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April 15, 2015

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Subject: **2014 Annual Progress Report – Former Fairchild Buildings 1-4, 9, and 18**
Middlefield-Ellis-Whisman ("MEW") Area
Mountain View, California

Dear Ms. Lee:

Attached please find the 2014 Annual Progress Report for Former Fairchild Buildings 1-4, 9, and 18, prepared by Geosyntec Consultants on behalf of Schlumberger Technology Corporation.

This annual progress report is being submitted in accordance with U.S. Environmental Protection Agency (EPA) Section XV of the Administrative Order for Remedial Design and Remedial Action (106 Order).

If you have any questions regarding this 2014 Annual Progress Report, please feel free to call me.

Very truly yours,

Virgilio Cocianni
Remediation Manager

Attachment

CC: MEW Distribution List

Prepared for

Schlumberger Technology Corporation
205 Industrial Boulevard
Sugar Land, Texas 77478

2014 ANNUAL PROGRESS REPORT FORMER FAIRCHILD BUILDINGS 1-4, 9, AND 18

MOUNTAIN VIEW, CALIFORNIA

Prepared by

Geosyntec consultants

engineers | scientists | innovators

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Project Number: WR1133C

15 April 2015

2014 Annual Progress Report
Former Fairchild
Buildings 1-4, 9, and 18
Middlefield-Ellis-Whisman Area
Mountain View, California

Prepared by

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LIST OF ACRONYMS AND ABBREVIATIONS

µg/L	micrograms per liter
106 Order	Section XV of the 1990 Administrative Order for Remedial Design and Remedial Action
bgs	below ground surface
Buildings 1 and 2	Former Fairchild facilities located at 515 and 545 Whisman Road
Buildings 3 and 4	Former Fairchild facilities located at 313 and 323 Fairchild Drive
Building 9	Former Fairchild facilities located at 401 National Avenue
Building 18	Former Fairchild facilities located at 331 Fairchild Drive
Building 20	Former Fairchild facilities located at 464 Ellis Street
cis-1,2-DCE	cis-1,2-dichloroethene
EPA	United States Environmental Protection Agency
Fairchild	Fairchild Semiconductor Corporation
ft	feet
ft/day	feet per day
ft^2/day	feet squared per day
GAC	granular activated carbon
Geosyntec	Geosyntec Consultants
gpm	Gallons per minute
GSLIB	Geostatistical Software Library
ISCO	In Situ Chemical Oxidation
K	hydraulic conductivity
Locus	Locus Technologies
MCLs	maximum contaminant levels
MEW	Middlefield-Ellis-Whisman
NAP	National Avenue Partners, LLC

NPDES	National Pollutant Discharge Elimination System
O&M	operation and maintenance
PCE	tetrachloroethene
PLC	programmable logic controller
PRPs	potentially responsible parties
PSOD	permanganate soil oxidant demand
QA/QC	quality assurance/quality control
RAO	remedial action objective
RGRP	Regional Groundwater Remediation Program
ROD	Record of Decision
Schlumberger	Schlumberger Technology Corporation
SCRWs	source control recovery wells
SCVWD	Santa Clara Valley Water District
Smith	Smith Technology Corporation
SVE	soil vapor extraction
System 1	Groundwater treatment system located at 515 Whisman Road
System 3	Groundwater treatment located at 313 Fairchild Drive
TCE	trichloroethene
VC	vinyl chloride
VOCs	volatile organic compounds
Water Board	California Regional Water Quality Control Board – San Francisco Bay Region
WDRs	Waste Discharge Requirements
Weiss	Weiss Associates

1. INTRODUCTION

This 2014 Annual Progress Report was prepared by Geosyntec Consultants (Geosyntec) with assistance from Weiss Associates (Weiss) on behalf of Schlumberger Technology Corporation (Schlumberger) for the former Fairchild Semiconductor Corporation (Fairchild) facilities located at 515 and 545 Whisman Road (Buildings 1 and 2), 313 and 323 Fairchild Drive (Buildings 3 and 4), and 401 and 644 National Avenue (Buildings 9 and 18), in Mountain View, California (Figure 1 through Figure 3). The 401 National Avenue property is part of a joint source control responsibility. An annual progress report that includes the area of the 401 National Avenue property outside of the Former Fairchild Building 9 slurry wall is being submitted under separate cover (AMEC, 2015).

This report summarizes activities performed at the Former Fairchild Buildings 1-4, 9, and 18 remediation areas (Buildings 1-4, 9, and 18 Sites) from 1 January to 31 December 2014, and provides monitoring data from the past five years. The 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 (EPA) and the EPA's correspondence prescribing Annual Report contents (EPA, 1990a, 2005, and 2011).

1.1 Site Background

The Buildings 1-4, 9, and 18 Sites lie within the Middlefield-Ellis-Whisman (MEW) study area, an approximate one-quarter square mile area bounded by Middlefield Road on the south, Ellis Street on the east, Whisman Road on the west, and California Highway 101 on the north, in Mountain View, California (Figure 1, Figure 2).

The primary constituents of concern at the Buildings 1-4, 9, and 18 Sites are trichloroethene (TCE) and its reductive dechlorination breakdown products, cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC). Remedial actions for the MEW study area, including the Buildings 1-4, 9, and 18 Sites, are specified in a 1989 Record of Decision (ROD) issued by the EPA and two subsequent Explanations of Significant Difference (EPA, 1989, 1990b, 1996). Remedial actions within the MEW study area include facility-specific activities by the individual potentially responsible parties (PRPs), and a Regional Groundwater Remediation Program (RGRP) that addresses

areas of commingled volatile organic compounds (VOCs) that have migrated beyond the facility-specific areas and cannot be attributed to a single source.

As specified in the ROD, groundwater cleanup included initial actions (completed) and the current long-term remedial phase (EPA, 1989).[1]

In order to prevent migration of VOCs offsite, groundwater extraction wells were installed at the Buildings 1-4, 9, and 18 Sites between 1982 and 1986. In 1986, soil-bentonite slurry walls were constructed at the Buildings 1-4 and 9 sites from the ground surface to the A/B aquitard. A description of the remedy for each site is provided in Section 1.3. Site-specific background information is provided in the following sections.

1.1.1 Buildings 1-4

From the early 1960s to 1989, Former Fairchild Buildings 1-4 operated as facilities for chemical mixing and silicon wafer manufacturing at Fairchild's Linear Division. The buildings were demolished in the 1990s, and new commercial/research offices were constructed and completed by September 2000 (Jay Paul Company, 2010). The previous and current addresses of Former Fairchild Buildings 1-4 are provided below:

Previous Address	Current Address
Buildings 1 and 2 515/545 North Whisman Road	515/545 North Whisman Road
Buildings 3 and 4 313 Fairchild Drive	313/323 Fairchild Drive

1.1.2 Building 9

From 1966 to 1987, Former Building 9 operated as a facility for receiving, mixing, and delivering chemicals for Fairchild. In 2013 the 401 National Avenue property was purchased by National Avenue Partners, LLC (NAP) and in May 2014 redevelopment of 401 National was approved by the City of Mountain View in conjunction with three

[1] The soil cleanup goals have been met at MEW (EPA, 2004). Soil cleanup actions were completed by 1996 and included soil vapor extraction (SVE) with treatment by vapor-phase granular activated carbon (GAC), and soil excavation and treatment by aeration.

properties to the north. Redevelopment activities are expected to include the construction of a two-story parking garage over most of the current 401 National Avenue property. The former Building 9 was demolished in November 2014 as part of redevelopment activities.

1.1.3 Building 18

From 1966 to 1984, Former Fairchild Building 18 operated as an electroplating facility for Fairchild.

The original Fairchild Building 18 structure was located at 644 National Avenue. The property was purchased by Carr America National Avenue, LLC in 2007. Redevelopment of the property began in 2012 and was completed in 2013. Redevelopment included demolishing former Fairchild Building 18 and construction of a parking lot on the former Fairchild Building 18 site. The former Fairchild Building 18 property has been consolidated with properties to the north, and the new address is 331 Fairchild Drive (Figure 2).

During redevelopment, the extraction wells, conveyance piping, and monitoring wells at the Building 18 site were maintained, along with the RGRP South of 101 treatment system that is located on the Building 18 site.

1.2 Local Hydrogeology

The MEW study area is located in the northern portion of the Santa Clara Valley Groundwater Sub-basin, the northernmost of three interconnected groundwater basins within Santa Clara County (SCVWD, 2001). The groundwater flow direction is northerly, toward the San Francisco Bay, and generally sub-parallel to the ground slope. The hydrostratigraphy in this part of the sub-basin is divided into upper and lower water-bearing zones, separated by an extensive regional aquitard (SCVWD, 1989).

The upper water-bearing zone is subdivided into two water-bearing zones: the A Zone (roughly between 15 and 40 feet below ground surface [bgs]) and the B Zone (roughly between 45 and 160 feet bgs), which are separated by the A/B Aquitard. The B Zone is further subdivided into three zones (B1, B2, and B3 Zones).

The lower water-bearing zone occurs below a depth of about 200 feet bgs. The lower water-bearing zone is subdivided into the C Zone (which extends to about 240 feet bgs)

and the Deep Zone. The aquitard separating the upper and lower water-bearing zones is represented as the B/C Aquitard and is the major confining layer beneath the Buildings 1-4, 9, and 18 Sites.

The water-bearing zones defined at the Buildings 1-4, 9, and 18 Sites are summarized below.

Water-Bearing Zones	**Approximate Depth Interval** Below Ground Surface (bgs)
A Zone	15 to 40 feet
B1 Zone	45 to 75 feet
B2 Zone	75 to 105 feet

The following table summarizes the estimated ranges of hydraulic conductivity (K), hydraulic gradient, and transmissivity for these Zones.[2]

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

Groundwater flow beneath the MEW study area is generally towards the north in the A and B Zones under both non-pumping and pumping conditions. Groundwater hydraulic gradients are locally modified by the operation of groundwater recovery wells (both

[2] Pumping tests were conducted at the MEW study area from 1986 through 2005. References are Canonie, 1986a, Canonie, 1986b, Canonie, 1987, and Canonie, 1988; Geomatrix, 2004; HLA, 1986 and HLA, 1987; Locus, 1998; PRC, 1991; Navy, 2005; and Weiss, 1995 and Weiss, 2005.

source control and regional recovery wells) and slurry walls, resulting in steeper gradients in the vicinity of pumping wells.

The vertical component of groundwater flow is generally upward from the B1 Zone to the A Zone but is locally downward in some areas of the Buildings 1-4, 9, and 18 Sites (Section 2.4.4). Vertical gradients below the B1 Zone are generally upward (Geosyntec et al., 2008).

1.3 Description of the Remedy

As specified in the ROD, the current remedies consist of slurry wall containment and/or groundwater extraction and treatment.

The groundwater extraction and treatment systems are 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.[3]

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).4 The ROD states that the chemical ratio of TCE to other chemicals found in the MEW study area is such that achieving the cleanup goal for TCE will result in cleanup of the other chemicals to at least their respective federal maximum contaminant levels (MCLs).

Extraction well networks are used to remove groundwater at the Buildings 1-4, 9, and 18 Sites (Table 1). Extracted groundwater is pumped through conveyance piping to a treatment facility located at either 515 North Whisman Road (System 1) or 313 Fairchild Drive (System 3). The treated water is monitored and sampled in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit, then discharged to the storm water sewer. Soil-bentonite slurry walls were constructed in the A Zone at the Buildings 1-4 and Building 9 sites to prevent VOC migration from the source zones.

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

[4] Groundwater cleanup goals are presented in the ROD.

Effectiveness of the Buildings 1-4, 9, and 18 remedies is evaluated using a network of monitoring wells. Construction summaries for these wells are provided in Tables 2a, 2b, and 2c. The wells are monitored according to the schedules provided in Tables 3a, 3b, and 3c, respectively.

1.4 Summary of Site Activities and Deliverables

Ongoing activities include:

- Groundwater monitoring and reporting (Tables 3a, 3b, and 3c);
- Groundwater extraction;
- Groundwater treatment at Buildings 1-4 (Systems 1 and 3);
- Operation and maintenance (O&M) of treatment systems at Buildings 1-4;
- Annual sampling and semiannual water-level gauging (Tables 3a, 3b, and 3c);
- Assessment of remedial progress;
- Optimization of the groundwater remedies at Buildings 1-4, 9, and 18 Sites, as directed by EPA (Section 3.2);
- Planning for future remedial activities; and
- Sampling the treatment systems monthly in compliance with the General Waste Discharge Requirements (WDRs) issued by the California Regional Water Quality Control Board – San Francisco Bay Region (Water Board) for discharge or reuse of extracted and treated groundwater resulting from cleanup of groundwater polluted by VOCs (NPDES Permit No. CAG912002 and Order Nos. R2-2009-0059 and R2-2012-0012[5]).

[5] Systems 1 and 3 operated under permit No. CAG912002 and Water Board Order No. R2-2009-0059 through 25 August 2014. On 26 August 2014, permit No. CAG912002 and Order No. R2-2012-0012 was issued for Fairchild Treatment Systems 1 and 3. The Order is effective through 15 March 2017 (Tables 3a, 3b, and 3c).

Specific activities and deliverables by month in 2014 are listed below:

February 2014

- 4 February – Submitted the 4th Quarter and Annual 2013 NPDES Self-Monitoring Reports for Systems 1 and 3.

March 2014

- 20 March – Collected semiannual groundwater elevation measurements in monitoring and extraction wells at the Buildings 1-4, 9, and 18 Sites and collected quarterly groundwater elevation measurements in slurry wall well pairs at the Buildings 1-4 and 9 sites.

April 2014

- 15 April – Submitted the 2013 Annual Progress Report to the EPA and other parties in accordance with the MEW distribution list.
- 29 April – Submitted the 1st Quarter 2014 NPDES Self-Monitoring Reports for Systems 1 and 3.

May 2014

- 15 May – Collected quarterly groundwater elevation measurements in slurry wall well pairs at the Buildings 1-4 and 9 sites.

July 2014

- 3 July – Submitted the In Situ Chemical Oxidation (ISCO) Data Collection Work Plan for the Building 9 site to EPA.
- 3 July – Submitted the Work Plan for In Situ Chemical Oxidation Pilot Study for the Building 9 site to EPA.
- 3 July – Submitted the Data Collection Summary Report, describing data collection activities conducted at the Building 9 site in Fall 2013, to EPA.

August 2014

- 5 August – Submitted the 2nd Quarter 2014 NPDES Self-Monitoring Reports for Systems 1 and 3.

September 2014

- 18 September – Collected semiannual groundwater elevation measurements from monitoring and extraction wells located at the Buildings 1-4, 9, and 18 Sites, and collected quarterly groundwater elevation measurements in slurry wall well pairs at the Buildings 1-4 and 9 sites.
- 17 September through 16 October – Collected annual groundwater samples from monitoring and extraction wells located at the Buildings 1-4, 9, and 18 Sites.

October 2014

- 8 October – Collected soil and groundwater samples at the Building 9 Site for permanganate soil oxidant demand (PSOD) testing as described in the 3 July 2014 Work Plan for ISCO Pilot Study Data Collection (Geosyntec, 2014b).

November 2014

- 4 November – Submitted the 3rd Quarter 2014 NPDES Self-Monitoring Reports for Systems 1 and 3.
- 13 November – Collected quarterly groundwater elevation measurements in slurry wall well pairs at the Buildings 1-4 and 9 sites.
- 19 November – Submitted the Final ISCO Work Plan for the Building 9 site to EPA.
- 19 through 26 November – Conducted soil and grab groundwater sampling at the Building 9 site as described in the 3 July 2014 Work Plan for ISCO Pilot Study Data Collection (Geosyntec, 2014b).

The 2014 Annual Report Remedy Performance Checklist is provided in Appendix A.

2. GROUNDWATER EXTRACTION AND TREATMENT

2.1 Extraction and Treatment System Description

Components of the groundwater extraction and treatment systems are described in the following sections.

2.1.1 Treatment System 1

During 2014, System 1 included the following extraction and treatment components:

- Groundwater extraction from 9 operating extraction wells;
- Double-contained groundwater conveyance piping and well vaults;
- Two sediment filters in parallel;
- One pad sump, including sump pump;
- Three 5,000-pound GAC vessels in series; and
- Electrical distribution and control panels including:
    - A programmable logic controller (PLC); and
    - An auto-dialer.

Wells associated with System 1 are listed in Table 1. The discharge of treated groundwater from the treatment system to the storm sewer is authorized by NPDES Permit CAG912002 - Order No. R2-2012-0012. The system operated under NPDES Permit CAG912003, Order No. R2-2009-0059 until 25 August 2014, at which point the new permit came into effect.

2.1.2 Treatment System 3

During 2014, System 3 included the following extraction and treatment components:

- Groundwater extraction from 10 operating extraction wells;
- Double-contained groundwater conveyance piping and well vaults;
- Two sediment filters in parallel;
- One pad sump, including sump pump;

- Three 5,000-pound GAC vessels in series; and
- Electrical distribution and control panels including:
    - A PLC; and
    - An auto-dialer.

Wells associated with System 3 are listed in Table 1. The discharge of treated groundwater from the treatment system to the storm sewer is authorized by NPDES Permit CAG912002, Order No. R2-2012-0012. The system operated under NPDES Permit CAG912003, Order No. R2-2009-0059 until 25 August 2014, at which point the new permit came into effect.

2.1.3 Extraction Wells

Table 1 lists the groundwater zone, target flow rate, and 2014 average flow rates for the 26 extraction wells associated with Systems 1 and 3. Twenty-five of the extraction wells are located on the Buildings 1-4, 9, and 18 Sites and one extraction well (38B2) is located offsite.[6] A breakdown of the extraction wells and operations for each remediation program is as follows:

- **Buildings 1-4:** There are twenty source control recovery wells (SCRWs) associated with the Buildings 1-4 site. Thirteen of the SCRWs operated in 2014, and the remaining seven wells are shut off with EPA approval (RMT, 2000; EPA, 2007; Geosyntec, 2010).
- **Building 9:** There are four SCRWs located inside of the slurry wall (AE/RW-9-1, AE/RW-9-2, RW-20A, and RW-21A). All four SCRWs were operational in 2014.

[6] Well 38B2 is associated with the RGRP, but because this well is connected to System 1, which is located on the Buildings 1-4 site, data related to the operation and maintenance of this well is provided in this report. Further discussion of 38B2 is provided in the RGRP 2014 Annual Progress Report (Geosyntec, 2015c).

- **Building 18:** There is one SCRW (RW-25A) in the A Zone. RW-25A was operational in 2014. Groundwater was also extracted from the site in 2014 from regional recovery wells (RRWs) REG-12A, REG-1B(1) and REG-1(B2).[7]

2.2 Extraction and Treatment System Operation and Maintenance

From 1 January through 31 December, 2014, System 1 ran 99% of the time[8], and System 3 ran 99% of the time[9]. A combined total of approximately 40.5 million gallons of groundwater were treated, and 575 pounds of VOCs removed by treatment Systems 1 and 3 during this reporting period.

As required by the NPDES Permits CAG912003 and CAG912002, Orders R2-2009-0059 and R2-2012-0012, extraction well and treatment system flow readings are recorded weekly, and the treatment systems are sampled monthly. Results are reported quarterly to the Water Board.

Extraction well flow rates were optimized in 2010 for all Fairchild wells (Geosyntec, 2010). The optimized target flow rates and actual flow rates are shown in Table 1. More than 85% of the wells met or exceeded their optimized target rate. In addition, the combined average pumping rates for the Fairchild wells pumping to Systems 1 and 3 totaled 34.9 and 54.0 gallons per minute (gpm), respectively, exceeding their target combined average pumping rates of approximately 31.5 and 50.0 gpm. Monthly average flow rates and extraction totals for System 1 are provided in Table 4 and 5, respectively. Monthly average flow rates and extraction totals for System 3 are provided in Tables 6 and 7, respectively.

Analytical results for treatment system sampling are provided in Tables 8a and 8b (System 1) and 9a and 9b (System 3). The laboratory analytical reports are provided in Appendix B, and a quality assurance/quality control (QA/QC) evaluation for samples collected at the Buildings 1-4, 9, and 18 Sites during 2014 is provided in Appendix C. Treatment system discharges were within effluent limits established by NPDES Permits

[7] The groundwater extracted by the RRWs is pumped to the offsite Treatment System South of 101. Further discussion of the RRWs is provided in the RGRP 2014 Annual Progress Report (Geosyntec, 2015c).
[8] Of the System 1 downtime, approximately 26% was due to planned system shutdowns.
[9] Of the System 3 downtime, approximately 32% was due to planned system shutdowns.

CAG912003 and CAG912002, Orders R2-2009-0059 and R2-2012-0012 (Weiss, 2015a,b).

Tables 10 and 11 present VOC mass removal summaries for the two treatment systems based on the quarterly NPDES Self-Monitoring Reports produced by Weiss (Weiss, 2014a-f, and 2015a,b). During 2014, System 1 extracted and removed approximately 15.4 million gallons of groundwater and 227 pounds of VOCs, and System 3 extracted and removed approximately 25.0 million gallons of groundwater and 348 pounds of VOCs. Cumulative groundwater extracted and mass removed by Systems 1 and 3 are illustrated in Figures 4 and 5, respectively.

A summary of non-routine maintenance or operational activities performed during 2014 is provided in Tables 12 and 13. The EPA and Water Board require notification of extraction well and system downtime events as follows:

1. **EPA:** The owner and/or operator of the treatment system will make a best effort to notify the EPA orally within 24 hours of a well or system shutdown that occurs for more than 72 consecutive hours.
2. **Water Board:** If the treatment system is shut down for more than 120 consecutive hours, the reason(s) for shut down, proposed corrective action(s), and estimated start-up date shall be orally reported to the Water Board within five days of shut down and a written submission shall also be provided within 15 days of shut down.

As demonstrated by system downtime events for System 1 and System 3 listed in Tables 12 and 13, no notifications of well or system shutdowns were required during 2014. At System 1, a total of 9.1 tons of spent carbon were generated and disposed of as non-hazardous waste. At System 3, a total of 18.1 tons of spent carbon were generated and disposed of as non-hazardous waste. The spent carbon was shipped to Norit America's regeneration facility in Pryor, Oklahoma. Spent sediment filters generated at Systems 1 and 3 during 2014 were disposed of as hazardous waste at U.S. Ecology in Beatty, Nevada.

2.3 Groundwater Level Monitoring

Groundwater levels were measured semi-annually for the purpose of monitoring the hydraulic performance of the groundwater remedy. Tables 2a, 2b, and 2c summarize the construction details for the monitoring and extraction wells.

During this reporting period, groundwater levels were measured in monitoring and extraction wells on 20 March and 18 September 2014 (Tables 14a-c). In addition, water levels were measured quarterly on 20 March, 15 May, 18 September, and 13 November 2014 in 11 slurry wall well pairs (22 wells) at the Buildings 1-4 site and 4 slurry wall well pairs (8 wells) at the Building 9 site. Water levels measured in the slurry wall well pairs between January 2010 and December 2014 are included in Tables 15a and 15b.

Hydrographs of Buildings 1-4 slurry wall well pairs are provided in Figures 6, 7, and 8. Figures 6 and 7 include hydrographs of A Zone slurry wall well pairs showing the inward or outward gradients across the slurry wall. Figure 8 includes a set of hydrographs of slurry wall well pairs in which one well is screened inside the slurry wall in the A Zone and the adjacent well is screened below the slurry wall in the B1 Zone.

Hydrographs of Building 9 slurry wall well pairs are provided in Figure 9. Figure 9 includes a set of three hydrographs of A Zone slurry wall well pairs showing the inward or outward gradients across the slurry wall and one hydrograph of a slurry wall well pair in which one well is screened inside the slurry wall in the A Zone, and the adjacent well is screened below the slurry wall in the B1 Zone.

Groundwater elevation contour maps for the A Zone, B1 Zone, and B2 Zone underlying the Buildings 1-4, 9, and 18 Sites are provided in Figures 10 through 15 and are based on facility-specific and regional data as presented in the MEW RGRP Annual Report (Geosyntec, 2015c). The groundwater elevation contour maps were created using KT3D_H2O version 3.0, a geostatistical software package (Tonkin and Larson, 2002).[10] As opposed to most interpolation programs that require a choice between linear and logarithmic kriging, this version of KT3D allows for linear-log ordinary kriging, using

[10] The KT3D software package was developed as part of the Geostatistical Software Library (GSLIB) at Stanford University and was subsequently modified by S.S. Papadopulos and Associates, Inc. to include well drift (Deutsch and Journal, 1998; Tonkin and Larson, 2002).

linear kriging in areas distant from recovery wells and point logarithmic kriging in the vicinity of recovery wells. The flow rates from the extraction wells were input to the program in order to allow for a variable radial distance of the transition from linear to logarithmic kriging. A spherical variogram was specified with grid spacing of 30 feet.

Groundwater elevation contour maps from March and September show that while there is minor seasonal fluctuation in groundwater elevations, there is no significant seasonal change in groundwater flow or extraction well capture across the Buildings 1-4, 9, and 18 Sites.

2.4 Hydraulic Control and Capture Zone Analysis

The water level monitoring described in Section 2.3 provides the basis for evaluating the hydraulic performance of the groundwater remedies. The hydraulic capture area achieved by one or more recovery wells cannot be directly measured, but rather requires analysis and interpretation of the measured water levels and extraction rates. The following discussion summarizes the basis for estimating the capture zones.

2.4.1 Methodology

In evaluating groundwater capture for wells located at the Building 1-4, 9 and 18 Sites, consideration was given to the EPA guidance document *A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems* (EPA, 2008). The following steps were used to perform the hydraulic evaluation of the groundwater remedy.

- The site conceptual model, remedy objectives, slurry wall locations, and target capture zones were available from previous studies and prior annual monitoring reports;
- Water level measurements from March and September 2014 were interpolated to generate groundwater elevation contour maps as described in Section 2.3;
- Pumping rates from RRWs and SCRWs were compiled;
- Hydraulic capture from each RRW and SCRW was estimated based on graphical flow-net analysis of the contour maps, guided by backward particle tracking and analytical flow solutions (Section 2.4.2);
- A water balance calculation was used to check the total width of capture estimated from the graphical analysis;

- Water level data from well clusters were analyzed for the distribution of vertical gradients; and
- VOC time-series trends in monitoring wells were reviewed for confirming evidence of hydraulic capture (Section 2.5.2).

2.4.2 Estimated Extraction Well Capture

Estimated capture zones for A Zone, B1 Zone, and B2 Zone recovery wells located at the Buildings 1-4, 9, and 18 Sites in March and September 2014 are shown in Figures 10 through 15. The capture zones were estimated by graphical flow-net analysis, using the groundwater elevation contour maps (Section 2.3). The graphical analysis was guided by backward particle tracking using TransientTracker in KT3D_H20 and calculated distances to the stagnation point and capture zone width based on the analytical solution of Javandel and Tsang (1986). All extraction wells pumping in the MEW study area were considered as part of the capture zone evaluation for the Buildings 1-4, 9, and 18 Sites. The KT3D_H20 particle tracking method and analytical calculations assume homogeneous, two-dimensional groundwater flow with a single regional estimated value of transmissivity. These methods were used as supporting lines of evidence to evaluate capture together with the groundwater elevation contour maps. The final capture zones presented in Figures 10 through 15 are based on professional judgment in consideration of the above analyses, known site conditions, and experience with similar sites.

For the Buildings 1-4 and Building 9 sites, the estimated capture widths shown in Figures 10 through 15 were compared to the distribution of TCE in groundwater (Section 2.5.1, Figures 16, 20, and 24) within the site boundaries, and measured in map view. If the estimated width of capture is greater than the transgradient width of the TCE distribution in groundwater, then hydraulic containment of the plume is indicated.

For Building 18, the site remedy is one A Zone SCRW (RW-25A) that is designed to capture A Zone groundwater. The target hydraulic capture area for RW-25A is the modeled capture zone depicted in the final remedial design document for the MEW area South of Highway 101 (Canonie, 1994; Smith, 1996). As shown in Figures 10 and 11, estimated capture from RW-25A exceeds the target capture zone. Additional groundwater capture is provided by regional well REG-12A, which is located directly east of RW-25A.

2.4.3 Capture Width Based on Combined Flow Rate Analysis

The capture zone analysis described in Section 2.4.2 was developed on a well-by-well basis. However, the net result of the combined capture zones from all site-specific recovery wells is an area of hydraulic capture significantly wider than the distribution of VOCs in groundwater. An independent check of the capture zones presented in Figures 10 through 15 was developed by using the combined 2014 groundwater extraction rates to estimate the total capture width in each zone (A, B1, B2) at each of the Buildings 1-4, 9, and 18 Sites. The estimated capture widths were then compared to the distribution of TCE in groundwater (Section 2.5.1, Figures 16, 20, and 24) within the site boundaries, measured in map view for each zone.

At the Buildings 1-4 and Building 9 sites, A Zone capture by the wells inside the slurry wall was compared to the slurry wall width. The target capture width for wells outside the slurry walls was considered to be the total width of each site. If the estimated width of capture is greater than the transgradient width of the TCE distribution in groundwater, then hydraulic containment of the plume is indicated.

The calculations of capture width for each zone based on the total extraction rate, regional hydraulic gradient, hydraulic conductivity, and zone thickness are shown in Table 16.

The results indicate that the predicted capture width based on the total extraction rate is greater than the measured transgradient width of TCE in groundwater within the Buildings 1-4, 9, and 18 Sites, thereby providing an additional line of evidence that hydraulic containment is achieved.

2.4.4 Horizontal and Vertical Gradients

Slurry wall well pairs are used to evaluate:

- The direction of horizontal gradient across the slurry wall by comparing water levels in wells located inside the slurry wall boundary with water levels in adjacent wells outside the slurry wall; and
- The direction of vertical gradient across the A/B aquitard by comparing water levels in wells located inside the slurry wall boundary (in the A Zone) with water levels in wells located below the slurry wall (in the B1 Zone).

2.4.4.1 Buildings 1-4

Figures 6 through 8 illustrate hydraulic head differences between the Buildings 1-4 site slurry wall well pairs at the site. The well pairs in Figures 6 and 7 are used to evaluate the direction of horizontal gradient across the Buildings 1-4 slurry wall. The well pairs in Figure 8 are used to evaluate the direction of vertical gradient across the A/B Aquitard. Groundwater elevations were recorded quarterly in March, May, September, and November 2014 for the slurry wall well pairs listed in Table 15a. The well locations are shown in Figures 3, 6, 7, and 8.

Results of the well pair analysis at the Buildings 1-4 slurry wall indicate the following:

- Horizontal gradients were generally inward on the upgradient (south) and trans-gradient (west and east) sides of the slurry wall, and outward on the downgradient (north) side of the slurry wall.
- Inside the slurry wall, vertical gradients between the B1 Zone and A Zone were consistently upward in well pairs 115B1/124A and 119B1/133A, and downward in well pairs 20B1/33A and 60B1/118A.

The horizontal and vertical gradients recorded during this reporting period are generally consistent with historical observations. Stable or decreasing VOC concentration trends in wells downgradient of and below the slurry wall provide supporting evidence for adequate plume capture (Section 2.5.2).

2.4.4.2 Building 9

Figure 9 illustrates hydraulic head differences between the Building 9 site slurry wall well pairs at the site. Groundwater elevations were recorded quarterly in March, May, September, and November 2014 for the Building 9 slurry wall well pairs listed in Table 15b. The well locations are shown in Figures 3 and 9.

Results of the well pair analysis at the Building 9 slurry wall indicate the following:

- **Horizontal Gradients:** During this reporting period, inward gradients were consistently observed at well pair 123A/122A located on the upgradient side of the slurry wall, well pair 138A/127A located on the eastern cross gradient side

of the slurry wall, and well pair 126A/35A located on the downgradient side of the slurry wall.

- **Vertical Gradients:** During this reporting period, an upward gradient was observed between the A and B1 aquifer at well pair 69B1/37A.

The horizontal and vertical gradients recorded during this reporting period are generally consistent with historical observations. The inward and upward gradients observed at the Building 9 site provide hydraulic containment.

2.4.4.3 Building 18

The horizontal component of groundwater flow at the site is towards the north-northwest. Hydraulic gradients are affected by groundwater extraction, and locally range from approximately 0.002 to 0.008. The vertical component of groundwater flow is mainly downward as indicated by measured groundwater elevations in well pairs 147A/143B1 and 80A/32B1 located at the site. Both well pairs demonstrated downward gradients in March 2014 and September 2014, as shown in Table 15c. The downward hydraulic gradients at the site are attributed to B-Zone extraction at the site associated with RRWs.

The horizontal and vertical gradients recorded during this reporting period are generally consistent with historical observations. The downward gradients observed at the site do not impact site cleanup objectives. Stable to decreasing VOC concentration trends in wells below the A Zone provide supporting evidence for adequate plume capture (Section 2.5.2).

2.5 Groundwater Quality Monitoring

The 2014 Annual Groundwater Quality Sampling Event was conducted in September and October 2014. A total of 62 wells located on the Buildings 1-4, 9, and 18 Sites were sampled for VOCs in 2014. In addition, ten MEW RGRP wells located on the Buildings 1-4, 9, and 18 Sites were sampled in 2014, and the results are reported separately in the RGRP Annual Report (Geosyntec, 2015c). Chemical analytical results for the previous five years (2010 through 2014) are presented in Tables 17a, 17b, and 17c. Appendix B contains the analytical reports and chain-of-custody documentation for samples collected in 2014, and Appendix C contains the QA/QC evaluation report and summary

tables. VOC (TCE, *cis*-1,2-DCE, and VC) versus time graphs for selected monitoring wells are included in Appendix D.

2.5.1 Isoconcentration Contour Maps

TCE, *cis*-1,2-DCE, VC, and tetrachloroethene (PCE) isoconcentration contour maps were created for the 2014 annual sampling event and are presented for the A Zone, B1 Zone, and B2 Zone in Figures 16 through 27. These maps are based on isoconcentration contouring performed for the MEW RGRP Annual Progress Report (Geosyntec, 2015c) that includes all wells in the MEW study area sampled for VOCs in 2014. The 2014 contour maps were based on the previous 2013 isoconcentration contour maps (Geosyntec, 2014a) with contours modified to reflect decreases or increases in TCE concentrations between 2013 and 2014. In addition to data from the annual sampling event, VOC concentrations from grab-groundwater samples collected at the Building 9 site as part of ongoing remedy optimization is included in the isoconcentration contouring. Further information on the grab-groundwater data is included in the Addendum to the Final Work Plan for In Situ Chemical Oxidation Pilot Study (Geosyntec, 2015a).

2.5.2 Remedy Performance

In conjunction with the hydraulic analysis described in Section 2.4, the VOC monitoring data provides an additional line of evidence for assessing remedy performance. Selected VOC versus time graphs are presented in Appendix D.

During the 2014 annual monitoring event, all of the wells sampled at the Building 1-4, 9, and 18 Sites had TCE concentrations that were within or below historical ranges.

In addition to the creation of time series graphs, Mann-Kendall statistical analysis was conducted to evaluate VOC concentration trends over the past 10 years (2005 through 2014) in the wells located at the Buildings 1-4, 9, and 18 Sites[11] (Table 18). The Mann-Kendall statistical analysis produced the following results:

[11] A Mann-Kendall statistical analysis was performed using TCE, *cis*-1,2-DCE and VC concentration data from 2005 to 2014 to evaluate concentration trends. Wells with insufficient data (i.e., data from fewer than 4 sampling events) were not included in the trend analysis evaluation.

- **Buildings 1-4:** Since 2005, TCE concentrations are decreasing, stable, non-detect[12] or have no statistically significant trend in all the Buildings 1-4 site wells evaluated. Approximately 40% of site wells display decreasing TCE concentration trends, 58% show no trend or are stable, and TCE has not been detected above laboratory reporting limits in one well (RW-5(B2)) during the last 10 sampling years.
- **Building 9:** Since 2005, TCE concentrations are decreasing, stable, or have no statistically significant trend in all but two of the Building 9 site wells evaluated (wells AE/RW-9-2 and 138A). Approximately 31% of site wells display decreasing TCE concentration trends and 54% show no trend or are stable. Although the 10 year Mann-Kendall analysis shows an increasing trend for TCE in extraction well AE/RW-9-2 and monitoring well 138A (15% of wells evaluated), inspection of the VOC time series graphs for these wells show that the TCE concentration in both wells have decreased by an order of magnitude since 1996 (Appendix D, Figure D-4). In addition, the TCE concentration in AE/RW-9-2 in 2014 decreased compared to the TCE concentrations over the past four years (since 2010).
- **Building 18:** Since 2005, TCE concentrations are decreasing, stable, or have no statistically significant trend in all the Building 18 site wells evaluated. Approximately 71% of site wells display decreasing TCE concentration trends and 29% show no trend or are stable.

The spatial distribution of monitoring data can also be used to assess remedy performance. Figures 16, 20, and 24 present TCE isoconcentration contour maps of the A Zone, B1 Zone, and B2 Zone, respectively, with the September 2014 hydraulic capture zones (Section 2.4) overlain on the maps.

These figures illustrate complete hydraulic capture for the Fairchild remedy wells within the Buildings 1-4 and Building 9 site boundaries. In addition, these figures illustrate complete hydraulic capture of the target capture zone established for the Building 18 remedy.

[12] Non-detect is defined as circumstances where sample concentrations have not been detected in any sample from the last 10 sampling years.

The VOC time series data and VOC monitoring data indicate that the combined remedies are performing as designed to control or remediate VOCs in groundwater.

2.6 Compliance

The treatment systems operated within the effluent limits established by the NPDES permits throughout 2014 (Weiss, 2015a, b). VOC results from samples collected for NPDES compliance are summarized in Tables 8a and 9a (Weiss, 2015a, b)

3. OTHER ACTIVITIES

3.1 Air/Vapor Intrusion

The EPA issued a ROD amendment on 16 August 2010 to address vapor intrusion. The MEW parties continued to work with the EPA and local entities to implement the ROD amendment during 2014. In accordance with the Statement of Work for the Vapor Intrusion ROD Amendment, an annual report summarizing the status of the vapor intrusion remedy will be submitted under a separate cover (Geosyntec, 2015d).

3.2 Building 20 Remediation

No potential sources of VOCs were identified on the premises of Fairchild's former Buildings 20/20A at 464 Ellis Street (Building 20). Therefore, there is no facility-specific remedy for the site. EPA approved the discontinuation of a facility-specific report for this site in 2012 (EPA, 2012) with the condition that a summary of annual site activities would be provided in this report. A summary of the extraction wells located on the former Buildings 20 and 20A site and activities performed at the site in 2014 is provided in Table 19. Additional information regarding wells located on the former Buildings 20 and 20A site is provided in the Raytheon annual report (Locus, 2015) and the 2014 Annual Progress Report for the RGRP (Geosyntec, 2015c).

3.3 Building 9 Optimization

Data collection field work was performed in October and November 2014 as part of remedy optimization at the former Fairchild Building 9 site in accordance with the Work Plan for In Situ Chemical Oxidation (ISCO) Pilot Study Data Collection (Geosyntec, 2014b). Details of this field work are discussed further in Section 6.1.

4. PROBLEMS ENCOUNTERED

Tables 12 and 13 provide a summary of all non-routine O&M events that occurred at Systems 1 and System 3. No other problems related to the Building 1-4, 9, and 18 Sites were encountered (Weiss, 2015a, b).

5. TECHNICAL ASSESSMENT

The following assessment of the groundwater remedy performance was made based on data collected through 2014.

- **The remedy is functioning as intended.** Based on 2014 data reviewed, the groundwater remedy is functioning as intended. The 2014 Annual Report Remedy Performance Checklist is included as Appendix A.
- **The capture zones are adequate.** Groundwater elevations, graphical flow net analysis, capture zone width calculations, and VOC concentration trends provide converging lines of evidence that the extraction wells at the Buildings 1-4, 9, and 18 Sites are achieving adequate horizontal and vertical capture.
- **VOC concentrations are steady to decreasing over time.** Since 2005, over 85% of wells at each of the Buildings 1-4, 9, and 18 Sites have decreasing, stable, or no statistically significant trend in TCE concentration over time (Table 18, Appendix D).

The remedial actions meet the remedial action objectives (RAOs) for groundwater.

6. OPTIMIZATION PROGRESS

In 2013 EPA elected to proceed with the optimization of existing remedies. EPA's stated objective for remedy optimization is to increase the rate of VOC mass removal from the individual MEW sites. Optimization of the remedy at the former Fairchild Building 9 site started in 2013 and includes plans for an ISCO pilot study within the slurry wall (see Section 6.1 below). Optimization programs for the former Fairchild Buildings 1-4 and Building 18 sites are expected to include adjustments to the groundwater extraction remedies to increase the rate of VOC mass removal.

6.1 Building 9 Optimization

Remedy optimization at the Building 9 site will include an ISCO pilot study to increase the rate of VOC mass removal in an area within the 401 National Avenue slurry wall. A work plan for ISCO pilot study implementation and a work plan for ISCO pilot study data collection were submitted to EPA on 3 July 2014 (Geosyntec, 2014b,c). EPA approved the data collection work plan and provided comments on the implementation work plan in a letter dated 23 September 2014 (EPA, 2014). A revised and final version of the Work Plan was submitted to EPA on 19 November 2014 (Geosyntec, 2014d). The field program described in the ISCO pilot study data collection work plan was conducted at the former Building 9 site between 8 October 2014 and 26 November 2014. The pilot study data collection findings are summarized in the Addendum to the Final Work Plan for ISCO Pilot Study (Geosyntec, 2015a). The ISCO pilot study will be implemented in 2015.

7. CONCLUSIONS AND RECOMMENDATIONS

Approximately 40 million gallons of groundwater were treated, and 575 pounds of VOCs were removed by treatment systems associated with the Buildings 1-4, 9, and 18 Sites during 2014. From 1 January through 31 December 2014, Systems 1 and 3 both had operational uptimes exceeding 99%. No significant problems related to system operations were noted in 2014.

The remedy is performing as intended. The estimated capture zones from March and September 2014 meet or exceed target capture areas based on converging lines of evidence, including graphical flow net analysis and VOC concentration trends.

Optimization of the groundwater remedies at the Buildings 1-4, 9, and 18 Sites was ongoing in 2014, including data collection to support ISCO pilot study design at the Building 9 site and the submittal of work plans for implementing an ISCO pilot study (Geosyntec 2014b,c,e). Participation in the groundwater remedy optimization process will continue in 2015.

Groundwater elevation contour and capture zone maps from March and September show that there is no significant seasonal change in groundwater flow or extraction well capture across the study area. As stated in a 13 February 2015 letter to EPA, it is recommended that the frequency of groundwater level monitoring be reduced from semi-annual to annual, coincident with the September/October sampling event (Geosyntec, 2015b).

8. UPCOMING WORK IN 2015 AND PLANNED FUTURE ACTIVITIES

January	• Pump and Treat System O&M • Monthly system effluent sampling (NPDES) • Begin Implementation of ISCO Pilot Study at Building 9[13]
February	• Pump and Treat System O&M • Monthly system effluent sampling (NPDES) • Submit 4th Quarter and Annual NPDES report
March	• Pump and Treat System O&M • Monthly system effluent sampling (NPDES) • Groundwater level measurements
April	• Pump and Treat System O&M • Monthly system effluent sampling (NPDES) • Submit Annual Progress Report to EPA
May	• Pump and Treat System O&M • Monthly system effluent sampling (NPDES) • Semi-annual system influent sampling (NPDES) • Submit 1st Quarter NPDES report • Slurry wall well pair groundwater level measurements
June	• Pump and Treat System O&M • Monthly system effluent sampling (NPDES)
July	• Pump and Treat System O&M • Monthly system effluent sampling (NPDES)
August	• Pump and Treat System O&M • Monthly system effluent sampling (NPDES) • Submit 2nd Quarter NPDES report
September	• Pump and Treat System O&M • Monthly system effluent sampling (NPDES) • Annual Groundwater sampling • Groundwater level measurements
October	• Pump and Treat System O&M • Monthly system effluent sampling (NPDES) • Annual system effluent sampling (NPDES) • Annual Groundwater sampling

[13] Implementation of the ISCO Pilot Study at the Building 9 site will be ongoing in 2015. A schedule for the pilot study was provided in the Addendum to the Final Work Plan for ISCO Pilot Study (Geosyntec, 2015a), and exact dates for the pilot study will be determined based on performance of the first ISCO injection event and the 600 National Avenue redevelopment schedule.

November	• Pump and Treat System O&M • Monthly system effluent sampling (NPDES) • Semi-annual system influent sampling (NPDES) • Submit 3rd Quarter NPDES report • Slurry wall well pair groundwater level measurements
December	• Pump and Treat System O&M • Monthly system effluent sampling (NPDES)

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TABLES

Table 1
Target and 2014 Average Recovery Well Flow Rates
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Extraction Wells	Remediation Program	2014 Target Flow Rate[1] (gpm)	Average 2014 Flow Rate[2] (gpm)
System 1			
A Zone			
AE/RW-9-1	Building 9	4.0	5.2
AE/RW-9-2	Building 9	2.0	0.6
RW-3A[3]	Buildings 1-4	off	off
RW-4A	Buildings 1-4	3.0	4.7
RW-16A[3]	Buildings 1-4	off	off
RW-20A	Building 9	4.0	5.4
RW-21A	Building 9	7.0	7.3
RW-25A	Building 18	5.5	5.9
RW-28A[3]	Buildings 1-4	off	off
B1 Zone			
RW-3(B1)[3]	Buildings 1-4	off	off
RW-4(B1)	Buildings 1-4	5.5	5.5
B2 Zone			
RW-3(B2)[3]	Buildings 1-4	off	off
RW-4(B2)	Buildings 1-4	0.5	0.3
38B2 (RGRP)	RGRP	4.0	5.0
System 3			
A Zone			
RW-5A	Buildings 1-4	2.5	3.2
RW-7A	Buildings 1-4	10.0	12.9
RW-9A (RGRP)	Buildings 1-4 and RGRP	5.0	6.5
RW-18A	Buildings 1-4	6.5	3.4
RW-27A	Buildings 1-4	5.5	5.6
B1 Zone			
RW-5(B1)	Buildings 1-4	4.0	4.2
RW-7(B1)	Buildings 1-4	2.0	2.1
RW-9(B1)R (RGRP)	Buildings 1-4 and RGRP	6.0	6.3
RW-12(B1)	Buildings 1-4	5.5	6.5
B2 Zone			
RW-5(B2)[3]	Buildings 1-4	off	off
RW-7(B2)[3]	Buildings 1-4	off	off
RW-9(B2) (RGRP)	Buildings 1-4 and RGRP	3.0	3.3

Notes:
1.Target flow rates were adjusted in 2010 as a result of EPA comments to the 2008 optimization evaluation (Geosyntec, 2010).

2. Average 2014 flow rates were calculated by dividing the total volume of groundwater recovered by the time in minutes between the totalizer readings. System totalizer readings were recorded on 30 December 2013 and 30 December 2014.

3. Well is offline with EPA approval (RMT, 2000; Geosyntec, 2010).

(RGRP) = Regional Groundwater Remediation Program well connected to System 1 or System 3 for treatment. Further discussion of this well is provided in the MEW RGRP 2014 Annual Progress Report (Geosyntec, 2015b).
gpm = gallons per minute

Table 2a
Buildings 1-4 Extraction and Monitoring Well Construction Summary
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Well ID	Year Installed	Reference Elevation[1] (ft msl)	Diameter (inches)	Total Well Depth (ft btoc)	Top of Screened Interval (ft btoc)	Bottom of Screen Interval (ft btoc)	Top of Sand Pack (ft btoc)	Bottom of Sand Pack (ft btoc)	Well Type
A Zone									
33A	1982	43.74	2	34	14	34	14	34	Mon
46A	1982	42.10	2	34	14	34	14	34	Mon
51A	1982	44.22	2	34	14	34	12	34	Mon
57A	1982	39.21	2	35	15	35	12	35	Mon
59A	1982	39.56	2	30	15	30	12	30	Mon
61A	1982	37.18	2	31	16	31	10	31	Mon
62A (RGRP)	1982	37.88	2	30	10	30	10	30	Mon
67A	1982	39.77	4	31	21	31	10	31	Mon
68A	1982	43.26	4	31	21	31	10	31	Mon
76A	1985	40.08	4	20	10	20	7.5	22	Mon
84A	1985	43.38	4	28	18	28	15	30	Mon
118A	1986	39.78	4	20.5	10.5	20.5	6	21	Mon
121A	1986	41.82	4	36	26	36	12	38	Mon
124A	1986	38.86	4	24	14	24	19	26	Mon
127A	1986	43.81	4	20	15	20	13	22	Mon
128A	1986	43.38	4	28	18	28	16	30	Mon
129A	1986	43.75	4	38	26	36	12	38	Mon
130A	1986	41.60	4	29	14	29	11	31	Mon
133A	1986	43.75	4	30	15	30	13	32	Mon
136A	1986	43.30	4	30	25	30	22	32	Mon
156A	1993	40.22	4	29.5	19.5	29.5	37	55	Mon
157A	1993	40.50	4	29.5	19.5	29.5	15	30	Mon
REG-MW-2A (RGRP)	---	38.11	---	---	18.5	15	25	---	Mon
RW-3A	1985	43.34	6	30.5	19.6	29.6	11	32	Ext
RW-4A	1986	42.61	6	29	18	28	11	32	Ext
RW-5A	1985	36.86	6	30.5	19.5	29.5	11	32	Ext
RW-7A	1985	36.29	6	36	15	35	11	37	Ext
RW-9A (RGRP)	1985	37.83	6	25	13	23	10	25	Ext
RW-16A	1988	43.89	8	33	22	32	11	33.5	Ext
RW-18A	1987	37.53	6	36	25	35	11	37	Ext
RW-27A	1997	38.41	6	25	15	25	12	27.5	Ext
RW-28A	2000	42.33	6	28	18	28	15	31	Ext
B1 Zone									
2B1	1982	43.43	4	59	47	59	47	60	Mon
20B1	1985	43.89	4	67	57	67	55	68	Mon
60B1	1985	39.64	4	73	63	73	60	75	Mon
115B1	1986	38.76	4	64	59	64	57.5	65	Mon
119B1 (RGRP)	1986	42.96	4	62	52	62	50	34	Mon
147B1	1995	37.82	6	61	50	60	47	62	Mon
RW-3(B1)	1985	43.28	6	57	46	56	41	59	Ext
RW-4(B1)	1985	42.66	6	61	50	60	49	63	Ext
RW-5(B1)	1985	37.87	6	59	0	0	40	62	Ext
RW-7(B1)	1985	38.76	6	66	55	65	45	67	Ext

Table 2a
Buildings 1-4 Extraction and Monitoring Well Construction Summary
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Well ID	Year Installed	Reference Elevation[1] (ft msl)	Diameter (inches)	Total Well Depth (ft btoc)	Top of Screened Interval (ft btoc)	Bottom of Screen Interval (ft btoc)	Top of Sand Pack (ft btoc)	Bottom of Sand Pack (ft btoc)	Well Type
RW-9(B1)R (RGRP)	1986	38.59	6	69	59	69	58	72	Ext
RW-12(B1)	1995	40.51	6	62	52	62	49	63	Ext
B2 Zone									
10B2	1985	43.90	2	90	85	90	83	95	Mon
11B2	1985	37.19	2	92	87	92	85	92	Mon
113B2 (RGRP)	1986	39.01	4	86	69	84	67	86	Mon
118B2	1986	43.21	4	89	84	89	81	91	Mon
148B2	1995	37.72	6	86	75	85	72	87	Mon
RW-3(B2)	1985	42.96	6	92	76	91	69	94	Ext
RW-4(B2)	1985	41.79	6	90.5	74.5	89.5	72	93	Ext
RW-5(B2)	1985	37.98	6	95	84	94	67	97.5	Ext
RW-7(B2)	1986	37.18	6	90	80	90	76	93	Ext
RW-9(B2) (RGRP)	1985	37.88	6	92.6	82.6	92.6	80	95	Ext

Notes:

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

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

--- = data not available

ft msl = feet mean sea level

ft btoc = feet below top of casing

Ext = extraction well

Mon = monitoring well

(RGRP) = Regional Groundwater Remediation Program well associated with the Former Fairchild Buildings 1-4 site. Additional discussion of this well is provided in the MEW RGRP 2014 Annual Progress Report (Geosyntec, 2015c)

Table 2b
Building 9 Extraction and Monitoring Well Construction Summary
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Well ID	Year Installed	Reference Elevation[1] (ft msl)	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
A Zone									
35A	1982	42.67	2	37	12	37	12	37	Mon
36A	1982	42.32	2	40	35	40	15	40	Mon
37A	1982	43.21	2	30	15	30	12	30	Mon
40A	1982	43.44	2	27	11.5	27	12	27	Mon
41A	1982	42.40	2	25	13	25	13	25	Mon
42A	1982	42.97	2	35	10	35	12	35	Mon
43A	1982	43.38	2	27	15	27	15	27	Mon
44A	1982	43.13	2	28	13.5	28	13.5	28	Mon
122A	1986	44.23	4	38	28	38	18	39	Mon
123A	1986	44.37	4	38	28	38	18	39	Mon
126A	1986	42.85	4	38	23	38	18	40	Mon
137A	1986	43.68	4	36	34	36	32	38	Mon
138A	1986	43.60	4	37	34	37	32	38	Mon
AE/RW-9-1	1995	43.15	6	33	8	33	6	36	Ext
AE/RW-9-2	1995	43.85	6	37	8	37	6	38	Ext
RW-20A	1987	43.57	8	37.5	26.5	36.5	11	38	Ext
RW-21A	1987	43.16	6	37	21	36	11	38	Ext
B1 Zone									
69B1	1985	42.62	4	59	54	59	50	61	Mon

Notes:
Water levels for extraction wells are taken from a 2" piezometer located next to the well.
1. Reference Elevations are in National Geodetic Vertical Datum from 1929 (NGVD 29).
ft msl = feet mean sea level
ft btoc = feet below top of casing
Ext = extraction well
Mon = monitoring well

Table 2c
Building 18 Extraction and Monitoring Well Construction Summary
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Well ID	Year Installed	Reference Elevation[1] (ft msl)	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
A Zone									
129A	1986	40.40	4	38	26	36	12	38	Mon
147A	1988	39.13	4	30	10	30	7	31	Mon
151A	1991	40.02	4	31.5	16.5	31.5	13.5	32	Mon
152A	1991	39.53	4	34.5	14.50	34.5	12.5	34.5	Mon
54A	1982	40.17	2	40	14	40	14	40	Mon
58A	1982	38.20	4	30	10	30	10	30	Mon
80A	1985	38.09	4	33	23	31	21	33	Mon
RW-25A	1995	38.38	6	32	21	31	18	32	Ext
B1 Zone									
32B1 (RGRP)	1985	38.03	4	76	64	74	59	76	Mon
143B1 (RGRP)	1986	38.88	4	70	60	70	56	76	Mon

Notes:
Water levels for extraction wells are taken from a 2" piezometer located next to the well.
1. Reference Elevations are in National Geodetic Vertical Datum from 1929 (NGVD 29).
ft msl = feet mean sea level
ft btoc = feet below top of casing
Ext = extraction well
Mon = monitoring well
(RGRP) - Regional Groundwater Remediation Program well used for monitoring of vertical gradients at the Former Fairchild Building 18 Site. Additional discussion of this well is provided in the MEW RGRP 2014 Annual Progress Report (Geosyntec, 2015b)

Table 3a
Buildings 1-4 Monitoring and Reporting Schedule
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Monitoring and Sampling		
Well	**Sample Frequency**	**Water Level Gauging Frequency**
A Zone		
33A	Every 5 Years (Last sampled 2012)	Quarterly
46A	Annually (September or October)	Semiannually (March, September)
51A	Every 5 Years (Last sampled 2012)	Semiannually (March, September)
57A	Every 5 Years (Last sampled 2012)	Semiannually (March, September)
59A	Every 5 Years (Last sampled 2012)	Quarterly
61A (RGRP)	Annually (September or October)	Semiannually (March, September)
62A (RGRP)	Annually (September or October)	Semiannually (March, September)
67A	Every 5 Years (Last sampled 2012)	Semiannually (March, September)
68A	Every 5 Years (Last sampled 2012)	Semiannually (March, September)
76A	Annually (September or October)	Quarterly
84A	Every 5 Years (Last sampled 2012)	Quarterly
118A	Annually (September or October)	Quarterly
121A	Every 5 Years (Last sampled 2012)	Quarterly
124A	Every 5 Years (Last sampled 2012)	Quarterly
127A	Annually (September or October)	Quarterly
128A		Quarterly
129A		Quarterly
130A	Annually (September or October)	Quarterly
133A	Every 5 Years (Last sampled 2012)	Quarterly
136A (RGRP)		Quarterly
156A	Annually (September or October)	Quarterly
157A	Annually (September or October)	Quarterly
REG-MW-2A (RGRP)	Annually (September or October)	Semiannually (March, September)
RW-3A	Annually (September or October)	Semiannually (March, September)
RW-4A	Annually (September or October)	Semiannually (March, September)
RW-5A	Annually (September or October)	Semiannually (March, September)
RW-7A	Annually (September or October)	Semiannually (March, September)
RW-9A (RGRP)	Annually (September or October)	Semiannually (March, September)
RW-16A	Annually (September or October)	Semiannually (March, September)
RW-18A	Annually (September or October)	Semiannually (March, September)
RW-27A	Annually (September or October)	Semiannually (March, September)
RW-28A	Annually (September or October)	Semiannually (March, September)
B1 Zone		
2B1	Annually (September or October)	Semiannually (March, September)
20B1	Every 5 Years (Last sampled 2012)	Quarterly
60B1	Annually (September or October)	Quarterly
115B1	Annually (September or October)	Quarterly
119B1 (RGRP)	Annually (September or October)	Quarterly
147B1	Annually (September or October)	Semiannually (March, September)
RW-3(B1)	Annually (September or October)	Semiannually (March, September)
RW-4(B1)	Annually (September or October)	Semiannually (March, September)
RW-5(B1)	Annually (September or October)	Semiannually (March, September)
RW-7(B1)	Annually (September or October)	Semiannually (March, September)
RW-9(B1)R (RGRP)	Annually (September or October)	Semiannually (March, September)
RW-12(B1)	Annually (September or October)	Semiannually (March, September)
B2 Zone		
10B2	Annually (September or October)	Semiannually (March, September)
11B2	Annually (September or October)	Semiannually (March, September)
113B2 (RGRP)	Annually (September or October)	Semiannually (March, September)
118B2	Annually (September or October)	Semiannually (March, September)
148B2	Annually (September or October)	Semiannually (March, September)
RW-3(B2)	Annually (September or October)	Semiannually (March, September)
RW-4(B2)	Annually (September or October)	Semiannually (March, September)
RW-5(B2)	Annually (September or October)	Semiannually (March, September)
RW-7(B2)	Annually (September or October)	Semiannually (March, September)
RW-9(B2) (RGRP)	Annually (September or October)	Semiannually (March, September)

Table 3a
Buildings 1-4 Monitoring and Reporting Schedule
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Monitoring and Sampling		
Well	**Sample Frequency**	**Water Level Gauging Frequency**
Monitoring and Sampling - System 1		
System Component		
System 1 Influent	Quarterly	
System 1 Midpoint	Monthly	
System 1 Effluent	Monthly	
Monitoring and Sampling - System 3		
System Component		
System 3 Influent	Quarterly	
System 3 Midpoint	Monthly	
System 3 Effluent	Monthly	
Reporting		
Report	**Due Date**	
Quarterly NPDES	February 15, May 15, August 15, November 15	
EPA Annual Progress Report	April 15	

Notes:
Wells shown in **bold** are located onsite and associated with the Fairchild Operation & Maintenance program (RMT, 2003).
(RGRP) = Regional Groundwater Remediation Program well. Additional discussion of this well is provided in the MEW RGRP 2014 Annual Progress Report (Geosyntec, 2015c)
EPA = United States Environmental Protection Agency
NPDES = National Pollutant Discharge Elimination System
RGRP = Regional Groundwater Remediation Program
Slurry wall well pair water levels are measured on a quarterly basis.

