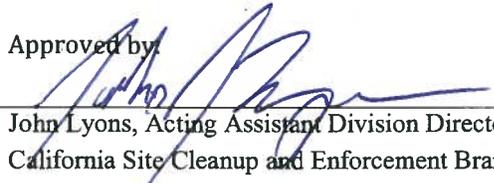


**FIFTH FIVE-YEAR REVIEW REPORT FOR  
INTEL CORPORATION (SANTA CLARA III) SUPERFUND SITE  
SANTA CLARA, CALIFORNIA**



PREPARED BY  
U.S. Army Corps of Engineers  
Seattle, District  
FOR  
**U.S. Environmental Protection Agency**  
**Region IX**

Approved by:

  
John Lyons, Acting Assistant Division Director  
California Site Cleanup and Enforcement Branch  
Superfund Division  
U.S. Environmental Protection Agency, Region IX

Date:

  
August 4, 2016

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# Executive Summary

This is the Fifth Five-Year Review of the Intel Corporation (Santa Clara III) Superfund Site (Site) located in Santa Clara County, California. The purpose of this Five-Year Review is to determine if the remedy is and will continue to be protective of human health and the environment.

The Site is approximately one acre in size and consists of a low-rise building, landscaping, and parking areas. The building at the Site was used from 1976-2008 for performing quality control of chemicals and electrical testing of semiconductors, and has been redeveloped as a data storage center. The groundwater beneath the Site is contaminated with volatile organic compounds (VOCs) including trichloroethylene (TCE), which is a solvent.

Groundwater contamination was first discovered at the Site in 1982, and groundwater extraction and treatment began in 1985. Groundwater contamination at the Site is confined to the shallowest portion of the aquifer (the A-zone) in the plume (see Appendix C). Contaminants found during the initial investigation included trichloroethylene (TCE); 1,1,1-trichloroethane (1,1,1-TCA); 1,1-dichloroethylene (1,1-DCE); 1,1-dichloroethane (1,1-DCA); 1,2-dichloroethane (1,2-DCA); cis- and trans- 1,2-dichloroethylene (cis- and trans- 1,2-DCE); Freon 113; and Freon 11. Based on the initial investigation, the Environmental Protection Agency (EPA) added the Site to the National Priorities List (NPL) in 1986. The source of the contamination was never positively identified. Currently, only TCE is present above cleanup standards.

The Record of Decision (ROD) was signed in September 1990. The purpose of the response described in the ROD was “*to prevent any further migration of contaminants in the groundwater, prevent any future exposure to the public of contaminated groundwater and to restore the A-Zone groundwater to drinking water quality.*” The groundwater remedy selected in 1990 included extraction and treatment of contaminated groundwater, discharge of treated water to surface water under an NPDES permit, groundwater monitoring, and a deed restriction prohibiting installation of drinking water wells.

In 1994, the Regional Water Quality Control Board determined from its analysis of groundwater analytical sampling data that most of the original contaminant mass in groundwater at the Site has been removed. Pulsed pumping trials were conducted as contemplated in the ROD, but did not appreciably improve the efficiency of contaminant removal, and groundwater extraction and treatment were subsequently discontinued. EPA became the lead agency for the Site in 2006. In a September 2010 ROD Amendment, EPA formally modified the groundwater remedy, selecting monitored natural attenuation (MNA), along with groundwater monitoring and the deed restriction already recorded for the Site, which had been updated in 2008.

Applicable or Relevant and Appropriate Requirements (ARARs) in the 2010 ROD Amendment were reviewed during this FYR, and subsequent changes were found to have no impact on protectiveness. In addition, all exposure assumptions, toxicity data, cleanup standards, and Remedial Action Objectives (RAOs) are still valid and protective. There is no other information that calls into question the protectiveness of the remedy.

The remedy at the Site is protective of human health and the environment. Groundwater contamination has been reduced to below drinking water standards in all but a very limited area. Any potential

groundwater exposure pathway that could result in unacceptable risk is currently being controlled through implementation of a land use covenant that restricts soil excavation and property development, and prohibits drilling of groundwater wells.

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## List of Abbreviations

ARARs	applicable or relevant and appropriate requirements
ATSDR	Agency for Toxic Substances and Disease Registry
bgs	below ground surface
CCR	California Code of Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cis-1,2-DCE	cis-1,2-dichloroethylene
1,1-DCA	1,1-dichloroethane
1,2-DCA	1,2-dichloroethane
1,1-DCE	1,1-dichloroethylene
EPA	U.S. Environmental Protection Agency
FS	Feasibility Study
GET	groundwater extraction and treatment
Intel	Intel Corporation
ISCO	in situ chemical oxidation
LUC	land use covenant
MCL	maximum contaminant level
µg/L	micrograms per liter
µg/m <sup>3</sup>	micrograms per cubic meter
mg/kg	milligrams per kilogram
MNA	monitored natural attenuation
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
O&M	operation and maintenance
OSWER	Office of Solid Waste and Emergency Response
RAOs	Remedial Action Objectives
RI	Remedial Investigation
ROD	Record of Decision
RSL	Regional Screening Level
SES	Stellar Environmental Solutions
trans-1,2-DCE	trans-1,2-dichloroethylene
1,1,1-TCA	1,1,1-trichloroethane
TCE	trichloroethylene
VOC	volatile organic compound

# 1. Introduction

The purpose of a Five-Year Review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy will continue to be protective of human health and the environment. The methods, findings, and conclusions of the review are documented in a FYR report. In addition, a FYR report identifies issues found during the review, if any, and document recommendations to address them. Table 1-1 summarizes the Five-Year Review status of the Intel Corporation (Santa Clara III) Superfund Site (the Site).

**Table 1-1. Five-Year Review Summary Form**

<b>SITE IDENTIFICATION</b>		
<b>Site Name:</b> Intel Corporation (Santa Clara III)		
<b>EPA ID:</b> CAT000612184		
<b>Region:</b> 9	<b>State:</b> CA	<b>City/County:</b> Santa Clara/Santa Clara
<b>SITE STATUS</b>		
<b>NPL Status:</b> Final		
<b>Multiple OUs?</b> No	<b>Has the site achieved construction completion?</b> Yes	
<b>REVIEW STATUS</b>		
<b>Lead agency:</b> EPA <i>[If "Other Federal Agency", enter Agency name]:</i>		
<b>Author name (Federal or State Project Manager):</b> Rachelle Thompson		
<b>Author affiliation:</b> EPA Region 9		
<b>Review period:</b> 11/13/2015 - 6/30/2016		
<b>Date of site inspection:</b> 1/13/2016		
<b>Type of review:</b> Policy		
<b>Review number:</b> 5		
<b>Triggering action date:</b> 6/2/2011		
<b>Due date (five years after triggering action date):</b> 6/2/2016		

The U.S. Environmental Protection Agency (EPA) is preparing this Five-Year Review pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, 40

Code of Federal Regulation (CFR) Section 300.430(f)(4)(ii) of the National Contingency Plan (NCP) and EPA policy.

This is the fifth FYR for the Site. The triggering action for this policy review is the completion date of the previous FYR (June 1, 2011). The FYR is required because hazardous substances, pollutants, or contaminants remain at the site at levels above those that would allow for unlimited use and unrestricted exposure (UU/UE).

The Site consists of one operable unit (OU) with a groundwater remedy

The Intel Corporation (Santa Clara III) Superfund Site FYR was led by EPA. Participants included the following:

Thelma Estrada – EPA Site Attorney  
Cynthia Wetmore – EPA Five Year Review Coordinator  
Rachelle Thompson – EPA Remedial Project Manager  
Alejandro Diaz – EPA Community Involvement Coordinator  
David Barr – Regional Water Quality Control Board Reviewer  
Cathy Martin – U.S. Army Corps of Engineers (USACE) Technical Lead  
Aaron King – USACE Environmental Engineer

The review began on November 13, 2015.

## *1.1. Background*

The Site was used from 1976 to 2008 for performing quality control of chemicals and electrical testing of semiconductors, and was redeveloped as a data storage center. The groundwater beneath the Site is contaminated with volatile organic compounds (VOCs) including trichloroethylene (TCE), which is a solvent.

Groundwater contamination was first discovered at the Site in 1982 when groundwater samples were collected at the Site as part of a leak detection program for underground tanks initiated by the California Regional Water Quality Control Board San Francisco Bay Region (Water Board) in the South Bay Area. Following the discovery of groundwater contamination at the Site, the Water Board required Intel to perform a soil and groundwater investigation. The remedial investigation (RI) included groundwater monitoring in the A-zone and B-zone, soil sampling, and soil vapor sampling. The two groundwater zones extend from about 10 feet below ground surface (bgs) to about 45 bgs (see section 1.3, last paragraph, for more complete descriptions). Three potential sources were proposed and, to the extent practical, evaluated. The potential sources were: 1) leaks from the acid waste neutralization area; 2) spills near the above ground solvent storage facility; and 3) solvent spills associated with cleaning out pipes put in place during construction of the facility. As part of the investigations, an acid waste neutralization sump was removed. Data collected during the evaluation of these potential sources did not definitely identify how the Site groundwater became contaminated.

The original groundwater contaminant plume covered an area approximately 400 feet long by 300 feet wide to a depth of approximately 27.5 feet bgs. The contaminants found in groundwater at the Site during the initial investigation included TCE; 1,1,1-trichloroethane (1,1,1- TCA); 1,1-dichloroethylene (1,1-DCE); 1,1-dichloroethane (1,1-DCA); 1,2-dichloroethane (1,2-DCA); cis 1,2-dichloroethylene (cis 1,2-DCE); trans 1,2-dichloroethylene (trans 1,2-DCE); Freon 113; and Freon 11.

