Weiss Associates *Environmental Science, Engineering and Management*

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2010 ANNUAL PROGRESS REPORT

for

Former Fairchild Buildings 13, 19, and 23
369/441 North Whisman Road
Middlefield-Ellis-Whisman Study Area
Mountain View, California

prepared for

Schlumberger Technology Corporation
225 Schlumberger Drive
Sugar Land, TX 77478

June 10, 2011

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submitted to

USEPA, Region 9, Superfund Division
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Weiss Associates' work for Schlumberger Technology Corporation (STC) was conducted under my supervision. To the best of my knowledge, the data contained in this report are true and accurate and satisfy the scope of work for this project in accordance with generally accepted professional engineering and geologic practice. We make no other warranty, either expressed or implied, and are not responsible for the interpretation by others of the contents in this report.

Tess Byler June 10, 2011

Tess Byler, P.G., C.Hg. Date
Senior Project Hydrogeologist
(CA # 928, expiration Nov. 2012)

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ACRONYMS AND ABBREVIATIONS

106 Order	Administrative Order for Remedial Design and Remedial Action
cis-1,2-DCE	cis-1,2-dichloroethene
Fairchild	Fairchild Semiconductor Corporation
ft	feet
ft bgs	feet below ground surface
GAC	granular activated carbon
Geosyntec	Geosyntec Consultants
HLA	Harding Lawson Associates
K	hydraulic conductivity
µg/L	micrograms per liter
mg/kg	milligram per kilogram
MEW	Middlefield-Ellis-Whisman
MCLs	maximum contaminant levels
NASA	National Aeronautics and Space Administration
NPDES	National Pollutant Discharge Elimination System
O&M	operation and maintenance
PRP	potentially responsible parties
QA/QC	quality assurance and quality control
QAPP	Quality Assurance Project Plan
RGRP	Regional Groundwater Remediation Program
RI/FS	remedial investigation and feasibility study
ROD	Record of Decision
RRWs	regional recovery wells
SCRWs	source control recovery wells
SOPs	Standard Operating Procedures
STC	Schlumberger Technology Corporation
SVE	Soil Vapor Extraction
Water Board	California Regional Water Quality Control Board, San Francisco Bay Region
Weiss	Weiss Associates
Site	369/441 Whisman Road, Mountain View, California
TCE	trichloroethene
USEPA	United States Environmental Protection Agency
VOCs	volatile organic compounds

SUMMARY

This *2010 Annual Progress Report for Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Middlefield-Ellis-Whisman Study Area, Mountain View, California* (Site, Figures 1, 2, and 3) summarizes Site activities from January 1 through December 31, 2010 and monitoring data for the past five years. This report is submitted in accordance with Section XV of the *1990 Administrative Order for Remedial Design and Remedial Action* (106 Order) issued by the United States Environmental Protection Agency (USEPA) and the USEPA's correspondence prescribing annual report contents (USEPA, 1990a and 2005). Current addresses for the Site are 369, 379, 389, and 399 North Whisman Road. The 2010 Annual Report Remedy Performance Checklist is included as Appendix A.

The groundwater containment and treatment system at the Site removes volatile organic compounds (VOCs) from groundwater. It consists of:

- A slurry wall containment structure around former Building 19 that is approximately 40 feet (ft) deep and extends from the ground surface to a minimum of two ft into the A/B1 aquitard beneath the Site;
- A groundwater treatment system (System 19), which removed VOCs using activated carbon under National Pollutant Discharge Elimination System (NPDES) Permit CAG912003, Order No. R2-2009-0059;
- Fifteen source control recovery wells (SCRWs); and
- 38 monitoring wells.

The treatment system also treats groundwater plumbed to it from:

- Seven regional recovery wells (RRWs) that are part of the Regional Groundwater Remediation Program (RGRP).

Site activities during this reporting period were conducted in compliance with the 106 Order. They comprised continued operation, monitoring, and maintenance activities of the Building 19 groundwater remediation systems, quarterly slurry wall water level monitoring, semiannual groundwater level monitoring events in March and November, annual groundwater sampling in November – December 2010, and submitting information related to the USEPA's site-wide groundwater feasibility study.

Groundwater Treatment: During 2010, System 19 treated approximately 47 million gallons of groundwater and removed 233 pounds of VOCs from groundwater. From January 1 through December 31, 2010, the groundwater treatment system operated 96% of the time. During the calendar year 2010, the extraction and treatment systems operated within all effluent limits established by the discharge permits.

Groundwater Capture Evaluation: Groundwater elevation and chemical monitoring results from 2010 demonstrate that the Site extraction wells continue to achieve adequate horizontal and vertical capture as indicated by target captures and converging lines of evidence, including graphical flow net analysis and chemical concentration trends.

Technical Assessment: The remedy is functioning as intended. Trichloroethene (TCE) concentrations are generally stable to decreasing at the Site. Several wells at the Site exhibit primary evidence of reductive dechlorination, as indicated by decreasing TCE concentrations, with notable increases in cis-1,2-dichloroethene (cis-1,2-DCE) concentrations (115A, and 40B2).

Planned Activities for 2011: Schlumberger Technology Corporation (STC) will continue operating the Fairchild groundwater treatment systems and will monitor their performance during 2011. The 2011 Annual Progress Report will be submitted to the USEPA by June 15, 2012.

1. INTRODUCTION

This 2010 Annual Progress Report was prepared by Weiss Associates (Weiss) on behalf of Schlumberger Technology Corporation (STC) for the former Fairchild Semiconductor Corporation (Fairchild) facilities located at 369/441 North Whisman Road (former Buildings 13, 19, and 23) in Mountain View, California (the Site) (Figures 1, 2, and 3). Geosyntec Consultants (Geosyntec) assisted with the preparation of this report.

This progress report summarizes Site activities and data from January 1 through December 31, 2010 and monitoring data from the past five years. This report is submitted in accordance with Section XV of the *1990 Administrative Order for Remedial Design and Remedial Action* (106 Order) issued by the United States Environmental Protection Agency (USEPA) and the USEPA's correspondence prescribing 2004 and future annual report contents (USEPA, 1990a and USEPA, 2005).

1.1 Site Background

The Site is located at 369/441 North Whisman Road in Mountain View, California; current addresses for the Site are 369, 379, 389, and 399 North Whisman Road (Figures 2 and 3). The former Building 19 functioned as a facility for processing silicon metal into electronic semiconductor devices for Fairchild from 1969 to 1987. The Site contained seven waste solvent storage tanks (10,000-gallon capacity) and one chemical storage tank (500-gallon capacity) located east of former Building 19. The tanks were used from about 1967 to 1978. Other identified potential sources were four acid neutralization sumps (500-gallon capacity) located by the south exterior wall of former Building 19, two pH neutralization sumps on the west side of the building, and two neutralization and waste solvent tanks north of former Building 19. At former Building 13, three concrete sumps (10,000-gallon capacity) were used as part of a pH neutralization system (HLA, 1987). The primary constituent of concern at the Site is trichloroethene (TCE) in groundwater from historical releases from underground tanks and piping, sumps, and/or surface spills (HLA, 1987 and Canonie, 1988).

Groundwater extraction and treatment has occurred at Building 19 since 1982. Construction details for Site monitoring and extraction wells are provided in Table 1. A soil-bentonite slurry wall was constructed around the Site from the ground surface to the A/B aquitard in 1985. The slurry wall and groundwater extraction system were designed to prevent migration of volatile organic compounds (VOCs) off-Site.

Soil cleanup actions included *in-situ* vapor extraction with treatment by vapor-phase granular activated carbon (GAC) and excavation with treatment by aeration. In 1994, 6,000 cubic yards of soil were excavated to a depth of 6 feet (ft) and aerated at the 369 Whisman Road Site. A soil vapor extraction (SVE) system operated from 1996 to 1997 to remediate soil from 6 feet below ground surface (ft bgs) to 18 inches above the water table. Soil samples collected after the SVE system was shut down indicated that the soils at the Site had reached the cleanup standards of 0.5 milligram per kilogram (mg/kg) and 1 mg/kg TCE inside and outside the slurry walls, respectively (Smith, 1996a and 1997).

The Site was redeveloped in the 1990s, and was occupied by AOL/Netscape and/or Hewlett Packard/Mercury Interactive until about 2007. Redevelopment changed the current addresses; in particular, the former groundwater treatment system at Fairchild Building 19, 369 North Whisman Road is now located adjacent to 389 North Whisman Road. The previous and current addresses of Former Fairchild Buildings 13, 19, and 23 are provided below:

Previous Address	Current Address	Current Occupants
Former Fairchild Buildings 13, 19, and 23: 369/441 North Whisman Road	369 North Whisman Road 379 North Whisman Road 389 North Whisman Road 399 North Whisman Road ("The Quad")	Unoccupied*

*Google signed a 10-year lease for these buildings in May 2011. Anticipated move-in date is January 2012 (*Mountain View Voice*, May 20, 2011).

The Site is located within the Middlefield-Ellis-Whisman (MEW) Area, as defined by the USEPA as an approximate 1/4-square mile area bounded by Middlefield Road on the south, Ellis Street on the east, Whisman Road on the west, and Highway 101 on the north (USEPA, 1989, and Figure 2).

Remedial investigation/feasibility studies (RI/FSs) for the MEW area were completed in 1988 (HLA, 1987, and Canonie, 1988), with the USEPA issuing a Record of Decision (ROD) in 1989. The ROD and two subsequent Explanation of Significant Differences specify the remedial actions for the MEW area (USEPA, 1989, 1990b, and 1996). Remedial action is being conducted pursuant to the 106 Order, issued to nine respondents[1] in November 1990, and the MEW Consent Decree entered into by Raytheon Company and Intel Corporation in 1992, by which they agreed to design, construct, and implement the regional remedial action portion of the remedy selected in the ROD.

Remediation within the MEW area includes facility-specific activities by individual potentially responsible parties (PRPs), such as the former Building 19 Site, and a Regional Groundwater Remediation Program (RGRP) that addresses co-mingled VOCs that have migrated beyond the facility-specific areas and cannot be attributed to a single source. One facility-specific treatment system, System 19, is located on the 369 North Whisman Road property.

The land use at the Site is industrial/research/commercial, with surrounding residential development.

[1] The nine 106 Order Respondents are Fairchild, Schlumberger Technology Corporation, National Semiconductor Corporation, NEC Electronics, Siltec Corporation, Sobrato Development Companies, General Instrument Corporation, Tracor X-Ray, and Union Carbide Chemicals and Plastics Company.

1.2 Local Hydrogeology

Subsurface geology consists of interbedded sediments ranging in grain size from silty clay to sandy gravel. The water-bearing zones defined at the MEW area are summarized below:

Groundwater Zones	Approximate Depth Interval Below (feet below ground surface)
A[a]	20 to 45
B1[b]	50 to 75
B2	75 to110
B3	120 to 160
C	200 to 240
Deep	>240

[a] Navy and NASA refer to this zone as the A1 zone north of Highway 101.
[b]Navy and NASA refer to this zone as the A2 zone north of Highway 101.
> greater than

The upper groundwater zone is subdivided into two water-bearing zones, the A-zone and the B-zone, which are separated by the A/B aquitard. The B-zone has been further subdivided into three zones. From youngest to oldest (shallowest to deepest), these are the B1-, B2- and B3-zones, separated by aquitards, designated as the B1/B2 aquitard and the B2/B3 aquitard. The lower groundwater zones occur below the B/C aquitard, from about 200 ft bgs. The B/C aquitard is the major confining layer beneath the MEW area. Two lower groundwater zones have been defined: the C- and deep zones (HLA, 1987; Intel, 1987).

Ranges of hydraulic conductivity (K), hydraulic gradient, and transmissivity of the upper aquifer zone, i.e., above the B/C aquitard, calculated from pumping tests conducted at the MEW Area from 1986 through 2005, are presented in the table below (Canonie, 1986a, 1986b, 1987, and 1988; Geomatrix, 2004; HLA, 1986 and 1987; Locus, 1998; PRC, 1991; Navy, 2005; and Weiss, 1995 and 2005).

Water-Bearing Zone	Estimated Hydraulic Conductivity (ft/day)		Approximate Horizontal Gradient (ft/ft)	Saturated Thickness (ft)	Transmissivity (ft^2/day)	
	Low	High			Low	High
A-zone	6	480	0.004	15	44	4,400
B1-zone	20	260	0.003	25	150	2,600
B2-zone	0.4	5	0.002 to 0.005	35	2	230
B3-zone	0.5	5	0.001 to 0.002	40	5	130

Currently and historically, the lateral component of groundwater flow beneath the Site is generally towards the north during non-pumping and pumping conditions. The Site groundwater gradients and velocities have been locally altered near source control recovery wells (SCRWs), regional recovery wells (RRWs), and the Fairchild and Raytheon slurry walls (Geosyntec et al., 2008a).

The vertical component of groundwater flow is generally upward from the B1- to the A-zone, but it is locally downward in some areas of the Site (HLA, 1987). Groundwater extraction has likely exerted an influence on measured vertical gradients. Vertical gradients below the B1-zone are generally upward (Geosyntec et al., 2008a).

1.3 Description of Remedy

As specified in the ROD, the remedy consists of groundwater extraction and treatment. The remedy is designed to protect local water supplies and to remediate or control groundwater that contains elevated concentrations of chemicals, including control of discharge of such groundwater to surface water.[2] Groundwater cleanup goals are 5 micrograms per liter (µg/L) for TCE in shallow groundwater (A- and B- zones) and 0.8 µg/L for TCE in deep groundwater (C and deep zones).[3] Soil cleanup standards for the MEW Area are 0.5 mg/kg of TCE for all soils outside of slurry walls and 1 mg/kg TCE for soils inside slurry walls. The ROD states that the chemical ratio of TCE to other chemicals found at the Site is such that achieving the cleanup goal for TCE will result in cleanup of the other Site chemicals to at least their respective federal maximum contaminant levels (MCLs).

Cleanup has been addressed in two stages: initial actions and a long-term remedial phase (USEPA, 1989). Initial cleanup activities included tank removals, well sealing, soil removal and treatment, slurry wall construction, and local groundwater extraction and treatment. The Site is in the long-term remedial phase, which consists of extraction and treatment of groundwater by air stripping towers or liquid-phase granular activated carbon (GAC). Remedial activities are being conducted by individual MEW PRPs as well as the MEW RGRP.

As part of the initial stage, in 1986, Fairchild installed a subsurface slurry wall at Building 19 that is approximately 40 ft bgs and is keyed a minimum of two ft into the A/B1 Aquitard. Ten SCRWs were installed inside the Building 19 slurry wall, and the extracted groundwater was conveyed to air strippers that Fairchild installed in 1982 through 1986. An additional plume definition program for the MEW Area was completed in 1992, and between 1991 and 1995, preliminary and final design documents for soil and groundwater source control measures were developed and submitted to the USEPA (Canonie, 1993, 1994a, and 1994b).

All soil remediation at the MEW area was completed by 2001.

As part of the long-term remedial phase, in 2003, the air strippers were replaced with GAC systems (RMT, 2003). The first five-year remedy review for the MEW Area was completed in 2004 (USEPA, 2004). The second five-year remedy review was completed in 2009 (USEPA, 2009a).

Currently, groundwater extracted from the Site is conveyed via double-contained piping to a treatment facility consisting of three 5,000-pound GAC vessels in series located at 369 Whisman Road (System 19). Progress of the remediation during this phase is tracked by evaluating groundwater and treatment system data.

[2] The objectives of the groundwater remedy design are described in the ROD and the Feasibility Study (Canonie, 1988).
[3] Groundwater cleanup goals are presented in the ROD.

1.4 Summary of 2010 Site Activities and Deliverables

Table 2 provides the 2010 monitoring and reporting schedule for the Site. Site activities conducted in compliance with the 106 Order (USEPA 1990a) during this reporting period included:

- Continuing groundwater extraction and treatment;
- Monitoring the groundwater treatment systems weekly for operation and flow rates;
- Sampling the treatment systems monthly in compliance with the general VOC permit under California Regional Water Quality Control Board, San Francisco Bay Region (Water Board) Order No. R2-2009-0059 for Fairchild Treatment System 19;
- Submitting quarterly Self-Monitoring Reports to the Water Board for volume of water discharged and amount of VOCs extracted and treated under NPDES Permit CAG912003 on February 11, May 14, August 13, and November 15.
- Collecting quarterly groundwater elevation measurements in Site slurry wall well pairs on March 25, May 27, August 26, and November 18;
- Collecting semiannual groundwater elevation measurements in Site monitoring and extraction wells on March 25 and November 18;
- Removing references to sulfuric acid from the Environmental Compliance Plans in January 2010 because it is no longer used on Site;
- Renewing the City of Mountain View Environmental Compliance Plan for System 19 on April 29, 2010;
- Distributing the 2009 Annual Progress Report to the USEPA and the MEW distribution list parties on June 15;
- Collecting annual groundwater samples from Site monitoring and extraction wells in November and December 2010;
- Annual settlement monitoring December 7 and 8;
- Assessing the progress of remedial actions during 2010; and
- Planning remedial actions for 2011.

Section 2 of this report summarizes Site groundwater extraction and treatment and remedial activities conducted during this reporting period. Sections 3 through 7 document problems encountered and a technical assessment; present conclusions and recommendations; and summarize planned activities for 2011. Supporting data are presented in Figures 1 through 14, Tables 1 through 11, and Appendices A through D.

2. GROUNDWATER EXTRACTION AND TREATMENT SYSTEM

A total of approximately 47 million gallons of groundwater were treated and 233 pounds of VOCs were removed by the Site treatment system during this reporting period. Target flow rates for extraction wells are provided in Table 3. Monthly average flow rates and monthly extraction total by well are provided in Tables 4 and 5, respectively. Tables 6a and 6b present the analytical results for treatment system sampling.

VOC mass removal is summarized in Table 7. Cumulative groundwater and VOC mass removed by System 19 is illustrated in Figure 4.

As required by the Site discharge permit, extraction well and treatment system flow is monitored and the Site treatment systems are sampled monthly. Results are reported quarterly to the Water Board. Appendix B contains the laboratory analytical reports, and Appendix C provides the quality assurance/quality control (QA/QC) evaluation for samples collected at the Site during 2010.

Treatment system discharges were within all effluent limits established by NPDES Permit CAG912003, Order No. R2-2009-0059.

2.1 Treatment System Description

The groundwater treatment and containment system consists of Fairchild Treatment System 19 located at 369 Whisman Road and the slurry wall enclosure around the Site (Figure 3). During 2010, the groundwater extraction and treatment system included the following:

- Seven RRWs, two of which (65B3 and REG-4B(1)) are currently operating, two are temporarily off-line, and three are permanently off-line;
- For January through March, 15 SCRWs: 12 of which were operating, two were temporarily off-line, and one was permanently off-line;
- For March through December, 15 SCRWs: 13 of which were operating, one was temporarily off-line, and one was permanently off-line;
- Double-contained groundwater conveyance piping and well vaults;
- Two sediment filters in parallel;
- Three 5,000-pound GAC vessels in series; and
- Electrical distribution and control panels, including programmable logic controller, supervisory control and data acquisition computer, and an auto-dialer for alerts.

2.1.1 System 19 Extraction Wells

In 2010, two of the seven RRWs were operational. During January through March 2010, 12 of the 15 SCRWs were operating. For the remainder of the year, 13 of the 15 SCRWs were operating as shown below:

System 19 Extraction Wells (SCRWs) – Operational	
65B3 (RRW)	71A
RW-1A	RW-1(B2)
RW-2A	RW-2(B1)
RW-2(B2)	RW-10(B1)
RW-11A	RW-11(B1)
RW-12A	RW-23A
RW-24A	RW-29A
REG-4B(1) (RRW)	

Several wells at the Site cycle on and off because flow rates are limited by the hydrogeologic properties of the materials in which they are screened.

RW-1A, 71A, and RW-12A were turned back on in April 2010 as a result of the *Addendum to 3 September 2008 Optimization Evaluation Fairchild Sites* (Geosyntec, 2010). The following wells remained temporarily off-line in 2010:

System 19 Extraction Wells – Temporarily Off-line	
DW3-219 (RRW)	RW-1(B1)
DW3-505R (RRW)	RW-26A

Extraction wells DW3-244, DW3-334, and DW3-364 were shut down with the approval of the USEPA on November 9, 2006, (USEPA, 2006) to reduce the possibility of inducing migration of VOCs from shallower groundwater zones or from shallower depths in the deep zone.

The groundwater extracted by RRWs 65B3 and REG-4B(1) is conveyed to System 19 for treatment. These regional wells are discussed further in the MEW RGRP 2010 Annual Progress Report (Geosyntec, 2011b).

2.1.2 Groundwater Monitoring Wells

Currently, 38 monitoring wells are associated with the Site (see Table 1). Twenty-seven of the monitoring wells are in the A-zone, eight are in the B1-zone, and three are in the B2-zone. Water levels are measured quarterly in 11 slurry wall well pairs and semiannually in other monitoring wells, and water quality samples are collected annually in 27 of the 38 monitoring wells.

2.2 Extraction and Treatment System Operation and Maintenance

From January 1 through December 31, 2010, the Site treatment system ran 96% of the time. At System 19, a total of 25 tons of spent carbon was generated. The spent carbon is classified as non-hazardous and was sent to Calgon Carbon's Neville Island Pennsylvania facility for reactivation. Approximately 0.25 tons of spent sediment filters were generated during 2010 and disposed of as hazardous waste at US Ecology's hazardous waste treatment and disposal facility in Beatty, Nevada.

The following is a summary of non-routine maintenance and operational activities performed at System 19 during 2010:

2010 Dates	Component	Comments	Regulatory Notification
January 14-15	Treatment System	The treatment system was off-line for approximately 25 hours for a routine carbon change.	Not Required
January 18	Treatment System	The treatment system was off-line because of a containment pipe flood during a rainstorm. The vault was flooded and required dewatering. The system was off-line for less than 1 hour.	Not Required
January 22	Treatment System	The treatment system was off-line for less than one hour because of a flood in the RW-10B1 well vault caused by rainfall.	Not Required
February 4	RW-2(B1)	Well RW-2(B1) was off-line for less than an hour because of a low-flow alert.	Not Required
February 12-15	RW-23A	Well RW-23A was off-line for approximately 68 hours because of a low-flow alert caused by an electrical fault.	Not Required
March 2-3	Treatment System	The treatment system was off-line for approximately 25 hours for a routine carbon change.	Not Required
March 13	RW-29A	Well RW-29A was off-line for approximately 5 hours because of a low-flow alert.	Not Required
April 12-13	Treatment System	The treatment system was off-line for approximately 25 hours for a routine carbon change.	Not Required
May 13-14	Treatment System	The treatment system was off-line for approximately 21 hours for a routine carbon change.	Not Required
May 14	RW-24A	Well RW-24A was off-line for approximately 7 hours because of a low-flow alert.	Not Required
May 26	Treatment System	The treatment system was off-line for less than one hour because of a power outage.	Not Required
May 26	RW-2B1	Well RW-2B1 was off-line for approximately 2 hours because of a low-flow alert.	Not Required
May 29	Treatment System	The treatment system was off-line for approximately 8 hours because of a vault flood at RW-23A caused by irrigation water.	Not Required
June 3	Treatment System	The treatment system was off-line for approximately 10 hours because of a vault flood at RW-23A caused by irrigation water. The vault was resealed to prevent further occurrences.	Not Required
June 15-16	Treatment System	The treatment system was off-line for approximately 25 hours for a routine carbon change.	Not Required
June 28-29	RW-24A	Well RW-24A was off-line for approximately 13 hours because of low-flow alerts.	Not Required

2010 Dates	Component	Comments	Regulatory Notification
July 15-16	Treatment System	The treatment system was off-line for approximately 19 hours for a routine carbon change.	Not Required
August 11-12	Treatment System	The treatment system was off-line for approximately 27 hours for a routine carbon change.	Not Required
August 18-27	RW-23A	Well RW-23A was off-line for a total of approximately 64 hours because of three instances of cycling off without an alert. The well was restarted and ran for part of the day on August 27, 2010.	Not Required
August 27	Treatment System	The treatment system was off-line for approximately 2 hours during the electrical repair of RW-23A.	Not Required
September 3	71A	Well 71A was off-line for approximately 4 hours for a pump change.	Not Required
September 1-8	RW-24A	Well RW-24A was off-line for a total of approximately 43 hours because of low-flow alerts.	Not Required
September 8-9	Treatment System	The treatment system was off-line for approximately 24 hours for a routine carbon change.	Not Required
September 15	RW-23A	Well RW-23A was off-line for approximately 24 hours because of an electrical fault.	Not Required
October 4-5	Treatment System	The treatment system was off-line for approximately 24 hours for a routine carbon change.	Not Required
October 7	RW-11A	RW-11A had problems restarting after the carbon change and was off-line for approximately 26 hours. The well was restarted October 7, 2010 by an electrician.	Not Required
October 27-28	Treatment System	The treatment system was off-line for approximately 24 hours for a routine carbon change.	Not Required
November 9	65B3	Well 65B3 had problems restarting after the carbon change and was off-line for approximately 24 hours as a result.	Not Required
November 11	RW-12A	Well RW-12A was off-line for approximately 3 hours because of a low-flow alert.	Not Required
November 30-December 1	Treatment System	The treatment system was off-line for approximately 24 hours for a routine carbon change.	Not Required
December 16-17	Treatment System	The treatment system was off-line for approximately 30 hours for a routine carbon change.	Not Required
December 17-21	65B3	Well 65B3 would not restart after the carbon change and was off-line for most of December 17, to December 21, 2010. The well restarted on December 18, but it went off-line a few hours later. It was off-line for a total of approximately 90 hours as a result. However, at no time was the well off-line for 72 continuous hours. The well was restarted after its motor saver was replaced on December 20, 2010.	Not Required

The USEPA and Water Board are required to be notified of extraction well and system down-time events as per the following guidelines:

1. USEPA: *The owner and/or operator of the RGRP/Fairchild treatment system will make a best effort to orally notify USEPA within 24 hours of a RRW or system shutdown that occurs for more than 72 hours.*

2. Water Board: *If the treatment system is shut down for more than 120 consecutive hours after the start up period (maintenance, repair, violations, etc.) the reason(s) for shutdown, proposed corrective action(s), and estimated start-up date shall be orally reported to the Water Board within five days of shutdown and a written submission shall also be provided within 15 days of shutdown.*

As shown above, no notifications of well or system shutdowns were required during 2010.

2.3 Groundwater Level Monitoring

During this reporting period, groundwater elevations were recorded in all Site monitoring and extraction wells on March 25 and November 18, 2010. Table 8 presents groundwater elevations recorded quarterly in slurry wall well pairs. Hydrographs of Site slurry wall well pair water levels are provided in Figures 5 through 8. Potentiometric surface maps for Buildings 13, 19, and 23 are provided in Figures 9 through 14 and are based on facility-specific and regional data as presented in the MEW RGRP Annual Report (Geosyntec, 2011b).

2.4 Groundwater Quality Monitoring

The 2010 Annual Groundwater Quality Sampling Event at the Site was conducted in November and December 2010. The event included supplemental sampling for geochemical parameters (Geosyntec, 2011b). In addition, monitoring wells 139A and 159A, located near the Building 19 slurry wall, were sampled for VOCs. VOC analytical results for the previous five years (2006 through 2010) are summarized in Table 9. Appendix B contains the laboratory analytical reports for samples collected in 2010, and Appendix C contains the QA/QC evaluation of the data collected. VOC-versus-time graphs for selected monitoring wells are included in Appendix D. TCE isopleth maps are provided in Figures 10, 12, and 14 and are based on concentrations in all MEW Area wells sampled in 2010 as presented in the MEW RGRP Annual Progress Report (Geosyntec, 2011b).

The data presented in Table 9 and Appendix D indicate that TCE concentrations in groundwater in most Site wells are well below historical maximums and generally indicate steady to declining concentrations.

2.5 Hydraulic Control and Capture Zone Analysis

2.5.1 Methodology

Capture zone analysis is the process of evaluating field observations of hydraulic heads and groundwater chemistry to estimate the capture zone achieved by the groundwater extraction system, and then comparing the estimated capture with a target capture to determine whether capture is sufficient (USEPA, 2008).

Capture from the Building 19 extraction wells was estimated for March and November 2010 by graphical flow net evaluation of groundwater flow streamlines drawn perpendicular to groundwater contours to derive time-dependent estimated capture zones snapshots. The graphical

analysis was guided by calculated distances to the stagnation point and capture zone width using the analytical solution of Javandel and Tsang (1986). Because the calculation method assumes a homogeneous, isotropic, two-dimensional groundwater flow zone and is dependent on a regionally estimated value of transmissivity, the calculated distances were considered to be of secondary importance compared with the measured water level data and the resulting potentiometric surface.

The following six steps were used for the Buildings 19 capture evaluation:

Step 1: Review Site data, Site conceptual model, and remedy objectives.

Step 2: Define Site-specific Target Capture Zones.

Step 3: Generate potentiometric surface maps based on interpolation of measured water levels.

Step 4: Calculate capture zone widths.

Step 5: Evaluate concentration trends for wells outside the target capture zone.

Step 6: Estimate capture using steps 1-5, compare to target capture zone(s), assess uncertainties and data gaps.

2.5.2 Comparison with Target Captures

The target hydraulic capture areas for the SCRWs outside the Site slurry wall are the modeled capture zones depicted in the final remedial design document for the MEW Area South of Highway 101 (Canonie, 1994a, and Smith, 1996b). There are no target captures for wells RW-2A and RW-2(B1) because they were not selected in the Site remedial design as SCRWs. Fairchild later added these wells as SCRWs.

The target capture and March and November 2010 estimated hydraulic capture based on graphical flow net evaluation for the SCRWs in each aquifer, A/A1, B1/A2 and B2, are depicted in Figures 9 through 14. The capture zone width calculations for March and November 2010 presented in Tables 10 and 11 are based on MEW Area estimates of K and thickness, and on the 2010 extraction pumping rates from March and November 2010.

Figures 9 through 14 show the capture snapshots from March and November 2010 that encompass the target capture areas.

2.5.3 Horizontal and Vertical Gradients

Groundwater elevations were recorded quarterly in March, May, August, and November 2010 in the following slurry wall monitoring well pairs: 142A/143A, 140A/101A, 17A/159A, 154A/155A, 115A/134A, 141A/139A, 98B1/15A, 110B1/134A, 117B1/12A, RW-1B1/159A, and 93B1/101A (Table 8). These well pairs are used to evaluate either the direction of horizontal gradient across the slurry wall and the direction of vertical gradient across the A/B aquitard. Slurry wall well pairs locations are shown in Figure 9.

Figures 5 through 8 illustrate the hydraulic head differences between slurry wall well pairs at the Site grouped by upgradient, crossgradient, downgradient, and vertical gradient well pairs. The results of the well pair analysis at the Building 19 slurry wall indicate the following:

Horizontal Gradients: Inward gradients were consistently observed at well pairs 140A/101A, 142A/143A, and 141A/139A on the upgradient and crossgradient sides of the slurry wall. Outward gradients were consistently observed at well pairs 115A/134A, 154A/155A, and 17A/159A.

Vertical Gradients: Both upward and downward gradients were observed. Upward gradients from the B1 to A groundwater zone have been consistently observed at well pairs 93B1/101A and 98B1/15A, with the exception of the May 27, 2010 gradient for 98B1/15A, which was very slightly downward (-0.02). Historically, both upward and downward gradients have been observed at well pairs RW-1(B1)/159A, 110B1/134A, and 117B1/12A, and 159A/RW-1(B1). Gradients are primarily downward in well pair 117B1/12A. In November 2010, slight upward gradients were observed in 134A/110B1 and 159A/RW-1(B1).

The horizontal and vertical gradients recorded during this reporting period are consistent with historical observations.

2.5.4 Capture Assessment

The 2010 capture evaluation is summarized below:

Step	2010 Status
Step 1: Review Site Data and Site Conceptual Model, Remedy Objectives	Completed Site data, the Site conceptual model (Geosyntec, 2011a), and remedy objectives were reviewed and determined to be adequate to asses capture.
Step 2: Define "Target Capture Zone(s)"	Target capture area is defined based on modeled capture developed during remedial design, as shown in Figures 9 through 14. No target capture was defined for wells RW-2A and RW-2(B1), since they were added after remedial design.
Step 3a: Create Water Level Maps	Potentiometric surface contours are provided in Figures 9 through 14. Water levels at extraction wells were measured through piezometers constructed in the filter packs and therefore were considered reliable for use in constructing potentiometric surface maps. Water levels inside and outside the slurry wall enclosures were contoured separately. Graphical flow net analysis was used in addition to calculated capture zone widths to estimate captures.
Step 3b: Water Level Pairs	Table 8 and Figures 5 through 8 present data for the slurry wall well pairs. Currently, an outward hydraulic gradient exists at the western (crossgradient) and northern (downgradient) sections of the Building 19 slurry wall (17A/159A, 115A/134A, and 154A/155A). Both upward and downward hydraulic gradients are observed across the A/B1 aquitard. Upward gradients continue to be observed most of the time at 98B1/15A, and 93B1/101A.
Step 4: Calculate Capture Zone Widths	Calculated capture zone widths are provided in Tables 10 and 11. Graphical flow net analysis was performed using potentiometric surfaces, with consideration given to calculated capture zone widths based on estimated hydraulic parameters. The estimated hydraulic capture zone widths encompass the target capture areas in the A-zone, B1-zone, and B2-zone.
Step 5: Evaluate Concentration Trends	In 2010, long-term trends are generally stable to decreasing, as indicated by the time concentration plots in Appendix D.
Step 6: Estimate Capture Zones and Compare with Target Capture Zones	Vertical and horizontal TCE capture in 2010 is adequate, as indicated by converging lines of evidence, including graphical flow net analysis and relatively stable 5 µg/L isoconcentration contours since 1992 in the A/A1 and B1/A2 groundwater zones.

3. OTHER ACTIVITIES

3.1 Optimization

Extraction well rates were optimized in 2010 (Geosyntec 2010). The optimized target rates and actual rates are shown in Table 3. Almost half of the wells met or exceeded their optimized target rate; in addition, the combined pumping rates for the wells pumping to System 19 were similar, with about a 98 gpm total target rate, compared to a 93 gpm actual rate. Moreover, the 2010 estimated capture snapshots during March and November 2010 achieved target captures.

3.2 Air/ Vapor Intrusion

The USEPA issued a ROD amendment on August 16, 2010 to address vapor intrusion. The MEW parties continued to work during 2010 with the USEPA and local entities to implement the ROD amendment.

3.3 Annual Settlement Survey

An annual settlement survey was performed on December 7 and 8, 2010. The purpose of these annual measurements is to evaluate any potential adverse effects on the Site facilities, and to evaluate whether long-term remedial groundwater extraction could affect soil settlement in the MEW Area.

A qualified geotechnical engineer reviewed the historical settlement and water level elevation data and concluded that the measured values of ground elevation change do not appear to be related to groundwater extraction. Additional information on the settlement survey can be found in the *RGRP* 2010 Annual Progress Report (Geosyntec, 2011b).

4. PROBLEMS ENCOUNTERED

Section 2.2 summarizes all non-routine operation and maintenance (O&M) events that occurred at System 19. No other problems related to the groundwater treatment or containment system at the Buildings 13, 19, and 23 Site were encountered.

5. TECHNICAL ASSESSMENT

The following assessment of the groundwater remedy performance was made on the basis of data collected through 2010.

The remedy is functioning as intended. The groundwater remedy continues to function as intended. The 2010 Annual Report Remedy Performance Checklist is provided in Appendix A.

The capture zone is adequate**.** Groundwater elevation, calculated capture zones, and chemical monitoring results from 2010 demonstrate that the SCRWs at the Site continue to achieve adequate capture compared with target capture, as indicated by converging lines of evidence, including graphical flow net analysis and chemical concentration trends. The concentrations in downgradient wells indicate supporting evidence for continued control of TCE within the Building 19 slurry wall enclosure.

TCE concentrations are generally steady to decreasing over time. Table 9 and VOC-versus-time graphs (Appendix D) indicate that TCE concentrations are steady or declining in most wells. Several wells at the Site exhibit evidence of reductive dechlorination indicated by decreasing TCE concentrations, with noted increases in cis-1,2-DCE concentrations (115A, and 40B2).

Slurry wall gradients are variable. During this reporting period, inward gradients were consistently observed at well pairs 140A/101A, 142A/143A, and 141A/139A on the upgradient and crossgradient sides of the slurry wall. Outward gradients were consistently observed at well pairs 115A/134A, 154A/155A, and 17A/159A.

Vertical gradients are variable. Both upward and downward gradients were observed. Upward gradients from the B1 to A groundwater zone have been consistently observed at well pairs 93B1/101A and 98B1/15A, with the exception of the May 27, 2010 gradient for 98B1/15A, which was very slightly downward (-0.02). Historically, both upward and downward gradients have been observed at well pairs RW/1(B1)/159A, 110B1/134A, and 117B1/12A, and 159A/RW-1(B1). Gradients are primarily downward in well pair 117B1/12A. In November 2010, slight upward gradients were observed in 134A/110B1 and 159A/RW-1(B1).

6. CONCLUSIONS AND RECOMMENDATIONS

The Buildings 13, 19, and 23 remedy is functioning as intended. Capture snapshots from March and November 2010 meet or exceed target capture areas as indicated by converging lines of evidence, including graphical flow net analysis, capture zone width calculations, and concentration trends.

Approximately 47 million gallons of groundwater were treated and 233 pounds of VOCs were removed by the groundwater treatment system during 2010. From January 1 through December 31, 2010, the groundwater treatment system operated 96% of the time.

7. UPCOMING WORK IN 2011 AND PLANNED FUTURE ACTIVITIES

Activities planned for 2011 include the following:

- Continuing groundwater extraction, treatment, and monitoring in accordance with the Site monitoring and reporting schedule; and
- Continued coordination with the USEPA on the ROD amendment for vapor intrusion and groundwater focused feasibility study.

The effectiveness and progress of groundwater remediation activities during 2011 will continue to be evaluated by continuing operation, maintenance, and monitoring of the Site extraction system, measuring water levels, and analyzing water samples in accordance with the Site monitoring and reporting schedule. All activities will be documented in the 2011 Annual Progress Report, which will be submitted to the USEPA by June 15, 2012.

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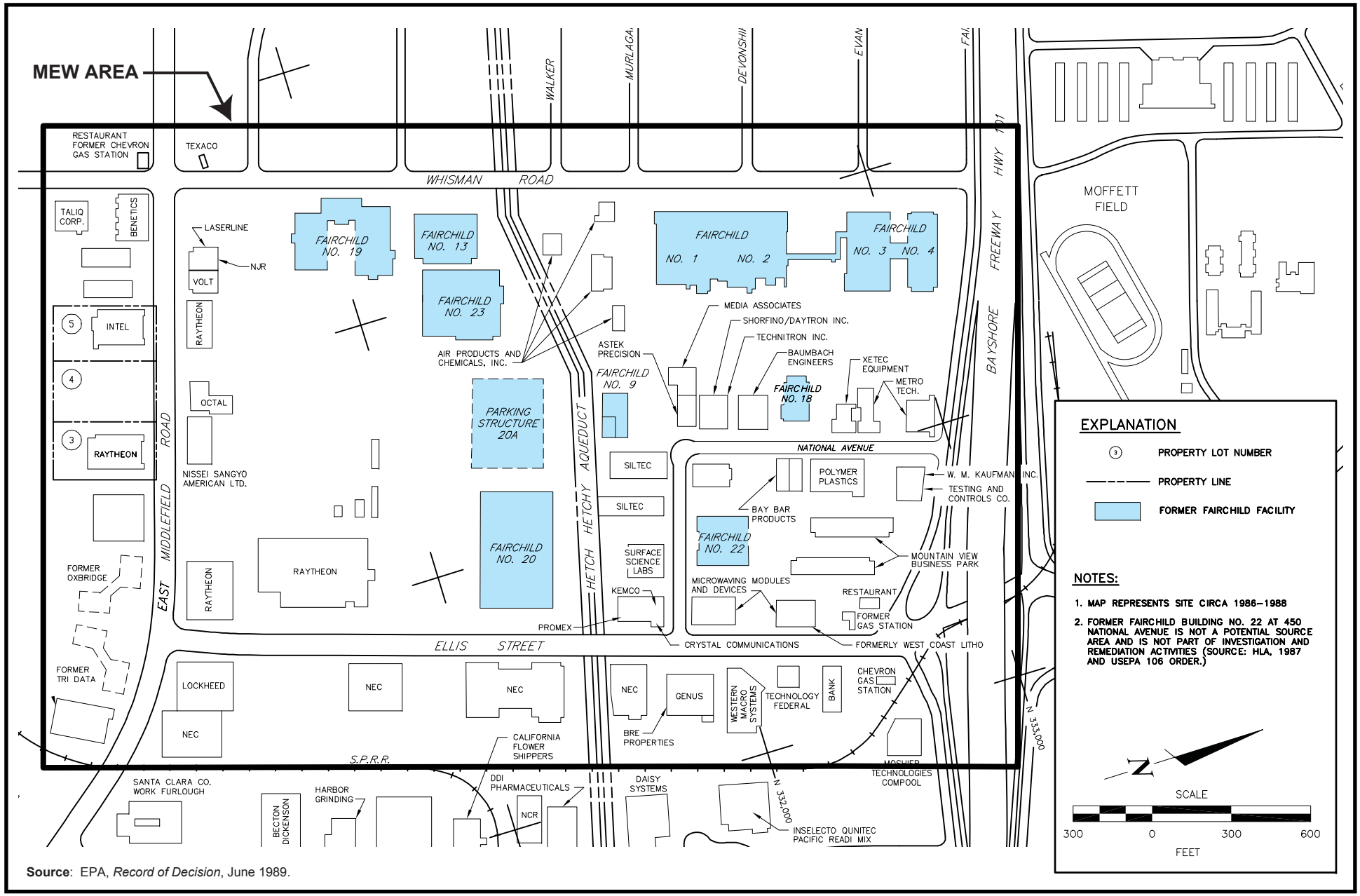
FIGURES

Figure 1. Site Location, MEW Area, Mountain View, California



Source: EPA, *Record of Decision*, June 1989.

Figure 2. Previous Building Configurations, Former Fairchild Facilities, MEW Area, Mountain View, California

MEW Area

Bailey Rd
Perimeter Rd
Dailey Rd
Bayshore Fwy/Hwy 101
Fairchild Dr
Evandale Ave
Devonshire Ave
Murlagan Ave
Sherland Ave
Flynn Ave
N. Whisman Rd
National Ave
Ellis St
Middlefield Road

Fairchild System 3
RGRP - South
Former Fairchild Buildings 1 through 4 Site
Fairchild System 1
Former Fairchild Building 9 Site
Former Fairchild Buildings 13, 19, and 23
Fairchild System 19
Raytheon System
Raytheon Site

RW-2A RW-2(B2) RW-2(B1) 23A RW-11(B1) RW-24A 149A 22A 160A
RW-1(B1) 110B1 RW-1A 115A 146B2 40B2 159A 134A 154A 155A RW-1(B2) 145B1 RW-23A RW-10(B1) RW-11A 148A 117B1 RW-12A 12A RW-29A 15A 139A 98B1 90B2 141A RW-26A 71A 4A 6A 161A 9A 101A 93B1 140A 143A 101B1 95B1 142A 16A 17A 175A 174A 173A 156B1
DW3-219 65B3 REG-4B(1)

0 300 600 900 Feet

Explanation

Extraction and Monitoring Wells for Buildings 13, 19, and 23

- Source Control Recovery Well, On
- Regional Recovery Well, On
- Monitoring Well
- Source Control Recovery Well, Off
- Regional Recovery Well, Off

Extraction and Monitoring Wells in the Vicinity

- Regional Recovery Well, On
- Source Control Recovery Well, On
- Regional Recovery Well, Off
- Source Control Recovery Well, Off
- Monitoring Well

- 369/441 Whisman Road
- Fairchild Groundwater Treatment System 19
- Groundwater Treatment Systems
- Slurry Wall
- Building
- Road
- Treatment-System Pipeline
- Treatment-System Discharge Pipeline

Note:
Current addresses are 369, 379, 389, 399 North Whisman Road

Figure 3
Site Map and Well Network
Former Fairchild Buildings 13, 19, and 23
369/441 Whisman Road
Mountain View, California

Weiss Associates
Environmental Science, Engineering, and Management Services

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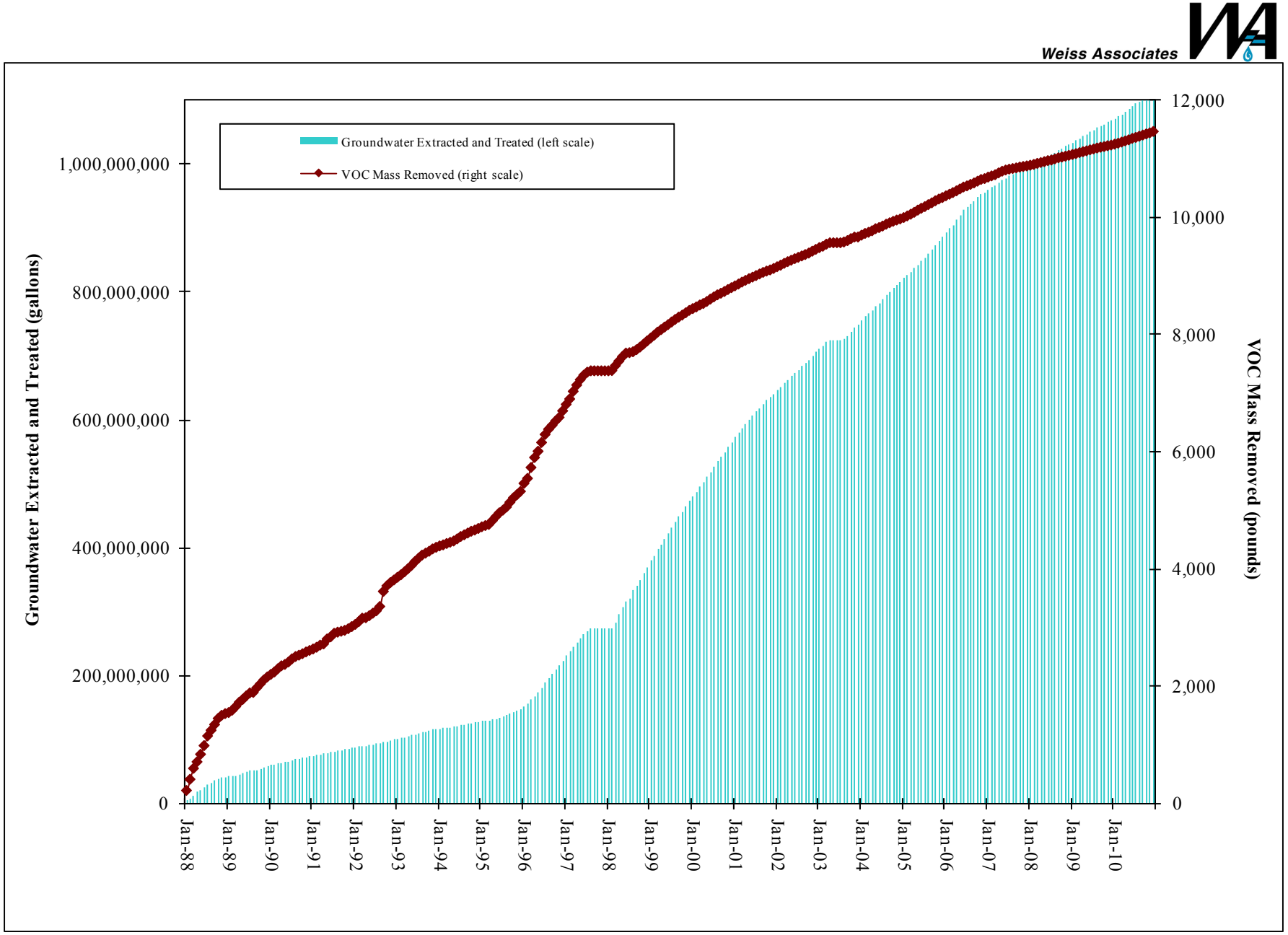
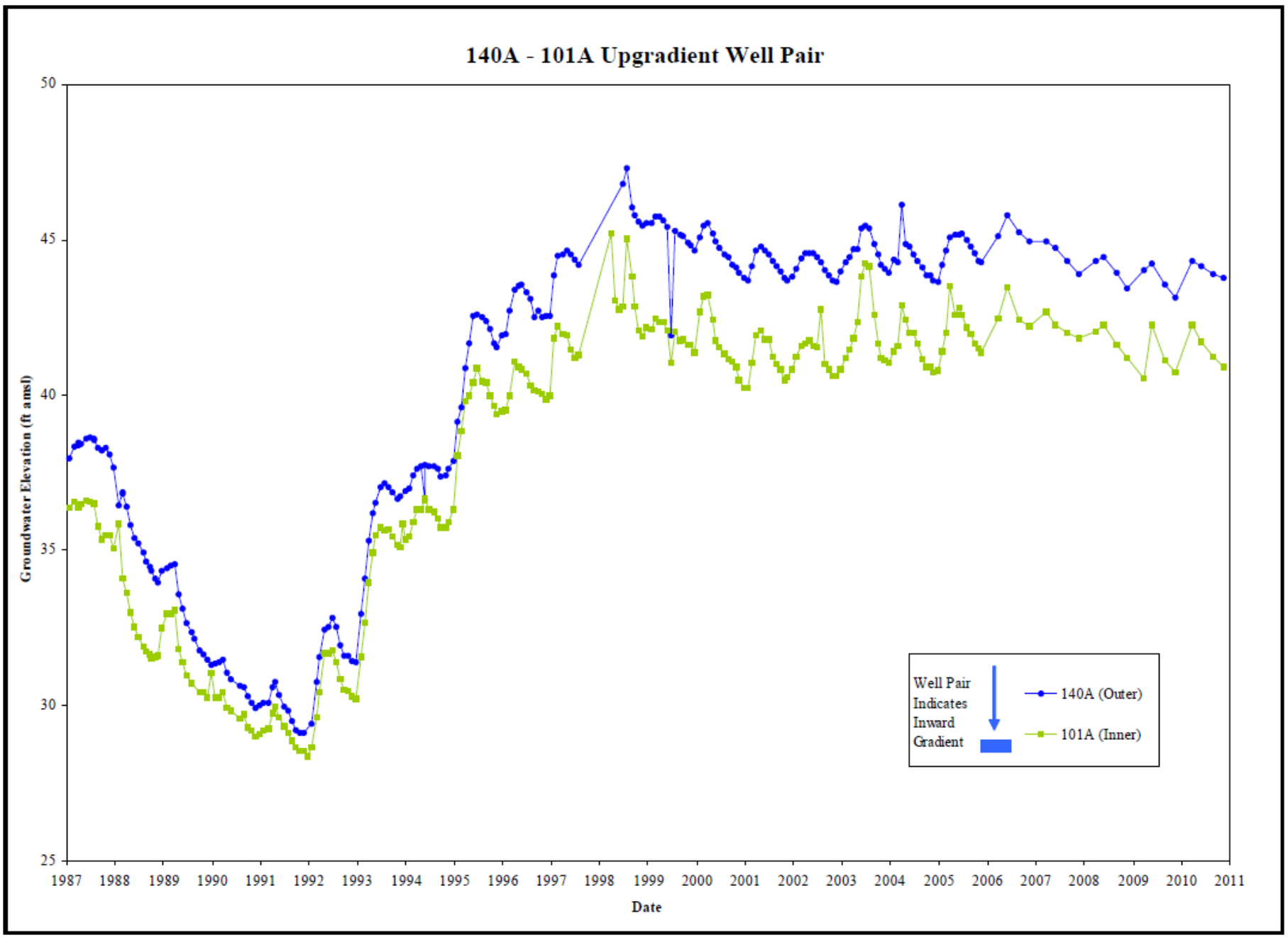


Figure 4. Cumulative Groundwater and VOC Mass Removal Summary, Fairchild System 19, 369 Whisman Road, Mountain View, California.