Table 3b
Building 9 Monitoring and Reporting Schedule
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Monitoring and Sampling		
Well	**Sample Frequency**	**Water Level Gauging Frequency**
A Zone		
35A	Every 5 Years (Last sampled 2012)	Quarterly
36A		Semiannually (March, September)
37A	Annually (September or October)	Quarterly
40A	Annually (September or October)	Semiannually (March, September)
41A	Annually (September or October)	Semiannually (March, September)
42A	Annually (September or October)	Semiannually (March, September)
43A	Annually (September or October)	Semiannually (March, September)
44A	Annually (September or October)	Semiannually (March, September)
122A	Every 5 Years (Last sampled 2012)	Quarterly
123A		Quarterly
126A		Quarterly
137A	Annually (September or October)	Quarterly
138A	Annually (September or October)	Quarterly
AE/RW-9-1	Annually (September or October)	Quarterly
AE/RW-9-2	Annually (September or October)	Semiannually (March, September)
RW-20A	Annually (September or October)	Semiannually (March, September)
RW-21A	Annually (September or October)	Semiannually (March, September)
B1 Zone		
69B1		Quarterly
Reporting		
Report	**Due Date**	
EPA Annual Progress Report	April 15	

Notes:
Wells shown in **bold** are located onsite and associated with the Fairchild Operation & Maintenance program (RMT, 2003).
EPA = United States Environmental Protection Agency
Slurry wall well pair water levels are measured on a quarterly basis.

Table 3c
Building 18 Monitoring and Reporting Schedule
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Monitoring and Sampling		
Well	**Sample Frequency**	**Water Level Gauging Frequency**
A Zone		
54A	Annually (September or October)	Semiannually (March, September)
58A		Semiannually (March, September)
80A	Annually (September or October)	Semiannually (March, September)
147A	Annually (September or October)	Semiannually (March, September)
151A		Semiannually (March, September)
152A	Annually (September or October)	Semiannually (March, September)
RW-25A	Annually (September or October)	Semiannually (March, September)
B1 Zone		
32B1 (RGRP)	Annually (September or October)	Semiannually (March, September)
143B1 (RGRP)	Annually (September or October)	Semiannually (March, September)

Reporting	
Report	**Due Date**
EPA Annual Progress Report	April 15

Notes:
Wells shown in **bold** are located onsite and associated with the Fairchild Operation & Maintenance program (RMT, 2003).
(RGRP) = Regional Groundwater Remediation Program well used for monitoring of vertical gradients at the Former Fairchild Building 18 Site. Additional discussion of this well is provided in the MEW RGRP 2014 Annual Progress Report (Geosyntec, 2015c)
EPA = United States Environmental Protection Agency

Table 4
2014 Monthly Average Recovery Well Flow Rates, System 1
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Extraction Well	Remediation Program	2014 Average Monthly Flowrate[1] (gpm)											
		January	February	March	April	May	June	July	August	September	October	November	December
A Zone													
AE/RW-9-1	9	5.46	5.47	5.19	5.29	5.21	5.49	5.47	5.37	5.05	4.98	5.04	4.65
AE/RW-9-2	9	0.54	0.52	0.58	0.56	0.53	0.49	0.44	0.42	0.39	0.39	0.42	1.45
RW-3A[2]	1-4	--	--	--	--	--	--	--	--	--	--	--	--
RW-4A	1-4	4.68	4.93	4.94	4.86	4.74	4.75	4.71	4.81	4.73	4.55	4.41	4.02
RW-16A[2]	1-4	--	--	--	--	--	--	--	--	--	--	--	--
RW-20A	9	6.74	7.10	7.27	7.23	4.97	4.80	4.92	3.53	4.61	4.51	4.73	4.55
RW-21A	9	8.05	8.03	8.04	8.22	7.04	7.83	8.00	7.88	7.08	6.62	6.29	4.78
RW-25A	18	5.68	5.70	5.56	5.64	5.60	5.52	5.72	5.95	5.85	5.46	6.39	7.37
RW-28A[2]	1-4	--	--	--	--	--	--	--	--	--	--	--	--
B1 Zone													
RW-3(B1)[2]	1-4	--	--	--	--	--	--	--	--	--	--	--	--
RW-4(B1)	1-4	4.84	4.99	4.99	5.93	5.91	6.64	6.26	5.59	5.50	5.06	5.29	5.19
B2 Zone													
RW-3(B2)[2]	1-4	--	--	--	--	--	--	--	--	--	--	--	--
RW-4(B2)	1-4	0.42	0.43	0.44	0.34	0.27	0.32	0.32	0.31	0.23	0.26	0.34	0.31
38B2 (RGRP)	RGRP	5.25	5.32	5.35	5.21	4.99	5.11	5.10	5.05	5.04	4.83	4.88	4.44
Total		41.65	42.50	42.36	43.27	39.27	40.93	40.95	38.90	38.48	36.66	37.78	36.75

Notes:

1. Monthly average extraction well flow rates were calculated by dividing the volume of groundwater extracted at each well by the time (minutes) between the effluent totalizer readings (generally taken last Wednesday of each month).

2. Well is offline with EPA approval (RMT, 2000; Geosyntec, 2010).

(RGRP) = Regional Groundwater Remediation Program well connected to System 1 for treatment. Further discussion of this well is provided in the MEW RGRP 2014 Annual Progress Report (Geosyntec, 2015c)
-- = well was off this month
EPA = United States Environmental Protection Agency
gpm = gallons per minute

Table 5
2014 Monthly Extraction Totals, System 1
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Extraction Well	Remediation Program	2014 Monthly Volume Extracted[1] (gallons)											
		January	February	March	April	May	June	July	August	September	October	November	December
A Zone													
AE/RW-9-1	9	235,728	228,494	209,237	258,796	225,025	221,164	244,388	247,527	188,975	265,321	188,608	227,471
AE/RW-9-2	9	23,342	21,802	23,272	27,444	22,919	19,711	19,641	19,190	14,763	20,878	15,651	70,982
RW-3A[2]	1-4	--	--	--	--	--	--	--	--	--	--	--	--
RW-4A	1-4	201,968	206,028	199,356	237,761	204,685	191,583	210,433	221,658	177,229	242,646	165,085	197,052
RW-16A[2]	1-4	--	--	--	--	--	--	--	--	--	--	--	--
RW-20A	9	291,227	296,350	293,059	354,144	214,798	193,413	219,731	162,614	172,549	240,229	177,060	222,588
RW-21A	9	347,807	335,461	324,044	402,218	304,282	315,518	356,922	363,029	264,918	352,647	235,405	233,845
RW-25A	18	245,351	238,151	224,116	276,080	241,982	222,613	255,489	273,988	218,930	290,782	239,198	360,867
RW-28A[2]	1-4	--	--	--	--	--	--	--	--	--	--	--	--
B1 Zone													
RW-3(B1)[2]	1-4	--	--	--	--	--	--	--	--	--	--	--	--
RW-4(B1)	1-4	209,293	208,543	201,392	290,273	255,367	267,864	279,358	257,397	206,034	269,749	198,085	254,016
B2 Zone													
RW-3(B2)[2]	1-4	--	--	--	--	--	--	--	--	--	--	--	--
RW-4(B2)	1-4	17,948	17,824	17,839	16,425	11,865	12,724	14,247	14,351	8,516	13,647	12,636	15,030
38B2 (RGRP)	RGRP	226,719	222,304	215,769	255,247	215,628	205,851	227,757	232,876	188,861	257,135	182,812	217,619
Total[3]		1,416,600	1,403,800	1,366,600	1,607,200	1,189,280	1,170,220	1,288,310	1,267,080	1,006,560	1,359,650	971,100	1,332,400

Notes:
1. Monthly volumes of groundwater extracted are based on effluent totalizer readings at each well (generally taken last Wednesday of each month).
2. Well is offline with EPA approval (RMT, 2000; Geosyntec, 2010).
3. Total values are calculated from the system effluent totalizer, therefore the sum of the well extraction totals may not be equal to the total value reported. This discrepancy is attributed to inherent errors associated with comparing these two independently measured values.
(RGRP) = Regional Groundwater Remediation Program well connected to System 1 for treatment. Further discussion of this well is provided in the MEW RGRP 2014 Annual Progress Report (Geosyntec, 2015c)
-- = well was off this month
EPA = United States Environmental Protection Agency

Table 6
2014 Monthly Average Recovery Well Flow Rates, System 3
MEW Former Fairchild Buildings 1-4, 9 and 18 Groundwater Remediation Programs
Mountain View, California

Extraction Well	Remediation Program	2014 Average Monthly Flowrate[1] (gpm)											
		January	February	March	April	May	June	July	August	September	October	November	December
A Zone													
RW-5A	1-4	2.80	2.88	2.90	2.88	3.12	3.56	3.64	3.52	3.34	3.27	3.22	3.10
RW-7A	1-4	12.82	12.93	12.83	12.49	12.89	12.85	13.05	13.15	12.79	12.83	13.14	12.59
RW-9A (RGRP)	1-4 & RGRP	6.10	6.18	6.13	6.22	6.82	6.82	6.41	6.19	6.62	6.99	6.55	6.64
RW-18A	1-4	4.37	4.15	3.79	3.90	3.92	3.23	3.22	3.13	2.82	2.63	2.72	3.12
RW-27A	1-4	5.69	6.05	5.86	5.57	5.37	5.53	5.74	5.56	5.09	5.37	5.34	5.77
B1 Zone													
RW-5(B1)	1-4	3.56	3.55	3.48	3.40	3.99	4.67	4.88	4.71	4.45	4.48	4.59	4.96
RW-7(B1)	1-4	1.91	2.14	2.12	2.03	2.05	2.01	2.08	2.10	2.04	2.11	2.15	1.95
RW-9(B1)R (RGRP)	1-4 & RGRP	5.92	5.85	5.76	5.89	6.55	7.12	6.56	6.50	6.67	6.77	6.45	6.06
RW-12(B1)	1-4	6.61	7.67	7.47	5.99	5.81	6.05	6.18	6.16	6.45	6.80	6.39	6.62
B2 Zone													
RW-5(B2)[2]	1-4	--	--	--	--	--	--	--	--	--	--	--	--
RW-7(B2)[2]	1-4	--	--	--	--	--	--	--	--	--	--	--	--
RW-9(B2) (RGRP)	1-4 & RGRP	3.50	3.57	3.16	3.47	3.67	3.75	3.33	3.16	3.38	3.59	3.45	2.26
Total		53.27	54.96	53.51	51.85	54.16	55.60	55.09	54.21	53.64	54.86	54.01	53.07

Notes:

1. Monthly average extraction well flow rates were calculated by dividing the volume of groundwater extracted at each well by the time (minutes) between the effluent totalizer readings (generally taken last Wednesday of each month).

2. Well is offline with EPA approval (RMT, 2000).

(RGRP) = Regional Groundwater Remediation Program well connected to System 3 for treatment. Further discussion of this well is provided in the MEW RGRP 2014 Annual Progress Report (Geosyntec, 2015c)

-- = well was off this month
gpm = gallons per minute

Table 7
2014 Monthly Extraction Totals, System 3
MEW Former Fairchild Buildings 1-4, 9 and 18 Groundwater Remediation Programs
Mountain View, California

Extraction Well	Remediation Program	2014 Monthly Volume Extracted[1] (gallons)											
		January	February	March	April	May	June	July	August	September	October	November	December
A Zone													
RW-5A	1-4	120,952	120,095	117,082	141,130	134,608	143,726	162,587	162,253	125,078	174,484	120,389	151,663
RW-7A	1-4	553,874	539,923	517,426	611,650	556,647	518,299	582,634	606,105	478,675	683,737	492,088	616,250
RW-9A (RGRP)	1-4 & RGRP	263,632	257,978	247,253	304,581	294,580	275,143	286,288	285,416	247,983	372,422	245,405	325,238
RW-18A	1-4	188,618	173,172	152,858	190,989	169,276	130,154	143,782	144,416	105,443	140,289	101,946	152,675
RW-27A	1-4	245,960	252,749	236,118	272,893	231,831	222,802	256,084	256,355	190,726	286,330	199,913	282,514
B1 Zone													
RW-5(B1)	1-4	153,863	148,388	140,430	166,268	172,205	188,455	217,847	217,147	166,540	238,817	171,921	242,944
RW-7(B1)	1-4	82,296	89,558	85,567	99,318	88,358	81,117	92,898	96,991	76,378	112,420	80,434	95,328
RW-9(B1)R (RGRP)	1-4 & RGRP	255,740	244,278	232,230	288,174	282,781	287,030	292,732	299,647	249,540	360,618	241,355	296,797
RW-12(B1)	1-4	285,360	320,179	301,162	293,446	250,976	243,921	275,821	283,873	241,432	362,216	239,259	324,206
B2 Zone													
RW-5(B2)[2]	1-4	--	--	--	--	--	--	--	--	--	--	--	--
RW-7(B2)[2]	1-4	--	--	--	--	--	--	--	--	--	--	--	--
RW-9(B2) (RGRP)	1-4 & RGRP	151,183	148,928	127,241	169,939	158,402	151,203	148,765	145,820	126,515	191,525	129,250	110,702
Total[3]		2,052,900	2,014,650	1,896,000	2,235,700	2,067,700	1,987,780	2,170,900	2,185,160	1,754,800	2,567,240	1,781,440	2,312,830

Notes:

1. Monthly volumes of groundwater extracted are based on effluent totalizer readings at each well (generally taken last Wednesday of each month).

2. Well is offline with EPA approval (RMT, 2000; Geosyntec, 2010).

3. Total values are calculated from the system effluent totalizer, therefore the sum of the well extraction totals may not be equal to the total value reported. This discrepancy is attributed to inherent errors associated with comparing these two independently measured values.

(RGRP) = Regional Groundwater Remediation Program well connected to System 3 for treatment. Further discussion of this well is provided in the MEW RGRP 2014 Annual Progress Report (Geosyntec, 2015c).

-- = well was off this month

EPA = United States Environmental Protection Agency

Table 8a

VOC Sampling Results Summary, System 1

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs

Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)											
		Chloroform	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Freon 113	1,1,1-TCA	TCE	PCE	Vinyl Chloride	1,4-Dioxane[1]
Influent	2/13/2014	<20	**12**	<10	**8.1**	**830**	**15**	6.3	**8.7**	**1200**	<10	<10	NA
Influent	4/17/2014	<10	**24**	<5.0	**11**	**750**	**38**	13	**17**	**1500**	**4.3**	**7.5**	NA
Influent	5/22/2014	<10	**12**	<5.0	**6.3**	**470**	**15**	7.8	**6.7**	**740**	<5.0	**2.8**	NA
Influent	6/9/2014	<20	**11**	<10	**6.9**	**800**	**22**	5.5	**6.6**	**1100**	<10	<10	NA
Influent	7/17/2014	<20	**12**	<10	**6.5**	**350**	**16**	6.4	**9.1**	**700**	<10	<10	NA
Influent	8/14/2014	<10	**13**	<5.0	**6.7**	**640**	**17**	5.3	**7.0**	**990**	<5.0	**2.9**	**0.85**
Influent	9/11/2014	<10	**12**	<5.0	**5.9**	**420**	**18**	6.3	**7.3**	**710**	**2.0**	<5.0	NA
Influent	10/24/2014	<10	**12**	<5.0	**6.4**	**450**	**14**	6.9	**6.8**	**720**	<5.0	**2.2**	NA
Influent	11/18/2014	<10	**12**	<5.0	**5.6**	**470**	**17**	6.5	**5.4**	**680**	<5.0	<5.0	NA
Influent	12/18/2014	<20	**26**	<10	**11**	**1000**	**20**	11	**10**	**1500**	<10	**6.4**	NA
Midpoint 1	1/29/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 1	2/13/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 1	3/14/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 1	4/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.8**	NA
Midpoint 1(D)	4/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.0**	NA
Midpoint 1	5/22/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 1	6/9/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 1(D)	6/9/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 1	7/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 1(D)	7/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 1	8/14/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.59**	NA
Midpoint 1	9/11/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**2.2**	NA
Midpoint 1	10/24/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 1(D)	10/24/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 1	11/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 1	12/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.20**	NA
Midpoint 1(D)	12/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 2	2/13/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 2	4/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 2	5/22/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 2	6/9/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 2	7/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA

Table 8a

VOC Sampling Results Summary, System 1

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs

Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)											
		Chloroform	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Freon 113	1,1,1-TCA	TCE	PCE	Vinyl Chloride	1,4-Dioxane[1]
Midpoint 2	8/14/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 2	9/11/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 2	10/24/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.21**	<0.50	<0.50	NA
Midpoint 2	11/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 2	12/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Effluent	1/29/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Effluent	2/13/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Effluent	3/14/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.59**
Effluent (D)	3/14/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
Effluent	4/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Effluent	5/22/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Effluent	6/9/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Effluent	7/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Effluent	8/14/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.2**
Effluent	9/11/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Effluent	10/24/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Effluent	11/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Effluent	12/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	1/29/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	2/13/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	3/14/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	4/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	5/22/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	6/9/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	7/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	8/14/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	9/11/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	10/24/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	11/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	12/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA

Table 8a

VOC Sampling Results Summary, System 1

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs

Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)											
		Chloroform	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Freon 113	1,1,1-TCA	TCE	PCE	Vinyl Chloride	1,4-Dioxane[1]
NPDES Trigger Levels		*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*3*
Effluent Limitations:		*5*	*5*	*0.5*	*0.11*	*5*	*5*	*5*	*5*	*5*	*1.6*	*0.5*	*NE*

Notes:

All Parameters are within effluent limits specified in NPDES permit order no. R2-2009-0059 and R2-2012-0012, NPDES permit no. CAG912003 and CAG912002

The NPDES permit requires semiannual sampling of 1,4-Dioxane when the chemical is known to be in the influent, and biweekly sampling if the effluent concentrations exceed the trigger limit. In August 2013, 1,4-Dioxane was detected at 14 micrograms per liter (µg/L) in the influent, but the effluent concentrations have remained below the trigger limit of 3 µg/L. Therefore, only semiannual effluent sampling for 1,4-Dioxane is required.

In accordance with the NPDES permit, if reporting limit for 1,1-DCE is greater than the effluent limit, the permit specifies that non-detect using a 0.5 µg/L reporting limit will not be deemed to be out of compliance.

Effluent limitations are maximum daily effluent limitations on discharge to drinking water areas as specified in Order No. R2-2009-0059 and R2-2012-0012, VOC General NPDES Permit No. CAG912003 and CAG912002.

(D) = Duplicate
1,1-DCA = 1,1-Dichloroethane
1,2-DCA = 1,2-Dichloroethane
1,1-DCE = 1,1-Dichloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene
Freon 113 = trichlorotrifluoroethane
trans-1,2-DCE = trans-1,2-Dichloroethene
PCE = Tetrachloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
TCE = Trichloroethene

(1) 1,4-dioxane analyzed by method 8270C SIM
< indicates analyte not detected above the reported detection limit
NA indicates the sample was not analyzed for the given analyte
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
NPDES = National Pollutant Discharge Elimination System
µg/L = micrograms per liter
VOC = Volatile Organic Compound

Table 8b
Inorganic Sampling Results Summary, System 1
MEW Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Sample Location	Sample Date	pH	Temp (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Selenium (µg/L)	Rainbow Trout Acute Toxicity[1] (% survival)	
							Three sample moving median	Single sample
Influent	02/13/14	7.26	18.4	794	---	---	---	---
Influent	04/17/14	6.98	19.8	814	---	---	---	---
Influent	05/22/14	7.00	20.6	885	---	---	---	---
Influent	06/09/14	7.18	21.0	795	---	---	---	---
Influent	07/17/14	7.14	21.6	695	---	---	---	---
Influent	08/14/14	7.34	19.6	784	---	---	---	---
Influent	09/11/14	7.00	20.6	878	---	---	---	---
Influent	10/24/14	7.20	20.0	912	---	---	---	---
Influent	11/18/14	7.25	18.6	791	---	---	---	---
Influent	12/18/14	7.21	18.1	737	---	---	---	---
Midpoint 1	01/29/14	7.04	19.3	804	---	---	---	---
Midpoint 1	02/13/14	7.27	18.6	809	---	---	---	---
Midpoint 1	03/13/14	6.82	18.7	947	---	---	---	---
Midpoint 1	04/17/14	7.00	20.6	805	---	---	---	---
Midpoint 1	05/22/14	7.18	21.5	861	---	---	---	---
Midpoint 1	06/09/14	7.25	21.3	809	---	---	---	---
Midpoint 1	07/17/14	7.15	21.4	684	---	---	---	---
Midpoint 1	08/14/14	7.32	19.6	788	---	---	---	---
Midpoint 1	09/11/14	6.96	20.5	878	---	---	---	---
Midpoint 1	10/24/14	7.26	19.2	912	---	---	---	---
Midpoint 1	11/18/14	7.30	18.8	775	---	---	---	---
Midpoint 1	12/18/14	7.25	17.6	719	---	---	---	---
Midpoint 2	02/13/14	7.24	18.2	796	---	---	---	---
Midpoint 2	04/17/14	7.06	20.2	813	---	---	---	---
Midpoint 2	05/22/14	7.04	20.3	879	---	---	---	---
Midpoint 2	06/09/14	7.17	21.2	803	---	---	---	---
Midpoint 2	07/17/14	7.12	21.6	687	---	---	---	---
Midpoint 2	08/14/14	7.36	19.5	787	---	---	---	---
Midpoint 2	09/11/14	6.93	20.5	876	---	---	---	---
Midpoint 2	10/24/14	7.33	18.9	959	---	---	---	---
Midpoint 2	11/18/14	7.21	18.5	786	---	---	---	---
Midpoint 2	12/18/14	7.26	17.7	751	---	---	---	---
Effluent	01/29/14	7.09	19.3	820	---	---	---	---
Effluent	02/13/14	7.31	17.5	803	---	6.0	---	---
Effluent	02/13/14-FD	7.31	17.5	803	---	5.9	---	---
Effluent	03/13/14	6.75	17.9	959	---	---	---	---
Effluent	04/17/14	7.01	20.5	813	---	---	---	---
Effluent	05/22/14	6.98	22.1	896	---	7.5	---	---
Effluent	5/22/14-FD	6.98	22.1	896	---	7.6	---	---
Effluent	06/09/14	7.09	21.7	809	---	---	---	---
Effluent	07/17/14	7.21	21.5	693	---	---	---	---
Effluent	08/14/14	7.29	19.2	788	---	7.6	---	---
Effluent	08/14/14-FD	7.29	19.2	788	---	7.3	---	---
Effluent	09/11/14	7.11	20.4	893	---	---	---	---
Effluent	10/24/14	7.62	18.5	997	---	---	---	---
Effluent	11/18/2014 - 11/20/2014	7.23/7.27	17.9/18.4	790/798	<0.10	6.6	100	100
Effluent	11/18/14-FD	7.23	17.9	790	---	6.5	---	---
Effluent	12/18/14	7.26	17.1	754	---	---	---	---
NPDES Trigger Levels:		---	---	---	5	5	NE	NE
Effluent Limitations:[2]		6.5 to 8.5	NE	NE	NE	NE	90	70

Notes:

All parameters are within effluent limits specified in NPDES permit order no. R2-2009-0059 and R2-2012-0012, NPDES permit no. CAG912003 and CAG912002.
pH, temperature, electrical conductivity, and turbidity are now required to be reported on an annual basis but pH, temperature, and conductivity readings are reported more frequently. System effluent was analyzed for turbidity in November 2014.
Sampling for hardness and salinity is required in a single annual sample in the receiving water only if trigger levels for Cadmium, Chromium (total), Copper, Lead, Nickel Silver, or Zinc are exceeded. System samples are analyzed for these metals, mercury, and cyanide every three years. The next triennial sampling will be conducted in November 2015.

Notes:
1. Rainbow trout acute toxicity, 96-hr static, percent survival. This analysis is required to be performed annually
2. Effluent limitation in system discharge as specified in Order No. R2-2009-0059 and R2-2012-0012 VOC General NPDES Permit CAG912003 and CAG912002
--- = not applicable, not required
Temp = temperature
ºC = degrees Celsius
Midpoint 1 = sample collected between the primary and secondary carbon vessels
Midpoint 2 = sample collected between the secondary and tertiary carbon vessels
mg/L = milligrams per liter
µS/cm = micro Siemens per centimeter
NTU = nephelometric turbidity unit
NE = not established
NPDES = National Pollutant Discharge Elimination System
VOC = volatile organic compound
< indicates analyte not detected above the reported detection limit

Table 9a

VOC Sampling Results Summary, System 3

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs

Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)											
		Chloroform	**1,1-DCA**	**1,2-DCA**	**1,1-DCE**	**cis-1,2-DCE**	**trans-1,2-DCE**	**Freon 113**	**1,1,1-TCA**	**TCE**	**PCE**	**Vinyl Chloride**	**1,4-Dioxane**[1]
Influent	2/13/2014	<20	**9.1**	<10	**9.8**	**640**	**19**	6.9	<10	**1000**	**6.1**	<10	**1.1**
Influent (D)	2/13/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.3**
Influent	4/17/2014	<20	**8.0**	<10	**13**	**620**	**20**	8.1	<10	**950**	**7.4**	<10	NA
Influent	5/22/2014	<20	**7.5**	<10	**8.1**	**580**	**18**	5.6	<10	**810**	**5.0**	<10	**1.5**
Influent (D)	5/22/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.5**
Influent	6/9/2014	<20	**8.1**	<10	**10**	**610**	**20**	6.7	<10	**960**	**6.3**	<10	NA
Influent	7/17/2014	<20	**8.1**	<10	**9.1**	**570**	**21**	6.3	<10	**910**	**7.5**	<10	NA
Influent	8/14/2014	<20	<10	<10	**8.4**	**620**	**18**	6.5	<10	**980**	**6.7**	<10	**1.0**
Influent (D)	8/14/2014	<1.0	**8.3**	<0.50	**8.1**	**730**	**19**	6.2	**1.6**	**1100**	**6.5**	**2.2**	<1.0
Influent	9/11/2014	<50	**12**	<25	**24**	**740**	**23**	5.8	<25	**1200**	<25	<25	NA
Influent	10/23/2014	<20	**7.3**	<10	**9.4**	**570**	**21**	7.1	<10	**1100**	**7.7**	<10	NA
Influent	11/18/2014	<20	**7.7**	<10	**8.9**	**620**	**18**	6.2	<10	**970**	**6.9**	<10	<1.0
Influent (D)	11/18/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.6**
Influent	12/18/2014	<20	**8.3**	<10	**10**	**590**	**21**	6.5	<10	**990**	**7.1**	<10	NA
Midpoint 1	1/29/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.85**	NA
Midpoint 1 (D)	1/29/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.88**	NA
Midpoint 1	2/13/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.95**	NA
Midpoint 1	3/13/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.5**	NA
Midpoint 1 (D)	3/13/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.4**	NA
Midpoint 1	4/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**3.8**	NA
Midpoint 1	5/22/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 1	6/9/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 1	7/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.1**	NA
Midpoint 1	8/14/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**2.3**	NA
Midpoint 1	9/11/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 1	10/23/2014	<1.0	**0.27**	<0.50	<0.50	**0.50**	<0.50	<0.50	<0.50	<0.50	<0.50	**2.6**	NA
Midpoint 1	11/18/2014	<1.0	**2.3**	<0.50	<0.50	**21**	<0.50	<0.50	<0.50	<0.50	<0.50	**2.4**	NA
Midpoint 1	12/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 2	2/13/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
NPDES Trigger Levels		*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*3*
Effluent Limitations:		*5*	*5*	*0.5*	*0.11*	*5*	*5*	*5*	*5*	*5*	*1.6*	*0.5*	*NE*

Table 9a

VOC Sampling Results Summary, System 3

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs

Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)											
		Chloroform	**1,1-DCA**	**1,2-DCA**	**1,1-DCE**	**cis-1,2-DCE**	**trans-1,2-DCE**	**Freon 113**	**1,1,1-TCA**	**TCE**	**PCE**	**Vinyl Chloride**	**1,4-Dioxane**[1]
Midpoint 2	3/13/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 2	4/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.60**	NA
Midpoint 2	5/22/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.38**	<0.50	<0.50	NA
Midpoint 2	6/9/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 2	7/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 2	8/14/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.39**	NA
Midpoint 2	9/11/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.67**	<0.50	<0.50	NA
Midpoint 2	10/23/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Midpoint 2	11/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.31**	NA
Midpoint 2	12/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Effluent	1/29/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Effluent (D)	1/29/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
Effluent	2/13/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Effluent	3/13/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.9**
Effluent	4/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**2.0**
Effluent (D)	4/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**2.2**
Effluent	5/22/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.1
Effluent	6/9/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Effluent (D)	6/9/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Effluent	7/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.8**
Effluent (D)	7/17/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.0**
Effluent	8/14/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.5**
Effluent	9/11/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Effluent (D)	9/11/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
Effluent	10/23/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.1**
Effluent	11/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**5.1**
Effluent	12/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Effluent (D)	12/18/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
Travel Blank	1/29/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
NPDES Trigger Levels		*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*3*
Effluent Limitations:		*5*	*5*	*0.5*	*0.11*	*5*	*5*	*5*	*5*	*5*	*1.6*	*0.5*	*NE*

Table 9a

VOC Sampling Results Summary, System 3

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs

Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)											
		Chloroform	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Freon 113	1,1,1-TCA	TCE	PCE	Vinyl Chloride	1,4-Dioxane[1]
Travel Blank	2/13/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	3/13/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	4/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	5/22/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	6/9/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	7/17/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	8/14/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	9/11/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	10/23/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	11/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
Travel Blank	12/18/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
NPDES Trigger Levels		*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*3*
Effluent Limitations:		*5*	*5*	*0.5*	*0.11*	*5*	*5*	*5*	*5*	*5*	*1.6*	*0.5*	*NE*

Notes:
All Parameters are within effluent limits specified in NPDES permit order no. R2-2009-0059 and R2-2012-0012, NPDES permit no. CAG912003 and CAG912002
In accordance with the NPDES permit, if reporting limit for 1,1-DCE is greater than the effluent limit, the permit specifies that non-detect using a 0.5 µg/L reporting limit will not be deemed to be out of compliance.
Effluent limitations are maximum daily effluent limitations on discharge to drinking water areas as specified in Order No. R2-2009-0059 and R2-2012-0012, VOC General NPDES Permit No. CAG912003 and CAG912002.
Monthly samples of effluent are analyzed for 1,4-dioxane. The mean and median effluent concentration of 1,4-dioxane in samples collected in 2014 are approximately 1.80 µg/L, which is below the trigger level of 3 µg/L. If effluent concentration is detected above the trigger level of 3 µg/L, three additional samples are collected within that quarter.

1,1-DCA = 1,1-Dichloroethane
1,2-DCA = 1,2-Dichloroethane
1,1-DCE = 1,1-Dichloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene
Freon 113 = trichlorotrifluoroethane
trans-1,2-DCE = trans-1,2-Dichloroethene
PCE = Tetrachloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
TCE = Trichloroethene

(1) 1,4-dioxane analyzed by method 8270C SIM
< indicates analyte not detected above the reported detection limit
NA indicates the sample was not analyzed for the given analyte
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
NPDES = National Pollutant Discharge Elimination System
µg/L = micrograms per liter
(D) = Duplicate
VOC = Volatile Organic Compound

Table 9b
Inorganic Sampling Results Summary, System 3
MEW Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Sample Location	Sample Date	pH	Temp (°C)	Conductivity (µS/cm)	Turbidity (NTU)	Rainbow Trout Acute Toxicity[1] (% survival)	
						Three sample moving median	Single sample
Influent	02/13/14	7.26	19.3	782	---	---	---
Influent	04/17/14	7.12	19.9	815	---	---	---
Influent	05/22/14	6.91	19.6	862			
Influent	06/09/14	7.15	20.0	793	---	---	---
Influent	07/17/14	7.08	21.8	697			
Influent	08/14/14	7.30	19.6	787			
Influent	09/11/14	7.12	20.5	869			
Influent	10/23/14	7.11	21.5	869			
Influent	11/18/14	7.24	20.0	776			
Influent	12/18/14	6.98	20.0	707	---	---	---
Midpoint 1	01/29/14	7.32	20.0	795	---	---	---
Midpoint 1	02/13/14	7.29	19.5	796	---	---	---
Midpoint 1	03/13/14	6.97	19.5	992	---	---	---
Midpoint 1	04/17/14	7.06	20.1	811	---	---	---
Midpoint 1	05/22/14	7.04	19.3	849	---	---	---
Midpoint 1	06/09/14	7.22	20.0	799	---	---	---
Midpoint 1	07/17/14	7.18	21.2	694	---	---	---
Midpoint 1	08/14/14	7.36	19.7	783	---	---	---
Midpoint 1	09/11/14	7.14	20.4	858	---	---	---
Midpoint 1	10/23/14	7.15	21.8	873	---	---	---
Midpoint 1	11/18/14	7.26	19.6	770	---	---	
Midpoint 1	12/18/14	7.06	20.1	705	---	---	---
Midpoint 2	02/13/14	7.17	19.5	789	---	---	---
Midpoint 2	03/13/14	6.83	20.0	979	---	---	---
Midpoint 2	04/17/14	7.07	19.9	810	---	---	---
Midpoint 2	05/22/14	7.06	19.3	853	---		
Midpoint 2	06/09/14	7.14	19.9	797	---		
Midpoint 2	07/17/14	7.18	21.2	698	---		
Midpoint 2	08/14/14	7.36	19.6	786	---		
Midpoint 2	09/11/14	7.12	20.6	869	---		
Midpoint 2	10/23/14	7.11	21.8	873	---		
Midpoint 2	11/18/14	7.17	19.4	781	---		
Midpoint 2	12/18/14	7.12	20.0	737	---		
Effluent	01/29/14	7.24	20.1	780	---	---	---
Effluent	02/13/14	7.26	19.4	800	---	---	---
Effluent	03/13/14	6.98	20.1	994	---	---	---
Effluent	04/17/14	7.17	20.2	869	---	---	---
Effluent	05/22/14	6.98	19.1	863	---	---	---
Effluent	06/09/14	7.13	19.9	809	---	---	---
Effluent	07/17/14	7.10	21.2	702	---	---	---
Effluent	08/14/14	7.33	19.3	788	---	---	---
Effluent	09/11/14	6.95	20.6	877	---	---	---
Effluent	10/23/14	7.12	22.2	864	---	---	---
Effluent	11/18/2014 - 11/20/14	7.19 / 7.32	19.2 / 19.4	776 / 776	<0.1	100	100
Effluent	12/18/14	7.25	19.5	784	---	---	---
NPDES Trigger Levels:		---	---	---	5	NE	NE
Effluent Limitations:[2]		6.5 to 8.5	NE	NE	NE	90	70

Notes:

All parameters are within effluent limits specified in NPDES permit order no. R2-2009-0059 and R2-2012-0012 NPDES permit no. CAG912003 and CAG912002
Per Order No. R2-2009-0059, VOC General NPDES Permit No. CAG912003 through 25 August 2014, when coverage began under R2-2012-0012 and CAG912002, pH, temperature, electrical conductivity, and turbidity are now required to be reported on an annual basis but pH, temperature, and conductivity readings are reported more frequently.
System effluent was analyzed for turbidity in November 2014.

Sampling for hardness and salinity is required in a single annual sample in the receiving water only if trigger levels for Cadmium, Chromium (total), Copper, Lead, Nickel, Silver, or Zinc are exceeded. System samples are analyzed for these metals, mercury, and cyanide every three years. The next triennial sampling will be conducted in November 2015.

Notes:
1. Rainbow trout acute toxicity, 96-hr static, percent survival. This analysis is required to be performed annually.
2. Effluent limitation in system discharge as specified in Order No. R2-2009-0059 and R2-2012-0012, VOC General NPDES Permit CAG912003 and CAG912002.
--- = not applicable, not required
Temp = temperature
°C = degrees Celsius
Midpoint 1 = sample collected between the primary and secondary carbon vessels
Midpoint 2 = sample collected between the secondary and tertiary carbon vessels
µS/cm = micro Siemens per centimeter
NTU = nephelometric turbidity unit
NE = not established
NPDES = National Pollutant Discharge Elimination System
VOC = volatile organic compound
< indicates analyte not detected above the reported detection limit

Table 10
VOC Mass Removal Summary, System 1
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

	Total Groundwater Extracted[1] (gallons)	Influent VOC Concentration[1,2] (mg/L)	Total VOC Mass Removed[1] (pounds)
January	1,416,600	2.1	25
February	1,403,800		24
March	1,366,600		24
April	1,607,200	2.4	32
May	1,189,280	1.3	12
June	1,170,220	2.0	19
July	1,288,310	1.1	12
August	1,267,080	1.7	18
September	1,006,560	1.2	10
October	1,359,650	1.2	14
November	971,100	1.2	10
December	1,332,400	2.6	29
2014 Cumulative[1]	15,378,800		227

Notes:
1. Total groundwater extracted, influent VOC concentrations, total VOC mass removed, and 2014 cumulative totals were obtained from the 2014 quarterly NPDES reports (Weiss, 2014a,b,c, and 2015a).
2. System influent samples were analyzed quarterly from January - March and monthly from April - December for System 1.
mg/L = milligrams per liter
NPDES = National Pollutant Discharge Elimination System
VOC = Volatile Organic Compound

Table 11

VOC Mass Removal Summary, System 3

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

	Total Groundwater Extracted[1] (gallons)	Influent VOC Concentration[1,2] (mg/L)	Total VOC Mass Removed[1] (pounds)
January	2,052,900	1.7	29
February	2,014,650		28
March	1,896,000		27
April	2,235,700	1.6	30
May	2,067,700	1.4	25
June	1,987,780	1.6	27
July	2,170,900	1.5	28
August	2,185,160	1.8	32
September	1,754,800	2.0	29
October	2,567,240	1.7	37
November	1,781,440	1.6	24
December	2,312,830	1.6	32
2014 Cumulative[1]	25,027,100		348

Notes:
1. Total groundwater extracted, influent VOC concentrations, total VOC mass removed, and 2014 cumulative totals were obtained from the NPDES quarterly reports (Weiss, 2014d,e,f, and 2015b).
2. System influent samples were analyzed quarterly from January - March and monthly from April - December for System 3.
mg/L = milligrams per liter
NPDES = National Pollutant Discharge Elimination System
VOC = Volatile Organic Compound

Table 12
Summary of 2014 Non-Routine Maintenance and Operational Activities, System 1
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Date	Component	Off-line Time	Event/Alert	Diagnosis and Response	Regulatory Notification[1]
January 13	RW-4A	11 hours	Low flow alert	Flow meter paddle wheel fouled. The paddle wheel was cleaned and the well was restarted.	Not Required
March 20	AE/RW-9-2	22 hours	Planned manual shutdown	Well was shut down to repair manifold. Well was restarted.	Not Required
April 1	38B2	1 hour	Low flow alert	Flow meter paddle wheel fouled. The paddle wheel was cleaned and the well was restarted.	Not Required
April 17	Treatment System	1 hour	Planned manual shutdown	System was shut down for SCVWD discharge meter cleaning.	Not Required
April 28	RW-25A	<1 hour	Low flow alert	Alert was set off while troubleshooting fluctuating flow. Well was restarted.	Not Required
May 15 - 29	Treatment System	29 hours, non-consecutive	Planned manual shutdowns	System operated intermittently during replacement of signal wire to the west and northwest sections of the system. The signal wire replacement was performed as preventative maintenance. System was restarted.	Not Required
May 18	RW-21A	23 hours	Low flow alert	Flow meter paddle wheel fouled. The paddle wheel was cleaned and the well was restarted.	Not Required
May 22 - 27	RW-20A	71 hours, non-consecutive	Multiple alerts	Well pump operated intermittently while troubleshooting a short in the power supply wiring. Wiring was replaced on May 27, 2014 and the well was restarted.	Not Required
May 22 - 27	RW-21A	38 hours, non-consecutive	Multiple alerts	Well pump operated intermittently while troubleshooting a short in the power supply wiring. Wiring was replaced on May 27, 2014 and the well was restarted.	Not Required
May 28 - 29	RW-25A	17 hours, non-consecutive	Multiple alerts	Well pump operated intermittently during troubleshooting a short in the signal wiring. Wiring was replaced and the well was restarted on May 29, 2014.	Not Required
June 4	Treatment System	1 hour	Planned manual shutdown	System was shut down to replace valves on GAC manifold. System was restarted.	Not Required
August 29	Treatment System	2 hours	Planned manual shutdown	System was shut down for a pump change. The system was restarted.	Not Required
September 3	Treatment System	1 hour	Planned manual shutdown	System was shut down for work on electrical panel. The system was restarted.	Not Required
October 14 - 15	Treatment System	16 hours	Multiple alerts	Alerts were triggered by power glitches. The system was restarted on October 15, 2014.	Not Required
November 30 - December 1	Treatment System, RW-21A	20 hours	Vault high level alert	Alert was triggered by rain water. Water was pumped out and the system was restarted.	Not Required
December 1	RW-21A	1 hour	Low flow alert	Flow was adjusted after restart causing low flow alert. Flow was re-adjusted and the well was restarted.	Not Required
December 3	Treatment System, RW-16A	6 hours	Vault high level alert	Alert was triggered by rain water. Water was pumped out and the system was restarted.	Not Required
December 3	RW-25A	28 hours	Low flow alert	Flow meter failed to send pulse to PLC causing low flow alert. The flow meter was repaired and the well was restarted.	Not Required
December 11	Treatment System	23 hours	Sump high level alert	Alert was triggered by rain water. Water was pumped out and the system was restarted.	Not Required
December 16 – December 17	Treatment System, RW-21A	14 hours	Vault high level alert	Alert was triggered by rain water. Water was pumped out and the system was restarted.	Not Required
December 17	AE/RW-9-1	4 hours	Low flow alert	Flow meter paddlewheel was fouled. The flow meter was cleaned and the well was restarted.	Not Required
December 17	AE/RW-9-2	<1 hour	Low flow alert	Flow meter paddlewheel was fouled. The flow meter was cleaned and the well was restarted.	Not Required

Notes:

1. The EPA is required to be notified if the treatment system or an extraction well is shut down for 72 consecutive hours. The Water Board is required to be notified if the treatment system is shut down for more than 120 conse

EPA = United States Environmental Protection Agency

O&M = operations and maintenance

PLC = programmable logic controller

GAC = granular activated carbon

SCVWD = Santa Clara Valley Water District

Table 13
Summary of 2014 Non-Routine Maintenance and Operational Activities, System 3
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Date	Component	Off-line Time	Event/Alert	Diagnosis and Response	Regulatory Notification[1]
February 7	Treatment System, LDV-05	4 hours	Leak detect vault high level alert	Alert was caused by a failed electrical connection. Connection was repaired and system was restarted.	Not Required
March 20	Treatment System, RW-7(B2)	7 hours	Vault high level alert	Alert was triggered by irrigation water. The water drained from the vault and the system was restarted.	Not Required
April 17	Treatment System	<1 hour	Planned manual shutdown	System was shut down for SCVWD discharge meter cleaning.	Not Required
April 21 - 22	Treatment System	29 hours	Planned manual shutdown	System was shut down to modify a drain line within the berm to the sump.	Not Required
May 30	RW-5(B1)	5 hours	Planned manual shutdown	Pump failed. Pump was replaced and the system was restarted.	Not Required
June 4	Treatment System	3 hours	Planned manual shutdown	System was shut down to replace valves on GAC manifold. System was restarted.	Not Required
September 10	Treatment System	13 hours	Sump high level alert	Basket strainer backpressure restricted the sump pump. The strainer was cleaned and the system was restarted.	Not Required
October 14 - 15	Treatment System	16 hours	Multiple alerts	Alerts were triggered by power glitches. The system was restarted.	Not Required
November 13	Treatment System, LDV-04	<1 hour	Leak detect vault high level alert	Alert was triggered during testing. Alert was reset and the system was restarted.	Not Required
November 25	Treatment System, LDV-04	<1 hour	Leak detect vault high level alert	Alert was triggered during testing. Alert was reset and the system was restarted.	Not Required
December 3	Treatment System, RW-9A	5 hours	Vault high level alert	Alert was triggered by rain water. Water was drained and the system was restarted.	Not Required
December 9	RW-9(B2)	1 hour	Pump low flow alert	Alert was triggered by fouled flow meter. The flow meter was cleaned and the well was restarted.	Not Required
December 11	Treatment System	23 hours	Sump high level alert	Alert was triggered by rain water. Water was pumped out and the system was restarted.	Not Required

Notes:

1. The EPA is required to be notified if the treatment system or an extraction well is shut down for 72 consecutive hours. The Water Board is required to be notified if the treatment system is shut down for more than 120 consecutive hours.