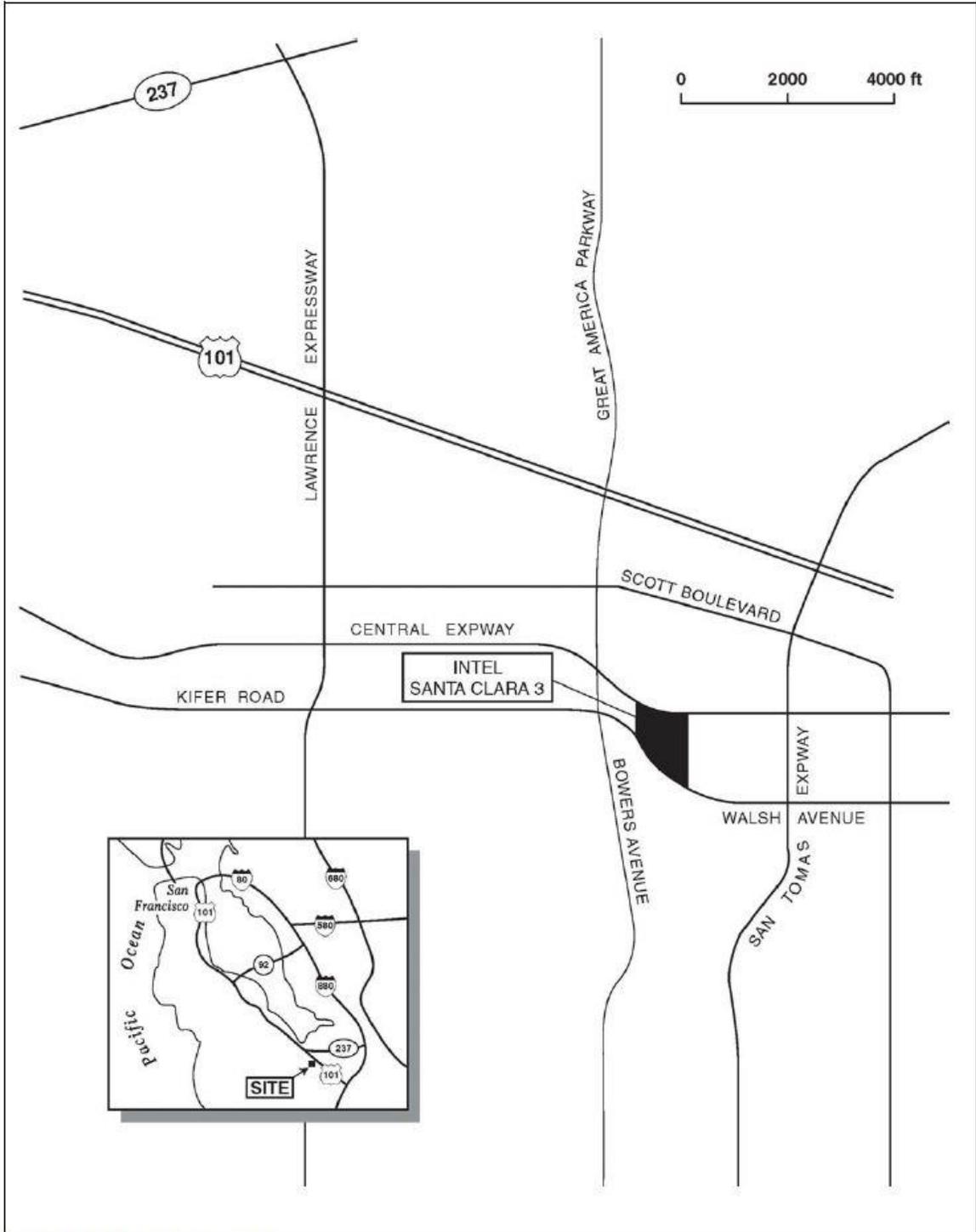
## *1.2. Physical Characteristics*

The Site is approximately one acre in size and is located at 2880 Northwestern Parkway in the City of Santa Clara, California (Figure 1-1), in a light industrial and commercial area (commonly known as Silicon Valley) that consists predominantly of electronics manufacturing and design. The Site is essentially flat and is occupied by a low-rise building, landscaping, and parking areas. Figure 1-2 shows the layout. The nearest water body, San Tomas Aquino Creek, is located cross-gradient to the groundwater flow direction approximately 0.25 miles to the east.

## *1.3. Hydrology*

Groundwater flows to the northeast towards San Francisco Bay (Figure 1-2). The Site is located in the Santa Clara Valley, a structural basin filled with marine and alluvial sediments. The geology beneath the Site is a complex heterogeneous sequence of interbedded sands, silts, and clays. The coarser deposits are likely a result of deposition in or near stream channels that drain the highlands surrounding the basin. Finer grain deposits result from a variety of conditions with the eventual result of a complex heterogeneous sequence of interbedded sands, silts, and clays. Municipal water supply wells tap an extensive deep regional confined aquifer that lies generally greater than 200 to 300 feet bgs. A thick, relatively impermeable aquitard separates this deep confined aquifer from a complex series of discontinuous aquifers and aquitards that can extend up to within a few feet of the ground surface. The nearest municipal water supply well downgradient of the Site is the City of Santa Clara Well No. 33, located 1.6 miles north of the Site. The nearest residences are approximately 1800 feet south of the Site and 7200 feet north-northeast of the Site.

Two distinct shallow water-bearing zones have been encountered at the Site. They are 1) the A-zone, the first water-bearing zone found below ground surface, extending from about 10 feet bgs to 25 feet bgs; and 2) the B-zone, the next water-bearing zone, extending from about 30 feet bgs to 45 feet bgs. The two zones are separated by a 4 to 10-foot thick aquitard composed of clay. Due to the discontinuous nature of the sediment layers, some hydraulic communication between the zones is possible.



Source: Stellar Environmental Solutions, Inc.  
 Geoscience & Engineering Consulting  
 (October 2007)

**Intel Santa Clara III**  
 Santa Clara, California



Site Location Map

Figure 1

Figure 1-1. Location Map for the Intel (Santa Clara III) Superfund Site



## 2. Remedial Action Summary

### 2.1. Basis for Taking Action

The primary contaminants of concern at the Site are volatile organic compounds (VOCs), including TCE, found at levels above health-based standards in shallow groundwater (see Table 2-1). The State of California has designated the groundwater beneath the Site as a potential drinking water source. The deeper regional aquifer is a drinking water source for the Santa Clara Valley. However, shallow groundwater is not currently used as a source of drinking water due to poor water quality.

### 2.2. Remedy Selection

EPA selected a remedy to restore beneficial use of the aquifer in the September 20, 1990, Record of Decision (1990 ROD), and modified the remedy in the September 7, 2010, Record of Decision Amendment (2010 ROD Amendment).

The Remedial Action Objectives (RAOs) for the remedy selected in the 1990 ROD and the 2010 ROD amendment are as follows:

1. Prevent migration of contaminants in the groundwater;
2. Prevent any future exposure to the public of contaminated groundwater; and
3. Restore the A-zone groundwater to drinking water quality.

The selected Site remedy in the 1990 ROD consisted of the following components:

- Pumping of groundwater from extraction wells
- Treatment of the contaminated water with granular activated carbon, and discharge of the treated water to surface water pursuant to a National Pollution Discharge Elimination System (NPDES) permit
- A pulsed pumping trial to evaluate the efficacy of intermittent pumping to remove residual contamination
- Groundwater monitoring
- A deed restriction to restrict both land and water use. The deed restriction prevents the installation of shallow drinking water wells and other subsurface activities.

The 2010 ROD Amendment replaces most components of the original remedy (pumping, treating, discharging, and pulsed pumping) with monitored natural attenuation (MNA) to achieve groundwater cleanup standards. EPA based its decision on a 2009 study investigating the suitability of natural attenuation for the Site which determined that TCE concentrations would decrease through physical, not biological, processes. TCE concentrations in the A-zone are expected to decrease to levels below the cleanup standards which are the California maximum contaminant levels<sup>1</sup> (MCLs) within a few years or a few decades (EPA, 2010).

The chemical-specific groundwater cleanup standards for the Site were established in the 1990 ROD and 2010 ROD Amendment. They were determined by selecting the most stringent of the following: California proposed or adopted MCLs, EPA MCLs, California Action Levels, or levels based on a risk assessment. Cleanup standards from the 1990 ROD and 2010 ROD Amendment are shown in Table 2-1.

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<sup>1</sup> Maximum contaminant levels (MCLs) are the maximum concentration of a contaminant allowed in drinking water.

**Table 2-1. ROD-Specified Cleanup Standards**

<b>Chemical</b>	<b>Cleanup Standard (µg/L)</b>
trichloroethylene (TCE)	5
1,1,1-trichloroethane (1,1,1-TCA)	200
1,1dichloroethene (1,1-DCE)	6
1,1-dichloroethane (1,1-DCA)	5
1,2-dichloroethane (1,2-DCA)	0.5
cis-1,2-dichloroethene (cis-1,2-DCE)	6
trans-1,2-dichloroethene (trans-1,2-DCE)	10
Freon 113	1200
Freon 11	150

While many VOCs were initially detected in groundwater analytical sampling results, TCE is the only Site contaminant still detected above its ROD specified cleanup standard of 5 µg/L. Groundwater contamination at the Site is confined to the shallowest aquifer (the A-zone).

### **2.3. *Remedy Implementation***

The groundwater extraction and treatment system (GET) and groundwater monitoring program were already implemented under Water Board oversight at the time of the 1990 ROD. At that time, the efficiency of contaminant removal from groundwater by the extraction system was declining and approaching asymptotic levels. When this occurs, continued groundwater extraction no longer significantly reduces contaminant concentrations. In 1991, the cyclic pumping trial (pulsed pumping) specified by the ROD began in an effort to improve efficiency. However, no significant increase in overall contaminant removal was obtained.

By 1994 the GET system had been operating for approximately nine years and was no longer removing significant levels of contaminants. The Water Board approved the cessation of groundwater extraction even though remedial action objectives had not been achieved, and allowed Intel to implement a monitored natural attenuation (MNA) program. EPA assumed the role as lead agency in 2006 and issued a ROD Amendment in 2010 formally replacing the groundwater extraction and treatment components of the remedy with MNA.

The ROD Amendment requires annual groundwater monitoring until the cleanup standards are met and the Site is delisted from the National Priorities List (NPL), and/or other dictating changes occur. Additionally, a revised Groundwater Monitoring Plan was developed in 2011 which specifies the activities for maintaining, monitoring, and evaluating the MNA remedy.

The 1990 ROD remedy included a deed restriction, or land use covenant (LUC), a type of Institutional Control (IC), to prevent exposure to contaminated groundwater until cleanup levels are achieved. In 2008

an updated LUC prohibiting residential and certain other sensitive land uses at the Site was filed with the Santa Clara County Recorder’s Office. The LUC also prohibits groundwater extraction and use or soil excavation without express permission from the Water Board. The ICs implemented for the Site are summarized in Table 2-2 below.

**Table 2-2. Summary of Institutional Controls**

<b>Media, engineered controls, and areas that do not support UU/UE* based on current conditions</b>	<b>ICs Needed</b>	<b>ICs Called for in the Decision Documents</b>	<b>Impacted Parcel(s)</b>	<b>IC Objective</b>	<b>Title of IC Instrument Implemented and Date</b>
Groundwater	Yes	Yes	Assessor’s Parcel F (480 PM 27)	1) Prevents exposure to contaminated groundwater 2) Prohibits residential and certain other sensitive land use 3) Prohibits groundwater extraction and use or soil excavation without express permission from the Water Board	Land Use Covenant (January 29, 2008)

\* UU/UE — unlimited use and unrestricted exposure

## 2.4. Operation and Maintenance (O&M)

Operation and maintenance (O&M) for the MNA remedy consists of conducting and reporting results from annual groundwater sampling and analysis. Since 2005, Stellar Environmental Solutions (SES) has conducted groundwater monitoring events on behalf of Intel. In 2006, Intel conducted one round of in-situ chemical oxidation (ISCO) to evaluate the possibility of accelerating TCE cleanup. However, TCE concentrations detected in groundwater analytical sampling results did not drop below the MCL. Groundwater monitoring will continue until TCE concentrations in every site monitoring well are below the MCL. Currently, only one of seven on-site monitoring wells (SC3-3Rep) shows TCE concentrations above the MCL.

## 3. Progress Since the Last Five-Year Review

### 3.1. Previous Five-Year Review Protectiveness Statement and Issues

The protectiveness statement from the 2011 FYR for the Intel (Santa Clara III) Site (EPA, 2011) stated the following:

*“The remedy at the Site currently protects human health and the environment. The groundwater contamination has been reduced below drinking water standards (MCLs) in all but a very limited area, and the remedy is expected to achieve drinking water standards site-wide and be protective in the long-term. Any groundwater exposure pathway that could result in unacceptable risks is currently being controlled through the use of a land use covenant that restricts soil excavation and property development and prohibits the drilling of groundwater wells.”*

The 2011 FYR identified no issues. Therefore, there were no recommendations or follow-up actions pertaining to the Site.

