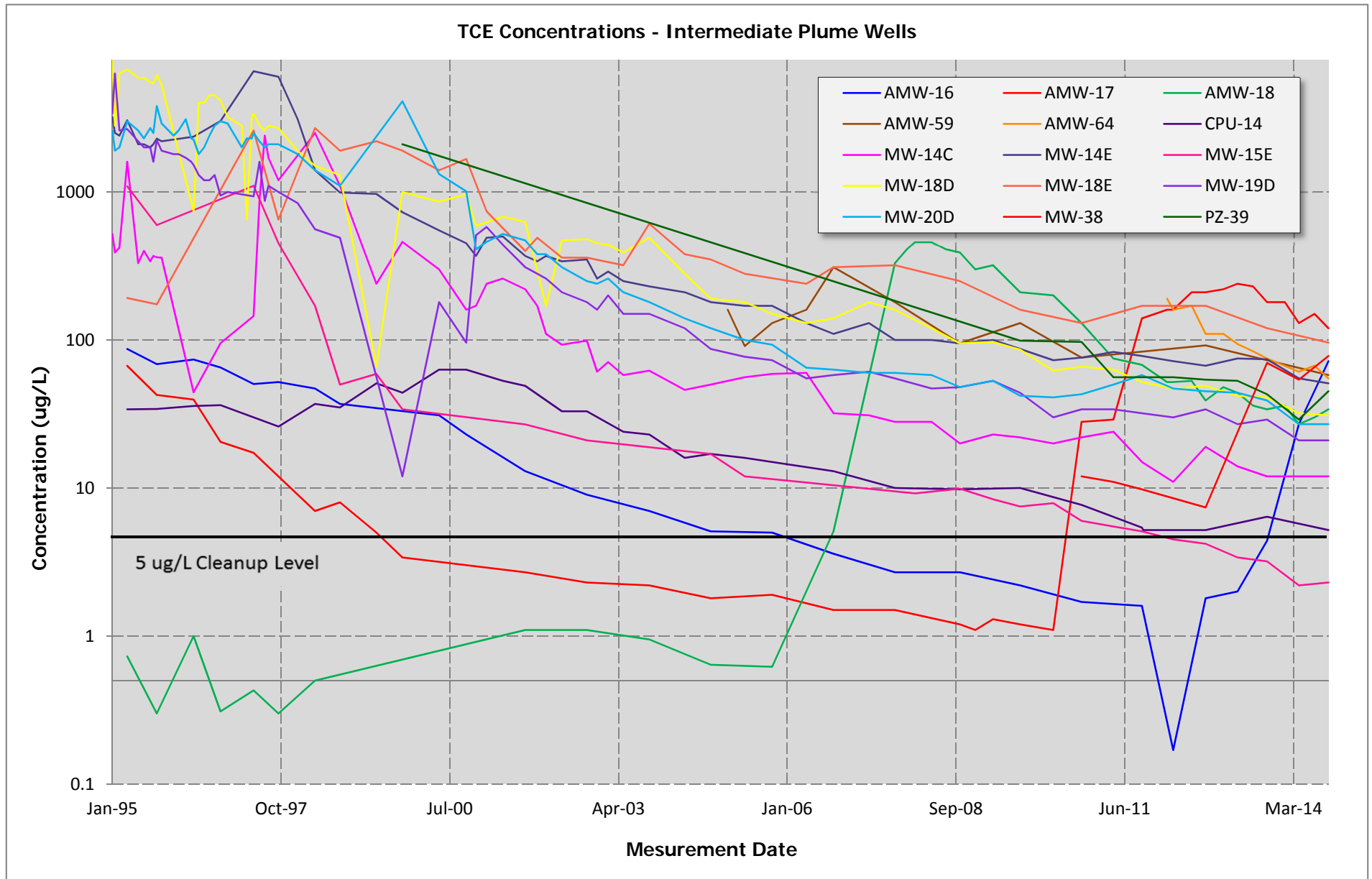
**TCE CONCENTRATIONS –  
BY WELL GROUPING**

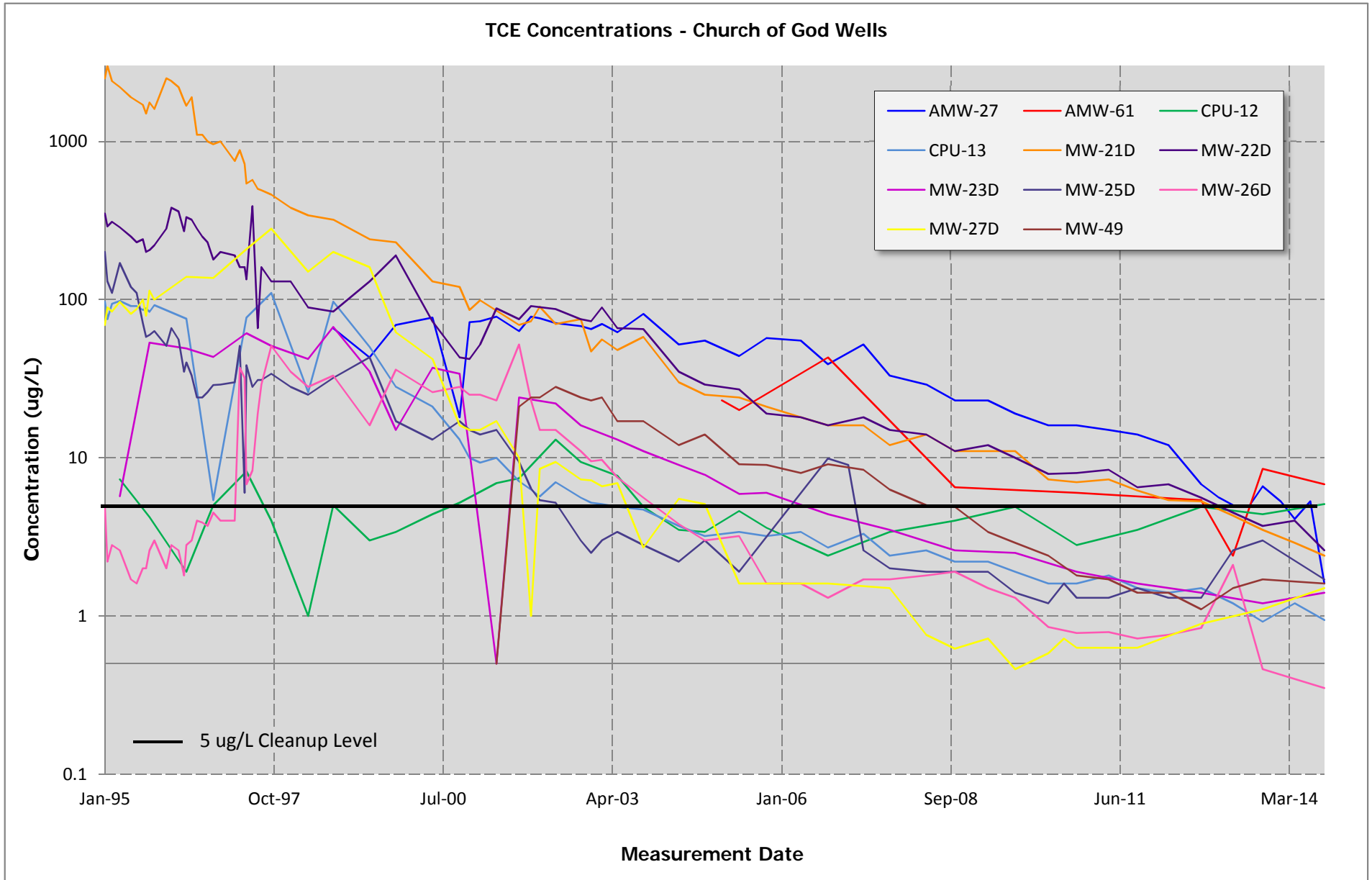
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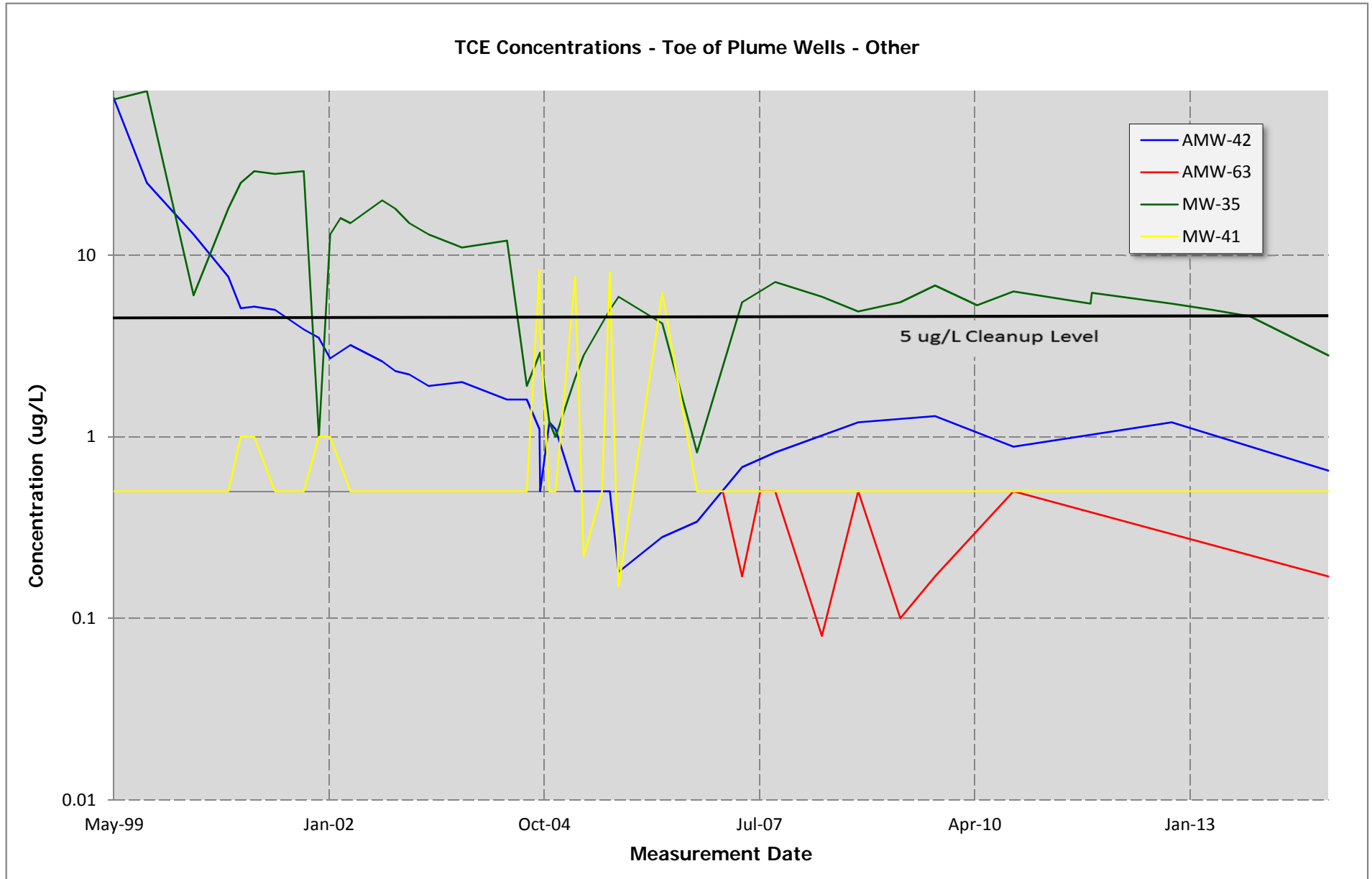


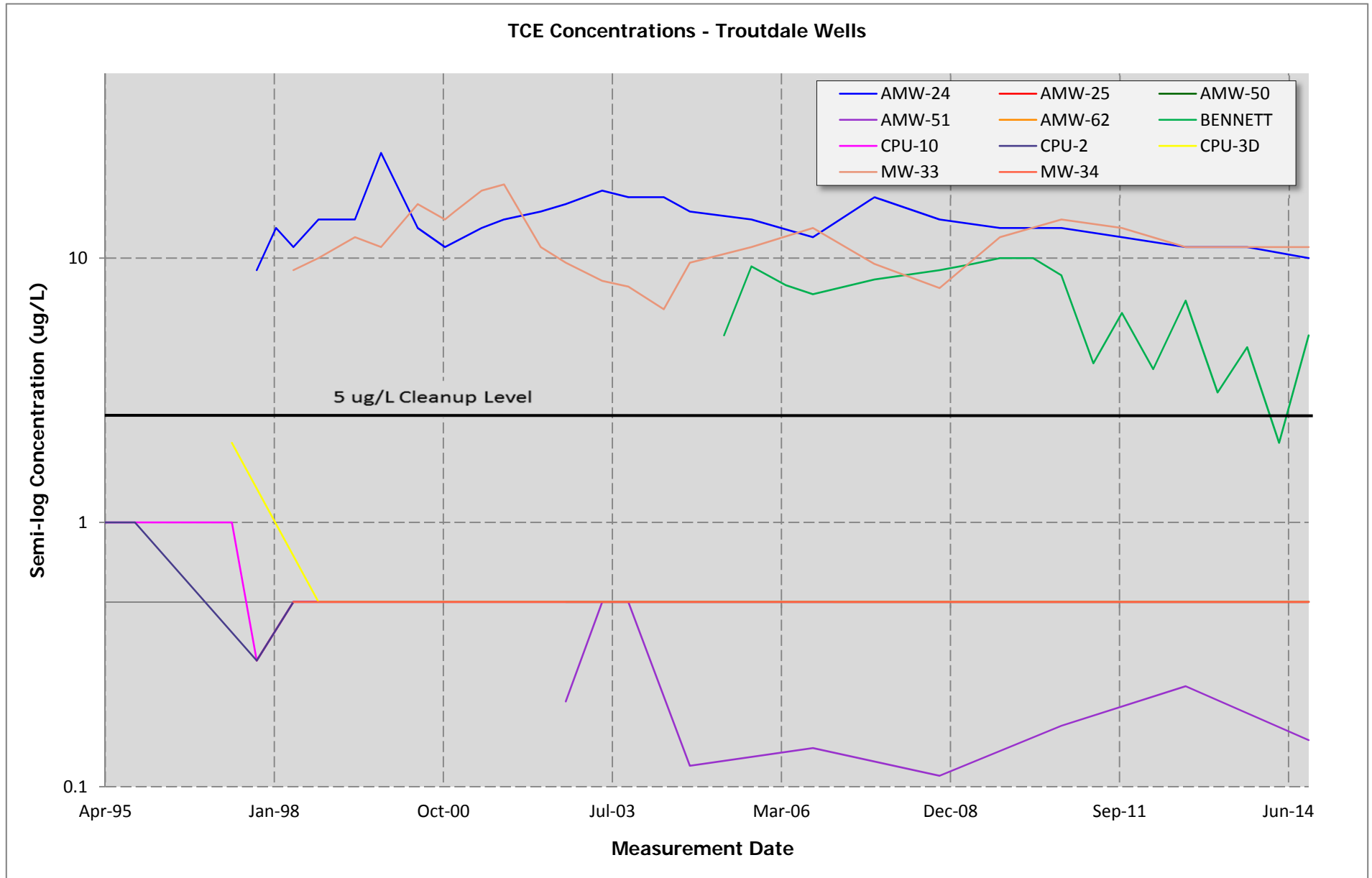












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**APPENDIX B-3**

**TCE CONCENTRATIONS –  
INDIVIDUAL WELLS**

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**APPENDIX B-3  
TABLE OF CONTENTS**

|                         | <u>Page</u> |
|-------------------------|-------------|
| <b>Upgradient Wells</b> |             |
| AMW-6A .....            | 1           |
| AMW-7A .....            | 3           |
| AMW-8A .....            | 5           |
| AMW-10A .....           | 7           |
| AMW-11A .....           | 9           |
| <br>                    |             |
| <b>TCE Source Wells</b> |             |
| AMW-1A .....            | 1           |
| AMW-2A .....            | 3           |
| AMW-2B .....            | 5           |
| AMW-3A .....            | 7           |
| AMW-12A .....           | 9           |
| AMW-13A .....           | 11          |
| AMW-19A .....           | 13          |
| AMW-26 .....            | 15          |
| AMW-52A .....           | 17          |
| AMW-53A .....           | 19          |
| AMW-54A .....           | 21          |
| AMW-55A .....           | 23          |
| AMW-56A .....           | 25          |
| MW-1A .....             | 27          |
| <br>                    |             |
| <b>Proximal Wells</b>   |             |
| MW-2A .....             | 1           |
| MW-3B .....             | 3           |
| MW-4B .....             | 5           |
| MW-6B .....             | 7           |
| MW-7B .....             | 9           |
| MW-8B .....             | 10          |
| MW-9B .....             | 12          |
| MW-10B .....            | 14          |
| MW-10C .....            | 16          |
| MW-12C .....            | 18          |
| MW-13C .....            | 20          |
| PW-1B .....             | 22          |

**Intermediate Wells**

|             |    |
|-------------|----|
| AMW-16..... | 1  |
| AMW-17..... | 3  |
| AMW-18..... | 5  |
| AMW-59..... | 7  |
| AMW-64..... | 9  |
| CPU-14..... | 10 |
| MW-14C..... | 12 |
| MW-14E..... | 14 |
| MW-15E..... | 16 |
| MW-18D..... | 18 |
| MW-18E..... | 20 |
| MW-19D..... | 22 |
| MW-20D..... | 24 |
| MW-38.....  | 26 |
| PZ-39.....  | 27 |

**Church of God Wells**

|             |    |
|-------------|----|
| AMW-27..... | 1  |
| AMW-61..... | 3  |
| CPU-12..... | 5  |
| CPU-13..... | 7  |
| MW-21D..... | 9  |
| MW-22D..... | 11 |
| MW-23D..... | 13 |
| MW-25D..... | 15 |
| MW-26D..... | 17 |
| MW-27D..... | 19 |
| MW-49.....  | 21 |

**Toe of Plume**

|             |   |
|-------------|---|
| AMW-42..... | 1 |
| AMW-63..... | 3 |
| MW-31.....  | 4 |
| MW-35.....  | 6 |
| MW-41.....  | 8 |

**Troutdale Wells**

|              |   |
|--------------|---|
| BENNETT..... | 1 |
| CPU-2.....   | 2 |
| CPU-3D.....  | 3 |
| CPU-10.....  | 4 |
| AMW-24.....  | 5 |
| AMW-25.....  | 6 |
| AMW-50.....  | 7 |

AMW-51 .....8  
AMW-62 .....9  
MW-33 .....10  
MW-34 .....11

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## **UPGRADIENT WELLS**

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# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-6A

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

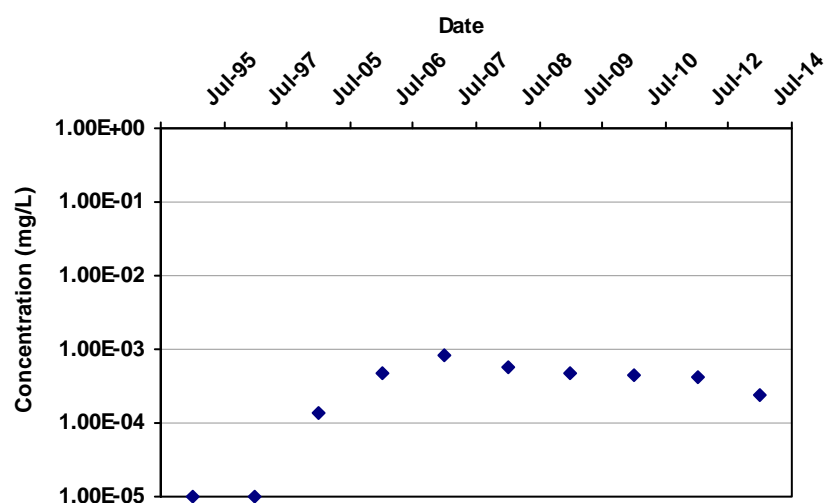
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

6

**Confidence in Trend:**

66.8%

**Coefficient of Variation:**

0.72

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-6A | T         | 7/1/1995       | TRICHLOROETHYLEN | 1.0E-05       | ND   | 2                 | 0                 |
| AMW-6A | T         | 7/1/1997       | TRICHLOROETHYLEN | 1.0E-05       | ND   | 1                 | 0                 |
| AMW-6A | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.4E-04       | ND   | 1                 | 0                 |
| AMW-6A | T         | 7/1/2006       | TRICHLOROETHYLEN | 4.7E-04       |      | 4                 | 3                 |
| AMW-6A | T         | 7/1/2007       | TRICHLOROETHYLEN | 8.2E-04       |      | 3                 | 3                 |
| AMW-6A | T         | 7/1/2008       | TRICHLOROETHYLEN | 5.8E-04       |      | 2                 | 2                 |
| AMW-6A | T         | 7/1/2009       | TRICHLOROETHYLEN | 4.7E-04       |      | 2                 | 2                 |
| AMW-6A | T         | 7/1/2010       | TRICHLOROETHYLEN | 4.3E-04       |      | 2                 | 2                 |
| AMW-6A | T         | 7/1/2012       | TRICHLOROETHYLEN | 4.2E-04       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-6A | T         | 7/1/2014       | TRICHLOROETHYLEN | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-7A

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

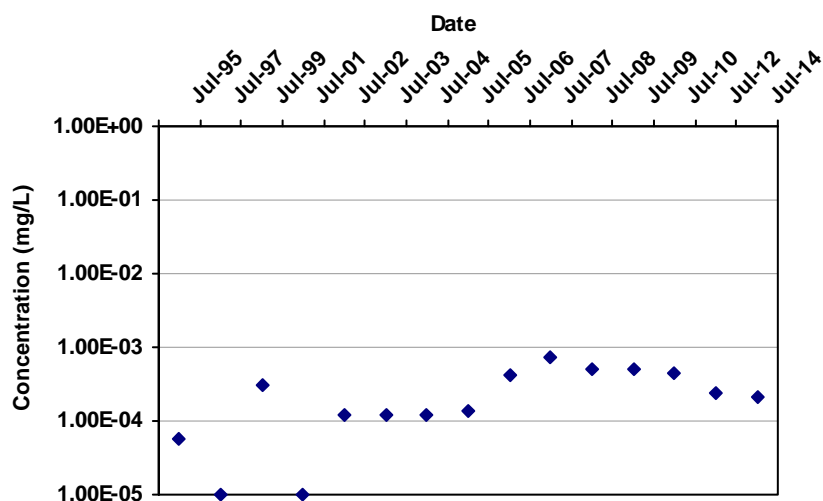
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

51

**Confidence in Trend:**

99.4%

**Coefficient of Variation:**

0.82

**Mann Kendall Concentration Trend: (See Note)**

1

## Data Table:

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-7A | T         | 7/1/1995       | TRICHLOROETHYLEN | 5.7E-05       |      | 2                 | 1                 |
| AMW-7A | T         | 7/1/1997       | TRICHLOROETHYLEN | 1.0E-05       | ND   | 1                 | 0                 |
| AMW-7A | T         | 7/1/1999       | TRICHLOROETHYLEN | 3.0E-04       | ND   | 1                 | 0                 |
| AMW-7A | T         | 7/1/2001       | TRICHLOROETHYLEN | 1.0E-05       | ND   | 2                 | 0                 |
| AMW-7A | T         | 7/1/2002       | TRICHLOROETHYLEN | 1.2E-04       | ND   | 2                 | 0                 |
| AMW-7A | T         | 7/1/2003       | TRICHLOROETHYLEN | 1.2E-04       | ND   | 2                 | 0                 |
| AMW-7A | T         | 7/1/2004       | TRICHLOROETHYLEN | 1.2E-04       | ND   | 2                 | 0                 |
| AMW-7A | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.4E-04       | ND   | 1                 | 0                 |
| AMW-7A | T         | 7/1/2006       | TRICHLOROETHYLEN | 4.1E-04       |      | 4                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-7A | T         | 7/1/2007       | TRICHLOROETHYLEN | 7.4E-04       |      | 3                 | 3                 |
| AMW-7A | T         | 7/1/2008       | TRICHLOROETHYLEN | 4.9E-04       |      | 2                 | 2                 |
| AMW-7A | T         | 7/1/2009       | TRICHLOROETHYLEN | 5.1E-04       |      | 2                 | 2                 |
| AMW-7A | T         | 7/1/2010       | TRICHLOROETHYLEN | 4.4E-04       |      | 2                 | 2                 |
| AMW-7A | T         | 7/1/2012       | TRICHLOROETHYLEN | 2.4E-04       |      | 1                 | 1                 |
| AMW-7A | T         | 7/1/2014       | TRICHLOROETHYLEN | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-8A

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

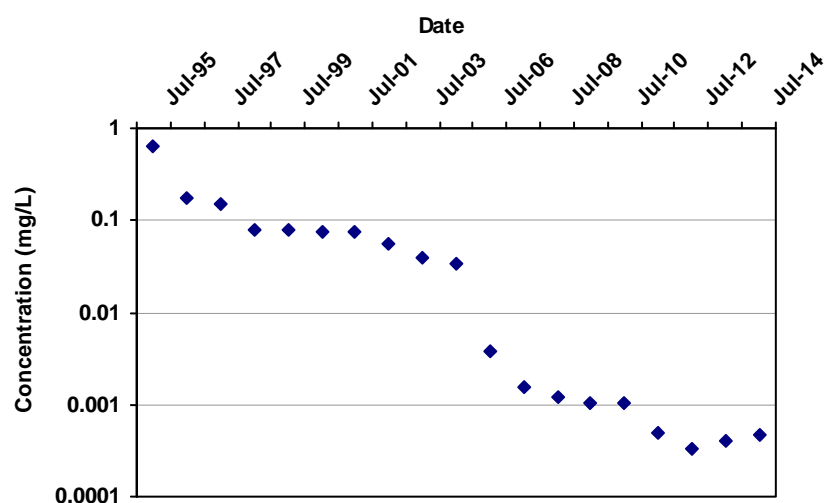
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-165

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.95

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-8A | T         | 7/1/1995       | TRICHLOROETHYLEN | 6.3E-01       |      | 2                 | 2                 |
| AMW-8A | T         | 7/1/1996       | TRICHLOROETHYLEN | 1.7E-01       |      | 2                 | 2                 |
| AMW-8A | T         | 7/1/1997       | TRICHLOROETHYLEN | 1.5E-01       |      | 2                 | 2                 |
| AMW-8A | T         | 7/1/1998       | TRICHLOROETHYLEN | 8.1E-02       |      | 2                 | 2                 |
| AMW-8A | T         | 7/1/1999       | TRICHLOROETHYLEN | 7.8E-02       |      | 2                 | 2                 |
| AMW-8A | T         | 7/1/2000       | TRICHLOROETHYLEN | 7.6E-02       |      | 2                 | 2                 |
| AMW-8A | T         | 7/1/2001       | TRICHLOROETHYLEN | 7.4E-02       |      | 2                 | 2                 |
| AMW-8A | T         | 7/1/2002       | TRICHLOROETHYLEN | 5.5E-02       |      | 2                 | 2                 |
| AMW-8A | T         | 7/1/2003       | TRICHLOROETHYLEN | 4.0E-02       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-8A | T         | 7/1/2004       | TRICHLOROETHYLEN | 3.4E-02       |      | 2                 | 2                 |
| AMW-8A | T         | 7/1/2006       | TRICHLOROETHYLEN | 3.8E-03       |      | 2                 | 2                 |
| AMW-8A | T         | 7/1/2007       | TRICHLOROETHYLEN | 1.5E-03       |      | 2                 | 2                 |
| AMW-8A | T         | 7/1/2008       | TRICHLOROETHYLEN | 1.2E-03       |      | 3                 | 3                 |
| AMW-8A | T         | 7/1/2009       | TRICHLOROETHYLEN | 1.0E-03       |      | 2                 | 2                 |
| AMW-8A | T         | 7/1/2010       | TRICHLOROETHYLEN | 1.0E-03       |      | 2                 | 2                 |
| AMW-8A | T         | 7/1/2011       | TRICHLOROETHYLEN | 5.0E-04       |      | 1                 | 1                 |
| AMW-8A | T         | 7/1/2012       | TRICHLOROETHYLEN | 3.3E-04       |      | 1                 | 1                 |
| AMW-8A | T         | 7/1/2013       | TRICHLOROETHYLEN | 4.0E-04       |      | 1                 | 1                 |
| AMW-8A | T         | 7/1/2014       | TRICHLOROETHYLEN | 4.6E-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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-10A

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

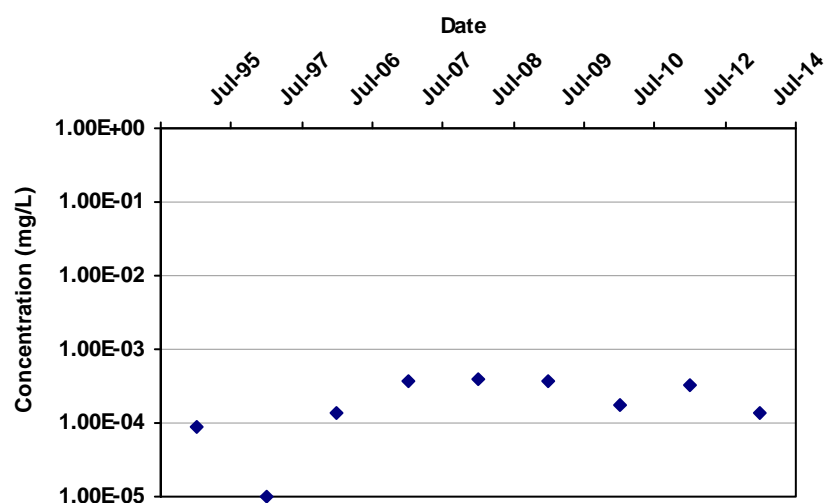
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

6

**Confidence in Trend:**

69.4%

**Coefficient of Variation:**

0.64

**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 |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-10A | T         | 7/1/1995       | TRICHLOROETHYLEN | 8.9E-05       |      | 2                 | 1                 |
| AMW-10A | T         | 7/1/1997       | TRICHLOROETHYLEN | 1.0E-05       | ND   | 1                 | 0                 |
| AMW-10A | T         | 7/1/2006       | TRICHLOROETHYLEN | 1.4E-04       | ND   | 4                 | 0                 |
| AMW-10A | T         | 7/1/2007       | TRICHLOROETHYLEN | 3.7E-04       |      | 3                 | 2                 |
| AMW-10A | T         | 7/1/2008       | TRICHLOROETHYLEN | 4.0E-04       |      | 2                 | 2                 |
| AMW-10A | T         | 7/1/2009       | TRICHLOROETHYLEN | 3.7E-04       |      | 2                 | 2                 |
| AMW-10A | T         | 7/1/2010       | TRICHLOROETHYLEN | 1.7E-04       |      | 2                 | 2                 |
| AMW-10A | T         | 7/1/2012       | TRICHLOROETHYLEN | 3.2E-04       |      | 1                 | 1                 |
| AMW-10A | T         | 7/1/2014       | TRICHLOROETHYLEN | 1.4E-04       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

**Project:** Boomsnub/Airco Superfund Site

**User Name:**

**Location:** Hazel Dell

**State:** Washington

| <b>Well</b> | <b>Well Type</b> | <b>Effective Date</b> | <b>Constituent</b> | <b>Result (mg/L)</b> | <b>Flag</b> | <b>Number of Samples</b> | <b>Number of Detects</b> |
|-------------|------------------|-----------------------|--------------------|----------------------|-------------|--------------------------|--------------------------|
|-------------|------------------|-----------------------|--------------------|----------------------|-------------|--------------------------|--------------------------|

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-11A

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

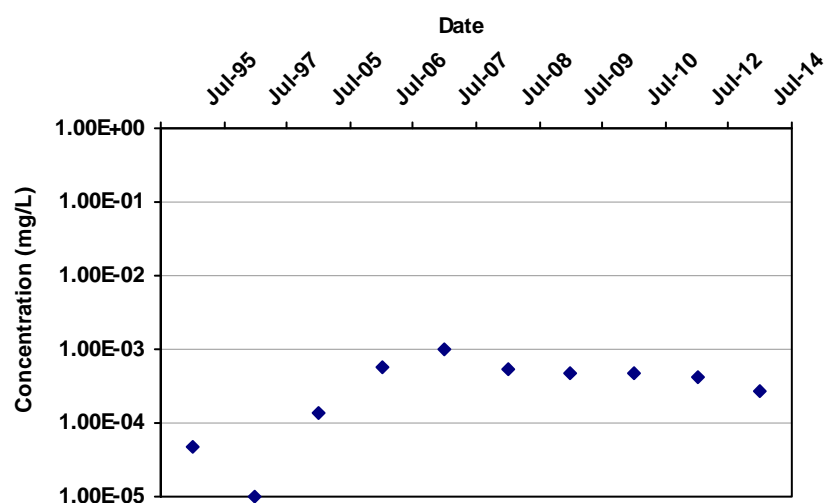
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

3

**Confidence in Trend:**

56.9%

**Coefficient of Variation:**

0.74

**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 |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-11A | T         | 7/1/1995       | TRICHLOROETHYLEN | 4.8E-05       |      | 2                 | 1                 |
| AMW-11A | T         | 7/1/1997       | TRICHLOROETHYLEN | 1.0E-05       | ND   | 1                 | 0                 |
| AMW-11A | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.4E-04       | ND   | 1                 | 0                 |
| AMW-11A | T         | 7/1/2006       | TRICHLOROETHYLEN | 5.7E-04       |      | 4                 | 3                 |
| AMW-11A | T         | 7/1/2007       | TRICHLOROETHYLEN | 9.8E-04       |      | 3                 | 3                 |
| AMW-11A | T         | 7/1/2008       | TRICHLOROETHYLEN | 5.5E-04       |      | 2                 | 2                 |
| AMW-11A | T         | 7/1/2009       | TRICHLOROETHYLEN | 4.8E-04       |      | 2                 | 2                 |
| AMW-11A | T         | 7/1/2010       | TRICHLOROETHYLEN | 4.8E-04       |      | 2                 | 2                 |
| AMW-11A | T         | 7/1/2012       | TRICHLOROETHYLEN | 4.1E-04       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well    | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-11A | T         | 7/1/2014       | TRICHLOROETHYLEN | 2.7E-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

## **TCE SOURCE WELLS**

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# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-1A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

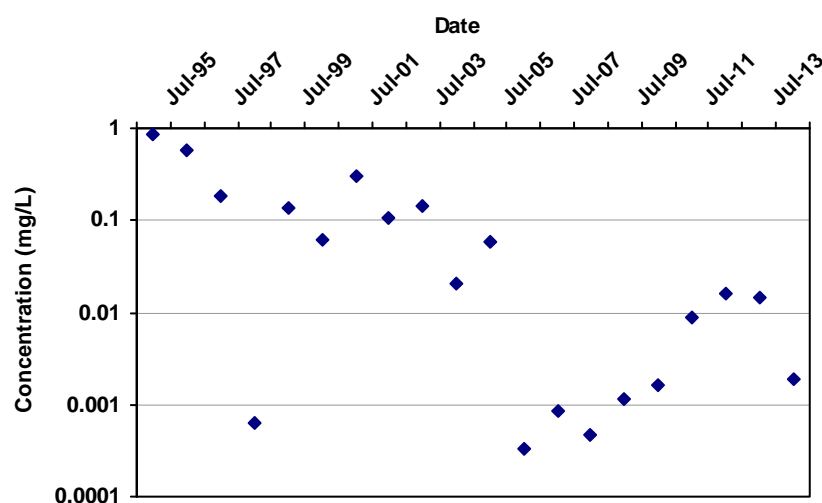
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-84

**Confidence in Trend:**

99.7%

**Coefficient of Variation:**

1.80

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-1A | S         | 7/1/1995       | TRICHLOROETHYLEN | 8.7E-01       |      | 2                 | 2                 |
| AMW-1A | S         | 7/1/1996       | TRICHLOROETHYLEN | 5.9E-01       |      | 1                 | 1                 |
| AMW-1A | S         | 7/1/1997       | TRICHLOROETHYLEN | 1.8E-01       |      | 2                 | 2                 |
| AMW-1A | S         | 7/1/1998       | TRICHLOROETHYLEN | 6.2E-04       |      | 2                 | 1                 |
| AMW-1A | S         | 7/1/1999       | TRICHLOROETHYLEN | 1.3E-01       |      | 2                 | 2                 |
| AMW-1A | S         | 7/1/2000       | TRICHLOROETHYLEN | 6.0E-02       |      | 2                 | 2                 |
| AMW-1A | S         | 7/1/2001       | TRICHLOROETHYLEN | 3.1E-01       |      | 2                 | 2                 |
| AMW-1A | S         | 7/1/2002       | TRICHLOROETHYLEN | 1.0E-01       |      | 2                 | 2                 |
| AMW-1A | S         | 7/1/2003       | TRICHLOROETHYLEN | 1.4E-01       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-1A | S         | 7/1/2004       | TRICHLOROETHYLEN | 2.0E-02       |      | 3                 | 3                 |
| AMW-1A | S         | 7/1/2005       | TRICHLOROETHYLEN | 5.9E-02       |      | 4                 | 4                 |
| AMW-1A | S         | 7/1/2006       | TRICHLOROETHYLEN | 3.2E-04       |      | 4                 | 4                 |
| AMW-1A | S         | 7/1/2007       | TRICHLOROETHYLEN | 8.5E-04       |      | 4                 | 4                 |
| AMW-1A | S         | 7/1/2008       | TRICHLOROETHYLEN | 4.7E-04       |      | 4                 | 4                 |
| AMW-1A | S         | 7/1/2009       | TRICHLOROETHYLEN | 1.1E-03       |      | 3                 | 3                 |
| AMW-1A | S         | 7/1/2010       | TRICHLOROETHYLEN | 1.6E-03       |      | 2                 | 2                 |
| AMW-1A | S         | 7/1/2011       | TRICHLOROETHYLEN | 8.6E-03       |      | 2                 | 2                 |
| AMW-1A | S         | 7/1/2012       | TRICHLOROETHYLEN | 1.6E-02       |      | 2                 | 2                 |
| AMW-1A | S         | 7/1/2013       | TRICHLOROETHYLEN | 1.5E-02       |      | 2                 | 2                 |
| AMW-1A | S         | 7/1/2014       | TRICHLOROETHYLEN | 1.9E-03       |      | 4                 | 4                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-2A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

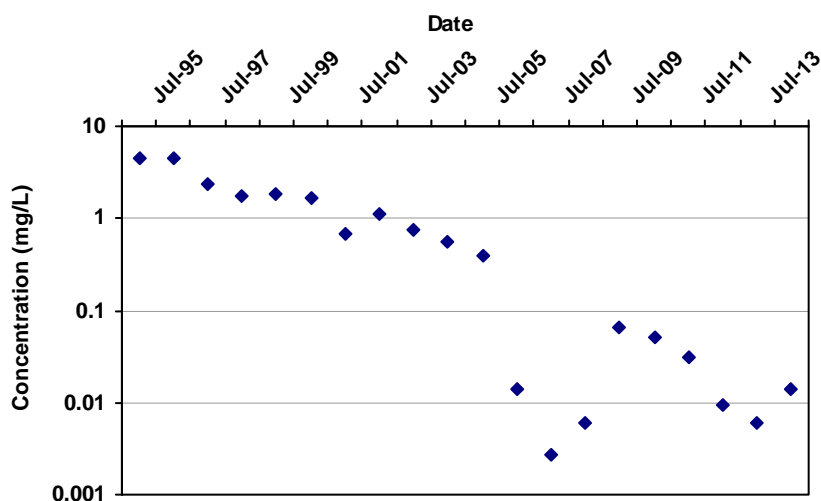
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-148

**Confidence in Trend:**

100.0%

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-2A | S         | 7/1/1995       | TRICHLOROETHYLEN | 4.6E+00       |      | 2                 | 2                 |
| AMW-2A | S         | 7/1/1996       | TRICHLOROETHYLEN | 4.4E+00       |      | 2                 | 2                 |
| AMW-2A | S         | 7/1/1997       | TRICHLOROETHYLEN | 2.4E+00       |      | 2                 | 2                 |
| AMW-2A | S         | 7/1/1998       | TRICHLOROETHYLEN | 1.7E+00       |      | 2                 | 2                 |
| AMW-2A | S         | 7/1/1999       | TRICHLOROETHYLEN | 1.8E+00       |      | 2                 | 2                 |
| AMW-2A | S         | 7/1/2000       | TRICHLOROETHYLEN | 1.7E+00       |      | 2                 | 2                 |
| AMW-2A | S         | 7/1/2001       | TRICHLOROETHYLEN | 6.7E-01       |      | 2                 | 2                 |
| AMW-2A | S         | 7/1/2002       | TRICHLOROETHYLEN | 1.1E+00       |      | 2                 | 2                 |
| AMW-2A | S         | 7/1/2003       | TRICHLOROETHYLEN | 7.4E-01       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-2A | S         | 7/1/2004       | TRICHLOROETHYLEN | 5.6E-01       |      | 3                 | 3                 |
| AMW-2A | S         | 7/1/2005       | TRICHLOROETHYLEN | 3.9E-01       |      | 4                 | 4                 |
| AMW-2A | S         | 7/1/2006       | TRICHLOROETHYLEN | 1.4E-02       |      | 4                 | 4                 |
| AMW-2A | S         | 7/1/2007       | TRICHLOROETHYLEN | 2.7E-03       |      | 4                 | 4                 |
| AMW-2A | S         | 7/1/2008       | TRICHLOROETHYLEN | 6.0E-03       |      | 4                 | 4                 |
| AMW-2A | S         | 7/1/2009       | TRICHLOROETHYLEN | 6.5E-02       |      | 3                 | 3                 |
| AMW-2A | S         | 7/1/2010       | TRICHLOROETHYLEN | 5.1E-02       |      | 2                 | 2                 |
| AMW-2A | S         | 7/1/2011       | TRICHLOROETHYLEN | 3.1E-02       |      | 2                 | 2                 |
| AMW-2A | S         | 7/1/2012       | TRICHLOROETHYLEN | 9.2E-03       |      | 2                 | 2                 |
| AMW-2A | S         | 7/1/2013       | TRICHLOROETHYLEN | 5.9E-03       |      | 2                 | 2                 |
| AMW-2A | S         | 7/1/2014       | TRICHLOROETHYLEN | 1.4E-02       |      | 4                 | 4                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-2B

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

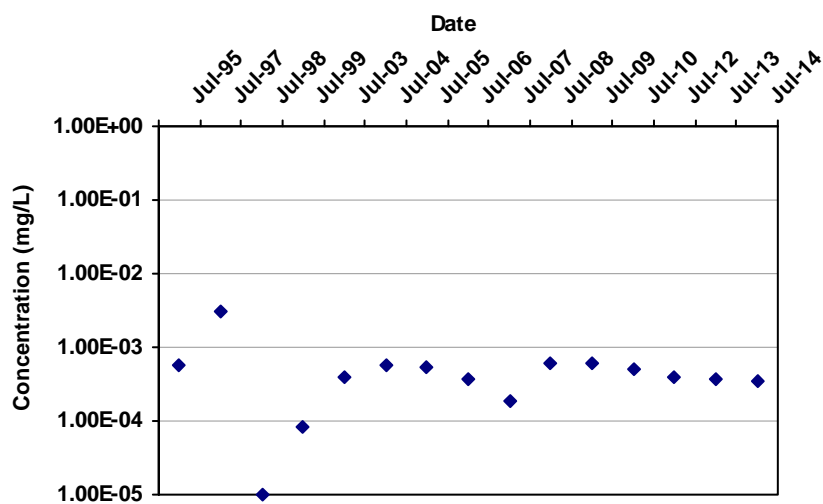
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-12

**Confidence in Trend:**

70.4%

**Coefficient of Variation:**

1.22

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-2B | S         | 7/1/1995       | TRICHLOROETHYLEN | 5.5E-04       |      | 2                 | 1                 |
| AMW-2B | S         | 7/1/1997       | TRICHLOROETHYLEN | 3.0E-03       |      | 1                 | 1                 |
| AMW-2B | S         | 7/1/1998       | TRICHLOROETHYLEN | 1.0E-05       | ND   | 2                 | 0                 |
| AMW-2B | S         | 7/1/1999       | TRICHLOROETHYLEN | 8.4E-05       |      | 2                 | 1                 |
| AMW-2B | S         | 7/1/2003       | TRICHLOROETHYLEN | 4.0E-04       |      | 2                 | 2                 |
| AMW-2B | S         | 7/1/2004       | TRICHLOROETHYLEN | 5.8E-04       |      | 3                 | 3                 |
| AMW-2B | S         | 7/1/2005       | TRICHLOROETHYLEN | 5.2E-04       |      | 4                 | 4                 |
| AMW-2B | S         | 7/1/2006       | TRICHLOROETHYLEN | 3.8E-04       |      | 4                 | 4                 |
| AMW-2B | S         | 7/1/2007       | TRICHLOROETHYLEN | 1.9E-04       |      | 4                 | 4                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-2B | S         | 7/1/2008       | TRICHLOROETHYLEN | 6.3E-04       |      | 4                 | 4                 |
| AMW-2B | S         | 7/1/2009       | TRICHLOROETHYLEN | 6.2E-04       |      | 3                 | 3                 |
| AMW-2B | S         | 7/1/2010       | TRICHLOROETHYLEN | 4.9E-04       |      | 1                 | 1                 |
| AMW-2B | S         | 7/1/2012       | TRICHLOROETHYLEN | 4.0E-04       |      | 1                 | 1                 |
| AMW-2B | S         | 7/1/2013       | TRICHLOROETHYLEN | 3.7E-04       |      | 1                 | 1                 |
| AMW-2B | S         | 7/1/2014       | TRICHLOROETHYLEN | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-3A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

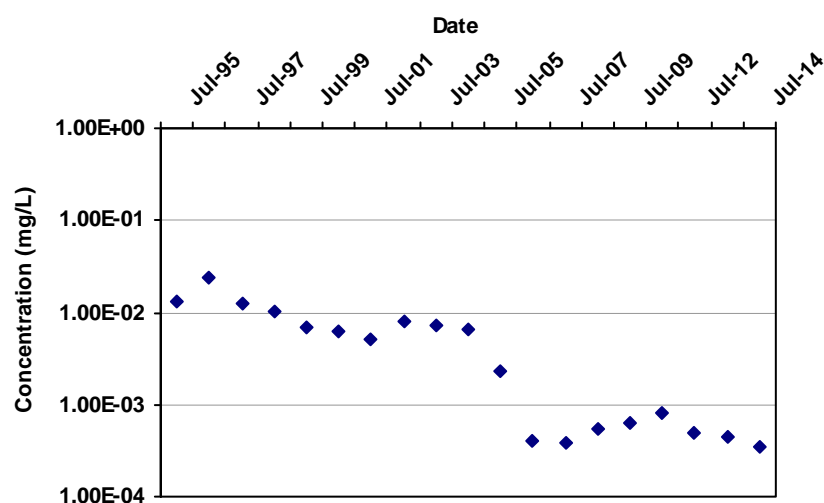
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-127

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.11

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-3A | S         | 7/1/1995       | TRICHLOROETHYLEN | 1.3E-02       |      | 2                 | 2                 |
| AMW-3A | S         | 7/1/1996       | TRICHLOROETHYLEN | 2.4E-02       |      | 2                 | 2                 |
| AMW-3A | S         | 7/1/1997       | TRICHLOROETHYLEN | 1.2E-02       |      | 2                 | 2                 |
| AMW-3A | S         | 7/1/1998       | TRICHLOROETHYLEN | 1.0E-02       |      | 2                 | 2                 |
| AMW-3A | S         | 7/1/1999       | TRICHLOROETHYLEN | 6.9E-03       |      | 2                 | 2                 |
| AMW-3A | S         | 7/1/2000       | TRICHLOROETHYLEN | 6.2E-03       |      | 2                 | 2                 |
| AMW-3A | S         | 7/1/2001       | TRICHLOROETHYLEN | 5.0E-03       |      | 1                 | 1                 |
| AMW-3A | S         | 7/1/2002       | TRICHLOROETHYLEN | 7.9E-03       |      | 2                 | 2                 |
| AMW-3A | S         | 7/1/2003       | TRICHLOROETHYLEN | 7.3E-03       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-3A | S         | 7/1/2004       | TRICHLOROETHYLEN | 6.5E-03       |      | 3                 | 3                 |
| AMW-3A | S         | 7/1/2005       | TRICHLOROETHYLEN | 2.3E-03       |      | 4                 | 4                 |
| AMW-3A | S         | 7/1/2006       | TRICHLOROETHYLEN | 4.1E-04       |      | 4                 | 4                 |
| AMW-3A | S         | 7/1/2007       | TRICHLOROETHYLEN | 3.8E-04       |      | 4                 | 4                 |
| AMW-3A | S         | 7/1/2008       | TRICHLOROETHYLEN | 5.4E-04       |      | 4                 | 4                 |
| AMW-3A | S         | 7/1/2009       | TRICHLOROETHYLEN | 6.2E-04       |      | 3                 | 3                 |
| AMW-3A | S         | 7/1/2010       | TRICHLOROETHYLEN | 8.0E-04       |      | 2                 | 2                 |
| AMW-3A | S         | 7/1/2012       | TRICHLOROETHYLEN | 4.8E-04       |      | 1                 | 1                 |
| AMW-3A | S         | 7/1/2013       | TRICHLOROETHYLEN | 4.4E-04       |      | 1                 | 1                 |
| AMW-3A | S         | 7/1/2014       | TRICHLOROETHYLEN | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-12A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

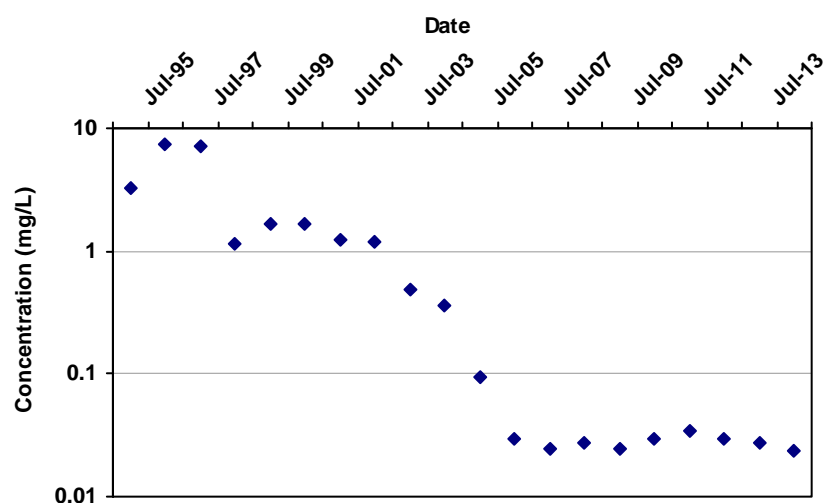
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-142

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.71

**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 |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-12A | S         | 7/1/1995       | TRICHLOROETHYLEN | 3.3E+00       |      | 2                 | 2                 |
| AMW-12A | S         | 7/1/1996       | TRICHLOROETHYLEN | 7.5E+00       |      | 2                 | 2                 |
| AMW-12A | S         | 7/1/1997       | TRICHLOROETHYLEN | 7.1E+00       |      | 2                 | 2                 |
| AMW-12A | S         | 7/1/1998       | TRICHLOROETHYLEN | 1.1E+00       |      | 2                 | 2                 |
| AMW-12A | S         | 7/1/1999       | TRICHLOROETHYLEN | 1.7E+00       |      | 2                 | 2                 |
| AMW-12A | S         | 7/1/2000       | TRICHLOROETHYLEN | 1.7E+00       |      | 2                 | 2                 |
| AMW-12A | S         | 7/1/2001       | TRICHLOROETHYLEN | 1.2E+00       |      | 2                 | 2                 |
| AMW-12A | S         | 7/1/2002       | TRICHLOROETHYLEN | 1.2E+00       |      | 2                 | 2                 |
| AMW-12A | S         | 7/1/2003       | TRICHLOROETHYLEN | 4.9E-01       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well    | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-12A | S         | 7/1/2004       | TRICHLOROETHYLEN | 3.6E-01       |      | 3                 | 3                 |
| AMW-12A | S         | 7/1/2005       | TRICHLOROETHYLEN | 9.3E-02       |      | 4                 | 4                 |
| AMW-12A | S         | 7/1/2006       | TRICHLOROETHYLEN | 2.9E-02       |      | 4                 | 4                 |
| AMW-12A | S         | 7/1/2007       | TRICHLOROETHYLEN | 2.4E-02       |      | 4                 | 4                 |
| AMW-12A | S         | 7/1/2008       | TRICHLOROETHYLEN | 2.8E-02       |      | 4                 | 4                 |
| AMW-12A | S         | 7/1/2009       | TRICHLOROETHYLEN | 2.4E-02       |      | 3                 | 3                 |
| AMW-12A | S         | 7/1/2010       | TRICHLOROETHYLEN | 3.0E-02       |      | 2                 | 2                 |
| AMW-12A | S         | 7/1/2011       | TRICHLOROETHYLEN | 3.4E-02       |      | 2                 | 2                 |
| AMW-12A | S         | 7/1/2012       | TRICHLOROETHYLEN | 3.0E-02       |      | 2                 | 2                 |
| AMW-12A | S         | 7/1/2013       | TRICHLOROETHYLEN | 2.7E-02       |      | 2                 | 2                 |
| AMW-12A | S         | 7/1/2014       | TRICHLOROETHYLEN | 2.4E-02       |      | 4                 | 4                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-13A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