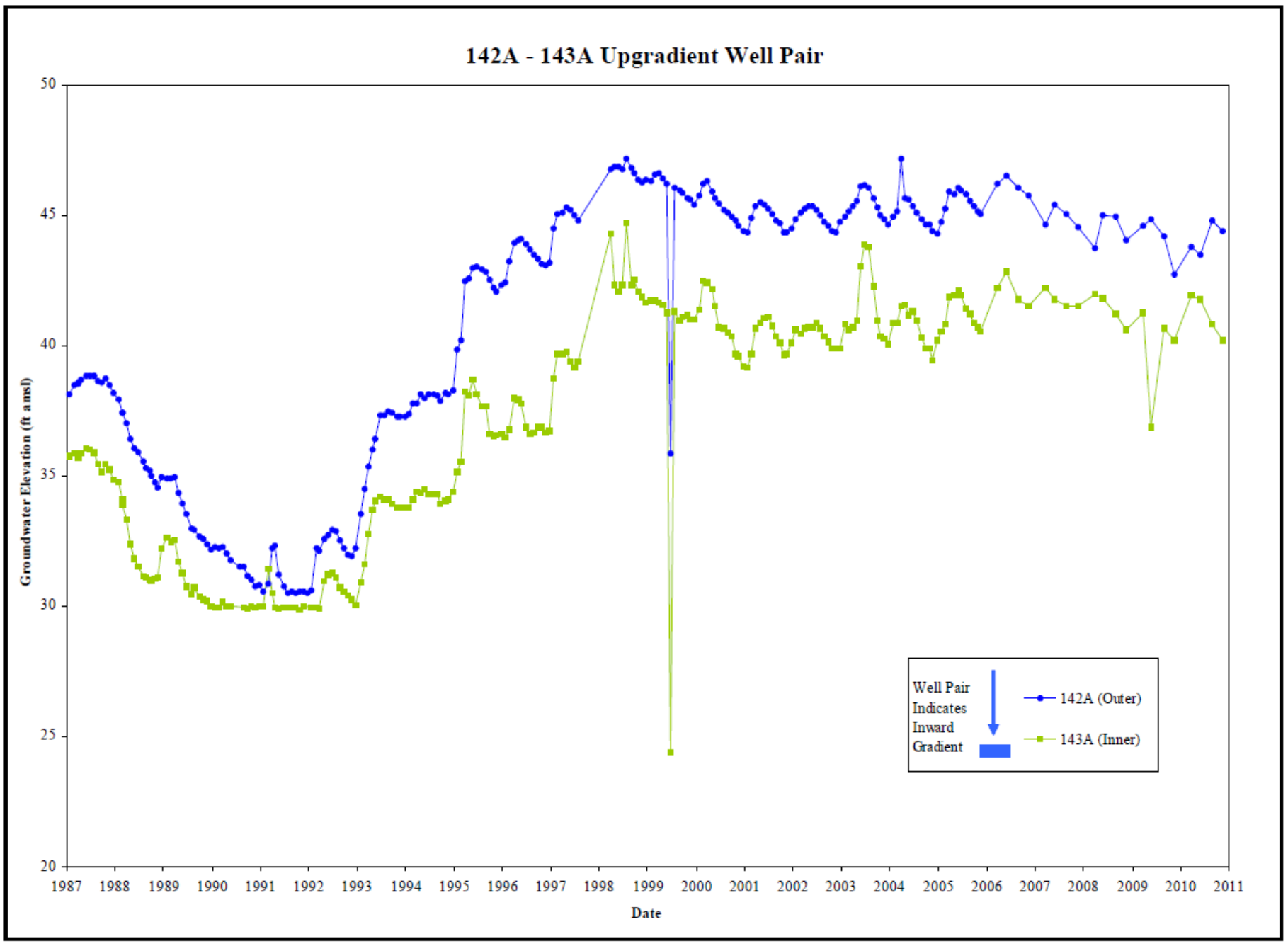
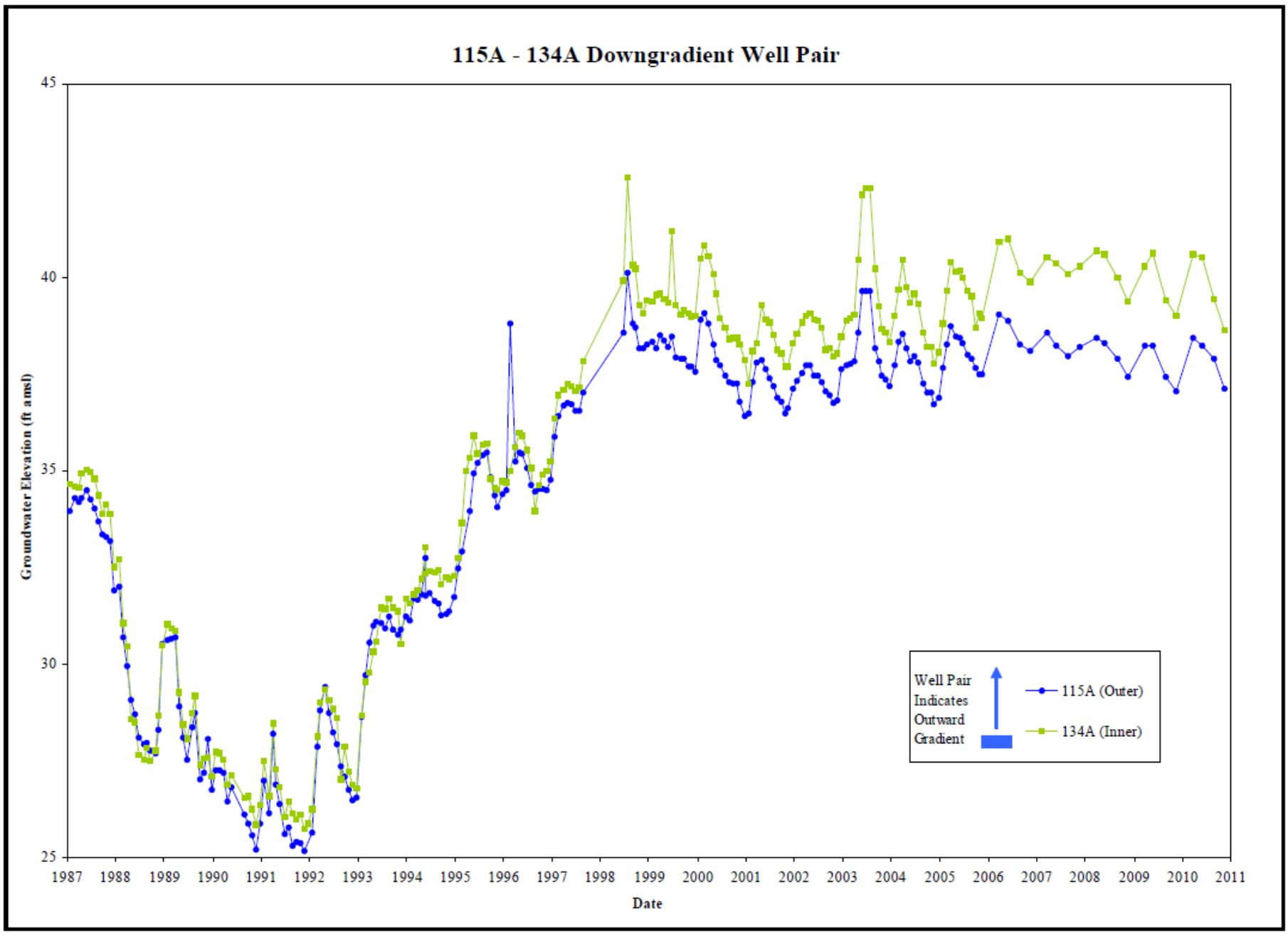


Figure 5. Hydrographs – Groundwater Elevation Measurements, Slurry Wall Well Pairs – Upgradient Wells, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California



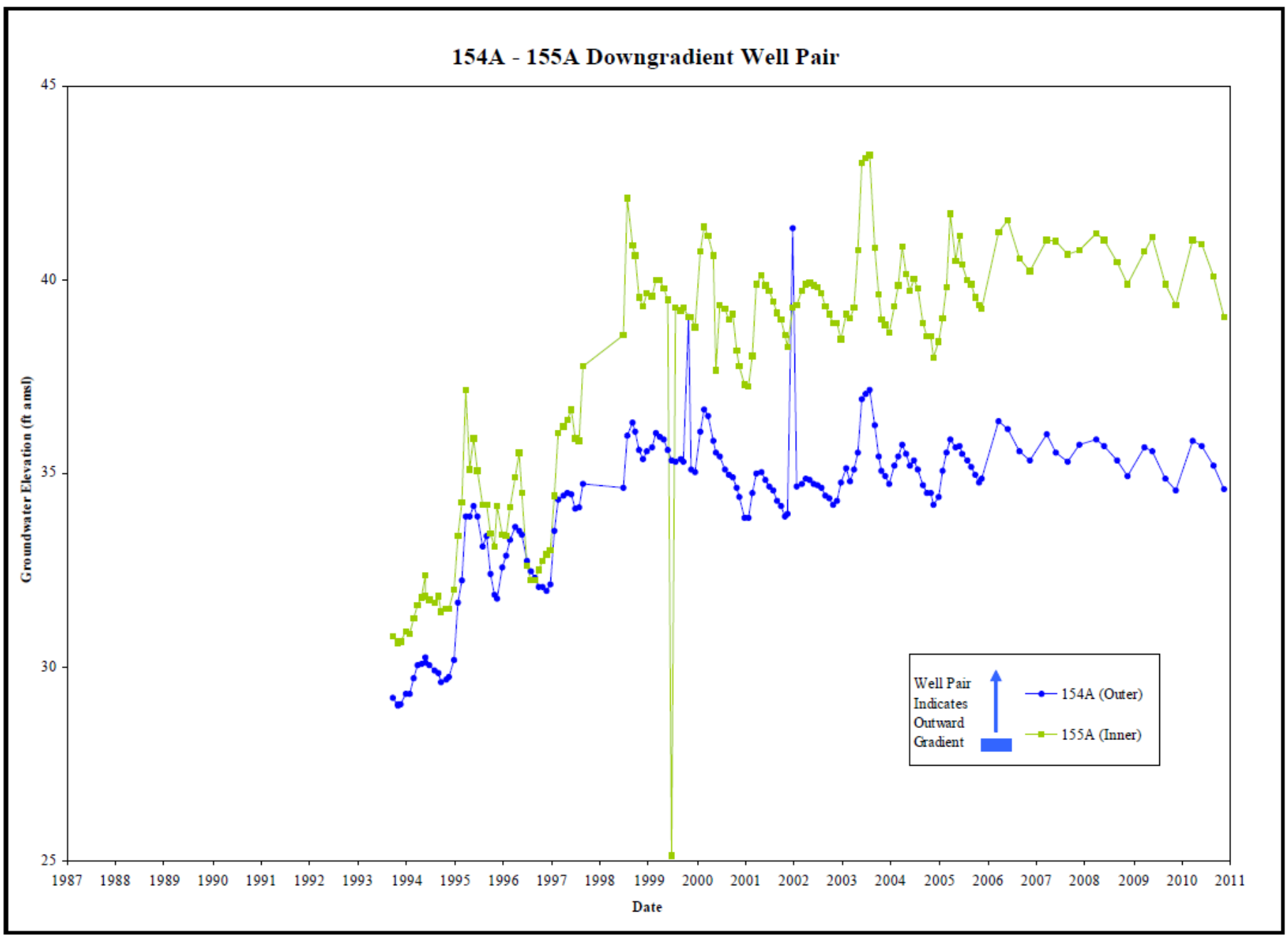
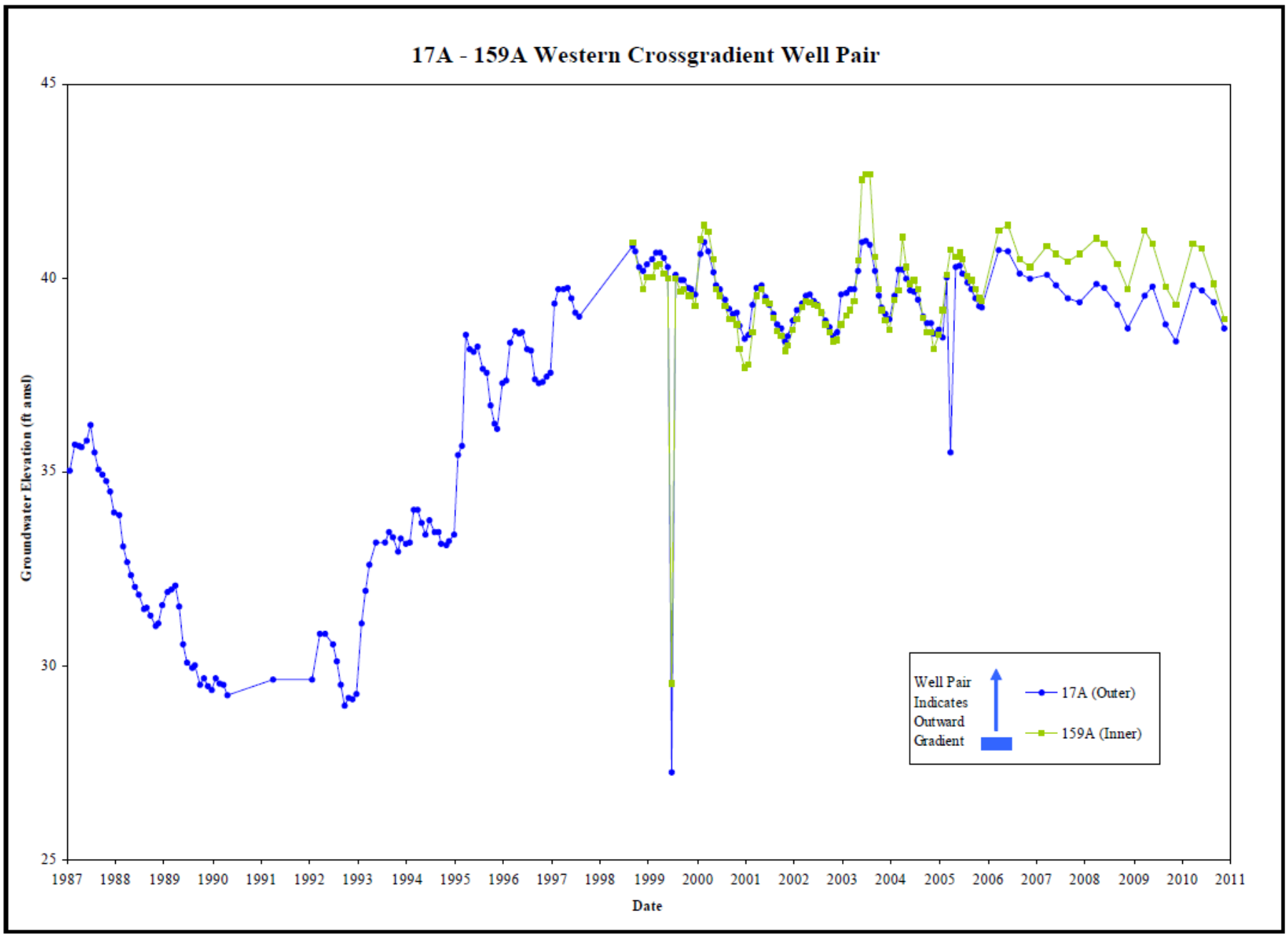


Figure 6. Hydrographs – Groundwater Elevation Measurements, Slurry Wall Well Pairs – Downgradient Wells, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California



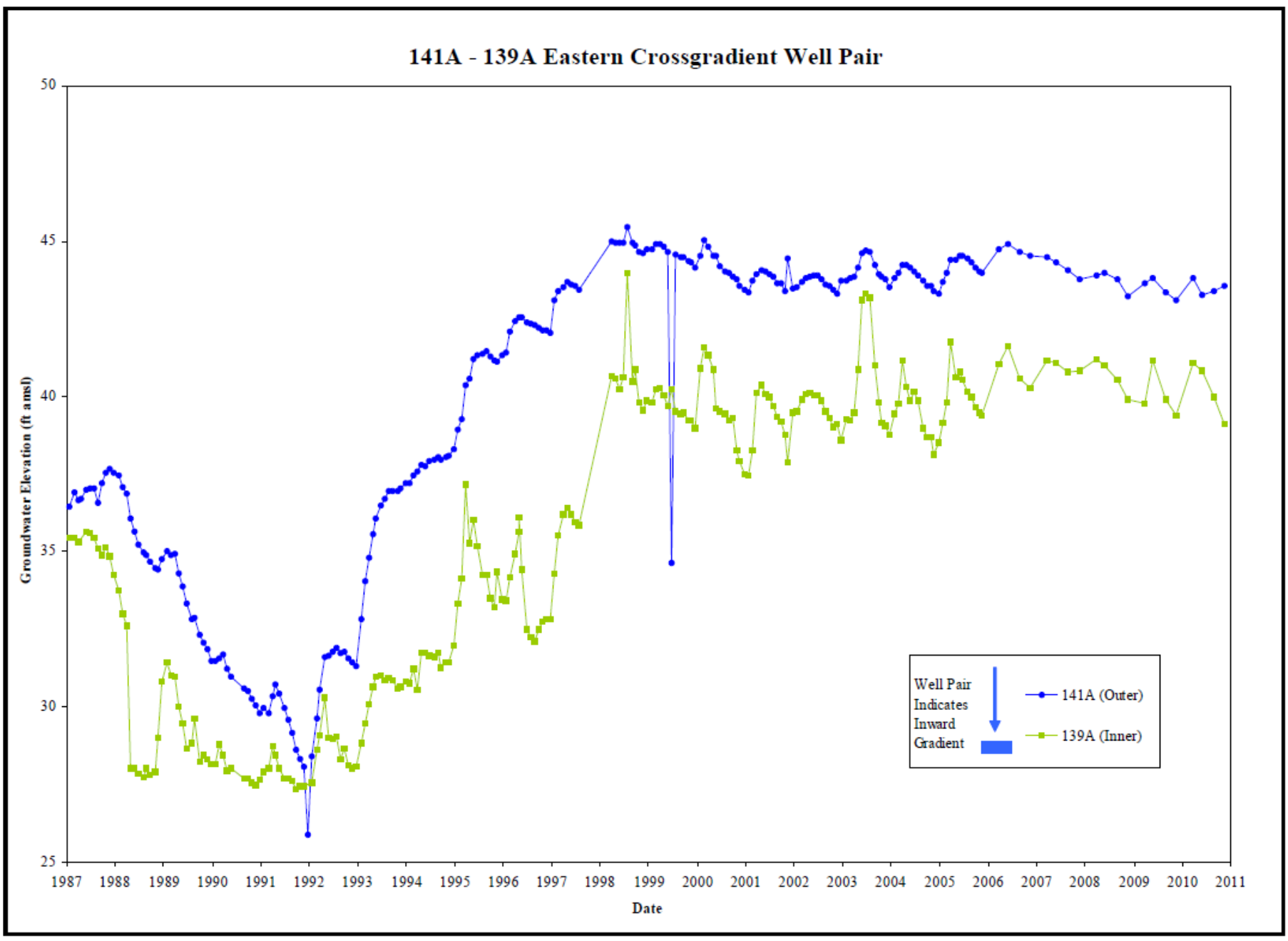
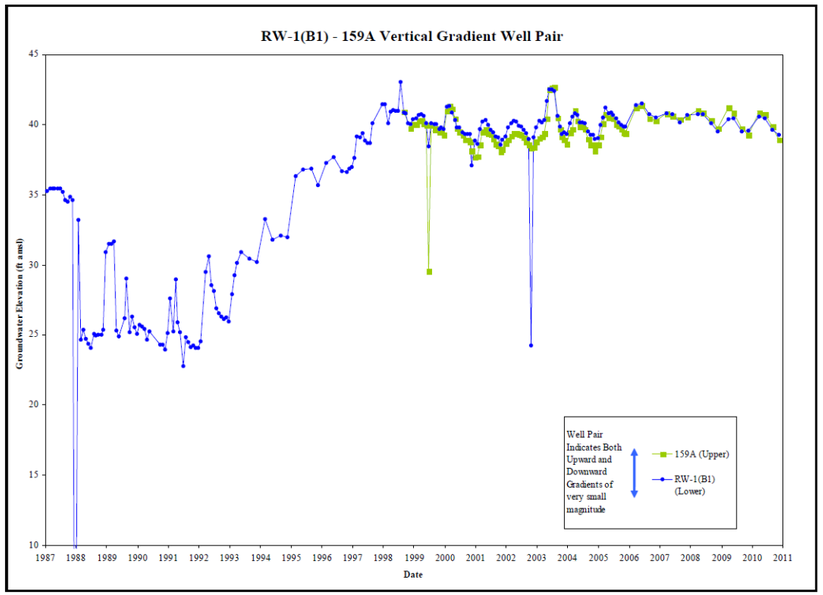
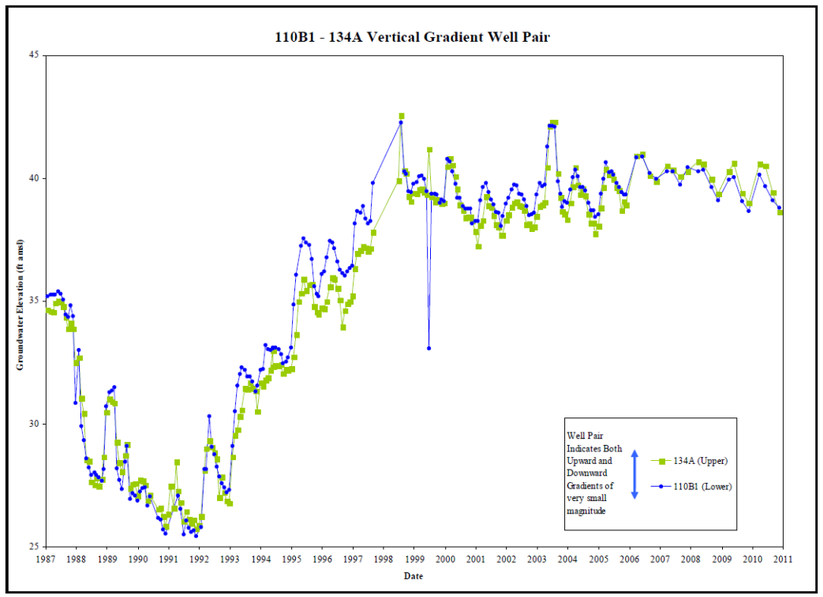
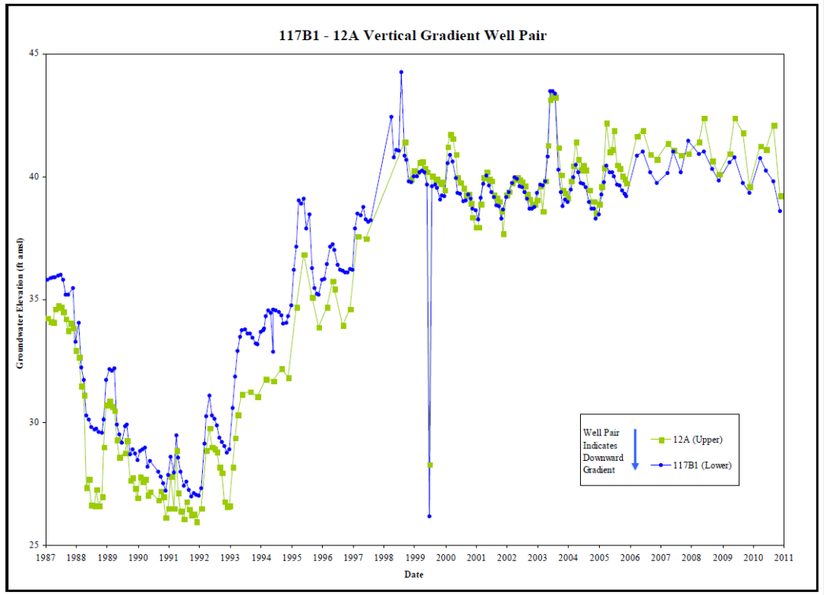
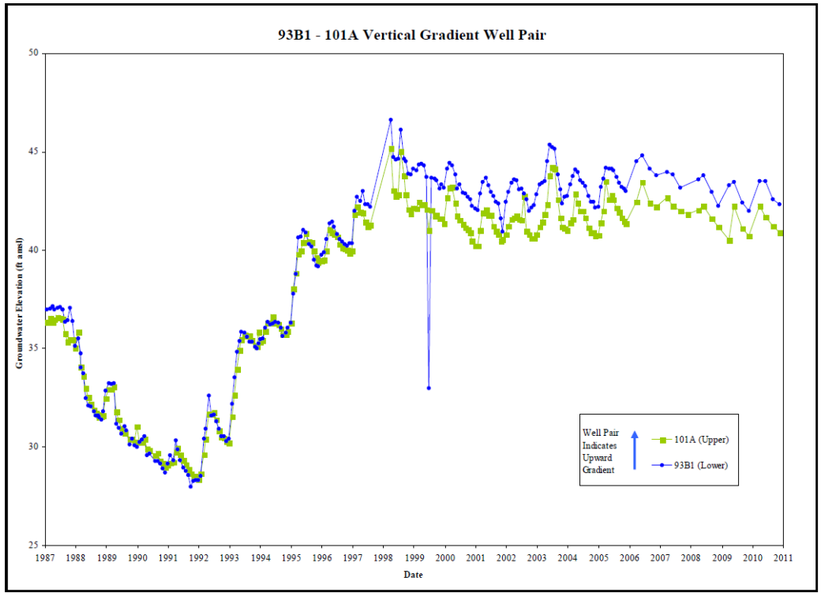


Figure 7. Hydrographs – Groundwater Elevation Measurements, Slurry Wall Well Pairs – Crossgradient Wells, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California









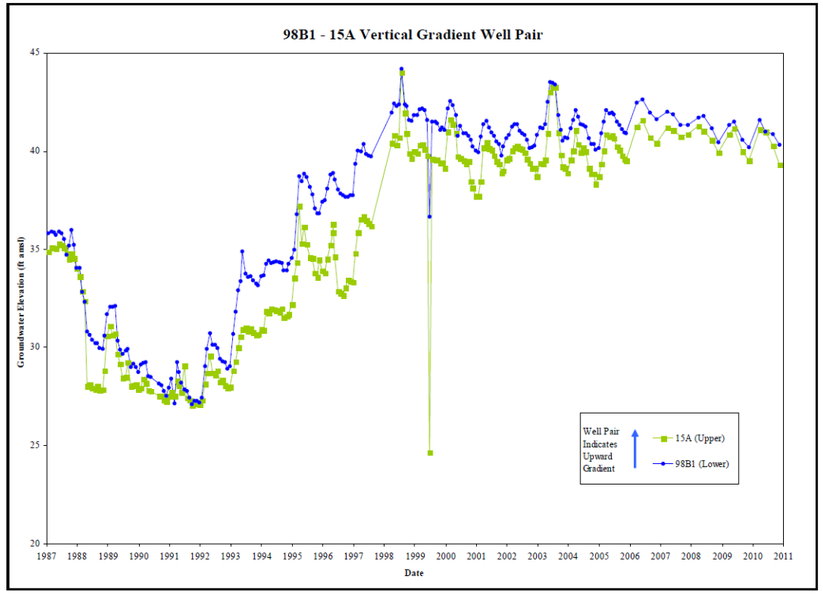


Figure 8. Hydrographs – Groundwater Elevation Measurements, Slurry Wall Well Pairs – Vertical Gradient Wells, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

MEW Area

Former Fairchild Buildings 13, 19, and 23

Building 19 Slurry Wall

RW-2A (5.6)
RW-24A (3.6)
RW-1A (1.0)
RW-23A (6.1)
RW-11A (2.9)
RW-12A (0.8)
RW-29A (6.0)
RW-26A
71A (1.0)

Sherland Ave
Flynn Ave
N. Whisman Rd
Middlefield Road
Raytheon Site

Explanation

Extraction and Monitoring Wells for Buildings 13, 19, and 23

- Source Control Recovery Well, On
- Regional Recovery Well, On
- Monitoring Well
- Source Control Recovery Well, Off
- Regional Recovery Well, Off

Extraction and Monitoring Wells in the Vicinity

- Regional Recovery Well, On
- Source Control Recovery Well, On
- Regional Recovery Well, Off
- Source Control Recovery Well, Off
- Monitoring Well

- Estimated Capture Zone, March 2010
- Target Capture Zone
- Groundwater Elevation Index 5 ft Contour
- Groundwater Elevation Intermediate 1 ft Contour
- Slurry Wall
- Building
- Road
- Slurry Wall Well Pair and Gradient Direction

(2.11) = Average pumping rate in gallons per minute for the period between March 24-31, 2010

Notes:
Groundwater elevation contours and TCE isopleths are based on MEW Regional data presented in the 2010 Annual Report (Geosyntec 2011).
Captures are shown for wells specific to Buildings 13, 19, and 23.
There is no target capture for RW-2A because it was added after remedial design.

N

0 100 200 300 Feet

Figure 9
A/A1 Groundwater Elevation Contours, Target Capture Area and Estimated March 25, 2010 Capture
Former Fairchild Buildings 13, 19, and 23
369/441 Whisman Road
Mountain View, California

Weiss Associates
Environmental Science, Engineering, and Management Services

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MEW Area

Former Fairchild Buildings 13, 19, and 23

Building 19 Slurry Wall

Sherland Ave

Flynn Ave

N. Whisman Rd

Middlefield Road

Raytheon Site

RW-2A (7.5)

RW-24A (4.7)

RW-1A (3.4)

RW-23A (10.5)

RW-11A (3.0)

RW-12A (1.7)

RW-29A (5.3)

RW-26A

71A (3.9)

23A

149A

22A

160A

16A

17A

159A

115A

134A

154A

155A

175A

174A

173A

148A

12A

15A

139A

141A

4A

6A

161A

9A

101A

140A

143A

142A

37

38

39

40

41

42

43

44

46

32

33

34

35

36

AA

Explanation

Extraction and Monitoring Wells for Buildings 13, 19, and 23

- Source Control Recovery Well, On
- Regional Recovery Well, On
- Monitoring Well
- Source Control Recovery Well, Off
- Regional Recovery Well, Off

Extraction and Monitoring Wells in the Vicinity

- Regional Recovery Well, On
- Source Control Recovery Well, On
- Regional Recovery Well, Off
- Source Control Recovery Well, Off
- Monitoring Well

- Estimated Capture Zone, November 2010
- Target Capture Zone
- Groundwater Elevation Index 5 ft Contour
- Groundwater Elevation Intermediate 1 ft Contour
- Slurry Wall
- Building
- Road

2010 TCE Concentration Range

- 5 - 100 ug/L
- 100 - 1,000 ug/L
- 1,000 - 10,000 ug/L
- Greater than 10,000 ug/L

(3.9) = Average pumping rate in gallons per minute for the period between November 17-24, 2010

Notes:
Groundwater elevation contours and TCE isopleths are based on MEW Regional data presented in the 2010 Annual Report (Geosyntec 2011).
Captures are shown for wells specific to Buildings 13, 19, and 23.
There is no target capture for RW-2A because it was added after remedial design.

0 100 200 300 Feet

Figure 10
A/A1 Groundwater Elevation Contours, and TCE Isopleths, Target Capture Area and Estimated November 18, 2010 Capture, Former Fairchild Buildings 13, 19, and 23
369/441 Whisman Road
Mountain View, California

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MEW Area

Former Fairchild
Buildings 13, 19, and 23

RW-2(B1)
(6.6)

RW-11(B1)
(8.9)

RW-1(B1)

110B1

RW-10(B1)
(5.8)

117B1

145B1

156B1

98B1

93B1

95B1

101B1

Raytheon Site

Sherland Ave

Flynn Ave

N. Whisman Rd

Middlefield Road

33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 49

Explanation

Extraction and Monitoring Wells for Buildings 13, 19, and 23

- Source Control Recovery Well, On
- Regional Recovery Well, On
- Monitoring Well
- Source Control Recovery Well, Off
- Regional Recovery Well, Off

Extraction and Monitoring Wells in the Vicinity

- Regional Recovery Well, On
- Source Control Recovery Well, On
- Regional Recovery Well, Off
- Source Control Recovery Well, Off
- Monitoring Well

- Estimated Capture Zone, March 2010
- Target Capture Zone
- Groundwater Elevation Index 5 ft Contour
- Groundwater Elevation Intermediate 1 ft Contour
- Slurry Wall
- Building
- Road

(5.8) = Average pumping rate in gallons per minute for the period between March 24-31, 2010

Notes:
Groundwater elevation contours based on MEW Regional data presented in the 2010 Annual Report (Geosyntec 2011).
Captures are shown for wells specific to Buildings 13, 19, and 23.
There is no target capture for RW-2(B1) because it was added after remedial design.

N

0 100 200 300 Feet

Figure 11
B1/A2 Groundwater Elevation Contours, Target Capture Area and Estimated March 25, 2010 Capture
Former Fairchild Buildings 13, 19, and 23
369/441 Whisman Road
Mountain View, California

Weiss Associates
Environmental Science, Engineering, and Management Services

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May-24-2011

MEW Area

Former Fairchild
Buildings 13, 19, and 23

RW-2(B1)
(5.9)

RW-11(B1)
(9.7)

RW-1(B1)

110B1

RW-10(B1)
(11.1)

117B1

145B1

95B1

101B1

Sherland Ave

Flynn Ave

N. Whisman Rd

Middlefield Road

Raytheon Site

32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
49

Explanation

Extraction and Monitoring Wells for Buildings 13, 19, and 23

- Source Control Recovery Well, On
- Regional Recovery Well, On
- Monitoring Well
- Source Control Recovery Well, Off
- Regional Recovery Well, Off

Extraction and Monitoring Wells in the Vicinity

- Regional Recovery Well, On
- Source Control Recovery Well, On
- Regional Recovery Well, Off
- Source Control Recovery Well, Off
- Monitoring Well

- Estimated Capture Zone, November 2010
- Target Capture Zone
- Groundwater Elevation Index 5 ft Contour
- Groundwater Elevation Intermediate 1 ft Contour
- Slurry Wall
- Building
- Road

2010 TCE Concentration Range

- 5 - 100 ug/L
- 100 - 1,000 ug/L
- 1,000 - 10,000 ug/L
- Greater than 10,000 ug/L

(6.9) = Average pumping rate in gallons per minute for the period between November 17-24, 2010

Notes:
Groundwater elevation contours and TCE isopleths are based on MEW Regional data presented in the 2010 Annual Report (Geosyntec 2011).
Captures are shown for wells specific to Buildings 13, 19, and 23.
There is no target capture for RW-2(B1) because it was added after remedial design.

N

0 100 200 300 Feet

Figure 12
B1/A2 Groundwater Elevation Contours, and TCE Isopleths, Target Capture Area and Estimated November 18, 2010 Capture, Former Fairchild Buildings 13, 19, and 23
369/441 Whisman Road
Mountain View, California

Weiss Associates
Environmental Science, Engineering, and Management Services

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May-24-2011

MEW Area

Former Fairchild
Buildings 13, 19, and 23

RW-2(B2)
(11.6)

RW-1(B2)
(0.4)

40B2

146B2

90B2

Sherland Ave

Flynn Ave

N. Whisman Rd

Middlefield Road

Raytheon Site

35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55

Explanation

Extraction and Monitoring Wells for Buildings 13, 19, and 23

- Source Control Recovery Well, On
- Regional Recovery Well, On
- Monitoring Well
- Source Control Recovery Well, Off
- Regional Recovery Well, Off

Extraction and Monitoring Wells in the Vicinity

- Regional Recovery Well, On
- Source Control Recovery Well, On
- Regional Recovery Well, Off
- Source Control Recovery Well, Off
- Monitoring Well

- Estimated Capture zone, March 2010
- Target Capture Zone
- Groundwater Elevation Index 5 ft Contour
- Groundwater Elevation Intermediate 1 ft Contour
- Slurry Wall
- Building
- Road

(0.4) = Average pumping rate in gallons per minute for the period between March 24-31, 2010

Notes:
Groundwater elevation contours based on MEW Regional data presented in the 2010 Annual Report (Geosyntec 2011).
Captures are shown for wells specific to Buildings 13, 19, and 23.

0 100 200 300 Feet

Figure 13
B2 Groundwater Elevation Contours, Target Capture Area and Estimated March 25, 2010 Capture
Former Fairchild Buildings 13, 19, and 23
369/441 Whisman Road
Mountain View, California

Weiss Associates
Environmental Science, Engineering, and Management Services

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May-24-2011

MEW Area

Former Fairchild
Buildings 13, 19, and 23

RW-2(B2)
(12.0)

RW-1(B2)
(0.3)

40B2

146B2

90B2

Sherland Ave

Flynn Ave

N. Whisman Rd

Middlefield Road

Raytheon Site

34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

Explanation

Extraction and Monitoring Wells for Buildings 13, 19, and 23

- Source Control Recovery Well, On
- Regional Recovery Well, On
- Monitoring Well
- Source Control Recovery Well, Off
- Regional Recovery Well, Off

Extraction and Monitoring Wells in the Vicinity

- Regional Recovery Well, On
- Source Control Recovery Well, On
- Regional Recovery Well, Off
- Source Control Recovery Well, Off
- Monitoring Well

- Estimated Capture Zone, November 2010
- Target Capture Zone
- Groundwater Elevation Index 5 ft Contour
- Groundwater Elevation Intermediate 1 ft Contour
- Slurry Wall
- Building
- Road

2010 TCE Concentration Range

- 5 - 100 ug/L
- 100 - 1,000 ug/L
- 1,000 - 10,000 ug/L
- Greater than 10,000 ug/L

(0.3) = Average pumping rate in gallons per minute for the period between November 17-24, 2010

Notes:
Groundwater elevation contours and TCE isopleths are based on MEW Regional data presented in the 2010 Annual Report (Geosyntec 2011).
Captures are shown for wells specific to Buildings 13, 19, and 23.

N

0 100 200 300 Feet

Figure 14
B2 Groundwater Elevation Contours, and TCE Isopleths, Target Capture Area and Estimated November 18, 2010 Capture, Former Fairchild Buildings 13, 19, and 23
369/441 Whisman Road
Mountain View, California

Weiss Associates
Environmental Science, Engineering, and Management Services

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May-24-2011

TABLES

Table 1. Extraction and Monitoring Well Details, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Well ID	Date Installed	Zone[a]	Reference Elevation[b] (ft amsl)	Diameter (inches)	Total Well Depth (ft btoc)	Top of Screened Interval (ft btoc)	Bottom of Screened Interval (ft btoc)	Top of Sand Pack (ft btoc)	Bottom of Sand Pack (ft btoc)	Well Type
101A	07/10/86	A	55.14	4	36	19	34	14	36	Mon
115A	09/15/86	A	53.48	4	30	20	30	18	32	Mon
12A	02/18/82	A	55.11	2	35	15	35	15	35	Mon
134A	10/13/86	A	53.44	4	30	20	30	18	32	Mon
139A	10/17/86	A	53.21	4	31	16	31	11	34	Mon
140A	10/17/86	A	56.99	4	33	18	33	16	35	Mon
141A	10/20/86	A	53.25	4	26	16	26	11	28	Mon
142A	10/29/86	A	57.27	4	27	22	27	20	29	Mon
143A	11/07/86	A	55.72	4	27	22	27	20	29	Mon
148A	09/19/91	A	53.92	4	32.5	22.5	32.5	19.5	33	Mon
149A	10/11/91	A	51.90	4	32.5	12.5	32.5	11.5	35	Mon
15A	02/11/82	A	54.06	2	40	15	40	15	40	Mon
154A	07/27/93	A	53.90	4	29	19	29	15	30	Mon
155A	07/27/93	A	54.17	4	29	19	29	15	30	Mon
159A	11/05/97	A	54.62	4	30	20	30	17	33	Mon
16A	04/08/82	A	53.30	2	32	22	32	14	32	Mon
160A	11/10/97	A	53.89	4	33.5	18.5	33.5	15.5	35.5	Mon
161A	11/05/97	A	56.15	4	30.5	20.5	30.5	17.5	33	Mon
17A	02/17/82	A	53.40	2	35	20	35	15	35	Mon
173A	10/31/02	A	50.83	4	33	19	29	16	30	Mon
174A	10/31/02	A	53.66	4	31.5	18	28	15	30	Mon
175A	10/31/02	A	53.82	4	35	19	29	16	30	Mon
22A	02/26/82	A	52.87	2	30	14	30	12	30	Mon
23A	02/26/82	A	50.56	2	30	14	30	14	30	Mon
4A	02/18/82	A	54.69	2	35	20	35	15	35	Mon
6A	02/17/82	A	54.74	2	39	20	39	17	39	Mon
71A	05/30/84	A	55.15	12	36	26	31	13	37.5	Ext
9A	02/10/82	A	55.82	2	40	15	40	10	40	Mon
RW-1A	06/26/85	A	53.71	6	35	20	35	15.5	35	Ext
RW-2A	10/10/85	A	49.42	6	34	19	34	15	36	Ext
RW-11A	07/05/85	A	54.87	6	35	25	35	10	37	Ext
RW-12A	07/03/85	A	53.96	6	35	25	35	10	37	Ext
RW-23A	12/14/94	A	52.75	6	34.5	24.5	34.5	21.5	35	Ext
RW-24A	12/20/94	A	50.15	6	32	22	32	19	33	Ext
RW-26A	10/01/97	A	53.51	6	32	22	32	15	34	Ext
RW-29A	10/30/02	A	52.04	6	35	20	35	17	35	Ext
101B1	07/10/86	B1	54.92	4	65	50	65	46	67	Mon
110B1	09/16/86	B1	53.68	4	59	49	59	47	61	Mon
117B1	10/07/86	B1	53.80	4	63	53	63	51	65	Mon
145B1	01/06/94	B1	54.00	6	65	53	63	50	65	Mon
156B1	10/30/02	B1	50.87	4	60	49	54	37	55	Mon
93B1	07/01/86	B1	55.27	4	67	52	67	45	69	Mon
95B1	07/08/86	B1	56.95	4	65	50	65	46.5	67	Mon
98B1	07/09/86	B1	54.10	4	66	57	66	46	68	Mon
REG-4B(1)	09/19/97	B1	37.70	6	71	58	68	57	71	Ext
RW-1(B1)	06/26/85	B1	53.83	6	72	52	72	42	73	Ext
RW-2(B1)	02/25/86	B1	48.18	6	56	46	56	45	59	Ext
RW-10(B1)	12/30/94	B1	52.40	6	65	55	65	52	66	Ext
RW-11(B1)	01/12/95	B1	50.43	6	61	51	61	48	63	Ext
146B2	03/09/95	B2	53.58	6	96	85	95	82	97	Mon
40B2	07/11/85	B2	54.59	4	92	87	92	83.5	93	Mon
90B2	06/26/86	B2	54.18	4	104	94	104	87	106	Mon
RW-1(B2)	06/26/85	B2	53.49	6	94	87	92	84	97	Ext
RW-2(B2)	10/10/85	B2	48.95	6	96	76	96	72	98	Ext

Table 1. Extraction and Monitoring Well Details, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Well ID	Date Installed	Zone[a]	Reference Elevation[b] (ft amsl)	Diameter (inches)	Total Well Depth (ft btoc)	Top of Screened Interval (ft btoc)	Bottom of Screened Interval (ft btoc)	Top of Sand Pack (ft btoc)	Bottom of Sand Pack (ft btoc)	Well Type
65B3	09/24/85	B3	43.36	4	131	111	131	108	133	Ext
DW3-219	03/05/86	DW	48.67	4	219	185	215	181	219	Ext
DW3-244	02/27/86	DW	48.29	4	244	230	240	226	244	Ext
DW3-334	02/19/86	DW	48.69	4	334	315	330	311	334	Ext
DW3-364	02/26/86	DW	48.39	4	364	350	360	345.5	364	Ext
DW3-505R	04/18/97	DW	48.92	6	503	490	500	487	503	Ext

Notes:

General Notes

Wells associated with the Buildings 13, 19, and 23 Site are shown in **bold.** All are shown in Figure 3.

Water levels for extraction wells are taken from a 2-inch piezometer located next to the well.

Referenced Notes

a = The letter in the well ID identifies each well's respective water-bearing zone. There are six designated water-bearing zones in the MEW area: A, B1, B2, B3, C, and deep (DW).

b = Reference Elevations are in National Geodetic Vertical Datum from 1929 (NGVD 29).

Abbreviations:

--- = data not available
amsl = above mean sea level
btoc = below top-of-casing
Deep = deep aquifer
Ext = extraction well
ft = feet
Mon = monitoring well

Table 2. 2010 Monitoring and Reporting Schedule, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
101A[b]			S		S			S			S	
115A[a]			S		S			S			1, S	
12A[b]			S		S			S			S	
134A[a]			S		S			S			1, S	
139A[a]			S		S			S			1, S	
140A			S		S			S			S	
141A			S		S			S			S	
142A[c]			S		S			S			1, S	
143A[b]			S		S			S			S	
148A[b]			WL								WL	
149A			WL								1, WL	
15A[b]			S		S			S			S	
154A[a]			S		S			S			1, S	
155A[a]			S		S			S			1, S	
159A[a]			S		S			S			1, S	
16A[a]			WL								1, WL	
160A			WL								1, WL	
161A[b]			WL								WL	
17A[a]			S		S			S			1, S	
173A[a]			WL								1, WL	
174A[a]			WL								1, WL	
175A[a]			WL								1, WL	
22A[c]			WL								1, WL	
23A			WL								1, WL	
4A[a]			WL								1, WL	
6A[b]			WL								WL	
71A			WL								1, WL	
9A[b]			WL								WL	
RW-1A[a]			WL								1, WL	
RW-2A[a]			WL								1, WL	
RW-11A[a]			WL								1, WL	
RW-12A[a]			WL								1, WL	
RW-23A[a]			WL								1, WL	
RW-24A[a]			WL								1, WL	
RW-26A[a]			WL								1, WL	
RW-29A[a]			WL								1, WL	
101B1			S		S			S			1, S	
110B1			WL								1, 5, WL	
117B1			S		S			S			1, S	
145B1[a]			WL								1, WL	
156B1[a]			WL								1, WL	
93B1[b]			S		S			S			S	
95B1[a]			WL								1, WL	
98B1[c]			S		S			S			1, S	
REG-4B(1)			WL								1, WL	
RW-1(B1)[c]			S		S			S			1, S	
RW-2(B1)[c]			WL								1, WL	
RW-10(B1)			WL								1, WL	
RW-11(B1)			WL								1, WL	
146B2			WL								1, WL	
40B2			WL								1, WL	
90B2			WL								1, 5, WL	
RW-1(B2)			WL								1, WL	
RW-2(B2)			WL								1, WL	
65B3			WL								1, WL	
DW3-219			WL		1						1, WL	

Table 2. 2010 Monitoring and Reporting Schedule, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DW3-244			WL								1, WL	
DW3-334			WL								1, WL	
DW3-364			WL								1, WL	
DW3-505R			WL								1, WL	
Sys19 Influent		1			1			1			1	
Sys19 Midpoint 1[d]	1	1	1	1	1	1	1	1	1	1	1	1
Sys19 Midpoint 2[d]	1	1	1	1	1	1	1	1	1	1	1	1
Sys19 Effluent	1	1	1	1	1	1	1	1	1	1,2,3,4	1	1
Stevens Creek[e, f]												
Reporting												
Quarterly NPDES Report[g]		2/11/2010			5/14/2010			8/13/2010			11/15/2010	
USEPA Annual Progress Report						6/15/2010						

Notes

General Notes:

Wells associated with the Buildings 13, 19, and 23 Site are shown in **bold.** All are shown on Figure 3.

Standard observations were recorded whenever a sample was collected for chemical analysis, including field analysis for pH, temperature, and conductivity. Samples collected at wells also include field analysis for DO and ORP.

Referenced Notes:

a = Sampling of well is not required. Voluntary sampling was performed for slurry wall and plume monitoring.

b = Wells are sampled every five years and were last sampled during the 2007 sampling event.

c = Part of the MEW RGRP S101 sampling event, but are located at the Building 19 Site. Data for these are discussed in the RGRP report unless pertinent to this report.

d = Analysis not required for regulatory compliance but being done by system management for carbon change out purposes.

e = In cases of effluent exceedence, receiving water must be sampled upstream/downstream of treatment system within 24 hours for the exceeded compound(s) and dissolved oxygen level.

f = In cases of cadmium, chromium (total), copper, lead, silver, or zinc trigger exceedences, receiving water must be sampled upstream/downstream of treatment system for hardness and salinity on the same day as one of the three required resamples is taken (per NPDES Permit CAG912003, Order No. R2-2009-0059, effective October 1, 2009).

g = Reports were submitted to the Water Board under NPDES Permit CAG912003, Order No. R2-2004-0055. New Permit Order No. R2-2009-0059 became effective October 1, 2009.

1 = USEPA Method 8260 for Halogenated VOCs using 8010 MS parameters

2 = USEPA Method 8270C for 1,4-dioxane or SVOCs

3 = 96-hour static bioassay for rainbow trout

4 = turbidity

5 = These wells were selected for Regional-Scale MNA Sampling. In addition to VOCs, samples from these wells were also analyzed for nitrate, sulfate, and ferrous iron (Fe^{II}).

S = Slurry wall water levels measured on March 25, May 27, August 26, and November 18, 2010

WL = Water levels measured on March 25 and November 18, 2010

Abbreviations:

DO = dissolved oxygen

MEW = Middlefield Ellis Whisman

MNA = monitored natural attenuation

ORP = oxidation reduction potential

RGRP = Regional Groundwater Recovery Program

USEPA = United States Environmental Protection Agency

VOCs = volatile organic compounds

Table 3. Extraction Well Target Flow Rates, Fairchild System 19, 369 Whisman Road, Mountain View, California.