### 3.2. *Work Completed at the Site During this Five Year Review Period*

Work completed during this Five-Year Review period consisted of groundwater monitoring as described in section 2.4 and a single well groundwater extraction “pilot long-term pumping test” as described below.

In an effort to reduce the residual TCE concentrations observed in groundwater analytical samples collected from well SC-3-3Rep, groundwater was extracted from well SC-3-3 Rep at approximately 1.8 gpm from August 2014 to April 2015. TCE concentrations in subsequent samples collected from this well showed no significant sustainable concentration decrease as a result of the pumping. This suggests that there are higher residual TCE concentrations in soil at the well location than in the immediately surrounding area, and that the temporary extraction from well SC3-3Rep was unsuccessful in accelerating matrix diffusion enough to reduce these concentrations (SES, 2015).

## 4. Five-Year Review Process

The following sections discuss the Five-Year Review data gathering process and findings. The documents reviewed are listed in Appendix A.

### 4.1. *Community Notification, Involvement and Site Interviews*

EPA announced the 2016 Five Year Review on March 9, 2016, in the *Santa Clara Weekly*. When the review is complete, the report will be made available at:

Santa Clara City Library  
2635 Homestead Road  
Santa Clara, CA 95051  
(408) 615-2900

and Regional Records Center  
U.S. Environmental Protection Agency  
75 Hawthorne Street, Room 3110  
San Francisco, CA 94105  
(415) 947-8717

One interview was conducted as part of the FYR. A record of the interviews is included as Appendix D. Mr. Henry Pietropaoli (Senior Geologist/Project Manager for Stellar Environmental Solutions, Inc.) was interviewed on January 14, 2016, by Aaron King (USACE). Mr. Pietropaoli stated that the project has been long and drawn-out simply because of the nature of the contaminant concentrations. The pilot in situ chemical oxidation (ISCO) injection and pilot long-term pumping at well SC3-3Rep do not appear to have worked, which he finds disappointing, considering how proactive Intel has been.

## 4.2. Data Review

Groundwater monitoring data from 2011 through 2015 (five sampling events) were reviewed, as well as historical TCE data for wells SC3-1Rep, SC3-3Rep, and SC3-7ARep back to 2002 (SES 2011, 2012, 2013, 2014, 2015). From 2011 to 2015, groundwater elevations have decreased between 0.91 and 3.22 feet.

From 2011 to 2015, TCE was consistently detected at levels above its MCL only in well SC3-3Rep. TCE was detected below its MCL in well SC3-1Rep for all five sampling events. Cis-1,2-DCE was detected below its MCL in well SC3-6 for the four sampling events from 2012 to 2015. Freon 113 was detected well below its cleanup level and only slightly above its detection limit in well SC3-3Rep in the 2014 and 2015 sampling events.

TCE concentrations have generally been decreasing in wells SC3-1Rep, SC3-3Rep, and SC3-7A Rep since 2002. TCE concentrations have been below the MCL in well SC3-1Rep since April 2009 and in well SC3-7ARep since April 2011 after the well was replaced. The TCE concentrations in well SC3-3Rep have been above the MCL since 2002. TCE has not been detected in the other three wells for the last five years.

TCE concentrations in well SC3-1Rep were evaluated to determine whether groundwater restoration is complete at that well using the EPA Groundwater Statistics Tool (EPA, 2014). Well SC3-3Rep was not evaluated because TCE concentrations have not been below the cleanup standard in recent years. Well SC3-7ARep was not evaluated because TCE concentrations in the five most recent samples have been non-detect; attainment of restoration is likely to be shown by continued monitoring. Results suggest that the TCE cleanup standard has not been met in well SC3-1Rep, indicating that restoration has not quite been attained, and that additional monitoring is warranted at that well. TCE concentrations in wells SC3-1Rep and SC3-7ARep have been below cleanup levels for the last 7 and 5 sampling events, respectively, and trends in TCE concentrations are downward; therefore, it is expected that groundwater restoration in the vicinity of these wells will be attained within the next Five-Year Review period. However, it is not expected well SC3-3R will achieve the cleanup goals by the next Five Year Review. Additional details regarding data review are located in Appendix C.

## 4.3. Site Inspection

The Site inspection was conducted on January 14, 2016, (see Appendix D) by Aaron King (USACE), Cynthia Wetmore (EPA FYR Coordinator), Matt Silvers (Vantage Data Centers, current property owner), and Henry Pietropaoli (Stellar Environmental Solutions, Senior Geologist). The purpose of the inspection was to assess the protectiveness of the remedy.

The Site was found to be well secured and current activities were not interfering with the remedy. Three wells (SC3-1Rep, SC3-3Rep, and SC3-7ARep) were inspected. These wells were properly secured, functioning, and in good condition.

## 5. Technical Assessment

### 5.1. *Question A: Is the Remedy Functioning as Intended By the Decision Documents?*

The remedy (MNA) is functioning as intended in the decision documents.

#### ***Remedial Action Performance***

The remedy is near to meeting the 1990 ROD and 2010 ROD Amendment objective of restoring the groundwater to its beneficial uses by reducing the contamination levels below MCLs. Although the TCE concentrations detected in wells SC3-3Rep remain above the MCL, TCE concentrations are decreasing.

#### ***Implementation of Institutional Controls and Other Measures***

As part of this Five-Year Review, EPA conducted an Environmental Lien Search to determine whether a standard title search would turn up the ICs. The search, conducted in 2016, showed that the 2008 deed restriction appears in the record (see Appendix E).

### 5.2. *Question B: Are the Exposure Assumptions, Toxicity Data, Cleanup Levels, and Remedial Action Objectives Used at the Time of Remedy Selection Still Valid?*

A review of applicable or relevant and appropriate requirements (ARARs) in the 2010 ROD Amendment was conducted for this Fifth Five-Year Review. The specific regulations cited for each chemical listed in the ROD were reviewed to determine if there had been any changes in the regulations. Use of the California MCL as the groundwater cleanup standard for TCE is still appropriate. Additional detail regarding the ARARs can be found in Appendix F.

The 2002 Preliminary Health Assessment was reviewed for this FYR to identify any changes in exposure or toxicity that would impact protectiveness. The health assessment stated that the Site was not considered to be a public health concern because of the absence of human exposure to hazardous substances. This conclusion is still valid.

To evaluate whether changes in toxicity might affect the protectiveness of the remedy, the cleanup standards were compared to EPA's current Regional Screening Levels (RSLs). The RSLs are chemical-specific concentrations for individual contaminants that correspond to an excess cancer risk level of  $1 \times 10^{-6}$  (or a Hazard Quotient of 1 for noncarcinogens), and they have been developed for a variety of exposure scenarios. The EPA acceptable risk range is between  $1 \times 10^{-6}$  to  $1 \times 10^{-4}$ . The cleanup standards fell within the acceptable ranges for cancer and non-cancer risk. Therefore, the remedy is considered protective.

The vapor intrusion pathway was evaluated in 2010 by collecting indoor air samples. The results were compared to the EPA RSLs for industrial indoor air. The RSLs for TCE and vinyl chloride in industrial indoor air have been lowered since the last Five-Year Review. However, measured concentrations of these compounds in the groundwater and indoor air indicate no significant risk from vapor intrusion at the

Site for industrial receptors. Vapor intrusion is not a concern at the Site as long as the land use remains industrial.

The 1990 remedial investigation/feasibility study (RI/FS) examined ecological risk and concluded that there is no probable pathway for exposure to critical habitats or endangered species. This conclusion is still accurate for this FYR.

In February 2014, the EPA provided supplemental guidance that updated the standard default exposure factors (OSWER Directive 9200.1-120). However, the changes in the recommended default exposure factors do not affect the risk estimates in a way that could impact the protectiveness of the remedy.

No new human or ecological receptors were noted during the Site inspection.

Additional details regarding exposure assumptions, toxicity data, and cleanup standards can be found in Appendix G.

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

No weather-related events have affected the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

### *5.4. Issues and Recommendations*

No issues affecting protectiveness were identified during this FYR.

### *5.5. Other Findings*

Stellar Environmental Solutions, Inc. (SES) has recommended bioremediation product be injected locally at well SC3-3Rep in an effort to reduce the TCE concentration to below the MCL. Since SC3-3Rep is the only well remaining with concentrations of TCE above the MCL, this effort may accelerate deletion of the Site from the NPL.

## 6. Protectiveness Statement

<b>Sitewide Protectiveness Statement</b>	
<i>Protectiveness Determination:</i> Protective	<i>Planned Addendum Completion Date:</i>
<i>Protectiveness Statement:</i> The remedy at the Site is protective of human health and the environment. The groundwater contamination has been reduced below drinking water standards (MCLs) in all but a very limited area. Any groundwater exposure pathway that could result in unacceptable risks is currently being controlled through the use of a land use covenant that restricts soil excavation and property development, and prohibits the drilling of groundwater wells.	

## 7. Next Review

The next Five-Year Review report for the Intel (Santa Clara III) Superfund Site is required five years from the completion date of this review. The anticipated date for the next Five-Year Review is June 30, 2021.

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# **Appendix A: List of Documents Reviewed**

## List of Documents Reviewed

- Intel. 1990. *Remedial Investigation Feasibility Study for the Intel Santa Clara III Superfund Site, Santa Clara, California*. February 1990.
- United States Environmental Protection Agency (EPA). 1990. *Record of Decision: Intel (Santa Clara III), CA*. September 20.
- EPA. 2010. *Record of Decision Amendment for the Intel Santa Clara 3 Superfund Site, Santa Clara, California*. September 7.
- EPA. 2011 *Fourth Five-Year Review Report for the Intel Santa Clara III Superfund Site, Santa Clara, California*. June 1.
- EPA. 2014. Recommended Approach for Evaluating Completion of Groundwater Restoration Remedial Actions at Groundwater Monitoring Wells. OSWQER 9283.1-44. August 2014.
- Stellar Environmental Solution, Inc. (SES).2010. *Indoor Air Survey Letter of Findings, Intel SC-3 Facility, 2880 Northwestern Parkway, Santa Clara, California*. March 7.
- SES. 2011. *Groundwater Monitoring Plan for Former Intel Santa Clara 3 Facility, Santa Clara, California*. October.
- SES. 2012. *Year 2012 Annual Groundwater Monitoring Report, Intel SC-3 Facility, 2880 Northwestern Parkway, Santa Clara, California*. May 12.
- SES. 2013. *Year 2013 Annual Groundwater Monitoring Report, Intel SC-3 Facility, 2880 Northwestern Parkway, Santa Clara, California*. June 28.
- SES. 2014. *Year 2014 Annual Groundwater Monitoring Report, Intel SC-3 Facility, 2880 Northwestern Parkway, Santa Clara, California*. May 22.
- SES. 2015. *Year 2015 Annual Groundwater Monitoring Report, and Well SC3-3Rep Temporary Discharge Report, Intel SC-3 Facility, 2880 Northwestern Parkway, Santa Clara, California*. August.

# Appendix B: Public Notice

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...world.

...aching Out" recounts undergraduate experiences at Santa Clara University, where, torn between academic ability and a sense of duty to family, he persevered and earned a B.A. degree. Marching alongside Cesar Chavez in the boycott of grapes focused on social justice.

Jiménez then read selections of "Holding On," his 2015 book about attending graduate school at Columbia University in New York City, where he received a Ph.D. degree in Latin American literature.