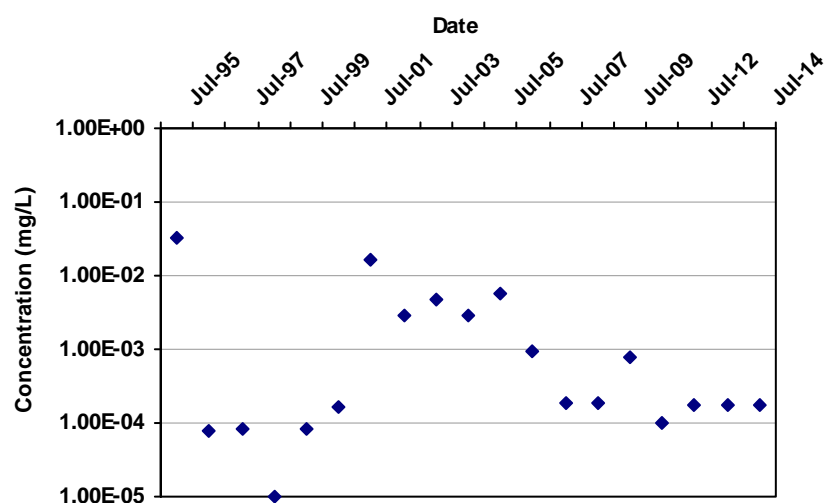
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-3

**Confidence in Trend:**

52.7%

**Coefficient of Variation:**

2.24

**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 |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-13A | S         | 7/1/1995       | TRICHLOROETHYLEN | 3.3E-02       |      | 2                 | 2                 |
| AMW-13A | S         | 7/1/1996       | TRICHLOROETHYLEN | 8.0E-05       |      | 2                 | 1                 |
| AMW-13A | S         | 7/1/1997       | TRICHLOROETHYLEN | 8.4E-05       |      | 2                 | 1                 |
| AMW-13A | S         | 7/1/1998       | TRICHLOROETHYLEN | 1.0E-05       | ND   | 2                 | 0                 |
| AMW-13A | S         | 7/1/1999       | TRICHLOROETHYLEN | 8.4E-05       |      | 2                 | 1                 |
| AMW-13A | S         | 7/1/2000       | TRICHLOROETHYLEN | 1.6E-04       |      | 2                 | 1                 |
| AMW-13A | S         | 7/1/2001       | TRICHLOROETHYLEN | 1.6E-02       |      | 1                 | 1                 |
| AMW-13A | S         | 7/1/2002       | TRICHLOROETHYLEN | 2.9E-03       |      | 2                 | 2                 |
| AMW-13A | S         | 7/1/2003       | TRICHLOROETHYLEN | 4.7E-03       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well    | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-13A | S         | 7/1/2004       | TRICHLOROETHYLEN | 2.8E-03       |      | 3                 | 3                 |
| AMW-13A | S         | 7/1/2005       | TRICHLOROETHYLEN | 5.8E-03       |      | 4                 | 4                 |
| AMW-13A | S         | 7/1/2006       | TRICHLOROETHYLEN | 9.7E-04       |      | 4                 | 3                 |
| AMW-13A | S         | 7/1/2007       | TRICHLOROETHYLEN | 1.9E-04       |      | 4                 | 1                 |
| AMW-13A | S         | 7/1/2008       | TRICHLOROETHYLEN | 1.9E-04       |      | 4                 | 2                 |
| AMW-13A | S         | 7/1/2009       | TRICHLOROETHYLEN | 7.6E-04       |      | 3                 | 3                 |
| AMW-13A | S         | 7/1/2010       | TRICHLOROETHYLEN | 1.0E-04       | ND   | 2                 | 0                 |
| AMW-13A | S         | 7/1/2012       | TRICHLOROETHYLEN | 1.7E-04       |      | 1                 | 1                 |
| AMW-13A | S         | 7/1/2013       | TRICHLOROETHYLEN | 1.7E-04       |      | 1                 | 1                 |
| AMW-13A | S         | 7/1/2014       | TRICHLOROETHYLEN | 1.8E-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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-19A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

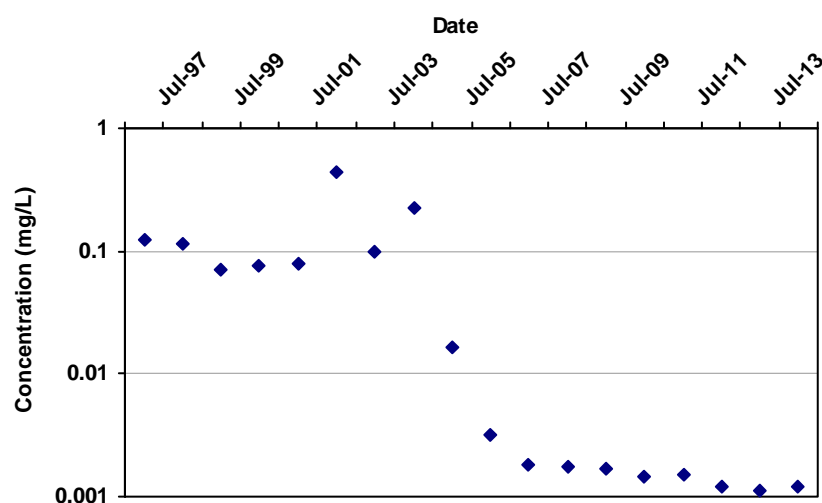
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-114

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.59

**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 |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-19A | S         | 7/1/1997       | TRICHLOROETHYLEN | 1.2E-01       |      | 2                 | 2                 |
| AMW-19A | S         | 7/1/1998       | TRICHLOROETHYLEN | 1.1E-01       |      | 2                 | 2                 |
| AMW-19A | S         | 7/1/1999       | TRICHLOROETHYLEN | 7.0E-02       |      | 2                 | 2                 |
| AMW-19A | S         | 7/1/2000       | TRICHLOROETHYLEN | 7.5E-02       |      | 1                 | 1                 |
| AMW-19A | S         | 7/1/2001       | TRICHLOROETHYLEN | 7.9E-02       |      | 2                 | 2                 |
| AMW-19A | S         | 7/1/2002       | TRICHLOROETHYLEN | 4.4E-01       |      | 2                 | 2                 |
| AMW-19A | S         | 7/1/2003       | TRICHLOROETHYLEN | 9.8E-02       |      | 2                 | 2                 |
| AMW-19A | S         | 7/1/2004       | TRICHLOROETHYLEN | 2.3E-01       |      | 3                 | 3                 |
| AMW-19A | S         | 7/1/2005       | TRICHLOROETHYLEN | 1.6E-02       |      | 4                 | 4                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well    | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-19A | S         | 7/1/2006       | TRICHLOROETHYLEN | 3.2E-03       |      | 4                 | 4                 |
| AMW-19A | S         | 7/1/2007       | TRICHLOROETHYLEN | 1.8E-03       |      | 4                 | 4                 |
| AMW-19A | S         | 7/1/2008       | TRICHLOROETHYLEN | 1.7E-03       |      | 4                 | 4                 |
| AMW-19A | S         | 7/1/2009       | TRICHLOROETHYLEN | 1.7E-03       |      | 3                 | 3                 |
| AMW-19A | S         | 7/1/2010       | TRICHLOROETHYLEN | 1.4E-03       |      | 2                 | 2                 |
| AMW-19A | S         | 7/1/2011       | TRICHLOROETHYLEN | 1.5E-03       |      | 1                 | 1                 |
| AMW-19A | S         | 7/1/2012       | TRICHLOROETHYLEN | 1.2E-03       |      | 1                 | 1                 |
| AMW-19A | S         | 7/1/2013       | TRICHLOROETHYLEN | 1.1E-03       |      | 1                 | 1                 |
| AMW-19A | S         | 7/1/2014       | TRICHLOROETHYLEN | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-26

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

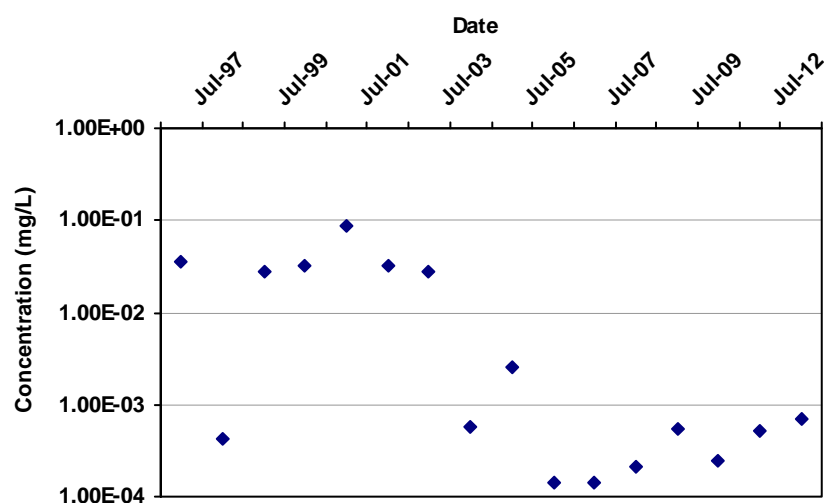
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-49

**Confidence in Trend:**

98.6%

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-26 | S         | 7/1/1997       | TRICHLOROETHYLEN | 3.6E-02       |      | 1                 | 1                 |
| AMW-26 | S         | 7/1/1998       | TRICHLOROETHYLEN | 4.2E-04       |      | 2                 | 1                 |
| AMW-26 | S         | 7/1/1999       | TRICHLOROETHYLEN | 2.8E-02       |      | 2                 | 2                 |
| AMW-26 | S         | 7/1/2000       | TRICHLOROETHYLEN | 3.3E-02       |      | 2                 | 2                 |
| AMW-26 | S         | 7/1/2001       | TRICHLOROETHYLEN | 8.8E-02       |      | 2                 | 2                 |
| AMW-26 | S         | 7/1/2002       | TRICHLOROETHYLEN | 3.2E-02       |      | 2                 | 2                 |
| AMW-26 | S         | 7/1/2003       | TRICHLOROETHYLEN | 2.7E-02       |      | 2                 | 2                 |
| AMW-26 | S         | 7/1/2004       | TRICHLOROETHYLEN | 5.6E-04       |      | 2                 | 2                 |
| AMW-26 | S         | 7/1/2005       | TRICHLOROETHYLEN | 2.6E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-26 | S         | 7/1/2006       | TRICHLOROETHYLEN | 1.4E-04       | ND   | 1                 | 0                 |
| AMW-26 | S         | 7/1/2007       | TRICHLOROETHYLEN | 1.4E-04       | ND   | 1                 | 0                 |
| AMW-26 | S         | 7/1/2008       | TRICHLOROETHYLEN | 2.1E-04       |      | 4                 | 3                 |
| AMW-26 | S         | 7/1/2009       | TRICHLOROETHYLEN | 5.3E-04       |      | 3                 | 3                 |
| AMW-26 | S         | 7/1/2010       | TRICHLOROETHYLEN | 2.4E-04       |      | 1                 | 1                 |
| AMW-26 | S         | 7/1/2012       | TRICHLOROETHYLEN | 5.2E-04       |      | 1                 | 1                 |
| AMW-26 | S         | 7/1/2014       | TRICHLOROETHYLEN | 7.0E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-52A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

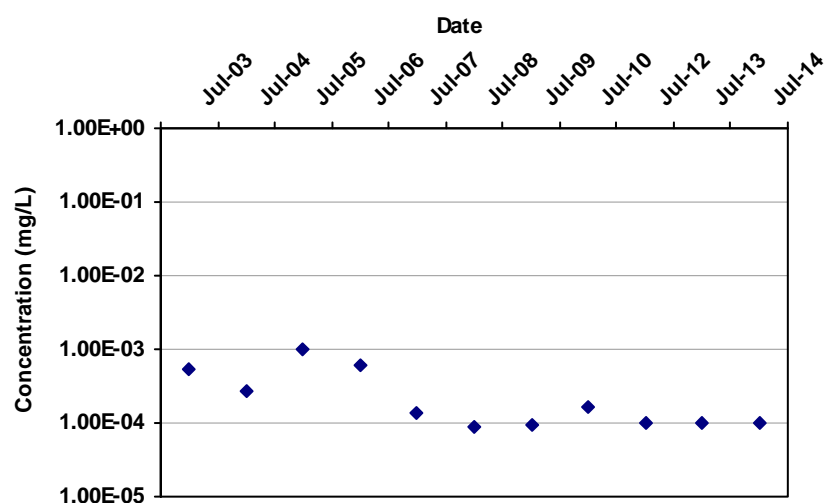
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-24

**Confidence in Trend:**

96.4%

**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 |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-52A | S         | 7/1/2003       | TRICHLOROETHYLEN | 5.3E-04       |      | 1                 | 1                 |
| AMW-52A | S         | 7/1/2004       | TRICHLOROETHYLEN | 2.6E-04       |      | 3                 | 3                 |
| AMW-52A | S         | 7/1/2005       | TRICHLOROETHYLEN | 1.0E-03       |      | 4                 | 4                 |
| AMW-52A | S         | 7/1/2006       | TRICHLOROETHYLEN | 6.3E-04       |      | 4                 | 3                 |
| AMW-52A | S         | 7/1/2007       | TRICHLOROETHYLEN | 1.4E-04       | ND   | 4                 | 0                 |
| AMW-52A | S         | 7/1/2008       | TRICHLOROETHYLEN | 8.8E-05       |      | 4                 | 2                 |
| AMW-52A | S         | 7/1/2009       | TRICHLOROETHYLEN | 9.3E-05       |      | 3                 | 2                 |
| AMW-52A | S         | 7/1/2010       | TRICHLOROETHYLEN | 1.6E-04       |      | 1                 | 1                 |
| AMW-52A | S         | 7/1/2012       | TRICHLOROETHYLEN | 1.0E-04       | ND   | 1                 | 0                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well    | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-52A | S         | 7/1/2013       | TRICHLOROETHYLEN | 1.0E-04       |      | 1                 | 1                 |
| AMW-52A | S         | 7/1/2014       | TRICHLOROETHYLEN | 1.0E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-53A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

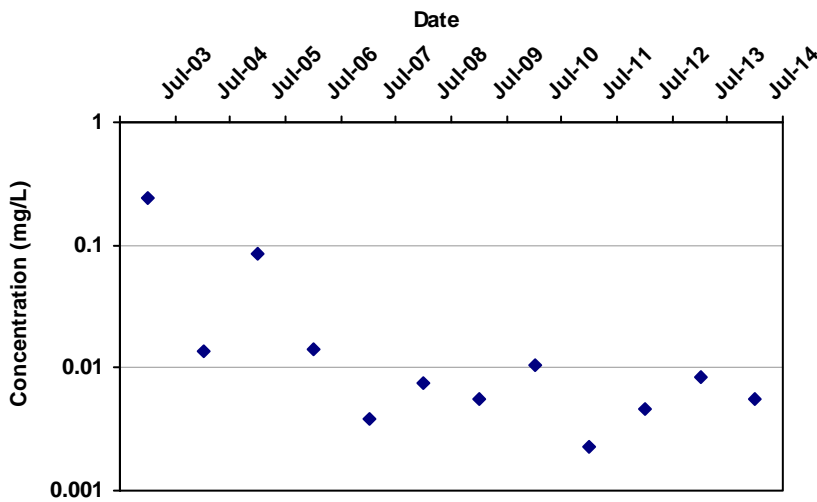
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-32

**Confidence in Trend:**

98.4%

**Coefficient of Variation:**

2.06

**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 |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-53A | S         | 7/1/2003       | TRICHLOROETHYLEN | 2.4E-01       |      | 1                 | 1                 |
| AMW-53A | S         | 7/1/2004       | TRICHLOROETHYLEN | 1.4E-02       |      | 3                 | 3                 |
| AMW-53A | S         | 7/1/2005       | TRICHLOROETHYLEN | 8.4E-02       |      | 4                 | 4                 |
| AMW-53A | S         | 7/1/2006       | TRICHLOROETHYLEN | 1.4E-02       |      | 4                 | 4                 |
| AMW-53A | S         | 7/1/2007       | TRICHLOROETHYLEN | 3.8E-03       |      | 4                 | 4                 |
| AMW-53A | S         | 7/1/2008       | TRICHLOROETHYLEN | 7.4E-03       |      | 4                 | 4                 |
| AMW-53A | S         | 7/1/2009       | TRICHLOROETHYLEN | 5.7E-03       |      | 3                 | 3                 |
| AMW-53A | S         | 7/1/2010       | TRICHLOROETHYLEN | 1.0E-02       |      | 2                 | 2                 |
| AMW-53A | S         | 7/1/2011       | TRICHLOROETHYLEN | 2.3E-03       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well    | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-53A | S         | 7/1/2012       | TRICHLOROETHYLEN | 4.6E-03       |      | 2                 | 2                 |
| AMW-53A | S         | 7/1/2013       | TRICHLOROETHYLEN | 8.3E-03       |      | 2                 | 2                 |
| AMW-53A | S         | 7/1/2014       | TRICHLOROETHYLEN | 5.5E-03       |      | 4                 | 4                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-54A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

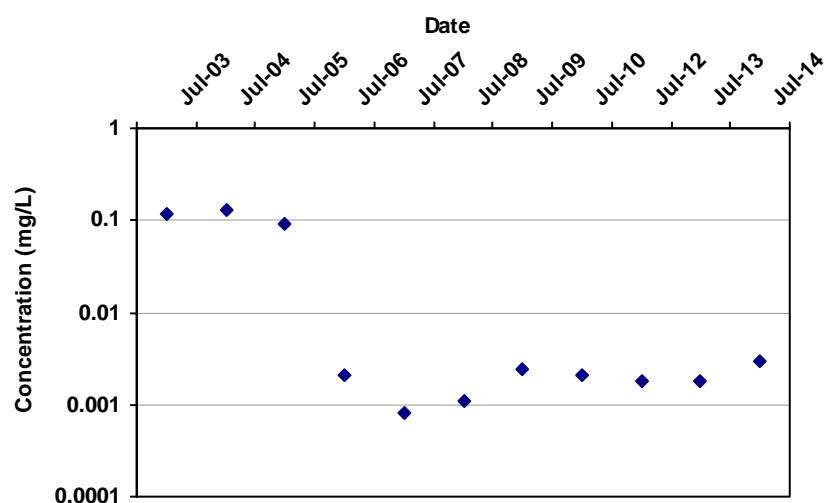
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-16

**Confidence in Trend:**

87.5%

**Coefficient of Variation:**

1.64

**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 |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-54A | S         | 7/1/2003       | TRICHLOROETHYLEN | 1.2E-01       |      | 1                 | 1                 |
| AMW-54A | S         | 7/1/2004       | TRICHLOROETHYLEN | 1.3E-01       |      | 3                 | 3                 |
| AMW-54A | S         | 7/1/2005       | TRICHLOROETHYLEN | 9.0E-02       |      | 4                 | 4                 |
| AMW-54A | S         | 7/1/2006       | TRICHLOROETHYLEN | 2.1E-03       |      | 4                 | 4                 |
| AMW-54A | S         | 7/1/2007       | TRICHLOROETHYLEN | 8.1E-04       |      | 4                 | 4                 |
| AMW-54A | S         | 7/1/2008       | TRICHLOROETHYLEN | 1.1E-03       |      | 4                 | 4                 |
| AMW-54A | S         | 7/1/2009       | TRICHLOROETHYLEN | 2.4E-03       |      | 3                 | 3                 |
| AMW-54A | S         | 7/1/2010       | TRICHLOROETHYLEN | 2.1E-03       |      | 2                 | 2                 |
| AMW-54A | S         | 7/1/2012       | TRICHLOROETHYLEN | 1.8E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well    | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-54A | S         | 7/1/2013       | TRICHLOROETHYLEN | 1.8E-03       |      | 1                 | 1                 |
| AMW-54A | S         | 7/1/2014       | TRICHLOROETHYLEN | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-55A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

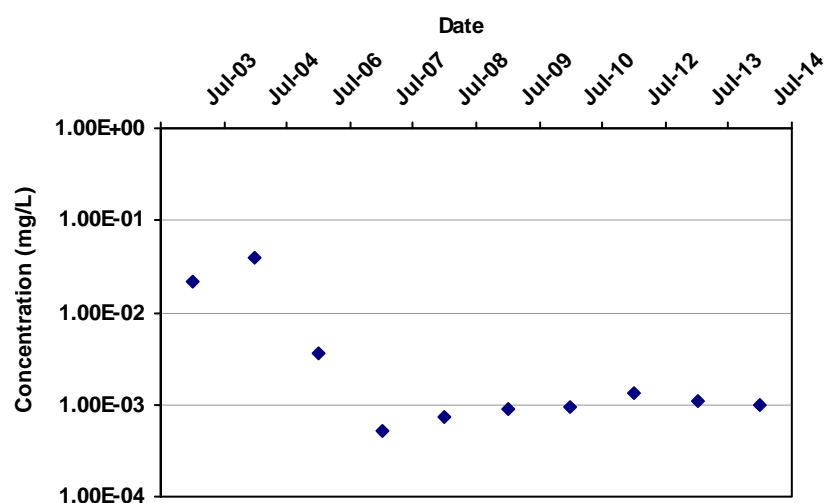
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-7

**Confidence in Trend:**

70.0%

**Coefficient of Variation:**

1.83

**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 |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-55A | S         | 7/1/2003       | TRICHLOROETHYLEN | 2.2E-02       |      | 1                 | 1                 |
| AMW-55A | S         | 7/1/2004       | TRICHLOROETHYLEN | 3.9E-02       |      | 2                 | 2                 |
| AMW-55A | S         | 7/1/2006       | TRICHLOROETHYLEN | 3.5E-03       |      | 4                 | 4                 |
| AMW-55A | S         | 7/1/2007       | TRICHLOROETHYLEN | 5.1E-04       |      | 4                 | 4                 |
| AMW-55A | S         | 7/1/2008       | TRICHLOROETHYLEN | 7.2E-04       |      | 4                 | 4                 |
| AMW-55A | S         | 7/1/2009       | TRICHLOROETHYLEN | 9.1E-04       |      | 3                 | 3                 |
| AMW-55A | S         | 7/1/2010       | TRICHLOROETHYLEN | 9.5E-04       |      | 1                 | 1                 |
| AMW-55A | S         | 7/1/2012       | TRICHLOROETHYLEN | 1.3E-03       |      | 1                 | 1                 |
| AMW-55A | S         | 7/1/2013       | TRICHLOROETHYLEN | 1.1E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well    | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-55A | S         | 7/1/2014       | TRICHLOROETHYLEN | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-56A

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

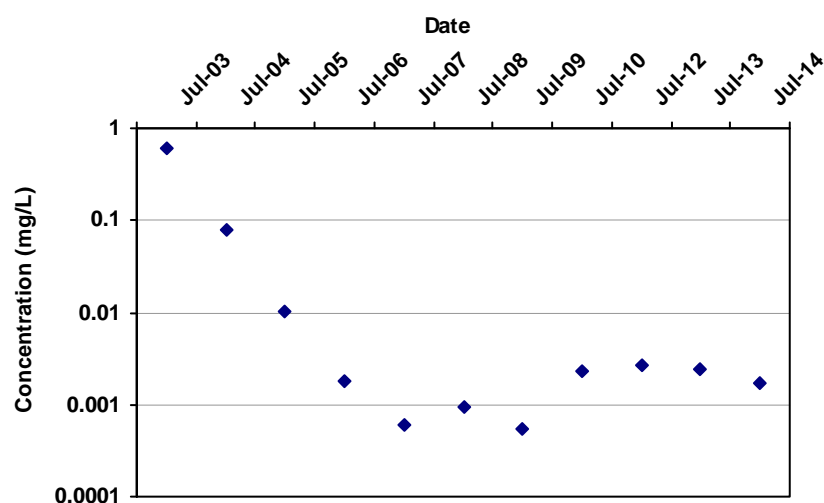
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-19

**Confidence in Trend:**

91.8%

**Coefficient of Variation:**

2.82

**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 |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-56A | T         | 7/1/2003       | TRICHLOROETHYLEN | 6.1E-01       |      | 1                 | 1                 |
| AMW-56A | T         | 7/1/2004       | TRICHLOROETHYLEN | 7.8E-02       |      | 3                 | 3                 |
| AMW-56A | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.0E-02       |      | 4                 | 4                 |
| AMW-56A | T         | 7/1/2006       | TRICHLOROETHYLEN | 1.8E-03       |      | 4                 | 4                 |
| AMW-56A | T         | 7/1/2007       | TRICHLOROETHYLEN | 6.1E-04       |      | 4                 | 4                 |
| AMW-56A | T         | 7/1/2008       | TRICHLOROETHYLEN | 9.4E-04       |      | 4                 | 4                 |
| AMW-56A | T         | 7/1/2009       | TRICHLOROETHYLEN | 5.4E-04       |      | 3                 | 3                 |
| AMW-56A | T         | 7/1/2010       | TRICHLOROETHYLEN | 2.3E-03       |      | 1                 | 1                 |
| AMW-56A | T         | 7/1/2012       | TRICHLOROETHYLEN | 2.7E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well    | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|---------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-56A | T         | 7/1/2013       | TRICHLOROETHYLEN | 2.4E-03       |      | 1                 | 1                 |
| AMW-56A | T         | 7/1/2014       | TRICHLOROETHYLEN | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-1A

Time Period: 1/19/1995 to 10/22/2014

Well Type: S

Consolidation Period: Yearly

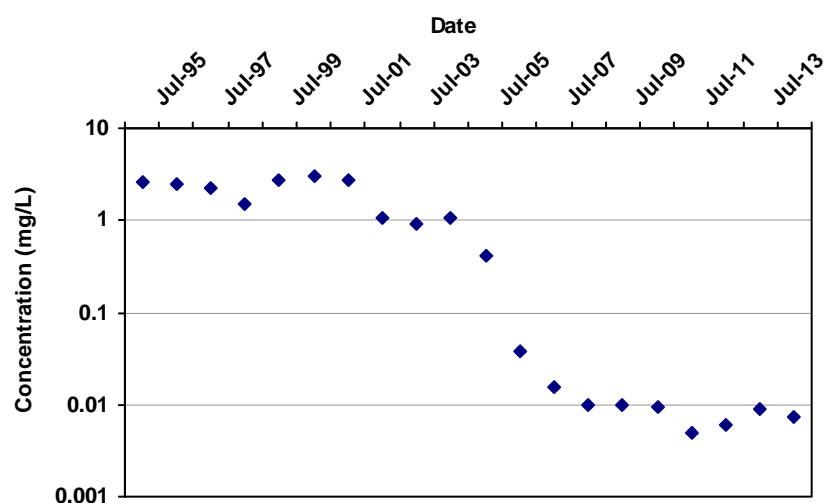
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-148

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.12

**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-1A | S         | 7/1/1995       | TRICHLOROETHYLEN | 2.6E+00       |      | 2                 | 2                 |
| MW-1A | S         | 7/1/1996       | TRICHLOROETHYLEN | 2.5E+00       |      | 2                 | 2                 |
| MW-1A | S         | 7/1/1997       | TRICHLOROETHYLEN | 2.3E+00       |      | 2                 | 2                 |
| MW-1A | S         | 7/1/1998       | TRICHLOROETHYLEN | 1.5E+00       |      | 2                 | 2                 |
| MW-1A | S         | 7/1/1999       | TRICHLOROETHYLEN | 2.7E+00       |      | 2                 | 2                 |
| MW-1A | S         | 7/1/2000       | TRICHLOROETHYLEN | 3.1E+00       |      | 2                 | 2                 |
| MW-1A | S         | 7/1/2001       | TRICHLOROETHYLEN | 2.7E+00       |      | 2                 | 2                 |
| MW-1A | S         | 7/1/2002       | TRICHLOROETHYLEN | 1.1E+00       |      | 2                 | 2                 |
| MW-1A | S         | 7/1/2003       | TRICHLOROETHYLEN | 9.0E-01       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-1A | S         | 7/1/2004       | TRICHLOROETHYLEN | 1.1E+00       |      | 3                 | 3                 |
| MW-1A | S         | 7/1/2005       | TRICHLOROETHYLEN | 4.2E-01       |      | 4                 | 4                 |
| MW-1A | S         | 7/1/2006       | TRICHLOROETHYLEN | 3.8E-02       |      | 4                 | 4                 |
| MW-1A | S         | 7/1/2007       | TRICHLOROETHYLEN | 1.5E-02       |      | 4                 | 4                 |
| MW-1A | S         | 7/1/2008       | TRICHLOROETHYLEN | 9.7E-03       |      | 4                 | 4                 |
| MW-1A | S         | 7/1/2009       | TRICHLOROETHYLEN | 9.8E-03       |      | 3                 | 3                 |
| MW-1A | S         | 7/1/2010       | TRICHLOROETHYLEN | 9.3E-03       |      | 2                 | 2                 |
| MW-1A | S         | 7/1/2011       | TRICHLOROETHYLEN | 5.0E-03       |      | 2                 | 2                 |
| MW-1A | S         | 7/1/2012       | TRICHLOROETHYLEN | 6.1E-03       |      | 2                 | 2                 |
| MW-1A | S         | 7/1/2013       | TRICHLOROETHYLEN | 9.1E-03       |      | 2                 | 2                 |
| MW-1A | S         | 7/1/2014       | TRICHLOROETHYLEN | 7.3E-03       |      | 4                 | 4                 |

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

## **PROXIMAL WELLS**

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# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-2A

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

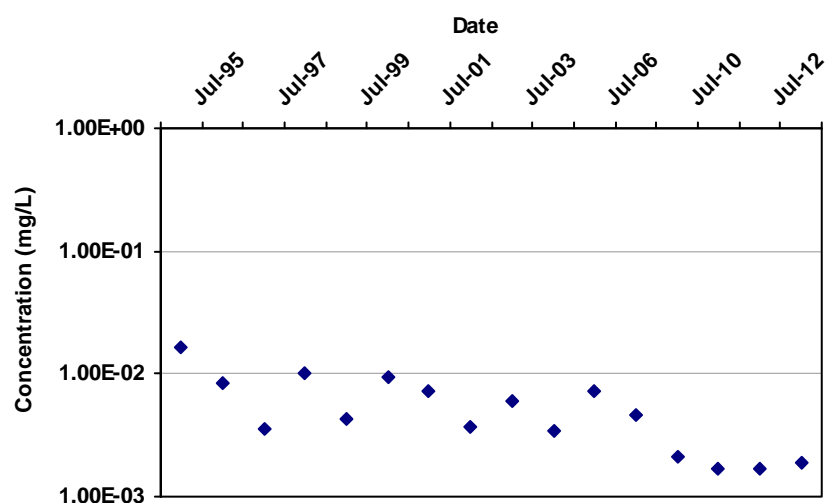
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-73

**Confidence in Trend:**

100.0%

**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 |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-2A | T         | 7/1/1995       | TRICHLOROETHYLEN | 1.6E-02       |      | 2                 | 2                 |
| MW-2A | T         | 7/1/1996       | TRICHLOROETHYLEN | 8.4E-03       |      | 2                 | 2                 |
| MW-2A | T         | 7/1/1997       | TRICHLOROETHYLEN | 3.5E-03       |      | 2                 | 2                 |
| MW-2A | T         | 7/1/1998       | TRICHLOROETHYLEN | 1.0E-02       |      | 2                 | 2                 |
| MW-2A | T         | 7/1/1999       | TRICHLOROETHYLEN | 4.3E-03       |      | 2                 | 2                 |
| MW-2A | T         | 7/1/2000       | TRICHLOROETHYLEN | 9.4E-03       |      | 2                 | 2                 |
| MW-2A | T         | 7/1/2001       | TRICHLOROETHYLEN | 7.3E-03       |      | 2                 | 2                 |
| MW-2A | T         | 7/1/2002       | TRICHLOROETHYLEN | 3.7E-03       |      | 2                 | 2                 |
| MW-2A | T         | 7/1/2003       | TRICHLOROETHYLEN | 5.9E-03       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-2A | T         | 7/1/2004       | TRICHLOROETHYLEN | 3.4E-03       |      | 1                 | 1                 |
| MW-2A | T         | 7/1/2006       | TRICHLOROETHYLEN | 7.3E-03       |      | 1                 | 1                 |
| MW-2A | T         | 7/1/2008       | TRICHLOROETHYLEN | 4.7E-03       |      | 1                 | 1                 |
| MW-2A | T         | 7/1/2010       | TRICHLOROETHYLEN | 2.1E-03       |      | 1                 | 1                 |
| MW-2A | T         | 7/1/2011       | TRICHLOROETHYLEN | 1.7E-03       |      | 1                 | 1                 |
| MW-2A | T         | 7/1/2012       | TRICHLOROETHYLEN | 1.7E-03       |      | 1                 | 1                 |
| MW-2A | T         | 7/1/2014       | TRICHLOROETHYLEN | 1.9E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-3B

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

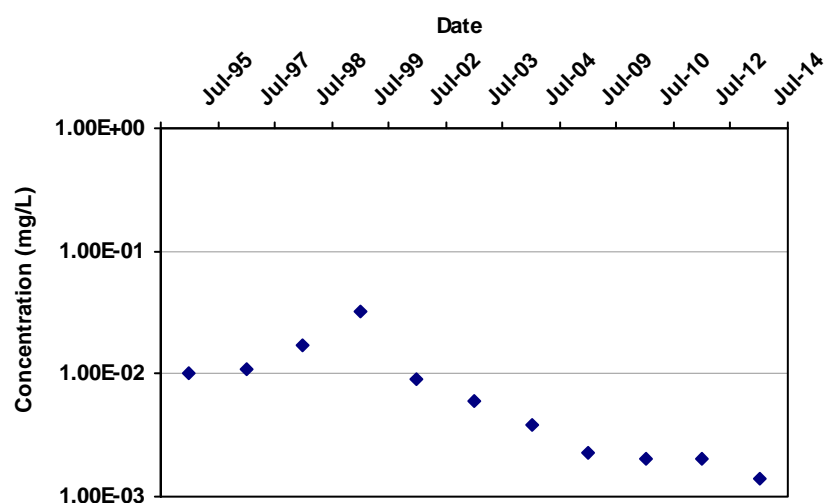
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-42

**Confidence in Trend:**

100.0%

**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 |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-3B | T         | 7/1/1995       | TRICHLOROETHYLEN | 1.0E-02       |      | 2                 | 2                 |
| MW-3B | T         | 7/1/1997       | TRICHLOROETHYLEN | 1.1E-02       |      | 1                 | 1                 |
| MW-3B | T         | 7/1/1998       | TRICHLOROETHYLEN | 1.7E-02       |      | 2                 | 2                 |
| MW-3B | T         | 7/1/1999       | TRICHLOROETHYLEN | 3.2E-02       |      | 2                 | 2                 |
| MW-3B | T         | 7/1/2002       | TRICHLOROETHYLEN | 9.2E-03       |      | 1                 | 1                 |
| MW-3B | T         | 7/1/2003       | TRICHLOROETHYLEN | 5.9E-03       |      | 1                 | 1                 |
| MW-3B | T         | 7/1/2004       | TRICHLOROETHYLEN | 3.9E-03       |      | 1                 | 1                 |
| MW-3B | T         | 7/1/2009       | TRICHLOROETHYLEN | 2.3E-03       |      | 1                 | 1                 |
| MW-3B | T         | 7/1/2010       | TRICHLOROETHYLEN | 2.0E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-3B | T         | 7/1/2012       | TRICHLOROETHYLEN | 2.0E-03       |      | 1                 | 1                 |
| MW-3B | T         | 7/1/2014       | TRICHLOROETHYLEN | 1.4E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-4B

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

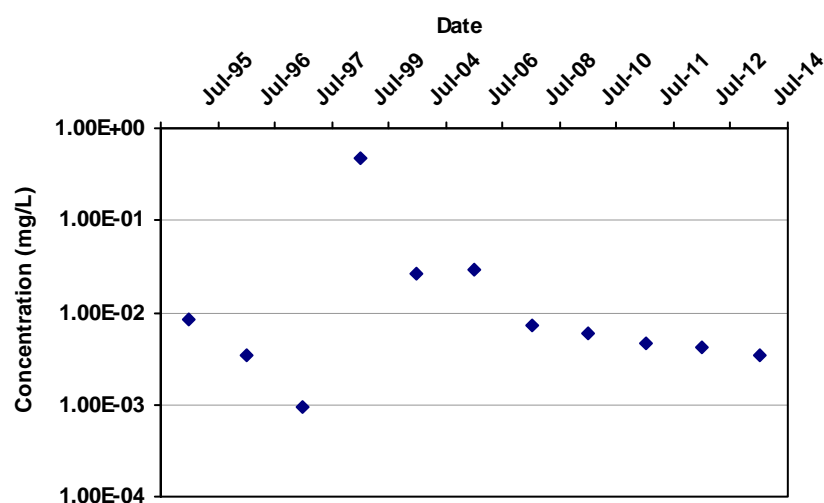
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-17

**Confidence in Trend:**

89.1%

**Coefficient of Variation:**

2.73

**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-4B | T         | 7/1/1995       | TRICHLOROETHYLEN | 8.2E-03       |      | 2                 | 2                 |
| MW-4B | T         | 7/1/1996       | TRICHLOROETHYLEN | 3.5E-03       |      | 2                 | 2                 |
| MW-4B | T         | 7/1/1997       | TRICHLOROETHYLEN | 9.4E-04       |      | 1                 | 1                 |
| MW-4B | T         | 7/1/1999       | TRICHLOROETHYLEN | 4.8E-01       |      | 2                 | 2                 |
| MW-4B | T         | 7/1/2004       | TRICHLOROETHYLEN | 2.6E-02       |      | 1                 | 1                 |
| MW-4B | T         | 7/1/2006       | TRICHLOROETHYLEN | 2.9E-02       |      | 1                 | 1                 |
| MW-4B | T         | 7/1/2008       | TRICHLOROETHYLEN | 7.2E-03       |      | 1                 | 1                 |
| MW-4B | T         | 7/1/2010       | TRICHLOROETHYLEN | 5.9E-03       |      | 1                 | 1                 |
| MW-4B | T         | 7/1/2011       | TRICHLOROETHYLEN | 4.6E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-4B | T         | 7/1/2012       | TRICHLOROETHYLEN | 4.2E-03       |      | 1                 | 1                 |
| MW-4B | T         | 7/1/2014       | TRICHLOROETHYLEN | 3.4E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-6B

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

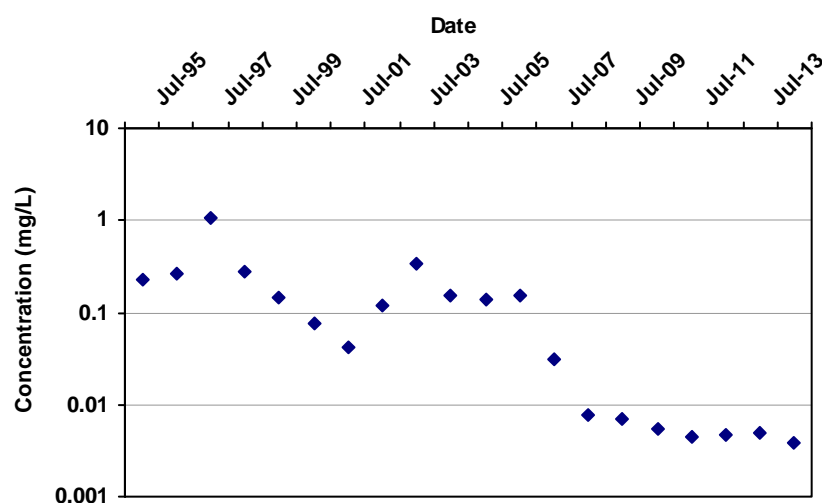
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-132

**Confidence in Trend:**

100.0%

**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 |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-6B | T         | 7/1/1995       | TRICHLOROETHYLEN | 2.3E-01       |      | 11                | 11                |
| MW-6B | T         | 7/1/1996       | TRICHLOROETHYLEN | 2.6E-01       |      | 2                 | 2                 |
| MW-6B | T         | 7/1/1997       | TRICHLOROETHYLEN | 1.1E+00       |      | 2                 | 2                 |
| MW-6B | T         | 7/1/1998       | TRICHLOROETHYLEN | 2.8E-01       |      | 2                 | 2                 |
| MW-6B | T         | 7/1/1999       | TRICHLOROETHYLEN | 1.4E-01       |      | 2                 | 2                 |
| MW-6B | T         | 7/1/2000       | TRICHLOROETHYLEN | 7.6E-02       |      | 3                 | 3                 |
| MW-6B | T         | 7/1/2001       | TRICHLOROETHYLEN | 4.2E-02       |      | 2                 | 2                 |
| MW-6B | T         | 7/1/2002       | TRICHLOROETHYLEN | 1.2E-01       |      | 3                 | 3                 |
| MW-6B | T         | 7/1/2003       | TRICHLOROETHYLEN | 3.4E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-6B | T         | 7/1/2004       | TRICHLOROETHYLEN | 1.5E-01       |      | 2                 | 2                 |
| MW-6B | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.4E-01       |      | 1                 | 1                 |
| MW-6B | T         | 7/1/2006       | TRICHLOROETHYLEN | 1.5E-01       |      | 1                 | 1                 |
| MW-6B | T         | 7/1/2007       | TRICHLOROETHYLEN | 3.2E-02       |      | 2                 | 2                 |
| MW-6B | T         | 7/1/2008       | TRICHLOROETHYLEN | 7.5E-03       |      | 2                 | 2                 |
| MW-6B | T         | 7/1/2009       | TRICHLOROETHYLEN | 6.8E-03       |      | 2                 | 2                 |
| MW-6B | T         | 7/1/2010       | TRICHLOROETHYLEN | 5.4E-03       |      | 2                 | 2                 |
| MW-6B | T         | 7/1/2011       | TRICHLOROETHYLEN | 4.3E-03       |      | 2                 | 2                 |
| MW-6B | T         | 7/1/2012       | TRICHLOROETHYLEN | 4.6E-03       |      | 2                 | 2                 |
| MW-6B | T         | 7/1/2013       | TRICHLOROETHYLEN | 4.9E-03       |      | 2                 | 2                 |
| MW-6B | T         | 7/1/2014       | TRICHLOROETHYLEN | 3.9E-03       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-7B

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

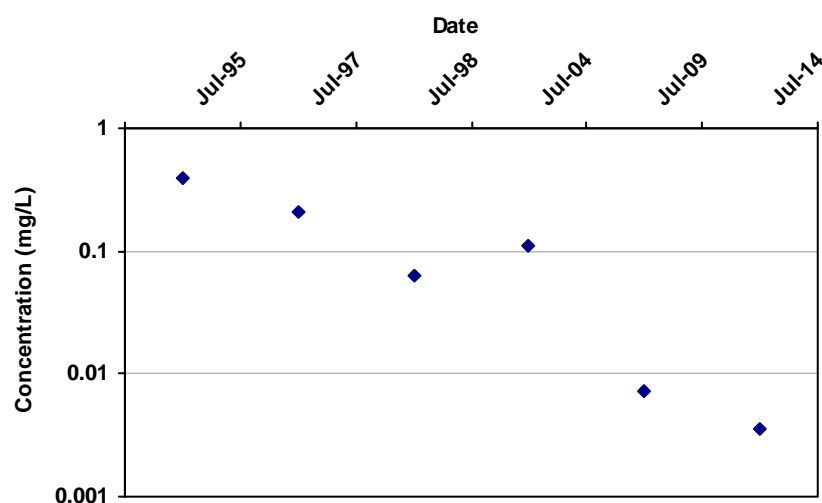
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-13

**Confidence in Trend:**

99.2%

**Coefficient of Variation:**

1.14

**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-7B | T         | 7/1/1995       | TRICHLOROETHYLEN | 3.9E-01       |      | 2                 | 2                 |
| MW-7B | T         | 7/1/1997       | TRICHLOROETHYLEN | 2.1E-01       |      | 1                 | 1                 |
| MW-7B | T         | 7/1/1998       | TRICHLOROETHYLEN | 6.2E-02       |      | 1                 | 1                 |
| MW-7B | T         | 7/1/2004       | TRICHLOROETHYLEN | 1.1E-01       |      | 1                 | 1                 |
| MW-7B | T         | 7/1/2009       | TRICHLOROETHYLEN | 7.3E-03       |      | 1                 | 1                 |
| MW-7B | T         | 7/1/2014       | TRICHLOROETHYLEN | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-8B

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

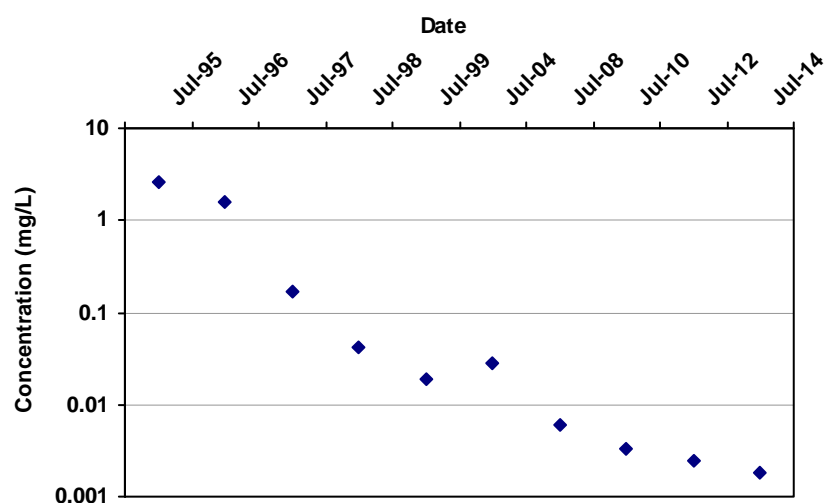
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-43

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

2.02

**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-8B | T         | 7/1/1995       | TRICHLOROETHYLEN | 2.6E+00       |      | 2                 | 2                 |
| MW-8B | T         | 7/1/1996       | TRICHLOROETHYLEN | 1.6E+00       |      | 2                 | 2                 |
| MW-8B | T         | 7/1/1997       | TRICHLOROETHYLEN | 1.7E-01       |      | 2                 | 2                 |
| MW-8B | T         | 7/1/1998       | TRICHLOROETHYLEN | 4.1E-02       |      | 1                 | 1                 |
| MW-8B | T         | 7/1/1999       | TRICHLOROETHYLEN | 1.9E-02       |      | 2                 | 2                 |
| MW-8B | T         | 7/1/2004       | TRICHLOROETHYLEN | 2.8E-02       |      | 1                 | 1                 |
| MW-8B | T         | 7/1/2008       | TRICHLOROETHYLEN | 6.0E-03       |      | 1                 | 1                 |
| MW-8B | T         | 7/1/2010       | TRICHLOROETHYLEN | 3.3E-03       |      | 1                 | 1                 |
| MW-8B | T         | 7/1/2012       | TRICHLOROETHYLEN | 2.4E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-8B | T         | 7/1/2014       | TRICHLOROETHYLEN | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-9B

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

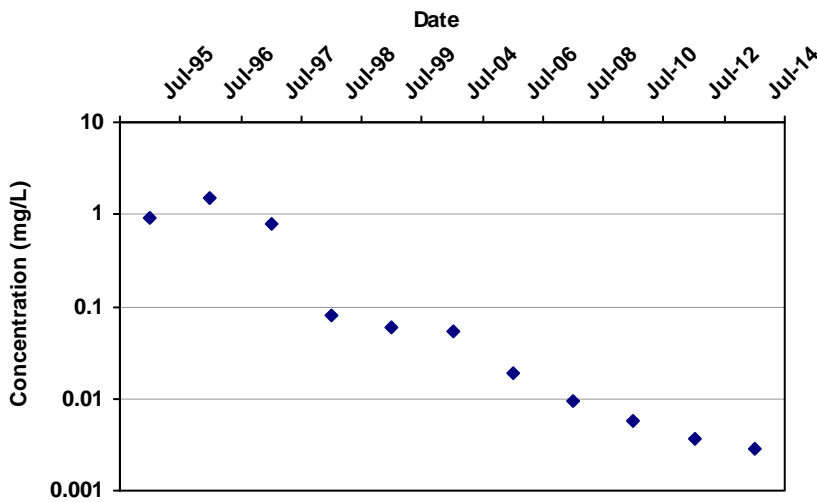
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-53

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.64

**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-9B | T         | 7/1/1995       | TRICHLOROETHYLEN | 9.4E-01       |      | 2                 | 2                 |
| MW-9B | T         | 7/1/1996       | TRICHLOROETHYLEN | 1.5E+00       |      | 2                 | 2                 |
| MW-9B | T         | 7/1/1997       | TRICHLOROETHYLEN | 7.8E-01       |      | 2                 | 2                 |
| MW-9B | T         | 7/1/1998       | TRICHLOROETHYLEN | 8.1E-02       |      | 2                 | 2                 |
| MW-9B | T         | 7/1/1999       | TRICHLOROETHYLEN | 6.0E-02       |      | 2                 | 2                 |
| MW-9B | T         | 7/1/2004       | TRICHLOROETHYLEN | 5.5E-02       |      | 1                 | 1                 |
| MW-9B | T         | 7/1/2006       | TRICHLOROETHYLEN | 1.9E-02       |      | 1                 | 1                 |
| MW-9B | T         | 7/1/2008       | TRICHLOROETHYLEN | 9.3E-03       |      | 1                 | 1                 |
| MW-9B | T         | 7/1/2010       | TRICHLOROETHYLEN | 5.7E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-9B | T         | 7/1/2012       | TRICHLOROETHYLEN | 3.7E-03       |      | 1                 | 1                 |
| MW-9B | T         | 7/1/2014       | TRICHLOROETHYLEN | 2.8E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-10B

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

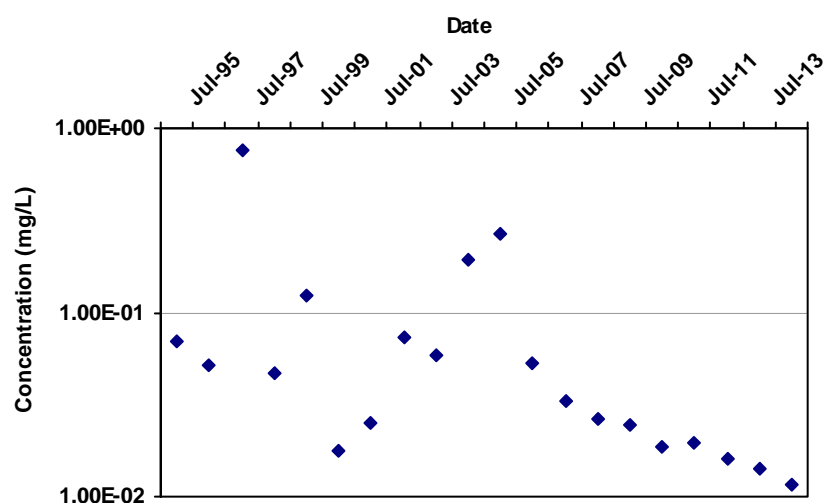
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-102

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.78

**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-10B | T         | 7/1/1995       | TRICHLOROETHYLEN | 7.0E-02       |      | 11                | 11                |
| MW-10B | T         | 7/1/1996       | TRICHLOROETHYLEN | 5.2E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/1997       | TRICHLOROETHYLEN | 7.5E-01       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/1998       | TRICHLOROETHYLEN | 4.7E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/1999       | TRICHLOROETHYLEN | 1.2E-01       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2000       | TRICHLOROETHYLEN | 1.8E-02       |      | 3                 | 3                 |
| MW-10B | T         | 7/1/2001       | TRICHLOROETHYLEN | 2.5E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2002       | TRICHLOROETHYLEN | 7.3E-02       |      | 3                 | 3                 |
| MW-10B | T         | 7/1/2003       | TRICHLOROETHYLEN | 5.8E-02       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-10B | T         | 7/1/2004       | TRICHLOROETHYLEN | 1.9E-01       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2005       | TRICHLOROETHYLEN | 2.7E-01       |      | 1                 | 1                 |
| MW-10B | T         | 7/1/2006       | TRICHLOROETHYLEN | 5.3E-02       |      | 1                 | 1                 |
| MW-10B | T         | 7/1/2007       | TRICHLOROETHYLEN | 3.3E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2008       | TRICHLOROETHYLEN | 2.6E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2009       | TRICHLOROETHYLEN | 2.4E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2010       | TRICHLOROETHYLEN | 1.8E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2011       | TRICHLOROETHYLEN | 1.9E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2012       | TRICHLOROETHYLEN | 1.6E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2013       | TRICHLOROETHYLEN | 1.4E-02       |      | 2                 | 2                 |
| MW-10B | T         | 7/1/2014       | TRICHLOROETHYLEN | 1.1E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-10C

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

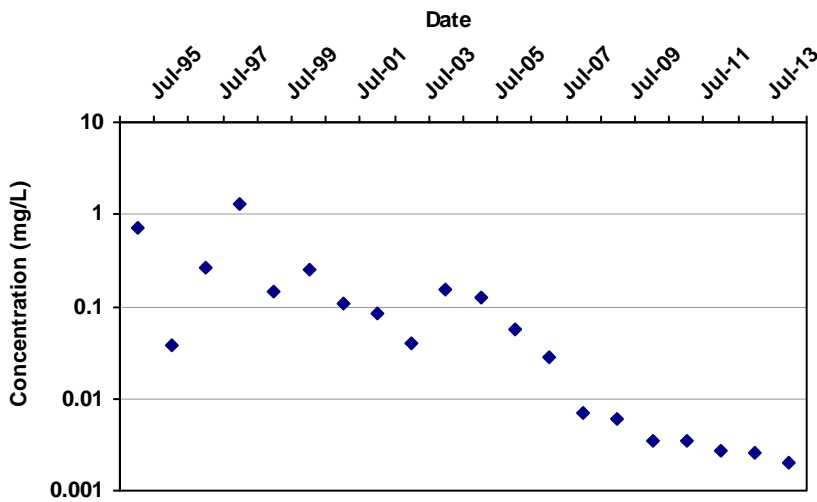
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-148

