FIRST FIVE-YEAR REVIEW REPORT FOR

SAN GABRIEL VALLEY AREA 1 SUPERFUND SITE

South El Monte Operable Unit (SEMOU, OU5)
Richwood Operable Unit (ROU, OU3)
Suburban Operable Unit (SOU, OU4)
Whittier Narrows Operable Unit (WNOU, OU2)
El Monte Operable Unit (EMOU, OU1, OU08, and OU09)

LOS ANGELES COUNTY, CALIFORNIA

PREPARED BY

United States Environmental Protection Agency
Region 9
San Francisco, California

Approved by: **Date:**

Kathleen Salyer 9/11/13

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Executive Summary

This is the first Five-Year Review (FYR) of the San Gabriel Valley Area 1 Superfund Site (the Site) located in Los Angeles County, California (see Figure 3-1). The purpose of this FYR is to review information to determine if the remedy is and will continue to be protective of human health and the environment. The triggering action for this FYR was the signing of the South El Monte Operable Unit (OU) Cooperative Agreement between the United States Environmental Protection Agency (EPA) and the San Gabriel Basin Water Quality Authority (WQA) on August 7, 2008 (EPA, 2008a), which funded the South El Monte OU remedy. This FYR discusses the South El Monte, Richwood, Suburban, Whittier Narrows, and El Monte OUs at the Area 1 Site. The Area 1 Site addresses multiple commingled plumes of groundwater contamination. The contamination originates at various industrial facilities and extends through portions of the cities of South El Monte, El Monte, Temple City, and Rosemead in Los Angeles County, California. The depth to groundwater in the Area 1 Superfund Site ranges from approximately 15 to 100 feet. The groundwater is contaminated with volatile organic compounds (VOCs), perchlorate, n-nitrosodimethylamine (NDMA), and 1,4-dioxane.

This FYR addresses the South El Monte, Richwood, and Suburban OUs. The report also describes the Whittier Narrows and El Monte OUs to a lesser extent, because a separate FYR was completed for Whittier Narrows OU in July 2011 and the selected remedy for the El Monte OU is still under construction. Separate Records of Decision (RODs) were prepared for each OU, selecting separate remedies.

South El Monte OU

In September 2000, EPA prepared an Interim Record of Decision (IROD) that selected an interim groundwater pump-and-treat remedy for South El Monte OU to protect human health and the environment. An Explanation of Significant Differences (ESD) was signed in 2005, which incorporated the addition of perchlorate treatment as a necessary component of the interim remedy. The major components of the South El Monte OU interim remedy are four separate groundwater pump-and-treat systems operated by three water purveyors: the City of Monterey Park (MP), Golden State Water Company (GSWC), and San Gabriel Valley Water Company (SGVWC). The systems include the following:

- Multiple water supply wells used as remedial groundwater extraction wells, for which rates and locations were selected during the remedial design process
- Water treatment equipment capable of removing VOCs from contaminated groundwater
- Conveyance systems including pipelines and booster pumps to transport contaminated groundwater from the extraction wells to the treatment plants, and to transport treated water from the plant to the water distribution systems of the three water purveyors
- Monitoring wells to help assess remedy performance

Initial work on the water purveyor treatment facilities started before EPA prepared the South El Monte OU IROD and continued in various stages through mid-2006. By the time remedy implementation began under the Cooperative Agreement in October 2008, all of the primary construction activities had been completed by the water purveyors.

Richwood OU

In May 1984, EPA selected initial remedial measures (IRMs) for a portion of the Area 1 Superfund Site that later became the Richwood OU. The intent of the IRMs was to develop an alternative water supply or a treatment system to enable three local water purveyors – Richwood Mutual Water Company (RMWC), Hemlock Mutual Water Company (HMWC), and Rurban Homes Mutual Water Company (RHMWC) – to supply drinking water with levels of tetrachloroethene (PCE) contamination below the EPA Suggested No Adverse Response Level (SNARL) of 4 micrograms per liter (µg/L).

Ultimately, EPA only constructed a treatment system for RMWC. The treatment plant for RMWC became operational on January 15, 1992. In March 1994, the California Department of Toxic Substances Control (DTSC) assumed operations and maintenance (O&M) responsibility for the treatment plant. In November 1994, DTSC shut down the treatment plant and entered into an agreement with SGVWC to provide domestic water supply to the residents that previously had been served by RMWC. SGVWC has continued to provide water since that time. The RMWC treatment system was removed, the two production wells were destroyed, and SGVWC acquired RMWC's assets in March 1999. HMWC and RHMWC continue to supply water to their customers in the Richwood OU. EPA is considering partial deletion of the Richwood OU from the Area 1Site listing on the National Priorities List (NPL) because no further response action is warranted.

Suburban OU

In September 1988, EPA selected a remedy for the Suburban OU that was intended to partially control the movement and spread of contaminants in the Whittier Narrows area of the San Gabriel Valley and to address the potential public health threat posed by contaminants in the Suburban Water Systems (SWS) Bartolo Well Field. The Suburban OU, also referred to as SWS Bartolo Well Field, consisted of four water supply wells (201W-2, 201W-4, 201W-5, and 201W-6). In 1993, EPA amended the remedy by changing the treatment level from 1 µg/L to the newly established primary drinking water maximum contaminant level (MCL) of 5 µg/L for PCE, and delaying construction of a treatment system because contaminant concentrations remained below MCLs. PCE concentrations in the Bartolo Well Field have continued to be well below the MCL since that time so a treatment system was never constructed. SWS has installed newer production wells to replace three of the aging original wells and continues to pump considerable volumes of water from the Bartolo Well Field. SWS Bartolo Well Field is located within the footprint of the Whittier Narrows OU. EPA is considering partial deletion of the Suburban OU from the Site listing on the NPL because no further response action is warranted.

Whittier Narrows OU

In March 1993, EPA issued an IROD for the Whittier Narrows OU for groundwater monitoring only. An IROD Amendment was signed in November 1999, calling for groundwater extraction and

treatment from extraction wells located just north of the Whittier Narrows Dam. EPA started construction of the Whittier Narrows OU groundwater extraction and treatment facility in June 2001 and completed construction in March 2002. The interim groundwater pump-and-treat remedy has been operating since that time. EPA completed a second FYR of the Whittier Narrows OU in September 2011 and determined that the remedy is protective of human health and the environment.

El Monte OU

In June 1999, EPA issued an IROD for the El Monte OU that includes construction of groundwater extraction wells, conveyance pipelines, and three groundwater treatment systems. An ESD was signed in 2002, which incorporated treatment, as necessary, for emergent chemicals in the area. Construction of the VOC cleanup systems began in mid-2011 and is ongoing.

Conclusion

Although the South El Monte OU interim remedy has not consistently achieved target extraction rates during the review period, the remedy extraction systems are limiting the migration of contaminants of concern (COCs) in groundwater and providing complete containment of the VOC-contaminated target areas (called the central containment area and western containment area in the IROD). The institutional controls (governmental controls) that are in place continue to effectively prevent unacceptable exposure to contaminated Site groundwater. The South El Monte OU remedy is meeting all Applicable or Relevant and Appropriate Requirements (ARARs) in the IROD, and there have been no changes in ARARs affecting the protectiveness of the remedy. Although the toxicity values for trichloroethene (TCE) became more stringent in 2011, the current MCL is within EPA's risk range and is therefore protective of human health and the environment. Otherwise, there have been no other significant changes in the toxicity factors for the COCs that were used in the previous risk assessments or the standardized risk assessment methodology that could affect the protectiveness of the remedy. EPA is actively evaluating vapor intrusion at facilities in the upgradient source areas as part of an ongoing supplemental remedial investigation/feasibility study (RI/FS) to support a Final ROD for the South El Monte OU. There is no other information that calls into question the protectiveness of the remedy.

The Richwood OU remedy was shut down in November 1994. No active remedy was ever implemented in the Suburban OU.

The overall protectiveness determination for the San Gabriel Valley Area 1 Superfund Site interim remedy is deferred. A protectiveness determination at the South El Monte OU (OU 5) cannot be made until further information is obtained. EPA is currently conducting a vapor intrusion investigation, including soil vapor sampling and indoor air sampling at and near source facilities throughout the South El Monte OU. It is expected that the investigation will take approximately 3 years to complete, at which time a protectiveness determination will be made. The interim remedies for the Richwood OU (OU 3) and Suburban OU (OU 4) are protective of human health and the environment.

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Five-Year Review Summary Form

Site Identification		
Site Name: San Gabriel Valley (Area 1) – South El Monte, Richwood, Suburban, Whittier Narrows, and El Monte Operable Units (OUs)		
EPA ID: CAD980677355		
Region: 9	**State:** CA	**City/County: South El Monte, El Monte, Temple City, and Rosemead/Los Angeles County**

Site Status	
NPL Status: Final	
Multiple OUs? Yes	**Has the site achieved construction completion?** No

Review Status
Lead agency: EPA **If "Other Federal Agency" was selected above, enter Agency name:**
Author name (Federal or State Project Manager): Rachelle Thompson
Author affiliation: EPA Region 9
Review period: October 2012 – May 2013
Date of site inspection: March 20, 2013
Type of review: Statutory
Review number: 1
Triggering action date: August 2008
Due date *(five years after triggering action date)*: August 2013

Issues/Recommendations				
OU(s) without Issues/Recommendations Identified in the Five-Year Review:				
Richwood OU 03, Suburban OU 04				
Issues and Recommendations Identified in the Five-Year Review:				
OU(s): South El Monte OU 05	**Issue Category: Changed Site Conditions**			
	Issue: Vapor intrusion was not considered as an exposure pathway in the IROD.			
	Recommendation: Continue the ongoing vapor intrusion investigation and implement removal and remedial actions at selected facilities, as appropriate.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Implementing Party**	**Oversight Party**	**Milestone Date**
Yes*	Yes*	EPA	EPA	09/30/2016

*The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database only accepts "Yes" or "No" entries regarding whether an issue affects current or future protectiveness. However, this protectiveness determination has been deferred because there is not enough information to make the determination. For the purposes of the CERCLIS database, a "defer" determination is equivalent to "yes" entry.

Protectiveness Statement(s)		
Operable Unit: **Richwood OU 03**	***Protectiveness Determination:*** **Protective**	***Addendum Due Date (if applicable):*** **Click here to enter date.**
Protectiveness Statement: The interim remedy for the Richwood OU (OU 3) is protective of human health and the environment.		
Protectiveness Statement(s)		
Operable Unit: **Suburban OU 04**	***Protectiveness Determination:*** **Protective**	***Addendum Due Date (if applicable):*** **Click here to enter date.**
Protectiveness Statement: The interim remedy for the Suburban OU (OU 4) is protective of human health and the environment.		
Protectiveness Statement(s)		
Operable Unit: **South El Monte OU05**	***Protectiveness Determination:*** **Protectiveness Deferred**	***Addendum Due Date (if applicable):*** **09/30/2016**
Protectiveness Statement: A protectiveness determination at the South El Monte OU (OU 5) cannot be made until further information is obtained. EPA is currently conducting a vapor intrusion investigation, including soil vapor sampling and indoor air sampling at and near source facilities throughout the South El Monte OU. It is expected that the investigation will take approximately 3 years to complete, at which time a protectiveness determination will be made.		

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List of Abbreviations

µg/L	micrograms per liter
1,1,1-TCA	1,1,1- trichloroethane
1,2,3-TCP	1,2,3-trichloropropane
1,2-DCA	1,2-dichloroethane
1,2-DCP	1,2-dichloropropane
AL	Action Level
ARAR	Applicable or Relevant and Appropriate Requirement
ASR	applicable state requirement
ASTM	ASTM International (formerly American Society for Testing and Materials)
ATSDR	Agency for Toxic Substances and Disease Registry
bgs	below ground surface
Cal-EPA	California Environmental Protection Agency
CCR	*California Code of Regulations*
CDHS	California Department of Health Services
CDPH	California Department of Public Health (formerly California Department of Health Services)
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	*Code of Federal Regulations*
cis-1,2-DCE	cis-1,2-dichloroethene
COC	contaminant of concern
DTSC	California Department of Toxic Substances Control
EC	emergent chemical

ECAO	Environmental Criteria and Assessment Office
EMOU	El Monte Operable Unit
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FBR	fluidized bed reactor
FS	feasibility study
FYR	Five-Year Review
GAC	granular activated carbon
gpm	gallons per minute
GSWC	Golden State Water Company
HEAST	Health Effects Assessment Summary Tables
HHRA	human health risk assessment
HMWC	Hemlock Mutual Water Company
HQ	hazard quotient
IC	institutional control
IRIS	Integrated Risk Information System
IRM	initial remedial measure
IROD	Interim Record of Decision
IX	ion exchange
LARWQCB	Los Angeles Regional Water Quality Control Board
lb	pound(s)
LGAC	liquid-phase granular activated carbon
MCL	maximum contaminant level
mg/kg	milligrams per kilogram

mg/kg/day	milligrams per kilogram per day
mg/L	milligrams per liter
mgd	million gallons per day
MP	City of Monterey Park
MRL	minimal risk level
msl	mean sea level
NCEA	National Center for Environmental Assessment
NCP	National Contingency Plan
NDMA	n-nitrosodimethylamine
NL	Notification Level
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O&F	operational and functional
O&M	operations and maintenance
OEHHA	Office of Environmental Health Hazard Assessment
OMMP	Operations, Monitoring, and Maintenance Plan
OSWER	EPA Office of Solid Waste and Emergency Response
OU	operable unit
Ox	oxidation
PCE	tetrachloroethene
ppb	parts per billion
PPRTV	Provisional Peer Reviewed Toxicity Value
PRP	Potentially Responsible Party
RAO	remedial action objective

RBCA	risk-based corrective action
REL	reference exposure level
RfD	reference dose
RfDi	reference dose inhalation
RfDo	reference dose oral
RHMWC	Rurban Homes Mutual Water Company
RI	remedial investigation
RME	Reasonable Maximum Exposure
RMWC	Richwood Mutual Water Company
ROD	Record of Decision
ROU	Richwood Operable Unit
RPM	Remedial Project Manager
RSL	Regional Screening Level
SCAQMD	South Coast Air Quality Management District
SEMOU	South El Monte Operable Unit
SFi	cancer slope factor inhalation
SFo	cancer slope factor oral
SGVWC	San Gabriel Valley Water Company
Site	San Gabriel Valley Area 1 Superfund Site
SNARL	Suggested No Adverse Response Level
SOU	Suburban Operable Unit
Suburban	Suburban Water Systems Bartolo Well Field
SWS	Suburban Water Systems
TCE	trichloroethene

trans-1,2-DCE	trans-1,2-dichloroethene
U.S.C.	*United States Code*
UV	ultraviolet
VFD	variable-frequency drive
VGAC	vapor-phase granular activated carbon
VOC	volatile organic compound
Watermaster	Main San Gabriel Basin Watermaster
WIP	well investigation program
WNOU	Whittier Narrows Operable Unit
WQA	San Gabriel Basin Water Quality Authority

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First Five-Year Review Report

for

San Gabriel Valley Area 1 Superfund Site

1. Introduction

The purpose of a Five-Year Review (FYR) is to evaluate the implementation and performance of a remedy to determine whether the remedy will continue to be protective of human health and the environment. The methods, findings, and conclusions of FYRs are documented in FYR reports, which identify issues found during the review, if any, and document recommendations to address these issues.

The United States Environmental Protection Agency (EPA) prepares FYRs pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 121, and the National Contingency Plan (NCP). CERCLA Section 121 states:

> "If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews. "

EPA interpreted this requirement further in the NCP (40 *Code of Federal Regulations* [CFR] Section 300.430[f][4][ii]), which states:

> "If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such actions no less often than every five years after the initiation of the selected remedial action. "

EPA conducted the FYR and prepared this report for the remedy implemented at the San Gabriel Valley Area 1 Superfund Site (the Site) in Los Angeles County, California. The Site is being addressed in five long-term remedial phases focusing on cleanup of areawide contamination: the South El Monte Operable Unit (OU) (SEMOU, OU5), the Richwood OU (ROU, OU3), the Suburban Water Systems Bartolo Well Field (Suburban) OU (SOU, OU4), the Whittier Narrows OU (WNOU, OU2), and the El Monte OU (EMOU, OU1). EPA is the lead agency for developing and implementing

the remedy for the Site. The California Department of Toxic Substances Control (DTSC), as the support agency representing the State of California, provided input to EPA during the FYR process in a letter regarding the scope of the review and through comments on the draft report.

This is the first FYR for the Richwood, Suburban, and South El Monte OUs (03, 04, and 05) of the Area 1 Site. The Whittier Narrows OU (OU2) was evaluated in 2006 and 2011. The triggering action for this statutory review was the signing of the South El Monte OU project Cooperative Agreement by EPA and the San Gabriel Basin Water Quality Authority (WQA) on August 7, 2008, which funded the South El Monte OU remedy. A FYR is required because hazardous substances, pollutants, or contaminants remain onsite in groundwater above levels that allow for unlimited use and unrestricted exposure.

Each OU is designated separately in EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database (an EPA database of information about Superfund sites) and has individual cleanup goals and strategies specific to the OU. The cleanup goals and plans for each OU are reported in documents known as Records of Decision (RODs). The RODs for each OU were developed at different times, and as such, the cleanup efforts for each OU are at different stages.

This FYR addresses the South El Monte, Richwood, and Suburban OUs in detail. The Whittier Narrows OU and El Monte OU remedies are described in this FYR; however, they are not evaluated in detail. A second FYR was completed for the Whittier Narrows OU in September 2011 and determined that the remedy was protective. The El Monte OU remedy is under construction. It is anticipated that subsequent Area 1 FYRs will fully evaluate all active Area 1 OUs.

The San Gabriel Valley Area 1 Superfund Site is one of four San Gabriel Valley groundwater sites listed on the National Priorities List (NPL). The other three San Gabriel Valley sites are San Gabriel Valley Area 2 (referred to as the Baldwin Park OU), San Gabriel Valley Area 3 (which addresses contamination in the Alhambra area), and San Gabriel Valley Area 4 (which addresses the Puente Valley OU).

2. Site Chronology

Table 2-1 lists the dates of important events for the Site.

Table 2-1: Chronology of Site Events by Operable Unit

Event	Date
Initial discovery or contamination (volatile organic compounds [VOCs] detected in a drinking water supply well).	1979
NPL listing (final).	05/08/1984
South El Monte OU	
Interim Record of Decision (IROD) signed, defining the selected remedy for the South El Monte OU.	09/2000
Golden State Water Company (GSWC) permitted by California Department of Public Health (CDPH) to begin SG1/SG2 liquid-phase granular activated carbon (LGAC) system operations.	10/2001
San Gabriel Valley Water Company (SGVWC) permitted by CDPH to begin Plant 8 air stripper operations.	07/2002
GSWC permitted by CDPH to begin ion exchange (IX) system operations for perchlorate treatment.	11/2003
City of Monterey Park (MP) permitted by CDPH to begin operation of the Well 12 IX (perchlorate treatment) and LGAC (secondary VOC treatment) systems at the Delta facility.	05/2005
Explanation of Significant Differences (ESD) signed.	11/10/2005
MP permitted by CDPH to add Well 15 water to the Well 12 treatment systems.	08/2006
MP permitted by CDPH for revised Well 5 LGAC operations (lead-lag configuration) and perchlorate blending.	08/2006
SGVWC permitted by CDPH to begin LGAC (secondary VOC treatment) system operations at Plant 8.	09/2006
EPA and WQA finalized the basic components of the Cooperative Agreement covering use of water purveyor facilities to implement the interim remedy.	10/2006
EPA entered Cooperative Agreement with WQA. Minimum pumping rates set for remedy wells.	08/07/2008
EPA funded the WQA grant initiating formal operation of the interim remedy under the Cooperative Agreement.	09/2008
GSWC removes the perchlorate treatment from GSWC's San Gabriel Treatment Plant.	03/2010
Removal of perchlorate treatment at MP Wells 9, 12, and 15 treatment plant.	05/20/2009

Table 2-1: Chronology of Site Events by Operable Unit

Event	Date
Final Sampling and Analysis Plan – Remedial Action Compliance Monitoring completed.	02/2011
Final Sampling and Analysis Plan – Supplemental Remedial Investigation/ Feasibility Study (RI/FS) completed.	03/2011
EPA completes installation of 12 new compliance monitoring wells.	06/2011
MP removes the Well 12/15 perchlorate treatment system from service.	08/2011
Compliance Well Installation and First Semi-Annual Remedial Action Compliance Monitoring Report completed.	03/2012
EPA conducts final inspection of the South El Monte OU remedial action.	05/10/2012
CDPH permits use of GSWC's Well SG2 under an approved nitrate blending plan.	07/2012
Remedial Action 2012 Compliance Monitoring Report completed.	04/2013
EPA declares the South El Monte OU interim remedy to be Operational and Functional (O&F).	05/10/2013
Richwood OU	
Focused FS completed for Area 1. The FS focused on the Richwood OU.	12/06/1983
ROD signed for the San Gabriel Area 1 Site. Initial remedial measures (IRMs) for Richwood OU presented.	05/11/1984
ROD amendment for Richwood OU completed. Selected remedy included granular activated carbon (GAC) treatment for Richwood Mutual Water Company (RMWC).	09/1987
Richwood treatment plant completed and operational.	01/15/1992
Richwood OU transferred to the State of California. The California Department of Toxic Substances Control (DTSC) assumed operations and maintenance (O&M) of the treatment plant.	03/15/1994
DTSC entered into an agreement with SGVWC to supply water to RMWC customers.	11/29/1994
Richwood OU treatment plant closed and wells abandoned.	11/1998
SGVWC purchased RMWC's assets and water rights and agreed to permanently supply water to RMWC residences.	03/19/1999
SGVWC completed distribution system to RMWC residences.	12/06/1999
Suburban OU	
Draft FS issued.	06/24/1988
ROD signed. Selected remedy included treatment by air stripping with GAC off-gas treatment.	9/26/1988

Table 2-1: Chronology of Site Events by Operable Unit

Event	Date
Screening risk assessment completed.	07/13/1992
ROD amendment signed. Due to decreasing levels of contaminants, treatment system put on hold.	09/22/1993
Suburban Water Systems (SWS) destroys original Bartolo Wells 201W1, 201W2, 201W3, 201W5, and 201W6 and installs replacement wells 201W7, 201W8, 201W9, and 201W10.	2005-2011
Whittier Narrows OU	
Monitoring-only IROD signed.	03/31/1993
FS Addendum and Proposed Plan completed.	10/1998
IROD Amendment signed.	11/10/1999
Construction completed for selected remedy.	03/31/2002
Remedial action complete, and remedial action report signed.	09/30/2003
First Five-Year Review (FYR) completed.	09/2006
Second FYR completed.	09/2011
O&M responsibility transferred from EPA to DTSC. SGVWC replaced City of Whittier as operator of the treatment facility.	05/17/2013
El Monte OU	
IROD signed.	06/1999
ESD signed to incorporate treatment of emerging contaminants of concern (COCs).	8/22/2002
Construction of El Monte OU cleanup systems began and is currently ongoing.	Mid-2011

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3. Background

3.1. Physical Characteristics

The San Gabriel Valley lies approximately 25 miles east of the Pacific Ocean and encompasses an area of approximately 170 square miles. The San Gabriel Valley Area 1 Superfund Site is an area of contaminated groundwater that includes multiple, separate and commingled plumes that comprise a large area of groundwater contamination in eastern Los Angeles County. The Site is located in the San Gabriel Valley and consists of five OUs: South El Monte, Richwood, Suburban, Whittier Narrows, and El Monte (see Figure 3-1). The contamination originates at current and former industrial facilities in and near the cities of South El Monte, El Monte, Temple City, and Rosemead, California.

The South El Monte OU covers approximately 8 square miles in the south-central portion of the San Gabriel Basin and is bounded by the San Bernardino Freeway (Interstate 10) to the north, the Pomona Freeway (Highway 60) to the south, the San Gabriel River Freeway (Interstate 605) to the east, and San Gabriel Boulevard to the west (see Figure 3-1).

The Richwood OU is located in the City of El Monte, California, approximately 0. 5 mile west of Interstate 605 and approximately 1 mile north of Interstate 10 (see Figure 3-1). The OU originally consisted of an area of contaminated groundwater impacting three mutual water companies (purveyors): the former RMWC, RHMWC, and HMWC.

The Suburban OU includes the SWS Bartolo Well Field, a set of public water supply wells located along the east side of the San Gabriel River in the Whittier Narrows area (see Figure 3-1). The Bartolo Well Field is located South of California Highway 60 and West of Interstate 605.

The Whittier Narrows OU encompasses approximately 4 square miles in the southern portion of the San Gabriel Basin (see Figure 3-1) and represents the primary discharge point for groundwater and surface water flow exiting the basin. Whittier Narrows is a 1.5-mile gap in the low-lying hills that separate the San Gabriel Basin and the downgradient Central Basin. EPA designated Whittier Narrows as an OU specifically to address groundwater contamination flowing out of the San Gabriel Basin, through Whittier Narrows, into the Montebello Forebay portion of the Central Basin. The Montebello Forebay is critical to the Central Basin groundwater aquifers because this is where the aquifers are closest to the ground surface and receive most of their recharge. The Whittier Narrows OU is bounded to the north by the Pomona Freeway (Highway 60) and to the south by the Montebello Forebay portion of the Central Basin near the Whittier Narrows Dam.

The El Monte OU covers a surface area of approximately 10 square miles in the south-central portion of the San Gabriel Basin. The El Monte OU is bounded on the north by several streets that traverse a residential area between Lower Azusa and East Live Oak Avenue, on the south by Interstate 10, on the west by Rosemead Boulevard, and on the east by Santa Anita Avenue (see Figure 3-1).

3.2. Hydrology

The San Gabriel Basin, a piedmont plain that slopes gradually to the southwest at a gradient of approximately 65 feet per mile, is located within the San Gabriel Valley. The San Gabriel Basin is a structural groundwater reservoir that collects rainfall on the valley floor and runoff from the surrounding highlands, recharging the groundwater. The San Gabriel Basin is bounded to the north by the San Gabriel Mountains and to the southwest, south, and southeast by a crescent-shaped system of low hills (see Figure 3-1). Surface water flows south out of the San Gabriel Basin via the Rio Hondo River and the San Gabriel River, both of which flow through the South El Monte OU. The majority of outflow from the San Gabriel Basin aquifer (about 80 percent) is through extraction by water supply wells; the remaining 20 percent occurs as groundwater flow.

The San Gabriel Basin aquifer underlies most of the San Gabriel Valley and is characterized by interfingering lenses of alluvial deposits (e.g., cobbles, gravel, sand, silt, and clay). It stores an estimated 3 trillion gallons of water and is the primary source of water for most of the one million residents in the Basin.

Groundwater in the South El Monte, Whittier Narrows, and Suburban OUs in the southern portion of the San Gabriel Basin occurs at depths ranging from approximately 15 to 50 feet. In the South El Monte OU, the data generated during the interim RI (Geosystem Consultants, Inc. [Geosystem], 1998) and the interim FS (Geosystem, 1999) indicate the presence of a fairly extensive fine-grained sequence of sediments that separates the Shallow Aquifer from the Intermediate Aquifer. This fine-grained sequence, termed the Separating Sequence, generally is found in the interval between 100 and 200 feet below ground surface (bgs), although its depth and thickness vary. The Separating Sequence tends to become less apparent to the south, toward the Whittier Narrows OU. Lithologic data collected during installation of new wells in 2011 generally support the presence of a fine-grained unit (Separating Sequence) in the northern portion of the South El Monte OU and the presence of mostly medium- to coarse-grained material to the south (ITSI Gilbane Company [ITSI], 2013).

Groundwater flow in the Shallow Aquifer is principally to the south and southwest, toward the Whittier Narrows. Groundwater flow conditions in the Intermediate Aquifer are affected by a flow divide that separates westward flow from southward flow through the Whittier Narrows. The Whittier Narrows OU Five-Year Review (CH2M HILL, 2011a) reports that the flow divide is approximately south of Rush Street and east of Rosemead Boulevard. This would place the divide or split roughly beneath the middle of the primary industrial contaminant source areas in the central portion of the South El Monte OU, and thus there is contaminated groundwater in the Intermediate Aquifer flowing both west and south that has important ramifications on the evaluation of remedial alternatives for the South El Monte OU. The location of the flow divide is transient, and it generally moves to the south in the vicinity of the Highway 60 during low-water level conditions (CH2M HILL, 2011a). In this area of the South El Monte OU, the bottom of the Intermediate Aquifer is approximately 600 feet bgs. The Intermediate Aquifer is underlain by the Deep Aquifer, which extends to bedrock.

Groundwater in the El Monte OU flows generally in a west to southwest direction, although flow fields in the shallow aquifer may be variable (Geosyntec, 2009) and includes a southerly flow

direction during prolonged drought conditions. The depth to groundwater is approximately 65 to 100 feet. Recent groundwater conditions in the nearby Richwood OU are not documented, but expected to be similar to those in the El Monte OU.

3.3. Land and Resource Use

Land use at the Site is largely urban, with a mix of residential, commercial, and industrial development. Much of the development occurred in the 1950s and 1960s. Groundwater at the Site is the primary source of drinking water to residents and businesses overlying the Site and in adjacent areas. Groundwater is pumped from wells in each of the OUs at the Site and is replenished with precipitation in the Valley, recharge of water flowing from the adjacent San Gabriel Mountains, and recharge of water imported from Northern California and the Colorado River.

Most of the South El Monte OU is highly developed (Figure 3-2), except for the large area of land within the Whittier Narrows flood control basin (ITSI, 2013). The South El Monte OU encompasses the entire City of South El Monte and parts of the City of El Monte and the City of Rosemead. A majority of the OU area is zoned for residential use, particularly the eastern and western portions of the OU, and these areas are likely to remain residential. However, industrial activity, primarily small to medium-sized businesses, does occur across a significant section of the central portion of the South El Monte OU.

Groundwater flow in the Whittier Narrows OU is principally from northeast to southwest from the San Gabriel Basin into the Central Basin (CH2M HILL, 2011a). There are shallow, intermediate, and deep drinking water wells located within Whittier Narrows and immediately downgradient in the Central Basin. Most of the Whittier Narrows OU is undeveloped land dedicated to flood control and outdoor recreational uses. Densely populated residential, commercial and light industrial areas surround the Whittier Narrows OU. This includes extensive industrial areas in the immediately upgradient South El Monte OU. Industrial activities within the Whittier Narrows OU are generally limited to the far eastern portion of the Narrows. The nearby Suburban OU is largely undeveloped except for the production wells and facilities of the Bartolo Well Field.

The area of land encompassing the El Monte OU is highly developed and lies within the cities of El Monte, Rosemead, and Temple City (EPA, 1999). Most of the area is zoned for residential use and is likely to remain residential. Industrial activity in the El Monte OU is primarily concentrated in the central portion of the OU. The Richwood OU is located in the northeastern portion of the City of El Monte has similar land and resource use to the El Monte OU.

3.4. History of Contamination

VOCs were first detected in groundwater in the San Gabriel Valley in 1979 during environmental monitoring activities near a Potentially Responsible Party (PRP) facility in Azusa, California. By 1984, high levels of VOCs were found in 59 wells. On May 8, 1984, the Site was listed on the NPL. Groundwater quality data generated by monitoring programs initiated by water purveyors in the basin subsequently indicated that certain production wells completed in the deeper water-bearing zones also had been impacted. In some wells, VOC concentrations were above the corresponding maximum

contaminant levels (MCLs). Additional investigations triggered by this discovery revealed the presence of VOCs, notably tetrachloroethene (PCE) and trichloroethene (TCE), throughout large areas of the basin, apparently from multiple sources. The releases are widely believed to have begun shortly after World War II when much of the San Gabriel Valley became industrialized. In response to the contamination, water companies have shut down contaminated wells, installed new treatment facilities, and taken other steps to ensure that they can continue to supply clean drinking water to the public.

As of August 2004, 196 out of 275 water supply wells in the San Gabriel Valley had detectable levels of one or more of the following contaminants: VOCs, perchlorate, n-nitrosodimethylamine (NDMA), and 1,4-dioxane. The groundwater contamination is believed to result from the cumulative impact of decades of improper chemical handling and disposal practices at hundreds of industrial operations in the Valley. Although many of the laws regulating the handling and disposal of hazardous chemicals went into effect after 1970, historical documents describe local officials' concerns about the potential for groundwater contamination by industrial activity in the San Gabriel Valley as early as the 1950s. Despite the widespread areas of contamination, the San Gabriel Basin aquifer continues to provide approximately 90 percent of the domestic water supply for the Valley's residents.

Since site discovery, contaminant levels in groundwater have varied significantly across and within the five OUs of the Area 1 Site. Although the highest historically measured groundwater contaminant concentrations were in the 1,000s of micrograms per liter (µg/L), contaminant concentrations are now commonly detected in the 10s to 100s of µg/L.

3.4.1. South El Monte OU

Subsequent to EPA's designation of the South El Monte OU to address regional groundwater contamination, the Los Angeles Regional Water Quality Control Board's (LARWQCB's) well investigation program (WIP) identified 143 facilities in the South El Monte OU at which VOCs were stored, used, or otherwise handled (Geosystem, 1998). The WIP investigated 62 of the 143 facilities through installation of 187 groundwater monitoring wells. On July 25, 1995, EPA executed Administrative Consent Order, Docket No. 95-19 (the Consent Order) for the South El Monte OU RI/FS and subsequently sent letters to 52 PRPs representing 43 facilities requesting they participate in the RI/FS. A subset of those PRPs formed the South El Monte OU Participants who implemented the interim RI/FS that was completed in 1999.

The RI determined that PCE, TCE, and other VOCs were contaminating portions of the shallow and intermediate depth groundwater aquifer in a 15-square-mile area of the San Gabriel Valley around South El Monte (EPA, 2005). Businesses in South El Monte and surrounding areas had used these chemicals for degreasing, metal cleaning, and other purposes, and had probably released them to the ground through a combination of onsite disposal, careless handling, leaking pipes, and other means. The RI found that the uppermost, or shallow aquifer included most of the known sources of the groundwater contamination. At the time, VOC concentrations in portions of the shallow aquifer were hundreds of times federal and state drinking water standards, especially for PCE and TCE. In the

intermediate aquifer, VOC concentrations were generally lower, but still exceeded drinking water standards.

In addition to the two primary VOC contaminants, PCE and TCE, recent groundwater monitoring detected several, less extensive, emerging contaminants (ECs including perchlorate, 1,4-dioxane, NDMA, and 1,2,3-trichloropropane (1,2,3-TCP)) (ITSI, 2013). Additionally, both the Shallow Aquifer (generally less than 100 feet bgs) and the Intermediate Aquifer (generally between 100 and 600 feet bgs) are considered by the State of California to be potential and existing drinking water sources, respectively.

3.4.2. Richwood OU

In the early 1980s, PCE was detected above the California Department of Health Services (CDHS) (now known as the California Department of Public Health [CDPH]) Action Level (AL) (now referred to as Notification Level [NL]) in effect at that time of (4 µg/L), and TCE was detected above the CDHS AL of 5 µg/L in production wells operated by RMWC, RHMWC, and HMWC (CH2M HILL, 1983). The MCLs for PCE and TCE were later set at 5 µg/L.

As of 1984, RMWC provided water to approximately 204 households from two production wells designated Well 1 (South or 1901521 on Figure 3-3) and Well 2 (North or 1901522 on Figure 3-3) (EPA, 1984). In October 1980, PCE was first detected in RMWC Wells 1 and 2. From 1980 to 1983, PCE concentrations ranged from 12 µg/L up to 92 µg/L in the RMWC wells.

As of 1984, HMWC provided water to approximately 199 households from two production wells designated as the North Well (1901178 on Figure 3-3) and South Well (1902806 on Figure 3-3) (EPA, 1984). PCE was first detected in the HMWC wells in May 1982 (EPA, 1984). Subsequent sampling results indicated PCE concentrations of 50 µg/L in the South Well in December 1982 and 38 µg/L in the North Well in April 1983. In 1984, the South Well was taken out of service when a PCE concentration of 184 µg/L was detected.

As of 1984, RHMWC provided water to approximately 290 households from two production wells designated Well 1 (North or 1900120 on Figure 3-3) and Well 2 (South or 1900121 on Figure 3-3) (EPA, 1984). In October 1980, PCE was first detected in RHMWC Wells 1 and 2 (EPA, 1984). From October 1980 to early 1983, PCE concentrations ranged up to 16 µg/L in Well 1 and 54 µg/L in Well 2. In May 1983, PCE concentrations declined to 1.7 µg/L in Well 1 and 3.7 µg/L in Well 2.

Figure 3-3 shows the location of the production wells and approximate historical extent of PCE contamination in the Richwood OU.

3.4.3. Suburban OU

In 1986, EPA identified 36 wells, including the four SWS Bartolo Well Field wells (201W-2, 201W-5, 201W-4, and 201W-6), that were threatened by VOC contamination above CDHS ALs (EPA, 1988). In the fall of 1986, SWS contacted EPA concerning contamination in the Bartolo Well Field. The four wells in the Bartolo Well Field provided over 55 percent of the water supply for 70,000

residents in the City of Whittier and had a combined pumping capacity of approximately 9,300 gallons per minute (gpm) (EPA, 1988). In March 1987, based on the discussions with SWS regarding the Bartolo Well Field contamination, EPA initiated the SWS Bartolo Well Field OU (later referred to simply as the Suburban OU) Feasibility Study. PCE and TCE concentrations in the Bartolo Well Field increased from 1986 through 1988, when TCE was detected above the MCL of 5 µg/L in Well 201W4 (EPA, 1988).

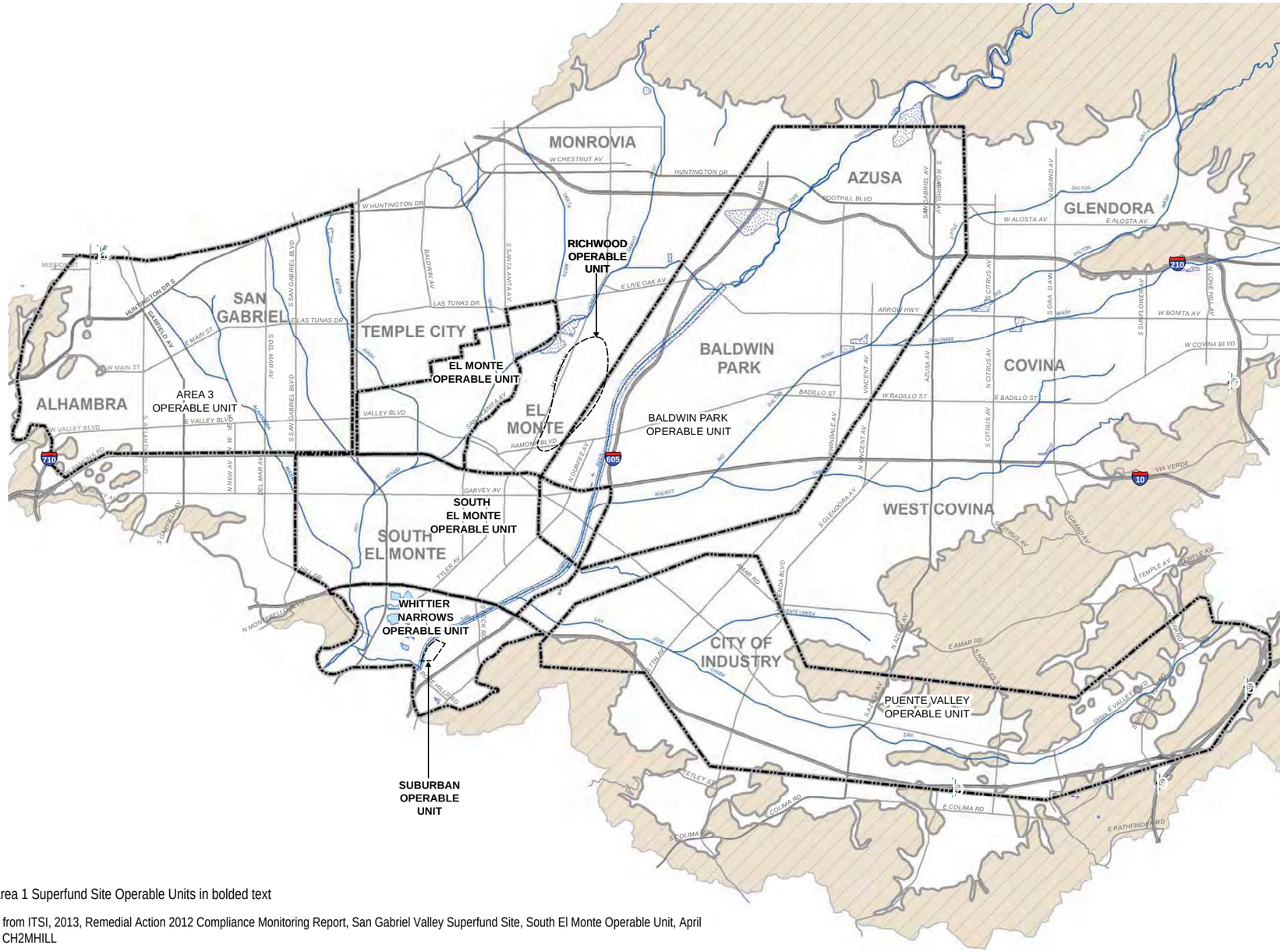
Figure 3-4 shows the location of the original and current production wells in the Bartolo Well Field.

3.5. Initial Response

No pre-ROD removal actions were taken at the Site. However, prior to the South El Monte OU IROD, water purveyors did begin implementing wellhead treatment units at production wells that ultimately were designated as South El Monte OU remedy extraction wells.

3.6. Basis for Taking Action

The concentrations of multiple contaminants in the groundwater exceed federal and state MCLs or State of California NLs (previously known as ALs).