Extraction Wells[a,b]	2007 Target Flow Rate (gpm)	2010 Target Flow Rate (gpm)	Average Flow Rate (2010)[c]
----------System 19----------			
71A[a]	off	4.0	3.3
RW-1A[a]	off	4.0	3.4
RW-1(B1)[b]	off	off	---
RW-1(B2)	0.5	0.1	0.4
RW-2A	4.0	8.5	7.7
RW-2(B1)	5.4	5.5	6.0
RW-2(B2)	11.4	12.0	11.0
RW-10(B1)	5.0	12.5	11.9
RW-11A	3.0	3.0	3.2
RW-11(B1)	8.3	9.0	9.1
RW-12A	off	2.0	2.2
RW-23A	4.0	10.5	9.7
RW-24A	3.7	2.5	3.5
RW-26A[a]	off	off	---
RW-29A	3.0	11.5	9.1
DW3-219 (RGRP)[a]	off	off	---
DW3-334 (RGRP)[b]	off	off	---
DW3-505R (RGRP)[a]	off	off	---
DW3-244 (RGRP)[b]	off	off	---
DW3-364 (RGRP)[b]	off	off	---
65B3 (RGRP)	6.5	6.5	6.5
REG-4B(1) (RGRP)	6.1	6.0	5.7

Notes:

a = These wells were turned off based on conditional approval to implement the recommendations in the Slurry Wall System Efficiency Report, email from Alana Lee, USEPA, to L. Maile Smith, Northgate Environmental Management, Inc., August 2, 2007: 71A, RW-1A, RW-12A, RW-26A. As a result of the optimization evaluation conducted in 2008, wells 71A, RW-1A, and RW-12A were turned back on.

b = Wells turned off with full USEPA approval.

c = Flow rates were adjusted in April 2010. Average flow rates are calculated using data starting from when targets were adjusted.

Abbreviations:

--- = no data

gpm = gallons per minute

USEPA = United States Environmental Protection Agency

Table 4. Monthly Average Flow Rates (gallons per minute), January through December 2010, Fairchild System 19, 369 Whisman Road, Mountain View, California

Well ID	January	February	March	April	May	June	July	August	September	October	November	December
65B3	6.16	6.87	6.92	6.62	6.91	6.69	6.73	6.68	6.74	6.63	6.41	5.51
71A[a]	---	---	---	---	1.74	3.40	2.40	1.80	3.95	4.08	4.12	3.83
DW3-219[b]	---	---	---	---	---	---	---	---	---	---	---	---
DW3-244[c]	---	---	---	---	---	---	---	---	---	---	---	---
DW3-334[c]	---	---	---	---	---	---	---	---	---	---	---	---
DW3-364[c]	---	---	---	---	---	---	---	---	---	---	---	---
REG-4B1	5.78	6.83	6.78	6.22	5.91	5.68	5.58	5.13	4.95	5.97	6.52	6.33
RW-1A[a]	---	---	---	---	1.86	3.54	3.42	3.48	2.97	3.19	3.36	3.46
RW-1B2	0.392	0.397	0.389	0.373	0.375	0.370	0.369	0.35	0.36	0.35	0.34	0.34
RW-2A	4.31	4.10	3.84	8.28	7.89	8.05	8.23	7.53	7.67	7.86	7.74	7.43
RW-2B1	6.62	6.17	6.18	5.93	6.58	5.85	5.94	6.15	5.94	5.85	6.03	6.03
RW-2B2	10.33	12.73	12.79	11.88	10.97	10.24	10.31	11.26	11.30	10.82	12.08	11.88
RW-10B1	5.42	6.66	5.75	11.84	12.10	11.94	12.48	11.98	12.22	12.04	11.88	11.25
RW-11A	3.18	2.99	2.75	2.82	2.61	2.51	3.63	3.75	3.59	2.89	3.18	3.21
RW-11B1	7.08	8.76	8.24	9.15	9.52	9.19	8.99	9.10	8.81	8.41	9.50	10.20
RW-12A[a]	---	0.22	0.15	2.28	2.12	2.55	2.71	2.50	2.41	2.07	1.75	1.46
RW-23A	4.93	3.91	3.99	10.15	9.91	9.75	9.97	8.88	8.95	9.12	11.06	10.56
RW-24A	2.93	3.84	3.53	2.75	2.51	2.09	2.40	2.31	4.46	4.83	5.09	4.94
RW-26A[c]	---	---	---	---	---	---	---	---	---	---	---	---
RW-29A	3.94	3.40	3.11	11.65	11.57	11.36	11.13	9.53	9.43	7.51	6.53	6.67
DW3-505R[b]	---	---	---	---	---	---	---	---	---	---	---	---
RW-1B1[c]	---	---	---	---	---	---	---	---	---	---	---	---
Total[d]	70.46	75.56	71.75	98.13	99.45	101.05	76.19	79.95[e]	90.36[e]	97.54	102.75	102.15

Notes:

a = Well was turned ON in 2010 as a result of an optimization study.

b = Well is OFF with conditional approval from United States Environmental Protection Agency (USEPA) for implementation of slurry wall evaluation recommendations.

c = Well has been turned OFF permanently based on USEPA approval.

d = Total flow rate values are calculated from the system effluent meter; therefore, the sum of the wells is not equal to the total value reported.

e = The effluent meter was not incrementing correctly during this time period. The values were calculated using a six-month average from February to July.

Abbreviations:

--- = well was OFF this month

Table 5. Monthly Extraction Totals (gallons), January through December 2010, Fairchild System 19, 369 Whisman Road, Mountain View, California

Well ID	January	February	March	April	May	June	July	August	September	October	November	December
65B3	257,164	277,117	348,880	266,897	278,626	337,063	271,191	317,209	291,312	267,318	258,447	277,590
71A[a]	0	0	0	0	70,095	171,491	96,809	85,416	170,497	164,438	166,183	193,023
DW3-219[b]	0	0	0	0	0	0	0	0	0	0	0	0
DW3-244[c]	0	0	0	0	0	0	0	0	0	0	0	0
DW3-334[c]	0	0	0	0	0	0	0	0	0	0	0	0
DW3-364[c]	0	0	0	0	0	0	0	0	0	0	0	0
REG-4B1	241,215	275,453	341,586	250,763	238,165	286,511	224,812	243,900	213,747	240,756	263,026	319,100
RW-1A[a]	0	0	0	0	74,962	178,508	137,778	165,308	128,412	128,713	135,603	174,312
RW-1B2	16,356	16,000	19,630	15,030	15,101	18,648	14,896	16,847	15,448	13,940	13,907	17,000
RW-2A	179,903	165,182	193,328	333,852	317,936	405,671	331,729	357,744	331,432	316,908	312,007	374,591
RW-2B1	276,578	248,904	311,552	239,224	265,462	294,711	239,343	292,465	256,823	235,749	243,156	303,974
RW-2B2	431,271	513,269	644,835	478,936	442,181	516,077	415,625	534,856	487,971	436,229	487,020	598,773
RW-10B1	226,283	268,548	289,701	477,539	488,025	601,744	503,243	569,443	527,715	485,343	479,124	566,755
RW-11A	132,630	120,423	138,415	113,562	105,355	126,453	146,414	178,422	155,014	116,583	128,206	161,578
RW-11B1	295,585	353,267	415,124	368,967	383,842	463,209	362,472	432,563	380,543	339,054	383,074	514,228
RW-12A[a]	0	8,769	7,590	92,068	85,674	128,735	109,452	118,976	103,997	83,633	70,548	73,387
RW-23A	205,798	157,591	201,042	409,135	399,768	491,605	401,864	421,920	386,602	367,793	445,943	532,194
RW-24A	122,342	154,909	177,745	110,872	101,072	105,544	96,715	109,934	192,677	194,801	205,344	248,727
RW-26A[c]	0	0	0	0	0	0	0	0	0	0	0	0
RW-29A	164,730	137,082	156,579	469,555	466,597	572,341	448,572	452,794	407,214	302,777	263,107	335,999
DW3-505R[b]	0	0	0	0	0	0	0	0	0	0	0	0
RW-1B1[c]	0	0	0	0	0	0	0	0	0	0	0	0
Total[d]	2,942,220	3,046,750	3,616,350	3,956,400	4,009,800	5,093,060	3,071,990	3,799,058[e]	3,903,700[e]	3,933,000	4,142,800	5,148,500

Notes:

a = Well was turned ON in 2010 as a result of an optimization study.

b = Well is OFF with conditional approval from United States Environmental Protection Agency (USEPA) for implementation of slurry wall evaluation recommendations.

c = Well has been turned OFF permanently based on USEPA approval.

d = Total values are calculated from the system effluent meter; therefore, the sum of the wells is not equal to the total value reported.

e = The effluent meter was not incrementing correctly during this time period. The values reported were found using a six-month average from February to July.

Weiss Associates

Table 6a. Organic Chemical Analytical Results Summary, Fairchild System 19, 369 Whisman Road, Mountain View, California

Sample Location	Sample Date	Lab/Analytical Method	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,1-TCA	TCE	Vinyl Chloride	Freon 113	Chloroform	Total VOCs
			<					µg/L					>
Influent	02/24/10	CT/8260	<2.5	<2.5	5.1	130	<2.5	4.8	490	<2.5	15	<5.0	645
	05/19/10	CT/8270	---	---	---	---	---	---	---	---	---	---	ND
	05/19/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	06/30/10	CT/8260	3.7	<0.5	4.4	120	3.1	5.4	430	1.9	14	<1.0	583
	08/20/10	CT/8260	2.7	<2.5	3.5	130	<2.5	4.4	480	<2.5	13	<5.0	634
	11/29/10	CT/8260	<2.5	<2.5	4.4	120	2.6	4.3	410	<2.5	15	<5.0	556
Midpoint 1	01/06/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<2.0	<1.0	1
	01/06/10 FD	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<2.0	<1.0	1
	02/03/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	02/03/10 FD	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	03/01/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<2.0	<1.0	2
	03/01/10 FD	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<2.0	<1.0	1
	04/07/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<2.0	<1.0	2
	05/05/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	06/02/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<2.0	<1.0	1
	07/07/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<2.0	<1.0	1
	08/04/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.2	<2.0	<1.0	2
	09/16/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.9	<2.0	<1.0	2
	10/21/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	11/29/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	<2.0	<1.0	2
	12/29/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
Midpoint 2	01/06/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	02/03/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	03/01/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	04/07/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	05/05/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	06/02/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	07/07/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	08/04/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	NPDES Trigger Levels:		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
	Effluent Limitations:[2]		5	0.5	0.11[1]	5	5	5	5	0.5	5	5	NE

Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptSys19VOC2010Anl

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Table 6a. Organic Chemical Analytical Results Summary, Fairchild System 19, 369 Whisman Road, Mountain View, California

Sample Location	Sample Date	Lab/Analytical Method	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,1-TCA	TCE	Vinyl Chloride	Freon 113	Chloroform	Total VOCs
			< µg/L >										
Midpoint 2	09/16/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	10/21/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	11/29/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	12/29/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
Effluent	01/21/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	01/21/10 FD	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	02/24/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	02/24/10 FD	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	03/17/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	03/17/10 FD	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	04/21/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	05/19/10	CT/8270	---	---	---	---	---	---	---	---	---	---	ND
	05/19/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	06/16/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	07/22/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	08/20/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	09/16/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	10/21/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	11/29/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	12/29/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
Travel Blank [3]	01/06/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	01/21/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	02/03/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	02/24/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	03/01/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	03/17/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
	05/05/10	CT/8260	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<1.0	ND
NPDES Trigger Levels:			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Effluent Limitations: [2]			5	0.5	0.11 [1]	5	5	5	5	0.5	5	5	NE

Table 6a. Organic Chemical Analytical Results Summary, Fairchild System 19, 369 Whisman Road, Mountain View, California

Sample Location	Sample Date	Lab/Analytical Method	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,1-TCA	TCE	Vinyl Chloride	Freon 113	Chloroform	Total VOCs
			<				µg/L						>

Notes:

General Notes:

ALL PARAMETERS ARE WITHIN EFFLUENT LIMITS SPECIFIED IN NPDES PERMIT ORDER NO. R2-2009-0059, NPDES PERMIT NO. CAG912003

Referenced Notes:

[1] = If reported detection is greater than effluent limit, then non-detect using 0.5 µg/L will not be deemed to be out of compliance.

[2] = Effluent Limitations are Maximum Daily Effluent Limitations on discharge to drinking water areas as specified in Order No. R2-2009-0059, VOC General NPDES Permit CAG912003.

[3] = Travel blanks for System 3 are also associated with Systems 1 and 19.

Abbreviations:

< # = analyte not detected above the reported detection limit of "#" µg/L
8260B = USEPA Method 8260B for halogenated VOCs
CT = Curtis and Tompkins Laboratories, Berkeley, CA
DCA = dichloroethane
DCE = dichloroethene
FD = field duplicate
Freon 113 = tichlorotrifluoroethane
Midpoint 1 = sample collected between the primary and secondary carbon vessels
Midpoint 2 = sample collected between the secondary and tertiary carbon vessels
ND = no analytes detected above reporting limits
NE = not established, not applicable
NPDES = National Pollutant Discharge Elimination System
TCA = trichloroethane
TCE = trichloroethene
µg/L = micrograms per liter
VOCs = volatile organic compounds

Table 6b. Field Parameters and Other Analytical Results Summary, January through December 2010, Fairchild System 19, 369 Whisman Road, Mountain View, California

Sample Location	Sample Date	pH	Temp (^oC)	Conductivity (µS/cm)	Turbidity (NTU)	Hardness (mg/L as $CaCO_3$)	Salinity (ppt)	Rainbow Trout Acute Toxicity[a] (% survival)
Influent	2/24/10	7.26	19.2	632	---	---	---	---
	5/19/10	7.1	19.6	977	---	---	---	---
	6/30/10	7.32	20.3	858	---	---	---	---
	8/20/10	6.92	22.1	680	---	---	---	---
	11/29/10	7	17.8	756	---	---	---	---
Midpoint 1	01/06/10	7.21	19.6	850	---	---	---	---
	02/03/10	7.33	19.5	725	---	---	---	---
	03/01/10	7.30	18.8	746	---	---	---	---
	04/07/10	7.34	19.3	797	---	---	---	---
	05/05/10	7.39	19.5	763	---	---	---	---
	06/02/10	7.09	20.2	791	---	---	---	---
	07/07/10	7.22	20.6	785	---	---	---	---
	08/04/10	7.16	19.8	712	---	---	---	---
	09/16/10	7.14	19.9	771	---	---	---	---
	10/21/10	6.99	19.3	718	---	---	---	---
	11/29/10	7.05	18.0	781	---	---	---	---
	12/29/10	7.05	18.6	909	---	---	---	---
Midpoint 2	01/06/10	7.38	19.6	849	---	---	---	---
	02/03/10	7.32	19.3	722	---	---	---	---
	03/01/10	7.20	18.5	768	---	---	---	---
	04/07/10	7.70	18.9	800	---	---	---	---
	05/05/10	7.57	19.2	752	---	---	---	---
	06/02/10	7.19	20.3	802	---	---	---	---
	07/07/10	7.47	21.1	811	---	---	---	---
	08/04/10	7.25	20.0	720	---	---	---	---
	09/16/10	7.17	19.8	770	---	---	---	---
	10/21/10	6.99	19.3	715	---	---	---	---
	11/29/10	7.06	18.1	769	---	---	---	---
	12/29/10	7.12	18.7	907	---	---	---	---
Effluent	01/21/10	7.03	18.4	747	---	---	---	---
	02/24/10	7.30	19.3	636	---	---	---	---
	03/17/10	7.42	20.7	726	---	---	---	---
	04/21/10	7.23	18.7	719	---	---	---	---
	05/19/10	7.11	28.0	1009	---	---	---	---
	06/16/10	7.52	20.5	820	---	---	---	---
	07/22/10	7.39	19.9	687	---	---	---	---

Table 6b. Field Parameters and Other Analytical Results Summary, January through December 2010, Fairchild System 19, 369 Whisman Road, Mountain View, California

08/20/10	6.82	20.9	684	---	---	---	---
09/16/10	7.49	19.8	777	---	---	---	---
10/21/10	6.98	18.8	723	0.02	460	0.5	95
11/29/10	7.10	17.9	796	---	---	---	---
12/29/10	7.43	18.5	899	---	---	---	---
NPDES Trigger Levels:	---	---	---	5	---	---	---
Effluent Limitations:	6.5 to 8.5	NE	NE	NE	NE	NE	70

Notes:

General Notes:

ALL PARAMETERS ARE WITHIN EFFLUENT LIMITS SPECIFIED IN NPDES PERMIT ORDER NO. R2-2009-0059, NPDES CAG912003.

Per Order No. R2-2009-0059, VOC General NPDES Permit CAG912003, pH, temperature, electrical conductivity, and turbidity are now required to be reported on an annual basis but pH, temperature and conductivity readings are collected on a monthly basis.

Triennial sampling for inorganic trigger compounds was performed October 2009. Results were presented in the 4th Quarter and 2009 Annual Report submitted 2/15/2010.

Hardness and salinity are only required as a single annual sample in the receiving water if trigger levels for selected metals have been exceeded.

Referenced Notes:

a = Rainbow trout acute toxicity, 96-hr static, percent survival, sampled annually in October coincident with effluent sampling.

Abbreviations:

--- = not applicable, not required

ºC = degrees Celsius

$CaCO_3$ = calcium carbonate

mg/L = milligrams per liter

Midpoint 1 = sample collected between the primary and secondary carbon vessels

Midpoint 2 = sample collected between the secondary and tertiary carbon vessels

NE = not established

NTU = nephelometric turbidity units

ppt = parts per trillion

µS/cm = micro Siemens per centimeter

Table 7. VOC Mass Removal Summary, January through December 2010, Fairchild System 19, 369 Whisman Road, Mountain View, California

TOTAL GROUNDWATER EXTRACTED (gallons):	
January	2,942,220
February	3,046,750
March	3,616,350
April	3,956,400
May	4,009,800
June	5,093,060
July	3,071,990
August	3,799,058
September	3,903,700
October	3,933,000
November	4,142,800
December	5,148,500
CUMULATIVE GROUNWATER EXTRACTED IN 2010 (gallons):	**46,663,628**

TOTAL INFLUENT VOC CONCENTRATION (mg/L)[a]:	
January	0.64
February	0.64
March	0.64
April	0.58
May	0.58
June	0.58
July	0.63
August	0.63
September	0.63
October	0.56
November	0.56
December	0.56
Unit Conversion (($L\ H_2O/gal\ H_2O$)*(kg VOC/mg VOC)*(2.2 pounds/kg)):	**8.33E-06**

TOTAL VOC MASS REMOVED (pounds):	
January	15.80
February	16.36
March	19.42
April	19.21
May	19.47
June	24.73
July	16.21
August	20.05
September	20.60
October	18.21
November	19.18
December	23.84
CUMULATIVE MASS REMOVED IN 2010 (pounds):	**233.08**

Notes:

a = System influent samples are collected the second month of each quarter. These concentrations are used for the entire quarter calculated using the concentration of the previous influent sample.

Abbreviations:

gal = gallons

kg = kilograms

mg/L = milligrams per liter

VOC = volatile organic compound

Table 8. Groundwater Elevations, Slurry Wall Well Pairs, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Date	Well ID (outer or lower)	Groundwater Elevation (ft amsl)	Well ID (inner or upper)	Groundwater Elevation (ft amsl)	Difference (ft)	Inward/Outward Upward/Downward[1]
Southern Wall - Upgradient Well Pairs						
03/23/06	142A	46.19	143A	42.24	3.95	Inward
05/25/06	142A	46.49	143A	42.81	3.68	Inward
08/24/06	142A	46.05	143A	41.77	4.28	Inward
11/16/06	142A	45.74	143A	41.51	4.23	Inward
03/22/07	142A	44.65	143A	42.23	2.42	Inward
05/24/07	142A	45.38	143A	41.77	3.61	Inward
08/23/07	142A	45.03	143A	41.49	3.54	Inward
11/15/07	142A	44.56	143A	41.54	3.02	Inward
03/27/08	142A	43.74	143A	41.96	1.78	Inward
05/22/08	142A	44.98	143A	41.82	3.16	Inward
08/28/08	142A	44.95	143A	41.22	3.73	Inward
11/20/08	142A	44.02	143A	40.62	3.40	Inward
03/26/09	142A	44.59	143A	41.27	3.32	Inward
05/21/09	142A	44.85	143A	36.85	8.00	Inward
08/27/09	142A	44.20	143A	40.67	3.53	Inward
11/19/09	142A	42.75	143A	40.21	2.54	Inward
03/25/10	142A	43.77	143A	41.93	1.84	Inward
05/27/10	142A	43.49	143A	41.78	1.71	Inward
08/26/10	142A	44.80	143A	40.81	3.99	Inward
11/18/10	142A	44.39	143A	40.18	4.21	Inward
03/23/06	140A	45.12	101A	42.46	2.66	Inward
05/25/06	140A	45.79	101A	43.48	2.31	Inward
08/24/06	140A	45.26	101A	42.42	2.84	Inward
11/16/06	140A	44.94	101A	42.23	2.71	Inward
03/22/07	140A	44.95	101A	42.68	2.27	Inward
05/24/07	140A	44.75	101A	42.25	2.50	Inward
08/23/07	140A	44.32	101A	42.00	2.32	Inward
11/15/07	140A	43.88	101A	41.84	2.04	Inward
03/27/08	140A	44.33	101A	42.04	2.29	Inward
05/22/08	140A	44.43	101A	42.24	2.19	Inward
08/28/08	140A	43.94	101A	41.64	2.30	Inward
11/20/08	140A	43.44	101A	41.20	2.24	Inward
03/26/09	140A	44.03	101A	40.52	3.51	Inward
05/21/09	140A	44.25	101A	42.26	1.99	Inward
08/27/09	140A	43.54	101A	41.14	2.40	Inward
11/19/09	140A	43.14	101A	40.73	2.41	Inward
03/25/10	140A	44.32	101A	42.25	2.07	Inward
05/27/10	140A	44.13	101A	41.69	2.44	Inward
08/26/10	140A	43.88	101A	41.26	2.62	Inward
11/18/10	140A	43.76	101A	40.93	2.83	Inward

Table 8. Groundwater Elevations, Slurry Wall Well Pairs, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Date	Well ID (outer or lower)	Groundwater Elevation (ft amsl)	Well ID (inner or upper)	Groundwater Elevation (ft amsl)	Difference (ft)	Inward/Outward Upward/Downward[1]
Western Wall - Crossgradient Well Pairs						
03/23/06	17A	40.74	159A	41.23	-0.49	Outward
05/25/06	17A	40.68	159A	41.38	-0.70	Outward
08/24/06	17A	40.12	159A	40.49	-0.37	Outward
11/16/06	17A	39.97	159A	40.27	-0.30	Outward
03/22/07	17A	40.08	159A	40.81	-0.73	Outward
05/24/07	17A	39.83	159A	40.62	-0.79	Outward
08/23/07	17A	39.49	159A	40.41	-0.92	Outward
11/15/07	17A	39.37	159A	40.61	-1.24	Outward
03/27/08	17A	39.84	159A	41.04	-1.20	Outward
05/22/08	17A	39.75	159A	40.90	-1.15	Outward
08/28/08	17A	39.30	159A	40.37	-1.07	Outward
11/20/08	17A	38.72	159A	39.73	-1.01	Outward
03/26/09	17A	39.56	159A	41.23	-1.67	Outward
05/21/09	17A	39.79	159A	40.90	-1.11	Outward
08/27/09	17A	38.80	159A	39.77	-0.97	Outward
11/19/09	17A	38.37	159A	39.30	-0.93	Outward
03/25/10	17A	39.80	159A	40.89	-1.09	Outward
05/27/10	17A	39.69	159A	40.76	-1.07	Outward
08/26/10	17A	39.38	159A	39.86	-0.48	Outward
11/18/10	17A	38.69	159A	38.95	-0.26	Outward
Northern Wall - Downgradient Well Pairs						
03/23/06	154A	36.34	155A	41.22	-4.88	Outward
05/25/06	154A	36.14	155A	41.52	-5.38	Outward
08/24/06	154A	35.57	155A	40.55	-4.98	Outward
11/16/06	154A	35.35	155A	40.23	-4.88	Outward
03/22/07	154A	36.02	155A	41.03	-5.01	Outward
05/24/07	154A	35.53	155A	40.99	-5.46	Outward
08/23/07	154A	35.29	155A	40.64	-5.35	Outward
11/15/07	154A	35.75	155A	40.77	-5.02	Outward
03/27/08	154A	35.86	155A	41.21	-5.35	Outward
05/22/08	154A	35.70	155A	41.02	-5.32	Outward
08/28/08	154A	35.35	155A	40.47	-5.12	Outward
11/20/08	154A	34.92	155A	39.88	-4.96	Outward
03/26/09	154A	35.68	155A	40.71	-5.03	Outward
05/21/09	154A	35.57	155A	41.08	-5.51	Outward
08/27/09	154A	34.85	155A	39.87	-5.02	Outward
11/19/09	154A	34.56	155A	39.34	-4.78	Outward
03/25/10	154A	35.84	155A	41.04	-5.20	Outward
05/27/10	154A	35.72	155A	40.93	-5.21	Outward
08/26/10	154A	35.21	155A	40.07	-4.86	Outward

Table 8. Groundwater Elevations, Slurry Wall Well Pairs, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Date	Well ID (outer or lower)	Groundwater Elevation (ft amsl)	Well ID (inner or upper)	Groundwater Elevation (ft amsl)	Difference (ft)	Inward/Outward Upward/Downward[1]
Northern Wall - Downgradient Well Pairs						
11/18/10	154A	34.61	155A	39.04	-4.43	Outward
03/23/06	115A	39.04	134A	40.91	-1.87	Outward
05/25/06	115A	38.86	134A	41.00	-2.14	Outward
08/24/06	115A	38.27	134A	40.12	-1.85	Outward
11/16/06	115A	38.10	134A	39.88	-1.78	Outward
03/22/07	115A	38.57	134A	40.53	-1.96	Outward
05/24/07	115A	38.23	134A	40.34	-2.11	Outward
08/23/07	115A	37.97	134A	40.07	-2.10	Outward
11/15/07	115A	38.20	134A	40.29	-2.09	Outward
03/27/08	115A	38.44	134A	40.70	-2.26	Outward
05/22/08	115A	38.31	134A	40.59	-2.28	Outward
08/28/08	115A	37.88	134A	39.99	-2.11	Outward
11/20/08	115A	37.42	134A	39.39	-1.97	Outward
03/26/09	115A	38.22	134A	40.30	-2.08	Outward
05/21/09	115A	38.23	134A	40.61	-2.38	Outward
08/27/09	115A	37.43	134A	39.42	-1.99	Outward
11/19/09	115A	37.07	134A	39.01	-1.94	Outward
03/25/10	115A	38.43	134A	40.59	-2.16	Outward
05/27/10	115A	38.22	134A	40.53	-2.31	Outward
08/26/10	115A	37.91	134A	39.44	-1.53	Outward
11/18/10	115A	37.11	134A	38.64	-1.53	Outward
Eastern Wall - Crossgradient Well Pairs						
03/23/06	141A	44.76	139A	41.02	3.74	Inward
05/25/06	141A	44.92	139A	41.62	3.30	Inward
08/24/06	141A	44.67	139A	40.57	4.10	Inward
11/16/06	141A	44.52	139A	40.26	4.26	Inward
03/22/07	141A	44.47	139A	41.16	3.31	Inward
05/24/07	141A	44.33	139A	41.06	3.27	Inward
08/23/07	141A	44.05	139A	40.77	3.28	Inward
11/15/07	141A	43.75	139A	40.83	2.92	Inward
03/27/08	141A	43.89	139A	41.20	2.69	Inward
05/22/08	141A	43.99	139A	41.01	2.98	Inward
08/28/08	141A	43.75	139A	40.51	3.24	Inward
11/20/08	141A	43.23	139A	39.90	3.33	Inward
03/26/09	141A	43.63	139A	39.76	3.87	Inward
05/21/09	141A	43.81	139A	41.15	2.66	Inward
08/27/09	141A	43.35	139A	39.91	3.44	Inward
11/19/09	141A	43.10	139A	39.41	3.69	Inward
03/25/10	141A	43.80	139A	41.09	2.71	Inward

Table 8. Groundwater Elevations, Slurry Wall Well Pairs, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Date	Well ID (outer or lower)	Groundwater Elevation (ft amsl)	Well ID (inner or upper)	Groundwater Elevation (ft amsl)	Difference (ft)	Inward/Outward Upward/Downward[1]
Eastern Wall - Crossgradient Well Pairs						
05/27/10	141A	43.25	139A	40.81	2.44	Inward
08/26/10	141A	43.38	139A	39.99	3.39	Inward
11/18/10	141A	43.57	139A	39.10	4.47	Inward
Vertical Gradient Well Pairs						
03/23/06	98B1	42.47	15A	41.26	1.21	Upward
05/25/06	98B1	42.63	15A	41.61	1.02	Upward
08/24/06	98B1	41.96	15A	40.69	1.27	Upward
11/16/06	98B1	41.64	15A	40.42	1.22	Upward
03/22/07	98B1	42.02	15A	41.20	0.82	Upward
05/24/07	98B1	41.88	15A	41.08	0.80	Upward
08/23/07	98B1	41.33	15A	40.77	0.56	Upward
11/15/07	98B1	41.35	15A	40.88	0.47	Upward
03/27/08	98B1	41.71	15A	41.28	0.43	Upward
05/22/08	98B1	41.80	15A	41.06	0.74	Upward
08/28/08	98B1	41.15	15A	40.58	0.57	Upward
11/20/08	98B1	40.46	15A	39.97	0.49	Upward
03/26/09	98B1	41.35	15A	40.87	0.48	Upward
05/21/09	98B1	41.51	15A	41.15	0.36	Upward
08/27/09	98B1	40.60	15A	39.99	0.61	Upward
11/19/09	98B1	40.20	15A	39.51	0.69	Upward
03/25/10	98B1	41.57	15A	41.11	0.46	Upward
05/27/10	98B1	41.00	15A	41.02	-0.02	Downward
08/26/10	98B1	40.86	15A	40.29	0.57	Upward
11/18/10	98B1	40.32	15A	39.31	1.01	Upward
03/23/06	110B1	40.87	134A	40.91	-0.04	Downward
05/25/06	110B1	40.88	134A	41.00	-0.12	Downward
08/24/06	110B1	40.23	134A	40.12	0.11	Upward
11/16/06	110B1	39.97	134A	39.88	0.09	Upward
03/22/07	110B1	40.29	134A	40.53	-0.24	Downward
05/24/07	110B1	40.30	134A	40.34	-0.04	Downward
08/23/07	110B1	39.75	134A	40.07	-0.32	Downward
11/15/07	110B1	40.44	134A	40.29	0.15	Upward
03/27/08	110B1	40.29	134A	40.70	-0.41	Downward
05/22/08	110B1	40.36	134A	40.59	-0.23	Downward
08/28/08	110B1	39.65	134A	39.99	-0.34	Downward
11/20/08	110B1	39.10	134A	39.39	-0.29	Downward
03/26/09	110B1	39.96	134A	40.30	-0.34	Downward
05/21/09	110B1	40.04	134A	40.61	-0.57	Downward
08/27/09	110B1	39.08	134A	39.42	-0.34	Downward

Table 8. Groundwater Elevations, Slurry Wall Well Pairs, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Date	Well ID (outer or lower)	Groundwater Elevation (ft amsl)	Well ID (inner or upper)	Groundwater Elevation (ft amsl)	Difference (ft)	Inward/Outward Upward/Downward[1]
Vertical Gradient Well Pairs						
11/19/09	110B1	38.66	134A	39.01	-0.35	Downward
03/25/10	110B1	40.15	134A	40.59	-0.44	Downward
05/27/10	110B1	39.68	134A	40.53	-0.85	Downward
08/26/10	110B1	39.10	134A	39.44	-0.34	Downward
11/18/10	110B1	38.79	134A	38.64	0.15	Upward
03/23/06	117B1	40.86	12A	41.68	-0.82	Downward
05/25/06	117B1	41.02	12A	41.90	-0.88	Downward
08/24/06	117B1	40.18	12A	40.93	-0.75	Downward
11/16/06	117B1	39.74	12A	40.72	-0.98	Downward
03/22/07	117B1	40.16	12A	41.37	-1.21	Downward
05/24/07	117B1	41.03	12A	41.09	-0.06	Downward
08/23/07	117B1	40.19	12A	40.88	-0.69	Downward
11/15/07	117B1	41.48	12A	40.96	0.52	Upward
03/27/08	117B1	40.94	12A	41.42	-0.48	Downward
05/22/08	117B1	41.03	12A	42.41	-1.38	Downward
08/28/08	117B1	40.32	12A	40.66	-0.34	Downward
11/20/08	117B1	39.84	12A	40.13	-0.29	Downward
03/26/09	117B1	40.59	12A	40.95	-0.36	Downward
05/21/09	117B1	40.78	12A	42.40	-1.62	Downward
08/27/09	117B1	39.75	12A	41.79	-2.04	Downward
11/19/09	117B1	39.35	12A	39.61	-0.26	Downward
03/25/10	117B1	40.77	12A	41.25	-0.48	Downward
05/27/10	117B1	40.24	12A	41.12	-0.88	Downward
08/26/10	117B1	39.80	12A	42.10	-2.30	Downward
11/18/10	117B1	38.61	12A	39.25	-0.64	Downward
03/23/06	RW-1(B1)	41.38	159A	41.23	0.15	Upward
05/25/06	RW-1(B1)	41.50	159A	41.38	0.12	Upward
08/24/06	RW-1(B1)	40.76	159A	40.49	0.27	Upward
11/16/06	RW-1(B1)	40.52	159A	40.27	0.25	Upward
03/22/07	RW-1(B1)	40.79	159A	40.81	-0.02	Downward
05/24/07	RW-1(B1)	40.74	159A	40.62	0.12	Upward
08/23/07	RW-1(B1)	40.19	159A	40.41	-0.22	Downward
11/15/07	RW-1(B1)	40.72	159A	40.61	0.11	Upward
03/27/08	RW-1(B1)	40.74	159A	41.04	-0.30	Downward
05/22/08	RW-1(B1)	40.78	159A	40.90	-0.12	Downward
08/28/08	RW-1(B1)	40.08	159A	40.37	-0.29	Downward
11/20/08	RW-1(B1)	39.53	159A	39.73	-0.20	Downward
03/26/09	RW-1(B1)	40.39	159A	41.23	-0.84	Downward
05/21/09	RW-1(B1)	40.47	159A	40.90	-0.43	Downward
08/27/09	RW-1(B1)	39.53	159A	39.77	-0.24	Downward

Table 8. Groundwater Elevations, Slurry Wall Well Pairs, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Date	Well ID (outer or lower)	Groundwater Elevation (ft amsl)	Well ID (inner or upper)	Groundwater Elevation (ft amsl)	Difference (ft)	Inward/Outward Upward/Downward[1]
Vertical Gradient Well Pairs						
11/19/09	RW-1(B1)	39.58	159A	39.30	0.28	Upward
03/25/10	RW-1(B1)	40.58	159A	40.89	-0.31	Downward
05/27/10	RW-1(B1)	40.44	159A	40.76	-0.32	Downward
08/26/10	RW-1(B1)	39.62	159A	39.86	-0.24	Downward
11/18/10	RW-1(B1)	39.30	159A	38.95	0.35	Upward
03/23/06	93B1	44.54	101A	42.46	2.08	Upward
05/25/06	93B1	44.84	101A	43.48	1.36	Upward
08/24/06	93B1	44.16	101A	42.42	1.74	Upward
11/16/06	93B1	43.82	101A	42.23	1.59	Upward
03/22/07	93B1	43.99	101A	42.68	1.31	Upward
05/24/07	93B1	43.85	101A	42.25	1.60	Upward
08/23/07	93B1	43.18	101A	42.00	1.18	Upward
03/27/08	93B1	43.61	101A	42.04	1.57	Upward
05/22/08	93B1	43.82	101A	42.24	1.58	Upward
08/28/08	93B1	42.97	101A	41.64	1.33	Upward
11/20/08	93B1	42.26	101A	41.20	1.06	Upward
03/26/09	93B1	43.31	101A	40.52	2.79	Upward
05/21/09	93B1	43.47	101A	42.26	1.21	Upward
08/27/09	93B1	42.42	101A	41.14	1.28	Upward
11/19/09	93B1	41.99	101A	40.73	1.26	Upward
03/25/10	93B1	43.53	101A	42.25	1.28	Upward
05/27/10	93B1	43.52	101A	41.69	1.83	Upward
08/26/10	93B1	42.61	101A	41.26	1.35	Upward
11/18/10	93B1	42.35	101A	40.93	1.42	Upward

Notes:

[1] = Inward/Outward indicates horizontal groundwater flow gradient into or out of the slurry wall, and Upward/Downward indicates vertical groundwater flow gradient to upper or lower groundwater zones.

Abbreviations:

ft = feet
ft amsl = feet above mean sea level
inner = well inside slurry wall
outer = well outside slurry wall
upper = shallower well inside slurry wall
lower = deeper well inside slurry wall

Table 9. Groundwater Sampling Results Summary, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Sample Location	Sample Date	Lab/Analytical Method	Chloro-form	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Freon 113	Methylene Chloride	PCE	1,1,1-TCA	TCE	Vinyl Chloride	Total VOCs	1,4-Dioxane
			<							µg/L						>
4A	11/12/07	CT/8260	<140	390	<71	490	1,900	<71	<130	<2900	<71	<71	16,000	180	18960	---
4A	11/18/08	CT/8260	<83	100	<42	180	390	<42	110	<1700	<42	<42	6,000	<42	6780	---
4A	11/06/09	CT/8260	<83	350	<42	470	6,800	<42	<170	<1700	<42	<42	11,000	240	18860	---
4A	11/10/10	CT/8260	<10	13	<5.0	37	80	<5.0	24	<20	<5.0	5.9	950	5.1	1115	---
6A	11/12/07	CT/8260	<6.3	4.5	<3.1	17	17	<3.1	<3.1	<130	<3.1	<3.1	380	<3.1	418.5	---
9A	11/12/07	CT/8260	<5.0	6.4	<2.5	6.4	290	<2.5	<2.5	<100	<2.5	<2.5	16	15	333.8	---
12A	11/12/07	CT/8260	<25	<13	<13	<13	390	14	<13	<500	<13	<13	1,500	<13	1904	---
15A	11/09/07	CT/8260	<1.0	3.2	<0.5	2.2	23	<0.5	1.1	<20	<0.5	<0.5	92	<0.5	121.5	---
16A	11/21/07	CT/8260	<1.0	<0.5	<0.5	<0.5	2.2	<0.5	0.8	<20	<0.5	<0.5	56	<0.5	59	---
16A	11/06/08	CT/8260	0.77	<0.50	<0.50	<0.50	3	<0.50	0.82	<0.50	<0.50	<0.50	47	<0.50	51.59	---
16A	11/02/09	CT/8260	<1.0	<0.5	<0.5	<0.5	2.9	<0.5	<2.0	<20	<0.5	<0.5	64	<0.5	66.9	---
16A	11/03/10	CT/8260	<1.0	<0.5	<0.5	<0.5	2.6	<0.5	<2.0	<2.0	<0.5	<0.5	56	<0.5	58.6	---
17A	12/11/08	CT/8260	<1.0	<0.5	<0.5	<0.5	4.9	<0.5	1.4	<20	<0.5	<0.5	82	<0.5	88.3	---
17A	11/02/09	CT/8260	<1.4	<0.7	<0.7	<0.7	3.8	<0.7	<2.9	<29	<0.7	<0.7	87	<0.7	90.8	---
17A	11/03/10	CT/8260	<1.0	<0.5	<0.5	<0.5	5.7	<0.5	<2.0	<2.0	<0.5	<0.5	68	<0.5	73.7	---
22A	11/17/06	CT/8260	<1.0	1.8	<0.5	3	17	0.5	140	<20	<0.5	3.6	160	<0.5	325.9	---
22A	11/11/08	CT/8260	<1.4	1.6	<0.7	2.2	17	<0.7	160	<29	<0.7	2.7	150	<0.7	333.5	---
22A	11/23/09	CT/8260	<1.4	1.6	<0.7	1.7	20	1	110	<29	<0.7	2.4	100	<0.7	236.7	---
22A	11/22/10	CT/8260	<1.0	1.8	<0.5	2.4	34	0.6	150	<2.0	<0.5	2.3	110	<0.5	301.1	---
23A	11/07/06	CT/8260	<1.4	5	<0.7	8.8	53	<0.7	6.7	<29	<0.7	<0.7	110	<0.7	183.5	---
23A	11/02/07	CT/8260	<1.0	4.6	<0.5	7.1	45	0.6	5.8	<20	<0.5	<0.5	99	<0.5	162.1	---
23A	11/06/08	CT/8260	<0.50	6.6	<0.50	10	54	<0.50	5.1	<0.50	<0.50	<0.50	96	<0.50	171.7	---
23A	11/16/09	CT/8260	<1.0	1.2	<0.5	1.7	13	<0.5	3.3	<20	<0.5	<0.5	30	<0.5	49.2	---
23A	11/11/10	CT/8260	<1.0	<0.5	<0.5	<0.5	0.7	<0.5	2.7	<2.0	<0.5	<0.5	3	<0.5	6.4	---
71A	08/08/07	CT/8260	<14	<7.1	<7.1	<7.1	130	<7.1	15	<290	<7.1	<7.1	900	<7.1	1045	---
71A	11/13/07	CT/8260	<17	<8.3	<8.3	11	1,100	37	9.6	<330	<8.3	<8.3	400	220	1777.6	---

Table 9. Groundwater Sampling Results Summary, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Sample Location	Sample Date	Lab/Analytical Method	Chloro-form	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Freon 113	Methylene Chloride	PCE	1,1,1-TCA	TCE	Vinyl Chloride	Total VOCs	1,4-Dioxane
			<							µg/L						>
71A	12/04/08	CT/8260	<25	<13	<13	17	2,500	75	<13	<500	<13	<13	34	910	3536	---
71A	11/23/09	CT/8260	<25	<13	<13	15	2,300	68	<50	<500	<13	<13	20	610	3013	---
71A	11/10/10	CT/8260	<7.1	<3.6	<3.6	11	160	3.8	<14	19	<3.6	<3.6	530	25	748.8	---
101A	11/09/07	CT/8260	<1.0	0.5	<0.5	<0.5	16	<0.5	2	<20	<0.5	<0.5	88	0.9	107.4	---
115A	12/11/08	CT/8260	<1.0	4.5	<0.5	1.6	19	<0.5	3.8	<20	<0.5	<0.5	4.4	<0.5	33.3	---
115A	11/02/09	CT/8260	<1.0	5.9	<0.5	2.5	43	<0.5	4.7	<20	<0.5	<0.5	4.3	0.7	61.1	---
115A	11/02/10	CT/8260	<1.0	6.6	<0.5	4.7	110	<0.5	4.3	<2.0	<0.5	<0.5	4.1	1	130.7	---
134A	11/12/07	CT/8260	<1.0	2.9	<0.5	3	3.5	<0.5	20	<20	<0.5	11	54	<0.5	94.4	---
134A	12/11/08	CT/8260	<1.0	3.2	<0.5	3.7	5.5	<0.5	27	<20	<0.5	13	52	<0.5	104.4	---
134A	11/03/09	CT/8260	<1.0	3.1	<0.5	4.7	9	<0.5	25	<20	<0.5	11	57	<0.5	109.8	---
134A	11/10/10	CT/8260	<1.0	2.7	<0.5	3.6	9.8	<0.5	17	<2.0	<0.5	9	49	<0.5	91.1	---
139A	11/09/07	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<0.5	ND	---
139A	11/17/10	CT/8260	<1.0	2.8	<0.5	2.6	11	0.7	<2.0	<2.0	<0.5	0.5	54	<0.5	71.6	---
139A (DUP)	11/17/10	CT/8260	<1.0	2.9	<0.5	2.5	11	0.6	<2.0	<2.0	<0.5	0.5	54	<0.5	71.5	---
141A	11/17/10	CT/8260	<1.0	<0.5	<0.5	0.7	<0.5	<0.5	<2.0	<2.0	<0.5	1.4	41	<0.5	43.1	---
142A	11/03/06	CT/8260	<1.4	<0.7	<0.7	<0.7	9.2	<0.7	1.8	<29	4.8	<0.7	190	<0.7	205.8	---
142A	11/09/07	CT/8260	<2.5	<1.3	<1.3	<1.3	7.5	<1.3	2.5	<50	11	<1.3	160	<1.3	181	---
142A	11/14/08	CT/8260	<1.3	<0.6	<0.6	<0.6	6	<0.6	1.2	<25	12	<0.6	130	<0.6	149.2	---
142A	11/11/09	CT/8260	<1.0	<0.5	<0.5	<0.5	8.1	<0.5	<2.0	<20	14	<0.5	100	<0.5	122.1	---
142A	11/10/10	CT/8260	<1.0	<0.5	<0.5	<0.5	4.3	<0.5	<2.0	<2.0	14	<0.5	110	<0.5	128.3	---
143A	11/09/07	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	10	<20	0.6	<0.5	4.9	<0.5	15.5	---
148A	11/12/07	CT/8260	<17	<8.3	<8.3	<8.3	54	<8.3	34	<330	<8.3	<8.3	940	<8.3	1028	---
149A	11/07/06	CT/8260	<7.1	<3.6	<3.6	4.7	480	3.6	<3.6	<140	<3.6	<3.6	74	4.8	567.1	---
149A	11/06/08	CT/8260	<0.50	3.4	<0.50	5.6	340	2.7	6.3	<0.50	<0.50	<0.50	100	3.5	461.5	---
149A	11/16/09	CT/8260	<13	10	<6.3	13	1,200	10	<25	<250	<6.3	<6.3	42	8.8	1283.8	---
149A	11/15/10	CT/8260	<1.0	<0.5	<0.5	1.6	5.1	<0.5	4.6	<2.0	<0.5	1.5	94	<0.5	106.8	---

Table 9. Groundwater Sampling Results Summary, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Sample Location	Sample Date	Lab/Analytical Method	Chloro-form	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Freon 113	Methylene Chloride	PCE	1,1,1-TCA	TCE	Vinyl Chloride	Total VOCs	1,4-Dioxane
			< µg/L >													
154A	12/11/08	CT/8260	<2.0	3.1	<1.0	4.7	79	1.5	19	<40	<1.0	7.6	270	1.5	386.4	---
154A	11/06/09	CT/8260	<2.5	4	<1.3	4.1	92	1.9	13	<50	<1.3	6.8	250	2.2	374	---
154A	11/10/10	CT/8260	<2.5	3.5	<1.3	7.1	110	<1.3	18	<5.0	<1.3	6.6	290	2.5	437.7	---
155A	11/12/07	CT/8260	<8.3	9.3	<4.2	6.3	24	<4.2	17	<170	<4.2	13	490	<4.2	559.6	---
155A	12/11/08	CT/8260	<2.5	8	<1.3	7.5	23	<1.3	6.8	<50	1.4	11	400	<1.3	457.7	---
155A	11/06/09	CT/8260	<3.3	5.9	<1.7	6.3	18	<1.7	<6.7	<67	<1.7	7	260	<1.7	297.2	---
155A	11/10/10	CT/8260	<3.3	11	<1.7	13	17	<1.7	8.8	<6.7	<1.7	14	340	<1.7	403.8	---
159A	11/12/07	CT/8260	<3.3	<1.7	<1.7	<1.7	5.3	<1.7	2.1	<67	<1.7	<1.7	180	<1.7	187.4	---
159A	11/17/10	CT/8260	<5.0	<2.5	<2.5	<2.5	7.9	<2.5	<10	<10	<2.5	<2.5	370	<2.5	377.9	---
160A	11/07/06	CT/8260	<2.0	<1.0	<1.0	1.5	40	<1.0	8.3	<40	<1.0	1.6	170	<1.0	221.4	---
160A	11/08/07	CT/8260	<3.3	<1.7	<1.7	<1.7	50	3	13	<67	<1.7	3.9	180	<1.7	249.9	---
160A	11/06/08	CT/8260	<0.50	4.7	<0.50	<0.50	210	3.3	83	<0.50	<0.50	5.7	390	1.1	697.8	---
160A	11/17/09	CT/8260	<6.3	15	<3.1	17	380	5.8	450	<130	<3.1	9.4	500	<3.1	1377.2	---
160A	11/15/10	CT/8260	<6.3	11	<3.1	15	390	7.7	290	<13	<3.1	8.1	550	3.8	1275.6	---
161A	11/12/07	CT/8260	<130	<63	<63	<63	11,000	1,400	170	<2500	<63	<63	5,600	<63	18170	---
173A	12/11/08	CT/8260	<1.0	2.1	<0.5	1.1	38	<0.5	<0.5	<20	<0.5	<0.5	41	2.5	84.7	---
173A	11/12/09	CT/8260	<1.0	2.6	<0.5	1.6	45	<0.5	<2.0	<20	<0.5	<0.5	43	2.4	94.6	---
173A	11/11/10	CT/8260	<1.0	2.1	<0.5	1	41	<0.5	<2.0	<2.0	<0.5	<0.5	41	1.9	87	---
174A	11/08/07	CT/8260	<5.0	8	<2.5	7.4	21	<2.5	5.9	<100	3.1	8.3	280	<2.5	333.7	---
174A	12/11/08	CT/8260	<1.0	1.7	<0.5	2	4	<0.5	2.6	<20	3.2	3.4	140	<0.5	156.9	---
174A	11/03/09	CT/8260	<2.0	1.8	<1.0	2.1	4	<1.0	<4.0	<40	2.8	2.8	130	<1.0	143.5	---
174A	11/05/10	CT/8260	<3.3	10	<1.7	7.5	13	<1.7	<6.7	<6.7	2.1	9.6	170	<1.7	212.2	---
175A	12/11/08	CT/8260	<1.7	11	<0.8	4.8	20	<0.8	9.2	<33	1.2	8.5	170	<0.8	224.7	---
175A	11/16/09	CT/8260	<2.0	13	<1.0	6.6	26	<1.0	9.1	<40	1.1	9.2	150	<1.0	215	---
175A	11/11/10	CT/8260	<2.0	11	<1.0	3.3	21	<1.0	7.5	<4.0	<1.0	7.1	120	<1.0	169.9	---
RW-1A	08/08/07	CT/8260	<1.4	<0.7	<0.7	<0.7	3.6	0.7	1	<29	<0.7	<0.7	100	<0.7	105.3	---