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.87

**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-10C | T         | 7/1/1995       | TRICHLOROETHYLEN | 7.0E-01       |      | 11                | 11                |
| MW-10C | T         | 7/1/1996       | TRICHLOROETHYLEN | 3.7E-02       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/1997       | TRICHLOROETHYLEN | 2.6E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/1998       | TRICHLOROETHYLEN | 1.3E+00       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/1999       | TRICHLOROETHYLEN | 1.4E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2000       | TRICHLOROETHYLEN | 2.5E-01       |      | 3                 | 3                 |
| MW-10C | T         | 7/1/2001       | TRICHLOROETHYLEN | 1.1E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2002       | TRICHLOROETHYLEN | 8.3E-02       |      | 3                 | 3                 |
| MW-10C | T         | 7/1/2003       | TRICHLOROETHYLEN | 4.1E-02       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-10C | T         | 7/1/2004       | TRICHLOROETHYLEN | 1.5E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.2E-01       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2006       | TRICHLOROETHYLEN | 5.6E-02       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2007       | TRICHLOROETHYLEN | 2.9E-02       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2008       | TRICHLOROETHYLEN | 6.9E-03       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2009       | TRICHLOROETHYLEN | 6.0E-03       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2010       | TRICHLOROETHYLEN | 3.5E-03       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2011       | TRICHLOROETHYLEN | 3.4E-03       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2012       | TRICHLOROETHYLEN | 2.7E-03       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2013       | TRICHLOROETHYLEN | 2.6E-03       |      | 2                 | 2                 |
| MW-10C | T         | 7/1/2014       | TRICHLOROETHYLEN | 2.0E-03       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-12C

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

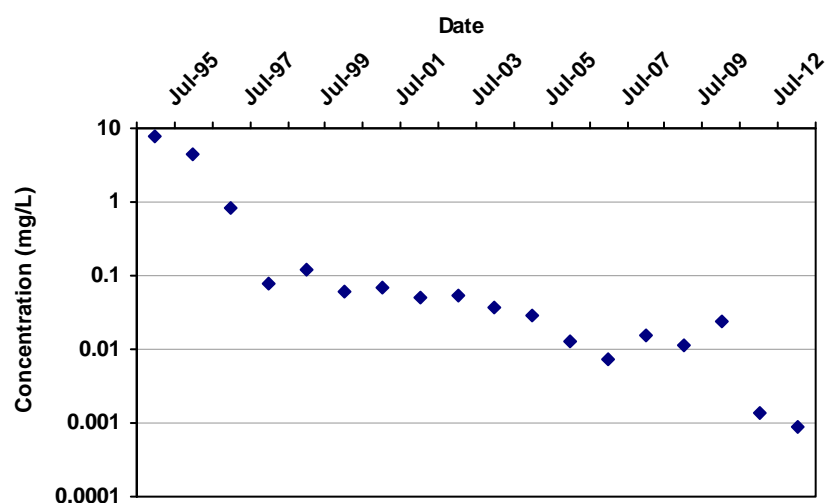
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-133

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

2.69

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-12C | T         | 7/1/1995       | TRICHLOROETHYLEN | 7.7E+00       |      | 2                 | 2                 |
| MW-12C | T         | 7/1/1996       | TRICHLOROETHYLEN | 4.4E+00       |      | 2                 | 2                 |
| MW-12C | T         | 7/1/1997       | TRICHLOROETHYLEN | 8.1E-01       |      | 2                 | 2                 |
| MW-12C | T         | 7/1/1998       | TRICHLOROETHYLEN | 7.7E-02       |      | 2                 | 2                 |
| MW-12C | T         | 7/1/1999       | TRICHLOROETHYLEN | 1.2E-01       |      | 2                 | 2                 |
| MW-12C | T         | 7/1/2000       | TRICHLOROETHYLEN | 6.1E-02       |      | 2                 | 2                 |
| MW-12C | T         | 7/1/2001       | TRICHLOROETHYLEN | 7.0E-02       |      | 1                 | 1                 |
| MW-12C | T         | 7/1/2002       | TRICHLOROETHYLEN | 4.9E-02       |      | 1                 | 1                 |
| MW-12C | T         | 7/1/2003       | TRICHLOROETHYLEN | 5.5E-02       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-12C | T         | 7/1/2004       | TRICHLOROETHYLEN | 3.6E-02       |      | 2                 | 2                 |
| MW-12C | T         | 7/1/2005       | TRICHLOROETHYLEN | 2.9E-02       |      | 1                 | 1                 |
| MW-12C | T         | 7/1/2006       | TRICHLOROETHYLEN | 1.3E-02       |      | 1                 | 1                 |
| MW-12C | T         | 7/1/2007       | TRICHLOROETHYLEN | 7.4E-03       |      | 1                 | 1                 |
| MW-12C | T         | 7/1/2008       | TRICHLOROETHYLEN | 1.5E-02       |      | 1                 | 1                 |
| MW-12C | T         | 7/1/2009       | TRICHLOROETHYLEN | 1.1E-02       |      | 1                 | 1                 |
| MW-12C | T         | 7/1/2010       | TRICHLOROETHYLEN | 2.4E-02       |      | 1                 | 1                 |
| MW-12C | T         | 7/1/2012       | TRICHLOROETHYLEN | 1.4E-03       |      | 1                 | 1                 |
| MW-12C | T         | 7/1/2014       | TRICHLOROETHYLEN | 8.9E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-13C

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

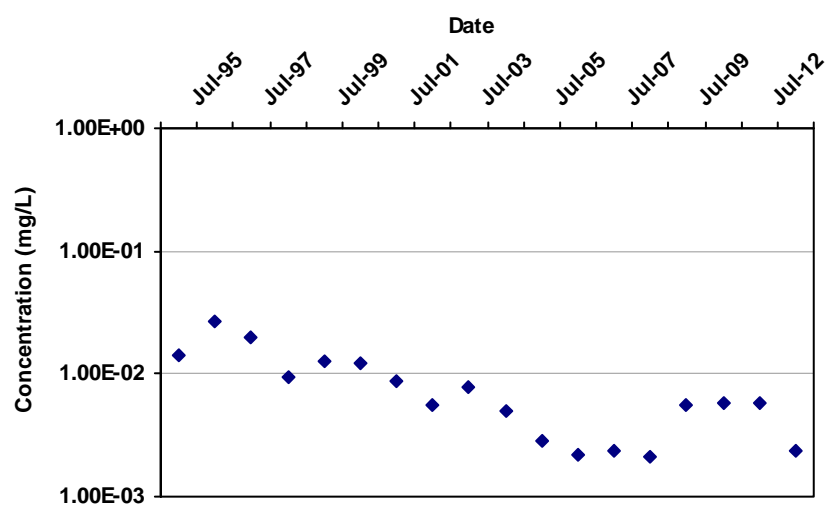
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-96

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

0.80

**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-13C | T         | 7/1/1995       | TRICHLOROETHYLEN | 1.4E-02       |      | 2                 | 2                 |
| MW-13C | T         | 7/1/1996       | TRICHLOROETHYLEN | 2.7E-02       |      | 2                 | 2                 |
| MW-13C | T         | 7/1/1997       | TRICHLOROETHYLEN | 2.0E-02       |      | 2                 | 2                 |
| MW-13C | T         | 7/1/1998       | TRICHLOROETHYLEN | 9.5E-03       |      | 2                 | 2                 |
| MW-13C | T         | 7/1/1999       | TRICHLOROETHYLEN | 1.2E-02       |      | 2                 | 2                 |
| MW-13C | T         | 7/1/2000       | TRICHLOROETHYLEN | 1.2E-02       |      | 2                 | 2                 |
| MW-13C | T         | 7/1/2001       | TRICHLOROETHYLEN | 8.8E-03       |      | 2                 | 2                 |
| MW-13C | T         | 7/1/2002       | TRICHLOROETHYLEN | 5.7E-03       |      | 2                 | 2                 |
| MW-13C | T         | 7/1/2003       | TRICHLOROETHYLEN | 7.9E-03       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-13C | T         | 7/1/2004       | TRICHLOROETHYLEN | 4.9E-03       |      | 2                 | 2                 |
| MW-13C | T         | 7/1/2005       | TRICHLOROETHYLEN | 2.8E-03       |      | 1                 | 1                 |
| MW-13C | T         | 7/1/2006       | TRICHLOROETHYLEN | 2.2E-03       |      | 1                 | 1                 |
| MW-13C | T         | 7/1/2007       | TRICHLOROETHYLEN | 2.4E-03       |      | 1                 | 1                 |
| MW-13C | T         | 7/1/2008       | TRICHLOROETHYLEN | 2.1E-03       |      | 1                 | 1                 |
| MW-13C | T         | 7/1/2009       | TRICHLOROETHYLEN | 5.6E-03       |      | 1                 | 1                 |
| MW-13C | T         | 7/1/2010       | TRICHLOROETHYLEN | 5.7E-03       |      | 1                 | 1                 |
| MW-13C | T         | 7/1/2012       | TRICHLOROETHYLEN | 5.8E-03       |      | 1                 | 1                 |
| MW-13C | T         | 7/1/2014       | TRICHLOROETHYLEN | 2.4E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: PW-1B

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

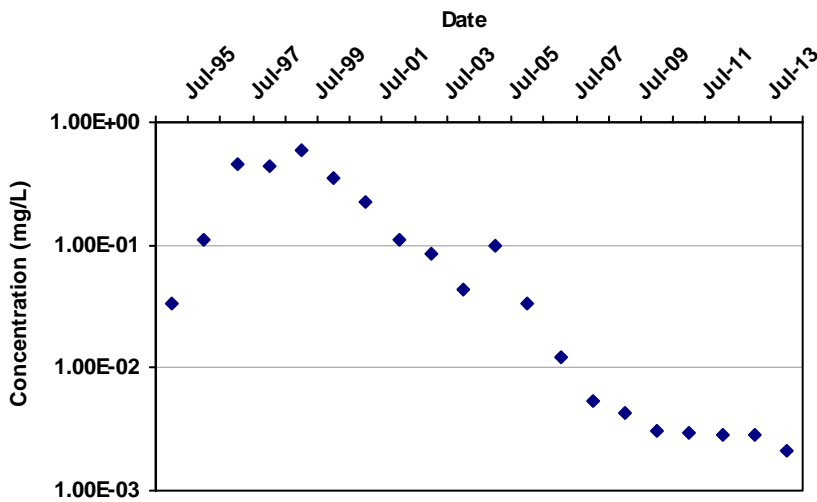
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-148

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.39

**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 |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| PW-1B | T         | 7/1/1995       | TRICHLOROETHYLEN | 3.3E-02       |      | 11                | 11                |
| PW-1B | T         | 7/1/1996       | TRICHLOROETHYLEN | 1.1E-01       |      | 12                | 12                |
| PW-1B | T         | 7/1/1997       | TRICHLOROETHYLEN | 4.6E-01       |      | 9                 | 9                 |
| PW-1B | T         | 7/1/1998       | TRICHLOROETHYLEN | 4.3E-01       |      | 3                 | 3                 |
| PW-1B | T         | 7/1/1999       | TRICHLOROETHYLEN | 5.9E-01       |      | 3                 | 3                 |
| PW-1B | T         | 7/1/2000       | TRICHLOROETHYLEN | 3.5E-01       |      | 5                 | 5                 |
| PW-1B | T         | 7/1/2001       | TRICHLOROETHYLEN | 2.3E-01       |      | 4                 | 4                 |
| PW-1B | T         | 7/1/2002       | TRICHLOROETHYLEN | 1.1E-01       |      | 4                 | 4                 |
| PW-1B | T         | 7/1/2003       | TRICHLOROETHYLEN | 8.5E-02       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| PW-1B | T         | 7/1/2004       | TRICHLOROETHYLEN | 4.4E-02       |      | 2                 | 2                 |
| PW-1B | T         | 7/1/2005       | TRICHLOROETHYLEN | 9.7E-02       |      | 2                 | 2                 |
| PW-1B | T         | 7/1/2006       | TRICHLOROETHYLEN | 3.4E-02       |      | 2                 | 2                 |
| PW-1B | T         | 7/1/2007       | TRICHLOROETHYLEN | 1.2E-02       |      | 2                 | 2                 |
| PW-1B | T         | 7/1/2008       | TRICHLOROETHYLEN | 5.3E-03       |      | 2                 | 2                 |
| PW-1B | T         | 7/1/2009       | TRICHLOROETHYLEN | 4.3E-03       |      | 2                 | 2                 |
| PW-1B | T         | 7/1/2010       | TRICHLOROETHYLEN | 3.0E-03       |      | 2                 | 2                 |
| PW-1B | T         | 7/1/2011       | TRICHLOROETHYLEN | 3.0E-03       |      | 3                 | 3                 |
| PW-1B | T         | 7/1/2012       | TRICHLOROETHYLEN | 2.8E-03       |      | 2                 | 2                 |
| PW-1B | T         | 7/1/2013       | TRICHLOROETHYLEN | 2.8E-03       |      | 2                 | 2                 |
| PW-1B | T         | 7/1/2014       | TRICHLOROETHYLEN | 2.1E-03       |      | 2                 | 2                 |

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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## **INTERMEDIATE WELLS**

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# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-16

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

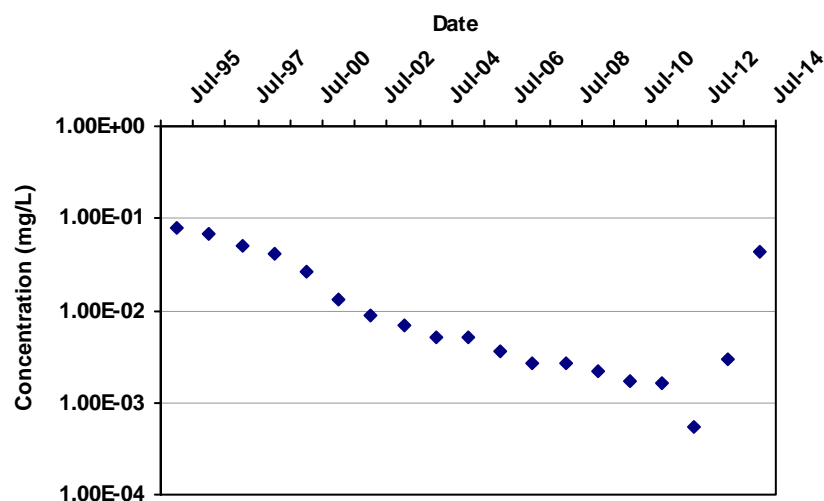
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-128

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.28

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-16 | T         | 7/1/1995       | TRICHLOROETHYLEN | 7.7E-02       |      | 2                 | 2                 |
| AMW-16 | T         | 7/1/1996       | TRICHLOROETHYLEN | 6.9E-02       |      | 2                 | 2                 |
| AMW-16 | T         | 7/1/1997       | TRICHLOROETHYLEN | 5.1E-02       |      | 2                 | 2                 |
| AMW-16 | T         | 7/1/1998       | TRICHLOROETHYLEN | 4.2E-02       |      | 2                 | 2                 |
| AMW-16 | T         | 7/1/2000       | TRICHLOROETHYLEN | 2.7E-02       |      | 2                 | 2                 |
| AMW-16 | T         | 7/1/2001       | TRICHLOROETHYLEN | 1.3E-02       |      | 1                 | 1                 |
| AMW-16 | T         | 7/1/2002       | TRICHLOROETHYLEN | 9.0E-03       |      | 1                 | 1                 |
| AMW-16 | T         | 7/1/2003       | TRICHLOROETHYLEN | 7.0E-03       |      | 1                 | 1                 |
| AMW-16 | T         | 7/1/2004       | TRICHLOROETHYLEN | 5.1E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-16 | T         | 7/1/2005       | TRICHLOROETHYLEN | 5.0E-03       |      | 1                 | 1                 |
| AMW-16 | T         | 7/1/2006       | TRICHLOROETHYLEN | 3.6E-03       |      | 1                 | 1                 |
| AMW-16 | T         | 7/1/2007       | TRICHLOROETHYLEN | 2.7E-03       |      | 1                 | 1                 |
| AMW-16 | T         | 7/1/2008       | TRICHLOROETHYLEN | 2.7E-03       |      | 1                 | 1                 |
| AMW-16 | T         | 7/1/2009       | TRICHLOROETHYLEN | 2.2E-03       |      | 1                 | 1                 |
| AMW-16 | T         | 7/1/2010       | TRICHLOROETHYLEN | 1.7E-03       |      | 1                 | 1                 |
| AMW-16 | T         | 7/1/2011       | TRICHLOROETHYLEN | 1.6E-03       |      | 1                 | 1                 |
| AMW-16 | T         | 7/1/2012       | TRICHLOROETHYLEN | 5.5E-04       |      | 2                 | 2                 |
| AMW-16 | T         | 7/1/2013       | TRICHLOROETHYLEN | 3.0E-03       |      | 2                 | 2                 |
| AMW-16 | T         | 7/1/2014       | TRICHLOROETHYLEN | 4.4E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-17

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

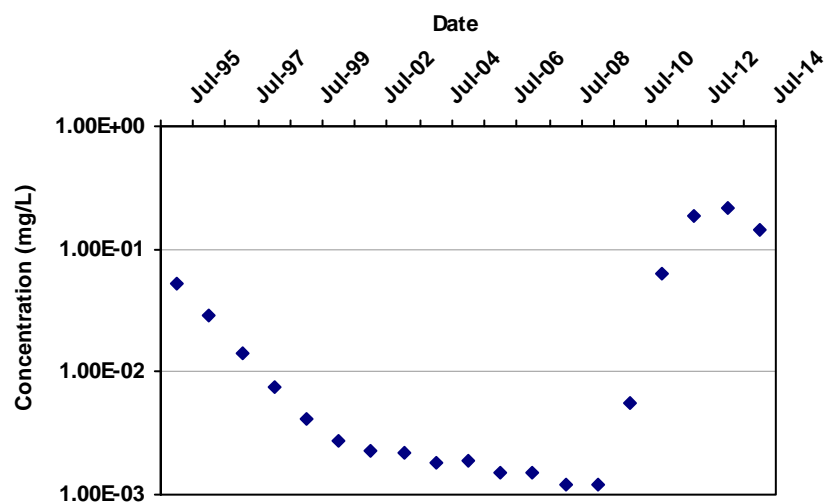
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-20

**Confidence in Trend:**

74.4%

**Coefficient of Variation:**

1.72

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-17 | T         | 7/1/1995       | TRICHLOROETHYLEN | 5.3E-02       |      | 2                 | 2                 |
| AMW-17 | T         | 7/1/1996       | TRICHLOROETHYLEN | 2.8E-02       |      | 2                 | 2                 |
| AMW-17 | T         | 7/1/1997       | TRICHLOROETHYLEN | 1.4E-02       |      | 2                 | 2                 |
| AMW-17 | T         | 7/1/1998       | TRICHLOROETHYLEN | 7.5E-03       |      | 2                 | 2                 |
| AMW-17 | T         | 7/1/1999       | TRICHLOROETHYLEN | 4.1E-03       |      | 2                 | 2                 |
| AMW-17 | T         | 7/1/2001       | TRICHLOROETHYLEN | 2.7E-03       |      | 1                 | 1                 |
| AMW-17 | T         | 7/1/2002       | TRICHLOROETHYLEN | 2.3E-03       |      | 1                 | 1                 |
| AMW-17 | T         | 7/1/2003       | TRICHLOROETHYLEN | 2.2E-03       |      | 1                 | 1                 |
| AMW-17 | T         | 7/1/2004       | TRICHLOROETHYLEN | 1.8E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-17 | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.9E-03       |      | 1                 | 1                 |
| AMW-17 | T         | 7/1/2006       | TRICHLOROETHYLEN | 1.5E-03       |      | 1                 | 1                 |
| AMW-17 | T         | 7/1/2007       | TRICHLOROETHYLEN | 1.5E-03       |      | 1                 | 1                 |
| AMW-17 | T         | 7/1/2008       | TRICHLOROETHYLEN | 1.2E-03       |      | 1                 | 1                 |
| AMW-17 | T         | 7/1/2009       | TRICHLOROETHYLEN | 1.2E-03       |      | 3                 | 3                 |
| AMW-17 | T         | 7/1/2010       | TRICHLOROETHYLEN | 5.5E-03       |      | 2                 | 2                 |
| AMW-17 | T         | 7/1/2011       | TRICHLOROETHYLEN | 6.4E-02       |      | 2                 | 2                 |
| AMW-17 | T         | 7/1/2012       | TRICHLOROETHYLEN | 1.8E-01       |      | 4                 | 4                 |
| AMW-17 | T         | 7/1/2013       | TRICHLOROETHYLEN | 2.2E-01       |      | 4                 | 4                 |
| AMW-17 | T         | 7/1/2014       | TRICHLOROETHYLEN | 1.4E-01       |      | 4                 | 4                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-18

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

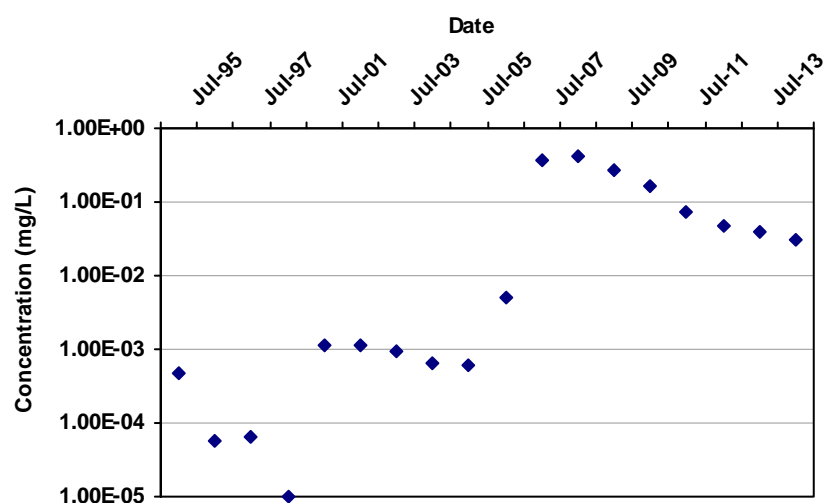
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

70

**Confidence in Trend:**

99.7%

**Coefficient of Variation:**

1.71

**Mann Kendall Concentration Trend: (See Note)**

1

## Data Table:

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-18 | T         | 7/1/1995       | TRICHLOROETHYLEN | 4.7E-04       |      | 2                 | 2                 |
| AMW-18 | T         | 7/1/1996       | TRICHLOROETHYLEN | 5.6E-05       |      | 2                 | 1                 |
| AMW-18 | T         | 7/1/1997       | TRICHLOROETHYLEN | 6.6E-05       |      | 2                 | 1                 |
| AMW-18 | T         | 7/1/1998       | TRICHLOROETHYLEN | 1.0E-05       | ND   | 1                 | 0                 |
| AMW-18 | T         | 7/1/2001       | TRICHLOROETHYLEN | 1.1E-03       |      | 1                 | 1                 |
| AMW-18 | T         | 7/1/2002       | TRICHLOROETHYLEN | 1.1E-03       |      | 1                 | 1                 |
| AMW-18 | T         | 7/1/2003       | TRICHLOROETHYLEN | 9.5E-04       |      | 1                 | 1                 |
| AMW-18 | T         | 7/1/2004       | TRICHLOROETHYLEN | 6.4E-04       |      | 1                 | 1                 |
| AMW-18 | T         | 7/1/2005       | TRICHLOROETHYLEN | 6.2E-04       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-18 | T         | 7/1/2006       | TRICHLOROETHYLEN | 5.1E-03       |      | 1                 | 1                 |
| AMW-18 | T         | 7/1/2007       | TRICHLOROETHYLEN | 3.7E-01       |      | 2                 | 2                 |
| AMW-18 | T         | 7/1/2008       | TRICHLOROETHYLEN | 4.3E-01       |      | 4                 | 4                 |
| AMW-18 | T         | 7/1/2009       | TRICHLOROETHYLEN | 2.7E-01       |      | 3                 | 3                 |
| AMW-18 | T         | 7/1/2010       | TRICHLOROETHYLEN | 1.6E-01       |      | 2                 | 2                 |
| AMW-18 | T         | 7/1/2011       | TRICHLOROETHYLEN | 7.1E-02       |      | 2                 | 2                 |
| AMW-18 | T         | 7/1/2012       | TRICHLOROETHYLEN | 4.9E-02       |      | 4                 | 4                 |
| AMW-18 | T         | 7/1/2013       | TRICHLOROETHYLEN | 4.0E-02       |      | 4                 | 4                 |
| AMW-18 | T         | 7/1/2014       | TRICHLOROETHYLEN | 3.2E-02       |      | 4                 | 4                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-59

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

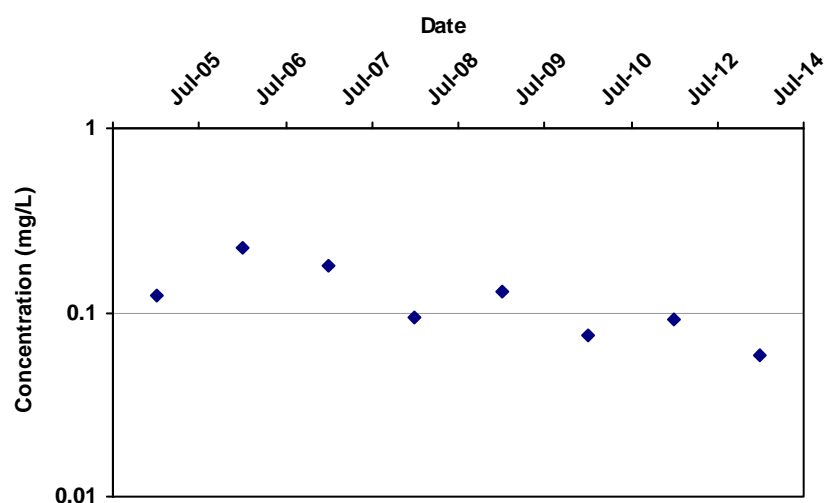
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-18

**Confidence in Trend:**

98.4%

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-59 | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.2E-01       |      | 3                 | 3                 |
| AMW-59 | T         | 7/1/2006       | TRICHLOROETHYLEN | 2.2E-01       |      | 2                 | 2                 |
| AMW-59 | T         | 7/1/2007       | TRICHLOROETHYLEN | 1.8E-01       |      | 1                 | 1                 |
| AMW-59 | T         | 7/1/2008       | TRICHLOROETHYLEN | 9.5E-02       |      | 1                 | 1                 |
| AMW-59 | T         | 7/1/2009       | TRICHLOROETHYLEN | 1.3E-01       |      | 1                 | 1                 |
| AMW-59 | T         | 7/1/2010       | TRICHLOROETHYLEN | 7.6E-02       |      | 1                 | 1                 |
| AMW-59 | T         | 7/1/2012       | TRICHLOROETHYLEN | 9.2E-02       |      | 1                 | 1                 |
| AMW-59 | T         | 7/1/2014       | TRICHLOROETHYLEN | 5.8E-02       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

**Project:** Boomsnub/Airco Superfund Site

**User Name:**

**Location:** Hazel Dell

**State:** Washington

| <b>Well</b> | <b>Well Type</b> | <b>Effective Date</b> | <b>Constituent</b> | <b>Result (mg/L)</b> | <b>Flag</b> | <b>Number of Samples</b> | <b>Number of Detects</b> |
|-------------|------------------|-----------------------|--------------------|----------------------|-------------|--------------------------|--------------------------|
|-------------|------------------|-----------------------|--------------------|----------------------|-------------|--------------------------|--------------------------|

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-64

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

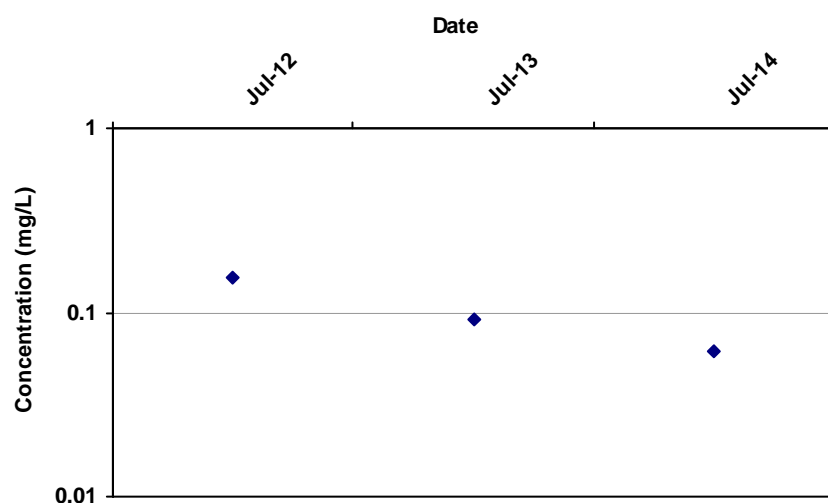
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: 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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-64 | T         | 7/1/2012       | TRICHLOROETHYLEN | 1.5E-01       |      | 4                 | 4                 |
| AMW-64 | T         | 7/1/2013       | TRICHLOROETHYLEN | 9.2E-02       |      | 3                 | 3                 |
| AMW-64 | T         | 7/1/2014       | TRICHLOROETHYLEN | 6.1E-02       |      | 3                 | 3                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: CPU-14

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

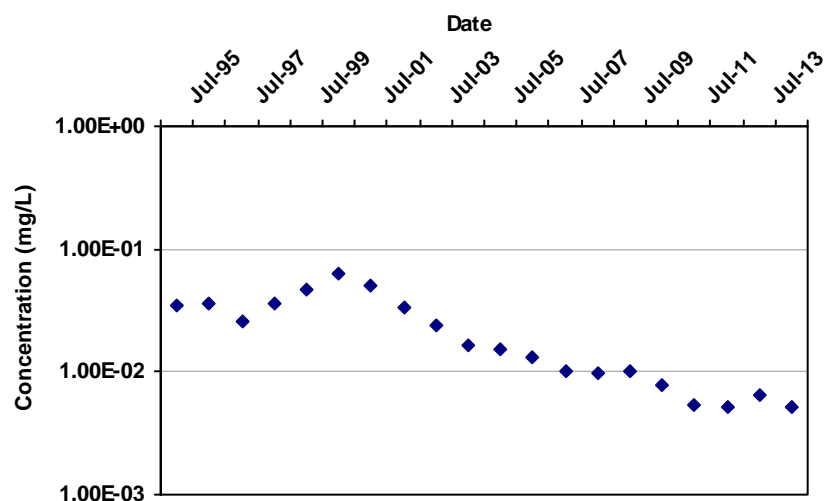
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-146

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

0.76

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| CPU-14 | T         | 7/1/1995       | TRICHLOROETHYLEN | 3.4E-02       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/1996       | TRICHLOROETHYLEN | 3.6E-02       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/1997       | TRICHLOROETHYLEN | 2.6E-02       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/1998       | TRICHLOROETHYLEN | 3.6E-02       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/1999       | TRICHLOROETHYLEN | 4.7E-02       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/2000       | TRICHLOROETHYLEN | 6.3E-02       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/2001       | TRICHLOROETHYLEN | 5.1E-02       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/2002       | TRICHLOROETHYLEN | 3.3E-02       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/2003       | TRICHLOROETHYLEN | 2.3E-02       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| CPU-14 | T         | 7/1/2004       | TRICHLOROETHYLEN | 1.6E-02       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.5E-02       |      | 2                 | 2                 |
| CPU-14 | T         | 7/1/2006       | TRICHLOROETHYLEN | 1.3E-02       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2007       | TRICHLOROETHYLEN | 1.0E-02       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2008       | TRICHLOROETHYLEN | 9.8E-03       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2009       | TRICHLOROETHYLEN | 1.0E-02       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2010       | TRICHLOROETHYLEN | 7.7E-03       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2011       | TRICHLOROETHYLEN | 5.4E-03       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2012       | TRICHLOROETHYLEN | 5.2E-03       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2013       | TRICHLOROETHYLEN | 6.4E-03       |      | 1                 | 1                 |
| CPU-14 | T         | 7/1/2014       | TRICHLOROETHYLEN | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-14C

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

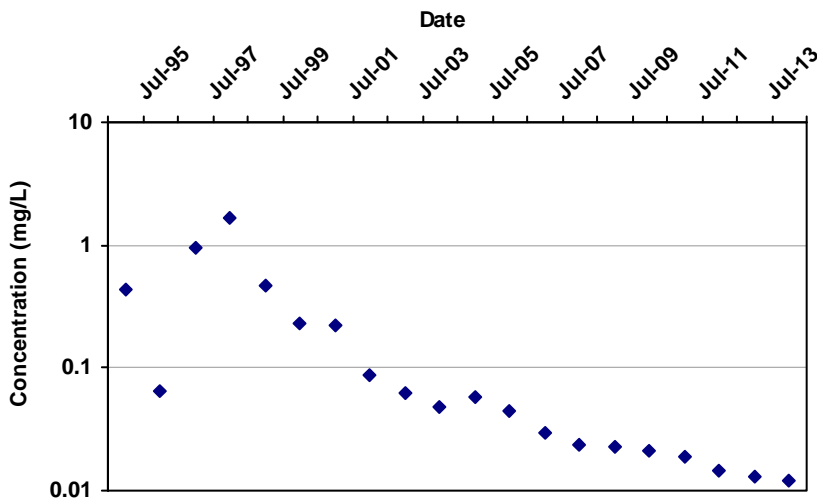
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-168

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.83

**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-14C | T         | 7/1/1995       | TRICHLOROETHYLEN | 4.4E-01       |      | 11                | 11                |
| MW-14C | T         | 7/1/1996       | TRICHLOROETHYLEN | 6.5E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/1997       | TRICHLOROETHYLEN | 9.4E-01       |      | 6                 | 6                 |
| MW-14C | T         | 7/1/1998       | TRICHLOROETHYLEN | 1.7E+00       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/1999       | TRICHLOROETHYLEN | 4.6E-01       |      | 3                 | 3                 |
| MW-14C | T         | 7/1/2000       | TRICHLOROETHYLEN | 2.3E-01       |      | 5                 | 5                 |
| MW-14C | T         | 7/1/2001       | TRICHLOROETHYLEN | 2.2E-01       |      | 4                 | 4                 |
| MW-14C | T         | 7/1/2002       | TRICHLOROETHYLEN | 8.9E-02       |      | 4                 | 4                 |
| MW-14C | T         | 7/1/2003       | TRICHLOROETHYLEN | 6.3E-02       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-14C | T         | 7/1/2004       | TRICHLOROETHYLEN | 4.8E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2005       | TRICHLOROETHYLEN | 5.7E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2006       | TRICHLOROETHYLEN | 4.4E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2007       | TRICHLOROETHYLEN | 2.9E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2008       | TRICHLOROETHYLEN | 2.4E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2009       | TRICHLOROETHYLEN | 2.2E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2010       | TRICHLOROETHYLEN | 2.1E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2011       | TRICHLOROETHYLEN | 1.9E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2012       | TRICHLOROETHYLEN | 1.4E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2013       | TRICHLOROETHYLEN | 1.3E-02       |      | 2                 | 2                 |
| MW-14C | T         | 7/1/2014       | TRICHLOROETHYLEN | 1.2E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-14E

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

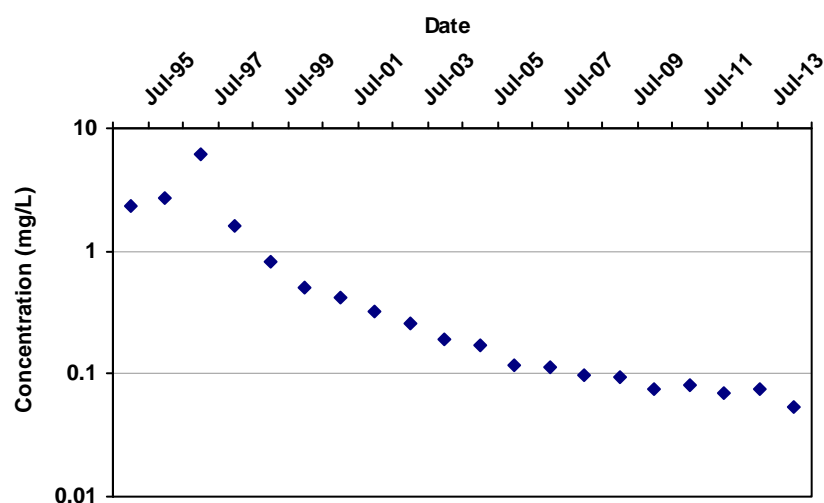
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-178

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.83

**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-14E | T         | 7/1/1995       | TRICHLOROETHYLEN | 2.3E+00       |      | 11                | 11                |
| MW-14E | T         | 7/1/1996       | TRICHLOROETHYLEN | 2.7E+00       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/1997       | TRICHLOROETHYLEN | 6.3E+00       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/1998       | TRICHLOROETHYLEN | 1.6E+00       |      | 3                 | 3                 |
| MW-14E | T         | 7/1/1999       | TRICHLOROETHYLEN | 8.2E-01       |      | 4                 | 4                 |
| MW-14E | T         | 7/1/2000       | TRICHLOROETHYLEN | 5.1E-01       |      | 5                 | 5                 |
| MW-14E | T         | 7/1/2001       | TRICHLOROETHYLEN | 4.2E-01       |      | 4                 | 4                 |
| MW-14E | T         | 7/1/2002       | TRICHLOROETHYLEN | 3.3E-01       |      | 4                 | 4                 |
| MW-14E | T         | 7/1/2003       | TRICHLOROETHYLEN | 2.6E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-14E | T         | 7/1/2004       | TRICHLOROETHYLEN | 1.9E-01       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.7E-01       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2006       | TRICHLOROETHYLEN | 1.2E-01       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2007       | TRICHLOROETHYLEN | 1.1E-01       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2008       | TRICHLOROETHYLEN | 9.7E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2009       | TRICHLOROETHYLEN | 9.3E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2010       | TRICHLOROETHYLEN | 7.4E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2011       | TRICHLOROETHYLEN | 8.0E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2012       | TRICHLOROETHYLEN | 6.9E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2013       | TRICHLOROETHYLEN | 7.4E-02       |      | 2                 | 2                 |
| MW-14E | T         | 7/1/2014       | TRICHLOROETHYLEN | 5.3E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-15E

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

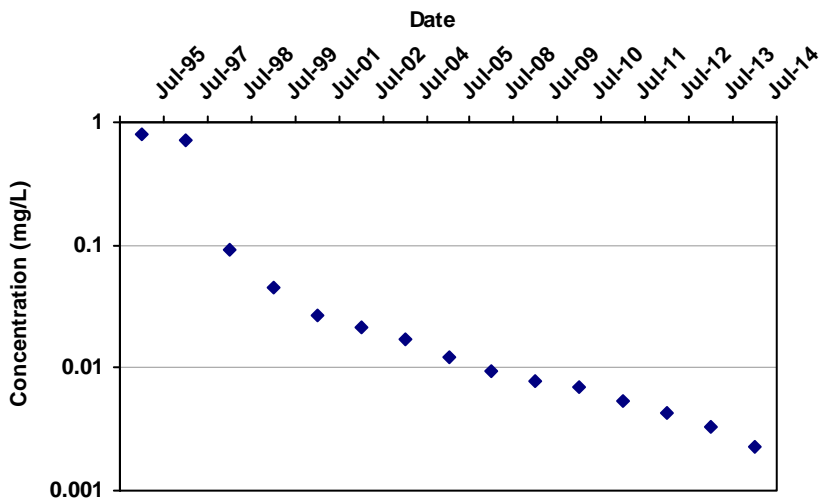
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-105

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

2.22

**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-15E | T         | 7/1/1995       | TRICHLOROETHYLEN | 8.1E-01       |      | 2                 | 2                 |
| MW-15E | T         | 7/1/1997       | TRICHLOROETHYLEN | 7.0E-01       |      | 2                 | 2                 |
| MW-15E | T         | 7/1/1998       | TRICHLOROETHYLEN | 9.2E-02       |      | 2                 | 2                 |
| MW-15E | T         | 7/1/1999       | TRICHLOROETHYLEN | 4.5E-02       |      | 2                 | 2                 |
| MW-15E | T         | 7/1/2001       | TRICHLOROETHYLEN | 2.7E-02       |      | 1                 | 1                 |
| MW-15E | T         | 7/1/2002       | TRICHLOROETHYLEN | 2.1E-02       |      | 1                 | 1                 |
| MW-15E | T         | 7/1/2004       | TRICHLOROETHYLEN | 1.7E-02       |      | 1                 | 1                 |
| MW-15E | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.2E-02       |      | 1                 | 1                 |
| MW-15E | T         | 7/1/2008       | TRICHLOROETHYLEN | 9.5E-03       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-15E | T         | 7/1/2009       | TRICHLOROETHYLEN | 7.9E-03       |      | 2                 | 2                 |
| MW-15E | T         | 7/1/2010       | TRICHLOROETHYLEN | 6.9E-03       |      | 2                 | 2                 |
| MW-15E | T         | 7/1/2011       | TRICHLOROETHYLEN | 5.3E-03       |      | 2                 | 2                 |
| MW-15E | T         | 7/1/2012       | TRICHLOROETHYLEN | 4.3E-03       |      | 2                 | 2                 |
| MW-15E | T         | 7/1/2013       | TRICHLOROETHYLEN | 3.3E-03       |      | 2                 | 2                 |
| MW-15E | T         | 7/1/2014       | TRICHLOROETHYLEN | 2.2E-03       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-18D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

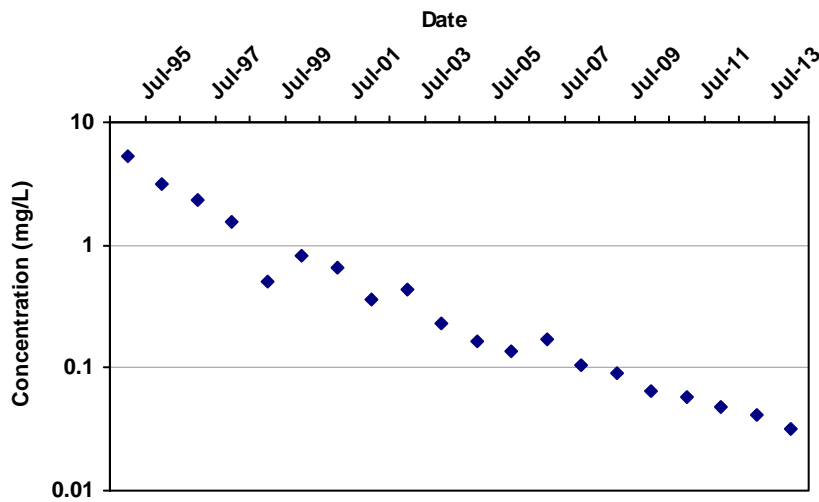
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-180

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.66

**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-18D | T         | 7/1/1995       | TRICHLOROETHYLEN | 5.3E+00       |      | 11                | 11                |
| MW-18D | T         | 7/1/1996       | TRICHLOROETHYLEN | 3.2E+00       |      | 8                 | 8                 |
| MW-18D | T         | 7/1/1997       | TRICHLOROETHYLEN | 2.3E+00       |      | 9                 | 9                 |
| MW-18D | T         | 7/1/1998       | TRICHLOROETHYLEN | 1.5E+00       |      | 3                 | 3                 |
| MW-18D | T         | 7/1/1999       | TRICHLOROETHYLEN | 5.0E-01       |      | 4                 | 4                 |
| MW-18D | T         | 7/1/2000       | TRICHLOROETHYLEN | 8.1E-01       |      | 5                 | 5                 |
| MW-18D | T         | 7/1/2001       | TRICHLOROETHYLEN | 6.5E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2002       | TRICHLOROETHYLEN | 3.6E-01       |      | 4                 | 4                 |
| MW-18D | T         | 7/1/2003       | TRICHLOROETHYLEN | 4.4E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-18D | T         | 7/1/2004       | TRICHLOROETHYLEN | 2.3E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.6E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2006       | TRICHLOROETHYLEN | 1.3E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2007       | TRICHLOROETHYLEN | 1.7E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2008       | TRICHLOROETHYLEN | 1.1E-01       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2009       | TRICHLOROETHYLEN | 9.1E-02       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2010       | TRICHLOROETHYLEN | 6.4E-02       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2011       | TRICHLOROETHYLEN | 5.7E-02       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2012       | TRICHLOROETHYLEN | 4.8E-02       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2013       | TRICHLOROETHYLEN | 4.1E-02       |      | 2                 | 2                 |
| MW-18D | T         | 7/1/2014       | TRICHLOROETHYLEN | 3.1E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-18E

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

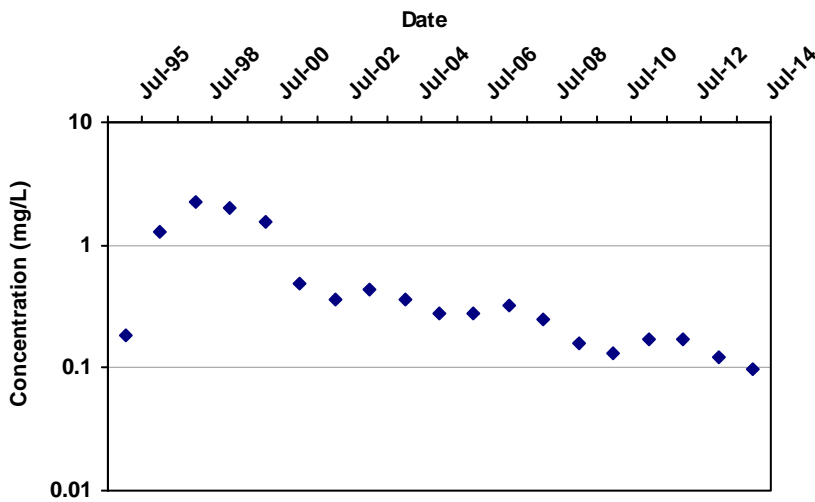
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-124

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.17

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-18E | T         | 7/1/1995       | TRICHLOROETHYLEN | 1.8E-01       |      | 2                 | 2                 |
| MW-18E | T         | 7/1/1997       | TRICHLOROETHYLEN | 1.3E+00       |      | 2                 | 2                 |
| MW-18E | T         | 7/1/1998       | TRICHLOROETHYLEN | 2.3E+00       |      | 2                 | 2                 |
| MW-18E | T         | 7/1/1999       | TRICHLOROETHYLEN | 2.0E+00       |      | 2                 | 2                 |
| MW-18E | T         | 7/1/2000       | TRICHLOROETHYLEN | 1.5E+00       |      | 2                 | 2                 |
| MW-18E | T         | 7/1/2001       | TRICHLOROETHYLEN | 4.8E-01       |      | 3                 | 3                 |
| MW-18E | T         | 7/1/2002       | TRICHLOROETHYLEN | 3.6E-01       |      | 2                 | 2                 |
| MW-18E | T         | 7/1/2003       | TRICHLOROETHYLEN | 4.4E-01       |      | 2                 | 2                 |
| MW-18E | T         | 7/1/2004       | TRICHLOROETHYLEN | 3.6E-01       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-18E | T         | 7/1/2005       | TRICHLOROETHYLEN | 2.8E-01       |      | 1                 | 1                 |
| MW-18E | T         | 7/1/2006       | TRICHLOROETHYLEN | 2.7E-01       |      | 2                 | 2                 |
| MW-18E | T         | 7/1/2007       | TRICHLOROETHYLEN | 3.2E-01       |      | 1                 | 1                 |
| MW-18E | T         | 7/1/2008       | TRICHLOROETHYLEN | 2.5E-01       |      | 1                 | 1                 |
| MW-18E | T         | 7/1/2009       | TRICHLOROETHYLEN | 1.6E-01       |      | 1                 | 1                 |
| MW-18E | T         | 7/1/2010       | TRICHLOROETHYLEN | 1.3E-01       |      | 1                 | 1                 |
| MW-18E | T         | 7/1/2011       | TRICHLOROETHYLEN | 1.7E-01       |      | 1                 | 1                 |
| MW-18E | T         | 7/1/2012       | TRICHLOROETHYLEN | 1.7E-01       |      | 1                 | 1                 |
| MW-18E | T         | 7/1/2013       | TRICHLOROETHYLEN | 1.2E-01       |      | 1                 | 1                 |
| MW-18E | T         | 7/1/2014       | TRICHLOROETHYLEN | 9.6E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-19D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

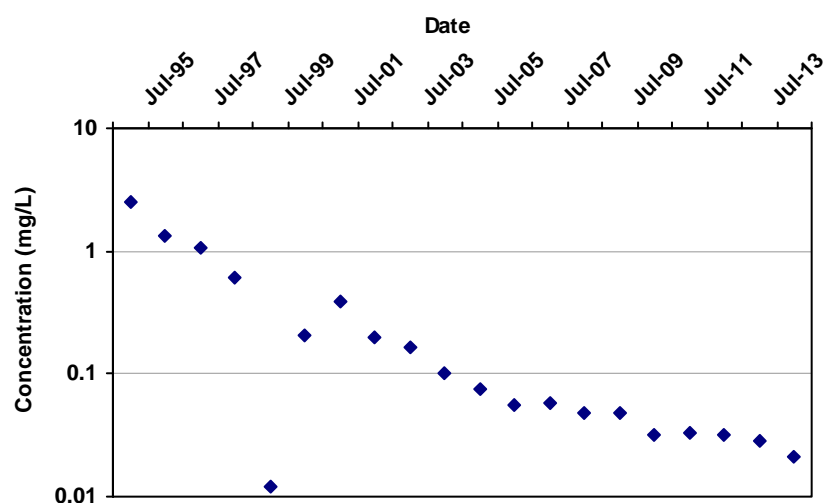
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-151

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.77

**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-19D | T         | 7/1/1995       | TRICHLOROETHYLEN | 2.5E+00       |      | 11                | 11                |
| MW-19D | T         | 7/1/1996       | TRICHLOROETHYLEN | 1.3E+00       |      | 12                | 12                |
| MW-19D | T         | 7/1/1997       | TRICHLOROETHYLEN | 1.1E+00       |      | 6                 | 6                 |
| MW-19D | T         | 7/1/1998       | TRICHLOROETHYLEN | 6.1E-01       |      | 3                 | 3                 |
| MW-19D | T         | 7/1/1999       | TRICHLOROETHYLEN | 1.2E-02       |      | 1                 | 1                 |
| MW-19D | T         | 7/1/2000       | TRICHLOROETHYLEN | 2.1E-01       |      | 3                 | 3                 |
| MW-19D | T         | 7/1/2001       | TRICHLOROETHYLEN | 3.9E-01       |      | 4                 | 4                 |
| MW-19D | T         | 7/1/2002       | TRICHLOROETHYLEN | 2.0E-01       |      | 4                 | 4                 |
| MW-19D | T         | 7/1/2003       | TRICHLOROETHYLEN | 1.7E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-19D | T         | 7/1/2004       | TRICHLOROETHYLEN | 1.0E-01       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2005       | TRICHLOROETHYLEN | 7.5E-02       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2006       | TRICHLOROETHYLEN | 5.6E-02       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2007       | TRICHLOROETHYLEN | 5.8E-02       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2008       | TRICHLOROETHYLEN | 4.7E-02       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2009       | TRICHLOROETHYLEN | 4.8E-02       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2010       | TRICHLOROETHYLEN | 3.2E-02       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2011       | TRICHLOROETHYLEN | 3.3E-02       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2012       | TRICHLOROETHYLEN | 3.2E-02       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2013       | TRICHLOROETHYLEN | 2.8E-02       |      | 2                 | 2                 |
| MW-19D | T         | 7/1/2014       | TRICHLOROETHYLEN | 2.1E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-20D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

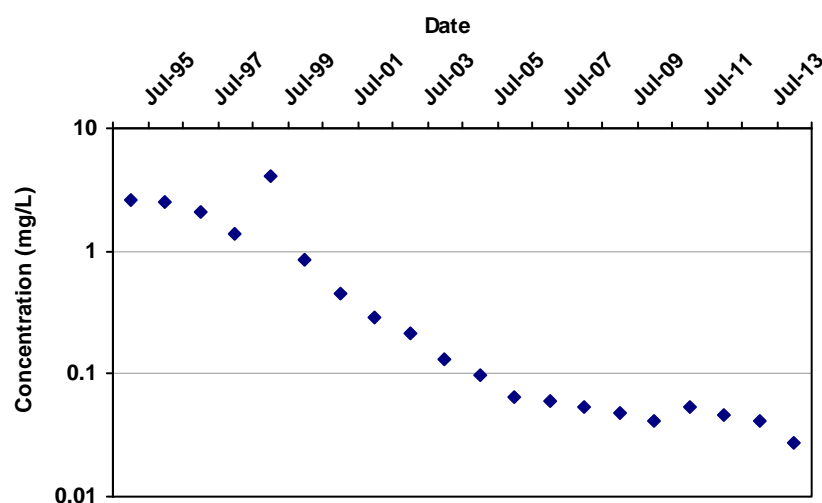
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-174