Note: Area 1 Superfund Site Operable Units in bolded text

Modified from ITSI, 2013, Remedial Action 2012 Compliance Monitoring Report, San Gabriel Valley Superfund Site, South El Monte Operable Unit, April
Source: CH2MHILL

SCO460680.FR.02 san_gabriel_area1_location_map_11x17_rev2.ai 5/13

ITSI Gilbane

South El Monte Operable Unit
Los Angeles County, California

San Gabriel Valley Superfund Site Operable Units

Figure 3-1: Location Map for the San Gabriel Valley Area 1 Superfund Site

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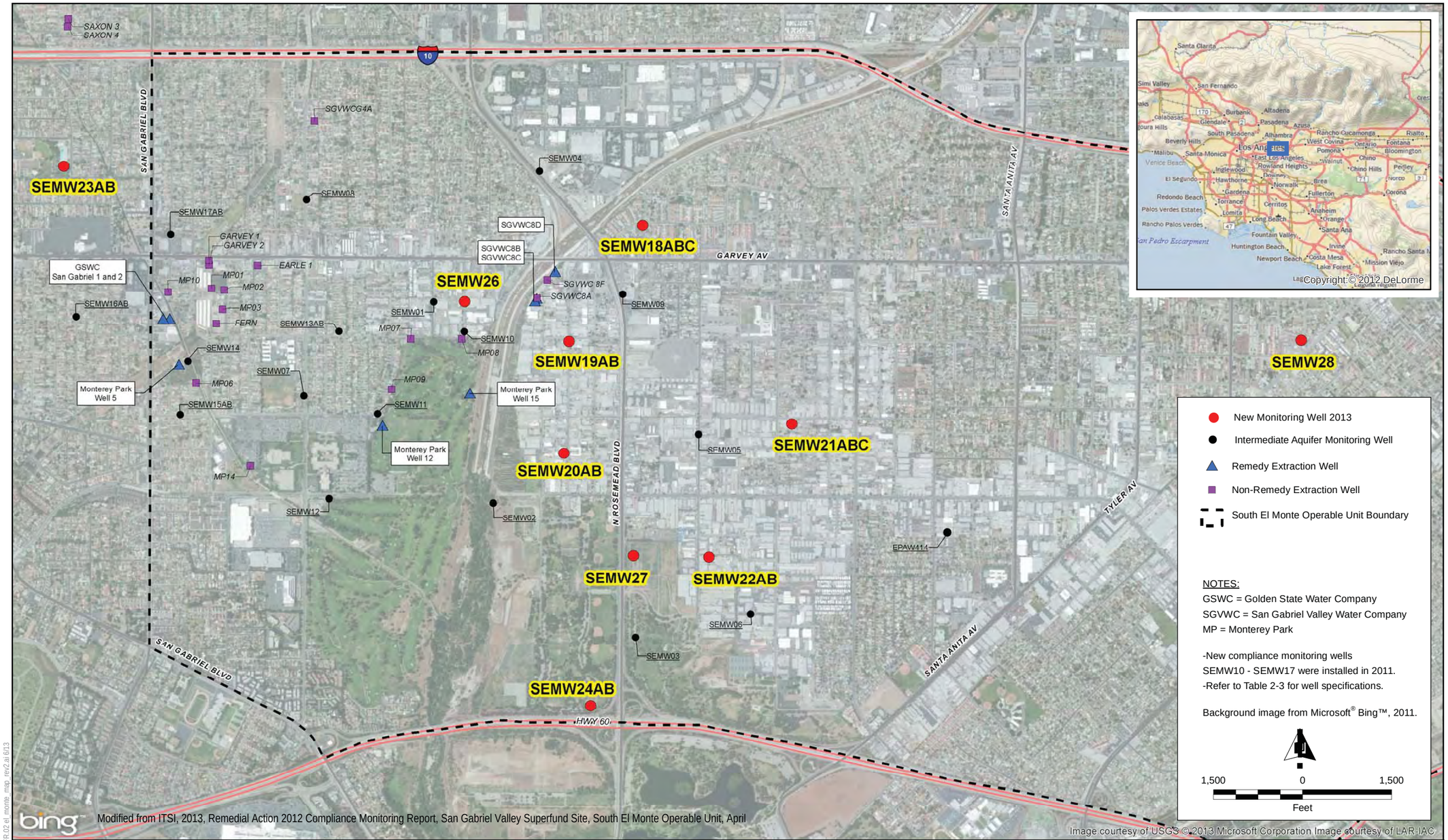

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ITSI Gilbane

South El Monte Operable Unit
Los Angeles County, California

New Monitoring Well Locations 2013

Figure 3-2: Detailed Map of the South El Monte Operable Unit

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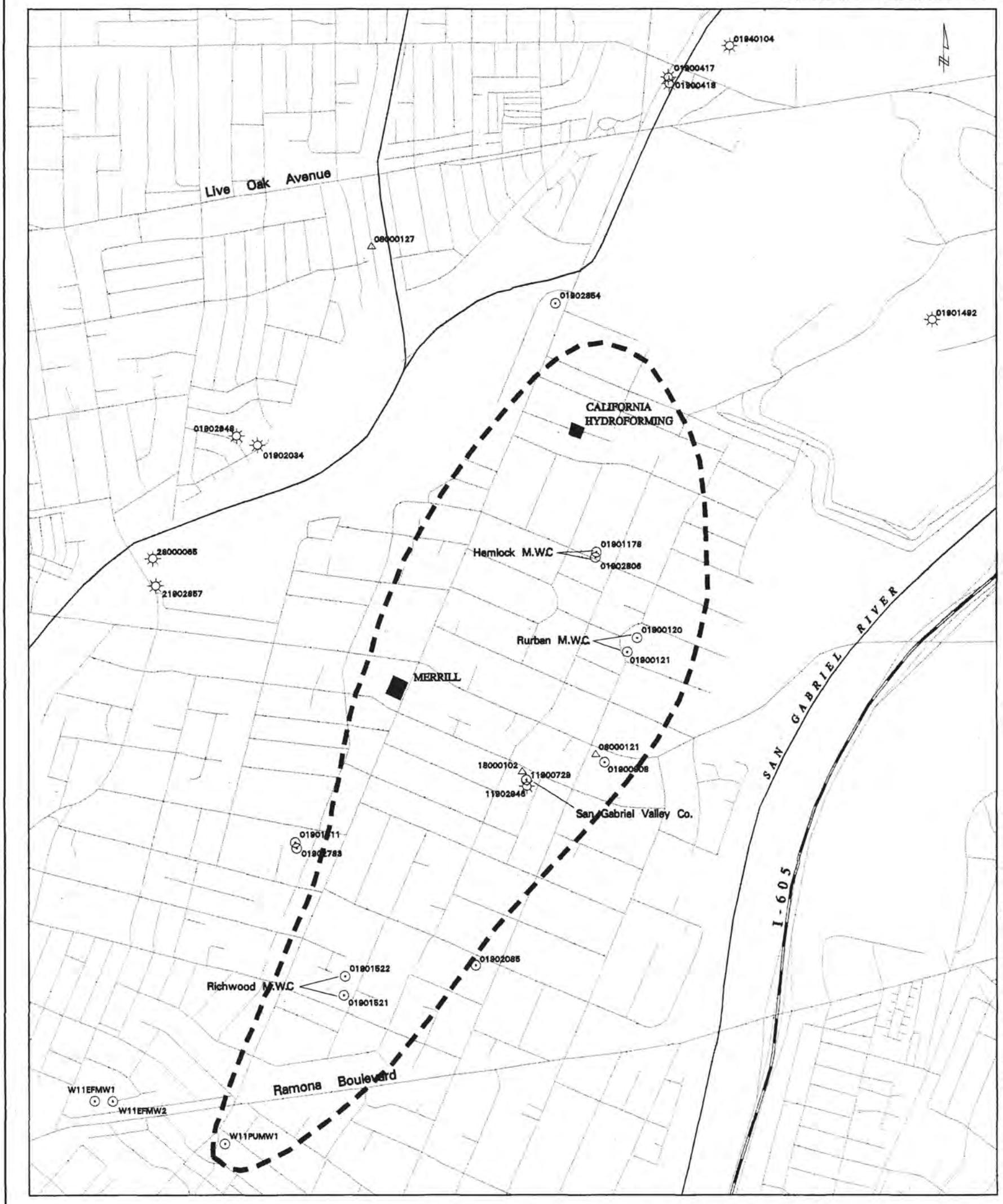
SAN GABRIEL VALLEY
16413



APPROXIMATE EXTENT OF HISTORICAL PCE GROUNDWATER CONTAMINATION RICHWOOD OU

– – Approximate groundwater contamination extent

Screened Interval (average depth)
- ⊙ Shallow (< 170 feet)
- ☼ Deep (> 170 feet)
- △ Unknown

DRAFT
EPA Source: San Gabriel GIS, CH2MHill.
Map by L. Dryden, CSC, 5/20/94.

0 750
Meters

Source: EPA Superfunds Record Center document ID# 16413 - Approximate Extent of Historical PCe Groundwater Contamination - ROU

Source: EPA Superfunds Record Center document ID# 16413 - Approximate Extent of Historical PCe Groundwater Contamination - ROU

Figure 3
Location of Richwood OU Production Wells

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Figure 3-3: Detailed Map of the Richwood Operable Unit

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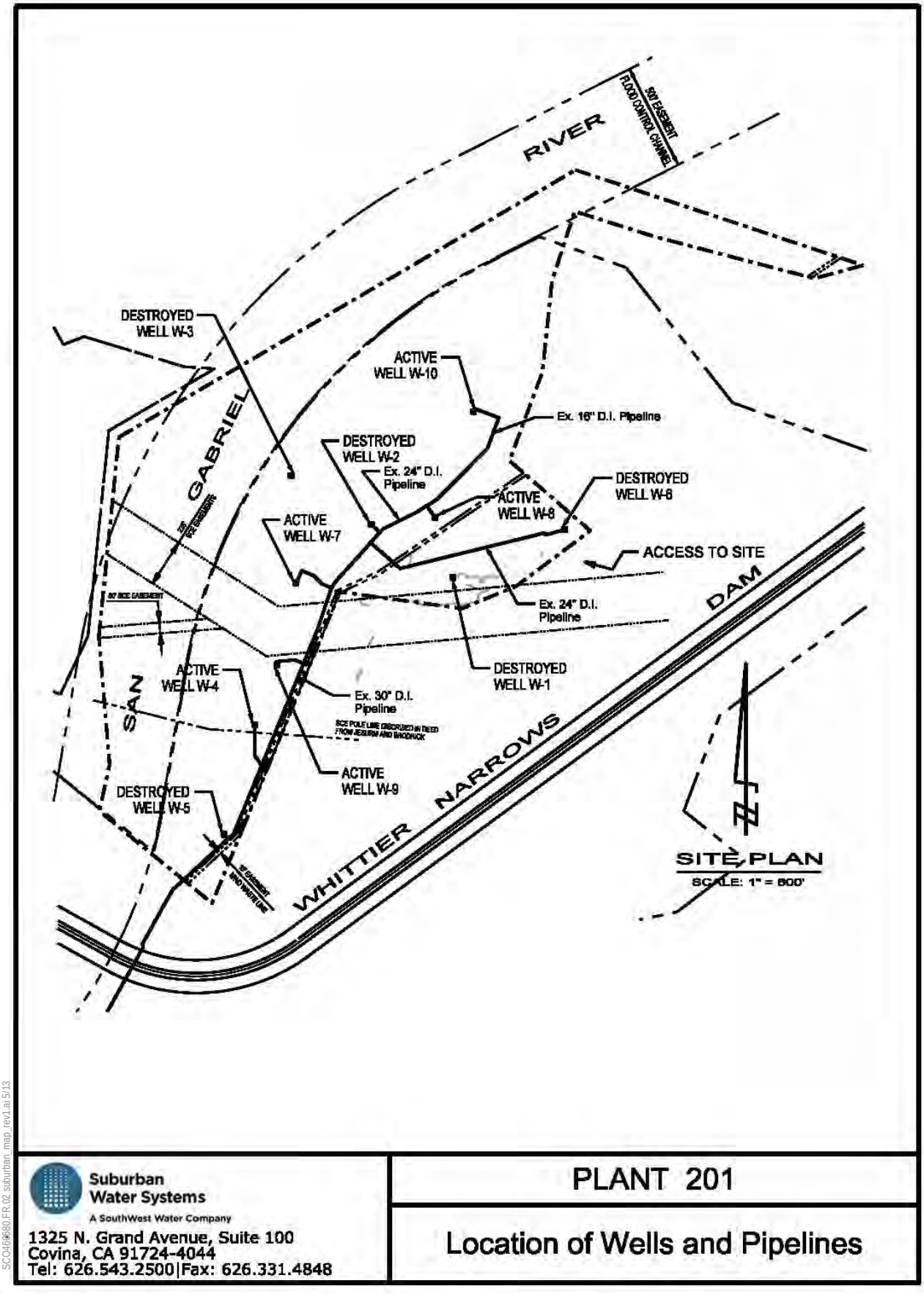

SCO469680.FR.02 suburban_map_rev1.ai 5/13

Figure 3-4: Detailed Map of the Suburban Operable Unit

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4. Remedial Actions

4.1. Remedy Selection

4.1.1. South El Monte OU

EPA issued an IROD for the South El Monte OU on September 29, 2000. The selected remedy includes containment of groundwater contaminated with VOCs in the intermediate aquifer zone at two general locations within the western portion of the South El Monte OU. EPA's remedial action objectives (RAOs) for the South El Monte OU are to:

- Prevent exposure of the public to contaminated groundwater.
- Contain further migration of contaminated groundwater from more highly contaminated portions of the aquifer to less contaminated areas or depths.
- Reduce the impact of continued contaminant migration on downgradient water supply wells.
- Protect future uses of less contaminated and uncontaminated groundwater.

The IROD indicates that the selected remedy for the South El Monte OU will be implemented using a performance-based approach. The performance-based approach specifies criteria ("performance criteria") that must be met while allowing flexibility in implementation. The performance criteria are designed to attain the RAOs for the South El Monte OU. The selected remedy addresses the intermediate zone groundwater contamination present in the western portion of the South El Monte OU. For purposes of describing the remedy, the contamination has been separated into two areas: (1) the central area of intermediate zone contamination, and (2) the western area of intermediate zone contamination.

The central area of intermediate zone contamination refers to the contamination located in the vicinity of MP production Wells 12 and 15 and the SGVWC Plant 8 Wells 8A through 8F, and is also referred to the Central Containment Area (well locations are shown in Figure 3-2).

The western area of intermediate zone groundwater contamination refers to the intermediate zone of contamination downgradient (west) of MP Well No. 12 in the vicinity of the GSWC Wells San Gabriel (SG) 1 and 2, Garvey 1 and 2, and Earle 1 and additional MP Wells 1, 3, 5, 6, 10 and Fern and is also referred to as the Western Containment Area (see Figure 3-2).

The existing groundwater remedy in the Whittier Narrows OU is anticipated to capture shallow and intermediate zone VOC contamination in the South El Monte OU that is migrating to the south (EPA, 2005).

IROD Performance Criteria

The remedial action shall provide sufficient hydraulic control to prevent migration of intermediate zone groundwater contaminated above chemical-specific Applicable or Relevant and Appropriate Requirements (ARARs) into or beyond the Central Containment Area and into or beyond the Western Containment Area.

Compliance with performance criteria is verified through monitoring of compliance wells for two parameters: hydraulic gradient and chemical-specific ARARs. The remedial action must create an inward hydraulic gradient at each of the containment areas. These hydraulic gradients must be sufficient to demonstrate that contaminated groundwater is captured by the extraction wells under all flow conditions (e.g., during both wet and dry periods in the hydrologic cycle). Implementation of the remedial action cannot result in any adverse effects (i.e., increases in migration of contamination) to production wells that are not part of the remedial action. In addition, the remedial action must provide the required capture of contamination above chemical-specific ARARs without relying on the effects of wells that are not part of the remedial action.

Compliance with the performance criteria is confirmed by sampling and water level monitoring at compliance wells. In the Central Containment Area, compliance with the performance criteria is initially determined through monitoring of hydraulic gradients. After hydraulic containment has been achieved and contaminant concentrations downgradient from extraction wells have dropped below ARARs, the monitoring program will be expanded to include monitoring for compliance with chemical-specific ARARs at downgradient compliance wells.

In the Western Containment Area, compliance with the performance criteria is determined through monitoring of hydraulic gradients and chemical-specific ARARs. Contaminant concentrations in downgradient compliance wells must meet chemical-specific criteria at all times.

In both containment areas, EPA expects that groundwater containment actions will be implemented sufficiently upgradient of the chemical-specific compliance wells to provide a buffer zone to allow additional actions to be taken, if necessary, to ensure compliance, but close enough to ensure that groundwater contamination is being contained. Imminent exceedance of chemical-specific ARARs at downgradient compliance wells indicates that groundwater contamination is continuing to migrate and improved hydraulic containment is required.

The IROD assumed that the groundwater would be treated to remove VOCs and delivered to local water purveyors. In addition to the compliance monitoring described above, the remedy includes monitoring in selected shallow and intermediate zone wells throughout the South El Monte OU.

Explanation of Significant Differences

In response to the detection of contaminants that were not specifically addressed in the IROD, EPA prepared an ESD in November 2005. Perchlorate, a chemical used in solid rocket fuel, was detected in the groundwater in the Central and Western Containment Areas above the state of California (State) drinking water advisory level (which later became a formal State MCL). Because of these detections, CDPH required that the extracted water be treated for perchlorate before its use by water purveyors as drinking water supply.

The ESD incorporates the potential need for perchlorate treatment into the South El Monte OU interim remedy, describes potential treatment technologies to be used, and summarizes the estimated costs associated with treating perchlorate.

An additional contaminant, 1,4-dioxane, a stabilizer in chlorinated solvents, has also been detected at elevated concentrations in South El Monte OU groundwater. However, at the time the ESD was prepared, the concentrations of 1,4-dioxane detected in the intermediate zone were not high enough to require treatment of the extracted water before use as drinking water.

Remedial Design

In October 2006, WQA and EPA successfully completed negotiations and a work plan for a Superfund Support Agency Cooperative Agreement that covers implementation of the South El Monte OU interim remedy described in the IROD. WQA has separate agreements with three local water purveyors (MP, SGVWC, and GSWC) whose facilities are being used to meet EPA's remedial goals.

The remedy needs to meet the IROD-specified performance criteria to demonstrate that the required hydraulic control is being provided. In 2006, EPA conducted groundwater modeling simulations to identify minimum pumping rates and operational scenarios for implementation of the remedy. The groundwater modeling results suggested that the target areas (those portions of the Central Containment Area and Western Containment Area where VOCs exceed MCLs) in the intermediate zone can generally be captured under a number of different extraction scenarios that incorporate seasonally varied pumping from MP Wells 5, 12, and 15; SGVWC Wells 8C and 8D; and GSWC Wells SG1 and SG2. The minimum pumping rate scenario shown in Table 4-2, with an average annual pumping rate of just under 6,000 gpm, was selected to meet the hydraulic containment goals of the interim remedy, while also addressing water purveyor demands and treatment system limitations.

In August 2008, after various legal settlements with PRPs were completed, the grant for the Cooperative Agreement was funded, marking the formal start of remedy operations (EPA, 2008a). The minimum quarterly average target pumping rates identified in Table 4-2 are incorporated into the Cooperative Agreement between EPA and WQA. The water purveyor facilities described as remedy components had all been designed and constructed well in advance of the formal initiation of work under the Cooperative Agreement. CDPH reviewed each treatment system, required that the water purveyors demonstrate system performance during startup and testing, and based on each system's performance, approved and issued separate drinking water permits for each facility.

The major components of the South El Monte OU interim remedy are four separate groundwater pump-and-treat systems, ranging in capacity from 1,500 gpm to 5,000 gpm. Total treatment capacity is 12,600 gpm of contaminated groundwater (18 million gallons per day [mgd]). The South El Monte OU remedy design information is summarized in Table 4-1.

The final component of the remedy is a network of compliance monitoring wells (covering both the Central and Western Containment Areas) specifically intended to produce data for use in evaluating remedy performance and determining compliance with the performance criteria identified in the IROD. The location and design assumptions for the compliance monitoring wells were based on interpreted groundwater flow conditions and the lateral and vertical distribution of contamination in

the two Containment Areas. Figure 4-1 shows the locations of the compliance monitoring wells and remedy extraction wells.

4.1.2. Richwood OU

In May 1984, EPA adopted a ROD that selected IRMs for a portion of the Area 1 Superfund Site that later became the Richwood OU. The intent of the IRMs was to develop either alternative water supplies or treatment systems that would allow three local water purveyors to supply clean drinking water to their customers. The ROD stated that the IRM should be developed to meet the cancer risk level of 1×10^{-6} and enable the three purveyors to supply drinking water with levels of PCE contamination below the EPA Suggested No Adverse Response Level (SNARL) of 4 µg/L (EPA, 1984). The IRMs were focused on three local water purveyors (RMWC, HMWC, and RHMWC) operating in a portion of the City of El Monte.

In September 1987, EPA issued an amendment to the 1984 ROD (EPA, 1987) indicating that installation of a carbon adsorption or GAC treatment system was more effective than the installation of an air stripper treatment system. At the time of the ROD Amendment, PCE detected in RHMWC production wells had declined from a maximum concentration of 54 µg/L to 1.14 µg/L, below the CDHS AL. Based on the reduced concentrations, EPA stated in the ROD Amendment that implementation of the IRM selected for the RHMWC was not necessary. HMWC had already declined EPA assistance and installed a GAC treatment system that became operational in 1986.

In June 1985, PCE was detected in RMWC production wells at concentrations as high as 110 µg/L, which prompted CDHS to make a determination of imminent or substantial endangerment. CDHS subsequently funded installation of a temporary emergency connection between the RMWC distribution system and the SGVWC system. At the time of the ROD Amendment, EPA recommended the design and installation of a GAC treatment facility for the RWMC production wells due to the temporary nature of the emergency connection between RWMC and SGVWC, and because PCE concentrations remained well above the CDHS AL (EPA, 1987).

4.1.3. Suburban OU

In September 1988, EPA adopted the Suburban OU ROD that was intended to partially control the movement and spread of contaminants in the eastern portion of the Whittier Narrows area and to address the potential public health threat posed by contaminants in the SWS's Bartolo Well Field (EPA, 1988). The selected remedy consisted of a groundwater treatment system at the Bartolo Well Field designed to treat PCE to a concentration of 1 µg/L. At the time of the 1988 ROD, there was no state or federal regulatory standard set for PCE. Subsequent to the 1988 ROD, the CDHS and EPA established the MCL for PCE at 5 µg/L (EPA, 1993).

Design of the potential treatment system for the Bartolo Well Field was completed in 1991. However, groundwater contamination levels in the Suburban OU had dropped below federal drinking water standards. In September 1993, EPA issued a ROD Amendment that changed the remedy to monitoring only and included:

- Postponing construction of the proposed treatment system because PCE concentrations were below the MCL
- Increasing the treatment level from 1 µg/L to the MCL of 5 µg/L for PCE
- Adding a contingency plan to treat groundwater should contaminant levels again exceed federal drinking water standards
- Adding evaluation of sampling results from the Bartolo wells for at least 5 years

4.1.4. Whittier Narrows OU

In 1993, EPA issued an IROD that concluded no immediate action was needed to address groundwater contamination, but that monitoring should continue, including installation of additional monitoring wells. In response to increasing contaminant levels, EPA issued an IROD Amendment in 1999 that required an active pump-and-treat system, including extraction of groundwater from extraction wells located just north of the Whittier Narrows Dam (EPA, 1999). A remedy was designed to extract and treat 11,000 gpm of groundwater. The remedy consisted of seven groundwater extraction wells, conveyance pipelines, and 20 pairs of GAC vessels for removal of VOCs. EPA started construction of the Whittier Narrows OU groundwater extraction and treatment facility in June 2001 and completed construction in March 2002.

4.1.5. El Monte OU

EPA issued an IROD in June 1999 to address containment of groundwater contaminated with VOCs. An ESD was signed in 2002 which incorporated treatment, as necessary, for the emergent chemicals (ECs) perchlorate, 1,4-dioxane, hexavalent chromium, and NDMA. For implementation purposes, the groundwater remedy has been divided into the East Side and West Side subprojects (OU8 and OU9). Each subproject is being implemented by a separate PRP or PRP group and EPA is overseeing the work of both. The two subprojects include construction of 11 extraction and injection wells, four pipelines, and three groundwater treatment plants to supplement eight existing extraction wells and an existing treatment plant. When completed, there will be four individual groundwater pump-and-treat systems to remove VOC contamination from the Eastern Shallow Zone, Southern Deep Zone, Western Shallow Zone, and Northwestern Deep Zone.

4.2. Remedy Implementation

4.2.1. South El Monte OU

Construction of the water purveyor treatment facilities started before EPA prepared the South El Monte OU IROD and continued in various stages through mid-2006. By the time remedy implementation began under the Cooperative Agreement in August 2008, all of the primary construction activities had been completed by the water purveyors. The specific water purveyor

facilities included in the Cooperative Agreement for use in the South El Monte OU remedy are described in the following sections.

EPA has negotiated nine Consent Decrees with industrial facility PRPs to partially fund implementation of the IROD interim remedy.

City of Monterey Park

Three of the MP wells have been incorporated into the South El Monte OU remedy: Well 5, Well 12, and Well 15. Water pumped from Well 5 is treated separately at its own facility. Water pumped from Wells 12 and 15 is treated at a separate treatment facility.

The VOC treatment facility for MP Wells 12 and 15 consists of an air stripper system with VGAC off-gas treatment, acid injection to control precipitation, an LGAC secondary barrier, and caustic addition, if necessary, to raise pH levels. The combined treatment system is limited to a maximum combined flow of 4,500 gpm because of the air stripper system capacity. The air stripper was constructed in 1999.

The MP Well 12 perchlorate treatment system was constructed in 2003 at MP's Delta Plant. It was built to remove perchlorate using IX technology and disposable IX resins. The perchlorate system was permitted for active use by CDPH in May 2005. The perchlorate treatment system had a design capacity of 4,500 gpm and was intended to treat the effluent water from the Well 12 air stripper. The perchlorate treatment system was taken offline in August 2011 because the perchlorate concentrations are low enough that CDPH no longer requires treatment. The plant piping has been reconfigured to bypass the IX vessels.

Because MP Wells 12 and 15 were being considered for use in the Superfund remedy and VOC concentrations were increasing, CDPH required that a secondary "dual-barrier" VOC treatment process be added to the treatment facility. MP installed an LGAC treatment system to serve as the dual barrier. The LGAC system was constructed in 2004 at MP's Delta plant. The LGAC system has a design capacity of 4,500 gpm (750 gpm through each of six carbon vessels) and treats water that has already passed through the air stripper (and, when active, the IX vessels). CDPH permitted operation of the LGAC system in May 2005.

MP Well 15 is located on the Whittier Narrows golf course, which is part of the Whittier Narrows Recreation Area. Well 15 was installed in 2004 specifically to serve as a key component of the South El Monte OU interim remedy and is located directly downgradient of elevated intermediate zone VOC contamination. Well 15 is connected by pipeline to the air stripper located adjacent to Well 12. Well 15 was permitted for use by CDPH in 2006.

The MP Well 5 LGAC treatment system for VOC removal was constructed and began operating in 1999. The treatment system consists of five carbon vessels. In the original parallel configuration, the system had a design capacity of 2,500 gpm for the removal of VOCs. The system was modified in 2003 to a lead-lag series configuration using four of the carbon vessels. This reduced the capacity to approximately 1,600 gpm. The carbon was removed from the fifth vessel and it is inactive. Perchlorate has also been detected in MP Well 5. However, the levels have been low enough that CDPH does not

require treatment. A perchlorate blending plan was approved by CDPH as part of a 2006 permit amendment for the Well 5 treatment system.

Golden State Water Company

There are two production wells located at GSWC's San Gabriel Plant: San Gabriel Well No. 1 (SG1) and San Gabriel Well No. 2 (SG2).

In 2001, GSWC installed a VOC treatment facility. The treatment facility included three lead-lag pairs of LGAC vessels intended to remove the VOC contamination in Wells SG1 and SG2. The treatment system originally had a capacity of 2,250 gpm (750 gpm per vessel pair), which was adequate to accommodate the combined flow from Wells SG1 and SG2. However, elevated concentrations of nitrate in Well SG2 have affected GSWC's ability to produce potable water from this well, so it was not operated on a consistent basis for many years. The original permit for treatment facility operations was issued October 24, 2001.

In July 2002, perchlorate was detected in Well SG1 and shortly thereafter in Well SG2. To address perchlorate, the carbon was removed from one of the LGAC vessel pairs and replaced with an IX resin specifically intended for perchlorate removal. The plant piping was modified so that water from the wells first flowed through the remaining two pairs of LGAC vessels for VOC removal, then flowed through the single vessel pair with IX resin for perchlorate removal. The permitted system capacity under the new configuration was reduced to 1,100 gpm, the peak flow allowed through the IX vessel pair. However, the actual capacity was closer to 1,000 gpm. CDPH issued the revised permit incorporating the IX vessels for perchlorate treatment on November 14, 2003.

In early 2010, GSWC began working with CDPH on a potential nitrate blending plan that would allow Well SG2 to return to service. CDPH approved the blending plan and issued an updated permit amendment in July 2012.

Changes made at the San Gabriel treatment facility as part of returning Well SG2 to service included refilling two of the LGAC vessels with carbon such that all three pairs of vessels were once again arranged in a lead-lag configuration for the removal of VOCs, and installing two in-line nitrate analyzers. In accordance with the CDPH-approved nitrate blending plan, Well SG2 has a maximum flow rate of 300 gpm and cannot run unless Well SG1 is also operating. Under the blending plan, the maximum flow rate from Well SG1 will be approximately 1,200 gpm, and the maximum flow rate from the treatment plant 1,500 gpm.

San Gabriel Valley Water Company

SGVWC's Plant No. 8 is located along the Rio Hondo Channel in the City of South El Monte. There are five active water production wells at the Plant 8 facility : Wells 8B, 8C, 8D, 8E, and 8F. However, only Wells 8B, 8C, and 8D are part of the South El Monte OU interim remedy. Wells 8E and 8F are perforated in a deeper portion of the aquifer, below the vertical extent of contamination.

In December 2001, SGVWC completed construction of the VOC treatment facility at Plant No. 8. The treatment facility consisted of a 5,000-gpm air stripper and an off-gas VGAC treatment system approved by the South Coast Air Quality Management District (SCAQMD). After complying with the CDPH procedures for permitting the air stripper, SGVWC placed the treatment facility online in July 2002. The current SCAQMD permit for the air stripper includes an influent VOC concentration limit of 100 parts per billion (ppb). In March 2003, CDPH required SGVWC to add a second "dual-barrier" VOC treatment system to the existing treatment facility at Plant 8 because of concerns about the sharply rising VOC concentrations.

In December 2004, SGVWC completed construction of an LGAC treatment system to serve as the dual barrier for water treated by the air stripper. CDPH approved SGVWC's amended permit in September 2006 allowing operation of the LGAC treatment system.

The LGAC treatment system consists of six pairs of vessels. Each pair of vessels operates in a lead-lag configuration where the water runs through the first (lead) vessel and then through the second (lag) vessel.

Additional Contaminant Source Area Investigation

In the 2000 IROD, EPA acknowledged that the interim remedial action was only intended to control the migration of contamination, and that future remedial actions may include additional actions at or in the vicinity of industrial facilities identified as groundwater contamination sources in the South El Monte OU. The IROD also stated that the interim action would neither be inconsistent with, nor preclude, implementation of a final remedy. EPA is currently conducting a supplemental RI/FS that will facilitate preparation of a final ROD for the Site. The initial phases of work completed to date have included sampling existing shallow monitoring wells, collecting grab groundwater samples, conducting focused soil gas investigations at selected facilities, and installing shallow and intermediate zone monitoring wells. EPA is also investigating the potential for vapor intrusion in the South El Monte OU as part of its ongoing supplemental RI. During soil gas sampling at source facilities in 2011 and 2012, EPA discovered concentrations of VOCs in soil gas at five facilities that warranted further investigation by EPA's emergency response program. EPA conducted indoor air sampling at those commercial facilities and nearby residences. Two of the locations, the former One Dollar Cleaners and Hytone Cleaners, had indoor air levels of PCE that were well above screening levels, so EPA is overseeing a voluntary cleanup at the former One Dollar Cleaners facility, and conducting a removal action at five residences near the Hytone Cleaners facility to mitigate vapor intrusion. Additional indoor air sampling is planned in 2013 at approximately 20 other commercial facilities. EPA plans to address the findings from the supplemental RI/FS, including source area groundwater and soil vapor contamination, in the final ROD.

Compliance Monitoring

EPA installed a network of compliance groundwater monitoring wells in 2011 to monitor the performance of the remedy (see Figure 4-1).

4.2.2. Richwood OU

On January 15, 1992, EPA completed construction of the Richwood Treatment Plant, located at 4155 Richwood Avenue in El Monte, California (EPA, 1995). EPA transferred responsibility for the O&M of the treatment plant to DTSC on March 15, 1994. DTSC staff felt that the O&M costs of the treatment facility were unreasonably high. Rather than continuing to operate the treatment plant, DTSC entered into an agreement with SGVWC in which SGVWC would provide water to the approximately 200 residences served by RMWC. SGVWC purchased RMWC's assets and water rights in March of 1999 (McCormick, 1999). As part of the purchase agreement, SGVWC installed a new water distribution system for the former RMWC customers, and DTSC contributed funds to facilitate the transfer of assets. The distribution system upgrades and transition to SGVWC's system were complete and operational in December 1999. The former RMWC customers are primarily supplied water from SGVWC Plants 1 and 2; however, because SGVWC's water distribution system is interconnected, the water could potentially come from almost any of the company's wells. This operation has not changed since the RMWC customers were originally integrated.

RHMWC continues to supply water to 300 homes for approximately 1,200 persons. RHMWC samples their two production wells twice per year for a full range of contaminants and has not had detections of contaminants exceeding drinking water standards.

HMWC also continues to supply water to its customers. HMWC's wells are sampled annually and no contaminants have been detected in recent years as reported by the Watermaster in the interview for this FYR (see Appendix D) and in the Draft Five-Year Water Quality and Supply Plan (Watermaster, 2012).

4.2.3. Suburban OU

As described above, contaminant concentrations in SWS's Bartolo Well Field have remained low since the early 1990s. In accordance with the September 1993 ROD Amendment, no active remedy was ever implemented for the Suburban OU. SWS destroyed Wells 201W1 and 201W3 in 2005, 201W2 and 201W6 in 2008, and 201W5 in 2011. These wells were replaced with four new wells (Wells 201W7, 201W8, 201W9, and 201W10) that together with Well 201W4, make up the active wells in the Bartolo Well Field also known as Plant 201 (see Figure 3-4). The SWS Bartolo Well Field continues to extract water at high rates and represents a key component of the SWS water supply system.

4.2.4. Whittier Narrows OU

EPA started construction of the Whittier Narrows interim remedy in June 2001 and completed construction in March 2002. The interim remedy is now in the operation and maintenance phase.

Starting in 2005, the interim remedy was operated by the City of Whittier on behalf of EPA. EPA funded operation of the remedy through a Cooperative Agreement between the City of Whittier and EPA. The City of Whittier incorporated the intermediate zone treated groundwater, which was

permitted for potable use, into its drinking water supply. The treated shallow zone groundwater was discharged to Legg Lakes under a three-party water production agreement between EPA, the Main San Gabriel Basin Watermaster, and Los Angeles County. On May 17, 2013, DTSC assumed responsibility for implementation of the Whittier Narrows OU interim remedy and SGVWC replaced the City of Whittier as operator of the treatment facility. Pending completion of planned modifications to the treatment facility, and subsequent approval by CDPH, the treated intermediate zone water will be distributed to SGVWC's system for use as drinking water. Until that time, all of the treated water is being discharged to Legg Lakes.

EPA conducted a second FYR of the Whittier Narrows OU in 2011 (EPA, 2011) and determined that the remedy is protective of human health and the environment.

This section completes the description of the Whittier Narrows OU remedy for this FYR report. The Whittier Narrows OU is not evaluated as part of this FYR because the remedy was recently evaluated in a separate FYR completed in July 2011.

4.2.5. El Monte OU

The Northwestern Deep Zone remedy component of the interim El Monte OU remedy is the only portion of the remedy that has been completely implemented. The Northwestern Deep Zone system makes use of GSWC's Encinita Well Field. The extracted groundwater is treated through a GAC treatment system to remove VOCs, then distributed by GSWC as drinking water supply.

The Western Shallow Zone component of the El Monte OU remedy has been constructed and initial operations are underway. The final construction inspection process has not been completed. The groundwater extracted for the Western Shallow Zone component water is treated for VOCs through a GAC system and for nitrates through a FBR system, then discharged into Eaton Wash surface water.

The Southern Deep Zone and Eastern Shallow Zone components of the El Monte OU remedy are still under construction. Construction of these last two VOC treatment systems is expected to be completed in 2014. The El Monte OU remedy is expected to be protective of human health and the environment once construction is complete.

This section completes the description of the El Monte OU remedy for this FYR report. The El Monte OU is not evaluated further as part of this FYR because the construction of the remedy is not yet complete.

4.3. Operation and Maintenance

4.3.1. South El Monte OU

O&M requirements for the South El Monte OU interim remedy are primarily associated with meeting EPA's minimum pumping rate targets (see Table 4-2) and producing treated water that meets all

drinking-water criteria and CDPH-permit requirements. Specific O&M requirements vary between the four different treatment systems operated by the three water purveyors.

The treatment facilities have been operating continuously in compliance with CDPH requirements for a number of years. However, there have been some operational constraints that have resulted in the flow rates periodically being less than the minimum pumping rates identified by EPA (see Table 4-2), particularly for MP Wells 12 and 15. Despite flow rates periodically being below the minimum pumping rates, capture of contamination appears to be adequate as discussed further in Section 5. Under the Cooperative Agreement, WQA submits quarterly and annual reports to EPA that document any significant O&M issues. The following paragraphs briefly summarize key operational issues from the last few years for each treatment plant. Additional details of O&M activities can be found in the O&M plans for each treatment facility and performance reports prepared by WQA, as listed in Appendix A.

City of Monterey Park

The minimum target pumping rates for Well 5 are very low compared to the system capacity, so there have not been any challenges in meeting target rates. In addition, the Well 5 system has not had any significant operational issues over the last several years. Routine O&M activities at the Well 5 treatment plant include changeout of spent carbon from the VOC treatment system, and operation of the chlorination system, nitrate analyzer, and perchlorate blending plan. Carbon changeouts at the Well 5 LGAC system are relatively infrequent because of the low contaminant concentrations. Routine O&M activities at the Wells 12 and 15 treatment plant include changeout of spent carbon in the VGAC and LGAC treatment vessels, replacing the filters located upstream of the LGAC vessels, and operating the acid injection, caustic injection, and chlorination systems. Water quality samples are collected at varying frequencies at both MP treatment facilities and analyzed for VOCs, 1,4-dioxane, perchlorate, and other chemical constituents (CH2M HILL, 2013).

MP has had a difficult time achieving the quarterly minimum target pumping rates for Well 15 and, to a lesser extent, Well 12. The combined target rate for these two wells is relatively close to the treatment system capacity (4,500 gpm) in some quarters, so there is limited operational flexibility to make up for any downtime. In addition, through August 2011, the Well 12/Well 15 treatment system also included the IX system for perchlorate treatment. Inclusion of an additional treatment process increased O&M requirements and the potential for downtime. The primary O&M activities that have resulted in increased downtime and reduced average pumping rates over the last few years include: Well 15 pump replacement and motor repairs required because of excessive shaft vibration, air stripper system maintenance and repairs, and dual-barrier LGAC system carbon changeouts and associated post-changeout bacteriological detections. The reduced pumping rates primarily occur at Well 15 because it is equipped with a variable-frequency drive (VFD) that allows its pumping rate to be adjusted. Well 12 only operates at approximately 2,000 gpm and is either on or off. In 2012, Wells 12 and 15 operated at approximately 92 percent of the combined target rate for the two wells.

San Gabriel Valley Water Company

Routine O&M at the SGVWC Plant 8 treatment system includes changeout of spent carbon in the liquid-phase GAC vessels and the vapor-phase off-gas treatment system, monitoring air stripper operations, and chlorination. Water quality samples are collected from throughout the treatment plant and from plant effluent to ensure compliance with CDPH standards (CH2M HILL, 2013).

Production from SGVWC's Plant 8 remedy Wells 8B, 8C, and 8D has consistently exceeded the combined minimum target pumping rates for the three wells over the last several years. There has been minimal downtime at the Plant 8 system. Carbon changeouts at the dual-barrier LGAC only occur every 2 to 3 years, and the production wells and air stripper have not required any significant maintenance.

Golden State Water Company

Routine O&M at the treatment plant associated with the GSWC SG1 and SG2 wells includes changeout of spent carbon in the GAC vessels, chlorination, and a blending operation to address nitrate levels in Well SG2. Water quality samples are collected from the LGAC vessels and from the plant effluent to ensure compliance with CDPH standards. Occasional backwashing of the GAC treatment vessels is required (CH2M HILL, 2013).

In the two quarters since GSWC Well SG2 was brought back online under the CDPH-approved nitrate blending plan, production has significantly exceeded the minimum target pumping rates of the two wells combined. Prior to that, the system generally met the target pumping rates using the SG1 well alone. However, based on the capacity of the SG1 well, there was limited flexibility to make up for periods of downtime associated with either routine or nonroutine O&M requirements. For example, if the system was down for a carbon changeout during one of the quarters with the higher target pumping rates, GSWC would have difficulty meeting the quarterly combined target rates. In the second quarter of 2011, the SG1 well pump/column was replaced and the motor rebuilt due to wear (WQA, 2011). This major repair resulted in significantly reduced production for the quarter.