EPA = United States Environmental Protection Agency

O&M = operations and maintenance

PLC = programmable logic controller

GAC = granular activated carbon

SCVWD = Santa Clara Valley Water District

Table 14a

Buildings 1-4 Groundwater Elevations, January through December 2014

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs

Mountain View, California

Well ID	TOC Elevation (ft msl)	20 March 2014		18 September 2014	
		Depth To Water (feet BTOC)	Groundwater Elevation (ft msl)	Depth To Water (feet BTOC)	Groundwater Elevation (ft msl)
A Zone					
33A	43.74	11.58	32.16	13.14	30.60
46A	42.10	12.41	29.69	13.59	28.51
51A	44.22	17.66	26.56	19.10	25.12
57A	39.21	12.98	26.23	14.50	24.71
59A	39.56	13.97	25.59	15.44	24.12
61A (RGRP)	37.18	11.42	25.76	12.90	24.28
62A (RGRP)	35.3	11.66	23.64	12.71	22.59
67A	39.77	15.59	24.18	16.92	22.85
68A	43.26	14.64	28.62	15.49	27.77
76A	40.08	17.35	22.73	18.32	21.76
84A	43.38	11.95	31.43	13.55	29.83
118A	39.78	16.43	23.35	17.61	22.17
121A	41.82	15.82	26.00	17.16	24.66
124A	38.86	14.83	24.03	16.11	22.75
127A	43.79	11.16	32.63	12.75	31.04
128A	43.38	10.84	32.54	12.59	30.79
129A	41.47	13.63	27.84	15.07	26.40
130A	41.57	14.89	26.68	16.50	25.07
133A	43.75	13.81	29.94	15.24	28.51
156A	40.22	18.45	21.77	19.82	20.40
157A	40.50	16.83	23.67	18.40	22.10
REG-MW-2A (RGRP)	38.11	11.51	26.60	12.83	25.28
RW-3A	43.34	11.34	32.00	12.89	30.45
RW-4A	42.66	16.74	25.92	19.09	23.57
RW-5A	36.86	12.61	24.25	14.22	22.64
RW-7A	37.18	14.69	22.49	20.56	16.62
RW-9A (RGRP)	37.83	18.17	19.66	19.50	18.33
RW-16A	43.89	16.31	27.58	17.83	26.06
RW-18A	37.53	12.95	24.58	14.15	23.38
RW-27A	38.41	24.92	13.49	16.37	22.04
RW-28A	42.33	16.04	26.29	17.44	24.89
B1 Zone					
2B1	43.43	15.63	27.80	17.04	26.39
20B1	43.89	11.98	31.91	13.56	30.33
60B1	39.64	17.51	22.13	19.90	19.74
115B1	38.76	13.66	25.10	15.43	23.33
119B1 (RGRP)	42.96	12.04	30.92	13.36	29.60
147B1	37.82	12.38	25.44	13.89	23.93
RW-3(B1)	43.28	11.65	31.63	13.24	30.04
RW-4(B1)	42.61	15.09	27.52	16.76	25.85
RW-5(B1)	37.87	12.49	25.38	14.25	23.62
RW-7(B1)	36.29	33.59	2.70	37.69	-1.40
RW-9(B1)R (RGRP)	38.59	35.40	3.19	46.31	-7.72
RW-12(B1)	40.51	21.92	18.59	23.32	17.19
B2 Zone					
10B2	43.90	9.54	34.36	11.34	32.56

Table 14a

Buildings 1-4 Groundwater Elevations, January through December 2014

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs

Mountain View, California

Well ID	TOC Elevation (ft msl)	20 March 2014		18 September 2014	
		Depth To Water (feet BTOC)	Groundwater Elevation (ft msl)	Depth To Water (feet BTOC)	Groundwater Elevation (ft msl)
B2 Zone					
11B2	37.19	8.55	28.64	10.26	26.93
113B2 (RGRP)	39.01	14.01	25.00	15.73	23.28
118B2	43.21	9.79	33.42	11.50	31.71
148B2	37.72	8.88	28.84	10.70	27.02
RW-3(B2)	42.96	8.68	34.28	10.45	32.51
RW-4(B2)	41.79	48.11	-6.32	36.32	5.47
RW-5(B2)	37.98	8.73	29.25	10.45	27.53
RW-7(B2)	38.76	12.18	26.58	14.18	24.58
RW-9(B2) (RGRP)	37.88	58.37	-20.49	71.32	-33.44

Notes:
ft msl = Feet Mean Sea Level
RGRP = Regional Groundwater Remediation Program
BTOC = Below Top Of Casing
TOC = Top of Casing

Table 14b

Building 9 Groundwater Elevations, January through December 2014

MEW Former Fairchild Buildings 1-4, 9,18 Groundwater Remediation Programs

Mountain View, California

Well ID	TOC Elevation (ft msl)	20 March 2014		18 September 2014	
		Depth To Water (feet BTOC)	Groundwater Elevation (ft msl)	Depth To Water (feet BTOC)	Groundwater Elevation (ft msl)
A Zone					
35A	42.67	17.70	24.97	18.70	23.97
36A	42.32	16.60	25.72	17.68	24.64
37A	43.21	18.05	25.16	19.04	24.17
40A	43.44	13.52	29.92	15.19	28.25
41A	42.40	13.19	29.21	14.67	27.73
42A	42.97	14.65	28.32	15.24	27.73
43A	43.38	13.65	29.73	15.28	28.10
44A	43.13	13.52	29.61	15.18	27.95
83A	46.60	14.93	31.67	16.41	30.19
99A	48.33	15.99	32.34	17.54	30.79
122A	44.23	19.09	25.14	20.09	24.14
123A	44.37	13.70	30.67	15.24	29.13
126A	42.85	13.65	29.20	15.16	27.69
137A	43.68	18.50	25.18	19.38	24.30
138A	43.60	13.39	30.21	14.97	28.63
AE/RW-9-1	43.15	18.72	24.43	19.73	23.42
AE/RW-9-2	43.85	20.20	23.65	21.19	22.66
RW-20A	43.57	24.16	19.41	23.95	19.62
RW-21A	43.16	20.10	23.06	21.61	21.55
B1 Zone					
69B1	42.62	12.70	29.92	14.09	28.53

Notes:
ft msl = Feet Mean Sea Level
TOC = Top of Casing
BTOC = Below Top Of Casing

Table 14c

Building 18 Groundwater Elevations, January through December 2014

MEW Former Fairchild Buildings 1-4, 9, 18 Groundwater Remediation Programs

Mountain View, California

Well ID	TOC Elevation (ft msl)	20 March 2014		18 September 2014	
		Depth To Water (feet BTOC)	Groundwater Elevation (ft msl)	Depth To Water (feet BTOC)	Groundwater Elevation (ft msl)
A Zone					
54A	39.774	12.07	27.70	13.51	26.26
58A	38.132	11.90	26.23	12.61	25.52
80A	38.925	12.00	26.93	13.40	25.53
147A	39.26	11.18	27.95	12.69	26.44
151A	39.829	12.37	27.46	13.80	26.03
152A	38.555	11.59	26.97	12.77	25.79
RW-25A	38.38	12.19	26.19	13.59	24.79
B1 Zone					
32B1 (RGRP)	38.164	13.34	24.82	14.61	23.55
143B1 (RGRP)	39.287	12.78	26.10	14.25	24.63

Notes:
ft msl = Feet Mean Sea Level
RGRP = Regional Groundwater Remediation Program
BTOC = Below Top Of Casing
TOC = Top of Casing

Table 15a

Buildings 1-4 Groundwater Elevations, Slurry Wall Well Pairs, January 2010 through December 2014

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Program

Mountain View, California

Date	Well ID (Outside)	Groundwater Elevation (ft msl)	Well ID (Inside)	Groundwater Elevation (ft msl)	Difference	Gradient Direction
Southern Wall - Upgradient Well Pairs						
3/25/2010	127A	34.48	33A	34.00	0.48	Inward
5/27/2010	127A	34.34	33A	33.80	0.54	Inward
8/26/2010	127A	34.00	33A	33.46	0.54	Inward
11/18/2010	127A	33.48	33A	33.05	0.43	Inward
3/24/2011	127A	34.93	33A	34.53	0.40	Inward
5/26/2011	127A	33.96	33A	29.73	4.23	Inward
9/15/2011	127A	34.08	33A	33.53	0.55	Inward
11/10/2011	127A	33.82	33A	33.27	0.55	Inward
3/15/2012	127A	33.67	33A	33.09	0.58	Inward
5/24/2012	127A	33.76	33A	33.19	0.57	Inward
9/20/2012	127A	33.20	33A	32.67	0.53	Inward
11/21/2012	127A	33.01	33A	32.49	0.52	Inward
3/21/2013	127A	33.90	33A	33.37	0.53	Inward
5/16/2013	127A	33.96	33A	33.36	0.60	Inward
9/19/2013	127A	33.20	33A	32.68	0.52	Inward
11/25/2013	127A	32.91	33A	32.52	0.39	Inward
3/20/2014	127A	32.63	33A	32.16	0.47	Inward
5/15/2014	127A	32.06	33A	31.62	0.44	Inward
9/18/2014	127A	31.04	33A	30.60	0.44	Inward
11/13/2014	127A	30.72	33A	30.28	0.44	Inward
3/25/2010	128A	34.28	84A	33.38	0.90	Inward
5/27/2010	128A	34.06	84A	33.05	1.01	Inward
8/26/2010	128A	33.71	84A	32.79	0.92	Inward
11/18/2010	128A	34.20	84A	32.12	2.08	Inward
3/24/2011	128A	34.45	84A	33.94	0.51	Inward
5/26/2011	128A	44.33	84A	34.04	10.29	Inward
9/15/2011	128A	33.79	84A	32.68	1.11	Inward
11/10/2011	128A	33.55	84A	32.39	1.16	Inward
3/15/2012	128A	33.48	84A	32.27	1.21	Inward
5/24/2012	128A	33.48	84A	32.39	1.09	Inward
9/20/2012	128A	32.98	84A	31.87	1.11	Inward
11/21/2012	128A	32.93	84A	31.63	1.30	Inward
3/21/2013	128A	33.62	84A	33.00	0.62	Inward
5/16/2013	128A	33.63	84A	32.58	1.05	Inward
9/19/2013	128A	32.94	84A	31.94	1.00	Inward
11/25/2013	128A	33.17	84A	31.66	1.51	Inward
3/20/2014	128A	32.54	84A	31.43	1.11	Inward
5/15/2014	128A	31.74	84A	30.84	0.90	Inward
9/18/2014	128A	30.79	84A	29.83	0.96	Inward
11/13/2014	128A	30.26	84A	29.54	0.72	Inward
3/25/2010	136A	32.94	133A	31.95	0.99	Inward
5/27/2010	136A	32.40	133A	31.41	0.99	Inward
8/26/2010	136A	32.04	133A	31.01	1.03	Inward
11/18/2010	136A	32.25	133A	30.50	1.75	Inward
3/24/2011	136A	34.19	133A	32.46	1.73	Inward
5/26/2011	136A	43.96	133A	42.73	1.23	Inward

Table 15a

Buildings 1-4 Groundwater Elevations, Slurry Wall Well Pairs, January 2010 through December 2014

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Program

Mountain View, California

Date	Well ID (Outside)	Groundwater Elevation (ft msl)	Well ID (Inside)	Groundwater Elevation (ft msl)	Difference	Gradient Direction
Southern Wall - Upgradient Well Pairs						
9/15/2011	136A	32.01	133A	31.00	1.01	Inward
11/10/2011	136A	31.78	133A	30.72	1.06	Inward
3/15/2012	136A	31.55	133A	30.20	1.35	Inward
5/24/2012	136A	31.78	133A	30.73	1.05	Inward
9/20/2012	136A	31.21	133A	30.25	0.96	Inward
11/21/2012	136A	31.05	133A	30.12	0.93	Inward
3/21/2013	136A	31.96	133A	30.96	1.00	Inward
5/16/2013	136A	31.97	133A	30.96	1.01	Inward
9/19/2013	136A	31.37	133A	30.10	1.27	Inward
11/25/2013	136A	30.99	133A	30.10	0.89	Inward
3/20/2014	136A	30.82	133A	29.94	0.88	Inward
5/15/2014	136A	30.40	133A	29.48	0.92	Inward
9/18/2014	136A	29.35	133A	28.51	0.84	Inward
11/13/2014	136A	29.06	133A	28.26	0.80	Inward
Western Wall - Crossgradient Well Pairs						
3/25/2010	130A	28.19	59A	27.19	1.00	Inward
5/27/2010	130A	27.75	59A	26.58	1.17	Inward
8/26/2010	130A	27.76	59A	26.56	1.20	Inward
11/18/2010	130A	27.46	59A	25.68	1.78	Inward
3/24/2011	130A	29.09	59A	27.90	1.19	Inward
5/26/2011	130A	39.51	59A	42.55	-3.04	Outward
9/15/2011	130A	27.44	59A	26.11	1.33	Inward
11/10/2011	130A	27.22	59A	25.92	1.30	Inward
3/15/2012	130A	27.21	59A	25.85	1.36	Inward
5/24/2012	130A	27.29	59A	25.91	1.38	Inward
9/20/2012	130A	26.88	59A	25.51	1.37	Inward
11/21/2012	130A	26.87	59A	25.52	1.35	Inward
3/21/2013	130A	27.44	59A	26.19	1.25	Inward
5/16/2013	130A	27.30	59A	25.97	1.33	Inward
9/19/2013	130A	26.87	59A	25.59	1.28	Inward
11/25/2013	130A	26.82	59A	25.45	1.37	Inward
3/20/2014	130A	26.68	59A	25.59	1.09	Inward
5/15/2014	130A	26.27	59A	25.12	1.15	Inward
9/18/2014	130A	25.07	59A	24.12	0.95	Inward
11/13/2014	130A	25.02	59A	24.06	0.96	Inward
Eastern Wall - Crossgradient Well Pairs						
3/25/2010	129A	29.03	121A	27.78	1.25	Inward
5/27/2010	129A	28.59	121A	26.74	1.85	Inward
8/26/2010	129A	28.31	121A	26.45	1.86	Inward
11/18/2010	129A	28.33	121A	25.82	2.51	Inward
3/24/2011	129A	29.23	121A	27.96	1.27	Inward
5/26/2011	129A	40.82	121A	39.34	1.48	Inward
9/15/2011	129A	28.23	121A	26.31	1.92	Inward
11/10/2011	129A	28.14	121A	26.21	1.93	Inward
3/15/2012	129A	27.92	121A	26.01	1.91	Inward
5/24/2012	129A	28.13	121A	26.14	1.99	Inward

Table 15a

Buildings 1-4 Groundwater Elevations, Slurry Wall Well Pairs, January 2010 through December 2014

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Program

Mountain View, California

Date	Well ID (Outside)	Groundwater Elevation (ft msl)	Well ID (Inside)	Groundwater Elevation (ft msl)	Difference	Gradient Direction
Eastern Wall - Crossgradient Well Pairs						
9/20/2012	129A	28.09	121A	25.85	2.24	Inward
11/21/2012	129A	28.02	121A	25.80	2.22	Inward
3/21/2013	129A	28.68	121A	26.61	2.07	Inward
5/16/2013	129A	28.67	121A	26.42	2.25	Inward
9/19/2013	129A	28.05	121A	26.09	1.96	Inward
11/25/2013	129A	27.94	121A	25.90	2.04	Inward
3/20/2014	129A	27.84	121A	26.00	1.84	Inward
5/15/2014	129A	27.54	121A	25.65	1.89	Inward
9/18/2014	129A	26.40	121A	24.66	1.74	Inward
11/13/2014	129A	26.18	121A	24.55	1.63	Inward
Northern Wall - Downgradient Well Pairs						
3/25/2010	156A	22.37	157A	24.93	-2.56	Outward
5/27/2010	156A	22.08	157A	24.53	-2.45	Outward
8/26/2010	156A	22.01	157A	24.36	-2.35	Outward
11/18/2010	156A	22.23	157A	24.81	-2.58	Outward
3/24/2011	156A	25.14	157A	26.69	-1.55	Outward
5/26/2011	156A	34.86	157A	23.76	11.10	Inward
9/15/2011	156A	21.62	157A	23.84	-2.22	Outward
11/10/2011	156A	21.59	157A	23.73	-2.14	Outward
3/15/2012	156A	21.46	157A	23.59	-2.13	Outward
5/24/2012	156A	21.60	157A	23.70	-2.10	Outward
9/20/2012	156A	21.33	157A	23.36	-2.03	Outward
11/21/2012	156A	21.50	157A	23.37	-1.87	Outward
3/21/2013	156A	21.83	157A	23.97	-2.14	Outward
5/16/2013	156A	21.62	157A	23.86	-2.24	Outward
9/19/2013	156A	21.37	157A	23.49	-2.12	Outward
11/25/2013	156A	21.32	157A	23.33	-2.01	Outward
3/20/2014	156A	21.77	157A	23.67	-1.90	Outward
5/15/2014	156A	21.25	157A	23.12	-1.87	Outward
9/18/2014	156A	20.40	157A	22.10	-1.70	Outward
11/13/2014	156A	20.49	157A	22.09	-1.60	Outward
3/25/2010	76A	23.51	118A	24.97	-1.46	Outward
5/27/2010	76A	23.34	118A	24.78	-1.44	Outward
8/26/2010	76A	23.07	118A	24.29	-1.22	Outward
11/18/2010	76A	22.51	118A	24.15	-1.64	Outward
3/24/2011	76A	24.34	118A	23.93	0.41	Inward
5/26/2011	76A	27.12	118A	25.57	1.55	Inward
9/15/2011	76A	22.74	118A	23.60	-0.86	Outward
11/10/2011	76A	22.73	118A	23.60	-0.87	Outward
3/15/2012	76A	22.73	118A	23.45	-0.72	Outward
5/24/2012	76A	22.77	118A	23.43	-0.66	Outward
9/20/2012	76A	22.54	118A	23.03	-0.49	Outward
11/21/2012	76A	22.74	118A	23.15	-0.41	Outward
3/21/2013	76A	23.02	118A	23.78	-0.76	Outward
5/16/2013	76A	22.88	118A	23.63	-0.75	Outward
9/19/2013	76A	22.59	118A	23.31	-0.72	Outward

Table 15a

Buildings 1-4 Groundwater Elevations, Slurry Wall Well Pairs, January 2010 through December 2014

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Program

Mountain View, California

Date	Well ID (Outside)	Groundwater Elevation (ft msl)	Well ID (Inside)	Groundwater Elevation (ft msl)	Difference	Gradient Direction
Northern Wall - Downgradient Well Pairs						
11/25/2013	76A	22.60	118A	23.19	-0.59	Outward
3/20/2014	76A	22.73	118A	23.35	-0.62	Outward
5/15/2014	76A	22.42	118A	23.05	-0.63	Outward
9/18/2014	76A	21.76	118A	22.17	-0.41	Outward
11/13/2014	76A	21.83	118A	22.22	-0.39	Outward
Vertical Gradient Well Pairs						
3/25/2010	115B1	26.13	124A	25.80	0.33	Upward
5/27/2010	115B1	25.67	124A	24.63	1.04	Upward
8/26/2010	115B1	25.68	124A	25.20	0.48	Upward
11/18/2010	115B1	24.90	124A	25.02	-0.12	Downward
3/24/2011	115B1	26.93	124A	25.87	1.06	Upward
5/26/2011	115B1	40.61	124A	39.52	1.09	Upward
9/15/2011	115B1	25.01	124A	24.36	0.65	Upward
11/10/2011	115B1	25.13	124A	24.29	0.84	Upward
3/15/2012	115B1	24.81	124A	24.12	0.69	Upward
5/24/2012	115B1	24.94	124A	24.16	0.78	Upward
9/20/2012	115B1	24.68	124A	23.83	0.85	Upward
11/21/2012	115B1	23.83	124A	23.84	-0.01	Downward
3/21/2013	115B1	25.41	124A	24.57	0.84	Upward
5/16/2013	115B1	25.42	124A	24.03	1.39	Upward
9/19/2013	115B1	24.93	124A	23.97	0.96	Upward
11/25/2013	115B1	24.71	124A	23.90	0.81	Upward
3/20/2014	115B1	25.10	124A	24.03	1.07	Upward
5/15/2014	115B1	24.42	124A	23.65	0.77	Upward
9/18/2014	115B1	23.33	124A	22.75	0.58	Upward
11/13/2014	115B1	23.41	124A	22.73	0.68	Upward
3/25/2010	119B1	32.94	133A	31.95	0.99	Upward
5/27/2010	119B1	32.48	133A	31.41	1.07	Upward
8/26/2010	119B1	32.17	133A	31.01	1.16	Upward
11/18/2010	119B1	31.55	133A	30.50	1.05	Upward
3/24/2011	119B1	33.39	133A	32.46	0.93	Upward
5/26/2011	119B1	42.92	133A	42.73	0.19	Upward
9/15/2011	119B1	32.07	133A	31.00	1.07	Upward
11/10/2011	119B1	31.81	133A	30.72	1.09	Upward
3/15/2012	119B1	31.61	133A	30.20	1.41	Upward
5/24/2012	119B1	31.86	133A	30.73	1.13	Upward
9/20/2012	119B1	31.25	133A	30.25	1.00	Upward
11/21/2012	119B1	31.12	133A	30.12	1.00	Upward
3/21/2013	119B1	32.03	133A	30.96	1.07	Upward
5/16/2013	119B1	32.09	133A	30.96	1.13	Upward
9/19/2013	119B1	31.39	133A	30.10	1.29	Upward
11/25/2013	119B1	31.03	133A	30.10	0.93	Upward
3/20/2014	119B1	30.92	133A	29.94	0.98	Upward
5/15/2014	119B1	30.41	133A	29.48	0.93	Upward
9/18/2014	119B1	29.60	133A	28.51	1.09	Upward
11/13/2014	119B1	29.14	133A	28.26	0.88	Upward

Table 15a

Buildings 1-4 Groundwater Elevations, Slurry Wall Well Pairs, January 2010 through December 2014

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Program

Mountain View, California

Date	Well ID (Outside)	Groundwater Elevation (ft msl)	Well ID (Inside)	Groundwater Elevation (ft msl)	Difference	Gradient Direction
Vertical Gradient Well Pairs						
3/25/2010	20B1	33.39	33A	34.00	-0.61	Downward
5/27/2010	20B1	33.51	33A	33.80	-0.29	Downward
8/26/2010	20B1	33.15	33A	33.46	-0.31	Downward
11/18/2010	20B1	32.58	33A	33.05	-0.47	Downward
3/24/2011	20B1	34.45	33A	34.53	-0.08	Downward
5/26/2011	20B1	46.63	33A	29.73	16.90	Upward
9/15/2011	20B1	33.14	33A	33.53	-0.39	Downward
11/10/2011	20B1	32.86	33A	33.27	-0.41	Downward
3/15/2012	20B1	32.74	33A	33.09	-0.35	Downward
5/24/2012	20B1	32.89	33A	33.19	-0.30	Downward
9/20/2012	20B1	32.31	33A	32.67	-0.36	Downward
11/21/2012	20B1	32.10	33A	32.49	-0.39	Downward
3/21/2013	20B1	33.06	33A	33.37	-0.31	Downward
5/16/2013	20B1	33.08	33A	33.36	-0.28	Downward
9/19/2013	20B1	32.39	33A	32.68	-0.29	Downward
11/25/2013	20B1	32.08	33A	32.52	-0.44	Downward
3/20/2014	20B1	31.91	33A	32.16	-0.25	Downward
5/15/2014	20B1	31.33	33A	31.62	-0.29	Downward
9/18/2014	20B1	30.33	33A	30.60	-0.27	Downward
11/13/2014	20B1	30.04	33A	30.28	-0.24	Downward
3/25/2010	60B1	22.83	118A	24.97	-2.14	Downward
5/27/2010	60B1	22.57	118A	24.78	-2.21	Downward
8/26/2010	60B1	22.36	118A	24.29	-1.93	Downward
11/18/2010	60B1	22.48	118A	24.15	-1.67	Downward
3/24/2011	60B1	24.25	118A	23.93	0.32	Upward
5/26/2011	60B1	25.35	118A	25.57	-0.22	Downward
9/15/2011	60B1	21.83	118A	23.60	-1.77	Downward
11/10/2011	60B1	22.12	118A	23.60	-1.48	Downward
3/15/2012	60B1	21.82	118A	23.45	-1.63	Downward
5/24/2012	60B1	21.76	118A	23.43	-1.67	Downward
9/20/2012	60B1	21.46	118A	23.03	-1.57	Downward
11/21/2012	60B1	21.62	118A	23.15	-1.53	Downward
3/21/2013	60B1	22.09	118A	23.78	-1.69	Downward
5/16/2013	60B1	22.14	118A	23.63	-1.49	Downward
9/19/2013	60B1	21.72	118A	23.31	-1.59	Downward
11/25/2013	60B1	21.54	118A	23.19	-1.65	Downward
3/20/2014	60B1	22.13	118A	23.35	-1.22	Downward
5/15/2014	60B1	21.07	118A	23.05	-1.98	Downward
9/18/2014	60B1	19.74	118A	22.17	-2.43	Downward
11/13/2014	60B1	20.16	118A	22.22	-2.06	Downward

Notes:
ft msl = Feet Mean Sea Level

Table 15b

Building 9 Groundwater Elevations, Slurry Wall Well Pairs, January 2010 through December 2014

MEW Former Fairchild Buildings 1-4, 9, 18 Groundwater Remediation Programs

Mountain View, California

Date	Well ID (Outside)	Groundwater Elevation (ft msl)	Well ID (Inside)	Groundwater Elevation (ft msl)	Difference	Gradient Direction
Southern Wall - Upgradient Well Pairs						
3/25/2010	123A	33.40	122A	31.66	1.74	Inward
5/27/2010	123A	32.78	122A	31.35	1.43	Inward
8/26/2010	123A	32.71	122A	30.75	1.96	Inward
11/18/2010	123A	31.59	122A	26.83	4.76	Inward
3/24/2011	123A	33.82	122A	31.53	2.29	Inward
5/26/2011	123A	31.91	122A	26.45	5.46	Inward
9/15/2011	123A	31.99	122A	27.38	4.61	Inward
11/10/2011	123A	31.68	122A	26.67	5.01	Inward
3/15/2012	123A	31.57	122A	26.75	4.82	Inward
5/24/2012	123A	31.85	122A	27.31	4.54	Inward
9/20/2012	123A	30.97	122A	25.68	5.29	Inward
11/21/2012	123A	30.80	122A	25.69	5.11	Inward
3/21/2013	123A	31.81	122A	26.96	4.85	Inward
5/16/2013	123A	31.96	122A	26.88	5.08	Inward
9/19/2013	123A	31.22	122A	26.38	4.84	Inward
11/25/2013	123A	30.77	122A	25.55	5.22	Inward
3/20/2014	123A	30.67	122A	25.14	5.53	Inward
5/15/2014	123A	30.36	122A	25.51	4.85	Inward
9/18/2014	123A	29.13	122A	24.14	4.99	Inward
11/13/2014	123A	28.68	122A	24.16	4.52	Inward
Eastern Wall - Crossgradient Well Pairs						
3/25/2010	138A	32.15	137A	31.43	0.72	Inward
5/27/2010	138A	31.60	137A	31.09	0.51	Inward
8/26/2010	138A	31.51	137A	30.52	0.99	Inward
11/18/2010	138A	31.10	137A	26.61	4.49	Inward
11/18/2010	138A	30.90	137A	26.61	4.29	Inward
3/24/2011	138A	32.73	137A	29.93	2.80	Inward
3/24/2011	138A	32.73	137A	29.93	2.80	Inward
5/26/2011	138A	42.39	137A	22.58	19.81	Inward
9/15/2011	138A	31.28	137A	27.61	3.67	Inward
9/15/2011	138A	31.31	137A	27.61	3.70	Inward
11/10/2011	138A	31.11	137A	26.68	4.43	Inward
3/15/2012	138A	30.99	137A	26.79	4.20	Inward
3/15/2012	138A	30.93	137A	26.79	4.14	Inward
5/24/2012	138A	31.16	137A	27.46	3.70	Inward
9/20/2012	138A	30.60	137A	25.83	4.77	Inward
9/20/2012	138A	30.59	137A	25.83	4.76	Inward
11/21/2012	138A	30.57	137A	25.60	4.97	Inward
3/21/2013	138A	31.21	137A	26.92	4.29	Inward
3/21/2013	138A	31.16	137A	26.92	4.24	Inward
5/16/2013	138A	31.41	137A	26.83	4.58	Inward
9/19/2013	138A	30.63	137A	26.63	4.00	Inward
9/19/2013	138A	30.71	137A	26.63	4.08	Inward
11/25/2013	138A	30.34	137A	25.61	4.73	Inward
3/20/2014	138A	30.21	137A	25.18	5.03	Inward
5/15/2014	138A	29.91	137A	25.52	4.39	Inward

Table 15b

Building 9 Groundwater Elevations, Slurry Wall Well Pairs, January 2010 through December 2014

MEW Former Fairchild Buildings 1-4, 9, 18 Groundwater Remediation Programs

Mountain View, California

Date	Well ID (Outside)	Groundwater Elevation (ft msl)	Well ID (Inside)	Groundwater Elevation (ft msl)	Difference	Gradient Direction
Eastern Wall - Crossgradient Well Pairs						
9/18/2014	138A	28.63	137A	24.30	4.33	Inward
11/13/2014	138A	28.37	137A	24.24	4.13	Inward
Northern Wall - Downgradient Well Pairs						
3/25/2010	126A	30.89	35A	31.47	-0.58	Outward
5/27/2010	126A	30.54	35A	31.03	-0.49	Outward
8/26/2010	126A	30.41	35A	30.47	-0.06	Outward
11/18/2010	126A	29.64	35A	26.70	2.94	Inward
3/24/2011	126A	31.24	35A	29.98	1.26	Inward
5/26/2011	126A	29.94	35A	24.73	5.21	Inward
9/15/2011	126A	29.82	35A	28.20	1.62	Inward
11/10/2011	126A	29.80	35A	26.47	3.33	Inward
3/15/2012	126A	29.45	35A	26.57	2.88	Inward
5/24/2012	126A	29.75	35A	27.03	2.72	Inward
9/20/2012	126A	29.43	35A	25.49	3.94	Inward
11/21/2012	126A	29.23	35A	25.55	3.68	Inward
3/21/2013	126A	30.08	35A	26.85	3.23	Inward
5/16/2013	126A	30.13	35A	26.70	3.43	Inward
9/19/2013	126A	29.55	35A	26.27	3.28	Inward
11/25/2013	126A	29.35	35A	25.35	4.00	Inward
3/20/2014	126A	29.20	35A	24.97	4.23	Inward
5/15/2014	126A	28.73	35A	25.34	3.39	Inward
9/18/2014	126A	27.69	35A	23.97	3.72	Inward
11/13/2014	126A	27.49	35A	NA*	NA	NA
Vertical Gradient Well Pairs						
3/25/2010	69B1	31.47	37A	30.94	0.53	Upward
5/27/2010	69B1	30.76	37A	30.20	0.56	Upward
8/26/2010	69B1	30.96	37A	30.36	0.60	Upward
11/18/2010	69B1	30.66	37A	26.50	4.16	Upward
3/24/2011	69B1	32.36	37A	30.04	2.32	Upward
5/26/2011	69B1	31.29	37A	41.55	-10.26	Downward
9/15/2011	69B1	30.80	37A	27.38	3.42	Upward
11/10/2011	69B1	30.62	37A	26.24	4.38	Upward
3/15/2012	69B1	30.46	37A	26.30	4.16	Upward
5/24/2012	69B1	30.67	37A	26.80	3.87	Upward
9/20/2012	69B1	30.15	37A	25.66	4.49	Upward
11/21/2012	69B1	30.07	37A	25.67	4.40	Upward
3/21/2013	69B1	30.92	37A	27.06	3.86	Upward
5/16/2013	69B1	30.92	37A	26.41	4.51	Upward
9/19/2013	69B1	30.32	37A	26.56	3.76	Upward
11/25/2013	69B1	30.12	37A	25.49	4.63	Upward
3/20/2014	69B1	29.92	37A	25.16	4.76	Upward
5/15/2014	69B1	29.54	37A	24.95	4.59	Upward
9/18/2014	69B1	28.53	37A	24.17	4.36	Upward
11/13/2014	69B1	28.24	37A	24.28	3.96	Upward

Notes:
ft msl = Feet Mean Sea Level
*35A was inaccessible due to redevelopment activities

Table 15c

Building 18 Groundwater Elevations, Vertical Gradient Well Pairs, January 2010 through December 2014

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs

Mountain View, California

Date	Well ID (B1 Zone)	Groundwater Elevation (ft msl)	Well ID (A Zone)	Groundwater Elevation (ft msl)	Difference	Gradient Direction
Vertical Gradient Well Pairs						
3/25/2010	32B1	25.80	80A	27.34	-1.54	Downward
11/18/2010	32B1	24.87	80A	26.53	-1.66	Downward
3/24/2011	32B1	25.77	80A	27.94	-2.17	Downward
9/15/2011	32B1	23.58	80A	26.09	-2.51	Downward
3/15/2012	32B1	23.45	80A	20.29	3.16	Upward
9/20/2012	32B1	23.41	80A	25.99	-2.58	Downward
3/21/2013	32B1	25.02	80A	26.98	-1.96	Downward
9/19/2013	32B1	24.69	80A	27.14	-2.45	Downward
3/20/2014	32B1	24.82	80A	26.93	-2.11	Downward
9/18/2014	32B1	23.55	80A	25.53	-1.98	Downward
3/25/2010	143B1	27.12	147A	29.30	-2.18	Downward
11/18/2010	143B1	26.22	147A	28.46	-2.24	Downward
3/24/2011	143B1	27.98	147A	29.92	-1.94	Downward
9/15/2011	143B1	25.28	147A	27.68	-2.40	Downward
3/15/2012	143B1	25.10	147A	27.52	-2.42	Downward
9/20/2012	143B1	25.08	147A	27.42	-2.34	Downward
3/21/2013	143B1	26.38	147A	28.80	-2.42	Downward
9/19/2013	143B1	26.51	147A	28.47	-1.96	Downward
3/20/2014	143B1	26.10	147A	27.95	-1.85	Downward
9/18/2014	143B1	24.63	147A	26.44	-1.81	Downward

Notes:
ft msl = Feet Mean Sea Level

Table 16
Calculation of Predicted Capture Widths Based on Combined Flow Rate
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

	Buildings 1-4				Building 9	Building 18
Parameter	**A Zone[1]**	**A Zone Slurry Wall[2]**	**B1 Zone[1]**	**B2 Zone[1]**	**A Zone Slurry Wall[3]**	**A Zone[4]**
Q = Combined pumping rate (gpm)	11	25	25	9	18	5.9
b = saturated aquifer thickness (ft)	15	15	25	35	15	15
i = regional hydraulic gradient (ft/ft)	0.004	0.004	0.003	0.004	0.014	0.004
K = hydraulic conductivity (ft/day)[5]	40	40	40	5	40	40
Calculated Capture Width (ft) = Q/(K x b x i)	900	2000	1600	2400	400	500
Measured plume width at widest point (ft)[6]	647	590	647	647	280	315

Notes:

1. The combined pumping rate equals the summed average 2014 flow rates of all extraction wells located within the Former Fairchild Buildings 1-4 site that are outside the slurry wall.
2. The combined pumping rate equals the summed average 2014 flow rates of all extraction wells located within the Former Fairchild Buildings 1-4 site slurry wall.
3. The combined pumping rate equals the summed average 2014 flow rates of all extraction wells located within the Former Fairchild Building 9 site that are inside the slurry wall.
4. The pumping rate equals the average 2014 flow rate for extraction well RW-25A located within the Former Fairchild Building 18 site.
5. Hydraulic conductivity values used for each aquifer zone are from the numerical model included as Appendix B to the 2008 Optimization Report (Geosyntec, 2008).
6. Measured plume width at widest point is not continued past site boundaries

1 cubic foot = 7.48 gallons

1 day = 1440 minutes

gpm = gallons per minute

ft = feet

Assumptions:

1. Homogeneous, isotropic, confined aquifer of infinite extent
2. Uniform regional horizontal hydraulic gradient
3. No net recharge (or net recharge is accounted for in the regional hydraulic gradient)
4. Uniform aquifer thickness
5. Fully penetrating extraction well
6. Steady-state flow
7. Negligible vertical gradient

Table 17a
VOC Analytical Results
Buildings 1-4 Five Year Summary, January 2010 through December 2014
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)												
		Chloroform	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	1,4-Dioxane[1]
A Zone														
33A	9/19/2012	<1.0	<0.50	<0.50	**1.0**	**13**	<0.50	**1.7**	<5.0	<0.50	**1.0**	**58**	<0.50	NA
46A	11/11/2010	<1.0	**1.0**	<0.5	**1.4**	**0.6**	<0.5	<2.0	<2.0	<0.5	**1.2**	**14**	<0.5	NA
46A	9/29/2011	<1.0	**0.9**	<0.5	**1.4**	**0.5**	<0.5	<2.0	<2.0	<0.5	**1.1**	**14**	<0.5	NA
46A	10/23/2012	<1.0	**0.89**	<0.50	**1.2**	**0.69**	<0.50	<0.50	<5.0	<0.50	**0.96**	**15**	<0.50	NA
46A D	10/23/2012	<1.0	**0.82**	<0.50	**1.1**	**0.55**	<0.50	<0.50	<5.0	<0.50	**0.89**	**13**	<0.50	NA
46A	9/26/2013	<1.0	**0.74**	<0.50	**1.2**	**0.58**	<0.50	<0.50	<5.0	<0.50	**0.79**	**14**	<0.50	NA
46A	9/26/2014	<0.50	**0.62**	<0.50	**0.89**	<0.50	<0.50	<2.0	<2.0	<0.50	**0.85**	**12**	<0.50	NA
51A	9/10/2012	<1.0	**14**	<0.50	**19**	**940**	**22**	<0.50	<5.0	<0.50	<0.50	**9.6**	**1.4**	NA
57A	9/7/2012	<1.0	**22**	<0.50	**18**	**3600**	**160**	<0.50	<5.0	<0.50	<0.50	**4.5**	**6.0**	NA
59A	9/7/2012	<1.0	**12**	<0.50	**5.9**	**6.8**	<0.50	<0.50	<5.0	**0.53**	**14**	**29**	<0.50	NA
61A (RGRP)	11/15/2010	<1.0	**0.6**	<0.5	**1.2**	<0.5	<0.5	<2.0	<2.0	<0.5	**1.5**	**3.4**	<0.5	NA
61A (RGRP)	9/21/2011	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	**4.8**	<0.5	NA
61A (RGRP)	9/26/2012	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	**0.58**	**3.9**	<0.50	NA
61A (RGRP)	10/29/2013	<1.0	**0.62**	<0.50	**0.68**	<0.50	<0.50	<0.50	<5.0	<0.50	**1.0**	**3.0**	<0.50	NA
61A (RGRP)	9/26/2014	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	**5.3**	<0.50	NA
62A (RGRP)	11/23/2010	<50	<25	<25	**38**	**4900**	**47**	<100	<100	<25	<25	**41**	<25	NA
62A (RGRP)	9/22/2011	<63	<31	<31	<31	**4200**	**120**	<130	<130	<31	<31	<31	<31	NA
62A (RGRP)	9/19/2012	<1.0	**9.5**	<0.50	**26**	**5300**	**30**	**0.54**	<5.0	<0.50	<0.50	<50	**6.7**	NA
62A (RGRP)	10/22/2013	<1.0	**7.6**	<0.50	**23**	**6200**	**30**	<0.50	<5.0	<0.50	<0.50	<50	**5.7**	NA
62A (RGRP)	9/25/2014	<50	<50	<50	<50	**4900**	<50	<200	<200	<50	<50	<50	<50	NA
62A (RGRP) D	9/25/2014	<25	<25	<25	**25**	**4500**	**48**	<100	<100	<25	<25	<25	<25	NA
67A	9/24/2012	<1.0	**5.8**	<0.50	**6.0**	**620**	**5.9**	**1.5**	<5.0	<0.50	**0.55**	**53**	**0.85**	NA
68A	9/10/2012	<1.0	**2.4**	<0.50	**1.5**	**130**	**1.4**	<0.50	<5.0	**1.4**	**1.0**	**29**	**0.52**	NA
76A	11/16/2010	<1.4	**0.8**	<0.7	**0.9**	**29**	**1.2**	<2.9	<2.9	<0.7	**0.9**	**120**	<0.7	NA
76A	9/16/2011	<1.0	**0.8**	<0.5	**0.8**	**29**	<0.5	<2.0	<2.0	<0.5	**0.9**	**120**	<0.5	NA
76A	9/24/2012	<1.0	**0.64**	<0.50	**0.63**	**25**	<0.50	**0.60**	<5.0	<0.50	**0.76**	**110**	<0.50	NA
76A	9/27/2013	<1.0	**0.56**	<0.50	**0.68**	**28**	**0.61**	**0.65**	<5.0	**0.55**	**0.74**	**140**	<0.50	NA
76A	9/19/2014	<1.0	**0.59**	<0.50	**0.69**	**17**	<0.50	**0.96**	<5.0	**0.78**	<1.0	**110**	<0.50	NA
84A	9/19/2012	<1.0	**2.1**	<0.50	**0.88**	**6.3**	<0.50	<0.50	<5.0	<0.50	**1.8**	**0.85**	<0.50	NA
118A	11/16/2010	<10	**23**	<5.0	**20**	**300**	**17**	<20	<20	<5.0	<5.0	**790**	<5.0	NA

Table 17a

VOC Analytical Results

Buildings 1-4 Five Year Summary, January 2010 through December 2014

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs

Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)												
		Chloroform	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	1,4-Dioxane[1]
A Zone														
118A	9/16/2011	<13	**23**	<6.3	**16**	**370**	**24**	<25	<25	<6.3	<6.3	**810**	<6.3	NA
118A	10/15/2012	<20	**12**	<10	**12**	**320**	**19**	<10	<100	<10	<10	**1400**	<10	**2.7**
118A	9/27/2013	<1.0	**16**	<0.50	**13**	**430**	**21**	**3.7**	<5.0	**7.4**	**3.3**	**1100**	**2.3**	NA
118A	9/19/2014	<1.0	**18**	<0.50	**14**	**420**	**22**	**5.0**	<5.0	**10**	<50	**860**	**1.3**	NA
121A	11/8/2010	<5.0	**8.0**	<5.0	**10**	**1300**	**14**	<20	<200	<5.0	<5.0	**43**	<5.0	NA
121A	9/10/2012	<1.0	**7.1**	<0.50	**10**	**1200**	**8.1**	<0.50	<5.0	<0.50	<0.50	**26**	**2.1**	NA
124A	9/7/2012	<1.0	**17**	<0.50	**25**	**4700**	**24**	<0.50	<5.0	<0.50	<0.50	**61**	**32**	NA
127A	11/11/2010	<1.4	<0.7	<0.7	**1.7**	**29**	<0.7	**3.7**	<2.9	<0.7	**1.8**	**86**	<0.7	NA
127A	9/29/2011	<1.0	**0.7**	<0.5	**2.0**	**24**	<0.5	**4.1**	<2.0	<0.5	**1.9**	**83**	<0.5	NA
127A	10/23/2012	<1.0	<0.50	<0.50	**1.1**	**11**	<0.50	**1.8**	<5.0	<0.50	**1.2**	**79**	<0.50	NA
127A	9/26/2013	<1.0	<0.50	<0.50	**0.58**	**2.7**	<0.50	**0.90**	<5.0	<0.50	**0.67**	**37**	<0.50	NA
127A	9/29/2014	<0.50	<0.50	<0.50	**0.54**	**4.0**	<0.50	<2.0	<2.0	<0.50	**0.93**	**53**	<0.50	NA
129A	11/17/2010	<4.0	**6.7**	<2.0	**7.0**	**160**	**2.3**	<8.0	<8.0	<2.0	<2.0	**340**	<2.0	NA
129A	9/10/2012	<1.0	**7.3**	<0.50	**8.7**	**910**	**8.7**	**12**	<5.0	<0.50	**0.99**	**1500**	**15**	NA
130A	11/16/2010	<1.4	**3.1**	<0.7	**4.1**	**11**	<0.7	<2.9	<2.9	**7.2**	**3.0**	**110**	**0.8**	NA
130A	9/23/2011	<2.0	**2.6**	<1.0	**2.9**	**11**	<1.0	<4.0	<4.0	**7.4**	**2.6**	**92**	<1.0	NA
130A	9/10/2012	<1.0	**3.0**	<0.50	**3.4**	**13**	**0.57**	<0.50	<5.0	**9.9**	**2.5**	**110**	**0.55**	NA
130A	10/21/2013	<1.0	**2.7**	<0.50	**3.5**	**12**	**0.56**	<0.50	<5.0	**15**	**2.6**	**140**	**0.54**	NA
130A	9/19/2014	<1.0	**3.2**	<0.50	**4.1**	**13**	**0.78**	<0.50	<5.0	**21**	**2.5**	**140**	**0.57**	NA
133A	11/3/2010	<1.7	**3.5**	<1.7	**4.4**	**74**	**2.6**	**15**	<67	<1.7	**2.5**	**250**	<1.7	NA
133A	9/19/2012	<1.0	**3.1**	<0.50	**3.8**	**66**	**1.2**	**8.7**	<5.0	<0.50	**1.7**	**190**	<0.50	NA
156A	11/17/2010	<14	<7.1	<7.1	**13**	**1300**	**13**	<29	<29	<7.1	<7.1	**37**	<7.1	NA
156A	9/23/2011	<14	<7.1	<7.1	<7.1	**1000**	**17**	<29	<29	<7.1	<7.1	**47**	<7.1	NA
156A	10/19/2012	<1.0	**5.0**	<0.50	**6.2**	**1600**	**77**	<0.50	<5.0	<0.50	<0.50	**45**	<0.50	**2.0**
156A D	10/19/2012	<1.0	**4.7**	<0.50	**4.4**	**1600**	**110**	<0.50	<5.0	<0.50	<0.50	**46**	<0.50	**2.1**
156A D	10/21/2013	<1.0	**4.5**	<0.50	**9.4**	**1200**	**11**	**0.69**	<5.0	<0.50	<0.50	**56**	**0.65**	NA
156A	10/21/2013	<1.0	**4.5**	<0.50	**9.4**	**1400**	**11**	**0.67**	<5.0	<0.50	<0.50	**56**	**0.61**	NA
156A	9/19/2014	<1.0	**4.7**	<0.50	**9.2**	**1400**	**12**	**0.63**	<5.0	**0.60**	<0.50	<50	**0.64**	NA
157A D	11/17/2010	<33	**59**	<17	**41**	**1900**	<17	<67	<67	<17	<17	**1300**	<17	NA
157A	11/17/2010	<25	**61**	<13	**42**	**2000**	<13	<50	<50	<13	<13	**1300**	<13	NA
157A	9/23/2011	<20	**39**	<10	**21**	**1600**	**14**	<40	<40	<10	<10	**1300**	<10	NA

Table 17a
VOC Analytical Results
Buildings 1-4 Five Year Summary, January 2010 through December 2014
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)												
		Chloroform	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	1,4-Dioxane[1]
A Zone														
157A	10/18/2012	<1.0	**31**	<0.50	**14**	**1700**	**7.9**	**4.3**	<5.0	**1.3**	<0.50	**690**	**1.7**	**12**
157A	10/21/2013	<1.0	**42**	<0.50	**31**	**2400**	**12**	**11**	<5.0	**9.7**	**0.76**	**1400**	**2.8**	NA
157A	9/19/2014	<1.0	**37**	<0.50	**26**	**2500**	**12**	**10**	<5.0	**12**	<50	**1400**	**2.5**	NA
REG-MW-2A (RGRP)	11/22/2010	<10	**8.1**	<5.0	**13**	**880**	**12**	<20	<20	<5.0	<5.0	**940**	**25**	NA
REG-MW-2A (RGRP)	10/6/2011	<13	**8.2**	<6.3	**7.3**	**1200**	**18**	<25	<25	<6.3	<6.3	**1100**	**27**	NA
REG-MW-2A (RGRP)	9/21/2012	<1.0	**6.8**	<0.50	**12**	**1400**	**17**	**13**	<5.0	**0.93**	**2.4**	**1500**	**26**	NA
REG-MW-2A (RGRP)	10/22/2013	<1.0	**3.0**	<0.50	**5.5**	**830**	**8.7**	**7.4**	<5.0	**0.57**	**1.4**	**780**	**11**	NA
REG-MW-2A (RGRP)	9/24/2014	<13	<13	<13	<13	**1100**	**17**	<50	<50	<13	<13	**1200**	**21**	NA
RW-3A	12/10/2010	<1.0	**0.7**	<0.5	**1.9**	**24**	<0.5	**4.4**	<2.0	<0.5	**2.0**	**72**	<0.5	NA
RW-3A	10/11/2011	<0.50	**0.54**	<0.50	**1.2**	**16**	<0.50	**2.6**	<5.0	<0.50	**1.3**	**60**	<0.50	NA
RW-3A D	9/24/2012	<1.0	<0.50	<0.50	**0.85**	**11**	<0.50	**1.5**	<5.0	<0.50	**0.92**	**52**	<0.50	NA
RW-3A	9/24/2012	<1.0	<0.50	<0.50	**0.85**	**11**	<0.50	**1.5**	<5.0	<0.50	**0.96**	**51**	<0.50	NA
RW-3A D	10/24/2013	<1.0	<0.50	<0.50	**0.64**	**5.3**	<0.50	**1.2**	<5.0	<0.50	**0.80**	**44**	<0.50	NA
RW-3A	10/24/2013	<1.0	<0.50	<0.50	**0.66**	**4.9**	<0.50	**1.1**	<5.0	<0.50	**0.75**	**44**	<0.50	NA
RW-3A	9/30/2014	<0.50	<0.50	<0.50	**0.70**	**4.3**	<0.50	<2.0	<2.0	<0.50	**0.88**	**49**	<0.50	NA
RW-4A	11/15/2010	<1.0	**2.4**	<0.5	**2.6**	**42**	**0.8**	<2.0	<2.0	**5.1**	**3.2**	**87**	**0.6**	NA
RW-4A	9/15/2011	<1.0	**2.0**	<0.5	**2.2**	**30**	**0.6**	<2.0	<2.0	**5.1**	**2.4**	**75**	**2.3**	NA
RW-4A	9/24/2012	<1.0	**1.7**	<0.50	**1.7**	**17**	**0.56**	<0.50	<5.0	**4.5**	**2.0**	**64**	**0.84**	NA
RW-4A	10/16/2013	<1.0	**1.4**	<0.50	**1.6**	**16**	<0.50	<0.50	<5.0	**4.2**	**1.8**	**64**	<0.50	NA
RW-4A	9/30/2014	<0.50	**4.1**	<0.50	**3.4**	**56**	**0.74**	<2.0	<2.0	**8.8**	**3.4**	**77**	**1.2**	NA
RW-5A	11/17/2010	<10	**29**	<5.0	**26**	**790**	**73**	<20	<20	**57**	**13**	**1100**	**27**	NA
RW-5A	9/9/2011	<20	**23**	<10	**20**	**850**	**70**	<40	<40	**56**	**11**	**1000**	**15**	NA
RW-5A	9/24/2012	<1.0	**26**	<0.50	**17**	**800**	**66**	**1.9**	<5.0	**60**	**11**	**1200**	**16**	NA
RW-5A	10/16/2013	<1.0	**27**	<0.50	**20**	**770**	**82**	**2.0**	<5.0	**75**	**11**	**1000**	**17**	NA
RW-5A	9/30/2014	<10	**28**	<10	**20**	**1000**	**77**	<40	<40	**76**	**11**	**1400**	**14**	NA
RW-7A	11/16/2010	<8.3	**18**	<4.2	**20**	**640**	**17**	<17	<17	**8.5**	**4.5**	**710**	**4.5**	NA
RW-7A	9/15/2011	<5.0	**17**	<2.5	**14**	**680**	**18**	<10	<10	**6.3**	**3.8**	**630**	<2.5	NA
RW-7A	9/21/2012	<1.0	**16**	<0.50	**15**	**860**	**17**	**5.2**	<5.0	**8.1**	**3.3**	**740**	**2.5**	NA
RW-7A	10/16/2013	<1.0	**15**	<0.50	**15**	**690**	**16**	**5.8**	<5.0	**8.6**	**3.0**	**600**	**3.5**	NA
RW-7A	9/29/2014	<0.50	**14**	<0.50	**13**	**730**	**18**	**4.6**	<2.0	**8.0**	**2.2**	**660**	**3.3**	NA
RW-9A (RGRP)	11/22/2010	<3.3	**3.3**	<1.7	**4.2**	**250**	**3.9**	<6.7	<6.7	<1.7	<1.7	**440**	<1.7	NA

Table 17a
VOC Analytical Results
Buildings 1-4 Five Year Summary, January 2010 through December 2014
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)												
		Chloroform	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	1,4-Dioxane[1]
A Zone														
RW-9A (RGRP)	10/6/2011	<5.0	**3.2**	<2.5	<2.5	**340**	**4.7**	<10	<10	<2.5	<2.5	**340**	<2.5	NA
RW-9A (RGRP)	9/18/2012	<1.0	**3.3**	<0.50	**3.4**	**370**	**4.6**	**2.9**	<5.0	**0.66**	**1.0**	**490**	<0.50	NA
RW-9A (RGRP)	10/29/2013	<1.0	**3.9**	<0.50	**4.8**	**380**	**4.8**	**4.6**	<5.0	**0.79**	**1.4**	**450**	**1.3**	NA
RW-9A (RGRP) D	10/29/2013	<1.0	**3.7**	<0.50	**4.5**	**380**	**4.5**	**4.4**	<5.0	**0.79**	**1.4**	**470**	**1.3**	NA
RW-9A (RGRP)	9/25/2014	<5.0	<5.0	<5.0	<5.0	**170**	<5.0	<20	<20	<5.0	<5.0	**380**	<5.0	NA
RW-16A	11/3/2010	<2.0	**9.0**	<2.0	**15**	**170**	<2.0	<8.0	<80	<2.0	**3.1**	**320**	<2.0	NA
RW-16A	10/14/2011	<4.0	**5.4**	<2.0	**5.4**	**190**	<2.0	<8.0	<8.0	<2.0	**2.3**	**290**	**3.0**	NA
RW-16A	9/24/2012	<1.0	**5.6**	<0.50	**7.6**	**220**	**1.9**	**5.6**	<5.0	<0.50	**1.8**	**270**	<0.50	NA
RW-16A	10/24/2013	<1.0	**6.4**	<0.50	**10**	**300**	**1.7**	**6.2**	<5.0	**0.53**	**2.0**	**270**	**0.72**	NA
RW-16A	10/1/2014	<2.5	**5.1**	<2.5	**8.0**	**280**	**3.3**	<10	<10	<2.5	<2.5	**250**	<2.5	NA
RW-16A D	10/1/2014	<2.5	**5.6**	<2.5	**7.8**	**280**	**3.5**	<10	<10	<2.5	<2.5	**250**	<2.5	NA
RW-18A	11/4/2010	<2.5	**11**	<2.5	**13**	**490**	**8.1**	<10	<100	<2.5	<2.5	**460**	<2.5	NA
RW-18A D	11/4/2010	<2.5	**11**	<2.5	**12**	**480**	**8.5**	<10	<100	<2.5	<2.5	**470**	<2.5	NA
RW-18A	9/15/2011	<5.0	**10**	<2.5	**9.4**	**480**	**8.6**	<10	<10	<2.5	<2.5	**410**	<2.5	NA
RW-18A	9/25/2012	<1.0	**8.9**	<0.50	**9.5**	**590**	**9.3**	**3.3**	<5.0	**0.95**	**0.94**	**480**	**2.8**	NA
RW-18A	10/17/2013	<10	**7.5**	<5.0	**11**	**910**	**12**	**5.0**	<50	<5.0	<5.0	**630**	**5.1**	NA
RW-18A	9/30/2014	<0.50	**7.9**	<0.50	**11**	**950**	**15**	**5.2**	<2.0	**0.97**	**0.85**	**590**	**5.2**	NA
RW-27A	11/16/2010	<10	**26**	<5.0	**23**	**610**	**14**	<20	<20	<5.0	<5.0	**920**	**7.5**	NA
RW-27A	10/4/2011	<17	**20**	<8.3	**15**	**530**	**20**	<33	<33	<8.3	<8.3	**790**	<8.3	NA
RW-27A	9/21/2012	<1.0	**20**	<0.50	**16**	**730**	**20**	**5.1**	<5.0	**4.7**	**4.0**	**1100**	**3.5**	NA
RW-27A	10/16/2013	<1.0	**21**	<0.50	**19**	**840**	**18**	**5.1**	<5.0	**4.4**	**3.1**	**930**	**6.8**	NA
RW-27A	9/29/2014	<0.50	**18**	<0.50	**15**	**830**	**18**	**4.7**	<2.0	**4.6**	**2.4**	**860**	**5.1**	NA
RW-28A	11/9/2010	<5.0	**14**	<5.0	**14**	**760**	**8.8**	<20	<200	<5.0	<5.0	**350**	**11**	NA
RW-28A	10/14/2011	<6.3	**7.4**	<3.1	**11**	**460**	**12**	<13	<13	<3.1	<3.1	**420**	**4.9**	NA
RW-28A	10/3/2012	<1.0	**9.4**	<0.50	**12**	**700**	**17**	**2.0**	<5.0	**3.2**	**0.99**	**380**	**4.1**	NA
RW-28A	10/29/2013	<1.0	**8.4**	<0.50	**12**	**540**	**20**	**2.4**	<5.0	**2.3**	**0.56**	**280**	**4.6**	NA
RW-28A	9/30/2014	<2.5	**6.5**	<2.5	**8.5**	**540**	**16**	<10	<10	<2.5	<2.5	**240**	<2.5	NA
B1 Zone														
2B1	11/11/2010	<5.0	**3.4**	<2.5	**3.0**	**80**	**3.3**	<10	<10	<2.5	<2.5	**320**	<2.5	NA
2B1	10/3/2011	<6.3	**3.5**	<3.1	**4.2**	**89**	<3.1	<13	<13	<3.1	<3.1	**350**	<3.1	NA
2B1	10/23/2012	<1.0	**2.5**	<0.50	**2.6**	**70**	**0.51**	**1.7**	<5.0	<0.50	**0.57**	**300**	<0.50	NA