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.54

**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-20D | T         | 7/1/1995       | TRICHLOROETHYLEN | 2.6E+00       |      | 11                | 11                |
| MW-20D | T         | 7/1/1996       | TRICHLOROETHYLEN | 2.5E+00       |      | 12                | 12                |
| MW-20D | T         | 7/1/1997       | TRICHLOROETHYLEN | 2.1E+00       |      | 9                 | 9                 |
| MW-20D | T         | 7/1/1998       | TRICHLOROETHYLEN | 1.4E+00       |      | 3                 | 3                 |
| MW-20D | T         | 7/1/1999       | TRICHLOROETHYLEN | 4.1E+00       |      | 1                 | 1                 |
| MW-20D | T         | 7/1/2000       | TRICHLOROETHYLEN | 8.6E-01       |      | 4                 | 4                 |
| MW-20D | T         | 7/1/2001       | TRICHLOROETHYLEN | 4.5E-01       |      | 4                 | 4                 |
| MW-20D | T         | 7/1/2002       | TRICHLOROETHYLEN | 2.9E-01       |      | 4                 | 4                 |
| MW-20D | T         | 7/1/2003       | TRICHLOROETHYLEN | 2.1E-01       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-20D | T         | 7/1/2004       | TRICHLOROETHYLEN | 1.3E-01       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2005       | TRICHLOROETHYLEN | 9.6E-02       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2006       | TRICHLOROETHYLEN | 6.4E-02       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2007       | TRICHLOROETHYLEN | 6.0E-02       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2008       | TRICHLOROETHYLEN | 5.3E-02       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2009       | TRICHLOROETHYLEN | 4.7E-02       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2010       | TRICHLOROETHYLEN | 4.2E-02       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2011       | TRICHLOROETHYLEN | 5.4E-02       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2012       | TRICHLOROETHYLEN | 4.6E-02       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2013       | TRICHLOROETHYLEN | 4.1E-02       |      | 2                 | 2                 |
| MW-20D | T         | 7/1/2014       | TRICHLOROETHYLEN | 2.7E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-38

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

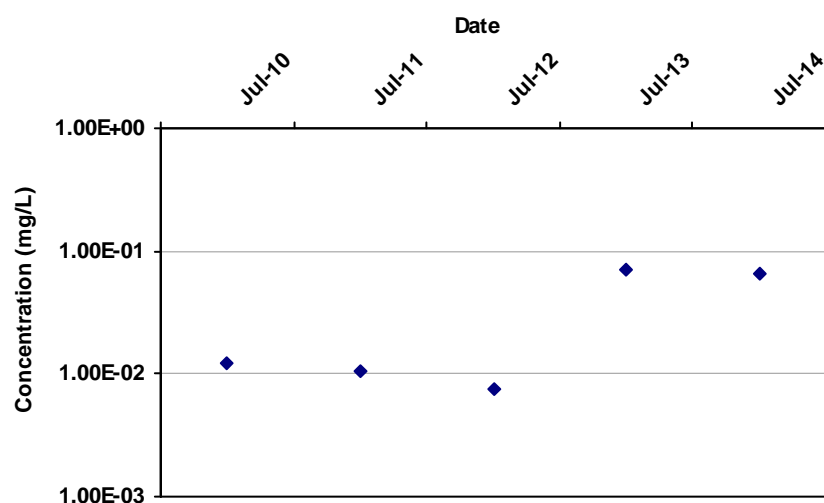
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

2

**Confidence in Trend:**

59.2%

**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 |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-38 | T         | 7/1/2010       | TRICHLOROETHYLEN | 1.2E-02       |      | 1                 | 1                 |
| MW-38 | T         | 7/1/2011       | TRICHLOROETHYLEN | 1.0E-02       |      | 2                 | 2                 |
| MW-38 | T         | 7/1/2012       | TRICHLOROETHYLEN | 7.4E-03       |      | 1                 | 1                 |
| MW-38 | T         | 7/1/2013       | TRICHLOROETHYLEN | 7.0E-02       |      | 1                 | 1                 |
| MW-38 | T         | 7/1/2014       | TRICHLOROETHYLEN | 6.5E-02       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: PZ-39

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

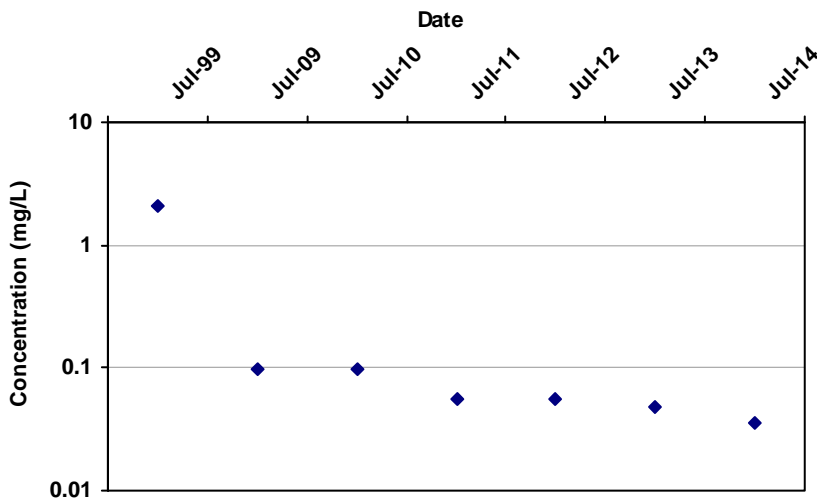
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-21

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

2.16

**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 |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| PZ-39 | T         | 7/1/1999       | TRICHLOROETHYLEN | 2.1E+00       |      | 1                 | 1                 |
| PZ-39 | T         | 7/1/2009       | TRICHLOROETHYLEN | 9.9E-02       |      | 1                 | 1                 |
| PZ-39 | T         | 7/1/2010       | TRICHLOROETHYLEN | 9.7E-02       |      | 1                 | 1                 |
| PZ-39 | T         | 7/1/2011       | TRICHLOROETHYLEN | 5.6E-02       |      | 2                 | 2                 |
| PZ-39 | T         | 7/1/2012       | TRICHLOROETHYLEN | 5.5E-02       |      | 2                 | 2                 |
| PZ-39 | T         | 7/1/2013       | TRICHLOROETHYLEN | 4.8E-02       |      | 2                 | 2                 |
| PZ-39 | T         | 7/1/2014       | TRICHLOROETHYLEN | 3.6E-02       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

**Project:** Boomsnub/Airco Superfund Site

**User Name:**

**Location:** Hazel Dell

**State:** Washington

| <b>Well</b> | <b>Well Type</b> | <b>Effective Date</b> | <b>Constituent</b> | <b>Result (mg/L)</b> | <b>Flag</b> | <b>Number of Samples</b> | <b>Number of Detects</b> |
|-------------|------------------|-----------------------|--------------------|----------------------|-------------|--------------------------|--------------------------|
|-------------|------------------|-----------------------|--------------------|----------------------|-------------|--------------------------|--------------------------|

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

# **CHURCH OF GOD WELLS**

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# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-27

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

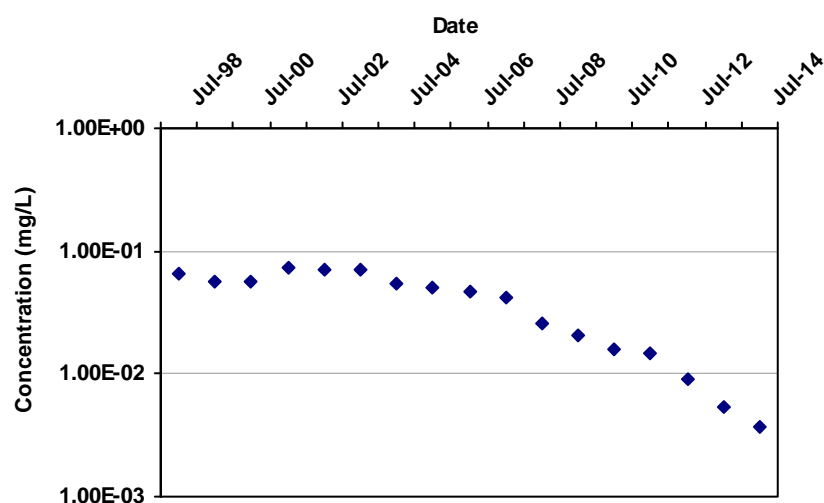
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-116

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

0.62

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-27 | T         | 7/1/1998       | TRICHLOROETHYLEN | 6.6E-02       |      | 1                 | 1                 |
| AMW-27 | T         | 7/1/1999       | TRICHLOROETHYLEN | 5.7E-02       |      | 3                 | 3                 |
| AMW-27 | T         | 7/1/2000       | TRICHLOROETHYLEN | 5.6E-02       |      | 5                 | 5                 |
| AMW-27 | T         | 7/1/2001       | TRICHLOROETHYLEN | 7.3E-02       |      | 4                 | 4                 |
| AMW-27 | T         | 7/1/2002       | TRICHLOROETHYLEN | 7.0E-02       |      | 4                 | 4                 |
| AMW-27 | T         | 7/1/2003       | TRICHLOROETHYLEN | 7.1E-02       |      | 3                 | 3                 |
| AMW-27 | T         | 7/1/2004       | TRICHLOROETHYLEN | 5.3E-02       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2005       | TRICHLOROETHYLEN | 5.0E-02       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2006       | TRICHLOROETHYLEN | 4.6E-02       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-27 | T         | 7/1/2007       | TRICHLOROETHYLEN | 4.1E-02       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2008       | TRICHLOROETHYLEN | 2.6E-02       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2009       | TRICHLOROETHYLEN | 2.1E-02       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2010       | TRICHLOROETHYLEN | 1.6E-02       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2011       | TRICHLOROETHYLEN | 1.4E-02       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2012       | TRICHLOROETHYLEN | 9.0E-03       |      | 2                 | 2                 |
| AMW-27 | T         | 7/1/2013       | TRICHLOROETHYLEN | 5.4E-03       |      | 3                 | 3                 |
| AMW-27 | T         | 7/1/2014       | TRICHLOROETHYLEN | 3.7E-03       |      | 4                 | 4                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-61

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

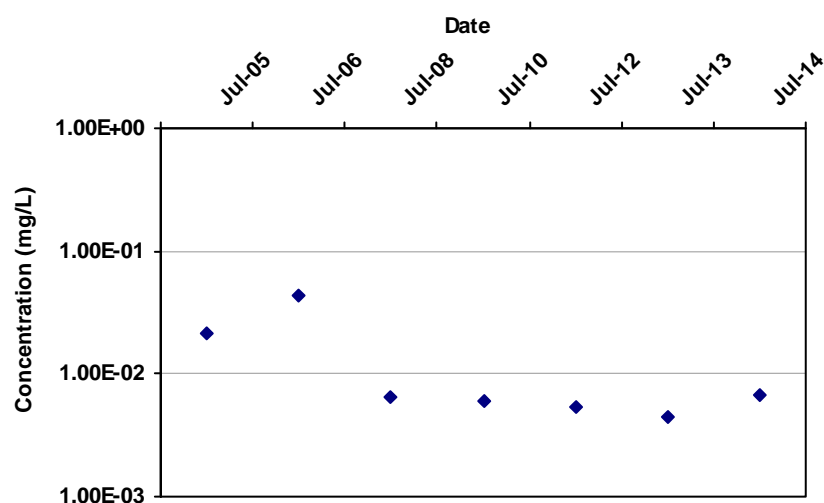
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-11

**Confidence in Trend:**

93.2%

**Coefficient of Variation:**

1.07

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-61 | T         | 7/1/2005       | TRICHLOROETHYLEN | 2.1E-02       |      | 2                 | 2                 |
| AMW-61 | T         | 7/1/2006       | TRICHLOROETHYLEN | 4.3E-02       |      | 1                 | 1                 |
| AMW-61 | T         | 7/1/2008       | TRICHLOROETHYLEN | 6.5E-03       |      | 1                 | 1                 |
| AMW-61 | T         | 7/1/2010       | TRICHLOROETHYLEN | 6.0E-03       |      | 1                 | 1                 |
| AMW-61 | T         | 7/1/2012       | TRICHLOROETHYLEN | 5.4E-03       |      | 1                 | 1                 |
| AMW-61 | T         | 7/1/2013       | TRICHLOROETHYLEN | 4.5E-03       |      | 2                 | 2                 |
| AMW-61 | T         | 7/1/2014       | TRICHLOROETHYLEN | 6.8E-03       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

**Project:** Boomsnub/Airco Superfund Site

**User Name:**

**Location:** Hazel Dell

**State:** Washington

| <b>Well</b> | <b>Well Type</b> | <b>Effective Date</b> | <b>Constituent</b> | <b>Result (mg/L)</b> | <b>Flag</b> | <b>Number of Samples</b> | <b>Number of Detects</b> |
|-------------|------------------|-----------------------|--------------------|----------------------|-------------|--------------------------|--------------------------|
|-------------|------------------|-----------------------|--------------------|----------------------|-------------|--------------------------|--------------------------|

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: CPU-12

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

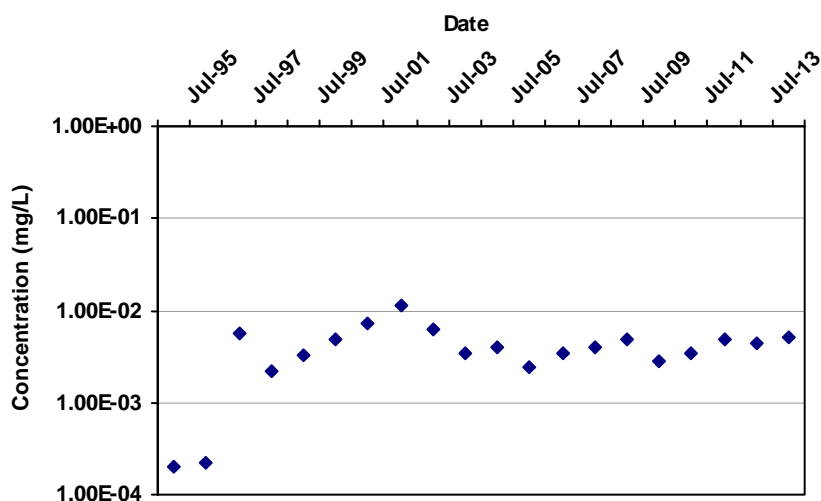
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

41

**Confidence in Trend:**

90.2%

**Coefficient of Variation:**

0.57

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| CPU-12 | T         | 7/1/1995       | TRICHLOROETHYLEN | 2.0E-04       |      | 2                 | 1                 |
| CPU-12 | T         | 7/1/1996       | TRICHLOROETHYLEN | 2.2E-04       |      | 2                 | 1                 |
| CPU-12 | T         | 7/1/1997       | TRICHLOROETHYLEN | 5.7E-03       |      | 2                 | 2                 |
| CPU-12 | T         | 7/1/1998       | TRICHLOROETHYLEN | 2.2E-03       |      | 2                 | 2                 |
| CPU-12 | T         | 7/1/1999       | TRICHLOROETHYLEN | 3.2E-03       |      | 2                 | 2                 |
| CPU-12 | T         | 7/1/2000       | TRICHLOROETHYLEN | 4.8E-03       |      | 2                 | 2                 |
| CPU-12 | T         | 7/1/2001       | TRICHLOROETHYLEN | 7.1E-03       |      | 2                 | 2                 |
| CPU-12 | T         | 7/1/2002       | TRICHLOROETHYLEN | 1.1E-02       |      | 2                 | 2                 |
| CPU-12 | T         | 7/1/2003       | TRICHLOROETHYLEN | 6.1E-03       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| CPU-12 | T         | 7/1/2004       | TRICHLOROETHYLEN | 3.4E-03       |      | 2                 | 2                 |
| CPU-12 | T         | 7/1/2005       | TRICHLOROETHYLEN | 4.1E-03       |      | 2                 | 2                 |
| CPU-12 | T         | 7/1/2006       | TRICHLOROETHYLEN | 2.4E-03       |      | 1                 | 1                 |
| CPU-12 | T         | 7/1/2007       | TRICHLOROETHYLEN | 3.4E-03       |      | 1                 | 1                 |
| CPU-12 | T         | 7/1/2008       | TRICHLOROETHYLEN | 4.0E-03       |      | 1                 | 1                 |
| CPU-12 | T         | 7/1/2009       | TRICHLOROETHYLEN | 4.9E-03       |      | 1                 | 1                 |
| CPU-12 | T         | 7/1/2010       | TRICHLOROETHYLEN | 2.8E-03       |      | 1                 | 1                 |
| CPU-12 | T         | 7/1/2011       | TRICHLOROETHYLEN | 3.5E-03       |      | 1                 | 1                 |
| CPU-12 | T         | 7/1/2012       | TRICHLOROETHYLEN | 4.9E-03       |      | 1                 | 1                 |
| CPU-12 | T         | 7/1/2013       | TRICHLOROETHYLEN | 4.4E-03       |      | 1                 | 1                 |
| CPU-12 | T         | 7/1/2014       | TRICHLOROETHYLEN | 5.1E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: CPU-13

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

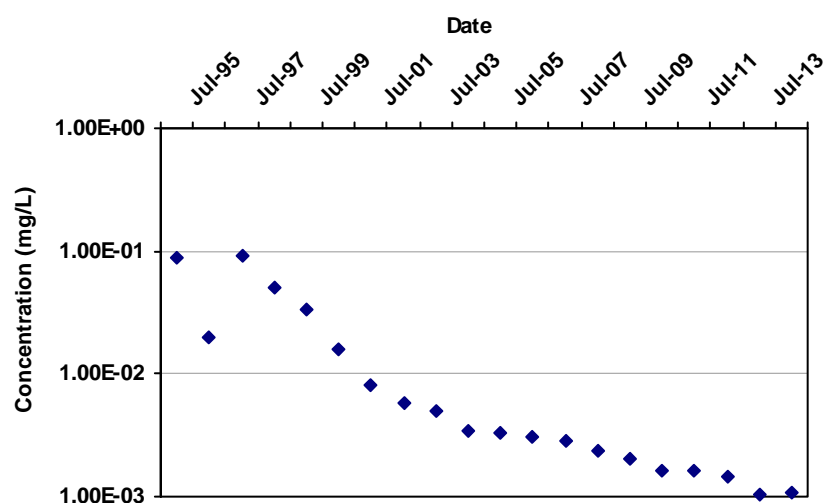
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-178

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.64

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| CPU-13 | T         | 7/1/1995       | TRICHLOROETHYLEN | 9.0E-02       |      | 11                | 11                |
| CPU-13 | T         | 7/1/1996       | TRICHLOROETHYLEN | 2.0E-02       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/1997       | TRICHLOROETHYLEN | 9.2E-02       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/1998       | TRICHLOROETHYLEN | 5.0E-02       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/1999       | TRICHLOROETHYLEN | 3.4E-02       |      | 4                 | 4                 |
| CPU-13 | T         | 7/1/2000       | TRICHLOROETHYLEN | 1.6E-02       |      | 5                 | 5                 |
| CPU-13 | T         | 7/1/2001       | TRICHLOROETHYLEN | 8.0E-03       |      | 4                 | 4                 |
| CPU-13 | T         | 7/1/2002       | TRICHLOROETHYLEN | 5.8E-03       |      | 4                 | 4                 |
| CPU-13 | T         | 7/1/2003       | TRICHLOROETHYLEN | 4.9E-03       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| CPU-13 | T         | 7/1/2004       | TRICHLOROETHYLEN | 3.4E-03       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2005       | TRICHLOROETHYLEN | 3.3E-03       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2006       | TRICHLOROETHYLEN | 3.0E-03       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2007       | TRICHLOROETHYLEN | 2.8E-03       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2008       | TRICHLOROETHYLEN | 2.4E-03       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2009       | TRICHLOROETHYLEN | 2.0E-03       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2010       | TRICHLOROETHYLEN | 1.6E-03       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2011       | TRICHLOROETHYLEN | 1.6E-03       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2012       | TRICHLOROETHYLEN | 1.4E-03       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2013       | TRICHLOROETHYLEN | 1.1E-03       |      | 2                 | 2                 |
| CPU-13 | T         | 7/1/2014       | TRICHLOROETHYLEN | 1.1E-03       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-21D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

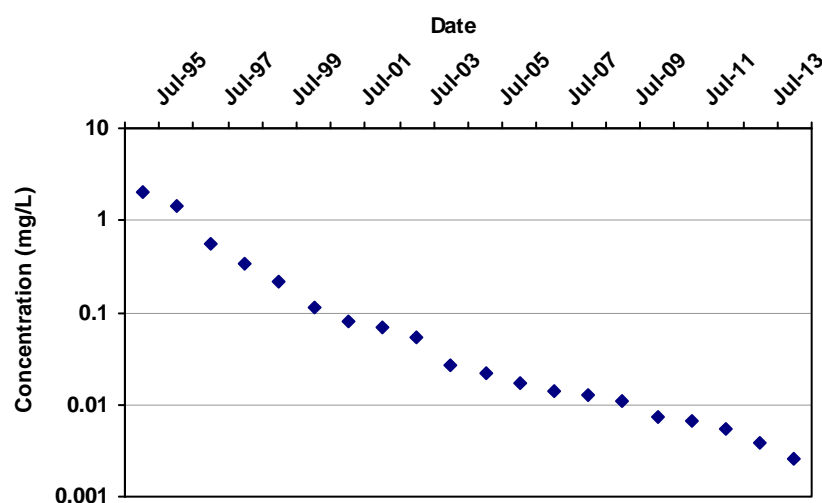
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-190

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

2.11

**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-21D | T         | 7/1/1995       | TRICHLOROETHYLEN | 2.0E+00       |      | 11                | 11                |
| MW-21D | T         | 7/1/1996       | TRICHLOROETHYLEN | 1.4E+00       |      | 12                | 12                |
| MW-21D | T         | 7/1/1997       | TRICHLOROETHYLEN | 5.5E-01       |      | 9                 | 9                 |
| MW-21D | T         | 7/1/1998       | TRICHLOROETHYLEN | 3.5E-01       |      | 3                 | 3                 |
| MW-21D | T         | 7/1/1999       | TRICHLOROETHYLEN | 2.1E-01       |      | 3                 | 3                 |
| MW-21D | T         | 7/1/2000       | TRICHLOROETHYLEN | 1.1E-01       |      | 5                 | 5                 |
| MW-21D | T         | 7/1/2001       | TRICHLOROETHYLEN | 8.1E-02       |      | 4                 | 4                 |
| MW-21D | T         | 7/1/2002       | TRICHLOROETHYLEN | 6.9E-02       |      | 4                 | 4                 |
| MW-21D | T         | 7/1/2003       | TRICHLOROETHYLEN | 5.4E-02       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-21D | T         | 7/1/2004       | TRICHLOROETHYLEN | 2.7E-02       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2005       | TRICHLOROETHYLEN | 2.2E-02       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2006       | TRICHLOROETHYLEN | 1.7E-02       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2007       | TRICHLOROETHYLEN | 1.4E-02       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2008       | TRICHLOROETHYLEN | 1.2E-02       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2009       | TRICHLOROETHYLEN | 1.1E-02       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2010       | TRICHLOROETHYLEN | 7.1E-03       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2011       | TRICHLOROETHYLEN | 6.7E-03       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2012       | TRICHLOROETHYLEN | 5.3E-03       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2013       | TRICHLOROETHYLEN | 3.9E-03       |      | 2                 | 2                 |
| MW-21D | T         | 7/1/2014       | TRICHLOROETHYLEN | 2.6E-03       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-22D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

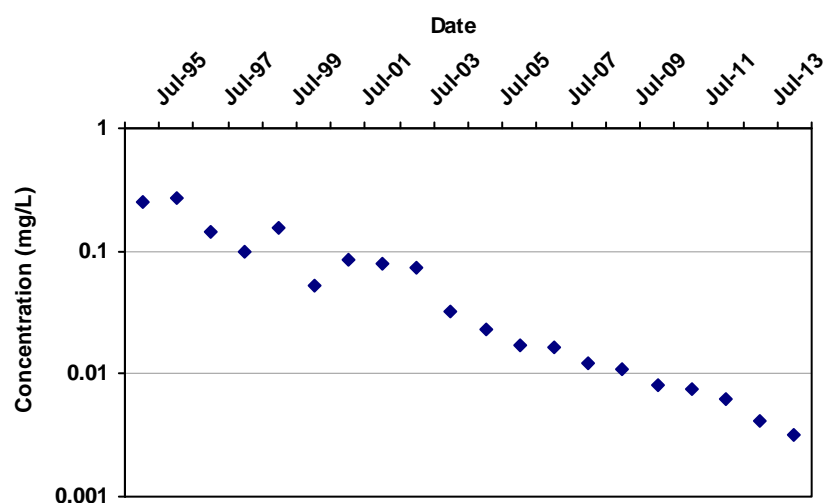
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-178

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.20

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-22D | T         | 7/1/1995       | TRICHLOROETHYLEN | 2.5E-01       |      | 11                | 11                |
| MW-22D | T         | 7/1/1996       | TRICHLOROETHYLEN | 2.7E-01       |      | 11                | 11                |
| MW-22D | T         | 7/1/1997       | TRICHLOROETHYLEN | 1.4E-01       |      | 9                 | 9                 |
| MW-22D | T         | 7/1/1998       | TRICHLOROETHYLEN | 9.9E-02       |      | 3                 | 3                 |
| MW-22D | T         | 7/1/1999       | TRICHLOROETHYLEN | 1.6E-01       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2000       | TRICHLOROETHYLEN | 5.3E-02       |      | 4                 | 4                 |
| MW-22D | T         | 7/1/2001       | TRICHLOROETHYLEN | 8.4E-02       |      | 3                 | 3                 |
| MW-22D | T         | 7/1/2002       | TRICHLOROETHYLEN | 7.8E-02       |      | 3                 | 3                 |
| MW-22D | T         | 7/1/2003       | TRICHLOROETHYLEN | 7.3E-02       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-22D | T         | 7/1/2004       | TRICHLOROETHYLEN | 3.2E-02       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2005       | TRICHLOROETHYLEN | 2.3E-02       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2006       | TRICHLOROETHYLEN | 1.7E-02       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2007       | TRICHLOROETHYLEN | 1.6E-02       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2008       | TRICHLOROETHYLEN | 1.2E-02       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2009       | TRICHLOROETHYLEN | 1.1E-02       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2010       | TRICHLOROETHYLEN | 7.9E-03       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2011       | TRICHLOROETHYLEN | 7.4E-03       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2012       | TRICHLOROETHYLEN | 6.2E-03       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2013       | TRICHLOROETHYLEN | 4.1E-03       |      | 2                 | 2                 |
| MW-22D | T         | 7/1/2014       | TRICHLOROETHYLEN | 3.2E-03       |      | 2                 | 2                 |

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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-23D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

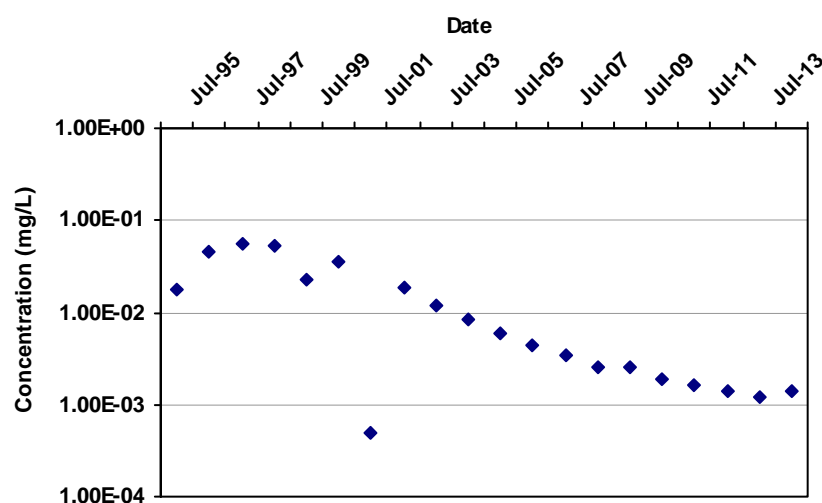
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-143

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.24

**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-23D | T         | 7/1/1995       | TRICHLOROETHYLEN | 1.7E-02       |      | 2                 | 2                 |
| MW-23D | T         | 7/1/1996       | TRICHLOROETHYLEN | 4.6E-02       |      | 2                 | 2                 |
| MW-23D | T         | 7/1/1997       | TRICHLOROETHYLEN | 5.6E-02       |      | 2                 | 2                 |
| MW-23D | T         | 7/1/1998       | TRICHLOROETHYLEN | 5.3E-02       |      | 2                 | 2                 |
| MW-23D | T         | 7/1/1999       | TRICHLOROETHYLEN | 2.3E-02       |      | 2                 | 2                 |
| MW-23D | T         | 7/1/2000       | TRICHLOROETHYLEN | 3.5E-02       |      | 2                 | 2                 |
| MW-23D | T         | 7/1/2001       | TRICHLOROETHYLEN | 4.9E-04       |      | 2                 | 1                 |
| MW-23D | T         | 7/1/2002       | TRICHLOROETHYLEN | 1.9E-02       |      | 2                 | 2                 |
| MW-23D | T         | 7/1/2003       | TRICHLOROETHYLEN | 1.2E-02       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-23D | T         | 7/1/2004       | TRICHLOROETHYLEN | 8.4E-03       |      | 2                 | 2                 |
| MW-23D | T         | 7/1/2005       | TRICHLOROETHYLEN | 5.9E-03       |      | 2                 | 2                 |
| MW-23D | T         | 7/1/2006       | TRICHLOROETHYLEN | 4.4E-03       |      | 1                 | 1                 |
| MW-23D | T         | 7/1/2007       | TRICHLOROETHYLEN | 3.5E-03       |      | 1                 | 1                 |
| MW-23D | T         | 7/1/2008       | TRICHLOROETHYLEN | 2.6E-03       |      | 1                 | 1                 |
| MW-23D | T         | 7/1/2009       | TRICHLOROETHYLEN | 2.5E-03       |      | 1                 | 1                 |
| MW-23D | T         | 7/1/2010       | TRICHLOROETHYLEN | 1.9E-03       |      | 1                 | 1                 |
| MW-23D | T         | 7/1/2011       | TRICHLOROETHYLEN | 1.6E-03       |      | 1                 | 1                 |
| MW-23D | T         | 7/1/2012       | TRICHLOROETHYLEN | 1.4E-03       |      | 1                 | 1                 |
| MW-23D | T         | 7/1/2013       | TRICHLOROETHYLEN | 1.2E-03       |      | 1                 | 1                 |
| MW-23D | T         | 7/1/2014       | TRICHLOROETHYLEN | 1.4E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-25D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

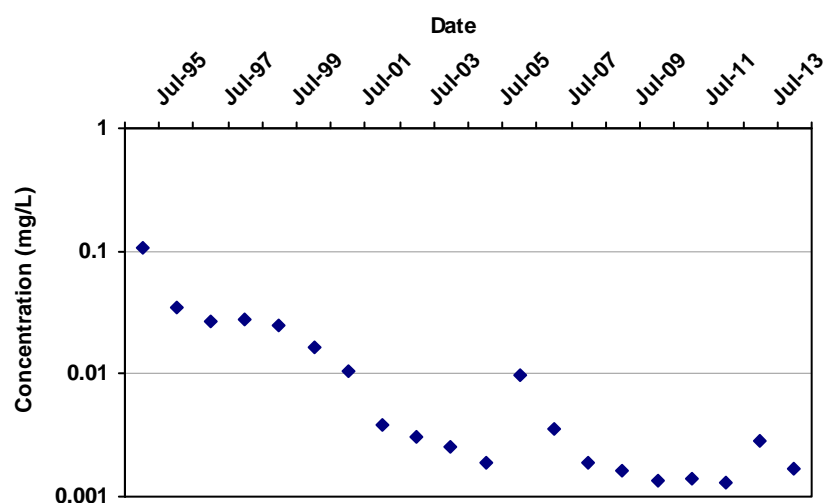
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-149

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.69

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-25D | T         | 7/1/1995       | TRICHLOROETHYLEN | 1.1E-01       |      | 12                | 12                |
| MW-25D | T         | 7/1/1996       | TRICHLOROETHYLEN | 3.4E-02       |      | 12                | 12                |
| MW-25D | T         | 7/1/1997       | TRICHLOROETHYLEN | 2.7E-02       |      | 9                 | 9                 |
| MW-25D | T         | 7/1/1998       | TRICHLOROETHYLEN | 2.8E-02       |      | 3                 | 3                 |
| MW-25D | T         | 7/1/1999       | TRICHLOROETHYLEN | 2.4E-02       |      | 4                 | 4                 |
| MW-25D | T         | 7/1/2000       | TRICHLOROETHYLEN | 1.6E-02       |      | 5                 | 5                 |
| MW-25D | T         | 7/1/2001       | TRICHLOROETHYLEN | 1.1E-02       |      | 4                 | 4                 |
| MW-25D | T         | 7/1/2002       | TRICHLOROETHYLEN | 3.8E-03       |      | 4                 | 4                 |
| MW-25D | T         | 7/1/2003       | TRICHLOROETHYLEN | 3.1E-03       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-25D | T         | 7/1/2004       | TRICHLOROETHYLEN | 2.6E-03       |      | 2                 | 2                 |
| MW-25D | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.9E-03       |      | 1                 | 1                 |
| MW-25D | T         | 7/1/2006       | TRICHLOROETHYLEN | 9.9E-03       |      | 1                 | 1                 |
| MW-25D | T         | 7/1/2007       | TRICHLOROETHYLEN | 3.6E-03       |      | 3                 | 3                 |
| MW-25D | T         | 7/1/2008       | TRICHLOROETHYLEN | 1.9E-03       |      | 2                 | 2                 |
| MW-25D | T         | 7/1/2009       | TRICHLOROETHYLEN | 1.6E-03       |      | 2                 | 2                 |
| MW-25D | T         | 7/1/2010       | TRICHLOROETHYLEN | 1.4E-03       |      | 3                 | 3                 |
| MW-25D | T         | 7/1/2011       | TRICHLOROETHYLEN | 1.4E-03       |      | 2                 | 2                 |
| MW-25D | T         | 7/1/2012       | TRICHLOROETHYLEN | 1.3E-03       |      | 2                 | 2                 |
| MW-25D | T         | 7/1/2013       | TRICHLOROETHYLEN | 2.8E-03       |      | 2                 | 2                 |
| MW-25D | T         | 7/1/2014       | TRICHLOROETHYLEN | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-26D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

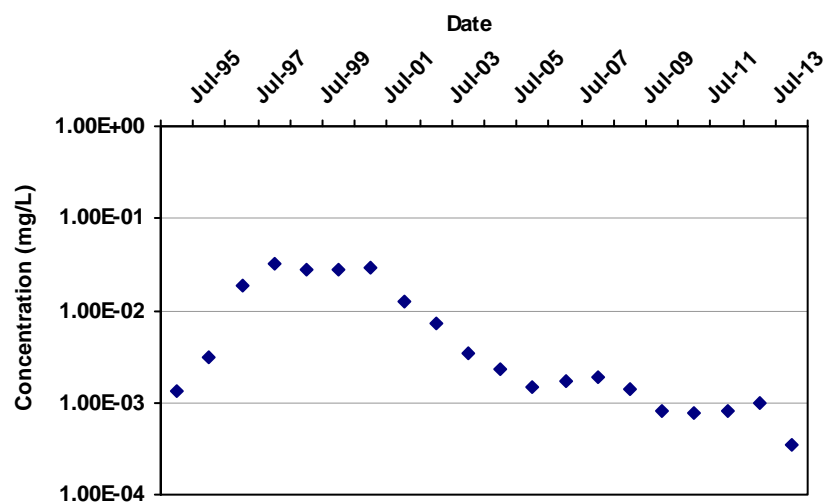
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-120

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.30

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-26D | T         | 7/1/1995       | TRICHLOROETHYLEN | 1.3E-03       |      | 11                | 10                |
| MW-26D | T         | 7/1/1996       | TRICHLOROETHYLEN | 3.1E-03       |      | 12                | 12                |
| MW-26D | T         | 7/1/1997       | TRICHLOROETHYLEN | 1.9E-02       |      | 9                 | 9                 |
| MW-26D | T         | 7/1/1998       | TRICHLOROETHYLEN | 3.2E-02       |      | 3                 | 3                 |
| MW-26D | T         | 7/1/1999       | TRICHLOROETHYLEN | 2.7E-02       |      | 4                 | 4                 |
| MW-26D | T         | 7/1/2000       | TRICHLOROETHYLEN | 2.7E-02       |      | 5                 | 5                 |
| MW-26D | T         | 7/1/2001       | TRICHLOROETHYLEN | 2.9E-02       |      | 4                 | 4                 |
| MW-26D | T         | 7/1/2002       | TRICHLOROETHYLEN | 1.2E-02       |      | 4                 | 4                 |
| MW-26D | T         | 7/1/2003       | TRICHLOROETHYLEN | 7.4E-03       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-26D | T         | 7/1/2004       | TRICHLOROETHYLEN | 3.4E-03       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2005       | TRICHLOROETHYLEN | 2.3E-03       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2006       | TRICHLOROETHYLEN | 1.4E-03       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2007       | TRICHLOROETHYLEN | 1.7E-03       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2008       | TRICHLOROETHYLEN | 1.8E-03       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2009       | TRICHLOROETHYLEN | 1.4E-03       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2010       | TRICHLOROETHYLEN | 8.1E-04       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2011       | TRICHLOROETHYLEN | 7.5E-04       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2012       | TRICHLOROETHYLEN | 8.0E-04       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2013       | TRICHLOROETHYLEN | 9.8E-04       |      | 2                 | 2                 |
| MW-26D | T         | 7/1/2014       | TRICHLOROETHYLEN | 3.5E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-27D

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

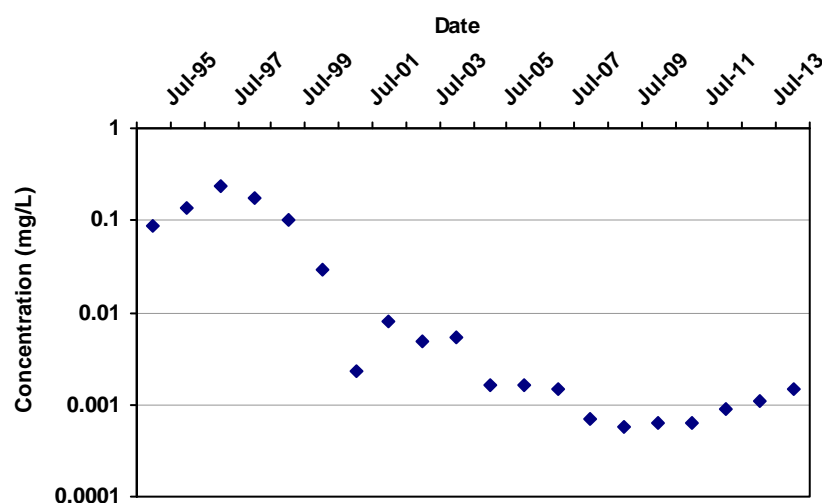
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-134

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

1.75

**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-27D | T         | 7/1/1995       | TRICHLOROETHYLEN | 8.9E-02       |      | 11                | 11                |
| MW-27D | T         | 7/1/1996       | TRICHLOROETHYLEN | 1.4E-01       |      | 2                 | 2                 |
| MW-27D | T         | 7/1/1997       | TRICHLOROETHYLEN | 2.4E-01       |      | 2                 | 2                 |
| MW-27D | T         | 7/1/1998       | TRICHLOROETHYLEN | 1.7E-01       |      | 2                 | 2                 |
| MW-27D | T         | 7/1/1999       | TRICHLOROETHYLEN | 1.0E-01       |      | 2                 | 2                 |
| MW-27D | T         | 7/1/2000       | TRICHLOROETHYLEN | 3.0E-02       |      | 4                 | 4                 |
| MW-27D | T         | 7/1/2001       | TRICHLOROETHYLEN | 2.2E-03       |      | 4                 | 3                 |
| MW-27D | T         | 7/1/2002       | TRICHLOROETHYLEN | 8.1E-03       |      | 4                 | 4                 |
| MW-27D | T         | 7/1/2003       | TRICHLOROETHYLEN | 5.0E-03       |      | 3                 | 3                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-27D | T         | 7/1/2004       | TRICHLOROETHYLEN | 5.3E-03       |      | 2                 | 2                 |
| MW-27D | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.6E-03       |      | 1                 | 1                 |
| MW-27D | T         | 7/1/2006       | TRICHLOROETHYLEN | 1.6E-03       |      | 1                 | 1                 |
| MW-27D | T         | 7/1/2007       | TRICHLOROETHYLEN | 1.5E-03       |      | 1                 | 1                 |
| MW-27D | T         | 7/1/2008       | TRICHLOROETHYLEN | 6.9E-04       |      | 2                 | 2                 |
| MW-27D | T         | 7/1/2009       | TRICHLOROETHYLEN | 5.8E-04       |      | 2                 | 2                 |
| MW-27D | T         | 7/1/2010       | TRICHLOROETHYLEN | 6.4E-04       |      | 3                 | 3                 |
| MW-27D | T         | 7/1/2011       | TRICHLOROETHYLEN | 6.3E-04       |      | 1                 | 1                 |
| MW-27D | T         | 7/1/2012       | TRICHLOROETHYLEN | 8.9E-04       |      | 1                 | 1                 |
| MW-27D | T         | 7/1/2013       | TRICHLOROETHYLEN | 1.1E-03       |      | 1                 | 1                 |
| MW-27D | T         | 7/1/2014       | TRICHLOROETHYLEN | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-49

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

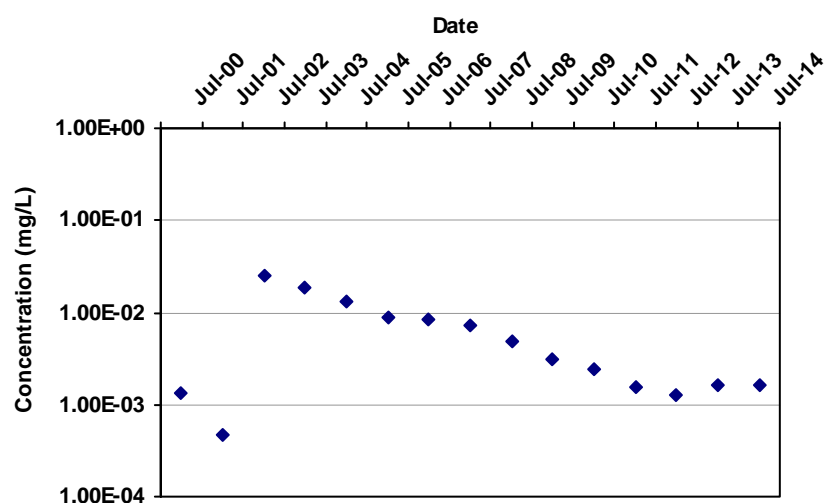
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-45

**Confidence in Trend:**

98.6%

**Coefficient of Variation:**

1.09

**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-49 | T         | 7/1/2000       | TRICHLOROETHYLEN | 1.3E-03       |      | 3                 | 2                 |
| MW-49 | T         | 7/1/2001       | TRICHLOROETHYLEN | 4.7E-04       |      | 4                 | 2                 |
| MW-49 | T         | 7/1/2002       | TRICHLOROETHYLEN | 2.5E-02       |      | 4                 | 4                 |
| MW-49 | T         | 7/1/2003       | TRICHLOROETHYLEN | 1.9E-02       |      | 3                 | 3                 |
| MW-49 | T         | 7/1/2004       | TRICHLOROETHYLEN | 1.3E-02       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2005       | TRICHLOROETHYLEN | 9.0E-03       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2006       | TRICHLOROETHYLEN | 8.5E-03       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2007       | TRICHLOROETHYLEN | 7.3E-03       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2008       | TRICHLOROETHYLEN | 4.9E-03       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-49 | T         | 7/1/2009       | TRICHLOROETHYLEN | 3.1E-03       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2010       | TRICHLOROETHYLEN | 2.4E-03       |      | 1                 | 1                 |
| MW-49 | T         | 7/1/2011       | TRICHLOROETHYLEN | 1.5E-03       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2012       | TRICHLOROETHYLEN | 1.2E-03       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2013       | TRICHLOROETHYLEN | 1.6E-03       |      | 2                 | 2                 |
| MW-49 | T         | 7/1/2014       | TRICHLOROETHYLEN | 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

## **TOE OF PLUME WELLS**

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# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-42

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

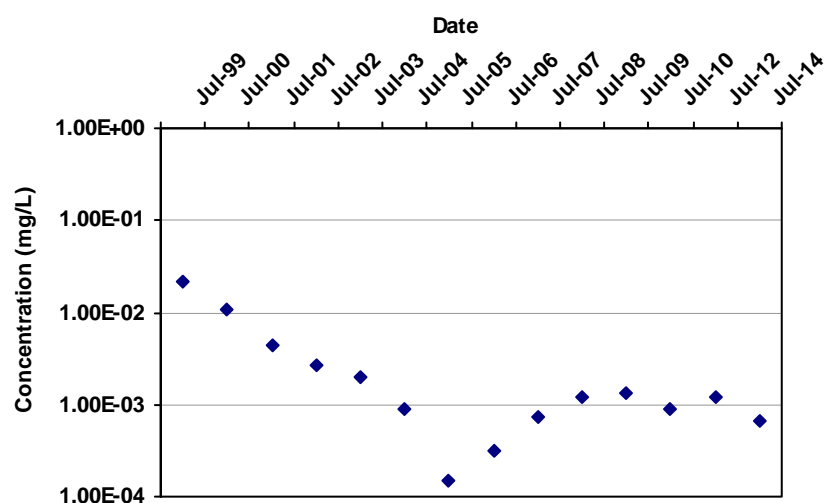
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-44

**Confidence in Trend:**

99.2%

**Coefficient of Variation:**

1.68

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-42 | T         | 7/1/1999       | TRICHLOROETHYLEN | 2.1E-02       |      | 9                 | 9                 |
| AMW-42 | T         | 7/1/2000       | TRICHLOROETHYLEN | 1.1E-02       |      | 13                | 13                |
| AMW-42 | T         | 7/1/2001       | TRICHLOROETHYLEN | 4.3E-03       |      | 4                 | 4                 |
| AMW-42 | T         | 7/1/2002       | TRICHLOROETHYLEN | 2.7E-03       |      | 4                 | 4                 |
| AMW-42 | T         | 7/1/2003       | TRICHLOROETHYLEN | 2.0E-03       |      | 3                 | 3                 |
| AMW-42 | T         | 7/1/2004       | TRICHLOROETHYLEN | 8.7E-04       |      | 6                 | 5                 |
| AMW-42 | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.5E-04       |      | 4                 | 1                 |
| AMW-42 | T         | 7/1/2006       | TRICHLOROETHYLEN | 3.1E-04       |      | 2                 | 2                 |
| AMW-42 | T         | 7/1/2007       | TRICHLOROETHYLEN | 7.5E-04       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-42 | T         | 7/1/2008       | TRICHLOROETHYLEN | 1.2E-03       |      | 1                 | 1                 |
| AMW-42 | T         | 7/1/2009       | TRICHLOROETHYLEN | 1.3E-03       |      | 1                 | 1                 |
| AMW-42 | T         | 7/1/2010       | TRICHLOROETHYLEN | 8.8E-04       |      | 1                 | 1                 |
| AMW-42 | T         | 7/1/2012       | TRICHLOROETHYLEN | 1.2E-03       |      | 1                 | 1                 |
| AMW-42 | T         | 7/1/2014       | TRICHLOROETHYLEN | 6.5E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: AMW-63

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

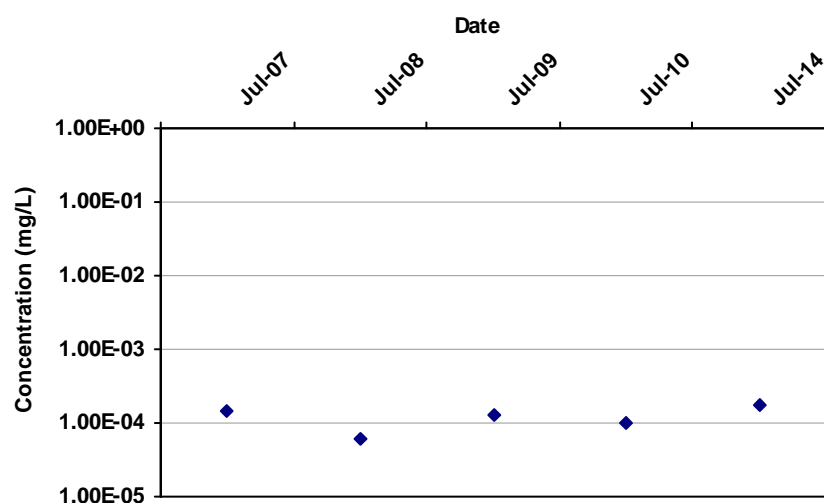
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

2

**Confidence in Trend:**

59.2%

**Coefficient of Variation:**

0.35

**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 |
|--------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| AMW-63 | T         | 7/1/2007       | TRICHLOROETHYLEN | 1.5E-04       |      | 4                 | 1                 |
| AMW-63 | T         | 7/1/2008       | TRICHLOROETHYLEN | 6.1E-05       | ND   | 2                 | 0                 |
| AMW-63 | T         | 7/1/2009       | TRICHLOROETHYLEN | 1.3E-04       |      | 2                 | 2                 |
| AMW-63 | T         | 7/1/2010       | TRICHLOROETHYLEN | 1.0E-04       | ND   | 1                 | 0                 |
| AMW-63 | T         | 7/1/2014       | TRICHLOROETHYLEN | 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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-31

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

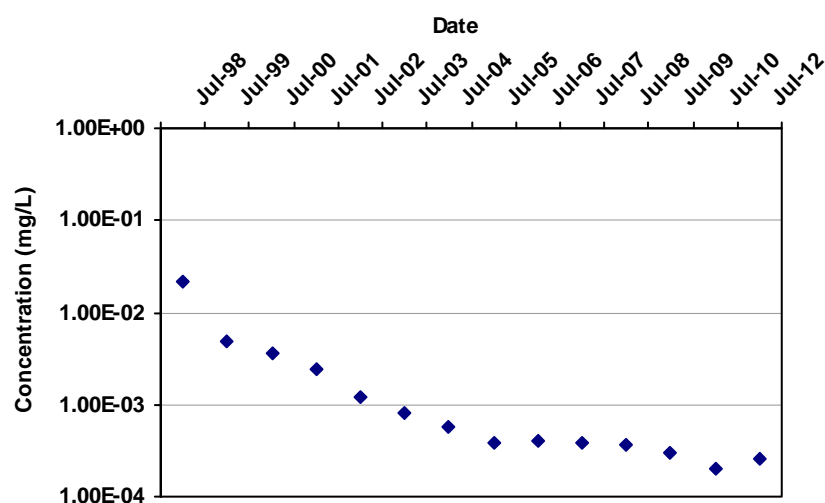
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-85

**Confidence in Trend:**

100.0%

**Coefficient of Variation:**

2.12

**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-31 | T         | 7/1/1998       | TRICHLOROETHYLEN | 2.2E-02       |      | 2                 | 2                 |
| MW-31 | T         | 7/1/1999       | TRICHLOROETHYLEN | 4.9E-03       |      | 8                 | 8                 |
| MW-31 | T         | 7/1/2000       | TRICHLOROETHYLEN | 3.7E-03       |      | 13                | 13                |
| MW-31 | T         | 7/1/2001       | TRICHLOROETHYLEN | 2.4E-03       |      | 2                 | 2                 |
| MW-31 | T         | 7/1/2002       | TRICHLOROETHYLEN | 1.2E-03       |      | 3                 | 3                 |
| MW-31 | T         | 7/1/2003       | TRICHLOROETHYLEN | 7.9E-04       |      | 3                 | 3                 |
| MW-31 | T         | 7/1/2004       | TRICHLOROETHYLEN | 5.7E-04       |      | 2                 | 2                 |
| MW-31 | T         | 7/1/2005       | TRICHLOROETHYLEN | 3.8E-04       |      | 1                 | 1                 |
| MW-31 | T         | 7/1/2006       | TRICHLOROETHYLEN | 4.0E-04       |      | 1                 | 1                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-31 | T         | 7/1/2007       | TRICHLOROETHYLEN | 3.9E-04       |      | 1                 | 1                 |
| MW-31 | T         | 7/1/2008       | TRICHLOROETHYLEN | 3.6E-04       |      | 1                 | 1                 |
| MW-31 | T         | 7/1/2009       | TRICHLOROETHYLEN | 3.0E-04       |      | 1                 | 1                 |
| MW-31 | T         | 7/1/2010       | TRICHLOROETHYLEN | 2.0E-04       |      | 1                 | 1                 |
| MW-31 | T         | 7/1/2012       | TRICHLOROETHYLEN | 2.6E-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: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-35

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

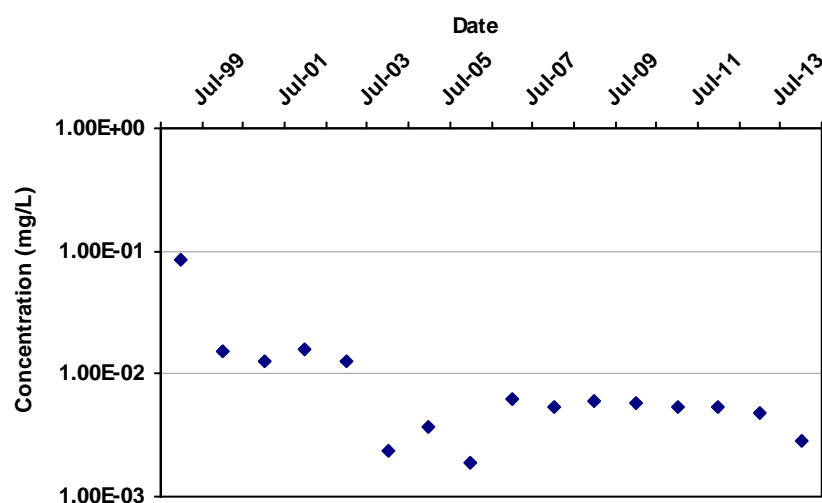
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-57