Table 9. Groundwater Sampling Results Summary, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Sample Location	Sample Date	Lab/Analytical Method	Chloro-form	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Freon 113	Methylene Chloride	PCE	1,1,1-TCA	TCE	Vinyl Chloride	Total VOCs	1,4-Dioxane
			<							µg/L						>
RW-1A	11/13/07	CT/8260	<2.0	<1.0	<1.0	<1.0	15	19	<1.0	<40	<1.0	<1.0	110	<1.0	144	---
RW-1A	11/15/08	CT/8260	<1.0	0.6	<0.5	1.1	6.9	1.3	2.5	<20	<0.5	1.4	130	<0.5	143.8	---
RW-1A	11/03/09	CT/8260	<1.0	0.7	<0.5	1.7	3.9	0.7	2.9	<20	<0.5	1.6	140	<0.5	151.5	---
RW-1A	11/05/10	CT/8260	<1.4	<0.7	<0.7	<0.7	3.5	0.9	<2.9	<2.9	<0.7	<0.7	96	<0.7	100.4	---
RW-2A	11/07/06	CT/8260	<2.5	1.5	<1.3	4.1	74	<1.3	16	<50	<1.3	4	220	<1.3	319.6	---
RW-2A	11/13/07	CT/8260	<6.3	7	<3.1	10	310	<3.1	32	<130	<3.1	9.6	520	<3.1	888.6	---
RW-2A	11/06/08	CT/8260	0.54	2.1	<0.50	3.4	83	1	11	<0.50	<0.50	3.9	170	<0.50	274.94	---
RW-2A	11/12/09	CT/8260	<1.0	2.3	<0.5	3.3	89	1	11	<20	<0.5	4.4	180	<0.5	291	---
RW-2A	11/15/10	CT/8260	<2.5	1.3	<1.3	3.5	81	1.5	12	<5.0	<1.3	3	200	<1.3	302.3	---
RW-11A	08/08/07	CT/8260	<71	<36	<36	<36	1,300	<36	150	<1400	<36	<36	4,600	130	6180	---
RW-11A	11/14/07	CT/8260	<20	22	<10	34	1,100	26	180	<400	<10	39	4,600	120	6121	---
RW-11A	11/04/08	CT/8260	<50	<25	<25	39	850	<25	180	<1000	<25	28	3,100	120	4317	---
RW-11A	11/02/09	CT/8260	<3.3	20	<1.7	35	770	8.5	180	<67	<1.7	28	3,300	50	4391.5	---
RW-11A (DUP)	11/02/09	CT/8260	<3.3	20	<1.7	27	760	30	190	<67	<1.7	30	3,200	48	4305	---
RW-11A	12/07/10	CT/8260	<14	19	<7.1	34	310	<7.1	100	<29	<7.1	20	1,600	17	2100	---
RW-11A (DUP)	12/07/10	CT/8260	<17	20	<8.3	35	320	<8.3	110	<33	<8.3	21	1,600	19	2125	---
RW-12A	08/08/07	CT/8260	<25	<13	<13	<13	1,100	18	17	<500	<13	<13	1,700	29	2864	---
RW-12A	11/13/07	CT/8260	<25	<13	<13	<13	1,300	31	<13	<500	<13	<13	1,800	69	3200	---
RW-12A	11/17/08	CT/8260	<20	<10	<10	<10	1,100	37	15	<400	<10	<10	1,400	62	2614	---
RW-12A	11/23/09	CT/8260	<20	<10	<10	<10	2,100	37	<40	<400	<10	<10	1,900	110	4147	---
RW-12A	12/07/10	CT/8260	<40	<20	<20	<20	3,500	38	<80	<80	<20	<20	3,400	130	7068	---
RW-23A	08/08/07	CT/8260	<10	8.5	<5.0	7	64	<5.0	13	<200	<5.0	5.2	570	<5.0	667.7	---
RW-23A	11/14/07	CT/8260	<10	7.8	<5.0	<5.0	50	<5.0	23	<200	<5.0	5.6	580	<5.0	666.4	---
RW-23A	11/04/08	CT/8260	<7.1	8.1	<3.6	6.2	54	<3.6	12	<140	<3.6	5.4	560	<3.6	645.7	---
RW-23A	11/06/09	CT/8260	<2.5	12	<1.3	5.2	66	1.4	9.3	<50	2	4.9	520	<1.3	620.8	---
RW-23A	12/09/10	CT/8260	<5.0	13	<2.5	10	67	<2.5	17	<10	<2.5	8.5	550	<2.5	665.5	---
RW-24A	11/07/06	CT/8260	<8.3	6.4	<4.2	13	550	5.7	52	<170	<4.2	11	490	<4.2	1128.1	---
RW-24A	11/13/07	CT/8260	<8.3	8.9	<4.2	13	760	7.8	59	<170	<4.2	18	680	<4.2	1546.7	---
RW-24A	11/06/08	CT/8260	<0.50	6.4	<0.50	11	460	5	25	<0.50	<0.50	8.8	440	6	962.2	---

Table 9. Groundwater Sampling Results Summary, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Sample Location	Sample Date	Lab/Analytical Method	Chloro-form	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Freon 113	Methylene Chloride	PCE	1,1,1-TCA	TCE	Vinyl Chloride	Total VOCs	1,4-Dioxane
			<							µg/L						>
RW-24A	11/12/09	CT/8260	<5.0	7.7	<2.5	11	550	26	31	<100	<2.5	7.7	410	9.8	1053.2	---
RW-24A	11/15/10	CT/8260	<5.0	4.2	<2.5	8.4	430	6.9	23	<10	<2.5	4.3	310	5.2	792	---
RW-26A	08/08/07	CT/8260	<2.5	<1.3	<1.3	2.1	10	<1.3	3.6	<50	<1.3	<1.3	160	<1.3	175.7	---
RW-26A	11/13/07	CT/8260	<3.3	3.9	<1.7	7.4	120	2.8	4	<67	<1.7	2.4	190	<1.7	330.5	---
RW-26A	11/15/08	CT/8260	<1.0	3.3	<0.5	6	130	1.6	3.1	<20	<0.5	0.9	110	<0.5	254.9	---
RW-26A	11/23/09	CT/8260	<2.0	3.4	<1.0	9.4	83	1.1	5.4	<40	<1.0	2.4	180	<1.0	284.7	---
RW-26A	12/03/10	CT/8260	<1.0	4	<0.5	8.8	91	2.8	5.2	<2.0	<0.5	2.7	160	<0.5	274.5	---
RW-29A	08/09/07	CT/8260	<3.3	<1.7	<1.7	<1.7	5.8	<1.7	1.4	<67	1.8	2.1	230	<1.7	241.1	---
RW-29A	11/14/07	CT/8260	<3.3	<1.7	<1.7	<1.7	3.8	<1.7	2	<67	<1.7	3.9	230	<1.7	239.7	---
RW-29A	11/04/08	CT/8260	<3.3	<1.7	<1.7	2.1	3.6	<1.7	2	<67	1.8	3.8	240	<1.7	253.3	---
RW-29A	11/02/09	CT/8260	<2.0	1.5	<1.0	1.8	5.3	1.3	<4.0	<40	2	3.9	210	<1.0	225.8	---
RW-29A	11/05/10	CT/8260	<2.0	3.9	<1.0	2.9	7.4	<1.0	<4.0	<4.0	1.2	3.1	160	<1.0	178.5	---
95B1	11/03/06	CT/8260	<1.0	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<20	<0.5	<0.5	12	<0.5	12.5	---
95B1	11/02/07	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	13	<0.5	13	---
95B1	11/05/08	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	5.8	<0.5	5.8	---
95B1	11/03/09	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<20	<0.5	<0.5	7.4	<0.5	7.4	---
95B1	11/04/10	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	4.9	<0.5	4.9	---
98B1	11/07/06	CT/8260	<1.0	1.2	<0.5	1.3	43	<0.5	<0.5	<20	<0.5	<0.5	89	<0.5	134.5	---
98B1	11/08/07	CT/8260	<1.0	1.2	<0.5	0.9	42	<0.5	<0.5	<20	<0.5	<0.5	72	<0.5	116.1	---
98B1	11/11/08	CT/8260	<1.0	1.2	<0.5	1	43	<0.5	0.6	<20	<0.5	<0.5	81	<0.5	126.8	---
98B1	11/11/09	CT/8260	<1.0	1	<0.5	1	38	<0.5	<2.0	<20	<0.5	<0.5	49	<0.5	89	---
98B1	11/09/10	CT/8260	<1.0	1	<0.5	0.7	36	<0.5	<2.0	<2.0	<0.5	<0.5	62	<0.5	99.7	---
101B1	11/03/06	CT/8260	<1.0	1.6	<0.5	2.4	51	<0.5	<0.5	<20	<0.5	0.8	76	<0.5	131.8	---
101B1	11/09/07	CT/8260	<1.0	1.6	<0.5	1.6	50	<0.5	0.8	<20	<0.5	0.7	69	<0.5	123.7	---
101B1	11/18/08	CT/8260	<1.0	1.2	<0.5	1.2	38	<0.5	<0.5	<20	<0.5	<0.5	53	<0.5	93.4	---
101B1	11/03/09	CT/8260	<1.0	1.2	<0.5	1.2	41	<0.5	<2.0	<20	<0.5	<0.5	51	<0.5	94.4	---
101B1	11/04/10	CT/8260	<1.0	1.2	<0.5	1	34	0.8	<2.0	<2.0	<0.5	0.5	51	<0.5	88.5	---
110B1	11/07/06	CT/8260	<2.0	<1.0	<1.0	1.6	7.2	<1.0	13	<40	<1.0	5.5	140	<1.0	167.3	---

Table 9. Groundwater Sampling Results Summary, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Sample Location	Sample Date	Lab/Analytical Method	Chloro-form	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Freon 113	Methylene Chloride	PCE	1,1,1-TCA	TCE	Vinyl Chloride	Total VOCs	1,4-Dioxane
			< µg/L >													
110B1	11/08/07	CT/8260	<4.0	<2.0	<2.0	2.6	10	<2.0	44	<80	<2.0	28	210	<2.0	294.6	---
110B1	11/05/08	CT/8260	<3.3	<1.7	<1.7	2.1	17	<1.7	30	<67	<1.7	13	290	<1.7	352.1	---
110B1	11/03/09	CT/8260	<5.0	<2.5	<2.5	<2.5	28	<2.5	24	<100	<2.5	7.7	440	<2.5	499.7	---
110B1	11/15/10	CT/8260	<1.7	<1.7	<1.7	2.4	13	<1.7	60	<67	<1.7	38	350	<1.7	463.4	---
110B1 (DUP)	11/15/10	CT/8260	<1.7	<1.7	<1.7	3.1	15	<1.7	60	<67	<1.7	39	360	<1.7	477.1	---
117B1	11/03/06	CT/8260	<1.4	<0.7	<0.7	<0.7	3.8	<0.7	<0.7	<29	<0.7	<0.7	92	<0.7	95.8	---
117B1	11/08/07	CT/8260	<25	<13	<13	<13	40	<13	<13	<500	<13	<13	2,000	<13	2040	---
117B1	11/18/08	CT/8260	<2.5	<1.3	<1.3	<1.3	200	5.2	1.3	<50	<1.3	<1.3	200	<1.3	406.5	---
117B1	11/06/09	CT/8260	<1.3	<0.6	<0.6	<0.6	110	1.3	<2.5	<25	<0.6	<0.6	110	0.9	222.2	---
117B1	11/10/10	CT/8260	<2.5	<1.3	<1.3	1.4	460	7.2	<5.0	<5.0	<1.3	<1.3	150	<1.3	618.6	---
145B1	11/15/06	CT/8260	<1.0	0.8	<0.5	0.7	35	1.6	<0.5	<20	<0.5	<0.5	91	0.8	129.9	---
145B1	11/08/07	CT/8260	<1.4	0.7	<0.7	<0.7	30	1.4	<0.7	<29	<0.7	<0.7	100	<0.7	132.1	---
145B1	11/05/08	CT/8260	<1.0	<0.5	<0.5	<0.5	3.1	<0.5	<0.5	<20	<0.5	<0.5	1.2	2.9	7.2	---
145B1	11/02/09	CT/8260	<1.0	0.8	<0.5	1.1	32	1.5	<2.0	<20	<0.5	<0.5	120	0.8	156.2	---
145B1	11/04/10	CT/8260	<1.0	0.7	<0.5	0.9	26	1.5	<2.0	<2.0	<0.5	<0.5	97	1.5	127.6	---
156B1	12/11/08	CT/8260	<1.0	2.9	<0.5	1.9	49	0.7	1.5	<20	<0.5	0.5	81	<0.5	137.5	---
156B1	11/12/09	CT/8260	<1.0	1.6	<0.5	<0.5	21	<0.5	<2.0	<20	<0.5	<0.5	48	<0.5	70.6	---
156B1	11/11/10	CT/8260	<1.0	1.7	<0.5	0.6	22	<0.5	<2.0	<2.0	<0.5	<0.5	40	<0.5	64.3	---
REG-4B(1)	11/15/06	CT/8260	<1.0	<0.5	<0.5	1.4	7.6	<0.5	0.7	<20	<0.5	0.6	110	<0.5	120.3	---
REG-4B(1)	11/14/07	CT/8260	<1.4	<0.7	<0.7	0.8	6.8	<0.7	<0.7	<29	<0.7	<0.7	99	<0.7	106.6	---
REG-4B(1)	11/17/08	CT/8260	<1.0	<0.5	<0.5	1.5	8.8	<0.5	1.1	<20	<0.5	0.7	80	<0.5	92.1	---
REG-4B(1)	11/10/09	CT/8260	<1.0	<0.5	<0.5	0.7	5.2	<0.5	<2.0	<20	<0.5	<0.5	86	<0.5	91.9	---
REG-4B(1)	11/10/10	CT/8260	<1.0	<0.5	<0.5	0.8	5.3	<0.5	<2.0	<2.0	<0.5	<0.5	91	<0.5	97.1	---
RW-1(B1)	11/17/06	CT/8260	<1.0	<0.5	<0.5	0.6	17	<0.5	<0.5	<20	<0.5	<0.5	4.3	<0.5	21.9	---
RW-1(B1)	11/08/07	CT/8260	<1.0	<0.5	<0.5	<0.5	6.9	<0.5	<0.5	<20	<0.5	<0.5	1.7	<0.5	8.6	---
RW-1(B1)	11/15/08	CT/8260	<1.0	1.8	<0.5	0.7	60	0.5	<0.5	<20	<0.5	<0.5	14	0.5	77.5	---
RW-1(B1)	11/24/09	CT/8260	<1.0	2.6	<0.5	8	5.4	<0.5	120	<20	<0.5	98	110	<0.5	344	---
RW-1(B1)	12/03/10	CT/8260	<1.0	1.9	<0.5	3.9	8.9	<0.5	41	<2.0	<0.5	19	96	<0.5	170.7	---

Table 9. Groundwater Sampling Results Summary, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Sample Location	Sample Date	Lab/Analytical Method	Chloro-form	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Freon 113	Methylene Chloride	PCE	1,1,1-TCA	TCE	Vinyl Chloride	Total VOCs	1,4-Dioxane
			< µg/L >													
RW-2(B1)	11/15/06	CT/8260	<3.3	1.7	<1.7	3.2	26	<1.7	69	<67	<1.7	37	320	<1.7	456.9	---
RW-2(B1)	11/14/07	CT/8260	<5.0	<2.5	<2.5	5	34	<2.5	100	<100	<2.5	56	360	<2.5	555	---
RW-2(B1)	11/11/08	CT/8260	<3.3	1.7	<1.7	3.3	31	<1.7	69	<67	<1.7	31	330	<1.7	466	---
RW-2(B1)	11/23/09	CT/8260	<3.3	<1.7	<1.7	3	29	<1.7	56	<67	<1.7	27	220	<1.7	335	---
RW-2(B1)	12/02/10	CT/8260	<2.0	1.4	<1.0	2.4	27	<1.0	46	<4.0	<1.0	25	270	<1.0	371.8	---
RW-10(B1)	11/07/06	CT/8260	<10	<5.0	<5.0	<5.0	540	21	18	<200	<5.0	<5.0	830	<5.0	1409	---
RW-10(B1)	08/09/07	CT/8260	<14	<7.1	<7.1	<7.1	210	<7.1	8.9	<290	<7.1	<7.1	790	<7.1	1008.9	---
RW-10(B1)	11/20/07	CT/8260	<13	<6.3	<6.3	<6.3	500	11	9.1	<250	<6.3	<6.3	980	<6.3	1500.1	---
RW-10(B1)	11/04/08	CT/8260	<17	<8.3	<8.3	<8.3	320	9.7	9	<330	<8.3	<8.3	1,000	<8.3	1338.7	---
RW-10(B1)	11/02/09	CT/8260	<5.0	<2.5	<2.5	<2.5	300	17	<10	<100	<2.5	<2.5	870	<2.5	1187	---
RW-10(B1)	12/07/10	CT/8260	<6.3	<3.1	<3.1	<3.1	410	10	<13	<13	<3.1	4.7	650	<3.1	1074.7	---
RW-11(B1)	11/07/06	CT/8260	<2.0	<1.0	<1.0	<1.0	58	1.5	<1.0	<40	<1.0	<1.0	120	<1.0	179.5	---
RW-11(B1)	11/02/07	CT/8260	<2.0	1	<1.0	<1.0	51	2.2	<1.0	<40	<1.0	<1.0	120	<1.0	174.2	---
RW-11(B1)	11/04/08	CT/8260	<2.0	<1.0	<1.0	<1.0	43	1.3	<1.0	<40	<1.0	<1.0	120	<1.0	164.3	---
RW-11(B1)	11/12/09	CT/8260	<1.0	1.3	<0.5	0.9	57	1.6	<2.0	<20	<0.5	0.6	91	<0.5	152.4	---
RW-11(B1)	11/15/10	CT/8260	<1.0	1	<0.5	1	48	2.1	<2.0	<2.0	<0.5	0.6	99	<0.5	151.7	---
40B2	11/07/06	CT/8260	<1.0	0.5	<0.5	<0.5	27	1.4	0.6	<20	<0.5	<0.5	3.9	<0.5	33.4	---
40B2	11/06/08	CT/8260	<2.5	<2.5	<2.5	<2.5	68	<2.5	<2.5	<2.5	<2.5	<2.5	12	<2.5	80	---
40B2	12/11/08	CT/8260	<1.0	<0.5	<0.5	<0.5	48	<0.5	4	<20	<0.5	<0.5	10	<0.5	62	---
40B2	11/03/09	CT/8260	<1.0	<0.5	<0.5	<0.5	11	0.5	<2.0	<20	<0.5	<0.5	2	<0.5	13.5	---
40B2	11/03/10	CT/8260	<1.0	<0.5	<0.5	<0.5	21	0.6	<2.0	<2.0	<0.5	<0.5	1	<0.5	22.6	---
90B2	11/07/06	CT/8260	<2.0	<1.0	<1.0	<1.0	36	<1.0	<1.0	<40	<1.0	<1.0	210	<1.0	246	---
90B2	11/08/07	CT/8260	<3.3	<1.7	<1.7	<1.7	34	<1.7	<1.7	<67	<1.7	<1.7	230	<1.7	264	---
90B2	11/18/08	CT/8260	<1.0	<0.5	<0.5	1.2	49	0.9	<0.5	<20	<0.5	<0.5	170	<0.5	221.1	---
90B2	11/03/09	CT/8260	<2.5	<1.3	<1.3	<1.3	22	<1.3	<5.0	<50	<1.3	<1.3	150	<1.3	172	---
90B2	11/10/10	CT/8260	<1.0	<1.0	<1.0	1	35	<1.0	<4.0	<40	<1.0	<1.0	180	<1.0	216	---
90B2 (DUP)	11/10/10	CT/8260	<1.0	<1.0	<1.0	1.1	36	<1.0	<4.0	<40	<1.0	<1.0	180	<1.0	217.1	---
146B2	11/07/06	CT/8260	<1.0	<0.5	<0.5	<0.5	140	<0.5	<0.5	<20	<0.5	<0.5	12	<0.5	152	---
146B2	11/08/07	CT/8260	<2.0	<1.0	<1.0	<1.0	110	3.8	<1.0	<40	<1.0	<1.0	7.2	<1.0	121	---

Table 9. Groundwater Sampling Results Summary, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Sample Location	Sample Date	Lab/Analytical Method	Chloro-form	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Freon 113	Methylene Chloride	PCE	1,1,1-TCA	TCE	Vinyl Chloride	Total VOCs	1,4-Dioxane
			< µg/L >													
146B2	11/05/08	CT/8260	<1.0	<0.5	<0.5	<0.5	74	<0.5	<0.5	<20	<0.5	<0.5	6	<0.5	80	---
146B2	11/02/09	CT/8260	<1.0	<0.5	<0.5	<0.5	93	<0.5	<2.0	<20	<0.5	<0.5	4.4	<0.5	97.4	---
146B2	11/03/10	CT/8260	<1.0	<0.5	<0.5	<0.5	91	<0.5	<2.0	<2.0	<0.5	<0.5	3.5	<0.5	94.5	---
RW-1(B2)	11/17/06	CT/8260	<1.0	<0.5	<0.5	0.7	41	<0.5	4.8	<20	<0.5	<0.5	120	<0.5	166.5	---
RW-1(B2)	08/09/07	CT/8260	<1.4	<0.7	<0.7	<0.7	37	1	1.1	<29	<0.7	<0.7	82	<0.7	121.1	---
RW-1(B2)	11/13/07	CT/8260	<1.0	<0.5	<0.5	<0.5	39	<0.5	2.1	<20	<0.5	<0.5	82	<0.5	123.1	---
RW-1(B2)	11/15/08	CT/8260	<1.0	<0.5	<0.5	<0.5	27	<0.5	0.7	<20	<0.5	<0.5	110	<0.5	137.7	---
RW-1(B2)	11/03/09	CT/8260	<1.4	<0.7	<0.7	<0.7	35	<0.7	<2.9	<29	<0.7	<0.7	83	<0.7	118	---
RW-1(B2)	11/05/10	CT/8260	<1.0	<0.5	<0.5	<0.5	7.2	<0.5	<2.0	<2.0	<0.5	<0.5	2.3	<0.5	9.5	---
RW-2(B2)	11/07/06	CT/8260	<13	<6.3	<6.3	<6.3	11	<6.3	<6.3	<250	<6.3	<6.3	800	<6.3	811	---
RW-2(B2)	11/13/07	CT/8260	<20	<10	<10	<10	39	<10	<10	<400	<10	<10	1,000	<10	1039	---
RW-2(B2)	11/06/08	CT/8260	<0.50	<0.50	<0.50	4.8	13	2.2	3.4	<0.50	<0.50	<0.50	890	<0.50	913.4	---
RW-2(B2)	11/12/09	CT/8260	<1.0	<0.5	<0.5	5.7	13	2.8	4.7	<20	<0.5	0.7	830	<0.5	856.9	---
RW-2(B2)	11/15/10	CT/8260	<10	<5.0	<5.0	5.5	10	<5.0	<20	<20	<5.0	<5.0	730	<5.0	745.5	---
65B3	11/15/06	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	5.4	<0.5	5.4	---
65B3	11/14/07	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	5.3	<0.5	5.3	---
65B3	11/11/08	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	5	<0.5	5	---
65B3	11/18/09	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<20	<0.5	<0.5	3.8	<0.5	3.8	---
65B3	12/03/10	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	3.5	<0.5	3.5	---
DW3-219	05/24/06	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	0.5	<0.5	0.5	---
DW3-219	11/21/06	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	1.4	<0.5	1.4	---
DW3-219	06/08/07	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	0.7	<0.5	0.7	---
DW3-219 (DUP)	06/08/07	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	0.8	<0.5	0.8	---
DW3-219	11/12/07	CT/8260	<1.0	1.2	<0.5	<0.5	0.5	<0.5	<0.5	<20	<0.5	1.1	18	<0.5	20.8	---
DW3-219	03/04/08	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	0.7	<0.5	0.7	---
DW3-219	05/19/08	CT/8260	<1.0	<0.5	<0.5	<0.5	3.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	0.6	4.1	---
DW3-219	11/15/08	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	3.2	<0.5	3.2	---
DW3-219	02/02/09	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	0.7	<0.5	0.7	---
DW3-219	05/29/09	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	0.9	<0.5	0.9	---

Table 9. Groundwater Sampling Results Summary, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Sample Location	Sample Date	Lab/Analytical Method	Chloro-form	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Freon 113	Methylene Chloride	PCE	1,1,1-TCA	TCE	Vinyl Chloride	Total VOCs	1,4-Dioxane
			<							µg/L						>
DW3-219	07/24/09	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	0.8	<0.5	0.8	---
DW3-219	11/18/09	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<20	<0.5	<0.5	0.6	<0.5	0.6	---
DW3-219	05/05/10	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	0.6	<0.5	0.6	---
DW3-219	12/03/10	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	0.8	<0.5	0.8	---
DW3-244	11/21/06	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	1.7	<0.5	1.7	---
DW3-244	11/12/07	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	0.9	<0.5	0.9	---
DW3-244	05/28/08	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	1.4	<0.5	1.4	---
DW3-244	11/15/08	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	1.4	<0.5	1.4	---
DW3-244	11/18/09	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<20	<0.5	<0.5	1.1	<0.5	1.1	---
DW3-244	12/03/10	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	1.2	<0.5	1.2	---
DW3-334	11/21/06	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	5.6	<0.5	5.6	---
DW3-334	11/12/07	CT/8260	<1.0	<0.5	<0.5	<0.5	6.4	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<0.5	6.4	---
DW3-334	05/28/08	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	7.8	<0.5	7.8	---
DW3-334	11/15/08	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	6.8	<0.5	6.8	---
DW3-334	11/18/09	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<20	<0.5	<0.5	5.7	<0.5	5.7	---
DW3-334	12/03/10	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	9	<0.5	9	---
DW3-364	11/21/06	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	7.2	<0.5	7.2	---
DW3-364	11/12/07	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	6.3	<0.5	6.3	---
DW3-364	05/28/08	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	6.1	<0.5	6.1	---
DW3-364	11/15/08	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	5.8	<0.5	5.8	---
DW3-364	11/23/09	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<20	<0.5	<0.5	4.5	<0.5	4.5	---
DW3-364	12/03/10	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	4.6	<0.5	4.6	---
DW3-505R	11/21/06	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<0.5	ND	---
DW3-505R	11/19/07	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<0.5	ND	---
DW3-505R	11/15/08	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<0.5	ND	---
DW3-505R	11/23/09	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<20	<0.5	<0.5	<0.5	<0.5	ND	---
DW3-505R	12/09/10	CT/8260	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	<0.5	<0.5	ND	---

Table 9. Groundwater Sampling Results Summary, January 2006 through December 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Sample Location	Sample Date	Lab/Analytical Method	Chloro-form	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Freon 113	Methylene Chloride	PCE	1,1,1-TCA	TCE	Vinyl Chloride	Total VOCs	1,4-Dioxane
			µg/L													

Abbreviations:

--- = sample not analyzed for particular analyte
< # = analyte not detected above the reported detection limit of "#" ug/L
8260 = USEPA Method 8260B for halogenated VOCs, for Method 8010 list of analytes
8270 = USEPA Method 8270C-SIM for SVOCs
CT = Curtis and Tompkins, Berkeley, California
DCA = Dichloroethane
DCE = Dichloroethene
DUP = duplicate sample
ND = no analytes detected above the laboratory detection limit
PCE = Tetrachloroethene
TCA = Trichloroethane
TCE = Trichloroethene
µg/L = micrograms per liter
VOCs = volatile organic compounds

Table 10. Capture Zone Calculations and Analysis, March 2010, Former Fairchild Buildings 13, 19, and 23, 369/441 Whisman Road, Mountain View, California

Extraction Well:		71A	RW-2A	RW-11A	RW-12A	RW-23A	RW-24A	RW-29A	RW-2(B1)	RW-10(B1)	RW-11(B1)	RW-1(B2)	RW-2(B2)
b		15	15	15	15	15	15	15	25	25	25	35	35
i		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.004	0.004
K		40	40	40	40	40	40	40	40	40	40	5	5
T		600	600	600	600	600	600	600	1000	1000	1000	175	175
w		0	625	625	625	625	625	625	200	200	300	400	600
estimated well loss (ft, from Walton, 1962):	$s_w = CQ^2$	0.002	0.003	0.001	0.000	0.005	0.003	0.002	0.009	0.007	0.017	0.000	0.029
extraction rate (gpm):		3.30	3.80	2.63	0.15	5.06	3.69	2.83	6.86	5.74	9.31	0.00	12.06
stagnation point (ft):	$X_0 = -Q / 2\pi Ti$	-42	-49	-34	-2	-65	-47	-36	-70	-59	-95	0	-528
capture zone width (at extraction well; ft):	$Y_{well} = \pm Q / 4Ti$	66	76	53	3	101	74	57	110	92	149	0	829
capture zone width (maximum; ft):	$Y_{max} = \pm Q / 2Ti$	132	152	105	6	203	148	114	220	184	299	1	1,658

LINE OF EVIDENCE	CAPTURE?	COMMENTS
Water Levels *Potentiometric Surface Maps*	*Adequate*	*RW-1A, 71A and RW-26A have been off since 2007. Potentiometric surface maps indicate complete capture in all groundwater zones compared to target capture.*
Calculations *Capture Zone Widths*	*Adequate*	*The calculated stagnations points can be smaller or larger than target captures for extraction wells. The calculated widths are balanced by the observed water levels and chemical concentration data, with preference given to the measured water levels and the resulting potentiometric surface to assess capture.*
Concentration Trends *Downgradient Monitoring Wells*	*Adequate*	*There are slight increases of VOCs in wells 115A and 160A, but the concentrations remain below historic maximums. Several wells in the Buildings 13, 19, and 23 Site exhibit evidence of reductive dechlorination based on steady to decreasing trichloroethene (TCE) concentrations, with noted increases in cis-1,2-dichloroethene (cis-1,2-DCE) concentrations (115A, 134A, and 40B2).*

Notes and Abbreviations:

b = aquifer or saturated thickness feet (ft)
C = turbulent well loss coefficient from Walton, 1962 (sec^2/ft^5); the following are coefficients and their corresponding well condition:
5 = properly designed and developed, 5 to 10 = mild deterioration, 10 to 40 = severe deterioration (40 used in the calculation)
factor = accounts for other contributions to the extraction well (a factor of 1.5 was used in the calculation)
i = regional hydraulic gradient (ft/ft)
K = hydraulic conductivity (ft/day). Value is based on the calibrated MEW groundwater flow model (Geosyntec et al., 2008b)
Q = extraction flow rate (gallons per minute; gpm)
sec = second
s_w = drawdown due to well loss
T = transmissivity (ft^2/day)
w = plume width (ft) (for wells RW-2A, RW-11A, RW-23A, RW-24A and RW-29A, the width of the Site slurry wall, 625 ft, is used in the calculation; other wells use the modeled capture zone width)
X_0 = stagnation point (ft)
Y_{max} = maximum capture zone width (ft)
Y_{well} = capture zone width in-line w/ extraction well (ft)

Assumptions:

- homogeneous, isotropic, confined aquifer of infinite extent
- uniform regional horizontal hydraulic gradient
- no net recharge (or net recharge is accounted for in regional hydraulic gradient)
- no other sources of water introduced into aquifer due to extraction
- uniform aquifer thickness
- fully penetrating extraction well
- steady-state flow
- negligible vertical gradient

Table 11. Capture Zone Calculations and Analysis, November 2010, Former Fairchild Buildings 13, 19 and 23, 369/441 Whisman Road, Mountain View, California

Extraction Well:		71A	RW-1A	RW-2A	RW-11A	RW-12A	RW-23A	RW-24A	RW-29A	RW-2(B1)	RW-10(B1)	RW-11(B1)	RW-1(B2)	RW-2(B2)
b		15	15	15	15	15	15	15	15	25	25	25	35	35
i		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.004	0.004
K		40	40	40	40	40	40	40	40	40	40	40	5	5
T		600	600	600	600	600	600	600	600	1000	1000	1000	175	175
w		625	625	625	625	625	625	625	625	200	200	300	400	600
estimated well loss (ft, from Waltom, 1962):	$s_w = CQ^2$	0.002	0.003	0.002	0.002	0.001	0.004	0.002	0.003	0.008	0.005	0.010	0.000	0.022
extraction rate (gpm):		3.49	3.64	3.09	3.09	1.81	4.68	2.85	3.71	6.47	5.16	7.14	0.34	10.47
stagnation point (ft):	$X_0 = -Q / 2\pi Ti$	-45	-46	-39	-39	-23	-60	-36	-47	-66	-53	-73	-15	-458
capture zone width (at extraction well; ft):	$Y_{well} = \pm Q / 4Ti$	70	73	62	62	36	94	57	74	104	83	115	23	720
capture zone width (maximum; ft):	$Y_{max} = \pm Q / 2Ti$	140	146	124	124	73	188	114	149	208	166	229	46	1,439

LINE OF EVIDENCE	CAPTURE?			COMMENTS
Water Levels *Potentiometric Surface Maps*	*Adequate*			*RW-26A has been off since 2007. Potentiometric surface maps indicate complete capture in all groundwater zones compared to target capture.*
Calculations *Capture Zone Widths*	*Adequate*			*The calculated stagnations points can be either smaller or larger than target captures for extraction wells. The calculated widths are balanced by the observed water levels and chemical concentration data. Preference is given to the measured water levels and the resulting potentiometric surface to assess capture.*
Concentration Trends *Downgradient Monitoring Wells*	*Adequate*			*There are slight increases of volatile organic compounds (VOCs) in wells 115A and 160A, but the concentrations remain below historic maximums. Several wells in the Buildings 13, 19, and 23 Site exhibit evidence of reductive dechlorination based on steady to decreasing trichloroethene (TCE) concentrations, with noted increases in cis-1,2-dichloroethene (cis-1,2-DCE) concentrations (115A, 134A, and 40B2).*

Notes and Abbreviations:

b = aquifer or saturated thickness feet (ft)
C = turbulent well loss coefficient from Walton, 1962 (sec^2/ft^5); the following are coefficients and their corresponding well condition:
5 = properly designed and developed, 5 to 10 = mild deterioration, 10 to 40 = severe deterioration (40 used in the calculation)
factor = accounts for other contributions to the extraction well (a factor of 1.5 was used in the calculation)
i = regional hydraulic gradient (ft/ft)
K = hydraulic conductivity (ft/day). Value is based on the calibrated MEW groundwater flow model (Geosyntec et al., 2008b)
Q = extraction flow rate (gallons per minute; gpm)
sec = second
s_w = drawdown due to well loss
T = transmissivity (ft^2/day)
w = plume width (ft) (for wells RW-2A, RW-11A, RW-23A, RW-24A and RW-29A, the width of the Site slurry wall, 625 ft, is used in the calculation; other wells use the modeled capture zone width)
X_0 = stagnation point (ft)
Y_{max} = maximum capture zone width (ft)
Y_{well} = capture zone width in-line w/ extraction well (ft)

Assumptions:

- homogeneous, isotropic, confined aquifer of infinite extent
- uniform regional horizontal hydraulic gradient
- no net recharge (or net recharge is accounted for in regional hydraulic gradient)
- no other sources of water introduced into aquifer due to extraction
- uniform aquifer thickness
- fully penetrating extraction well
- steady-state flow
- negligible vertical gradient

APPENDIX A

2010 ANNUAL REPORT REMEDY PERFORMANCE CHECKLIST

2010 Annual Report Remedy Performance Checklist

I. GENERAL SITE INFORMATION

Facility Name: **Former Fairchild Facilities, Middlefield-Ellis-Whisman Study Area (MEW Site)**

Facility Address, City, State: **515/545 North Whisman Road and 313 Fairchild Drive (former Bldgs. 1-4)**
369 and 441 North Whisman Road (former Bldgs. 13 and 19 and 23)
401 National Avenue (former Bldg. 9)
644 National Avenue (former Bldg. 18)
464 Ellis Street (former Bldg. 20 and 20A)

Checklist completion date: **June 15, 2011**

EPA Site ID: **System-1: CAR000164285**
System-3: CAD095989778
System-19: CAR000164228

Site Lead: ☐ Fund ■ PRP ☐ State ☐ State Enforcement ☐ Federal Facility ☐ Other: EPA Region IX

Site Remedy Components (Include Other Reference Documents for More Information, as appropriate):

1. **Three slurry wall enclosures around former Buildings 1-4, Building 9, and Building 19. The slurry walls extend to a depth of about 40 feet below ground surface and are keyed a minimum of two feet into the A2/B1 aquitard.**
2. **Three treatment systems as detailed below:**

System 1:

- **Three 5,000-pound GAC vessels in series, treatment pad, controls, double-contained groundwater conveyance piping, vaults, electrical distribution, controls and other appurtenances.**
- **Thirteen source control recovery wells (Eight wells operated during 2010).**
- **One regional recovery well (One well operated during 2010).**

System 3:

- **Three 5,000-pound GAC vessels in series, treatment pad, controls, double-contained groundwater conveyance piping, vaults, electrical distribution, controls and other appurtenances.**
- **Nine source control recovery wells (Seven wells operated during 2010).**
- **Three regional recovery wells (Three wells operated during 2010).**

System 19:

- **Three 5,000-pound GAC vessels in series, treatment pad, controls, double-contained groundwater conveyance piping, vaults, electrical distribution, controls and other appurtenances.**
- **Fifteen source control recovery wells (Thirteen operated during 2010).**
- **Seven regional recovery wells (Two operated during 2010).**

II. CONTACTS

List important personnel associated with the Site: Name, title, phone number, e-mail address:

	Name/Title	Phone	E-mail
RP/Facility Representative	**Virgilio Cocianni Schlumberger Technology Corporation**	**281-285-4747**	cocianni-v@slb.com
RP Consultant	**John Gallinatti Geosyntec Consultants**	**510-285-2750**	jgallinatti@geosyntec.com
RP Consultant	**Tess Byler Weiss Associates**	**650-968-7000**	tb@weiss.com

2010 Annual Report Remedy Performance Checklist

III. O&M COSTS (OPTIONAL)

What is your annual O&M cost total for the reporting year?_____
Breakout your annual O&M cost total into the following categories (use either dollars or %):

- Analytical (e.g., lab costs): _____
- Labor (e.g., site maintenance, sampling): _____
- Materials (e.g., treatment chemicals): _____
- Oversight (e.g., project management): _____
- Utilities (e.g., electric, gas, phone, water): _____
- Reporting (e.g., NPDES, progress): _____
- Other (e.g., capital improvements): _____

Describe unanticipated/unusually high or low O&M costs (go to section [fill in] to recommend optimization methods):

IV. ON-SITE DOCUMENTS AND RECORDS (Check all that apply)

■ O&M Manual ■ O&M Maintenance Logs ☐ O&M As-built drawings ■ O&M reports
■ Daily access/Security logs
■ Site-Specific Health & Safety Plan ■ Contingency/Emergency Response Plan
■ O&M/OSHA Training Records ■ Settlement Monument Records
☐ Gas Generation Records ■ Groundwater monitoring records ☐ Leachate extraction records
■ Discharge Compliance Records
☐Air discharge permit ■ Effluent discharge permit ■ Waste disposal, POTW Permit

Are these documents currently readily available? ■ Yes ☐ No If no, where are records kept?

Documents and records are available at treatment systems and/or on-site office located at 350 E. Middlefield Road Mountain View, CA.

V. INSTITUTIONAL CONTROLS (as applicable)

List institutional controls called for (and from what enforcement document):

Signs and other security measures are in place at extraction and treatment points.

Status of their implementation:

Posted signage (Health & Safety and emergency contact information).

Where are the ICs documented and/or reported?

ICs are being properly implemented and enforced? ■ Yes ☐ No, elaborate below
ICs are adequate for site protection? ■ Yes ☐ No, elaborate below

Additional remarks regarding ICs:

2010 Annual Report Remedy Performance Checklist

VI. SIGNIFICANT SITE EVENTS
Check all Significant Site events Since the Last Checklist that Affects or May Affect Remedy Performance

☐ Community Issues
☐ Vandalism
☐ Maintenance Issues
■ Other:

Please elaborate on Significant Site Events:

Record of Decision Amendment for the Vapor Intrusion Pathway August 16, 2010

VII. REDEVELOPMENT

Is redevelopment on property planned? ■ Yes ☐ No

If yes, what is planned? Please describe below.

Is redevelopment plan complete Yes, date:_____; ■ No ? ☐ Not Applicable

Redevelopment proposal in progress? ■ Yes, elaborate below
☐ No; If no, is a proposal anticipated? ☐ Yes ☐ No

☐ Is the redevelopment proposal compatible with remedy performance? ■ Yes ☐ No

Elaborate on redevelopment proposal and how it affects remedy performance:

644 National Avenue property (former Fairchild Building 18) was purchased by Carr America National Avenue LLC in 2008; redevelopment plans remained on hold during 2010.

369 and 441 North Whisman Road (former Bldgs. 13 and 19 and 23), owned by Keenan, Lovewell Ventures, is developing a proposal for additional buildings on the site.

The existing treatment systems and their components (conveyance piping, extraction wells, and monitoring wells) will be maintained or modified as appropriate to accommodate redevelopment.

VIII. GROUNDWATER REMEDY (reference isoconcentration, capture zone maps, trend analysis, and other documentation to support analysis)

Groundwater Quality Data

List the types of data that are available:	What is the source report?
Potentiometric surface maps, hydrographs	**2010 Annual Fairchild Building Reports (Weiss, 2011) and**
Capture zone maps, isoconcentration maps	**2010 Annual Regional Report (Geosyntec, 2011)**

■ Contaminant trend(s) tracked during O&M (i.e., temporal analysis of groundwater contaminant trends).
■ Groundwater data tracked with software for temporal analyses.
☐ Reviewed MNA parameters to ensure health of substrate (e.g., DO, pH, temperature), if appropriate?

Groundwater Pump & Treat Extraction Well and Treatment System Data

List the types of data that are available:	What is the source report?
O&M logs	**NPDES Self-Monitoring Reports**
System Influent & Effluent water samples	**2010 Annual Fairchild Building Reports**
VOC mass and groundwater removal graphs, VOC concentration trends	

■ The system is functioning adequately.
☐ The system has been shut down for significant periods of time in the past year. Please elaborate below.

2010 Annual Report Remedy Performance Checklist

Discharge Data

List the types of data that are available:	What is the source report?
System performance data such as average flow rates, totalized flow, influent/effluent chemical data, GAC removal efficiencies	**NPDES Self-Monitoring Reports**

■ The system is in compliance with discharge permits.

Slurry Wall Data

List the types of data that are available:	What is the source report?
Water level elevations in select well pairs	**2010 Annual Reports**
Analysis of inward and upward hydraulic gradients	

Is slurry wall operating as designed? ■ Yes ☐ No

If not, what is being done to correct the situation?

The slurry walls are operating as designed and are effective at impeding flow and preventing VOCs inside the wall from migrating downgradient. However, the ROD specifies that the slurry walls, "maintain inward and upward gradients." Historically, this has not been observed in all well pairs, even under maximum historical pumping scenarios. In 2010, pumping was started in some wells that had been off since 2007. Slurry wall gradients have generally maintained trends consistent before and after reduced groundwater extraction rates.

The chemical concentration data and potentiometric surface contours from 2010 continue to demonstrate that the slurry walls are an effective means of impeding VOC migration outside of the slurry walls.

Elaborate on technical data and/or other comments

IX. AIR MONITORING/VAPOR INTRUSION PATHWAY EVALUATION (Include in Annual Progress Report and reference document)

Walk-throughs/Surveys: Yes

Additional building sampling was performed during 2010.

Summary of Results: The sampling results indicated no short-term or long-term potential health risk concerns from the vapor intrusion pathway under current conditions (Haley and Aldrich 2010).

Reference:

Haley and Aldrich, 2010. *Air Sampling Activities Conducted Fall 2009 at the Middlefield-Ellis-Whisman Vapor Intrusion Study Area, Mountain View, California, March 19.*

Problems Encountered: None

Recommendations/Next Steps: None

Schedule: All work is coordinated with the USEPA.

X. REMEDY PERFORMANCE ASSESSMENT

A. Groundwater Remedies

2010 Annual Report Remedy Performance Checklist

What are the remedial goals for groundwater? ■ Plume containment (prevent plume migration); ■ Plume restoration (attain ROD-specific cleanup levels in aquifer); ☐ Other goals, please explain:

The groundwater remedy is hydraulic remediation by extraction and treatment. The Treatment System is reliable and consistent in its operation and mass removal ability, with greater than 95% up-time. The capture zones from the extraction wells provide sufficient overlap to achieve hydraulic control over the plume based on flow net evaluation and converging lines of evidence, including stable lateral extent of TCE exceeding 5 µg/L. Remediation is also demonstrated because concentrations within the TCE plume have continued to decrease in all zones. Groundwater with TCE concentrations exceeding 5 µg/L does not discharge to surface water.

During First Quarter 2010, several extraction wells were tested and new pumps were installed to support optimization of the groundwater pumping regime at Fairchild Treatment Systems 1, 3, and 19 under the jurisdiction of USEPA Region 9. Optimization of extraction rates began during the week of March 29, and continued during the Second Quarter of 2010. Optimization activities are documented in the 2010 Annual Progress Reports to USEPA for the former Fairchild Buildings 1-4, and 19.

Have you done a trend analysis? ■ Yes ☐ No; If Yes, what does it show?

(Is it inconclusive due to inadequate data? Are the concentrations increasing or decreasing?) Explain and provide source document reference

Concentrations within the core of the TCE plume have continued to decrease in all zones, while the lateral extent of TCE exceeding 5 µg/L has been stable. See Annual Reports for trends in monitoring wells (Weiss 2010).

While the lateral extent of TCE concentrations exceeding 5 µg/L has not grown since 1992 and concentrations within TCE plume have generally decreased by an order of magnitude or more, the perimeter extent of TCE concentrations has largely stabilized. Optimization based on 2008 optimization report was implemented with EPA modifications in 2010.

If plume containment is a remedial goal, check all that apply:

■ Plume migration is under control (explain basis below)
☐ Plume migration is not under control (explain basis below)
☐ Insufficient data to determine plume stability (explain below)
(Include attachments that substantiate your answers, e.g., reference plume, trend analysis, and capture zone maps in source document)

Elaborate on basis for determining that plume containment goal is being met or not being met**:**

Plume containment goal is met, slurry walls provide physical containment of sources on 369 N. Whisman Road, 401 National Avenue, 515/545 N. Whisman Road and 313 Fairchild Drive.

Groundwater elevation and chemical monitoring results from 2010 demonstrate that the Fairchild extraction wells continue to achieve adequate horizontal and vertical capture based on converging lines of evidence, including graphical flow net analysis and chemical concentration trends. VOC concentrations in groundwater continue to remain well below historical maximums, and generally show long-term decreasing trends.

If plume restoration is a cleanup objective, check all that apply:

■ Progress is being made toward reaching cleanup levels (explain basis below)
☐ Progress is not being made toward reaching cleanup levels (explain basis below)
☐ Insufficient data to determine progress toward restoration goal (explain below)

Elaborate on basis for determining progress or lack of progress toward restoration goal:

The objective is to remediate and control the plume. The groundwater extraction, treatment, and containment systems are functioning as intended and meet the Remedial Action Objectives for the Site.

2010 Annual Report Remedy Performance Checklist

B. Vertical Migration

Have you done an assessment of vertical gradients? ■ Yes ☐ No; If Yes, what does it show? (Is it inconclusive due to inadequate data?

Are the concentrations increasing or decreasing? Explain and provide source document reference

In general, vertical gradients across the B and deeper water-bearing zones are upward. Upward vertical gradients are typical from the B- to A-zone, but downward vertical gradients are observed at a few locations.

Source document reference: 2010 Annual Fairchild Building Reports (Weiss, 2010)

2010 Annual Regional Report (Geosyntec, 2010)

C. Source Control Remedies

What are the remedial goals for source control?

Capture of former source areas is the goal for source control. Cleanup standards are Maximum Contaminant Level (MCLs) in upper groundwater zones; the TCE MCL is 5 µg/L.

Elaborate on basis for determining progress or lack of progress toward these goals:

Capture zone analysis in the 2010 Fairchild Building and RGRP Annual Progress Reports indicate containment of target capture areas.

XI. PROJECTIONS

Administrative Issues
Dates of next monitoring and sampling events for next annual reporting period: Fall 2010

A. Groundwater Remedies - Projections for the upcoming year and long-term (Check all that apply)

Remedy Projections for **the upcoming year (2011)**

■ No significant changes projected.
☐ Groundwater remedy will be converted to monitored natural attenuation. Target date:
☐ Groundwater Pump & Treat will be shut down. Target date:
☐ Groundwater cleanup standards to be modified. Target date:
☐ PRP will request remedy modification. Target date of request:
☐ Change in the number of monitoring wells. ☐ Increasing or ☐ decreasing? Target date:
☐ Change in the number and/or types of analytes being analyzed. ☐ Increasing or ☐ decreasing? Target date:
☐ Change in groundwater extraction system. Expansion or **minimization** (i.e., number of extraction wells and/or pumping rate)? Target date:
☐ Modification on groundwater treatment? Elaborate below. Target date:
☐ Change in discharge location. Target date:
☐ Other modification(s) anticipated: Elaborate below. Target date:

Elaborate on Remedy Projections:

Remedy Projections for **the long-term** (Check all that apply)

☐ No significant changes projected.
☐ Groundwater remedy will be converted to monitored natural attenuation. Target date:
☐ Groundwater Pump & Treat will be shut down. Target date:
☐ Groundwater cleanup standards to be modified. Target date:
☐ PRP will request remedy modification. Target date of request:
☐ Change in the number of monitoring wells. ☐ Increasing or ☐ decreasing? Target date:
☐ Change in the number and/or types of analytes being analyzed. ☐ Increasing or ☐ decreasing? Target date:

2010 Annual Report Remedy Performance Checklist

☐ Change in groundwater extraction system. ☐ Expansion or ☐ minimization (i.e., number of extraction wells and/or pumping rate)? Target date:
☐ Modification on groundwater treatment? Elaborate below. Target date:
☐ Change in discharge location. Target date:
■ Other modification(s) anticipated: **Groundwater Feasibility Study** Elaborate below. Target date: **2012**

Elaborate on Remedy Projections:

The EPA is developing a groundwater site-wide focused feasibility study.

B. Projections – Slurry Walls (Check all that apply)

Remedy Projections for **the upcoming year**
■ No significant changes projected.
☐ PRP will request remedy modification. Target date of request:

☐Change in the number of monitoring wells. ☐ Increasing or ☐ decreasing? Target date:
☐ Other modification(s) anticipated: Elaborate below. Target date:

Elaborate on Remedy Projections:

Remedy Projections for **the long-term**
☐ No significant changes projected.
☐ PRP will request remedy modification. Target date of request:
☐ Change in the number of monitoring wells. ☐ Increasing or ☐ decreasing? Target date:
■ Other modification(s) anticipated: **Groundwater Feasibility Study** Elaborate below. Target date: 2012

Elaborate on Remedy Projections: Site-Wide Focused Groundwater Feasibility Study being conducted by EPA may affect long term remedy.

C. Projections – Other Remedial Options Being Reviewed to Enhance Cleanup

Progress implementing recommendations from last report or Five-Year Review
Has optimization study been implemented or scheduled? ■ Yes; ☐ No; If Yes, please elaborate.