Table 17a
VOC Analytical Results
Buildings 1-4 Five Year Summary, January 2010 through December 2014
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)												
		Chloroform	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	1,4-Dioxane[1]
B1 Zone														
2B1	9/26/2013	<1.0	**3.1**	<0.50	**4.5**	**84**	**1.4**	**2.6**	<5.0	<0.50	**0.79**	**440**	<0.50	NA
2B1	9/29/2014	<0.50	**3.1**	<0.50	**4.0**	**95**	**1.2**	**2.5**	<2.0	<0.50	**0.80**	**400**	<0.50	NA
60B1	11/4/2010	<5.0	<5.0	<5.0	<5.0	**100**	<5.0	<20	<200	<5.0	<5.0	**930**	<5.0	NA
60B1 D	9/16/2011	<5.0	**4.3**	<2.5	**10**	**460**	**6.1**	**31**	<10	<2.5	<2.5	**2800**	<2.5	NA
60B1	9/16/2011	<40	<20	<20	<20	**350**	<20	<80	<80	<20	<20	**2500**	<20	NA
60B1	10/18/2012	**1.3**	**0.55**	<0.50	**1.5**	**61**	<0.50	**0.76**	<5.0	<0.50	<0.50	**450**	<0.50	**3.5**
60B1	10/21/2013	<1.0	**1.1**	<0.50	**4.0**	**210**	**1.3**	**12**	<5.0	**0.75**	<0.50	**1400**	<0.50	NA
60B1	9/19/2014	<1.0	**3.0**	<0.50	**8.8**	**590**	**3.0**	**23**	<5.0	**1.6**	<0.50	**2100**	**0.61**	NA
115B1	11/8/2010	<42	<42	<42	**52**	**590**	<42	<170	<1700	<42	<42	**5800**	<42	NA
115B1 D	9/16/2011	<100	<50	<50	**71**	**550**	<50	<200	<200	<50	<50	**9100**	<50	NA
115B1	9/16/2011	<130	<63	<63	**71**	**560**	<63	<250	<250	<63	<63	**9100**	<63	NA
115B1	10/23/2012	<1.0	**15**	<0.50	**51**	**1100**	**4.3**	**110**	<5.0	**2.6**	<0.50	**6300**	**2.8**	NA
115B1	10/25/2013	<1.0	**16**	<0.50	**47**	**810**	**2.9**	**110**	<5.0	**1.7**	<0.50	**5100**	**1.8**	NA
115B1	9/26/2014	<50	<50	<50	**56**	**950**	<50	<200	<200	<50	<50	**7100**	<50	NA
119B1 (RGRP)	11/23/2010	<5.0	**2.8**	<2.5	**4.5**	**59**	<2.5	<10	<10	<2.5	<2.5	**460**	<2.5	NA
119B1 (RGRP)	10/6/2011	<8.3	<4.2	<4.2	<4.2	**59**	<4.2	<17	<17	<4.2	<4.2	**390**	<4.2	NA
119B1 (RGRP)	9/18/2012	<1.0	**2.1**	<0.50	**2.6**	**71**	**1.3**	**3.6**	<5.0	<0.50	**1.5**	**520**	<0.50	NA
119B1 (RGRP)	10/23/2013	<1.0	**2.2**	<0.50	**3.3**	**86**	**1.0**	**4.3**	<5.0	<0.50	**1.5**	**640**	<0.50	NA
119B1 (RGRP)	9/25/2014	<5.0	<5.0	<5.0	<5.0	**69**	<5.0	<20	<20	<5.0	<5.0	**630**	<5.0	NA
147B1	11/15/2010	<13	<6.3	<6.3	**6.7**	**120**	<6.3	<25	<25	<6.3	<6.3	**1300**	<6.3	NA
147B1	9/21/2011	<25	<13	<13	<13	**120**	<13	<50	<50	<13	<13	**1200**	<13	NA
147B1	10/25/2012	<1.0	**1.8**	<0.50	**3.6**	**110**	**2.9**	**3.7**	<5.0	**0.77**	**1.3**	**1000**	<0.50	NA
147B1	10/21/2013	<1.0	**1.4**	<0.50	**3.9**	**210**	**3.0**	**4.2**	<5.0	**1.3**	**1.0**	**860**	<0.50	NA
147B1	9/19/2014	<1.0	**0.54**	<0.50	**1.1**	**50**	**0.95**	**1.0**	<5.0	**0.62**	<0.50	**400**	<0.50	NA
RW-3(B1)	12/23/2010	<4.0	<2.0	<2.0	**2.3**	**17**	<2.0	**12**	<8.0	<2.0	**5.5**	**260**	<2.0	NA
RW-3(B1)	10/11/2011	<0.90	<0.90	<0.90	**1.3**	**14**	<0.90	**9.4**	<5.0	<0.90	**3.2**	**250**	<0.90	NA
RW-3(B1)	9/24/2012	<1.0	**0.83**	<0.50	**0.85**	**18**	**1.3**	**7.9**	<5.0	<0.50	**3.0**	**300**	<0.50	NA
RW-3(B1)	10/24/2013	<1.0	**0.51**	<0.50	**1.6**	**15**	<0.50	**5.8**	<5.0	<0.50	**1.8**	**290**	<0.50	NA
RW-3(B1)	9/30/2014	<2.5	<2.5	<2.5	<2.5	**18**	<2.5	<10	<10	<2.5	<2.5	**270**	<2.5	NA
RW-4(B1)	11/17/2010	<20	<10	<10	<10	**140**	**57**	<40	<40	<10	<10	**1400**	<10	NA
RW-4(B1)	9/15/2011	<10	<5.0	<5.0	<5.0	**270**	**90**	<20	<20	<5.0	<5.0	**1500**	<5.0	NA

Table 17a
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Buildings 1-4 Five Year Summary, January 2010 through December 2014
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Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)												
		Chloroform	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	1,4-Dioxane[1]
B1 Zone														
RW-4(B1)	9/24/2012	<1.0	**2.0**	<0.50	**3.9**	**250**	**56**	**6.2**	<5.0	<0.50	**2.6**	**1500**	<0.50	NA
RW-4(B1)	10/16/2013	<10	<5.0	<5.0	<5.0	**160**	**21**	**5.9**	<50	<5.0	<5.0	**1300**	<5.0	NA
RW-4(B1)	9/29/2014	<0.50	**1.7**	<0.50	**3.1**	**240**	**72**	**5.8**	<2.0	<0.50	**2.0**	**1300**	<0.50	NA
RW-4(B1) D	9/29/2014	<0.50	**1.7**	<0.50	**3.2**	**240**	**73**	**5.7**	<2.0	<0.50	**1.8**	**1400**	<0.50	NA
RW-5(B1)	11/17/2010	<20	<10	<10	**17**	**1400**	**130**	<40	<40	<10	<10	**1400**	<10	NA
RW-5(B1)	9/9/2011	<25	<13	<13	<13	**1300**	**140**	<50	<50	<13	<13	**1600**	<13	NA
RW-5(B1)	9/21/2012	<1.0	**7.8**	<0.50	**9.3**	**1500**	**120**	**2.9**	<5.0	**3.3**	**1.2**	**1300**	**2.2**	NA
RW-5(B1)	10/17/2013	<1.0	**6.4**	<0.50	**7.9**	**1400**	**94**	**2.4**	<5.0	**3.0**	**0.99**	**2000**	**2.0**	NA
RW-5(B1)	9/29/2014	<0.50	**7.6**	<0.50	**9.4**	**1200**	**110**	**2.5**	<2.0	**3.5**	**0.98**	**1500**	**2.9**	NA
RW-7(B1)	11/16/2010	<33	<17	<17	**20**	**180**	<17	<67	<67	<17	<17	**2800**	<17	NA
RW-7(B1)	9/15/2011	<25	<13	<13	<13	**210**	<13	<50	<50	<13	<13	**2400**	<13	NA
RW-7(B1)	9/21/2012	<1.0	**4.6**	<0.50	**9.5**	**260**	**5.1**	**17**	<5.0	**3.2**	**1.5**	**3100**	**0.62**	NA
RW-7(B1)	10/16/2013	<1.0	**4.8**	<0.50	**11**	**280**	**5.3**	**18**	<5.0	**3.3**	**1.4**	**2400**	**0.88**	NA
RW-7(B1)	9/29/2014	<0.50	**4.7**	<0.50	**10**	**320**	**6.6**	**16**	<2.0	**3.5**	**1.1**	**2600**	<0.50	NA
RW-9(B1)R (RGRP)	11/4/2010	<17	<17	<17	<17	**780**	<17	<67	<670	<17	<17	**2200**	<17	NA
RW-9(B1)R (RGRP)	10/6/2011	<3.3	**2.8**	<1.7	**7.6**	**650**	**3.0**	**20**	<6.7	<1.7	<1.7	**1700**	<1.7	NA
RW-9(B1)R (RGRP)	9/18/2012	<1.0	**3.9**	<0.50	**13**	**970**	**5.4**	**29**	<5.0	**1.4**	<0.50	**3000**	**0.58**	NA
RW-9(B1)R (RGRP)	10/29/2013	<1.0	**4.2**	<0.50	**16**	**810**	**5.8**	**33**	<5.0	**1.5**	<0.50	**2500**	**0.70**	NA
RW-9(B1)R (RGRP)	9/26/2014	<10	<10	<10	**11**	**730**	<10	<40	<40	<10	<10	**2200**	<10	NA
RW-12(B1)	11/16/2010	<10	<5.0	<5.0	**9.1**	**100**	**7.5**	<20	<20	<5.0	<5.0	**640**	<5.0	NA
RW-12(B1)	9/15/2011	<6.3	**4.5**	<3.1	**4.7**	**120**	**6.9**	<13	<13	<3.1	<3.1	**570**	<3.1	NA
RW-12(B1)	9/21/2012	<1.0	**4.2**	<0.50	**5.3**	**150**	**8.1**	**5.1**	<5.0	**0.53**	**1.0**	**710**	**0.53**	NA
RW-12(B1)	10/16/2013	<1.0	**3.5**	<0.50	**5.1**	**120**	**5.9**	**5.6**	<5.0	**0.60**	**1.0**	**690**	<0.50	NA
RW-12(B1)	9/30/2014	<5.0	<5.0	<5.0	<5.0	**130**	**6.3**	<20	<20	<5.0	<5.0	**520**	<5.0	NA
B2 Zone														
10B2	11/12/2010	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	**0.6**	<0.5	NA
10B2	9/22/2011	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	**0.6**	<0.5	NA
10B2	10/18/2012	<1.0	<0.50	<0.50	<0.50	**1.7**	<0.50	<0.50	<5.0	<0.50	<0.50	**59**	<0.50	<1.0
10B2	10/29/2013	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	NA
10B2 D	10/29/2013	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	NA
10B2	9/29/2014	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	NA

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Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)												
		Chloroform	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	1,4-Dioxane[1]
B2 Zone														
10B2 D	9/29/2014	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	NA
11B2	11/15/2010	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	<0.5	<0.5	NA
11B2	9/21/2011	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	<0.5	<0.5	NA
11B2	9/7/2012	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	NA
11B2	10/21/2013	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	NA
11B2	9/26/2014	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	NA
113B2 (RGRP)	11/15/2010	<0.7	<0.7	<0.7	**0.9**	**9.2**	<0.7	<2.9	<29	<0.7	<0.7	**260**	<0.7	NA
113B2 (RGRP)	9/22/2011	<4.0	<2.0	<2.0	<2.0	**13**	<2.0	<8.0	<8.0	<2.0	<2.0	**220**	<2.0	NA
113B2 (RGRP)	9/21/2012	<1.0	<0.50	<0.50	**0.85**	**10**	<0.50	**1.6**	<5.0	<0.50	<0.50	**200**	<0.50	NA
113B2 (RGRP)	10/22/2013	<1.0	<0.50	<0.50	**1.7**	**48**	<0.50	**3.6**	<5.0	<0.50	<0.50	**680**	<0.50	NA
113B2 (RGRP)	9/24/2014	<5.0	<5.0	<5.0	**8.1**	**400**	<5.0	<20	<20	<5.0	<5.0	**1700**	<5.0	NA
118B2	11/11/2010	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	**0.5**	<0.5	NA
118B2	9/29/2011	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	**0.7**	<0.5	NA
118B2	9/19/2012	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	NA
118B2	9/26/2013	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	**3.0**	<0.50	NA
118B2	9/29/2014	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	NA
148B2	11/15/2010	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	<0.5	<0.5	NA
148B2	9/21/2011	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	<0.5	<0.5	NA
148B2	9/7/2012	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	NA
148B2	10/21/2013	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	NA
148B2	9/19/2014	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	NA
RW-3(B2)	12/23/2010	<25	<13	<13	**14**	**69**	**14**	<50	<50	<13	<13	**1800**	<13	NA
RW-3(B2)	10/11/2011	<4.0	<4.0	<4.0	**8.0**	**90**	**8.8**	<4.0	<5.0	<4.0	<4.0	**970**	<4.0	NA
RW-3(B2)	9/24/2012	<1.0	<0.50	<0.50	**9.1**	**87**	**10**	<0.50	<5.0	<0.50	<0.50	**1400**	**1.3**	NA
RW-3(B2)	10/24/2013	<1.0	<0.50	<0.50	**6.1**	**69**	**7.9**	<0.50	<5.0	<0.50	<0.50	**770**	**1.3**	NA
RW-3(B2)	9/30/2014	<5.0	<5.0	<5.0	**7.5**	**410**	**9.3**	<20	<20	<5.0	<5.0	**480**	<5.0	NA
RW-4(B2)	11/17/2010	<130	<63	<63	<63	**6300**	**78**	<250	<250	<63	<63	**10000**	<63	NA
RW-4(B2)	10/4/2011	<170	<83	<83	<83	**5100**	<83	<330	<330	<83	<83	**9200**	<83	NA
RW-4(B2)	9/24/2012	<1.0	**3.1**	<0.50	**39**	**6900**	**75**	**0.51**	<5.0	<0.50	<0.50	**9300**	**21**	NA
RW-4(B2)	10/16/2013	<10	<5.0	<5.0	**41**	**8200**	**89**	<5.0	<50	<5.0	<5.0	**11000**	**32**	NA
RW-4(B2)	9/29/2014	<0.50	**3.4**	<0.50	**50**	**7000**	**120**	<2.0	<2.0	<0.50	<0.50	**10000**	**36**	NA

Table 17a
VOC Analytical Results
Buildings 1-4 Five Year Summary, January 2010 through December 2014
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)												
		Chloroform	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	1,4-Dioxane[1]
B2 Zone														
RW-5(B2)	12/27/2010	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	<0.5	<0.5	NA
RW-5(B2)	10/14/2011	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	NA
RW-5(B2) D	9/24/2012	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	NA
RW-5(B2)	9/24/2012	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	NA
RW-5(B2) D	10/17/2013	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	NA
RW-5(B2)	10/17/2013	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	NA
RW-5(B2)	9/30/2014	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	NA
RW-7(B2)	12/27/2010	<1.0	<0.5	<0.5	<0.5	**3.0**	<0.5	<2.0	<2.0	<0.5	<0.5	**9.5**	<0.5	NA
RW-7(B2) D	12/27/2010	<1.0	<0.5	<0.5	<0.5	**2.1**	<0.5	<2.0	<2.0	<0.5	<0.5	**9.8**	<0.5	NA
RW-7(B2)	10/14/2011	<0.50	<0.50	<0.50	<0.50	**5.2**	<0.50	**0.57**	<5.0	<0.50	<0.50	**8.6**	<0.50	NA
RW-7(B2)	9/24/2012	<1.0	<0.50	<0.50	<0.50	**1.8**	<0.50	**0.52**	<5.0	<0.50	<0.50	**9.4**	<0.50	NA
RW-7(B2)	10/8/2013	<1.0	<0.50	<0.50	<0.50	**3.5**	<0.50	<0.50	<5.0	<0.50	<0.50	**6.3**	<0.50	NA
RW-7(B2)	9/30/2014	<0.50	<0.50	<0.50	<0.50	**15**	<0.50	<2.0	<2.0	<0.50	<0.50	**2.2**	<0.50	NA
RW-7(B2) D	9/30/2014	<0.50	<0.50	<0.50	<0.50	**15**	<0.50	<2.0	<2.0	<0.50	<0.50	**2.2**	<0.50	NA
RW-9(B2) (RGRP)	11/22/2010	<7.1	<3.6	<3.6	**8.0**	**180**	**5.4**	<14	<14	<3.6	<3.6	**650**	<3.6	NA
RW-9(B2) (RGRP)	10/6/2011	<10	<5.0	<5.0	**6.6**	**200**	<5.0	<20	<20	<5.0	<5.0	**550**	**8.5**	NA
RW-9(B2) (RGRP)	9/18/2012	<1.0	**0.51**	<0.50	**6.0**	**250**	**4.9**	**5.6**	<5.0	<0.50	<0.50	**720**	<0.50	NA
RW-9(B2) (RGRP)	10/29/2013	<1.0	**0.57**	<0.50	**7.3**	**230**	**5.3**	**6.6**	<5.0	<0.50	<0.50	**630**	**0.79**	NA
RW-9(B2) (RGRP)	9/26/2014	<5.0	<5.0	<5.0	<5.0	**190**	<5.0	<20	<20	<5.0	<5.0	**570**	<5.0	NA

Notes:
1,1-DCA = 1,1-Dichloroethane
1,2-DCA = 1,2-Dichloroethane
1,1-DCE = 1,1-Dichloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene
trans-1,2-DCE = trans-1,2-Dichloroethene
PCE = Tetrachloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
TCE = Trichloroethene
(1) 1,4-dioxane analyzed by method 8270C SIM
< indicates analyte not detected above the reported detection limit
D indicates duplicate sample
NA indicates the sample was not analyzed for the given analyte
µg/L = micrograms per Liter
(RGRP) = Regional Groundwater Remediation Program Well

Table 17b
VOC Analytical Results
Building 9 Five Year Summary, January 2010 through December 2014
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Sample Location	Sample Date	Constituent (concentration in micrograms per liter, ug/L and method is 8260B)												
		Chloroform	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	1,4-Dioxane[1]
A Zone														
35A	9/25/2012	<1.0	**3.6**	<0.50	**2.5**	**130**	**1.7**	**2.1**	<5.0	<0.50	<0.50	**220**	**1.1**	NA
36A	11/12/2010	<5.0	**4.9**	<2.5	**5.9**	**380**	**7.7**	<10	<10	<2.5	<2.5	**150**	<2.5	NA
36A	9/18/2012	<1.0	**3.3**	<0.50	**2.7**	**270**	**2.1**	**0.64**	<5.0	<0.50	<0.50	**110**	**0.70**	NA
37A	11/12/2010	<4.0	**10**	<2.0	**9.1**	**110**	**3.0**	<8.0	<8.0	<2.0	**61**	**270**	<2.0	NA
37A	9/29/2011	<4.0	**5.7**	<2.0	**2.3**	**88**	**5.5**	<8.0	<8.0	<2.0	**18**	**210**	<2.0	NA
37A	9/18/2012	<1.0	**10**	<0.50	**6.3**	**120**	**1.4**	**1.5**	<5.0	<0.50	**17**	**190**	<0.50	NA
37A	10/23/2013	<1.0	**36**	<0.50	**8.6**	**370**	**3.7**	**1.1**	<5.0	<0.50	**7.6**	**72**	**49**	NA
37A	9/17/2014	<1.0	**35**	<0.50	**8.1**	**280**	**5.1**	**1.4**	<5.0	<0.50	**9.0**	**44**	**15**	NA
40A	11/12/2010	<10	**6.7**	<5.0	**10**	**140**	<5.0	**23**	<20	<5.0	**8.8**	**790**	**8.3**	NA
40A	10/3/2011	<10	**5.8**	<5.0	**6.5**	**420**	**10**	<20	<20	<5.0	**7.1**	**700**	**7.1**	NA
40A	9/18/2012	<1.0	**4.6**	<0.50	**5.6**	**230**	**1.7**	**13**	<5.0	**0.65**	**5.1**	**540**	**1.4**	NA
40A	10/23/2013	<1.0	**3.6**	<0.50	**4.8**	**180**	**2.0**	**10**	<5.0	**1.2**	**3.8**	**560**	**1.6**	NA
40A	9/17/2014	<1.0	**4.5**	<0.50	**6.7**	**190**	**2.5**	**18**	<5.0	**0.91**	**7.6**	**730**	**1.1**	NA
41A	11/16/2010	<2.5	<1.3	<1.3	<1.3	**59**	**1.3**	<5.0	<5.0	<1.3	<1.3	**240**	**2.9**	NA
41A	9/29/2011	<14	<7.1	<7.1	<7.1	**130**	<7.1	<29	<29	<7.1	<7.1	**760**	<7.1	NA
41A	9/25/2012	<1.0	**6.1**	<0.50	**7.8**	**400**	**5.8**	**14**	<5.0	<0.50	**6.0**	**1500**	**9.6**	NA
41A	10/23/2013	<10	<5.0	<5.0	<5.0	**220**	<5.0	**7.0**	<50	<5.0	<5.0	**580**	<5.0	NA
41A	9/17/2014	<1.0	<0.50	<0.50	**0.93**	**59**	**1.8**	**3.1**	<5.0	<0.50	**0.87**	**360**	<0.50	NA
42A	12/2/2010	<3.3	**3.0**	<1.7	**2.3**	**47**	<1.7	<6.7	<6.7	<1.7	**2.9**	**250**	<1.7	NA
42A	9/22/2011	<3.3	**2.8**	<1.7	**3.0**	**65**	<1.7	**8.1**	<6.7	<1.7	**2.9**	**350**	<1.7	NA
42A	10/19/2012	<1.0	**2.3**	<0.50	**3.3**	**200**	**2.5**	**6.0**	<5.0	**1.1**	**2.4**	**570**	<0.50	<1.0
42A D	10/23/2013	<1.0	**1.4**	<0.50	**2.1**	**85**	**1.3**	**6.5**	<5.0	**1.7**	**1.7**	**470**	**1.0**	NA
42A	10/23/2013	<1.0	**1.4**	<0.50	**2.2**	**87**	**1.4**	**6.8**	<5.0	**1.9**	**1.8**	**480**	**1.1**	NA
42A	9/17/2014	<1.0	**1.0**	<0.50	**1.6**	**57**	**1.6**	**4.4**	<5.0	**1.9**	**1.7**	**400**	**0.83**	NA
42A D	9/17/2014	<1.0	**0.96**	<0.50	**1.6**	**81**	**2.1**	**4.5**	<5.0	**2.0**	**1.8**	**390**	**0.80**	NA
43A	11/12/2010	<4.0	**4.7**	<2.0	**5.1**	**65**	<2.0	**11**	<8.0	<2.0	**5.5**	**330**	<2.0	NA
43A	9/29/2011	<5.0	**2.9**	<2.5	**2.7**	**78**	<2.5	<10	<10	<2.5	**2.9**	**310**	<2.5	NA

Table 17b

VOC Analytical Results

Building 9 Five Year Summary, January 2010 through December 2014

MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs

Mountain View, California

Sample Location	Sample Date	Constituent (concentration in micrograms per liter, ug/L and method is 8260B)												
		Chloroform	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	1,4-Dioxane[1]
A Zone														
43A	9/26/2012	<1.0	**1.7**	<0.50	**2.5**	**160**	**1.4**	**3.6**	<5.0	**1.2**	**1.7**	**450**	**2.2**	NA
43A	10/23/2013	**1.1**	**1.3**	<0.50	**1.8**	**96**	**1.2**	**3.5**	<5.0	**1.5**	**1.4**	**420**	**1.5**	NA
43A	9/17/2014	<1.0	<0.50	<0.50	**0.61**	**28**	<0.50	**1.5**	<5.0	**1.0**	**0.87**	**310**	**0.67**	NA
44A	11/12/2010	<5.0	**4.4**	<2.5	**5.3**	**120**	**2.6**	<10	<10	<2.5	**4.1**	**440**	**5.2**	NA
44A	9/29/2011	<13	<6.3	<6.3	<6.3	**200**	<6.3	<25	<25	<6.3	<6.3	**580**	<6.3	NA
44A	9/24/2012	<1.0	**0.86**	<0.50	**1.4**	**89**	**2.1**	**2.1**	<5.0	**1.7**	**0.97**	**460**	<0.50	NA
44A	10/23/2013	<1.0	**0.70**	<0.50	**1.2**	**51**	**0.79**	**2.4**	<5.0	**1.8**	**1.0**	**330**	<0.50	NA
44A	9/17/2014	<1.0	<0.50	<0.50	**0.61**	**24**	<0.50	**1.3**	<5.0	**1.4**	**0.87**	**240**	<0.50	NA
83A	12/6/2010	<1.0	**5.0**	<1.0	**5.0**	**120**	**1.4**	**14**	<40	<1.0	**5.6**	**190**	<1.0	NA
83A	10/20/2011	<1	**3.6**	<1	**4.6**	**93**	**1.4**	**16**	<50	<1	**4.5**	**200**	<1	NA
83A	10/4/2012	<1.3	**3.8**	<1.3	**4.2**	**130**	**2.0**	**13**	<50	<1.3	**4.0**	**250**	<1.3	NA
83A	10/3/2013	<1.3	**4.1**	<1.3	**5.5**	**150**	**2.4**	**18**	<50	<1.3	**4.7**	**320**	<1.3	NA
83A	10/14/2014	<2.5	**3.4**	<2.5	**4.8**	**130**	**7.9**	**20**	<100	<2.5	**5.4**	**340**	<2.5	NA
99A D	11/23/2010	<1.0	**5.2**	<0.5	**8.2**	**140**	**1.9**	**38**	<2.0	**0.5**	**7.0**	**290**	**0.7**	NA
99A	11/23/2010	<2.5	**4.6**	<1.3	**6.6**	**160**	**2.0**	**31**	<5.0	<1.3	**6.1**	**320**	<1.3	NA
99A	9/21/2011	<3.3	**4.5**	<1.7	**5.8**	**180**	**2.2**	**23**	<6.7	<1.7	**5.6**	**300**	<1.7	NA
99A	9/13/2012	<1.0	**4.1**	<0.50	**6.0**	**190**	**2.2**	**26**	<5.0	**0.53**	**5.1**	**320**	**0.66**	NA
99A	10/8/2013	<1.0	**2.8**	<0.50	**4.6**	**160**	**1.9**	**23**	<5.0	**0.52**	**3.6**	**460**	<0.50	NA
99A	9/25/2014	**2.5**	**2.7**	<2.5	**4.4**	**130**	<2.5	**23**	<10	<2.5	**3.8**	**290**	<2.5	NA
122A	9/26/2012	<1.0	**3.0**	<0.50	**2.1**	**100**	**1.6**	**1.0**	<5.0	<0.50	<0.50	**210**	<0.50	NA
122A D	9/26/2012	<1.0	**3.0**	<0.50	**2.1**	**100**	**1.6**	**0.97**	<5.0	<0.50	<0.50	**230**	<0.50	NA
123A	10/23/2013	<10	<5.0	<5.0	<5.0	**260**	<5.0	**6.2**	<50	<5.0	<5.0	**510**	<5.0	NA
123A	9/17/2014	<1.0	**7.7**	<0.50	**9.4**	**360**	**7.4**	**17**	<5.0	**1.8**	**3.8**	**590**	**1.7**	NA
126A	11/17/2010	<2.0	**5.9**	<1.0	**4.2**	**110**	**1.3**	<4.0	<4.0	<1.0	<1.0	**130**	**1.4**	NA
126A	9/25/2012	<1.0	**4.0**	<0.50	**2.8**	**110**	**1.0**	**1.7**	<5.0	<0.50	<0.50	**130**	**0.59**	NA
137A	11/12/2010	<100	<50	<50	<50	**7000**	<50	<200	<200	<50	<50	**6200**	<50	NA
137A	10/3/2011	<200	<100	<100	<100	**10000**	**110**	<400	<400	<100	<100	**6900**	<100	NA

Table 17b
VOC Analytical Results
Building 9 Five Year Summary, January 2010 through December 2014
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Sample Location	Sample Date	Constituent (concentration in micrograms per liter, ug/L and method is 8260B)												
		Chloroform	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	1,4-Dioxane[1]
A Zone														
137A	10/25/2012	<1.0	**3.0**	<0.50	**7.7**	**2000**	**13**	**19**	<5.0	**1.2**	<0.50	**3500**	**3.3**	NA
137A	8/28/2013	<1.0	**5.0**	<0.50	**13**	**3000**	**25**	**16**	<5.0	**1.2**	<0.50	**3300**	**2.4**	NA
137A	10/23/2013	<10	<5.0	<5.0	**11**	**4300**	**41**	**16**	<50	<5.0	<5.0	**6400**	<5.0	NA
137A	9/17/2014	<1.0	**7.5**	<0.50	**22**	**5500**	**48**	**14**	<5.0	**1.2**	<0.50	**2300**	**2.7**	NA
138A	11/17/2010	<20	**12**	<10	**23**	**1900**	**20**	<40	<40	<10	<10	**120**	**130**	NA
138A	9/29/2011	<20	<10	<10	**10**	**1200**	**13**	<40	<40	<10	<10	**190**	**32**	NA
138A	9/18/2012	<1.0	**7.9**	<0.50	**10**	**1900**	**12**	**10**	<5.0	<0.50	**1.0**	**170**	**27**	NA
138A	10/23/2013	<1.0	**3.2**	<0.50	**3.6**	**920**	**6.4**	<50	<5.0	<0.50	<0.50	**340**	**16**	NA
138A	9/17/2014	<1.0	**3.4**	<0.50	**4.5**	**1700**	**9.2**	**3.6**	<5.0	<0.50	<0.50	**360**	**50**	NA
AE/RW-9-1	11/12/2010	<6.3	**71**	<3.1	**26**	**470**	**11**	<13	<13	<3.1	**260**	**490**	**12**	NA
AE/RW-9-1	10/3/2011	<10	**74**	<5.0	**16**	**550**	**9.8**	<20	<20	<5.0	**120**	**540**	**12**	NA
AE/RW-9-1	9/26/2012	<1.0	**68**	<0.50	**18**	**670**	**8.7**	**4.2**	<5.0	**1.5**	**110**	**730**	**17**	NA
AE/RW-9-1	10/17/2013	<1.0	**53**	<0.50	**12**	**710**	**7.7**	**3.9**	<5.0	**1.5**	**45**	**810**	**13**	NA
AE/RW-9-1	9/17/2014	<1.0	**80**	<0.50	**16**	**730**	**11**	**5.7**	<5.0	**1.7**	**62**	**590**	**20**	NA
AE/RW-9-2	11/12/2010	<100	**130**	<50	**78**	**5400**	<50	**210**	<200	<50	**74**	**7200**	**260**	NA
AE/RW-9-2	10/3/2011	<170	**110**	<83	<83	**4400**	<83	<330	<330	<83	<83	**8300**	**170**	NA
AE/RW-9-2	9/24/2012	<1.0	**120**	<0.50	**44**	**7200**	**84**	**150**	<5.0	**3.8**	**120**	**8000**	**250**	NA
AE/RW-9-2 D	8/28/2013	<1.0	**110**	<0.50	**50**	**7300**	**88**	**190**	<5.0	**5.0**	**65**	**8200**	**210**	NA
AE/RW-9-2	8/28/2013	<1.0	**86**	<0.50	**23**	**7300**	**77**	**71**	<5.0	**3.6**	**35**	**9800**	**330**	NA
AE/RW-9-2	10/17/2013	<1.0	**84**	<0.50	**38**	**8800**	**78**	**190**	<5.0	**4.6**	**49**	**13000**	**260**	NA
AE/RW-9-2	9/17/2014	<1.0	**99**	<0.50	**44**	**7100**	**110**	**160**	**7.3**	**5.5**	**45**	**6400**	<250	NA
RW-20A	11/12/2010	<14	**13**	<7.1	**17**	**730**	**15**	<29	<29	<7.1	**13**	**910**	**7.6**	NA
RW-20A	10/3/2011	<14	**11**	<7.1	**9.0**	**560**	**20**	<29	<29	<7.1	**9.5**	**770**	<7.1	NA
RW-20A	10/5/2012	<1.0	**12**	<0.50	**10**	**730**	**8.8**	**8.0**	<5.0	**1.6**	**9.4**	**770**	**5.7**	NA
RW-20A	10/17/2013	<1.0	**12**	<0.50	**9.3**	**940**	**7.0**	**7.2**	<5.0	**1.7**	**9.1**	**1100**	**4.1**	NA
RW-20A	9/17/2014	<1.0	**13**	<0.50	**11**	**680**	**9.6**	**10**	<5.0	**1.7**	**5.8**	**600**	**7.6**	NA
RW-21A D	11/12/2010	<4.0	**8.7**	<2.0	**9.1**	**300**	**11**	**26**	<8.0	**2.5**	**2.6**	**310**	**2.9**	NA
RW-21A	11/12/2010	<4.0	**8.9**	<2.0	**9.2**	**310**	**11**	**26**	<8.0	**2.7**	**2.5**	**310**	**2.7**	NA

Table 17b
VOC Analytical Results
Building 9 Five Year Summary, January 2010 through December 2014
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Sample Location	Sample Date	Constituent (concentration in micrograms per liter, ug/L and method is 8260B)												
		Chloroform	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	1,4-Dioxane[1]
A Zone														
RW-21A	10/3/2011	<4.0	**5.8**	<2.0	**4.9**	**240**	**8.0**	**11**	<8.0	**4.2**	**2.4**	**250**	<2.0	NA
RW-21A	9/26/2012	<1.0	**6.4**	<0.50	**5.9**	**360**	**7.3**	**9.5**	<5.0	**4.2**	**2.1**	**420**	**2.4**	NA
RW-21A	10/17/2013	<1.0	**5.0**	<0.50	**5.0**	**350**	**5.8**	**9.0**	<5.0	**4.6**	**1.6**	**410**	**1.8**	NA
RW-21A	9/17/2014	<1.0	**6.7**	<0.50	**5.8**	**280**	**5.7**	**11**	<5.0	**2.0**	**1.1**	**290**	**2.3**	NA

Notes:
1,1-DCA = 1,1-Dichloroethane
1,2-DCA = 1,2-Dichloroethane
1,1-DCE = 1,1-Dichloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene
trans-1,2-DCE = trans-1,2-Dichloroethene
PCE = Tetrachloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
TCE = Trichloroethene
(1) 1,4-dioxane analyzed by method 8270C SIM
< indicates analyte not detected above the reported detection limit
D indicates duplicate sample
NA indicates the sample was not analyzed for the given analyte

Table 17c
VOC Analytical Results
Building 18 Five Year Summary, January 2010 through December 2014
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)												
		Chloroform	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	1,4-Dioxane[1]
A Zone														
54A	11/22/2010	<10	**7.4**	<5.0	**14**	**190**	<5.0	<20	<20	<5.0	<5.0	**770**	<5.0	NA
54A	9/22/2011	<8.3	**8.1**	<4.2	**10**	**180**	<4.2	<17	<17	<4.2	<4.2	**610**	<4.2	NA
54A	10/18/2012	<1.0	**1.4**	<0.50	**2.1**	**70**	**2.4**	**2.5**	<5.0	<0.50	**1.7**	**170**	<0.50	<1.0
54A	10/29/2013	<1.0	**1.8**	<0.50	**3.0**	**68**	**4.5**	**4.9**	<5.0	<0.50	**2.3**	**310**	**0.74**	NA
54A	9/19/2014	<1.0	**2.3**	<0.50	**3.5**	**110**	**3.8**	**3.7**	<5.0	**0.56**	<5.0	**280**	**1.0**	NA
80A	11/16/2010	<2.5	**2.0**	<1.3	**2.7**	**100**	**1.6**	<5.0	<5.0	<1.3	**1.4**	**210**	<1.3	NA
80A	9/2/2011	<4.0	<2.0	<2.0	**2.6**	**90**	<2.0	<8.0	<8.0	<2.0	<2.0	**190**	<2.0	NA
80A	10/22/2012	<1.0	**2.3**	<0.50	**3.3**	**170**	**2.1**	**2.4**	<5.0	**0.88**	**1.1**	**280**	<0.50	**1.4**
80A	10/29/2013	<1.0	**2.4**	<0.50	**4.0**	**190**	**3.1**	**2.7**	<5.0	**0.98**	**1.1**	**270**	<0.50	NA
80A	9/19/2014	<1.0	**3.1**	<0.50	**4.6**	**210**	**4.5**	**3.0**	<5.0	**1.3**	<25	**240**	**0.57**	NA
147A	11/16/2010	<1.0	<0.5	<0.5	**0.6**	**19**	<0.5	<2.0	<2.0	**0.9**	**1**	**120**	<0.5	NA
147A	9/2/2011	<2.0	<1.0	<1.0	<1.0	**13**	<1.0	<4.0	<4.0	<1.0	<1.0	**110**	<1.0	NA
147A	10/24/2012	<1.0	<0.50	<0.50	<0.50	**12**	<0.50	<0.50	<5.0	**0.56**	**0.70**	**120**	<0.50	NA
147A D	10/24/2012	<1.0	<0.50	<0.50	<0.50	**12**	<0.50	**0.51**	<5.0	**0.64**	**0.67**	**130**	<0.50	NA
147A	10/21/2013	<1.0	<0.50	<0.50	<0.50	**8.2**	<0.50	**0.50**	<5.0	**0.60**	**0.63**	**110**	<0.50	NA
147A	9/17/2014	<1.0	<0.50	<0.50	<0.50	**11**	<0.50	**0.51**	<5.0	**0.73**	**0.71**	**130**	<0.50	NA
147A D	9/17/2014	<1.0	<0.50	<0.50	<0.50	**11**	<0.50	**0.50**	<5.0	**0.71**	**0.72**	**130**	<0.50	NA
152A	11/17/2010	<10	<5.0	<5.0	**11**	**880**	**7.1**	<20	<20	<5.0	<5.0	**360**	**110**	NA
152A	9/21/2011	<10	<5.0	<5.0	**5.2**	**570**	**6.4**	<20	<20	<5.0	<5.0	**330**	**51**	NA
152A D	9/21/2011	<10	<5.0	<5.0	**5.2**	**580**	**8.3**	<20	<20	<5.0	<5.0	**330**	**52**	NA
152A D	9/19/2012	<1.0	**1.0**	<0.50	**1.7**	**130**	**1.6**	**1.4**	<5.0	<0.50	**0.75**	**270**	**2.6**	NA
152A	9/19/2012	<1.0	**0.98**	<0.50	**1.7**	**130**	**1.6**	**1.3**	<5.0	<0.50	**0.75**	**270**	**2.5**	NA
152A	10/21/2013	<1.0	**0.58**	<0.50	**1.1**	**88**	**1.5**	**1.0**	<5.0	<0.50	**0.57**	**240**	**1.0**	NA
152A	9/19/2014	<1.0	**1.4**	<0.50	**2.8**	**190**	**2.6**	**2.4**	<5.0	**0.85**	<25	**320**	**2.9**	NA
RW-25A D	11/16/2010	<25	<13	<13	**22**	**1700**	**21**	<50	<50	<13	<13	**1400**	**58**	NA
RW-25A	11/16/2010	<25	<13	<13	**22**	**1700**	**22**	<50	<50	<13	<13	**1500**	**60**	NA
RW-25A	9/15/2011	<13	**7.6**	<6.3	**12**	**1500**	**24**	<25	<25	<6.3	<6.3	**1200**	**35**	NA
RW-25A	9/21/2012	<1.0	**2.8**	<0.50	**4.3**	**330**	**4.8**	**7.2**	<5.0	**0.73**	**1.8**	**670**	**2.2**	NA
RW-25A	10/17/2013	<10	<5.0	<5.0	<5.0	**230**	<5.0	**7.3**	<50	<5.0	<5.0	**610**	<5.0	NA
RW-25A	9/29/2014	<0.50	**3.0**	<0.50	**4.7**	**290**	**5.4**	**8.3**	<2.0	**0.97**	**1.5**	**640**	**3.9**	NA

Table 17c
VOC Analytical Results
Building 18 Five Year Summary, January 2010 through December 2014
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Sample Location	Sample Date	Constituent (concentration in µg/L and method is 8260B)												
		Chloroform	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	1,4-Dioxane[1]
B1 Zone														
32B1 (RGRP)	11/22/2010	<1.0	<0.5	<0.5	**1.5**	**4.8**	<0.5	<2.0	<2.0	<0.5	<0.5	**370**	<0.5	NA
32B1 (RGRP)	9/26/2011	<13	<6.3	<6.3	<6.3	**150**	**13**	**38**	<25	<6.3	<6.3	**1200**	<6.3	NA
32B1 (RGRP)	9/19/2012	<1.0	**2.2**	<0.50	**6.0**	**62**	<0.50	**8.5**	<5.0	<0.50	**0.63**	**520**	<0.50	NA
32B1 (RGRP)	10/21/2013	<1.0	**1.3**	<0.50	**4.5**	**76**	<0.50	**10**	<5.0	<0.50	**0.50**	**890**	<0.50	NA
32B1 (RGRP)	9/19/2014	<1.0	**3.0**	<0.50	**9.9**	**82**	**0.88**	**22**	<5.0	**0.80**	**1.2**	**770**	<0.50	NA
143B1 (RGRP)	11/22/2010	<33	<17	<17	<17	**83**	<17	<67	<67	<17	<17	**2800**	<17	NA
143B1 (RGRP)	9/23/2011	<25	<13	<13	<13	**290**	<13	**76**	<50	<13	<13	**1300**	<13	NA
143B1 (RGRP)	9/19/2012	<1.0	**3.5**	<0.50	**7.6**	**640**	**4.8**	**62**	<5.0	**1.4**	**1.1**	**1800**	**0.56**	NA
143B1 (RGRP)	10/23/2013	<1.0	**1.9**	<0.50	**5.6**	**510**	**2.7**	**89**	<5.0	**2.0**	**1.1**	**2200**	<0.50	NA
143B1 (RGRP)	10/16/2014	<1.0	**1.4**	<0.50	**4.1**	**540**	**3.7**	**57**	<5.0	**1.5**	**0.78**	**1500**	<0.50	NA

Notes:
1,1-DCA = 1,1-Dichloroethane
1,2-DCA = 1,2-Dichloroethane
1,1-DCE = 1,1-Dichloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene
trans-1,2-DCE = trans-1,2-Dichloroethene
PCE = Tetrachloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
TCE = Trichloroethene
(1) 1,4-dioxane analyzed by method 8270C SIM
< indicates analyte not detected above the reported detection limit
D indicates duplicate sample
NA indicates the sample was not analyzed for the given analyte
(RGRP) = Regional Groundwater Remediation Program Well

Table 18
Mann-Kendall Statistics Concentration Trends Summary
MEW Former Fairchild Buildings 1-4, 9, 18 Groundwater Remediation Programs
Mountain View, California

Buildings 1-4

Well Name	TCE	cis-1,2-DCE	Vinyl Chloride
A Zone			
33A	N/A	N/A	N/A
46A	S	S	ND
51A	N/A	N/A	N/A
57A	N/A	N/A	N/A
59A	N/A	N/A	N/A
61A	S	S	ND
62A	D	D	NT
67A	N/A	N/A	N/A
68A	N/A	N/A	N/A
76A	PD	D	ND
84A	N/A	N/A	ND
118A	NT	I	NT
121A	N/A	N/A	N/A
124A	N/A	N/A	N/A
127A	NT	NT	ND
129A	N/A	N/A	N/A
130A	S	NT	NT
133A	N/A	N/A	ND
156A	NT	D	D
157A	S	I	S
REG-MW-2A	S	S	D
RW-3A	PD	PD	ND
RW-4A	S	NT	PD
RW-5A	PD	S	S
RW-7A	D	PI	S
RW-9A	D	NT	NT
RW-16A	D	I	S
RW-18A	S	I	NT

Well Name	TCE	cis-1,2-DCE	Vinyl Chloride
A Zone			
RW-27A	D	NT	S
RW-28A	S	NT	S
B1 Zone			
2B1	S	S	ND
20B1	N/A	N/A	N/A
60B1	PD	NT	D
115B1	S	I	NT
119B1	S	S	ND
147B1	NT	I	ND
RW-3(B1)	S	PI	ND
RW-4(B1)	D	S	D
RW-5(B1)	S	D	D
RW-7(B1)	D	NT	D
RW-9(B1)R	D	S	D
RW-12(B1)	D	S	D
B2 Zone			
10B2	PD	NT	ND
11B2	S	ND	ND
113B2	S	NT	ND
118B2	S	ND	ND
148B2	S	ND	ND
RW-3(B2)	NT	D	D
RW-4(B2)	PD	S	S
RW-5(B2)	ND	ND	NT
RW-7(B2)	NT	NT	NT
RW-9(B2)	D	S	NT

Building 9

Well Name	TCE	cis-1,2-DCE	Vinyl Chloride
A Zone			
35A	N/A	N/A	N/A
36A	S	S	S
37A	D	NT	NT
40A	D	I	NT
41A	S	NT	S
42A	S	I	D
43A	PD	NT	S
44A	D	S	S
122A	N/A	N/A	N/A
126A	N/A	N/A	N/A
137A	NT	S	D
138A	I	S	S
AE/RW-9-1	S	PI	NT
AE/RW-9-2	I	I	NT
RW-20A	NT	NT	NT
RW-21A	NT	PI	NT
B1 Zone			
69B1	N/A	N/A	N/A

Building 18

Well Name	TCE	cis-1,2-DCE	Vinyl Chloride
A Zone			
54A	D	D	D
80A	S	NT	PD
147A	PD	NT	ND
152A	D	D	D
RW-25A	D	PD	S
B1 Zone			
32B1	S	NT	ND
143B1	D	PI	D

Notes:
TCE = Trichloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene
PI = Probably Increasing
I = Increasing
S = Stable
PD = Probably Decreasing
D = Decreasing
NT = No Trend
N/A = Not applicable due to insufficient data (< 4 sampling events)
ND = Non-Detect, In circumstances where sample concentrations have not been detected in any sample from the last 10 sampling years the ND designation was used
Mann-Kendall statistical analysis was performed on Site wells using data from 2005 to 2014

Table 19
Buildings 20 and 20A List of Wells
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

RGRP Monitoring Wells Located on the Building 20 Site		
Well	**Sample Frequency**	**Water Level Gauging Frequency**
A Zone		
26A (RGRP)	Annually (September or October)	Semiannually (March, September)
29A (RGRP)	Annually (September or October)	Semiannually (March, September)
99A (RGRP)	Annually (September or October)	Semiannually (March, September)
153A (RGRP)	Annually (September or October)	Semiannually (March, September)
B1 Zone		
91B1 (RGRP)	Annually (September or October)	Semiannually (March, September)
92B1 (RGRP)	Annually (September or October)	Semiannually (March, September)
B2 Zone		
16B2 (RGRP)	Annually (September or October)	Semiannually (March, September)
89B2 (RGRP)	Annually (September or October)	Semiannually (March, September)
132B2 (RGRP)	Annually (September or October)	Semiannually (March, September)
134B2 (RGRP)	Annually (September or October)	Semiannually (March, September)
B3 Zone		
28B3 (RGRP)	Annually (September or October)	Semiannually (March, September)
C/Deep Zone		
11C (RGRP)	Annually (September or October)	Semiannually (March, September)

Extraction Wells Located on the Building 20 Site	
Well	**Operational Status**
A Zone	
RAY-1A (Raytheon)	on
B1 Zone	
RAY1-B1 (Raytheon)	on
REG-4B(1) (RGRP)	on
B3 Zone	
65B3 (RGRP)[1]	off
C/Deep Zone	
DW3-219 (RGRP)[2]	off
DW3-244 (RGRP)[2]	off
DW3-334 (RGRP)[2]	off
DW3-364 (RGRP)[2]	off
DW3-505R (RGRP)[2]	off

Notes:

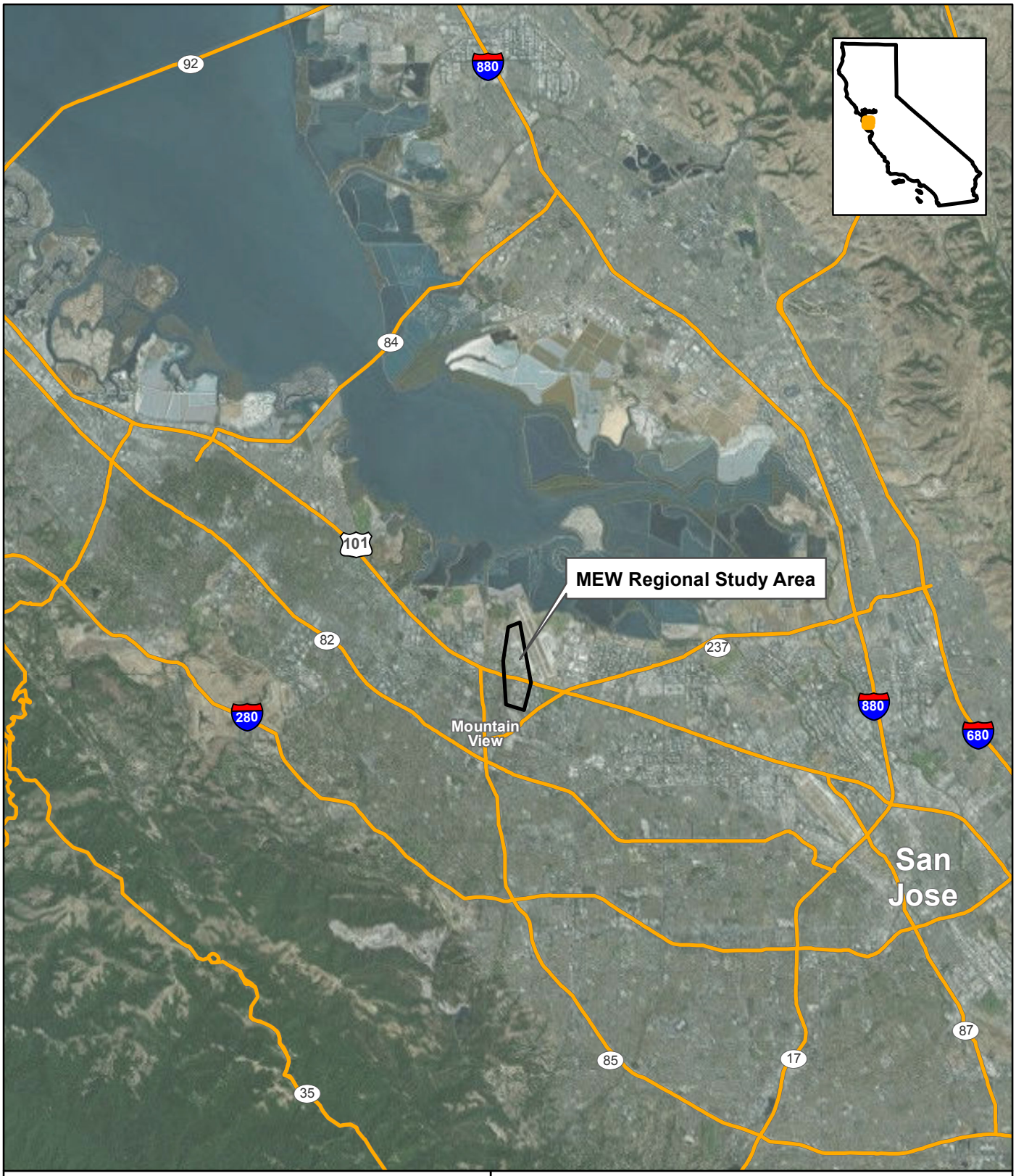
1.Well was turned off in September 2012 with EPA approval (EPA, 2012).