**Confidence in Trend:**

99.5%

**Coefficient of Variation:**

1.67

**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-35 | T         | 7/1/1999       | TRICHLOROETHYLEN | 8.5E-02       |      | 6                 | 6                 |
| MW-35 | T         | 7/1/2000       | TRICHLOROETHYLEN | 1.5E-02       |      | 12                | 12                |
| MW-35 | T         | 7/1/2001       | TRICHLOROETHYLEN | 1.2E-02       |      | 12                | 11                |
| MW-35 | T         | 7/1/2002       | TRICHLOROETHYLEN | 1.6E-02       |      | 7                 | 7                 |
| MW-35 | T         | 7/1/2003       | TRICHLOROETHYLEN | 1.3E-02       |      | 3                 | 3                 |
| MW-35 | T         | 7/1/2004       | TRICHLOROETHYLEN | 2.4E-03       |      | 5                 | 5                 |
| MW-35 | T         | 7/1/2005       | TRICHLOROETHYLEN | 3.6E-03       |      | 4                 | 4                 |
| MW-35 | T         | 7/1/2006       | TRICHLOROETHYLEN | 1.9E-03       |      | 2                 | 2                 |
| MW-35 | T         | 7/1/2007       | TRICHLOROETHYLEN | 6.2E-03       |      | 2                 | 2                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well  | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-35 | T         | 7/1/2008       | TRICHLOROETHYLEN | 5.4E-03       |      | 2                 | 2                 |
| MW-35 | T         | 7/1/2009       | TRICHLOROETHYLEN | 6.1E-03       |      | 2                 | 2                 |
| MW-35 | T         | 7/1/2010       | TRICHLOROETHYLEN | 5.8E-03       |      | 2                 | 2                 |
| MW-35 | T         | 7/1/2011       | TRICHLOROETHYLEN | 5.4E-03       |      | 1                 | 1                 |
| MW-35 | T         | 7/1/2012       | TRICHLOROETHYLEN | 5.4E-03       |      | 1                 | 1                 |
| MW-35 | T         | 7/1/2013       | TRICHLOROETHYLEN | 4.8E-03       |      | 2                 | 2                 |
| MW-35 | T         | 7/1/2014       | TRICHLOROETHYLEN | 2.8E-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

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Well: MW-41

Time Period: 1/19/1995 to 10/22/2014

Well Type: T

Consolidation Period: Yearly

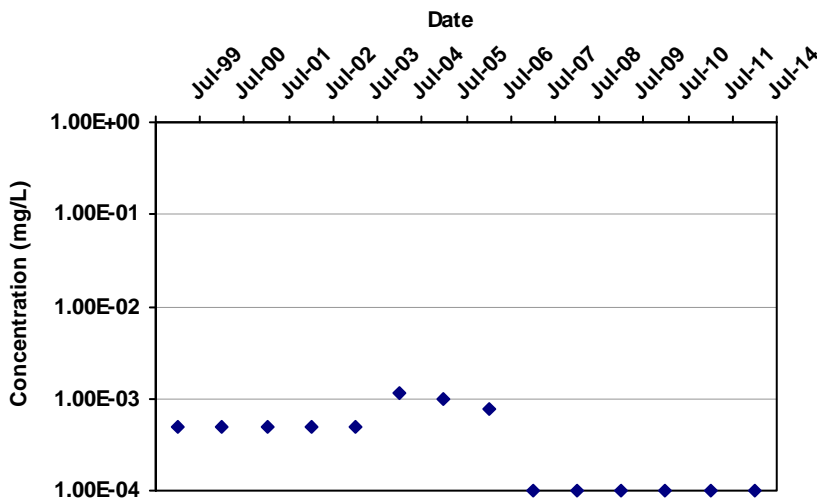
COC: TRICHLOROETHYLENE (TCE)

Duplicate Consolidation: Geometric Mean

Consolidation Type: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value



**Mann Kendall S Statistic:**

-34

**Confidence in Trend:**

96.5%

**Coefficient of Variation:**

0.82

**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-41 | T         | 7/1/1999       | TRICHLOROETHYLEN | 5.0E-04       | ND   | 9                 | 0                 |
| MW-41 | T         | 7/1/2000       | TRICHLOROETHYLEN | 5.0E-04       | ND   | 13                | 0                 |
| MW-41 | T         | 7/1/2001       | TRICHLOROETHYLEN | 5.0E-04       | ND   | 4                 | 0                 |
| MW-41 | T         | 7/1/2002       | TRICHLOROETHYLEN | 5.0E-04       | ND   | 4                 | 0                 |
| MW-41 | T         | 7/1/2003       | TRICHLOROETHYLEN | 5.0E-04       | ND   | 3                 | 0                 |
| MW-41 | T         | 7/1/2004       | TRICHLOROETHYLEN | 1.1E-03       |      | 6                 | 2                 |
| MW-41 | T         | 7/1/2005       | TRICHLOROETHYLEN | 1.0E-03       |      | 5                 | 4                 |
| MW-41 | T         | 7/1/2006       | TRICHLOROETHYLEN | 7.9E-04       |      | 2                 | 1                 |
| MW-41 | T         | 7/1/2007       | TRICHLOROETHYLEN | 1.0E-04       | ND   | 4                 | 0                 |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

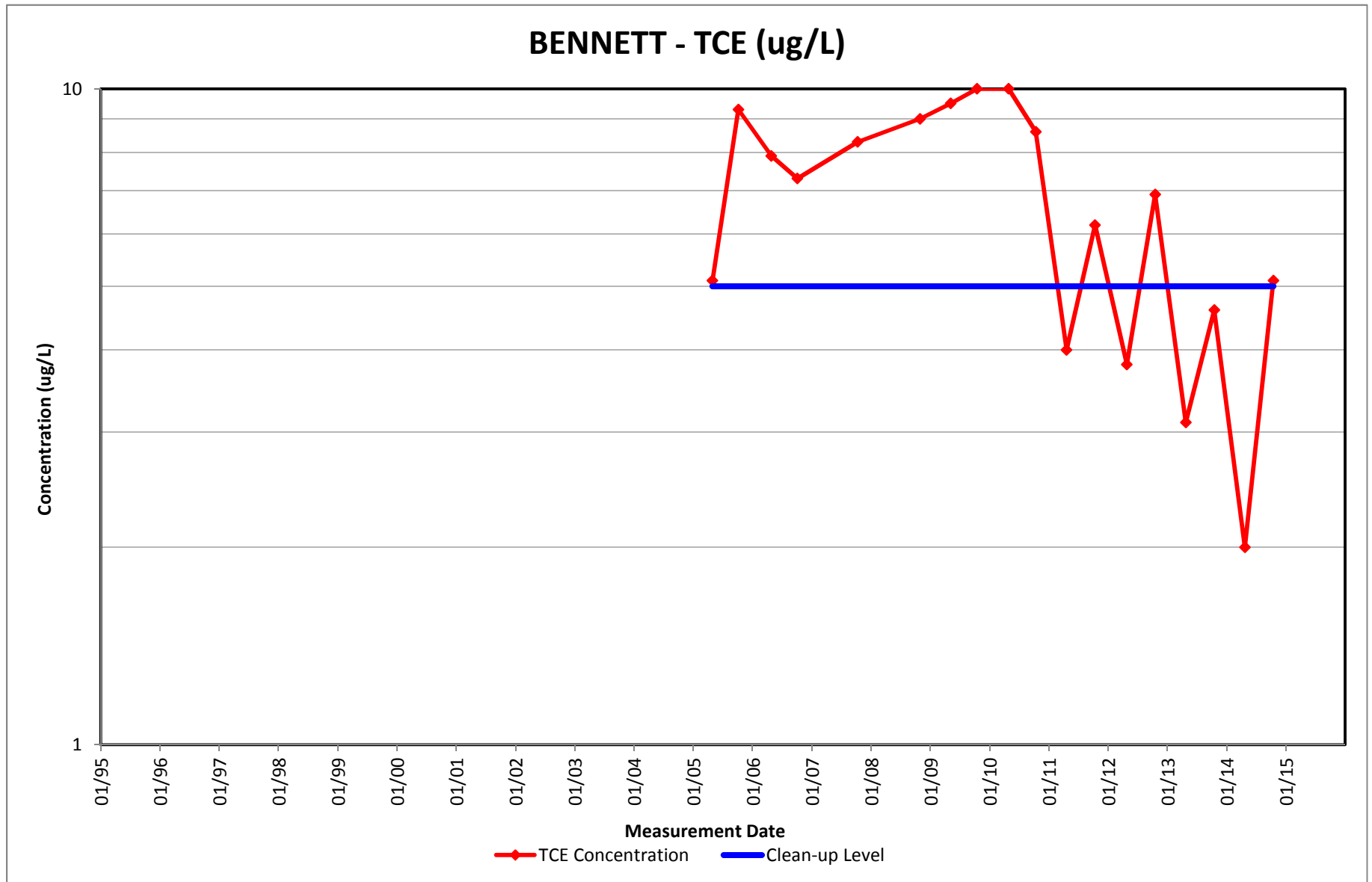
| Well  | Well Type | Effective Date | Constituent      | Result (mg/L) | Flag | Number of Samples | Number of Detects |
|-------|-----------|----------------|------------------|---------------|------|-------------------|-------------------|
| MW-41 | T         | 7/1/2008       | TRICHLOROETHYLEN | 1.0E-04       | ND   | 2                 | 0                 |
| MW-41 | T         | 7/1/2009       | TRICHLOROETHYLEN | 1.0E-04       | ND   | 2                 | 0                 |
| MW-41 | T         | 7/1/2010       | TRICHLOROETHYLEN | 1.0E-04       | ND   | 1                 | 0                 |
| MW-41 | T         | 7/1/2011       | TRICHLOROETHYLEN | 1.0E-04       | ND   | 1                 | 0                 |
| MW-41 | T         | 7/1/2014       | TRICHLOROETHYLEN | 1.0E-04       | ND   | 1                 | 0                 |

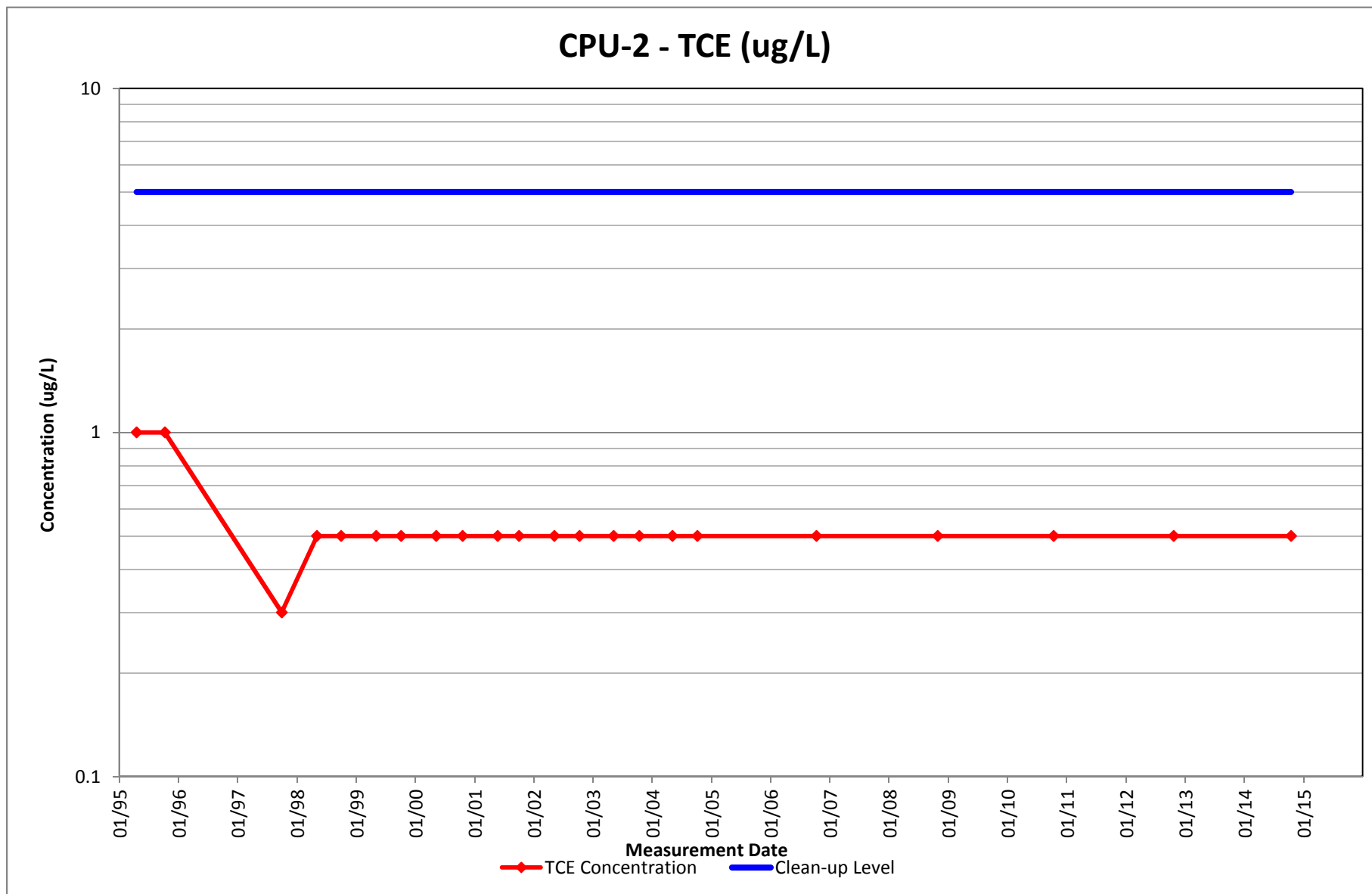
Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A) - Due to insufficient Data (< 4 sampling events); ND = Non-detect

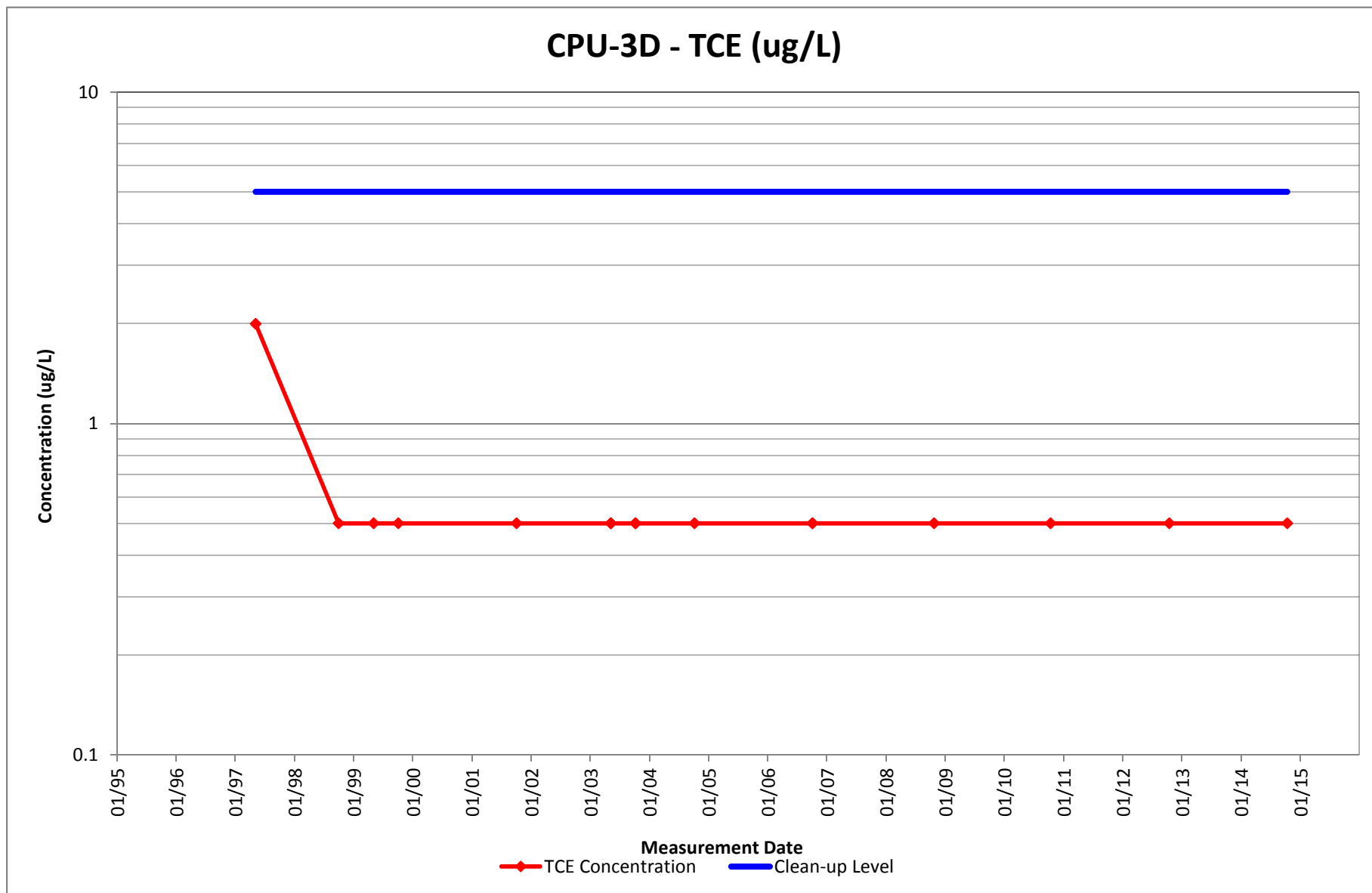
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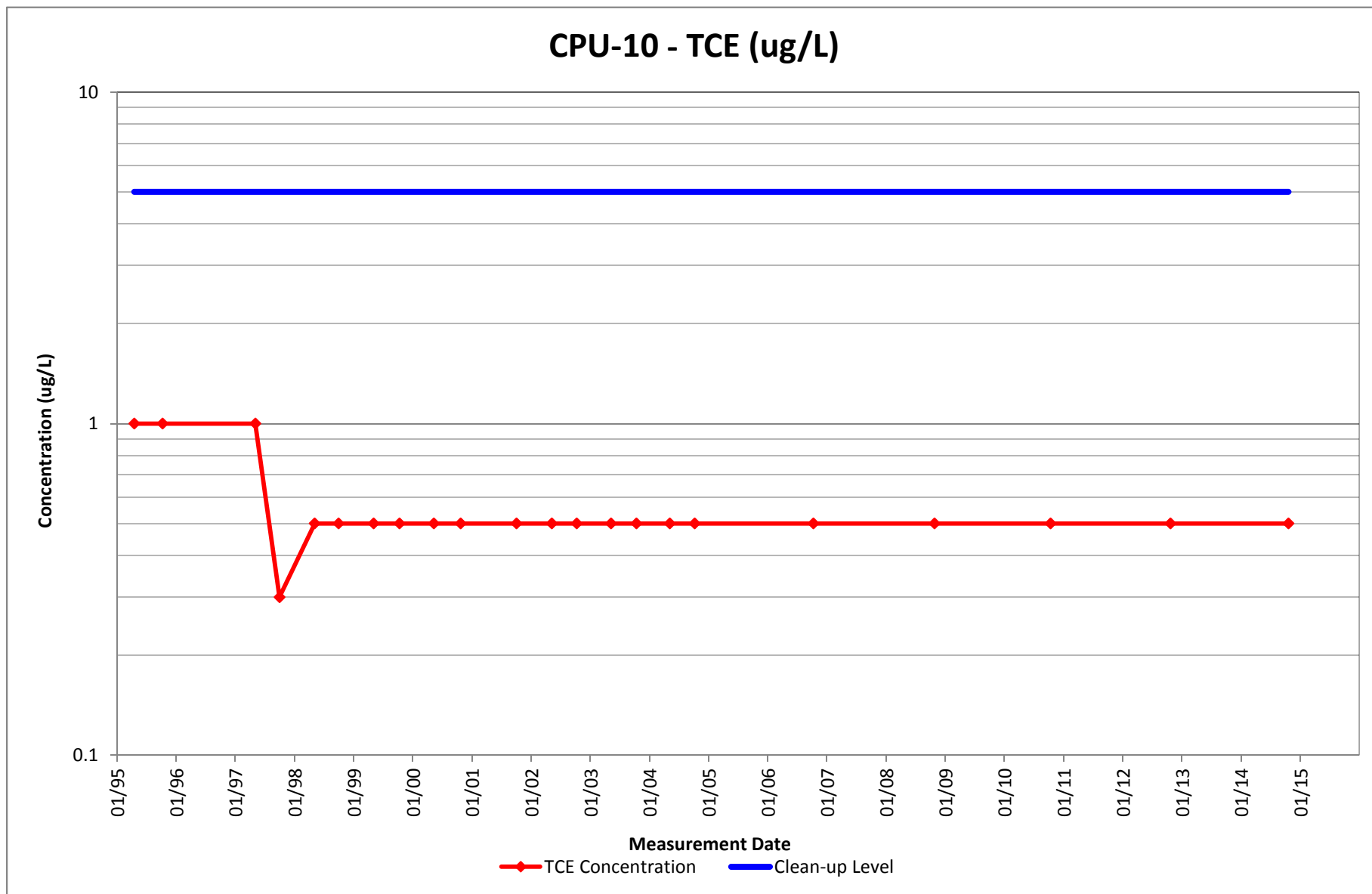
# **TROUTDALE WELLS**

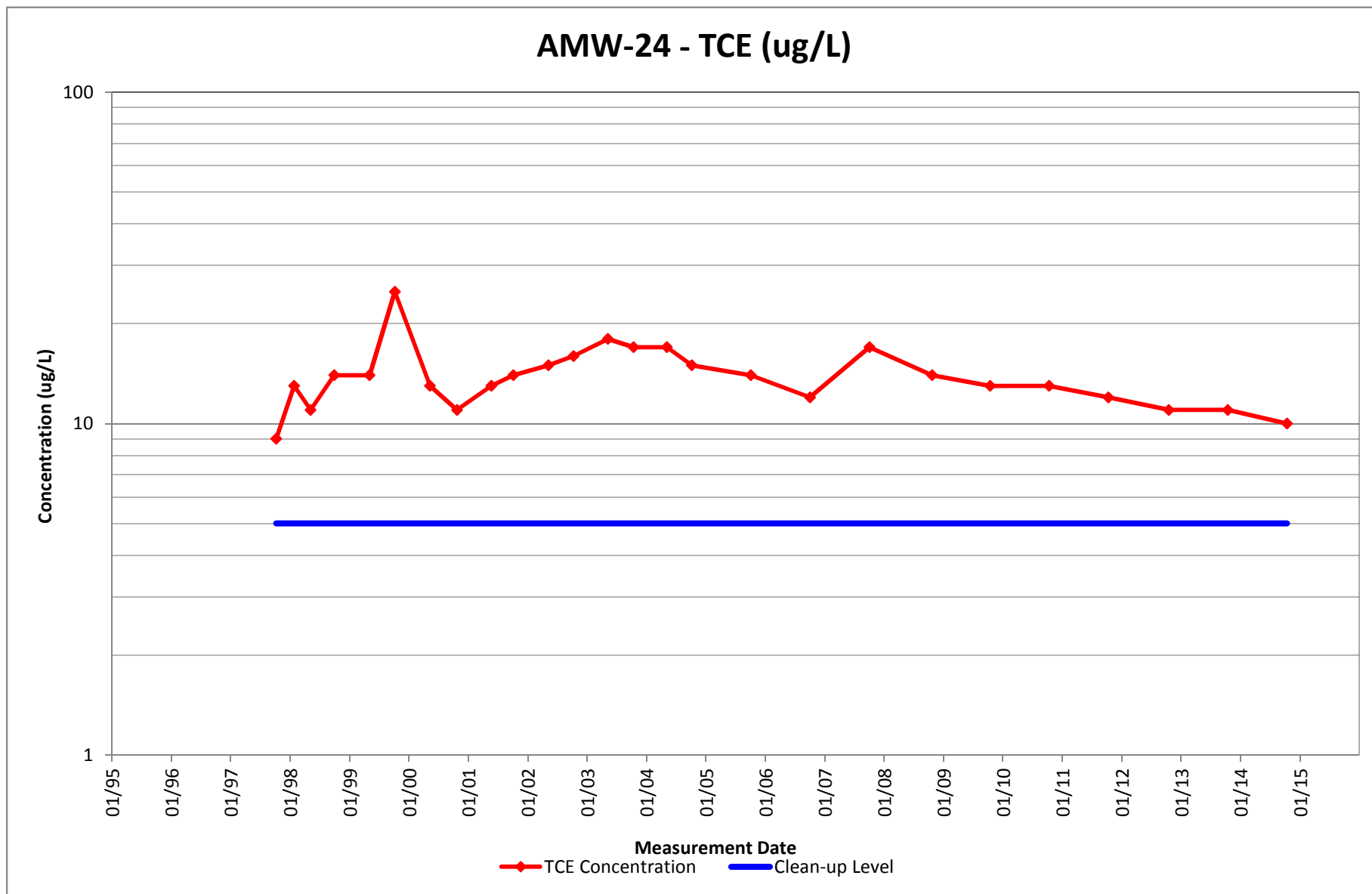
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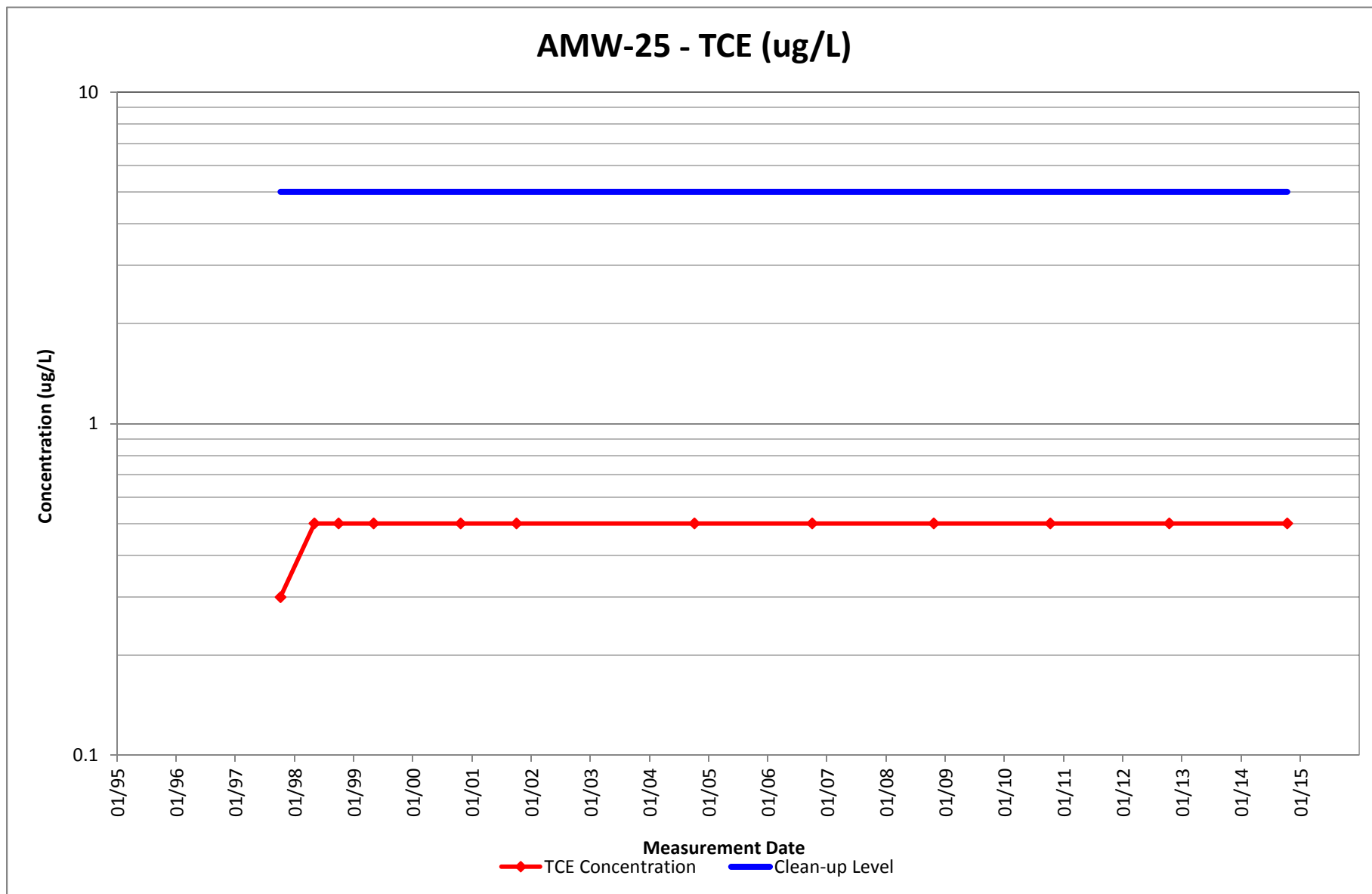


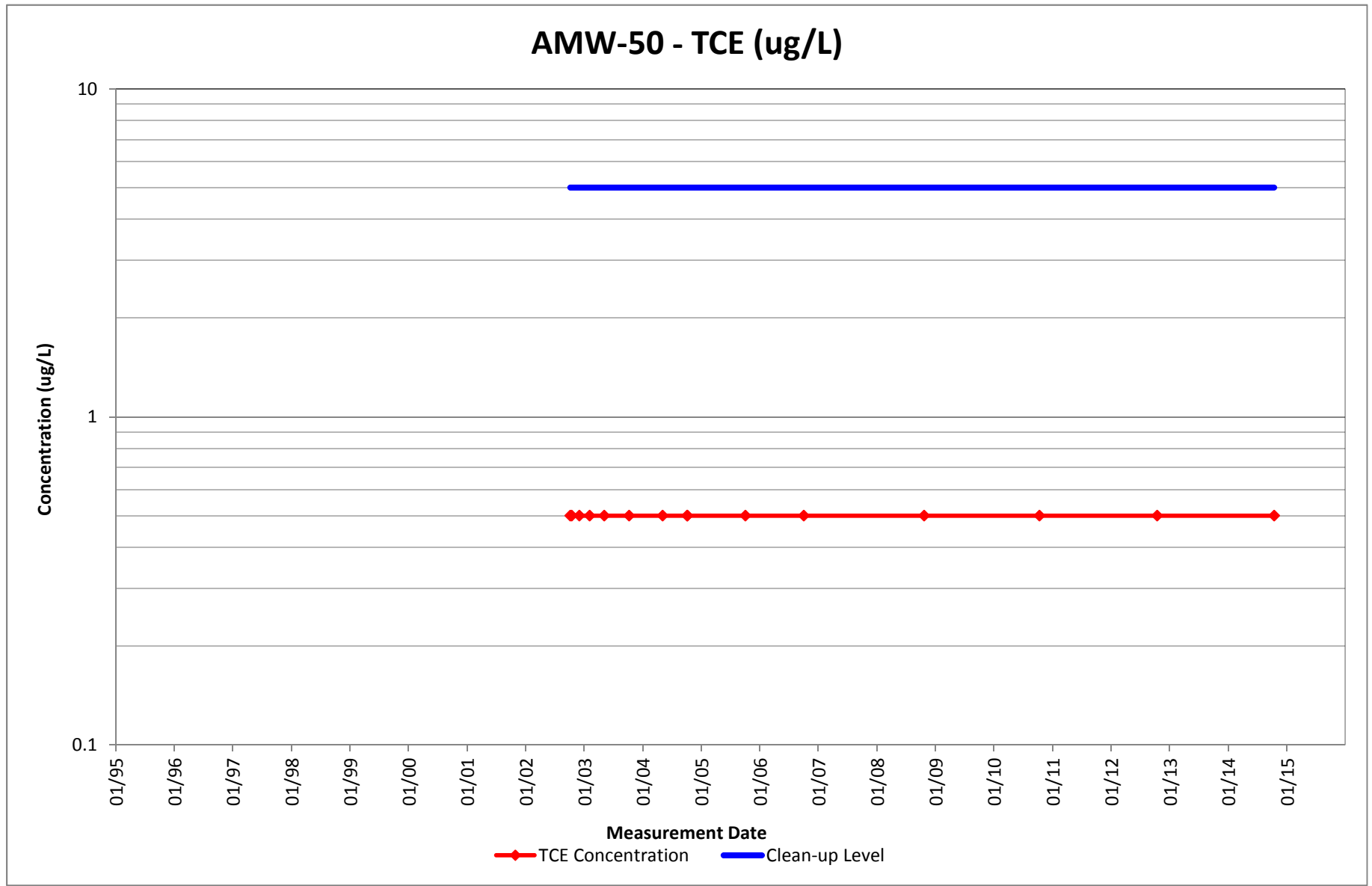


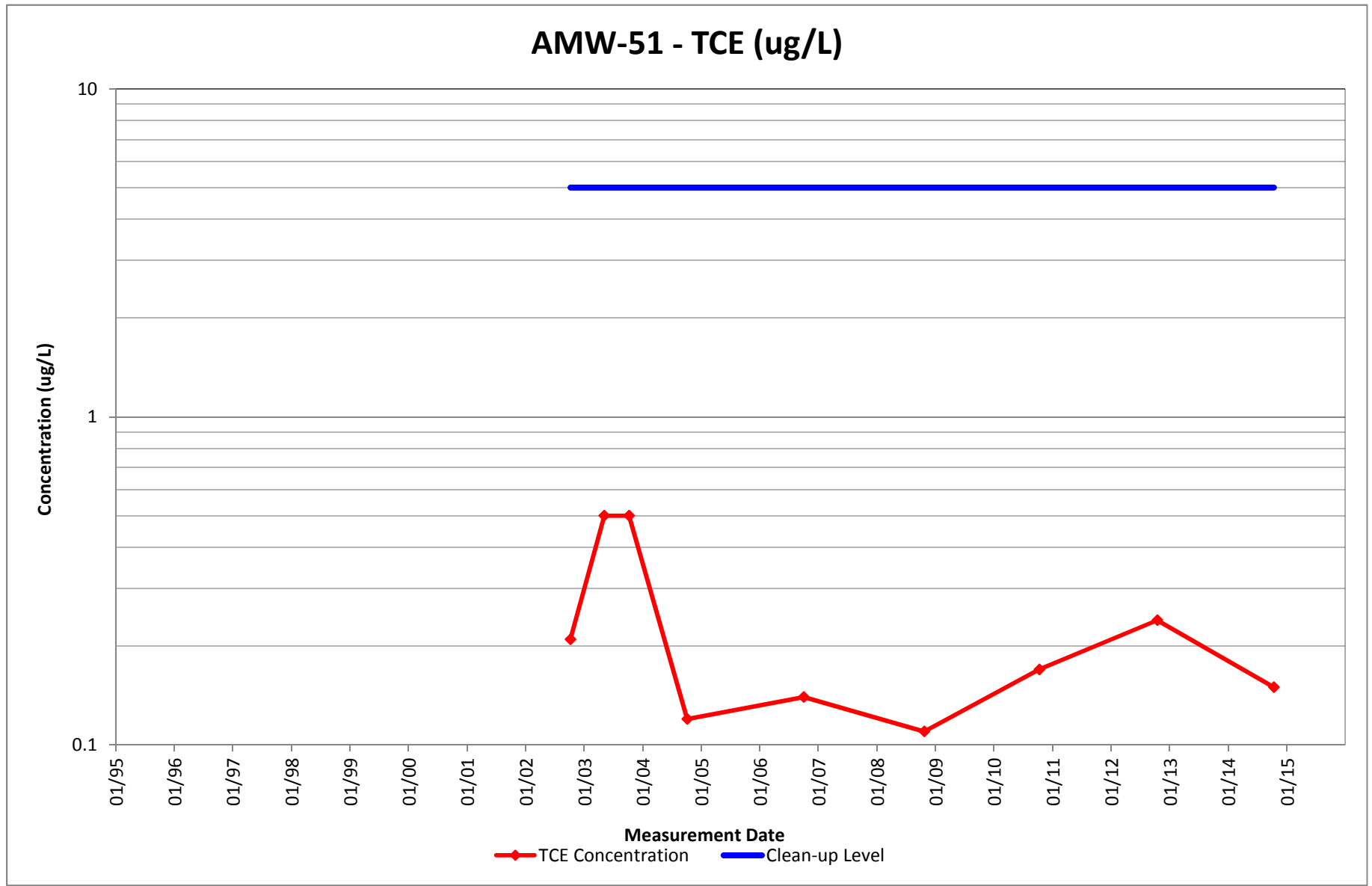


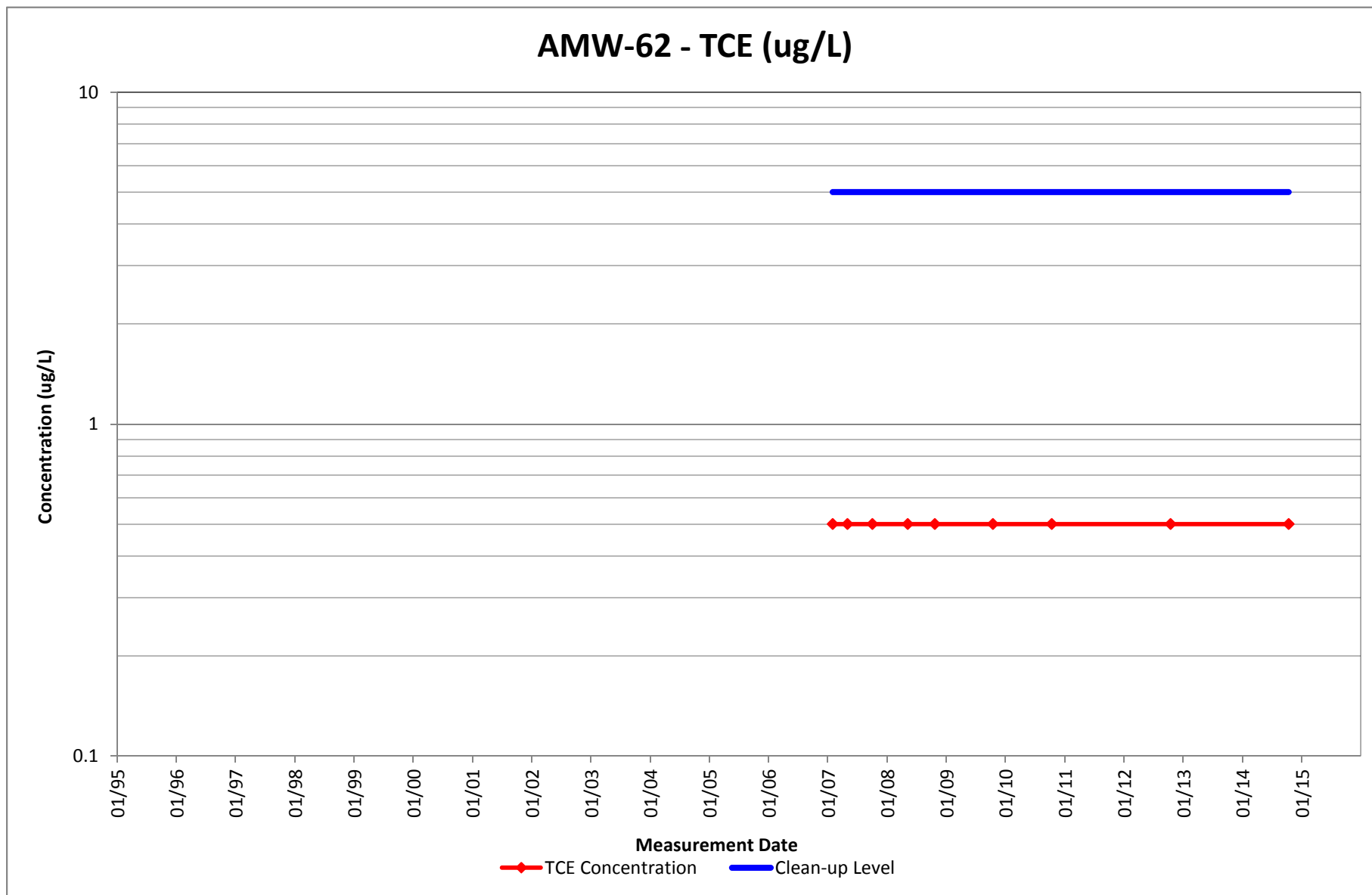


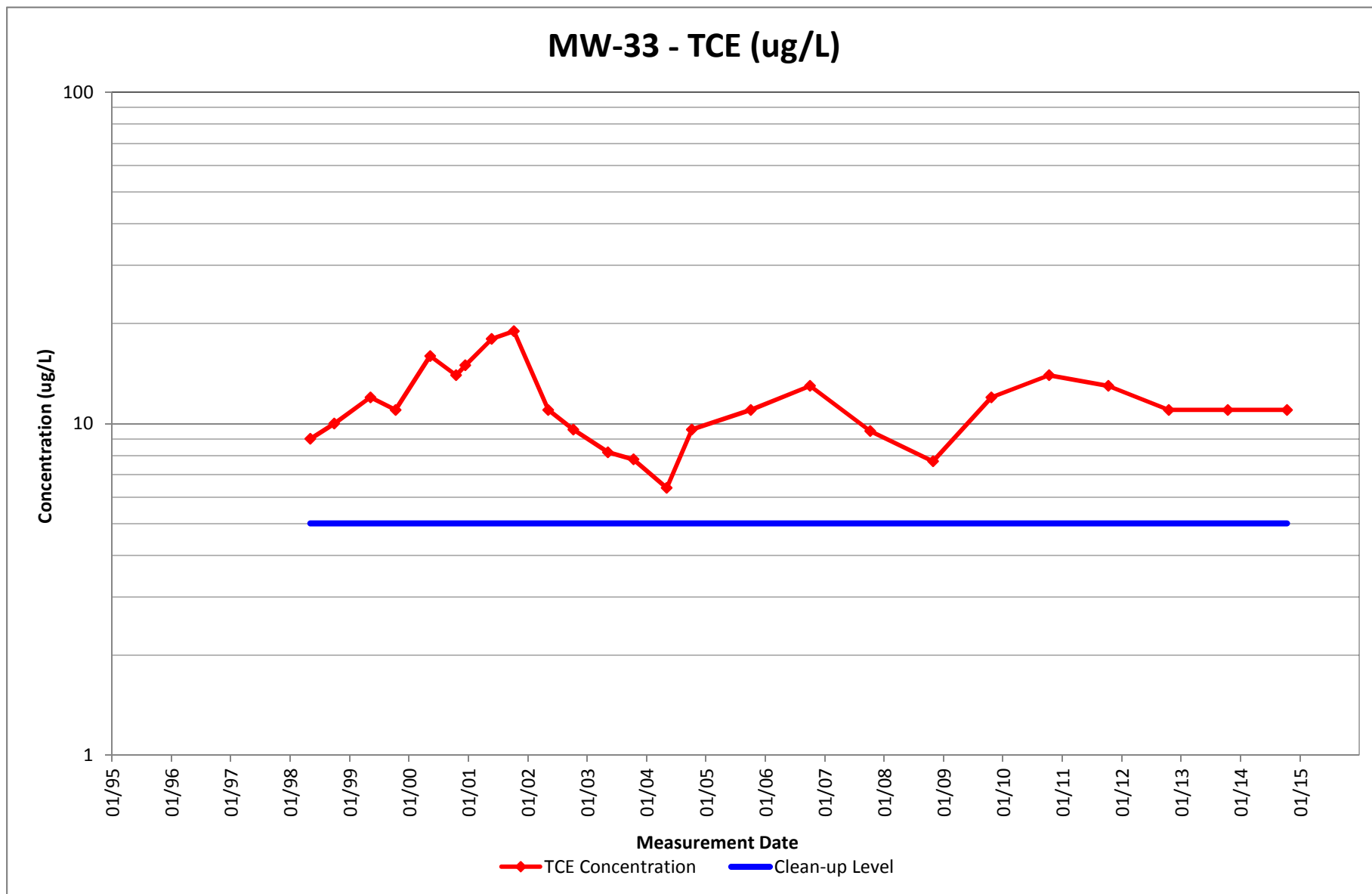


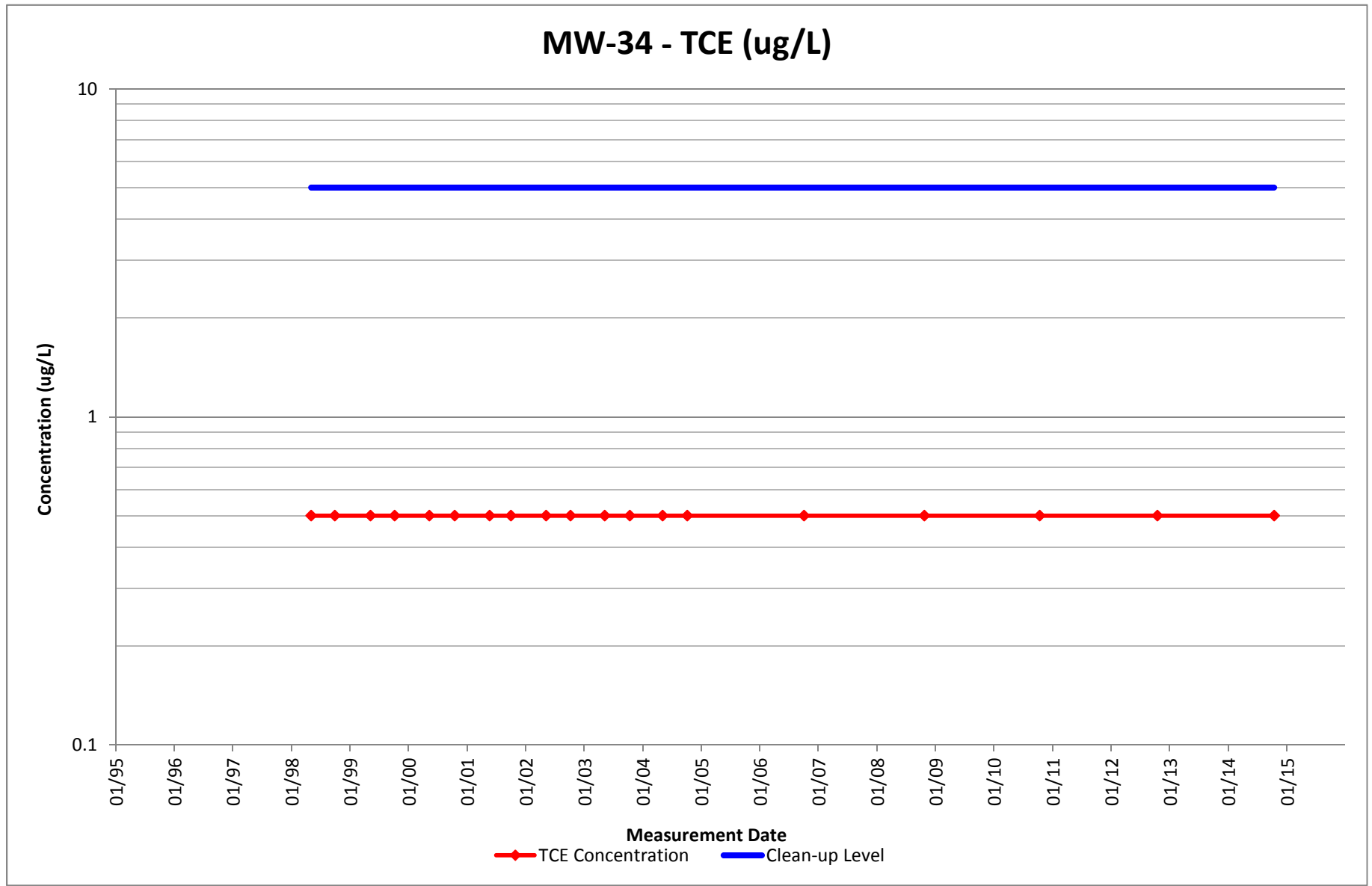












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**APPENDIX C**

**MAROS RESULTS SUMMARY  
AND  
ADDITIONAL OUTPUTS**

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**APPENDIX C-1**

**MAROS RESULTS SUMMARY TABLE**

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TABLE C-1. 2014 MAROS RESULTS SUMMARY

| Well Name                 | TCE         |          |                                |                          |                        |                             |                            |                                                       |                               | Chromium    |          |                                |                          |                        |                             |                            |                                                       |                               | MAROS Recommended Sampling Frequency |          |
|---------------------------|-------------|----------|--------------------------------|--------------------------|------------------------|-----------------------------|----------------------------|-------------------------------------------------------|-------------------------------|-------------|----------|--------------------------------|--------------------------|------------------------|-----------------------------|----------------------------|-------------------------------------------------------|-------------------------------|--------------------------------------|----------|
|                           | Sample Size | MK Trend | Coefficient of Variation (COV) | Sequential T-Test Result |                        | Cleanup Status <sup>1</sup> | Conc. Below Cleanup Levels | Conc. Statistically Below Cleanup Levels <sup>2</sup> | MAROS Statistically Redundant | Sample Size | MK Trend | Coefficient of Variation (COV) | Sequential T-Test Result |                        | Cleanup Status <sup>1</sup> | Conc. Below Cleanup Levels | Conc. Statistically Below Cleanup Levels <sup>2</sup> | MAROS Statistically Redundant | TCE                                  | Chromium |
|                           |             |          |                                | Normal Distribution      | Lognormal Distribution |                             |                            |                                                       |                               |             |          |                                | Normal Distribution      | Lognormal Distribution |                             |                            |                                                       |                               |                                      |          |
| <b>Upgradient Wells</b>   |             |          |                                |                          |                        |                             |                            |                                                       |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               |                                      |          |
| AMW-6A                    | 10          | NT       | 0.72                           | Attained                 | Cont Sampling          | Attained                    | Yes                        | Yes                                                   |                               | 9           | NT       | 0.36                           | Attained                 | Attained               | Attained                    | Yes                        | Yes                                                   |                               | NFS                                  | NFS      |
| AMW-7A                    | 15          | I        | 0.82                           | Attained                 | Cont Sampling          | Attained                    | Yes                        | Yes                                                   |                               | 10          | S        | 0.52                           | Attained                 | Attained               | Attained                    | Yes                        | Yes                                                   |                               | NFS                                  | NFS      |
| AMW-8A                    | 19          | D        | 1.95                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-10A                   | 9           | NT       | 0.64                           | Attained                 | Cont Sampling          | Attained                    | Yes                        | Yes                                                   |                               | 8           | NT       | 0.63                           | Attained                 | Cont Sampling          | Attained                    | Yes                        | Yes                                                   |                               | NFS                                  | NFS      |
| AMW-11A                   | 10          | NT       | 0.74                           | Attained                 | Cont Sampling          | Attained                    | Yes                        | Yes                                                   |                               | 9           | S        | 0.55                           | Attained                 | Cont Sampling          | Attained                    | Yes                        | Yes                                                   |                               | NFS                                  | NFS      |
| <b>TCE Source Wells</b>   |             |          |                                |                          |                        |                             |                            |                                                       |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               |                                      |          |
| AMW-1A                    | 20          | D        | 1.80                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-2A                    | 20          | D        | 1.38                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | No                         | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-2B                    | 15          | NT       | 1.22                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-3A                    | 19          | D        | 1.11                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-12A                   | 20          | D        | 1.71                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | No                         | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-13A                   | 19          | NT       | 2.24                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-19A                   | 18          | D        | 1.59                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-26                    | 16          | D        | 1.55                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-52A                   | 11          | D        | 1.03                           | Attained                 | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-53A                   | 12          | D        | 2.06                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-54A                   | 11          | NT       | 1.64                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-55A                   | 10          | NT       | 1.83                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-56A                   | 11          | PD       | 2.82                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| MW-1A                     | 20          | D        | 1.12                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | No                         | No                                                    |                               | 14          | NT       | 2.01                           | Attained                 | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| <b>Proximal Wells</b>     |             |          |                                |                          |                        |                             |                            |                                                       |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               |                                      |          |
| MW-2A                     | 16          | D        | 0.69                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | 19          | NT       | 1.17                           | Cont Sampling            | Not Attained           | Not Attained                | No                         | No                                                    |                               | Biennial                             | Biennial |
| MW-3A                     |             |          |                                |                          |                        |                             |                            |                                                       |                               | 17          | D        | 0.78                           | Cont Sampling            | Not Attained           | Cont Sampling               | Yes                        | No                                                    |                               | NA                                   | Biennial |
| MW-3B                     | 11          | D        | 1.04                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| MW-4A                     |             |          |                                |                          |                        |                             |                            |                                                       |                               | 15          | D        | 0.96                           | Cont Sampling            | Not Attained           | Cont Sampling               | No                         | No                                                    |                               | NA                                   | Biennial |
| MW-4B                     | 11          | NT       | 2.73                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | 13          | D        | 0.82                           | Cont Sampling            | Not Attained           | Cont Sampling               | No                         | No                                                    |                               | Biennial                             | Biennial |
| MW-6A                     |             |          |                                |                          |                        |                             |                            |                                                       |                               | 4           | NT       | 1.27                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | No                         | No                                                    |                               | NA                                   | Biennial |
| MW-6B                     | 20          | D        | 1.55                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    | TRUE                          | 20          | D        | 2.16                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| MW-7B                     | 6           | D        | 1.14                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| MW-8B                     | 10          | D        | 2.02                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| MW-9B                     | 11          | D        | 1.64                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    | TRUE                          |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| MW-10B                    | 20          | D        | 1.78                           | Cont Sampling            | Not Attained           | Not Attained                | No                         | No                                                    |                               | 20          | D        | 1.03                           | Cont Sampling            | Not Attained           | Not Attained                | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| MW-10C                    | 20          | D        | 1.87                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | 20          | D        | 2.09                           | Cont Sampling            | Not Attained           | Not Attained                | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| MW-12C                    | 18          | D        | 2.69                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| MW-13C                    | 18          | D        | 0.80                           | Cont Sampling            | Not Attained           | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| PW-1B                     | 20          | D        | 1.39                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | 20          | D        | 1.78                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| <b>Intermediate Wells</b> |             |          |                                |                          |                        |                             |                            |                                                       |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               |                                      |          |
| AMW-16                    | 19          | D        | 1.28                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | No                         | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-17                    | 19          | NT       | 1.72                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | No                         | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | SemiAnnual                           | NA       |
| AMW-18                    | 18          | I        | 1.71                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | No                         | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Quarterly                            | NA       |
| AMW-59                    | 8           | D        | 0.45                           | Cont Sampling            | Not Attained           | Cont Sampling               | No                         | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| AMW-64                    | 3           | N/A      | 0.00                           | N/C                      | N/C                    | N/C                         | No                         | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Quarterly                            | NA       |
| CPU-14                    | 20          | D        | 0.76                           | Cont Sampling            | Not Attained           | Cont Sampling               | No                         | No                                                    |                               | 20          | D        | 1.03                           | Cont Sampling            | Not Attained           | Not Attained                | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| MW-14C                    | 20          | D        | 1.83                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | No                         | No                                                    | TRUE                          | 20          | D        | 1.61                           | Cont Sampling            | Not Attained           | Not Attained                | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| MW-14E                    | 20          | D        | 1.83                           | Cont Sampling            | Not Attained           | Not Attained                | No                         | No                                                    |                               | 20          | D        | 2.34                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |

TABLE C-1. 2014 MAROS RESULTS SUMMARY

| Well Name                  | TCE         |          |                                |                          |                        |                             |                            |                                                       |                               | Chromium    |          |                                |                          |                        |                             |                            |                                                       |                               | MAROS Recommended Sampling Frequency |          |
|----------------------------|-------------|----------|--------------------------------|--------------------------|------------------------|-----------------------------|----------------------------|-------------------------------------------------------|-------------------------------|-------------|----------|--------------------------------|--------------------------|------------------------|-----------------------------|----------------------------|-------------------------------------------------------|-------------------------------|--------------------------------------|----------|
|                            | Sample Size | MK Trend | Coefficient of Variation (COV) | Sequential T-Test Result |                        | Cleanup Status <sup>1</sup> | Conc. Below Cleanup Levels | Conc. Statistically Below Cleanup Levels <sup>2</sup> | MAROS Statistically Redundant | Sample Size | MK Trend | Coefficient of Variation (COV) | Sequential T-Test Result |                        | Cleanup Status <sup>1</sup> | Conc. Below Cleanup Levels | Conc. Statistically Below Cleanup Levels <sup>2</sup> | MAROS Statistically Redundant | TCE                                  | Chromium |
|                            |             |          |                                | Normal Distribution      | Lognormal Distribution |                             |                            |                                                       |                               |             |          |                                | Normal Distribution      | Lognormal Distribution |                             |                            |                                                       |                               |                                      |          |
| MW-15E                     | 15          | D        | 2.22                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| MW-18D                     | 20          | D        | 1.66                           | Cont Sampling            | Not Attained           | Not Attained                | No                         | No                                                    |                               | 20          | D        | 1.87                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | No                         | No                                                    |                               | Biennial                             | Biennial |
| MW-18E                     | 19          | D        | 1.17                           | Cont Sampling            | Not Attained           | Not Attained                | No                         | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| MW-19D                     | 20          | D        | 1.77                           | Cont Sampling            | Not Attained           | Not Attained                | No                         | No                                                    | TRUE                          | 20          | D        | 2.07                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | No                         | No                                                    |                               | Biennial                             | Biennial |
| MW-20D                     | 20          | D        | 1.54                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | No                         | No                                                    |                               | 20          | D        | 2.07                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| PZ-39                      | 7           | D        | 2.16                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | No                         | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| <b>Church of God Wells</b> |             |          |                                |                          |                        |                             |                            |                                                       |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               |                                      |          |
| AMW-27                     | 17          | D        | 0.62                           | Cont Sampling            | Not Attained           | Cont Sampling               | Yes                        | No                                                    |                               | 17          | D        | 1.28                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| AMW-61                     | 7           | PD       | 1.07                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | No                         | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| CPU-12                     | 20          | PI       | 0.57                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | No                         | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| CPU-13                     | 20          | D        | 1.64                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | 20          | D        | 1.72                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| MW-21D                     | 20          | D        | 2.11                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | 20          | D        | 2.60                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| MW-22D                     | 20          | D        | 1.20                           | Cont Sampling            | Not Attained           | Not Attained                | Yes                        | No                                                    | TRUE                          | 20          | D        | 1.75                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| MW-23D                     | 20          | D        | 1.24                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               | Biennial                             | NA       |
| MW-25D                     | 20          | D        | 1.69                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | 20          | D        | 2.86                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| MW-26D                     | 20          | D        | 1.30                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | 20          | D        | 1.47                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| MW-27D                     | 20          | D        | 1.75                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | 20          | D        | 2.25                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| MW-49                      | 15          | D        | 1.09                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | 15          | D        | 1.30                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| <b>Toe Wells</b>           |             |          |                                |                          |                        |                             |                            |                                                       |                               |             |          |                                |                          |                        |                             |                            |                                                       |                               |                                      |          |
| AMW-42                     | 14          | D        | 1.68                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | 14          | D        | 1.68                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| AMW-63                     | 4           | NT       | 0.27                           | Attained                 | Cont Sampling          | Attained                    | Yes                        | Yes                                                   |                               | 4           | S        | 0.38                           | Attained                 | Cont Sampling          | Attained                    | Yes                        | Yes                                                   |                               | NFS                                  | NFS      |
| MW-31                      | 14          | D        | 2.12                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | 14          | D        | 2.41                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| MW-35                      | 16          | D        | 1.67                           | Cont Sampling            | Not Attained           | Not Attained                | Yes                        | No                                                    |                               | 16          | D        | 3.42                           | Cont Sampling            | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | Biennial                             | Biennial |
| MW-41                      | 14          | D        | 0.82                           | Attained                 | Cont Sampling          | Attained                    | Yes                        | Yes                                                   |                               | 14          | D        | 1.06                           | Attained                 | Cont Sampling          | Cont Sampling               | Yes                        | No                                                    |                               | NFS                                  | Biennial |

**NOTES:**  
D = decreasing  
I = increasing  
MAROS = Monitoring and Remediation Optimization System  
MK = Mann-Kendall  
N/A = not applicable  
N/C = not conducted due to small sample size (<4 samples)  
NT = no trend  
PD = probably decreasing  
PI = probably increasing  
S = stable  
TCE = trichloroethene

<sup>1</sup> *Not Attained* indicates the mean concentration is higher than the cleanup goal. *Cont. Sampling* indicates that the mean concentration is below the cleanup goal, but additional sampling is required because the data are not statistically significant.