Fairchild extraction well optimization occurred during 2010.

XII. ADMINISTRATIVE ISSUES
Check all that apply:

☐ Explanation of Significant Differences in progress ☐ ROD Amendment in progress
☐ Site in operational and functional ("shake down") period;
☐ Notice of Intent to Delete in progress ☐ Partial site deletion in progress ☐ TI Waivers
■ Other administrative issues:

Site-Wide Focused Groundwater Feasibility Study for Groundwater being conducted by EPA.

Date of Next EPA Five-Year Review: **September 30, 2014**

XII. RECOMMENDATIONS

Weiss Associates

APPENDIX B

LABORATORY ANALYTICAL REPORTS

(THIS APPENDIX IS BEING SUBMITTED ON CD TO THE USEPA ONLY AND IS AVAILABLE UPON REQUEST)

APPENDIX C

QA/QC REPORT, SUMMARY TABLES, AND CRITERIA SELECTED

2010 QA/QC SUMMARY

The analytical laboratory data and accompanying quality assurance/quality control (QA/QC) information used in the *2010 Annual Reports* for former Fairchild Buildings 1, 2, 3, 4, 9, 13, 18, 19, 20, 20A, and 23 in the Middlefield-Ellis Whisman (MEW) Area were reviewed for precision, accuracy, reproducibility, and completeness in accordance with the approved MEW 1991 *Quality Assurance Plan*.[4] In addition, this data quality review is based on November 2009 *Standard Operating Procedures* (SOPs) for data verification and validation and on validation procedures for metals, volatile organic chemicals (VOCs), and semivolatile organic chemicals. The SOPs are based on the 1991 MEW "Unified" *Quality Assurance Project Plan* (QAPP), but functionally adhere to the most recent United States Environmental Protection Agency (USEPA) data validation guidelines.

This data quality review summarizes the Level 2 and 10% Level 4 data quality review for samples collected by Weiss Associates during the 2010 annual sampling event in accordance with the MEW QAPP.

The analytical results for each sampling point were compared with the historical record to confirm they are representative. To assess the reliability of field sampling procedures and materials, the following field QA/QC samples were collected or prepared for each sampling event by MEW parties:

- Field duplicates were collected for 3 wells associated with the Site: 139A, RW-11A, and 110B1. The relative percent differences between the duplicates and the original samples were less than 10% and are well within the acceptance criteria of 35%. For more details, see Table G-3 of the *RGRP Annual Report* (Geosyntec 2011b).
- Rinseate sample/equipment blank - Samples consisting of reagent water collected from a final rinse of sampling equipment after the decontamination procedure has been performed. The purpose of rinseate samples is to determine whether the sampling equipment is causing cross contamination of samples. Following equipment decontamination, deionized/organic-free water will be used as a final rinse and collected in appropriate bottles. Rinseate samples were specified at a frequency of 5% of the field samples collected. In 2010, all rinseate sample/equipment blank samples had VOC concentrations below the detection limit.
- Field blank - Samples consisting of source water used for decontamination of equipment. Field blanks will be collected at a frequency of 1 per source or lot of water being used for rinsing and submitted to the laboratory for all required analyses. Field blanks are specified at a frequency of 5% of the field samples collected. In 2010, all field blank samples had VOC concentrations below the detection limit.

[4] 1991, *Quality Assurance Project Plan, Middlefield-Ellis-Whisman Site, Mountain View, California*, prepared by Canonie Environmental, Rev. 1.0, August 16, 1991.

- Trip blank - Samples consisting of a "clean," volatile organic analysis (VOA) vial filled with deionized/organic-free water and preserved. These vials are supplied by the laboratory to the field Site and returned to the laboratory for storage and analysis along with the field samples as may be required in the task planning documents. Trip blanks were submitted to the contract laboratory with each shipment (cooler) of environmental samples for VOC analyses. Trip blanks were analyzed for all VOC analyses specified for samples in the corresponding cooler. The trip blank data demonstrate that the samples were not exposed to contamination during storage and transport to the laboratory. Trip blanks were submitted for VOC analysis, therefore the containers did not contain head space. Trip blanks are typically required for VOC sampling of: groundwater; surface water; storm water; and, rinseate. In 2010, all trip blank samples had VOC concentrations below the detection limit.

For the 2010 annual groundwater sampling event, all sample results collected for former Fairchild Buildings were verified for completeness by completion of a Level 2 Data Review Summary. Custody seals were used for each sample location as specified in the 1991 MEW QAPP.

The following QA/QC parameters were used to assess the laboratory analytic data via Level 2 Data Review:

- Holding time;
- Detection and reporting limits;
- Surrogate recovery (organic methods only);
- Laboratory control sample recovery;
- Matrix spike and spike duplicate recovery;
- Method blank contamination;
- Travel blank contamination (organic methods only);
- Field/rinseate blank contamination; and
- Field sample duplicates precision.

Ten percent of all sample delivery groups underwent a stringent Level 4 data validation as required by the MEW QAPP. The samples validated via Level 4 data validation were placed on chain(s) of custody separate from those for the Level 2 data deliverables. Level 4 validation procedures vary by method. In addition to the verification check list provided above, the Level 4 review of organic laboratory data checks the following:

- Ion abundance;
- Minimum number of initial calibration standards analyzed;
- Relative response factors in initial and continuing calibrations;
- Percent relative standard deviations in initial calibrations;
- Percent differences in continuing calibrations;
- Internal standard retention times;

- Internal standard area counts;
- Analytical sequence carryover;
- Dilutions performed appropriately;
- Calibration blank contamination; and
- Data package completeness for all raw data, including chromatograms and bench sheets, for calibration standards, quality control data, and samples.

The Level 4 review of inorganic (metals) data checks for the following:

- Minimum number of initial calibration standards analyzed;
- All initial calibration verification recoveries are within established limits;
- Initial calibration correlation coefficients are within established limits;
- Continuing calibration verification recoveries are within established limits;
- Analytical sequence carryover;
- Dilutions performed appropriately;
- Laboratory duplicate results are within established limits;
- Initial and continuing calibration blank contamination; and
- Data package completeness for all raw data, including bench sheets, for calibration standards, quality control data, and sample.

Technical staff assigned qualifiers to data that were found outside control limits in the MEW QAPP. Data qualifiers, or flags, communicate data issues to end users and decision makers and are defined in the USEPA *Contract Laboratory Program National Functional Guidelines for Organic and Inorganic Data Review.*

A total of 233 samples were submitted to Curtis and Tompkins in Berkeley, California, a state-certified analytical laboratory for specified analyses, including VOCs, semi-VOCs, Bis(2-ethylhexyl) phthalate, metals, and 1,4-dioxane analysis. Two samples were analyzed for Acute Toxicity using USEPA-821-R-02-012 and turbidity using USEPA method 180.1 by Block Environmental Services, Inc, another state-certified laboratory. In addition to the monthly treatment system samples, 96 total groundwater samples were collected from the Former Fairchild Buildings Area, including Treatment Systems 1, 3, and 19 monitoring and extraction wells as a part of MEW annual groundwater sampling event. The groundwater samples were analyzed for Halogenated VOCs using USEPA Method 8260B for the 8010 MS Parameters by Curtis and Tompkins.

All samples were collected, stored, transported, and managed according to USEPA protocols. Sample temperature and holding times were correctly observed. Eight samples collected from the Buildings 13, 19 and 23 Site contained headspace greater than 6 mm in all three VOAs. However, the relative percent difference between 2009 and 2010 sample results was less than 35%. Therefore, the data was deemed representative and were not qualified.

No significant analytical issues were noted and the data are usable for their intended purposes. Table C-1 summarizes the sampling QA/QC, and Table C-2 summarizes samples for the 2010 annual groundwater sampling event at Former Fairchild Building 19.

Table C-1. Summary of Sampling QA/QC for January through December 2010, Former Fairchild Building 19, 369/441 Whisman Road, Mountain View, California.

Who performed sampling (Firm name/address/contact/phone):	Weiss Associates 350 East Middlefield Road, Mountain View, CA 94043 Tess Byler (650) 968-7000
Chain of Custody forms completed for all samples?	YES
Field parameters stabilized prior to taking sample?	YES[1]
Headspace in sample containers < 6mm (applicable to VOCs only)?	NO[2]
Samples preserved according to analytical method?	YES
Required field QA/QC samples taken?	YES

Explain any "NO" answers.

1. Not applicable for groundwater treatment system samples. Field parameter stabilization is not part of the standard sampling protocol for treatment system. All field parameters are assumed stable when grab samples are collected from a running treatment system.

2. Headspace greater than 6 mm was present in eight samples collected at the Buildings 13, 19, and 23 Site. However, the relative percent difference between 2009 and 2010 sample results was less than 35%. Therefore, the data were deemed representative, and were not qualified.

Table C-2. Summary of Analytical QA/QC for January through December 2010, Former Fairchild Building 19, 369/441 Whisman Road, Mountain View, California.

Who performed analysis (Lab name/address/contact/phone):	Curtis and Tompkins 2323 Fifth Street Berkeley, CA 94710 Micah Smith (510) 204-2223 Block Environmental Services, Inc. 2451 Estand Way Pleasant Hill, CA 94523 Nanette Bradbury (925) 682-7200
Analytical methods (by method number and chemical category):	
Groundwater Treatment System Samples:	54 samples (including 7 travel blanks and 6 duplicates) were analyzed by USEPA 8260B – Halogenated Volatile Organic Compounds (8010 MS Parameters) Two samples analyzed by USEPA 8270C SIM – 1,4-Dioxane One sample analyzed by EPA-821-R-02-012– Acute Toxicity of Effluents to Freshwater and Marine Organisms One sample analyzed by USEPA 180.1 – Turbidity One sample analyzed by USEPA 200.8 – Metals
Groundwater Well Samples:	52 samples[1] (including 6 travel blanks, 4 field blanks, 5 duplicates, and 2 rinseate blanks) analyzed by USEPA 8260B – Halogenated Volatile Organic Compounds (8010 MS Parameters) 2 samples analyzed by USEPA 300.0 – Nitrate and Sulfate 2 samples analyzed by USEPA 200.7 – Ferrous Iron (Fe^{II})
Are the labs state-certified for the above analytical methods?	YES
Analyses performed according to standard methods?	YES
Sample holding times met?	YES
Analytical results reported for all values above MDL?	YES
QA/QC analyses run consistent with analytical methods?	YES
QA/QC results meet all acceptance criteria?	YES
QA/QC results and acceptance criteria on file?	YES

Explain any "NO" answers.

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APPENDIX D

SELECTED VOCS-VERSUS-TIME GRAPHS

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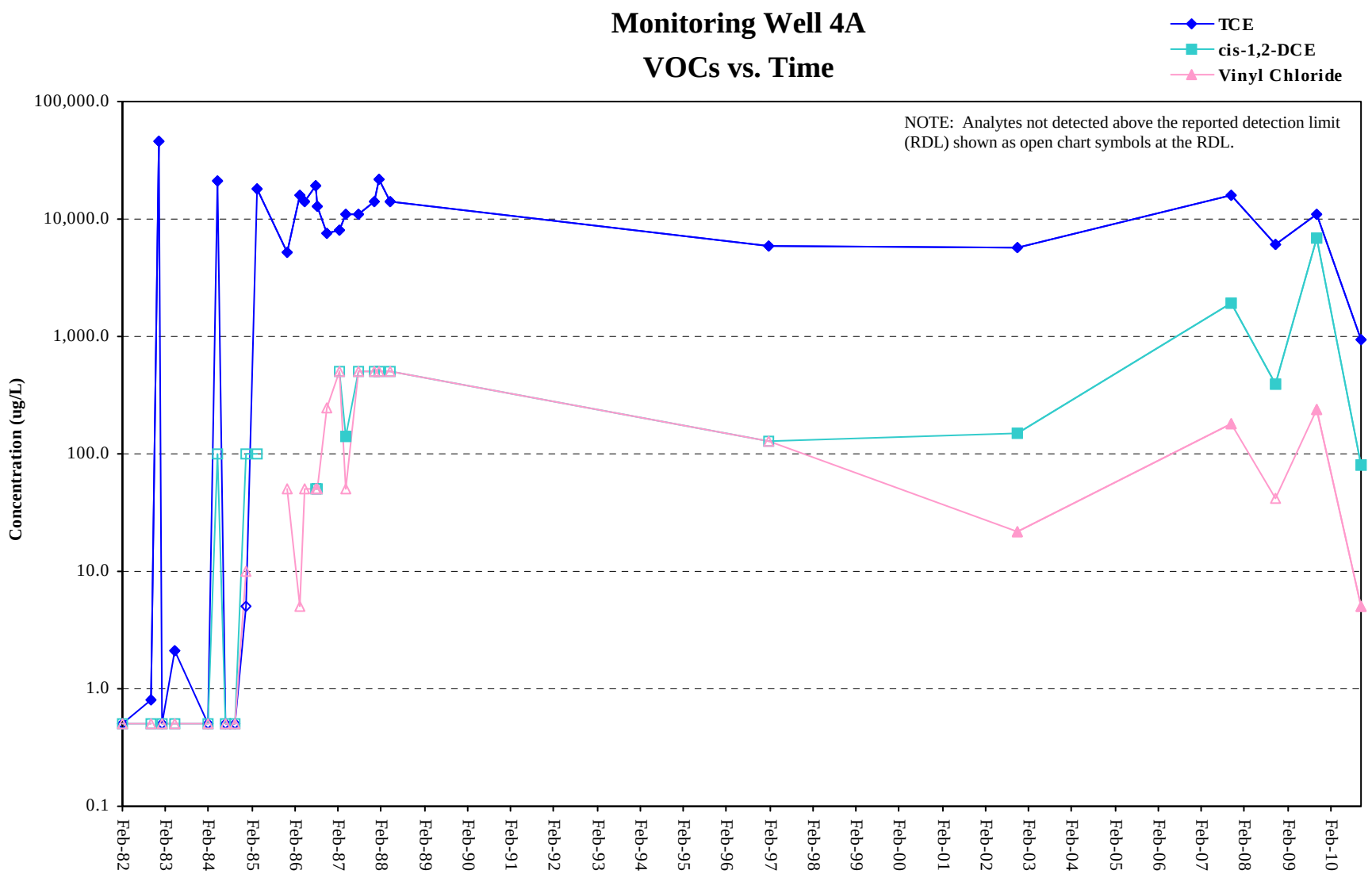
Monitoring Well 4A
VOCs vs. Time



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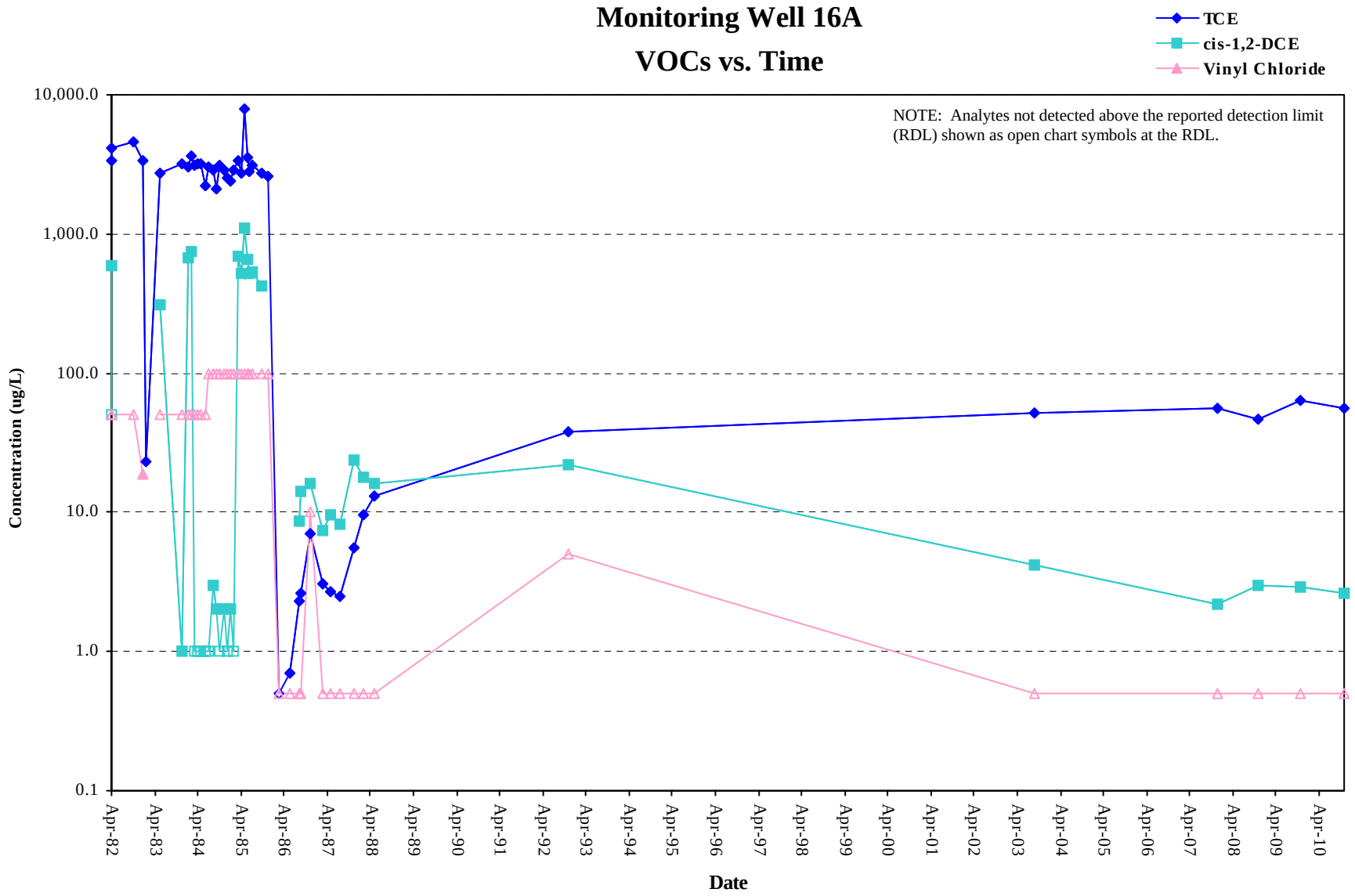
Weiss Associates

Monitoring Well 16A
VOCs vs. Time



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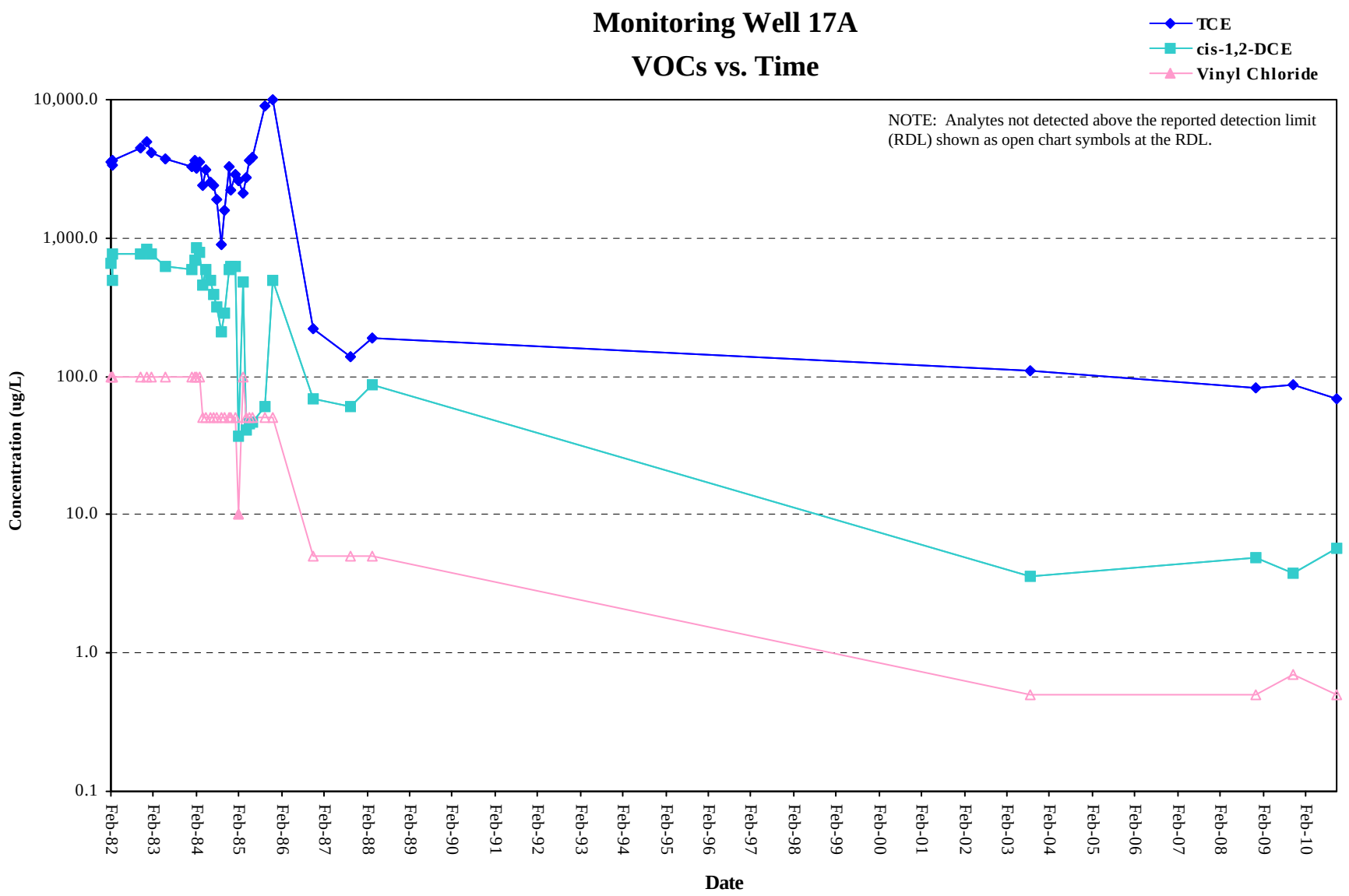
Weiss Associates

Monitoring Well 17A
VOCs vs. Time



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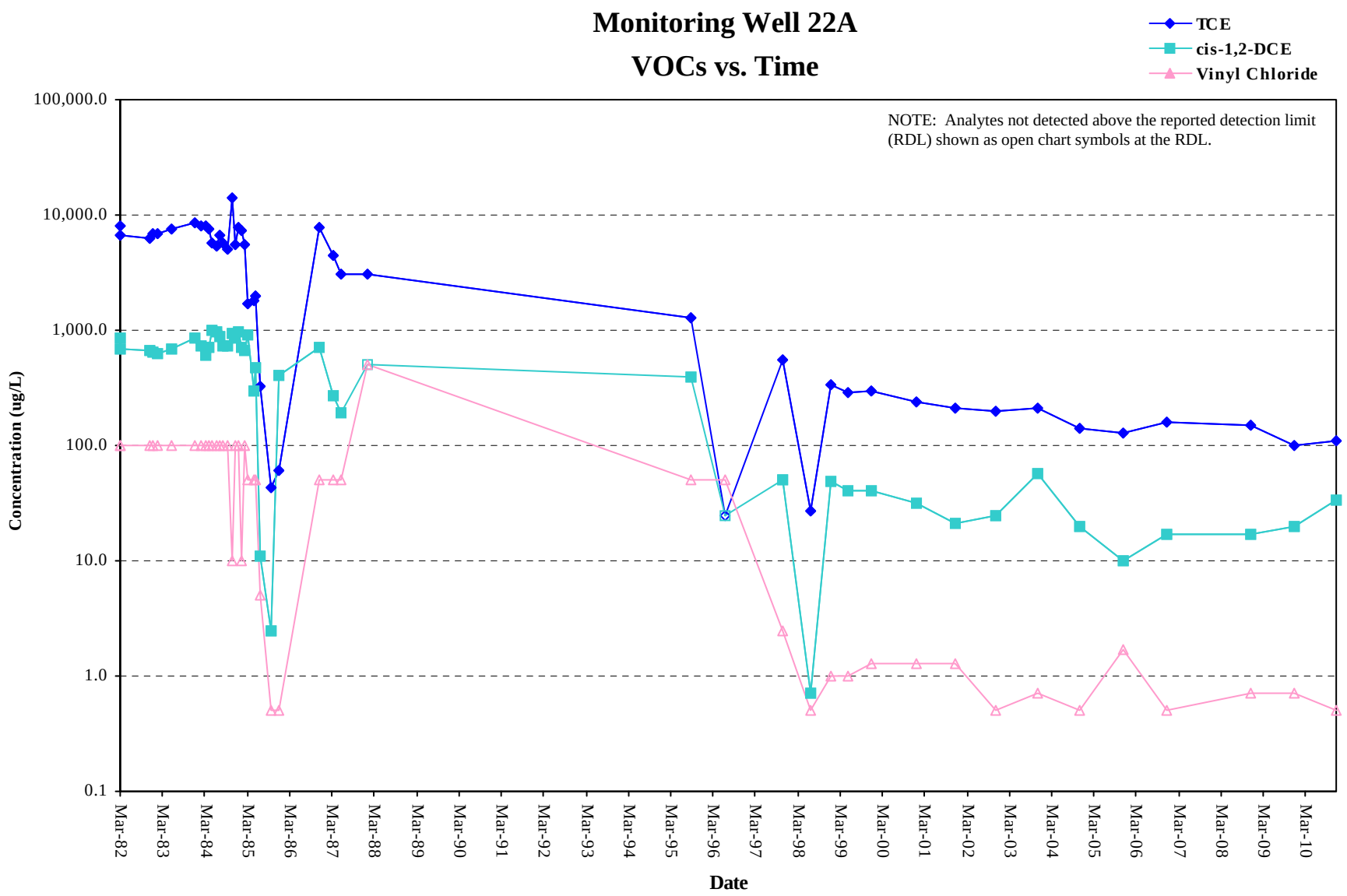
Weiss Associates

Monitoring Well 22A
VOCs vs. Time



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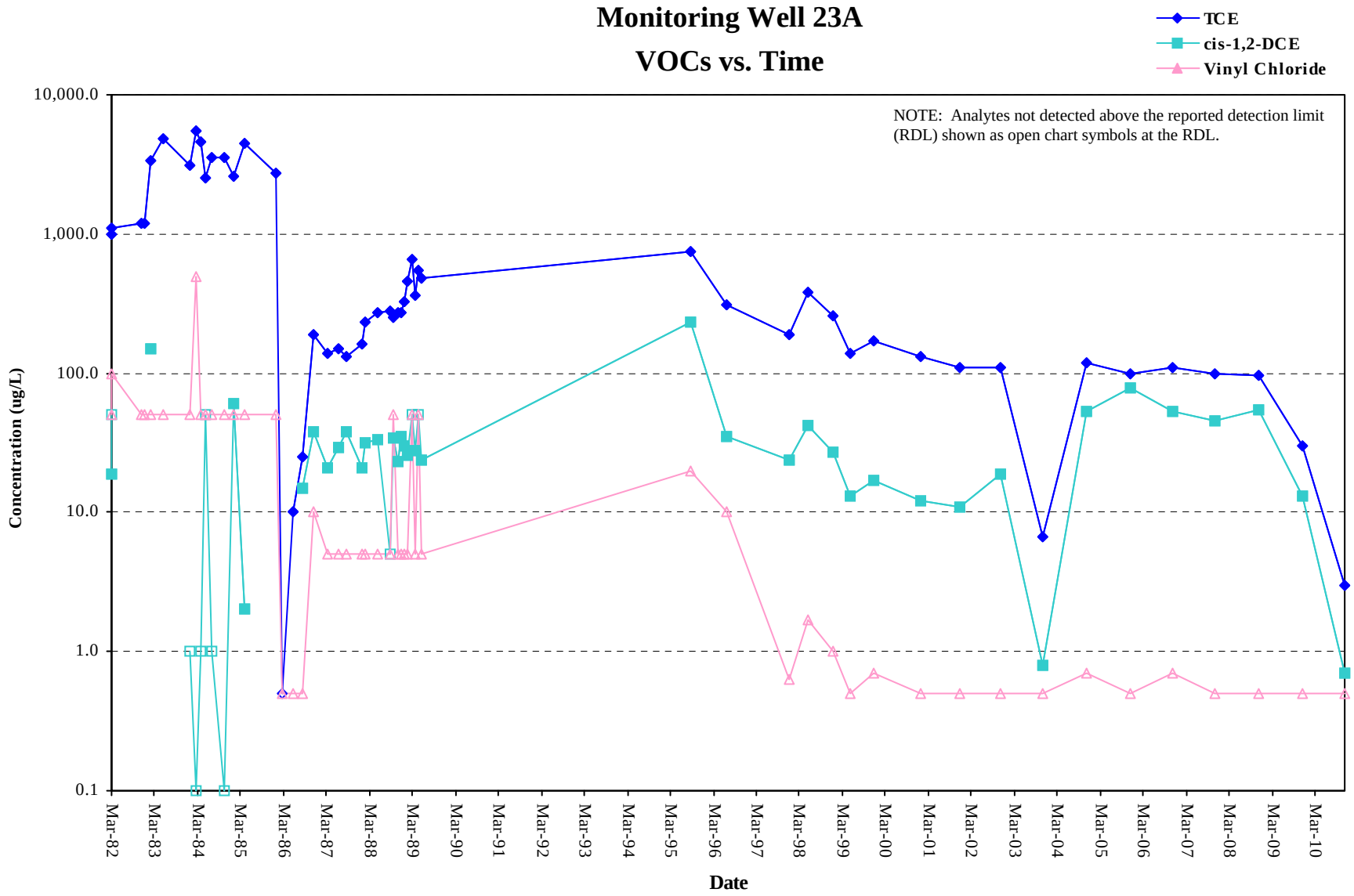
Weiss Associates

Monitoring Well 23A
VOCs vs. Time



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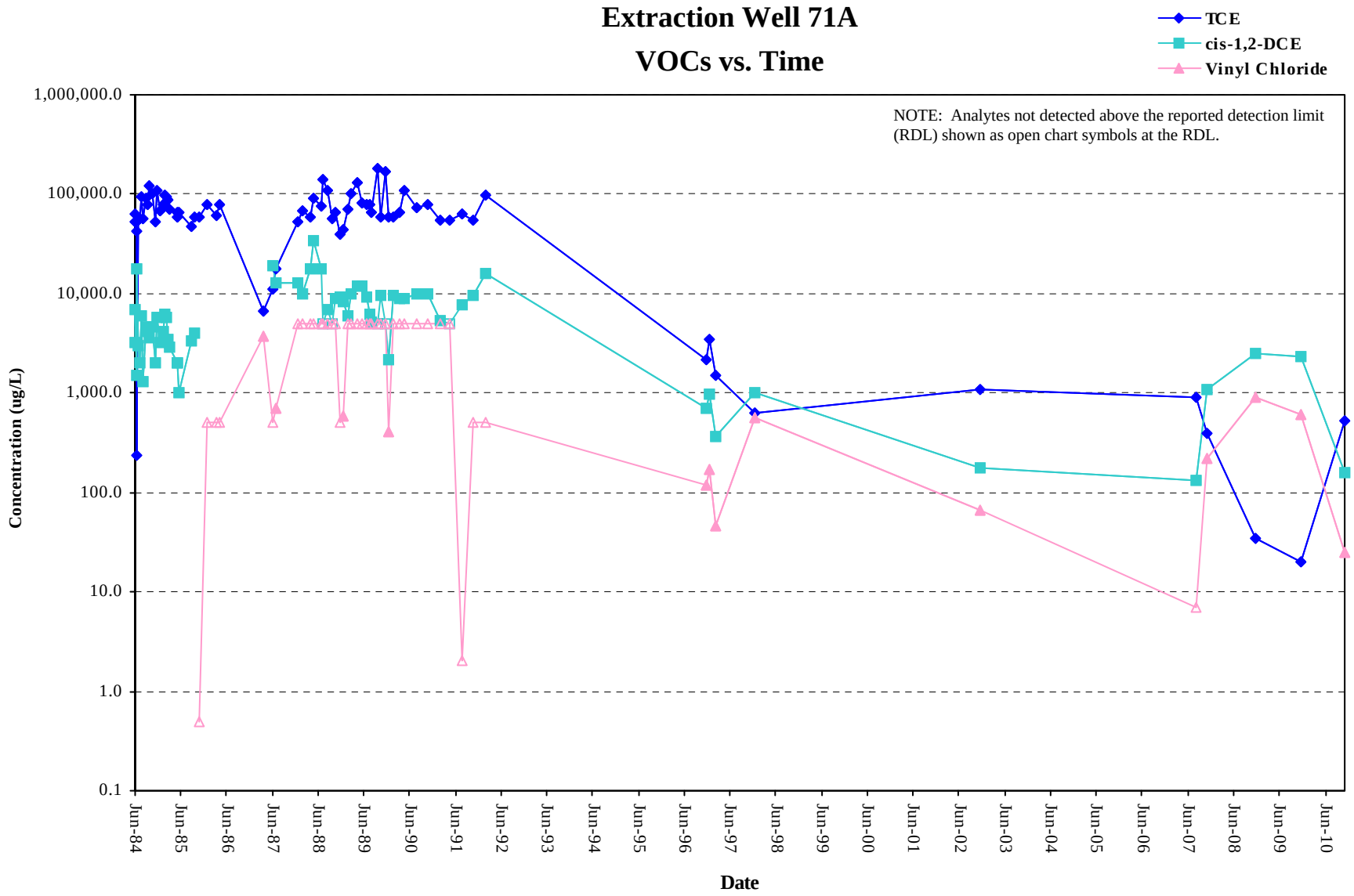
Extraction Well 71A
VOCs vs. Time



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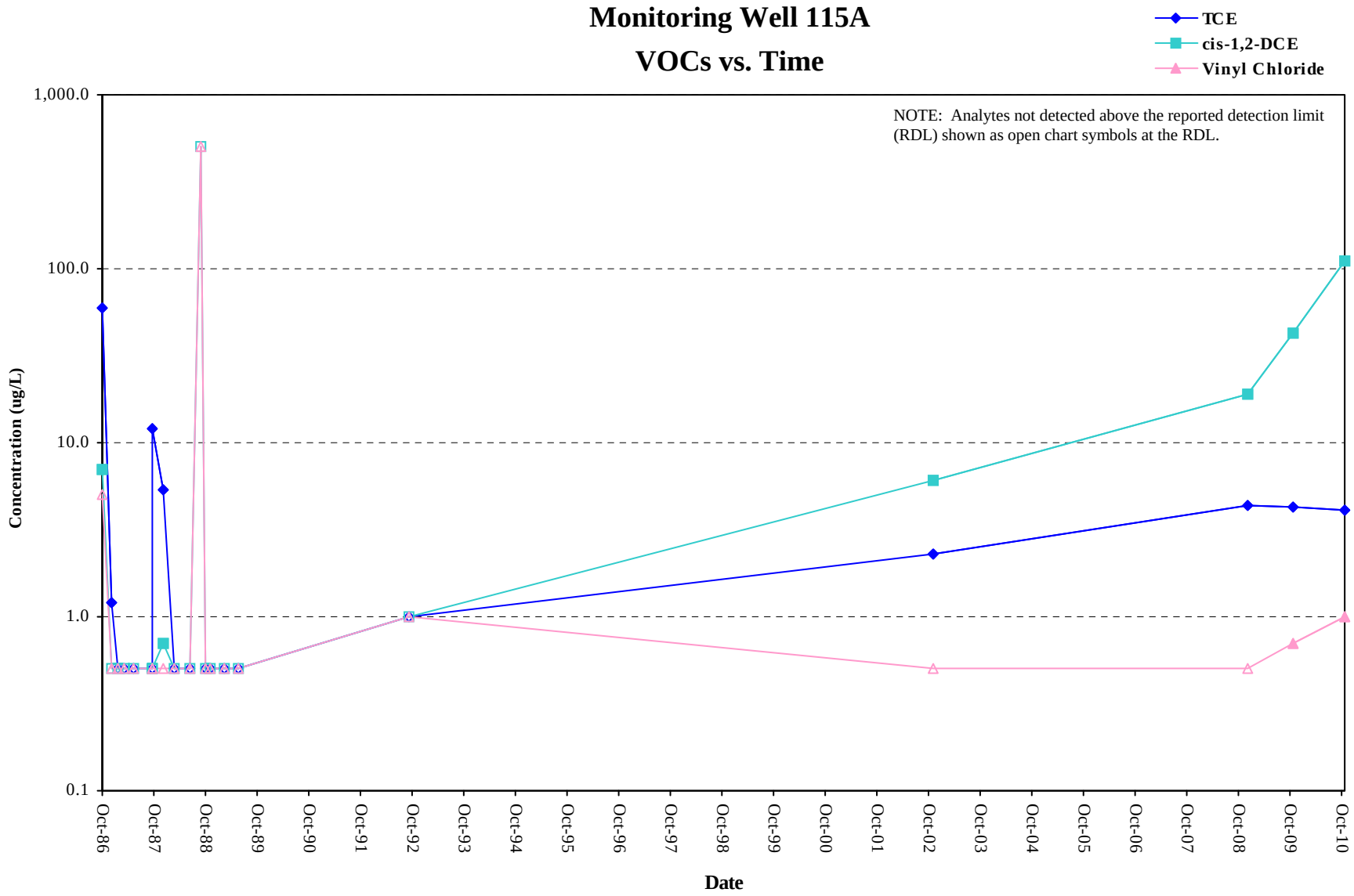
Weiss Associates

Monitoring Well 115A
VOCs vs. Time



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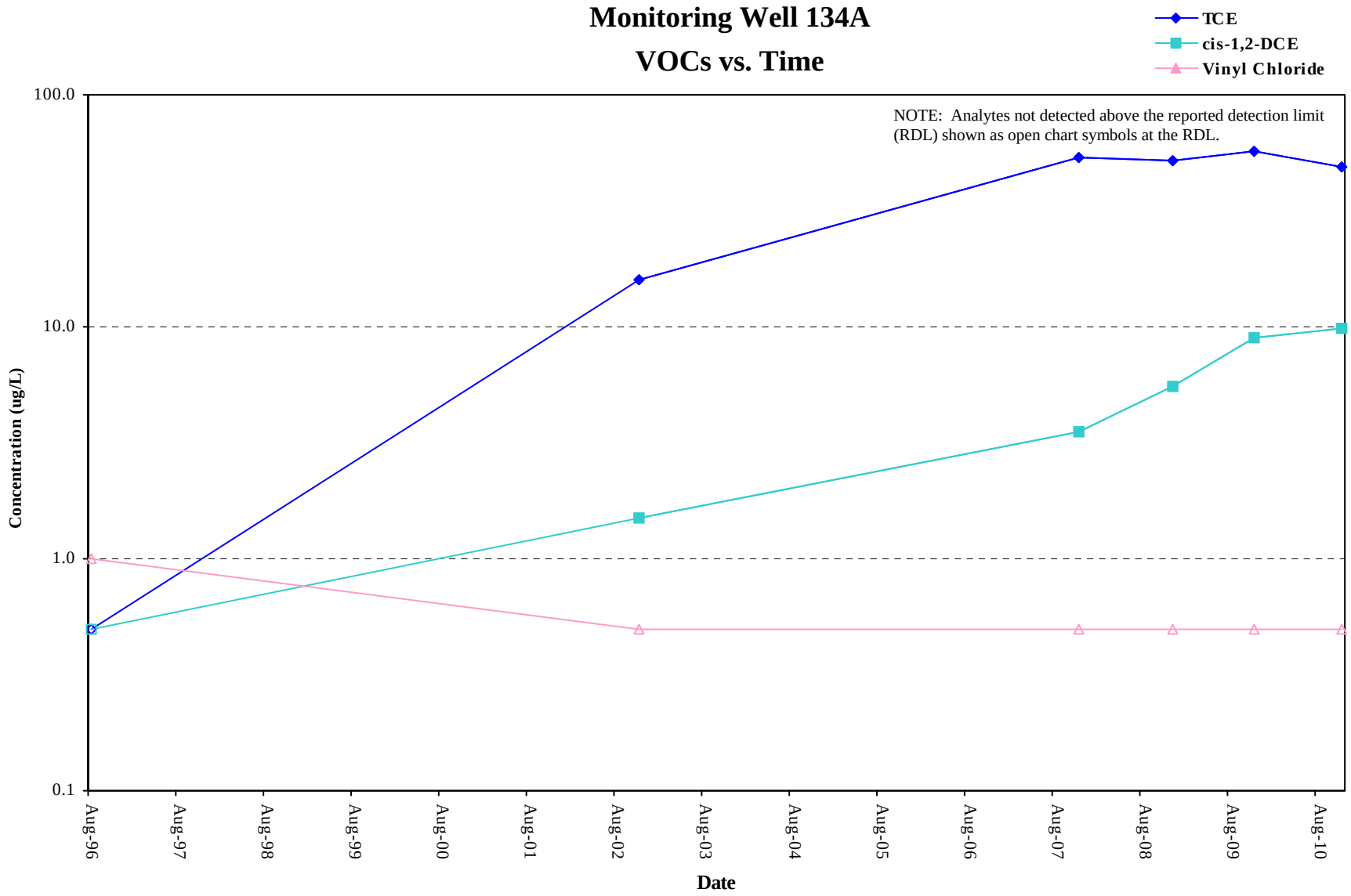
Weiss Associates

Monitoring Well 134A
VOCs vs. Time



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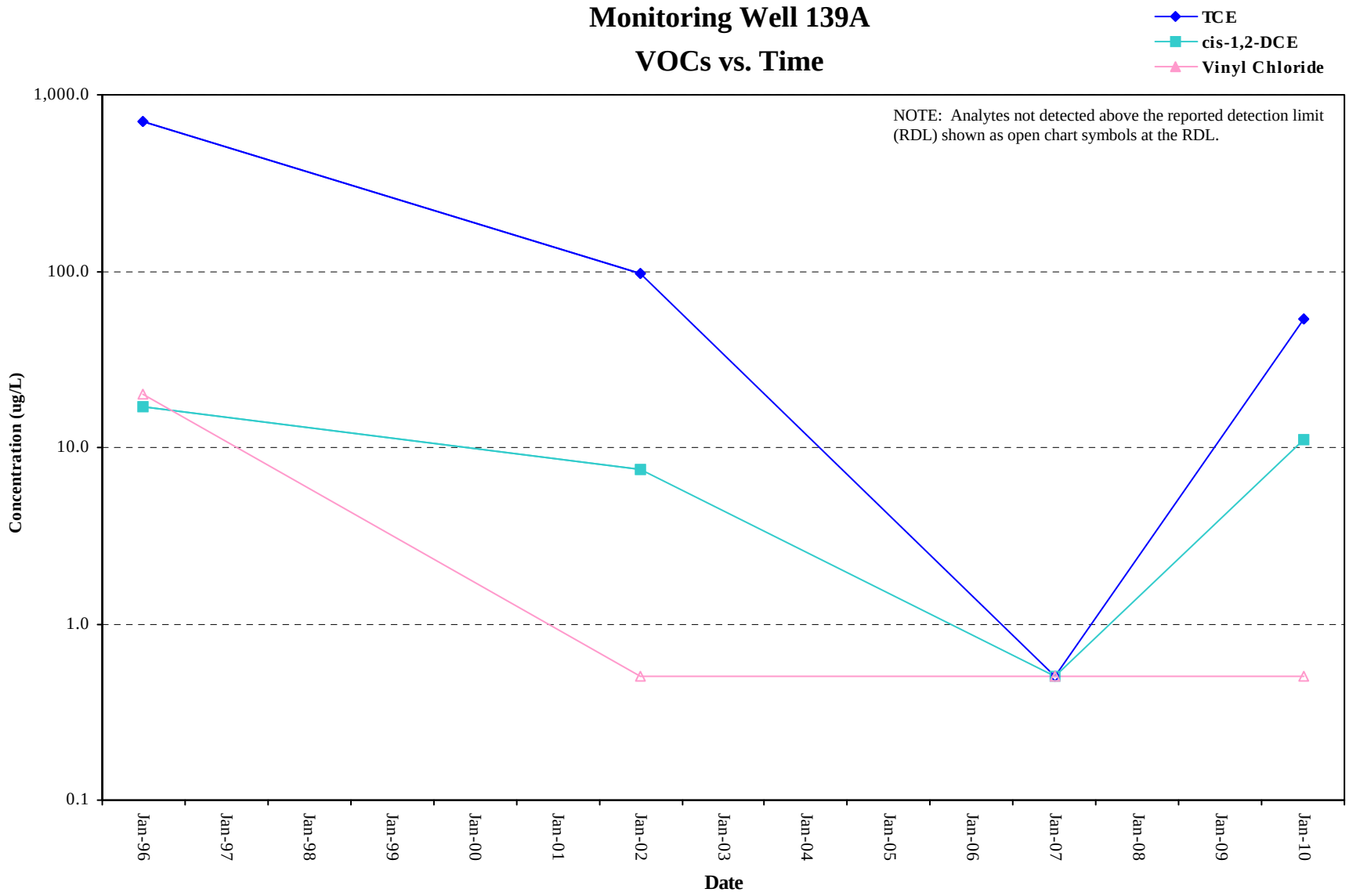
Weiss Associates

Monitoring Well 139A
VOCs vs. Time



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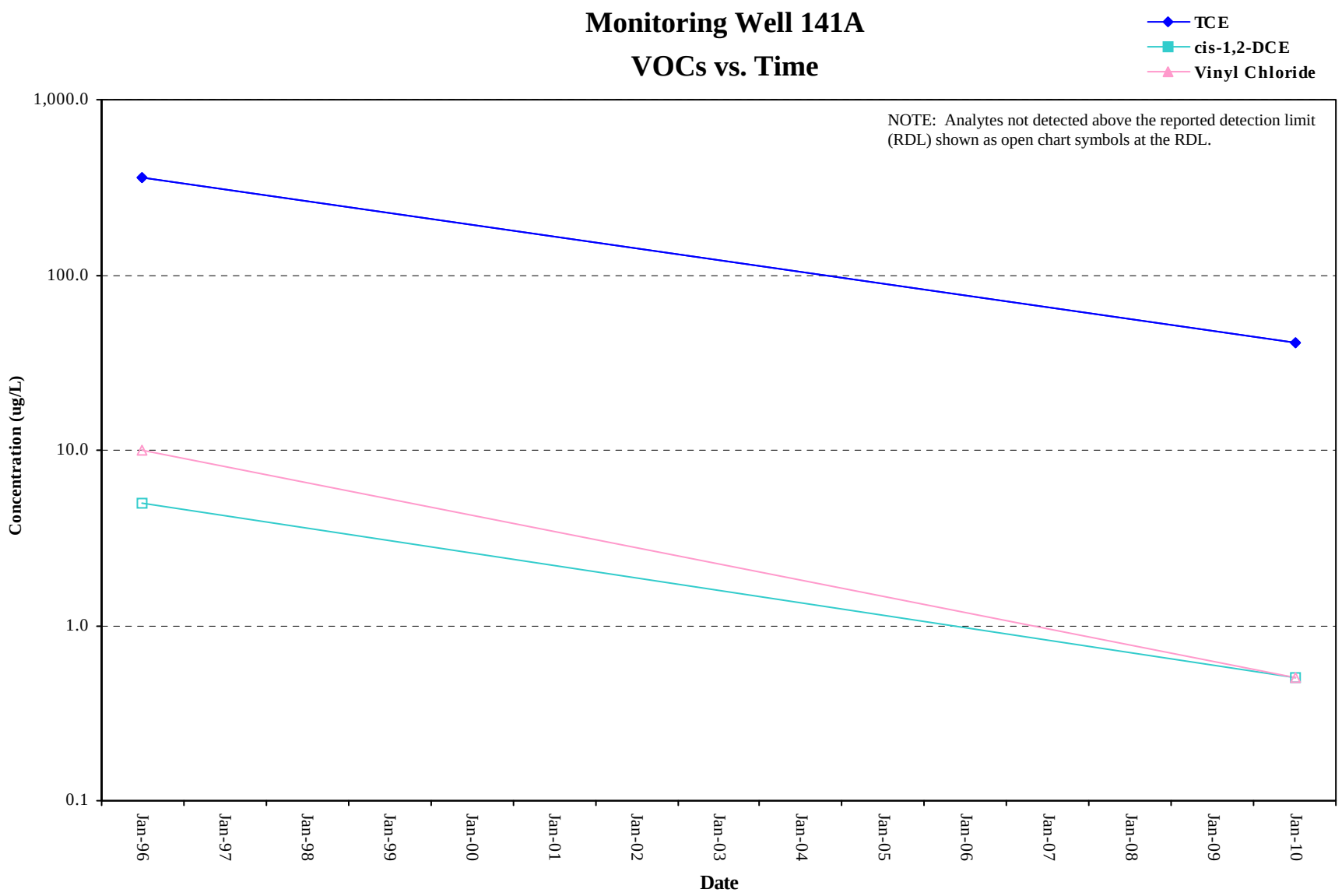
Weiss Associates

Monitoring Well 141A
VOCs vs. Time



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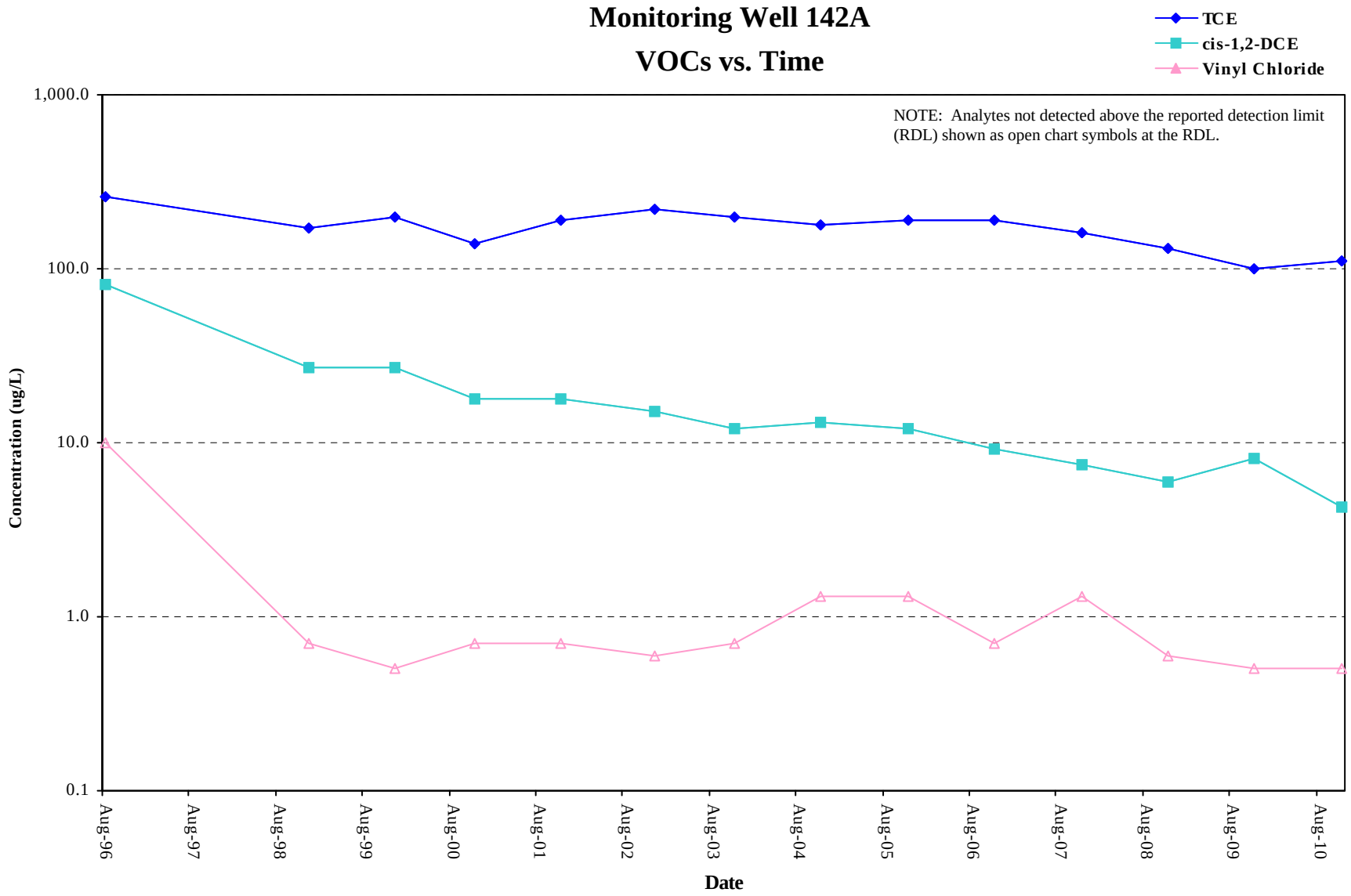
Weiss Associates