Groundwater Monitoring Wells

There is an extensive groundwater monitoring well network in place that provides critical data for evaluating groundwater and contaminant conditions in the South El Monte OU interim remedy area and demonstrating compliance with IROD performance criteria. The monitoring well network is fully operational and most wells are monitored at least twice a year. In spring 2013, minor maintenance activities were conducted at seven of the older monitoring wells. This included replacing missing bolts from the monitoring well covers and replacing a damaged concrete apron surrounding two of the wellheads.

Future Operation and Maintenance Activities

To maintain compliance with the South El Monte OU interim remedy performance criteria, the remedy wells operated by the three water companies described above will need to continue to extract enough

groundwater, on average, to meet EPA's minimum target pumping rates identified for each well or set of wells. Future O&M activities will be similar to the current ongoing O&M activities and include:

- Routine operation of the groundwater production wells
- Routine operation of the air strippers and GAC treatment systems
- Periodic changeout of spent LGAC and VGAC
- Routine operation of booster pumps and chlorination facilities
- Extensive system monitoring in accordance with CDPH requirements
- Periodic collection of groundwater level and groundwater quality data

If contaminant concentrations increase significantly or if new contaminants are detected, more substantial changes to the existing treatment systems may be required to meet the target pumping rates and maintain remedy performance.

O&M Costs

In the South El Monte OU IROD, EPA initially estimated that annual O&M costs would be $840,000. In the ESD, EPA revised the estimated annual O&M costs as ranging from $2.2 million to $4.8 million to account for additional treatment needed for perchlorate in the intermediate groundwater and the dual-barrier treatment for VOCs in groundwater. Table 4-3 summarizes the past O&M costs for the South El Monte OU remedy. Annual O&M costs have ranged from $1.54 million to $2.07 million, which is consistent with the low end of the range of estimated annual O&M costs in the ESD. It should be noted that perchlorate treatment has not been required for the last several years. Total expenditures in the first quarter of 2013 were approximately $500,000 dollars, and future expenditures are expected to remain near that level (WQA, 2013).

4.3.2. Richwood OU

While the RMWC treatment plant was operational, O&M activities included carbon changeout, maintenance and repair of piping and treatment vessels, chlorination, and upkeep of the RMWC distribution system that was originally built in the 1930s. According to a 1995 DTSC memorandum, leaks in the RMWC distribution system were detected and repaired on a weekly basis, and a significant O&M project was the installation of a recycle loop to smooth out variations in chlorine concentrations in the effluent pipeline in the mid-1990s (DTSC, 1995). The RMWC treatment plant was shut down in 1995, marking the end of O&M activities for the remedy.

4.3.3. Suburban OU

An active remedy was never constructed for the Suburban OU, so there were no O&M activities. SWS continues to operate and maintain the Bartolo Well field as an important component of their water supply system.

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Table 4-1: South El Monte OU Remedy Design Information

Treatment Plant	Treatment Capacity	Extraction Wells	Treatment
MP Well 5	1,600 gpm	Well No. 5	Extraction well, LGAC treatment for VOCs, CDPH-approved blending plan for perchlorate, and disinfection.
MP Wells 12 and 15	4,500 gpm	Well No. 12 Well No. 15	Extraction wells, air stripping, off-gas vapor-phase granular activated carbon (VGAC) treatment, acid injection to control precipitation, LGAC secondary barrier, caustic injection for pH adjustment, and disinfection. Ion exchange (IX) treatment for perchlorate was previously included but has been removed
SGVWC Wells 8B, 8C, and 8D	5,000 gpm	Well No. 8B Well No. 8C Well No. 8D	Extraction wells, air stripping, off-gas VGAC treatment, acid injection to control precipitation and LGAC calcification, LGAC secondary barrier, and disinfection.
GSWC San Gabriel Treatment Plant	1,500 gpm	Well No. SG1 Well No. SG2	Extraction wells, LGAC for VOC treatment, CDPH-approved blending plan for nitrate, and disinfection. IX treatment for perchlorate was previously included but has been removed.

Table 4-2
Minimum Pumping Rates Required for Containment - Interim South El Monte OU Remedy

South El Monte Operable Unit

San Gabriel Valley Area 1 Superfund Site, Los Angeles County, California

	Minimum Pumping Rates[a]									
	Quarter 1[b]		Quarter 2[b]		Quarter 3[b]		Quarter 4[b]		Annual Total[g]	
Remedy Wells	**Avg GPM**	**Acre-Feet[c]**	**Avg GPM**	**Acre-Feet[c]**	**Avg GPM**	**Acre-Feet[c]**	**Avg GPM**	**Acre-Feet[c]**	**Avg GPM**	**Acre-Feet[c]**
MP5	69	27	89	36	270	110	89	36	130	209
MP12	2,000	796	2,000	804	2,000	813	2,000	813	2,000	3,226
MP15	1,612	641	1,923	773	2,205	897	1,917	779	1,916	3,091
Purveyor Usage[d]	**5,370**		**5,670**		**5,670**		**5,670**			
GSWC SG1	424	169	564	227	625	254	438	178	513	828
GSWC SG2	297	118	395	159	437	178	307	125	359	579
Combined SG Total[e]	**721**	**287**	**959**	**386**	**1,062**	**432**	**745**	**303**	**872**	**1,407**
Purveyor Usage[d]	**1,512**		**1,594**		**1,624**		**1,549**			
SGVWC 8B	0	0	0	0	0	0	0	0	0	0
SGVWC 8C	582	231	751	302	1,333	542	682	277	839	1,353
SGVWC 8D	138	55	179	72	317	129	162	66	199	322
Combined Plant 8 Total[f]	**720**	**286**	**930**	**374**	**1,650**	**671**	**844**	**343**	**1,038**	**1,674**
Purveyor Usage[d]	**1,600**		**3,800**		**3,300**		**1,500**			

SOURCE: ITSI, 2013, Remedial Action 2012 Compliance Monitoring Report, San Gabriel Valley Superfund Site, South El Monte Operable Unit, April

[a]The average GPM rates shown assume continuous pumping 24/7 for the entire quarter. If there is any time when a well is not pumping or is pumping at less than the target rate, pumping during the remainder of the quarter will have to be increased to meet the quarterly target rate.

[b]Quarter 1 = Jan.-Mar. (90 days), Quarter 2 = Apr.-Jun. (91 days), Quarter 3 = July-Sept. (92 days), Quarter 4 = Oct.-Dec. (92 days)

[c]The acre-feet target per quarter is calculated by multiplying the average GPM x 1440 minutes/day x # of days per quarter divided by 325,829 gallons/acre-foot

[d]Estimates provided by well owners.

[e]GSWC can use any combination of pumping from the SG1 and SG2 wells to meet these minimum production targets.

[f]SGVWC should try and match the distribution of remedy well pumping shown; however, the Plant 8 pumping will be acceptable as long as the combined total is met from the three remedy wells.

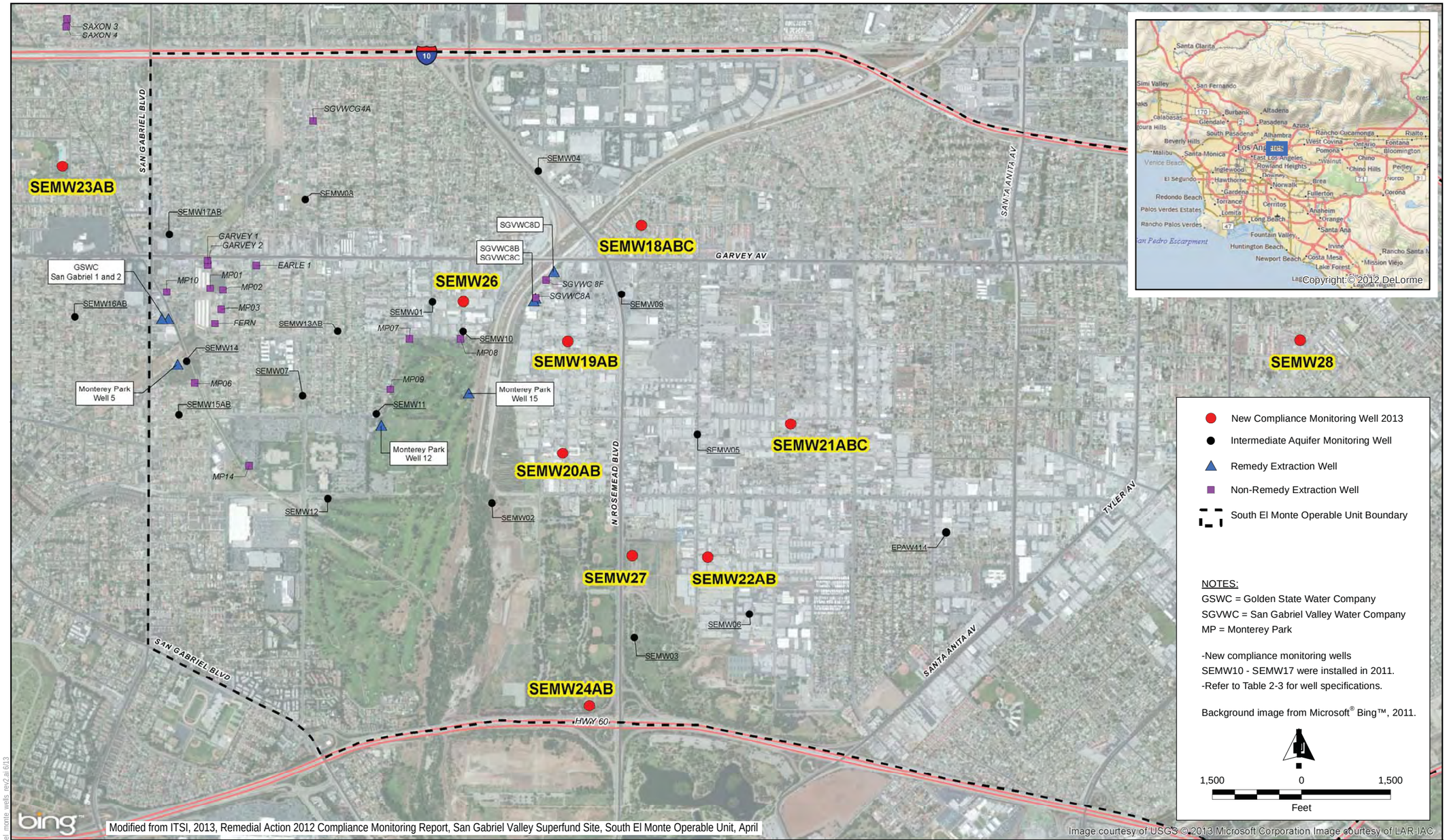
[g] The water purveyors should try to meet the quarterly target rates listed in the table; however, the pumping totals will be acceptable as long as the annual totals are met each year and none of the quarterly pumping totals is more than 25% below the target rate for that quarter.

Table 4-3: Approximate Costs of O&M for South El Monte OU Remedy Treatment Plants

Treatment Plant	O&M Costs ($)					
	2008[1]	2009	2010	2011	2012	Total
MP Well 5	-	366,979	308,277	248,805	215,376	1,139,437
MP Wells 12 and 15	32,509	1,022,597	1,225,699	926,203	580,737	3,787,746
City of Monterey Park Total	32,509	1,389,576	1,533,976	1,175,009	796,113	4,927,182
GSWC Wells SG1 and SG2	7,068	90,258	145,413	101,702	254,690	599,129
SGVWC Plant 8	-	171,169	391,217	411,785	490,136	1,464,307
Total	**39,576**	**1,651,002**	**2,070,606**	**1,688,495**	**1,540,939**	**6,990,619**

Note:

[1] Only includes O&M costs for September 2008 through December 2008.



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ITSI Gilbane

Remedial Action Compliance Monitoring
South El Monte Operable Unit
Los Angeles County, California

New Monitoring Well Locations 2013

Figure 4-1: Locations of Wells in the South El Monte OU Compliance Monitoring Program

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5. Progress Since the Last Five-Year Review

5.1. Previous Five-Year Review Protectiveness Statement

The San Gabriel Valley Area 1 Superfund Site has not undergone a previous FYR, and thus there is no previous FYR protectiveness statement. However, one OU within the Area 1 Superfund Site, Whittier Narrows, has undergone two OU-specific FYRs. The protectiveness statement from the second FYR for the Whittier Narrows OU (EPA, 2011) was as follows:

> *The remedy at Whittier Narrows OU is protective of human health and the environment.*

5.2. Work Completed at the Site During the Review Period

Work completed at the Site during the review period is discussed in Section 4.

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6. Five-Year Review Process

6.1. Administrative Components

EPA Region 9 initiated the FYR in October 2012 and scheduled its completion for August 2013. The FYR team for Area 1 was led by Rachelle Thompson of EPA, Remedial Project Manager (RPM) for the South El Monte OU Site. The team also included Cynthia Wetmore of the Regional Technical Support Program, and contractor support provided by CH2M HILL. The review process included document and data review, standards review, interviews, site inspections, and community involvement.

6.2. Community Involvement

EPA published notices announcing the start of the FYR in the *San Gabriel Valley Tribune* on December 7, 2012, and in *La Opinion* (in Spanish) on December 8, 2012. No responses to the public notices were received. The public notices are provided in Appendix B.

The FYR report will be made available to the public once it has been finalized. Copies of this document will be placed in the following designated public repositories:

West Covina Library	**EPA Superfund Records Center**
1601 West Covina Parkway	**95 Hawthorne Street, Room 403**
West Covina, CA 91790	**San Francisco, CA 94105-3901**

Upon completion of the FYR, EPA will produce and distribute a fact sheet announcing the availability of the final FYR report in the Site document repositories. Both the fact sheet and the final FYR report also will be made available on EPA's website.

6.3. Document Review

This FYR included a review of relevant, site-related documents including the South El Monte OU IROD, South El Monte OU ESD, Remedial Action 2012 Compliance Monitoring Report for the South El Monte OU (ITSI, 2013), recent monthly progress reports and annual performance monitoring reports for the South El Monte OU (WQA, 2010 to 2013), the San Gabriel Area 1 ROD and ROD Amendment for the Richwood OU, and the ROD and ROD Amendment for the Suburban OU. A complete list of the documents reviewed is provided in Appendix A.

6.3.1. Applicable or Relevant and Appropriate Requirements Review

Section 121 (d)(2)(A) of CERCLA specifies that Superfund Remedial Actions must meet any federal standards, requirements, criteria, or limitations that are determined to be ARARs. ARARs are those standards, criteria, or limitations promulgated under federal or state law that specifically address a

hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site.

Chemical-specific standards and nonpromulgated advisories or guidance identified for the selected remedy in the South El Monte OU IROD (2000) or in the subsequent South El Monte OU ESD (2005) for the groundwater at this Site, and considered for this FYR for continued groundwater treatment and monitoring, are listed in Table 6-1. Because the Richwood OU remedy stopped operating in 1994 and the Suburban OU remedy was never implemented, ARARs for these two OUs were not reviewed. The IROD included 39 VOCs for chemical-specific ARARs, but only 8 of those 39 were included as COCs in the risk assessment. Those eight chemicals are included in Table 6-1 along with perchlorate and 1,4-dioxane, which were discussed in the ESD (although treatment for 1,4-dioxane was not added to the interim remedy in the ESD).

As the IROD adopted an interim remedy, chemical-specific cleanup requirements for the aquifer were not established. Federal and state drinking water standards for COCs were considered relevant and appropriate for treatment plant effluent (i.e., ARARs). Perchlorate did not have an MCL at the time of the 2005 ESD. For COCs that lack MCLs, safe levels were specified by NLs (previously known as Als) developed by the CDPH (formerly the CDHS). The NLs are not ARARs but are "to be considered" (TBC) because water purveyors must notify customers if these levels are exceeded. The current NL for 1,4-dioxane of 1 µg/L is more stringent than at the time of the IROD and the ESD. Effective October 18, 2007, the State of California promulgated an MCL for perchlorate of 6 µg/L (Cal-EPA, 2012).

State primary drinking water standards are the same as federal primary drinking standards with the following exceptions:

- Perchlorate does not have a federal MCL.
- Benzene, 1,2-dichloroethane (1,2-DCA), trans-1,2-dichloroethene (trans-1,2-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride have more stringent state MCLs than federal MCLs.

Federal and state laws and regulations that have been promulgated or changed over the past 5 years, or that are otherwise applicable to the South El Monte OU interim remedy, are described in Table 6-2. There have been no revisions to laws and regulations that affect the protectiveness of the remedy.

6.3.2. Risk Assessment Review

The preliminary risk assessments discussed below identified the exposure pathways and associated risks presented in Table 6-3. The preliminary risk assessments were reviewed to identify any changes in exposure or toxicity that would impact protectiveness of the remedy currently in place.

South El Monte OU Human Health Risk Assessment

The South El Monte OU Preliminary Human Health Risk Assessment (HHRA) (CH2M HILL, 1997) is based on data collected from production and monitoring wells between July 1993 and July 1995, except for 15 monitoring wells where data collected between February 1990 and April 1993 is used. Sampling data were available from 25 production wells, one EPA monitoring well, and 131 site assessment monitoring wells for the HHRA. A total of eight COCs were identified in South El Monte OU groundwater that contributed significantly to the risk results and include: benzene, 1,2-DCA, 1,2-DCE, cis-1,2-DCE, 1,2-dichloropropane (1,2- DCP), TCE, PCE, and vinyl chloride.

Exposure to contaminants in groundwater could occur through the use of groundwater for domestic purposes, such as ingestion of tap water, inhalation of contaminants from water used for bathing, cooking and laundering, and dermal contact with the water. The two exposure scenarios and pathways evaluated in the South El Monte OU HHRA include: (1) potential for a current resident to be exposed to contamination in groundwater through domestic use and (2) potential for a future resident to be exposed to contamination in groundwater through domestic use. A summary of risk and hazard estimates is provided in Table 6-3.

A screening level evaluation of volatile emissions to indoor air was also performed as part of the preliminary HHRA (CH2M HILL, 1997). See exposure pathways section below for revisions to vapor intrusion exposure pathway evaluation methodology.

Suburban OU Human Health Risk Assessment

The groundwater quality data used in the Suburban OU HHRA were obtained from analyses of samples collected in the Bartolo Well Field and upgradient in that portion of the San Gabriel Basin groundwater system expected to influence the Bartolo Well Field in the near future (EPA, 1992). For the preliminary HHRA, only the most recent sampling data available at the time were evaluated (dated September 23-24, 1991).

COCs were detected in groundwater samples obtained from the SWS Bartolo Well Field OU. The primary COCs included chloroform, TCE, PCE, 1,1-DCE and 1,1-DCA, cis-l,2-DCE, and 1,1,1- trichloroethane (1,1,1-TCA). Risks were evaluated for residents that currently obtain water from the Bartolo Well Field. The exposure pathways associated with potential residential use of groundwater in this HHRA were primarily domestic uses including: (1) exposure resulting from ingestion of ground water and (2) exposure resulting from inhalation of VOCs while engaged in domestic activities (showering, dish washing, doing laundry etc.). A summary of risk and hazard estimates is provided in Table 6-3.

Richwood OU

A preliminary risk assessment was not performed for the Richwood OU. The 1987 ROD Amendment identified PCE as the primary COC at the Richwood OU. A PCE concentration limit of 1 ppb was recommended because it was deemed to be both protective of public health and technologically feasible for treatment (EPA, 1987).

Changes and Revisions to Preliminary Risk Assessments

Each preliminary risk assessment identified the exposure pathways and associated risks shown in Table 6-3. The risk assessments were reviewed to identify any changes in exposure or toxicity that would impact protectiveness of the remedy currently in place.

Exposure Pathways

EPA's understanding of contaminant migration from soil gas and/or groundwater into buildings has evolved over the past few years leading to the conclusion that vapor intrusion may have a greater potential for posing risk to human health than assumed when the preliminary risk assessments and RODs were prepared. In April 2013, EPA released an external review draft version of its vapor intrusion guidance titled *OSWER Final Guidance for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Sources to Indoor Air* (EPA, 2013a).

EPA is currently conducting an evaluation of vapor intrusion at selected facilities identified during a screening-level assessment for the South El Monte OU that includes soil gas sampling and indoor air sampling. The findings from this indoor air evaluation will support a final ROD for the Site.

Indoor air evaluations were not performed for the Suburban OU preliminary risk assessment or for the Richwood OU. However, the remedy at the Suburban OU was never implemented and the remedy at the Richwood OU ceased operation in 1994. There are no known sources is the Richwood or Suburban OUs that would suggest a vapor intrusion pathway in these areas.

No other changes in exposure pathways were identified that would impact protectiveness of the remedy.

Toxicity Values:

EPA's Integrated Risk Information System (IRIS) (EPA, 2013b) has a program to update toxicity values that are used to conduct human health risk assessments when newer scientific information becomes available. Since the completion of the preliminary risk assessments, there have been a number of changes to the toxicity values for various COCs at the Site. Current toxicity values take into account values provided in the California Office of Environmental Health Hazard Assessment's (OEHHA) Toxicity Criteria Database (2013) and EPA's Regional Screening Level (RSL) table (2013). The most conservative value between what is provided by OEHHA and the EPA RSL table is selected as the current toxicity value. Table 6-4 provides a comparison of the current toxicity values with the values used in the preliminary risk assessments. For each chemical that had an update, the toxicity value change would cause an increase or a decrease in the estimated risk/hazard in comparison with the results of the preliminary risk assessments.

Based on the changes to toxicity values provided in Table 6-4, the current estimated risk and hazard may be over- or underestimated. However, the preliminary risk assessments were used to estimate the human health and environmental risks that the Site could pose if no action were taken. EPA's current action and remedy are primarily based on the presence of contamination in groundwater at levels that exceed current drinking water standards.

The EC 1,4-dioxane has been detected consistently in the South El Monte OU since 2000, at levels exceeding CDPH NLs. 1,4-Dioxane was not considered in the preliminary risk assessments. Both cancer and noncancer toxicity values are currently available for 1,4-dioxane and provided by OEHHA and EPA (2013a). Critical human health effects include the liver, kidney, and hematologic effects.

Perchlorate has also been detected regularly since 2000 across a broad area of South El Monte OU groundwater. Though treatment was required for several years, perchlorate concentrations are now consistently below the California MCL of 6 µg/L. For perchlorate, a noncancer oral reference dose (RfD) is provided by EPA and the primary target organ is the thyroid gland.

Two other ECs detected sporadically in the South El Monte OU are NDMA and hexavalent chromium. NDMA and hexavalent chromium concentrations are typically very low. For NDMA, cancer and noncancer toxicity values are provided by OEHHA and EPA; the primary target organ is the liver. Both cancer and noncancer toxicity values are available for hexavalent chromium and provided by OEHHA and EPA. The primary target organ for hexavalent chromium is the respiratory tract.

A detailed discussion of the changes to the toxicity criteria for TCE and PCE is provided below.

TCE/PCE in Groundwater

Groundwater results are compared to EPA RSLs as a first step in determining whether response actions may be needed to address potential human health exposures. The RSLs are chemical-specific concentrations that correspond to an excess cancer risk level of $1x10^{-6}$ (or a Hazard Quotient (HQ) of 1 for noncarcinogens) developed for standard exposure scenarios (e.g., residential and commercial/industrial). RSLs are not de facto cleanup standards for a Superfund site, but they do provide a good indication of whether actions may be needed. In September 2011, EPA completed a review of the TCE toxicity literature and posted on IRIS both cancer and noncancer toxicity values which resulted in lower RSLs for TCE. The screening level for chronic exposure for an excess cancer risk level of $1x10^{-6}$ is 0.44 µg/L. EPA uses an excess cancer risk range of 10^{-4} to10^{-6} for assessing potential exposures, which correlates to a TCE concentration between 0.44 and 44 µg/L. The current TCE MCL of 5 µg/L is within the revised protective carcinogenic risk range. EPA's 2011 Toxicological Review for TCE also developed safe levels that include at least a 10 fold margin of safety for health effects other than cancer. Any concentration below the noncancer RSL indicates that no adverse health effect from exposure is expected. Concentrations significantly above the RSL may indicate an increased potential of noncancer effects. The noncancer screening level for TCE is 2.6 µg/L. EPA considers the TCE MCL of 5 µg/L protective for both cancer and noncancer effects.

EPA also recently reassessed PCE toxicity literature for both cancer and noncancer effects and released the toxicological review in February 2012, which is posted on IRIS. The reassessment determined that the screening level risk for cancer in excess of $1x10^{-6}$ was less stringent than previously assumed and has raised the cancer RSL for PCE to 9.7 µg/L. The noncancer RSL was also revised based on adverse neurological effects and resulted in a noncancer risk RSL of 35 µg/L. The PCE MCL of 5 µg/L remains protective for both carcinogenic and noncancer effects.

6.4. Data Review

6.4.1. South El Monte OU

Data from quarterly and annual performance reports prepared by WQA (2010 to 2013), the Compliance Well Installation and First Semi-Annual Remedial Action Compliance Monitoring Report (ITSI, 2012), the Final 2012 Remedial Action Compliance Monitoring Report (ITSI, 2013), the Draft Remedial Action Report (CH2M HILL, 2013), queries of EPA's SGV database, and various other reports were reviewed as part of the FYR to evaluate whether the South El Monte OU interim remedy is achieving remedial action objectives. The results of the data review are discussed below.

Groundwater Extraction System Performance

Table 6-6 summarizes the annual extraction rates by calendar year achieved at the South El Monte OU remedy wells from September 2008 through March 2013, compared to the target rates included in the Cooperative Agreement. Except for the first performance reporting period (September 2008 to June 2010), the performance reporting periods for the South El Monte OU remedy are July through June of each year. To be consistent with the WQA performance reports, Table 6-7 presents the pumping rates in terms of reporting periods.

During the first reporting period, September 2008 through June 2010, MP Well 5 met the target quarterly pumping rates during all quarters. MP Well 12 met quarterly pumping rates except for September 2008 (89 percent of the target rate) and the first quarter of 2010 (85 percent of the target rate). MP Well 15 did not meet target pumping rates. Although GSWC Well SG2 was out of operation during the entire operating period, Well SG1 was able to meet the combined target pumping rates during all quarters except the second and third quarters of 2009. SGVWC Wells 8B and 8D met the target pumping rates for each quarter; however SGVWC Well 8C did not meet target pumping rates. Overall, the remedy wells substantially met the target pumping rates during the first reporting period.

During the second reporting period, July 2010 through June 2011, MP Well 5 exceeded target pumping rates during each quarter. MP Well 12 exceeded target pumping rates in the first and second quarter of the reporting period and nearly met them in the fourth quarter. MP Well 12 did not meet the target pumping requirements in the third quarter. MP Well 15 pumped below target pumping requirements for each quarter of the reporting period. GSWC Well SG2 remained out of service; however, Well SG1 was able to meet the combined pumping rates in the second and third quarter of the reporting period. Well SG1 pumped below the pumping requirements in the second quarter of 2011. The SGVWC Plant 8 wells met the target combined pumping requirements for all quarters of the reporting period. The remedy wells substantially met the target pumping rates except during the second reporting period.

During the third reporting period, July 2011 through June 2012, MP Wells 5 and 12 achieved target pumping rates during every quarter. MP Well 15 pumped below target pumping rates in three of the four quarters; however, it achieved 87 percent of the annual target rate. GSWC Well SG2 remained out of service. Well SG1 was able to meet the annual combined target pumping rate during the third

reporting period despite pumping slightly below the target quarterly rate in the first quarter of 2012. SGVWC Plant 8 wells exceeded the combined target pumping rates each quarter. Overall, the remedy wells substantially met the target pumping rates during the third reporting period.

From July 2012 through March 2013, MP Well 5 exceeded target pumping rates in all three quarters. MP Wells 12 and 15 did not meet target pumping rates in the third and fourth quarter of 2012. MP Wells 12 and 15 exceeded target pumping rates in the first quarter of 2013. GSWC Wells SG1 and SG2 met the target pumping rates during all three quarters, as did the SGVWC Plant 8 remedy wells. Overall, the remedy wells substantially met the target pumping rates from July 2012 through March 2013.

Charts illustrating the quarterly 2011-2013 pumping rates for each set of remedy wells compared to the EPA minimum quarterly target pumping rates shown in Table 4-2 are included in Figures 6-1 through 6-5.

Contaminant Mass Removal

Contaminant mass removal is estimated annually based on flow rates from groundwater extraction wells and water quality results for these same extraction wells. Table 6-8 summarizes the contaminant mass removal estimates for the South El Monte OU.

Significant contaminant mass continues to be removed by the interim remedy. The majority of contaminant mass removed occurs at the MP remedy wells primarily due to their larger total pumping rate. Mass removal at the GSWC wells was significantly lower than removal at SGVWC wells.

Performance Monitoring

In addition to the groundwater extraction rate measurements and contaminant mass removal estimates, the primary data collected to evaluate performance of the interim remedy include groundwater level and groundwater quality data. A comprehensive groundwater compliance monitoring program is in place to monitor water levels and water quality to provide data needed to evaluate remedy performance. The monitoring program, described in the *Final Sampling and Analysis Plan, Remedial Action Compliance Monitoring* (ITSI, 2011a) includes seven multi-port wells (SEMW01 through SEMW05, SEMW07 and SEMW08), each with three discrete-depth sample intervals representing various intermediate zone intervals; multi-port well SEMW06 with two intermediate zone sample intervals; multi-port EPAW414, with four intermediate zone sample intervals; conventional well SEMW09 (which is not a multi-port well and has one interval); and 12 conventional compliance monitoring wells or well pairs (SEMW10, SEMW11, SEMW12, SEMW13A/13B, SEMW14, SEMW15A/15B, SEMW16A/16B and SEMW17A/17B). The wells are all monitored for water levels and groundwater quality. Locations of the monitoring wells that are included in the compliance monitoring program are shown on Figure 4-1, and their monitoring frequencies are listed in Table 6-9.

Remedy implementation is being conducted by the water companies under the oversight of EPA, WQA and CDPH (CH2M HILL, 2013). The CDPH permits specify the allowable operating parameters and the extensive water quality monitoring required to demonstrate that the treatment

systems are operating as intended and consistently producing water that meets all drinking water requirements. Each of the three water purveyors has prepared CDPH-approved Operations, Monitoring and Maintenance Plans (OMMPs) for the treatment systems that describe the specific routine and non-routine procedures to be followed to ensure compliance with the CDPH permits, including water quality monitoring. The samples collected in accordance with the extensive water quality monitoring requirements prescribed by CDPH in the drinking water permits are all submitted to state-certified laboratories for analysis by designated drinking-water method. WQA prepares quarterly and annual remedy performance reports that include results from samples collected at the wellheads for the remedy extraction wells (prior to treatment).

Over the last two years, EPA Contractor ITSI has installed compliance monitoring wells, collected groundwater level and groundwater quality data, and evaluated remedy performance. In April 2012, ITSI prepared a report documenting the compliance well installation efforts and presenting an initial evaluation of interim remedy performance (ITSI, 2012). This initial report only included data from the first water level and water quality monitoring event conducted at the new compliance monitoring wells. In addition, the report did not include the use of a numerical model of groundwater flow to support the hydraulic evaluation (e.g., capture zone analysis) of the remedy.

ITSI completed a more thorough evaluation of remedy performance and comparison to IROD performance criteria that makes use of three additional semi-annual groundwater monitoring events and includes computer groundwater flow modeling results evaluating hydraulic control (ITSI, 2013). The following sections summarize the conclusions and recommendations presented in that report based on data collected from the compliance monitoring wells installed in 2011, sampling of existing groundwater monitoring wells, four rounds of sampling the new groundwater monitoring wells, quarterly water level sounding events for new and existing monitoring wells, and the expanded capture zone analysis.

Contaminant Distribution in the Intermediate Aquifer

The groundwater flow direction in the vicinity of the target containment areas is generally to the west. Downgradient of the extraction systems, flow directions appear to be to the northwest, toward the City of Alhambra, where other water purveyors are extracting groundwater.

The lateral extent of VOC contamination (primarily represented by PCE concentrations) is considered to be adequately characterized immediately downgradient of the western extraction system and also along the southern boundary of the contaminated area, thus establishing the target capture zone for the extraction systems. Figures 6-5 and 6-6 show the extent of PCE contamination based on the results of the October 2012 sampling event in the Intermediate Aquifer and the Upper Intermediate Aquifer, respectively.

Based on the October 2012 sampling results, the lateral extent of the plume also appears to be well-defined (as represented by PCE concentrations less than the MCL) along the northwestern boundary of the plume, which is downgradient of the central extraction system and cross-gradient of the western extraction system. However, there is some uncertainty in this area because previous results in 2011

and May 2012 showed PCE concentrations slightly above the MCL. In addition, the 2012 sampling result at one SEMW08 port (SEMW08_04) was slightly above the MCLs and the duplicate result was slightly below the MCL (see Figure 6-6 and Table 6-10).

The vertical extent of VOC contamination is generally well defined along the boundaries of the South El Monte OU target areas. However, the vertical extent is not fully characterized in the central portion of target area or upgradient near the source areas. New monitoring wells were installed in these areas in early 2013 (see Figure 4-1) with screened intervals extending down to approximately 500 feet bgs. Initial sampling results from the new deeper monitoring wells indicate that contaminant levels are either nondetect or below MCLs. If subsequent sampling confirms the initial results, the vertical extent of contamination will have been defined. These new deeper wells will also facilitate evaluation of the influence that deeper extraction wells may be having on contaminants migrating deeper into the intermediate zone.

The lateral and vertical extent of perchlorate exceeding the MCL of 6 µg/L and 1,4-dioxane exceeding the NL of 1 µg/L are considered adequately characterized. Table 6-10 includes perchlorate and 1,4-dioxane concentrations in the South El Monte OU. The highest concentrations of perchlorate were found in downgradient Wells SEMW15A (3.5 µg/L) and SEMW16A (3.4 µg/L), mid-plume Well SEMW11 (6.3 µg/L), and upgradient Well SEMW02_02 (4.2 µg/L). Figure 6-7 shows the distribution of perchlorate in the Intermediate Aquifer. The highest concentrations of 1,4-dioxane were found in upgradient Well SEMW02_02 (1.2 µg/L) and cross-gradient Well SEMW12 (0.91 µg/L). All downgradient wells had 1,4-dioxane concentrations below the reporting limit of 0.5 µg/L (see Table 6-10).

Compliance with IROD Performance Criteria/ Capture Zone Analysis

The groundwater extraction systems appear to be operating in compliance with the IROD performance criteria. The expanded capture zone analysis (including use of a numerical groundwater flow model and potentiometric surface maps from four quarters of sampling events), indicates that the extraction systems are achieving complete capture of the affected groundwater above VOC MCls (“target areas”) in both the central and western areas. The overall “target area” is shown in Figure 6-8. The only uncertainty is in the area west/northwest of Wells SEMW17A/17B, where PCE concentrations have recently dropped below MCLs, and a consistent contaminant trend has not been observed.

The estimated capture zone generated from the groundwater flow model extends approximately 1,500 to 2,000 feet beyond the targeted capture zone (see Figure 6-8). Ongoing monitoring, including from a newly installed sentinel well downgradient of Wells SEMW17A/17B will provide data on water quality and flow conditions in this area to better substantiate the model predictions.

The potentiometric surface map shown for February 2012 (see Figure 6-8) and maps prepared for the subsequent three quarterly water level sounding events in 2012 (ITSI, 2013) indicate that the extraction systems are operating as designed and providing containment beyond the boundary of the monitoring network.

Ongoing water quality monitoring in the compliance monitoring wells will be necessary for evaluation and confirmation of concentration trends observed in Wells SEMW17A/17B and SEMW08 (see Table 6-10). Additional data collected during the recent (2012-2013) installation of new monitoring wells, as well as future monitoring results from these wells, is expected to address the remaining data gaps related to the total depth of VOC contamination and conditions to the west/northwest of Wells SEMW17A/17B.

6.4.2. Richwood OU

Data for the Richwood OU after the acquisition of RMWC by SGVWC in 1999 are limited. The Main San Gabriel Basin Watermaster's *Draft Five-Year Water Quality and Supply Plan (2012-2013)* (Watermaster, 2012) includes pumping and water quality data for the HMWC and RHMWC production wells for the 2011-2012 water year, as summarized below.

The HMWC North/1901178 well has a capacity of 136 gpm and produced approximately 31 acre-feet during the 2011-2012 water year. Water quality results indicate the HMWC North/1901178 well was nondetect for PCE and TCE in September 2011 and perchlorate in September 2010. The HMWC South/1902806 well has a capacity of 320 gpm and produced approximately 58 acre-feet during the 2011-2012 water year. Water quality results indicate the HMWC South/1902806 well was nondetect for PCE in March 2012, TCE in September 2011, and perchlorate in September 2010.

RHMWC Well 1-North/1900120 has a capacity of 450 gpm and produced approximately 199 acre-feet during the 2011-2012 water year. Water quality results indicate the RHMWC North 1/1900120 well was nondetect for PCE and TCE in March 2012 and perchlorate in September 2010. RHMWC Well 2-South/1900121 has a capacity of 300 gpm and produced approximately 87 acre-feet during the 2011-2012 water year. Water quality results indicate the RHMWC South 2/1900121 well was nondetect for PCE and TCE in March 2012 and perchlorate in June 2011.

Based on these recent data for HMWC and RHMWC wells, the water quality in the Richwood OU continues to meet drinking water standards.

6.4.3. Suburban OU

The most recent pumping status and groundwater quality sampling results, as available, for the active wells in the SWS Bartolo Well Field compiled by the Watermaster (2012) indicate the following:

- Well 201W-4 – TCE and PCE were not detected in February 2009 and perchlorate was not detected in August 2010. Note the Watermaster reports this well as destroyed, however SWS reports the well is active.

- Well 201W-7 – PCE was not detected in June 2012 and perchlorate was not detected in August 2011.

- Well 201W-8 – TCE was not detected in May 2012 and perchlorate was not detected in August 2011.

- Well 201W-9 –PCE was not detected in May 2012 and perchlorate was not detected in September 2011.

- Well 201W-10 (active) – The TCE concentration was 0.7 µg/L, the PCE concentration was 0.8 µg/L in June 2012, and perchlorate was not detected in May 2011.

Available data for 2010 through 2012 provided by SWS indicate wells 201W-7, 201W-8, 201W-9, and 201W-10 did not contain 1,4-dioxane above the CDPH reporting limit of 1 µg/L.

Based on these recent data for the SWS Bartolo Well Field production wells, the water quality in the Suburban OU continues to meet drinking water standards.

6.5. Site Inspection

Site inspections were conducted on March 20, 2013, by the EPA Project Manager, and CH2M HILL, EPA's Contractor. The purpose of the inspections was to observe the current condition of the remedy components and discuss system operations with operations staff.

Site inspections were conducted at the following facilities in the South El Monte OU:

- SGVWC Plant 8 Facility
- GSWC San Gabriel Facility
- MP Well 12/15 Facility
- MP Well 5 Facility

The inspections found these four treatment facilities to be in good condition and operating as reported. Some relatively minor issues were noted with the operation of these systems, as described in Section 4.3 of this FYR report.

The SWS Bartolo Well Field in the Suburban OU and the former RMWC treatment facility location in the Richwood OU were also visually inspected and photographed. The Bartolo Well Field is active and no issues were noted. Inspection of the former RMWC treatment facility location confirmed that the facility no longer exists and no issues were noted.

The site inspection checklists and inspection photographs are provided in Appendix C.

6.6. Interviews

Site interviews were conducted with the following personnel:

- Chris Arriola, MP – February 21, 2013

- Craig Gott, Vice President of Engineering, John Brettl, Ken Reich, and Josh Vaughn, Quality Assurance Department, and Kevin Hostert, Production Department, SWS – February 25, 2013

- David Chang, Vice President, Environmental Quality, GSWC – February 27, 2013

- Frank LoGuidice, Vice President, Engineering and Operations, Dan Arrighi, Vice President, Water Quality and Planning, and Oscar Ramos, Water Quality Superintendent, SGVWC – February 27, 2013
- Tony Zampiello, Executive Officer, Watermaster, and Steve Johnson, Stetson Engineers – February 28, 2013
- Ken Manning, Executive Director, and Randy Schoellerman, Assistant Executive Director, WQA – March 15, 2013
- Mike Cox, RHMWC – May 7, 2013

The purpose of the interviews was to document perceptions about problems or successes at the Site and remedial activities implemented to date. Common concerns expressed by the three water purveyors which could potentially affect performance of the South El Monte OU remedy include:

- Viability of aging production wells up to 60 years old and associated shutdowns due to maintenance, repairs, and potential failure requiring well replacement
- Achieving EPA's target pumping rates relative to system operational capacity and relatively lower water system demands
- Presence of 1,4-dioxane and perchlorate at concentrations relatively close to (or exceeding) standards
- Potential for new lower MCLs and NLs for contaminants including 1,4-dioxane, perchlorate, hexavalent chromium, and PCE

Chris Arriola indicated that MP is also concerned about the higher-than-expected PCE concentrations in MP Well 15 and is proceeding with plans to consolidate all treatment to a centralized plant at the Delta facility that will include ultraviolet light/oxidation (UV/Ox) treatment for 1,4-dioxane and VOCs and an LGAC dual barrier. The City is proceeding through the Proposition 218 process for a water rate increase to fund the new treatment system, which is expected to cost $7 to $8 million.

David Chang explained that GSWC's CDPH-approved nitrate blending plan restricts the pumping rate from GSWC's SG2 to 300 gpm and requires that Well SG1 also be operating for Well SG2 to operate. If Well SG1 fails the system would need to be shut down. This possibility is a concern to GSWC.

Frank LoGuidice, Dan Arrighi, and Oscar Ramos of SGVWC requested specific acknowledgment that the minimum pumping target rates for Plant 8 can be achieved through pumping of any combination of the three remedy Wells 8B, 8C and 8D, rather than the well-specific rates included in the Cooperative Agreement. To address perchlorate concentrations approaching levels of concern, SGVWC has an on-the-shelf design and has identified a footprint at Plant 8 for adding perchlorate treatment that will be implemented if concentrations increase.