Concluding his talk, Jiménez told why he writes and reads others to tell their stories, calling multiliteracy "a part of the task for a learned society."

He tasks teachers, scholars and writers to recover, analyze and present ethnic groups that enrich our diverse society. We look through and expand our culture through texts that tell our culturally diverse stories," said Jiménez.

He emphasized the importance of multiliteracy to a large degree in my writing. I wrote... a recent part of my family's history, more importantly, to the experiences of Mexican immigrants, some of whom are farm workers, whose struggles and hopes and for a better life for their and their children's child have meaning to the term American dream. Their story is a poignant and integral part of our American story. It is your story.

Through sharing stories, Jiménez concluded, "We make connections... we break down at separate us...we are enriched and, consequently, comfort and rejoice in our humanity."

— Jimé

ip://2/ media :z2011



The entire on-duty Santa Clara police force turned out Feb. 4 to pick up the K9 trauma kits donated to the K9 unit

By Diane Andrews

As part of its year-round outreach to the Santa Clara Police Department (SCPD) K9 Unit, VCA Lawrence Animal Hospital in Santa Clara, donated two backpacks literally stuffed with emergency medical treatment supplies for the K9 unit on Feb. 4, just in time for Super Bowl 50.

The K9 trauma kits contain everything that might be needed, from simple bandages to medication and protective wear, for on-site emergency treatment in case of injury to one of SCPD's four service dogs—or to any other K9 on Super Bowl 50 duty.

"Absolutely, a huge thank you to VCA Lawrence for their generous donation of these two trauma kits," SCPD K9 Unit Sergeant Kevin Fraser wrote in an email. These kits were rolled out prior to Super Bowl 50 and were strategically placed at the various venues during the events leading up to the Super Bowl. The kits were available to ALI, of the allied agencies during the week's events."

The trauma kits now augment the existing K9 kits that the dog handlers always carry in their assigned patrol vehicles.

Because of the dangerous and potentially violent nature of some of the crimes that a

medical care. The training covers treating everything from a cut to the foot, scrapes, broken bones and poisoning to blunt force trauma, stab wounds and gunshot wounds.

A number of years ago, a SCPD K9 was stabbed in the top of the shoulder while apprehending of a suspect, and its handler was able to dress its wounds. The K9 recovered fully and returned to work a few weeks later.

"We're always looking for ways to work for the community," says VCA Lawrence Animal Hospital manager An-

"The police department was so excited and happy that the entire on-duty staff came out to receive the packs," says Gera. "But only one dog! We'll replenish the packs quarterly."

VCA Lawrence Animal Hospital doctors are also involved in community spay and neuter clinics and school outreach to teach children about pet care and health. Coordinating with Kaiser Permanente Medical Center, they provide disaster relief for pets.

The animal hospital, (408) 296-3300, provides year-round, low-cost, routine care to SCPD K9s. It also offers low-cost care to police officers' personal pets.

VCA Lawrence Animal Hospital, 771 Lawrence Expressway, is part of the Veterinary Centers of America (www.vcahospitals.com), which was founded in 1986 in West Los Angeles and is now the largest animal health care provider in the U.S.

  
**PUBLIC NOTICE**  
**THE U.S. ENVIRONMENTAL PROTECTION AGENCY BEGINS FIFTH FIVE-YEAR REVIEW OF CLEANUP AT THE INTEL SANTA CLARA III SUPERFUND SITE**

The U.S. Environmental Protection Agency (EPA) has begun a fifth Five-Year Review (FYR) of the cleanup at the Intel Santa Clara III Superfund Site (Site) in Santa Clara, CA. This action will review the existing groundwater remedy at the Site, and past FYR remedial actions. When cleanup takes more than five years to complete, Superfund requires periodic EPA review. EPA is reviewing the Site's progress in meeting cleanup goals and the need for additional remedial actions. The last Five-Year Review, completed in 2011, found that the cleanup was protective of human health and the environment.

**THE REVIEW PROCESS**  
The primary purpose of a FYR is to find out whether a site remedy remains protective of human health and the environment, when hazardous substances remain at a site which present a potential risk to human health and the environment. As part of the review, EPA assesses 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.

**SITE BACKGROUND**  
Intel used the Site from 1975-2008 for performing quality control of chemicals and electrical testing of semiconductor, and has since been redeveloped as a data storage center. The groundwater beneath the Site is contaminated with volatile organic compounds (VOCs), including trichloroethylene (TCE), which was a commonly used cleaning solvent. EPA added the Site to the Superfund list in 1986 and selected a remedy in 1990. The groundwater treatment system successfully removed most of the contamination, and has since been removed. Only one well currently shows TCE above cleanup goals. In 2010 EPA signed a Record of Decision Amendment to change the remedy to monitored natural attenuation, a process by which contaminated groundwater is cleaned-up by natural forces.

**SITE PROTECTIONS**  
Groundwater at the Site is not currently used for drinking water. Additionally, in 2010, indoor air samples at the Site showed levels were protective for workers at the building.

**COMMUNITY INVOLVEMENT**  
If you have any concerns about the Site, and particularly if you have direct knowledge regarding the operation and maintenance of the remedy, then EPA would like to talk with you. Please contact the Community Involvement Coordinator, Alejandro Diaz, [diaz\\_alejandro@epa.gov](mailto:diaz_alejandro@epa.gov) or 415-907-3942. The FYR is scheduled for completion by the end of September 2015, and the report will be available at the Santa Clara City Library at 2635 Homestead Road and online at <http://www3.epa.gov/region9/superfund/santaclarasuperfund.htm>

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# Appendix C: Data Review

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## Data Review for Intel Santa Clara III

EPA reviewed groundwater monitoring data from 2011 to 2015, as well as historical TCE data for wells SC3-1, SC3-3, and SC3-7A (and their replacements, denoted by “Rep” on the end of the well name) back to 2002 as part of this FYR (SES 2011, 2012, 2013, 2014, 2015). The current groundwater monitoring program was planned to consist of seven wells. However, in 2013 the upper portion of the well SC3-9A casing was sheared off and the well was paved over by property owner site redevelopment activity. Well SC3-9A was relocated in 2015 but was not sampled. Well SC3-9A had not shown any detected VOCs in 20 years, so it was decided that the well did not need to be replaced and it was closed, leaving six actively monitored wells in the groundwater monitoring program. Three wells (SC3-2, SC3-5A, and SC3-6) have been non-detect for TCE over the past five years.

Groundwater elevation measurements from 2011 to 2015 indicated that horizontal groundwater flow is generally toward the north (e.g., Figure D1). From 2011 to 2015, groundwater elevations have decreased between 0.91 feet (in well SC3-3Rep) and 3.22 feet (in well SC3-6.)

From 2011 to 2015, TCE was consistently detected above its MCL only in well SC3-3 (and its replacement SC3-3Rep). TCE was detected below its MCL in well SC3-1Rep for all five sampling events (2011-2015). Cis-1,2-DCE was detected below its MCL in well SC3-6 for the four sampling events from 2012 to 2015. Freon 113 was detected well below its MCL and only slightly above its detection limit in well SC3-3Rep in the 2014 and 2015 sampling events. Figures C2a and C2b show the estimated change in extent of the TCE groundwater plume that is above its MCL from August 1989 to June 2015.

Historical TCE concentrations and trends in wells SC3-1, SC3-3, and SC3-7A (and their replacements) are shown in Figures C3, C4, and C5, respectively. TCE concentrations generally have been decreasing in all three wells since 2002.

EPA’s Groundwater Statistics Tool (EPA 2014) was used to evaluate TCE concentrations for wells SC3-1Rep to determine whether groundwater restoration is complete at that well. Well SC3-3Rep was not evaluated because TCE concentrations have not been recently or consistently below the cleanup level; it is obvious that restoration has not been achieved in Well SC3-3Rep. Well SC3-7ARep was not evaluated because TCE concentrations in the five most recent samples have been non-detect; attainment of restoration is likely to be shown by continued monitoring. The two steps the Groundwater Statistics Tool uses to determine whether restoration has been attained are as follows:

- The 95 percent upper confidence limit (95% UCL) is compared with the cleanup standard. If the 95% UCL value is above the cleanup level, it is appropriate to conclude that the cleanup level has not been met. In this case, the analysis can stop; additional monitoring or remediation is generally warranted. If the 95% UCL is at or below the cleanup level, then it is generally appropriate to conclude that the cleanup level has been met.
- If the 95% UCL is below the cleanup level, the next recommended step is an evaluation of whether the groundwater will continue to meet the contaminant cleanup level in the future. A statistical analysis is used to analyze the concentration trend over time. If the trend line has a statistically significant flat or downward slope, it is appropriate to conclude that contaminant concentrations will remain at or below the cleanup level, and that restoration has been attained. In general, if the trend has a statistically significant upward slope, a determination that the groundwater will continue to meet the cleanup level may be premature and additional monitoring is recommended to evaluate the possibility of contaminant rebound.

For the restoration attainment analysis, the Groundwater Statistics Tool recommends a minimum of eight data points and requires a minimum of four detected data points. The eight most recent TCE concentrations for well SC3-1Rep (i.e., annual sampling data from 2008 to 2015) were used. For TCE in well SC3-1Rep, the calculated 95% UCL is 5.22, which is just slightly above the cleanup level. These results suggest that the TCE cleanup level has not been met in wells SC3-1Rep, and that additional monitoring is warranted.

Because the TCE concentrations in wells SC3-1Rep and SC3-7ARep have been below cleanup standards for the last 7 and 5 sampling events, respectively, and the trends in TCE concentration are downward, it is expected that restoration will be attained in wells SC3-1Rep and SC3-7ARep within the next Five-Year review period. Inputs and outputs from the Groundwater Statistics Tool are provided in Attachment C1.