Monitoring Well 142A
VOCs vs. Time



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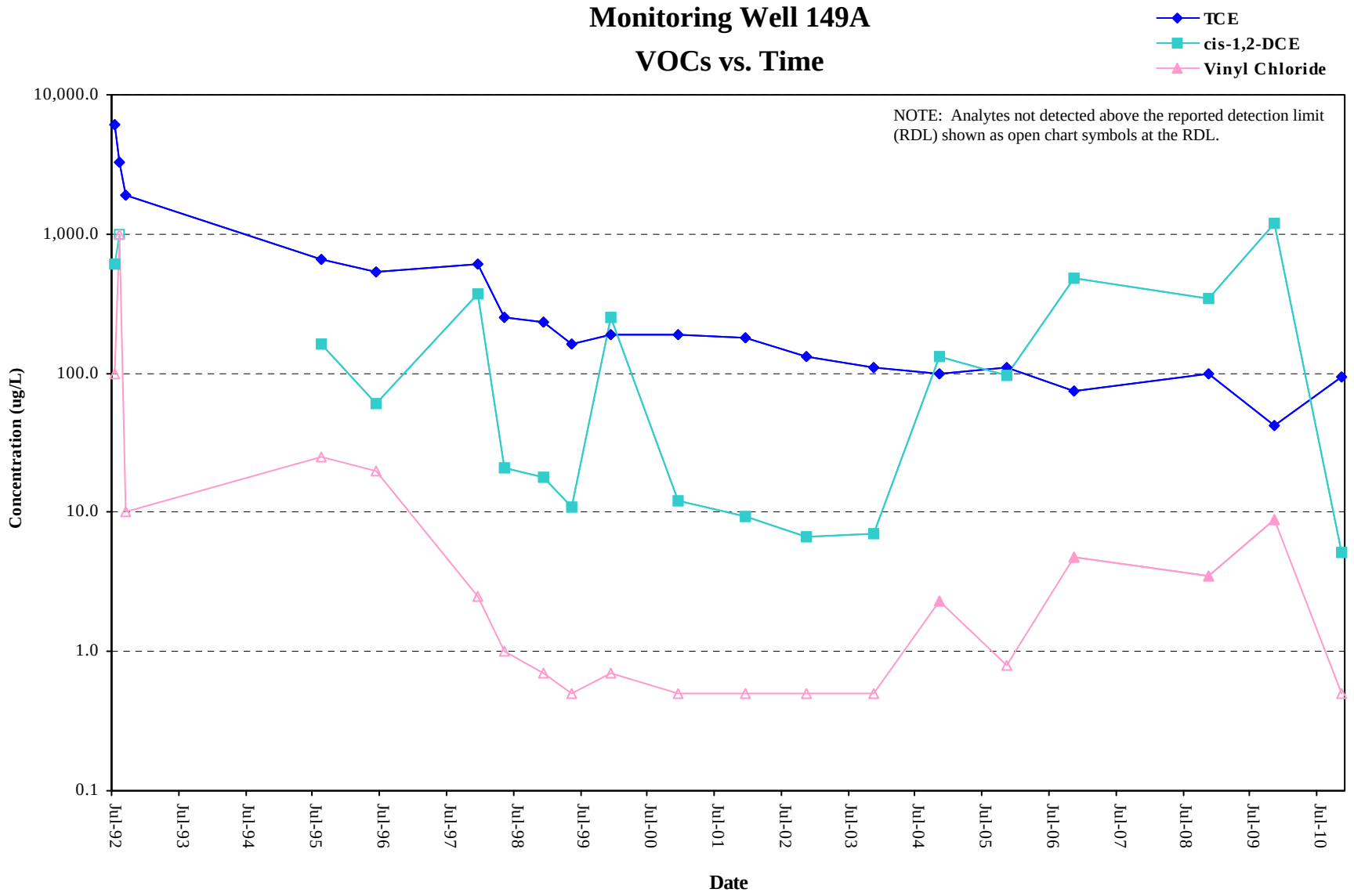
Monitoring Well 149A
VOCs vs. Time



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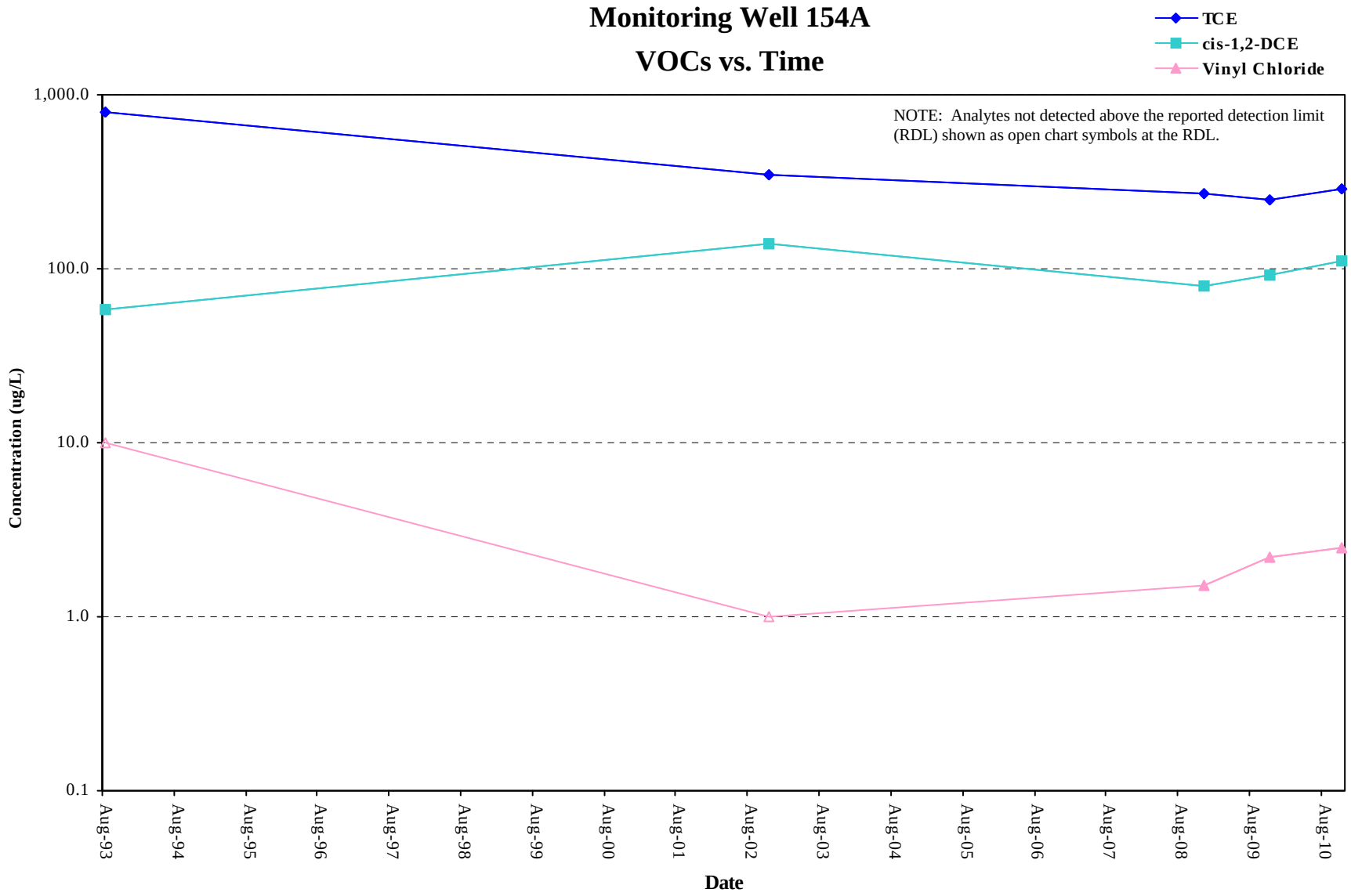
Weiss Associates

Monitoring Well 154A
VOCs vs. Time



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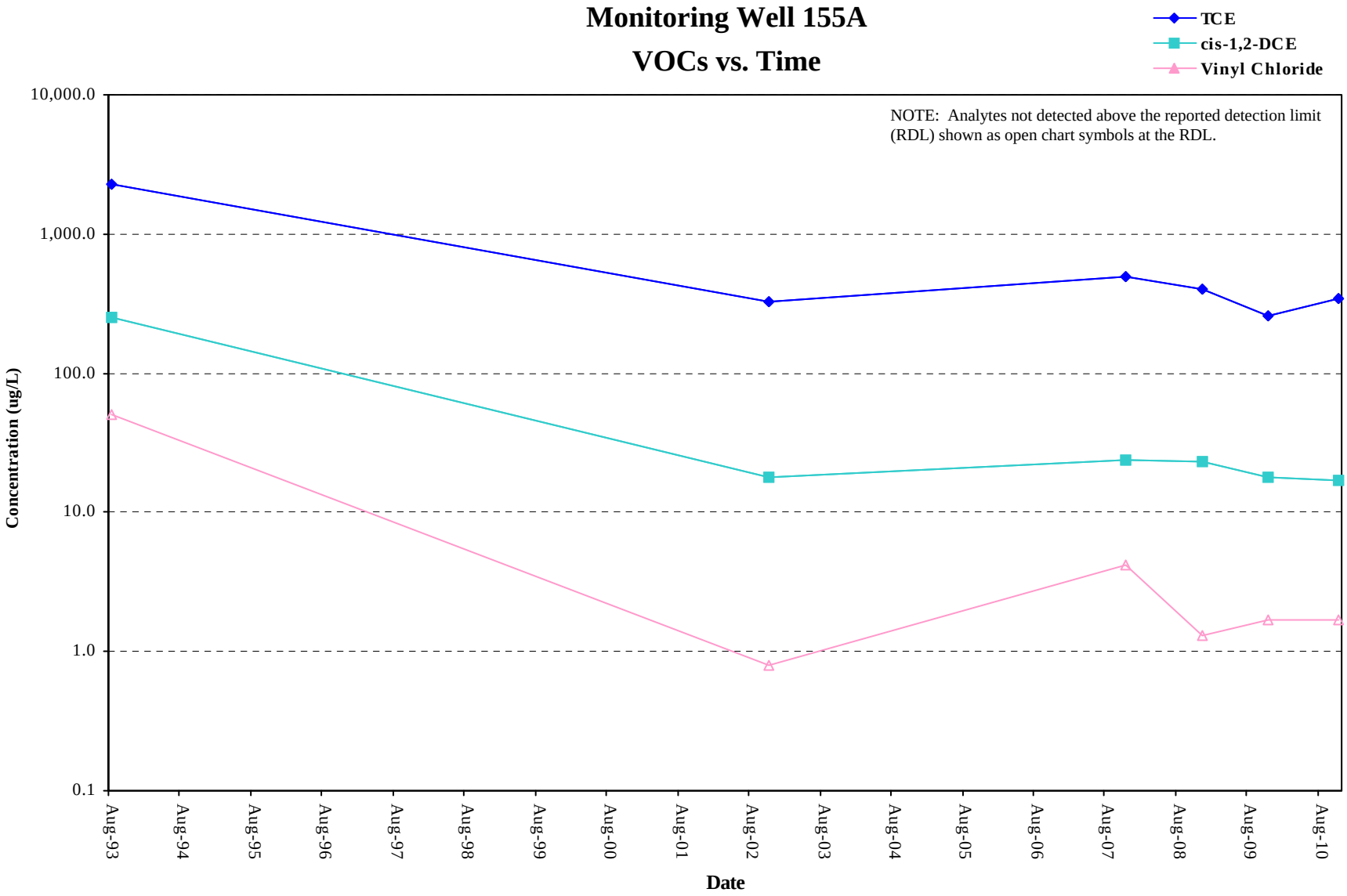
Weiss Associates

Monitoring Well 155A
VOCs vs. Time



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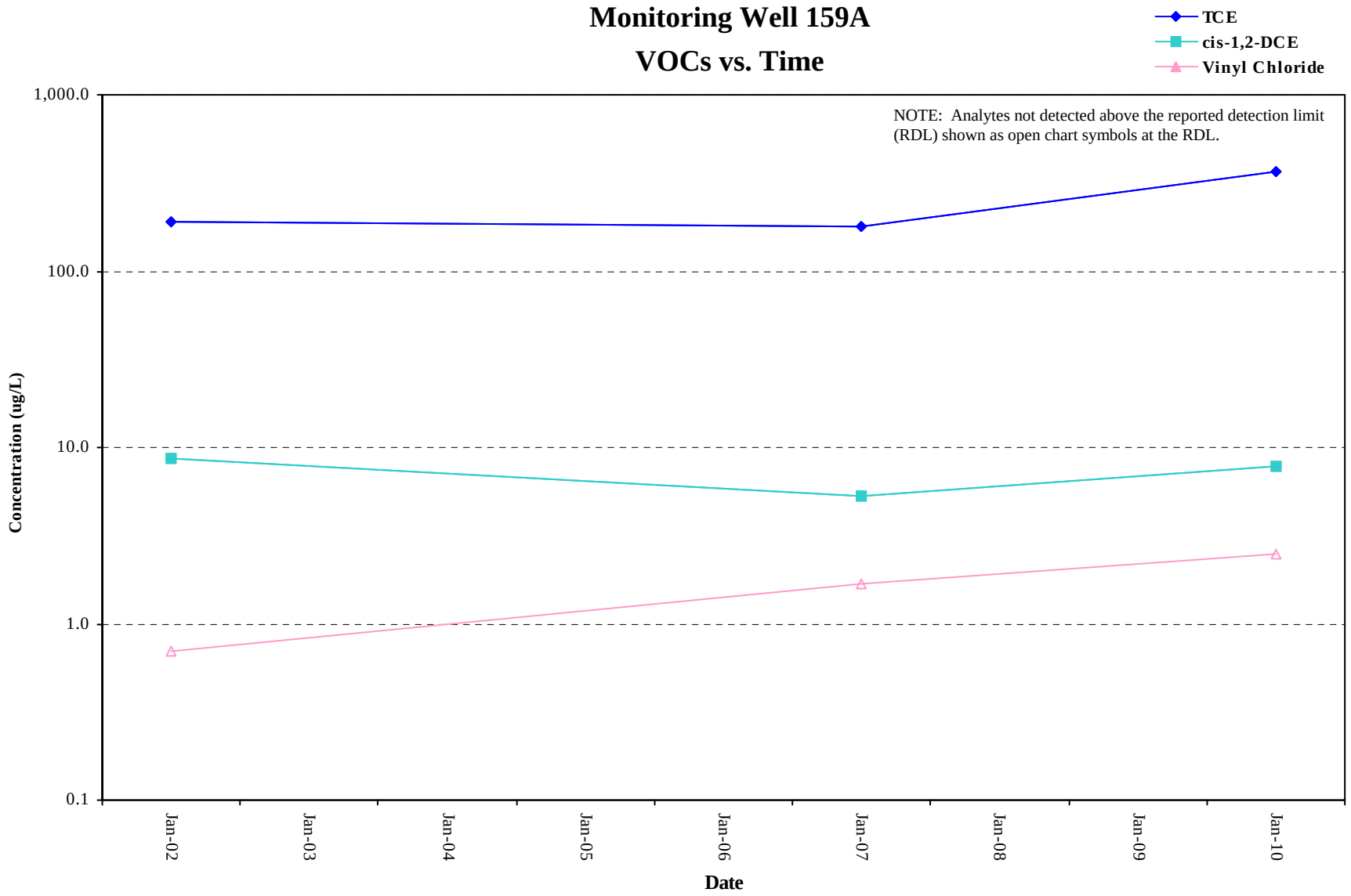
Weiss Associates

Monitoring Well 159A
VOCs vs. Time



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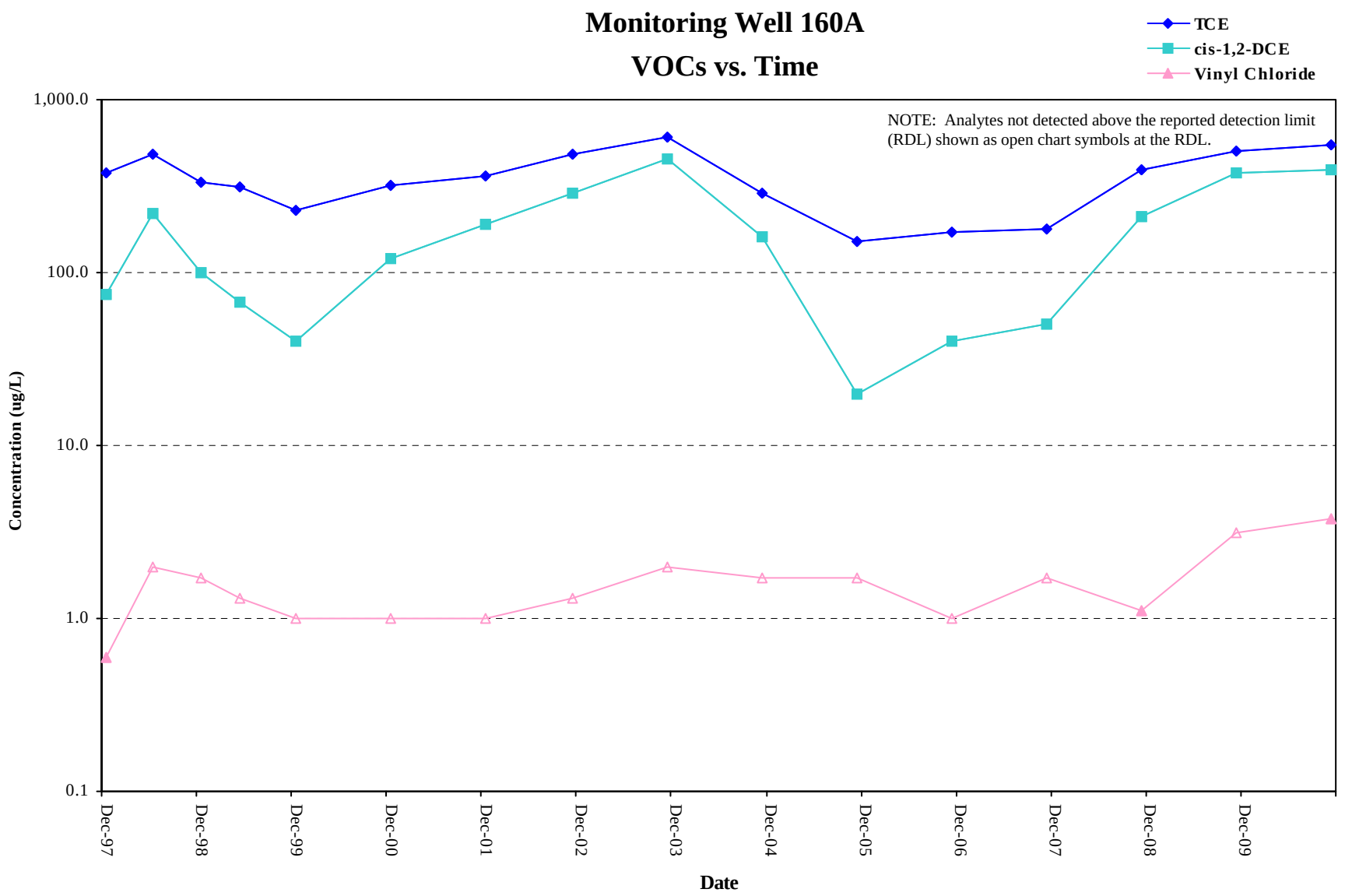
Weiss Associates

Monitoring Well 160A
VOCs vs. Time



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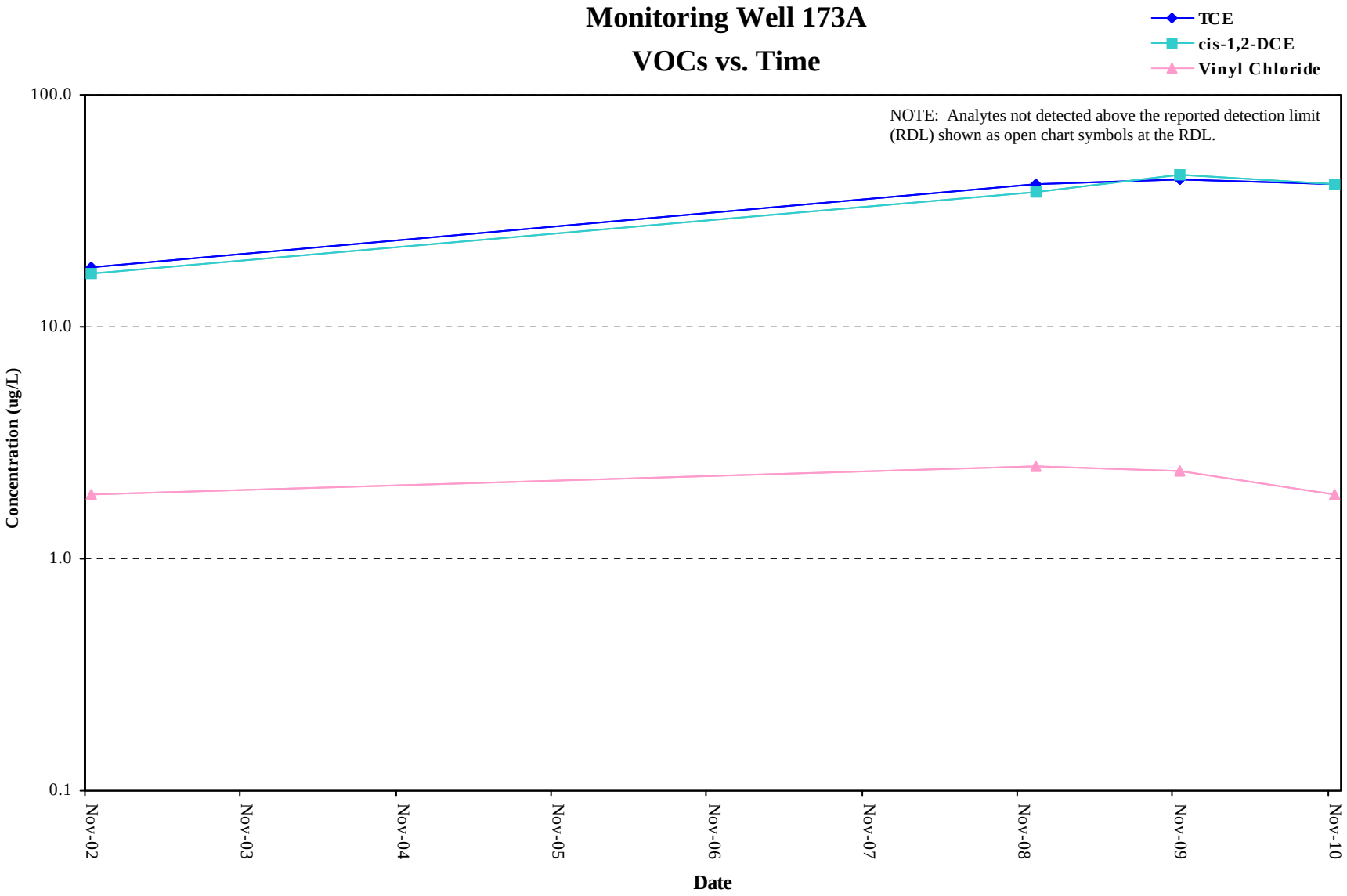
Weiss Associates

Monitoring Well 173A
VOCs vs. Time



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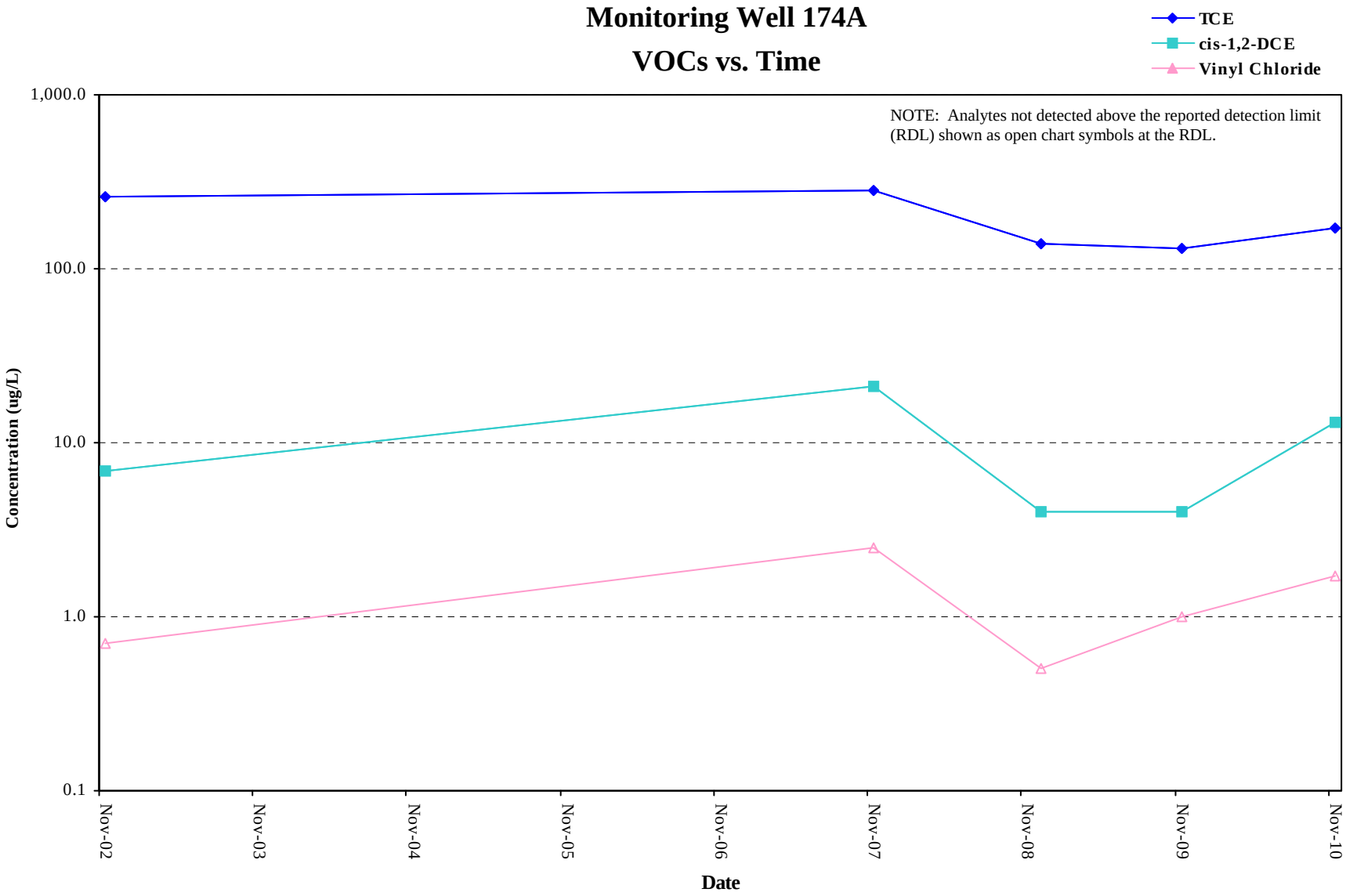
Weiss Associates

Monitoring Well 174A
VOCs vs. Time



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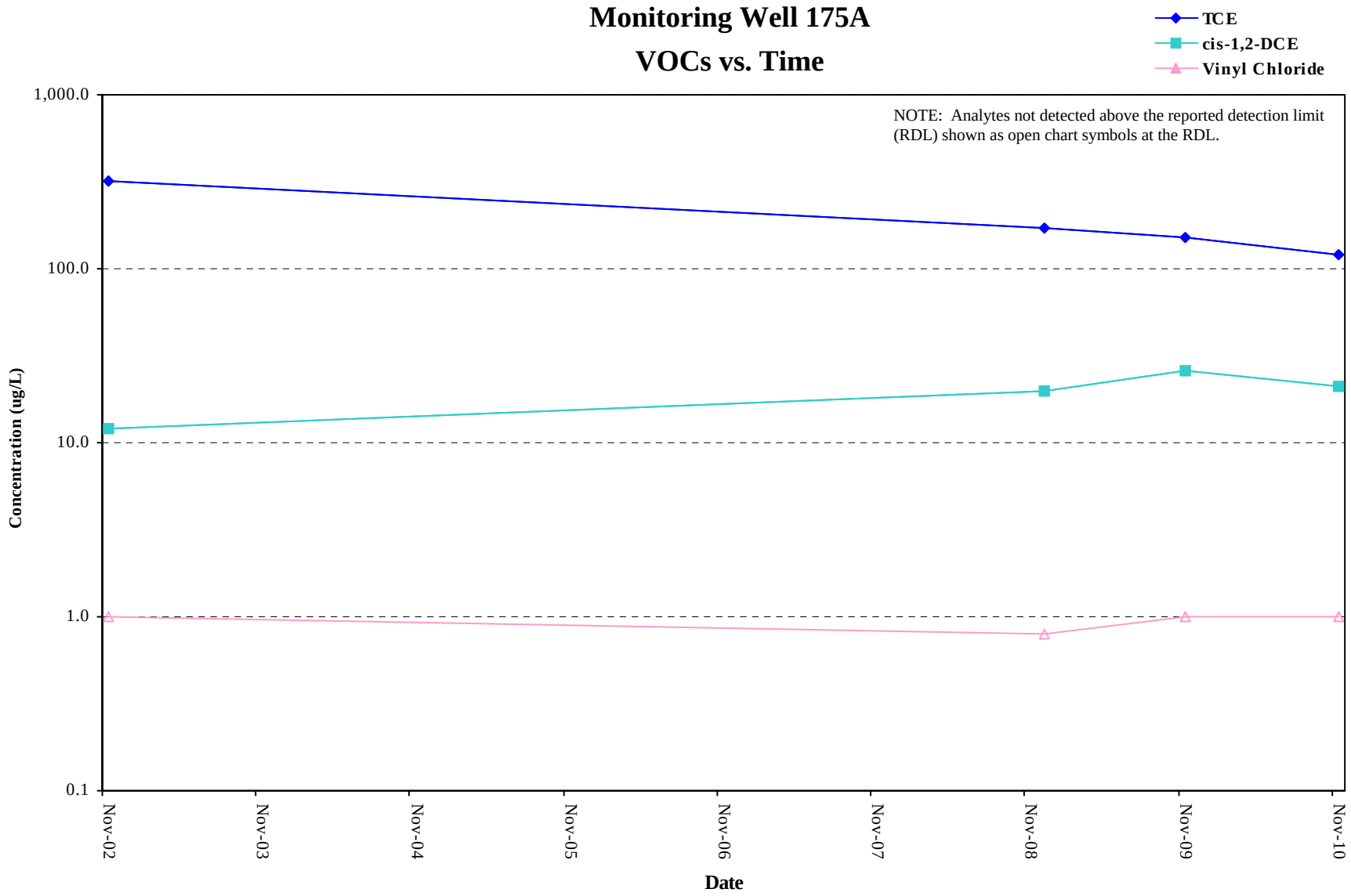
Weiss Associates

Monitoring Well 175A
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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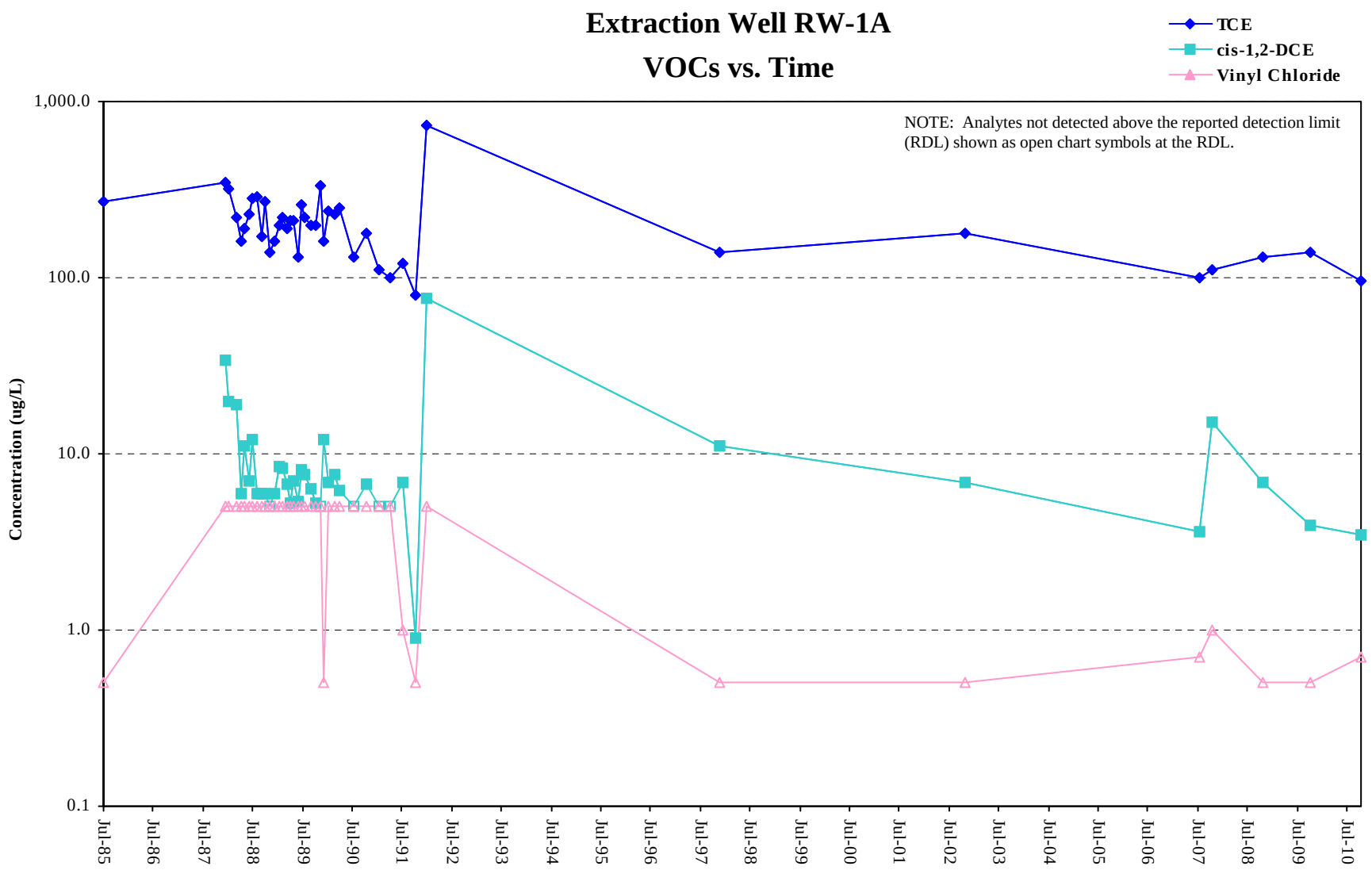
Weiss Associates

Extraction Well RW-1A
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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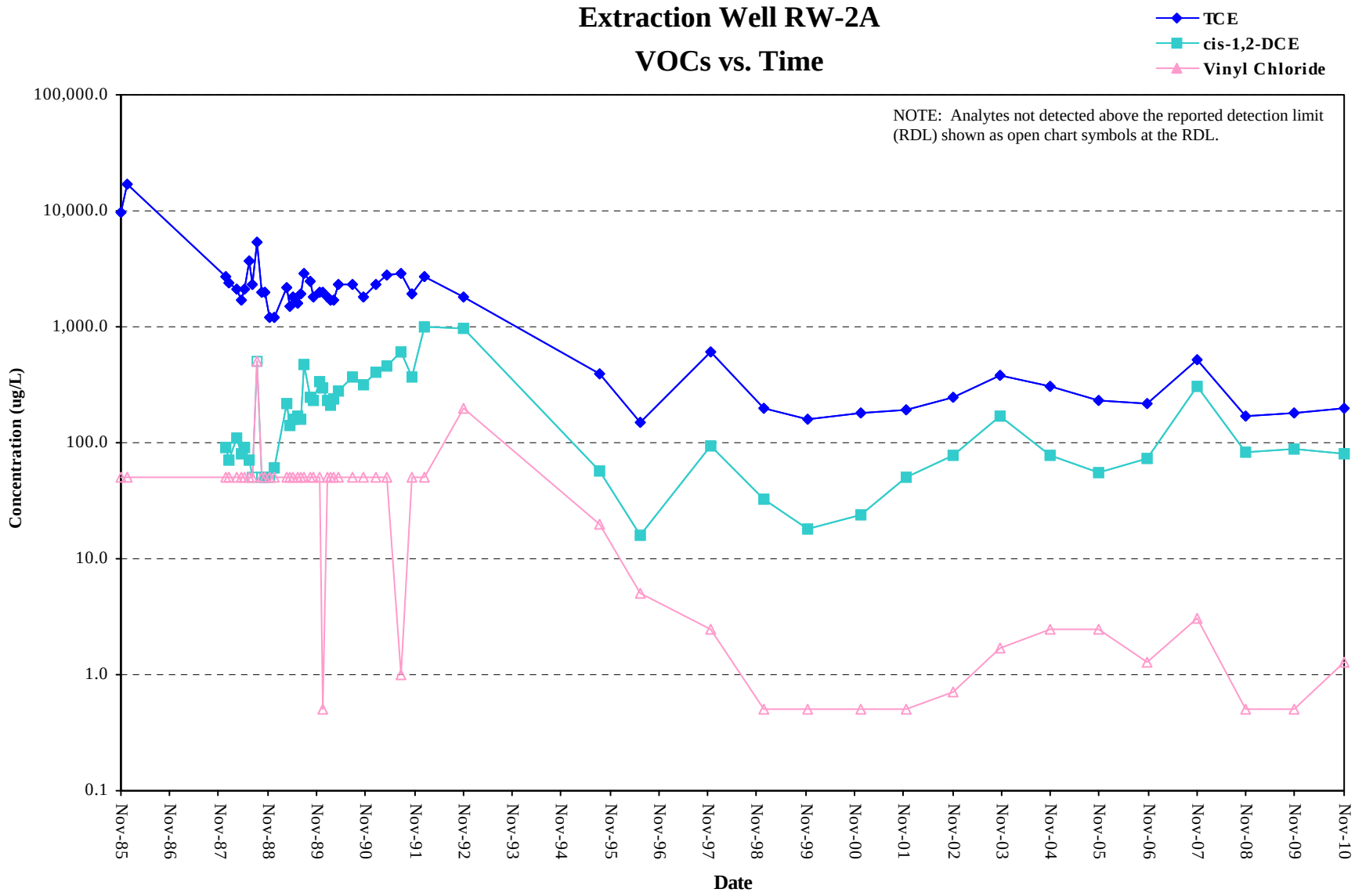
Weiss Associates

Extraction Well RW-2A
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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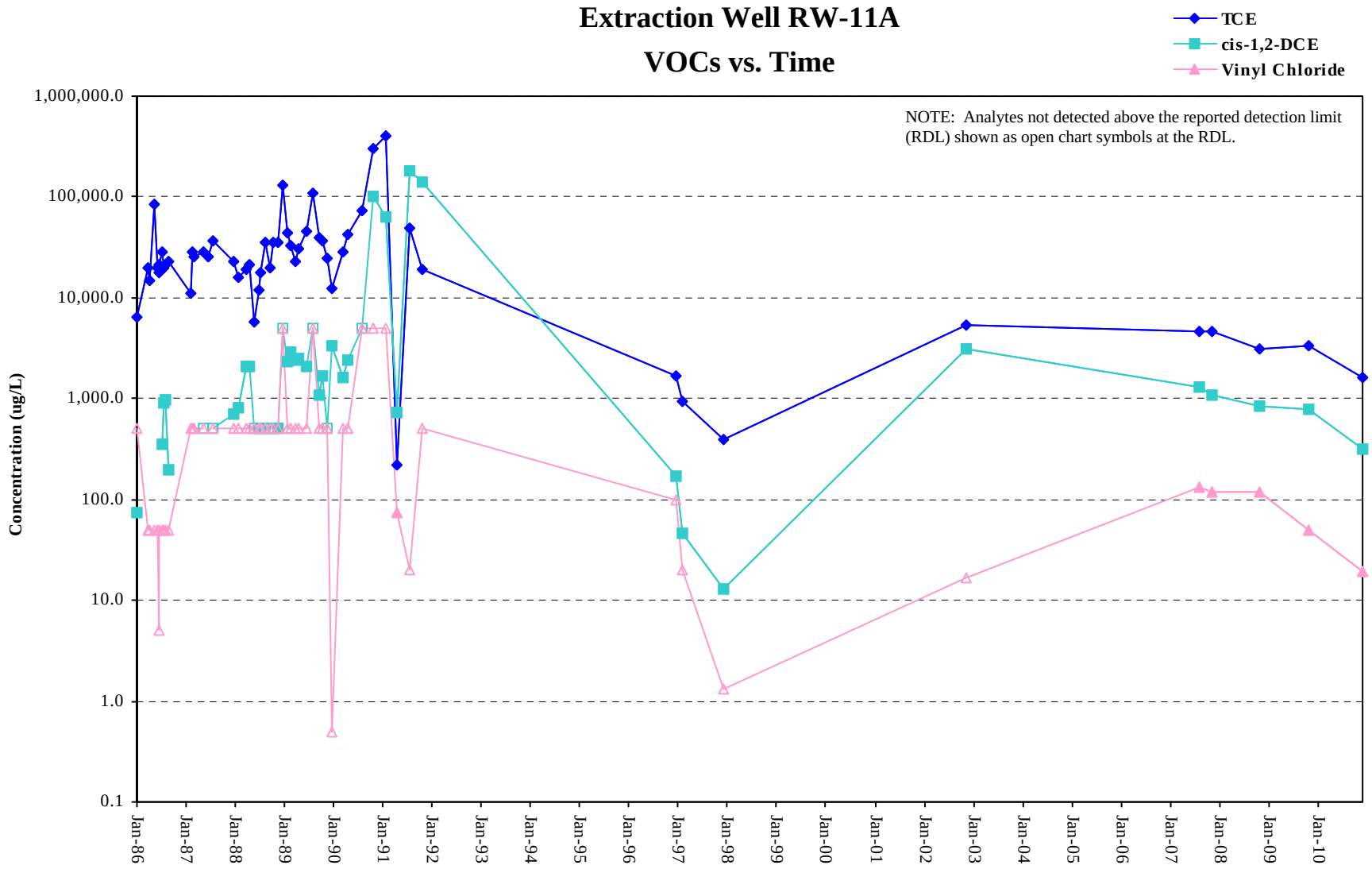
Weiss Associates

Extraction Well RW-11A
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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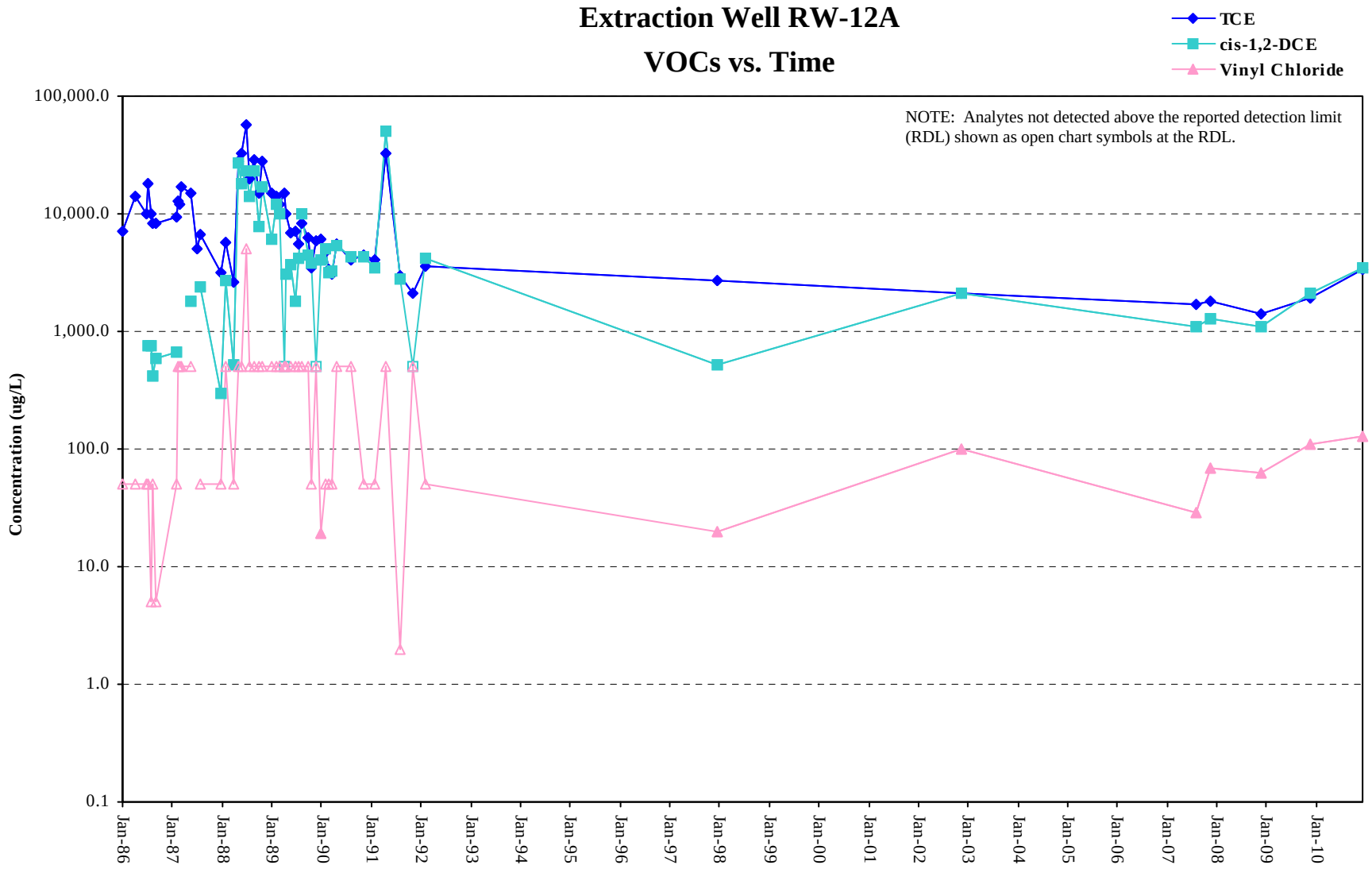
Weiss Associates

Extraction Well RW-12A
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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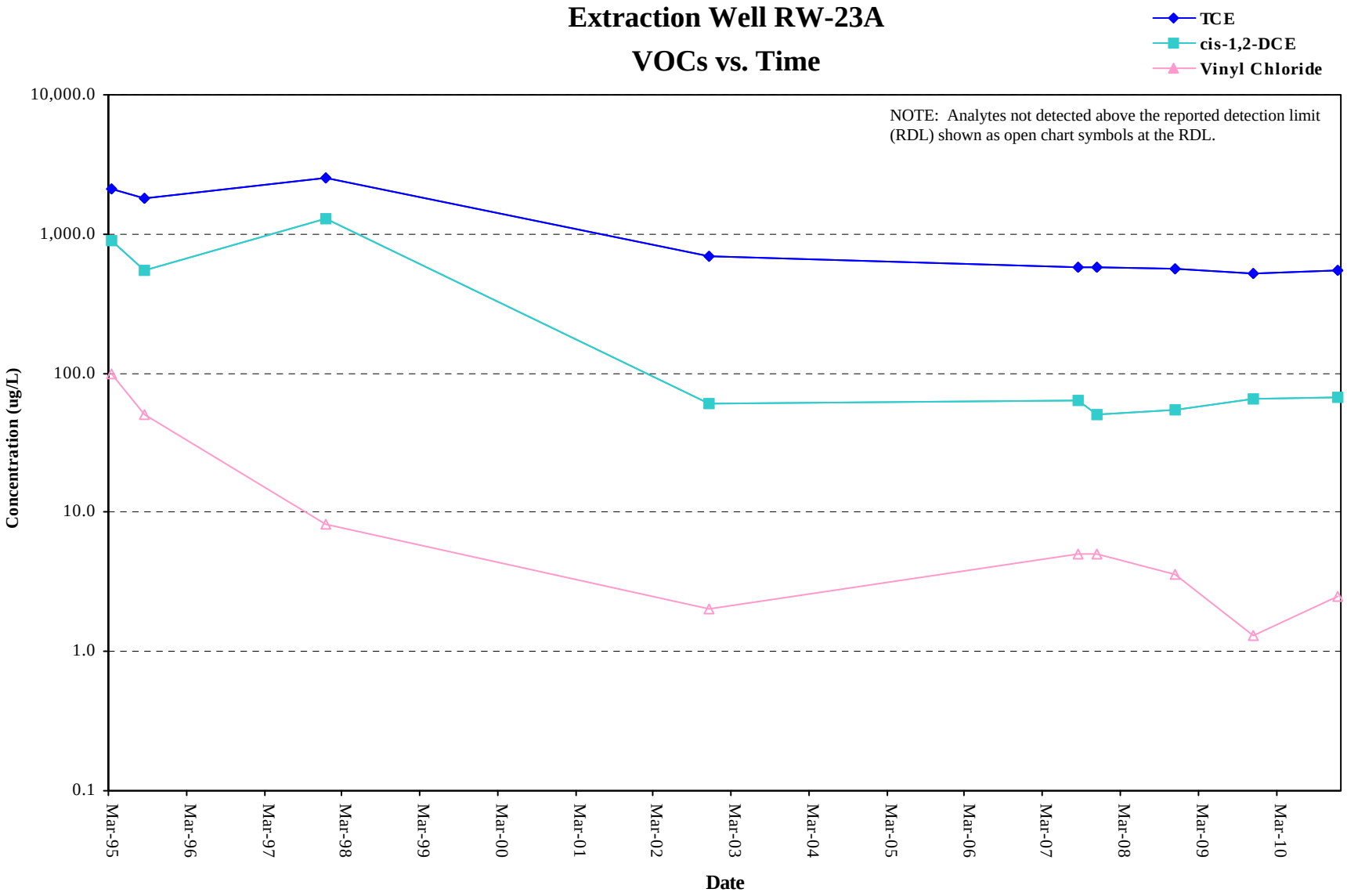
Weiss Associates