SGVWC also provided details on their acquisition of the former RMWC's water rights and assets.

For the Suburban OU, Craig Gott of SWS expressed concerns regarding the potential for future increases in 1,4-dioxane concentrations relative to the persistent low detections (1 µg/L or less) in all production wells in the Bartolo Well Field. SWS destroyed older production Wells 201W2 and 201W3 in 2005, 201W2 and 201W6 in 2008, and 201W5 in 2005, which were replaced with new production wells. SWS would concur with delisting the Suburban OU, if EPA were to propose it.

Ken Manning and Randy Schoellerman of WQA expressed concerns about 1,4-dioxane in the South El Monte OU and noted that it should be addressed in the Final ROD. WQA has had discussions with the water purveyors and the WQA Board about long-term administration of the South El Monte OU and what funding options there may be beyond the existing settlement funds and EPA's current commitments. WQA endorses delisting the Suburban and Richwood OUs.

Tony Zampiello of the Watermaster and Steve Johnson of Stetson Engineers on behalf of the Watermaster provided contact information for representatives of the HMWC and RHMWC in the Richwood OU. Steve Johnson provided a summary of recent (and historical) contaminant concentrations and production rates for both HMWC and RHMWC. The Watermaster does not have concerns about the Richwood or Suburban OUs.

Mike Cox of RHMWC in the Richwood OU reported that RHMWC continues to supply water to 300 homes located in the northern portion of the City of El Monte and never needed to install a treatment system to remove VOCs. RHMWC has no opposition to EPA delisting the Richwood OU.

Interview reports are provided in Appendix D.

6.7. Institutional Controls

The September 2000 South El Monte OU IROD discusses groundwater management and associated governmental controls that affect the extraction and use of groundwater. The primary governmental control is the judgment in the matter of Upper San Gabriel Valley Municipal Water District vs. City of Alhambra, et al., by the Superior Court of California, County of Los Angeles. This judgment established the entity known as the Main San Gabriel Basin Watermaster (Watermaster) with authority to regulate groundwater pumping in the San Gabriel Valley. The Watermaster has authority to manage and restrict the use of groundwater resources in the San Gabriel Basin. The withdrawal and utilization of water resources in the Basin are subject to the Watermaster's authority. No drinking water production wells may be drilled without the Watermaster's approval. In conjunction, governmental controls on the use of groundwater as drinking water, including EPA- and California-promulgated MCLs and California NLs, require that drinking water standards be met prior to serving the water. These drinking water controls and the Watermaster's authority to regulate water resources and eliminate unregulated use of area groundwater, as mentioned in the RODs and IRODs for the OUs in the Area 1 Superfund Site, serve as institutional controls (ICs) that prohibit unauthorized use of, or exposure to, contaminated groundwater.

Table 6-11 lists the ICs associated with the Area 1 Site.

Table 6-1: Summary of Changes in Chemical-Specific Standards and California Notification Levels

Contaminants of Concern	2000 IROD (µg/L)	2005 ESD (µg/L)	Current Standard or Notification Level (NL) (µg/L)		Standard or NL Changed since IROD or ESD?
			State	Federal	
Benzene	1	--	1	5	No
1,2-DCA	0. 5	--	0. 5	5	No
1,2-DCE [2]	--	--	--	--	No
trans-1,2-DCE	10	--	10	100	No
cis-1,2-DCE	6	--	6	70	No
1,2-DCP	5	--	5	5	No
PCE	5	--	5	5	No
TCE	5	--	5	5	No
Vinyl Chloride	0. 5	--	0. 5	2	No
Perchlorate	--	6[3]	6	NA	No
1,4-dioxane	3	3[3]	1[1]	NA	More stringent

Notes:
[1] California Notification Level
[2] Standards are established for the individual cis-1,2-DCE and trans-1,2-DCE isomers
[3] California drinking water advisory level
-- not established
NA – not applicable, no federal MCL

Table 6-2: Applicable or Relevant and Appropriate Requirements Evaluation

Requirement	Citation	Document	Description	Effect on Protectiveness	Comments	Amendment Date
Safe Drinking Water Act National Drinking Water Standards (Federal Maximum Contaminant Levels [MCLs])	40 CFR 141 40 CFR 300.430(f)(5)	2000 Interim ROD	Establishes national primary drinking water standards, MCLs, to protect the quality of water in public water systems. MCLs represent the maximum concentrations of contaminants permissible in water delivered to the public. MCLs are generally relevant and appropriate when determining acceptable exposure limits for groundwater that is a current or potential source of drinking water.	There have been no revisions that affect protectiveness.	Treated groundwater delivered to a public water supply system must meet all legal requirements for drinking water in existence at the time the water is served.	NA
California Safe Drinking Water Standards (State MCLs)	Health and Safety Code Sections 4010.1(b), 4026(c) State MCLs found in 22 CCR 64435 and 64444.5	2000 Interim ROD	Establishes primary MCLs for contaminants that cannot be exceeded in public water systems. In some cases, the California drinking water standards are more stringent than the federal MCLs.	There have been no revisions that affect protectiveness. Adoption of the State MCL for perchlorate in 2007 did not affect the protectiveness of the remedy, as the same concentration was included in the 2005 ESD.	Treated groundwater delivered to a public water supply system must meet all legal requirements for drinking water in existence at the time the water is served. The perchlorate notification level established at the time of the ESD was 6 µg/L. Since then, the State of California promulgated an MCL of 6 µg/L for perchlorate.	The effective date for the State MCL for perchlorate is October 18, 2007.

Table 6-2: Applicable or Relevant and Appropriate Requirements Evaluation

Requirement	Citation	Document	Description	Effect on Protectiveness	Comments	Amendment Date
California Domestic Water Quality Monitoring Regulations California Notification Levels	22 CCR 64401 California Health & Safety Code Section 116455	2005 ESD	Safe levels for some chemicals that lack MCLs are specified by notification levels. Drinking water systems provide public notification if notification levels are exceeded, unless the wells in question are taken out of service. Although not an enforceable standard and not an ARAR, a notification level is the concentration of a contaminant in drinking water that CDPH has determined, based on available scientific information, to provide an adequate margin of safety to prevent potential risks to human health.	The 2005 ESD cited the perchlorate NL; however there is now an MCL for perchlorate. The 2005 ESD referenced the 1,4-dioxane NL, but did not add 1,4-dioxane treatment to the remedy. Since the 2005 ESD, the 1,4-dioxane notification level was decreased from 3 µg/L to 1 µg/L. This change does not currently impact the protectiveness of the remedy because the water being served to customers does meet the NL	1,4-Dioxane has been detected in the South El Monte OU since 2000. However, concentrations have not been high enough to require treatment. The lowering of the NL, increases the likelihood that 1,4-dioxane treatment could be required in the future. 1,4-Dioxane has been detected in some remedy production wells at concentrations above 1 µg/L.	The effective date for the revised 1,4-dioxane notification level is August 22, 2010.

Table 6-2: Applicable or Relevant and Appropriate Requirements Evaluation

Requirement	Citation	Document	Description	Effect on Protectiveness	Comments	Amendment Date
Water Quality Control Plan (Basin Plan) for the Los Angeles Region State Water Resources Control Board Resolution No. 68-16 (Antidegrada-tion Policy)	Porter-Cologne Water Quality Control Act (California Water Code Sections 13240, 13241, 13242, 13243)	2000 Interim ROD	Requires that high-quality surface water and groundwater be maintained to the maximum extent possible. Degradation of waters will be allowed only if it is consistent with the maximum benefit to the people of the state, does not unreasonably affect present and anticipated beneficial uses, and does not result in water quality less than that prescribed in State Water Board policies. If degradation is allowed, the discharge must meet best practicable treatment or control, which must prevent pollution or nuisance and result in the highest water quality consistent with maximum benefit to the people of the state.	There have been no revisions that affect protectiveness.	Treated groundwater discharged to land, groundwater, or surface water, including recharge at a spreading basin, must be treated to meet established numeric water quality objectives, including federal or state MCLs, whichever is more stringent, except for EPA-approved CERCLA Section 104(b) activities that will result in temporary high flow, high volume discharges.	There have been multiple basin plan amendments since the 2000 Interim ROD.

Table 6-2: Applicable or Relevant and Appropriate Requirements Evaluation

Requirement	Citation	Document	Description	Effect on Protectiveness	Comments	Amendment Date
National Pollution Discharge Elimination System California Toxics Rule	40 CFR Parts 122, 123, 124, 40 CFR Part 131 Cal. Water Code Section 13263	2000 Interim ROD	Regulates discharges to surface water. Applicable to discharge of treated groundwater. The California Toxics Rule establishes permit limits for new or revised NPDES permits. In establishing effluent limitations for such discharges, the Regional Board typically considers the Basin Plan, which incorporates Resolution 68-16.	There have been no revisions that affect protectiveness.	Each of the three water purveyors implementing the South El Monte OU interim remedy maintains an active NPDES permit that covers any discharges of treated water to surface water. These discharges are generally limited to backwash water that is generated after carbon changeouts.	NA
California Hazardous Waste Control Act	22 CCR 66261, 66262, 66268	2000 Interim ROD	In lieu of the federal RCRA program, the State is authorized to enforce its Hazardous Waste Control Act and implement regulations subject to EPA authority (CCR Title 22, Division 4.5). Wastes can be classified as non-RCRA, state-only hazardous wastes if they exceed the soluble threshold limit concentration or total threshold limit concentration values.	There have been no revisions that affect protectiveness.	Potentially applicable to waste streams associated with treatment operations that include, but are not limited to, spent granular activated carbon and spent ion exchange (IX) resins. If waste is determined to be hazardous, the requirements for handling such waste set forth in Sections 66262 and 66268 are applicable.	NA

Table 6-2: Applicable or Relevant and Appropriate Requirements Evaluation

Requirement	Citation	Document	Description	Effect on Protectiveness	Comments	Amendment Date
Operation, maintenance, and closure requirements for treatment units	22 CCR 66264.601-.603 22 CCR Sections 66264.111-.115	2000 Interim ROD	These regulations include design, operation, maintenance, and closure requirements for miscellaneous treatment units and units that use chemical, physical, or biological treatment methods to treat hazardous waste.	There have been no revisions that affect protectiveness.	Potentially relevant and appropriate to air strippers or granular activated carbon contactors. If units are used to treat water containing hazardous waste, the requirements set forth in Sections 66264.601-.603 and 66264.111-.115 are relevant and appropriate.	NA
Container Storage Requirements	22 CCR 66264.170 -.178	2000 Interim ROD	Establishes requirements for the storage of contaminated groundwater over 90 days.	There have been no revisions that affect protectiveness.	Potentially relevant and appropriate for the storage of contaminated groundwater over 90 days. If groundwater is determined to be hazardous waste, the requirements set forth in Sections 66264.170 -.178 are relevant and appropriate.	NA
Land Disposal Restrictions	22 CCR 66268	2000 Interim ROD	Relevant and appropriate to discharges of contaminated or treated groundwater to land, including the discharge of treated water to spreading basins.	There have been no revisions that affect protectiveness.	Waters must be treated to meet federal or state MCLs, whichever is more stringent, prior to discharge to land. If groundwater is determined to be hazardous waste, the requirements set forth in Section 66268 are relevant and appropriate.	NA

Table 6-2: Applicable or Relevant and Appropriate Requirements Evaluation

Requirement	Citation	Document	Description	Effect on Protectiveness	Comments	Amendment Date
Clean Air Act Rules and Regulations of the South Coast Air Quality Management District (SCAQMD)	42 U.S.C. section 7401 et seq. SCAQMD Regulation XIV, Rule 1401 SCAQMD Rules 401, 402, 403	2000 Interim ROD	Regulates air emissions to protect human health and the environment, and is the enabling statute for air quality programs and standards. The substantive requirements of programs are implemented primarily through Air Pollution Control Districts. The SCAQMD regulates air quality in the San Gabriel Valley.	There have been revisions since the 2000 Interim ROD. However, none of the revisions affect protectiveness.	Two of the treatment plants incorporated into the South El Monte OU interim remedy (MP Well 12/Well15 and SGVWC Plant 8) include air-stripping towers and associated VGAC off-gas treatment units for VOC removal. MP and SGVWC both have active SCAQMD permits that cover the air strippers and off-gas treatment units. SCAQMD reviews the permits each year. Planned new construction for consolidating treatment at the Delta Plant and possible perchlorate treatment addition at the SGVWC Plant 8 facility may be subject to the amendments.	Visible Emissions amended November 9, 2001. Fugitive Dust amended June 3, 2005.

Notes:

ASR	applicable state requirement	NA	not applicable
CCR	California Code of Regulations	SCAQMD	South Coast Air Quality Management District
CFR	Code of Federal Regulations	U.S.C.	United States Code

Table 6-3: Exposure Pathways and Risks from Preliminary Risk Assessments

Exposure Scenario & Pathway	Risk Driver(s)	Range of Risk Estimates
South El Monte OU HHRA		
RME Residential Scenario/Ingestion/Inhalation	Benzene, 1,2-DCA, 1,2-DCE, cis-1,2-DCE, 1,2-DCP, PCE, TCE, vinyl chloride	2×10^{-6} to 9×10^{-4}
RME Residential Scenario/Inhalation VOCs via indoor air	VOCs	1×10^{-9} to 9×10^{-6}
Suburban Water Systems/Bartolo Well Field OU HHRA		
RME Residential Scenario/Ingestion/Inhalation	TCE and PCE	5×10^{-7} to 2×10^{-6}

Note:
RME = Reasonable Maximum Exposure
Source: South El Monte OU ROD (September, 2000); Suburban Water Systems/Bartolo Well Field OU HHRA (July, 1992)

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Table 6-4: Comparison Between Toxicity Values in Preliminary Risk Assessments and Current Region 9 Values

Chemical	Ingestion Exposure									Inhalation Exposure									
	Reference Dose Oral (RfDo) (mg/kg/day)					Cancer Slope Factor Oral (SFo) (mg/kg/day)$^{-1}$					Reference Dose Inhalation (RfDi) (mg/kg/day)					Cancer Slope Factor Inhalation (SFi) (mg/kg/day)$^{-1}$				
	Preliminary HHRA Values		Current Values[2]		Impact on Estimated Hazard	Preliminary HHRA Values		Current Values[2]		Impact on Estimated Risk	Preliminary HHRA Values		Current Values[2]		Impact on Estimated Hazard	Preliminary HHRA Values		Current Values[2]		Impact on Estimated Risk
South El Monte OU HHRA[1]																				
Benzene	0. 0011	NCEA	0. 004	I	decrease	0. 029	I	0. 1	C	increase	0. 0017	NCEA	0. 0086	I	decrease	0. 029	I	0. 1	C	Increase
1,2-Dichloroethane	0. 01	NCEA	0. 006	X	increase	0. 091	I	0. 091	I	--	0. 0029	NCEA	0. 002	P	increase	0. 091	I	0. 091	I	--
1,2-Dichloroethene	0. 006	H	0. 009	H	decrease	--	--	--	--	--	0. 009	R	0. 009	R	--	--	--	--	--	--
cis-1,2-Dichloroethene	0. 0017	H	0. 002	I	decrease	--	--	--	--	--	0. 01	R	0. 002	R	increase	--	--	--	--	--
1,2-Dichloropropane	0. 0029	R	0. 09	A	decrease	0. 068	H	0. 036	C	decrease	0. 0011	I	0. 00001	I	increase	0. 068	R	0. 036	C	Decrease
Tetrachloroethene	0. 009	I	0. 006	I	increase	0. 052	NCEA	0. 54	C	increase	0. 01	R	0. 011	I	increase	0. 002	NCEA	0. 021	C	Increase
Trichloroethene	0. 01	NCEA	0. 0005	I	increase	0. 011	NCEA	0. 046	I	increase	0. 006	R	0. 00057	I	increase	0. 006	NCEA	0. 014	I	Increase
Vinyl Chloride	--	I	0. 003	I	increase	1. 9	H	0. 72	I	decrease	--	--	0. 029	I	increase	0. 3	H	0. 27	C	Decrease
Suburban Water Systems/Bartolo Well Field OU HHRA[3]																				
1,1-Dichloroethene	0. 0009	H	0. 05	I	decrease	0. 6	I	--	--	decrease	--	--	0. 057	I	increase	1. 2	H	--	--	decrease
1,1-Dichloroethane	0. 11	H	0. 2	P	decrease	--	--	0. 0057	C	increase	--	--	0. 2	R	increase	--	--	0. 0057	C	increase
cis-1,2-Dichloroethene	0. 001	H	0. 002	I	decrease	--	--	--	--	--	--	--	0. 002	R	increase	--	--	--	--	--
Chloroform	0. 002	H	0. 01	I	increase	0. 0061	H	0. 031	C	increase	--	--	0. 028	A	increase	0. 081	H	0. 081	I	--
1,1,1-Trichloroethane	0. 09	H	2	I	decrease	--	--	--	--	--	0. 3	H	1. 4	I	decrease	--	--	--	--	--
Tetrachloroethene	0. 002	H	0. 006	I	decrease	0. 051	H	0. 54	C	increase	--	--	0. 011	I	increase	0. 0018	H	0. 021	C	increase
Trichloroethene	0. 006	E	0. 0005	I	increase	0. 011	H	0. 046	I	increase	--	--	0. 00057	I	increase	0. 017	H	0. 014	I	increase

Notes:

[1] EPA, Region 9. September 2000. Record of Decision. South El Monte Operable Unit. Los Angeles County, California.

[2] Current value is the most conservative value between EPA RSLs (2012) and OEHHA Toxicity Criteria Database toxicity values. EPA. 2012. Regional Screening Levels (RSL) Table. November. Online: http://www. epa. gov/region9/superfund//prg/index. html; California Environmental Protection Agency (Cal-EPA) Office of Environmental Health Hazard Assessment's (OEHHA's) Chronic Reference Exposure Levels (RELs) from December 2008 and the Cancer Potency Values from July 21, 2009)

[3] EPA, Region 9. July 1992. Suburban Water Systems/Bartolo Well Field OU Screening Risk Assessment.

A = Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs)

C = California Environmental Protection Agency (Cal-EPA) Office of Environmental Health Hazard Assessment's (OEHHA's) Chronic Reference Exposure Levels (RELs) from December 2008 and the Cancer Potency Values from July 21, 2009)

E = Environmental Criteria and Assessment Office (ECAO)

H = Health Effects Assessment Summary Tables (HEAST)

I = Integrated Risk Information System (IRIS)

NCEA = National Center for Environmental Assessment (NCEA)

P = Provisional Peer Reviewed Toxicity Values (PPRTVs)

R = Route Extrapolation

X = PPRTV Appendix H

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Table 6-5: Summary of Drinking Water RSLs for Contaminants of Concern

Contaminant of Concern	RSL for excess cancer risk level of $1x10^{-6}$ (µg/L)	RSL for noncancer hazard (µg/L)
TCE	0. 44	2. 6
PCE	9. 7	35

Table 6-6. South El Monte OU Remedy Wells Annual Extraction Rates Compared to Target Rates

Remedy Well	EPA Target Annual Rates (acre-feet/year)	Actual Annual Pumping Rates (acre-feet/year)[1]					
		2008[2]	2009	2010	2011	2012	2013[3]
MP 5	209	647	1,774	922	1,081	1,051	154
MP 12	3,226	1,091	3,306	3,246	2,930	3,213	800
MP 15	3,091	551	1,782	1,954	2,303	2,632	711
MP Total	**6,526**	**2,289**	**6,861**	**6,140**	**6,314**	**6,897**	**1,665**
GSWC SG1	828	462	1,333	1,283	1,209	1,473	388
GSWC SG2	579	0	0	0	0	168	97
GSWC Total	**1,407**	**462**	**1,333**	**1,283**	**1,209**	**1,641**	**485**
SGVWC 8B	0	39	179	15	10	4	1
SGVWC 8C	1,353	69	412	641	1,029	924	128
SGVWC 8D	322	381	1,441	1,331	1,889	2,130	238
SGVWC Total	**1,674**	**489**	**2,031**	**1,987**	**2,927**	**3,058**	**367**
Total	**9,607**	**3,240**	**10,225**	**9,410**	**10,450**	**11,596**	**2,517**

Source: *San Gabriel Basin Water Quality Authority Revised Performance Reports, Superfund Support Agency Cooperative Agreement (V-96923701-0), South El Monte OU*.

1: Pumping rates rounded to the nearest acre-foot

2: 2008 includes September through December

3: 2013 includes January through March. The last available performance report at the time of the FYR was the 1st Quarter 2013 reporting period performance report.

Table 6-7. South El Monte OU Remedy Wells Extraction Rates Compared to Target Rates

Remedy Well	EPA Target Annual Rates (acre-feet/year)	Actual Annual Pumping Rates (acre-feet/year)[1]			
		Sep 2008 – Jun 2010	Jul 2010 – Jun 2011	Jul 2011 – Jun 2012	Jul 2012 – Mar 2013
MP 5	209	2,777	1,182	950	748
MP 12	3,226	5,969	2,967	3,275	2,385
MP 15	3,091	3,691	1,461	2,710	2,070
MP Total	**6,526**	**12,437**	**5,609**	**6,935**	**5,203**
GSWC SG1	828	2,428	1,042	1,491	1,187
GSWC SG2	579	0	0	0	265
GSWC Total	**1,407**	**2,428**	**1,042**	**1,491**	**1,452**
SGVWC 8B	0	228	8	8	3
SGVWC 8C	1,353	741	792	1,029	640
SGVWC 8D	322	2,357	1,570	1,894	1,178
SGVWC Total	**1,674**	**3,325**	**2,369**	**2,931**	**1,821**
Total	**9,607**	**18,190**	**9,020**	**11,357**	**8,476**

Source: *San Gabriel Basin Water Quality Authority Revised Performance Reports, Superfund Support Agency Cooperative Agreement (V-96923701-0), SEMOU*.

1: Pumping rates rounded to the nearest acre-foot/year

Table 6-8. Mass of Contaminants Removed from South El Monte OU Remedy Wells

Remedy Well	Mass of VOCs Removed (lb)[1]						
	2008[2]	2009	2010	2011	2012	2013[3]	Total
MP 5	66	169	62	82	79	14	483
MP 12	122	380	327	398	321	110	1,800
MP 13	134	443	470	651	537	192	2,672
MP Total	**321**	**992**	**859**	**1,131**	**937**	**316**	**4,955**
GSWC SG1	11	26	30	35	32	14	159
GSWC SG2	0	0	0	0	0. 4	1. 8	3
GSWC Total	**11**	**26**	**30**	**35**	**32**	**16**	**162**
SGVWC 8B	15	50	7	4	1	0	78
SGVWC 8C	18	90	134	182	169	24	653
SGVWC 8D	48	187	195	333	289	63	1,169
SGVWC Total	**81**	**326**	**335**	**518**	**460**	**88**	**1,899**
Totals	**413**	**1,344**	**1,224**	**1,684**	**1,429**	**420**	**7,016**

Source: *San Gabriel Basin Water Quality Authority Performance Reports, Superfund Support Agency Cooperative Agreement (V-96923701-0), SEMOU*.

1: Mass removed rounded to the nearest pound

2: 2008 includes September through December

3: 2013 includes January through March (the latest available data at the time of the FYR Report).

Table 6-9
Compliance Monitoring Program for the South El Monte OU

Well	Screen Interval (feet bgs)	Aquifer Zone	Compliance Monitoring Frequency	Other Monitoring Program	Summary of VOC sampling results/comments
SEMW01_01	330-340	Intermediate	Annual		ND to < MCLs, vertical extent defined
SEMW01_02	238-248	Intermediate	Semi-annual	Early Warning	> 5x MCLs, increasing
SEMW01_03	166-176	Intermediate	Annual		ND to <MCLs
SEMW01_04	45-53	Shallow		RI	ND
SEMW02_01	344-354	Intermediate	Semi-annual		>10x MCLs, increasing, vertical undefined
SEMW02_02	248-258	Intermediate	Semi-annual	Early Warning	> 3x MCLs
SEMW02_03	112-122	Intermediate	Annual		ND to <MCLs
SEMW02_04	38-48	Shallow		RI	ND
SEMW03_01	371-380	Intermediate	Annual		> 20x MCLs, increasing, monitors WNOU
SEMW03_02	265-275	Intermediate	Annual		> 20x MCLs, increasing, monitors WNOU
SEMW03_03	180-190	Intermediate	Semi-annual	Early Warning	> 20x MCLs, increasing, monitors WNOU
SEMW03_04	62-72	Shallow		RI	> 2x MCLs
SEMW04_01	389-398	Intermediate	Annual		ND, vertical extent defined
SEMW04_02	281-290	Intermediate	Semi-annual		at MCLs
SEMW04_03	189-198	Intermediate	Annual		ND
SEMW04_04	64-74	Shallow		RI	ND to <1 ug/L
SEMW05_01	381-391	Intermediate	Annual		> 20x MCLs, increasing, vertical extent undefined
SEMW05_02	299-309	Intermediate	Annual		> MCLs
SEMW05_03	209-218	Intermediate	Semi-annual	Early Warning	> 20x MCLs, decreasing
SEMW05_04	98-107	Shallow		RI	at MCLs
SEMW05_05	65-74	Shallow		RI	at MCLs
SEMW06_01	357-366	Intermediate	Annual		> 5x MCLs, monitors WNOU, vertical ext. undefined
SEMW06_02	270-280	Intermediate	Annual		> 10x MCLs, monitors WNOU
SEMW06_03	120-129	Shallow		RI	> 5x MCLs, decreasing
SEMW06_04	58-67	Shallow		RI	> 5x MCLs, decreasing
SEMW07_01	415-425	Intermediate	Semi-annual	Early Warning	> 3x MCLs, vertical extent undefined
SEMW07_02	285-295	Intermediate	Annual		ND
SEMW07_03	215-225	Intermediate	Semi-annual		> 3x MCLs
SEMW07_04	80-90	Shallow		RI	ND
SEMW08_01	445-455	Intermediate	Annual		ND, vertical extent defined
SEMW08_02	375-385	Intermediate	Annual		ND, vertical extent defined
SEMW08_03	305-315	Intermediate	Semi-annual		<MCLs, increasing
SEMW08_04	230-240	Intermediate	Semi-annual		>MCLs,
SEMW08_05	100-110	Shallow		RI	ND
SEMW09	260-310	Intermediate	Semi-annual	Early Warning	>10x MCLs, increasing
SEMW10	240-250*	Intermediate	Annual		Hydraulic Gradient, mid-plume area
SEMW11	290-300*	Intermediate	Annual		Hydraulic Gradient, mid-plume area
SEMW12	370-380*	Intermediate	Semi-annual		Cross-gradient monitors edge of plume
SEMW13A	240-250*	Intermediate	Semi-annual		Mid-plume, COC trend
SEMW13B	390-400*	Intermediate	Semi-annual		Mid-plume, COC trend
SEMW14	270-280*	Intermediate	Semi-annual		Hydraulic Gradient and COC trend
SEMW15A	250-260*	Intermediate	Semi-annual		Cross Gradient Sentinel
SEMW15B	420-430*	Intermediate	Semi-annual		Cross Gradient Sentinel
SEMW16A	270-280*	Intermediate	Semi-annual		Downgradient Sentinel well
SEMW16B	450-460*	Intermediate	Semi-annual		Downgradient Sentinel well
SEMW17A	240-250*	Intermediate	Semi-annual		Downgradient Sentinel well
SEMW17B	330-340*	Intermediate	Semi-annual		Downgradient Sentinel well
EPA414_01	440-450	Intermediate	Annual		WNOU Monitoring Program
EPA414_02	365-375	Intermediate	Annual		WNOU Monitoring Program
EPA414_03	270-280	Intermediate	Annual		WNOU Monitoring Program
EPA414_04	175-185	Intermediate	Annual		WNOU Monitoring Program
EPA414_05	100-110	Shallow		RI	
EPA414_06	50-60	Shallow		RI	

SOURCE: ITSI, 2011a, Final Sampling and Analysis Plan, Remedial Action Compliance Monitoring, San Gabriel Valley Area 1 Superfund Site, South El Monte Operable Unit, February.

* Proposed screen interval, actual completion depth will be determined after review of geophysical log and drilling cuttings.

Note Sampling frequency can be adjusted from annual to semi-annual pending results from each sampling event.

ND - COCs not detected

NS - not sampled during October 2010 sampling event (most recent sampling results shown in parenthesis)

— sample results not available

Table 6-10
Water Quality Data from Compliance Monitoring and New Monitoring Wells, May 2011 to February 2013
South El Monte OU

Well	Location ID	Aquifer (Screen Interval, feet bgs)	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	1,1-Dichloroethene	1,1-Dichloroethane	Trichlorofluoromethane	Chloroform	Chloromethane	Methylene Chloride	1,1,2,2-Tetrachloroethane	Methyl tert-butyl ether	Vinyl Chloride	Acetone	Toluene	1,2-Dibromo-3-chloropropane	Chloroethane	1,2,3-Trichlorobenzene	2-Butanone (MEK)	Benzene	1,2,3-Trichloropropane	Perchlorate	1,4-Dioxane (P-Dioxane)	n-Nitrosodimethylamine
SEMW01	SEMW01_01	Intermediate (330-340)	05/09/2011	**2.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.3**	<1	--
	SEMW01_01		05/02/2012	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**1.2**	<0.5	--
SEMW01	SEMW01_02	Intermediate (238-248)	05/09/2011	**52**	**1.7**	<0.5	<0.5	<0.5	**3.6**	<0.5	<0.5	<0.5	<0.5	<2	<0.5	--	<0.5	--	<0.5	<0.5	<5	<0.5	**0.0033 J**	**1.8**	**1.9**	**0.00031 J**
	SEMW01_02		10/25/2011	**62**	**0.79**	<0.5	<0.5	<0.5	**0.34 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.9**	**0.8**	--
	SEMW01_02		05/02/2012	**59**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	<0.005	**2**	**0.73**	<0.0022
	SEMW01_02		10/19/2012	**62**	**1 J**	**0.29 J**	<0.5	<0.5	**0.67**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.9**	<0.5	--
SEMW01	SEMW01_03	Intermediate (166-176)	05/09/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	<0.3	<1.1	--
	SEMW01_03		05/02/2012	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**0.21 J**	<0.5	--
SEMW01	SEMW01_04	Shallow (45-53)	05/09/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.18 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**4.2**	<1	--
	SEMW01_04		10/19/2012	**0.2 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**3.1**	<0.5	--
SEMW02		Intermediate (344-354)	05/03/2011	**190**	**3.6**	**0.36 J**	**0.54**	**0.49 J**	<0.5	**0.23 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.8**	**1 J**	--
	SEMW02_01 (dup)		05/03/2011	**220**	**3.7**	**0.32 J**	**0.63**	**0.49 J**	<0.5	**0.25 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.8**	**1**	--
	SEMW02_01		10/28/2011	**100**	**2.1**	**0.21 J**	<0.5	**0.32 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.3**	**0.61 J**	--
	SEMW02_01		05/01/2012	**130**	**2.7 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**2.3**	**0.94 J**	--
	SEMW02_01		10/17/2012	**100**	**2.4**	**0.3 J**	<0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.26 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.3**	**0.4 J**	--
SEMW02	SEMW02_02	Intermediate (248-258)	05/03/2011	**31**	**5.4**	**4.7**	**0.21 J**	**1.7**	**0.76**	<0.5	<0.5	<0.5	<0.5	**0.4 J**	<0.5	--	<0.5	--	<0.5	<0.5	<5	<0.5	**0.0026 J**	**4.5**	**2.9**	--
	SEMW02_02		10/28/2011	**12**	**1.9**	**1.8**	<0.5	**0.64**	**0.21 J**	<0.5	<0.5	<0.5	<0.5	**0.27 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**4.2**	**1.4**	--
	SEMW02_02		05/01/2012	**25**	**3.4 J**	**3.1 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	<0.0052	**4.2**	**1.8 J**	<0.0022
	SEMW02_02		10/17/2012	**18**	**2.7**	**2.6**	<0.5	**0.97**	**0.29 J**	<0.5	<0.5	<0.5	<0.5	**0.28 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**4.1**	**1.2**	--
	SEMW02_02 (dup)		10/17/2012	**27**	**3**	**3**	<0.5	**1.1**	**0.29 J**	<0.5	<0.5	<0.5	<0.5	**0.31 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**4.2**	**1.1**	--
SEMW02	SEMW02_03		05/03/2011	<0.5	**0.89**	**5.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	<0.3	**0.9 J**	--
	SEMW02_03		05/01/2012	<5	<5	**2.3 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	<0.3	**0.72 J**	--
SEMW02	SEMW02_04		05/03/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	<0.3	<1.1	--
	SEMW02_04		10/17/2012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	--	--	--
SEMW03	SEMW03_01	Intermediate (371-380)	05/03/2011	**200**	**3.6**	**0.43 J**	<0.5	**0.32 J**	<0.5	**0.15 J**	<0.5	<0.5	<0.5	**0.4 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.4**	**0.9 J**	--
	SEMW03_01		05/09/2012	**47**	**1.8 J**	**0.36 J**	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	**0.22 J**	<2.8	<28	<2.8	<2.8	<2.8	<2.8	<28	<2.8	--	--	**0.59 J**	--
SEMW03	SEMW03_02	Intermediate (265-275)	05/03/2011	**120**	**3**	**0.44 J**	<0.5	**0.77**	<0.5	**0.19 J**	<0.5	<0.5	<0.5	**0.27 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.4**	**1.2**	--
	SEMW03_02		05/09/2012	**73**	**2.8 J**	**0.22 J**	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	**0.24 J**	<3.7	<37	<3.7	<3.7	<3.7	<3.7	<37	<3.7	--	--	**1.1**	--
SEMW03	SEMW03_03	Intermediate (180-190)	05/04/2011	**120**	**5.6**	**0.31 J**	<0.5	**0.88 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	--	<0.5	--	<0.5	<0.5	<5	<0.5	**0.0034 J**	**2**	**2.4**	<0.002
	SEMW03_03		05/04/2011	**120**	**5.9**	**0.28 J**	<0.5	**0.89**	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	--	<0.5	--	<0.5	<0.5	<5	<0.5	**0.0036 J**	**2**	**2.5**	**0.0028**
	SEMW03_03		10/27/2011	**43**	**2.2**	**0.14 J**	<0.5	**0.38 J**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.24 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.6**	**1.8**	--
	SEMW03_03		05/09/2012	**70**	**2.7 J**	**0.2 J**	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	**0.19 J**	<3.7	<37	<3.7	<3.7	<3.7	<3.7	<37	<3.7	--	--	**1.2**	--
	SEMW03_03		10/17/2012	**41**	**2.1**	**0.19 J**	<0.5	**0.35 J**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.25 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.6**	**0.96**	<0.002
SEMW03	SEMW03_04	Shallow (62-72)	05/04/2011	**130**	**12**	**3**	<0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.8**	**2.6**	--
	SEMW03_04		10/27/2011	**37**	**3.8 J**	**0.62**	<0.5	**0.34 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**1.3**	**2.2**	<0.0023
	SEMW03_04		05/09/2012	**62**	**4.5**	**0.6 J**	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<32	**0.047 J**	<3.2	<3.2	<3.2	<32	<3.2	--	--	**1.6**	--
SEMW04	SEMW04_01	Intermediate (389-398)	05/06/2011	**0.3 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.3**	<1	--
	SEMW04_01		05/01/2012	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**1.2**	<0.5	--
SEMW04	SEMW04_02	Intermediate (281-290)	05/06/2011	**14**	**4.5**	<0.5	<0.5	<0.5	**1.2**	<0.5	<0.5	<0.5	<0.5	**0.15 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.5**	**0.7 J**	--
	SEMW04_02		10/25/2011	**6.3**	**0.95**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.16 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.5**	**0.3 J**	--
	SEMW04_02		05/01/2012	**20**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**1.6**	<0.5	--
	SEMW04_02 (dup)		05/01/2012	**17**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**1.6**	<0.5	--
	SEMW04_02		10/16/2012	**19**	**0.46 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.6**	<0.5	--
SEMW04	SEMW04_03	Intermediate (189-198)	05/06/2011	**0.58**	<0.5	<0.5	<0.5	<0.5	**4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**0.36**	<1	--
	SEMW04_03		05/01/2012	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**0.44**	<0.5	--

Table 6-10
Water Quality Data from Compliance Monitoring and New Monitoring Wells, May 2011 to February 2013
South El Monte OU

Well	Location ID	Aquifer (Screen Interval, feet bgs)	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	1,1-Dichloroethene	1,1-Dichloroethane	Trichlorofluoromethane	Chloroform	Chloromethane	Methylene Chloride	1,1,2,2-Tetrachloroethane	Methyl tert-butyl ether	Vinyl Chloride	Acetone	Toluene	1,2-Dibromo-3-chloropropane	Chloroethane	1,2,3-Trichlorobenzene	2-Butanone (MEK)	Benzene	1,2,3-Trichloropropane	Perchlorate	1,4-Dioxane (P-Dioxane)	n-Nitrosodimethylamine
SEMW04	SEMW04_04	Shallow (64-74)	05/06/2011	**0.41 J**	**3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.4**	<1.1	--
	SEMW04_04		10/25/2011	**0.16 J**	**0.31 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**2.4**	<0.5	<0.0021
	SEMW04_04		10/16/2012	<0.5	**0.54**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.1**	--	--
SEMW05	SEMW05_01	Intermediate (381-391)	05/05/2011	**130**	**0.85**	<0.5	<0.5	<0.5	<0.5	**0.14 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.3**	<1.1	--
	SEMW05_01 (dup)		05/05/2011	**140**	**0.83**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.3**	<1	--
	SEMW05_01		05/02/2012	**67**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**2**	<0.5	--
SEMW05	SEMW05_02	Intermediate (299-309)	05/05/2011	**230**	**1.3**	<0.5	<0.5	<0.5	<0.5	**0.14 J**	<0.5	<0.5	<0.5	**0.16 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.4**	<1.1	--
	SEMW05_02		10/26/2011	**73 J**	**0.77 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.31 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.7**	**0.23 J**	--
	SEMW05_02		05/02/2012	**96**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**1.8**	<0.5	--
SEMW05	SEMW05_03	Intermediate (209-218)	05/05/2011	**260**	**1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	--	<0.5	--	<0.5	<0.5	<5	<0.5	**0.0072**	**2.4**	<1.1	<0.002
	SEMW05_03		10/26/2011	**120 J**	**0.4 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.4**	**0.23 J**	--
	SEMW05_03		05/02/2012	**160**	**3.3 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	<0.0059	**2.1**	<0.5	**0.0016**
	SEMW05_03		10/18/2012	**92**	**0.71 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.27 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.9**	<0.5	--
SEMW05	SEMW05_04	Shallow (98-107)	05/05/2011	**11**	**4.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.32 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**0.55**	**3.6**	--
	SEMW05_04		10/26/2011	**6.3 J**	**3.4 J**	**0.18 J**	**0.39 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.57 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**0.7**	**1.8**	<0.0023
	SEMW05_04		10/18/2012	**3.9**	**1.3 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.17 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.9**	**0.51**	--
	SEMW05_05	Shallow (65-74)	05/05/2011	**9.2**	**4.4**	**0.42 J**	<0.5	**0.17 J**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.79**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.3**	**4.5**	--
	SEMW05_05		10/26/2011	**1.5 J**	**1.1 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.29 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**0.56**	**2.2**	<0.0023
	SEMW05_05		10/18/2012	**8.3**	**0.94 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.17 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**0.68**	<0.5	--
SEMW06	SEMW06_01	Intermediate (357-366)	05/04/2011	**22**	**1.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.21 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.5**	<1.1	--
	SEMW06_01		05/04/2012	**3.8 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**1.5**	<0.5	--
	SEMW06_01 (dup)		05/04/2012	**3.5 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**1.6**	<0.5	--
SEMW06	SEMW06_02	Intermediate (270-280)	04/01/2011	**32**	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	**0.7**	<0.002
	SEMW06_02		11/01/2011	**22**	**0.86**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	**0.61**	<0.5
	SEMW06_02		04/01/2012	**23**	**0.91**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	**0.6**	**0.017**
SEMW06	SEMW06_03	Intermediate (120-129)	05/04/2011	**43**	**1.8**	<0.5	<0.5	**0.14 J**	**0.21 J**	**0.21 J**	<0.5	<0.5	<0.5	**0.19 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.5**	**0.6 J**	--
	SEMW06_03		10/26/2011	**15**	**0.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**1.3**	**0.46 J**	<0.0023
SEMW06	SEMW06_04	Shallow (58-67)	11/01/2011	**11**	**1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	**0.73**	<0.5
	SEMW06_04		04/01/2011	**25**	**1.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	**0.64**	<0.002
	SEMW06_04		04/01/2012	**11**	**0.86**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	**0.88**	**0.023**
SEMW07	SEMW07_01	Intermediate (415-425)	05/06/2011	**18**	**2.5**	**0.6**	**0.39 J**	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	--	<0.5	--	<0.5	<0.5	<5	<0.5	<0.5	**1.4**	**0.9 J**	**0.0012 J**
	SEMW07_01		10/24/2011	**15 J**	**1 J**	**0.29 J**	<0.5	**0.31 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.4**	**0.85**	--
	SEMW07_01		05/03/2012	**7.6**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	<0.005	**0.93**	<0.5	<0.0022
	SEMW07_01		10/16/2012	**5.5**	**0.69**	**0.19 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**0.73**	<0.5	--
SEMW07	SEMW07_02	Intermediate (285-295)	05/06/2011	**1.3**	**0.33 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.1**	<1	--
	SEMW07_02		05/03/2012	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**0.93**	<0.5	--
SEMW07	SEMW07_03	Intermediate (215-225)	05/06/2011	**13**	**2.4**	**0.75**	<0.5	**0.45 J**	**0.66**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.2**	**1**	--
	SEMW07_03 (dup)		05/06/2011	**13**	**2.5**	**0.89**	<0.5	**0.5**	**0.52**	<0.5	<0.5	<0.5	<0.5	**0.12 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.1**	**0.9 J**	--
	SEMW07_03		10/24/2011	**4.6 J**	**1 J**	**0.53 J**	<0.5	**0.3 J**	**0.18 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.4**	**0.62**	--
	SEMW07_03		05/03/2012	**5.4**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**1.9**	**0.7 J**	--
	SEMW07_03		10/16/2012	**5.8**	**1**	**0.47 J**	<0.5	**0.31 J**	**0.31 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.8**	<0.5	--
SEMW07	SEMW07_04	Shallow (80-90)	05/06/2011	**0.16 J**	**0.38 J**	**0.31 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.7**	<1	--
	SEMW07_04		10/16/2012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.7**	--	--
SEMW08	SEMW08_01	Intermediate (445-455)	05/09/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	<0.3	<1	--
	SEMW08_01		05/03/2012	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	<0.3	<0.5	--