<sup>2</sup> The "concentration statistically below cleanup levels" determination is per the MAROS evaluation; this does not meet the EPA requirements for determining site closure.

**APPENDIX C-2**  
**CHROMIUM OUTPUTS**

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# MAROS Site Results

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

## User Defined Site and Data Assumptions:

### Hydrogeology and Plume Information:

|                               |      |       |
|-------------------------------|------|-------|
| Groundwater Seepage Velocity: | 180  | ft/yr |
| Current Plume Length:         | 1400 | ft    |
| Current Plume Width:          | 84   | ft    |
| Number of Tail Wells:         | 26   |       |
| Number of Source Wells:       | 7    |       |

### Down Gradient Information:

#### Distance from Edge of Tail to Nearest:

|                         |         |
|-------------------------|---------|
| Down-gradient Receptor: | 7200 ft |
| Down-gradient Property: | 1 ft    |

#### Distance from Source to Nearest:

|                         |         |
|-------------------------|---------|
| Down Gradient Receptor: | 9000 ft |
| Down Gradient Property: | 1 ft    |

## Source Information:

Source Treatment: Pump and Treat

**NAPL is not observed at this site.**

### Data Consolidation Assumptions:

|                                 |                         |
|---------------------------------|-------------------------|
| <b>Time Period:</b>             | 1/19/1995 to 10/22/2014 |
| <b>Consolidation Period:</b>    | Yearly                  |
| <b>Consolidation Type:</b>      | Geometric Mean          |
| <b>Duplicate Consolidation:</b> | Maximum                 |
| <b>ND Values:</b>               | Detection Limit         |
| <b>J Flag Values:</b>           | Actual Value            |

### Plume Information Weighting Assumptions:

#### Consolidation Step 1. Weight Plume Information by Chemical

##### Summary Weighting:

Weighting Applied to All Chemicals Equally

#### Consolidation Step 2. Weight Well Information by Chemical

##### Well Weighting:

No Weighting of Wells was Applied.

##### Chemical Weighting:

No Weighting of Chemicals was Applied.

**Note: These assumptions were made when consolidating the historical monitoring data and lumping the Wells and COCs.**

# MAROS Site Results

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

## 1. Compliance Monitoring/Remediation Optimization Results:

Preliminary Monitoring System Optimization Results: Based on site classification, source treatment and Monitoring System Category the following suggestions are made for site Sampling Frequency, Duration of Sampling before reassessment, and Well Density. These criteria take into consideration: Plume Stability, Type of Plume, and Groundwater Velocity.

| COC                  | Tail Stability | Source Stability | Level of Effort | Sampling Duration             | Sampling Frequency | Sampling Density |
|----------------------|----------------|------------------|-----------------|-------------------------------|--------------------|------------------|
| CHROMIUM, HEXAVALENT | PD             | PD               | L               | 1 mechanism unit/l reach stal | No Recommendation  | 29               |

### Note

**Plume Status:** (I) Increasing; (PI) Probably Increasing; (S) Stable; (NT) No Trend; (PD) Probably Decreasing; (D) Decreasing

**Design Categories:** (E) Extensive; (M) Moderate; (L) Limited

(N/A) Not Applicable, Insufficient Data Available

## Level of Monitoring Effort Indicated by Analysis: *Limited*

## 2. Spatial Moment Analysis Results:

### Spatial Moment Analysis Summary:

| Moment Type     | Constituent          | Coefficient of Variation | Mann-Kendall S Statistic | Confidence in Trend | Moment Trend |
|-----------------|----------------------|--------------------------|--------------------------|---------------------|--------------|
| 0th Moment      | CHROMIUM, HEXAVALENT | 1.63                     | -178                     | 100.0%              | D            |
| First Moment    | CHROMIUM, HEXAVALENT | 0.21                     | -144                     | 100.0%              | D            |
| Second Moment X | CHROMIUM, HEXAVALENT | 0.16                     | 58                       | 96.8%               | I            |
| Second Moment Y | CHROMIUM, HEXAVALENT | 0.14                     | 32                       | 84.1%               | NT           |

Note: The following assumptions were applied for the calculation of the Zeroth Moment:

**Porosity:** 0.30

**Saturated Thickness:** Uniform: 65 ft

Mann-Kendall Trend test performed on all sample events for each constituent. 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 Linear Regression Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Time Period: 1/19/1995 to 10/22/2014

Consolidation Period: Yearly

Consolidation Type: Geometric Mean

Duplicate Consolidation: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value

| Well                 | Source/Tail | Average Conc<br>(mg/L) | Median Conc<br>(mg/L) | Standard<br>Deviation | All Samples<br>"ND" ? | Ln Slope | Coefficient<br>of Variation | Confidence in<br>Trend | Concentration<br>Trend |
|----------------------|-------------|------------------------|-----------------------|-----------------------|-----------------------|----------|-----------------------------|------------------------|------------------------|
| CHROMIUM, HEXAVALENT |             |                        |                       |                       |                       |          |                             |                        |                        |
| AMW-10A              | T           | 7.6E-03                | 6.2E-03               | 4.8E-03               | No                    | 7.6E-05  | 0.63                        | 77.3%                  | NT                     |
| AMW-11A              | T           | 3.1E-03                | 3.3E-03               | 1.7E-03               | No                    | 7.6E-04  | 0.55                        | 99.2%                  | I                      |
| AMW-27               | T           | 1.6E+00                | 7.7E-01               | 2.0E+00               | No                    | -1.4E-03 | 1.28                        | 100.0%                 | D                      |
| AMW-42               | T           | 8.7E-02                | 2.5E-02               | 1.5E-01               | No                    | -8.4E-04 | 1.68                        | 100.0%                 | D                      |
| AMW-63               | T           | 4.2E-03                | 3.3E-03               | 3.5E-03               | No                    | -8.1E-04 | 0.82                        | 92.0%                  | PD                     |
| AMW-6A               | T           | 7.6E-03                | 6.9E-03               | 2.7E-03               | No                    | 6.1E-05  | 0.36                        | 80.6%                  | NT                     |
| AMW-7A               | T           | 2.6E-03                | 3.0E-03               | 1.4E-03               | No                    | 1.9E-04  | 0.52                        | 87.6%                  | NT                     |
| CPU-13               | T           | 8.0E-01                | 9.5E-02               | 1.4E+00               | No                    | -8.2E-04 | 1.72                        | 100.0%                 | D                      |
| CPU-14               | T           | 2.8E-01                | 1.2E-01               | 2.9E-01               | No                    | -5.0E-04 | 1.03                        | 100.0%                 | D                      |
| MW-10B               | T           | 2.6E-01                | 1.2E-01               | 2.7E-01               | No                    | -4.8E-04 | 1.03                        | 100.0%                 | D                      |
| MW-10C               | T           | 4.8E-01                | 1.7E-01               | 1.0E+00               | No                    | -3.4E-04 | 2.09                        | 100.0%                 | D                      |
| MW-14C               | T           | 6.8E-01                | 3.1E-01               | 1.1E+00               | No                    | -5.2E-04 | 1.61                        | 100.0%                 | D                      |
| MW-14E               | T           | 2.2E+00                | 1.1E-01               | 5.1E+00               | No                    | -8.6E-04 | 2.34                        | 100.0%                 | D                      |
| MW-18D               | T           | 2.5E+00                | 4.3E-01               | 4.8E+00               | No                    | -7.2E-04 | 1.87                        | 100.0%                 | D                      |
| MW-19D               | T           | 2.0E+00                | 3.0E-01               | 4.1E+00               | No                    | -6.5E-04 | 2.07                        | 100.0%                 | D                      |
| MW-1A                | T           | 1.5E-02                | 2.5E-03               | 3.0E-02               | No                    | 5.0E-04  | 2.01                        | 91.5%                  | PI                     |
| MW-20D               | T           | 4.9E+00                | 2.9E-01               | 1.0E+01               | No                    | -9.6E-04 | 2.07                        | 100.0%                 | D                      |
| MW-21D               | T           | 2.4E+00                | 5.6E-02               | 6.1E+00               | No                    | -1.1E-03 | 2.60                        | 100.0%                 | D                      |
| MW-22D               | T           | 1.3E+00                | 1.9E-01               | 2.2E+00               | No                    | -8.8E-04 | 1.75                        | 100.0%                 | D                      |
| MW-25D               | T           | 9.2E-01                | 1.3E-02               | 2.6E+00               | No                    | -1.1E-03 | 2.86                        | 100.0%                 | D                      |

# MAROS Linear Regression Statistics Summary

Boomsnub/Airco Superfund Site

User Name:

Hazel Dell

State: Washington

## CHROMIUM, HEXAVALENT

| Well   | Source/Tail | Average Conc<br>(mg/L) | Median Conc<br>(mg/L) | Standard<br>Deviation | All Samples<br>"ND" ? | Ln Slope | Coefficient<br>of Variation | Confidence in<br>Trend | Concentration<br>Trend |
|--------|-------------|------------------------|-----------------------|-----------------------|-----------------------|----------|-----------------------------|------------------------|------------------------|
| MW-26D | T           | 7.8E-01                | 5.6E-02               | 1.1E+00               | No                    | -1.0E-03 | 1.47                        | 100.0%                 | D                      |
| MW-27D | T           | 6.1E-01                | 3.1E-02               | 1.4E+00               | No                    | -1.0E-03 | 2.25                        | 100.0%                 | D                      |
| MW-2A  | S           | 5.7E-01                | 3.3E-01               | 6.6E-01               | No                    | -8.5E-05 | 1.17                        | 75.3%                  | NT                     |
| MW-31  | T           | 4.0E-02                | 1.1E-02               | 9.6E-02               | No                    | -4.5E-04 | 2.41                        | 99.3%                  | D                      |
| MW-35  | T           | 2.4E-01                | 2.9E-02               | 8.3E-01               | No                    | -6.4E-04 | 3.42                        | 99.7%                  | D                      |
| MW-3A  | S           | 4.0E-01                | 3.6E-01               | 3.1E-01               | No                    | -3.7E-04 | 0.78                        | 100.0%                 | D                      |
| MW-41  | T           | 7.5E-03                | 4.3E-03               | 7.9E-03               | No                    | -4.5E-04 | 1.06                        | 99.6%                  | D                      |
| MW-49  | T           | 1.7E-01                | 4.8E-02               | 2.2E-01               | No                    | -6.8E-04 | 1.30                        | 99.9%                  | D                      |
| MW-4A  | S           | 1.2E+00                | 7.4E-01               | 1.2E+00               | No                    | -2.3E-04 | 0.96                        | 99.8%                  | D                      |
| MW-4B  | S           | 1.1E+00                | 7.1E-01               | 8.9E-01               | No                    | -1.5E-04 | 0.82                        | 99.0%                  | D                      |
| MW-6A  | S           | 6.3E-02                | 4.2E-02               | 8.0E-02               | No                    | 1.2E-03  | 1.27                        | 93.5%                  | PI                     |
| MW-6B  | S           | 1.9E-01                | 3.8E-02               | 4.2E-01               | No                    | -4.6E-04 | 2.16                        | 100.0%                 | D                      |
| PW-1B  | S           | 7.9E-01                | 2.4E-01               | 1.4E+00               | No                    | -6.9E-04 | 1.78                        | 100.0%                 | D                      |

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

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Time Period: 1/19/1995 to 10/22/2014

Consolidation Period: Yearly

Consolidation Type: Geometric Mean

Duplicate Consolidation: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value

| Well                 | Source/<br>Tail | Number<br>of<br>Samples | Number<br>of<br>Detects | Coefficient<br>of Variation | Mann-<br>Kendall<br>Statistic | Confidence<br>in Trend | All<br>Samples<br>"ND" ? | Concentration<br>Trend |
|----------------------|-----------------|-------------------------|-------------------------|-----------------------------|-------------------------------|------------------------|--------------------------|------------------------|
| CHROMIUM, HEXAVALENT |                 |                         |                         |                             |                               |                        |                          |                        |
| AMW-10A              | T               | 8                       | 8                       | 0.63                        | 10                            | 86.2%                  | No                       | NT                     |
| AMW-11A              | T               | 9                       | 8                       | 0.55                        | -2                            | 54.0%                  | No                       | S                      |
| AMW-27               | T               | 17                      | 16                      | 1.28                        | -130                          | 100.0%                 | No                       | D                      |
| AMW-42               | T               | 14                      | 13                      | 1.68                        | -63                           | 100.0%                 | No                       | D                      |
| AMW-63               | T               | 5                       | 3                       | 0.82                        | -4                            | 75.8%                  | No                       | S                      |
| AMW-6A               | T               | 9                       | 9                       | 0.36                        | 4                             | 61.9%                  | No                       | NT                     |
| AMW-7A               | T               | 10                      | 9                       | 0.52                        | -11                           | 81.0%                  | No                       | S                      |
| CPU-13               | T               | 20                      | 20                      | 1.72                        | -160                          | 100.0%                 | No                       | D                      |
| CPU-14               | T               | 20                      | 20                      | 1.03                        | -134                          | 100.0%                 | No                       | D                      |
| MW-10B               | T               | 20                      | 20                      | 1.03                        | -150                          | 100.0%                 | No                       | D                      |
| MW-10C               | T               | 20                      | 20                      | 2.09                        | -114                          | 100.0%                 | No                       | D                      |
| MW-14C               | T               | 20                      | 20                      | 1.61                        | -154                          | 100.0%                 | No                       | D                      |
| MW-14E               | T               | 20                      | 20                      | 2.34                        | -180                          | 100.0%                 | No                       | D                      |
| MW-18D               | T               | 20                      | 20                      | 1.87                        | -188                          | 100.0%                 | No                       | D                      |
| MW-19D               | T               | 20                      | 20                      | 2.07                        | -180                          | 100.0%                 | No                       | D                      |
| MW-1A                | T               | 14                      | 9                       | 2.01                        | 21                            | 86.0%                  | No                       | NT                     |
| MW-20D               | T               | 20                      | 20                      | 2.07                        | -184                          | 100.0%                 | No                       | D                      |
| MW-21D               | T               | 20                      | 20                      | 2.60                        | -186                          | 100.0%                 | No                       | D                      |
| MW-22D               | T               | 20                      | 20                      | 1.75                        | -184                          | 100.0%                 | No                       | D                      |
| MW-25D               | T               | 20                      | 19                      | 2.86                        | -134                          | 100.0%                 | No                       | D                      |
| MW-26D               | T               | 20                      | 20                      | 1.47                        | -176                          | 100.0%                 | No                       | D                      |
| MW-27D               | T               | 20                      | 19                      | 2.25                        | -148                          | 100.0%                 | No                       | D                      |
| MW-2A                | S               | 19                      | 19                      | 1.17                        | -29                           | 83.4%                  | No                       | NT                     |
| MW-31                | T               | 14                      | 14                      | 2.41                        | -38                           | 97.9%                  | No                       | D                      |
| MW-35                | T               | 16                      | 15                      | 3.42                        | -58                           | 99.6%                  | No                       | D                      |
| MW-3A                | S               | 17                      | 17                      | 0.78                        | -100                          | 100.0%                 | No                       | D                      |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

CHROMIUM, HEXAVALENT

| Well  | Source/<br>Tail | Number<br>of<br>Samples | Number<br>of<br>Detects | Coefficient<br>of Variation | Mann-<br>Kendall<br>Statistic | Confidence<br>in Trend | All<br>Samples<br>"ND" ? | Concentration<br>Trend |
|-------|-----------------|-------------------------|-------------------------|-----------------------------|-------------------------------|------------------------|--------------------------|------------------------|
| MW-41 | T               | 14                      | 7                       | 1.06                        | -43                           | 99.0%                  | No                       | D                      |
| MW-49 | T               | 15                      | 15                      | 1.30                        | -67                           | 100.0%                 | No                       | D                      |
| MW-4A | S               | 15                      | 15                      | 0.96                        | -51                           | 99.4%                  | No                       | D                      |
| MW-4B | S               | 13                      | 13                      | 0.82                        | -32                           | 97.1%                  | No                       | D                      |
| MW-6A | S               | 4                       | 3                       | 1.27                        | 2                             | 62.5%                  | No                       | NT                     |
| MW-6B | S               | 20                      | 20                      | 2.16                        | -112                          | 100.0%                 | No                       | D                      |
| PW-1B | S               | 20                      | 20                      | 1.78                        | -174                          | 100.0%                 | 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 Power Analysis for Individual Well Cleanup Status

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

From Period: 1/19/1995 to 10/22/2014

| Well Name                   | Sample Size | Sample Mean                | Sample Stdev. | Normal         | Lognormal                   | Alpha Level | Expected Power |
|-----------------------------|-------------|----------------------------|---------------|----------------|-----------------------------|-------------|----------------|
|                             |             |                            |               | Distribution   | Distribution                |             |                |
|                             |             |                            |               | Cleanup Status | Cleanup Status              |             |                |
| <b>CHROMIUM, HEXAVALENT</b> |             | Cleanup Goal (mg/L) = 0.08 |               |                | Target Level (mg/L) = 0.064 |             |                |
| AMW-10A                     | 8           | 7.96E-03                   | 4.71E-03      | Attained       | Cont Sampling               | 0.05        | 0.8            |
| AMW-11A                     | 9           | 3.23E-03                   | 1.82E-03      | Attained       | Cont Sampling               | 0.05        | 0.8            |
| AMW-27                      | 17          | 1.73E+00                   | 2.19E+00      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| AMW-42                      | 14          | 1.21E-01                   | 2.36E-01      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| AMW-63                      | 5           | 5.00E-03                   | 3.55E-03      | Attained       | Cont Sampling               | 0.05        | 0.8            |
| AMW-6A                      | 9           | 7.86E-03                   | 3.03E-03      | Attained       | Attained                    | 0.05        | 0.8            |
| AMW-7A                      | 10          | 2.94E-03                   | 1.08E-03      | Attained       | Attained                    | 0.05        | 0.8            |
| CPU-13                      | 20          | 8.11E-01                   | 1.39E+00      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| CPU-14                      | 20          | 2.85E-01                   | 2.93E-01      | Cont Sampling  | Not Attained                | 0.05        | 0.8            |
| MW-10B                      | 20          | 3.09E-01                   | 3.47E-01      | Cont Sampling  | Not Attained                | 0.05        | 0.8            |
| MW-10C                      | 20          | 5.02E-01                   | 1.05E+00      | Cont Sampling  | Not Attained                | 0.05        | 0.8            |
| MW-14C                      | 20          | 7.36E-01                   | 1.28E+00      | Cont Sampling  | Not Attained                | 0.05        | 0.8            |
| MW-14E                      | 20          | 2.27E+00                   | 5.19E+00      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| MW-18D                      | 20          | 2.63E+00                   | 4.92E+00      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| MW-19D                      | 20          | 2.06E+00                   | 4.21E+00      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| MW-1A                       | 14          | 1.97E-02                   | 3.16E-02      | Attained       | Cont Sampling               | 0.05        | 0.8            |
| MW-20D                      | 20          | 5.10E+00                   | 1.05E+01      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| MW-21D                      | 20          | 2.46E+00                   | 6.35E+00      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| MW-22D                      | 20          | 1.33E+00                   | 2.30E+00      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| MW-25D                      | 20          | 9.53E-01                   | 2.72E+00      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| MW-26D                      | 20          | 7.90E-01                   | 1.16E+00      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| MW-27D                      | 20          | 6.19E-01                   | 1.40E+00      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| MW-2A                       | 19          | 5.94E-01                   | 6.81E-01      | Cont Sampling  | Not Attained                | 0.05        | 0.8            |
| MW-31                       | 14          | 4.16E-02                   | 1.00E-01      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| MW-35                       | 16          | 2.76E-01                   | 8.54E-01      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| MW-3A                       | 17          | 4.22E-01                   | 3.44E-01      | Cont Sampling  | Not Attained                | 0.05        | 0.8            |
| MW-41                       | 14          | 2.07E-02                   | 3.15E-02      | Attained       | Cont Sampling               | 0.05        | 0.8            |
| MW-49                       | 15          | 1.42E+00                   | 4.70E+00      | Cont Sampling  | Cont Sampling               | 0.05        | 0.8            |
| MW-4A                       | 15          | 1.29E+00                   | 1.21E+00      | Cont Sampling  | Not Attained                | 0.05        | 0.8            |
| MW-4B                       | 13          | 1.44E+00                   | 2.06E+00      | Cont Sampling  | Not Attained                | 0.05        | 0.8            |

# MAROS Power Analysis for Individual Well Cleanup Status

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

From Period: 1/19/1995 to 10/22/2014

| Well Name | Sample Size | Sample Mean | Sample Stdev. | Normal         | Lognormal      | Alpha Level | Expected Power |
|-----------|-------------|-------------|---------------|----------------|----------------|-------------|----------------|
|           |             |             |               | Distribution   | Distribution   |             |                |
|           |             |             |               | Cleanup Status | Cleanup Status |             |                |
| MW-6A     | 4           | 6.84E-02    | 7.74E-02      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-6B     | 20          | 2.48E-01    | 6.11E-01      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| PW-1B     | 20          | 8.62E-01    | 1.60E+00      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |

Note: N/C refers to "not conducted" because of insufficient data (N<4); S/E indicates the sample mean significantly exceeds the cleanup level and thus no analysis is conducted; Sample Size is the number of concentration data in a sampling location that are used in the analysis; Target Level is the expected mean concentration in wells after cleanup attainment, it is only used in individual well cleanup status evaluation. The test for evaluating attainment status is from EPA (1992). Refer to Appendix A.6 of MAROS Manual for details.

# Individual Well Cleanup Status - Optional Analysis Results

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

From Period: 1/19/1995 to 10/22/2014

Lognormal Distribution

Normal Distribution Assumption

Assumption

| Well                        | Sample Size | Sample Mean | Sample Stdev. | Significantly < Cleanup Goal? | Power | Expected Sample      | Significantly < Cleanup Goal? | Power | Expected Sample |
|-----------------------------|-------------|-------------|---------------|-------------------------------|-------|----------------------|-------------------------------|-------|-----------------|
| <b>CHROMIUM, HEXAVALENT</b> |             |             |               |                               |       |                      |                               |       |                 |
| Cleanup Goal (mg/L) = 0.08  |             |             |               | Alpha Level = 0.05            |       | Expected Power = 0.8 |                               |       |                 |
| AMW-10A                     | 8           | 7.96E-03    | 4.71E-03      | YES                           | 1.000 | <=3                  | YES                           | 1.000 | <=3             |
| AMW-11A                     | 9           | 3.23E-03    | 1.82E-03      | YES                           | 1.000 | <=3                  | YES                           | 0.852 | 8               |
| AMW-27                      | 17          | 1.73E+00    | 2.19E+00      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| AMW-42                      | 14          | 1.21E-01    | 2.36E-01      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| AMW-63                      | 5           | 5.00E-03    | 3.55E-03      | YES                           | 1.000 | <=3                  | YES                           | 0.998 | <=3             |
| AMW-6A                      | 9           | 7.86E-03    | 3.03E-03      | YES                           | 1.000 | <=3                  | YES                           | 1.000 | <=3             |
| AMW-7A                      | 10          | 2.94E-03    | 1.08E-03      | YES                           | 1.000 | <=3                  | YES                           | 1.000 | <=3             |
| CPU-13                      | 20          | 8.11E-01    | 1.39E+00      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| CPU-14                      | 20          | 2.85E-01    | 2.93E-01      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-10B                      | 20          | 3.09E-01    | 3.47E-01      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-10C                      | 20          | 5.02E-01    | 1.05E+00      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-14C                      | 20          | 7.36E-01    | 1.28E+00      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-14E                      | 20          | 2.27E+00    | 5.19E+00      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-18D                      | 20          | 2.63E+00    | 4.92E+00      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-19D                      | 20          | 2.06E+00    | 4.21E+00      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-1A                       | 14          | 1.97E-02    | 3.16E-02      | YES                           | 1.000 | <=3                  | NO                            | S/E   | S/E             |
| MW-20D                      | 20          | 5.10E+00    | 1.05E+01      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-21D                      | 20          | 2.46E+00    | 6.35E+00      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-22D                      | 20          | 1.33E+00    | 2.30E+00      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-25D                      | 20          | 9.53E-01    | 2.72E+00      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-26D                      | 20          | 7.90E-01    | 1.16E+00      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-27D                      | 20          | 6.19E-01    | 1.40E+00      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-2A                       | 19          | 5.94E-01    | 6.81E-01      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-31                       | 14          | 4.16E-02    | 1.00E-01      | NO                            | 0.402 | 43                   | YES                           | 0.963 | 8               |
| MW-35                       | 16          | 2.76E-01    | 8.54E-01      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-3A                       | 17          | 4.22E-01    | 3.44E-01      | NO                            | S/E   | S/E                  | NO                            | S/E   | S/E             |
| MW-41                       | 14          | 2.07E-02    | 3.15E-02      | YES                           | 1.000 | <=3                  | YES                           | 0.891 | 11              |

# Individual Well Cleanup Status - Optional Analysis Results

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

From Period: 1/19/1995 to 10/22/2014

| Well Name | Sample Size | Sample Mean | Sample Stdev. | Normal Distribution Assumption |       |                 | Lognormal Distribution Assumption |       |                 |
|-----------|-------------|-------------|---------------|--------------------------------|-------|-----------------|-----------------------------------|-------|-----------------|
|           |             |             |               | Significantly < Cleanup Goal?  | Power | Expected Sample | Significantly < Cleanup Goal?     | Power | Expected Sample |
| MW-49     | 15          | 1.42E+00    | 4.70E+00      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-4A     | 15          | 1.29E+00    | 1.21E+00      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-4B     | 13          | 1.44E+00    | 2.06E+00      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-6A     | 4           | 6.84E-02    | 7.74E-02      | NO                             | 0.084 | >100            | NO                                | S/E   | S/E             |
| MW-6B     | 20          | 2.48E-01    | 6.11E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| PW-1B     | 20          | 8.62E-01    | 1.60E+00      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |

Note: N/C refers to "not conducted" because of insufficient data (N<4); S/E indicates the sample mean significantly exceeds the cleanup level and thus no analysis is conducted; Sample Size is the number of concentration data in a sampling location that are used in the power analysis; Expected Sample Size is the number of concentration data needed to reach the Expected Power under current sample variability; The Target Level is the expected mean concentration in wells after cleanup attainment, it is only used in individual well cleanup status evaluation. The Student's t-test on mean difference is used in this analysis. Refer to Appendix A.6 of MAROS Manual for details.

# MAROS Sampling Frequency Optimization Results

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

The Overall Number of Sampling Events: 276

"Recent Period" defined by events: From Sample Event 1 To Sample Event 276  
1/19/1995 10/22/2014

"Rate of Change" parameters used:

| Constituent | Cleanup Goal | Low Rate | Medium Rate | High Rate |
|-------------|--------------|----------|-------------|-----------|
| CHROMIUM, H | 0.08         | 0.04     | 0.08        | 0.16      |

Units: Cleanup Goal is in mg/L; all rate parameters are in mg/L/year.

| Well                        | Recommended Sampling | Frequency Based on | Frequency Based on |
|-----------------------------|----------------------|--------------------|--------------------|
| <b>CHROMIUM, HEXAVALENT</b> |                      |                    |                    |
| AMW-10A                     | Biennial             | Biennial           | Biennial           |
| AMW-11A                     | Biennial             | Biennial           | Biennial           |
| AMW-27                      | Biennial             | Biennial           | Biennial           |
| AMW-42                      | Biennial             | Biennial           | Biennial           |
| AMW-63                      | Biennial             | Biennial           | Biennial           |
| AMW-6A                      | Biennial             | Biennial           | Biennial           |
| AMW-7A                      | Biennial             | Biennial           | Biennial           |
| CPU-13                      | Biennial             | Biennial           | Biennial           |
| CPU-14                      | Biennial             | Biennial           | Biennial           |
| MW-10B                      | Biennial             | Biennial           | Biennial           |
| MW-10C                      | Biennial             | Biennial           | Biennial           |
| MW-14C                      | Biennial             | Biennial           | Biennial           |
| MW-14E                      | Biennial             | Biennial           | Biennial           |
| MW-18D                      | Biennial             | Biennial           | Biennial           |
| MW-19D                      | Biennial             | Biennial           | Biennial           |
| MW-1A                       | Biennial             | Biennial           | Biennial           |
| MW-20D                      | Biennial             | Biennial           | Biennial           |
| MW-21D                      | Biennial             | Biennial           | Biennial           |
| MW-22D                      | Biennial             | Biennial           | Biennial           |
| MW-25D                      | Biennial             | Biennial           | Biennial           |
| MW-26D                      | Biennial             | Biennial           | Biennial           |
| MW-27D                      | Biennial             | Biennial           | Biennial           |
| MW-2A                       | Biennial             | Biennial           | Biennial           |

# MAROS Sampling Frequency Optimization Results

**Project:** Boomsnub/Airco Superfund Site

**User Name:**

**Location:** Hazel Dell

**State:** Washington

| <b>Well</b> | <b>Recommended Sampling</b> | <b>Frequency Based on</b> | <b>Frequency Based on</b> |
|-------------|-----------------------------|---------------------------|---------------------------|
| MW-31       | Biennial                    | Biennial                  | Biennial                  |
| MW-35       | Biennial                    | Biennial                  | Biennial                  |
| MW-3A       | Biennial                    | Biennial                  | Biennial                  |
| MW-41       | Biennial                    | Biennial                  | Biennial                  |
| MW-49       | Biennial                    | Biennial                  | Biennial                  |
| MW-4A       | Biennial                    | Biennial                  | Biennial                  |
| MW-4B       | Biennial                    | Biennial                  | Biennial                  |
| MW-6A       | Biennial                    | Biennial                  | Biennial                  |
| MW-6B       | Biennial                    | Biennial                  | Biennial                  |
| PW-1B       | Biennial                    | Biennial                  | Biennial                  |

Note: Sampling frequency is determined considering both recent and overall concentration trends. Sampling Frequency is the final recommendation; Frequency Based on Recent Data is the frequency determined using recent (short) period of monitoring data; Frequency Based on Overall Data is the frequency determined using overall (long) period of monitoring data. If the "recent period" is defined using a different series of sampling events, the results could be different.

# MAROS Sampling Location Optimization Results

Boomsnub/Airco Superfund Site

User Name:

Hazel Dell

State: Washington

**Sampling Events Analyzed:** From Sample Event 1 to Sample Event 276  
1/19/1995 10/22/2014

## Parameters used:

| Constituent       | Inside SF | Hull SF | Area Ratio | Conc. Ratio |
|-------------------|-----------|---------|------------|-------------|
| CHROMIUM, HEXAVAL | 0.3       | 0.1     | 0.9        | 0.85        |

| Well Name            | X (feet)   | Y (feet)  | Removable?                          | Average Slope Factor* | Minimum Slope Factor* | Maximum Slope Factor* | Eliminated?              |
|----------------------|------------|-----------|-------------------------------------|-----------------------|-----------------------|-----------------------|--------------------------|
| CHROMIUM, HEXAVALENT |            |           |                                     |                       |                       |                       |                          |
| AMW-10A              | 1098266.25 | 132923.33 | <input checked="" type="checkbox"/> | 0.427                 | 0.152                 | 0.682                 | <input type="checkbox"/> |
| AMW-11A              | 1098270.63 | 132756.36 | <input checked="" type="checkbox"/> | 0.408                 | 0.101                 | 0.686                 | <input type="checkbox"/> |
| AMW-27               | 1094386.13 | 133515.81 | <input checked="" type="checkbox"/> | 0.324                 | 0.155                 | 0.623                 | <input type="checkbox"/> |
| AMW-42               | 1093570.50 | 133791.39 | <input checked="" type="checkbox"/> | 0.331                 | 0.066                 | 0.923                 | <input type="checkbox"/> |
| AMW-63               | 1093510.88 | 133815.56 | <input checked="" type="checkbox"/> | 0.398                 | 0.234                 | 0.528                 | <input type="checkbox"/> |
| AMW-6A               | 1098315.50 | 132581.84 | <input checked="" type="checkbox"/> | 0.365                 | 0.175                 | 0.499                 | <input type="checkbox"/> |
| AMW-7A               | 1098542.13 | 132679.81 | <input checked="" type="checkbox"/> | 0.433                 | 0.149                 | 0.685                 | <input type="checkbox"/> |
| CPU-13               | 1094877.75 | 133397.00 | <input checked="" type="checkbox"/> | 0.115                 | 0.002                 | 0.656                 | <input type="checkbox"/> |
| CPU-14               | 1096130.75 | 133152.42 | <input checked="" type="checkbox"/> | 0.375                 | 0.092                 | 0.640                 | <input type="checkbox"/> |
| MW-10B               | 1097254.00 | 132970.84 | <input checked="" type="checkbox"/> | 0.311                 | 0.011                 | 0.912                 | <input type="checkbox"/> |
| MW-10C               | 1097250.75 | 132971.34 | <input checked="" type="checkbox"/> | 0.305                 | 0.001                 | 0.846                 | <input type="checkbox"/> |
| MW-14C               | 1097053.75 | 133070.84 | <input checked="" type="checkbox"/> | 0.200                 | 0.013                 | 0.952                 | <input type="checkbox"/> |
| MW-14E               | 1097068.38 | 133032.61 | <input checked="" type="checkbox"/> | 0.201                 | 0.029                 | 0.574                 | <input type="checkbox"/> |
| MW-18D               | 1096779.50 | 133113.73 | <input checked="" type="checkbox"/> | 0.192                 | 0.012                 | 0.691                 | <input type="checkbox"/> |
| MW-19D               | 1096403.13 | 133254.94 | <input checked="" type="checkbox"/> | 0.112                 | 0.002                 | 0.416                 | <input type="checkbox"/> |
| MW-1A                | 1097744.75 | 132827.19 | <input checked="" type="checkbox"/> | 0.813                 | 0.813                 | 0.813                 | <input type="checkbox"/> |
| MW-20D               | 1095961.75 | 133409.30 | <input checked="" type="checkbox"/> | 0.210                 | 0.017                 | 0.447                 | <input type="checkbox"/> |
| MW-21D               | 1095489.38 | 133567.02 | <input checked="" type="checkbox"/> | 0.218                 | 0.010                 | 0.665                 | <input type="checkbox"/> |
| MW-22D               | 1095455.50 | 133368.55 | <input checked="" type="checkbox"/> | 0.162                 | 0.005                 | 0.452                 | <input type="checkbox"/> |
| MW-25D               | 1094389.25 | 133662.33 | <input checked="" type="checkbox"/> | 0.417                 | 0.047                 | 0.868                 | <input type="checkbox"/> |
| MW-26D               | 1094375.13 | 133433.91 | <input checked="" type="checkbox"/> | 0.230                 | 0.008                 | 0.748                 | <input type="checkbox"/> |
| MW-27D               | 1094883.88 | 133638.45 | <input checked="" type="checkbox"/> | 0.216                 | 0.008                 | 0.855                 | <input type="checkbox"/> |
| MW-2A                | 1097544.25 | 132767.69 | <input checked="" type="checkbox"/> | 0.343                 | 0.037                 | 0.699                 | <input type="checkbox"/> |
| MW-31                | 1093810.00 | 133700.70 | <input checked="" type="checkbox"/> | 0.436                 | 0.088                 | 0.925                 | <input type="checkbox"/> |
| MW-35                | 1093675.75 | 133745.42 | <input checked="" type="checkbox"/> | 0.264                 | 0.003                 | 0.822                 | <input type="checkbox"/> |
| MW-3A                | 1097456.25 | 132791.06 | <input checked="" type="checkbox"/> | 0.580                 | 0.580                 | 0.580                 | <input type="checkbox"/> |
| MW-41                | 1093463.88 | 133848.02 | <input checked="" type="checkbox"/> | 0.556                 | 0.015                 | 0.798                 | <input type="checkbox"/> |

# MAROS Sampling Location Optimization Results

Boomsnub/Airco Superfund Site

User Name:

Hazel Dell

State: Washington

| Well Name | X (feet)   | Y (feet)  | Removable?                          | Average Slope Factor* | Minimum Slope Factor* | Maximum Slope Factor* | Eliminated?              |
|-----------|------------|-----------|-------------------------------------|-----------------------|-----------------------|-----------------------|--------------------------|
| MW-49     | 1094376.50 | 133503.09 | <input checked="" type="checkbox"/> | 0.202                 | 0.013                 | 0.761                 | <input type="checkbox"/> |
| MW-4A     | 1097458.00 | 132868.42 | <input checked="" type="checkbox"/> | 0.056                 | 0.056                 | 0.056                 | <input type="checkbox"/> |
| MW-4B     | 1097458.00 | 132868.41 | <input checked="" type="checkbox"/> | 0.240                 | 0.056                 | 0.318                 | <input type="checkbox"/> |
| MW-6A     | 1097386.13 | 132930.42 | <input checked="" type="checkbox"/> | 0.589                 | 0.589                 | 0.589                 | <input type="checkbox"/> |
| MW-6B     | 1097380.50 | 132929.25 | <input checked="" type="checkbox"/> | 0.343                 | 0.004                 | 0.981                 | <input type="checkbox"/> |
| PW-1B     | 1097467.75 | 132870.81 | <input checked="" type="checkbox"/> | 0.242                 | 0.001                 | 0.754                 | <input type="checkbox"/> |

Note: The Slope Factor indicates the relative importance of a well in the monitoring network at a given sampling event; the larger the SF value of a well, the more important the well is and vice versa; the Average Slope Factor measures the overall well importance in the selected time period; the State Plane (i.e., X and Y refer to Easting and Northing, respectively) or local coordinate systems may be used; wells that are NOT selected for analysis are not shown above.

\* When the report is generated after running the Excel module, SF values will NOT be shown above.

# MAROS Zeroth Moment Analysis

Project: Boomsnub/Airco Superfund Site

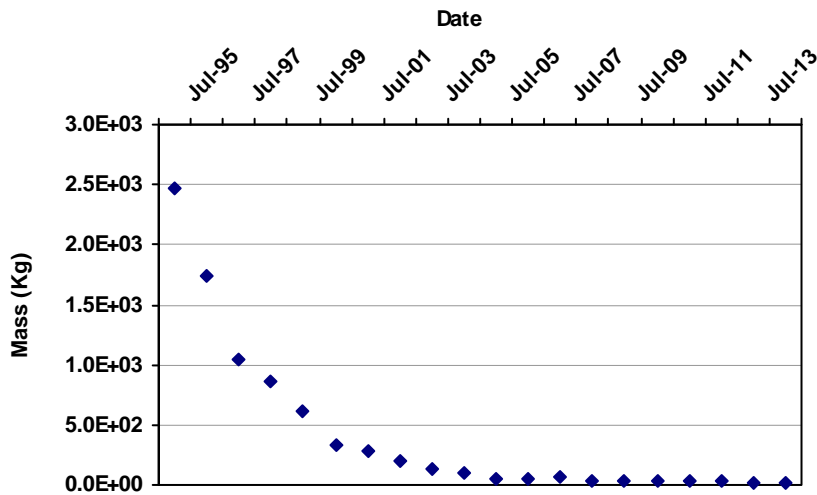
User Name:

Location: Hazel Dell

State: Washington

## Change in Dissolved Mass Over Time

COC: CHROMIUM, HEXAVALENT



Porosity: 0.30

Saturated Thickness:

Uniform: 65 ft

Mann-Kendall S Statistic:

-178

Confidence in Trend:

100.0%

Coefficient of Variation:

1.63

Zeroth Moment Trend:

D

## Data Table:

| Effective Date | Constituent          | Estimated Mass (Kg) | Number of Wells |
|----------------|----------------------|---------------------|-----------------|
| 7/1/1995       | CHROMIUM, HEXAVALENT | 2.5E+03             | 26              |
| 7/1/1996       | CHROMIUM, HEXAVALENT | 1.7E+03             | 18              |
| 7/1/1997       | CHROMIUM, HEXAVALENT | 1.0E+03             | 22              |
| 7/1/1998       | CHROMIUM, HEXAVALENT | 8.6E+02             | 22              |
| 7/1/1999       | CHROMIUM, HEXAVALENT | 6.1E+02             | 25              |
| 7/1/2000       | CHROMIUM, HEXAVALENT | 3.3E+02             | 26              |
| 7/1/2001       | CHROMIUM, HEXAVALENT | 2.8E+02             | 26              |
| 7/1/2002       | CHROMIUM, HEXAVALENT | 1.9E+02             | 26              |
| 7/1/2003       | CHROMIUM, HEXAVALENT | 1.4E+02             | 27              |
| 7/1/2004       | CHROMIUM, HEXAVALENT | 9.7E+01             | 27              |
| 7/1/2005       | CHROMIUM, HEXAVALENT | 4.9E+01             | 25              |
| 7/1/2006       | CHROMIUM, HEXAVALENT | 5.7E+01             | 30              |
| 7/1/2007       | CHROMIUM, HEXAVALENT | 5.8E+01             | 29              |
| 7/1/2008       | CHROMIUM, HEXAVALENT | 3.6E+01             | 31              |
| 7/1/2009       | CHROMIUM, HEXAVALENT | 4.0E+01             | 32              |
| 7/1/2010       | CHROMIUM, HEXAVALENT | 3.1E+01             | 32              |
| 7/1/2011       | CHROMIUM, HEXAVALENT | 2.5E+01             | 24              |

# MAROS Zeroth Moment Analysis

Boomsnub/Airco Superfund Site

User Name:

Hazel Dell

State: Washington

| Effective Date | Constituent          | Estimated Mass (Kg) | Number of Wells |
|----------------|----------------------|---------------------|-----------------|
| 7/1/2012       | CHROMIUM, HEXAVALENT | 2.6E+01             | 30              |
| 7/1/2013       | CHROMIUM, HEXAVALENT | 1.9E+01             | 24              |
| 7/1/2014       | CHROMIUM, HEXAVALENT | 2.2E+01             | 31              |

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. Moments are not calculated for sample events with less than 6 wells.

# MAROS First Moment Analysis

Project: Boomsnub/Airco Superfund Site

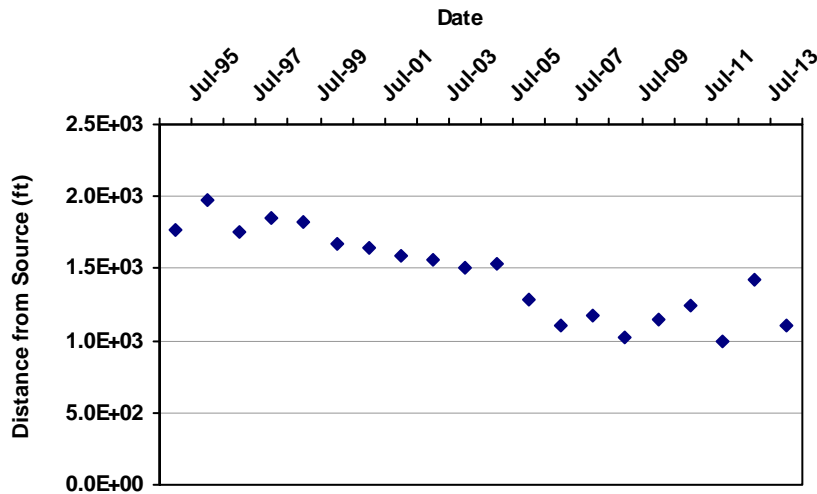
User Name:

Location: Hazel Dell

State: Washington

COC: CHROMIUM, HEXAVALENT

*Distance from Source to Center of Mass*



Mann-Kendall S Statistic:

-144

Confidence in Trend:

100.0%

Coefficient of Variation:

0.21

First Moment Trend:

D

## DATA TABLE

| Effective Date | Constituent          | Xc (ft)   | Yc (ft) | Distance from Source | Number of Wells |
|----------------|----------------------|-----------|---------|----------------------|-----------------|
| 7/1/1995       | CHROMIUM, HEXAVALENT | 1,095,764 | 133,348 | 1,766                | 26              |
| 7/1/1996       | CHROMIUM, HEXAVALENT | 1,095,562 | 133,389 | 1,972                | 18              |
| 7/1/1997       | CHROMIUM, HEXAVALENT | 1,095,775 | 133,317 | 1,748                | 22              |
| 7/1/1998       | CHROMIUM, HEXAVALENT | 1,095,663 | 133,313 | 1,855                | 22              |
| 7/1/1999       | CHROMIUM, HEXAVALENT | 1,095,698 | 133,316 | 1,822                | 25              |
| 7/1/2000       | CHROMIUM, HEXAVALENT | 1,095,840 | 133,272 | 1,673                | 26              |
| 7/1/2001       | CHROMIUM, HEXAVALENT | 1,095,862 | 133,259 | 1,649                | 26              |
| 7/1/2002       | CHROMIUM, HEXAVALENT | 1,095,918 | 133,253 | 1,593                | 26              |
| 7/1/2003       | CHROMIUM, HEXAVALENT | 1,095,957 | 133,252 | 1,555                | 27              |
| 7/1/2004       | CHROMIUM, HEXAVALENT | 1,096,007 | 133,232 | 1,502                | 27              |
| 7/1/2005       | CHROMIUM, HEXAVALENT | 1,095,987 | 133,256 | 1,527                | 25              |
| 7/1/2006       | CHROMIUM, HEXAVALENT | 1,096,222 | 133,191 | 1,283                | 30              |

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). Moments are not calculated for sample events with less than 6 wells.

# MAROS COC Assessment

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Effective Date | Constituent          | Xc (ft)   | Yc (ft) | Distance from Source | Number of Wells |
|----------------|----------------------|-----------|---------|----------------------|-----------------|
| 7/1/2007       | CHROMIUM, HEXAVALENT | 1,096,400 | 133,141 | 1,098                | 29              |
| 7/1/2008       | CHROMIUM, HEXAVALENT | 1,096,337 | 133,183 | 1,170                | 31              |
| 7/1/2009       | CHROMIUM, HEXAVALENT | 1,096,471 | 133,138 | 1,028                | 32              |
| 7/1/2010       | CHROMIUM, HEXAVALENT | 1,096,354 | 133,170 | 1,150                | 32              |
| 7/1/2011       | CHROMIUM, HEXAVALENT | 1,096,251 | 133,169 | 1,249                | 24              |
| 7/1/2012       | CHROMIUM, HEXAVALENT | 1,096,514 | 133,145 | 990                  | 30              |
| 7/1/2013       | CHROMIUM, HEXAVALENT | 1,096,086 | 133,209 | 1,419                | 24              |
| 7/1/2014       | CHROMIUM, HEXAVALENT | 1,096,393 | 133,159 | 1,109                | 31              |

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). Moments are not calculated for sample events with less than 6 wells.