Extraction Well RW-23A
VOCs vs. Time

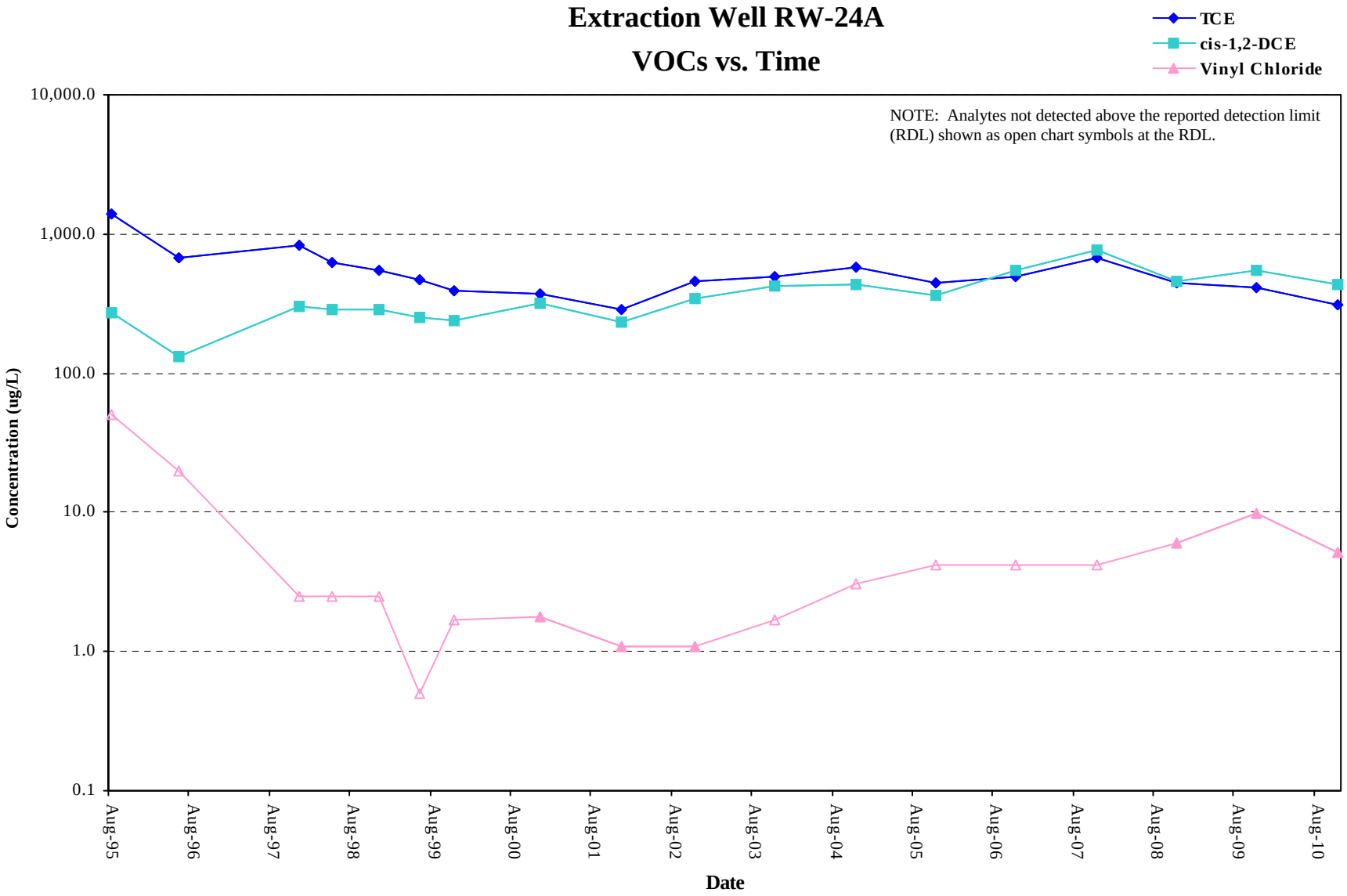


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:17 PM

Weiss Associates

Extraction Well RW-24A
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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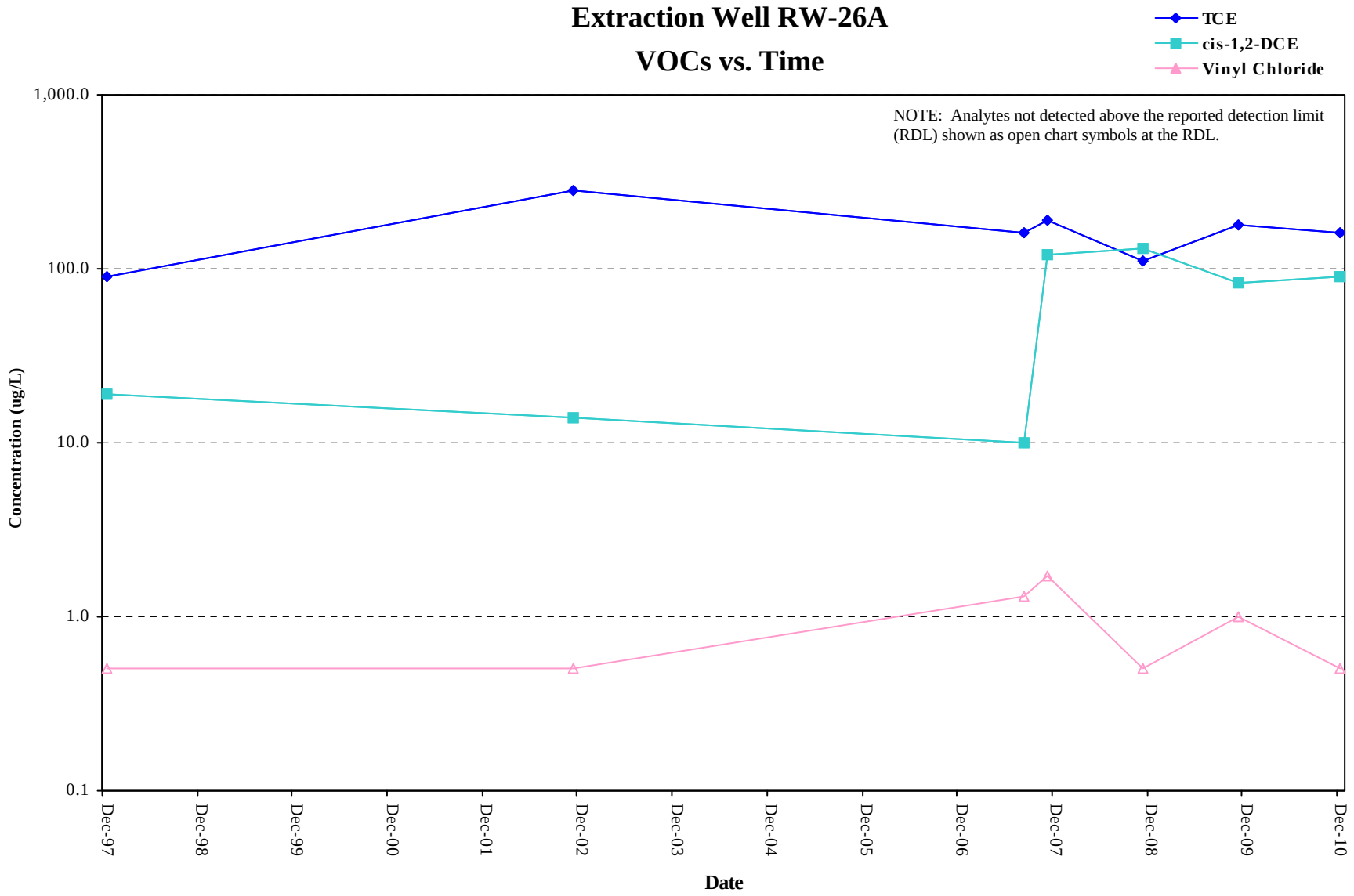
Weiss Associates

Extraction Well RW-26A
VOCs vs. Time

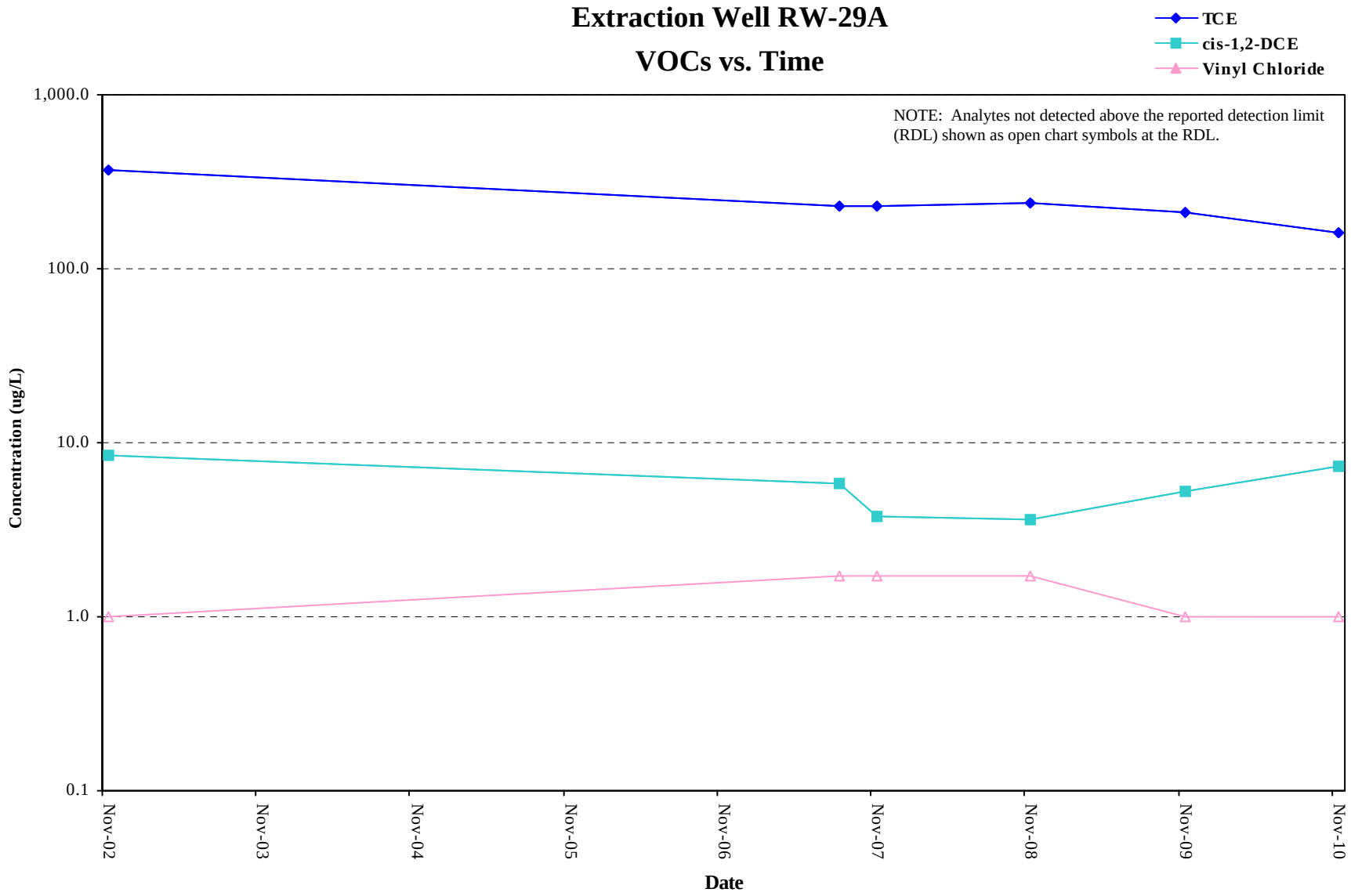


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:20 PM

Weiss Associates

Extraction Well RW-29A
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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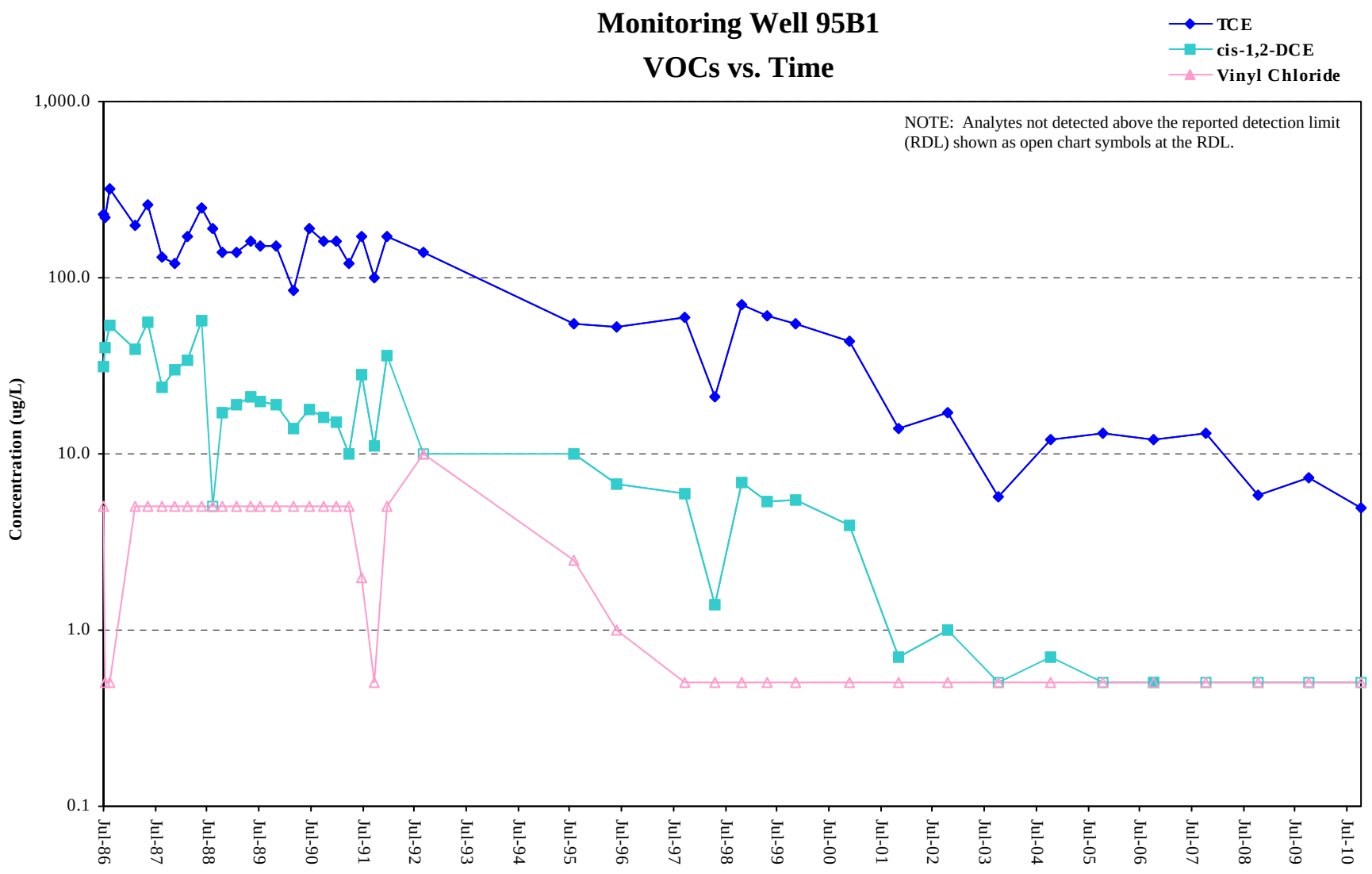
Weiss Associates

Monitoring Well 95B1
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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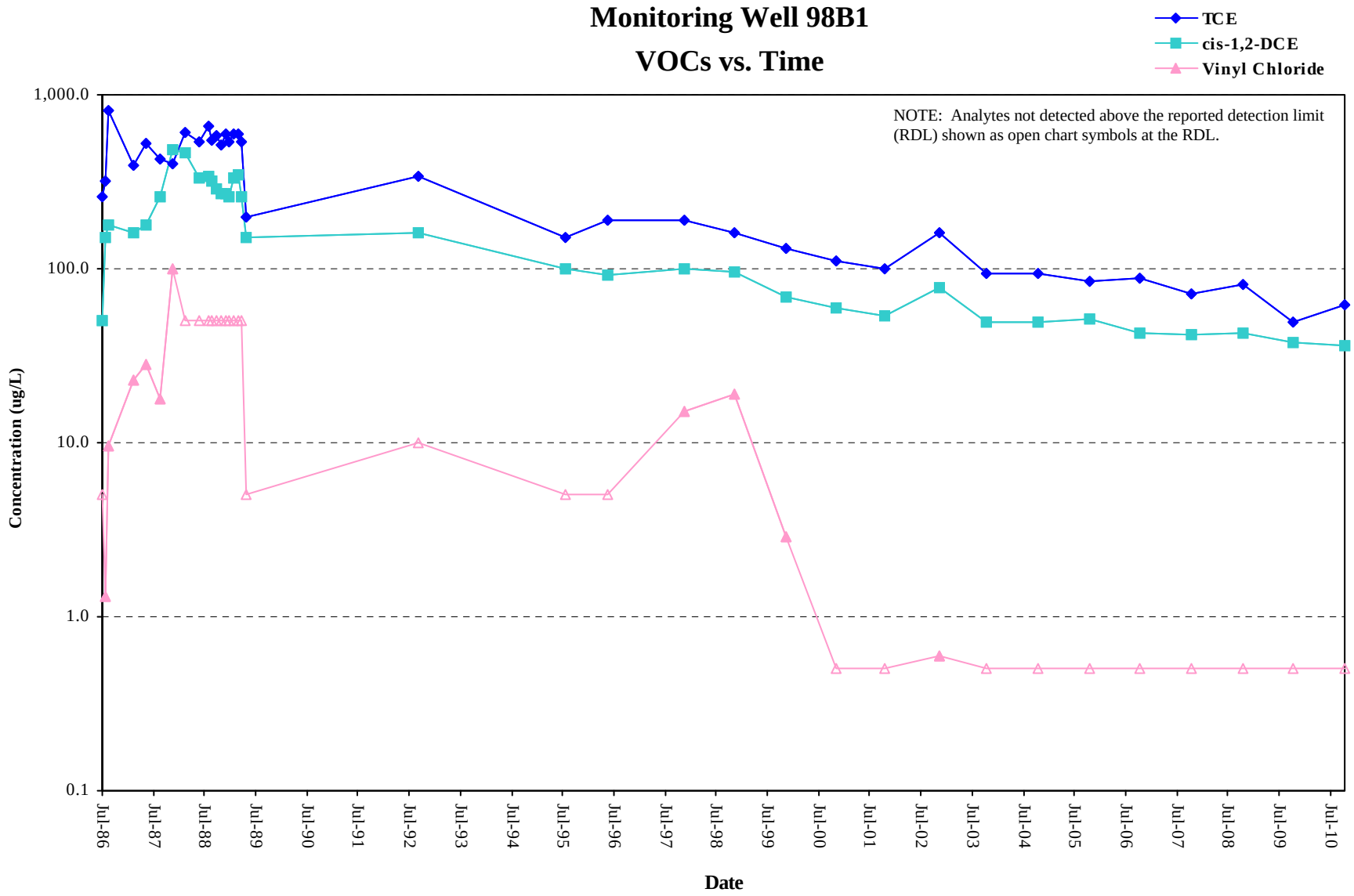
Weiss Associates

Monitoring Well 98B1
VOCs vs. Time

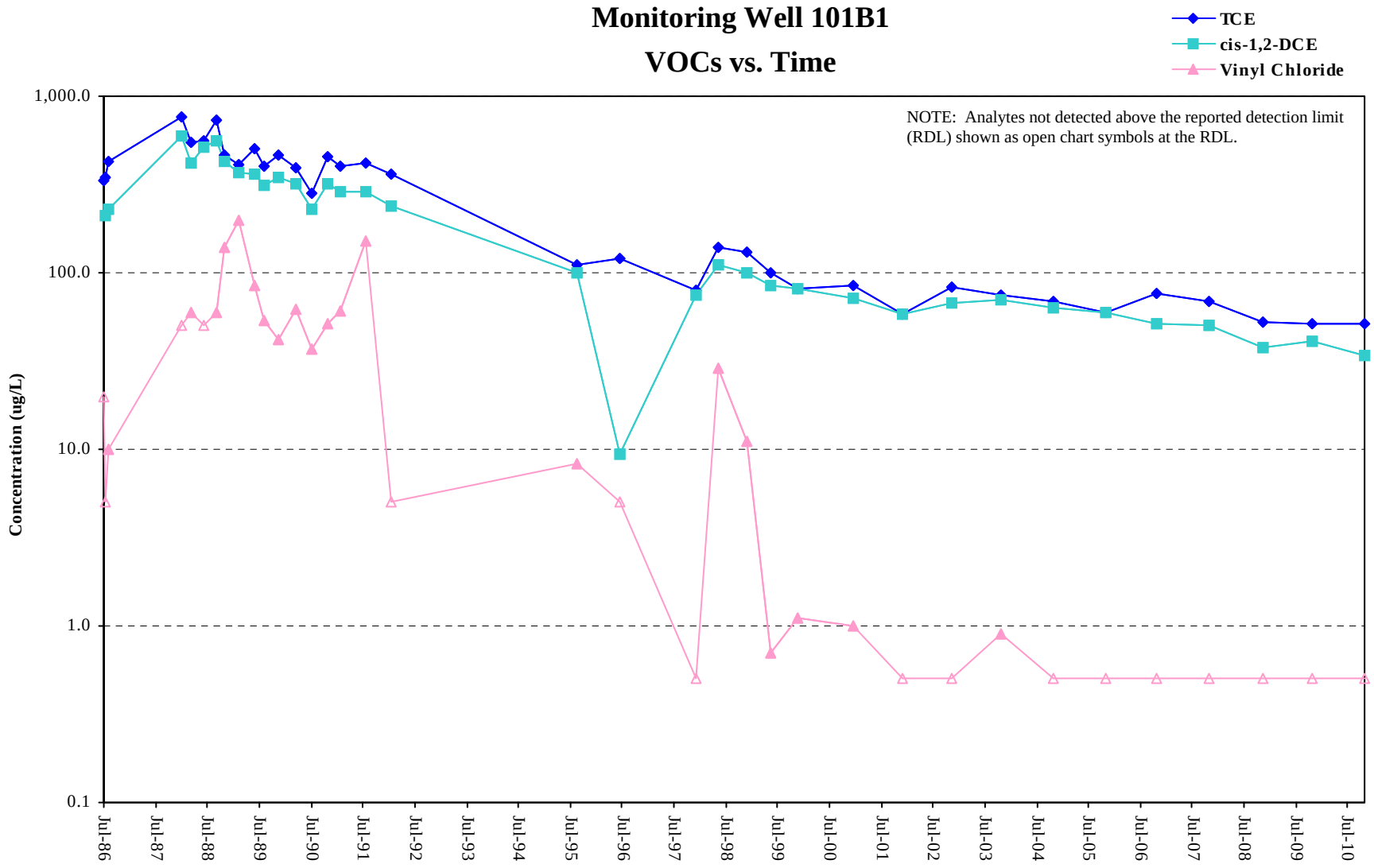


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:25 PM

Weiss Associates

Monitoring Well 101B1
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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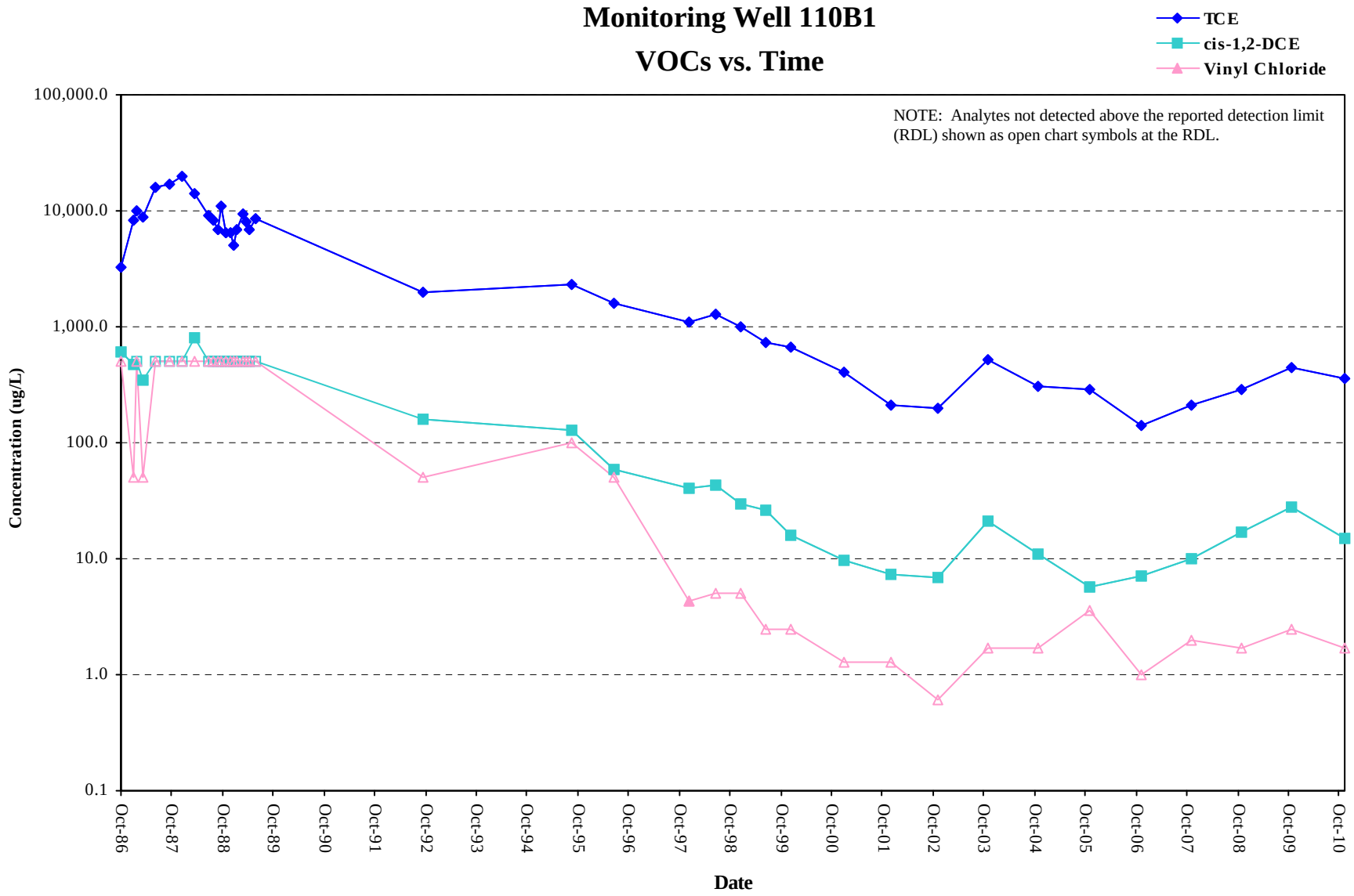
Weiss Associates

Monitoring Well 110B1
VOCs vs. Time

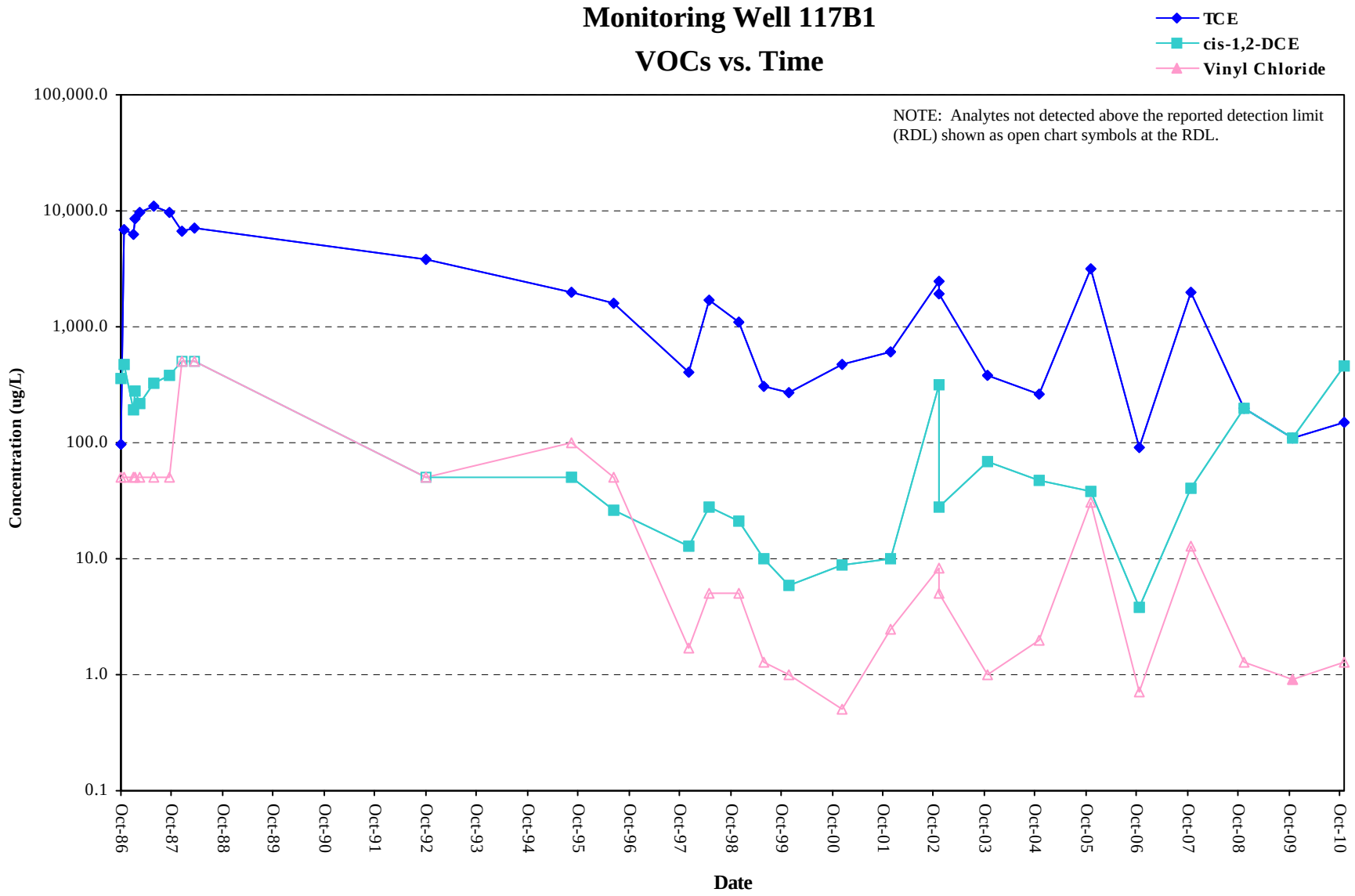


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:28 PM

Weiss Associates

Monitoring Well 117B1
VOCs vs. Time

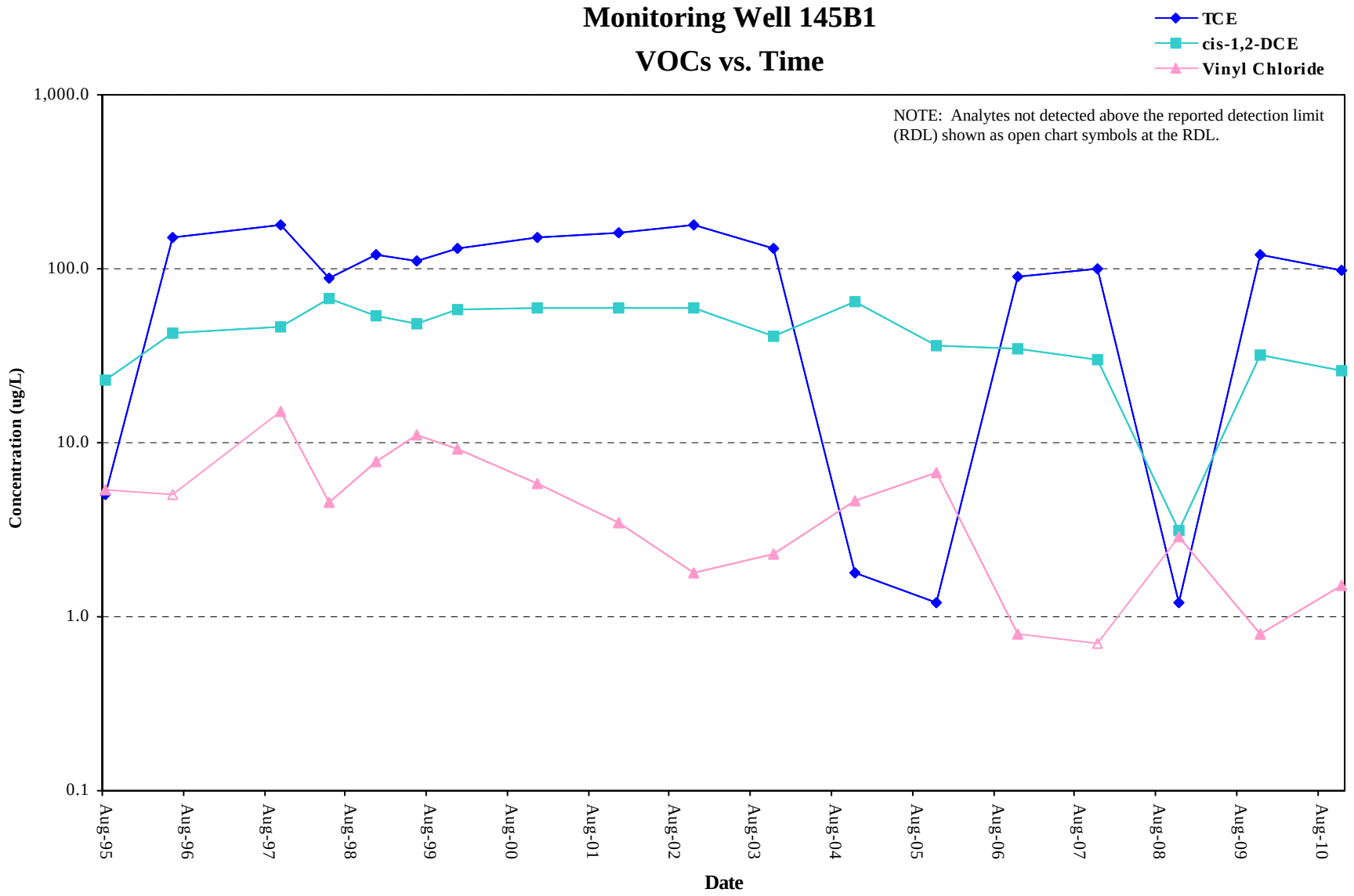


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:29 PM

Weiss Associates

Monitoring Well 145B1
VOCs vs. Time

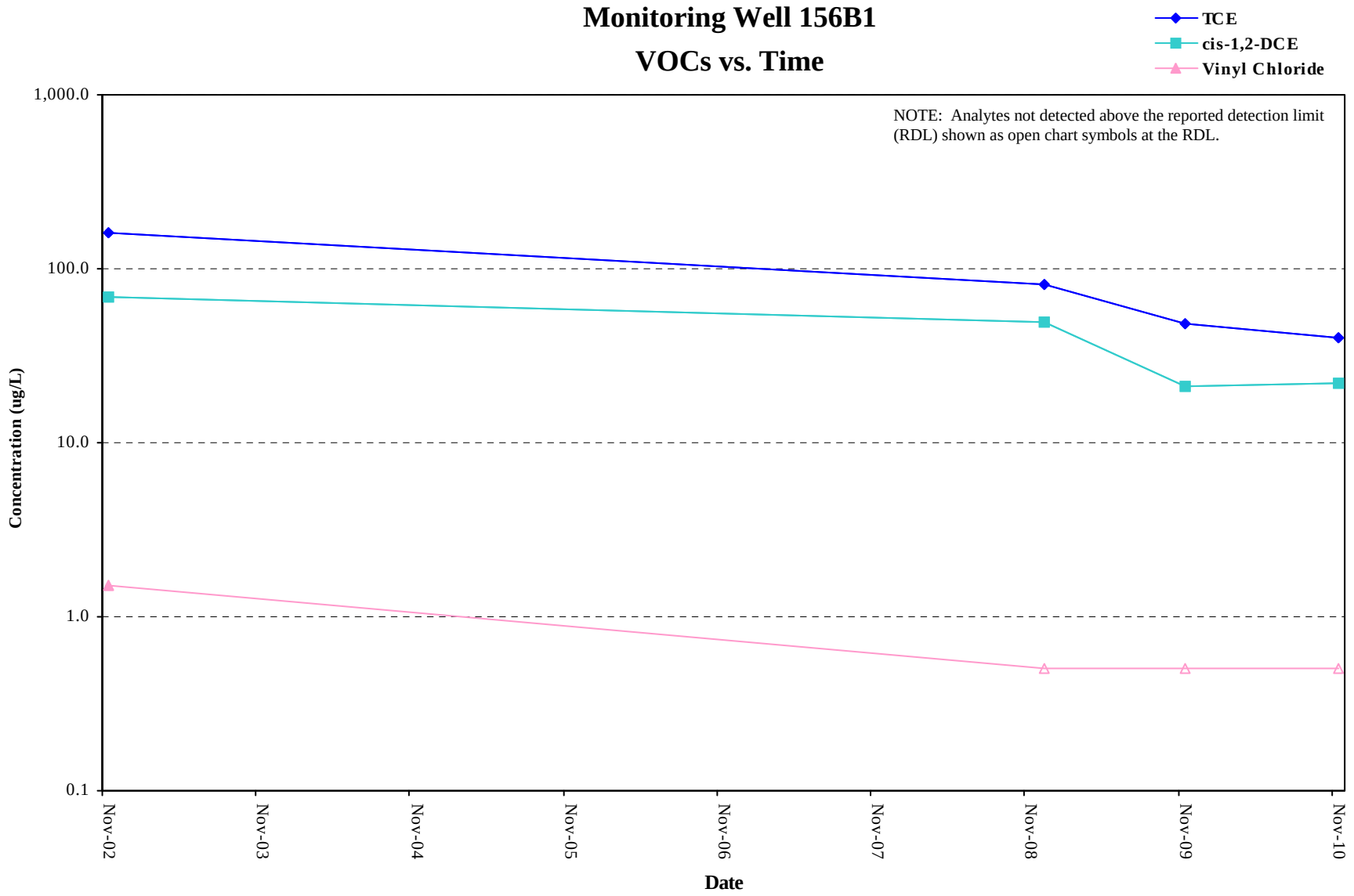


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:30 PM

Weiss Associates

Monitoring Well 156B1
VOCs vs. Time

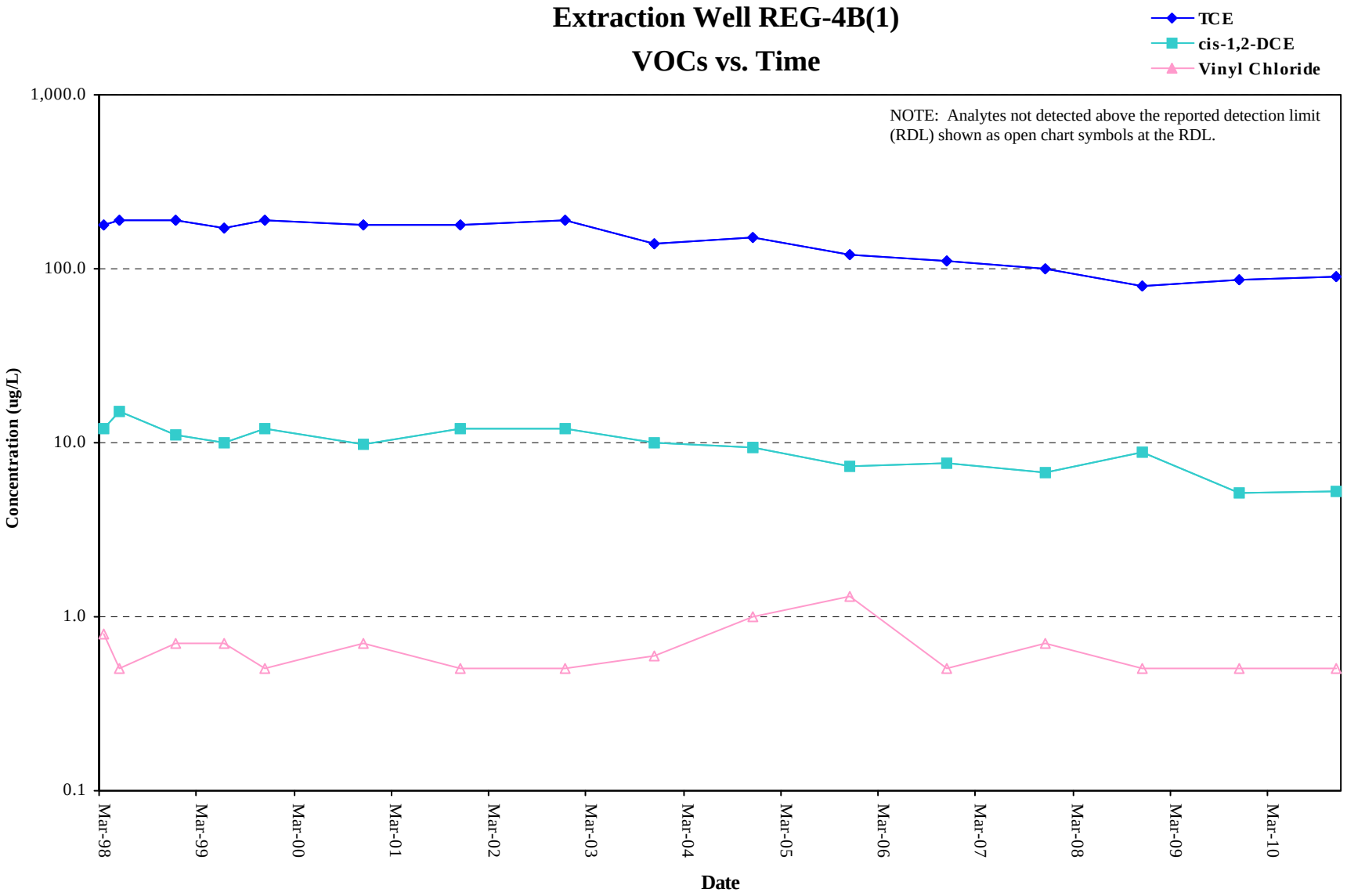


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:32 PM

Weiss Associates

Extraction Well REG-4B(1)
VOCs vs. Time

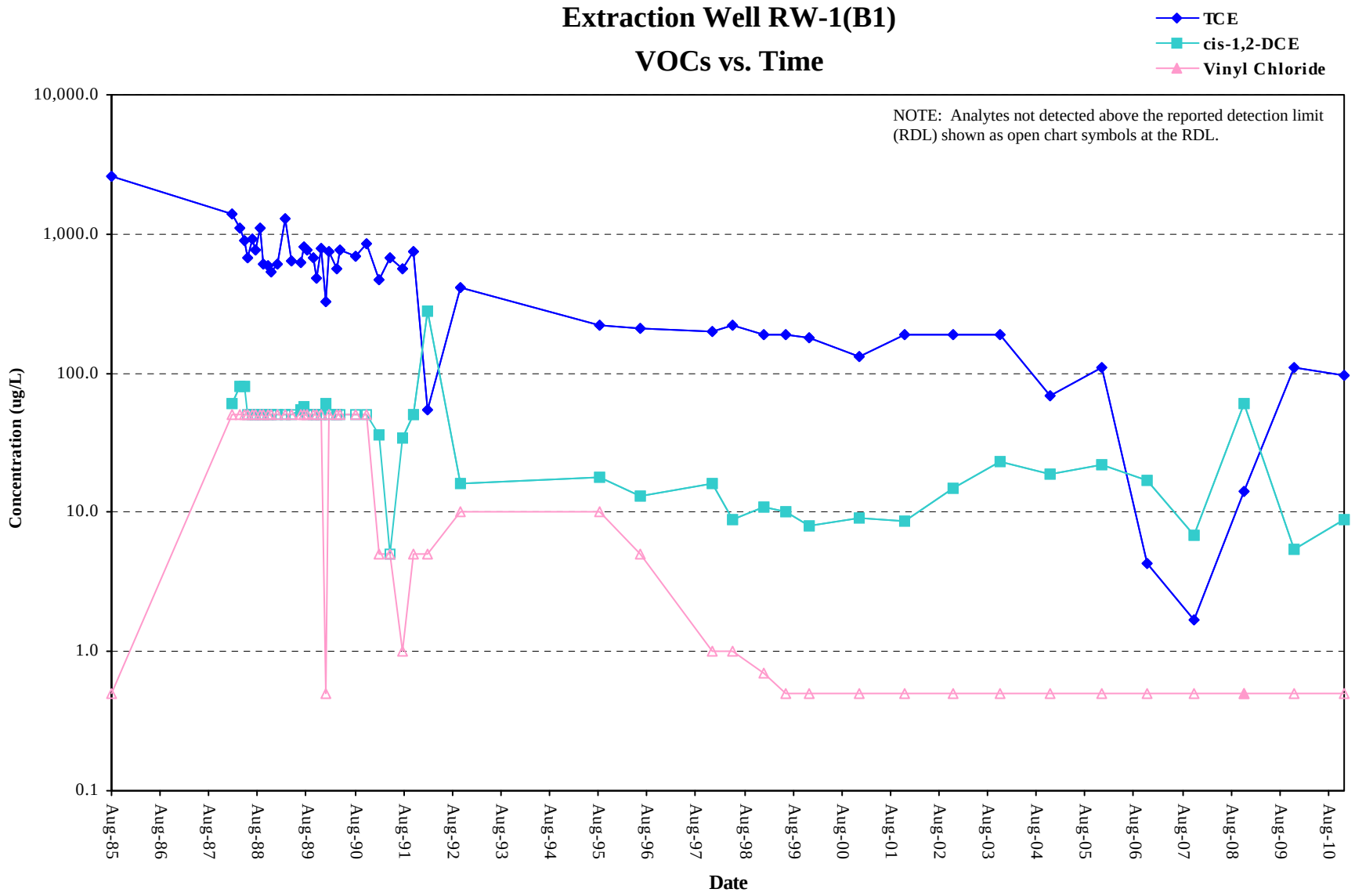


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:33 PM

Weiss Associates

Extraction Well RW-1(B1)
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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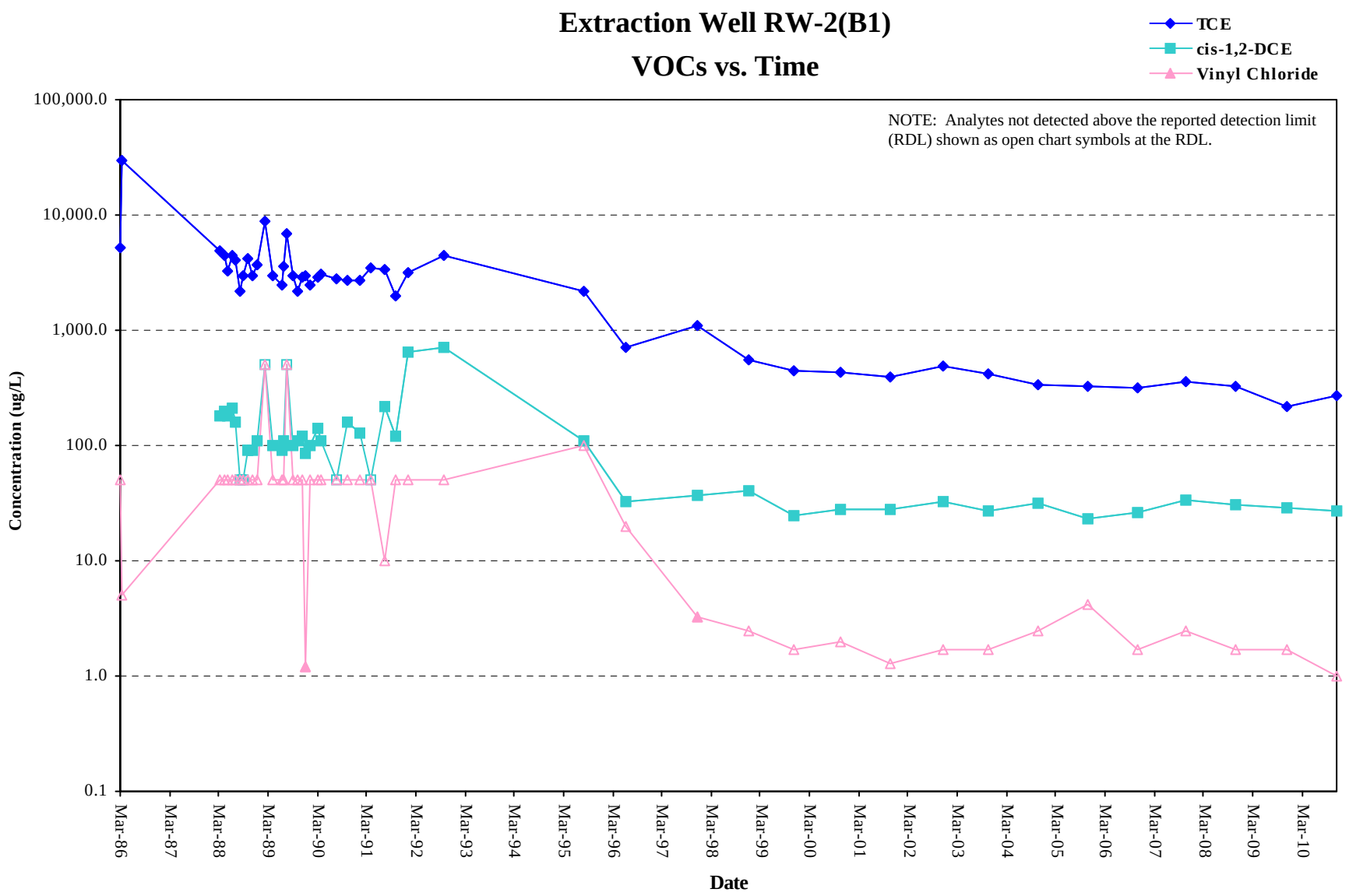
Weiss Associates