2.Well is offline with EPA approval (EPA, 2006; Weiss, 2009; Geosyntec 2010).
(RGRP) = Regional Groundwater Remediation Program well located in the vicinity of Buildings 20 and 20A. Further discussion of this well is provided in the MEW RGRP 2014 Annual Progress Report (Geosyntec, 2015c)

(Raytheon) = Raytheon extraction well located in the vicinity of Buildings 20 and 20A. Further discussion of this well is provided in the Raytheon 2014 Annual Progress Report (Locus, 2015)

EPA = United States Environmental Protection Agency

FIGURES



N

0 10 Miles

Basemap Sources: USGS, ESRI, TANA, AND, DeLorme, NPS

Site Location Map

MEW Area, Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 1

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig01_SiteLocation.mxd

Evandale Avenue
Highway 101
Murlagan Avenue
Whisman Avenue
National Avenue
Hetch Hetchy Aqueduct
Ellis Street
Middlefield Road
A
B
C
D
E
F
G
H
I
J
K
L
M

Legend

Former Fairchild Facility

- Buildings 1 - 4
- Building 18
- Building 9
- Building 20 and 20A
- Buildings 13, 19, and 23
- === Slurry Wall
- Building
- Road

FAIRCHILD BUILDINGS 1 - 4
A. 313 Fairchild Drive
B. 323 Fairchild Drive
C. 545 North Whisman Road
D. 515 North Whisman Road

FAIRCHILD BUILDING 18
E. 331 Fairchild Drive*

FAIRCHILD BUILDING 9
F. 401 National Avenue

FAIRCHILD BUILDING 20 AND 20A
G. 468 Ellis Street
H. 466 Ellis Street
I. 464 Ellis Street

FAIRCHILD BUILDINGS 13, 19, AND 23
J. 399 North Whisman Road
K. 389 North Whisman Road
L. 369 North Whisman Road
M. 379 North Whisman Road

N

* Former Fairchild Building 18 is now part of 331 Fairchild Drive Parcel

300 150 0 300 Feet

Current Building Configurations
Former Fairchild Facilities
MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

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Figure 2

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig02_FormerFacilities.mxd

Legend

Recovery and Monitoring Wells

- Monitoring Well
- Recovery Well, On
- Recovery Well, Off

- Treatment System Pipeline
- Treatment-System Discharge Pipeline
- Slurry Wall
- Building
- Road

- Former Fairchild Buildings 1-4 Site - 515/545 North Whisman Road and 313/323 Fairchild Drive
- Former Fairchild Building 18 Site - 331 Fairchild Drive
- Former Fairchild Building 9 Site - 401 National Avenue
- Fairchild Groundwater Treatment Systems 1 and 3

N

0 280 Feet

Site Map and Well Network

MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

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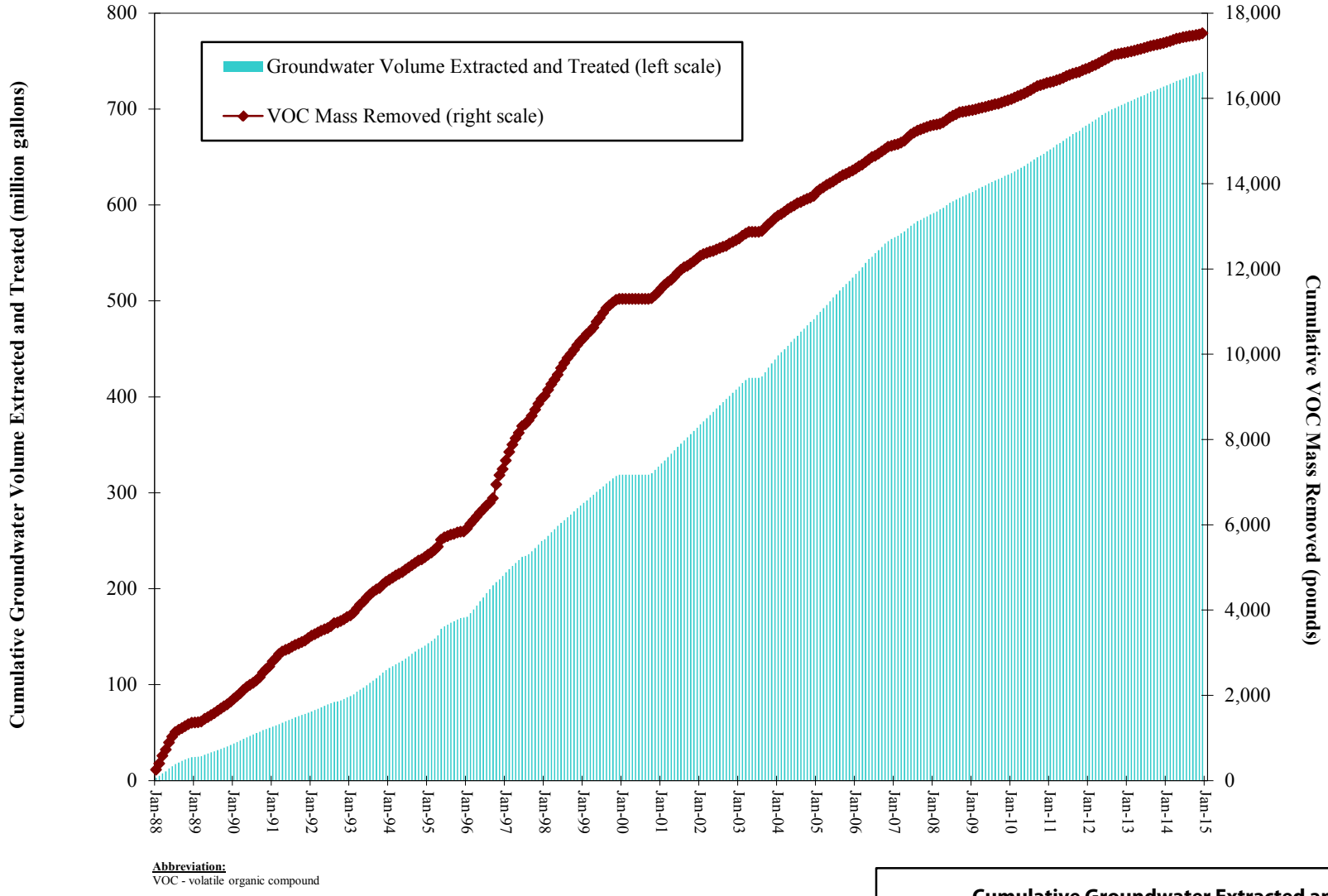
Figure 3

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig03_SiteMap.mxd



Abbreviation:
VOC - volatile organic compound

Source: Fourth Quarter and Annual 2014 Self-Monitoring Report, Treatment System 1 (Weiss, 2015a)

Cumulative Groundwater Extracted and VOC Mass Removed, System 1

MEW Former Fairchild Buildings 1-4, 9, 18 Groundwater Remediation Programs
Mountain View, California

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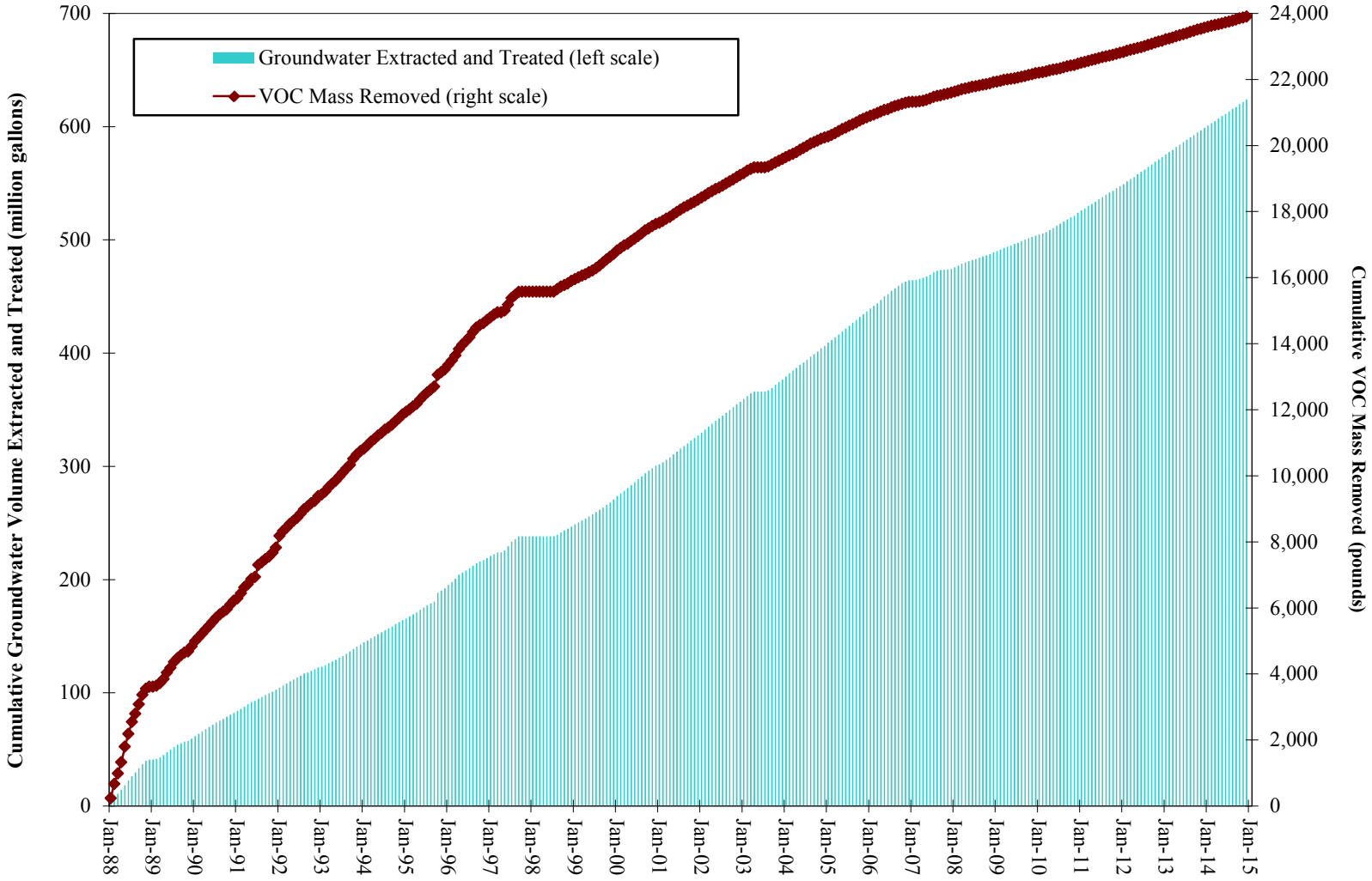
Figure 4

P:\GIS\MEW\AI\Fairchild\2014AR\B1-4\Figure6_System 1.ai



Abbreviation:
VOC - volatile organic compound

Cumulative Groundwater Extracted and VOC Mass Removed, System 3

MEW Former Fairchild Buildings 1-4, 9, 18 Groundwater Remediation Programs
Mountain View, California

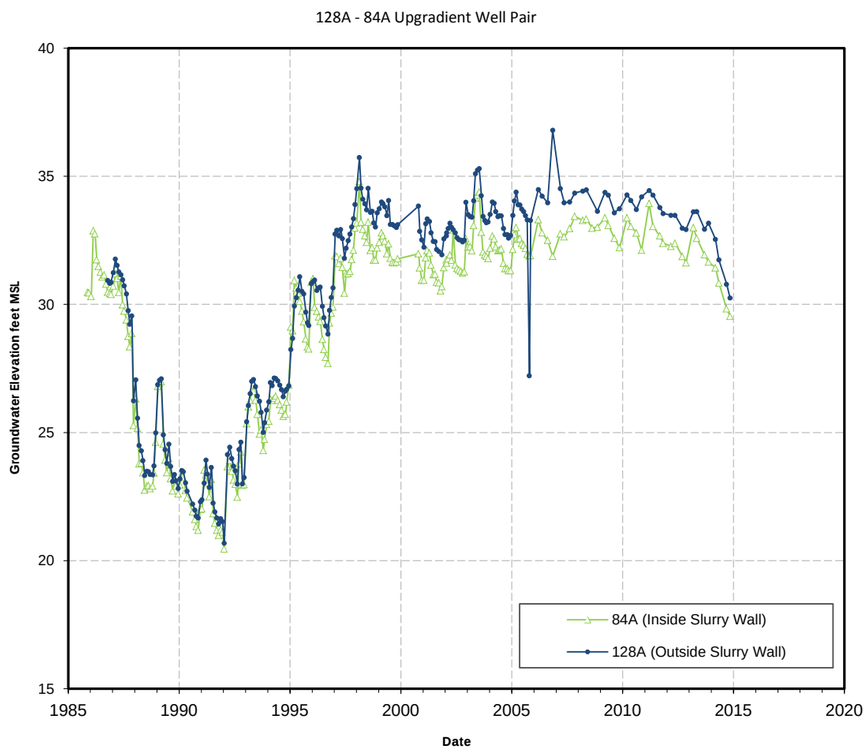
Geosyntec consultants

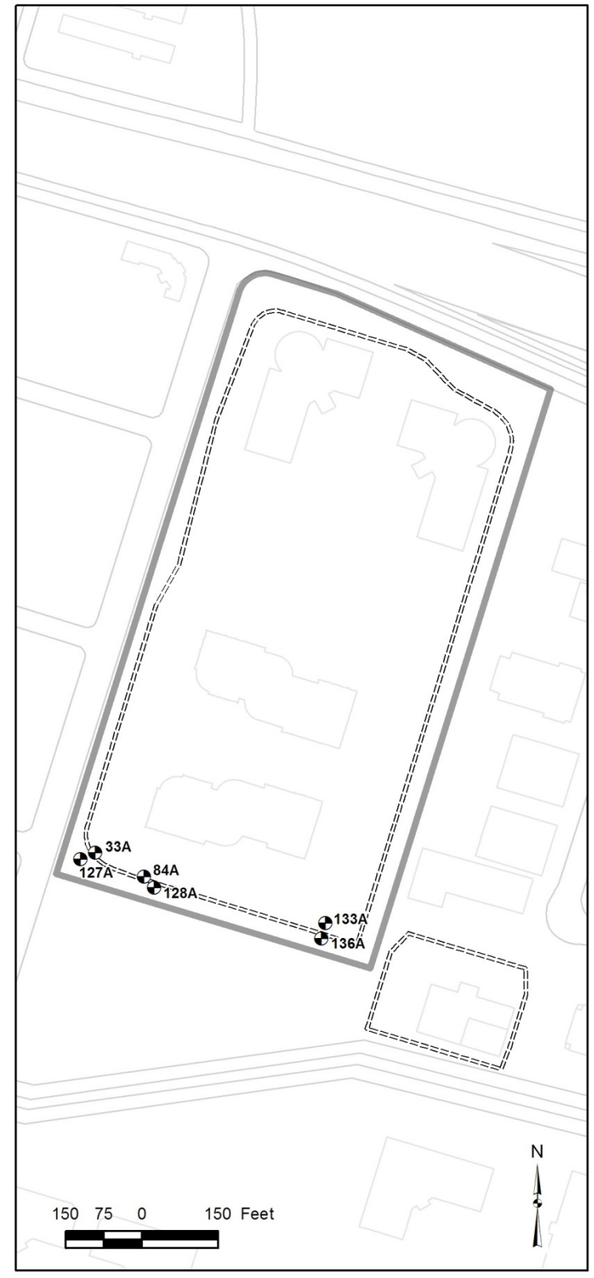
Oakland | April 2015

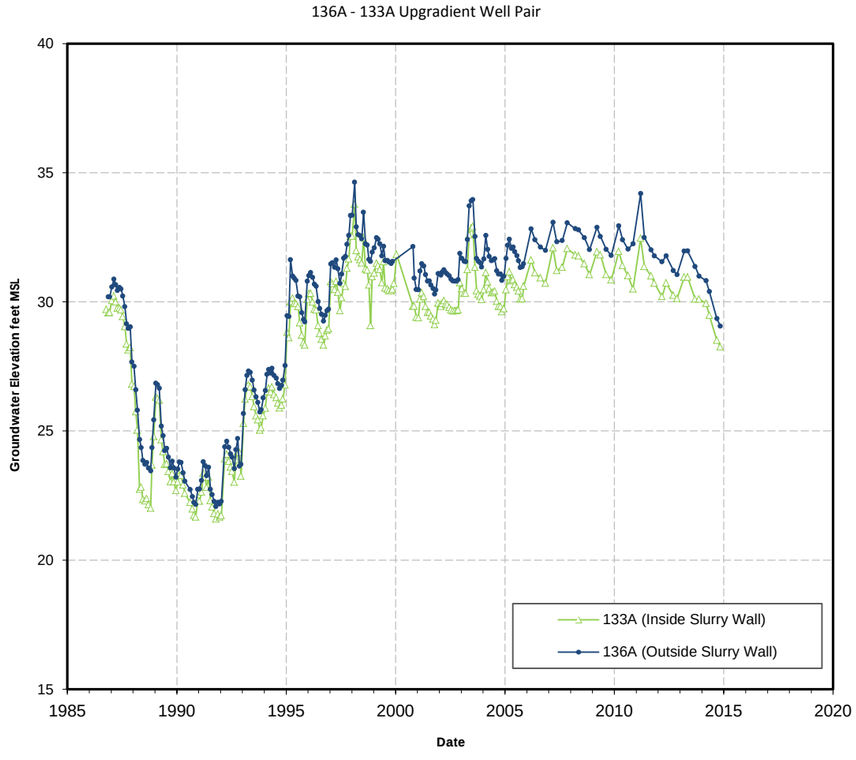
Figure 5

Source: Fourth Quarter and Annual 2014 Self-Monitoring Report, Treatment System 3 (Weiss, 2015b)

P:\GIS\MEW\AI\Fairchild\2014AR\B1-4\Figure5_System 3.ai







Hydrographs

Buildings 1-4 Upgradient A Zone Slurry Wall Well Pairs

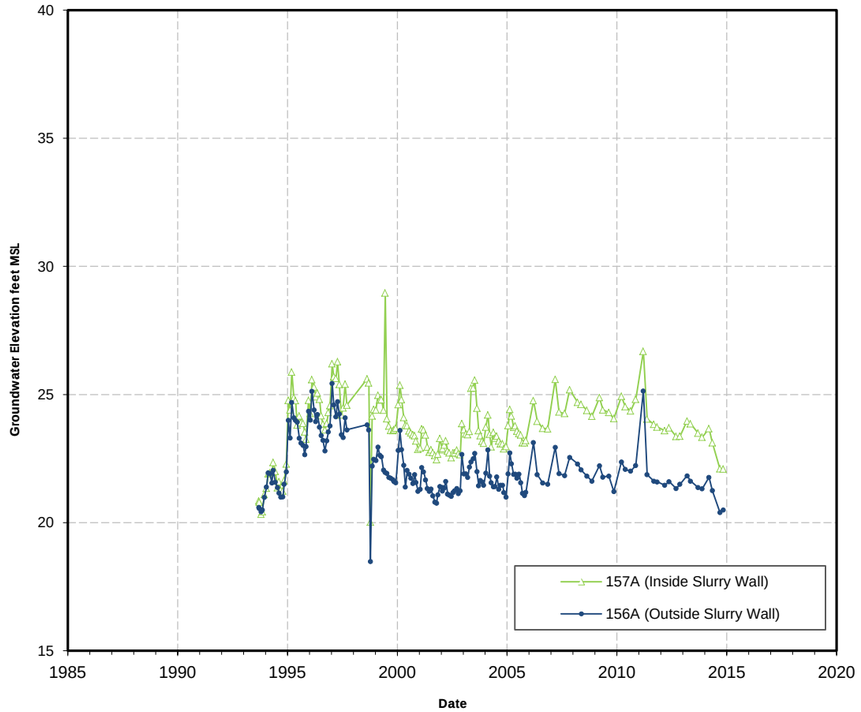
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

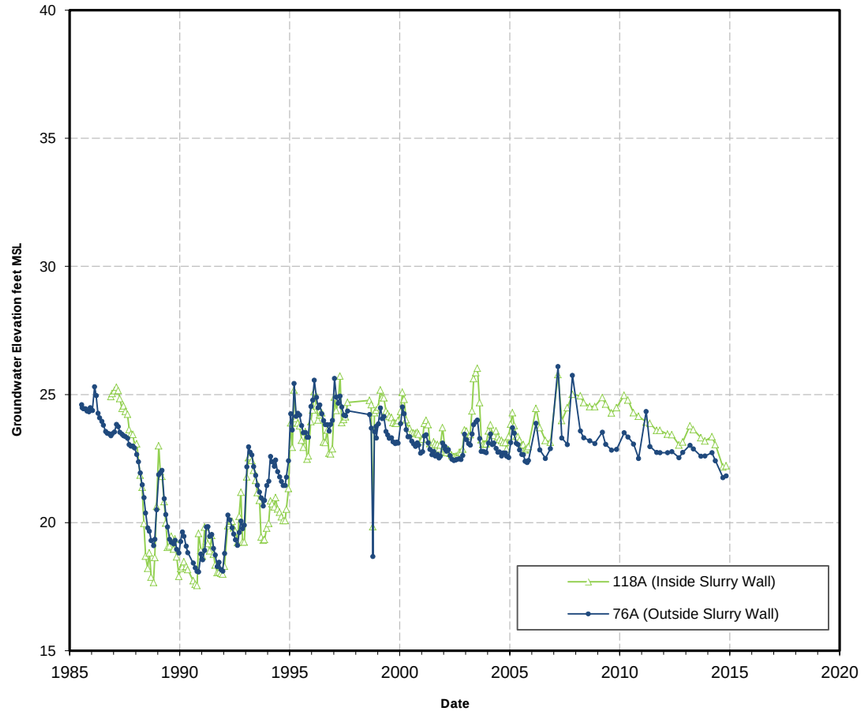
Geosyntec consultants

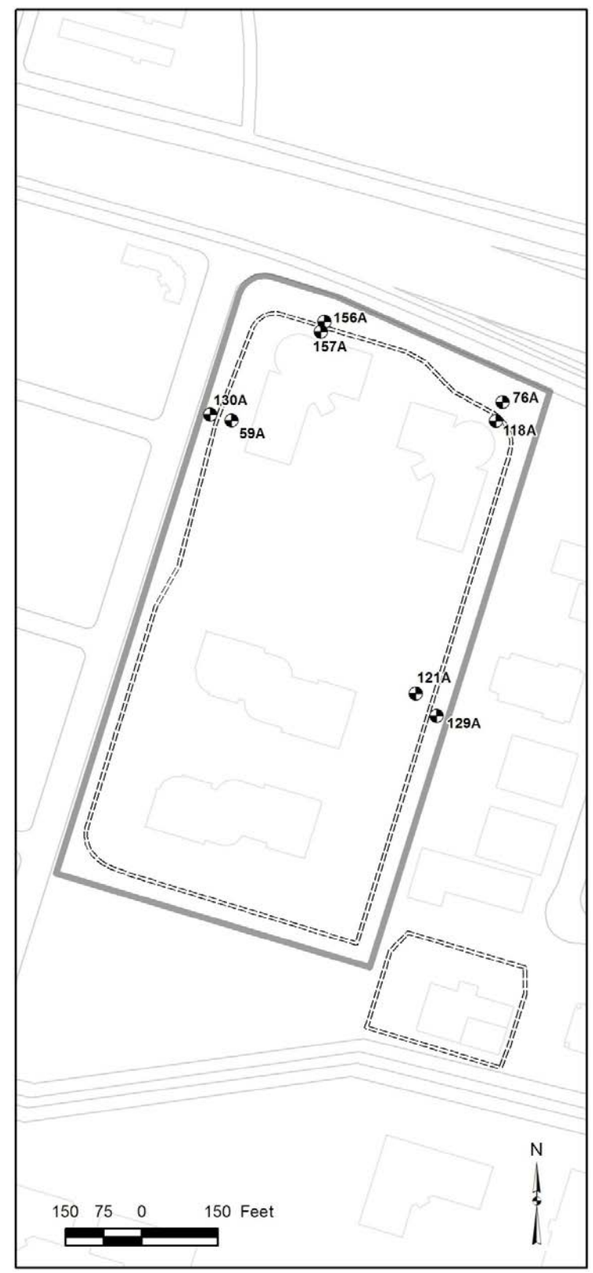
Oakland | April 2015

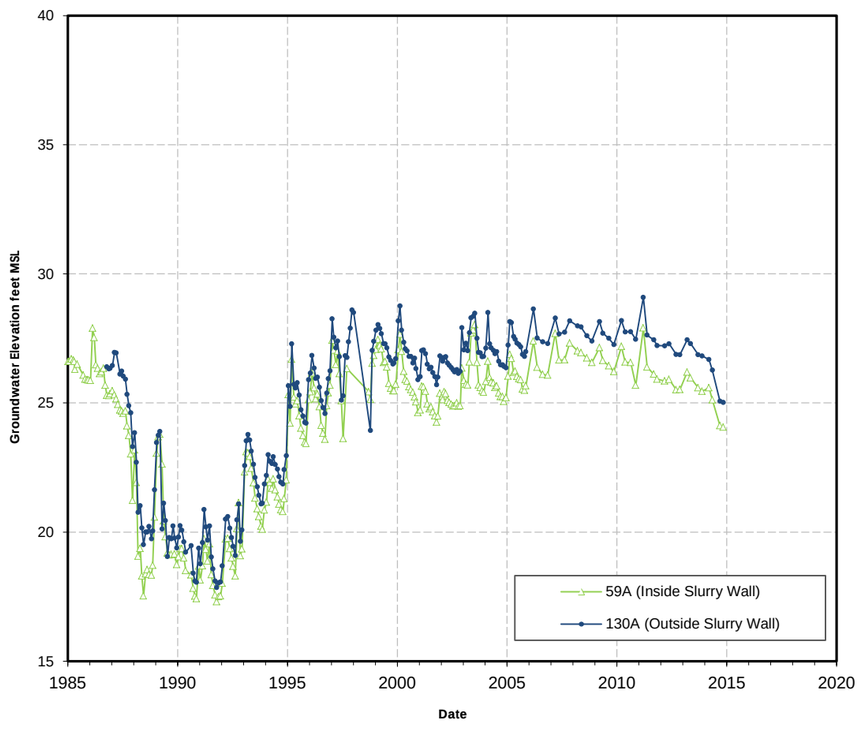
Figure 6

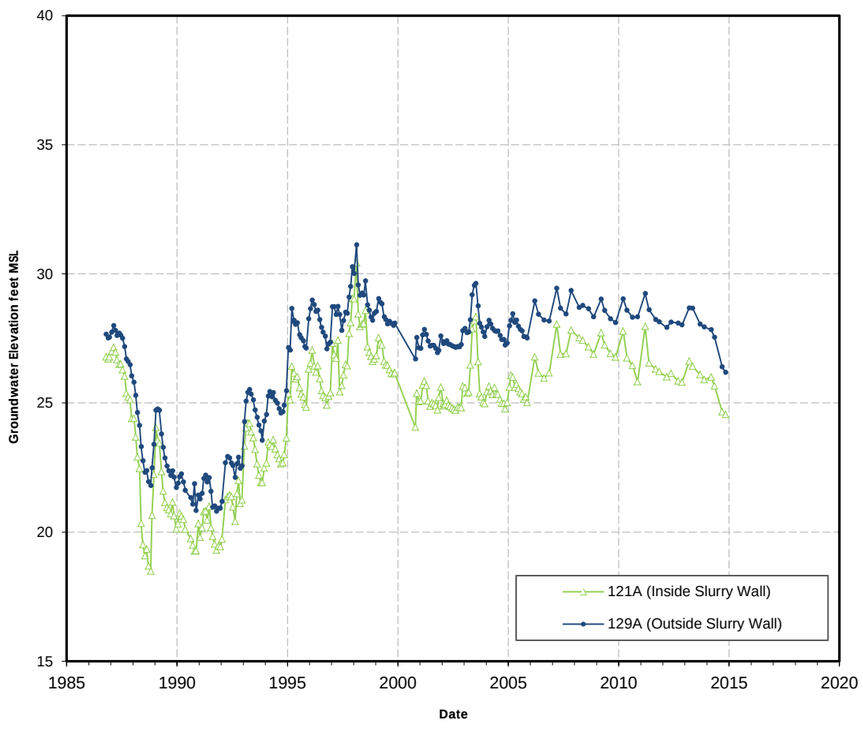
P:\GIS\MEW\Excel\Fairchild\Building1-4\Fig06and08_Hydrographs.xlsx











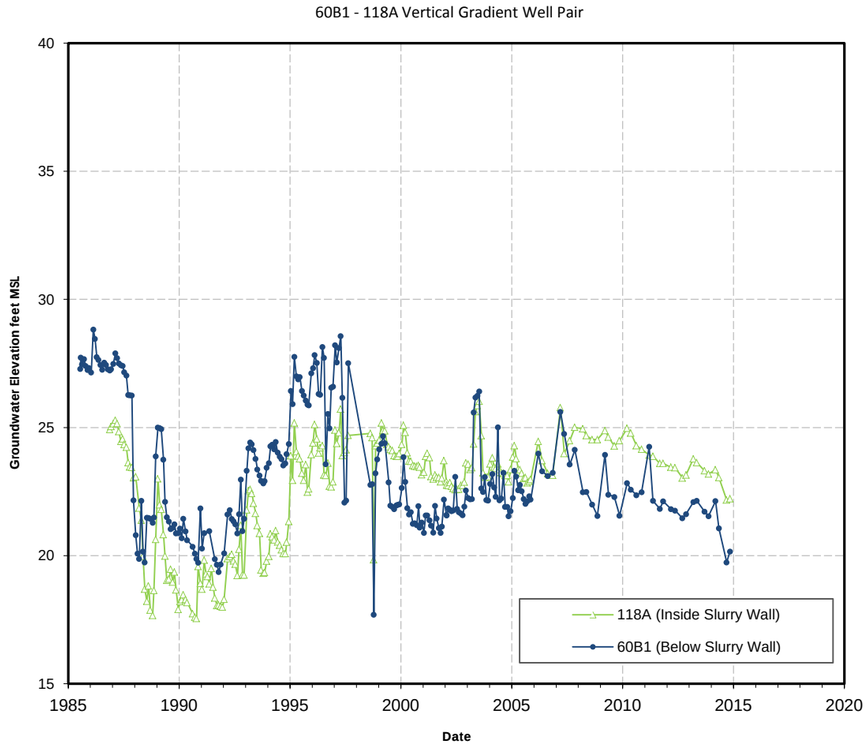
Hydrographs
Buildings 1-4 Crossgradient and Downgradient A Zone Slurry Wall Well Pairs
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

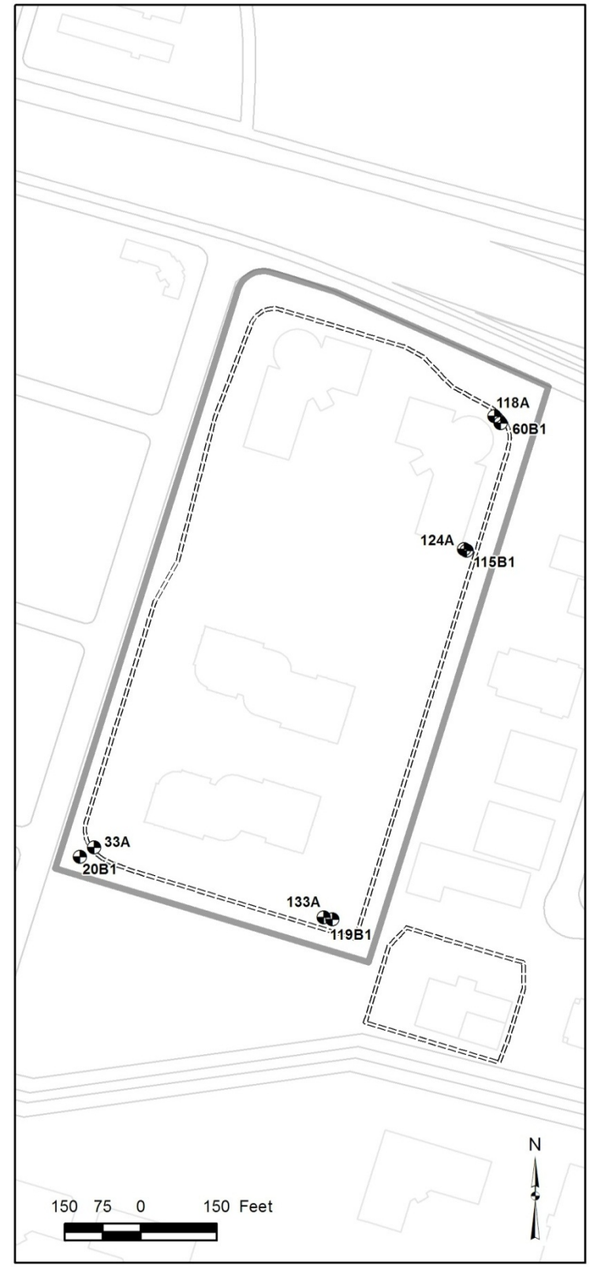
Geosyntec consultants

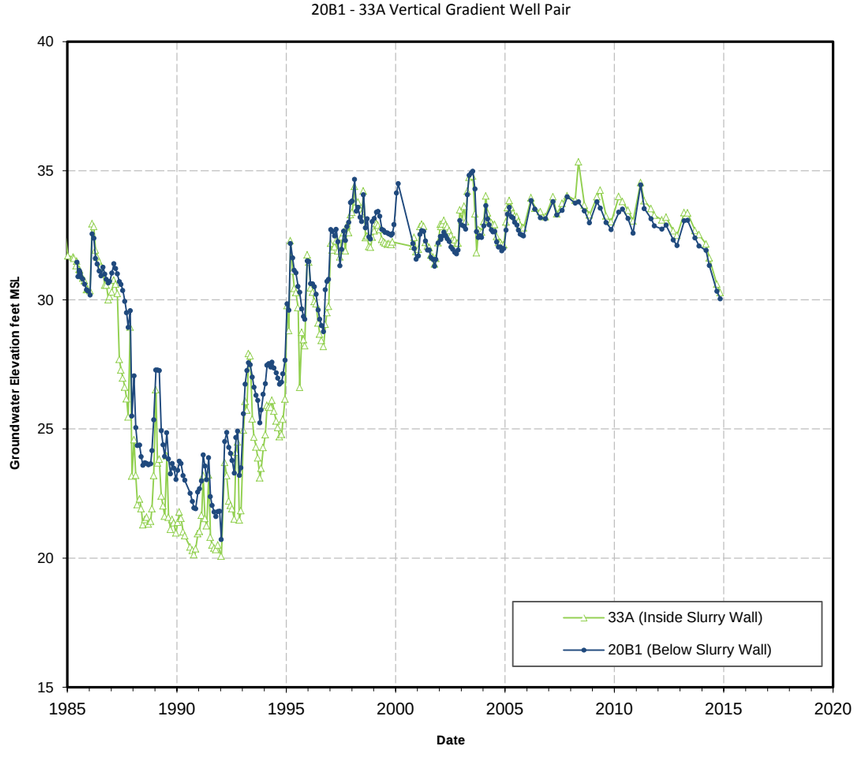
Oakland | April 2015

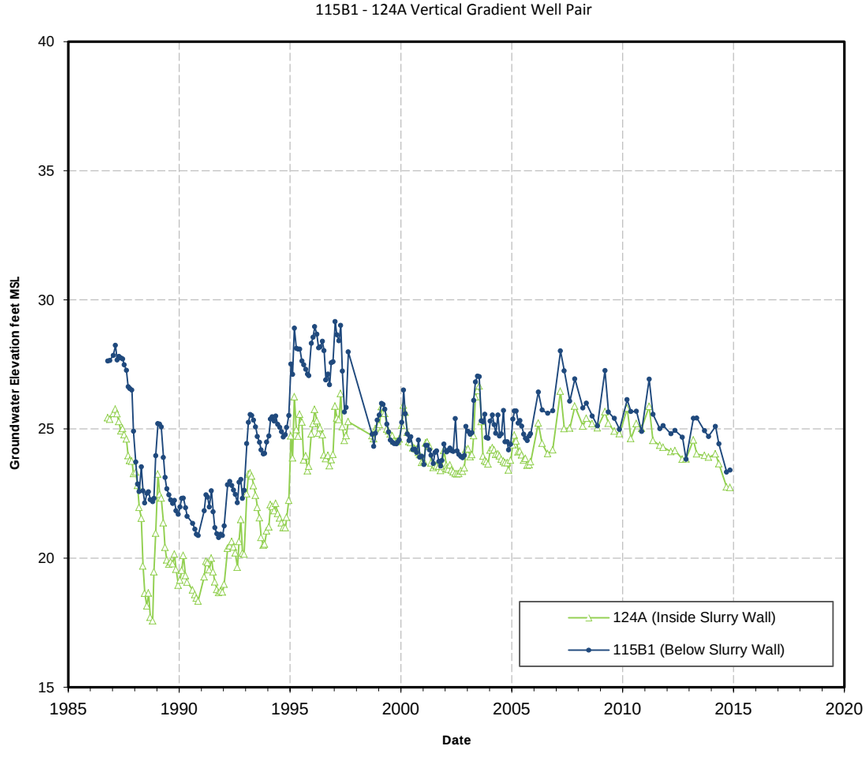
Figure 7

P:\GIS\MEW\Excel\Fairchild\Building1-4\Fig06and08_Hydrographs.xlsx









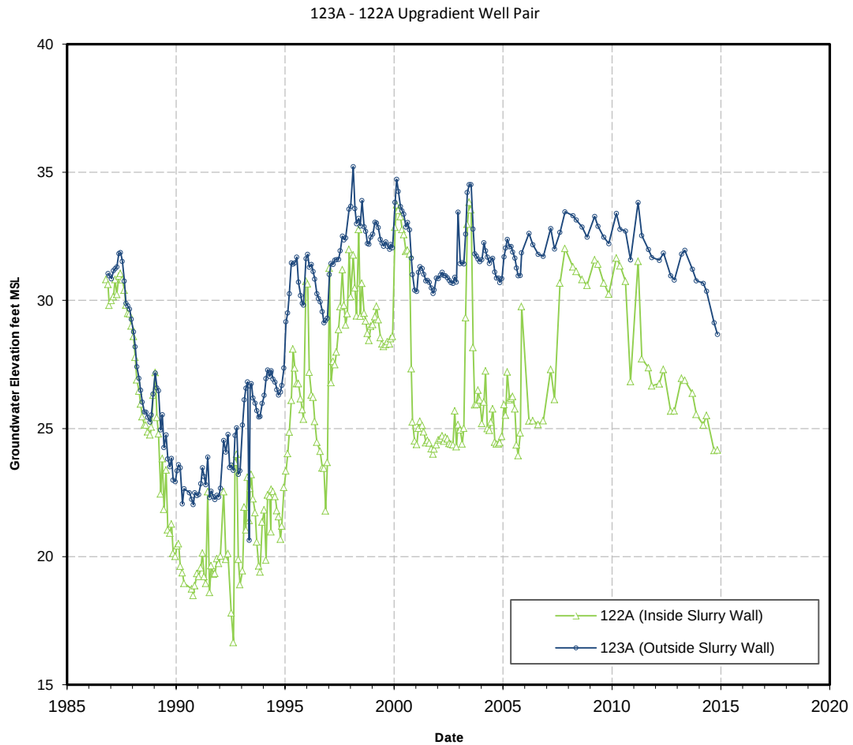
Hydrographs
Buildings 1-4 Slurry Wall Well Pairs Across Water-Bearing Zones
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

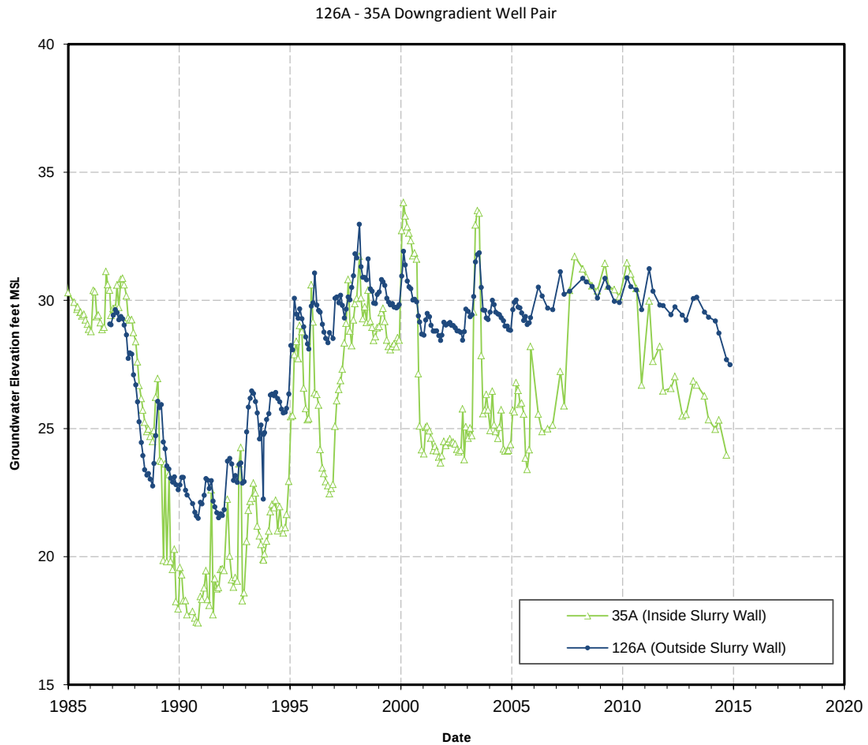
Geosyntec consultants

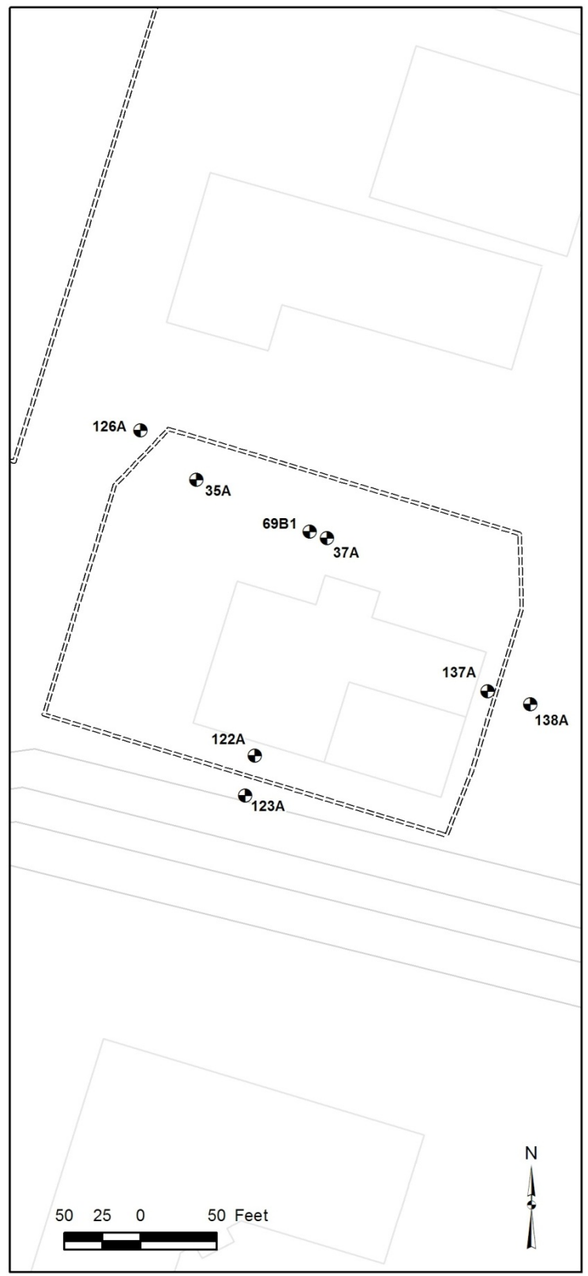
Figure **8**

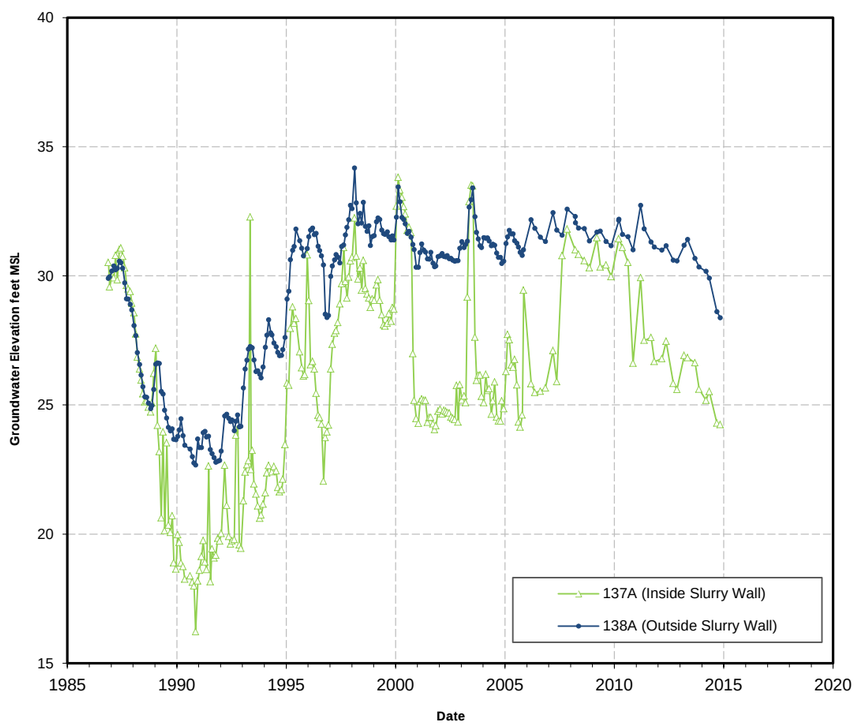
Oakland | April 2015

P:\GIS\MEW\Excel\Fairchild\Building1-4\Fig06and08_Hydrographs.xlsx









Hydrographs
Building 9 Slurry Wall Well Pairs
MEW Former Fairchild Building 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Figure **9**

Oakland | April 2015

P:\GIS\MEW\Excel\Fairchild\2014_AR\Building1-4,9,18\Fig09_Hydrographs.xlsx

Fairchild Drive
HIGHWAY 101
Evandale Drive
Devonshire
Murlagen
Walker Drive
Hetch Hetchy Aqueduct
National Avenue

61A 25.76
156A 21.77
157A 23.67
RW-7A (13.1) 22.49
RW-9A (6.3) 19.66*
62A 23.64
76A 22.73
130A 26.68
59A 25.59
118A 23.35
RW-27A (5.8) 13.49
67A 24.18
RW-5A (3) 24.25
57A 26.23
124A 24.03
RW-4A (5) 25.92
RW-18A (3.9) 24.58
REG-MW-2A 26.60
RW-25A (5.6) 26.19
80A 26.93
58A 26.23
152A 26.97
46A 29.69
51A 26.56
151A 27.46
121A 26.00
RW-28A 26.29
129A 27.84
54A 27.70
68A 28.62
147A 27.95
RW-3A 32.00
127A 32.63
33A 32.16
84A 31.43
128A 32.54
RW-16A 27.58
133A 29.94
136A 30.82
126A 29.20
42A 28.32
44A 29.61
35A 24.97
37A 25.16
41A 29.21
43A 29.73
36A 25.72
39A 29.75
40A 29.92
AE/RW-9-1 (5.2) 24.43
AE/RW-9-2 (7) 23.65
137A 25.18
RW-21A (8.1) 23.06
138A 30.21
122A 25.14
31A 30.04
123A 30.67
RW-20A (7.3) 19.41

Estimated capture zones are only shown for recovery wells associated with the former Fairchild sites. Capture zones for other MEW recovery wells are provided in the Annual RGRP Report (Geosyntec, 2015c).

Legend

- Monitoring Well
- Recovery Well On
- Recovery Well Off
- Groundwater Elevation: 1 ft Contours
- Groundwater Elevation: 5 ft Contours
- Closely Spaced Groundwater Contour
- Estimated Capture Zone
- RW-25A Target Capture Zone
- Slurry Wall
- Building
- Road

RW-18A (3.9) Well ID (Pumping Rate)
24.58 Groundwater Elevation (feet above mean sea level)
* Groundwater Measurement Not Used in Contouring. (Water levels measured inside the casing of an extraction well are not used in contouring)

Note:
Wells not associated with the Former Fairchild Buildings 1-4, 9, or 18 Sites are shown in gray.

N

150 75 0 150 Feet

A Zone Groundwater Contours and Estimated Capture Zones 20 March 2014

MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 10

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig10_GW_A_Mar.mxd | 4/8/2015 4:25:39 PM

Fairchild Drive
HIGHWAY 101
Evandale Drive
Devonshire
Murlagen
Walker Drive
Hetch Hetchy Aqueduct
National Avenue

61A 24.28
156A 20.40
157A 22.10
RW-7A (13.3) 16.62
RW-9A (7.5) 18.33
76A 21.76
62A 22.59
130A 25.07
59A 24.12
118A 22.17
RW-27A (6) 22.04
67A 22.85
RW-5A (3.6) 22.64
57A 24.71
124A 22.75
RW-4A (4.7) 23.57
RW-18A (2.8) 23.38
REG-MW-2A 25.28
RW-25A (5.8) 24.79*
80A 25.53
58A 25.52
152A 25.79
151A 26.03
46A 28.51
51A 25.12
121A 24.66
RW-28A 24.89
129A 26.40
54A 26.26
147A 26.44
68A 27.77
RW-3A 30.45
127A 31.04
33A 30.60
84A 29.83
128A 30.79
RW-16A 26.06
133A 28.51
136A 29.35
126A 27.69
42A 27.73
41A 27.73
44A 27.95
35A 23.97
36A 24.64
37A 24.17
43A 28.10
AE/RW-9-1 (5) 23.42
AE/RW-9-2 (7.4) 22.66
39A 28.06
40A 28.25
RW-21A (6.7) 21.55
138A 28.63
137A 24.30
31A 28.61
123A 29.13
122A 24.14
RW-20A (4.6) 19.62

Estimated capture zones are only shown for recovery wells associated with the former Fairchild sites. Capture zones for other MEW recovery wells are provided in the Annual RGRP Report (Geosyntec, 2015c).

Legend

- Monitoring Well
- Recovery Well On
- Recovery Well Off
- Groundwater Elevation: 1 ft Contours
- Groundwater Elevation: 5 ft Contours
- Closely Spaced Groundwater Contour
- Estimated Capture Zone
- RW-25A Target Capture Zone
- Slurry Wall
- Building
- Road

RW-4A (4.7) Well ID (Pumping Rate)
23.57 Groundwater Elevation (feet above mean sea level)
***** Groundwater Measurement Not Used in Contouring. (Water levels measured inside the casing of an extraction well are not used in contouring.)

Note:
Wells not associated with the Former Fairchild Buildings 1-4, 9, or 18 Sites are shown in gray.

N

150 75 0 150 Feet

A Zone Groundwater Contours and Estimated Capture Zones 18 September 2014

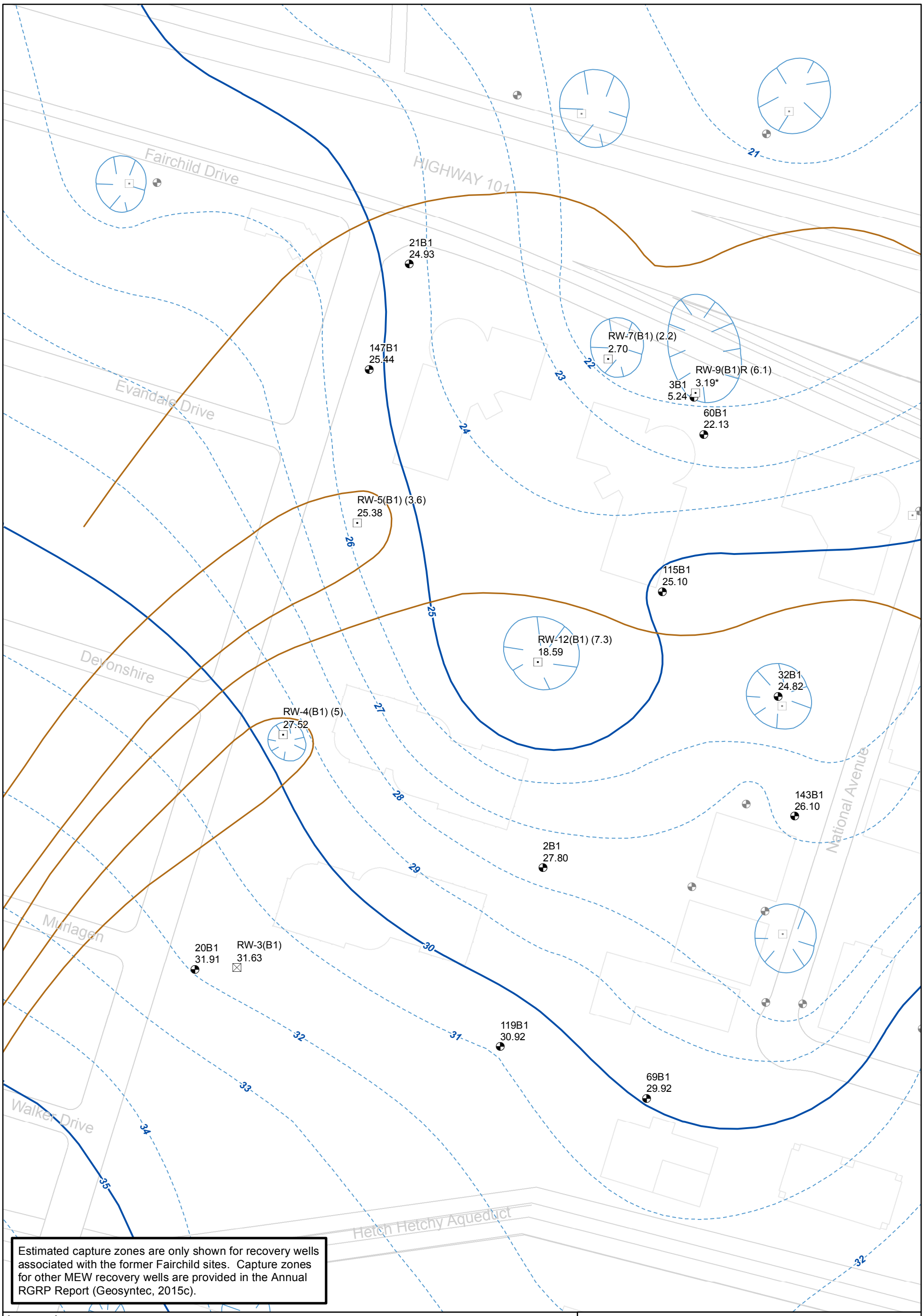
MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

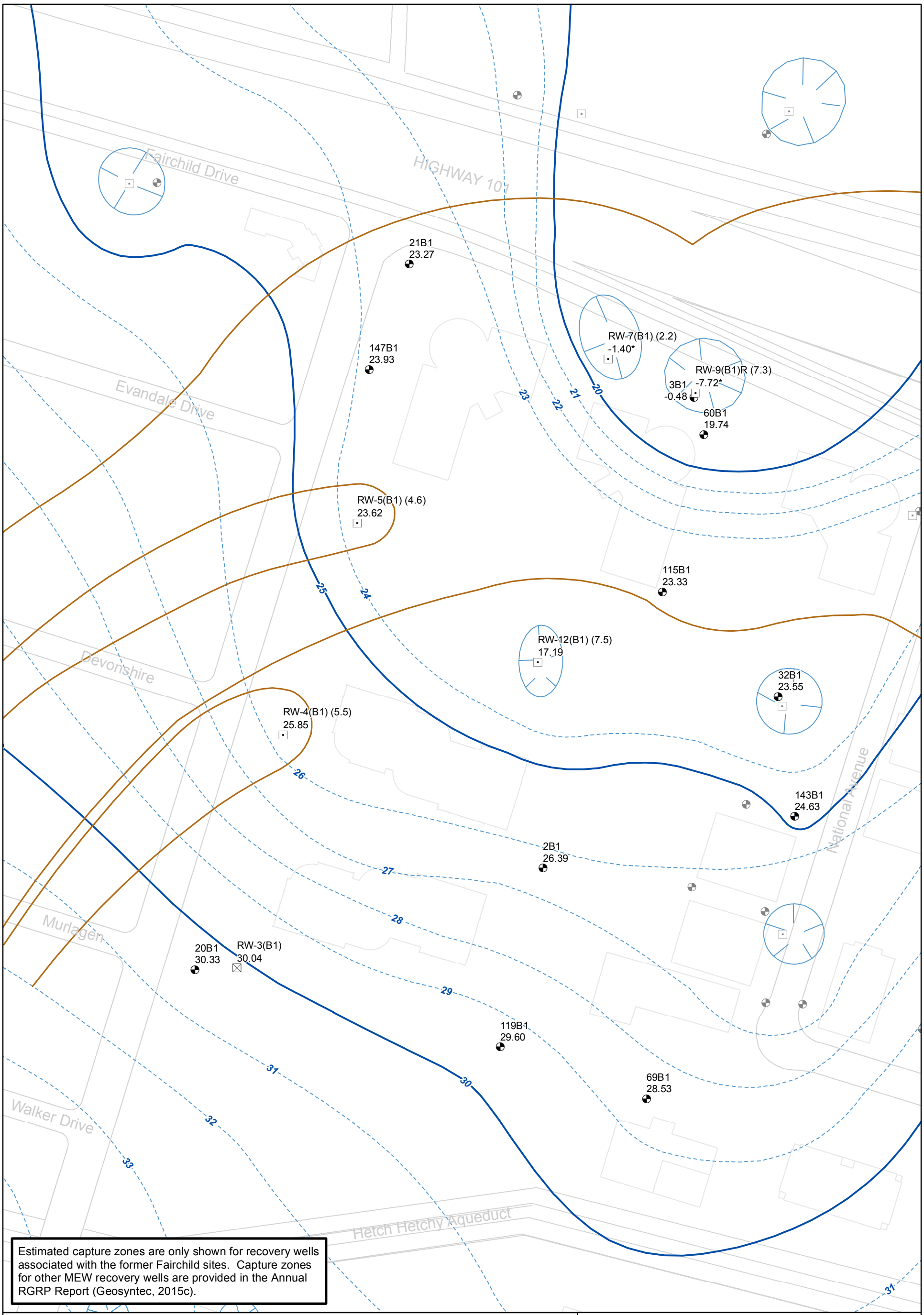
Geosyntec consultants

Oakland | April 2015

Figure 11

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig11_GW_A_Sept.mxd | 4/8/2015 4:26:36 PM


Fairchild Drive
HIGHWAY 101
Evandale Drive
Devonshire
Murlagen
Walker Drive
National Avenue
Hetch Hetchy Aqueduct
21B1
24.93
147B1
25.44
RW-7(B1) (2.2)
2.70
RW-9(B1)R (6.1)
3.19*
3B1
5.24
60B1
22.13
RW-5(B1) (3.6)
25.38
115B1
25.10
RW-12(B1) (7.3)
18.59
32B1
24.82
RW-4(B1) (5)
27.52
143B1
26.10
2B1
27.80
20B1
31.91
RW-3(B1)
31.63
119B1
30.92
69B1
29.92
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
Estimated capture zones are only shown for recovery wells associated with the former Fairchild sites. Capture zones for other MEW recovery wells are provided in the Annual RGRP Report (Geosyntec, 2015c).
Legend
Monitoring Well
Recovery Well On
Recovery Well Off
Groundwater Elevation: 1 ft Contours
Groundwater Elevation: 5 ft Contours
Closely Spaced Groundwater Contour
Estimated Capture Zone
Slurry Wall
Building
Road
RW-4(B1) (5)
27.52
Well ID (Pumping Rate)
Groundwater Elevation (feet above mean sea level)
*
Groundwater Measurement Not Used in Contouring.
(Water levels measured inside the casing of an extraction well are not used in contouring.)
Note:
Wells not associated with the Former Fairchild Buildings 1-4, 9, or 18 Sites are shown in gray.
N
150 75 0 150 Feet
B1 Zone Groundwater Contours and Estimated Capture Zones
20 March 2014
MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California
Geosyntec consultants
Oakland
April 2015
Figure
12
P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig12_GW_B1_Mar.mxd | 4/8/2015 4:27:30 PM



B1 Zone Groundwater Contours and Estimated Capture Zones 18 September 2014

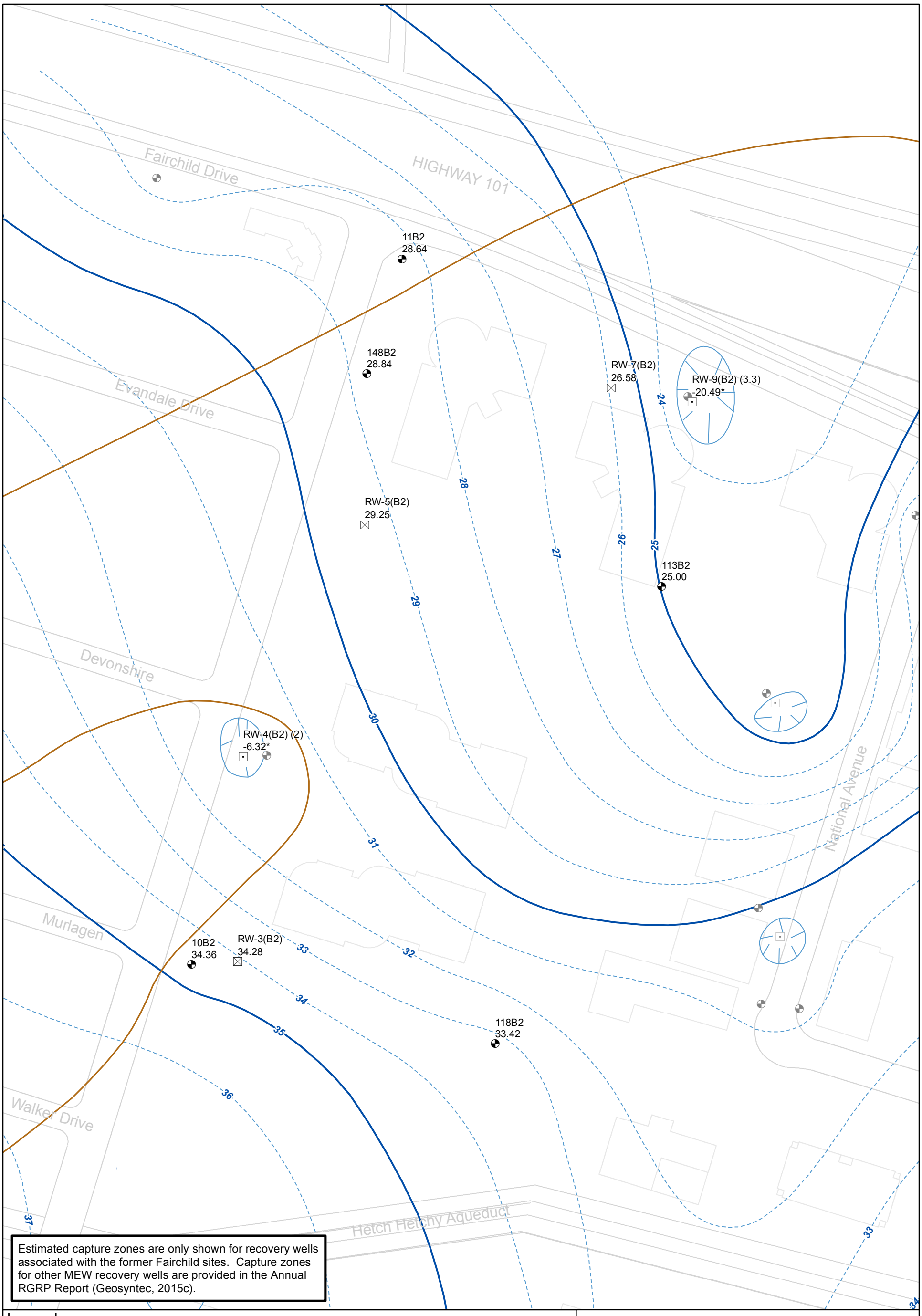
MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 13

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig13_GW_B1_Sept.mxd | 4/8/2015 4:28:24 PM



B2 Zone Groundwater Contours and Estimated Capture Zones 20 March 2014

MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

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Figure 14

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig14_GW_B2_Mar.mxd | 4/8/2015 4:29:19 PM

Fairchild Drive
HIGHWAY 101
Evandale Drive
Devonshire
Murlagen
Walker Drive
Hetch Hetchy Aqueduct
National Avenue

11B2
26.93

148B2
27.02

RW-7(B2)
24.58

RW-9(B2) (3.8)
-33.44*

RW-5(B2)
27.53

113B2
23.28

RW-4(B2) (2.2)
5.47*

10B2
32.56

RW-3(B2)
32.51

118B2
31.71

23
27
26
25
24
28
29
30
31
32
33
34
35

Estimated capture zones are only shown for recovery wells associated with the former Fairchild sites. Capture zones for other MEW recovery wells are provided in the Annual RGRP Report (Geosyntec, 2015c).