# MAROS First Moment Analysis

Project: Boomsnub/Airco Superfund Site

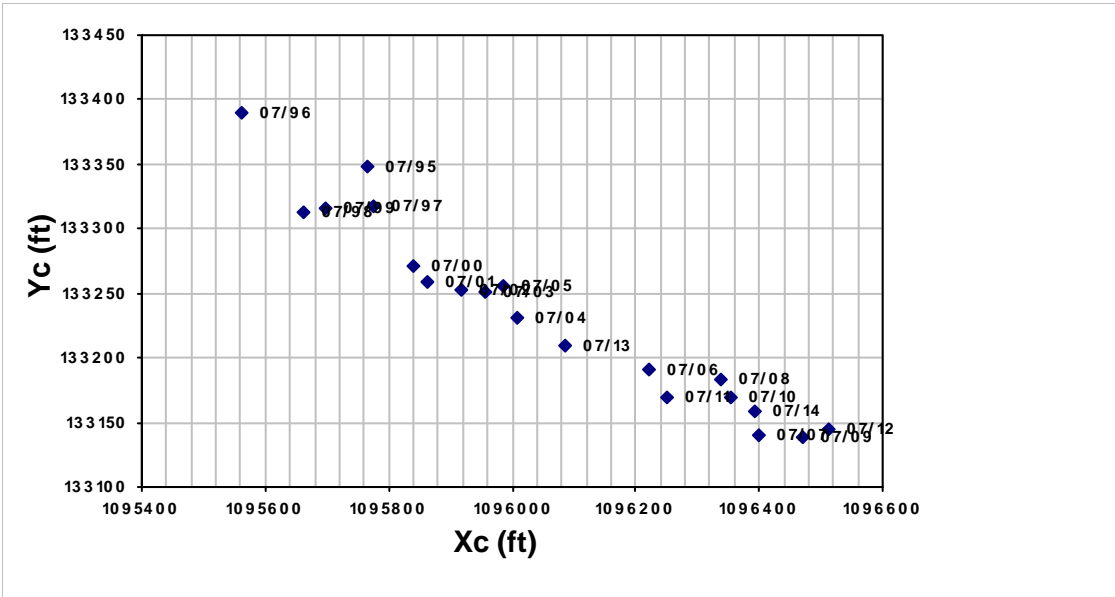
User Name:

Location: Hazel Dell

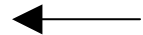
State: Washington

COC: CHROMIUM, HEXAVALENT

## Change in Location of Center of Mass Over Time



Groundwater Flow Direction:



Source Coordinates

X: 1,097,463

Y: 132,865

| Effective Date | Constituent   | Xc (ft)   | Yc (ft) | Distance from Source (ft) | Number of Wells |
|----------------|---------------|-----------|---------|---------------------------|-----------------|
| 7/1/1995       | CHROMIUM, HEX | 1,095,764 | 133,348 | 1,766                     | 26              |
| 7/1/1996       | CHROMIUM, HEX | 1,095,562 | 133,389 | 1,972                     | 18              |
| 7/1/1997       | CHROMIUM, HEX | 1,095,775 | 133,317 | 1,748                     | 22              |
| 7/1/1998       | CHROMIUM, HEX | 1,095,663 | 133,313 | 1,855                     | 22              |
| 7/1/1999       | CHROMIUM, HEX | 1,095,698 | 133,316 | 1,822                     | 25              |
| 7/1/2000       | CHROMIUM, HEX | 1,095,840 | 133,272 | 1,673                     | 26              |
| 7/1/2001       | CHROMIUM, HEX | 1,095,862 | 133,259 | 1,649                     | 26              |
| 7/1/2002       | CHROMIUM, HEX | 1,095,918 | 133,253 | 1,593                     | 26              |
| 7/1/2003       | CHROMIUM, HEX | 1,095,957 | 133,252 | 1,555                     | 27              |
| 7/1/2004       | CHROMIUM, HEX | 1,096,007 | 133,232 | 1,502                     | 27              |
| 7/1/2005       | CHROMIUM, HEX | 1,095,987 | 133,256 | 1,527                     | 25              |
| 7/1/2006       | CHROMIUM, HEX | 1,096,222 | 133,191 | 1,283                     | 30              |
| 7/1/2007       | CHROMIUM, HEX | 1,096,400 | 133,141 | 1,098                     | 29              |
| 7/1/2008       | CHROMIUM, HEX | 1,096,337 | 133,183 | 1,170                     | 31              |
| 7/1/2009       | CHROMIUM, HEX | 1,096,471 | 133,138 | 1,028                     | 32              |
| 7/1/2010       | CHROMIUM, HEX | 1,096,354 | 133,170 | 1,150                     | 32              |
| 7/1/2011       | CHROMIUM, HEX | 1,096,251 | 133,169 | 1,249                     | 24              |
| 7/1/2012       | CHROMIUM, HEX | 1,096,514 | 133,145 | 990                       | 30              |
| 7/1/2013       | CHROMIUM, HEX | 1,096,086 | 133,209 | 1,419                     | 24              |
| 7/1/2014       | CHROMIUM, HEX | 1,096,393 | 133,159 | 1,109                     | 31              |

# MAROS First Moment Analysis

**Project:** Boomsnub/Airco Superfund Site

**User Name:**

**Location:** Hazel Dell

**State:** Washington

| <b>Effective Date</b> | <b>Constituent</b> | <b>Xc (ft)</b> | <b>Yc (ft)</b> | <b>Distance from Source (ft)</b> | <b>Number of Wells</b> |
|-----------------------|--------------------|----------------|----------------|----------------------------------|------------------------|
|-----------------------|--------------------|----------------|----------------|----------------------------------|------------------------|

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). Moments are not calculated for sample events with less than 6 wells.

# MAROS Second Moment Analysis

Project: Boomsnub/Airco Superfund Site

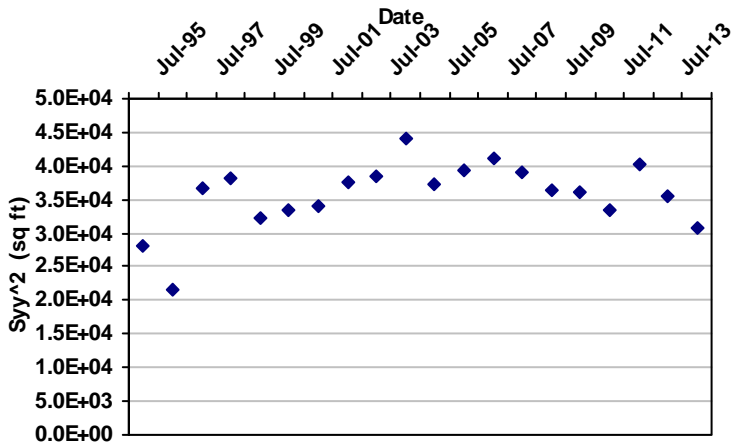
User Name:

Location: Hazel Dell

State: Washington

## Change in Plume Spread Over Time

COC: CHROMIUM, HEXAVALENT



**Mann-Kendall S Statistic:**

32

**Confidence in Trend:**

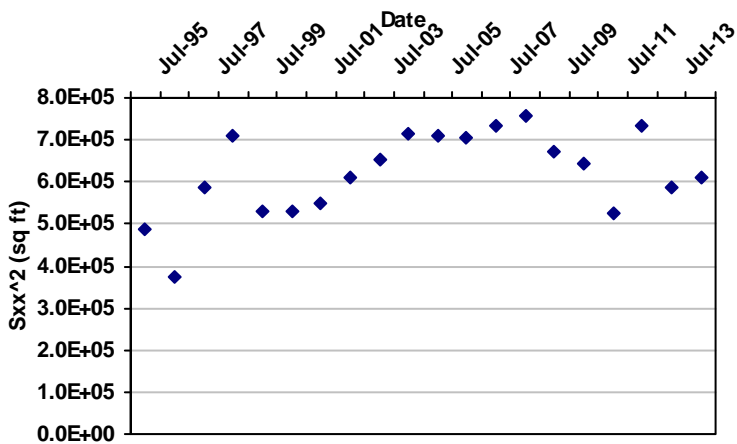
84.1%

**Coefficient of Variation:**

0.14

**Second Moment Trend:**

NT



**Mann-Kendall S Statistic:**

58

**Confidence in Trend:**

96.8%

**Coefficient of Variation:**

0.16

**Second Moment Trend:**

I

### Data Table:

| Effective Date | Constituent         | Sigma XX (sq ft) | Sigma YY (sq ft) | Number of Wells |
|----------------|---------------------|------------------|------------------|-----------------|
| 7/1/1995       | CHROMIUM, HEXAVALEN | 486,775          | 28,216           | 26              |
| 7/1/1996       | CHROMIUM, HEXAVALEN | 373,320          | 21,743           | 18              |
| 7/1/1997       | CHROMIUM, HEXAVALEN | 585,023          | 36,593           | 22              |
| 7/1/1998       | CHROMIUM, HEXAVALEN | 712,254          | 38,117           | 22              |

# MAROS Second Moment Analysis

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

## Data Table:

| Effective Date | Constituent         | Sigma XX (sq ft) | Sigma YY (sq ft) | Number of Wells |
|----------------|---------------------|------------------|------------------|-----------------|
| 7/1/1999       | CHROMIUM, HEXAVALEN | 528,988          | 32,157           | 25              |
| 7/1/2000       | CHROMIUM, HEXAVALEN | 531,440          | 33,363           | 26              |
| 7/1/2001       | CHROMIUM, HEXAVALEN | 547,058          | 34,069           | 26              |
| 7/1/2002       | CHROMIUM, HEXAVALEN | 609,453          | 37,464           | 26              |
| 7/1/2003       | CHROMIUM, HEXAVALEN | 652,883          | 38,572           | 27              |
| 7/1/2004       | CHROMIUM, HEXAVALEN | 714,264          | 44,154           | 27              |
| 7/1/2005       | CHROMIUM, HEXAVALEN | 710,220          | 37,423           | 25              |
| 7/1/2006       | CHROMIUM, HEXAVALEN | 704,868          | 39,341           | 30              |
| 7/1/2007       | CHROMIUM, HEXAVALEN | 735,905          | 41,062           | 29              |
| 7/1/2008       | CHROMIUM, HEXAVALEN | 757,985          | 38,913           | 31              |
| 7/1/2009       | CHROMIUM, HEXAVALEN | 673,067          | 36,506           | 32              |
| 7/1/2010       | CHROMIUM, HEXAVALEN | 645,531          | 36,008           | 32              |
| 7/1/2011       | CHROMIUM, HEXAVALEN | 525,649          | 33,441           | 24              |
| 7/1/2012       | CHROMIUM, HEXAVALEN | 731,903          | 40,277           | 30              |
| 7/1/2013       | CHROMIUM, HEXAVALEN | 587,566          | 35,621           | 24              |
| 7/1/2014       | CHROMIUM, HEXAVALEN | 609,075          | 30,627           | 31              |

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)

The Sigma XX and Sigma YY components are estimated using the given field coordinate system and then rotated to align with the estimated groundwater flow direction. Moments are not calculated for sample events with less than 6 wells.

# MAROS Individual Well Summary Report

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| COC            | Priority COC for Well? | Detection Frequency | Recent Sample Above Goal? | MK Trend | COV  | 95% UCL | Outlier | Distribution Assumption | Attained Cleanup? |           |
|----------------|------------------------|---------------------|---------------------------|----------|------|---------|---------|-------------------------|-------------------|-----------|
|                |                        |                     |                           |          |      |         |         |                         | Normal            | Lognormal |
| <b>AMW-10A</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6            | YES                    | 88 %                | NO                        | NT       | 0.67 | 0.0117  | YES     | Lognormal               | YES               | NO        |
| <b>AMW-11A</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6            | YES                    | 78 %                | NO                        | S        | 0.54 | 0.0044  | NO      | Normal                  | YES               | NO        |
| <b>AMW-27</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6            | YES                    | 98 %                | NO                        | D        | 1.02 | 2.6265  | NO      | Lognormal               | NO                | NO        |
| <b>AMW-42</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6            | YES                    | 96 %                | NO                        | D        | 1.03 | 0.1717  | YES     | Lognormal               | NO                | NO        |
| <b>AMW-63</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6            | YES                    | 60 %                | NO                        | S        | 0.71 | 0.0086  | NO      | Normal                  | YES               | NO        |
| <b>AMW-6A</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6            | YES                    | 100 %               | NO                        | NT       | 0.30 | 0.0097  | NO      | Normal                  | YES               | YES       |
| <b>AMW-7A</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6            | YES                    | 74 %                | NO                        | S        | 0.68 | 0.0036  | NO      | Normal                  | YES               | YES       |
| <b>CPU-13</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6            | YES                    | 100 %               | NO                        | D        | 1.31 | 1.4511  | NO      | No distribution         | NO                | NO        |
| <b>CPU-14</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6            | YES                    | 100 %               | NO                        | D        | 0.84 | 0.4169  | NO      | No distribution         | NO                | NO        |
| <b>MW-10B</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6            | YES                    | 100 %               | NO                        | D        | 0.80 | 0.3811  | NO      | No distribution         | NO                | NO        |
| <b>MW-10C</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6            | YES                    | 100 %               | YES                       | D        | 1.37 | 0.9551  | YES     | No distribution         | NO                | NO        |
| <b>MW-14C</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6            | YES                    | 100 %               | NO                        | D        | 1.24 | 1.1875  | YES     | Lognormal               | NO                | NO        |
| <b>MW-14E</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6            | YES                    | 100 %               | NO                        | D        | 1.58 | 4.6084  | NO      | No distribution         | NO                | NO        |
| <b>MW-18D</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6            | YES                    | 100 %               | YES                       | D        | 1.04 | 4.7809  | NO      | No distribution         | NO                | NO        |
| <b>MW-19D</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |

# MAROS Individual Well Summary Report

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| COC           | Priority COC for Well? | Detection Frequency | Recent Sample Above Goal? | MK Trend | COV  | 95% UCL | Outlier | Distribution Assumption | Attained Cleanup? |           |
|---------------|------------------------|---------------------|---------------------------|----------|------|---------|---------|-------------------------|-------------------|-----------|
|               |                        |                     |                           |          |      |         |         |                         | Normal            | Lognormal |
| CR6           | YES                    | 100 %               | YES                       | D        | 1.18 | 3.8965  | YES     | No distribution         | NO                | NO        |
| <b>MW-1A</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6           | YES                    | 55 %                | NO                        | NT       | 2.21 | 0.0321  | YES     | Lognormal               | YES               | NO        |
| <b>MW-20D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6           | YES                    | 100 %               | NO                        | D        | 1.14 | 9.6996  | NO      | No distribution         | NO                | NO        |
| <b>MW-21D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6           | YES                    | 100 %               | NO                        | D        | 1.30 | 5.2166  | NO      | No distribution         | NO                | NO        |
| <b>MW-22D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6           | YES                    | 100 %               | NO                        | D        | 1.03 | 2.3224  | NO      | Lognormal               | NO                | NO        |
| <b>MW-25D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6           | YES                    | 96 %                | NO                        | D        | 1.39 | 2.1572  | YES     | No distribution         | NO                | NO        |
| <b>MW-26D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6           | YES                    | 100 %               | NO                        | D        | 0.82 | 1.3122  | NO      | No distribution         | NO                | NO        |
| <b>MW-27D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6           | YES                    | 98 %                | NO                        | D        | 1.43 | 1.2423  | NO      | Lognormal               | NO                | NO        |
| <b>MW-2A</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6           | YES                    | 100 %               | YES                       | NT       | 1.04 | 0.8843  | NO      | Lognormal               | NO                | NO        |
| <b>MW-31</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6           | YES                    | 98 %                | NO                        | D        | 1.62 | 0.0956  | YES     | No distribution         | NO                | NO        |
| <b>MW-35</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6           | YES                    | 97 %                | NO                        | D        | 2.91 | 0.6843  | YES     | No distribution         | NO                | NO        |
| <b>MW-3A</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6           | YES                    | 100 %               | NO                        | D        | 0.69 | 0.5620  | NO      | Lognormal               | NO                | NO        |
| <b>MW-41</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6           | YES                    | 50 %                | NO                        | D        | 1.59 | 0.0121  | NO      | Lognormal               | YES               | NO        |
| <b>MW-49</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6           | YES                    | 97 %                | NO                        | D        | 1.10 | 0.2859  | NO      | Lognormal               | NO                | NO        |
| <b>MW-4A</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6           | YES                    | 100 %               | YES                       | D        | 0.88 | 1.8955  | NO      | Lognormal               | NO                | NO        |

# MAROS Individual Well Summary Report

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| COC          | Priority COC for Well? | Detection Frequency | Recent Sample Above Goal? | MK Trend | COV  | 95% UCL | Outlier | Distribution Assumption | Attained Cleanup? |           |
|--------------|------------------------|---------------------|---------------------------|----------|------|---------|---------|-------------------------|-------------------|-----------|
|              |                        |                     |                           |          |      |         |         |                         | Normal            | Lognormal |
| <b>MW-4B</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6          | YES                    | 100 %               | YES                       | D        | 0.88 | 1.6203  | YES     | Lognormal               | NO                | NO        |
| <b>MW-6A</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6          | YES                    | 67 %                | YES                       | NT       | 1.29 | 0.1898  | NO      | Normal                  | NO                | NO        |
| <b>MW-6B</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6          | YES                    | 100 %               | NO                        | D        | 1.33 | 0.3878  | YES     | No distribution         | NO                | NO        |
| <b>PW-1B</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| CR6          | YES                    | 100 %               | NO                        | D        | 1.06 | 1.4463  | YES     | Lognormal               | NO                | NO        |

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## **APPENDIX C-3**

### **TCE OUTPUTS**

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# MAROS Site Results

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

## User Defined Site and Data Assumptions:

### Hydrogeology and Plume Information:

|                               |      |       |
|-------------------------------|------|-------|
| Groundwater Seepage Velocity: | 180  | ft/yr |
| Current Plume Length:         | 2600 | ft    |
| Current Plume Width:          | 300  | ft    |
| Number of Tail Wells:         | 49   |       |
| Number of Source Wells:       | 13   |       |

### Down Gradient Information:

#### Distance from Edge of Tail to Nearest:

|                         |         |
|-------------------------|---------|
| Down-gradient Receptor: | 7200 ft |
| Down-gradient Property: | 1 ft    |

#### Distance from Source to Nearest:

|                         |         |
|-------------------------|---------|
| Down Gradient Receptor: | 9000 ft |
| Down Gradient Property: | 1 ft    |

## Source Information:

Source Treatment: Pump and Treat

**NAPL is not observed at this site.**

### Data Consolidation Assumptions:

|                                 |                         |
|---------------------------------|-------------------------|
| <b>Time Period:</b>             | 1/19/1995 to 10/22/2014 |
| <b>Consolidation Period:</b>    | Yearly                  |
| <b>Consolidation Type:</b>      | Geometric Mean          |
| <b>Duplicate Consolidation:</b> | Maximum                 |
| <b>ND Values:</b>               | Detection Limit         |
| <b>J Flag Values:</b>           | Actual Value            |

### Plume Information Weighting Assumptions:

#### Consolidation Step 1. Weight Plume Information by Chemical

##### Summary Weighting:

Weighting Applied to All Chemicals Equally

#### Consolidation Step 2. Weight Well Information by Chemical

##### Well Weighting:

No Weighting of Wells was Applied.

##### Chemical Weighting:

No Weighting of Chemicals was Applied.

**Note: These assumptions were made when consolidating the historical monitoring data and lumping the Wells and COCs.**

# MAROS Site Results

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

## 1. Compliance Monitoring/Remediation Optimization Results:

Preliminary Monitoring System Optimization Results: Based on site classification, source treatment and Monitoring System Category the following suggestions are made for site Sampling Frequency, Duration of Sampling before reassessment, and Well Density. These criteria take into consideration: Plume Stability, Type of Plume, and Groundwater Velocity.

| COC                     | Tail Stability | Source Stability | Level of Effort | Sampling Duration             | Sampling Frequency | Sampling Density |
|-------------------------|----------------|------------------|-----------------|-------------------------------|--------------------|------------------|
| TRICHLOROETHYLENE (TCE) | PD             | PD               | L               | 1 mechanism unit/l reach stal | No Recommendation  | 38               |

### Note

**Plume Status:** (I) Increasing; (PI) Probably Increasing; (S) Stable; (NT) No Trend; (PD) Probably Decreasing; (D) Decreasing

**Design Categories:** (E) Extensive; (M) Moderate; (L) Limited

(N/A) Not Applicable, Insufficient Data Available

## Level of Monitoring Effort Indicated by Analysis: *Limited*

## 2. Spatial Moment Analysis Results:

### Spatial Moment Analysis Summary:

| Moment Type     | Constituent             | Coefficient of Variation | Mann-Kendall S Statistic | Confidence in Trend | Moment Trend |
|-----------------|-------------------------|--------------------------|--------------------------|---------------------|--------------|
| 0th Moment      | TRICHLOROETHYLENE (TCE) | 1.23                     | -154                     | 100.0%              | D            |
| First Moment    | TRICHLOROETHYLENE (TCE) | 0.09                     | 20                       | 72.9%               | NT           |
| Second Moment X | TRICHLOROETHYLENE (TCE) | 0.30                     | -92                      | 99.9%               | D            |
| Second Moment Y | TRICHLOROETHYLENE (TCE) | 0.31                     | -74                      | 99.2%               | D            |

Note: The following assumptions were applied for the calculation of the Zeroth Moment:

**Porosity:** 0.30

**Saturated Thickness:** Uniform: 65 ft

Mann-Kendall Trend test performed on all sample events for each constituent. 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 Linear Regression Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Time Period: 1/19/1995 to 10/22/2014

Consolidation Period: Yearly

Consolidation Type: Geometric Mean

Duplicate Consolidation: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value

| Well                    | Source/Tail | Average Conc<br>(mg/L) | Median Conc<br>(mg/L) | Standard<br>Deviation | All Samples<br>"ND" ? | Ln Slope | Coefficient<br>of Variation | Confidence in<br>Trend | Concentration<br>Trend |
|-------------------------|-------------|------------------------|-----------------------|-----------------------|-----------------------|----------|-----------------------------|------------------------|------------------------|
| TRICHLOROETHYLENE (TCE) |             |                        |                       |                       |                       |          |                             |                        |                        |
| AMW-10A                 | T           | 2.2E-04                | 1.7E-04               | 1.4E-04               | No                    | 3.3E-04  | 0.64                        | 97.6%                  | I                      |
| AMW-11A                 | T           | 3.9E-04                | 4.4E-04               | 2.9E-04               | No                    | 4.9E-04  | 0.74                        | 99.5%                  | I                      |
| AMW-12A                 | S           | 1.3E+00                | 2.3E-01               | 2.2E+00               | No                    | -9.4E-04 | 1.71                        | 100.0%                 | D                      |
| AMW-13A                 | S           | 3.6E-03                | 1.9E-04               | 8.0E-03               | No                    | -1.3E-04 | 2.24                        | 70.0%                  | NT                     |
| AMW-16                  | T           | 1.9E-02                | 5.1E-03               | 2.5E-02               | No                    | -5.0E-04 | 1.28                        | 100.0%                 | D                      |
| AMW-17                  | T           | 3.9E-02                | 4.1E-03               | 6.7E-02               | No                    | 2.0E-04  | 1.72                        | 84.2%                  | NT                     |
| AMW-18                  | T           | 8.0E-02                | 3.1E-03               | 1.4E-01               | No                    | 1.3E-03  | 1.71                        | 100.0%                 | I                      |
| AMW-19A                 | S           | 7.0E-02                | 9.7E-03               | 1.1E-01               | No                    | -1.0E-03 | 1.59                        | 100.0%                 | D                      |
| AMW-1A                  | S           | 1.3E-01                | 1.8E-02               | 2.3E-01               | No                    | -7.2E-04 | 1.80                        | 99.8%                  | D                      |
| AMW-26                  | S           | 1.6E-02                | 6.3E-04               | 2.4E-02               | No                    | -8.4E-04 | 1.55                        | 99.7%                  | D                      |
| AMW-27                  | T           | 4.0E-02                | 4.6E-02               | 2.5E-02               | No                    | -4.7E-04 | 0.62                        | 100.0%                 | D                      |
| AMW-2A                  | S           | 1.0E+00                | 4.7E-01               | 1.4E+00               | No                    | -1.0E-03 | 1.38                        | 100.0%                 | D                      |
| AMW-2B                  | S           | 5.7E-04                | 4.0E-04               | 7.0E-04               | No                    | 9.1E-05  | 1.22                        | 71.8%                  | NT                     |
| AMW-3A                  | S           | 5.6E-03                | 5.0E-03               | 6.2E-03               | No                    | -6.4E-04 | 1.11                        | 100.0%                 | D                      |
| AMW-42                  | T           | 3.5E-03                | 1.2E-03               | 5.8E-03               | No                    | -4.8E-04 | 1.68                        | 99.0%                  | D                      |
| AMW-52A                 | S           | 2.9E-04                | 1.4E-04               | 3.0E-04               | No                    | -4.9E-04 | 1.03                        | 99.6%                  | D                      |
| AMW-53A                 | S           | 3.3E-02                | 7.9E-03               | 6.9E-02               | No                    | -7.0E-04 | 2.06                        | 99.4%                  | D                      |
| AMW-54A                 | S           | 3.2E-02                | 2.1E-03               | 5.3E-02               | No                    | -9.9E-04 | 1.64                        | 98.9%                  | D                      |
| AMW-55A                 | S           | 7.1E-03                | 1.1E-03               | 1.3E-02               | No                    | -7.7E-04 | 1.83                        | 98.8%                  | D                      |
| AMW-56A                 | T           | 6.5E-02                | 2.3E-03               | 1.8E-01               | No                    | -9.8E-04 | 2.82                        | 97.7%                  | D                      |

# MAROS Linear Regression Statistics Summary

Boomsnub/Airco Superfund Site

User Name:

Hazel Dell

State: Washington

## TRICHLOROETHYLENE (TCE)

| Well   | Source/Tail | Average Conc<br>(mg/L) | Median Conc<br>(mg/L) | Standard<br>Deviation | All Samples<br>"ND" ? | Ln Slope | Coefficient<br>of Variation | Confidence in<br>Trend | Concentration<br>Trend |
|--------|-------------|------------------------|-----------------------|-----------------------|-----------------------|----------|-----------------------------|------------------------|------------------------|
| AMW-59 | T           | 1.2E-01                | 1.1E-01               | 5.5E-02               | No                    | -3.2E-04 | 0.45                        | 99.1%                  | D                      |
| AMW-61 | T           | 1.3E-02                | 6.5E-03               | 1.4E-02               | No                    | -5.3E-04 | 1.07                        | 98.4%                  | D                      |
| AMW-63 | T           | 1.2E-04                | 1.3E-04               | 4.2E-05               | No                    | 1.8E-04  | 0.35                        | 77.7%                  | NT                     |
| AMW-64 | T           | 1.0E-01                | 9.2E-02               | 4.8E-02               | No                    | 0.0E+00  | 0.00                        | 0.0%                   | N/A                    |
| AMW-6A | T           | 3.6E-04                | 4.3E-04               | 2.6E-04               | No                    | 6.2E-04  | 0.72                        | 99.9%                  | I                      |
| AMW-7A | T           | 2.6E-04                | 2.1E-04               | 2.2E-04               | No                    | 4.2E-04  | 0.82                        | 99.5%                  | I                      |
| AMW-8A | T           | 7.4E-02                | 3.4E-02               | 1.4E-01               | No                    | -1.1E-03 | 1.95                        | 100.0%                 | D                      |
| CPU-12 | T           | 4.2E-03                | 4.0E-03               | 2.4E-03               | No                    | 2.1E-04  | 0.57                        | 97.8%                  | I                      |
| CPU-13 | T           | 1.7E-02                | 3.4E-03               | 2.8E-02               | No                    | -6.3E-04 | 1.64                        | 100.0%                 | D                      |
| CPU-14 | T           | 2.3E-02                | 1.6E-02               | 1.7E-02               | No                    | -3.5E-04 | 0.76                        | 100.0%                 | D                      |
| MW-10B | T           | 9.5E-02                | 4.0E-02               | 1.7E-01               | No                    | -3.0E-04 | 1.78                        | 99.7%                  | D                      |
| MW-10C | T           | 1.7E-01                | 4.8E-02               | 3.1E-01               | No                    | -8.2E-04 | 1.87                        | 100.0%                 | D                      |
| MW-12C | T           | 7.5E-01                | 4.2E-02               | 2.0E+00               | No                    | -1.0E-03 | 2.69                        | 100.0%                 | D                      |
| MW-13C | T           | 8.4E-03                | 5.8E-03               | 6.7E-03               | No                    | -3.0E-04 | 0.80                        | 100.0%                 | D                      |
| MW-14C | T           | 2.2E-01                | 5.3E-02               | 4.1E-01               | No                    | -6.0E-04 | 1.83                        | 100.0%                 | D                      |
| MW-14E | T           | 8.2E-01                | 1.8E-01               | 1.5E+00               | No                    | -6.1E-04 | 1.83                        | 100.0%                 | D                      |
| MW-15E | T           | 1.2E-01                | 1.2E-02               | 2.6E-01               | No                    | -7.2E-04 | 2.22                        | 100.0%                 | D                      |
| MW-18D | T           | 8.1E-01                | 2.0E-01               | 1.3E+00               | No                    | -6.9E-04 | 1.66                        | 100.0%                 | D                      |
| MW-18E | T           | 5.8E-01                | 2.8E-01               | 6.8E-01               | No                    | -3.5E-04 | 1.17                        | 100.0%                 | D                      |
| MW-19D | T           | 3.5E-01                | 6.6E-02               | 6.2E-01               | No                    | -5.6E-04 | 1.77                        | 100.0%                 | D                      |
| MW-1A  | S           | 1.0E+00                | 6.6E-01               | 1.2E+00               | No                    | -1.1E-03 | 1.12                        | 100.0%                 | D                      |
| MW-20D | T           | 7.6E-01                | 1.1E-01               | 1.2E+00               | No                    | -7.4E-04 | 1.54                        | 100.0%                 | D                      |
| MW-21D | T           | 2.5E-01                | 2.5E-02               | 5.3E-01               | No                    | -8.9E-04 | 2.11                        | 100.0%                 | D                      |
| MW-22D | T           | 6.8E-02                | 2.7E-02               | 8.1E-02               | No                    | -6.3E-04 | 1.20                        | 100.0%                 | D                      |
| MW-23D | T           | 1.5E-02                | 5.2E-03               | 1.8E-02               | No                    | -5.4E-04 | 1.24                        | 100.0%                 | D                      |
| MW-25D | T           | 1.4E-02                | 3.3E-03               | 2.4E-02               | No                    | -5.5E-04 | 1.69                        | 100.0%                 | D                      |
| MW-26D | T           | 8.7E-03                | 2.1E-03               | 1.1E-02               | No                    | -5.0E-04 | 1.30                        | 100.0%                 | D                      |

# MAROS Linear Regression Statistics Summary

Boomsnub/Airco Superfund Site

User Name:

Hazel Dell

State: Washington

## TRICHLOROETHYLENE (TCE)

| Well   | Source/Tail | Average Conc<br>(mg/L) | Median Conc<br>(mg/L) | Standard<br>Deviation | All Samples<br>"ND" ? | Ln Slope | Coefficient<br>of Variation | Confidence in<br>Trend | Concentration<br>Trend |
|--------|-------------|------------------------|-----------------------|-----------------------|-----------------------|----------|-----------------------------|------------------------|------------------------|
| MW-27D | T           | 4.0E-02                | 1.9E-03               | 7.0E-02               | No                    | -8.8E-04 | 1.75                        | 100.0%                 | D                      |
| MW-2A  | T           | 5.7E-03                | 4.5E-03               | 4.0E-03               | No                    | -2.5E-04 | 0.69                        | 100.0%                 | D                      |
| MW-31  | T           | 2.7E-03                | 4.9E-04               | 5.7E-03               | No                    | -7.9E-04 | 2.12                        | 100.0%                 | D                      |
| MW-35  | T           | 1.2E-02                | 5.6E-03               | 2.0E-02               | No                    | -3.4E-04 | 1.67                        | 99.6%                  | D                      |
| MW-38  | T           | 3.3E-02                | 1.2E-02               | 3.2E-02               | No                    | 1.4E-03  | 0.96                        | 93.9%                  | PI                     |
| MW-3B  | T           | 8.8E-03                | 5.9E-03               | 9.1E-03               | No                    | -3.8E-04 | 1.04                        | 100.0%                 | D                      |
| MW-41  | T           | 4.3E-04                | 5.0E-04               | 3.5E-04               | No                    | -4.5E-04 | 0.82                        | 99.9%                  | D                      |
| MW-49  | T           | 6.7E-03                | 3.1E-03               | 7.2E-03               | No                    | -2.4E-04 | 1.09                        | 88.7%                  | NT                     |
| MW-4B  | T           | 5.2E-02                | 5.9E-03               | 1.4E-01               | No                    | -9.8E-05 | 2.73                        | 67.2%                  | NT                     |
| MW-6B  | T           | 1.5E-01                | 9.7E-02               | 2.4E-01               | No                    | -7.4E-04 | 1.55                        | 100.0%                 | D                      |
| MW-7B  | T           | 1.3E-01                | 8.6E-02               | 1.5E-01               | No                    | -6.4E-04 | 1.14                        | 99.7%                  | D                      |
| MW-8B  | T           | 4.4E-01                | 2.4E-02               | 9.0E-01               | No                    | -8.9E-04 | 2.02                        | 100.0%                 | D                      |
| MW-9B  | T           | 3.1E-01                | 5.5E-02               | 5.1E-01               | No                    | -8.6E-04 | 1.64                        | 100.0%                 | D                      |
| PW-1B  | T           | 1.3E-01                | 3.9E-02               | 1.8E-01               | No                    | -8.1E-04 | 1.39                        | 100.0%                 | D                      |
| PZ-39  | T           | 3.6E-01                | 5.6E-02               | 7.7E-01               | No                    | -7.5E-04 | 2.16                        | 100.0%                 | D                      |

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

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

Time Period: 1/19/1995 to 10/22/2014

Consolidation Period: Yearly

Consolidation Type: Geometric Mean

Duplicate Consolidation: Maximum

ND Values: Detection Limit

J Flag Values : Actual Value

| Well                    | Source/<br>Tail | Number<br>of<br>Samples | Number<br>of<br>Detects | Coefficient<br>of Variation | Mann-<br>Kendall<br>Statistic | Confidence<br>in Trend | All<br>Samples<br>"ND" ? | Concentration<br>Trend |
|-------------------------|-----------------|-------------------------|-------------------------|-----------------------------|-------------------------------|------------------------|--------------------------|------------------------|
| TRICHLOROETHYLENE (TCE) |                 |                         |                         |                             |                               |                        |                          |                        |
| AMW-10A                 | T               | 9                       | 7                       | 0.64                        | 6                             | 69.4%                  | No                       | NT                     |
| AMW-11A                 | T               | 10                      | 8                       | 0.74                        | 3                             | 56.9%                  | No                       | NT                     |
| AMW-12A                 | S               | 20                      | 20                      | 1.71                        | -142                          | 100.0%                 | No                       | D                      |
| AMW-13A                 | S               | 19                      | 17                      | 2.24                        | -3                            | 52.7%                  | No                       | NT                     |
| AMW-16                  | T               | 19                      | 19                      | 1.28                        | -128                          | 100.0%                 | No                       | D                      |
| AMW-17                  | T               | 19                      | 19                      | 1.72                        | -20                           | 74.4%                  | No                       | NT                     |
| AMW-18                  | T               | 18                      | 17                      | 1.71                        | 70                            | 99.7%                  | No                       | I                      |
| AMW-19A                 | S               | 18                      | 18                      | 1.59                        | -114                          | 100.0%                 | No                       | D                      |
| AMW-1A                  | S               | 20                      | 20                      | 1.80                        | -84                           | 99.7%                  | No                       | D                      |
| AMW-26                  | S               | 16                      | 14                      | 1.55                        | -49                           | 98.6%                  | No                       | D                      |
| AMW-27                  | T               | 17                      | 17                      | 0.62                        | -116                          | 100.0%                 | No                       | D                      |
| AMW-2A                  | S               | 20                      | 20                      | 1.38                        | -148                          | 100.0%                 | No                       | D                      |
| AMW-2B                  | S               | 15                      | 14                      | 1.22                        | -12                           | 70.4%                  | No                       | NT                     |
| AMW-3A                  | S               | 19                      | 19                      | 1.11                        | -127                          | 100.0%                 | No                       | D                      |
| AMW-42                  | T               | 14                      | 14                      | 1.68                        | -44                           | 99.2%                  | No                       | D                      |
| AMW-52A                 | S               | 11                      | 8                       | 1.03                        | -24                           | 96.4%                  | No                       | D                      |
| AMW-53A                 | S               | 12                      | 12                      | 2.06                        | -32                           | 98.4%                  | No                       | D                      |
| AMW-54A                 | S               | 11                      | 11                      | 1.64                        | -16                           | 87.5%                  | No                       | NT                     |
| AMW-55A                 | S               | 10                      | 10                      | 1.83                        | -7                            | 70.0%                  | No                       | NT                     |
| AMW-56A                 | T               | 11                      | 11                      | 2.82                        | -19                           | 91.8%                  | No                       | PD                     |
| AMW-59                  | T               | 8                       | 8                       | 0.45                        | -18                           | 98.4%                  | No                       | D                      |
| AMW-61                  | T               | 7                       | 7                       | 1.07                        | -11                           | 93.2%                  | No                       | PD                     |
| AMW-63                  | T               | 5                       | 3                       | 0.35                        | 2                             | 59.2%                  | No                       | NT                     |
| AMW-64                  | T               | 3                       | 3                       | 0.00                        | 0                             | 0.0%                   | No                       | N/A                    |
| AMW-6A                  | T               | 10                      | 7                       | 0.72                        | 6                             | 66.8%                  | No                       | NT                     |
| AMW-7A                  | T               | 15                      | 8                       | 0.82                        | 51                            | 99.4%                  | No                       | I                      |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

## TRICHLOROETHYLENE (TCE)

| Well   | Source/<br>Tail | Number<br>of<br>Samples | Number<br>of<br>Detects | Coefficient<br>of Variation | Mann-<br>Kendall<br>Statistic | Confidence<br>in Trend | All<br>Samples<br>"ND" ? | Concentration<br>Trend |
|--------|-----------------|-------------------------|-------------------------|-----------------------------|-------------------------------|------------------------|--------------------------|------------------------|
| AMW-8A | T               | 19                      | 19                      | 1.95                        | -165                          | 100.0%                 | No                       | D                      |
| CPU-12 | T               | 20                      | 20                      | 0.57                        | 41                            | 90.2%                  | No                       | PI                     |
| CPU-13 | T               | 20                      | 20                      | 1.64                        | -178                          | 100.0%                 | No                       | D                      |
| CPU-14 | T               | 20                      | 20                      | 0.76                        | -146                          | 100.0%                 | No                       | D                      |
| MW-10B | T               | 20                      | 20                      | 1.78                        | -102                          | 100.0%                 | No                       | D                      |
| MW-10C | T               | 20                      | 20                      | 1.87                        | -148                          | 100.0%                 | No                       | D                      |
| MW-12C | T               | 18                      | 18                      | 2.69                        | -133                          | 100.0%                 | No                       | D                      |
| MW-13C | T               | 18                      | 18                      | 0.80                        | -96                           | 100.0%                 | No                       | D                      |
| MW-14C | T               | 20                      | 20                      | 1.83                        | -168                          | 100.0%                 | No                       | D                      |
| MW-14E | T               | 20                      | 20                      | 1.83                        | -178                          | 100.0%                 | No                       | D                      |
| MW-15E | T               | 15                      | 15                      | 2.22                        | -105                          | 100.0%                 | No                       | D                      |
| MW-18D | T               | 20                      | 20                      | 1.66                        | -180                          | 100.0%                 | No                       | D                      |
| MW-18E | T               | 19                      | 19                      | 1.17                        | -124                          | 100.0%                 | No                       | D                      |
| MW-19D | T               | 20                      | 20                      | 1.77                        | -151                          | 100.0%                 | No                       | D                      |
| MW-1A  | S               | 20                      | 20                      | 1.12                        | -148                          | 100.0%                 | No                       | D                      |
| MW-20D | T               | 20                      | 20                      | 1.54                        | -174                          | 100.0%                 | No                       | D                      |
| MW-21D | T               | 20                      | 20                      | 2.11                        | -190                          | 100.0%                 | No                       | D                      |
| MW-22D | T               | 20                      | 20                      | 1.20                        | -178                          | 100.0%                 | No                       | D                      |
| MW-23D | T               | 20                      | 20                      | 1.24                        | -143                          | 100.0%                 | No                       | D                      |
| MW-25D | T               | 20                      | 20                      | 1.69                        | -149                          | 100.0%                 | No                       | D                      |
| MW-26D | T               | 20                      | 20                      | 1.30                        | -120                          | 100.0%                 | No                       | D                      |
| MW-27D | T               | 20                      | 20                      | 1.75                        | -134                          | 100.0%                 | No                       | D                      |
| MW-2A  | T               | 16                      | 16                      | 0.69                        | -73                           | 100.0%                 | No                       | D                      |
| MW-31  | T               | 14                      | 14                      | 2.12                        | -85                           | 100.0%                 | No                       | D                      |
| MW-35  | T               | 16                      | 16                      | 1.67                        | -57                           | 99.5%                  | No                       | D                      |
| MW-38  | T               | 5                       | 5                       | 0.96                        | 2                             | 59.2%                  | No                       | NT                     |
| MW-3B  | T               | 11                      | 11                      | 1.04                        | -42                           | 100.0%                 | No                       | D                      |
| MW-41  | T               | 14                      | 3                       | 0.82                        | -34                           | 96.5%                  | No                       | D                      |
| MW-49  | T               | 15                      | 15                      | 1.09                        | -45                           | 98.6%                  | No                       | D                      |
| MW-4B  | T               | 11                      | 11                      | 2.73                        | -17                           | 89.1%                  | No                       | NT                     |
| MW-6B  | T               | 20                      | 20                      | 1.55                        | -132                          | 100.0%                 | No                       | D                      |
| MW-7B  | T               | 6                       | 6                       | 1.14                        | -13                           | 99.2%                  | No                       | D                      |
| MW-8B  | T               | 10                      | 10                      | 2.02                        | -43                           | 100.0%                 | No                       | D                      |

# MAROS Mann-Kendall Statistics Summary

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

## TRICHLOROETHYLENE (TCE)

| Well  | Source/<br>Tail | Number<br>of<br>Samples | Number<br>of<br>Detects | Coefficient<br>of Variation | Mann-<br>Kendall<br>Statistic | Confidence<br>in Trend | All<br>Samples<br>"ND" ? | Concentration<br>Trend |
|-------|-----------------|-------------------------|-------------------------|-----------------------------|-------------------------------|------------------------|--------------------------|------------------------|
| MW-9B | T               | 11                      | 11                      | 1.64                        | -53                           | 100.0%                 | No                       | D                      |
| PW-1B | T               | 20                      | 20                      | 1.39                        | -148                          | 100.0%                 | No                       | D                      |
| PZ-39 | T               | 7                       | 7                       | 2.16                        | -21                           | 100.0%                 | 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 Power Analysis for Individual Well Cleanup Status

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

From Period: 1/19/1995 to 10/22/2014

| Well Name                      | Sample Size | Sample Mean           | Sample Stdev. | Normal                | Lognormal      | Alpha Level | Expected Power |
|--------------------------------|-------------|-----------------------|---------------|-----------------------|----------------|-------------|----------------|
|                                |             |                       |               | Distribution          | Distribution   |             |                |
|                                |             |                       |               | Cleanup Status        | Cleanup Status |             |                |
| <b>TRICHLOROETHYLENE (TCE)</b> |             | Cleanup Goal (mg/L) = | 0.005         | Target Level (mg/L) = |                | 0.004       |                |
| AMW-10A                        | 9           | 2.70E-04              | 1.57E-04      | Attained              | Cont Sampling  | 0.05        | 0.8            |
| AMW-11A                        | 10          | 4.23E-04              | 3.08E-04      | Attained              | Cont Sampling  | 0.05        | 0.8            |
| AMW-12A                        | 20          | 1.59E+00              | 2.90E+00      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-13A                        | 19          | 4.56E-03              | 1.04E-02      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-16                         | 19          | 1.97E-02              | 2.52E-02      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-17                         | 19          | 4.07E-02              | 6.77E-02      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-18                         | 18          | 8.03E-02              | 1.37E-01      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-19A                        | 18          | 7.71E-02              | 1.16E-01      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-1A                         | 20          | 1.42E-01              | 2.38E-01      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-26                         | 16          | 1.64E-02              | 2.42E-02      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-27                         | 17          | 4.07E-02              | 2.51E-02      | Cont Sampling         | Not Attained   | 0.05        | 0.8            |
| AMW-2A                         | 20          | 1.05E+00              | 1.42E+00      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-2B                         | 15          | 1.58E-03              | 3.89E-03      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-3A                         | 19          | 5.71E-03              | 6.42E-03      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-42                         | 14          | 3.90E-03              | 7.12E-03      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-52A                        | 11          | 9.21E-04              | 2.17E-03      | Attained              | Cont Sampling  | 0.05        | 0.8            |
| AMW-53A                        | 12          | 3.76E-02              | 6.84E-02      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-54A                        | 11          | 3.36E-02              | 5.50E-02      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-55A                        | 10          | 7.40E-03              | 1.29E-02      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-56A                        | 11          | 6.83E-02              | 1.83E-01      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-59                         | 8           | 1.24E-01              | 5.86E-02      | Cont Sampling         | Not Attained   | 0.05        | 0.8            |
| AMW-61                         | 7           | 1.35E-02              | 1.42E-02      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| AMW-63                         | 5           | 1.23E-04              | 4.28E-05      | Attained              | Cont Sampling  | 0.05        | 0.8            |
| AMW-64                         | 3           | 1.04E-01              | 4.92E-02      | N/C                   | N/C            | 0.05        | 0.8            |
| AMW-6A                         | 10          | 3.72E-04              | 2.67E-04      | Attained              | Cont Sampling  | 0.05        | 0.8            |
| AMW-7A                         | 15          | 2.75E-04              | 2.17E-04      | Attained              | Cont Sampling  | 0.05        | 0.8            |
| AMW-8A                         | 19          | 7.65E-02              | 1.46E-01      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| CPU-12                         | 20          | 4.47E-03              | 2.09E-03      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| CPU-13                         | 20          | 1.90E-02              | 2.96E-02      | Cont Sampling         | Cont Sampling  | 0.05        | 0.8            |
| CPU-14                         | 20          | 2.27E-02              | 1.73E-02      | Cont Sampling         | Not Attained   | 0.05        | 0.8            |

# MAROS Power Analysis for Individual Well Cleanup Status

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

From Period: 1/19/1995 to 10/22/2014

| Well Name | Sample Size | Sample Mean | Sample Stdev. | Normal         | Lognormal      | Alpha Level | Expected Power |
|-----------|-------------|-------------|---------------|----------------|----------------|-------------|----------------|
|           |             |             |               | Distribution   | Distribution   |             |                |
|           |             |             |               | Cleanup Status | Cleanup Status |             |                |
| MW-10B    | 20          | 1.07E-01    | 1.92E-01      | Cont Sampling  | Not Attained   | 0.05        | 0.8            |
| MW-10C    | 20          | 1.74E-01    | 3.14E-01      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-12C    | 18          | 7.84E-01    | 2.05E+00      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-13C    | 18          | 8.64E-03    | 6.89E-03      | Cont Sampling  | Not Attained   | 0.05        | 0.8            |
| MW-14C    | 20          | 2.53E-01    | 4.67E-01      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-14E    | 20          | 8.31E-01    | 1.50E+00      | Cont Sampling  | Not Attained   | 0.05        | 0.8            |
| MW-15E    | 15          | 1.26E-01    | 2.79E-01      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-18D    | 20          | 8.67E-01    | 1.43E+00      | Cont Sampling  | Not Attained   | 0.05        | 0.8            |
| MW-18E    | 19          | 5.97E-01    | 7.04E-01      | Cont Sampling  | Not Attained   | 0.05        | 0.8            |
| MW-19D    | 20          | 3.66E-01    | 6.57E-01      | Cont Sampling  | Not Attained   | 0.05        | 0.8            |
| MW-1A     | 20          | 1.08E+00    | 1.20E+00      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-20D    | 20          | 7.66E-01    | 1.17E+00      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-21D    | 20          | 2.59E-01    | 5.49E-01      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-22D    | 20          | 6.96E-02    | 8.40E-02      | Cont Sampling  | Not Attained   | 0.05        | 0.8            |
| MW-23D    | 20          | 1.62E-02    | 1.86E-02      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-25D    | 20          | 1.51E-02    | 2.59E-02      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-26D    | 20          | 9.25E-03    | 1.19E-02      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-27D    | 20          | 4.18E-02    | 7.12E-02      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-2A     | 16          | 6.09E-03    | 4.44E-03      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-31     | 14          | 2.84E-03    | 6.14E-03      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-35     | 16          | 1.32E-02    | 2.06E-02      | Cont Sampling  | Not Attained   | 0.05        | 0.8            |
| MW-38     | 5           | 3.32E-02    | 3.19E-02      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-3B     | 11          | 8.90E-03    | 9.23E-03      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-41     | 14          | 8.51E-04    | 1.16E-03      | Attained       | Cont Sampling  | 0.05        | 0.8            |
| MW-49     | 15          | 1.49E-02    | 2.82E-02      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-4B     | 11          | 5.31E-02    | 1.45E-01      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-6B     | 20          | 1.84E-01    | 2.67E-01      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-7B     | 6           | 1.60E-01    | 2.15E-01      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-8B     | 10          | 4.83E-01    | 9.59E-01      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| MW-9B     | 11          | 3.32E-01    | 5.45E-01      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |
| PW-1B     | 20          | 1.36E-01    | 1.89E-01      | Cont Sampling  | Cont Sampling  | 0.05        | 0.8            |

# MAROS Power Analysis for Individual Well Cleanup Status

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

From Period: 1/19/1995 to 10/22/2014

| Well Name | Sample Size | Sample Mean | Sample Stdev. | <u>Normal</u>  | <u>Lognormal</u> | Alpha Level | Expected Power |
|-----------|-------------|-------------|---------------|----------------|------------------|-------------|----------------|
|           |             |             |               | Distribution   | Distribution     |             |                |
|           |             |             |               | Cleanup Status | Cleanup Status   |             |                |
| PZ-39     | 7           | 3.56E-01    | 7.69E-01      | Cont Sampling  | Cont Sampling    | 0.05        | 0.8            |

Note: N/C refers to "not conducted" because of insufficient data (N<4); S/E indicates the sample mean significantly exceeds the cleanup level and thus no analysis is conducted; Sample Size is the number of concentration data in a sampling location that are used in the analysis; Target Level is the expected mean concentration in wells after cleanup attainment, it is only used in individual well cleanup status evaluation. The test for evaluating attainment status is from EPA (1992). Refer to Appendix A.6 of MAROS Manual for details.