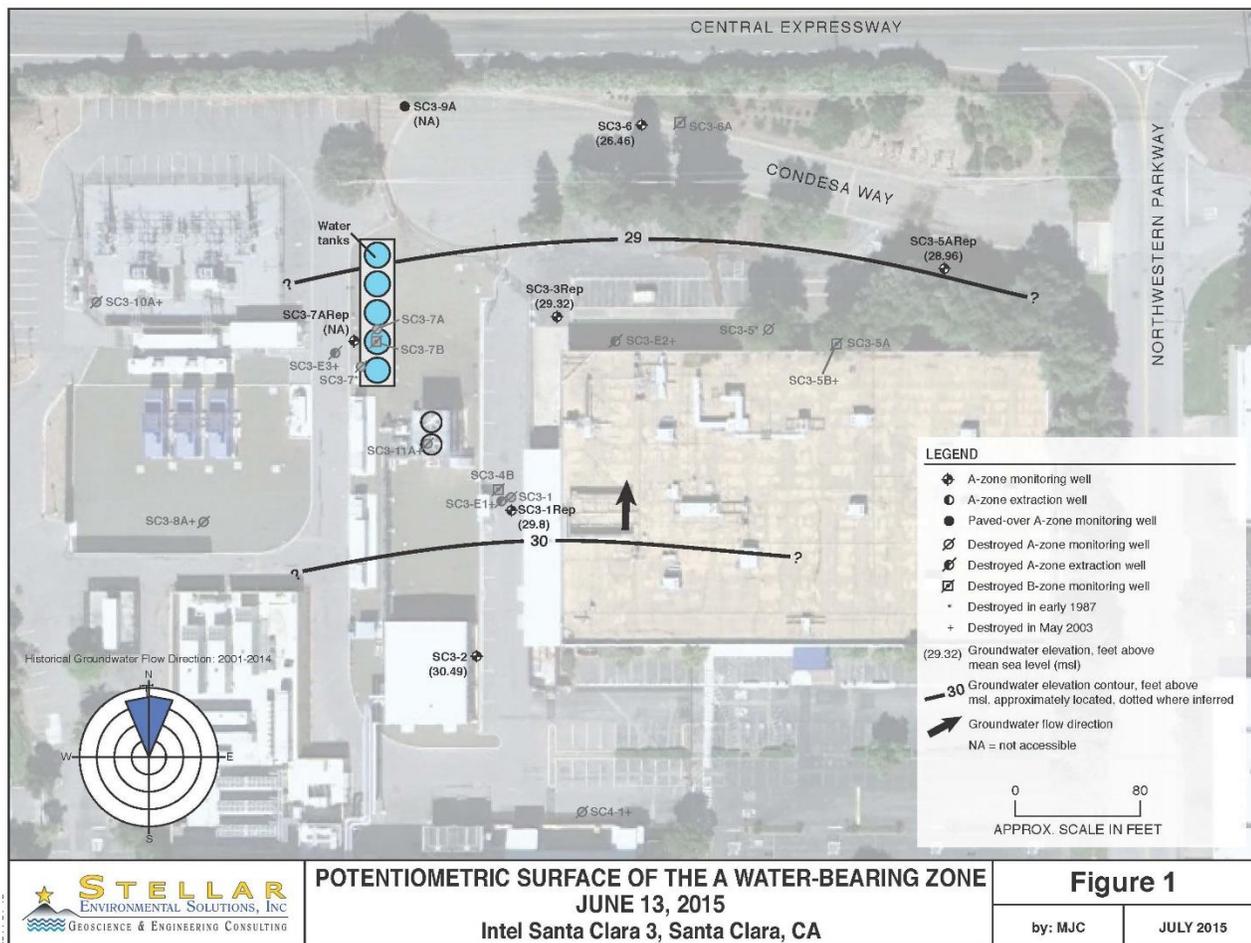


Figure C1. Potentiometric Surface of the Water-Bearing A-Zone, June 13, 2015 (SES 2015)

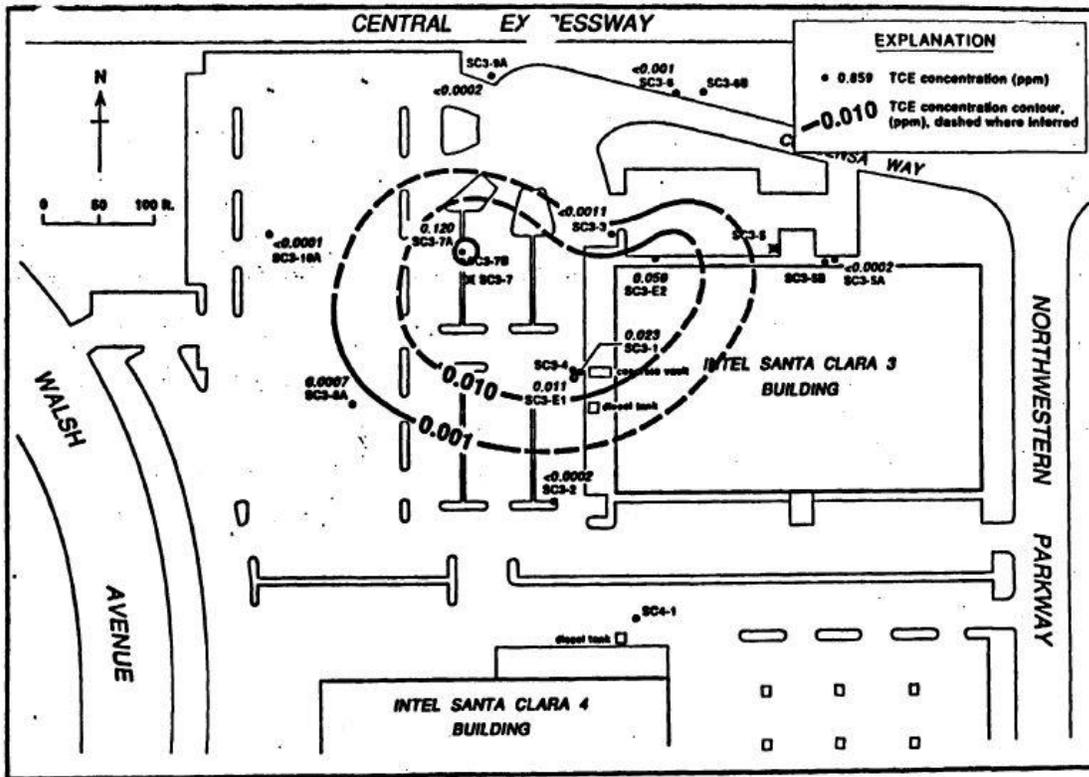
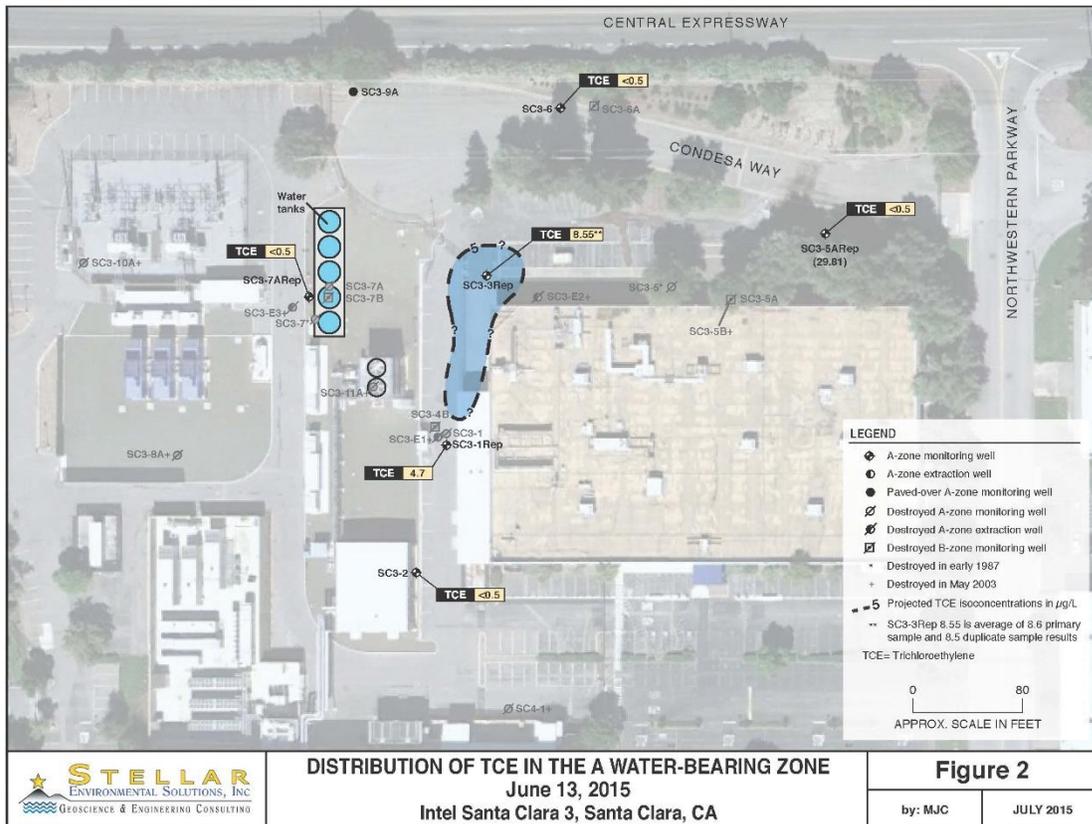


Figure C2a. Distribution of TCE in the Water-Bearing A-Zone, August 16, 1989



DISTRIBUTION OF TCE IN THE A WATER-BEARING ZONE  
June 13, 2015  
Intel Santa Clara 3, Santa Clara, CA

Figure 2

by: MJC JULY 2015

Figure C2b. Distribution of TCE in the Water-Bearing A-Zone, June 13, 2015 (SES 2015)

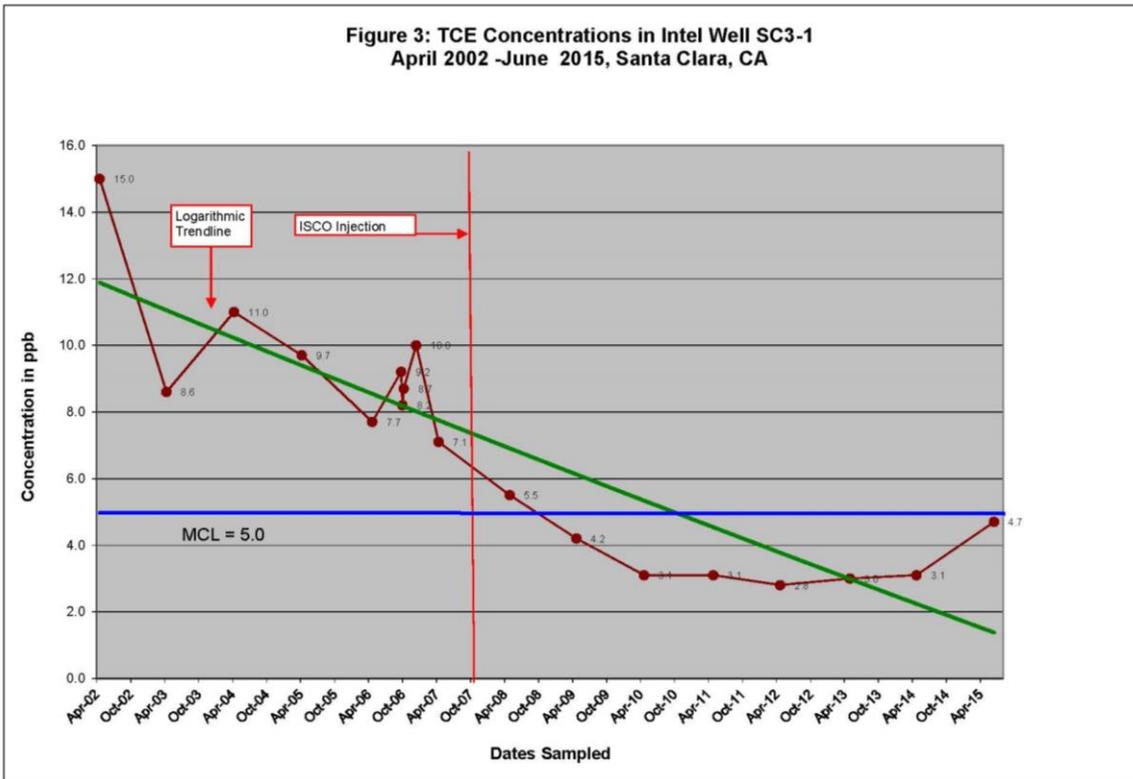


Figure C3. TCE Concentrations in Intel Well SC3-1, April 2002 – June 2015, Santa Clara, CA (SES 2015)