Legend

- Monitoring Well
- Recovery Well On
- Recovery Well Off
- Groundwater Elevation: 1 ft Contours
- Groundwater Elevation: 5 ft Contours
- Closely Spaced Groundwater Contour
- Estimated Capture Zone
- Slurry Wall
- Building
- Road

RW-9(B2) (3.8) Well ID (Pumping Rate)
-33.44* Groundwater Elevation (feet above mean sea level)
* Groundwater Measurement Not Used in Contouring. (Water levels measured inside the casing of an extraction well are not used in contouring.)

Note:
Wells not associated with the Former Fairchild Buildings 1-4, 9, or 18 Sites are shown in gray.

N

150 75 0 150 Feet

B2 Zone Groundwater Contours and Estimated Capture Zones 18 September 2014

MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 15

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig15_GW_B2_Sept.mxd | 4/8/2015 4:30:15 PM

Fairchild Drive
HIGHWAY 101
Evandale Drive
Devonshire
Murlagen
Walker Drive
National Avenue
ch Hetchy Aqueduct

61A
5.3
156A
<50
157A
1400
RW-7A
660
RW-9A
380
76A
110
62A
<50/<25
130A
140
118A
860
RW-27A
860
RW-5A
1400
RW-4A
77
RW-18A
590
REG-MW-2A
1200
RW-25A
640
80A
240
152A
320
46A
12
54A
280
RW-28A
240
147A
130/130
RW-3A
49
127A
53
RW-16A
250/250
42A
400/390
41A
360
44A
240
43A
37A
44
AE/RW-9-2
310
AE/RW-9-1
590
6400
40A
730
RW-21A
290
138A
360
137A
2300
RW-20A
600
123A
590

Data for the 2014 Hydropunch Grab Sample Locations were provided in the Addendum to the Final ISCO Work Plan (Geosyntec, 2015a) for Building 9.
Estimated capture zones are only shown for recovery wells associated with the former Fairchild sites. Capture zones for other MEW recovery wells are provided in the Annual RGRP Report (Geosyntec, 2015c).
A number of wells within Buildings 1-4 & Building 9 Slurry Wall are sampled every 5 years and were last sampled in 2012. Concentration contours within the slurry wall take into consideration the most recent groundwater concentration for these walls.

Legend

- Monitoring Well
- Recovery Well On
- Recovery Well Off
- 2014 Hydropunch Boring

TCE Concentration

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

- Estimated Capture zone
- ==== Slurry Wall
- Building
- Road

N

150 75 0 150 Feet

Notes:
TCE = Trichloroethene
ug/L = micrograms per liter
Figure shows only those wells sampled and analyzed for TCE in 2014.
Wells not associated with the Former Fairchild Buildings 1-4, 9, or 18 Sites are shown in gray.

A Zone TCE Concentrations and Estimated Capture Zones September/October 2014

MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 16

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig16_TCE_A_Sept_CZ.mxd | 4/8/2015 4:31:08 PM

Fairchild Drive
HIGHWAY 101
Evandale Drive
Devonshire
Murlagen
Walker Drive
National Avenue
Hetchy Aqueduct

61A
<0.50
156A
1400
157A
2500
RW-7A
730
130A
13
RW-9A
170
76A
17
62A
4900/4500
118A
420
RW-27A
830
RW-5A
1000
RW-4A
56
RW-18A
950
REG-MW-2A
1100
RW-25A
290
152A
190
80A
210
46A
<0.50
RW-28A
540
54A
110
147A
11/11
RW-3A
4.3
127A
4.0
RW-16A
280/280
42A
57/81
44A
24
41A
59
43A
28
37A
280
AE/RW-9-1
730
AE/RW-9-2
7100
40A
190
RW-21A
280
138A
1700
137A
5500
123A
360
RW-20A
680

Data for the 2014 Hydropunch Grab Sample Locations were provided in the Addendum to the Final ISCO Work Plan (Geosyntec, 2015a) for Building 9.
Estimated capture zones are only shown for recovery wells associated with the former Fairchild sites. Capture zones for other MEW recovery wells are provided in the Annual RGRP Report (Geosyntec, 2015c).
A number of wells within Buildings 1-4 & Building 9 Slurry Wall are sampled every 5 years and were last sampled in 2012. Concentration contours within the slurry wall take into consideration the most recent groundwater concentration for these walls.

Legend

- Monitoring Well
- Recovery Well On
- Recovery Well Off
- 2014 Hydropunch Boring

cDCE Concentration

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

- Estimated Capture zone
- ==== Slurry Wall
- Building
- Road

N

150 75 0 150 Feet

Notes:
cDCE = cis-1,2-Dichloroethene
ug/L = micrograms per liter
Figure shows only those wells sampled and analyzed for cDCE in 2014.
Wells not associated with the Former Fairchild Buildings 1-4, 9, or 18 Sites are shown in gray.

A Zone cDCE Concentrations and Estimated Capture Zones September/October 2014

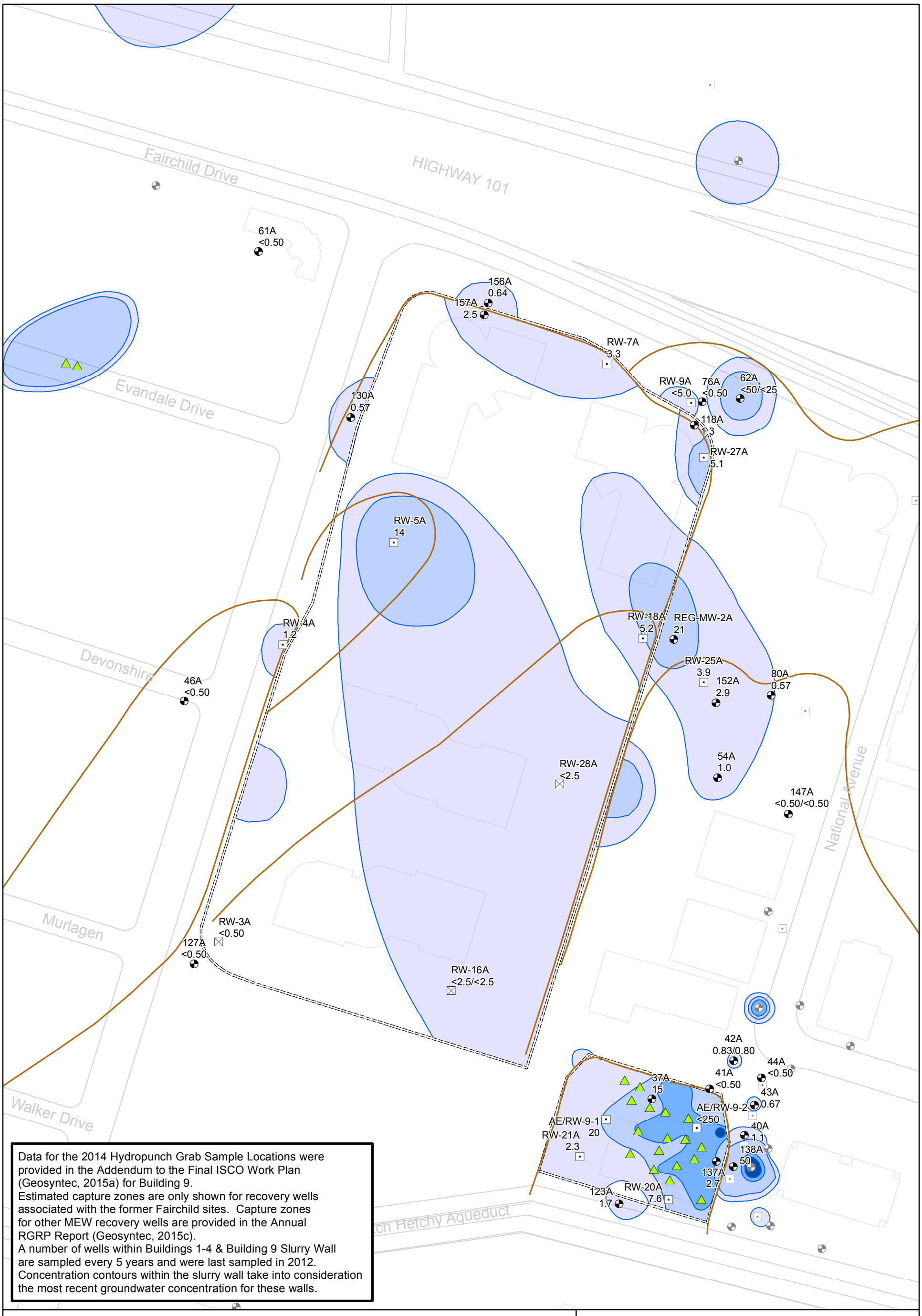
MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 17

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig17_DCE_A_Sept_CZ.mxd | 4/8/2015 4:31:58 PM



Data for the 2014 Hydropunch Grab Sample Locations were provided in the Addendum to the Final ISCO Work Plan (Geosyntec, 2015a) for Building 9.
Estimated capture zones are only shown for recovery wells associated with the former Fairchild sites. Capture zones for other MEW recovery wells are provided in the Annual RGRP Report (Geosyntec, 2015c).
A number of wells within Buildings 1-4 & Building 9 Slurry Wall are sampled every 5 years and were last sampled in 2012.
Concentration contours within the slurry wall take into consideration the most recent groundwater concentration for these walls.

Legend

- Monitoring Well
- Recovery Well On
- Recovery Well Off
- 2014 Hydropunch Boring

VC Concentration

- 0.5 - 5 ug/L
- 5 - 100 ug/L
- 100 - 1,000 ug/L
- 1,000 - 10,000 ug/L
- Greater than 10,000 ug/L

- Estimated Capture zone
- ==== Slurry Wall
- Building
- Road

N

150 75 0 150 Feet

Notes:
VC = Vinyl Chloride
ug/L = micrograms per liter
Figure shows only those wells sampled and analyzed for VC in 2014.
Wells not associated with the Former Fairchild Buildings 1-4, 9, or 18 Sites are shown in gray.

A Zone VC Concentrations and Estimated Capture Zones September/October 2014

MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 18

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig18_VC_A_Sept_CZ.mxd | 4/8/2015 4:32:48 PM

Fairchild Drive
HIGHWAY 101
Evandale Drive
Devonshire
Murlagen
Walker Drive
National Avenue
ch Hetchy Aqueduct

61A
<0.50

156A
0.60
157A
12

RW-7A
8.0

RW-9A
<5.0
76A
0.78
62A
<50/<25

130A
21

118A
10

RW-27A
4.6

RW-5A
76

RW-4A
8.8

RW-18A
0.97
REG-MW-2A
<13

RW-25A
0.97
152A
0.85
80A
1.3

46A
<0.50

RW-28A
<2.5

54A
0.56

147A
0.73/0.71

RW-3A
<0.50
127A
<0.50

RW-16A
<2.5/<2.5

42A
1.9/2.0
44A
1.4
41A
<0.50
43A
1.0
37A
<0.50
AE/RW-9-2
5.5
AE/RW-9-1
RW-21A
1.7
2.0
40A
0.91
138A
<0.50
137A
1.2
123A
1.8
RW-20A
1.7

Data for the 2014 Hydropunch Grab Sample Locations were provided in the Addendum to the Final ISCO Work Plan (Geosyntec, 2015a) for Building 9.
Estimated capture zones are only shown for recovery wells associated with the former Fairchild sites. Capture zones for other MEW recovery wells are provided in the Annual RGRP Report (Geosyntec, 2015c).
A number of wells within Buildings 1-4 & Building 9 Slurry Wall are sampled every 5 years and were last sampled in 2012.
Concentration contours within the slurry wall take into consideration the most recent groundwater concentration for these walls.

Legend

- Monitoring Well
- Recovery Well On
- Recovery Well Off
- 2014 Hydropunch Boring

PCE Concentration

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

- Estimated Capture zone
- ==== Slurry Wall
- Building
- Road

N

150 75 0 150 Feet

Notes:
PCE = Tetrachloroethene
ug/L = micrograms per liter
Figure shows only those wells sampled and analyzed for PCE in 2014.
Wells not associated with the Former Fairchild Buildings 1-4, 9, or 18 Sites are shown in gray.

A Zone PCE Concentrations and Estimated Capture Zones September/October 2014

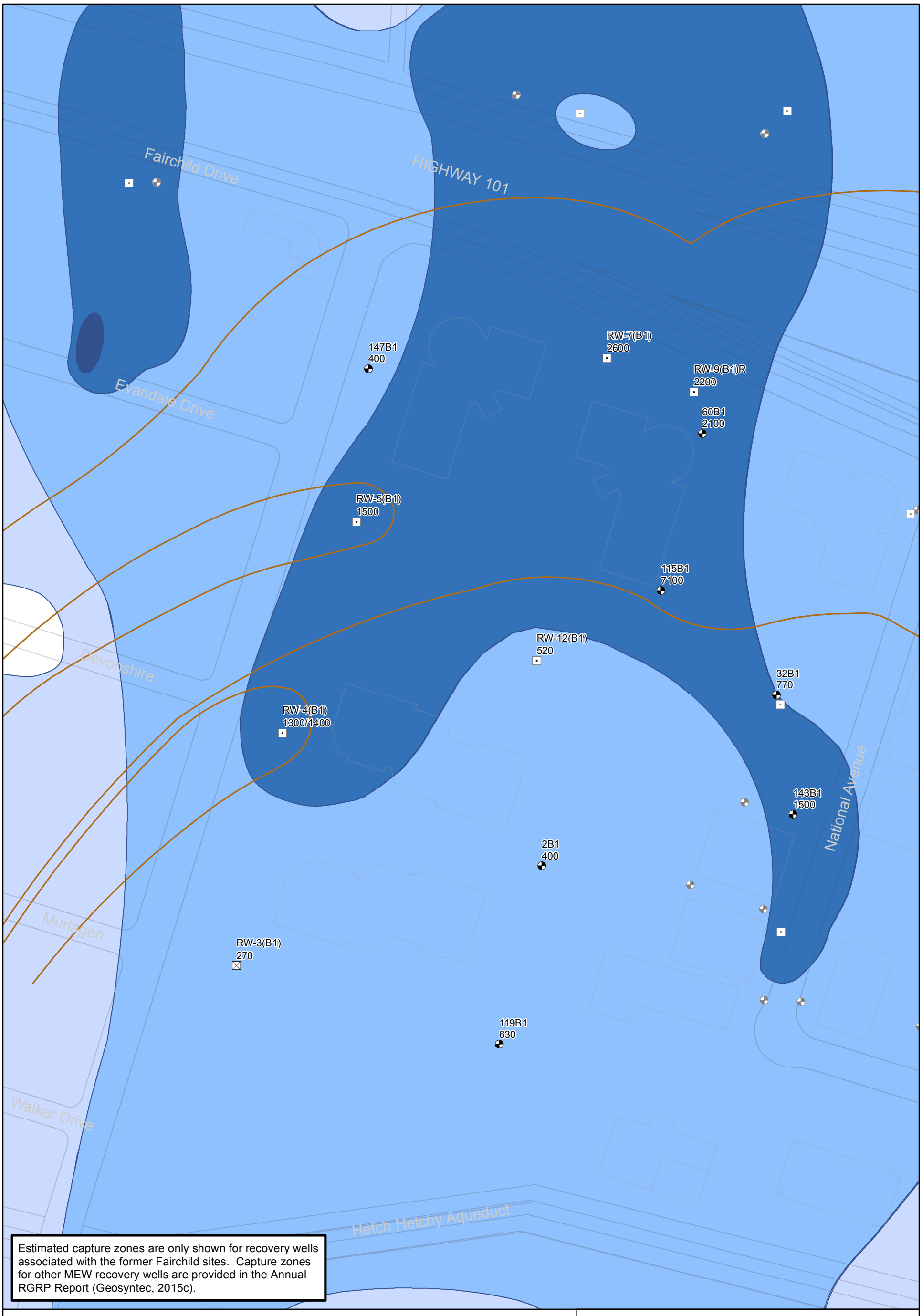
MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 19

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig19_PCE_A_Sept_CZ.mxd | 4/8/2015 4:33:37 PM



Notes:
TCE = Trichloroethene
ug/L = micrograms per liter
Figure shows only those wells sampled and analyzed for TCE in 2014.
Wells not associated with the Former Fairchild Buildings 1-4, 9, or 18 Sites are shown in gray.

B1 Zone TCE Concentrations and Estimated Capture Zones September/October 2014

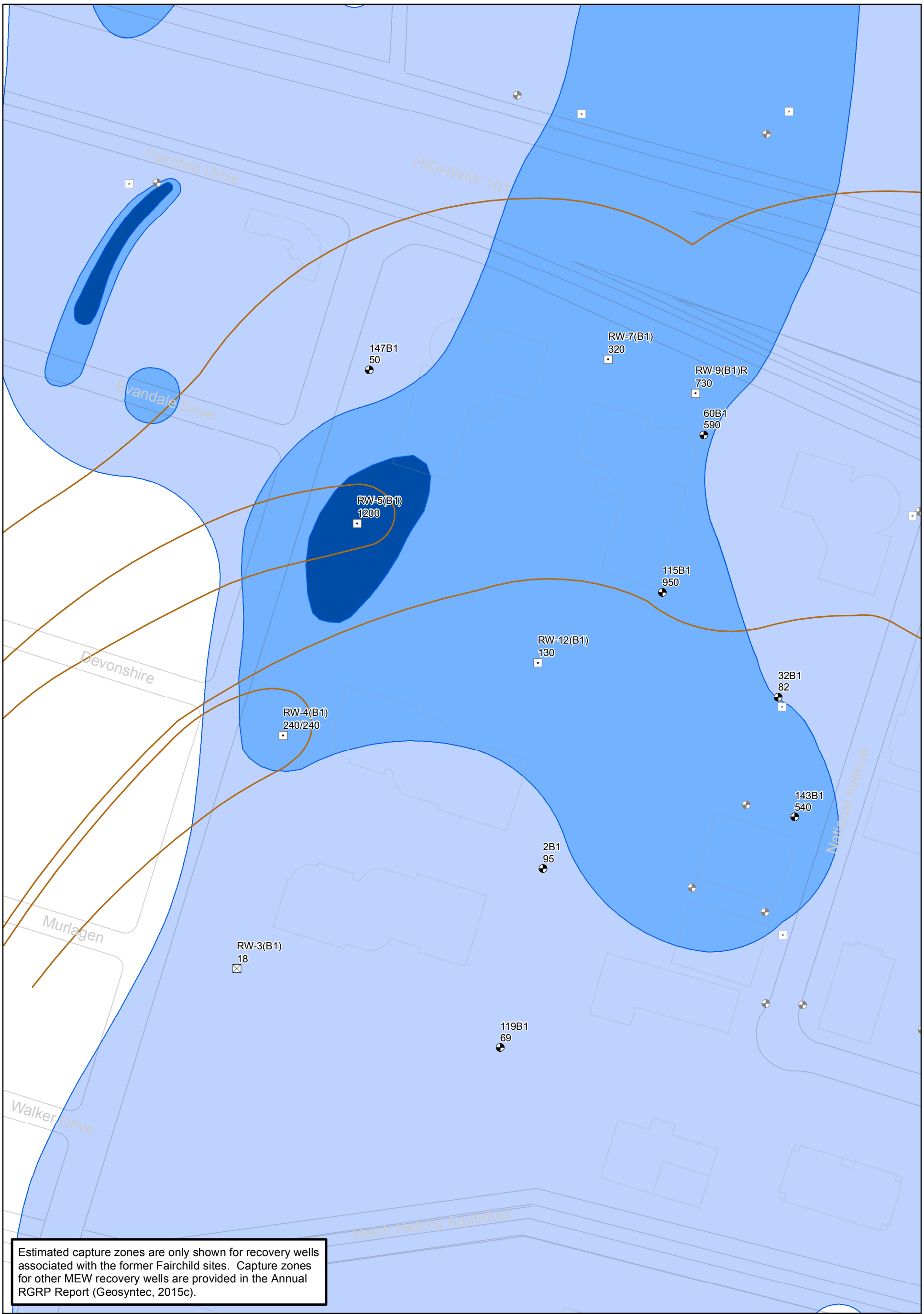
MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 20

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig20_TCE_B1_Sept_CZ.mxd | 4/8/2015 4:34:29 PM



Notes:
cDCE = cis-1,2-Dichloroethene
ug/L = micrograms per liter
Figure shows only those wells sampled and analyzed for cDCE in 2014.
Wells not associated with the Former Fairchild Buildings 1-4, 9, or 18 Sites are shown in gray.

B1 Zone cDCE Concentrations and Estimated Capture Zones September/October 2014

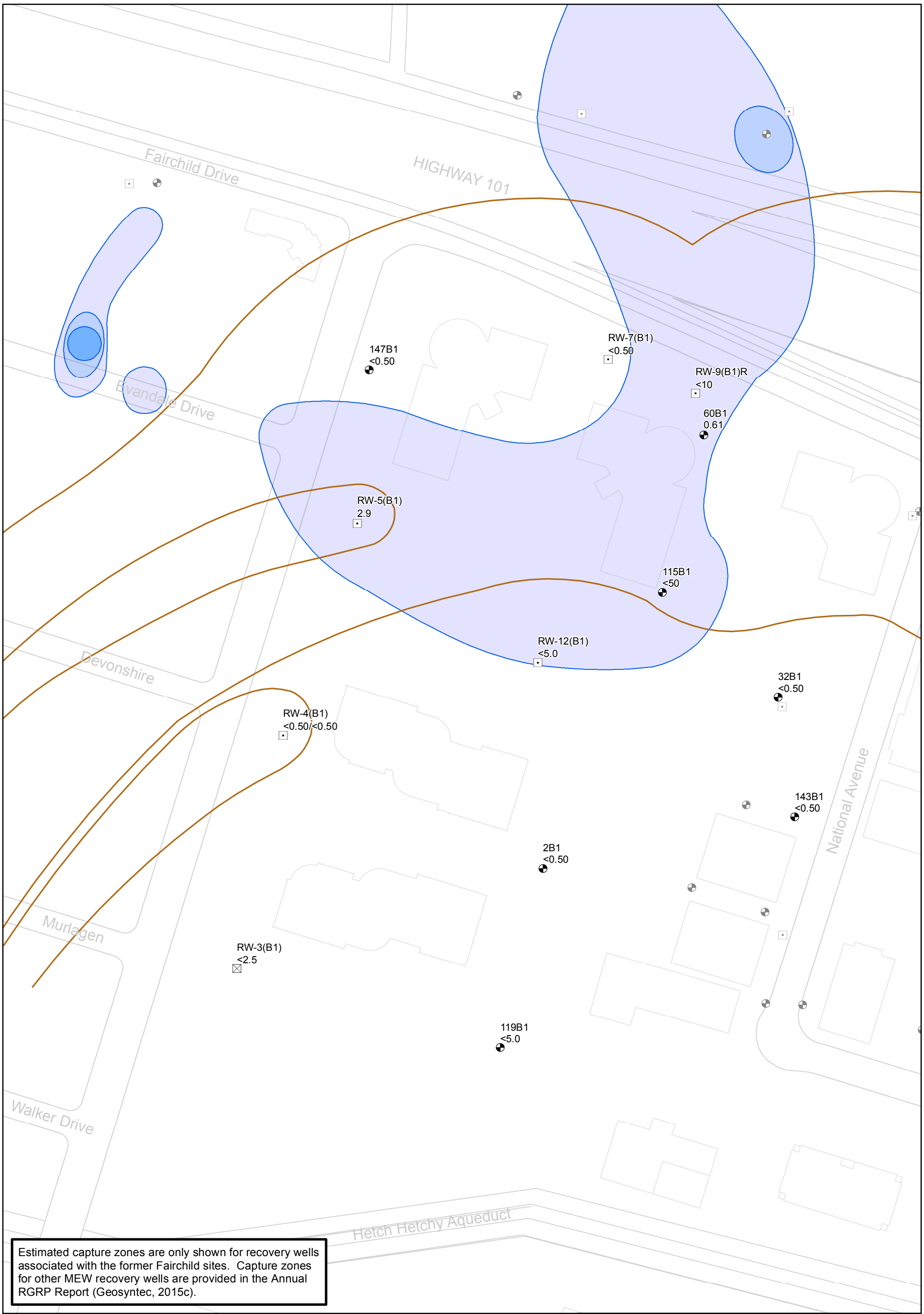
MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 21

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig21_DCE_B1_Sept_CZ.mxd | 4/8/2015 4:35:18 PM



B1 Zone VC Concentrations and Estimated Capture Zones September/October 2014

MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 22

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig22_VC_B1_Sept_CZ.mxd | 4/8/2015 4:36:06 PM

Estimated capture zones are only shown for recovery wells associated with the former Fairchild sites. Capture zones for other MEW recovery wells are provided in the Annual RGRP Report (Geosyntec, 2015c).

Legend

- Monitoring Well
- Recovery Well On
- Recovery Well Off

PCE Concentration

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

- Estimated Capture zone
- ==== Slurry Wall
- Building
- Road

N

150 75 0 150 Feet

Notes:
PCE = Tetrachloroethene
ug/L = micrograms per liter
Figure shows only those wells sampled and analyzed for PCE in 2014.
Wells not associated with the Former Fairchild Buildings 1-4, 9, or 18 Sites are shown in gray.

B1 Zone PCE Concentrations and Estimated Capture Zones September/October 2014

MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure **23**

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig23_PCE_B1_Sept_CZ.mxd | 4/8/2015 4:36:55 PM

Fairchild Drive

HIGHWAY 101

11B2
<0.50

148B2
<0.50

RW-7(B2)
2.2/2.2

RW-9(B2)
570

Evandale Drive

RW-5(B2)
<0.50

113B2
1700

36B2
3300

Devonshire

RW-4(B2)
10000

National Avenue

Murlagen

10B2
<0.50/<0.50

RW-3(B2)
480

118B2
<0.50

Walker Drive

Hetch Hetchy Aqueduct

Estimated capture zones are only shown for recovery wells associated with the former Fairchild sites. Capture zones for other MEW recovery wells are provided in the Annual RGRP Report (Geosyntec, 2015c).

Legend

- Monitoring Well
- Recovery Well On
- Recovery Well Off

TCE Concentration

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

- Estimated Capture zone
- ==== Slurry Wall
- Building
- Road

N

150 75 0 150 Feet

Notes:
TCE = Trichloroethene
ug/L = micrograms per liter
Figure shows only those wells sampled and analyzed for TCE in 2014.
Wells not associated with the Former Fairchild Buildings 1-4, 9, or 18 Sites are shown in gray.

B2 Zone TCE Concentrations and Estimated Capture Zones September/October 2014

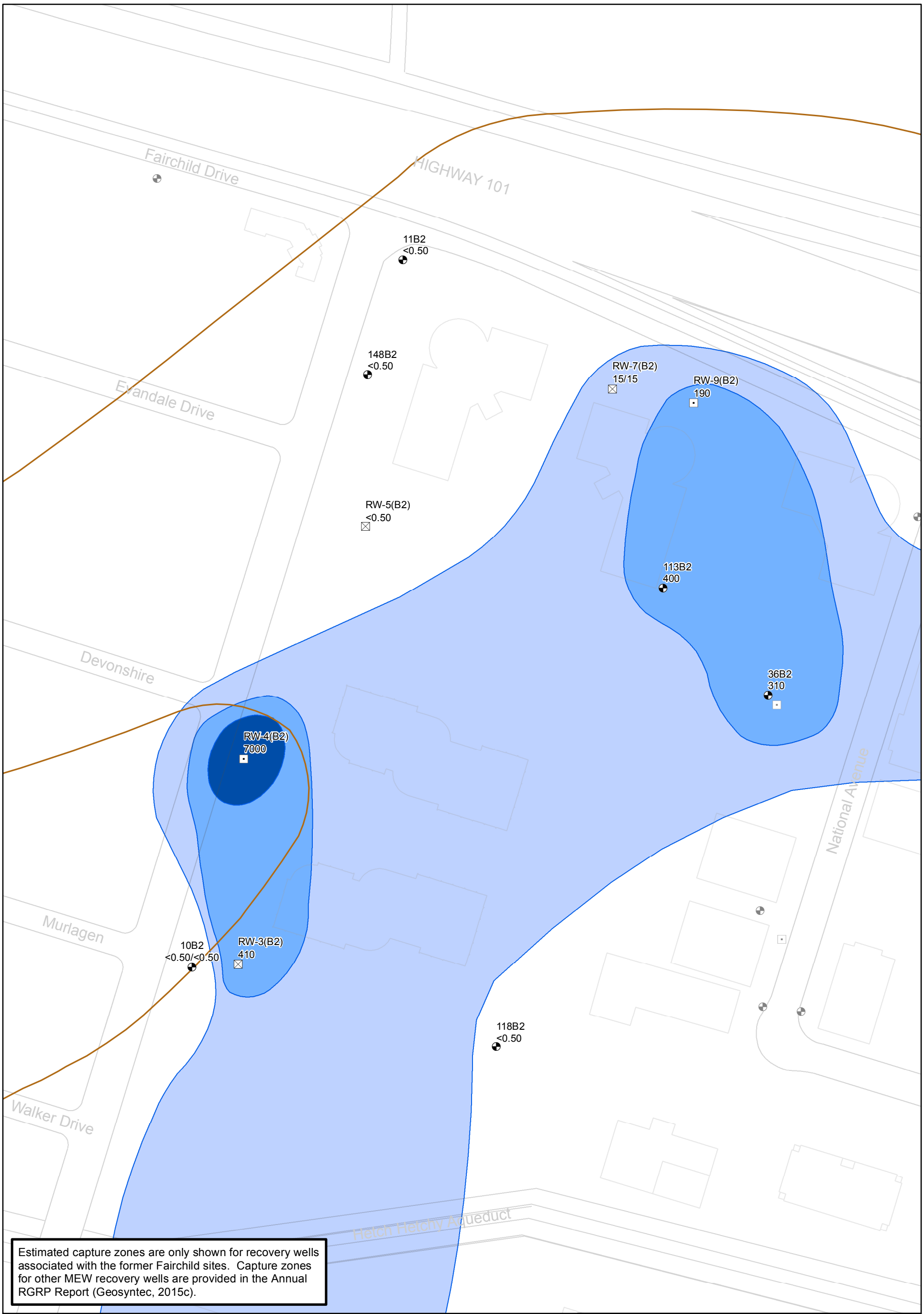
MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 24

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig24_TCE_B2_Sept_CZ.mxd | 4/8/2015 4:37:47 PM



B2 Zone cDCE Concentrations and Estimated Capture Zones September/October 2014

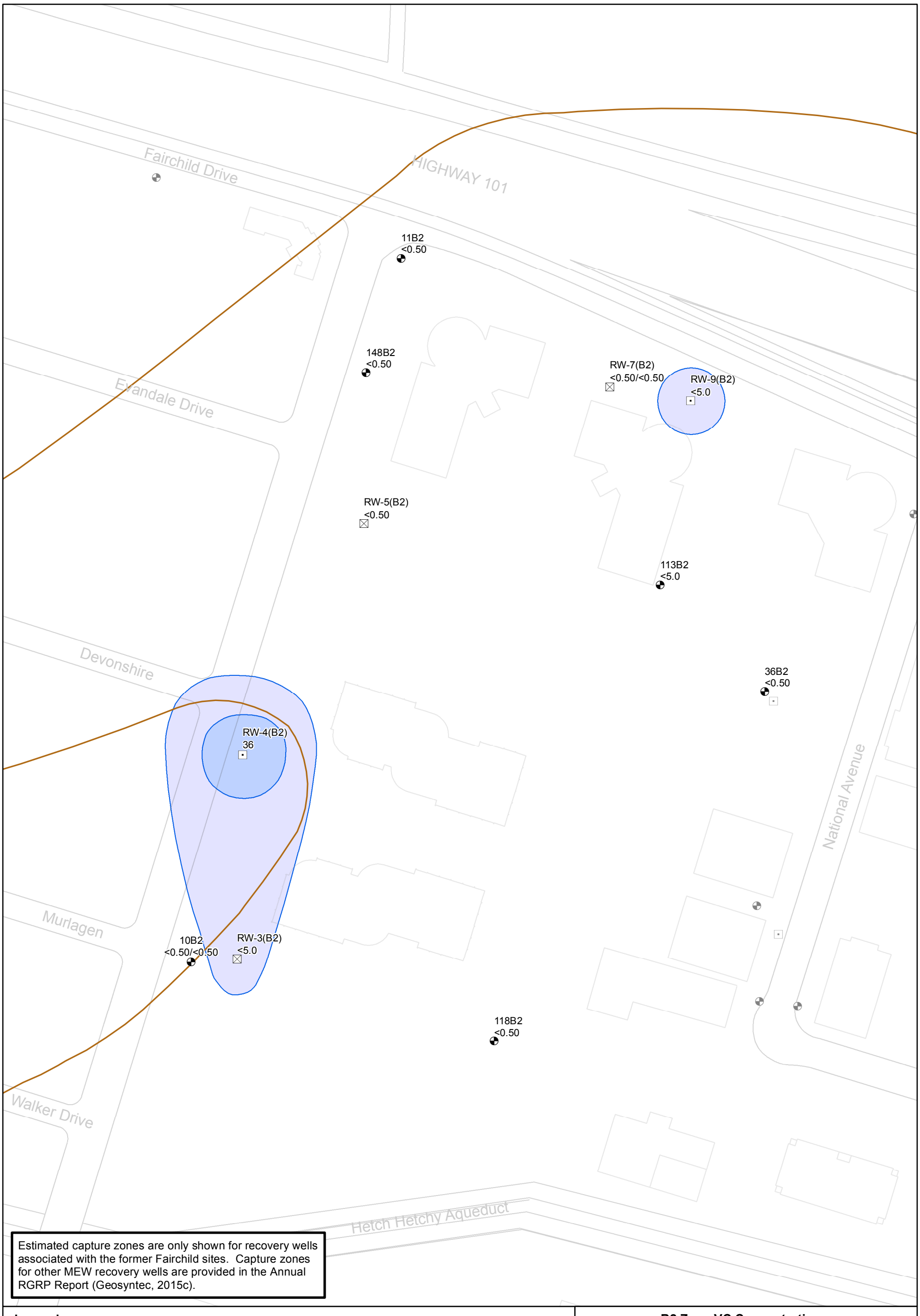
MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 25

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig25_DCE_B2_Sept_CZ.mxd | 4/8/2015 4:38:35 PM



Estimated capture zones are only shown for recovery wells associated with the former Fairchild sites. Capture zones for other MEW recovery wells are provided in the Annual RGRP Report (Geosyntec, 2015c).

Legend

- Monitoring Well
- Recovery Well On
- Recovery Well Off

VC Concentration

- 0.5 - 5 ug/L
- 5 - 100 ug/L
- 100 - 1,000 ug/L
- 1,000 - 10,000 ug/L
- Greater than 10,000 ug/L

- Estimated Capture zone
- ==== Slurry Wall
- Building
- Road

N

150 75 0 150 Feet

Notes:
VC = Vinyl Chloride
ug/L = micrograms per liter
Figure shows only those wells sampled and analyzed for VC in 2014.
Wells not associated with the Former Fairchild Buildings 1-4, 9, or 18 Sites are shown in gray.

B2 Zone VC Concentrations and Estimated Capture Zones September/October 2014

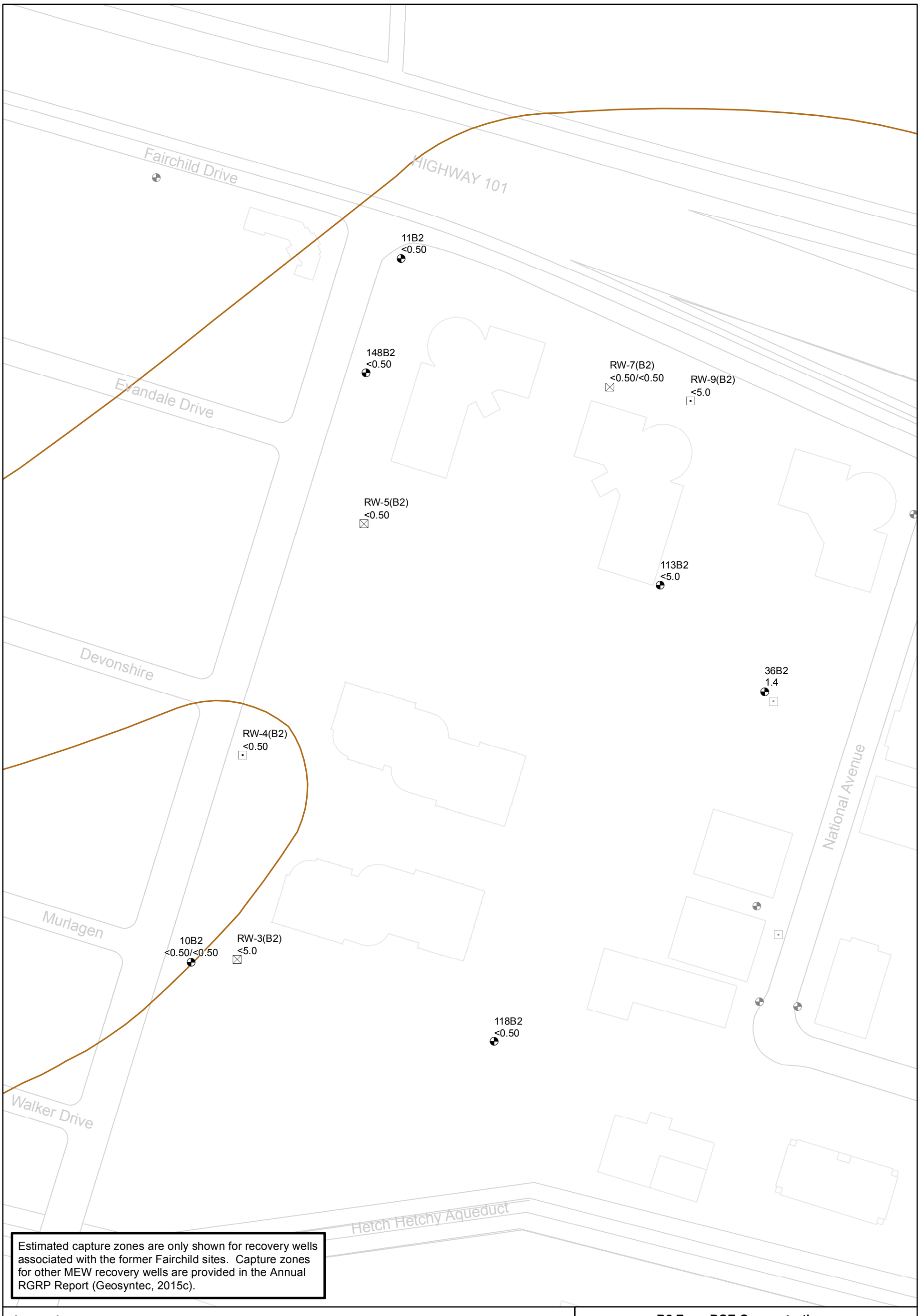
MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 26

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig26_VC_B2_Sept_CZ.mxd | 4/8/2015 4:39:23 PM



Estimated capture zones are only shown for recovery wells associated with the former Fairchild sites. Capture zones for other MEW recovery wells are provided in the Annual RGRP Report (Geosyntec, 2015c).

Legend

- Monitoring Well
- Recovery Well On
- Recovery Well Off

PCE Concentration

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

- Estimated Capture zone
- Slurry Wall
- Building
- Road

N

150 75 0 150 Feet

Notes:
PCE = Tetrachloroethene
ug/L = micrograms per liter
Figure shows only those wells sampled and analyzed for PCE in 2014.
Wells not associated with the Former Fairchild Buildings 1-4, 9, or 18 Sites are shown in gray.

B2 Zone PCE Concentrations and Estimated Capture Zones September/October 2014

MEW Former Fairchild Buildings 1-4, 9, & 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure 27

P:\GIS\MEW\Project\Fairchild\2014_AR\Building1-4,9,18\Fig27_PCE_B2_Sept_CZ.mxd | 4/8/2015 4:40:11 PM

APPENDICES

APPENDIX A

2014 Annual Report Remedy Performance Checklist

2014 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; this includes the building located at 323 Fairchild Drive) 369 and 441 North Whisman Road (former Bldgs. 13 and 19 and 23; this includes buildings located 379, 389 and 399 North Whisman Road) 401 National Avenue (former Bldg. 9) 331 Fairchild Drive (former Bldg. 18, formerly 644 National Avenue) 464 Ellis Street (former Bldg. 20 and 20A; this includes buildings located at 466 and 468 Ellis Street)	
Checklist completion date: March 2015	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 A/B1 aquitard.
2. Extraction Systems as described below:

Buildings 1-4 – 20 recovery wells: 3 Regional Groundwater Remediation Program (RGRP) wells and 17 Source Control Recovery Wells (SCRWs)

Buildings 13, 19, 23 – 13 SCRWs and 1 Regional Groundwater Remediation Program well.

Building 9 – 4 SCRWs

Building 18 – 1 SCRW and 3 Regional Groundwater Remediation Program wells.

3. Treatment Systems as described below:

System 1 (treats water from Buildings 1-4, Building 9, Building 18, and one RGRP well)

- Three 5,000-pound GAC vessels in series, treatment pad, controls, double-contained groundwater conveyance piping, vaults, electrical distribution, controls and other appurtenances.

System 3 (treats water from Buildings 1-4)

- Three 5,000-pound GAC vessels in series, treatment pad, controls, double-contained groundwater conveyance piping, vaults, electrical distribution, controls and other appurtenances.

System 19 (treats water from Buildings 13, 19, and 23, and two RGRP wells)

- Three 5,000-pound GAC vessels in series, treatment pad, controls, double-contained groundwater conveyance piping, vaults, electrical distribution, controls and other appurtenances.

2014 Annual Report Remedy Performance Checklist

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	Trish Eliasson Weiss Associates	510/450-6138	tae@weiss.com

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 453 Ravendale Drive, Suite C, Mountain View, CA.

2014 Annual Report Remedy Performance Checklist

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).

- Signs and other security measures are in place at extraction and treatment points.
- Groundwater production wells within plume area are prohibited. Administered by Santa Clara Valley Water District.
- Properties formerly owned by Fairchild have deed restrictions that require notification prior to subsurface construction and provide for access for remedial actions.
- Public notifications regarding remediation activities.

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:

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:

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:

In 2013 the 401 National Avenue property was purchased by National Avenue Partners, LLC and in May 2014 redevelopment of 401 National was approved by the City of Mountain View in conjunction with three properties to the north. The planned redevelopment activities include the construction of a two-story parking garage over most of the current 401 National Avenue property. Building 9 was demolished in November 2014 as part of redevelopment activities.

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)

2014 Annual Report Remedy Performance Checklist

Groundwater Quality Data

List the types of data that are available:	What is the source report?
Potentiometric surface maps, hydrographs Capture zone maps, isoconcentration maps VOC time series plots and trend analysis Laboratory Analytical Results and Reports	2014 Annual Fairchild Building Reports (Geosyntec, 2015c, d) and the 2014 Annual Regional Report (Geosyntec, 2015b)

☑ 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 System Influent & Effluent water samples VOC mass and groundwater removal graphs	NPDES Self-Monitoring Reports 2014 Annual Fairchild Building Reports

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

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 Analysis of inward and upward hydraulic gradients	2014 Annual Fairchild Reports (Geosyntec, 2015c, d)

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.

The chemical concentration data and potentiometric surface contours from 2014 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

2014 Annual Report Remedy Performance Checklist

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

The EPA issued a ROD amendment on 16 August 2010 to address vapor intrusion. The MEW parties continued to work with EPA and local entities to implement the ROD amendment during 2014. In accordance with the Statement of Work for the Vapor Intrusion ROD Amendment (VI SOW), an annual report summarizing the status of the vapor intrusion remedy will be submitted under separate cover (Geosyntec, 2015e).

Summary of Results: Vapor intrusion remedial design and construction activities were performed in the buildings located at the 369, 379, 389, and 399 North Whisman Road properties. Trichloroethene (TCE) was detected in indoor air above the clean-up levels established for the site during 2013 indoor air sampling at 369 and 379 North Whisman Road when the building's heating, ventilation, and air conditioning (HVAC) system was off (Geosyntec, 2014) As a result, sub-slab depressurization (SSD) systems were designed and constructed at these buildings in accordance with the VI ROD Amendment. MEW-specific contaminants of concern (COCs) were not detected above their respective clean-up levels established for the site during 2012 indoor air sampling at 389 and 399 North Whisman Road (Geosyntec, 2013) therefore the VI ROD Amendment does not require engineering controls for these buildings. However, SSD systems were voluntarily installed at 389 and 399 North Whisman Road at the property owner's request. All SSD remedial design and construction work was performed in accordance with the VI SOW, including development of building-specific SSD system designs, building-specific SSD system Operations, Maintenance and Monitoring (OM&M) Plans, initiation of construction of SSD systems, and building-specific Implementation Reports. No VI investigation activities were conducted in 2014. More information is provided in the VI Annual Report (Geosyntec, 2015e).

Problems Encountered: None

Recommendations/Next Steps: Continue ongoing operation, maintenance, and monitoring programs for SSD systems installed in the buildings located at 369, 379, 389, and 399 North Whisman Road, in accordance with the OM&M Plans. Upon receipt of EPA's approval of the Revised Tiering Work Plan (H&A, 2013), evaluate the potential for vapor intrusion in buildings where follow-up sampling is needed, and tier all former Fairchild facilities in accordance with the tiers established in the VI ROD Amendment.

Schedule: Ongoing operation, maintenance, and monitoring programs for SSD systems installed in the buildings located at 369, 379, 389, and 399 North Whisman Road will be conducted in accordance with schedules set forth in the OM&M Plans for these systems. Vapor intrusion and tiering activities will be conducted in accordance with a schedule set forth and approved by EPA in the building-specific vapor intrusion work plans and as requested by EPA. Further details are provided in the Vapor Intrusion Annual Report (Geosyntec, 2015e).

X. REMEDY PERFORMANCE ASSESSMENT

A. Groundwater Remedies

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.

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 TCE plume have been evaluated using Mann-Kendall trend analysis and reviewing VOC concentrations over time. The analyses show that TCE concentrations in the majority of monitoring wells have continued to decrease, remain stable, or show no trend in all zones, while the lateral extent of TCE exceeding 5 µg/L has been stable. See Annual Reports for trends in monitoring wells (Geosyntec 2015c, d).

2014 Annual Report Remedy Performance Checklist

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 2014 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.

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. VOC concentrations in groundwater are well below historical maximums, and generally show long-term decreasing trends. The groundwater extraction, treatment, and containment systems are functioning as intended and meet the Remedial Action Objectives for the Site.

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 where caused by extraction in deeper zones.

Source document reference: 2014 Annual Fairchild Building Reports (Geosyntec, 2015c, d)
2014 Annual Regional Report (Geosyntec, 2015b)
2008 Optimization Evaluation (Geosyntec, 2008)

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 2014 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: September/October 2015

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

2014 Annual Report Remedy Performance Checklist

Remedy Projections for the upcoming year (2015)
☑ 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: Groundwater Remedy Optimization Elaborate below. Target date: 2016

Elaborate on Remedy Projections: EPA has requested that the MEW parties work to optimize performance of the groundwater remedy with respect to mass removal. An ISCO pilot study will be implemented at the former Fairchild Building 9 in 2015 to assess the ability of oxidant injections to increase the rate of VOC mass removal at that site.

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:
☐ 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 Remedy Optimization Elaborate below. Target date: 2016

Elaborate on Remedy Projections: EPA has requested that the MEW parties work to optimize performance of the groundwater remedy with respect to mass removal. Optimization programs for the former Fairchild Buildings 1-4, Building 18, and Building 19 sites are expected to include adjustments to the groundwater extraction remedies to increase the rate of VOC mass removal. The former Fairchild Building 19 site will be the first of the Fairchild sites evaluated for extraction well network optimization.

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: Groundwater Remedy Optimization Elaborate below. Target date: 2016

Elaborate on Remedy Projections:

On 23 September 2014, EPA approved the data collection scope of work and provided comments on the ISCO pilot study work plan for former Fairchild Building 9. These comments included a request for STC to "reassess and evaluate implementation of a treatability study of a funnel-and-gate system in the downgradient (northern) slurry

wall in conjunction with and consideration of the ISCO pilot study work and the redevelopment of the 401 National Avenue property." A work plan to implement a zero-valent iron (ZVI) permeable reactive barrier (PRB) treatability study at the former Fairchild Building 9 site was submitted to EPA on 30 January 2015

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 Remedy Optimization Elaborate below. Target date: 2016

Elaborate on Remedy Projections: EPA has requested that the MEW parties work to optimize performance of the groundwater remedy with respect to mass removal.