Table 6-10
Water Quality Data from Compliance Monitoring and New Monitoring Wells, May 2011 to February 2013
South El Monte OU

Well	Location ID	Aquifer (Screen Interval, feet bgs)	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	1,1-Dichloroethene	1,1-Dichloroethane	Trichlorofluoromethane	Chloroform	Chloromethane	Methylene Chloride	1,1,2,2-Tetrachloroethane	Methyl tert-butyl ether	Vinyl Chloride	Acetone	Toluene	1,2-Dibromo-3-chloropropane	Chloroethane	1,2,3-Trichlorobenzene	2-Butanone (MEK)	Benzene	1,2,3-Trichloropropane	Perchlorate	1,4-Dioxane (P-Dioxane)	n-Nitrosodimethylamine
SEMW08	SEMW08_02	Intermediate (375-385)	05/09/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**0.26 J**	<1.1	--
	SEMW08_02		05/03/2012	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**0.43**	<0.5	--
SEMW08	SEMW08_03	Intermediate (305-315)	05/10/2011	**6.3**	<0.5	<0.5	<0.5	<0.5	**0.22 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.4**	<1	--
	SEMW08_03		10/24/2011	**1.9 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.4**	**0.05 J**	--
	SEMW08_03		05/03/2012	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**1.3**	<0.5	--
	SEMW08_03		10/16/2012	**2.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.1**	--	--
SEMW08	SEMW08_04	Intermediate (230-240)	05/10/2011	**10**	<0.5	<0.5	<0.5	<0.5	**1.2**	<0.5	<0.5	<0.5	<0.5	**0.13 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.7**	<1	--
	SEMW08_04		10/24/2011	**4.4 J**	**1.3 J**	<0.5	<0.5	<0.5	**0.53 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.7**	**0.34 J**	--
	SEMW08_04		05/03/2012	**3.7 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**1.5**	<0.5	--
	SEMW08_04		10/16/2012	**6.6 J**	**2**	<0.5	<0.5	<0.5	**0.83**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.6**	--	--
	SEMW08_04 (dup)		10/16/2012	**4.3 J**	**1.5**	<0.5	<0.5	<0.5	**0.56**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.5**	--	--
SEMW08	SEMW08_05	Shallow (100-110)	05/10/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**2.1**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**0.47**	<1.1	--
	SEMW08_05		10/16/2012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.6**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**0.42**	--	--
SEMW09	SEMW09	Intermediate (260-310)	06/16/2011	**330**	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	**0.012**	<2	<0.5	<0.002
	SEMW09		5/30/2012	**210**	**0.33**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.69**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	**0.012**	**1.4**	<0.5	<0.002
SEMW10	SEMW10	Intermediate (250-260)	06/27/2011	**110 J**	**0.81**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.12 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.7**	<2	**0.003**
	SEMW10		10/25/2011	**78**	**0.74**	<0.5	<0.5	<0.5	**0.17 J**	<0.5	<0.5	<0.5	<0.5	**0.15 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	**0.0033 J**	**2.4**	**0.39 J**	<0.0019
	SEMW10		05/08/2012	**61 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**2.4**	<0.5	--
	SEMW10		10/24/2012	**64**	**0.43 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.07 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.3**	<0.5	--
SEMW11	SEMW11	Intermediate (280-290)	06/27/2011	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.9**	<2	<0.0019
	SEMW11		10/25/2011	**5.6**	**0.42 J**	<0.5	<0.5	<0.5	**0.33 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	**0.0028 J**	**4.9**	**0.23 J**	<0.0019
	SEMW11 (dup)		10/25/2011	**5.9**	**0.44 J**	<0.5	<0.5	<0.5	**0.33 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**5**	**0.25 J**	**0.0026**
	SEMW11		05/09/2012	**7.4 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**6.3**	<0.5	--
	SEMW11 (dup)		05/09/2012	**7.8 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**6.1**	<0.5	--
	SEMW11		10/24/2012	**10**	**0.67**	**0.092 J**	<0.5	**0.19 J**	**0.51**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**6.3**	<0.5	--
SEMW12	SEMW12	Intermediate (370-380)	06/27/2011	<0.5	<0.5	**0.59**	<0.5	**0.2 J**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.067 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	**4.8 J**	<0.5	--	**1**	<2	<0.0019
	SEMW12		10/25/2011	**3.6**	**2.6**	**1.6**	<0.5	**0.76**	<0.5	<0.5	**0.19 J**	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	<0.3	**1.5**	**0.0022**
	SEMW12		05/08/2012	**9.4 J**	**5 J**	**3.5 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**1.5**	**2.1 J**	--
	SEMW12		10/24/2012	**7.5**	**3.7**	**2.8**	**0.47 J**	**1.4**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.4**	**0.6**	--
	SEMW12 (dup)		10/24/2012	**8.1**	**3.8**	**2.8**	**0.47 J**	**1.4**	**0.18 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.4**	**0.91**	--
SEMW13A	SEMW13A	Intermediate (240-250)	06/28/2011	**120**	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.091 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.6**	**0.45 J**	<0.0019
	SEMW13A		10/26/2011	**48 J**	**0.45 J**	<0.5	<0.5	<0.5	**0.19 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	**0.004 J**	**2.6**	<0.5	<0.0019
	SEMW13A		05/08/2012	**56 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**2.6**	<0.5	--
	SEMW13A		10/23/2012	**75**	**0.63**	<0.5	<0.5	<0.5	**0.2 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.4**	--	--
SEMW13B	SEMW13B	Intermediate (390-400)	06/28/2011	**0.8**	<0.5	<0.5	<0.5	**0.08 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1**	**0.92 J**	<0.0019
	SEMW13B (dup)		06/28/2011	**0.71**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.2**	<2	<0.0019
	SEMW13B		10/26/2011	**0.97**	**0.15 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**1.1**	**0.23 J**	<0.0019
	SEMW13B		05/08/2012	**2.1 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**1.2**	<0.5	--
	SEMW13B		10/23/2012	**1.4**	**0.25 J**	**0.12 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	**0.27 J**	<0.5	<0.5	<5	<0.5	--	**1.1**	<0.5	--
SEMW14	SEMW14	Intermediate (260-270)	06/27/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	**5.4 J**	<0.5	--	**0.53**	<2	<0.0019
	SEMW14		10/25/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**6.9**	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**0.81**	**0.095 J**	**0.0032**
	SEMW14		05/07/2012	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**0.65**	<0.5	--
	SEMW14		10/23/2012	<0.5	**0.21 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**0.54**	<0.5	--
SEMW15A	SEMW15A	Intermediate (224-234)	06/28/2011	**0.18 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**4.1**	<2	<0.0019
	SEMW15A		10/24/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**3.7**	**0.13 J**	<0.0019

Table 6-10
Water Quality Data from Compliance Monitoring and New Monitoring Wells, May 2011 to February 2013
South El Monte OU

Well	Location ID	Aquifer (Screen Interval, feet bgs)	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	1,1-Dichloroethene	1,1-Dichloroethane	Trichlorofluoromethane	Chloroform	Chloromethane	Methylene Chloride	1,1,1,2,2-Tetrachloroethane	Methyl tert-butyl ether	Vinyl Chloride	Acetone	Toluene	1,2-Dibromo-3-chloropropane	Chloroethane	1,2,3-Trichlorobenzene	2-Butanone (MEK)	Benzene	1,2,3-Trichloropropane	Perchlorate	1,4-Dioxane (P-Dioxane)	n-Nitrosodimethylamine
	SEMW15A		05/07/2012	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**4**	<0.5	--
	SEMW15A		10/22/2012	<0.5	<0.5	**0.12 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**3.5**	<0.5	--
SEMW15B	SEMW15B	Intermediate (434-444)	06/28/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.59**	**2.1**	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	<0.3	**0.17 J**	<0.0019
	SEMW15B		10/24/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.39 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	<0.3	<0.5	<0.0019
	SEMW15B		05/07/2012	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	<0.3	<0.5	--
	SEMW15B		10/22/2012	<0.5	<0.5	**0.11 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	--	--	--
SEMW16A	SEMW16A	Intermediate (270-280)	06/29/2011	**0.4 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**3.8**	<2	<0.0019
	SEMW16A		10/26/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.31 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**3.7 J**	**0.049 J**	<0.0019
	SEMW16A		05/09/2012	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**3.5**	<0.5	--
	SEMW16A (dup)		05/09/2012	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**3.6**	<0.5	--
	SEMW16A		10/23/2012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**3.4**	--	--
SEMW16B	SEMW16B	Intermediate (444-454)	06/29/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	<0.3	<2	<0.0019
	SEMW16B		10/26/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	<0.3	<0.5	<0.0019
	SEMW16B		05/09/2012	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	<0.3	<0.5	--
	SEMW16B		10/23/2012	<0.5	<0.5	<0.5	**0.086 J**	**0.071 J**	<0.5	<0.5	<0.5	<0.5	**0.065 J**	<0.5	<0.5	**2.5 J**	<0.5	<0.5	<0.5	<0.5	<5	**0.091 J**	--	--	--	--
SEMW17A	SEMW17A	Intermediate (220-230)	06/29/2011	**20**	**0.59 J**	<0.5	<0.5	<0.5	**0.98**	<0.5	<0.5	<0.5	<0.5	**0.097 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**2.1**	<2	<0.0019
	SEMW17A		09/19/2011	**10**	**0.39 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	**0.0035 J**	**2**	<0.5	R
	SEMW17A		10/24/2011	**9.7 J**	**0.36 J**	<0.5	<0.5	<0.5	**0.88 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	--	**0.26 J**	--
	SEMW17A		05/07/2012	**12 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**2**	<0.5	--
	SEMW17A		10/22/2012	**2.6 J**	**0.12 J**	**0.097 J**	<0.5	<0.5	**0.36 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.2**	<0.5	--
SEMW17B	SEMW17B	Intermediate (330-340)	06/29/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**16**	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.2**	<2	<0.0019
	SEMW17B		10/24/2011	**2.3 J**	**0.12 J**	<0.5	<0.5	<0.5	**0.59 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**1.9**	**0.14 J**	<0.0019
	SEMW17B		05/07/2012	**5.9 J**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<10	<5	--	**1.5**	<0.5	--
	SEMW17B		10/22/2012	**3.5**	**0.12 J**	<0.5	<0.5	<0.5	**0.47 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	--	**1.1**	<0.5	--
New Monitoring Wells																										
SEMW18A	SEMW18A	Shallow (86-96)	2/28/2013	**41**	**28**	**1.5**	<0.5	**0.14 J**	**0.16 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	**0.2 J**	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**0.83**	**39**	<0.002
SEMW18B	SEMW18B	Shallow (144-154)	2/28/2013	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	<0.3	<0.5	<0.002
SEMW18C	SEMW18C	Intermediate (240-250)	2/28/2013	**2.3**	**4.8**	<0.5	<0.5	<0.5	**1.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**1.1**	**1.3**	<0.0019
SEMW19A	SEMW19A	Intermediate (264-274)	2/26/2013	**80**	**0.5 J**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<10	<1	<0.005	**2**	<0.5	<0.0019
			2/26/2013	**84**	**0.48 J**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<10	<1	**0.0026 J**	**1.9**	<0.5	<0.0019
SEMW19B	SEMW19B	Intermediate (502-512)	2/26/2013	**2.1 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	**0.12 J**	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**1.7**	<0.5	<0.002
SEMW20A	SEMW20A	Intermediate (256-266)	2/26/2013	**43**	**1.2**	<0.5	<0.5	**0.14 J**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.2 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	**0.0032 J**	**1.9**	<0.5	<0.0019
SEMW20B	SEMW20B	Intermediate (494-504)	2/26/2013	**1.6 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	**0.14 J**	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**1.2**	<0.5	<0.002
SEMW21A	SEMW21A	Shallow (78-88)	2/21/2013	**99**	**1.4**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<10	<1	<0.005	**1.6**	<0.5	<0.0019
SEMW21B	SEMW21B	Shallow (138-148)	2/21/2013	**130**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<20	<2	<0.005	**1.1**	<0.5	<0.002
SEMW21C	SEMW21C	Intermediate (250-260)	2/21/2013	**50**	**0.27 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	**0.15 J**	<0.5	<0.5	<0.5	<5	<0.5	**0.014**	**2.7**	<0.5	<0.0019

Table 6-10
Water Quality Data from Compliance Monitoring and New Monitoring Wells, May 2011 to February 2013
South El Monte OU

Well	Location ID	Aquifer (Screen Interval, feet bgs)	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	1,1-Dichloroethene	1,1-Dichloroethane	Trichlorofluoromethane	Chloroform	Chloromethane	Methylene Chloride	1,1,2,2-Tetrachloroethane	Methyl tert-butyl ether	Vinyl Chloride	Acetone	Toluene	1,2-Dibromo-3-chloropropane	Chloroethane	1,2,3-Trichlorobenzene	2-Butanone (MEK)	Benzene	1,2,3-Trichloropropane	Perchlorate	1,4-Dioxane (P-Dioxane)	n-Nitrosodimethylamine
SEMW22A	SEMW22A	Intermediate (252-262)	2/27/2013	**33**	**1**	<0.5	<0.5	**0.15 J**	<0.5	<0.5	<0.5	<0.5	<0.5	**0.16 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**1.4**	<0.5	<0.002
SEMW22B	SEMW22B	Intermediate (486-496)	2/27/2013	**0.44 J**	**0.084 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	**0.12 J**	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**1.2**	<0.5	<0.002
SEMW23A	SEMW23A	Intermediate (214-224)	2/27/2013	**3.5 J**	**0.077 J**	<0.5	<0.5	<0.5	**1.3 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	**0.13 J**	<0.5	<0.5	<0.5	<5	<0.5	**0.0036 J**	**2.1**	<0.5	<0.0019
SEMW23B	SEMW23B	Intermediate (366-376)	2/27/2013	<0.5	<0.5	<0.5	<0.5	<0.5	**0.49 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	**0.12 J**	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**0.96**	<0.5	<0.0021
			2/27/2013	<0.5	<0.5	<0.5	<0.5	<0.5	**0.5 J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	**0.11 J**	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**0.93**	<0.5	<0.002
SEMW24A	SEMW24A	Shallow (150-160)	2/22/2013	**19**	**1.1**	**0.16 J**	<0.5	**0.68**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**1.4**	**1.1**	<0.0019
SEMW24B	SEMW24B	Intermediate (452-462)	2/22/2013	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	<0.3	<0.5	<0.002
SEMW26	SEMW26	Shallow (75-85)	2/28/2013	**1.6**	**92**	**3.9**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<10	<1	<0.005	**0.5**	<0.5	<0.002
SEMW27	SEMW27	Shallow (110-120)	2/21/2013	**39**	**6.6**	**3.6**	<0.5	**1.5**	**0.17 J**	<0.5	<0.5	<0.5	<0.5	**0.24 J**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.005	**5.2**	**1.2**	<0.002
SEMW28	SEMW28	Shallow (75-85)	2/28/2013	**5,000**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1000	<100	<100	<100	<100	<1000	<100	<0.005	**1.3**	**0.45 J**	<0.0019
			MCL	5	5	6	6	5	150	100	None	5	None	13	0.5	None	150	None	None	None	None	None	0.005a	6a	1a	0.01a

Notes:
All results in micrograms per liter (µg/L)
Positive results in bold
Results above MCLs highlighted
feet bgs - feet below ground surface
MCL = EPA or California Maximum Contaminant Level (whichever is lower); a = California Notification Level; b = California MCL for Total Chromium.

Source: ITSI, 2013

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Table 6-11: Institutional Controls Summary Table

Media	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Instrument in Place	Notes
Groundwater	No	All	Regulate groundwater pumping and eliminate unregulated use of area groundwater	January 4, 1973, judgment, as amended, administered by the Main San Gabriel Basin Watermaster	
Groundwater	No	All	Protect public health by limiting the levels of contaminants in drinking water	EPA and California promulgated MCLs and California NLs	Treatment systems remove COCs to comply with drinking water standards

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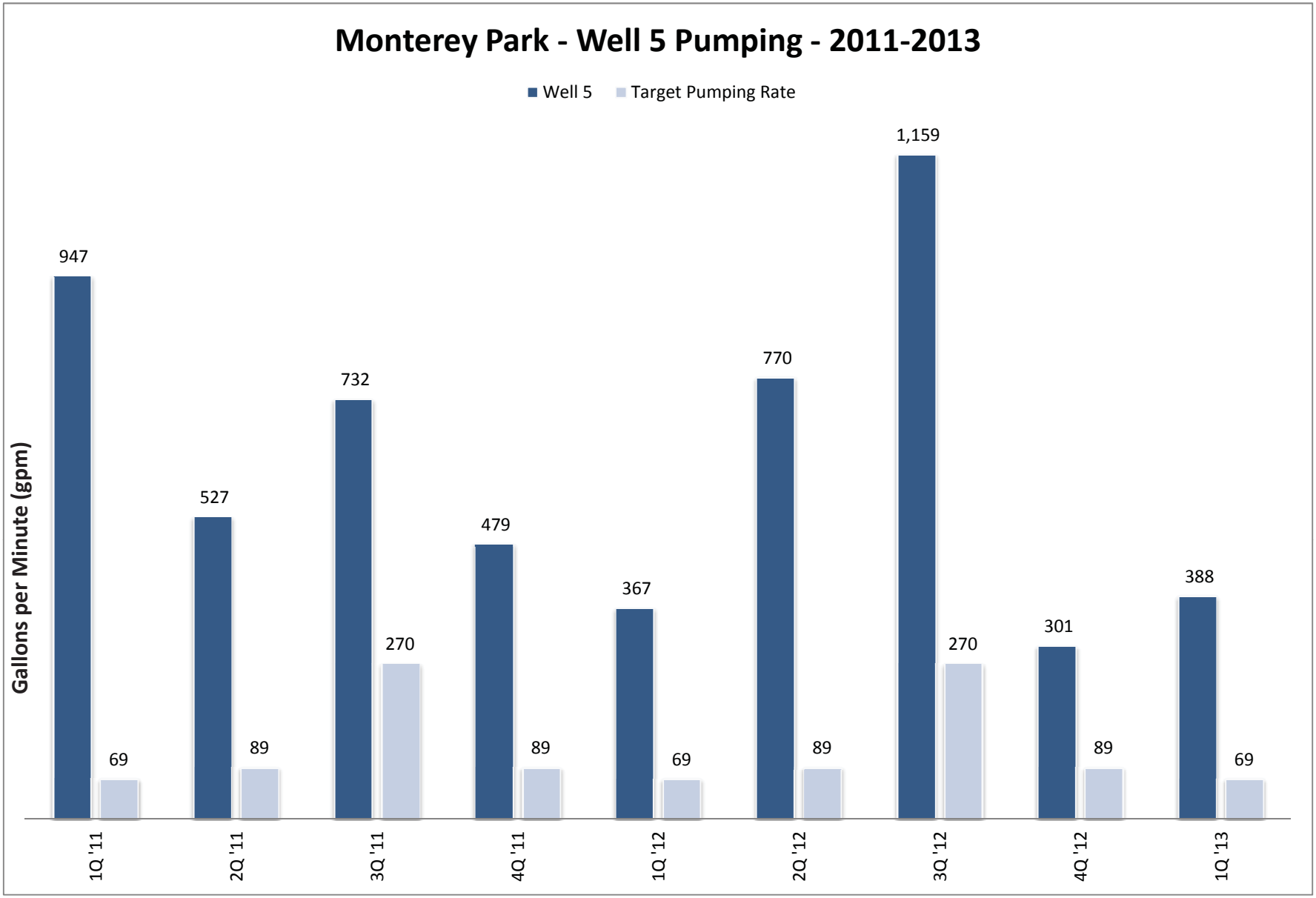

Figure 6-1: Monterey Park Well 5 Comparison of Actual versus Target Pumping Rates

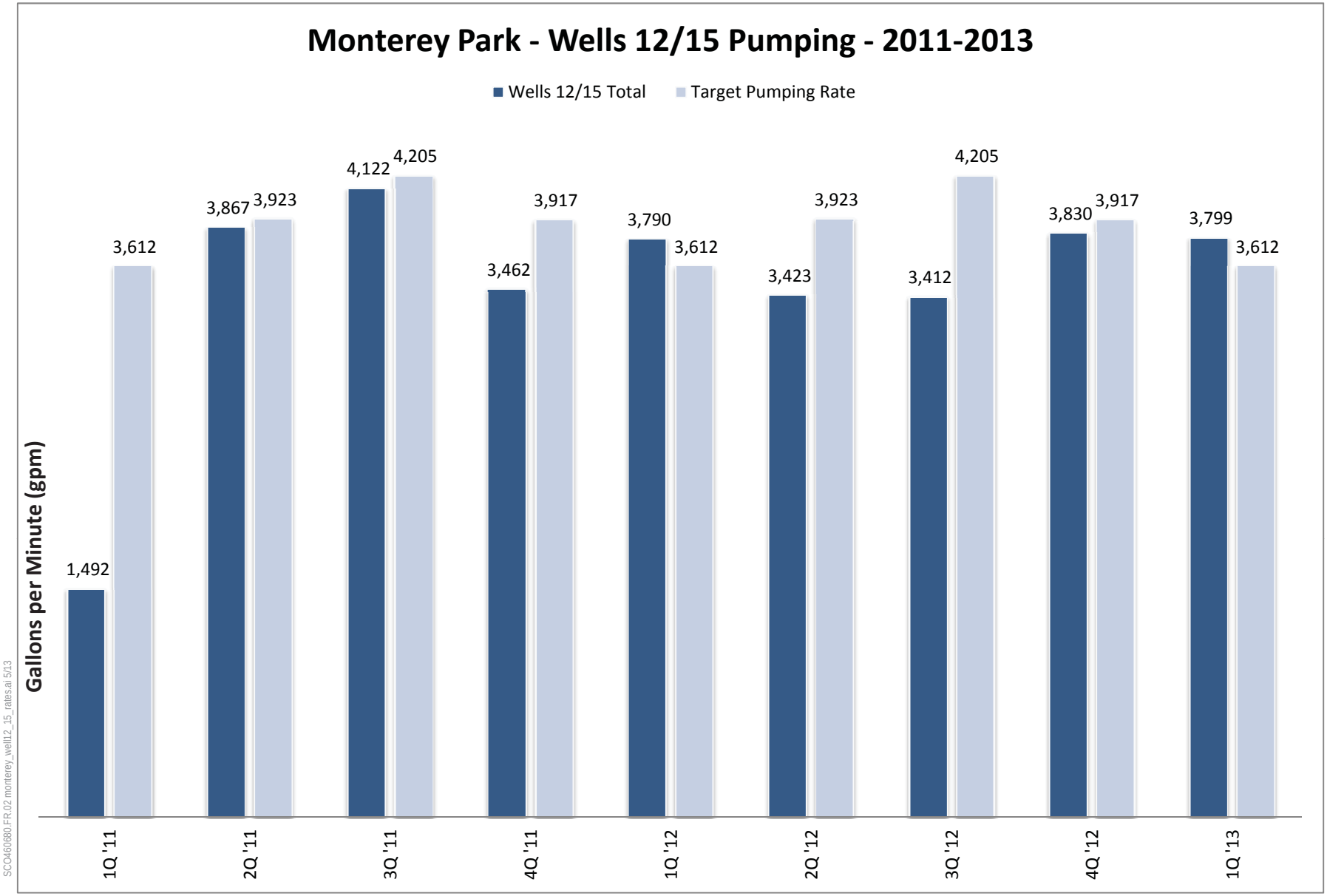

Figure 6-2: Monterey Park Wells 12/15 Comparison of Actual versus Target Pumping Rates

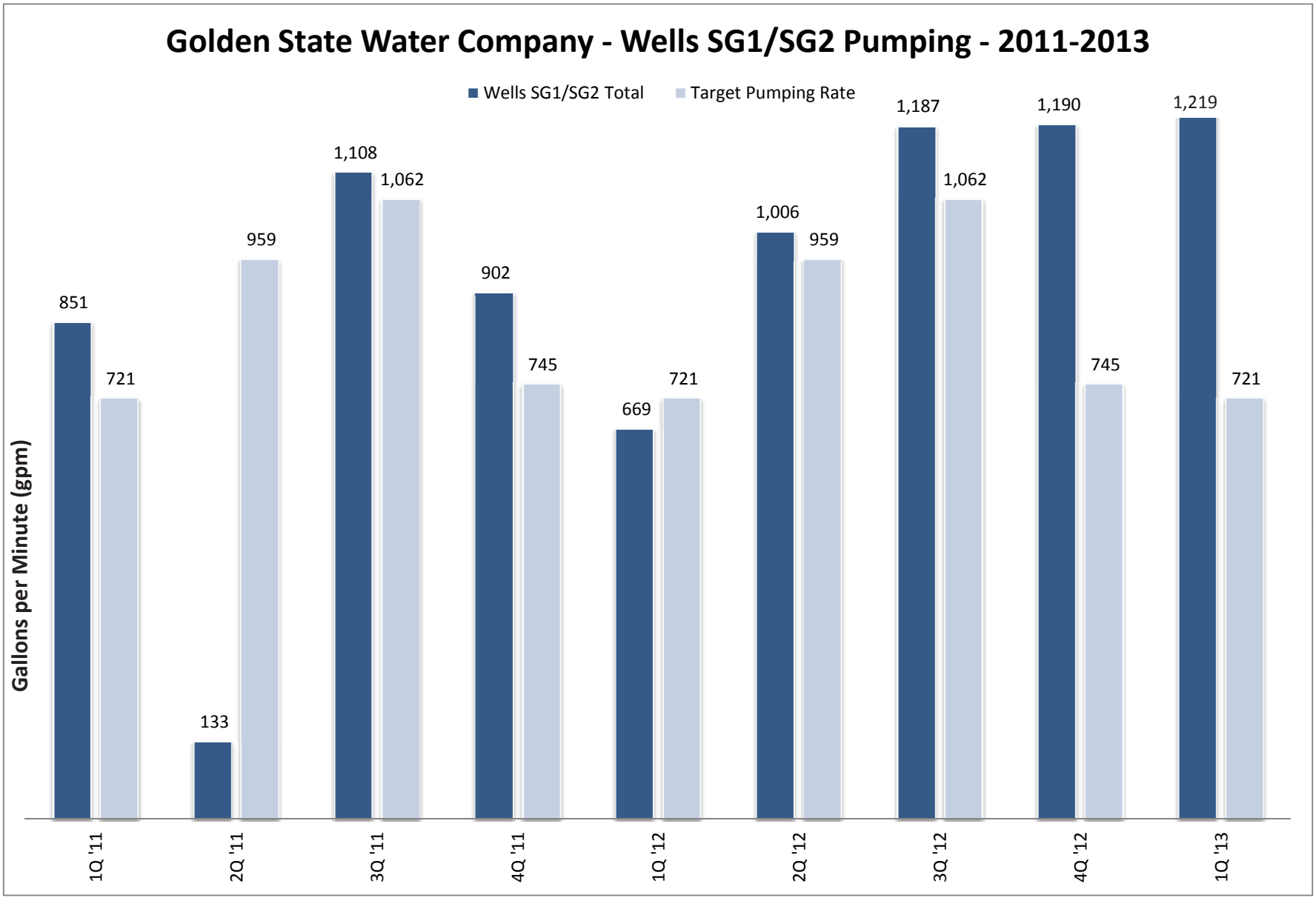

Figure 6-3: Golden State Water Company Wells SG1/SG2 Comparison of Actual versus Target Pumping Rates

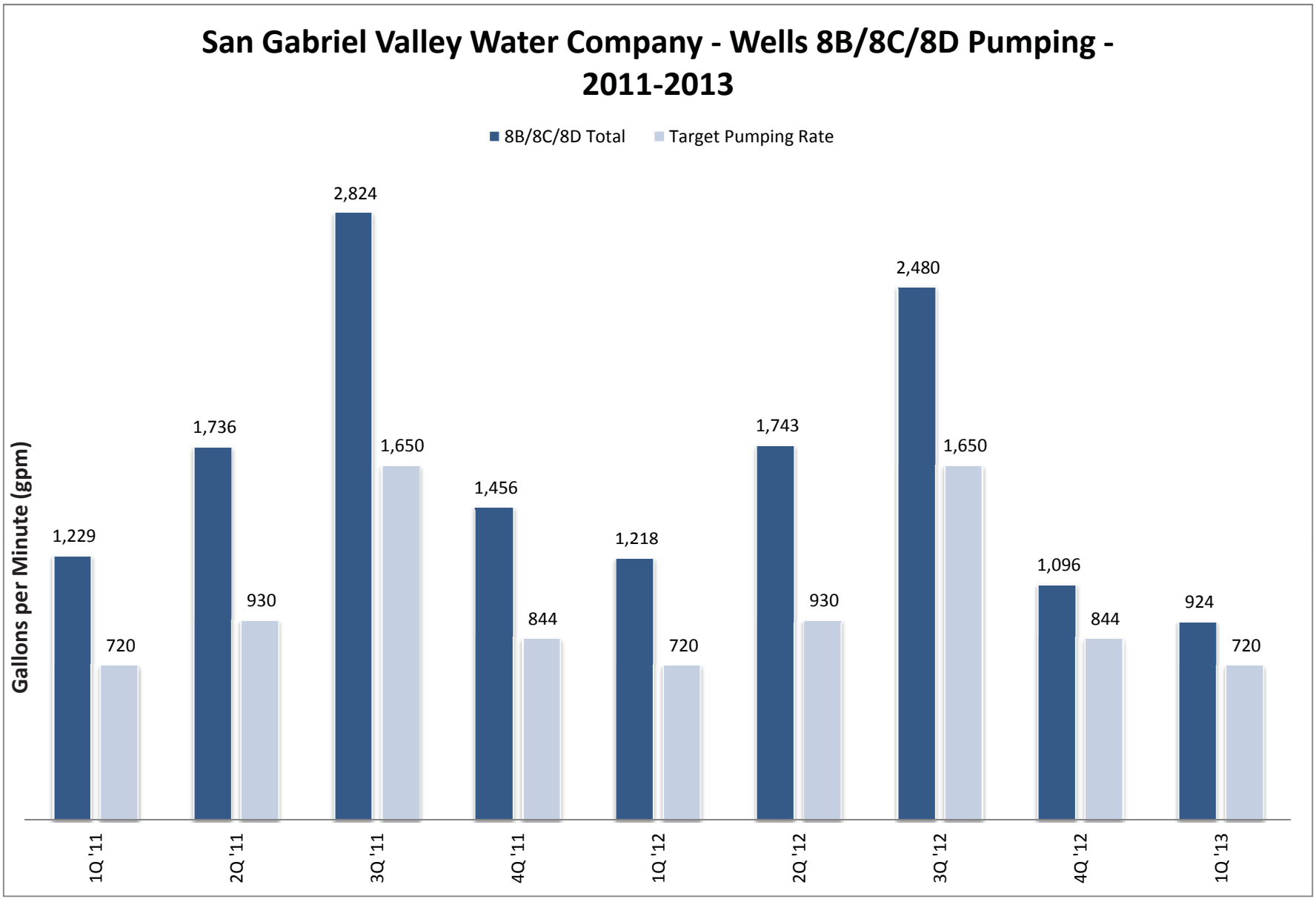

Figure 6-4: San Gabriel Valley Water Company Wells 8B/8C/8D Comparison of Actual versus Target Pumping Rates

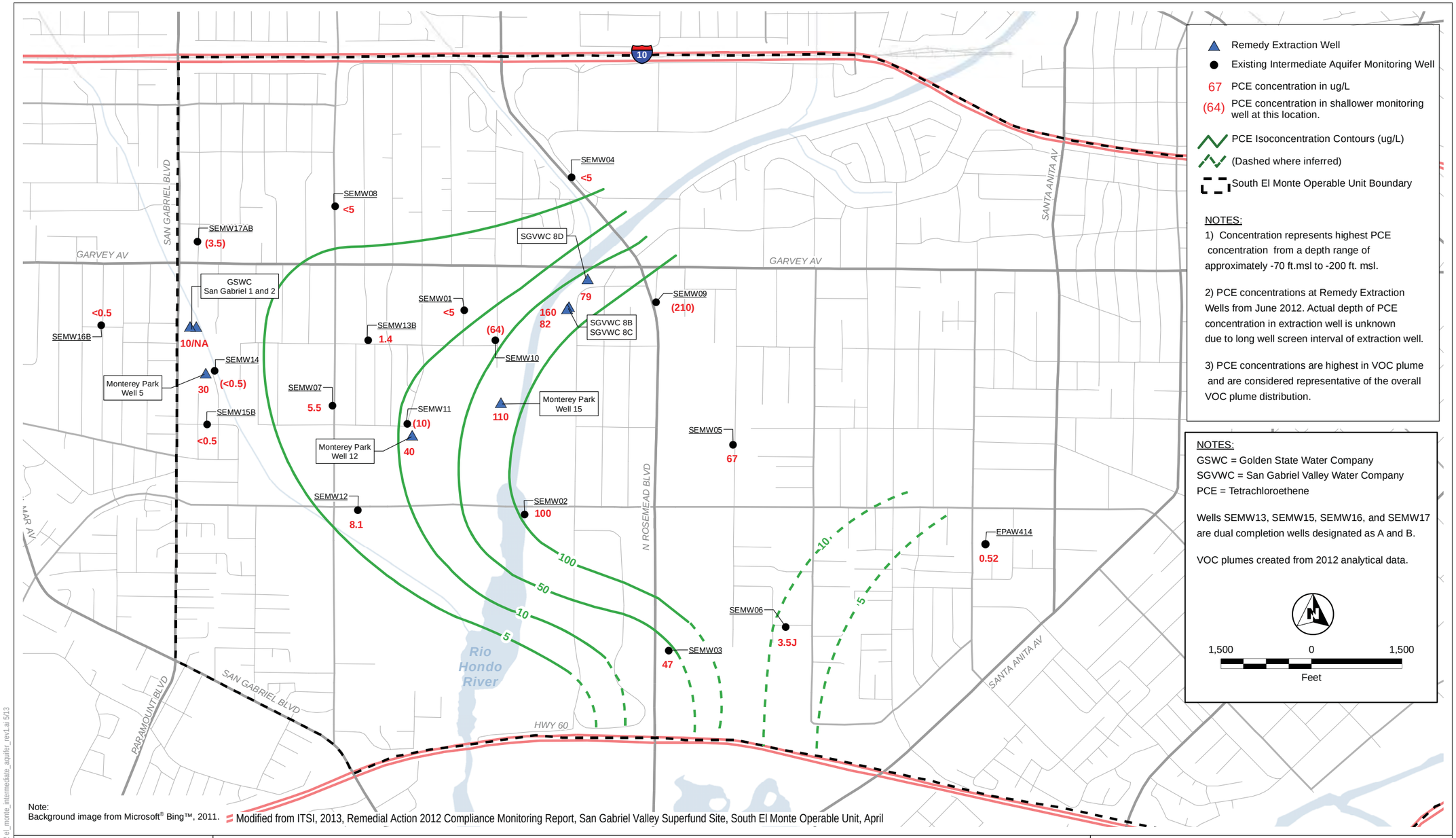

Figure 6-5: VOC Plume in the South El Monte OU Intermediate Aquifer

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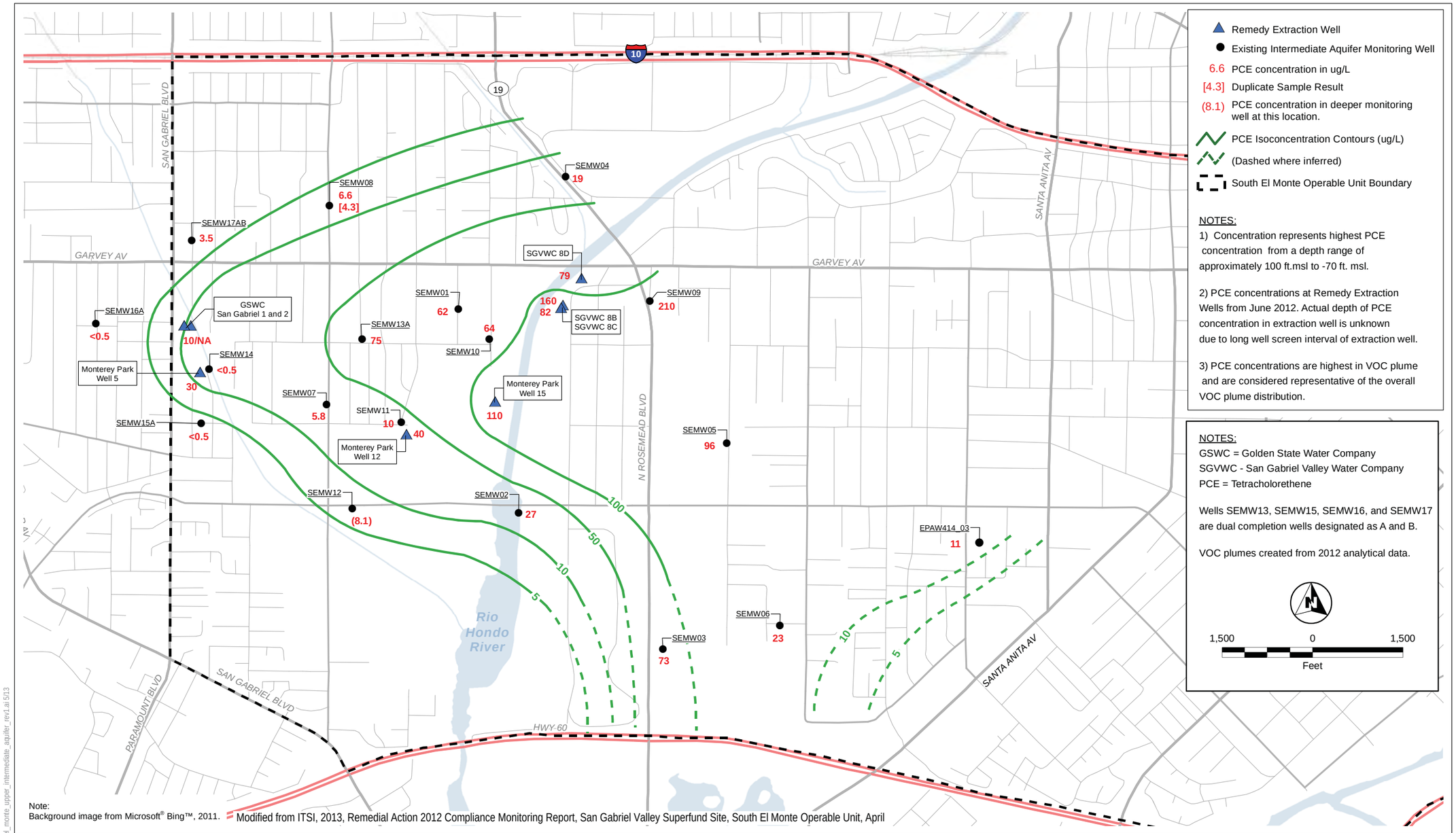

Figure 6-6: VOC Plume in the South El Monte OU Upper Intermediate Aquifer

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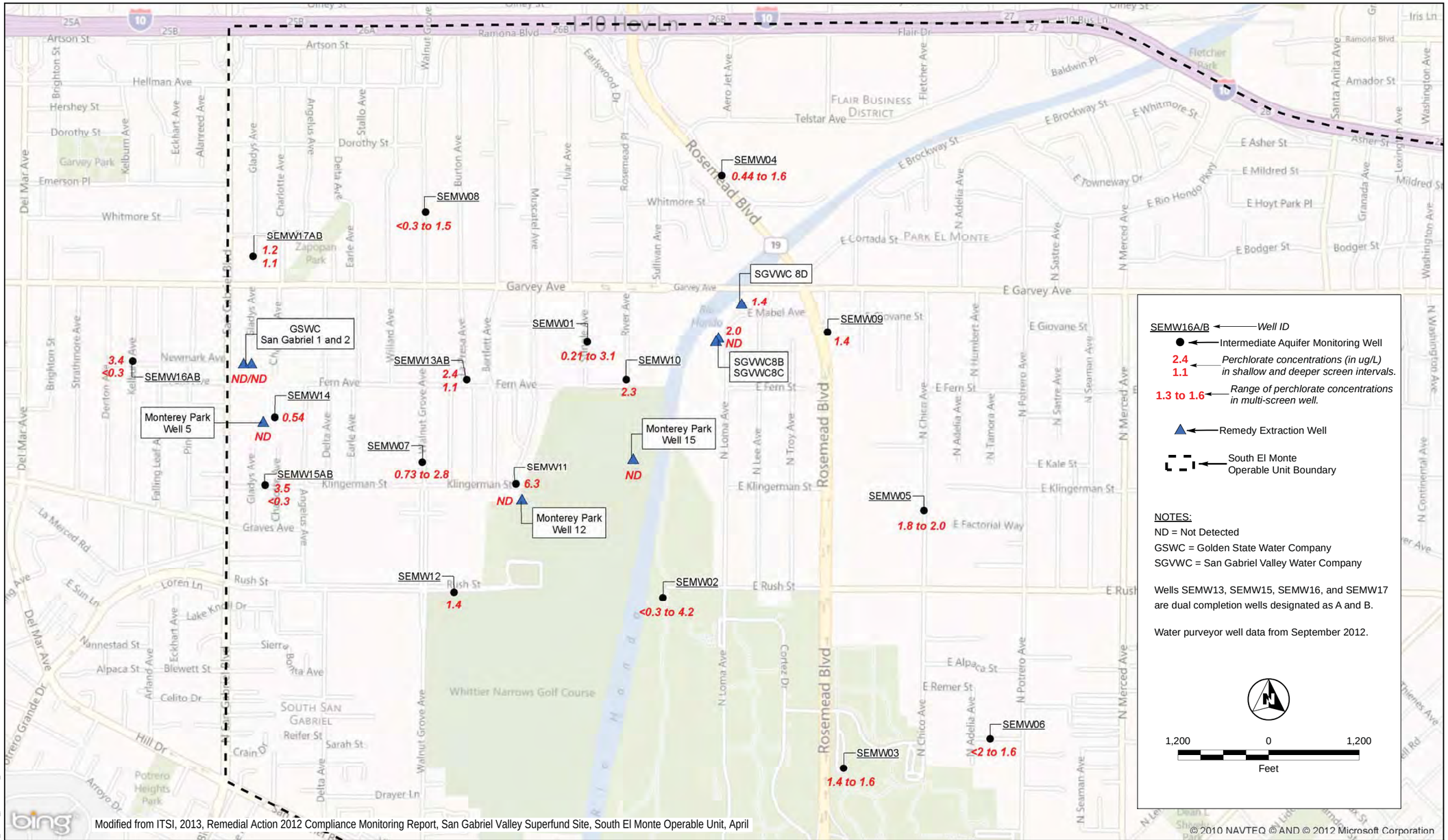