Extraction Well RW-2(B1)
VOCs vs. Time

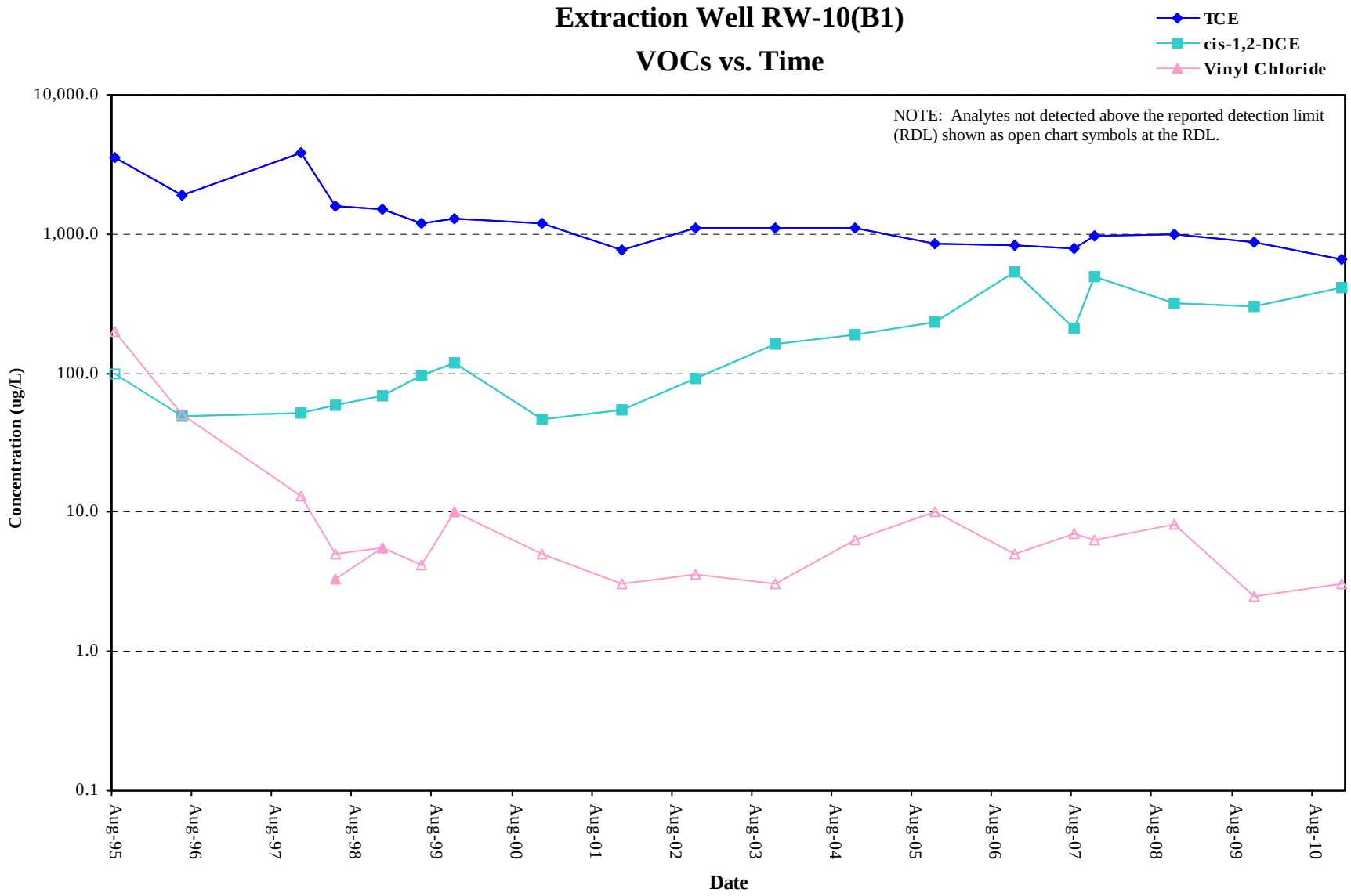


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:36 PM

Weiss Associates

Extraction Well RW-10(B1)
VOCs vs. Time

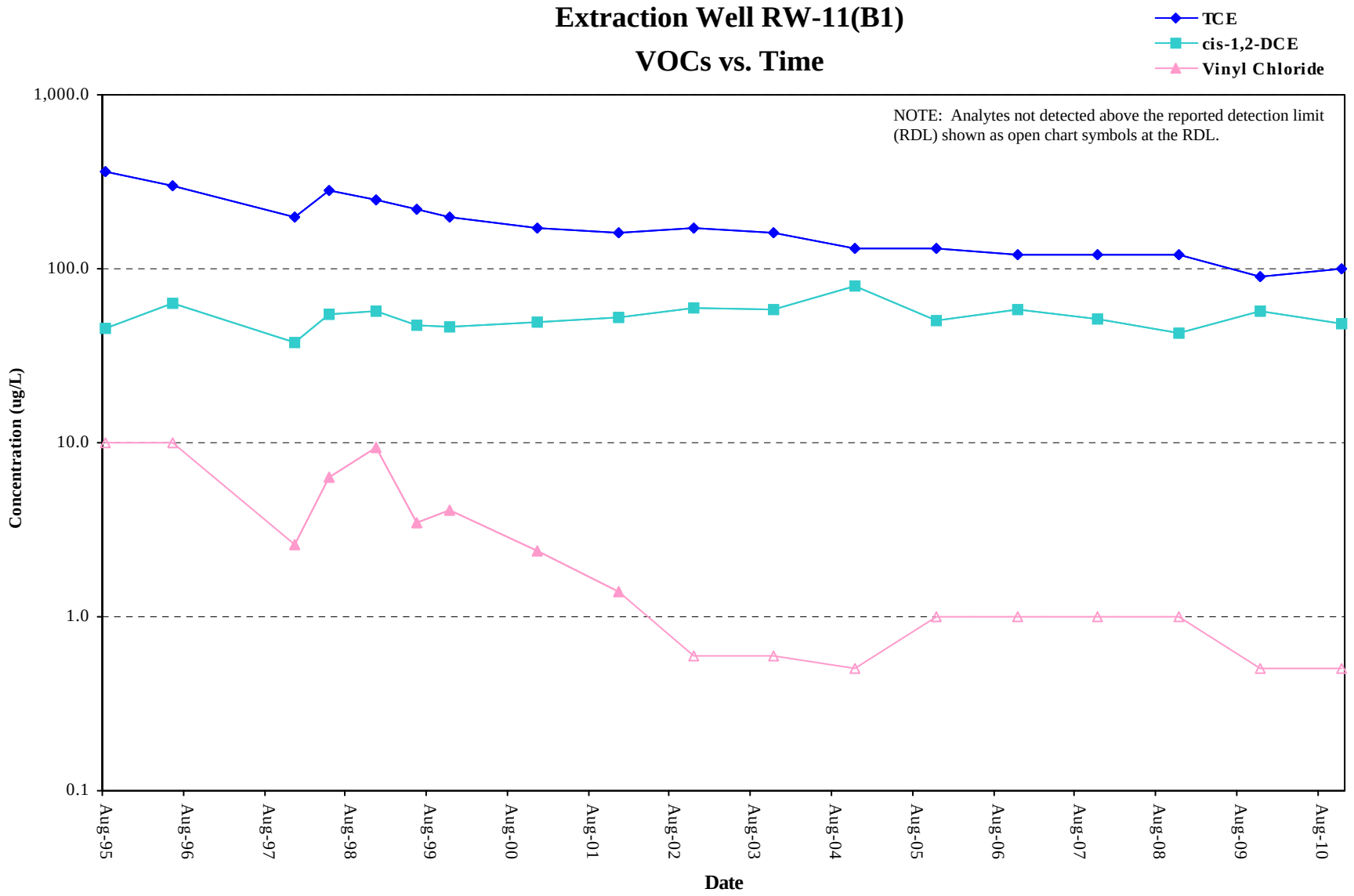


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:38 PM

Weiss Associates

Extraction Well RW-11(B1)
VOCs vs. Time

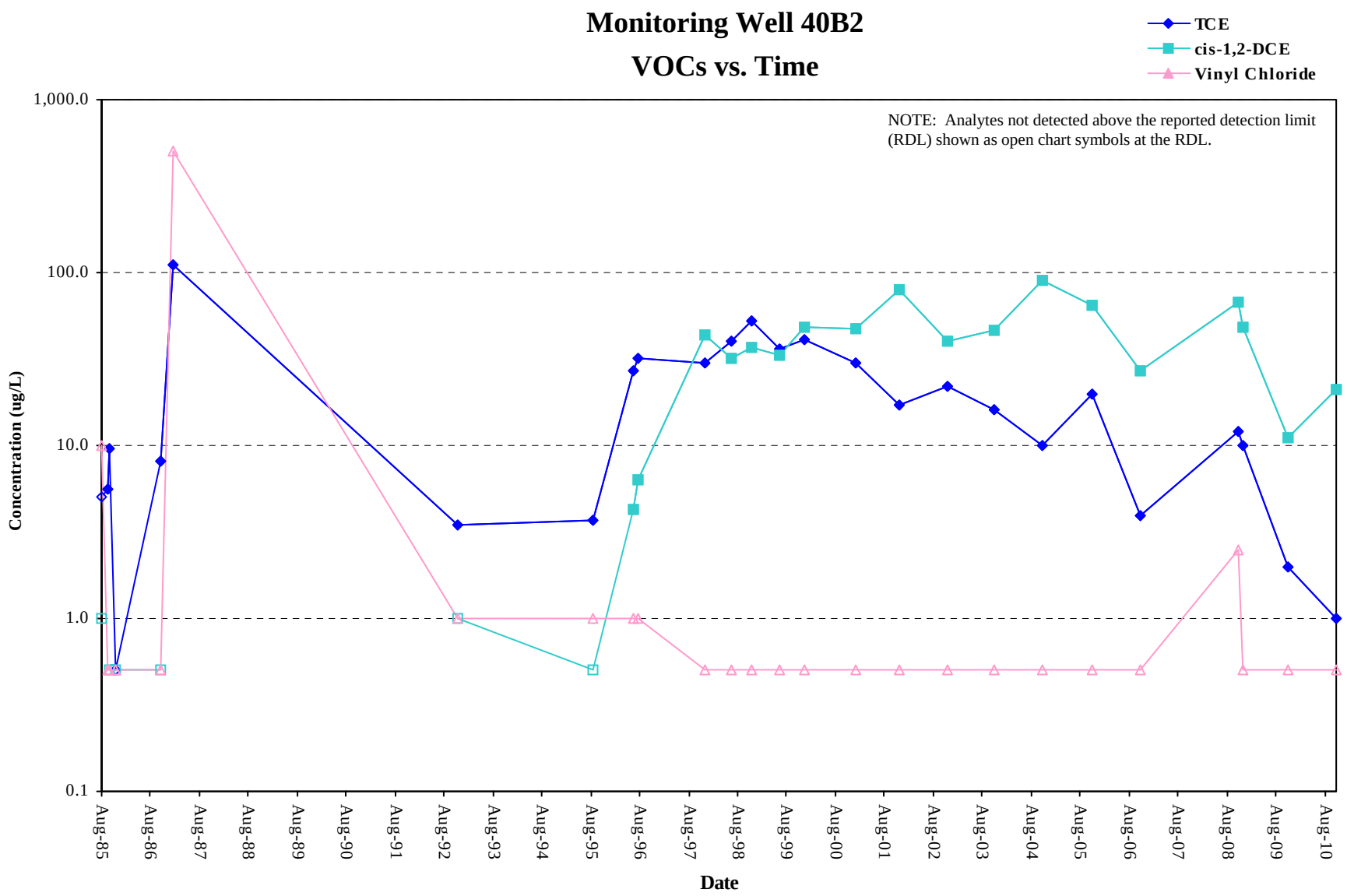


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:39 PM

Weiss Associates

Monitoring Well 40B2
VOCs vs. Time

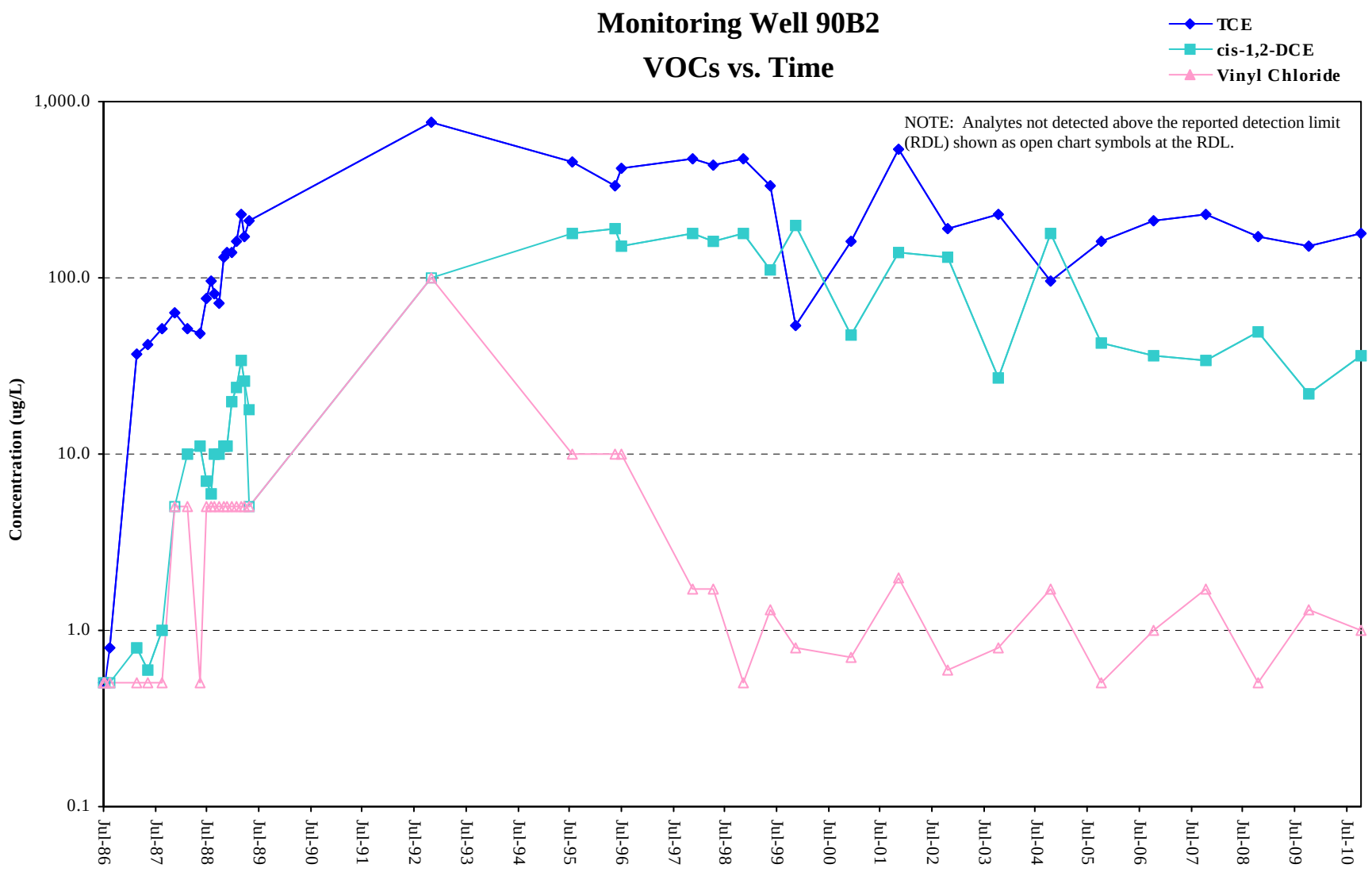


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:40 PM

Weiss Associates

Monitoring Well 90B2
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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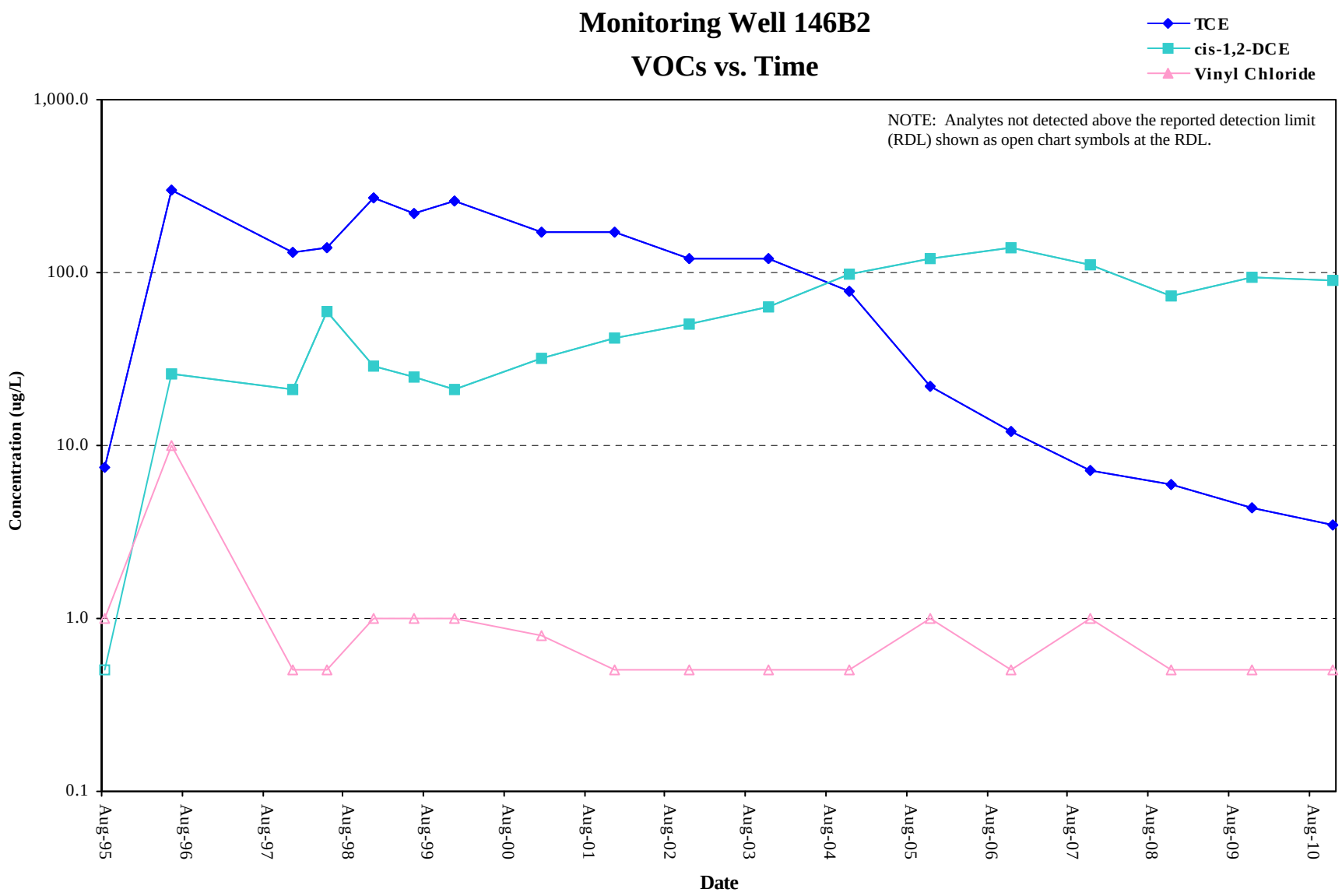
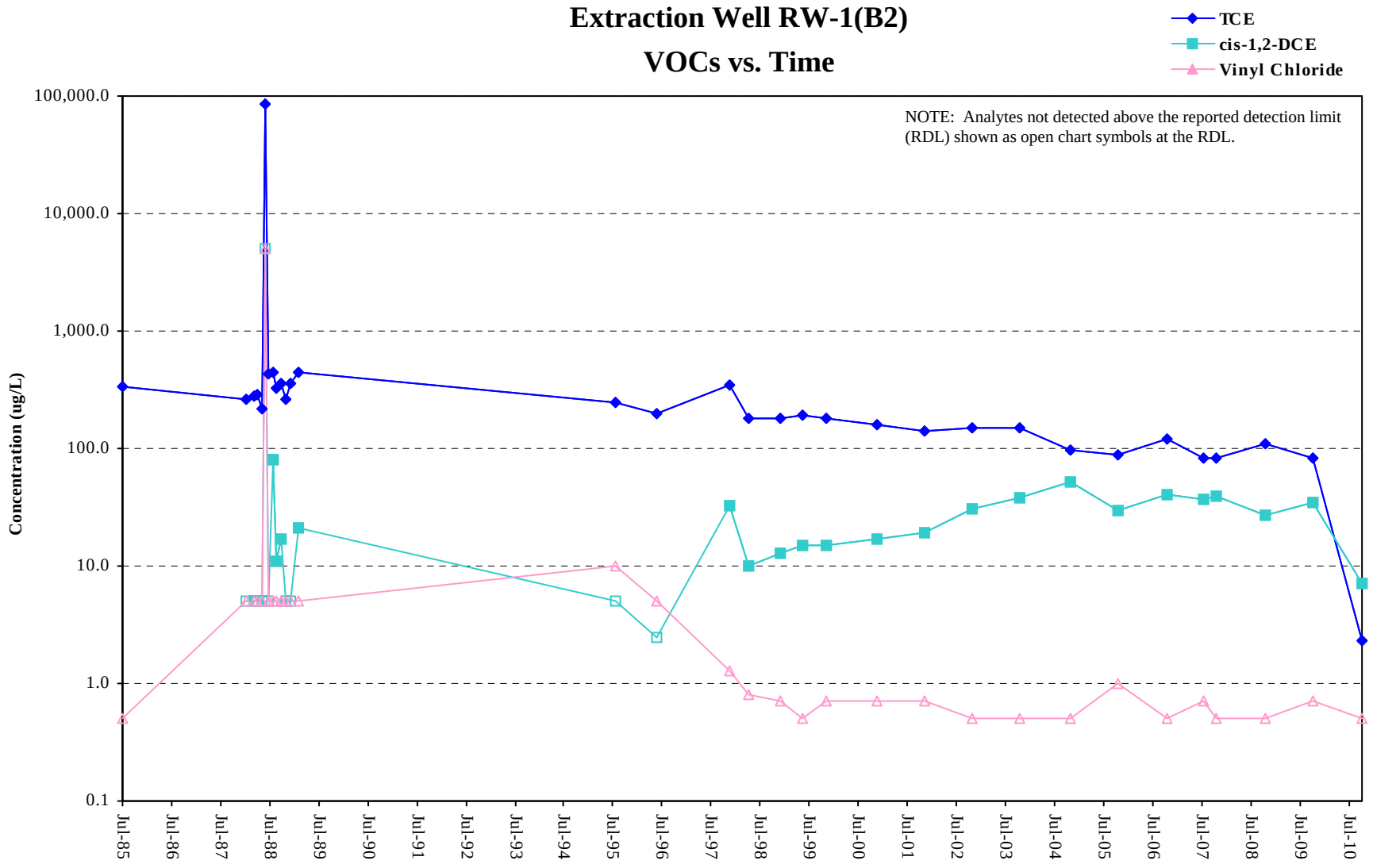
Weiss Associates

Monitoring Well 146B2
VOCs vs. Time



Weiss Associates

Extraction Well RW-1(B2)
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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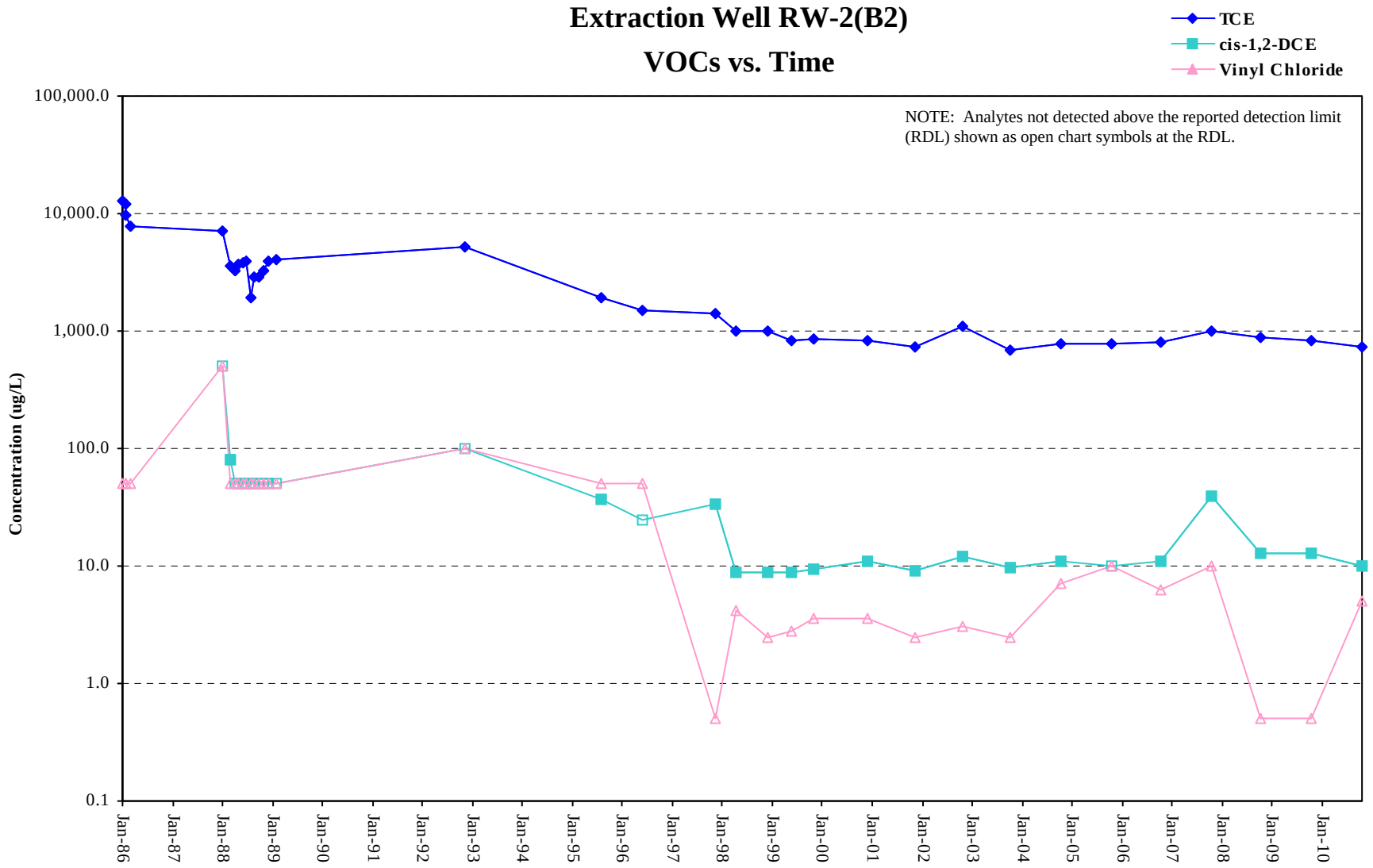
Weiss Associates

Extraction Well RW-2(B2)
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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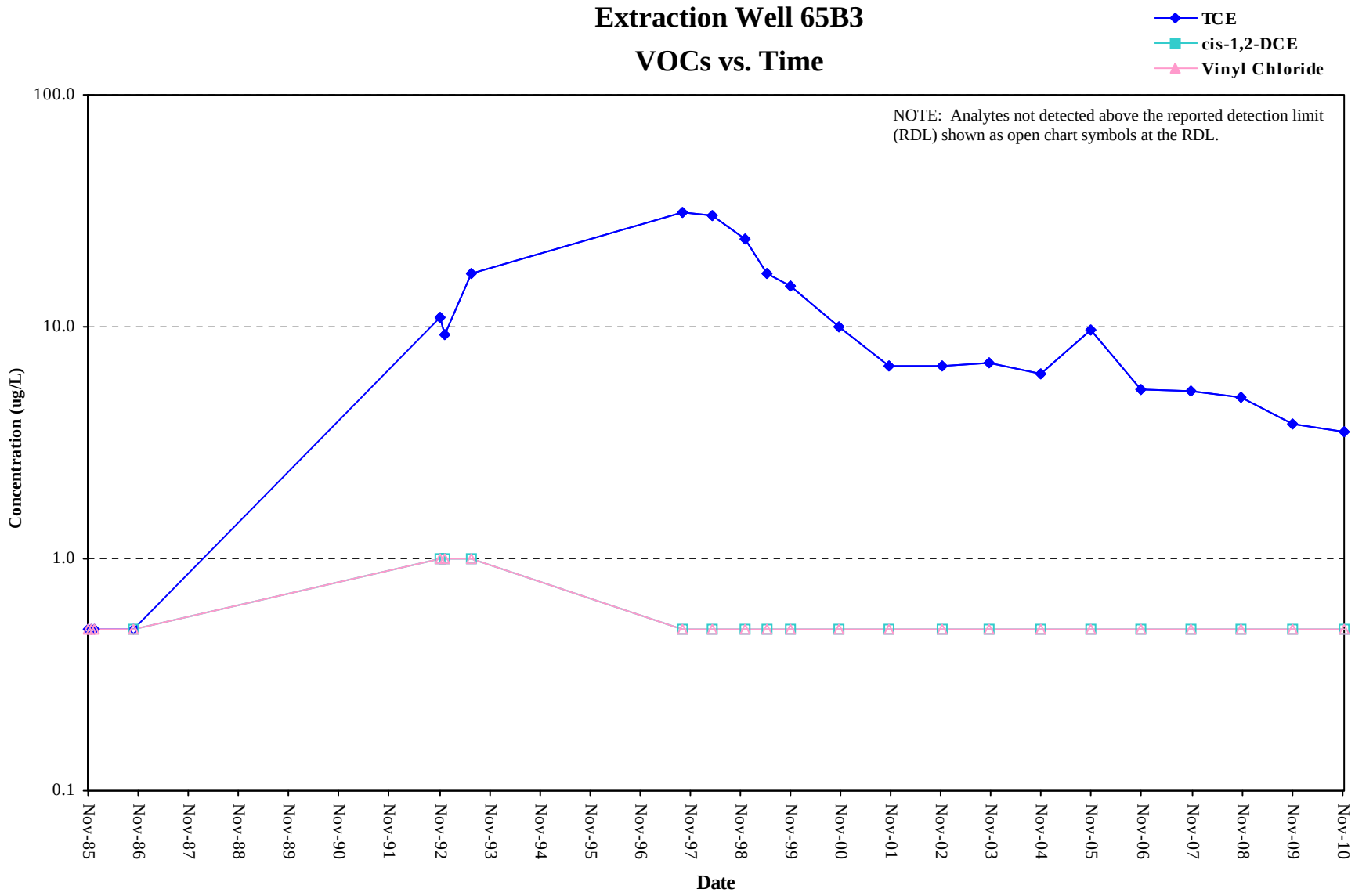
Weiss Associates

Extraction Well 65B3
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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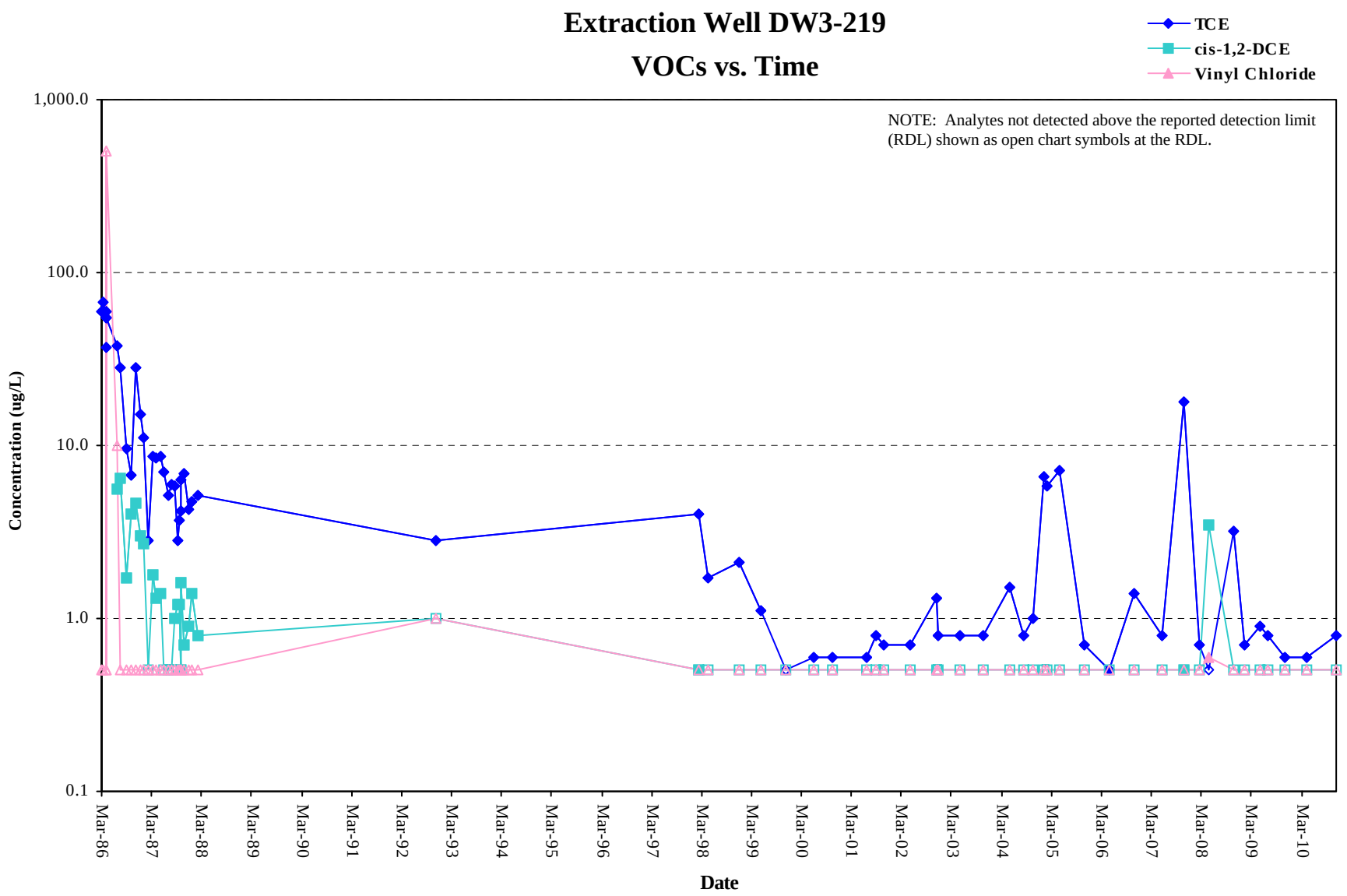
Weiss Associates

Extraction Well DW3-219
VOCs vs. Time

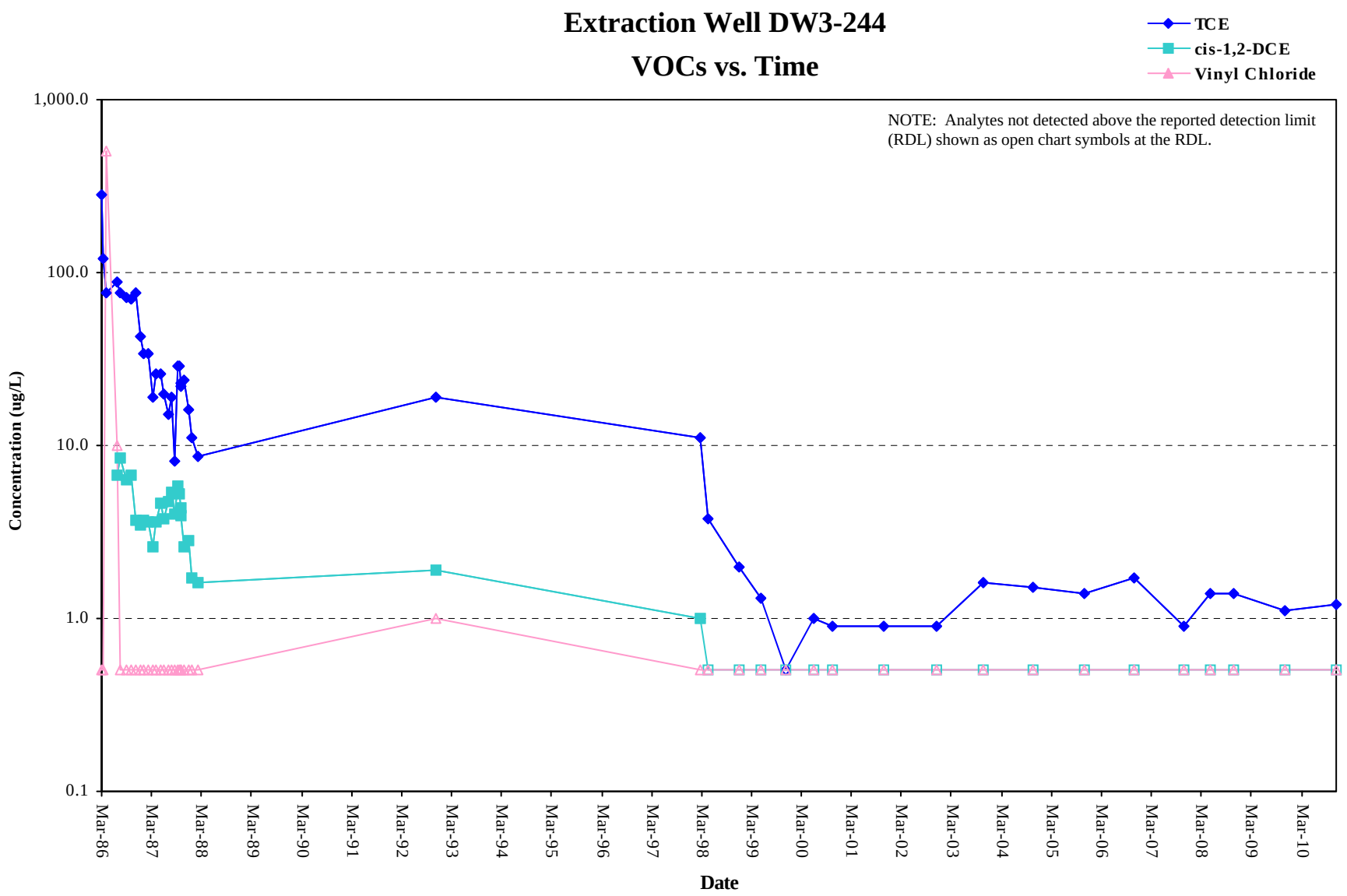


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:48 PM

Weiss Associates

Extraction Well DW3-244
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

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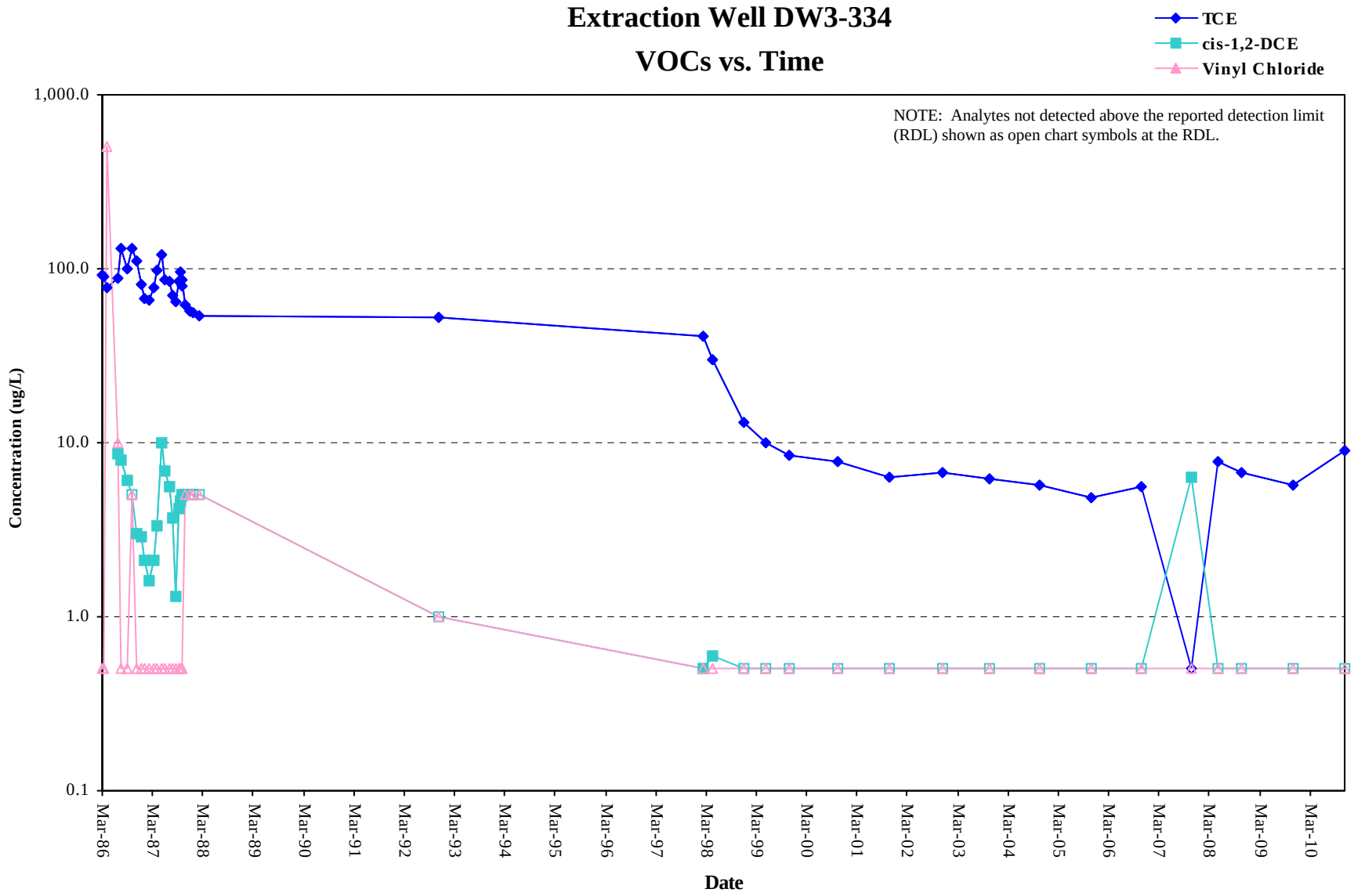
Weiss Associates

Extraction Well DW3-334
VOCs vs. Time

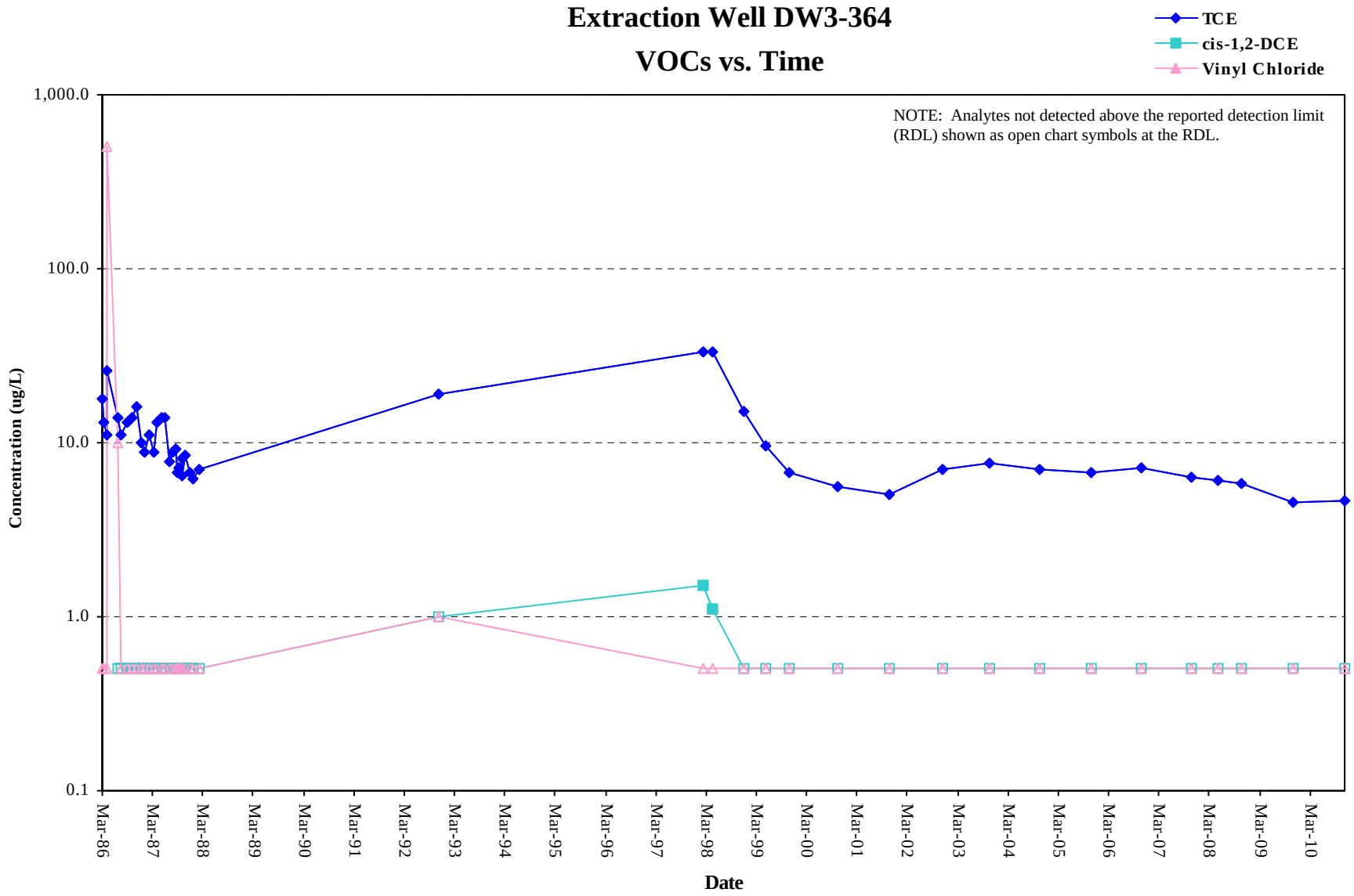


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:52 PM

Weiss Associates

Extraction Well DW3-364
VOCs vs. Time

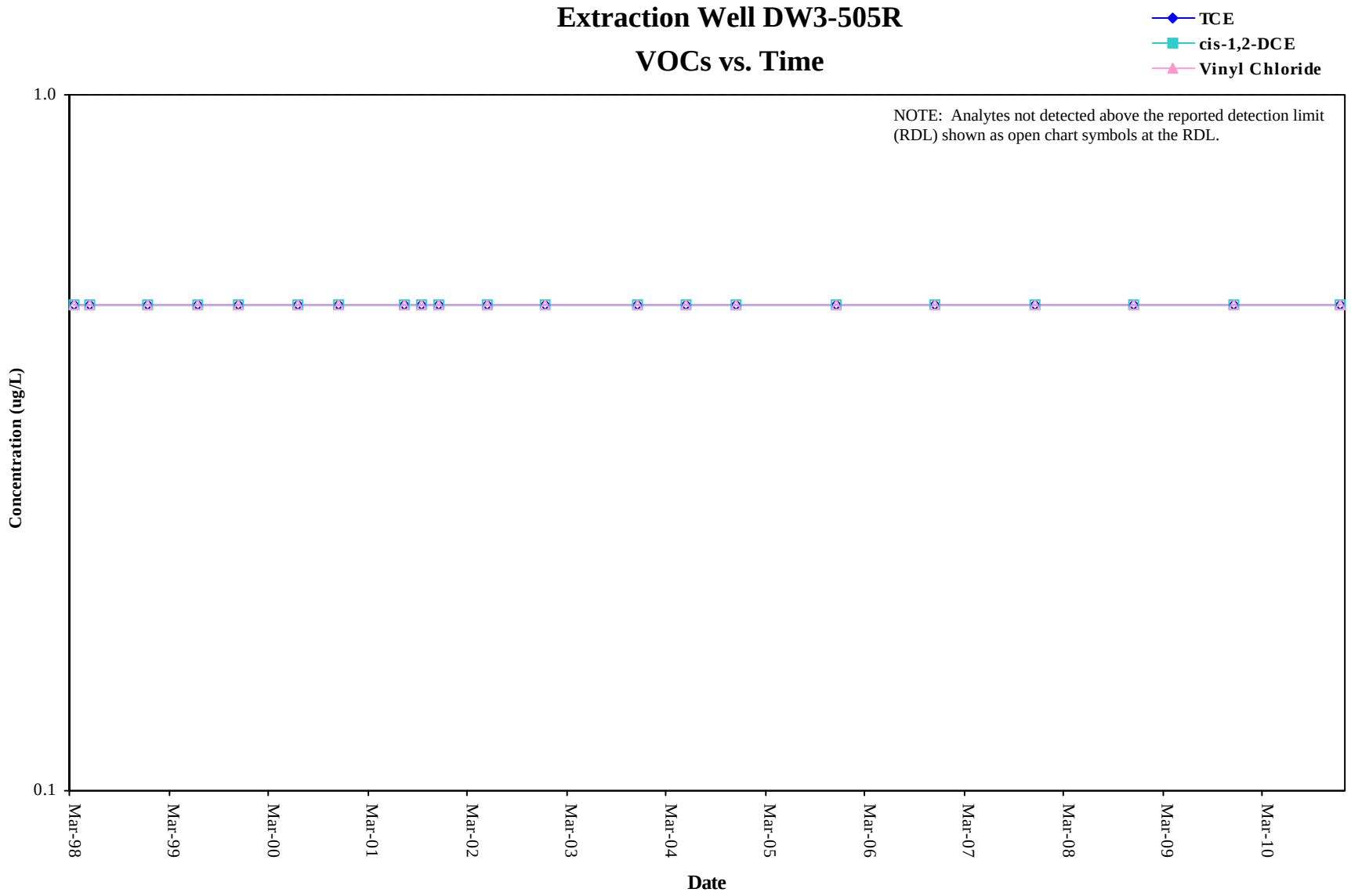


Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:53 PM

Weiss Associates

Extraction Well DW3-505R
VOCs vs. Time



Database: S:\WELLDATA\Schlumberger\Mt View - MEW\SlmbMv.mdb
Report: rptMvChrts2010LogV2 Loc. Group: Bldg19

Printed: 5/31/2011 4:11:54 PM