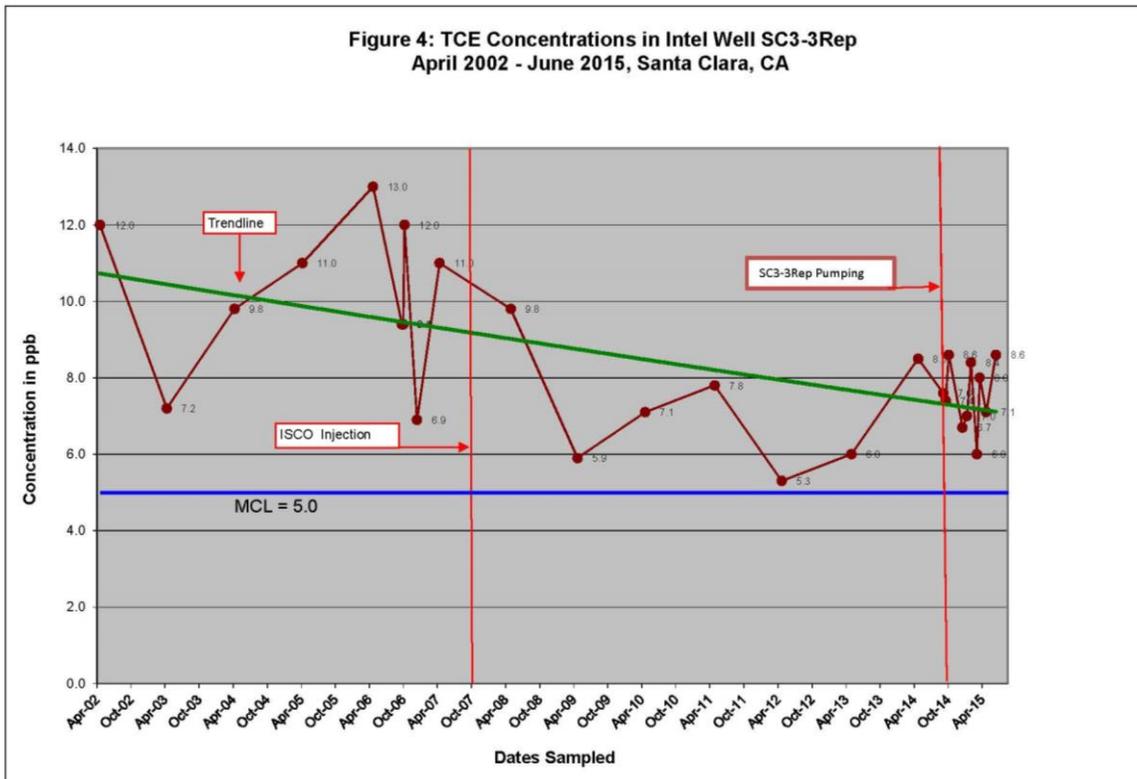


Figure C4. TCE Concentrations in Intel Well SC3-3Rep, April 2002 – June 2015, Santa Clara, CA (SES 2015)

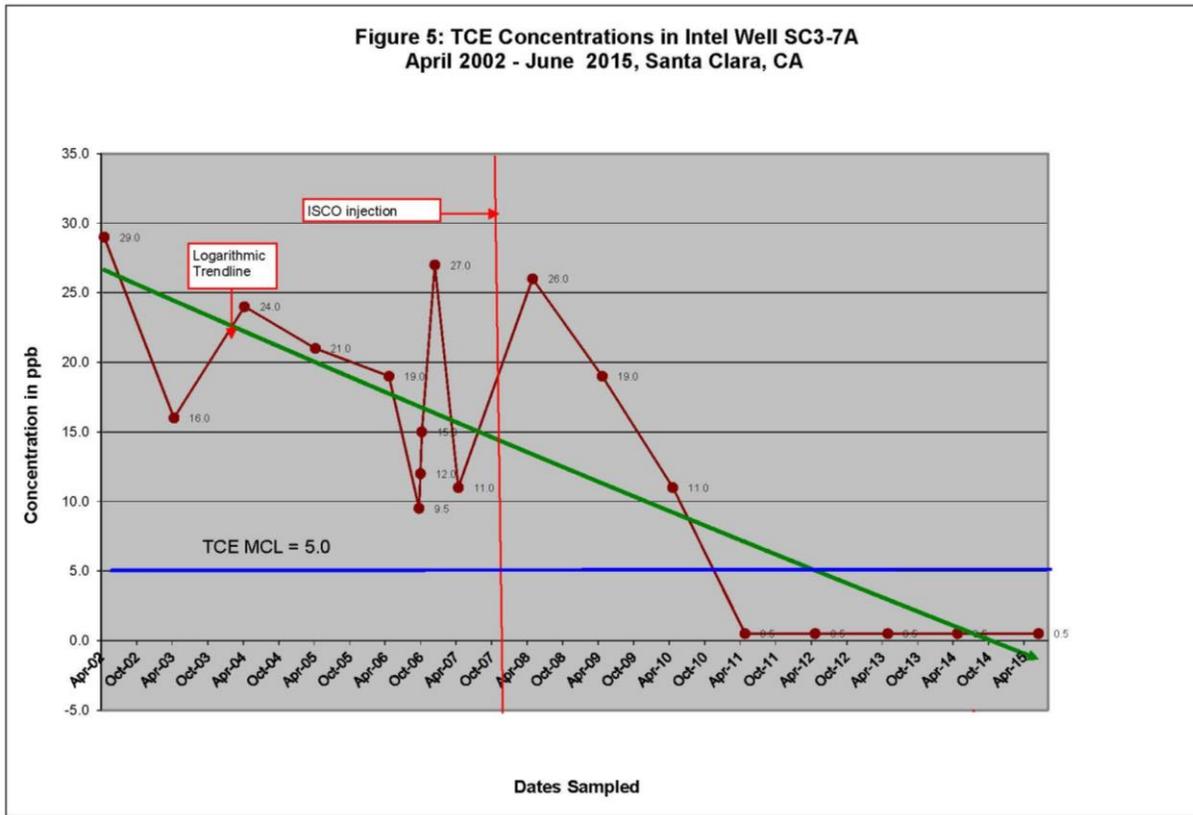


Figure C5. TCE Concentrations in Intel Well SC3-7A, April 2002 – June 2015, Santa Clara, CA (SES 2015)

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**ATTACHMENT C1 – GROUNDWATER STATISTICS TOOL AND PROUCL INPUTS AND OUTPUTS**

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# Groundwater Statistics Tool

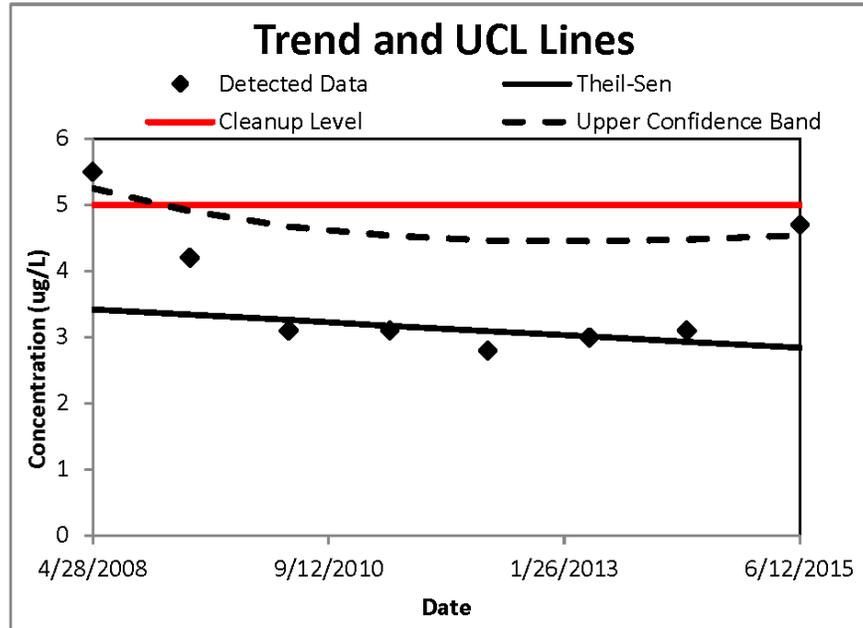
## UCL calculations and summary statistics for nonparametric data sets

Site Name	Intel
Operating Unit (OU)	0
Type of Evaluation	Attainment
Date of Evaluation	12/14/2015
Person performing analysis	Aaron King

Chemical of Concern	TCE
Well Name/Number	SC3-1
Date Units	Date
Concentration Units	ug/L

Confidence Level	95%
Number of results	8
Number < cleanup level	7
Are any potential outliers present?	No
Mean of concentration	3.69
Standard deviation of concentration	0.991

95% Upper Confidence Limit (UCL)	5.22
Method for calculating UCL	Chebyshev UCL
Value of 95% Upper Confidence Band value at final sampling event	4.54
Trend calculation method	Theil-Sen/Mann-Kendall
Cleanup level	5
Source of cleanup level	MCL
Is the trend decreasing or statistically insignificant?	Yes



When is the concentration predicted to exceed the MCL?	Not applicable - slope is not statistically increasing
Random Seed Used	34976.82813
Message: None.	

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# **Appendix D: Site Inspection Checklist and Interview Record**

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4.	<b>Other interviews</b> (optional) <input type="checkbox"/> Report attached.
none	
<b>III. ON-SITE DOCUMENTS &amp; RECORDS VERIFIED</b> (Check all that apply)	
1.	<p><b>O&amp;M Documents</b></p> <p><input type="checkbox"/> O&amp;M manual                      <input type="checkbox"/> Readily available                      <input type="checkbox"/> Up to date                      <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> As-built drawings                      <input type="checkbox"/> Readily available                      <input type="checkbox"/> Up to date                      <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Maintenance logs                      <input type="checkbox"/> Readily available                      <input type="checkbox"/> Up to date                      <input checked="" type="checkbox"/> N/A</p> <p>Remarks - <i>The contractor has well logs and provides updates on well maintenance/repair in reports.</i></p>
2.	<p><b>Site-Specific Health and Safety Plan</b>                      <input checked="" type="checkbox"/> Readily available                      <input checked="" type="checkbox"/> Up to date                      <input type="checkbox"/> N/A</p> <p>Contingency plan/emergency response plan                      <input checked="" type="checkbox"/> Readily available                      <input checked="" type="checkbox"/> Up to date                      <input type="checkbox"/> N/A</p> <p>Remarks - <i>The contractor keeps a health and safety plan for samplers.</i></p>
3.	<p><b>O&amp;M and OSHA Training Records</b>                      <input type="checkbox"/> Readily available                      <input type="checkbox"/> Up to date                      <input type="checkbox"/> N/A</p> <p>Remarks - <i>The contractor keeps OSHA training records for samplers.</i></p>
4.	<p><b>Permits and Service Agreements</b></p> <p><input type="checkbox"/> Air discharge permit                      <input type="checkbox"/> Readily available                      <input type="checkbox"/> Up to date                      <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Effluent discharge                      <input type="checkbox"/> Readily available                      <input type="checkbox"/> Up to date                      <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Waste disposal, POTW                      <input type="checkbox"/> Readily available                      <input type="checkbox"/> Up to date                      <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Other permits _____                      <input type="checkbox"/> Readily available                      <input type="checkbox"/> Up to date                      <input checked="" type="checkbox"/> N/A</p> <p>Remarks</p>
5.	<p><b>Gas Generation Records</b>                      <input type="checkbox"/> Readily available                      <input type="checkbox"/> Up to date                      <input checked="" type="checkbox"/> N/A</p> <p>Remarks</p>
6.	<p><b>Settlement Monument Records</b>                      <input type="checkbox"/> Readily available                      <input type="checkbox"/> Up to date                      <input checked="" type="checkbox"/> N/A</p> <p>Remarks</p>