SCO406680.FR.02 el_monte_perchlorate_rev1.ai 5/13

ITSI Gilbane

Remedial Action Compliance Monitoring 2012
South El Monte Operable Unit
Los Angeles County, California

Perchlorate Concentrations - Intermediate Aquifer
May/October 2012

Figure 6-7: Perchlorate Concentrations in the South El Monte OU Intermediate Aquifer

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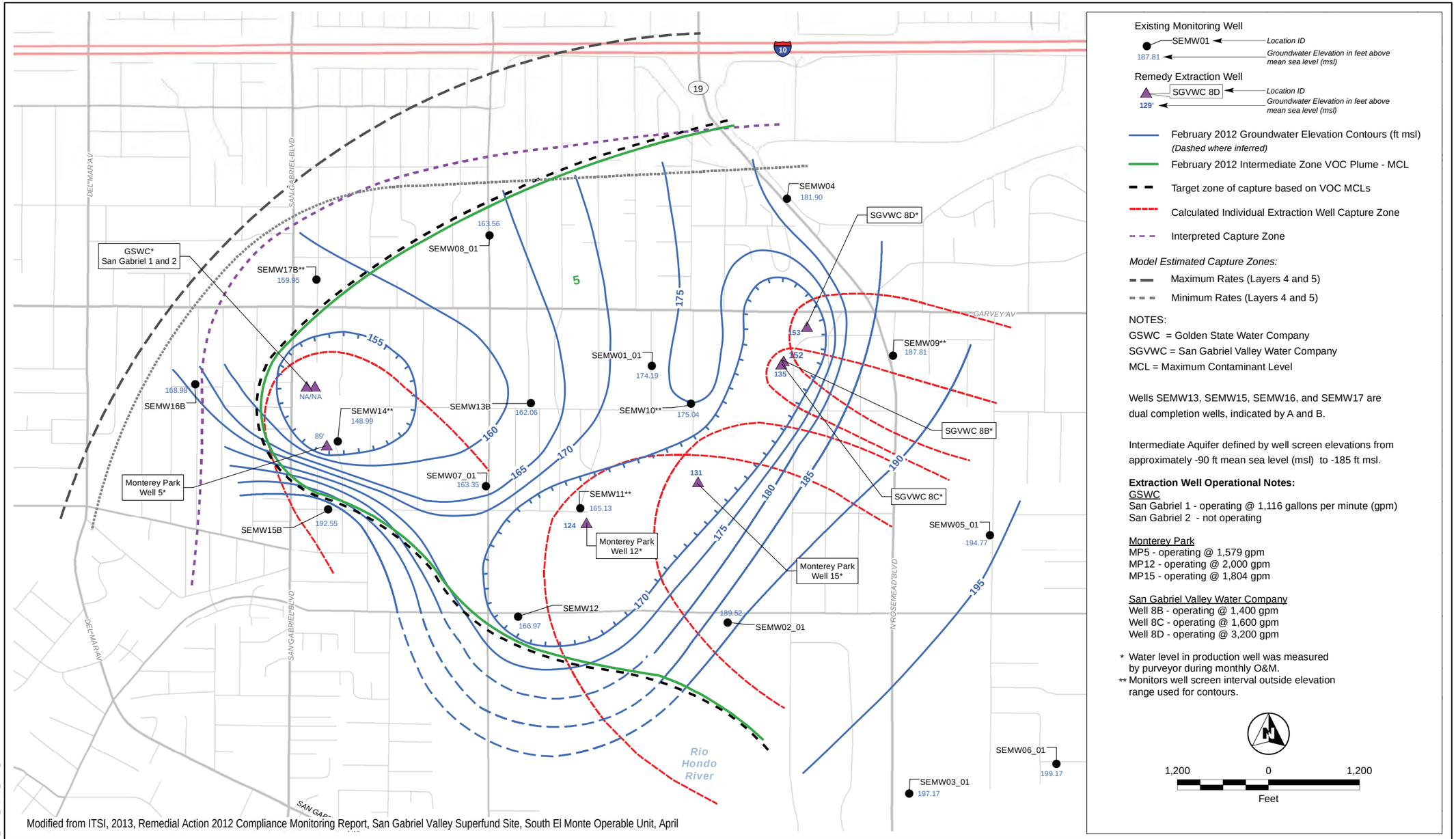

Modified from ITSI, 2013, Remedial Action 2012 Compliance Monitoring Report, San Gabriel Valley Superfund Site, South El Monte Operable Unit, April

SCO460680.FR.02 el_monte_capture_zones_rev1.ai 5/13

ITSI Gilbane

Remedial Action Compliance Monitoring 2012
South El Monte Operable Unit
Los Angeles County, California

Capture Zone Analysis Results
Intermediate Aquifer - 2012

Figure 6-8: Capture Zones for the South El Monte OU Remedy

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7. Technical Assessment

This section presents the technical assessment of the remedies in the various San Gabriel Valley Area 1 OUs.

7.1. Question A: Is the remedy functioning as intended by the decision documents?

7.1.1. South El Monte OU Remedy

The interim remedy was designed to hydraulically contain contaminated groundwater in the intermediate zone of the western portion of the South El Monte OU aquifer. Design, construction, and permitting by CDPH of the four pump-and-treat projects occurred between 1999 and 2006. Operation, maintenance, and system improvement activities have been performed since construction completion.

Based on a review of documents from the past 5 years, the project extraction wells are limiting the migration of COCs in groundwater, and the South El Monte OU contamination has not migrated beyond the capture zone of the downgradient extraction wells located in the western portion of the South El Monte area. Despite the fact that two of the groundwater extraction and treatment systems (MP Wells 12 and 15 and GSWC Wells SG1 and SG2) did not consistently achieve the minimum target extraction rates identified by EPA, hydraulic containment of the targeted areas was achieved. MP Wells 12 and 15 did not consistently achieve the combined target rates in 2010 and 2011 and GSWC Wells SG1 and SG2 did not consistently achieve the combined target rates between 2009 and 2011.

A review of documents and the results of the site inspections and interviews indicate that the reduced production from MP Wells 12 and 15 is primarily related to various system O&M issues that resulted in increased downtime. The target pumping rates are fairly close to the treatment system capacity (4,500 gpm) so there is little operational flexibility to make up for periods of increased system downtime. The primary O&M activities that resulted in increased downtime and reduced average pumping rates over the last few years include: MP Well 15 pump replacement and motor repairs required because of excessive vibration, air stripper system maintenance and repairs, and dual-barrier LGAC system carbon changeouts and associated post-changeout bacteriological detections.

The reason that total production from GSWC Wells SG1 and SG2 periodically did not meet target rates was because Well SG2 was offline for many years prior to the CDPH-approved nitrate blending plan which was implemented in 2012. Prior to that, the system generally met the target pumping rates using Well SG1 alone. However, based on the capacity of Well SG1, in some quarters there was almost no flexibility to make up for periods of downtime associated with either routine or nonroutine O&M requirements. For example, if the system was down for a carbon changeout during one of the quarters with the higher target pumping rates, there was no extra system capacity to allow for pumping at higher rates once the system was back online. In the second quarter of 2011, the SG1 well

pump/column was replaced and the motor was rebuilt. This major repair resulted in significantly reduced water production for the quarter.

Recent data indicate that the lateral extent of VOC contamination has largely been defined in the northwestern portion of the contaminated area; there is some uncertainty in this area because monitoring results from 2011 and May 2012 indicated PCE concentrations slightly above the MCL in a well located northwest of the expected extent of contamination. The vertical extent of VOC contamination is generally well-defined along the boundaries of the South El Monte OU target areas. However, the vertical extent is not yet fully characterized in the central portion of the target area or upgradient near the source areas. New monitoring wells were installed in these areas in early 2013 (see Figure 4-1) with screened intervals extending down to approximately 500 feet bgs. Initial sampling results from the new deeper wells indicate that contaminant levels are either very low or nondetect. If subsequent sampling confirms the initial results, the vertical extent of contamination will have been defined.

The Watermaster's authority to regulate water resources and eliminate unregulated use of area groundwater, along with drinking water regulations that control unacceptable exposure to contaminated Site groundwater, serve as effective governmental controls that supplement the remedy and ensure protection of human health at the Site.

7.1.2. Richwood OU

The Richwood OU remedy functioned as intended until 1994, when DTSC stopped operating the treatment system and SGVWC began supplying water from its distribution system to the RMWC customers. The intent of the remedy to supply clean water that meets CDPH drinking water requirements to RMWC's customers has been met continuously since 1994. HMWC and RHMWC have also operated their respective water systems consistent with the intent of the remedy and have consistently supplied clean water to their customers that meets CDPH drinking water requirements.

7.1.3. Suburban OU

An active remedy was never implemented in the Suburban OU because VOC contamination levels were not high enough to trigger action. However, SWS has satisfied the intent of the remedy by operating the Bartolo Well Field to supply clean water to its customers in accordance with CDPH drinking water requirements.

7.2. Question B: Are the exposure assumptions, Toxicity Data, Cleanup Levels, and Remedial Action Objectives (RAOs) Used at the Time of Remedy Selection Still Valid?

This section only addresses the South El Monte OU remedy because the Richwood OU remedy is no longer operating and an active remedy was never required for the Suburban OU, as described previously.

7.2.1. Changes in Standards and Advisory Levels

Effective August 22, 2010, the NL for 1,4-dioxane became more stringent. 1,4-Dioxane has been detected in South El Monte OU groundwater at concentrations above the NL. However, the NL change does not currently impact the protectiveness of the remedy. 1,4-Dioxane concentrations at the GSWC and SGVWC remedy production wells remain below the NL. Although the 1,4-dioxane concentrations in the MP remedy wells have periodically exceeded the revised NL, the blended water in the City's water supply distribution system does not exceed the NL.

SGVWC has a preliminary design for a 1,4-dioxane treatment system at Plant 8 should concentrations increase in the future. MP has begun planning for a new centralized groundwater treatment plant. As currently conceived, the centralized plant would be equipped to treat 1,4-dioxane if necessary.

There have been no other revisions to laws, regulations, or advisory levels that affect the protectiveness of the remedy.

7.2.2. Changes in Exposure Pathways

No changes in exposure pathways were identified that would impact the protectiveness of the South El Monte OU remedy, but vapor intrusion was not considered as an exposure pathway in the IROD. EPA is currently conducting a supplemental RI/FS in the South El Monte OU that includes investigation of vapor intrusion. During soil gas sampling at source facilities in 2011 and 2012, EPA discovered concentrations of VOCs in soil gas at five facilities that warranted further investigation by EPA's emergency response program. EPA conducted indoor air sampling at those commercial facilities and nearby residences. Two of the locations, the former One Dollar Cleaners and Hytone Cleaners, had indoor air levels of PCE that were well above screening levels, so EPA is overseeing a voluntary cleanup at the former One Dollar Cleaners facility, and conducting a removal action at five residences near the Hytone Cleaners facility to mitigate vapor intrusion. Additional indoor air sampling is planned in 2013 at approximately 20 other commercial facilities. EPA plans to use the findings from the supplemental RI/FS to support a final ROD.

7.2.3. Changes in Toxicity and Other Contaminant Characteristics

In the past 5 years, there have been a number of changes to the toxicity values for certain COCs at the Site. The most relevant changes are to TCE and PCE.

In September 2011, EPA completed a review of the TCE toxicity literature and posted on the IRIS both cancer and noncancer toxicity values, which resulted in lower RSLs for TCE. EPA considers the current MCL for TCE of 5 µg/L protective for cancer and noncancer effects as explained in Section 5.3.2.

EPA also recently reassessed PCE toxicity literature for both cancer and noncancer effects and released the toxicological review in February 2012. The reassessment determined that risk for cancer

was less than previously assumed, and has raised the cancer and noncancer RSLs for PCE. Therefore, the PCE MCL of 5 µg/L remains protective for both carcinogenic and noncancer effects.

7.2.4. Changes in Risk Assessment Methods

There have been no changes in standardized risk assessment methodologies that could affect the protectiveness of the South El Monte OU interim remedy.

7.2.5. Expected Progress Toward Meeting RAOs

The interim remedy established treatment levels for groundwater leaving the treatment plants, but did not establish groundwater aquifer cleanup levels. The treatment systems continue to successfully reduce COC concentrations to levels below the current MCLs and NLs that were specified as treatment levels in the IROD and ESD. The remedy is preventing contaminated groundwater from migrating into less-contaminated and uncontaminated areas and depths and reducing the impact on downgradient water supply wells in accordance with the RAOs. EPA will determine when sufficient information is available to develop remedial alternatives for the final remedy for the Site.

7.3. Question C: Has Any Other Information Come to Light That Could Call Into Question the Protectiveness of the Remedy?

There is no other information that calls into question the protectiveness of the South El Monte OU interim remedy.

7.4. Technical Assessment Summary

The Richwood OU remedy functioned as intended until 1994, when DTSC stopped operating the treatment system and SGVWC began supplying water from its distribution system to the RMWC customers. The intent of the remedy to supply clean water that meets CDPH drinking water requirements to RMWC's customers has been met continuously since 1994. HMWC and RHMWC have also operated their respective water systems consistent with the intent of the remedy and have consistently supplied clean water to their customers that meets CDPH drinking water requirements.

An active remedy was never implemented in the Suburban OU because VOC contamination levels were not high enough to trigger action. However, SWS has satisfied the intent of the remedy by operating the Bartolo Well Field to supply clean water to its customers in accordance with CDPH drinking water requirements.

In the South El Monte OU, although selected remedy extraction wells have not consistently achieved target extraction rates during the review period, remedy extraction systems are providing the required hydraulic control and limiting the migration of COCs in groundwater at the downgradient (leading edge) of contamination in each of the target areas. The institutional controls (governmental controls) that are in place supplement the remedy and effectively prevent unacceptable exposure to contaminated Site groundwater. The remedy is meeting all ARARs in the ROD, and there have been

no changes in ARARs affecting the protectiveness of the remedy. Although the toxicity values for TCE became more stringent in 2011, the current MCL is within EPA's risk range and is therefore protective of human health and the environment. Otherwise, there have been no other changes in the toxicity factors for the COCs that were used in the previous risk assessments or the standardized risk assessment methodology that could affect the protectiveness of the remedy.

The water purveyors operating the South El Monte OU remedy have developed preliminary plans for installation of systems to treat the EC 1,4-dioxane to meet drinking water standards in the future, as necessary.

EPA is actively evaluating the potential for vapor intrusion at selected facilities in the upgradient source areas as part of its supplemental RI/FS. There is no other information that calls into question the protectiveness of the remedy.

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8. Issues

No issues were identified that affect the protectiveness of the Richwood OU and Suburban OU remedies.

Issue	Affects Current Protectiveness (Yes or No)	Affects Future Protectiveness (Yes or No)
South El Monte OU: Vapor intrusion was not considered as an exposure pathway in the IROD.	Yes*	Yes*

*The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database only accepts "Yes" or "No" entries regarding whether an issue affects current or future protectiveness. However, this protectiveness determination has been deferred because there is not enough information to make the determination. For the purposes of the CERCLIS database, a "defer" determination is equivalent to "yes" entry.

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9. Recommendations and Follow-up Actions

No actions are needed to achieve or maintain the protectiveness of the Richwood OU and Suburban OU remedies.

Issue	Recommendations and Follow-Up Action	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Yes or No)	
					Current	Future
South El Monte OU: Vapor intrusion was not considered as an exposure pathway in the IROD.	Continue the ongoing vapor intrusion investigation and implement removal and remedial actions at selected facilities, as appropriate.	EPA	EPA	09/30/2016	Y*	Y*

*The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database only accepts "Yes" or "No" entries regarding whether an issue affects current or future protectiveness. However, this protectiveness determination has been deferred because there is not enough information to make the determination. For the purposes of the CERCLIS database, a "defer" determination is equivalent to "yes" entry.

The following are recommendations identified during the FYR that may improve technical effectiveness but do not affect, and are not needed to achieve, protectiveness.

9.1. South El Monte OU

The following factors could affect the South El Monte OU in the future:

- MP's PCE concentrations, particularly in Well 15, are nearing the peak design capacity of the air stripper and 1,4-dioxane concentrations in several wells have exceeded the NL. EPA should continue to assess trends in PCE and 1,4-dioxane concentrations and the City's progress toward construction of a planned centralized treatment plant at the Delta facility that would be equipped with UV/Ox for 1,4-dioxane and VOC removal, plus LGAC as a dual barrier.
- EPA's minimum target pumping rates for MP Wells 12 and 15 are difficult for MP to meet in selected quarters because of treatment system capacity limitations and CDPH permit requirements. Construction of the planned centralized treatment plant would eliminate these limitations. EPA should continue to assess MP's progress toward construction.
- There are currently low-level detections of perchlorate and 1,4-dioxane in SGVWC's Plant 8 remedy wells. If concentrations increase, SGVWC plans to construct appropriate treatment for these constituents. EPA should continue to assess perchlorate and 1,4-dioxane trends in the Plant 8 wells.

9.2. Richwood OU

The Richwood OU has been inactive for a long time. EPA should consider partial deletion of the Richwood OU from the NPL because RMWC no longer exists, all of the former RMWC customers are served by SGVWC, and the remedy treatment plant was shut down in 1994.

9.3. Suburban OU

The Suburban OU has been inactive for a long time. EPA should consider partial deletion of the Suburban OU from the NPL. Contaminant concentrations have remained consistently low since the 1993 ROD Amendment and there are no upgradient indications of future increases. In the unlikely event that concentrations do start increasing, conditions would be evaluated as part of the Whittier Narrows OU given that the SWS Bartolo Well Field is within the Whittier Narrows OU footprint.

10. Protectiveness Statements

10.1. South El Monte OU

A protectiveness determination for the South El Monte OU (OU 5) interim remedy cannot be made until further information is obtained. EPA is currently conducting a vapor intrusion investigation, including soil vapor sampling and indoor air sampling at and near source facilities throughout the South El Monte OU. It is expected that the investigation will take approximately 3 years to complete, at which time a protectiveness determination will be made.

10.2. Richwood OU

The interim remedy for the Richwood OU (OU 3) is protective of human health and the environment.

10.3. Suburban OU

The interim remedy for the Suburban OU (OU 4) is protective of human health and the environment.

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11. Next Review

Because there is still contamination onsite that does not allow for unrestricted use and unlimited exposure, another FYR will be required. The next FYR will be due within 5 years of the signature date of this FYR in 2018. However, the Whittier Narrows OU was last reviewed in 2011, so EPA plans to evaluate the entire San Gabriel Valley Area 1 Superfund Site in 2016, including the OUs evaluated in this report, so that all of the OUs will be on the same review schedule moving forward. Because the protectiveness determination was deferred for the South El Monte OU interim remedy during this review, a determination will be made at the time of the next FYR.

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Appendix A: List of Documents Reviewed

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Appendix A. List of Documents Reviewed

California Department of Public Health (CDPH). 2009a. *Removal of Perchlorate Treatment at the San Gabriel Treatment Plant – Golden State Water Company*. May.

CDPH. 2009b. *Removal of Treatment at [Monterey Park] Wells 9, 12, and 15 Treatment Plant*. May.

CH2M HILL. 1983. Draft Focused Feasibility Study, San Gabriel. December.

CH2M HILL. 1988. *Draft Operable Unit Feasibility Study for Suburban Water Systems Bartolo Well Field of San Gabriel Areas 1-4*. June.

CH2M HILL. 1995. *Capture Zone Evaluation for Suburban Production Wells within Whittier Narrows.* October.

CH2M HILL. 1997. *South El Monte OU Final Preliminary Baseline Risk Assessment*. December.

CH2M HILL. 2006. *Recommended SEMOU Interim Remedial Action Pumping Rates*. June.

CH2M HILL. 2007. *Draft Technical Memorandum, Evaluation of the Potential Impact of 1,4-Dioxane Contamination on Proposed Remedy Wells, South El Monte Operable Unit, San Gabriel Basin, California*. September.

CH2M HILL. 2009. *Evaluation of Perchlorate Concentration Trends in Groundwater, South El Monte OU.* May.

CH2M HILL. 2011a. *Data Review and Remedy Performance Evaluation Technical Memorandum—Whittier Narrows OU Five-Year Review*. May.

CH2M HILL. 2011b. *Whittier Narrows OU Groundwater Flow Model Update and Contaminant Transport Simulations*. June.

CH2M HILL. 2013. Draft Remedial Action Report, San Gabriel Valley Area 1 Superfund Site – South El Monte Operable Unit

DTSC. 1994a. *Letter re: Notification of Option to Shut Down Richwood Treatment Plant*. January.

DTSC. 1994b. *Contract 94-T0753 between DTSC and SGVWC*. November.

DTSC. 1996. *Memorandum Re: Status and Failures of Richwood Operable Unit*. November.

DTSC. 1998a. *Letter Re: Dismantling of Richwood Treatment Plant.* June.

DTSC. 1998b. *RMWC Treatment Plan Decommissioning Fact Sheet*. November.

DTSC. 1999a. *Contract 94-T1721 Between DTSC and SGVWC*. March.

DTSC. 1999b. *Report of AWP Activity Completion*. December.

DTSC. 2010. *Agreement between DTSC and EPA*. Agreement Number 09-T9114. July.

DTSC. 2012a. *Comments on Upcoming Five Year Review of San Gabriel Valley Superfund Site Area 1, Los Angeles County*. May.

DTSC. 2012b. *Comments on Compliance Well Installation and First Semi-Annual Remedial Action Compliance Monitoring Report*. June.

EPA. 1984. *Superfund Record of Decision: San Gabriel/Area 1 Site, CA*. May.

EPA. 1987. *Record of Decision Amendment Decision Summary, San Gabriel Area 1, Initial Remedial Measures*. September.

EPA. 1988. *Record of Decision for Suburban Water Systems Bartolo Well Field Operable Unit*. September.

EPA. 1992. *Interim San Gabriel Basin Remedial Investigation Report, Los Angeles County, California*. July.

EPA. 1993. *Record of Decision Amendment, Suburban Water Systems Bartolo Well Field Operable Unit, Declaration*. September.

EPA. 1994. *Memorandum: Review of Data for Suburban Record of Decision Requirements*. September.

EPA. 1995. *Memorandum Re: Verification by EPA and DTSC that the Richwood Treatment Plant has been Operational and Functional.* April.

EPA. 1999. *Interim Record of Decision Amendment, San Gabriel Valley Superfund Site, Whittier Narrows Operable Unit.* November 10.

EPA. 1999. *Interim Record of Decision, San Gabriel Valley Superfund Site, El Monte Operable Unit*. June.

EPA. 2000. *Interim Record of Decision, San Gabriel Valley Superfund Site, South El Monte Operable Unit, Los Angeles County, CA*. September.

EPA. 2002. EPA *Guidance for Quality Assurance Project Plans*, EPA/QA/G-5. EPA/240/R-02/009. December.

EPA. 2003. *Letter Re: Response to Inquiry Regarding Region 9's Involvement at Suburban Operable Unit*. June.

EPA. 2004. *Supplemental Risk Assessment, South El Monte Operable Unit*.

EPA. 2005. *Explanation of Significant Differences to the 2000 Interim Record of Decision, South El Monte Operable Unit, San Gabriel Valley Superfund Sites, Area 1*. November.

EPA. 2006. *Work Plan and Addendum to Cooperative Agreement Between EPA and the San Gabriel Basin Water Quality Authority (SGBWQA)*. October.

EPA. 2008a. *Superfund Support Agency Cooperative Agreement (V-96923701-0), South El Monte OU*. August.

EPA. 2008b. *A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems, EPA Office of Research and Development, Ground Water and Ecosystems Restoration Division, National Risk Management Research Laboratory.* USEPA/600/R-08/003. January. Available on the Internet at: (http://www. epa. gov/ada/download/reports/600R08003/600R08003.pdf).

EPA. 2009a. *2009 Edition of the Drinking Water Standards and Health Advisories*. EPA 822-R-09-011.

EPA. 2011. *Second Five-Year Review Report for San Gabriel Valley Area 1 Superfund Site, Whittier Narrows Operable Unit.* September.

EPA. 2012a. *Site Inspection for San Gabriel Valley Area 1 Superfund Site, South El Monte Operable Unit*. June.

EPA. 2012b. *Response to DTSC Letter of June 28, 2012, Compliance Well Installation & First Semi-Annual Remedial Action Compliance Monitoring Report for San Gabriel Valley Area 1 Superfund Site, South El Monte OU, Los Angeles County*. August.

EPA. 2012c. *Response to DTSC Letter of May 25, 2012 on Upcoming Five Year Review of San Gabriel Valley Superfund Site, Area 1, Los Angeles County*. December.

EPA. 2013a. *OSWER Final Guidance for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Sources to Indoor Air (External Review Draft).* April 11.

EPA. 2013b. Integrated Risk Information System (IRIS) Database.
Online: http://www.epa.gov/IRIS/

Geosyntec Consultants (Geosyntec). 2009. *General Monitoring Plan, Eastern Shallow and Southern Deep Portions of the El Monte Operable Unit.* January 30.

Geosystem Consultants, Inc. (Geosystem). 1999. *Feasibility Study Report, Interim Remedial Investigation/Feasibility Study, South El Monte Operable Unit, San Gabriel Basin, Los Angeles County, California*. April.

Geosystem. 1997. *Technical Memorandum, Site Characterization and Alternatives Development, Interim Remedial Investigation/Feasibility Study, South El Monte Operable Unit, San Gabriel Basin, Los Angeles County, California*. March.

Geosystem. 1998. *Remedial Investigation Report, Interim Remedial Investigation/Feasibility Study, South El Monte Operable Unit, San Gabriel Basin, Los Angeles County, California.* August.

ITSI Gilbane Company (ITSI). 2011a. *Final Sampling and Analysis Plan, Remedial Action Compliance Monitoring, San Gabriel Valley Area 1 Superfund Site, South El Monte Operable Unit, San Gabriel Basin, Los Angeles County, California*. February.

ITSI. 2011b. *Final Sampling and Analysis Plan, Supplemental Remedial Investigation/Feasibility Study, San Gabriel Valley Area 1 Superfund Site, South El Monte OU*. March.

ITSI. 2012a. *Compliance Well Installation and First Semi-Annual Remedial Action Compliance Monitoring Report, San Gabriel Valley Area 1 Superfund Site, South El Monte Operable Unit*. March.

ITSI. 2012b. Technical Memorandum: Third Modification to Sampling and Analysis Plan, Supplemental Remedial Investigation/Feasibility Study, San Gabriel Valley Area 1 Superfund Site, South El Monte, Operable Unit. August.

ITSI. 2013. *Remedial Action 2012 Compliance Monitoring Report, San Gabriel Valley Superfund Site, South El Monte Operable Unit.* April.

Main San Gabriel Basin Watermaster (Watermaster). 2012. *Draft Five-Year Water Quality and Supply Plan (2012-13 – 2016-17).* November.

McCormick, Kidman, & Behrens, LLP (McCormick). 1999. *Agreement to Purchase and Sale of Assets: RMWC to SGVWC.* March.

San Gabriel Basin Water Quality Authority (WQA). 2010. *Revised Performance Report (September 1, 2008 through June 30, 2010) Superfund Support Agency Cooperative Agreement (V-96923701-0) South El Monte OU.* October.

WQA. 2010. *Summary Schedule for EPA Request #2, Schedules of Operations and Maintenance Costs Not Funded by Other Sources. Agreement #V-96923701-0.* September.

WQA. 2011a. *Summary Schedule for EPA Request #3 – Revision 2, Schedules of Operations and Maintenance Costs Not Funded by Other Sources. Agreement #V-96923701-0.* February.

WQA. 2011b. *Summary Schedule for EPA Request #4 – Revision 1, Schedules of Operations and Maintenance Costs Not Funded by Other Sources. Agreement #V-96923701-0.* March.

WQA. 2011c. *Summary Schedule for EPA Request #5 – Revision 1, Schedules of Operations and Maintenance Costs Not Funded by Other Sources. Agreement #V-96923701-0.* July.

WQA. 2011d. *Revised Annual Performance Report (July 1, 2010 through June 30, 2011), Superfund Support Agency Cooperative Agreement (V-96923701-0), South El Monte OU.* September.

WQA. 2011e. *Summary Schedule for EPA Request #6 – Revision 1, Schedules of Operations and Maintenance Costs Not Funded by Other Sources. Agreement #V-96923701-0.* November.

WQA. 2011f. *Summary Schedule for EPA Request #7 – Revision 1, Schedules of Operations and Maintenance Costs Not Funded by Other Sources. Agreement #V-96923701-0.* November.

WQA. 2012a. *Summary Schedule for EPA Request #8 – Revision 2, Schedules of Operations and Maintenance Costs Not Funded by Other Sources. Agreement #V-96923701-3.* March.

WQA. 2012b. Revised *Annual Performance Report (July 1, 2011 through June 30, 2012), Superfund Support Agency Cooperative Agreement (V-96923701-0), South El Monte OU.* July.

WQA. 2012c. *Summary Schedule for EPA Request #9 – Revision 1, Schedules of Operations and Maintenance Costs Not Funded by Other Sources. Agreement #V-96923701-3.* July.

WQA. 2012d. *Summary Schedule for EPA Request #10 – Revision 2, Schedules of Operations and Maintenance Costs Not Funded by Other Sources. Agreement #V-96923701-3.* July.

WQA. 2012e. *Summary Schedule for EPA Request #11 – Revision 1, Schedules of Operations and Maintenance Costs Not Funded by Other Sources. Agreement #V-96923701-3.* September.

WQA. 2012f. *Quarterly Report (Reporting Period of July-September 2012), Superfund Support Agency Cooperative Agreement (V-96923701), South El Monte OU*. October.

WQA. 2012g. *Summary Schedule for EPA Request #12 – Revision 1, Schedules of Operations and Maintenance Costs Not Funded by Other Sources. Agreement #V-96923701-3.*

WQA. 2013a. *Summary Schedule for EPA Request #13 – Revision 1, Schedules of Operations and Maintenance Costs Not Funded by Other Sources. Agreement #V-96923701-3.* May.

WQA. 2013b. *Summary Schedule for EPA Request #14, Schedules of Operations and Maintenance Costs Not Funded by Other Sources. Agreement #V-96923701-3.* May.

WQA. 2013c. *Quarterly Report (Reporting Period of October-December 2012), Superfund Support Agency Cooperative Agreement (V-96923701), South El Monte OU*. October.

WQA. 2013d. *Quarterly Report (Reporting Period of January-March 2013), Superfund Support Agency Cooperative Agreement (V-96923701), South El Monte OU*. October.

San Gabriel Valley Water Company (SGVWC). 1995. *Letter from SGVWC to RMWC Re: SGVWC willing to Install New Distribution System and Take Over RMWC*. April.

SGVWC. 1999. *Letter Re: Completion of Distribution System Described in Contract 91-T1721*. December.

Smucker, Stanford Ph. D. 1992. *Suburban Water Systems / Bartolo Well Field Operable Unit Screening Risk Assessment*. July.

Suburban Water Systems. 2013. *Plant 201 – Location of Wells and Pipelines*. March.

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Appendix B: Public Notices

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PUBLIC NOTICE
THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY BEGINS FIRST FIVE-YEAR REVIEW OF CLEANUP AT THE SAN GABRIEL VALLEY AREA 1 SUPERFUND SITE

The U.S. Environmental Protection Agency (EPA) has begun its first five-year review of cleanup actions at the San Gabriel Valley Area 1 Superfund Site (Site) located in Los Angeles County. Because the Site is large, it includes multiple cleanup actions or operable units (OUs), including the South El Monte OU, the Whittier Narrows OU, the Richwood OU, the Suburban OU, and the El Monte OU. The focus of this five-year review will be the South El Monte OU, which has an active groundwater remedy that EPA began funding in 2008, and the Richwood and Suburban OUs, which have not previously been evaluated. Five-year reviews for the Whittier Narrows OU were completed in 2006 and 2011, and the remedy at the El Monte OU is still under construction. All of the cleanup actions at the Site address contaminated groundwater.

THE REVIEW PROCESS
The primary purpose of a five-year review is to determine whether a site remedy remains protective of human health and the environment. EPA generally conducts five-year reviews when hazardous substances remain in the groundwater above risk-based levels that prevent unrestricted use and exposure. As part of the review, EPA will be looking at how well the remedy is achieving EPA's cleanup goals, changes in scientific knowledge about site contaminants, changes in exposure pathways, and changes in regulations.

COMMUNITY INVOLVEMENT
If you have any concerns about the San Gabriel Valley Area 1 Site, and particularly if you have direct knowledge regarding the operation and maintenance of the remedy, then EPA would like to talk with you. When completed, a copy of the five-year review report will be placed in the information repository and will be available on-line at EPA's website listed below.

SITE HISTORY
The San Gabriel Valley Area 1 site is an area of contaminated groundwater over 4 miles long and 1½ miles wide located in the San Gabriel Valley. The Site is one of four groundwater cleanup sites in the San Gabriel Valley being addressed under EPA's Superfund cleanup program since 1984. The groundwater contamination is the result of decades of poor chemical handling and disposal practices by hundreds of industrial facilities. The primary chemical contaminants in the Site's groundwater are volatile organic compounds including tetrachloroethene (PCE) and trichloroethene (TCE), which are both industrial solvents. EPA has multiple ongoing remedies throughout Area 1, including extracting and treating contaminated groundwater.

FOR MORE INFORMATION
Please visit EPA's website for the San Gabriel Valley Area 1 Site:
www.epa.gov/region09/SouthElMonte

Information Repositories:
Rosemead Public Library
880 Valley Blvd.
Rosemead, CA 91770
(626) 573-5220

West Covina Public Library
1601 West Covina Parkway
West Covina, CA 91790-2786
(626) 962-3541

Superfund Records Center
75 Hawthorne St.
San Francisco, CA 94105
(415) 947-8000
Hours: Mon-Fri 8am-5pm

Contact Information:
Alejandro Díaz
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CNS#2417326

AVISO PÚBLICO
LA AGENCIA DE PROTECCIÓN AMBIENTAL DE LOS ESTADOS UNIDOS COMIENZA LA PRIMERA REVISÓN DE CINCO AÑOS SOBRE LA LIMPIEZA EN EL SITIO SUPERFUND SAN GABRIEL VALLEY ÁREA 1

La Agencia de Protección Ambiental de los Estados Unidos (EPA, por sus siglas en inglés) ha comenzado su primera revisión de cinco años sobre actividades de limpieza en el sitio Superfund San Gabriel Valley Área 1 ubicado en el Condado de Los Ángeles. El sitio es muy grande y por esa razón incluye a varias acciones de limpieza o unidades operables (UU.OO.), incluyendo a la UO South El Monte, UO Whittier Narrows, UO Richwood, UO Suburban y la UO El Monte. El enfoque de esta revisión de cinco años será la UO South El Monte, donde se encuentra un remedio activo del agua subterránea que la EPA comenzó a financiar en 2008 y las UU.OO. de Richwood y Suburban, que no habían sido evaluadas previamente. La revision de cinco años para la UO Whittier Narrows fue completada en 2006 y 2011 y el remedio por la UO El Monte esta bajo construcción. Todas las acciones de limpieza del sitio abordan agua subterránea contaminada.

EL PROCESSO DE REVISIÓN
El propósito principal de la revisión de cinco años es determinar si un remedio continúa protegiendo la salud humana y el medio ambiente. En general, la EPA hace revisiones de cinco años cuando sustancias toxicas permanecen en el agua subterránea sobre niveles basados en riesgo que prohíben su uso y exposición sin restricciones. Como parte de la revisión, la EPA estará viendo como el remedio está alcanzando los objetivos de limpieza, cambios en conocimiento científico sobre los contaminantes del sitio, cambios en vías de exposición y cambios en reglamentos.

PARTICIPACIÓN COMUNITARIA
Si usted tiene preocupaciones ,sobre el sitio San Gabriel Valley Área 1, y especialmente si usted tiene conocimiento directo sobre la operación y mantenimiento del remedio, entonces la EPA gustaria hablar con usted. Cuando se complete, una copia del informe de la revisión de cinco años estará disponible en el depósito de información y también será disponible en internet al sitio de la EPA a continuación.

HISTORIA DEL SITIO
El sitio San Gabriel Valley Área 1 es un área de agua subterránea contaminada más de 4 millas de largo y 1½ millas de ancho ubicado en el valle de San Gabriel. El Sitio es uno de cuatro sitios de limpieza del agua subterránea en el valle de San Gabriel abordado bajo el programa Superfund de la EPA desde 1984. La contaminación del agua subterránea es resultado de décadas de pobre manejo y eliminación de contaminantes de cientos de instalaciones industriales. Los químicos principales de contaminación en el agua subterránea del sitio son productos orgánicos volátiles incluyendo a tetracloroetileno (PCE) y tricloroetileno (TCE), que ambos son solventes industriales de limpieza. La EPA tiene varios remedios activos en el área 1, incluyendo la extracción y tratamiento del agua subterránea contaminada.

PARA MÁS INFORMACIÓN
Por favor visite sitio de internet de la EPA para el sitio San Gabriel Valley Área 1:
www.epa.gov/region09/SouthElMonte

Depósitos de Información:

Biblioteca Rosemead
880 Valley Blvd.
Rosemead, CA 91770
(626) 573-5220

Biblioteca West Covina
1601 West Covina Parkway
West Covina, CA 91790-2786
(626) 962-3541

Centro de Registros Superfund
75 Hawthorne St.
San Francisco, CA 94105
(415) 947-8000
Horas: lun-vier 8am-5pm

Información de Contacto:

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109-10068974 **CNS#2417343**

Appendix C: Site Inspection Checklists

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Appendix C: Site Inspection Checklists

The following Site Inspection Checklists are provided in this appendix:

- City of Monterey Park Well 5 Treatment Facility
- City of Monterey Park Wells 12 and 15 Treatment Facility
- Golden State Water Company San Gabriel Wells 1 and 2 Treatment Facility
- San Gabriel Valley Water Company Plant Treatment Facility
- Former Richwood Mutual Water Company
- Suburban Water Systems Bartolo Well Field

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San Gabriel Valley Area 1 Superfund Site
Los Angeles County, California
Five-Year Review Site Inspection Checklist
SEMOU – MONTEREY PARK WELL 5 FACILITY

I. SITE INFORMATION	
Site Name: San Gabriel Valley Area 1 Superfund Site	EPA ID: CAD980677355
City/State: Rosemead, CA	Date of Inspection: March 20, 2013
Agency Completing 5 Year Review: USEPA	Weather/temperature: Hazy, Upper 60s

Remedy Includes: (Check all that apply)
- ☐ Landfill cover/containment
- ☐ Access controls
- ☐ Institutional controls
- ☒ Groundwater pump and treatment
- ☐ Surface water collection and treatment

Attachments: ☒ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (Check all that apply)

1. Monterey Park Management
   Contact: Chris Arriola
   Title: Water Utilities Manager
   Date: 2/21/13
   Interviewed: ☐ at site ☐ at office ☒ by phone Phone Number:
   Problems, suggestions: ☐ Additional report attached (if additional space required).
   See Interview Form in Appendix C.

2. Local regulatory authorities and response agencies (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.): None interviewed.

3. Other interviews (optional) ☐ N/A ☒ Additional report attached (See Interview Forms in Appendix C).

Water Purveyors- Golden State Water Company, San Gabriel Valley Water Company, Suburban Water Systems, Rurban Mutual, Hemlock Mutual

Water Management Agencies- Main San Gabriel Basin Watermaster, San Gabriel Basin Water Quality Authority

III. ONSITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. O&M Documents

☒ O&M Manuals	☒ Readily available	☒ Up to date	☐ N/A
☒ As-Built Drawings	☒ Readily available	☒ Up to date	☐ N/A
☒ Maintenance Logs	☒ Readily available	☒ Up to date	☐ N/A

Remarks:
There is an on-site logbook used to track routine operational observations and daily readings. Separate from the inspection, Monterey Park has provided the latest version of their operations, maintenance and monitoring plan (OMMP). The as-built drawings are kept in the document storage room at the Delta Plant. Maintenance logs are also kept at the Delta Plant.