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.

Extraction rates were modified in 2010 based on an Optimization Evaluation conducted in 2008 (Geosyntec, 2008).

An ISCO pilot study will be implemented at the former Fairchild Building 9 site in 2015.

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:

Date of Next EPA Five-Year Review: September, 2019

XIII. RECOMMENDATIONS

Groundwater elevation contour and capture zone maps from March and September show that there is no significant seasonal change in groundwater flow or extraction well capture across the study area. Therefore, it is recommended that the frequency of groundwater level monitoring be reduced from semi-annual to annual, coincident with the September/October sampling event, and that EPA approve the 13 February 2015 Request for Reduction in Groundwater Monitoring Frequency.(Geosyntec, 2015a).

REFERENCES

Geosyntec Consultants, Inc., Northgate Environmental Management, Inc., Schlumberger Water Services, and Weiss Associates. (Geosyntec, et al.), 2008. Optimization Evaluation, Fairchild Sites, Middlefield-Ellis-Whisman Area, Mountain View, California, September 3.

Geosyntec, 2013. 2012 Annual Vapor Intrusion Progress Report, Fairchild Groundwater Remediation Program, Middlefield-Ellis-Whisman Area, Mountain View, April 15.

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Geosyntec, 2015a. Request for Reduction in Groundwater Monitoring Frequency for Middlefield-Ellis-Whisman Study Area Mountain View, California, February 13.

Geosyntec, 2015b. 2014 Annual Progress Report, Regional Groundwater Remediation Program, Middlefield-Ellis-Whisman Area, Mountain View, California, April 15.

Geosyntec, 2015c. 2014 Annual Progress Report for Former Fairchild Buildings 1-4, 9, and 18, Mountain View, California, April 15.

Geosyntec, 2015d. 2014 Annual Progress Report for Former Fairchild Buildings 13, 19, and 23, Mountain View, California, April 15.

Geosyntec, 2015e. 2014 Annual Vapor Intrusion Progress Report, Fairchild Groundwater Remediation Program, Middlefield-Ellis-Whisman Area, Mountain View, April 15.

H&A, 2013. Revised Site-Wide Vapor Intrusion Sampling and Analysis Work Plan for Response Action Tiering, Middlefield-Ellis-Whisman Superfund Area, Mountain View, California and Moffett Field, 22 March.

APPENDIX B

Laboratory Analytical Reports and Chain-of-Custody Documents, January through December 2014

(This appendix is being submitted on CD to the EPA only and is available upon request)

APPENDIX C

QA/QC Report, Summary Tables, and Criteria

M E M O R A N D U M

TO: Eric Suchomel, Ph.D., P.E.
Geosyntec Consultants

FROM: Trish Eliasson, P.E.
Weiss Associates

DATE: February 3, 2015
Revised March 19, 2015

RE: **2014 DATA QUALITY ASSURANCE/QUALITY CONTROL SUMMARY**
Middlefield-Ellis-Whisman Area
Mountain View, California

This memorandum summarizes Weiss Associates (Weiss) review of data quality for water samples collected in 2014 at the Middlefield-Ellis-Whisman (MEW) Area. Our review was conducted in general accordance with the Quality Assurance Project Plan (QAPP)[1] and the United States Environmental Protection Agency (USEPA) data review guidelines.[2,3] The data reviewed herein include field and laboratory data quality assurance and quality control (QA/QC) results for the following events:

- Two quarterly sampling events conducted by Weiss of six newly installed monitoring wells located North of 101 as part of the Regional Groundwater Remediation Program (RGRP).

- The annual sampling conducted by Weiss of MEW monitoring and extraction wells that occurred in September and October 2014 for the RGRP and Former Fairchild Buildings (Fairchild).

- Monthly water sampling conducted by Weiss at the RGRP North-101 (N101) and South-101 (S101) treatment systems and Fairchild treatment systems 1, 3, and 19.

FIELD QA/QC SAMPLE REQUIREMENTS

Per the Quality Assurance Project Plan (QAPP), the following field QA/QC samples were collected:

Field duplicate – Field duplicate samples are blind duplicates that provide data to assess precision of the sampling method and contract laboratory. Field duplicates are specified to be collected at a frequency of 1 for every 20 field samples collected.

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[1] The QAPP includes the following: *Quality Assurance Project Plan, Middlefield-Ellis-Whisman Site, Mountain View, California*, prepared by Canonie Environmental Services Corporation, submitted on May 3, 1991 and approved in part by USEPA on July 22, 1991; modifications as presented in *Revision 1.0, Quality Assurance Project Plan, Middlefield-Ellis-Whisman Site, Mountain View, California*, prepared by Canonie, submitted on August 16, 1991; and the *Transmittal of Addendum to the Unified Quality Assurance Project Plan*, submitted on December 2, 1992 and approved by the USEPA on February 3, 1993.

[2] *National Functional Guidelines for Superfund Organic Methods Data Review*, prepared by the USEPA Contract Laboratory Program, OSWER 9240.1-48 USEPA-540-R-14-002, August 2014.

[3] *National Functional Guidelines for Inorganic Superfund Methods Data Review*, prepared by the USEPA Contract Laboratory Program, OSWER 9240.1-51 USEPA-540-R-13-001, August 2014.

Matrix spike/Matrix spike duplicate – Matrix spike/matrix spike duplicate (MS/MSD) samples measure the accuracy and precision of the analytical methods. MS/MSD samples are specified at a frequency of 1 for every 20 field samples collected.

Rinseate blank – Rinseate blanks are collected to evaluate whether sampling equipment (e.g., bladder pumps used at monitoring wells for low-flow sampling) may be causing cross-contamination between sample locations or if sampler materials (e.g., Hydrasleeves) may be contributing contamination to the samples. The blanks consist of distilled/organic-free water collected from a final rinse of sampling equipment after the decontamination procedure has been performed or before sampling equipment is deployed. Rinseate blank sampling is not necessary for locations that have dedicated sample collection, such as at groundwater extraction and treatment system (GWETS) sample ports. Following equipment decontamination, distilled/organic-free water used for the final rinse is collected in appropriate bottles. Hydrasleeve rinseate blanks are prepared by rinsing unused Hydrasleeves with distilled/organic-free water and collecting the subsequent rinseate in appropriate bottles. Rinseate samples are specified at a frequency of 1 for every 20 field samples.

Field blank – Field blanks are collected to assess if the source water used on-site for decontamination may affect the samples. The decontamination source water is distilled and organic-free. Field blanks are collected at a frequency of 5% of the samples collected.

Trip blank – Trip blanks assist in evaluating whether the exposure of a sample to site conditions, storage, and shipment may introduce volatile organic compounds (VOCs). These samples consist of volatile organic analysis vials (VOAs) filled with distilled/organic-free water and preserved with hydrochloric acid. These pre-filled VOAs are supplied by the laboratory and accompany the other samples in the field and to the laboratory. One trip blank accompanies each VOC sample shipment to the laboratory.

LABORATORY DATA QUALITY REVIEW PARAMETERS

Per the QAPP, Weiss verified that the sample results met the QAPP Level 2 and Level 4 requirements for completeness. A Level 2 data review includes reviewing the following parameters:

- Holding time;
- Detection and reporting limits;
- Surrogate recovery (VOC methods only);
- Laboratory control sample recovery;
- MS/MSD recovery;
- Method blank results;
- Trip blank results (VOC methods only);
- Field, rinseate and equipment blank results; and
- Field duplicate results.

Weiss performed a Level 4 data validation review for ten percent of the samples as required by the QAPP. The samples intended for the Level 4 data validation were documented on separate chain-of-custody forms than the other samples. Level 4 validation procedures vary by method. In addition to the Level 2 verification parameters listed above, the Level 4 validation parameters for VOC analyses include:

- Ion abundance;
- Minimum number of initial calibration standards analyzed;

- Relative response factors in initial and continuing calibrations;
- Percent of relative standard deviations in initial calibrations;
- Percent of 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 the raw data, including chromatograms and bench sheets, for calibration standards, quality control data, and samples.

The Level 4 review of metal data includes:

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

REVIEW FINDINGS

Well Sampling

This section summarizes well sampling results from the annual and quarterly events.

Field Sampling Data

A total of 286 groundwater monitoring and extraction wells were sampled during 2014 annual and quarterly events, resulting in 315 primary samples. The total numbers of primary analyses, and QA/QC samples for each laboratory test method are summarized on Table 1.

Weiss checked all chain-of-custody forms for completeness and accuracy before the samples were transported to the laboratory. The laboratory reported no sample quality concerns that resulted in qualified data. Temperatures in the sample coolers were acceptable for sample preservation, no significant headspace volumes were observed in the VOAs, and sample containers were properly preserved.

In September, samples from 16 wells and one rinseate blank were analyzed for VOCs outside of holding time due to a laboratory equipment failure. The September results were rejected or "J" flagged because the samples were analyzed outside of holding time. As a result, these 16 wells were resampled and another rinseate blank was collected in October for VOC analysis. The October results were validated and there were no rejected or flagged results on these data. A note has been added to the database to use the October results in lieu of the September results.

Not including the samples mentioned above, a total of 118 sample results were "J" qualified during the validation process. A J-qualifier, as defined by the USEPA, applies when an analyte is positively identified and the associated numerical value is qualified as an estimated concentration of the analyte in the sample. A "J" flag was applied to the 118 sample results because the result was between the method detection limit (MDL) and the reporting limit.

Field Duplicates. Field duplicates were collected for VOCs and metals (Table 1). The required frequency of 1 for every 20 field samples collected was satisfied as specified in the QAPP. Table 2 reports the relative percent difference (RPD) in concentrations for each of the duplicate sample pairs, the average RPD, the upper confidence level (UCL), as specified in the QAPP, and the precision acceptance limits for tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride. Table 2 shows that the RPDs for these analytes were less than their respective precision acceptance limits.

RPDs were not calculated for antimony, cadmium, or lead because they were not detected above reporting limits in the duplicate pairs (Table 3). The UCL for arsenic was not calculated because there was only one duplicate pair.

Matrix Spike/Matrix Spike Duplicates. A total of 36 MS/MSD samples were analyzed for VOCs or metals. The required frequency of 1 for every 20 field samples collected was met. The RPDs for all 36 MS/MSD sample pairs were below the 35% limit specified in the QAPP.

Rinseate Blanks. A total of 16 rinseate blank samples were collected (Table 1). The required frequency of 1 rinseate blank for every 20 field samples collected was met. No VOCs were detected above reporting limits in the rinseate blanks.

Field Blanks. A total of 20 field blanks were collected (Table 1). As required by the QAPP, at least 1 blank was collected for every 20 samples. No VOCs or metals were detected above reporting limits in the field blanks.

Trip Blanks. A total of 41 trip blanks were analyzed for VOCs (Table 1). One blank was collected per shipping container with samples for VOC analysis. No VOCs were detected above reporting limits in any of the blanks except for cis-1,2-DCE and TCE in one trip blank (Table 4). However, these VOCs were detected in the associated primary samples at significantly greater concentrations, so no data qualifiers were necessary.

Field Audit. Weiss performed an internal audit of sampling activities on September 25 and September 26, 2014 as required by the QAPP. The audit consisted of observing sampling activities conducted by two field technicians. The audit findings were that the sampling activities were in general accordance with the QAPP and Weiss standard operating procedures as appropriate.

Laboratory Data

The samples were analyzed by TestAmerica Laboratories, Inc., Pleasanton, California, which is certified by the Environmental Laboratory Accreditation Program of the California Department of Public Health for the analyses they conducted.

Weiss reviewed the Level 2 and Level 4 QA/QC analysis results produced by the laboratory for the well sample analyses. Our review confirmed that all samples were analyzed per the requested laboratory analyses. However, the holding time for some VOCs were not met. This significant deviation from the required holding times was identified and data were rejected. As mentioned above, the wells and rinseate blank associated with the holding time exceedance were resampled; there were no deviations identified and no data were rejected or flagged within the resampled data set. Weiss verified that the samples met the QAPP Level 2 and Level 4 requirements for completeness.

As part of the laboratory protocol specified in the QAPP, method blanks and laboratory control spikes (LCS) are required to be performed to verify accuracy, precision, and completeness.

Method Blanks. The required frequency for method blanks is 1 method blank for every 20 field samples collected and the acceptance criterion is no detections above reporting limits. The required frequency and acceptance criterion were met.

Laboratory Control Spikes. As specified in the QAPP, the required frequency for LCS is 1 LCS for every 20 field samples and the acceptance range is 80% to 120% recovery. The required LCS frequency was met. However, the acceptance range was not met for all compounds. The acceptance criteria in the QAPP was set in 1991 and is considered out-of-date as laboratories are continually calibrating their equipment and updating their capabilities for % recovery for each compound based on the equipment used. In accordance with the USEPA Test Method[4], it is necessary for the laboratory to develop single-laboratory performance data for accuracy and precision in the matrices of interest. The laboratory has developed their own in-house LCS recovery limits, which were used as the acceptance criteria for the 2014 data. The laboratory LCS ranges were not met for six compounds across two data packets. The six compounds had a LCS recovery limit higher than the laboratory's limit. However, there were no detections of these analytes in the associated field samples, so there were no qualifications.

Groundwater Extraction and Treatment System Sampling

Field Sampling Data

A total of 263 primary samples and 50 field duplicates were collected from RGRP Systems N101 and S101 and from Fairchild Systems 1, 3 and 19 throughout the year. The total numbers of primary analyses, duplicate analyses and QA/QC samples for each laboratory test method are summarized on Table 5.

The samples were collected, stored, transported, and managed according to USEPA protocols based on Weiss's review of field and laboratory documentation. The laboratories reported that sample temperature and holding times were within acceptable ranges.

No data were rejected during the validation process, and a "detected, but not quantified (DNQ)" qualification was applied to 200 sample results. DNQ qualifier applies when an analyte is detected between the MDL and the reporting limit. The DNQ naming convention is unique to the

[4] EPA, 2003. Method 8000C, Determinative Chromatographic Separations. Revision 3. March, 2003.

treatment system data because the National Pollutant Discharge Elimination System Permit requires this qualification code. A "J" flag was applied to four sample results. During the year, two "J" flags were applied because the field duplicate relative percent difference was outside of limits based on professional judgement in accordance with the USEPA data review guidelines[2] and two "J" flags were applied because the surrogate recoveries were below established limits.

Field Duplicates. The required frequency of 1 for every 20 field samples collected was satisfied as specified in the QAPP. Table 6 reports the RPD in concentrations for each of the duplicate sample pairs, average RPDs, resultant UCLs and precision acceptance limits for 1,4-dioxane, PCE, TCE, cis-1,2-DCE and vinyl chloride. All RPDs were below the precision acceptance limits and no additional J flags were applied. Table 7 reports the RPD in concentrations for each of the duplicate sample pairs for selenium. All RPDs for concentrations of selenium were below the precision acceptance limit.

Trip Blanks. Sixty-one trip blanks were analyzed for VOCs, meeting the QAPP requirement of one trip blank for each GWETS sample shipment to the laboratory. No VOCs were detected above method detection limits in the trip blanks.

Laboratory Data

The samples were analyzed by TestAmerica Laboratories, Inc., Pleasanton, California, a laboratory certified by the Environmental Laboratory Accreditation Program of the California Department of Public Health for the analyses they conducted.

Per the QAPP, Weiss verified that the samples from the treatment systems met the QAPP Level 2 requirements for completeness. Our review confirmed that all samples were analyzed per the requested laboratory analyses and that all method holding times were met. No significant deviations from the required reporting limits were identified, and no data were rejected. However, as mentioned above, DNQ qualifiers were applied to 200 sample results.

As part of the laboratory protocol specified in the QAPP, method blanks and LCS are required to be performed to verify accuracy, precision, and completeness.

Method blanks. The required frequency for method blanks is 1 method blank for every 20 field samples collected, and the acceptance criterion is no detections above method detection limits. The required frequency was met. Trace amounts of methylene chloride and TCE were detected in some laboratory method blanks, but these compounds were not detected in the associated field samples. Therefore, no flags were applied.

Laboratory Control Spikes. As specified in the QAPP, the required frequency for LCS is 1 LCS for every 20 field samples and the acceptance range is 80% to 120% recovery. The required LCS frequency was met. However, the acceptance range was not met for all compounds. The acceptance criteria in the QAPP was set in 1991 and is considered out-of-date as laboratories are continually calibrating their equipment and updating their capabilities for percent recovery for each compound based on the equipment used. Therefore, there are several compounds where the QAPP acceptance criteria of 80% to 120% cannot be met using modern laboratory practices. The laboratory LCS ranges were not met for compounds in two data packets. These two compounds had a recovery

higher than the laboratory LCS range. However, there were no detections of these analytes in the associated field samples, so there were no qualifications applied.

Surrogates. In one data packet, a surrogate spike was recovered below laboratory limits for one sample, and thus, the associated positive result was J flagged. In a second data packet, a surrogate recovery was below laboratory limits for one sample. Because the sample was non-detect, the result was qualified with an elevated reporting limit, and this result was flagged with a “UJ”. In a third data packet, a surrogate recovery was above laboratory limits, but there were no detections of associated analytes and no flags were applied.

COMPLETENESS STATEMENT

A total of 42,909 results were generated from the well and system sampling for the RGRP and Fairchild in 2014. Due to a laboratory equipment failure, 16 well samples and one rinseate blank were analyzed outside of the method holding time. Thus, 353 individual laboratory results were qualified as "rejected," leaving 99% of the data in the project database for this year as valid. The QAPP requires that valid data constitute at least 90% of the total data collected.

The wells that yielded the "rejected" sample results were promptly resampled, and all of the results of the resampling were valid. Therefore, usable and reliable data are available for 100% of the locations sampled in 2014.

TABLES

Table 1. Quantities of Primary Well and Associated Quality Assurance Samples Analyzed in 2014, RGRP and Fairchild Sampling, Middlefield-Ellis-Whisman Area, Mountain View, California

Analytes	Laboratory Method	Primary Samples	Field Duplicates	Field Blanks	Rinseate Blanks	Trip Blanks	Matrix Spike/ Matrix Spike Duplicates	Total
VOCs	USEPA Method 8260	309	19	16	16	41	35	436
Metals	USEPA Method 6010	6	4	4	0	0	1	15
Total		**315**	**23**	**20**	**16**	**41**	**36**	**451**

Abbreviations:

RGRP - Regional Groundwater Remediation Program

USEPA - United States Environmental Protection Agency

VOCs - volatile organic compounds

Table 2. VOC Results for Groundwater Duplicate Samples Collected from Wells in 2014, RGRP and Fairchild Sampling, Middlefield-Ellis-Whisman Area, Mountain View, California

		cis-1,2-DCE		PCE		TCE		Vinyl Chloride	
Well ID	**Sample Date**	**(µg/L)**	**RPD**	**(µg/L)**	**RPD**	**(µg/L)**	**RPD**	**(µg/L)**	**RPD**
103B1	9/22/2014	10		<0.50		120		<0.50	
103B1 (DUP)	9/22/2014	7.1	34	<0.50	NC	160	29	<0.50	NC
10B2	9/29/2014	<0.50		<0.50		<0.50		<0.50	
10B2 (DUP)	9/29/2014	<0.50	NC	<0.50	NC	<0.50	NC	<0.50	NC
134B2	9/22/2014	<0.50		<0.50		<0.50		<0.50	
134B2 (DUP)	9/22/2014	<0.50	NC	<0.50	NC	<0.50	NC	<0.50	NC
134B2	10/16/2014	<0.50		<0.50		<0.50		<0.50	
134B2 (DUP)	10/16/2014	<0.50	NC	<0.50	NC	<0.50	NC	<0.50	NC
139B1	9/2/2014	<0.50		<0.50		<0.50		<0.50	
139B1 (DUP)	9/2/2014	<0.50	NC	<0.50	NC	<0.50	NC	<0.50	NC
147A	9/17/2014	11		0.73		130		<0.50	
147A (DUP)	9/17/2014	11	0	0.71	3	130	0	<0.50	NC
156B1	9/26/2014	40		<0.50		75		<0.50	
156B1 (DUP)	9/26/2014	23	54	<0.50	NC	48	44	<0.50	NC
42A	9/17/2014	57		1.9		400		0.83	
42A (DUP)	9/17/2014	81	35	2.0	5	390	3	0.80	4
62A	9/25/2014	4,900		<50		<50		<50	
62A (DUP)	9/25/2014	4,500	9	<25	NC	<25	NC	<25	NC
68B1	9/3/2014	33		<2.5		330		5.3	
68B1 (DUP)	9/3/2014	53	47	<10	NC	460	33	<10	NC
82A	9/8/2014	490		<5.0		310		<5.0	
82A (DUP)	9/8/2014	500	2	<5.0	NC	310	0	<5.0	NC
AK-1-A	12/17/2014	<0.50		<0.50		1.9		<0.50	
AK-1-A (DUP)	12/17/2014	<0.50	NC	<0.50	NC	1.9	0	<0.50	NC
NEC8B2	10/3/2014	<0.50		<0.50		<0.50		<0.50	
NEC8B2 (DUP)	10/3/2014	<0.50	NC	<0.50	NC	<0.50	NC	<0.50	NC
REG-9B(1)	9/5/2014	390		1.9		260		11	
REG-9B(1) (DUP)	9/5/2014	450	14	<5.0	NC	300	14	12	9
RW-1(B1)	10/1/2014	6.3		<0.50		48		<0.50	
RW-1(B1) (DUP)	10/1/2014	6.1	3	<0.50	NC	45	6	<0.50	NC
RW-16A	10/1/2014	280		<2.5		250		<2.5	
RW-16A (DUP)	10/1/2014	280	0	<2.5	NC	250	0	<2.5	NC

Table 2. VOC Results for Groundwater Duplicate Samples Collected from Wells in 2014, RGRP and Fairchild Sampling, Middlefield-Ellis-Whisman Area, Mountain View, California

		cis-1,2-DCE		PCE		TCE		Vinyl Chloride	
Well ID	**Sample Date**	**(µg/L)**	**RPD**	**(µg/L)**	**RPD**	**(µg/L)**	**RPD**	**(µg/L)**	**RPD**
RW-2(B1)	9/26/2014	22		<2.5		240		<2.5	
RW-2(B1) (DUP)	9/26/2014	20	10	<2.5	NC	230	4	<2.5	NC
RW-4(B1)	9/29/2014	240		<0.50		1,300		<0.50	
RW-4(B1) (DUP)	9/29/2014	240	0	<0.50	NC	1,400	7	<0.50	NC
RW-7(B2)	9/30/2014	15		<0.50		2.2		<0.50	
RW-7(B2) (DUP)	9/30/2014	15	0	<0.50	NC	2.2	0	<0.50	NC
Average RPD			16		4		11		6
UCL			56		4		43		8
Precision Acceptance Limit			72		7		54		14

Notes:

For duplicates where both results are not detected, no calculation is performed. For duplicate pairs where the analyte was detected in one sample but not in the other and the detection limit is below the detected value, half the reporting limit was used as the concentration for the sample with no analyte detected. For duplicate pairs where the analyte was detected in one sample but not in the other sample and the detection limit is higher than the detected value, no calculation is performed.

VOCs analyzed by USEPA Method 8260B

Per the 1991 MEW Quality Assurance Project Plan:

RPD = (X1-X2) /((X1+X2) / 2)*100 where X1 is the concentration in sample 1 and X2 is the concentration in sample 2

UCL = 3*s, where s is the standard deviation of the RPDs for that analyte

Precision Acceptance Limit = average RPD + UCL

Abbreviations:

cis-1,2-DCE - cis-1,2-dichloroethene
DUP - duplicate sample
NC - not calculated
PCE - tetrachloroethene
RPD - relative percent difference
TCE - trichloroethene
UCL - Upper confidence level
VOCs - Volatile organic compounds by United States Environmental Protection Agency Method 8260B
µg/L - micrograms per liter
< # - analyte not detected above the reporting limit of "#"

Table 3. Metal Results for Groundwater Duplicate Samples Collected from Wells in 2014, RGRP and Fairchild Sampling, Middlefield-Ellis-Whisman Area, Mountain View, California

		Antimony		Arsenic		Cadmium		Lead	
Well ID	**Sample Date**	**(µg/L)**	**RPD**	**(µg/L)**	**RPD**	**(µg/L)**	**RPD**	**(µg/L)**	**RPD**
10B2	9/29/2014	---		21		---		---	
10B2 (DUP)	9/29/2014	---	---	15	33	---	---	---	---
42A	9/17/2014	<10		---		<2.5		---	
42A (DUP)	9/17/2014	<10	NC	---	---	<2.5	NC	---	---
RW-1(B1)	10/1/2014	---		---		---		<5	
RW-1(B1) (DUP)	10/1/2014	---	---	---	---	---	---	<5	NC
RW-2(B1)	9/26/2014	---		---		---		<5	
RW-2(B1) (DUP)	9/26/2014	---	---	---	---	---	---	<5	NC

Notes:

For duplicates where both results are not detected, no calculation is performed.

Metals analyzed by United States Environmental Protection Agency Method 6010B

Abbreviations:

µg/L - micrograms per liter

DUP - duplicate sample

NC - not calculated

RPD - relative percent difference per the Quality Assurance Project Plan

RPD = (X1-X2) /((X1+X2) / 2)*100 where X1 is the concentration in sample 1 and X2 is the concentration in sample 2

< # - analyte not detected above the reporting limit of "#"

--- - not analyzed

Table 4. Detections in Trip Blanks from Well Sampling in 2014, RGRP and Fairchild Sampling, Middlefield-Ellis-Whisman Area, Mountain View, California

Sample Name	Sample Date	Method	Detections micrograms per liter (µg/L)
TB0914-013	9/17/2014	TA/8260	0.61µg/L cis-1,2-dichloroethene 1.3 µg/L trichloroethene

Notes:

No volatile organic compounds detected above reporting limits in 40 other travel blank samples analyzed by United States Environmental Protection Agency Method 8260B.

Table 5. Quantities of System and Associated Quality Assurance Samples Analyzed in 2014, RGRP and Fairchild Sampling, Middlefield-Ellis-Whisman Area, Mountain View, California

Analytes	Lab Method	Primary Samples Analyzed	Field Duplicates	Trip Blanks	Matrix Spike/ Matrix Spike Duplicates	Total
Volatile organic compounds	USEPA Method 8260B	216	26	61	28	331
1,4-Dioxane	USEPA Method 8270C	29	16	0	0	45
Metals	USEPA Method 200.8	8	8	0	3	19
Turbidity	USEPA Method 180.1	5	0	0	1	6
96-hour Fish Bioassay	E2000 (821-R-02-012)	5	0	0	0	5
Total		**263**	**50**	**61**	**32**	**406**

Notes:

Matrix Spike/Matrix Spike duplicates are not required for 1,4-Dioxane.

Abbreviations:

RGRP - Regional Groundwater Remediation Program

USEPA - United States Environmental Protection Agency

Table 6. Summary of Results for VOCs and 1,4-Dioxane Duplicate Samples Collected during Treatment System Sampling in 2014, RGRP and Fairchild Sampling, Middlefield-Ellis-Whisman Area, Mountain View, California

Treatment System Owner	Treatment System	Sample Location	Sample Date	cis-1,2-DCE		PCE		TCE		Vinyl Chloride		1,4-Dioxane	
				(µg/L)	RPD	(µg/L)	RPD	(µg/L)	RPD	(µg/L)	RPD	(µg/L)	RPD
RGRP	N101	Influent	1/15/2014	280		<10		880		<10		---	
RGRP	N101	Influent (DUP)	1/15/2014	260	7	<5.0	NC	830	6	<5.0	NC	---	---
RGRP	N101	Influent	2/11/2014	---		---		---		---		1.7	
RGRP	N101	Influent (DUP)	2/11/2014	---	---	---	---	---	---	---	---	1.6	6
RGRP	N101	Influent	3/11/2014	280		<10		880		<10		---	
RGRP	N101	Influent (DUP)	3/11/2014	260	7	2.1	NC	830	6	<5.0	NC	---	---
RGRP	N101	Influent	4/15/2014	230		<10		780		<10		---	
RGRP	N101	Influent (DUP)	4/15/2014	270	16	<5.0	NC	890	13	<5.0	NC	---	---
RGRP	N101	Influent	6/9/2014	230		<10		720		<10		---	
RGRP	N101	Influent (DUP)	6/9/2014	240	4	<5.0	NC	660	9	<5.0	NC	---	---
RGRP	N101	Influent	7/23/2014	200		<10		670		<10		---	
RGRP	N101	Influent (DUP)	7/23/2014	210	5	<5.0	NC	670	0	<5.0	NC	---	---
RGRP	N101	Influent	8/12/2014	---		---		---		---		2.0	
RGRP	N101	Influent (DUP)	8/12/2014	---	---	---	---	---	---	---	---	1.9	5
RGRP	N101	Influent	9/16/2014	240		<10		680		<10		---	
RGRP	N101	Influent (DUP)	9/16/2014	230	4	<5.0	NC	660	3	<5.0	NC	---	---
RGRP	N101	Influent	10/24/2014	210		<10		660		<10		---	
RGRP	N101	Influent (DUP)	10/24/2014	220	5	<5.0	NC	690	4	<5.0	NC	---	---
RGRP	N101	Influent	12/17/2014	190		<5.0		510		<5.0		---	
RGRP	N101	Influent (DUP)	12/17/2014	200	5	<5.0	NC	540	6	<5.0	NC	---	---
RGRP	N101	Effluent	5/14/2014	---		---		---		---		1.2	
RGRP	N101	Effluent (DUP)	5/14/2014	---	---	---	---	---	---	---	---	1.2	0
RGRP	N101	Effluent	11/18/2014	---		---		---		---		1.5	
RGRP	N101	Effluent (DUP)	11/18/2014	---	---	---	---	---	---	---	---	1.2	22
RGRP	N101	Effluent	12/17/2014	---		---		---		---		1.3	
RGRP	N101	Effluent (DUP)	12/17/2014	---	---	---	---	---	---	---	---	1.6	21
RGRP	S101	Influent	2/11/2014	59		0.89		2,100		<0.50		---	
RGRP	S101	Influent (DUP)	2/11/2014	64	8	<25	NC	1,900	10	<25	NC	---	---

Table 6. Summary of Results for VOCs and 1,4-Dioxane Duplicate Samples Collected during Treatment System Sampling in 2014, RGRP and Fairchild Sampling, Middlefield-Ellis-Whisman Area, Mountain View, California

Treatment System Owner	Treatment System	Sample Location	Sample Date	cis-1,2-DCE		PCE		TCE		Vinyl Chloride		1,4-Dioxane	
				(µg/L)	RPD	(µg/L)	RPD	(µg/L)	RPD	(µg/L)	RPD	(µg/L)	RPD
RGRP	S101	Influent	5/14/2014	41		<10		680		<10		---	
RGRP	S101	Influent (DUP)	5/14/2014	59	36	<25	NC	940	32	<25	NC	---	---
RGRP	S101	Influent	8/12/2014	45		<10		740		<10		---	
RGRP	S101	Influent (DUP)	8/12/2014	33	31	<5.0	NC	560	28	<5.0	NC	---	---
RGRP	S101	Influent	11/18/2014	56		<10		1,000		<10		---	
RGRP	S101	Influent (DUP)	11/18/2014	71	24	<25	NC	1,400	33	<25	NC	---	---
Fairchild	System 1	Midpoint 1	4/17/2014	<0.50		<0.50		<0.50		1.8		---	
Fairchild	System 1	Midpoint 1 (DUP)	4/17/2014	<0.50	NC	<0.50	NC	<0.50	NC	1.0	57	---	---
Fairchild	System 1	Midpoint 1	6/9/2014	<0.50		<0.50		<0.50		<0.50		---	
Fairchild	System 1	Midpoint 1 (DUP)	6/9/2014	<0.50	NC	<0.50	NC	<0.50	NC	<0.50	NC	---	---
Fairchild	System 1	Midpoint 1	7/17/2014	<0.50		<0.50		<0.50		<0.50		---	
Fairchild	System 1	Midpoint 1 (DUP)	7/17/2014	<0.50	NC	<0.50	NC	<0.50	NC	<0.50	NC	---	---
Fairchild	System 1	Midpoint 1	10/24/2014	<0.50		<0.50		<0.50		<0.50		---	
Fairchild	System 1	Midpoint 1 (DUP)	10/24/2014	<0.50	NC	<0.50	NC	<0.50	NC	<0.50	NC	---	---
Fairchild	System 1	Midpoint 1	12/18/2014	<0.50		<0.50		<0.50		0.20		---	
Fairchild	System 1	Midpoint 1 (DUP)	12/18/2014	<0.50	NC	<0.50	NC	<0.50	NC	<0.50	NC	---	---
Fairchild	System 1	Effluent	3/14/2014	---		---		---		---		0.59	
Fairchild	System 1	Effluent (DUP)	3/14/2014	---	---	---	---	---	---	---	---	<1.0	17
Fairchild	System 3	Influent	2/13/2014	---		---		---		---		1.1	
Fairchild	System 3	Influent (DUP)	2/13/2014	---	---	---	---	---	---	---	---	1.3	17
Fairchild	System 3	Influent	5/22/2014	---		---		---		---		1.5	
Fairchild	System 3	Influent (DUP)	5/22/2014	---	---	---	---	---	---	---	---	1.5	0
Fairchild	System 3	Influent	8/14/2014	620		6.7		980		<10		1.0	
Fairchild	System 3	Influent (DUP)	8/14/2014	730	16	6.5	3	1,100	12	2.2	NC	<1.0	67
Fairchild	System 3	Influent	11/18/2014	---		---		---		---		<1.0	
Fairchild	System 3	Influent (DUP)	11/18/2014	---	---	---	---	---	---	---	---	1.6	105
Fairchild	System 3	Midpoint 1	1/29/2014	<0.50		<0.50		<0.50		0.85		---	
Fairchild	System 3	Midpoint 1 (DUP)	1/29/2014	<0.50	NC	<0.50	NC	<0.50	NC	0.88	3	---	---

Table 6. Summary of Results for VOCs and 1,4-Dioxane Duplicate Samples Collected during Treatment System Sampling in 2014, RGRP and Fairchild Sampling, Middlefield-Ellis-Whisman Area, Mountain View, California

Treatment System Owner	Treatment System	Sample Location	Sample Date	cis-1,2-DCE		PCE		TCE		Vinyl Chloride		1,4-Dioxane	
				(µg/L)	RPD	(µg/L)	RPD	(µg/L)	RPD	(µg/L)	RPD	(µg/L)	RPD
Fairchild	System 3	Midpoint 1	3/13/2014	<0.50		<0.50		<0.50		1.5		---	
Fairchild	System 3	Midpoint 1 (DUP)	3/13/2014	<0.50	NC	<0.50	NC	<0.50	NC	1.4	7	---	---
Fairchild	System 3	Effluent	1/29/2014	---		---		---		---		<1.0	
Fairchild	System 3	Effluent (DUP)	1/29/2014	---	---	---	---	---	---	---	---	<1.0	NC
Fairchild	System 3	Effluent	4/17/2014	<0.50		<0.50		<0.50		<0.50		2.0	
Fairchild	System 3	Effluent (DUP)	4/17/2014	<0.50	NC	<0.50	NC	<0.50	NC	<0.50	NC	2.2	10
Fairchild	System 3	Effluent	6/9/2014	<0.50		<0.50		<0.50		<0.50		<1.0	
Fairchild	System 3	Effluent (DUP)	6/9/2014	<0.50	NC	<0.50	NC	<0.50	NC	<0.50	NC	<1.0	NC
Fairchild	System 3	Effluent	7/17/2014	---		---		---		---		1.8	
Fairchild	System 3	Effluent (DUP)	7/17/2014	---	---	---	---	---	---	---	---	2.0	11
Fairchild	System 3	Effluent	9/11/2014	---		---		---		---		<1.0	
Fairchild	System 3	Effluent (DUP)	9/11/2014	---	---	---	---	---	---	---	---	<1.0	NC
Fairchild	System 3	Effluent	12/18/2014	---		---		---		---		<1.0	
Fairchild	System 3	Effluent (DUP)	12/18/2014	---	---	---	---	---	---	---	---	<1.0	NC
Fairchild	System 19	Influent	2/13/2014	250		<5.0		610		5.9		---	
Fairchild	System 19	Influent (DUP)	2/13/2014	220	13	<5.0	NC	540	12	5.5	7	---	---
Fairchild	System 19	Influent	5/22/2014	190		<5.0		440		4.5		---	
Fairchild	System 19	Influent (DUP)	5/22/2014	180	5	<5.0	NC	420	5	4.0	12	---	---
Fairchild	System 19	Influent	11/18/2014	230		<10		590		5.4		---	
Fairchild	System 19	Influent (DUP)	11/18/2014	250	8	<5.0	NC	580	2	4.7	14	---	---
Fairchild	System 19	Midpoint 1	9/11/2014	<0.50		<0.50		<0.50		0.30		---	
Fairchild	System 19	Midpoint 1 (DUP)	9/11/2014	<0.50	NC	<0.50	NC	<0.50	NC	0.25	18	---	---
Average RPD					12		3		11		17		23
UCL					29		0		31		51		89
Precision Acceptance Limit					41		3		42		68		113

Table 6. Summary of Results for VOCs and 1,4-Dioxane Duplicate Samples Collected during Treatment System Sampling in 2014, RGRP and Fairchild Sampling, Middlefield-Ellis-Whisman Area, Mountain View, California

Treatment System Owner	Treatment System	Sample Location	Sample Date	cis-1,2-DCE (µg/L)	cis-1,2-DCE RPD	PCE (µg/L)	PCE RPD	TCE (µg/L)	TCE RPD	Vinyl Chloride (µg/L)	Vinyl Chloride RPD	1,4-Dioxane (µg/L)	1,4-Dioxane RPD

Notes:

For duplicates where both results are not detected, no calculation is performed. For duplicate pairs where the analyte was detected in one sample but not in the other and the detection limit is below the detected value, half the reporting limit was used as the concentration for the sample with no analyte detected. For duplicate pairs where the analyte was detected in one sample but not in the other sample and the detection limit is higher than the detected value, no calculation is performed.

VOCs analyzed by USEPA Method 8260B

1,4-Dioxane analyzed by USEPA Method 8270C

Per the 1991Quality Assurance Project Plan:

RPD = (X1-X2) /((X1+X2) / 2)*100 where X1 is the concentration in sample 1 and X2 is the concentration in sample 2

UCL = 3*s, where s is the standard deviation of the RPDs for that analyte

Precision Acceptance Limit = average RPD + UCL

Abbreviations:

cis-1,2-DCE - cis-1,2-dichloroethene
DUP - duplicate sample
NC - not calculated
PCE - tetrachloroethene
RPD - relative percent difference
RGRP - Regional Groundwater Remediation Program
TCE - trichloroethene
UCL - upper confidence level
USEPA - United States Environmental Protection Agency
VOCs - volatile organic compounds
µg/L - micrograms per liter
--- - not analyzed
< # - analyte not detected above the reporting limit of "#"

Table 7. Selenium Results for Duplicate Samples from Treatment System Sampling in 2014, RGRP and Fairchild Sampling, Middlefield-Ellis-Whisman Area, Mountain View, California

Treatment System Owner	Treatment System	Sample Location	Sample Date	Selenium (µg/L)	RPD
RGRP	N101	Effluent	2/11/2014	4.2	
RGRP	N101	Effluent (DUP)	2/11/2014	4.3	2
RGRP	N101	Effluent	5/14/2014	4.9	
RGRP	N101	Effluent (DUP)	5/14/2014	5.2	6
RGRP	N101	Effluent	8/12/2014	4.7	
RGRP	N101	Effluent (DUP)	8/12/2014	5.0	6
RGRP	N101	Effluent	11/18/2014	5.0	
RGRP	N101	Effluent (DUP)	11/18/2014	4.7	6
Fairchild	System 1	Effluent	2/13/2014	6.0	
Fairchild	System 1	Effluent (DUP)	2/13/2014	5.9	2
Fairchild	System 1	Effluent	5/22/2014	7.5	
Fairchild	System 1	Effluent (DUP)	5/22/2014	7.6	1
Fairchild	System 1	Effluent	8/14/2014	7.6	
Fairchild	System 1	Effluent (DUP)	8/14/2014	7.3	4
Fairchild	System 1	Effluent	11/18/2014	6.6	
Fairchild	System 1	Effluent (DUP)	11/18/2014	6.5	2
Average RPD					4
UCL (three standard deviations)					6
Precision Acceptance Limit					10

Notes:

Selenium analyzed by USEPA Method 200.8

Per the 1991 MEW Quality Assurance Project Plan:

RPD = (X1-X2) /((X1+X2) / 2))*100 where X1 is the concentration in sample 1 and X2 is the concentration in sample 2

UCL = 3*s where s is the standard deviation of the RPDs for that analyte

Precision Acceptance Limit = average RPD + UCL

Abbreviations:

DUP - duplicate sample collected at indicated location

RPD - Relative Percent Difference

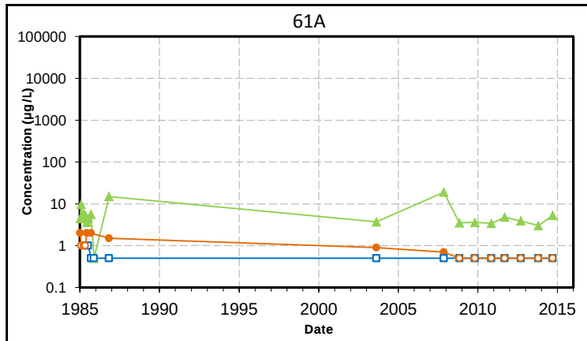
UCL - upper confidence level

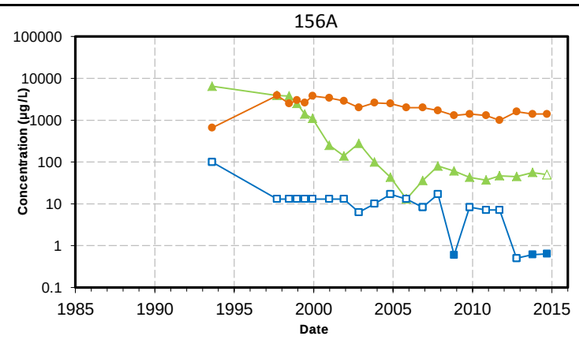
USEPA - United States Environmental Protection Agency

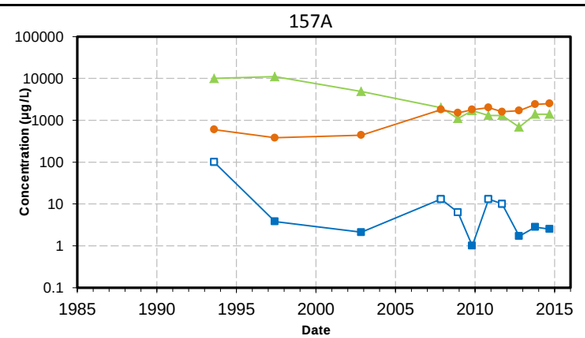
µg/L - micrograms per liter

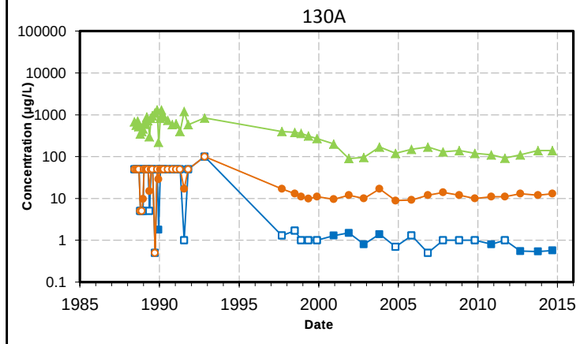
APPENDIX D

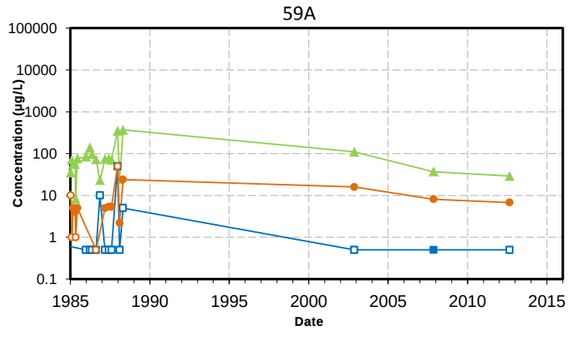
VOCs versus Time Graphs

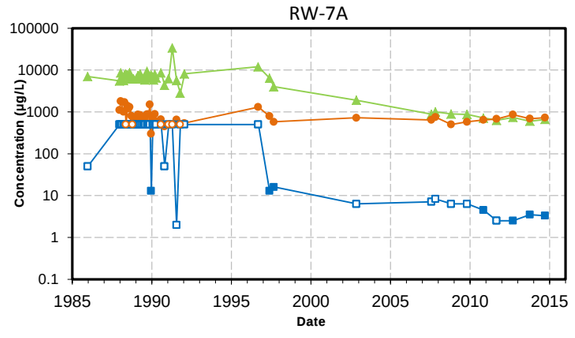


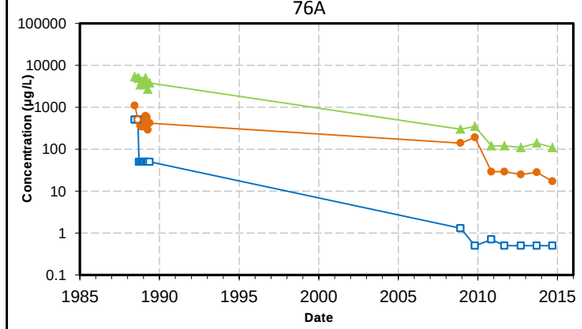


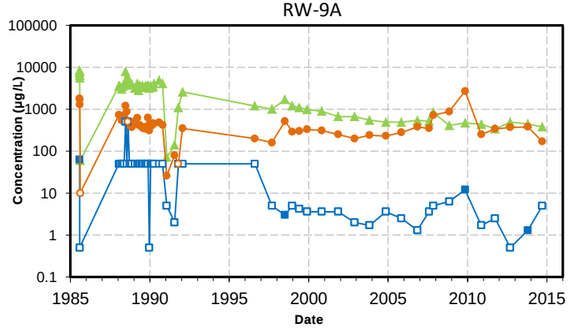


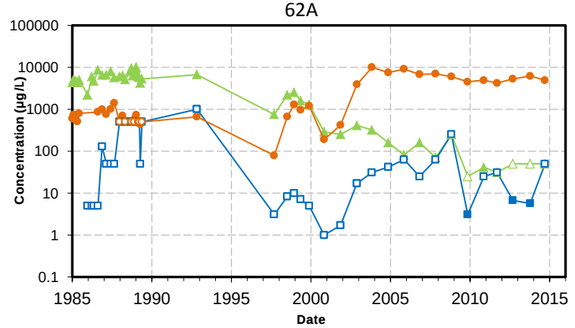


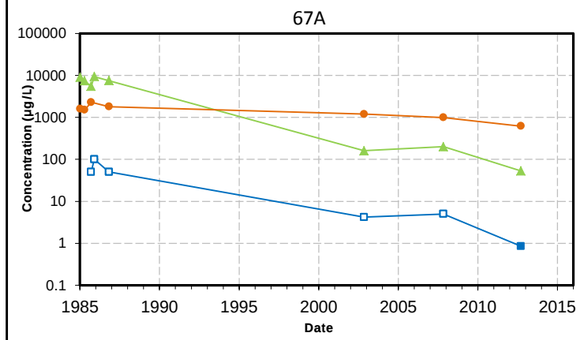


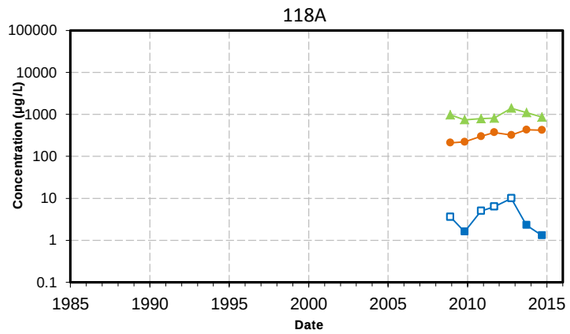


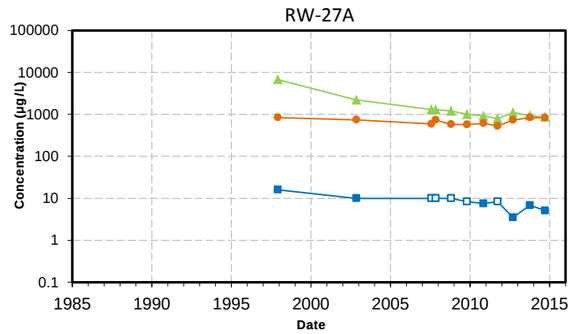






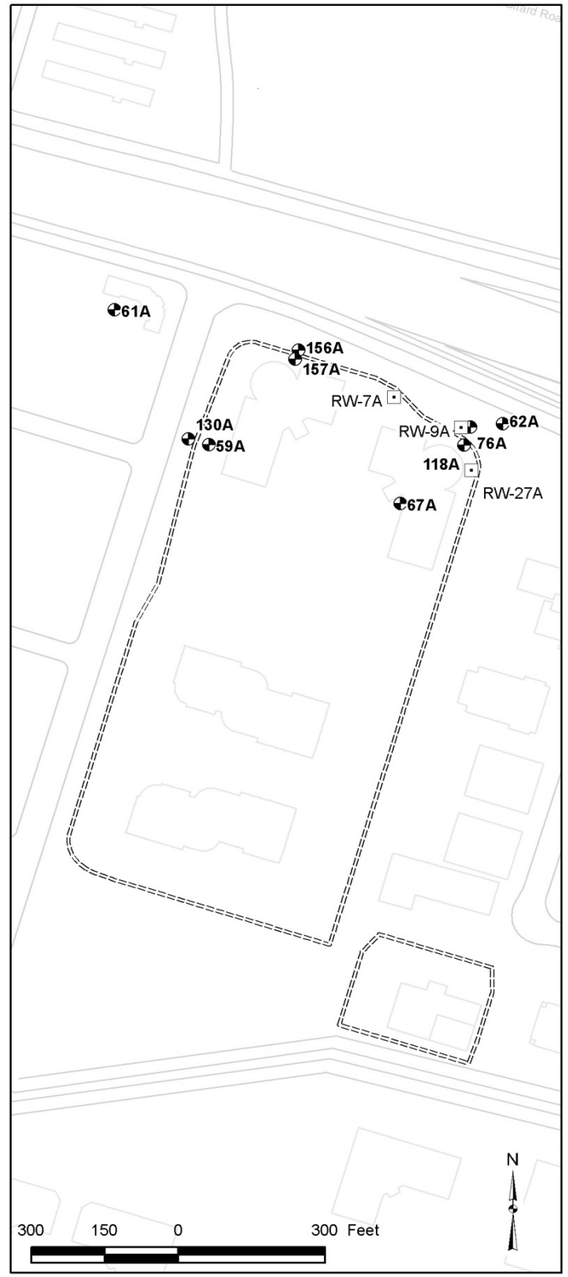






Trichloroethene
cis-1,2-Dichloroethene
Vinyl Chloride

Note:
Open symbols are non-detects, presented at limit of quantification



61A Monitoring Well
RW-7A Extraction Well (On)

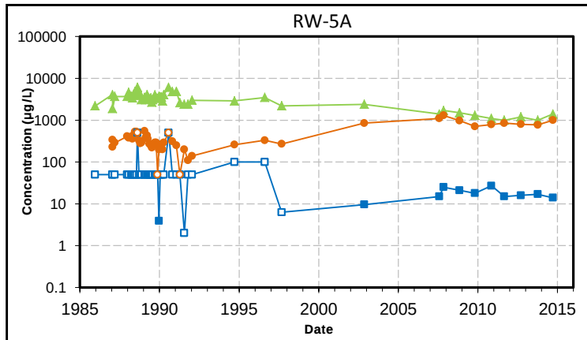
Chlorinated Ethenes in Groundwater
A Zone
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

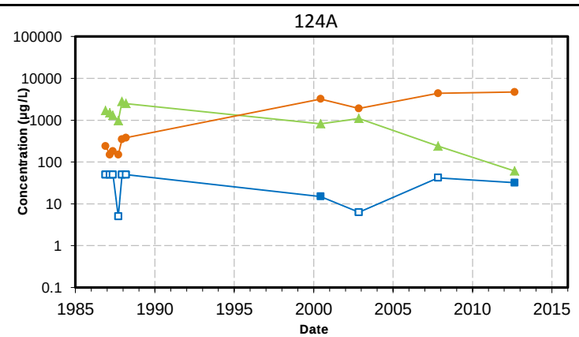
Geosyntec consultants

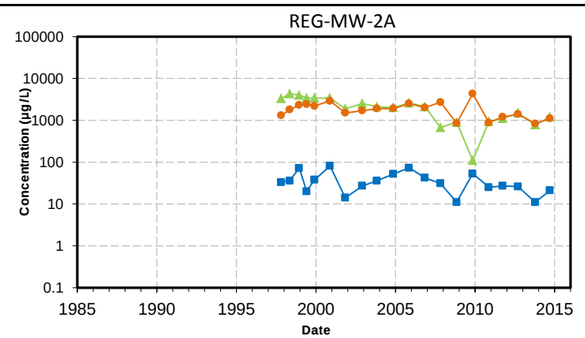
Oakland | April 2015

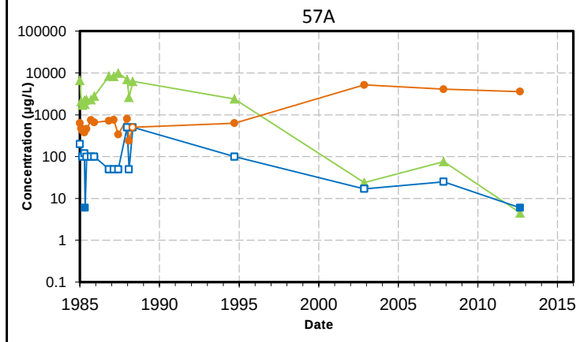
Figure **D-1**

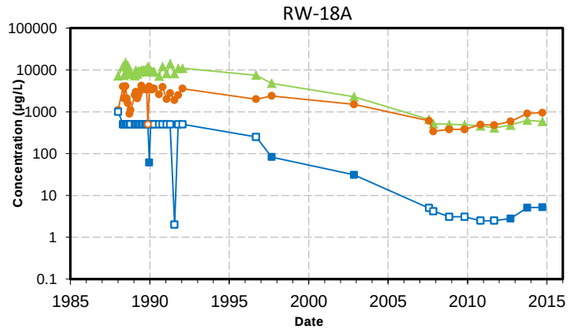
P:\GIS\MEW\Excel\Fairchild\2014_AR\Building1-4,9,18\[FigD-1_TimeSeries.xlsx]