# Individual Well Cleanup Status - Optional Analysis Results

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

From Period: 1/19/1995 to 10/22/2014

Lognormal Distribution

Normal Distribution Assumption

Assumption

| Well                                                       | Sample Size | Sample Mean | Sample Stdev. | Significantly < Cleanup Goal? | Power | Expected Sample | Significantly < Cleanup Goal? | Power            | Expected Sample |
|------------------------------------------------------------|-------------|-------------|---------------|-------------------------------|-------|-----------------|-------------------------------|------------------|-----------------|
| <b>TRICHLOROETHYLENE (TCE) Cleanup Goal (mg/L) = 0.005</b> |             |             |               |                               |       |                 |                               |                  |                 |
|                                                            |             |             |               |                               | 0.005 | Alpha Level =   | 0.05                          | Expected Power = | 0.8             |
| AMW-10A                                                    | 9           | 2.70E-04    | 1.57E-04      | YES                           | 1.000 | <=3             | YES                           | 1.000            | <=3             |
| AMW-11A                                                    | 10          | 4.23E-04    | 3.08E-04      | YES                           | 1.000 | <=3             | YES                           | 0.999            | 4               |
| AMW-12A                                                    | 20          | 1.59E+00    | 2.90E+00      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-13A                                                    | 19          | 4.56E-03    | 1.04E-02      | NO                            | 0.072 | >100            | NO                            | S/E              | S/E             |
| AMW-16                                                     | 19          | 1.97E-02    | 2.52E-02      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-17                                                     | 19          | 4.07E-02    | 6.77E-02      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-18                                                     | 18          | 8.03E-02    | 1.37E-01      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-19A                                                    | 18          | 7.71E-02    | 1.16E-01      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-1A                                                     | 20          | 1.42E-01    | 2.38E-01      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-26                                                     | 16          | 1.64E-02    | 2.42E-02      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-27                                                     | 17          | 4.07E-02    | 2.51E-02      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-2A                                                     | 20          | 1.05E+00    | 1.42E+00      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-2B                                                     | 15          | 1.58E-03    | 3.89E-03      | YES                           | 0.953 | 9               | YES                           | 0.920            | 11              |
| AMW-3A                                                     | 19          | 5.71E-03    | 6.42E-03      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-42                                                     | 14          | 3.90E-03    | 7.12E-03      | NO                            | 0.139 | >100            | NO                            | 0.203            | >100            |
| AMW-52A                                                    | 11          | 9.21E-04    | 2.17E-03      | YES                           | 1.000 | <=3             | YES                           | 0.999            | 4               |
| AMW-53A                                                    | 12          | 3.76E-02    | 6.84E-02      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-54A                                                    | 11          | 3.36E-02    | 5.50E-02      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-55A                                                    | 10          | 7.40E-03    | 1.29E-02      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-56A                                                    | 11          | 6.83E-02    | 1.83E-01      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-59                                                     | 8           | 1.24E-01    | 5.86E-02      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-61                                                     | 7           | 1.35E-02    | 1.42E-02      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |
| AMW-63                                                     | 5           | 1.23E-04    | 4.28E-05      | YES                           | 1.000 | <=3             | YES                           | 1.000            | <=3             |
| AMW-64                                                     | 3           | 1.04E-01    | 4.92E-02      | N/C                           | S/E   | S/E             | N/C                           | S/E              | S/E             |
| AMW-6A                                                     | 10          | 3.72E-04    | 2.67E-04      | YES                           | 1.000 | <=3             | YES                           | 0.968            | 6               |
| AMW-7A                                                     | 15          | 2.75E-04    | 2.17E-04      | YES                           | 1.000 | <=3             | YES                           | 1.000            | <=3             |
| AMW-8A                                                     | 19          | 7.65E-02    | 1.46E-01      | NO                            | S/E   | S/E             | NO                            | S/E              | S/E             |

# Individual Well Cleanup Status - Optional Analysis Results

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

From Period: 1/19/1995 to 10/22/2014

| Well Name | Sample Size | Sample Mean | Sample Stdev. | Normal Distribution Assumption |       |                 | Lognormal Distribution Assumption |       |                 |
|-----------|-------------|-------------|---------------|--------------------------------|-------|-----------------|-----------------------------------|-------|-----------------|
|           |             |             |               | Significantly < Cleanup Goal?  | Power | Expected Sample | Significantly < Cleanup Goal?     | Power | Expected Sample |
| CPU-12    | 20          | 4.47E-03    | 2.09E-03      | NO                             | 0.300 | 96              | NO                                | 0.339 | 80              |
| CPU-13    | 20          | 1.90E-02    | 2.96E-02      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| CPU-14    | 20          | 2.27E-02    | 1.73E-02      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-10B    | 20          | 1.07E-01    | 1.92E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-10C    | 20          | 1.74E-01    | 3.14E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-12C    | 18          | 7.84E-01    | 2.05E+00      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-13C    | 18          | 8.64E-03    | 6.89E-03      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-14C    | 20          | 2.53E-01    | 4.67E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-14E    | 20          | 8.31E-01    | 1.50E+00      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-15E    | 15          | 1.26E-01    | 2.79E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-18D    | 20          | 8.67E-01    | 1.43E+00      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-18E    | 19          | 5.97E-01    | 7.04E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-19D    | 20          | 3.66E-01    | 6.57E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-1A     | 20          | 1.08E+00    | 1.20E+00      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-20D    | 20          | 7.66E-01    | 1.17E+00      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-21D    | 20          | 2.59E-01    | 5.49E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-22D    | 20          | 6.96E-02    | 8.40E-02      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-23D    | 20          | 1.62E-02    | 1.86E-02      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-25D    | 20          | 1.51E-02    | 2.59E-02      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-26D    | 20          | 9.25E-03    | 1.19E-02      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-27D    | 20          | 4.18E-02    | 7.12E-02      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-2A     | 16          | 6.09E-03    | 4.44E-03      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-31     | 14          | 2.84E-03    | 6.14E-03      | NO                             | 0.358 | 51              | YES                               | 0.636 | 22              |
| MW-35     | 16          | 1.32E-02    | 2.06E-02      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-38     | 5           | 3.32E-02    | 3.19E-02      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-3B     | 11          | 8.90E-03    | 9.23E-03      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-41     | 14          | 8.51E-04    | 1.16E-03      | YES                            | 1.000 | <=3             | YES                               | 0.999 | 5               |
| MW-49     | 15          | 1.49E-02    | 2.82E-02      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-4B     | 11          | 5.31E-02    | 1.45E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |

# Individual Well Cleanup Status - Optional Analysis Results

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

From Period: 1/19/1995 to 10/22/2014

| Well Name | Sample Size | Sample Mean | Sample Stdev. | Normal Distribution Assumption |       |                 | Lognormal Distribution Assumption |       |                 |
|-----------|-------------|-------------|---------------|--------------------------------|-------|-----------------|-----------------------------------|-------|-----------------|
|           |             |             |               | Significantly < Cleanup Goal?  | Power | Expected Sample | Significantly < Cleanup Goal?     | Power | Expected Sample |
| MW-6B     | 20          | 1.84E-01    | 2.67E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-7B     | 6           | 1.60E-01    | 2.15E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-8B     | 10          | 4.83E-01    | 9.59E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| MW-9B     | 11          | 3.32E-01    | 5.45E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| PW-1B     | 20          | 1.36E-01    | 1.89E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |
| PZ-39     | 7           | 3.56E-01    | 7.69E-01      | NO                             | S/E   | S/E             | NO                                | S/E   | S/E             |

Note: N/C refers to "not conducted" because of insufficient data (N<4); S/E indicates the sample mean significantly exceeds the cleanup level and thus no analysis is conducted; Sample Size is the number of concentration data in a sampling location that are used in the power analysis; Expected Sample Size is the number of concentration data needed to reach the Expected Power under current sample variability; The Target Level is the expected mean concentration in wells after cleanup attainment, it is only used in individual well cleanup status evaluation. The Student's t-test on mean difference is used in this analysis. Refer to Appendix A.6 of MAROS Manual for details.

# MAROS Sampling Frequency Optimization Results

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

The Overall Number of Sampling Events: 361

"Recent Period" defined by events: From Sample Event 1 To Sample Event 361  
1/19/1995 10/22/2014

## "Rate of Change" parameters used:

| Constituent  | Cleanup Goal | Low Rate | Medium Rate | High Rate |
|--------------|--------------|----------|-------------|-----------|
| TRICHLOROETH | 0.005        | 0.0025   | 0.005       | 0.01      |

Units: Cleanup Goal is in mg/L; all rate parameters are in mg/L/year.

| Well                           | Recommended Sampling | Frequency Based on | Frequency Based on |
|--------------------------------|----------------------|--------------------|--------------------|
| <b>TRICHLOROETHYLENE (TCE)</b> |                      |                    |                    |
| AMW-10A                        | Biennial             | Biennial           | Biennial           |
| AMW-11A                        | Biennial             | Biennial           | Biennial           |
| AMW-12A                        | Biennial             | Biennial           | Biennial           |
| AMW-13A                        | Biennial             | Biennial           | Biennial           |
| AMW-16                         | Biennial             | Biennial           | Biennial           |
| AMW-17                         | SemiAnnual           | SemiAnnual         | SemiAnnual         |
| AMW-18                         | Quarterly            | SemiAnnual         | Quarterly          |
| AMW-19A                        | Biennial             | Biennial           | Biennial           |
| AMW-1A                         | Biennial             | Biennial           | Biennial           |
| AMW-26                         | Biennial             | Biennial           | Biennial           |
| AMW-27                         | Biennial             | Biennial           | Biennial           |
| AMW-2A                         | Biennial             | Biennial           | Biennial           |
| AMW-2B                         | Biennial             | Biennial           | Biennial           |
| AMW-3A                         | Biennial             | Biennial           | Biennial           |
| AMW-42                         | Biennial             | Biennial           | Biennial           |
| AMW-52A                        | Biennial             | Biennial           | Biennial           |
| AMW-53A                        | Biennial             | Biennial           | Biennial           |
| AMW-54A                        | Biennial             | Biennial           | Biennial           |
| AMW-55A                        | Biennial             | Biennial           | Biennial           |
| AMW-56A                        | Biennial             | Biennial           | Biennial           |
| AMW-59                         | Biennial             | Biennial           | Biennial           |
| AMW-61                         | Biennial             | Biennial           | Biennial           |
| AMW-63                         | Biennial             | Biennial           | Biennial           |

# MAROS Sampling Frequency Optimization Results

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Well   | Recommended Sampling | Frequency Based on | Frequency Based on |
|--------|----------------------|--------------------|--------------------|
| AMW-64 | Quarterly            | Quarterly          | Quarterly          |
| AMW-6A | Biennial             | Biennial           | Biennial           |
| AMW-7A | Biennial             | Biennial           | Biennial           |
| AMW-8A | Biennial             | Biennial           | Biennial           |
| CPU-12 | Biennial             | Biennial           | Biennial           |
| CPU-13 | Biennial             | Biennial           | Biennial           |
| CPU-14 | Biennial             | Biennial           | Biennial           |
| MW-10B | Biennial             | Biennial           | Biennial           |
| MW-10C | Biennial             | Biennial           | Biennial           |
| MW-12C | Biennial             | Biennial           | Biennial           |
| MW-13C | Biennial             | Biennial           | Biennial           |
| MW-14C | Biennial             | Biennial           | Biennial           |
| MW-14E | Biennial             | Biennial           | Biennial           |
| MW-15E | Biennial             | Biennial           | Biennial           |
| MW-18D | Biennial             | Biennial           | Biennial           |
| MW-18E | Biennial             | Biennial           | Biennial           |
| MW-19D | Biennial             | Biennial           | Biennial           |
| MW-1A  | Biennial             | Biennial           | Biennial           |
| MW-20D | Biennial             | Biennial           | Biennial           |
| MW-21D | Biennial             | Biennial           | Biennial           |
| MW-22D | Biennial             | Biennial           | Biennial           |
| MW-23D | Biennial             | Biennial           | Biennial           |
| MW-25D | Biennial             | Biennial           | Biennial           |
| MW-26D | Biennial             | Biennial           | Biennial           |
| MW-27D | Biennial             | Biennial           | Biennial           |
| MW-2A  | Biennial             | Biennial           | Biennial           |
| MW-31  | Biennial             | Biennial           | Biennial           |
| MW-35  | Biennial             | Biennial           | Biennial           |
| MW-38  | Quarterly            | Quarterly          | Quarterly          |
| MW-3B  | Biennial             | Biennial           | Biennial           |
| MW-41  | Biennial             | Biennial           | Biennial           |
| MW-49  | Biennial             | Biennial           | Biennial           |
| MW-4B  | Biennial             | Biennial           | Biennial           |
| MW-6B  | Biennial             | Biennial           | Biennial           |
| MW-7B  | Biennial             | Biennial           | Biennial           |

# MAROS Sampling Frequency Optimization Results

**Project:** Boomsnub/Airco Superfund Site

**User Name:**

**Location:** Hazel Dell

**State:** Washington

| <b>Well</b> | <b>Recommended Sampling</b> | <b>Frequency Based on</b> | <b>Frequency Based on</b> |
|-------------|-----------------------------|---------------------------|---------------------------|
| MW-8B       | Biennial                    | Biennial                  | Biennial                  |
| MW-9B       | Biennial                    | Biennial                  | Biennial                  |
| PW-1B       | Biennial                    | Biennial                  | Biennial                  |
| PZ-39       | Biennial                    | Biennial                  | Biennial                  |

Note: Sampling frequency is determined considering both recent and overall concentration trends. Sampling Frequency is the final recommendation; Frequency Based on Recent Data is the frequency determined using recent (short) period of monitoring data; Frequency Based on Overall Data is the frequency determined using overall (long) period of monitoring data. If the "recent period" is defined using a different series of sampling events, the results could be different.

# MAROS Sampling Location Optimization Results

Boomsnub/Airco Superfund Site

User Name:

Hazel Dell

State: Washington

**Sampling Events Analyzed:** From Sample Event 1 to Sample Event 361  
1/19/1995 10/22/2014

## Parameters used:

| Constituent       | Inside SF | Hull SF | Area Ratio | Conc. Ratio |
|-------------------|-----------|---------|------------|-------------|
| TRICHLOROETHYLENE | 0.3       | 0.1     | 0.9        | 0.85        |

| Well Name               | X (feet)   | Y (feet)  | Removable?                          | Average Slope Factor* | Minimum Slope Factor* | Maximum Slope Factor* | Eliminated?              |
|-------------------------|------------|-----------|-------------------------------------|-----------------------|-----------------------|-----------------------|--------------------------|
| TRICHLOROETHYLENE (TCE) |            |           |                                     |                       |                       |                       |                          |
| AMW-10A                 | 1098266.25 | 132923.33 | <input checked="" type="checkbox"/> | 0.524                 | 0.000                 | 1.000                 | <input type="checkbox"/> |
| AMW-11A                 | 1098270.63 | 132756.36 | <input checked="" type="checkbox"/> | 0.247                 | 0.000                 | 1.000                 | <input type="checkbox"/> |
| AMW-12A                 | 1097891.63 | 132766.36 | <input checked="" type="checkbox"/> | 0.384                 | 0.065                 | 0.709                 | <input type="checkbox"/> |
| AMW-13A                 | 1097844.38 | 133039.89 | <input checked="" type="checkbox"/> | 0.546                 | 0.000                 | 1.000                 | <input type="checkbox"/> |
| AMW-16                  | 1095978.38 | 133652.16 | <input checked="" type="checkbox"/> | 0.336                 | 0.024                 | 0.908                 | <input type="checkbox"/> |
| AMW-17                  | 1096562.13 | 133519.91 | <input checked="" type="checkbox"/> | 0.449                 | 0.047                 | 0.888                 | <input type="checkbox"/> |
| AMW-18                  | 1096976.25 | 133403.75 | <input checked="" type="checkbox"/> | 0.489                 | 0.063                 | 1.000                 | <input type="checkbox"/> |
| AMW-19A                 | 1097961.38 | 132745.06 | <input checked="" type="checkbox"/> | 0.189                 | 0.007                 | 0.705                 | <input type="checkbox"/> |
| AMW-1A                  | 1097845.25 | 132893.08 | <input checked="" type="checkbox"/> | 0.333                 | 0.015                 | 1.000                 | <input type="checkbox"/> |
| AMW-26                  | 1097846.25 | 132924.05 | <input checked="" type="checkbox"/> | 0.414                 | 0.025                 | 1.000                 | <input type="checkbox"/> |
| AMW-27                  | 1094386.13 | 133515.81 | <input checked="" type="checkbox"/> | 0.321                 | 0.058                 | 0.693                 | <input type="checkbox"/> |
| AMW-2A                  | 1097832.00 | 132820.73 | <input checked="" type="checkbox"/> | 0.442                 | 0.031                 | 0.895                 | <input type="checkbox"/> |
| AMW-2B                  | 1097831.75 | 132828.42 | <input checked="" type="checkbox"/> | 0.703                 | 0.119                 | 1.000                 | <input type="checkbox"/> |
| AMW-3A                  | 1097892.63 | 132637.25 | <input checked="" type="checkbox"/> | 0.521                 | 0.212                 | 1.000                 | <input type="checkbox"/> |
| AMW-42                  | 1093570.50 | 133791.39 | <input checked="" type="checkbox"/> | 0.400                 | 0.001                 | 0.937                 | <input type="checkbox"/> |
| AMW-52A                 | 1097747.50 | 132981.05 | <input checked="" type="checkbox"/> | 0.824                 | 0.519                 | 1.000                 | <input type="checkbox"/> |
| AMW-53A                 | 1097744.75 | 132910.84 | <input checked="" type="checkbox"/> | 0.377                 | 0.001                 | 0.922                 | <input type="checkbox"/> |
| AMW-54A                 | 1097745.50 | 132769.86 | <input checked="" type="checkbox"/> | 0.239                 | 0.014                 | 0.787                 | <input type="checkbox"/> |
| AMW-55A                 | 1097744.50 | 132704.05 | <input checked="" type="checkbox"/> | 0.240                 | 0.076                 | 0.489                 | <input type="checkbox"/> |
| AMW-56A                 | 1097844.25 | 132760.16 | <input checked="" type="checkbox"/> | 0.374                 | 0.008                 | 0.708                 | <input type="checkbox"/> |
| AMW-59                  | 1097015.63 | 133051.66 | <input checked="" type="checkbox"/> | 0.264                 | 0.146                 | 0.501                 | <input type="checkbox"/> |
| AMW-61                  | 1094367.25 | 133467.44 | <input checked="" type="checkbox"/> | 0.203                 | 0.068                 | 0.719                 | <input type="checkbox"/> |
| AMW-63                  | 1093510.88 | 133815.56 | <input checked="" type="checkbox"/> | 0.790                 | 0.708                 | 1.000                 | <input type="checkbox"/> |
| AMW-64                  | 1096435.88 | 133689.47 | <input checked="" type="checkbox"/> | 0.213                 | 0.033                 | 0.748                 | <input type="checkbox"/> |
| AMW-6A                  | 1098315.50 | 132581.84 | <input checked="" type="checkbox"/> | 0.272                 | 0.000                 | 1.000                 | <input type="checkbox"/> |
| AMW-7A                  | 1098542.13 | 132679.81 | <input checked="" type="checkbox"/> | 0.460                 | 0.000                 | 1.000                 | <input type="checkbox"/> |
| AMW-8A                  | 1098555.38 | 133089.64 | <input checked="" type="checkbox"/> | 0.303                 | 0.025                 | 0.825                 | <input type="checkbox"/> |

# MAROS Sampling Location Optimization Results

Boomsnub/Airco Superfund Site

User Name:

Hazel Dell

State: Washington

| Well Name | X (feet)   | Y (feet)  | Removable?                          | Average Slope Factor* | Minimum Slope Factor* | Maximum Slope Factor* | Eliminated?                         |
|-----------|------------|-----------|-------------------------------------|-----------------------|-----------------------|-----------------------|-------------------------------------|
| CPU-12    | 1095433.88 | 133157.64 | <input checked="" type="checkbox"/> | 0.482                 | 0.062                 | 1.000                 | <input type="checkbox"/>            |
| CPU-13    | 1094877.75 | 133397.00 | <input checked="" type="checkbox"/> | 0.248                 | 0.009                 | 0.867                 | <input type="checkbox"/>            |
| CPU-14    | 1096130.75 | 133152.42 | <input checked="" type="checkbox"/> | 0.302                 | 0.003                 | 0.753                 | <input type="checkbox"/>            |
| MW-10B    | 1097254.00 | 132970.84 | <input checked="" type="checkbox"/> | 0.279                 | 0.004                 | 0.713                 | <input type="checkbox"/>            |
| MW-10C    | 1097250.75 | 132971.34 | <input checked="" type="checkbox"/> | 0.277                 | 0.003                 | 0.716                 | <input type="checkbox"/>            |
| MW-12C    | 1097182.25 | 133074.94 | <input checked="" type="checkbox"/> | 0.345                 | 0.094                 | 0.773                 | <input type="checkbox"/>            |
| MW-13C    | 1097114.13 | 132873.94 | <input checked="" type="checkbox"/> | 0.313                 | 0.081                 | 0.977                 | <input type="checkbox"/>            |
| MW-14C    | 1097053.75 | 133070.84 | <input checked="" type="checkbox"/> | 0.160                 | 0.001                 | 0.513                 | <input checked="" type="checkbox"/> |
| MW-14E    | 1097068.38 | 133032.61 | <input checked="" type="checkbox"/> | 0.202                 | 0.025                 | 0.593                 | <input type="checkbox"/>            |
| MW-15E    | 1096785.25 | 133249.44 | <input checked="" type="checkbox"/> | 0.307                 | 0.034                 | 0.770                 | <input type="checkbox"/>            |
| MW-18D    | 1096779.50 | 133113.73 | <input checked="" type="checkbox"/> | 0.206                 | 0.026                 | 0.524                 | <input type="checkbox"/>            |
| MW-18E    | 1096799.50 | 133118.36 | <input checked="" type="checkbox"/> | 0.354                 | 0.038                 | 0.721                 | <input type="checkbox"/>            |
| MW-19D    | 1096403.13 | 133254.94 | <input checked="" type="checkbox"/> | 0.090                 | 0.000                 | 0.502                 | <input checked="" type="checkbox"/> |
| MW-1A     | 1097744.75 | 132827.19 | <input checked="" type="checkbox"/> | 0.290                 | 0.028                 | 0.622                 | <input type="checkbox"/>            |
| MW-20D    | 1095961.75 | 133409.30 | <input checked="" type="checkbox"/> | 0.204                 | 0.002                 | 0.599                 | <input type="checkbox"/>            |
| MW-21D    | 1095489.38 | 133567.02 | <input checked="" type="checkbox"/> | 0.159                 | 0.002                 | 0.654                 | <input type="checkbox"/>            |
| MW-22D    | 1095455.50 | 133368.55 | <input checked="" type="checkbox"/> | 0.145                 | 0.000                 | 0.818                 | <input checked="" type="checkbox"/> |
| MW-23D    | 1095517.38 | 133765.05 | <input checked="" type="checkbox"/> | 0.311                 | 0.000                 | 0.894                 | <input type="checkbox"/>            |
| MW-25D    | 1094389.25 | 133662.33 | <input checked="" type="checkbox"/> | 0.365                 | 0.000                 | 1.000                 | <input type="checkbox"/>            |
| MW-26D    | 1094375.13 | 133433.91 | <input checked="" type="checkbox"/> | 0.477                 | 0.014                 | 1.000                 | <input type="checkbox"/>            |
| MW-27D    | 1094883.88 | 133638.45 | <input checked="" type="checkbox"/> | 0.241                 | 0.007                 | 1.000                 | <input type="checkbox"/>            |
| MW-2A     | 1097544.25 | 132767.69 | <input checked="" type="checkbox"/> | 0.513                 | 0.150                 | 0.981                 | <input type="checkbox"/>            |
| MW-31     | 1093810.00 | 133700.70 | <input checked="" type="checkbox"/> | 0.450                 | 0.097                 | 0.832                 | <input type="checkbox"/>            |
| MW-35     | 1093675.75 | 133745.42 | <input checked="" type="checkbox"/> | 0.397                 | 0.041                 | 1.000                 | <input type="checkbox"/>            |
| MW-38     | 1096184.13 | 133439.30 | <input checked="" type="checkbox"/> | 0.252                 | 0.054                 | 0.657                 | <input type="checkbox"/>            |
| MW-3B     | 1097456.25 | 132791.05 | <input checked="" type="checkbox"/> | 0.246                 | 0.018                 | 0.870                 | <input type="checkbox"/>            |
| MW-41     | 1093463.88 | 133848.02 | <input checked="" type="checkbox"/> | 0.596                 | 0.196                 | 1.000                 | <input type="checkbox"/>            |
| MW-49     | 1094376.50 | 133503.09 | <input checked="" type="checkbox"/> | 0.262                 | 0.071                 | 1.000                 | <input type="checkbox"/>            |
| MW-4B     | 1097458.00 | 132868.41 | <input checked="" type="checkbox"/> | 0.438                 | 0.161                 | 0.807                 | <input type="checkbox"/>            |
| MW-6B     | 1097380.50 | 132929.25 | <input checked="" type="checkbox"/> | 0.143                 | 0.016                 | 0.753                 | <input checked="" type="checkbox"/> |
| MW-7B     | 1097465.63 | 132874.84 | <input checked="" type="checkbox"/> | 0.271                 | 0.112                 | 0.429                 | <input type="checkbox"/>            |
| MW-8B     | 1097500.63 | 133005.73 | <input checked="" type="checkbox"/> | 0.242                 | 0.009                 | 0.636                 | <input type="checkbox"/>            |
| MW-9B     | 1097327.25 | 133029.19 | <input checked="" type="checkbox"/> | 0.144                 | 0.011                 | 0.478                 | <input checked="" type="checkbox"/> |
| PW-1B     | 1097467.75 | 132870.81 | <input checked="" type="checkbox"/> | 0.233                 | 0.004                 | 0.780                 | <input type="checkbox"/>            |
| PZ-39     | 1096191.50 | 133375.19 | <input checked="" type="checkbox"/> | 0.204                 | 0.007                 | 0.458                 | <input type="checkbox"/>            |

# MAROS Sampling Location Optimization Results

Boomsnub/Airco Superfund Site

User Name:

Hazel Dell

State: Washington

| <b>Well Name</b> | <b>X (feet)</b> | <b>Y (feet)</b> | <b>Removable?</b> | <b>Average<br/>Slope Factor*</b> | <b>Minimum<br/>Slope Factor*</b> | <b>Maximum<br/>Slope Factor*</b> | <b>Eliminated?</b> |
|------------------|-----------------|-----------------|-------------------|----------------------------------|----------------------------------|----------------------------------|--------------------|
|------------------|-----------------|-----------------|-------------------|----------------------------------|----------------------------------|----------------------------------|--------------------|

Note: The Slope Factor indicates the relative importance of a well in the monitoring network at a given sampling event; the larger the SF value of a well, the more important the well is and vice versa; the Average Slope Factor measures the overall well importance in the selected time period; the State Plane (i.e., X and Y refer to Easting and Northing, respectively) or local coordinate systems may be used; wells that are NOT selected for analysis are not shown above.

\* When the report is generated after running the Excel module, SF values will NOT be shown above.

# MAROS Zeroth Moment Analysis

Project: Boomsnub/Airco Superfund Site

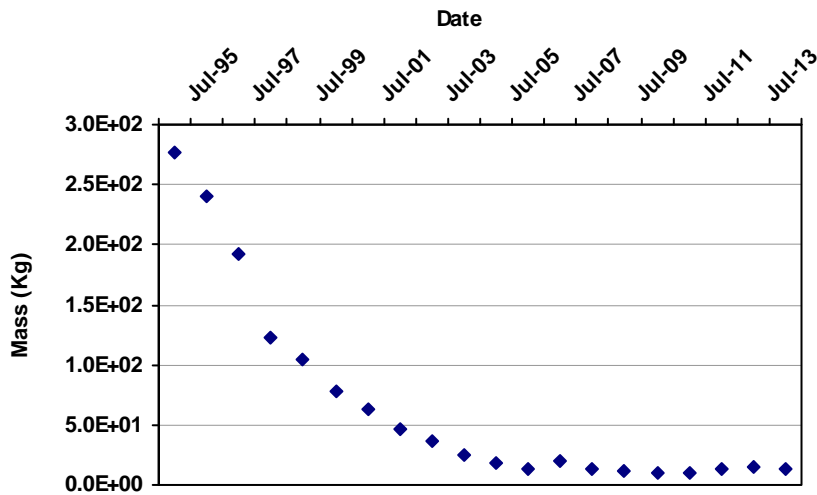
User Name:

Location: Hazel Dell

State: Washington

## Change in Dissolved Mass Over Time

COC: TRICHLOROETHYLENE (TCE)



Porosity: 0.30

Saturated Thickness:

Uniform: 65 ft

Mann-Kendall S Statistic:

-154

Confidence in Trend:

100.0%

Coefficient of Variation:

1.23

Zeroth Moment Trend:

D

## Data Table:

| Effective Date | Constituent             | Estimated Mass (Kg) | Number of Wells |
|----------------|-------------------------|---------------------|-----------------|
| 7/1/1995       | TRICHLOROETHYLENE (TCE) | 2.8E+02             | 43              |
| 7/1/1996       | TRICHLOROETHYLENE (TCE) | 2.4E+02             | 34              |
| 7/1/1997       | TRICHLOROETHYLENE (TCE) | 1.9E+02             | 45              |
| 7/1/1998       | TRICHLOROETHYLENE (TCE) | 1.2E+02             | 42              |
| 7/1/1999       | TRICHLOROETHYLENE (TCE) | 1.0E+02             | 45              |
| 7/1/2000       | TRICHLOROETHYLENE (TCE) | 7.7E+01             | 38              |
| 7/1/2001       | TRICHLOROETHYLENE (TCE) | 6.3E+01             | 42              |
| 7/1/2002       | TRICHLOROETHYLENE (TCE) | 4.7E+01             | 43              |
| 7/1/2003       | TRICHLOROETHYLENE (TCE) | 3.6E+01             | 48              |
| 7/1/2004       | TRICHLOROETHYLENE (TCE) | 2.5E+01             | 53              |
| 7/1/2005       | TRICHLOROETHYLENE (TCE) | 1.8E+01             | 49              |
| 7/1/2006       | TRICHLOROETHYLENE (TCE) | 1.4E+01             | 54              |
| 7/1/2007       | TRICHLOROETHYLENE (TCE) | 1.9E+01             | 51              |
| 7/1/2008       | TRICHLOROETHYLENE (TCE) | 1.2E+01             | 57              |
| 7/1/2009       | TRICHLOROETHYLENE (TCE) | 1.2E+01             | 55              |
| 7/1/2010       | TRICHLOROETHYLENE (TCE) | 1.0E+01             | 60              |
| 7/1/2011       | TRICHLOROETHYLENE (TCE) | 1.0E+01             | 38              |

# MAROS Zeroth Moment Analysis

Boomsnub/Airco Superfund Site

User Name:

Hazel Dell

State: Washington

| Effective Date | Constituent             | Estimated Mass (Kg) | Number of Wells |
|----------------|-------------------------|---------------------|-----------------|
| 7/1/2012       | TRICHLOROETHYLENE (TCE) | 1.4E+01             | 59              |
| 7/1/2013       | TRICHLOROETHYLENE (TCE) | 1.5E+01             | 44              |
| 7/1/2014       | TRICHLOROETHYLENE (TCE) | 1.4E+01             | 61              |

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. Moments are not calculated for sample events with less than 6 wells.

# MAROS First Moment Analysis

Project: Boomsnub/Airco Superfund Site

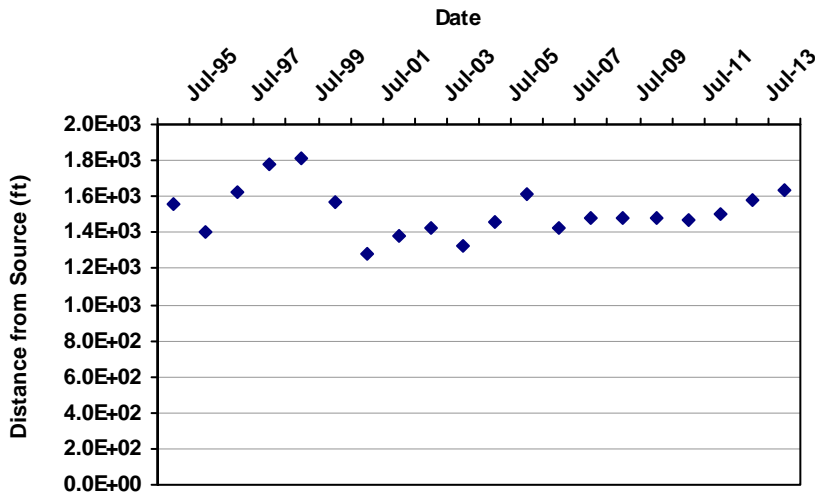
User Name:

Location: Hazel Dell

State: Washington

COC: TRICHLOROETHYLENE (TCE)

*Distance from Source to Center of Mass*



Mann-Kendall S Statistic:

20

Confidence in Trend:

72.9%

Coefficient of Variation:

0.09

First Moment Trend:

NT

## DATA TABLE

| Effective Date | Constituent             | Xc (ft)   | Yc (ft) | Distance from Source | Number of Wells |
|----------------|-------------------------|-----------|---------|----------------------|-----------------|
| 7/1/1995       | TRICHLOROETHYLENE (TCE) | 1,096,423 | 133,276 | 1,556                | 43              |
| 7/1/1996       | TRICHLOROETHYLENE (TCE) | 1,096,567 | 133,236 | 1,407                | 34              |
| 7/1/1997       | TRICHLOROETHYLENE (TCE) | 1,096,351 | 133,263 | 1,620                | 45              |
| 7/1/1998       | TRICHLOROETHYLENE (TCE) | 1,096,195 | 133,298 | 1,780                | 42              |
| 7/1/1999       | TRICHLOROETHYLENE (TCE) | 1,096,166 | 133,298 | 1,808                | 45              |
| 7/1/2000       | TRICHLOROETHYLENE (TCE) | 1,096,398 | 133,241 | 1,569                | 38              |
| 7/1/2001       | TRICHLOROETHYLENE (TCE) | 1,096,672 | 133,163 | 1,285                | 42              |
| 7/1/2002       | TRICHLOROETHYLENE (TCE) | 1,096,578 | 133,185 | 1,381                | 43              |
| 7/1/2003       | TRICHLOROETHYLENE (TCE) | 1,096,531 | 133,198 | 1,430                | 48              |
| 7/1/2004       | TRICHLOROETHYLENE (TCE) | 1,096,628 | 133,177 | 1,330                | 53              |
| 7/1/2005       | TRICHLOROETHYLENE (TCE) | 1,096,501 | 133,191 | 1,456                | 49              |
| 7/1/2006       | TRICHLOROETHYLENE (TCE) | 1,096,353 | 133,261 | 1,618                | 54              |

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). Moments are not calculated for sample events with less than 6 wells.

# MAROS COC Assessment

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Effective Date | Constituent             | Xc (ft)   | Yc (ft) | Distance from Source | Number of Wells |
|----------------|-------------------------|-----------|---------|----------------------|-----------------|
| 7/1/2007       | TRICHLOROETHYLENE (TCE) | 1,096,557 | 133,252 | 1,421                | 51              |
| 7/1/2008       | TRICHLOROETHYLENE (TCE) | 1,096,496 | 133,247 | 1,478                | 57              |
| 7/1/2009       | TRICHLOROETHYLENE (TCE) | 1,096,490 | 133,241 | 1,481                | 55              |
| 7/1/2010       | TRICHLOROETHYLENE (TCE) | 1,096,493 | 133,242 | 1,479                | 60              |
| 7/1/2011       | TRICHLOROETHYLENE (TCE) | 1,096,506 | 133,268 | 1,475                | 38              |
| 7/1/2012       | TRICHLOROETHYLENE (TCE) | 1,096,508 | 133,343 | 1,498                | 59              |
| 7/1/2013       | TRICHLOROETHYLENE (TCE) | 1,096,440 | 133,379 | 1,575                | 44              |
| 7/1/2014       | TRICHLOROETHYLENE (TCE) | 1,096,386 | 133,405 | 1,635                | 61              |

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). Moments are not calculated for sample events with less than 6 wells.

# MAROS First Moment Analysis

Project: Boomsnub/Airco Superfund Site

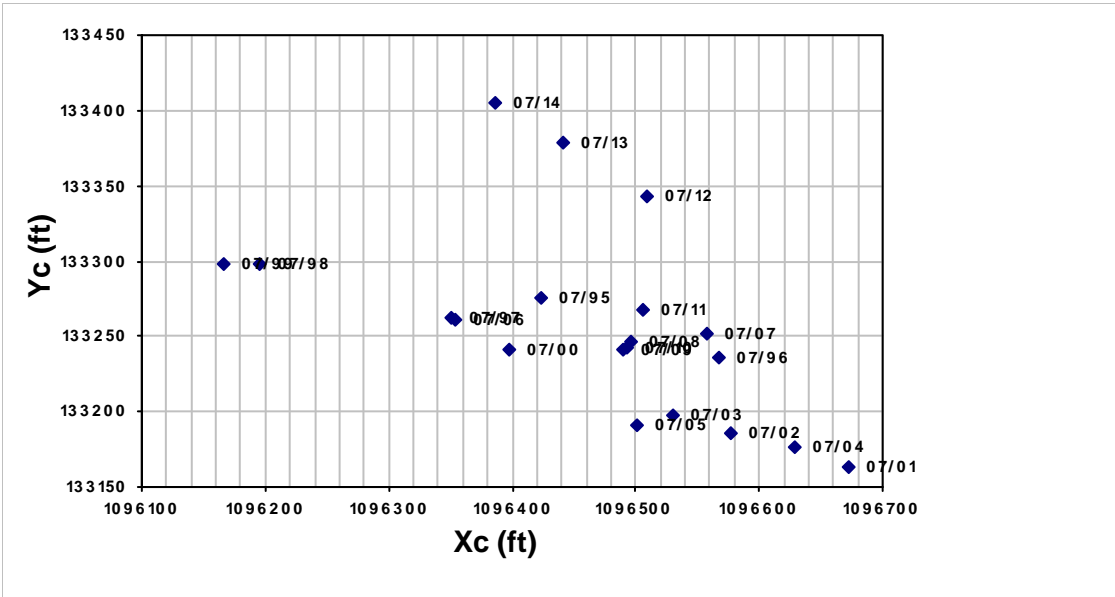
User Name:

Location: Hazel Dell

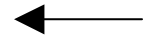
State: Washington

COC: TRICHLOROETHYLENE (TCE)

## Change in Location of Center of Mass Over Time



Groundwater Flow Direction:



Source Coordinates

X: 1,097,901

Y: 132,790

| Effective Date | Constituent    | Xc (ft)   | Yc (ft) | Distance from Source (ft) | Number of Wells |
|----------------|----------------|-----------|---------|---------------------------|-----------------|
| 7/1/1995       | TRICHLOROETHYL | 1,096,423 | 133,276 | 1,556                     | 43              |
| 7/1/1996       | TRICHLOROETHYL | 1,096,567 | 133,236 | 1,407                     | 34              |
| 7/1/1997       | TRICHLOROETHYL | 1,096,351 | 133,263 | 1,620                     | 45              |
| 7/1/1998       | TRICHLOROETHYL | 1,096,195 | 133,298 | 1,780                     | 42              |
| 7/1/1999       | TRICHLOROETHYL | 1,096,166 | 133,298 | 1,808                     | 45              |
| 7/1/2000       | TRICHLOROETHYL | 1,096,398 | 133,241 | 1,569                     | 38              |
| 7/1/2001       | TRICHLOROETHYL | 1,096,672 | 133,163 | 1,285                     | 42              |
| 7/1/2002       | TRICHLOROETHYL | 1,096,578 | 133,185 | 1,381                     | 43              |
| 7/1/2003       | TRICHLOROETHYL | 1,096,531 | 133,198 | 1,430                     | 48              |
| 7/1/2004       | TRICHLOROETHYL | 1,096,628 | 133,177 | 1,330                     | 53              |
| 7/1/2005       | TRICHLOROETHYL | 1,096,501 | 133,191 | 1,456                     | 49              |
| 7/1/2006       | TRICHLOROETHYL | 1,096,353 | 133,261 | 1,618                     | 54              |
| 7/1/2007       | TRICHLOROETHYL | 1,096,557 | 133,252 | 1,421                     | 51              |
| 7/1/2008       | TRICHLOROETHYL | 1,096,496 | 133,247 | 1,478                     | 57              |
| 7/1/2009       | TRICHLOROETHYL | 1,096,490 | 133,241 | 1,481                     | 55              |
| 7/1/2010       | TRICHLOROETHYL | 1,096,493 | 133,242 | 1,479                     | 60              |
| 7/1/2011       | TRICHLOROETHYL | 1,096,506 | 133,268 | 1,475                     | 38              |
| 7/1/2012       | TRICHLOROETHYL | 1,096,508 | 133,343 | 1,498                     | 59              |
| 7/1/2013       | TRICHLOROETHYL | 1,096,440 | 133,379 | 1,575                     | 44              |
| 7/1/2014       | TRICHLOROETHYL | 1,096,386 | 133,405 | 1,635                     | 61              |

# MAROS First Moment Analysis

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| Effective Date | Constituent | Xc (ft) | Yc (ft) | Distance from Source (ft) | Number of Wells |
|----------------|-------------|---------|---------|---------------------------|-----------------|
|----------------|-------------|---------|---------|---------------------------|-----------------|

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). Moments are not calculated for sample events with less than 6 wells.

# MAROS Second Moment Analysis

Project: Boomsnub/Airco Superfund Site

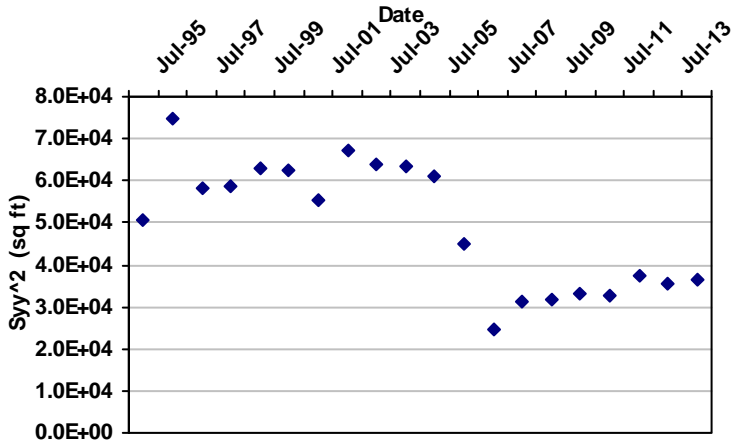
User Name:

Location: Hazel Dell

State: Washington

## Change in Plume Spread Over Time

COC: TRICHLOROETHYLENE (TCE)



**Mann-Kendall S Statistic:**

-74

**Confidence in Trend:**

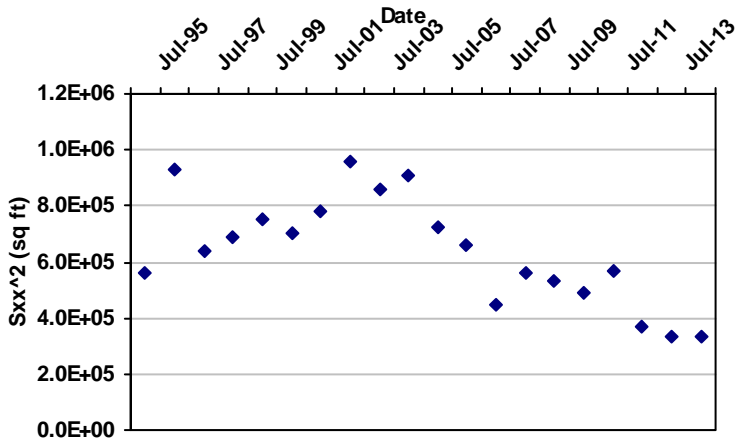
99.2%

**Coefficient of Variation:**

0.31

**Second Moment Trend:**

D



**Mann-Kendall S Statistic:**

-92

**Confidence in Trend:**

99.9%

**Coefficient of Variation:**

0.30

**Second Moment Trend:**

D

### Data Table:

| Effective Date | Constituent          | Sigma XX (sq ft) | Sigma YY (sq ft) | Number of Wells |
|----------------|----------------------|------------------|------------------|-----------------|
| 7/1/1995       | TRICHLOROETHYLENE (T | 563,807          | 50,524           | 43              |
| 7/1/1996       | TRICHLOROETHYLENE (T | 930,737          | 74,955           | 34              |
| 7/1/1997       | TRICHLOROETHYLENE (T | 636,326          | 58,325           | 45              |
| 7/1/1998       | TRICHLOROETHYLENE (T | 688,995          | 58,932           | 42              |

# MAROS Second Moment Analysis

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

## Data Table:

| Effective Date | Constituent          | Sigma XX (sq ft) | Sigma YY (sq ft) | Number of Wells |
|----------------|----------------------|------------------|------------------|-----------------|
| 7/1/1999       | TRICHLOROETHYLENE (T | 755,774          | 63,113           | 45              |
| 7/1/2000       | TRICHLOROETHYLENE (T | 705,940          | 62,311           | 38              |
| 7/1/2001       | TRICHLOROETHYLENE (T | 783,625          | 55,242           | 42              |
| 7/1/2002       | TRICHLOROETHYLENE (T | 960,989          | 67,191           | 43              |
| 7/1/2003       | TRICHLOROETHYLENE (T | 858,862          | 63,831           | 48              |
| 7/1/2004       | TRICHLOROETHYLENE (T | 911,774          | 63,522           | 53              |
| 7/1/2005       | TRICHLOROETHYLENE (T | 723,778          | 61,210           | 49              |
| 7/1/2006       | TRICHLOROETHYLENE (T | 660,600          | 44,812           | 54              |
| 7/1/2007       | TRICHLOROETHYLENE (T | 447,556          | 24,842           | 51              |
| 7/1/2008       | TRICHLOROETHYLENE (T | 559,378          | 31,322           | 57              |
| 7/1/2009       | TRICHLOROETHYLENE (T | 533,010          | 31,816           | 55              |
| 7/1/2010       | TRICHLOROETHYLENE (T | 488,552          | 33,154           | 60              |
| 7/1/2011       | TRICHLOROETHYLENE (T | 564,761          | 32,749           | 38              |
| 7/1/2012       | TRICHLOROETHYLENE (T | 371,397          | 37,604           | 59              |
| 7/1/2013       | TRICHLOROETHYLENE (T | 335,275          | 35,363           | 44              |
| 7/1/2014       | TRICHLOROETHYLENE (T | 330,426          | 36,577           | 61              |

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)

The Sigma XX and Sigma YY components are estimated using the given field coordinate system and then rotated to align with the estimated groundwater flow direction. Moments are not calculated for sample events with less than 6 wells.

# MAROS Individual Well Summary Report

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| COC            | Priority COC for Well? | Detection Frequency | Recent Sample Above Goal? | MK Trend | COV  | 95% UCL | Outlier | Distribution Assumption | Attained Cleanup? |           |
|----------------|------------------------|---------------------|---------------------------|----------|------|---------|---------|-------------------------|-------------------|-----------|
|                |                        |                     |                           |          |      |         |         |                         | Normal            | Lognormal |
| <b>AMW-10A</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 61 %                | NO                        | NT       | 1.03 | 0.0003  | NO      | Normal                  | YES               | NO        |
| <b>AMW-11A</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 79 %                | NO                        | NT       | 0.67 | 0.0006  | NO      | Normal                  | YES               | NO        |
| <b>AMW-12A</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | YES                       | D        | 1.94 | 2.3322  | NO      | No distribution         | NO                | NO        |
| <b>AMW-13A</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 68 %                | NO                        | NT       | 2.33 | 0.0074  | YES     | Lognormal               | NO                | NO        |
| <b>AMW-16</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | YES                       | D        | 1.05 | 0.0313  | NO      | Lognormal               | NO                | NO        |
| <b>AMW-17</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | YES                       | NT       | 1.15 | 0.0710  | NO      | No distribution         | NO                | NO        |
| <b>AMW-18</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 92 %                | YES                       | I        | 1.29 | 0.1473  | NO      | Lognormal               | NO                | NO        |
| <b>AMW-19A</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | NO                        | D        | 1.67 | 0.1249  | YES     | No distribution         | NO                | NO        |
| <b>AMW-1A</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 98 %                | NO                        | D        | 2.06 | 0.2317  | NO      | Lognormal               | NO                | NO        |
| <b>AMW-26</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 86 %                | NO                        | D        | 1.50 | 0.0285  | YES     | No distribution         | NO                | NO        |
| <b>AMW-27</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | NO                        | D        | 0.58 | 0.0526  | NO      | Normal                  | NO                | NO        |
| <b>AMW-2A</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | YES                       | D        | 1.56 | 1.6730  | NO      | No distribution         | NO                | NO        |
| <b>AMW-2B</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 89 %                | NO                        | NT       | 0.98 | 0.0010  | YES     | No distribution         | NO                | NO        |
| <b>AMW-3A</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | NO                        | D        | 1.17 | 0.0085  | NO      | No distribution         | NO                | NO        |
| <b>AMW-42</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |

# MAROS Individual Well Summary Report

Project: Boomsnub/Airco Superfund Site

User Name:

Location: Hazel Dell

State: Washington

| COC            | Priority COC for Well? | Detection Frequency | Recent Sample Above Goal? | MK Trend | COV  | 95% UCL | Outlier | Distribution Assumption | Attained Cleanup? |           |
|----------------|------------------------|---------------------|---------------------------|----------|------|---------|---------|-------------------------|-------------------|-----------|
|                |                        |                     |                           |          |      |         |         |                         | Normal            | Lognormal |
| TCE            | YES                    | 92 %                | NO                        | D        | 0.86 | 0.0068  | NO      | Lognormal               | NO                | NO        |
| <b>AMW-52A</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 63 %                | NO                        | D        | 1.18 | 0.0005  | NO      | No distribution         | YES               | NO        |
| <b>AMW-53A</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | YES                       | D        | 1.95 | 0.0770  | YES     | No distribution         | NO                | NO        |
| <b>AMW-54A</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | NO                        | NT       | 1.51 | 0.0677  | NO      | No distribution         | NO                | NO        |
| <b>AMW-55A</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | NO                        | NT       | 2.01 | 0.0164  | NO      | No distribution         | NO                | NO        |
| <b>AMW-56A</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | NO                        | PD       | 3.50 | 0.1871  | YES     | No distribution         | NO                | NO        |
| <b>AMW-59</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | YES                       | D        | 0.41 | 0.1684  | NO      | Normal                  | NO                | NO        |
| <b>AMW-61</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | YES                       | PD       | 0.99 | 0.0266  | YES     | No distribution         | NO                | NO        |
| <b>AMW-63</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 40 %                | NO                        | NT       | 1.32 | 0.0002  | NO      | Normal                  | YES               | NO        |
| <b>AMW-64</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | YES                       | N/A      | 0.34 | 0.2208  | NO      | Normal                  | NO                | NO        |
| <b>AMW-6A</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 74 %                | NO                        | NT       | 0.83 | 0.0005  | NO      | Normal                  | YES               | NO        |
| <b>AMW-7A</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 54 %                | NO                        | I        | 1.17 | 0.0004  | NO      | Normal                  | YES               | NO        |
| <b>AMW-8A</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | NO                        | D        | 1.83 | 0.1432  | YES     | No distribution         | NO                | NO        |
| <b>CPU-12</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 94 %                | YES                       | PI       | 0.62 | 0.0053  | NO      | Normal                  | NO                | NO        |
| <b>CPU-13</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE            | YES                    | 100 %               | NO                        | D        | 1.25 | 0.0304  | NO      | No distribution         | NO                | NO        |

# MAROS Individual Well Summary Report

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User Name:

Location: Hazel Dell

State: Washington

| COC           | Priority COC for Well? | Detection Frequency | Recent Sample Above Goal? | MK Trend | COV  | 95% UCL | Outlier | Distribution Assumption | Attained Cleanup? |           |
|---------------|------------------------|---------------------|---------------------------|----------|------|---------|---------|-------------------------|-------------------|-----------|
|               |                        |                     |                           |          |      |         |         |                         | Normal            | Lognormal |
| <b>CPU-14</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | YES                       | D        | 0.64 | 0.0308  | NO      | Lognormal               | NO                | NO        |
| <b>MW-10B</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | YES                       | D        | 1.73 | 0.1739  | YES     | Lognormal               | NO                | NO        |
| <b>MW-10C</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | NO                        | D        | 1.31 | 0.3097  | YES     | Lognormal               | NO                | NO        |
| <b>MW-12C</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | NO                        | D        | 2.19 | 1.7486  | NO      | Lognormal               | NO                | NO        |
| <b>MW-13C</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | NO                        | D        | 0.71 | 0.0118  | NO      | Lognormal               | NO                | NO        |
| <b>MW-14C</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | YES                       | D        | 1.25 | 0.4143  | NO      | Lognormal               | NO                | NO        |
| <b>MW-14E</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | YES                       | D        | 1.30 | 1.5153  | YES     | No distribution         | NO                | NO        |
| <b>MW-15E</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | NO                        | D        | 2.02 | 0.2619  | NO      | Lognormal               | NO                | NO        |
| <b>MW-18D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | YES                       | D        | 1.01 | 1.4427  | NO      | Lognormal               | NO                | NO        |
| <b>MW-18E</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | YES                       | D        | 1.02 | 0.9011  | NO      | No distribution         | NO                | NO        |
| <b>MW-19D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | YES                       | D        | 1.03 | 0.6388  | YES     | Lognormal               | NO                | NO        |
| <b>MW-1A</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | YES                       | D        | 1.27 | 1.5966  | NO      | No distribution         | NO                | NO        |
| <b>MW-20D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | YES                       | D        | 0.89 | 1.2986  | NO      | No distribution         | NO                | NO        |
| <b>MW-21D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | NO                        | D        | 1.13 | 0.4969  | NO      | Lognormal               | NO                | NO        |
| <b>MW-22D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |

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|---------------|------------------------|---------------------|---------------------------|----------|------|---------|---------|-------------------------|-------------------|-----------|
|               |                        |                     |                           |          |      |         |         |                         | Normal            | Lognormal |
| TCE           | YES                    | 100 %               | NO                        | D        | 0.77 | 0.1058  | NO      | Lognormal               | NO                | NO        |
| <b>MW-23D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 97 %                | NO                        | D        | 1.02 | 0.0234  | NO      | Lognormal               | NO                | NO        |
| <b>MW-25D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | NO                        | D        | 1.16 | 0.0254  | YES     | No distribution         | NO                | NO        |
| <b>MW-26D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 99 %                | NO                        | D        | 1.07 | 0.0140  | NO      | No distribution         | NO                | NO        |
| <b>MW-27D</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 98 %                | NO                        | D        | 1.29 | 0.0730  | NO      | No distribution         | NO                | NO        |
| <b>MW-2A</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | NO                        | D        | 0.63 | 0.0079  | NO      | Lognormal               | NO                | NO        |
| <b>MW-31</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | NO                        | D        | 1.26 | 0.0060  | YES     | No distribution         | NO                | NO        |
| <b>MW-35</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 98 %                | NO                        | D        | 0.00 | 0.0226  | YES     | Lognormal               | NO                | NO        |
| <b>MW-38</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | YES                       | NT       | 0.88 | 0.0722  | NO      | Lognormal               | NO                | NO        |
| <b>MW-3B</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | NO                        | D        | 0.91 | 0.0149  | NO      | Lognormal               | NO                | NO        |
| <b>MW-41</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 12 %                | NO                        | D        | 4.32 | 0.0006  | NO      | No distribution         | YES               | NO        |
| <b>MW-49</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 91 %                | NO                        | D        | 1.05 | 0.0107  | NO      | Lognormal               | NO                | NO        |
| <b>MW-4B</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | NO                        | NT       | 2.17 | 0.1469  | YES     | Lognormal               | NO                | NO        |
| <b>MW-6B</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | NO                        | D        | 1.32 | 0.2629  | YES     | No distribution         | NO                | NO        |
| <b>MW-7B</b>  |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE           | YES                    | 100 %               | NO                        | D        | 0.93 | 0.2871  | NO      | No distribution         | NO                | NO        |

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|--------------|------------------------|---------------------|---------------------------|----------|------|---------|---------|-------------------------|-------------------|-----------|
|              |                        |                     |                           |          |      |         |         |                         | Normal            | Lognormal |
| <b>MW-8B</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE          | YES                    | 100 %               | NO                        | D        | 1.53 | 1.0862  | NO      | Lognormal               | NO                | NO        |
| <b>MW-9B</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE          | YES                    | 100 %               | NO                        | D        | 1.27 | 0.6590  | NO      | Lognormal               | NO                | NO        |
| <b>PW-1B</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE          | YES                    | 100 %               | NO                        | D        | 1.09 | 0.2163  | NO      | No distribution         | NO                | NO        |
| <b>PZ-39</b> |                        |                     |                           |          |      |         |         |                         |                   |           |
| TCE          | YES                    | 100 %               | YES                       | D        | 2.52 | 1.0675  | YES     | No distribution         | NO                | NO        |

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