2. Health and Safety Plan Documents
☒ Site-Specific Health and Safety Plan ☒ Readily available ☒ Up to date ☐ N/A
☒ Contingency plan/emergency response plan ☒ Readily available ☒ Up to date ☐ N/A
Remarks: Monterey Park has on-site, site-specific plans to address each treatment facility, including Well 5. In addition, they have an emergency response plan for the overall water system. These plans are reviewed annually and updated as necessary.

3. O&M and OSHA Training Records ☒ Readily available ☒ Up to date ☐ N/A
Remarks: Monterey Park operators are HAZWOPER trained and get annual 8-hr refreshers. Documentation is kept in each employees personnel file. CDPH requires that the system operators be T-2 certified (at a minimum). All Monterey Park's operations staff have at least a T-2 certification. Training and certification information is provided to CDPH annually. Certificates are on the wall at the Delta Plant and the operators carry a card documenting their certification.

4. Permits and Service Agreements
☐ Air discharge permit ☐ Readily available ☐ Up to date ☒ N/A
☒ Effluent discharge ☒ Readily available ☒ Up to date ☐ N/A
☒ Waste disposal, POTW ☐ Readily available ☐ Up to date ☐ N/A
☐ Other permits ☐ Readily available ☐ Up to date ☒ N/A
Remarks: Effluent discharge is covered by the CDPH permit, which was updated in 2011 when the perchlorate treatment was removed. The City has an NPDES permit to cover discharge of backwash water to the wash. Neither permit was reviewed as part of the inspection.

5. Groundwater Monitoring Records ☒ Readily available ☒ Up to date ☐ N/A
Remarks: Groundwater monitoring for the South El Monte OU remedy is conducted by EPA. Monterey Park is not involved.

6. Discharge Compliance Records ☒ Readily available ☒ Up to date ☐ N/A
Remarks: All of the CDPH-permit required monitoring, including the wells, LGAC vessels and plant effluent, is conducted by Monterey Park and the analyses are done in accordance with the CDPH permit. The lab submits the data directly to CDPH. In addition, the City submits monthly reports and an annual report to CDPH. There is still an active perchlorate blending plan for Well 5, although they have reduced the monitoring frequency.

7. Daily Access/Security Logs ☒ Readily available ☒ Up to date ☐ N/A
Remarks: The City performs daily checks when Well 5 is operating (for most of the year, the well is off for several days a week). The daily access/checks are documented in the on-site logbook kept at Well 5.

IV. O&M Costs ☒ Applicable ☐ N/A

1. O&M Organization
☐ State in-house ☐ Contractor for State
☐ PRP in-house ☐ Contractor for PRP
☒ Other: The City of Monterey Park operates the facility.

2. O&M Cost Records-
☒ Readily available ☒ Up to date ☒ Funding mechanism/agreement in place
Remarks: Not reviewed as part of the Site Inspection, but EPA reviews O&M costs on a quarterly basis

3. Unanticipated or Unusually High O&M Costs During Review Period ☒ N/A
Describe costs and reasons: Nothing of note for the last several years.

V. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. Fencing

1. Fencing damaged ☐ Location shown on site map ☒ Gates secured ☐ N/A
Remarks: The facility is fully enclosed by an intact fence.

2. Other Access Restrictions

1. Signs and other security measures ☐ Location shown on site map ☐ N/A
Remarks: There are no specific warning signs on the gate or fence.

3. Institutional Controls

1. Implementation and enforcement

Site conditions imply ICs not properly implemented:	☐ Yes	☐ No	☒ N/A
Site conditions imply ICs not being fully enforced:	☐ Yes	☐ No	☒ N/A
Reporting is up-to-date:	☐ Yes	☐ No	☒ N/A
Reports are verified by the lead agency:	☐ Yes	☐ No	☒ N/A
Specific requirements in deed or decision documents have been met:	☐ Yes	☐ No	☒ N/A
Violations have been reported:	☐ Yes	☐ No	☒ N/A

2. Adequacy ☐ ICs are adequate ☐ ICs are inadequate ☒ N/A
Remarks:

4. General

1. Vandalism/trespassing ☐ Location shown on site map ☒ No vandalism evident
Remarks: The City has not had any issues with vandalism or trespassing. Well 5 is in a fairly isolated area.

2. Land use changes onsite ☐ N/A
Remarks: None

3. Land use changes offsite ☐ N/A
Remarks: None, although the surrounding nursery operations have been reduced. The City has had discussions with GSWC about selling them a portion of the surrounding property so they can construct a storage reservoir.

VI. GENERAL SITE CONDITIONS

1. Roads ☐ Applicable ☒ N/A

1. Roads damaged ☐ Location shown on site map ☐ Roads adequate ☒ N/A
Remarks:

2. Other Site Conditions

Remarks: Nothing of note.

IX. GROUNDWATER/SURFACE WATER REMEDIES ☒ Applicable ☐ N/A

1. Groundwater Extraction Wells, Pumps, and Pipelines ☒ Applicable ☐ N/A

1. Pumps, Wellhead Plumbing, and Electrical ☐ N/A
☒ All required wells located ☒ Good condition ☐ Needs O& M
Remarks:

2. Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances ☐ N/A
☒ System located ☒ Good condition ☐ Needs O& M
Remarks:

3. Spare Parts and Equipment ☒ N/A
☐ Readily available ☐ Good condition
☐ Requires Upgrade ☐ Needs to be provided
Remarks:

2. Treatment System ☒ Applicable ☐ N/A

1. Treatment Train (Check components that apply)
☐ Metals removal ☐ Oil/water separation ☐ Bioremediation
☐ Air stripping ☒ Carbon adsorbers ☐ Filters (list type):
☐ Additive (list type, e.g., chelation agent, flocculent)
☐ Others (list):
☒ Good condition ☐ Needs O&M
☒ Sampling ports properly marked and functional
☐ Sampling/maintenance log displayed and up to date
☒ Equipment properly identified
☐ Quantity of groundwater treated annually (list volume):
Remarks: LGAC vessel piping and valve trees need to be painted. The vessels themselves are fine. Sodium hypochlorite is added prior to the water leaving the Well 5 facility

2. Electrical Enclosures and Panels (properly rated and functional) ☐ N/A
☒ Good condition ☐ Needs O& M
Remarks: All operational readings/data are recorded by the SCADA system and transmitted back to the Delta Plant.

3. Tanks, Vaults, Storage Vessels ☒ N/A
☐ Good condition ☐ Proper secondary containment ☐ Needs O&M
Remarks:

4. Discharge Structure and Appurtenances ☐ N/A
☒ Good condition ☐ Needs O& M
Remarks: The extraction wells pump the water through the LGAC vessels at system pressure (~135 psi) and directly into the distribution system carrying water from the Delta Plant back to the City. There are no booster pumps.

5. Treatment Building(s) ☐ N/A
☒ Good condition (esp. roof and doorways) ☐ Needs Repair
☒ Chemicals and equipment properly stored (Only chemical is the sodium hypochlorite.)
Remarks: The small building houses the sodium hypochlorite storage and all of the electrical equipment and controls.

6. Monitoring Wells (pump and treatment remedy) ☐ N/A
☒ All required wells located ☒ Properly secured/locked ☒ Functioning ☒ Routinely sampled
☒ Good condition ☐ Needs O&M
Remarks: Monitoring wells are not on-site and were not included in the inspection. However, EPA routinely samples all of the required monitoring wells and all are functioning and in good condition.

3. Long Term Monitoring ☒ Applicable ☐ N/A

1. Monitoring Wells- See preceding entry regarding the status of monitoring wells associated with the remedy.

X. OTHER REMEDIES ☐ Applicable ☒ N/A

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy.

XI. OVERALL OBSERVATIONS

1. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

Nothing significant noted, but see the interview form for Chris Arriola/Monterey Park for additional detail. The City does not have any problems meeting the Well 5 minimum target pumping rates for containment.

2. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

Nothing significant.

3. Early Indicators of Potential Remedy Failure

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.

Nothing significant.

4. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

The City anticipates ultimately bringing Well 6 back on-line to provide more operational flexibility. This would occur after the City has constructed the new, centralized treatment facility they are currently planning. The new facility would be designed to treat the water from all of their active wells and include UV/Ox treatment to address 1,4-dioxane. Well 5 (and 6 once re-activated) would be piped back to the Delta Plant and the Well 5 LGAC system would be eliminated

Inspection Team Roster

Name	Organization	Title
Rachelle Thompson	U.S. EPA REGION 9	Remedial Project Manager
David Towell	CH2M HILL	EPA Contractor
Chris Arriola	City of Monterey Park	Water Utilities Manager
Tom Ruggeri	City of Monterey Park	Sr. Water Production Specialist

Photo 1: MP Well 5 Wellhead

Photo 2: LGAC Vessels

Photo 3: Discharge Piping and Chlorine Injection

Photo 4: Chlorine Storage

San Gabriel Valley Area 1 Superfund Site
Los Angeles County, California
Five-Year Review Site Inspection Checklist
SEMOU – MONTEREY PARK WELL 12/15 FACILITY

I. SITE INFORMATION	
Site Name: San Gabriel Valley Area 1 Superfund Site	EPA ID: CAD980677355
City/State: Rosemead, CA	Date of Inspection: March 20, 2013
Agency Completing 5 Year Review: USEPA	Weather/temperature: Hazy, Upper 60s

Remedy Includes: (Check all that apply)
- ☐ Landfill cover/containment
- ☐ Access controls
- ☐ Institutional controls
- ☒ Groundwater pump and treatment
- ☐ Surface water collection and treatment

Attachments: ☒ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (Check all that apply)

1. Monterey Park Management
   Contact: Chris Arriola
   Title: Water Utilities Manager
   Date: 2/21/13
   Interviewed: ☐ at site ☐ at office ☒ by phone Phone Number:
   Problems, suggestions: ☐ Additional report attached (if additional space required).
   See Interview Form in Appendix C.

2. Local regulatory authorities and response agencies (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.): None interviewed.

3. Other interviews (optional) ☐ N/A ☒ Additional report attached (See Interview Forms in Appendix C).
   Water Purveyors- Golden State Water Company, San Gabriel Valley Water Company, Suburban Water Systems, Rurban Mutual, Hemlock Mutual
   Water Management Agencies- Main San Gabriel Basin Watermaster, San Gabriel Basin Water Quality Authority

III. ONSITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. O&M Documents

☒ O&M Manuals	☒ Readily available	☒ Up to date	☐ N/A
☒ As-Built Drawings	☒ Readily available	☒ Up to date	☐ N/A
☒ Maintenance Logs	☒ Readily available	☒ Up to date	☐ N/A

Remarks: There is an on-site logbook (at both the Well 12 facility and at Well 15) that is used to track routine operational observations and daily readings. Separate from the inspection, Monterey Park has provided the latest version of their operations, maintenance and monitoring plan (OMMP). The as-built drawings are kept in the document storage room at the Delta Plant. Maintenance logs are also kept at the Delta Plant.

2. Health and Safety Plan Documents
☒ Site-Specific Health and Safety Plan ☒ Readily available ☒ Up to date ☐ N/A
☒ Contingency plan/emergency response plan ☒ Readily available ☒ Up to date ☐ N/A
Remarks: Monterey Park has on-site, site-specific plans to address each treatment facility, including Well 12 and the Delta Plant. In addition, they have an emergency response plan for the overall water system. These plans are reviewed annually and updated as necessary.

3. O&M and OSHA Training Records ☒ Readily available ☒ Up to date ☐ N/A
Remarks: Monterey Park operators are HAZWOPER trained and get annual 8-hr refreshers. Documentation is kept in each employees personnel file. CDPH requires that the system operators be T-2 certified (at a minimum). All Monterey Park's operations staff have at least a T-2 certification. Training and certification information is provided to CDPH annually. Certificates are on the wall at the Delta Plant and the operators carry a card documenting their certification

4. Permits and Service Agreements
☒ Air discharge permit ☒ Readily available ☒ Up to date ☐ N/A
☒ Effluent discharge ☒ Readily available ☒ Up to date ☐ N/A
☒ Waste disposal, POTW ☐ Readily available ☐ Up to date ☐ N/A
☒ Other permits ☐ Readily available ☐ Up to date ☐ N/A
Remarks: The City has an AQMD permit for the Well 12 air stripper. The permit is updated annually and a copy is at Well 12. The City also has a Hazardous Materials Permit from Los Angeles County Fire Department for the Well 12 facility because of the acid. Effluent discharge is covered by the CDPH permit, which was last updated in 2006. The City has an NPDES permit to cover discharge of backwash water from the LGAC vessels. None of the permits were directly reviewed as part of the inspection.

5. Groundwater Monitoring Records ☒ Readily available ☒ Up to date ☐ N/A
Remarks: Groundwater monitoring for the South El Monte OU remedy is conducted by EPA. The City is not involved.

6. Discharge Compliance Records ☒ Readily available ☒ Up to date ☐ N/A
Remarks: All of the CDPH-permit required monitoring, including the wells, air stripper, LGAC vessels and plant effluent, is conducted by Monterey Park and the analyses are done in accordance with the CDPH permit. The lab submits the data directly to CDPH. In addition, the City submits monthly reports and an annual report to CDPH. The City does not have specific reporting requirements associated with the AQMD permit. The effluent is sampled quarterly and the carbon is changed out every three years unless break through occurs sooner.

7. Daily Access/Security Logs ☒ Readily available ☒ Up to date ☐ N/A
Remarks: The City performs daily checks when Wells 12/15 are operating. The daily access/checks are documented in the on-site logbook kept at Well 12 and at Well 15.

IV. O&M Costs ☒ Applicable ☐ N/A

1. O&M Organization
☐ State in-house ☐ Contractor for State
☐ PRP in-house ☐ Contractor for PRP
☒ Other: City of Monterey Park operates the facility

2. O&M Cost Records-
☒ Readily available ☒ Up to date ☒ Funding mechanism/agreement in place
Remarks: Not reviewed as part of the Site Inspection, but EPA reviews O&M costs on a quarterly basis

3. Unanticipated or Unusually High O&M Costs During Review Period ☐ N/A
Describe costs and reasons: Nothing significant. The City had to change the air stripping packing media a couple years ago and the initial replacement media didn't work. The Well 15 pump had to be replaced because of excessive vibration.

V. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. Fencing

1. Fencing damaged ☐ Location shown on site map ☒ Gates secured ☐ N/A
Remarks: The Well 12 facility is fully enclosed by an intact fence, although the southeast corner of the Well 12 facility has small section with a shorter 5-foot tall fence. Well 15 is also fully fenced with a secured gate. The Delta Plant is fully fenced with automatic gates. However, the fence on the west side of the facility is not in as good of shape.

2. Other Access Restrictions

1. Signs and other security measures ☐ Location shown on site map ☐ N/A
Remarks: There are no specific warning signs on the gates or fences other than a standard chemical hazard warning sign at Well 12.

3. Institutional Controls

1. Implementation and enforcement

Site conditions imply ICs not properly implemented:	☐ Yes	☐ No	☒ N/A
Site conditions imply ICs not being fully enforced:	☐ Yes	☐ No	☒ N/A
Reporting is up-to-date:	☐ Yes	☐ No	☒ N/A
Reports are verified by the lead agency:	☐ Yes	☐ No	☒ N/A
Specific requirements in deed or decision documents have been met:	☐ Yes	☐ No	☒ N/A
Violations have been reported:	☐ Yes	☐ No	☒ N/A

2. Adequacy ☐ ICs are adequate ☐ ICs are inadequate ☒ N/A
Remarks:

4. General

1. Vandalism/trespassing ☐ Location shown on site map ☐ No vandalism evident
Remarks: The City has periodic trespassing and tagging at the Well 12 facility, but no significant vandalism. There have not been any issues at Well 15. The Delta Plant previously had some issues trespassing, but not vandalism. The City now has perimeter alarms and cameras at the Delta Plant that have curbed trespassing.

2. Land use changes onsite ☐ N/A
Remarks: None.

3. Land use changes offsite ☐ N/A
Remarks: None.

VI. GENERAL SITE CONDITIONS

1. Roads ☐ Applicable ☒ N/A

1. Roads damaged ☐ Location shown on site map ☐ Roads adequate ☒ N/A
Remarks:

2. Other Site Conditions

Remarks: Nothing of note.

IX. GROUNDWATER/SURFACE WATER REMEDIES ☒ Applicable ☐ N/A

1. Groundwater Extraction Wells, Pumps, and Pipelines ☒ Applicable ☐ N/A

1. Pumps, Wellhead Plumbing, and Electrical ☐ N/A
☒ All required wells located ☒ Good condition ☐ Needs O& M
Remarks: The Well 15 pump was replaced in 2011 and there have not been any issues since.

2. Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances ☐ N/A
☒ System located ☒ Good condition ☐ Needs O& M
Remarks:

3. Spare Parts and Equipment ☒ N/A
Remarks:

3. Treatment System ☒ Applicable ☐ N/A

1. Treatment Train (Check components that apply)
☐ Metals removal ☐ Oil/water separation ☐ Bioremediation
☒ Air stripping ☒ Carbon adsorbers (6 vessels) ☒ Filters: Pre-filters- 2 vessels; 200 filters each
☒ Additive (list type, e.g., chelation agent, flocculent): HCl added after the Well 12 air stripper
☒ Others: Vapor phase GAC for air stripper off-gas. Ion exchange (IX) system for perchlorate (currently inactive)
☒ Good condition ☐ Needs O&M
☒ Sampling ports properly marked and functional
☐ Sampling/maintenance log displayed and up to date
☒ Equipment properly identified
☐ Quantity of groundwater treated annually (list volume):
Remarks: Air stripper is at maximum capacity, but can't remove PCE to ND; pre-filters (upstream of IX and LGAC) need to be changed ~every 4 months; LGAC vessels are single pass, so CDPH requires change with a detection at the 50% port; two booster pumps at Well 12 the pump the stripper effluent through the LGAC system and to the settling tanks.

2. Electrical Enclosures and Panels (properly rated and functional) ☐ N/A
☒ Good condition ☐ Needs O& M
Remarks: Well 15 is equipped with a VFD. All operational readings/data are recorded by the SCADA system and transmitted back to the Delta Plant.

3. Tanks, Vaults, Storage Vessels ☐ N/A
☒ Good condition ☐ Proper secondary containment ☐ Needs O&M
Remarks: There are two small (190,000 gallons each) settling tanks at the Delta Plant.

4. Discharge Structure and Appurtenances ☐ N/A
☒ Good condition ☐ Needs O& M
Remarks: The booster pumps that pump the water back to the City are old. The City plans to replace the pumps and provide a backup generator as part of the construction of the new centralized treatment facility at the Delta Plant (described below in "Overall Observations")

5. Treatment Building(s) ☐ N/A
☒ Good condition (esp. roof and doorways) ☐ Needs Repair
☒ Chemicals and equipment properly stored
Remarks: No buildings or chemicals at Well 15. Well 12 has a small storage shed. In addition, Well 12 has a 10,000 gallon HCL tank that includes secondary containment. The buildings at the Delta Plant are in good shape. They generate the chlorine for disinfection on-site using food-grade salt.

6. Monitoring Wells (pump and treatment remedy) ☐ N/A
☒ All required wells located ☒ Properly secured/locked ☒ Functioning ☒ Routinely sampled
☒ Good condition ☐ Needs O&M
Remarks: Monitoring wells are not on-site and were not included in the inspection. However, EPA routinely samples all of the required monitoring wells and all are functioning and in good condition.

5. Long Term Monitoring ☒ Applicable ☐ N/A

1. Monitoring Wells- See preceding entry regarding the status of monitoring wells associated with the remedy.

X. OTHER REMEDIES ☐ Applicable ☒ N/A

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

1. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

The City frequently has difficulty achieving the Well 12/15 target pumping rates for containment because the treatment system capacity, combined with other CDPH permit limitations, does not allow much flexibility to make up for down time or times with reduced pumping. EPA's recent evaluation indicates that the remedy is still achieving containment despite Well 12/15 frequently not meeting their minimum quarterly pumping targets.

2. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

The elevated PCE concentrations present in Wells 12/15 have resulted in the air stripper not being able to remove all of the PCE. Although the existing dual barrier LGAC system addresses this issue, CDPH has expressed some concerns with the air stripper's performance.

3. Early Indicators of Potential Remedy Failure

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.

Nothing significant, although there are some concerns as noted above in #1 of this section and in Chris Arriola's interview. The City does not currently have any ability to treat for 1,4-dioxane which could be a major issue if concentrations were to increase further.

4. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

The City anticipates constructing a new, centralized treatment facility at the Delta Plant. The centralized plant is currently in the early planning stages. The new facility would be designed to treat the water from all of the city's active wells and include UV/Ox treatment to address 1,4-dioxane followed by LGAC polishing using existing vessels at Delta. The Well 12 air stripper and Well 5 LGAC systems would be eliminated.

Inspection Team Roster

Name	Organization	Title
Rachelle Thompson	U.S. EPA REGION 9	Remedial Project Manager
David Towell	CH2M HILL	EPA Contractor
Chris Arriola	City of Monterey Park	Water Utilities Manager
Tom Ruggeri	City of Monterey Park	Sr. Water Production Specialist

Photo 1: MP Well 12 Wellhead

Photo 2: MP Well 12 Air Stripper and VGAC Vessel

Photo 3: HCl Acid Storage Tank and VGAC Vessel

Photo 4: Well 12 Facility Electrical Cabinets

Photo 5: Well 12 Facility Booster Pumps

Photo 6: MP Well 15 Wellhead

Photo 7: Pre-Filters for LGAC Vessels

Photo 8: Dual Barrier LGAC Vessels

Photo 9: Delta Plant Chlorine Generation Unit

Photo 10: Delta Plant Booster Pumps

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San Gabriel Valley Area 1 Superfund Site
Los Angeles County, California
Five-Year Review Site Inspection Checklist
SEMOU – GSWC SAN GABRIEL FACILITY

I. SITE INFORMATION	
Site Name: San Gabriel Valley Area 1 Superfund Site	EPA ID: CAD980677355
City/State: Rosemead, CA	Date of Inspection: March 20, 2013
Agency Completing 5 Year Review: USEPA	Weather/temperature: Hazy, Upper 60s

Remedy Includes: (Check all that apply)
- ☐ Landfill cover/containment
- ☐ Access controls
- ☐ Institutional controls
- ☒ Groundwater pump and treatment
- ☐ Surface water collection and treatment

Attachments: ☒ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (Check all that apply)

1. GSWC Management
   Contact: David Chang
   Title: Vice President Environmental Quality
   Date: 2/27/13
   Interviewed: ☐ at site ☐ at office ☒ by phone Phone Number:
   Problems, suggestions: ☐ Additional report attached (if additional space required).
   See Interview Form in Appendix C.

2. Local regulatory authorities and response agencies (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) None interviewed.

3. Other interviews (optional) ☐ N/A ☒ Additional report attached (See Interview Forms in Appendix C).
   Water Purveyors- City of Monterey Park, San Gabriel Valley Water Company, Suburban Water Systems, Rurban Mutual, Hemlock Mutual
   Water Management Agencies- Main San Gabriel Basin Watermaster, San Gabriel Basin Water Quality Authority

III. ONSITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. O&M Documents

☒ O&M Manuals	☒ Readily available	☒ Up to date	☐ N/A
☒ As-Built Drawings	☒ Readily available	☒ Up to date	☐ N/A
☒ Maintenance Logs	☒ Readily available	☐ Up to date	☐ N/A

Remarks: There is an on-site logbook used to track routine operational observations. In addition, each operator has a notebook to record O&M activities. The operator notebook info is transferred into GSWC's computerized tracking system. Separate from the inspection, GSWC has provided the latest version of their as-built drawings and operations, maintenance and monitoring plan (OMMP).

2. Health and Safety Plan Documents
☐ Site-Specific Health and Safety Plan ☐ Readily available ☐ Up to date ☒ N/A
☒ Contingency plan/emergency response plan ☒ Readily available ☒ Up to date ☐ N/A
Remarks: Each district has an overall emergency response plan. Copies are kept at the district office and the water operator's office. The plan is reviewed annually and updated as necessary.

3. O&M and OSHA Training Records ☒ Readily available ☒ Up to date ☐ N/A
Remarks: CDPH requires that operators of this facility be T-2 certified (at a minimum). All 6 of GSWC's operators have at least a T-2 certification. Training and certification information is provided to CDPH annually. Records are kept at GSWC's offices

4. Permits and Service Agreements
☐ Air discharge permit ☐ Readily available ☐ Up to date ☒ N/A
☒ Effluent discharge ☒ Readily available ☒ Up to date ☐ N/A
☒ Waste disposal, POTW ☐ Readily available ☐ Up to date ☐ N/A
☐ Other permits ☐ Readily available ☐ Up to date ☒ N/A
Remarks: Effluent discharge is covered by the CDPH permit, which was updated last year when SG-2 was re-activated. They also have an NPDES permit to discharge backwash water to the wash. Neither permit was reviewed as part of the inspection.

5. Groundwater Monitoring Records ☒ Readily available ☒ Up to date ☐ N/A
Remarks: Groundwater monitoring for the South El Monte OU remedy is conducted by EPA. GSWC is not involved.

6. Discharge Compliance Records ☒ Readily available ☒ Up to date ☐ N/A
Remarks: All of the CDPH-permit required monitoring, including the wells, LGAC vessels and plant effluent, is conducted by GSWC and the analyses are done in accordance with the CDPH permit. The lab submits the data directly to CDPH.

7. Daily Access/Security Logs ☒ Readily available ☒ Up to date ☐ N/A
Remarks: The daily access log is part of the on-site logbook kept at the plant.

IV. O&M Costs ☒ Applicable ☐ N/A

1. O&M Organization
☐ State in-house ☐ Contractor for State
☐ PRP in-house ☐ Contractor for PRP
☒ Other: GSWC operates the facility.

2. O&M Cost Records-
☒ Readily available ☒ Up to date ☒ Funding mechanism/agreement in place
Remarks: Not reviewed as part of the Site Inspection, but EPA reviews O&M costs on a quarterly basis.

3. Unanticipated or Unusually High O&M Costs During Review Period ☒ N/A
Describe costs and reasons:

V. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. Fencing

1. Fencing damaged ☐ Location shown on site map ☒ Gates secured ☐ N/A
Remarks: Main fence is in good shape. There is a small gap at the back corner of the facility along the wash.

2. Other Access Restrictions

1. Signs and other security measures ☐ Location shown on site map ☐ N/A
Remarks: The front gate has a warning sign.

3. Institutional Controls

1. Implementation and enforcement

Site conditions imply ICs not properly implemented:	☐ Yes	☐ No	☒ N/A
Site conditions imply ICs not being fully enforced:	☐ Yes	☐ No	☒ N/A
Reporting is up-to-date:	☐ Yes	☐ No	☒ N/A
Reports are verified by the lead agency:	☐ Yes	☐ No	☒ N/A
Specific requirements in deed or decision documents have been met:	☐ Yes	☐ No	☒ N/A
Violations have been reported:	☐ Yes	☐ No	☒ N/A

2. Adequacy ☐ ICs are adequate ☐ ICs are inadequate ☒ N/A
Remarks:

4. General

1. Vandalism/trespassing ☐ Location shown on site map ☒ No vandalism evident
Remarks: GSWC has not had any issues with vandalism or trespassing.

2. Land use changes onsite ☐ N/A
Remarks: None

3. Land use changes offsite ☐ N/A
Remarks: None

VI. GENERAL SITE CONDITIONS

1. Roads ☐ Applicable ☒ N/A

1. Roads damaged ☐ Location shown on site map ☐ Roads adequate ☒ N/A
Remarks:

2. Other Site Conditions

Remarks: Nothing of note.

IX. GROUNDWATER/SURFACE WATER REMEDIES ☒ Applicable ☐ N/A

1. Groundwater Extraction Wells, Pumps, and Pipelines ☒ Applicable ☐ N/A

1. Pumps, Wellhead Plumbing, and Electrical ☐ N/A
☒ All required wells located ☒ Good condition ☐ Needs O& M
Remarks: The SG-1 pump was replaced in Spring 2011. The SG-2 pump was replaced in Fall 2012.

2. Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances ☐ N/A
☒ System located ☒ Good condition ☐ Needs O& M
Remarks:

3. Spare Parts and Equipment ☒ N/A
Remarks:

2. Treatment System ☒ Applicable ☐ N/A

1. Treatment Train (Check components that apply)
☐ Metals removal ☐ Oil/water separation ☐ Bioremediation
☐ Air stripping ☒ Carbon adsorbers ☐ Filters (list type):
☐ Additive (list type, e.g., chelation agent, flocculent)
☐ Others (list):
☒ Good condition ☐ Needs O&M
☒ Sampling ports properly marked and functional
☐ Sampling/maintenance log displayed and up to date
☒ Equipment properly identified
☐ Quantity of groundwater treated annually (list volume):
Remarks: LGAC vessel piping and valve tree were recently cleaned and painted. In-line nitrate analyzers were added in 2012 as part of the CDPH-approved nitrate blending plan that allowed SG-2 to return to service.

2. Electrical Enclosures and Panels (properly rated and functional) ☐ N/A
☒ Good condition ☐ Needs O& M
Remarks: All operational readings/data are recorded by the SCADA system and transmitted back to the office.

3. Tanks, Vaults, Storage Vessels ☐ N/A
☒ Good condition ☐ Proper secondary containment ☐ Needs O&M
Remarks: There is only one tank on-site (~40,000 gallon capacity). It is used to hold backwash water prior to discharge.

4. Discharge Structure and Appurtenances ☐ N/A
☒ Good condition ☐ Needs O& M
Remarks: The extraction wells pump the water through the LGAC vessels at system pressure (~80 psi) and directly into GSWC's distribution system. There are no booster pumps.

5. Treatment Building(s) ☐ N/A
☒ Good condition (esp. roof and doorways) ☐ Needs Repair
☒ Chemicals and equipment properly stored (Only chemical is the sodium hypochlorite for disinfection.)
Remarks: There is a building surrounding the SG-1 well and a small building to contain the sodium hypochlorite.

6. Monitoring Wells (pump and treatment remedy) ☐ N/A
☒ All required wells located ☒ Properly secured/locked ☒ Functioning ☒ Routinely sampled
☒ Good condition ☐ Needs O&M
Remarks: Monitoring wells are not on-site and were not included in the inspection. However, EPA routinely samples all of the required monitoring wells and all are functioning and in good condition.

3. Long Term Monitoring ☒ Applicable ☐ N/A

1. Monitoring Wells- See preceding entry regarding the status of monitoring wells associated with the remedy.

X. OTHER REMEDIES ☐ Applicable ☒ N/A

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy.

XI. OVERALL OBSERVATIONS

1. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

Now that well SG-2 is on-line, GSWC does not expect to have any significant issues meeting EPA's minimum target rates for containment. No other major issues noted, but see the interview form for David Chang/GSWC for additional detail.

2. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

Nothing significant, but see the interview form for David Chang/GSWC for some potential issues.

3. Early Indicators of Potential Remedy Failure

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.

Nothing significant, but see the interview form for David Chang/GSWC for some potential concerns.

4. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

GSWC is not currently considering any optimization activities. However, if nitrate levels remain where they are now for several more months, they may approach CDPH regarding increasing the allowable flow rate from SG-2.

Inspection Team Roster

Name	Organization	Title
Rachelle Thompson	U.S. EPA REGION 9	Remedial Project Manager
David Towell	CH2M HILL	EPA Contractor
David Chang	GSWC	Vice President Environmental Quality
Stacey Roberts	GSWC	Water Quality Engineer
Drew Williams	GSWC	Operations Foreman

Photo 1: GSWC SG1 Wellhead

Photo 2: GSWC SG2 Wellhead

Photo 3: In-Line Mixer for blending SG1 and SG2

Photo 4: In-line Nitrate Analyzers

Photo 5: LGAC Vessels

Photo 6: Electrical Panels and Backwash Storage Tank

Photo 7: Chlorine Storage Shed

San Gabriel Valley Area 1 Superfund Site
Los Angeles County, California
Five-Year Review Site Inspection Checklist
SEMOU – SGVWC PLANT 8 FACILITY

I. SITE INFORMATION	
Site Name: San Gabriel Valley Area 1 Superfund Site	EPA ID: CAD980677355
City/State: South El Monte, CA	Date of Inspection: March 20, 2013
Agency Completing 5 Year Review: USEPA	Weather/temperature: Hazy, Low 70s

Remedy Includes: (Check all that apply)
- ☐ Landfill cover/containment
- ☐ Access controls
- ☐ Institutional controls
- ☒ Groundwater pump and treatment
- ☐ Surface water collection and treatment

Attachments: ☒ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (Check all that apply)

1. SGVWC Management:
   Contact: Frank LoGuidice/Vice President Engineering and Operations, Dan Arrighi/Vice President Water Quality and Planning, Oscar Ramos/Water Quality Superintendent
   Date: 2/27/13
   Interviewed: ☐ at site ☐ at office ☒ by phone Phone Number:
   Problems, suggestions: ☐ Additional report attached (if additional space required).
   See Interview Form in Appendix C.

2. Local regulatory authorities and response agencies (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) None interviewed.

3. Other interviews (optional) ☐ N/A ☒ Additional report attached (See Interview Forms in Appendix C).
   Water Purveyors- Golden State Water Company, City of Monterey Park, Suburban Water Systems, Rurban Mutual, Hemlock Mutual
   Water Management Agencies- Main San Gabriel Basin Watermaster, San Gabriel Basin Water Quality Authority.

III. ONSITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. O&M Documents

☒ O&M Manuals	☒ Readily available	☐ Up to date	☐ N/A
☒ As-Built Drawings	☒ Readily available	☒ Up to date	☐ N/A
☒ Maintenance Logs	☒ Readily available	☒ Up to date	☐ N/A

Remarks: SGVWC operators fill out a daily log form 7 days a week that includes operational readings and documents any O&M activities. The operators turn these in at SGVWC's main office each day. The as-built drawings and maintenance logs are also kept at the main office, but were not observed during the inspection. SGVWC is working with CDPH to finalize an update to their OM&M Plan. They have up-to-date operational procedures and monitoring requirements, but not all have been formally incorporated into the OM&M Plan.

2. Health and Safety Plan Documents
☐ Site-Specific Health and Safety Plan ☐ Readily available ☐ Up to date ☒ N/A
☒ Contingency plan/emergency response plan ☒ Readily available ☒ Up to date ☐ N/A
Remarks: SGVWC does not have site-specific safety plans. They have an overall emergency response plan. Also, they are updating their contingency plan based on a treatment plant failure that occurred last year at one of their Baldwin Park OU treatment plants.

3. O&M and OSHA Training Records ☒ Readily available ☒ Up to date ☐ N/A
Remarks: SGVWC operators are not typically OSHA trained. CDPH requires that the system operators be T-2/D-1 certified (at a minimum). Most SGVWC operators have much higher certifications, including 6 at the T-4 level. Training and certification information is provided to CDPH annually and is kept at the SGVWC offices.

4. Permits and Service Agreements
☒ Air discharge permit ☒ Readily available ☒ Up to date ☐ N/A
☒ Effluent discharge ☒ Readily available ☒ Up to date ☐ N/A
☒ Waste disposal, POTW ☒ Readily available ☐ Up to date ☐ N/A
☐ Other permits ☐ Readily available ☐ Up to date ☐ N/A
Remarks: SGVWC has an AQMD permit for the Plant 8 air stripper. The permit is updated annually. Effluent discharge is covered by the CDPH permit, which was last updated in 2006 with the addition of the LGAC system. The City has an NPDES permit to cover discharge of water to the wash- primarily backwash water from the LGAC vessels. SGVWC notifies the RWQCB in advance of discharging. None of the permits were directly reviewed as part of the inspection.

5. Groundwater Monitoring Records ☒ Readily available ☒ Up to date ☐ N/A
Remarks: Groundwater monitoring for the South El Monte OU remedy is conducted by EPA. SGVWC is only involved with the SEMW-09 well (an early warning well for Plant 8), which is sampled annually by Stetson on their behalf.

6. Discharge Compliance Records ☒ Readily available ☒ Up to date ☐ N/A
Remarks: All of the CDPH-permit required monitoring, including the wells, air stripper, LGAC vessels and plant effluent, is conducted by SGVWC and the analyses are done in accordance with the CDPH permit. The lab submits the data directly to CDPH. In addition, the SGVWC submits monthly reports and an annual report to CDPH. SGVWC has an AQMD permit for activated carbon, an emergency generator, and the groundwater treatment system (air stripper and carbon adsorber).

7. Daily Access/Security Logs ☒ Readily available ☒ Up to date ☐ N/A
Remarks: SGVWC operators perform daily checks at Plant 8. The daily checks are documented in the operator's daily logs that are stored at SGVWC's offices.

IV. O&M Costs ☒ Applicable ☐ N/A

1. O&M Organization
☐ State in-house ☐ Contractor for State
☐ PRP in-house ☐ Contractor for PRP
☒ Other: SGVWC operates the facility.

2. O&M Cost Records-
☒ Readily available ☒ Up to date ☒ Funding mechanism/agreement in place
Remarks: Not reviewed as part of the Site Inspection, but EPA reviews O&M costs on a quarterly basis

3. Unanticipated or Unusually High O&M Costs During Review Period ☒ N/A
Describe costs and reasons: None.

V. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

1. Fencing

1. Fencing damaged ☐ Location shown on site map ☒ Gates secured ☐ N/A
Remarks: The site is fully fenced and gates secured.

2. Other Access Restrictions

1. Signs and other security measures ☐ Location shown on site map ☐ N/A
Remarks: There are no specific warning signs at the facility. The booster pump building that also houses the electrical equipment and chlorination system is equipped with an alarm.

3. Institutional Controls

1. Implementation and enforcement

Site conditions imply ICs not properly implemented:	☐ Yes	☐ No	☒ N/A
Site conditions imply ICs not being fully enforced:	☐ Yes	☐ No	☒ N/A
Reporting is up-to-date:	☐ Yes	☐ No	☒ N/A
Reports are verified by the lead agency:	☐ Yes	☐ No	☒ N/A
Specific requirements in deed or decision documents have been met:	☐ Yes	☐ No	☒ N/A
Violations have been reported:	☐ Yes	☐ No	☒ N/A

2. Adequacy ☐ ICs are adequate ☐ ICs are inadequate ☒ N/A
Remarks:

4. General

1. Vandalism/trespassing ☐ Location shown on site map ☒ No vandalism evident
Remarks: SGVWC has not had any issues with trespassing or vandalism at Plant 8.

2. Land use changes onsite ☐ N/A
Remarks: None.

3. Land use changes offsite ☐ N/A
Remarks: None.

VI. GENERAL SITE CONDITIONS

1. Roads ☐ Applicable ☒ N/A

1. Roads damaged ☐ Location shown on site map ☐ Roads adequate ☒ N/A
Remarks:

2. Other Site Conditions

Remarks: Nothing of note.

IX. GROUNDWATER/SURFACE WATER REMEDIES ☒ Applicable ☐ N/A

1. Groundwater Extraction Wells, Pumps, and Pipelines ☒ Applicable ☐ N/A

1. Pumps, Wellhead Plumbing, and Electrical ☐ N/A
☒ All required wells located ☒ Good condition ☐ Needs O& M
Remarks: The three remedy wells 8B, 8C and 8D are all located on the Plant 8 property along with the two deeper non-remedy wells 8E and 8F. Pumping from the wells is controlled by set points that maintain water levels in the on-site reservoirs. 8E and 8F are used minimally except during peak demand periods.

2. Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances ☐ N/A
☒ System located ☒ Good condition ☐ Needs O& M
Remarks: All of the wells except 8F (which does not contain any VOCs) are plumbed into the same line that serves as the air stripper influent.

3. Spare Parts and Equipment ☒ N/A
Remarks:

3. Treatment System ☒ Applicable ☐ N/A

1. Treatment Train (Check components that apply)
☐ Metals removal ☐ Oil/water separation ☐ Bioremediation
☒ Air stripping ☒ Carbon adsorbers (6 vessels) ☐ Filters:
☒ Additive (list type, e.g., chelation agent, flocculent): HCl added after the Plant 8 air stripper. 1,550 gallon acid tank. SGVWC uses about ½ tank per month.
☒ Others: Vapor phase GAC for air stripper off-gas. Carbon only changed on breakthrough and lasts for years.
☒ Good condition ☐ Needs O&M
☒ Sampling ports properly marked and functional
☐ Sampling/maintenance log displayed and up to date
☒ Equipment properly identified
☐ Quantity of groundwater treated annually (list volume):
Remarks: There are lead-lag booster pumps after the air stripper that boost the water through the LGAC vessels and into the on-site storage tanks.

2. Electrical Enclosures and Panels (properly rated and functional) ☐ N/A
☒ Good condition ☐ Needs O& M
Remarks: The electrical equipment for all of the wells and booster pumps is located in the booster pump building. All operational readings/data are recorded by the SCADA system and transmitted back to the SGVWC main control room.

3. Tanks, Vaults, Storage Vessels ☐ N/A
☒ Good condition ☐ Proper secondary containment ☐ Needs O&M
Remarks: There are two large (600,000 gallons each) storage tanks at Plant 8 and also a backwash water tank.

4. Discharge Structure and Appurtenances ☐ N/A
☒ Good condition ☐ Needs O& M
Remarks: There are 5 booster pumps that pump the water from the tanks into SGVWC's system. The booster pumps are controlled by maintaining system pressure at 80 to 90 psi.

5. Treatment Building(s) ☐ N/A
☒ Good condition (esp. roof and doorways) ☐ Needs Repair
☒ Chemicals and equipment properly stored
Remarks: Plant 8 has one building that contains the booster pumps, electrical equipment and chlorination system. The building is in good shape. There is a small three-sided storage building that contains the HCl tank.

6. Monitoring Wells (pump and treatment remedy) ☐ N/A
☒ All required wells located ☒ Properly secured/locked ☒ Functioning ☒ Routinely sampled
☒ Good condition ☐ Needs O&M
Remarks: Monitoring wells are not at Plant 8 and were not included in the inspection. However, EPA routinely samples all of the required monitoring wells and all are functioning and in good condition. Stetson samples SEMW-09 annually.