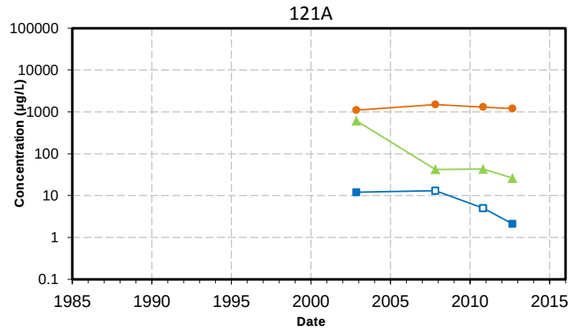


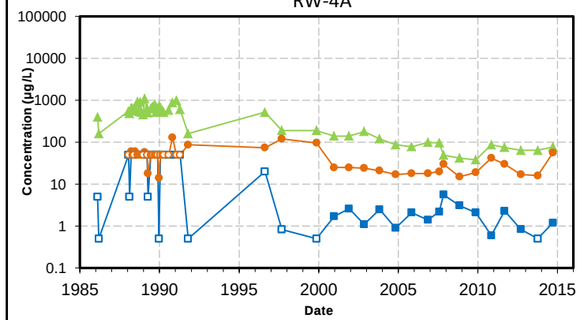


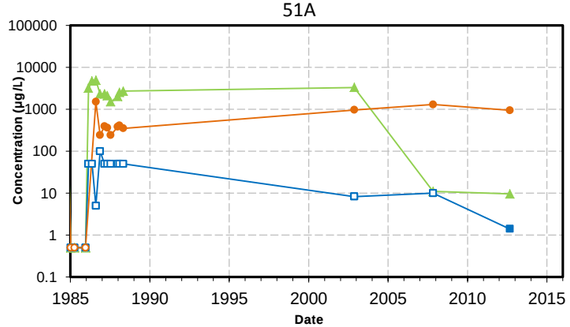


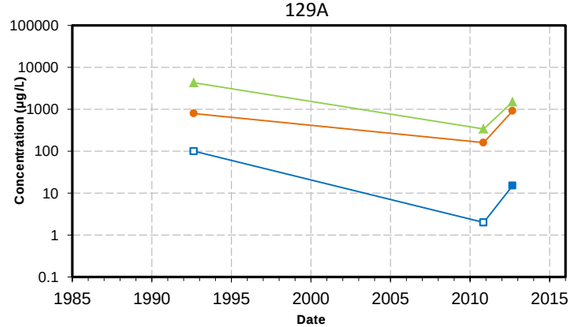


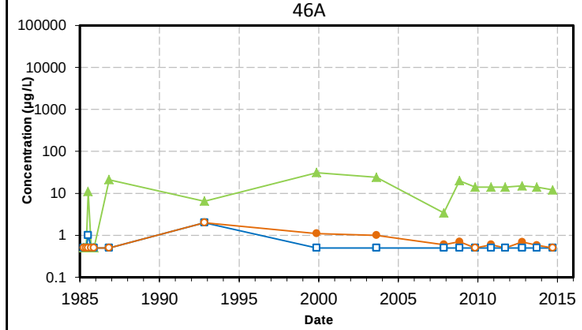


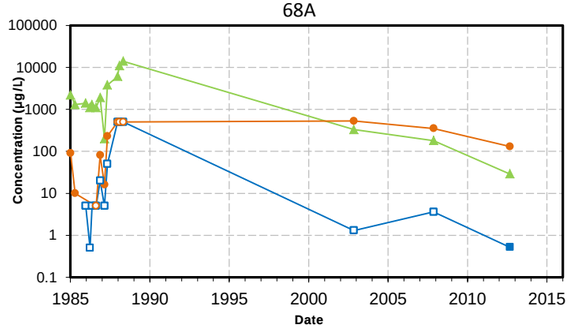


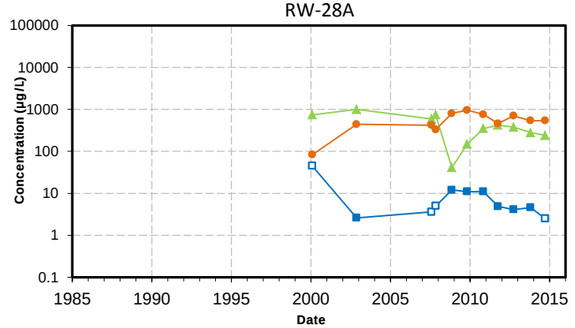






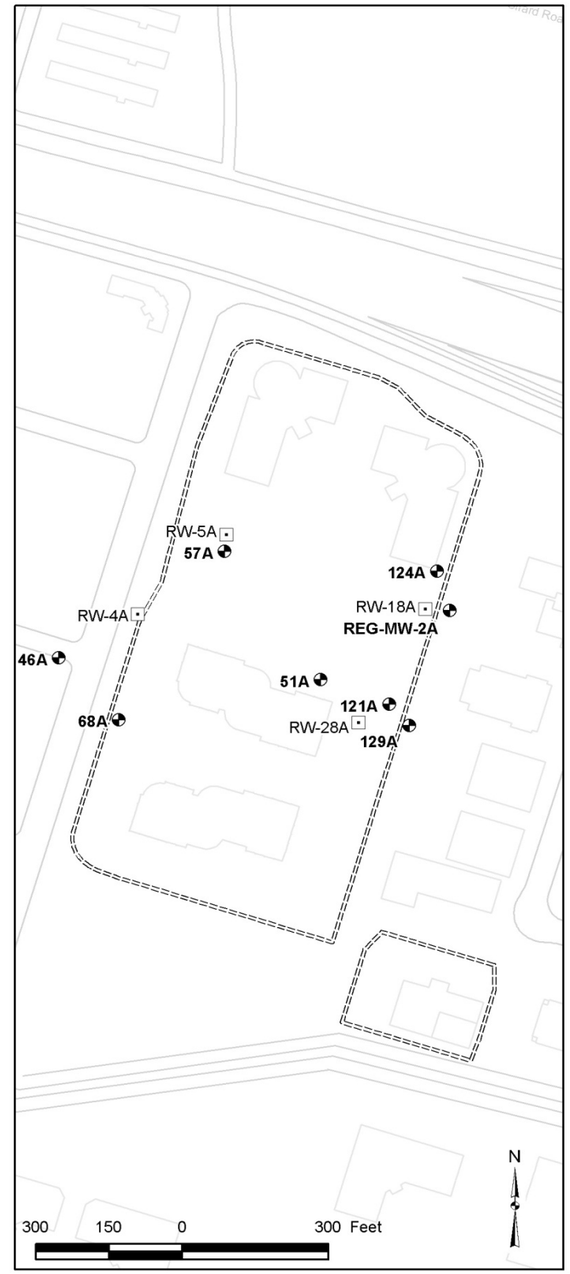






Trichloroethene
cis-1,2-Dichloroethene
Vinyl Chloride

Note:
Open symbols are non-detects, presented at limit of quantification



46A Monitoring Well
RW-4A Extraction Well (On)

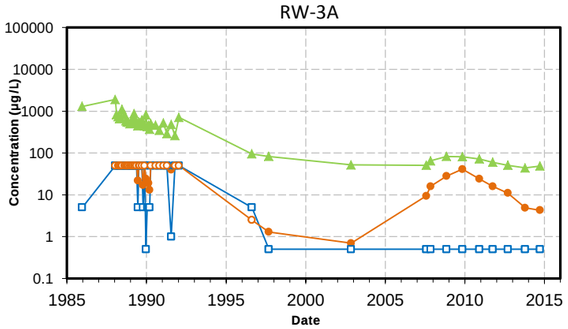
Chlorinated Ethenes in Groundwater
A Zone
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

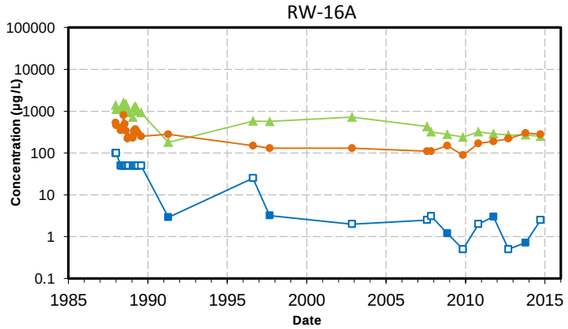
Geosyntec consultants

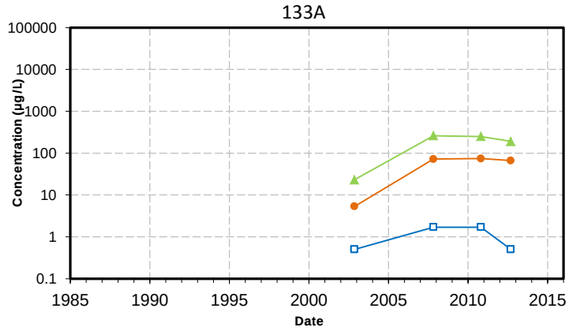
Oakland | April 2015

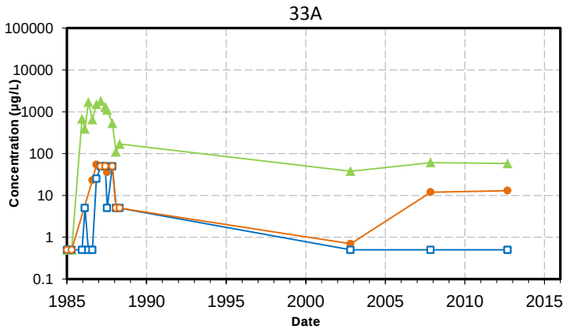
Figure **D-2**

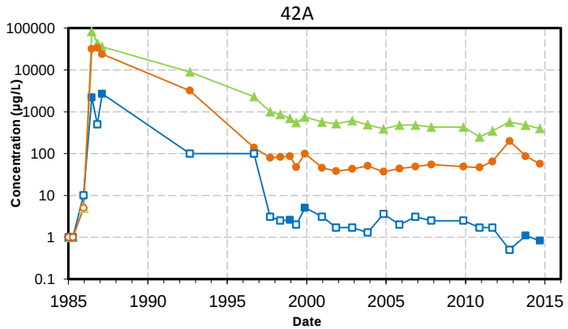
P:\GIS\MEW\Excel\Fairchild\2014_AR\Building1-4,9,18\[FigD-2_TimeSeries.xlsx]

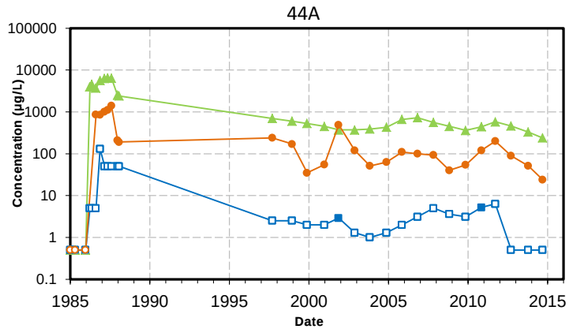


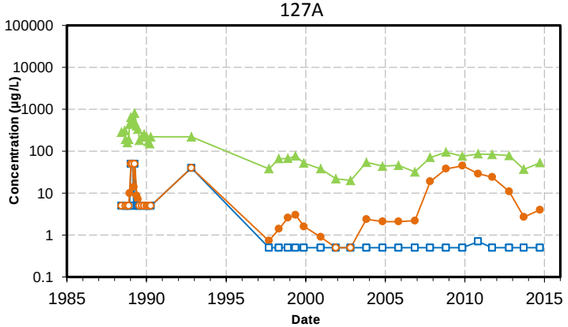


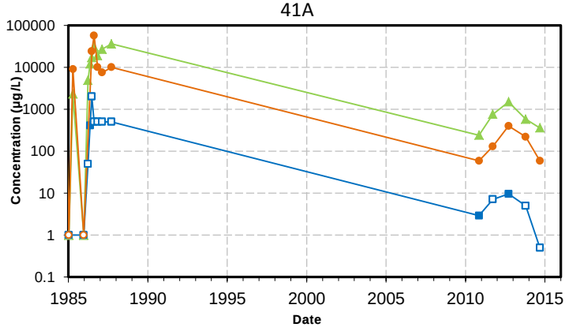


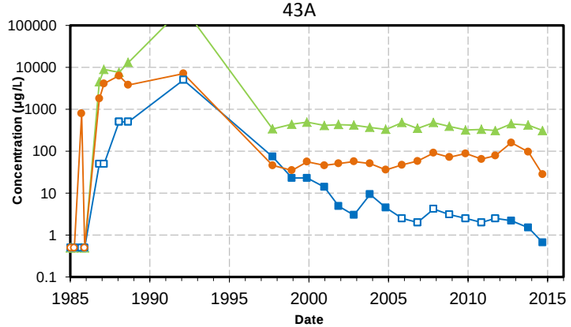


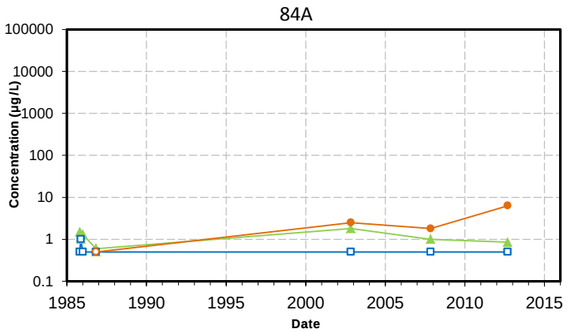


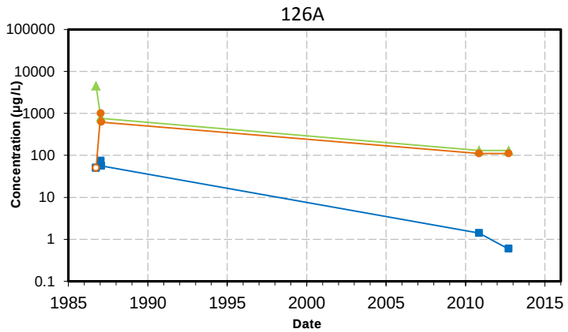


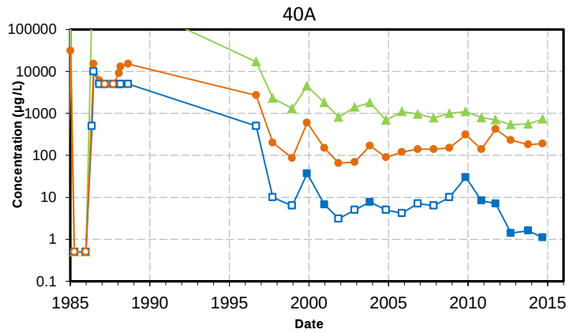






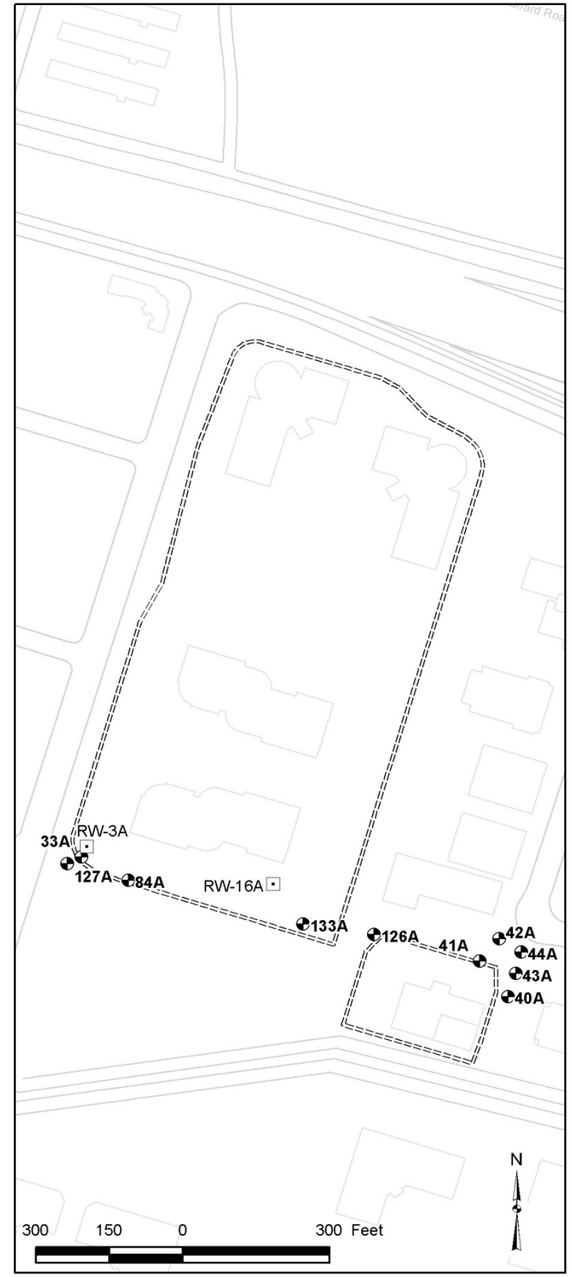






Trichloroethene
cis-1,2-Dichloroethene
Vinyl Chloride

Note:
Open symbols are non-detects, presented at limit of quantification



33A Monitoring Well
RW-3A Extraction Well (On)

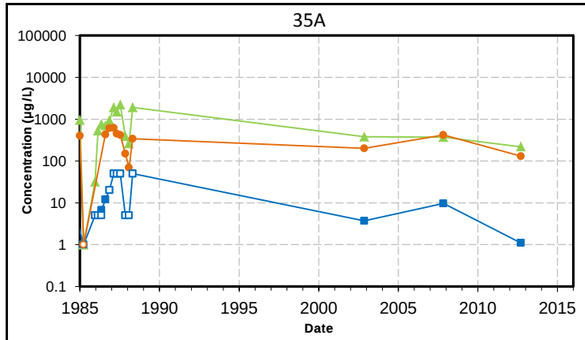
Chlorinated Ethenes in Groundwater
A Zone
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

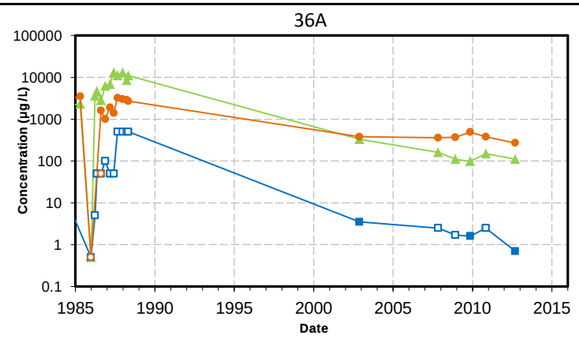
Geosyntec consultants

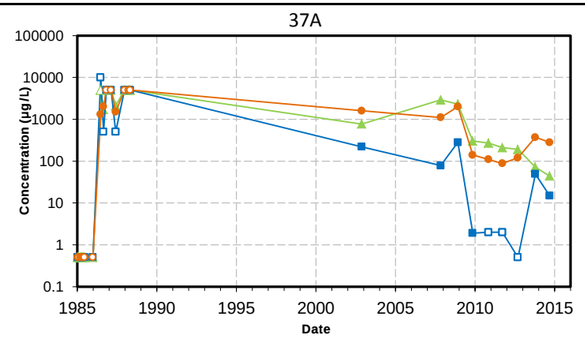
Oakland | April 2015

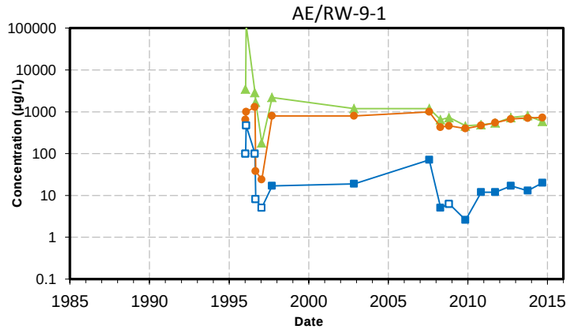
Figure **D-3**

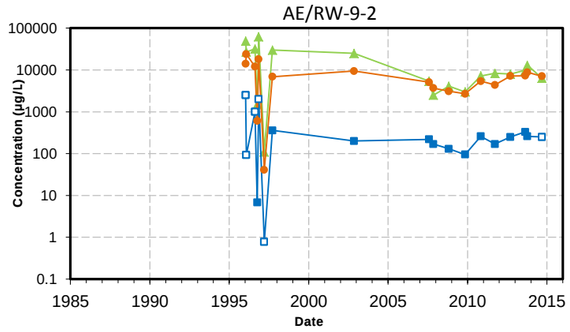
P:\GIS\MEW\Excel\Fairchild\2014_AR\Building1-4,9,18\[FigD-3_TimeSeries.xlsx]

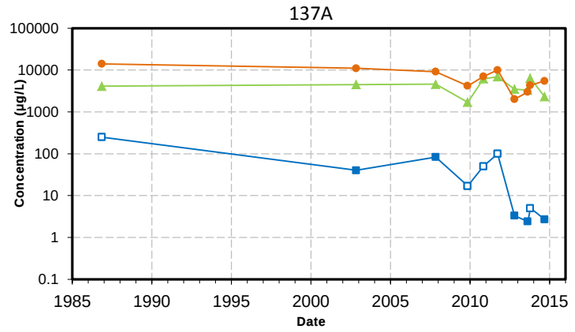


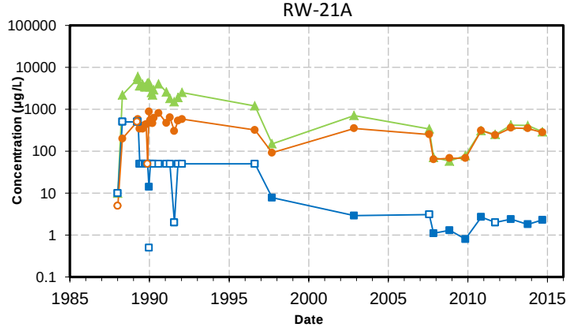


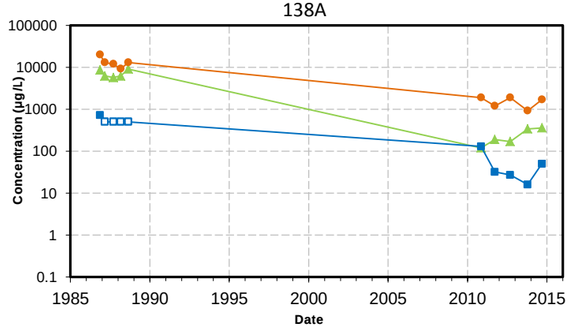


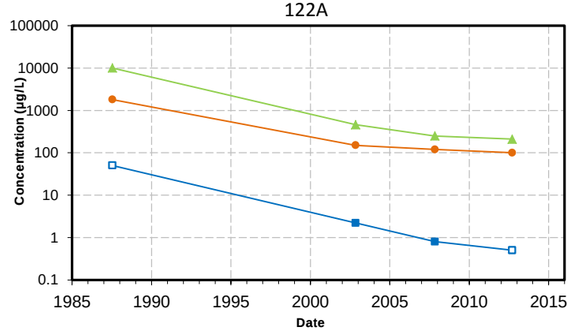


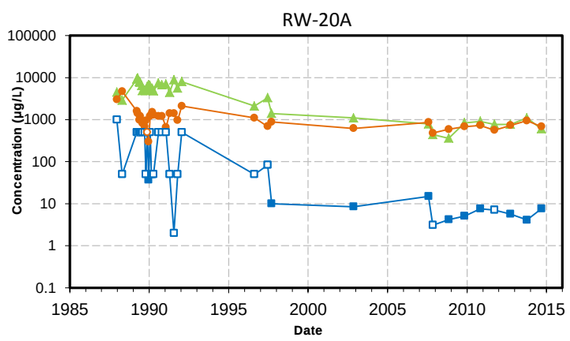






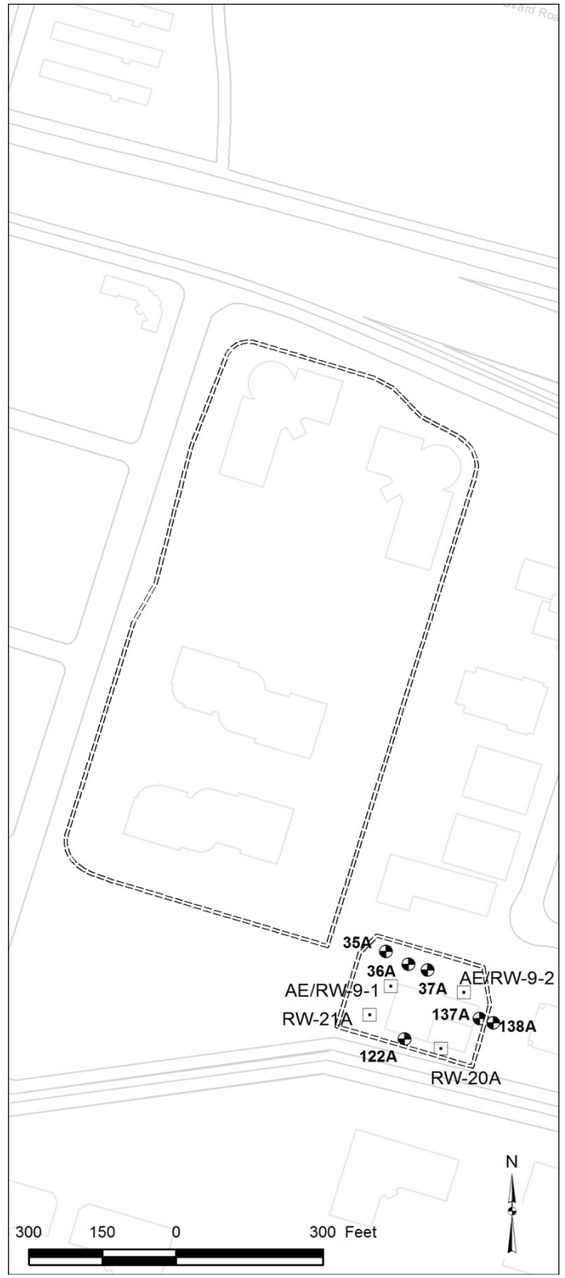






Trichloroethene
cis-1,2-Dichloroethene
Vinyl Chloride

Note:
Open symbols are non-detects,
presented at limit of quantification



35A Monitoring Well
RW-21A Extraction Well (On)

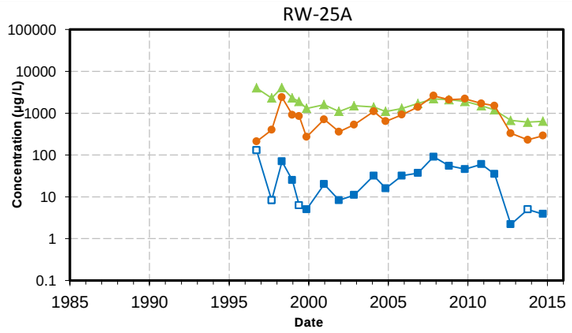
Chlorinated Ethenes in Groundwater
A Zone
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

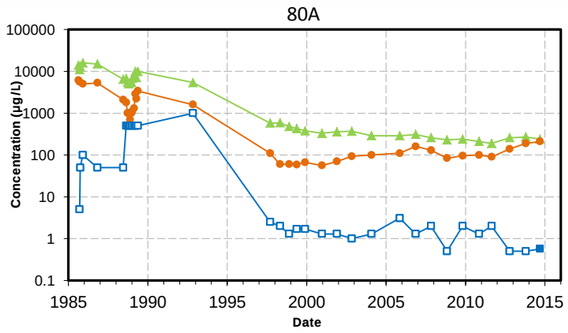
Geosyntec consultants

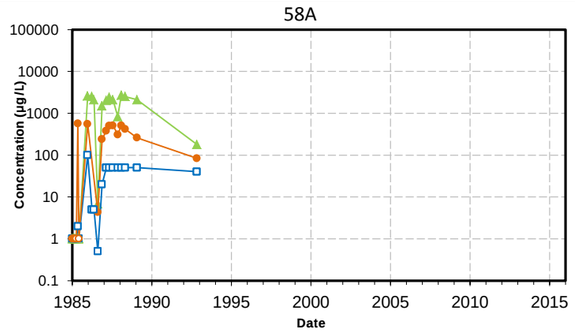
Figure **D-4**

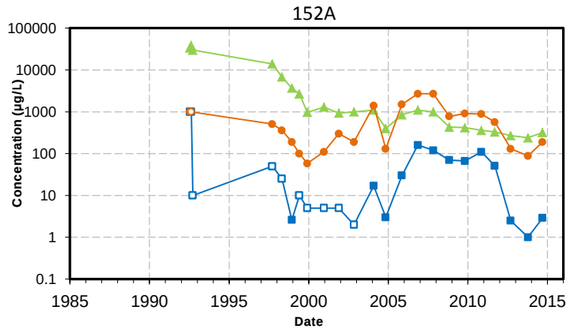
Oakland | April 2015

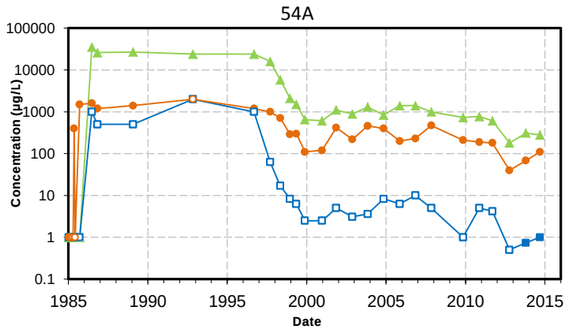
P:\GIS\MEW\Excel\Fairchild\2014_AR\Building1-4,9,18\[FigD-4_TimeSeries.xlsx]

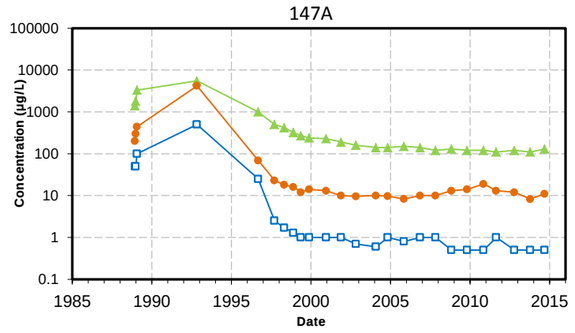












Trichloroethene
cis-1,2-Dichloroethene
Vinyl Chloride

Note:
Open symbols are non-detects,
presented at limit of quantification

152A — Monitoring Well

RW-25A — Extraction Well (On)

Chlorinated Ethenes in Groundwater
A Zone
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure **D-5**

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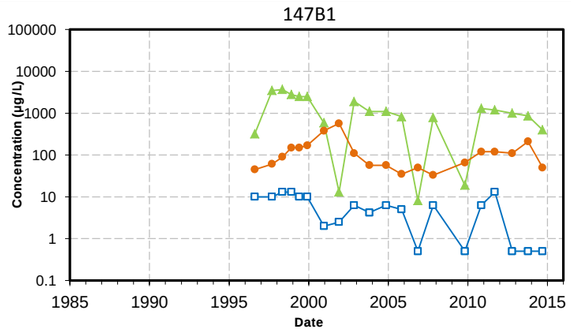
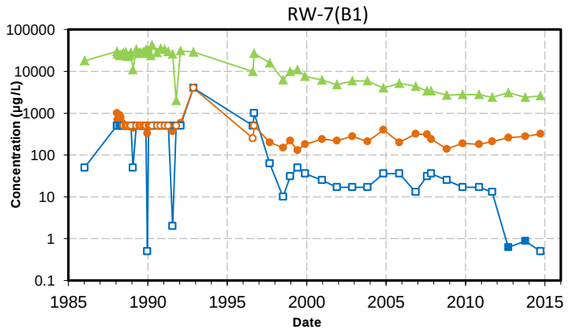
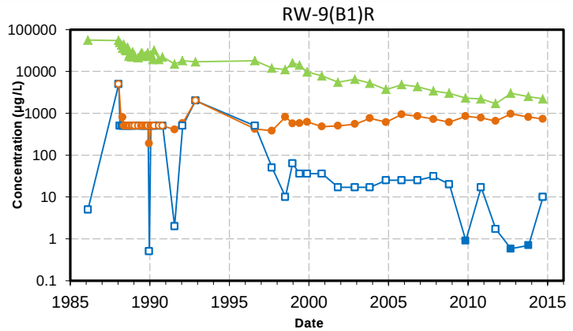
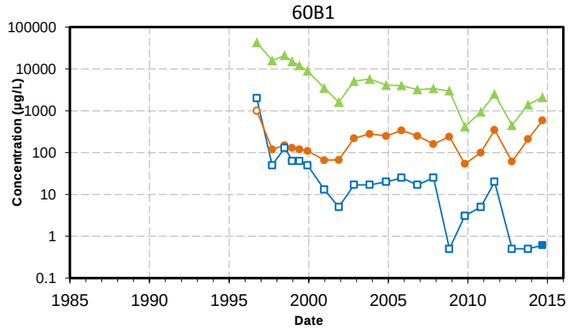
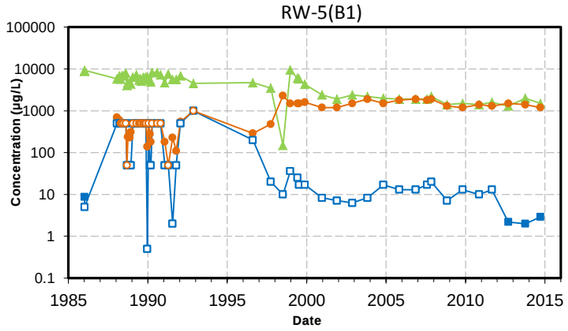
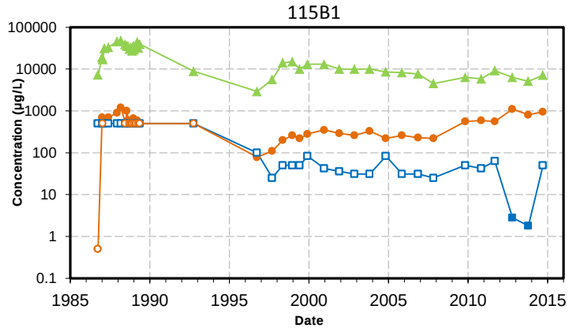


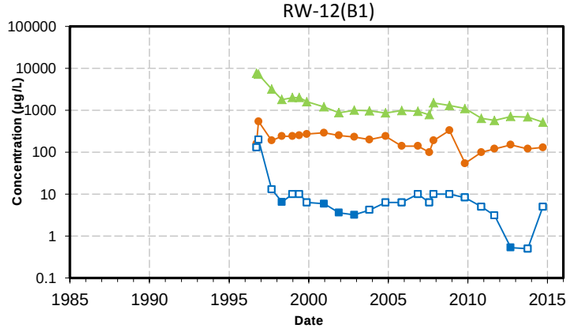


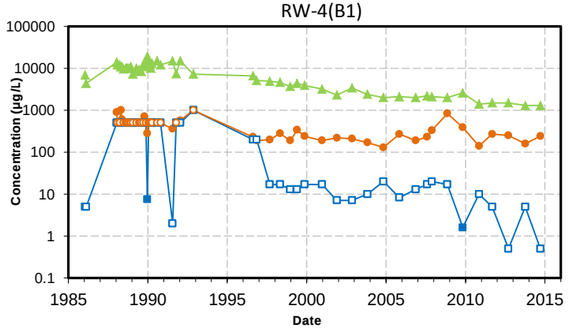


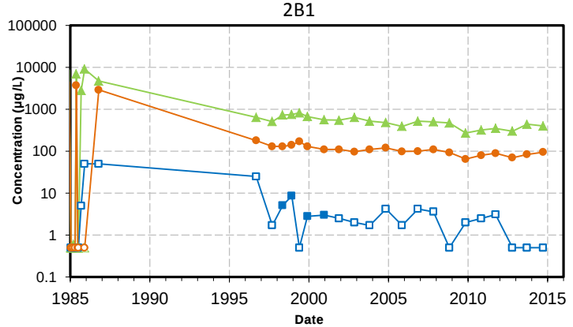


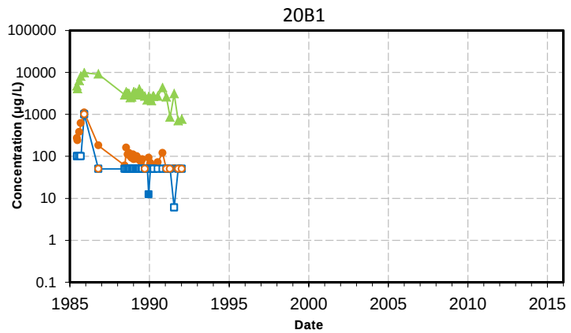


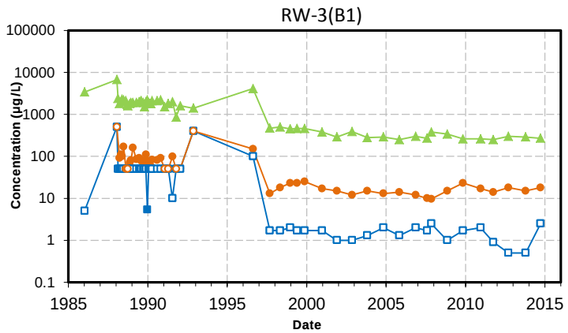


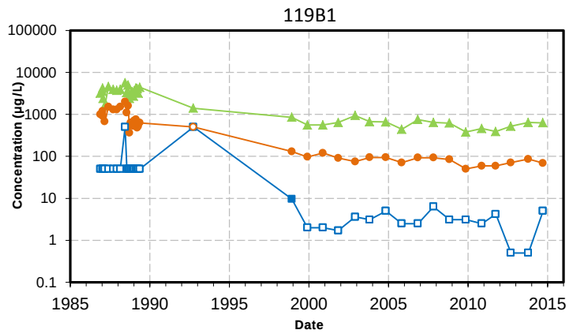






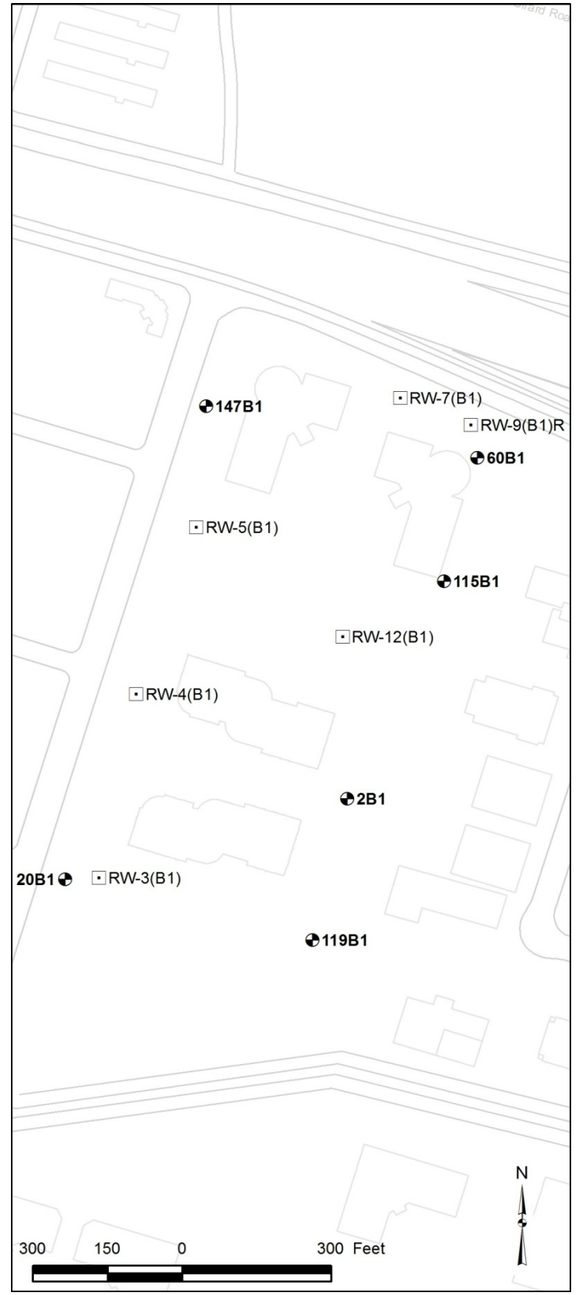






Trichloroethene
cis-1,2-Dichloroethene
Vinyl Chloride

Note:
Open symbols are non-detects, presented at limit of quantification



119B1 Monitoring Well
RW-3(B1) Extraction Well (On)

Chlorinated Ethenes in Groundwater
B1 Zone
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Oakland | April 2015

Figure **D-6**

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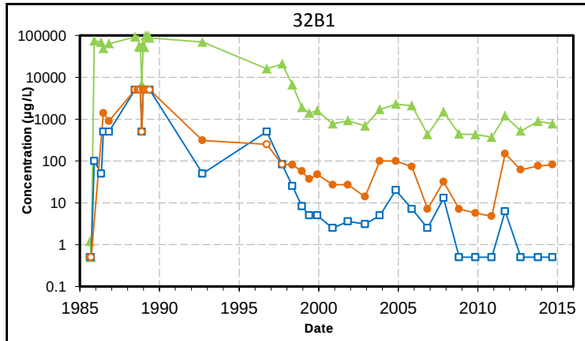

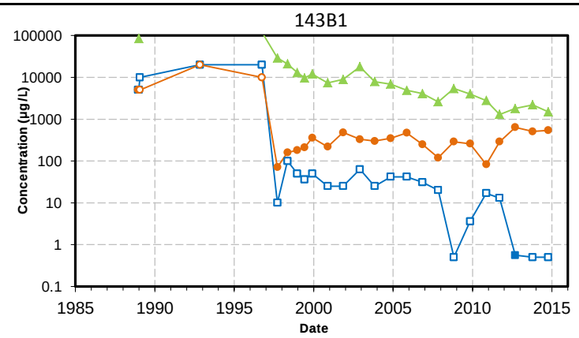

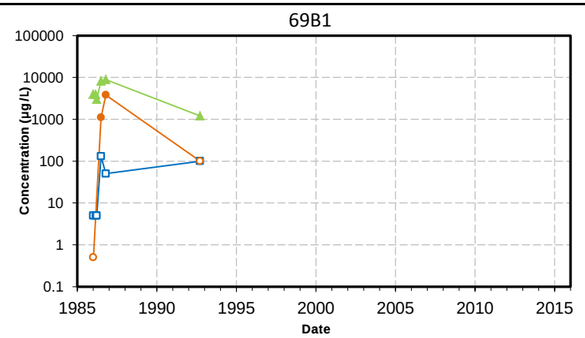

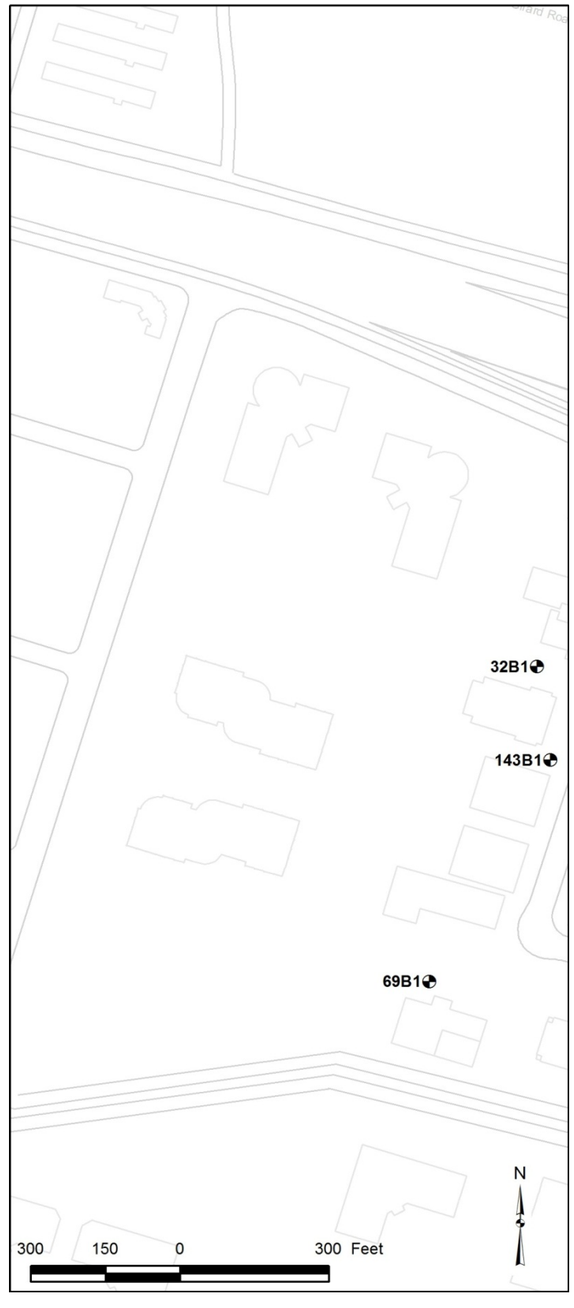

Trichloroethene

cis-1,2-Dichloroethene

Vinyl Chloride

Note:
Open symbols are non-detects,
presented at limit of quantification

69B1 Monitoring Well

Chlorinated Ethenes in Groundwater
B1 Zone
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Figure
D-7

Oakland | April 2015

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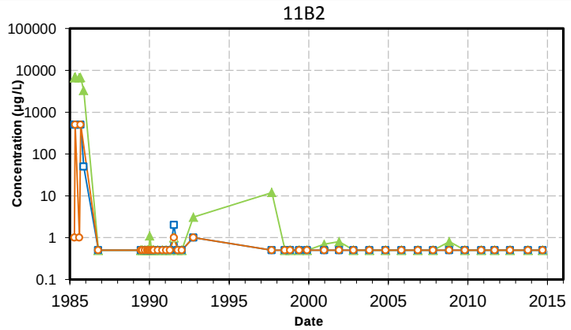

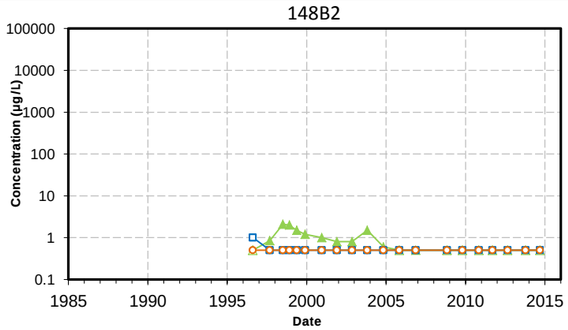

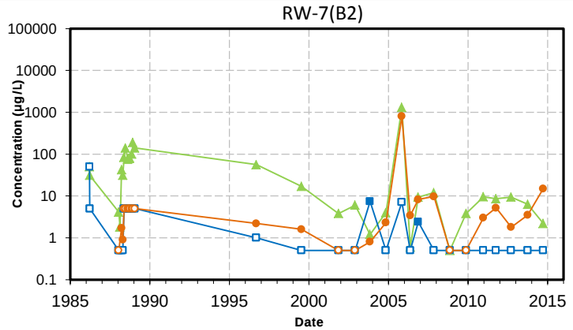

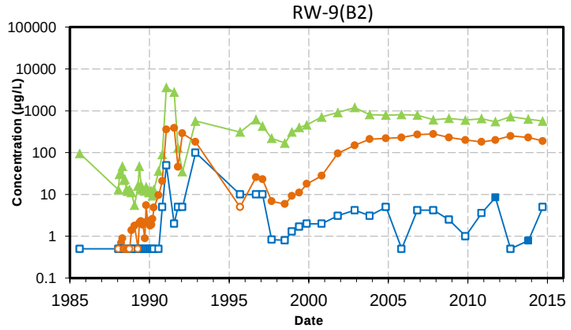

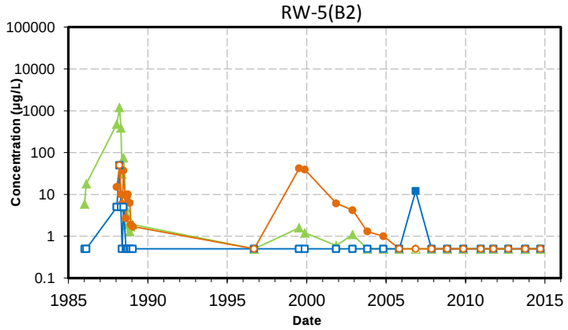

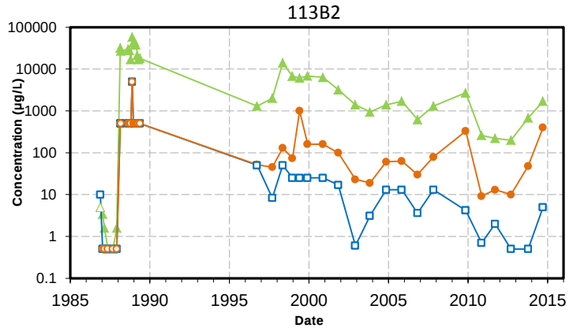

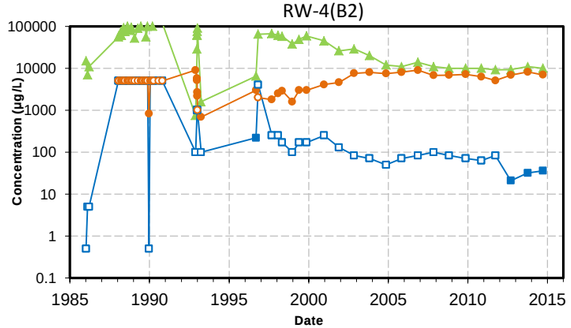

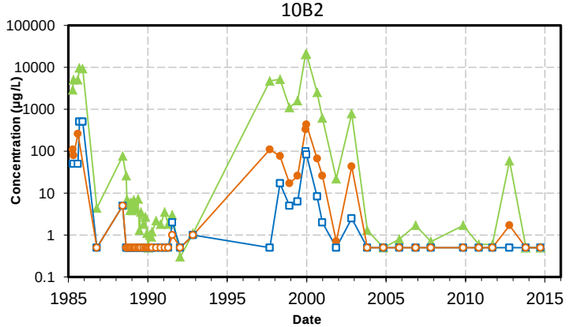

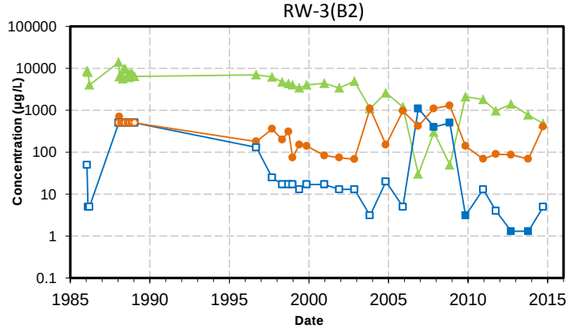

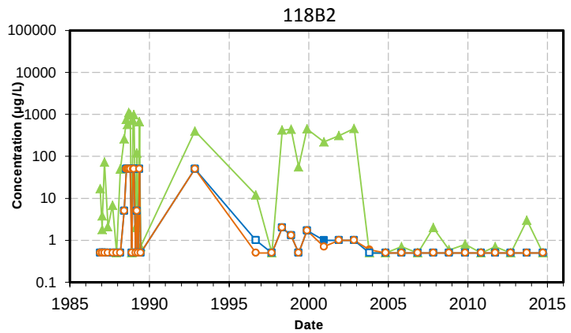

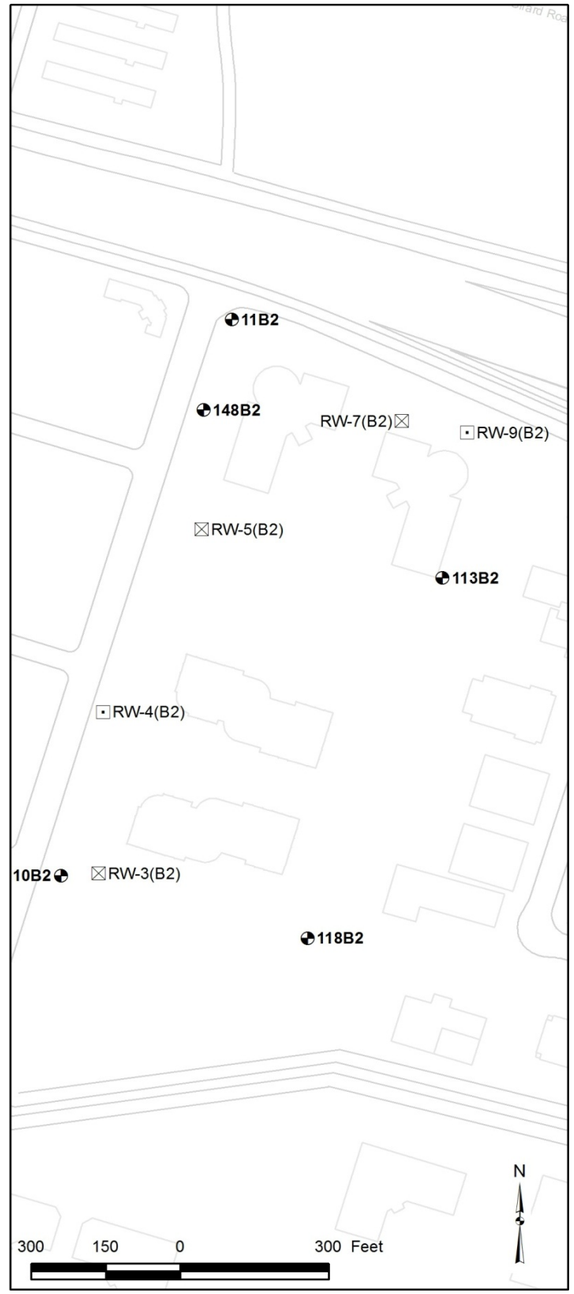

Trichloroethene
cis-1,2-Dichloroethene
Vinyl Chloride

Note:
Open symbols are non-detects, presented at limit of quantification

118B2 Monitoring Well
RW-4(B2) Extraction Well (On)
RW-3(B1) Extraction Well (Off)

Chlorinated Ethenes in Groundwater
B2 Zone
MEW Former Fairchild Buildings 1-4, 9, and 18 Groundwater Remediation Programs
Mountain View, California

Geosyntec consultants

Figure **D-8**

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