7.	<b>Groundwater Monitoring Records</b>	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks - <i>Groundwater monitoring reports are submitted annually</i>				
8.	<b>Leachate Extraction Records</b>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks -				
9.	<b>Discharge Compliance Records</b>			
	<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks -				
10.	<b>Daily Access/Security Logs</b>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks <i>The site is tightly secured by the property owner; the only way through the gate is with the permission of on-site security.</i>				
<b>IV. O&amp;M COSTS</b>				
1.	<b>O&amp;M Organization</b>			
	<input type="checkbox"/> State in-house	<input type="checkbox"/> Contractor for State		
	<input type="checkbox"/> PRP in-house	<input checked="" type="checkbox"/> Contractor for PRP		
	<input type="checkbox"/> Federal Facility in-house	<input type="checkbox"/> Contractor for Federal Facility		
	<input type="checkbox"/> Other _____			
	_____			
2.	<b>O&amp;M Cost Records</b>			
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date		
	<input checked="" type="checkbox"/> Funding mechanism/agreement in place			
	Original O&M cost estimate _____			<input type="checkbox"/> Breakdown attached
Total annual cost by year for review period if available				
Not available				

3.	<b>Unanticipated or Unusually High O&amp;M Costs During Review Period</b>
	Describe costs and reasons: <u>none</u>
<b>V. ACCESS AND INSTITUTIONAL CONTROLS</b> <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A	
<b>A. Fencing</b>	
1.	<b>Fencing damaged</b> <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Gates secured <input type="checkbox"/> N/A
	Remarks <u>Fencing and gates are in good condition.</u>
<b>B. Other Access Restrictions</b>	
1.	<b>Signs and other security measures</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A
	Remarks <u>Security personnel for the property owner are present. Gates operated by security personnel.</u>

**C. Institutional Controls (ICs)**

**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

Type of monitoring (*e.g.*, self-reporting, drive by) \_\_\_\_\_

Frequency \_\_\_\_\_

Responsible party/agency \_\_\_\_\_

Contact \_\_\_\_\_

Name

Title

Date Phone no.

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

Other problems or suggestions:  Report attached

**2. Adequacy**  ICs are adequate  ICs are inadequate  N/A

Remarks

**D. General**

**1. Vandalism/trespassing**  Location shown on site map  No vandalism evident

Remarks

**2. Land use changes on site**  N/A

Remarks

3.	<b>Land use changes off site</b>	<input checked="" type="checkbox"/> N/A
Remarks		
<b>VI. GENERAL SITE CONDITIONS</b>		
<b>A. Roads</b> <input type="checkbox"/> Applicable <input type="checkbox"/> N/A		
1.	<b>Roads damaged</b>	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Roads adequate <input type="checkbox"/> N/A
Remarks		
<b>B. Other Site Conditions</b>		
Remarks <u>Site is small and well-secured. Operations still take place on site, but these do not interfere with remedy.</u>		
<b>VII. LANDFILL COVERS</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
<b>VIII. VERTICAL BARRIER WALLS</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
<b>IX. GROUNDWATER/SURFACE WATER REMEDIES</b> <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A		
<b>A. Groundwater Extraction Wells, Pumps, and Pipelines</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
<b>B. Surface Water Collection Structures, Pumps, and Pipelines</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
<b>C. Treatment System</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
<b>D. Monitoring Data</b>		
1.	Monitoring Data	<input checked="" type="checkbox"/> Is routinely submitted on time <input checked="" type="checkbox"/> Is of acceptable quality
2.	Monitoring data suggests:	<input checked="" type="checkbox"/> Groundwater plume is effectively contained <input checked="" type="checkbox"/> Contaminant concentrations are declining (generally over the long-term)
<b>E. Monitored Natural Attenuation</b>		
1.	<b>Monitoring Wells</b> (natural attenuation remedy)	
	<input checked="" type="checkbox"/> Properly secured/locked	<input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition
	<input type="checkbox"/> All required wells located	<input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A
Remarks <u>Wells SC3-1Rep, SC3-3Rep, and SC3-7ARep were located.</u>		
<b>X. OTHER REMEDIES</b>		
<u>none</u>		

<b>XI. OVERALL OBSERVATIONS</b>	
<b>A.</b>	<b>Implementation of the Remedy</b>
	<p>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.).</p> <p><i>Generally, concentrations are declining and the plume does not appear to be migrating. The TCE concentrations in one well are still slightly above the MCL, and have been for many years.</i></p>
<b>B.</b>	<b>Adequacy of O&amp;M</b>
	<p>Describe issues and observations related to the implementation and scope of O&amp;M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.</p> <p><i>The current sampling routine is adequate.</i></p>
<b>C.</b>	<b>Early Indicators of Potential Remedy Problems</b>
	<p>Describe issues and observations such as unexpected changes in the cost or scope of O&amp;M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.</p> <p><i>TCE concentrations have nearly always been above the MCL in well SC3-3Rep, and have been just slightly above the MCL recently. A single-injection ISCO event in 2007 and a pumping event in 2015 in SC3-3Rep only have not successfully reduced the TCE concentration in SC3-3Rep below the MCL. TCE could be slowly diffusing out of lower permeability materials.</i></p>
<b>D.</b>	<b>Opportunities for Optimization</b>
	<p>Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.</p> <p><i>Less frequent monitoring may be an option, but then it would take longer to show that TCE concentrations in some wells are statistically below the cleanup level.</i></p>

Five-Year Review Interview Record					
<b>Site:</b>	Intel (Santa Clara III)			<b>EPA ID No:</b>	
Interview Type: Visit Location of Visit: Santa Clara, CA Date: January 14, 2016 Time: 11:30					
Interviewers					
<b>Name</b>			<b>Title</b>	<b>Organization</b>	
Aaron King			Environmental Engineer	USACE	
Interviewees					
<b>Name</b>	<b>Organization</b>	<b>Title</b>	<b>Telephone</b>	<b>Email</b>	
Henry Pietropaoli	Stellar Environmental Solutions, Inc.	Senior Geologist/Project Manger	(510) 644-3123	hpietropaoli@stellar-environmental.com	
Summary of Conversation					
<p>1) What is your overall impression of the project?</p> <p><i>The project has been long and drawn-out simply because the nature of the COC concentrations. The ISCO injection and pumping at SC3-3Rep don't appear to have worked, and it's disappointing considering how proactive Intel has been.</i></p> <p>2) Is the remedy functioning as expected? How well is the remedy performing?</p> <p><i>The pumping at SC3-3Rep was not performing as well as expected during its operation. TCE concentrations in just one well are still above the cleanup level.</i></p> <p>3) What does the monitoring data show? Are there any trends that show contaminant levels are decreasing?</p> <p><i>20 year trends show that concentrations are decreasing; lately, concentrations have been asymptotic and there is no seasonal variation.</i></p> <p>4) Is there a continuous O&amp;M presence? If so, please describe staff and activities. If there is not a continuous on-site presence, describe staff and frequency of site inspections and activities.</p> <p><i>Annual groundwater monitoring.</i></p> <p>5) Have there been any significant changes in the O&amp;M requirements, maintenance schedules, or sampling routines in the last five years? If so, do they affect protectiveness of the remedy? Please describe changes and impacts.</p> <p><i>No.</i></p> <p>6) What are the annual operating costs for your organization's involvement with the site?</p> <p><i>Not available.</i></p> <p>7) Have there been unexpected O&amp;M difficulties or costs at the site in the last five years? If so, please give details.</p> <p><i>No.</i></p> <p>8) Have there been opportunities to optimize O&amp;M or sampling efforts? Please describe changes and resultant or desired cost savings or improved efficiency.</p> <p><i>No.</i></p> <p>9) Are you aware of any changes in Federal/State/County/Local laws and regulations that may impact the protectiveness of the remedy?</p> <p><i>No.</i></p> <p>10) Do you have any comments, suggestions, or recommendations regarding the project?</p> <p><i>Intel is amenable to anything that could be done to expedite the closure of the site.</i></p>					

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# Appendix E: Title Report

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**First American Title Company**  
**National Commercial Services**  
1737 North First Street, Suite 500  
San Jose, CA 95112

Richard S. Makdisi  
STELLAR ENVIRONMENTAL SOLUTIONS, INC.  
2198 Sixth Street, Suite 201  
Berkeley, CA 94710  
Phone: (510)644-3123

Customer Reference: 2880 Northwestern Parkway  
Property: 2880 Northwestern Parkway, Santa Clara, CA

**PRELIMINARY REPORT**

In response to the above referenced application for a policy of title insurance, this company hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an Exception below or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Exhibit A attached. *The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties.* Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

**Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.**

**It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.**

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

*First American Title Insurance Company*

Dated as of March 09, 2016 at 7:30 A.M.

The form of Policy of title insurance contemplated by this report is:

To Be Determined

A specific request should be made if another form or additional coverage is desired.

Title to said estate or interest at the date hereof is vested in:

Vantage Data Centers 3, LLC, a Delaware limited liability company

The estate or interest in the land hereinafter described or referred to covered by this Report is:

FEE

The Land referred to herein is described as follows:

(See attached Legal Description)

At the date hereof exceptions to coverage in addition to the printed Exceptions and Exclusions in said policy form would be as follows:

1. General and special taxes and assessments for the fiscal year 2016-2017, a lien not yet due or payable.
2. General and special taxes and assessments for the fiscal year 2015-2016.

First Installment:	\$160,953.57, PAID
Penalty:	\$0.00
Second Installment:	\$160,953.57, OPEN
Penalty:	\$0.00
Tax Rate Area:	07-014
A. P. No.:	216-28-118
3. The lien of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation Code.
4. An easement for pole line and incidental purposes, recorded August 13, 1962 as [Book 5681, Page 461](#) of Official Records.

In Favor of:	City of Santa Clara, a municipal corporation
Affects:	As described therein

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5. An easement for landscape improvements and incidental purposes, recorded December 08, 1970 as [Book 9148, Page 270](#) of Official Records.  
In Favor of: City of Santa Clara  
Affects: As described therein
6. An easement for sanitary sewer lines and incidental purposes, recorded May 03, 1971 as [Book 9313, Page 621](#) of Official Records.  
In Favor of: City of Santa Clara, a municipal corporation  
Affects: As described therein
7. An easement for installing, maintaining, repairing and replacing underground electrical systems and incidental purposes, recorded March 13, 1975 as [Book B317, Page 97](#) of Official Records.  
In Favor of: City of Santa Clara, a municipal corporation  
Affects: As described therein
8. An easement shown or dedicated on the map of PARCEL MAP recorded February 27, 1981 and on file in [Book 480, Page 27](#), of Parcel Maps.  
For: General Purpose and incidental purposes.
9. Abutter's rights of ingress and egress to or from CENTRAL EXPRESSWAY, have been dedicated or relinquished on the map of PARCEL MAP on file in [book 480, page 27](#), of Parcel Maps.
10. An easement for public utilities and incidental purposes, recorded February 10, 1988 as [Book K443, Page 352](#) of Official Records.  
In Favor of: City of Santa Clara  
Affects: as described therein

The location of the easement cannot be determined from record information.