5. Long Term Monitoring ☒ Applicable ☐ N/A

1. Monitoring Wells- See preceding entry regarding the status of monitoring wells associated with the remedy.

X. OTHER REMEDIES ☐ Applicable ☒ N/A

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

1. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

Generally, SGVWC does not have any problems meeting the combined minimum Plant 8 target pumping rates for containment. SGVWC does have concerns about the presence of perchlorate and 1,4-dioxane and has treatment system designs ready to go if concentrations of those constituents increase. See the SGVWC interview form for additional details.

2. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

There are no significant issues related to Plant 8 O&M procedures that impact remedy performance.

3. Early Indicators of Potential Remedy Failure

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.

There have not been any O&M issues that indicated potential future failure of the remedy. However, as noted above, if perchlorate or 1,4-dioxane concentrations increase new treatment systems will be required. SGVWC's other main concerns would if new contaminants showed up or if water quality standards were lowered for existing contaminants.

4. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

SGVWC does not have any current plans for optimization and did not identify potential opportunities for optimization.

Inspection Team Roster

Name	Organization	Title
Rachelle Thompson	U.S. EPA REGION 9	Remedial Project Manager
David Towell	CH2M HILL	EPA Contractor
Oscar Ramos	SGVWC	Water Quality Superintendent
Paul Smit	SGVWC	Water Production Foreman

Photo 1: SGVWC Well 8B

Photo 2: SGVWC Well 8C

Photo 3: SGVWC Well 8D

Photo 4: Plant 8 Air Stripper and VGAC Vessel

Photo 5: Plant 8 LGAC Vessels

Photo 6: Plant 8 HCl Acid Storage Tank

Photo 7: Plant 8 Chlorine Storage and Feed Pumps

Photo 8: Plant 8 Booster Pump/Electrical Equipment Building and Storage Tanks

San Gabriel Valley Area 1 Superfund Site
Los Angeles County, California
Five-Year Review Site Inspection Checklist
RICHWOOD OU

I. SITE INFORMATION

Site Name: San Gabriel Valley Area 1 Superfund Site	EPA ID: CAD980677355
City/State: El Monte, CA	Date of Inspection: March 20, 2013
Agency Completing 5 Year Review: USEPA	Weather/temperature: Hazy, Low 70s

Remedy Includes: (Check all that apply)
- ☐ Landfill cover/containment
- ☐ Access controls
- ☐ Institutional controls
- ☒ Groundwater pump and treatment
- ☐ Surface water collection and treatment

Attachments: ☒ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (Check all that apply)

1. Richwood Mutual Water Company: N/A – Richwood Mutual Water Company no longer exists

2. Local regulatory authorities and response agencies (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) None interviewed.

3. Other interviews (optional) ☐ N/A ☒ Additional report attached (See Interview Forms in Appendix C).
Water Purveyors- San Gabriel Valley Water Company (SGVWC). San Gabriel Valley Water Company purchased the assets of Richwood Mutual Water Company and provides water to the former Richwood customers.
Water Management Agencies- Main San Gabriel Basin Watermaster, San Gabriel Basin Water Quality Authority.

III. ONSITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. O&M Documents

☐ O&M Manuals	☐ Readily available	☐ Up to date	☒ N/A
☐ As-Built Drawings	☐ Readily available	☐ Up to date	☒ N/A
☐ Maintenance Logs	☐ Readily available	☐ Up to date	☒ N/A

Remarks: All of the facilities associated with the former remedy in the Richwood OU have been dismantled or abandoned and no longer exist.

2. Health and Safety Plan Documents

☐ Site-Specific Health and Safety Plan	☐ Readily available	☐ Up to date	☒ N/A
☐ Contingency plan/emergency response plan	☐ Readily available	☐ Up to date	☒ N/A

Remarks:

3.	O&M and OSHA Training Records Remarks:	☐ Readily available	☐ Up to date	☒ N/A
4.	Permits and Service Agreements			
	☐ Air discharge permit	☐ Readily available	☐ Up to date	☒ N/A
	☐ Effluent discharge	☐ Readily available	☐ Up to date	☒ N/A
	☐ Waste disposal, POTW	☐ Readily available	☐ Up to date	☒ N/A
	☐ Other permits	☐ Readily available	☐ Up to date	☒ N/A
	Remarks:			
5.	Groundwater Monitoring Records	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: There are no recent groundwater monitoring records directly related to the Richwood OU, however, Stetson Engineers (on behalf of the Main San Gabriel Basin Watermaster) does collect samples on an annual basis from production wells in the general vicinity.			
6.	Discharge Compliance Records Remarks:	☐ Readily available	☐ Up to date	☒ N/A
	Daily Access/Security Logs Remarks:	☐ Readily available	☐ Up to date	☒ N/A

IV. O&M Costs ☐ Applicable ☒ N/A

1. O&M Organization- There have not been any O&M activities for more than a decade.

V. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒ N/A

1. Fencing

1.	Fencing damaged Remarks:	☐ Location shown on site map	☐ Gates secured	☒ N/A

2. Other Access Restrictions

1.	Signs and other security measures Remarks:	☐ Location shown on site map	☒ N/A

3. Institutional Controls

1.	Implementation and enforcement			
	Site conditions imply ICs not properly implemented:	☐ Yes	☐ No	☒ N/A
	Site conditions imply ICs not being fully enforced:	☐ Yes	☐ No	☒ N/A
	Reporting is up-to-date:	☐ Yes	☐ No	☒ N/A
	Reports are verified by the lead agency:	☐ Yes	☐ No	☒ N/A
	Specific requirements in deed or decision documents have been met:	☐ Yes	☐ No	☒ N/A
	Violations have been reported:	☐ Yes	☐ No	☒ N/A

2.	Adequacy Remarks:	☐ ICs are adequate	☐ ICs are inadequate	☒ N/A

4. General

1. Vandalism/trespassing ☐ Location shown on site map ☒ No vandalism evident
Remarks:

2. Land use changes onsite ☐ N/A
Remarks: The former treatment plant has been dismantled and a residence has been built.

3. Land use changes offsite ☐ N/A
Remarks: None.

VI. GENERAL SITE CONDITIONS

1. Roads ☐ Applicable ☒ N/A

1. Roads damaged ☐ Location shown on site map ☐ Roads adequate ☒ N/A
Remarks:

2. Other Site Conditions

Remarks:

IX. GROUNDWATER/SURFACE WATER REMEDIES ☒ Applicable ☐ N/A

1. Groundwater Extraction Wells, Pumps, and Pipelines ☒ Applicable ☐ N/A

1. Pumps, Wellhead Plumbing, and Electrical ☒ N/A
☐ All required wells located ☐ Good condition ☐ Needs O& M
Remarks: The former Richwood Mutual wells have been abandoned.

2. Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances ☒ N/A
☐ System located ☐ Good condition ☐ Needs O& M
Remarks: As noted above, the extraction wells have been abandoned.

3. Spare Parts and Equipment ☒ N/A
Remarks:

3. Treatment System ☐ Applicable ☒ N/A

1. Treatment Train (Check components that apply)
☐ Metals removal ☐ Oil/water separation ☐ Bioremediation
☐ Air stripping ☐ Carbon adsorbers ☐ Filters:
☐ Additive (list type, e.g., chelation agent, flocculent):
Remarks: Historically, a granular activated carbon (GAC) system was used to treat the extracted groundwater.

5. Long Term Monitoring ☐ Applicable ☒ N/A

1. Monitoring Wells- There were no monitoring wells specifically installed for the Richwood OU remedy.

X. OTHER REMEDIES ☐ Applicable ☒ N/A

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

1. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish.).

The remedy was intended to provide treatment of Richwood Mutual Water Company's water supply. SGVWC purchased the assets of Richwood Mutual and connected the customers to SGVWC's system. So, the remedy is no longer needed.

2. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

Not Applicable. The remedy has been inactive for well over 10 years and the former Richwood Mutual customers are supplied by SGVWC.

3. Early Indicators of Potential Remedy Failure

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.

Not applicable.

4. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

Not applicable.

Inspection Team Roster

Name	Organization	Title
Rachelle Thompson	U.S. EPA REGION 9	Remedial Project Manager
David Towell	CH2M HILL	EPA Contractor

Photo 1: The Richwood OU Treatment Plant was located at this address (behind the pictured home). The location is now occupied by a second house.

San Gabriel Valley Area 1 Superfund Site
Los Angeles County, California
Five-Year Review Site Inspection Checklist
SUBURBAN OU

I. SITE INFORMATION

Site Name: San Gabriel Valley Area 1 Superfund Site	**EPA ID:** CAD980677355
City/State: Los Angeles County, CA	**Date of Inspection:** March 20, 2013
Agency Completing 5 Year Review: USEPA	**Weather/temperature:** Hazy, Low 70s

Remedy Includes: No remedy was implemented in the Suburban OU. However, Suburban Water Systems' (SWS) Bartolo well field (the intended focus of the OU) is still active.

- ☐ Landfill cover/containment
- ☐ Access controls
- ☐ Institutional controls
- ☐ Groundwater pump and treatment
- ☐ Surface water collection and treatment

Attachments: ☒ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (Check all that apply)

1. Suburban Water Systems (SWS) Management:
Contact: Craig Gott, Vice President Engineering; John Brettl, Quality Assurance Department; Ken Reich, Quality Assurance Department; Kevin Hostert, Production Department; Josh Vaughn, Chief Operator Quality Assurance Department
Date: 2/25/13
Interviewed: ☐ at site ☐ at office ☒ by phone Phone Number:
Problems, suggestions: ☐ Additional report attached (if additional space required).
See Interview Form in Appendix C.

2. Local regulatory authorities and response agencies (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) None interviewed.

3. Other interviews (optional) ☐ N/A ☒ Additional report attached (See Interview Forms in Appendix C).
Water Purveyors- Golden State Water Company, City of Monterey Park, San Gabriel Valley Water Company, Rurban Mutual, Hemlock Mutual
Water Management Agencies- Main San Gabriel Basin Watermaster, San Gabriel Basin Water Quality Authority.

III. ONSITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. O&M Documents

☐ O&M Manuals	☐ Readily available	☐ Up to date	☒ N/A
☐ As-Built Drawings	☐ Readily available	☐ Up to date	☒ N/A
☐ Maintenance Logs	☐ Readily available	☐ Up to date	☒ N/A

Remarks:

2. Health and Safety Plan Documents
☐ Site-Specific Health and Safety Plan ☐ Readily available ☐ Up to date ☒ N/A
☐ Contingency plan/emergency response plan ☐ Readily available ☐ Up to date ☒ N/A
Remarks:

3. O&M and OSHA Training Records ☐ Readily available ☐ Up to date ☒ N/A
Remarks:

4. Permits and Service Agreements
☐ Air discharge permit ☐ Readily available ☐ Up to date ☒ N/A
☐ Effluent discharge ☐ Readily available ☐ Up to date ☒ N/A
☐ Waste disposal, POTW ☐ Readily available ☐ Up to date ☒ N/A
☐ Other permits ☐ Readily available ☐ Up to date ☒ N/A
Remarks:

5. Groundwater Monitoring Records ☒ Readily available ☒ Up to date ☐ N/A
Remarks: There are no groundwater monitoring records that are specifically associated with the Suburban OU. However, SWS' Bartolo wells are routinely monitored and recent results were obtained. In addition, EPA routinely monitors groundwater throughout Whittier Narrows, including upgradient of the Bartolo well field.

6. Discharge Compliance Records ☐ Readily available ☐ Up to date ☒ N/A
Remarks:

Daily Access/Security Logs ☐ Readily available ☐ Up to date ☒ N/A
Remarks:

IV. O&M Costs ☐ Applicable ☒ N/A

1. O&M Organization

V. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒ N/A

1. Fencing – The Bartolo well field wells are all fully fenced and secured.

1. Fencing damaged ☐ Location shown on site map ☐ Gates secured ☒ N/A
Remarks:

2. Other Access Restrictions

1. Signs and other security measures ☐ Location shown on site map ☒ N/A
Remarks:

3. Institutional Controls

1. Implementation and enforcement
Site conditions imply ICs not properly implemented: ☐ Yes ☐ No ☒ N/A
Site conditions imply ICs not being fully enforced: ☐ Yes ☐ No ☒ N/A
Reporting is up-to-date: ☐ Yes ☐ No ☒ N/A
Reports are verified by the lead agency: ☐ Yes ☐ No ☒ N/A
Specific requirements in deed or decision documents have been met: ☐ Yes ☐ No ☒ N/A
Violations have been reported: ☐ Yes ☐ No ☒ N/A

2. Adequacy ☐ ICs are adequate ☐ ICs are inadequate ☒ N/A
Remarks:

4. General

1. Vandalism/trespassing ☐ Location shown on site map ☒ No vandalism evident
Remarks:

2. Land use changes onsite ☐ N/A
Remarks: The original Bartolo Well Field wells have been abandoned and replaced with newer production wells located in the same area.

3. Land use changes offsite ☐ N/A
Remarks: None.

VI. GENERAL SITE CONDITIONS

1. Roads ☐ Applicable ☒ N/A

1. Roads damaged ☐ Location shown on site map ☐ Roads adequate ☒ N/A
Remarks:

2. Other Site Conditions

Remarks:

IX. GROUNDWATER/SURFACE WATER REMEDIES ☐ Applicable ☒ N/A

1. Groundwater Extraction Wells, Pumps, and Pipelines ☐ Applicable ☒ N/A

1. Pumps, Wellhead Plumbing, and Electrical ☒ N/A
☐ All required wells located ☐ Good condition ☐ Needs O& M
Remarks:

2. Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances ☒ N/A
☐ System located ☐ Good condition ☐ Needs O& M
Remarks:

3. Spare Parts and Equipment ☒ N/A
Remarks:

3. Treatment System ☐ Applicable ☒ N/A

1. Treatment Train (Check components that apply)
☐ Metals removal ☐ Oil/water separation ☐ Bioremediation
☐ Air stripping ☐ Carbon adsorbers ☐ Filters:
☐ Additive (list type, e.g., chelation agent, flocculent):
Remarks:

5. Long Term Monitoring ☐ Applicable ☒ N/A

1. Monitoring Wells- There were no monitoring wells specifically installed for the Suburban OU.

X. OTHER REMEDIES ☐ Applicable ☒ N/A

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

1. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish.).

The ROD called for monitoring of the SWS Bartolo wells and contingent installation of a treatment system if contaminant levels increased. No active remedy was ever installed because contaminant levels remained low.

2. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

Not Applicable.

3. Early Indicators of Potential Remedy Failure

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.

Not applicable.

4. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

Not applicable.

Inspection Team Roster

Name	Organization	Title
Rachelle Thompson	U.S. EPA REGION 9	Remedial Project Manager
David Towell	CH2M HILL	EPA Contractor

Photo 1: SWS Bartolo Well Field Area (Well 201W8 in the distance)

Photo 2: SWS 201W8 Wellhead

Photo 3: SWS 201W8 Discharge Line

Photo 4: SWS 201W9 Wellhead

Photo 5: Location of Abandoned SWS Well 201W2

Appendix D: Interview Forms

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Appendix D. Interview Forms

The following Interview Forms are provided in this appendix:

- Golden State Water Company (GSWC)
- City of Monterey Park (MP)
- San Gabriel Valley Water Company (SGVWC)
- Suburban Water Systems (SWS)
- Main San Gabriel Basin Watermaster (Watermaster)
- San Gabriel Basin Water Quality Authority (WQA)
- Rurban Homes Mutual Water Company (RHMWC)

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Five-Year Review Interview Record				**Interviewee(s): Golden State Water Company** David Chang, Vice President, Environmental Quality Email: dchang@gswater.com Telephone: 714-535-7711 x218 Address: 1920 W. Corporate Way Anaheim, CA 92801
Site Name		**EPA OUs**		**Date of Interview** / **Interview Method**
San Gabriel Valley Area 1 Superfund Site		South El Monte OU		2/27/13 / Telephone
Interviewer Contacts	**Organization**	**Phone**	**Email**	**Address**
Rachelle Thompson	EPA Region 9	415-972-3962	Thompson.rachelle@epa.gov	75 Hawthorne Street, SFD-7-3 San Francisco, CA 94105
David Towell	CH2M HILL, EPA contractor	213-228-8285	dtowell@ch2m.com	1000 Wilshire Blvd., Ste. 2100 Los Angeles, CA 90017-2457

Interview Questions

1. The Golden State Water Company (GSWC) operates wells SG1, SG2, and the respective treatment facility as part of the South El Monte OU cooperative agreement. Beyond operation of these facilities, does GSWC have a broader interest in the South El Monte OU?

Response: Yes, GSWC is in interested in how the South El Monte OU remedy is operating. They would like to see regular updates on how the overall cleanup is progressing and suggest periodically reviewing remedy performance compared to progress to assess if modifications are needed.

2. Do you believe that wells SG1 and SG2 and the treatment facility, and more broadly, the South El Monte OU remedy, are operating effectively and efficiently? Do you have any comments, suggestions, or recommendations regarding the project's management or on EPA's role in the project?

Response: The pumping rate from the SG2 continues to be restricted to 300 gpm because of the CDPH-approved nitrate blending plan requirements. The blending plan also requires that SG1 be operating for SG2 to operate. So, if SG1 goes down, the system is down. GSWC is more comfortable running the treatment plant, now that SG2 is back online. Both of the wells are 50 to 60 years old and can be expected to have ongoing maintenance concerns. Overall, the system is operating effectively now but the age of the wells is a longer-term concern.

3. What are your biggest near-term and/or longer-term concerns, if any, regarding GSWC's ability to meet EPA's target pumping rates? Do you have any particular concerns about changing contaminant concentrations or new contaminants affecting operation of SG1/SG2?

Response: As noted in the prior response, the biggest short-term and long-term concerns are about the viability of the wells. The PCE/TCE concentrations have been stable are not of particular concern. GSWC hopes that perchlorate concentrations remain low and that nitrate concentrations do not increase. There are no other specific contaminants they are concerned about. However, new drinking water regulations are always possible (e.g., hexavalent chromium) and could impact future operations.

4. Are you aware of any complaints or concerns from cities, neighbors, or other community members regarding wells SG1, SG2, the treatment facilities, or the South El Monte OU?

Response: No, GSWC has not had any complaints at all related to the San Gabriel site or any other aspects of the remedy. This includes during recent well rehabilitation and other treatment plant modifications.

5. Do you feel well informed about the site activities and progress?

Response: Yes, GSWC feels well informed, primarily through participation in the quarterly meetings.

6. Is there anything else related to wells SG1, SG2, the treatment facilities, or the South El Monte OU remedy as a whole that you would like to bring up?

Response: GSWC is concerned with what would happen if the SG1 well fails. In addition, EPA's minimum pumping targets for the SG1/SG2 wells are relatively high compared to the water demands in GSWC's San Gabriel system which is fairly small. Achieving the pumping targets requires that GSWC reduce production from other wells (i.e., Saxon). In addition, any maintenance or repairs needed at the SG1/SG2 wells or the associated treatment plant must be performed quickly to ensure target rates can be met. Overall, GSWC operations staff feel constrained by having to meet the target rates.

Five-Year Review Interview Record			**Interviewee(s): City of Monterey Park** Address: 320 West Newmark Avenue Monterey Park, CA 91754 Chris Arriola Email: carriola@montereypark.ca.gov Telephone: 626-307-1295	
Site Name		**EPA OU(s)**	**Date of Interview**	**Interview Method**
San Gabriel Valley Area 1 Superfund Site		South El Monte OU	2/21/13	Telephone
Interviewer Contacts	**Organization**	**Phone**	**Email**	**Address**
Rachelle Thompson	EPA Region 9	415-972-3962	Thompson.rachelle@epa.gov	75 Hawthorne Street, SFD-7-3 San Francisco, CA 94105
David Towell	CH2M HILL, EPA contractor	213-228-8285	dtowell@ch2m.com	1000 Wilshire Blvd., Ste 2100 Los Angeles, CA 90017-2457

Interview Questions

1. The City of Monterey Park (the City) operates wells 5, 12, 15, and their respective treatment systems as part of the South El Monte OU cooperative agreement. Beyond operation of these facilities, does the City have a broader interest in the South El Monte OU?

Response: Yes, the City is very interested in everything that is happening in the South El Monte OU, particularly activities and data upgradient of the City's production wells and information on remedy performance from downgradient wells. The City appreciates that data that EPA shares and presents at the quarterly South El Monte OU technical meetings.

2. Do you believe that Wells 5, 12, and 15 and their respective treatment facilities, and more broadly, the South El Monte OU, are operating effectively and efficiently? Do you have any comments, suggestions, or recommendations regarding the project's management or on EPA's role in the project?

Response: The City feels that generally, yes the wells, treatment facilities and South El Monte OU are operating effectively. They have some concerns about the higher-than-expected PCE concentrations at Well MP-15 and the presence of 1,4-dioxane. The City does not have any comments or recommendations regarding overall project management or EPA's role.

3. What are your biggest near-term and/or longer-term concerns, if any, regarding the City's ability to meet EPA's target pumping rates? Do you have any particular concerns about changing contaminant concentrations or new contaminants affecting operation of the remedy wells?

Response: Their biggest concern by far is the higher contaminant concentrations noted above that impact performance. Further increases in PCE would impact air stripper performance and LGAC changeout frequency. Further increases in 1,4-dioxane could result in wells having to be shut down because no 1,4-dioxane treatment is available.

The City is proceeding with plans to consolidate all treatment to a centralized plant at the Delta facility that will include UV/Ox treatment for 1,4-dioxane and an LGAC dual barrier. In addition to providing for 1,4-dioxane treatment, the City feels this will be a much more efficient system than their current set-up of 3 different plants and 3 different CDPH permits. The City needs a water rate increase to facilitate the project. They are going through the Prop. 218 process and expect to take the increase to the public within the next couple of months. The project is expected to cost from $7 to 8 million and in addition to the new UV/Ox treatment unit would include replacement of their booster pumps and settling tanks and a back-up generator for emergency power.

4. Are you aware of any complaints or concerns from cities, neighbors, or other community members regarding Wells 5, 12, and 15, their respective treatment facilities, or the South El Monte OU?

Response: The City is not aware of any complaints or concerns related to the remedy facilities or the South El Monte OU. They used to periodically get complaints regarding dust blowing off of the Delta facility, but that issue went away once they paved it. He does not anticipate any major community issues, even when they undertake construction of the new treatment facilities noted above.

5. Do you feel well informed about the site activities and progress?

Response: Yes, the City feels up-to-speed. The quarterly meetings are very informative and provide updates on both EPA's efforts and issues being faced by the other two water purveyors.

6. Is there anything else related to Wells 5, 12, and 15 and their respective treatment facilities, or the South El Monte OU remedy that you would like to bring up?

Response: The City does not have any other issues to bring up. They believe that the project is running smoothly with all parties being very cooperative. There are good working relationships among the stakeholders (water purveyors, state agencies and EPA).

Five-Year Review Interview Record	**Interviewee(s): San Gabriel Valley Water Company** Address: 11142 Garvey Blvd, El Monte, CA 91733 Frank LoGuidice, Vice President Engineering and Operations Email: faloguidice@sgvwater.com Dan Arrighi, Vice President Water Quality and Planning Email: darrighi@sgvwater.com Oscar Ramos, Water Quality Superintendent Email: omramos@sgvwater.com Telephone: 626- 448-6183

Site Name	**EPA OUs**	**Date of Interview**	**Interview Method**
San Gabriel Valley Area 1 Superfund Site	South El Monte OU, Richwood OU	2/27/13	Telephone

Interviewer Contacts	**Organization**	**Phone**	**Email**	**Address**
Rachelle Thompson	EPA Region 9	415-972-3962	Thompson.rachelle@epa.gov	75 Hawthorne Street, SFD-7-3 San Francisco, CA 94105
David Towell	CH2M HILL, EPA contractor	213-228-8285	dtowell@ch2m.com	1000 Wilshire Blvd., 21st Floor Los Angeles, CA 90017-2457

Interview Questions

1. The San Gabriel Valley Water Company (SGVWC) operates wells 8B, 8C, 8D, and Plant No. 8 as part of the South El Monte OU cooperative agreement. Beyond operation of these facilities, does SGVWC have a broader interest in the South El Monte OU?

Response: Yes, SGVWC has a direct broad interest in the South El Monte OU because of both their Plant 8 facility and their upcoming involvement in operating EPA's Whittier Narrows OU remedy. SGVWC also operates the Plant G4 treatment facility. While not part of the South El Monte OU remedy, it is a vital drinking water source for SGVWC.

2. Do you believe that wells 8B, 8C, 8D, and the treatment facility at Plant No. 8, and more broadly, the South El Monte OU, are operating effectively and efficiently? Do you have any comments, suggestions, or recommendations regarding the project's management or on EPA's role in the project?

Response: SGVWC believes that their wells and treatment systems are operating effectively. Regarding overall project management, SGVWC wants there to be specific acknowledgment that the minimum pumping target rates for Plant 8 can be achieved through pumping any combination of the three remedy wells 8B, 8C and 8D rather that the well-specific rates included in the cooperative agreement.

3. What are your biggest near-term and/or longer-term concerns, if any, regarding SGVWC's ability to meet EPA target pumping rates? Do you have any particular concerns about changing contaminant concentrations or new contaminants affecting operation of the Plant 8 remedy wells?

Response: SGVWC is very concerned about the concentrations of perchlorate and 1,4-dioxane that are present in some of the Plant 8 wells. They have not observed any increasing concentrations recently, but the concentrations are very close to levels of concern. SGVWC has an on-the-shelf design for perchlorate and has identified a footprint at Plant 8 for perchlorate treatment. They will finalize the design and initiate construction if concentrations one half the Maximum Contaminant Level (MCL). CDPH has not yet formally reviewed the designs.

SGVWC is also concerned with the levels of PCE because their AQMD permit for the Plant 8 air stripper has an influent concentration limit of 100 ppb. There is also always the potential for MCLs, ALs, or NLs to be lowered, for example the PCE MCL, which could impact performance.

4. Are you aware of any complaints or concerns from cities, neighbors, or other community members regarding wells 8B, 8C, 8D, Plant No. 8 or the South El Monte OU?

Response: SGVWC has not had any complaints regarding the Plant 8 facility and is not aware of any concerns from the neighbors or City. SGVWC maintains constant communication with the cities it purveys water to.

5. Do you feel well informed about the site activities and progress?

Response: SGVWC feels reasonably well informed on project activities through the updates provided at the quarterly meetings.

6. Is there anything else related to wells 8B, 8C, 8D, Plant No. 8 or the South El Monte OU remedy that you would like to bring up?

Response: SGVWC has no immediate concerns. However, remedy wells at Plant 8 are old, so there is uncertainty about their long-term viability. SGVWC has concerns about the long-term funding status of the South El Monte OU remedy.

7. Once SGVWC purchased Richwood Mutual Water Company, how has SGVWC supplied water to the former Richwood Mutual customers? For example, what are the current sources and the distribution system through which Richwood Mutual's former customers receive their water? Has that changed since 1999 when SGVWC originally assumed responsibility for supplying these customers?

Response: SGVWC acquired Richwood's water rights and connected all of Richwood's customers to SGVWC's system individually through new service connections. The former Richwood customers are primarily supplied water from SGVWC's Plants 1 and 2; however, because SGVWC's system is interconnected the water could potentially come from almost any of the company's wells. This operation has not changed since the customers were initially integrated.

SGVWC never took ownership of the Richwood supply wells, but did provide Richwood guidance regarding the well destruction process and believes the wells were destroyed.

There are a number of small mutual water companies that continue to operate in the El Monte area. SGVWC has emergency connections with all of them.

SGVWC also noted they would have no objection to EPA de-listing the Richwood OU.

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Five-Year Review Interview Record	**Interviewee(s): Suburban Water Systems** Address: 1325 N. Grand Avenue, Suite 100 Covina, CA 91724-4044 Craig Gott, Vice President Engineering Email: cgott@swwc.com Telephone: 626-543-2500 John Brettl, Quality Assurance Department Email: Jbrettl@swwc.com Ken Reich, Quality Assurance Department Email: kreich@swwc.com Kevin Hostert, Production Department Email: khostert@swwc.com Josh Vaughn, Chief Operator I, Quality Assurance Department Email: jvaughn@swwc.com

Site Name	**EPA OUs**	**Date of Interview**	**Interview Method**
San Gabriel Valley Area 1 Superfund Site	Suburban OU	2/25/13	Telephone

Interviewer Contacts	**Organization**	**Phone**	**Email**	**Address**
Rachelle Thompson	EPA Region 9	415-972-3962	Thompson.rachelle@epa.gov	75 Hawthorne Street, SFD-7-3 San Francisco, CA 94105
David Towell	CH2M HILL, EPA contractor	213-228-8285	dtowell@ch2m.com	1000 Wilshire Blvd., Ste 2100 Los Angeles, CA 90017-2457

Interview Questions

1. Suburban Water Systems operates the Bartolo Well Field, the primary component of EPA's Suburban OU. Is Suburban Water Systems' interest in the overall San Gabriel Valley Area 1 Superfund Site (South El Monte OU, Richwood OU and Suburban OU) limited to the operation of the Bartolo Well Field or does it have a broader interest in the ongoing cleanup efforts?

Response: Suburban does not have an interest in operating remedy components or taking treated water from any of the listed OUs. Suburban has had discussions with EPA regarding potential involvement in the Whittier Narrows OU.

Suburban does have concerns regarding the presence of 1,4-dioxane in the Bartolo well field. 1,4-Dioxane has been detected in all off the Bartolo wells at low concentrations. VOC concentrations have been very low (1 ppb or less) at the Bartolo well field for a long time. If water quality conditions began to change, Suburban may become more interested in the activities occurring at the OUs in San Gabriel Valley Area 1.

2. What was done regarding the closure of wells 201W2, 201W5, and 201W6? Were they destroyed or abandoned?

Response: Wells 201W1 and 201W3 were destroyed in 2005. Wells 201W2 and 201W6 were destroyed in 2008. Well 201W5 was destroyed in 2011.

3. Can you provide a map showing the locations of all nine wells (active and inactive) in the Bartolo well field?

Response: Suburban will provide a map of the well field if EPA or CH2M HILL submits a more formal request (on letterhead) for the information.

4. Historical documents show there was a concern regarding nitrate at the Bartolo well field in 1997. Are you aware of any past or current issues related to nitrate levels at the Bartolo wells? Are you concerned about increasing contaminant concentrations or new contaminants affecting Bartolo well field pumping operations?

Response: Suburban is not aware of any past issues with nitrate levels at the Bartolo wells. They noted that the Bartolo nitrate levels are very low.

5. Do you believe that EPA should be conducting any additional activities in the Suburban OU?

Response: No, Suburban does not believe any additional activities are warranted.

6. Are you aware of any complaints or concerns from cities, neighbors, or other community members regarding the Bartolo Well Field or the Suburban OU?

Response: Suburban is not aware of any complaints.

7. Do you feel well informed about the site activities and progress?

Response: No, Suburban is not well informed with activities at the San Gabriel Valley Area 1 site. However, they are actively involved in Area 2 (Baldwin Park OU).

8. Is there anything else related to the Bartolo Well Field, the treatment facilities, or the Suburban OU remedy that you would like to bring up?

Response: No.

(As a follow-up question, EPA mentioned the possibility of de-listing the Suburban OU from the Superfund site and asked Suburban's opinion of this. EPA also noted that if contaminant levels started increasing again at the Bartolo wells, that the wells are located within the footprint of the Whittier Narrows OU and could be evaluated through that OU.)

Suburban is fine with de-listing.

Five-Year Review Interview Record	**Interviewee(s): Main San Gabriel Basin Watermaster** Address: 725 N. Azusa Avenue Azusa, CA 91702 Tony Zampiello, Executive Director Email: tonyz@watermaster.org Telephone: 626-815-1300 Steve Johnson, Stetson Engineers stevej@stetsonengineers.com Telephone: 626-967-6202

Site Name	**EPA OUs**	**Date of Interview**	**Interview Method**
San Gabriel Valley Area 1 Superfund Site	South El Monte OU, Richwood OU, Suburban OU	2/28/13	Telephone

Interviewer Contacts	**Organization**	**Phone**	**Email**	**Address**
Rachelle Thompson	EPA Region 9	415-972-3962	Thompson.rachelle@epa.gov	75 Hawthorne Street San Francisco, CA 94105
David Towell	CH2M HILL, EPA contractor	213-228-8285	dtowell@ch2m.com	1000 Wilshire Blvd., 21st Floor Los Angeles, CA 90017-2457

Interview Questions

1. Can you provide contact information for knowledgeable representatives of the Hemlock Mutual Water Company and Rurban Mutual Water Company we could interview to learn about the status of these water systems?

Response: Stetson/Watermaster do have contact information for Hemlock Mutual and Rurban Mutual representatives that are knowledgeable about their systems. Both are very small operations. Watermaster will send along the information that Stetson has compiled.

Note: The Watermaster send the requested information compiled by Stetson to EPA via email on 3/31/13.

2. Can you provide operational information for the Hemlock and Rurban Mutual Water Companies, including service area, approximate number of customers, recent pumping data and the status of any operating treatment systems?

Response: Hemlock Mutual- The Hemlock wells no longer require treatment and the treatment system has not been active for a long time. Hemlock started treating water from the North and South wells in April 1986 and treated a total of 2,600 acre-feet. The peak concentrations of PCE were 52 ppb in the North well and 210 ppb in the South well and these occurred in the late 1980s. In recent years, both wells have been non-detect. They are sampled annually as part of the Title 22 monitoring conducted by Watermaster.

Rurban Mutual- The Rurban wells were never equipped with treatment. Peak PCE concentrations were 16 ppb in 1980 at the North well and 24 ppb in 1981 at the South well. Both wells have been non-detect in the recent annual Title 22 sampling events. There have not been any changes to Rurban Mutual operations.

Watermaster believes that the Richwood wells were destroyed, but Stetson can verify this. The treatment system has been removed.

3. Do you have any near-term and/or long-term concerns about the South El Monte, Suburban, or Richwood OUs?

Response: The Watermaster has had a fairly limited role in the South El Monte OU, but may eventually look more closely into the effectiveness of the remedies in the various OUs including South El Monte. Watermaster typically becomes engaged in the remedies when a water purveyor plans either new wells or a new treatment unit because of the Watermaster's Section 28 permit process. As part of the Section 28 process, Watermaster evaluates the potential impacts of a new well or new treatment unit. Watermaster can also help in addressing surface water discharge issues which can arise when a new contaminant is detected that requires installation and testing of new treatment units.

Recently, the Watermaster has provided some technical support to WQA for the Whitmore project. The State Water Resources Control Board requested additional evaluation of the effectiveness of that project as part of their approval for additional operating funds. Watermaster has concerns about a potential source area east of the SEMW-09 well (which is upgradient of Plant 8). Concentrations have increased considerably in SEMW-09. Watermaster does not have any concerns about the Richwood or Suburban OUs.

4. Do you feel well informed about the site activities and progress?

Response: Watermaster feels fairly well informed through Stetson's attendance at the quarterly South El Monte OU meetings. Watermaster staff may also start attending the South El Monte OU meetings. The Watermaster is much more engaged in the Baldwin Park OU and Puente Valley OU remedies than in the South El Monte OU. They expect that this will continue to be the case unless any of the water entities raise concerns about South El Monte to the Watermaster.

5. Is there anything else related to the South El Monte, Suburban, or Richwood OUs that you would like to bring up?

Response: Watermaster does not have any other issues or concerns to bring up.

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Five-Year Review Interview Record	**Interviewee(s): San Gabriel Basin Water Quality Authority** Address: 1720 W. Cameron Ave., Suite 100 West Covina, CA 91790 Ken Manning Email: Ken@WQA.com Telephone: 626-338-5555 Randy Schoellerman Randy@WQA.com Telephone: 626-338-5555

Site Name	**EPA OUs**	**Date of Interview**	**Interview Method**
San Gabriel Valley Area 1 Superfund Site	South El Monte OU, Richwood OU, and Suburban OU	3/15/13	Telephone

Interviewer Contacts	**Organization**	**Phone**	**Email**	**Address**
Rachelle Thompson	EPA Region 9	415-972-3962	Thompson.rachelle@epa.gov	75 Hawthorne Street, SFD-7-3 San Francisco, CA 94105
David Towell	CH2M HILL, EPA contractor	213-228-8285	dtowell@ch2m.com	1000 Wilshire Blvd., 21st Floor Los Angeles, CA 90017-2457

Interview Questions

1. Do you believe the South El Monte OU cleanup is operating effectively and efficiently? Do you have any comments, suggestions, or recommendations regarding the project's management or EPA's role in the project?

Response: WQA believes that the South El Monte OU remedy is operating effectively as an interim remedy. They do have concerns about 1,4-dioxane and want to make sure it is considered in the Final ROD. DTSC has also been in contact with WQA about whether more PRPs could be identified for the South El Monte OU. WQA is not aware of any additional PRPs, but will support DTSC's efforts.

WQA is okay with EPA's current role in the OU and feels that all of the stakeholders need to continue to work together moving forward. WQA noted that data transfer should be more efficient and quicker in the future.

2. Are you aware of any complaints or concerns from cities, neighbors, or other community members regarding cleanup activities in the South El Monte OU?

Response: WQA is not aware of any concerns from local stakeholders regarding the South El Monte OU cleanup. WQA did note that DTSC has expressed concerns about their ultimate role in the project and in identifying more PRPs.

3. Do you feel well informed about the site activities and progress? Are you familiar with the Richwood and Suburban OUs?

Response: In general WQA feels well informed with activities and progress in the South El Monte OU. They would like more frequent updates (beyond the quarterly meetings) when EPA is engaged in active fieldwork.

WQA is only vaguely familiar with the Richwood and Suburban OUs and understands them to be inactive OUs. They would endorse de-listing the two OUs and think that is an appropriate action.

4. Do you have any concerns regarding the administration of the South El Monte cooperative agreement, either regarding the funding from EPA or the agreements with the water companies?

Response: WQA does not have any significant concerns with cooperative agreement administration at this time and feels they are working smoothly with both EPA and the water purveyors. WQA to start the process early on developing the next cooperative agreement scheduled for 2015.

5. Is there anything else related to the cleanup activities in the South El Monte OU that you would like to bring up?

Response: WQA has had discussions with the water purveyors and the WQA Board about long-term administration of the South El Monte OU and what funding options there may be beyond the existing settlement funds and EPA's current commitments. DTSC also shares WQA's concerns about long-term funding sources.

Five-Year Review Interview Record			**Interviewee(s): Rurban Mutual Water Company** Address: 5044 Cogswell Road El Monte, CA 91732 Mike Cox Email: jennymikecox@gmail.com Telephone: 626-401-9103	
Site Name		**EPA OU(s)**	**Date of Interview**	**Interview Method**
San Gabriel Valley Area 1 Superfund Site		Richwood OU	5/7/13	Telephone
Interviewer Contacts	**Organization**	**Phone**	**Email**	**Address**
Rachelle Thompson	EPA Region 9	415-972-3962	Thompson.rachelle@epa.gov	75 Hawthorne Street, SFD-7-3 San Francisco, CA 94105
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Interview Questions

1. Is the Rurban Mutual Water Company (Rurban) continuing to supply water? What area does it serve, and approximately how many households/people does it supply water to?

Response: Yes, Rurban continues to supply water to an area in the northern portion of the City of El Monte, formerly known as Norwood Village. Rurban supplies water to 300 homes, with an average of 4 persons per home or approximately 1,200 persons.

2. Besides providing its customers with water that meets drinking water standards, does Rurban Mutual currently have an interest in the broader volatile organic compound (VOC) contamination and associated cleanup activities in the general area?

Response: Yes, Rurban is aware of and interested in VOC contamination and cleanup activities in the San Gabriel Valley. Rurban is in contact with the City of El Monte, who at Rurban's request samples their two production wells once per year. Rurban also has another party conduct a second sampling event of their production wells each year, for a total of two sampling events per year.

3. The 1987 ROD Amendment for the Richwood Operable Unit (OU) indicated that the GAC treatment system for Rurban Mutual was never implemented because tetrachloroethene (PCE) and tricholoroethene (TCE) concentrations detected in wells (01900120 and 01900121) declined to below Action Levels. Since the 1987 ROD Amendment, have concentrations of PCE or TCE in Rurban wells ever exceeded state or federal drinking water standards? Was a granular activated carbon (GAC) treatment system ever installed?

Response: No, Rurban has not had detections of contaminants exceeding drinking water standards. Rurban tests water samples for a full range of contaminants including PCE, TCE, hexavalent chromium, perchlorate and nitrate. Rurban currently samples their two production wells twice per year. No, Rurban never installed a GAC system.

4. Are you aware of any complaints from cities, neighbors, or other community members, regarding VOC contamination or associated cleanup activities?

Response: Rurban received one complaint recently from a customer who reported their water tasted like it had jet fuel in it. Rurban tested the water and no contaminants were detected. There are old gravel pits surrounding the Rurban service area which are being backfilled because they are no longer used. The customer who complained lives on the edge of Rurban's service area near one of the gravel pits. Rurban believes the backfill material can get into the groundwater and may influence the taste of their groundwater from time to time. Rurban monitors the gravel pit backfilling operations.

Rurban operates independently from other nearby water companies, such as Hemlock Mutual Water Company, but does interact occasionally with the nearby water company representatives.

5. Is there anything else related to the VOC contamination or associated cleanup activities you would like to bring up?

Response: No. Rurban is a small water system and believes their water is of good quality because their wells are located between two river beds. Rurban monitors the data for the Key Well in Baldwin Park and is aware of the Aerojet facility to the north in Azusa, CA.

6. Would Rurban have any objections to EPA de-listing the Richwood OU from Area 1 of the San Gabriel Valley Superfund Site given that the VOC cleanup activities were implemented long ago and VOCs have not been an issue for many years?

Response: Rurban has no opposition to EPA de-listing the Richwood OU.