11. Covenants, conditions, restrictions and easements in the document recorded September 11, 1991 as [Book L854, Page 0764](#) of Official Records, which provide that a violation thereof shall not defeat or render invalid the lien of any first mortgage or deed of trust made in good faith and for value, but deleting any covenant, condition or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, handicap, familial status, national origin, sexual orientation, marital status, ancestry, source of income or disability, to the extent such covenants, conditions or restrictions violate Title 42, Section 3604(c), of the United States Codes or Section 12955 of the California Government Code. Lawful restrictions under state and federal law on the age of occupants in senior housing or housing for older persons shall not be construed as restrictions based on familial status.
12. An easement for constructing and reconstructing, installing, operating, maintaining, repairing and/or replacing underground electrical distribution and/or communication systems and appurtenances thereto and incidental purposes, recorded February 17, 1995 as Instrument No. 12809448, [Book N764, Page 0509](#) of Official Records.  
In Favor of: City of Santa Clara, California, a chartered municipal corporation  
Affects: As described therein

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13. An easement for constructing, reconstructing, installing, operating, maintaining, repairing and/or replacing underground electrical distribution and/or communication systems and incidental purposes, recorded October 20, 2004 as Instrument No. [18056744](#) of Official Records.  
In Favor of: City of Santa Clara, California, a chartered municipal corporation  
Affects: as described therein
14. An easement for constructing, reconstructing, installing, operating, maintaining, repairing and/or replacing underground electrical distribution and/or communication systems and incidental purposes, recorded October 20, 2004 as Instrument No. [18056745](#) of Official Records.  
In Favor of: City of Santa Clara, California, a chartered municipal corporation  
Affects: As described therein
15. The terms and provisions contained in the document entitled "Covenant and Environmental Restriction of Property" recorded January 28, 2008 as Instrument No. [19723940](#) of Official Records.
16. Easements, Covenants and Conditions contained in the deed from Intel Corporation, a Delaware corporation, as Grantor, to Siren Data SC-3, LLC, a Delaware limited liability company, as Grantee, recorded April 14, 2010 as Instrument No. [20676846](#) of Official Records. Reference being made to the document for full particulars.
17. The terms and provisions contained in the document entitled "Memorandum of Environmental Matters and Access Agreement" recorded April 14, 2010 as Instrument No. [20676847](#) of Official Records.
18. A deed of trust to secure the performance of an agreement or other obligation, recorded December 23, 2011 as Instrument No. [21471128](#) of Official Records.  
Dated: December 20, 2011  
Trustor: Vantage Data Centers 3, LLC, a Delaware limited liability company, formerly known as Siren Data SC-3, LLC  
Trustee: Chicago Title Insurance Company, a Nebraska corporation  
Beneficiary: Royal Bank of Canada  
  
A document recorded August 24, 2012 as Instrument No. [21819799](#) of Official Records provides that the deed of trust or the obligation secured thereby has been modified.
19. An easement shown or dedicated on the map of PARCEL MAP recorded November 20, 2013 and on file in [Book 866, Page 11-16](#), of Parcel Maps.  
For: PUBLIC UTILITY, UNDERGROUND ELECTRICAL, ELECTRIC SUBSTATION, SIDEWALK, WIRE CLEARANCE, OVERHEAD ELECTRICAL, EMERGENCY ACCESS, WATER, PRIVATE UTILITY, CROSS ACCESS AND PARKING and incidental purposes.
20. An Amended and Restated deed of trust to secure the performance of an agreement or other obligation, recorded April 15, 2014 as Instrument No. [22567986](#) of Official Records.  
Dated: April 11, 2014  
Trustor: VANTAGE DATA CENTERS 3, LLC, a Delaware limited liability company  
Trustee: CHICAGO TITLE INSURANCE COMPANY, a Nebraska corporation  
Beneficiary: ROYAL BANK OF CANADA, in its capacity as Agent

*First American Title Insurance Company*

A document recorded February 08, 2016 as Instrument No. [23216029](#), of Official Records provides that the Deed of Trust/Mortgage or the obligation secured thereby has been modified.

21. The terms, provisions and easement(s) contained in the document entitled "AGREEMENT AND COVENANT RUNNING WITH THE LAND (PRIVATE CONSTRUCTION OVER PUBLIC EASEMENT)" recorded August 06, 2014 as Instrument No. [22671801](#) of Official Records.
22. Rights of parties in possession.

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**INFORMATIONAL NOTES**

1. According to the latest available equalized assessment roll in the office of the county tax assessor, there is located on the land a(n) Commercial Structure known as 2880 Northwestern Parkway, Santa Clara, California.
2. According to the public records, there has been no conveyance of the land within a period of twenty-four months prior to the date of this report, except as follows:  
  
None
3. This preliminary report/commitment was prepared based upon an application for a policy of title insurance that identified land by street address or assessor's parcel number only. It is the responsibility of the applicant to determine whether the land referred to herein is in fact the land that is to be described in the policy or policies to be issued.
4. Should this report be used to facilitate your transaction, we must be provided with the following prior to the issuance of the policy:
  - A. WITH RESPECT TO A CORPORATION:
    1. A certificate of good standing of recent date issued by the Secretary of State of the corporation's state of domicile.
    2. A certificate copy of a resolution of the Board of Directors authorizing the contemplated transaction and designating which corporate officers shall have the power to execute on behalf of the corporation.
    3. A certificate of revivor and a certificate of relief from contract voidability issued by the Franchise Tax Board of the State of California.
    4. Requirements which the Company may impose following its review of the above material and other information which the Company may require.
  - B. WITH RESPECT TO A CALIFORNIA LIMITED PARTNERSHIP:
    1. A certified copy of the certificate of limited partnership (form LP-1) and any amendments thereto (form LP-2) to be recorded in the public records;
    2. A full copy of the partnership agreement and any amendments;
    3. Satisfactory evidence of the consent of a majority in interest of the limited partners to the contemplated transaction;
    4. A certificate of revivor and a certificate of relief from contract voidability issued by the Franchise Tax Board of the State of California.
    5. Requirements which the Company may impose following its review of the above material and other information which the Company may require.
  - C. WITH RESPECT TO A FOREIGN LIMITED PARTNERSHIP:
    1. A certified copy of the application for registration, foreign limited partnership (form LP-5) and any amendments thereto (form LP-6) to be recorded in the public records;
    2. A full copy of the partnership agreement and any amendment;
    3. Satisfactory evidence of the consent of a majority in interest of the limited partners to the contemplated transaction;

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4. A certificate of revivor and a certificate of relief from contract voidability issued by the Franchise Tax Board of the State of California.
  5. Requirements which the Company may impose following its review of the above material and other information which the Company may require.
- D. WITH RESPECT TO A GENERAL PARTNERSHIP:
1. A certified copy of a statement of partnership authority pursuant to Section 16303 of the California Corporation Code (form GP-I), executed by at least two partners, and a certified copy of any amendments to such statement (form GP-7), to be recorded in the public records;
  2. A full copy of the partnership agreement and any amendments;
  3. Requirements which the Company may impose following its review of the above material required herein and other information which the Company may require.
- E. WITH RESPECT TO A LIMITED LIABILITY COMPANY:
1. A copy of its operating agreement and any amendments thereto;
  2. If it is a California limited liability company, a certified copy of its articles of organization (LLC-1) and any certificate of correction (LLC-11), certificate of amendment (LLC-2), or restatement of articles of organization (LLC-10) to be recorded in the public records;
  3. If it is a foreign limited liability company, a certified copy of its application for registration (LLC-5) to be recorded in the public records;
  4. With respect to any deed, deed of trust, lease, subordination agreement or other document or instrument executed by such limited liability company and presented for recordation by the Company or upon which the Company is asked to rely, such document or instrument must be executed in accordance with one of the following, as appropriate:
    - (i) If the limited liability company properly operates through officers appointed or elected pursuant to the terms of a written operating agreement, such documents must be executed by at least two duly elected or appointed officers, as follows: the chairman of the board, the president or any vice president, and any secretary, assistant secretary, the chief financial officer or any assistant treasurer;
    - (ii) If the limited liability company properly operates through a manager or managers identified in the articles of organization and/or duly elected pursuant to the terms of a written operating agreement, such document must be executed by at least two such managers or by one manager if the limited liability company properly operates with the existence of only one manager.
  5. A certificate of revivor and a certificate of relief from contract voidability issued by the Franchise Tax Board of the State of California.
  6. Requirements which the Company may impose following its review of the above material and other information which the Company may require.
- F. WITH RESPECT TO A TRUST:
1. A certification pursuant to Section 18100.5 of the California Probate Code in a form satisfactory to the Company.
  2. Copies of those excerpts from the original trust documents and amendments thereto which designate the trustee and confer upon the trustee the power to act in the pending transaction.
  3. Other requirements which the Company may impose following its review of the material require herein and other information which the Company may require.
- G. WITH RESPECT TO INDIVIDUALS:
1. A statement of information.

The map attached, if any, may or may not be a survey of the land depicted hereon. First American Title Insurance Company expressly disclaims any liability for loss or damage which may result from reliance

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on this map except to the extent coverage for such loss or damage is expressly provided by the terms and provisions of the title insurance policy, if any, to which this map is attached.

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**LEGAL DESCRIPTION**

Real property in the City of Santa Clara, County of Santa Clara, State of California, described as follows:

PARCELS TWO AND THREE, AS SHOWN ON THAT CERTAIN PARCEL MAP FILED IN THE OFFICE OF THE RECORDER OF THE COUNTY OF SANTA CLARA, STATE OF CALIFORNIA ON NOVEMBER 20, 2013, IN [BOOK 866 OF MAPS PAGES 11 THROUGH 16](#).

APN: 216-28-118

*First American Title Insurance Company*

**NOTICE I**

Section 12413.1 of the California Insurance Code, effective January 1, 1990, requires that any title insurance company, underwritten title company, or controlled escrow company handling funds in an escrow or sub-escrow capacity, wait a specified number of days after depositing funds, before recording any documents in connection with the transaction or disbursing funds. This statute allows for funds deposited by wire transfer to be disbursed the same day as deposit. In the case of cashier's checks or certified checks, funds may be disbursed the next day after deposit. In order to avoid unnecessary delays of three to seven days, or more, please use wire transfer, cashier's checks, or certified checks whenever possible.

If you have any questions about the effect of this new law, please contact your local First American Office for more details.

**NOTICE II**

As of January 1, 1991, if the transaction which is the subject of this report will be a sale, you as a party to the transaction, may have certain tax reporting and withholding obligations pursuant to the state law referred to below:

In accordance with Sections 18662 and 18668 of the Revenue and Taxation Code, a buyer may be required to withhold an amount equal to three and one-third percent of the sales price in the case of the disposition of California real property interest by either:

1. A seller who is an individual with a last known street address outside of California or when the disbursement instructions authorize the proceeds be sent to a financial intermediary of the seller, OR
2. A corporate seller which has no permanent place of business in California.

The buyer may become subject to penalty for failure to withhold an amount equal to the greater of 10 percent of the amount required to be withheld or five hundred dollars (\$500).

However, notwithstanding any other provision included in the California statutes referenced above, no buyer will be required to withhold any amount or be subject to penalty for failure to withhold if:

1. The sales price of the California real property conveyed does not exceed one hundred thousand dollars (\$100,000), OR
2. The seller executes a written certificate, under the penalty of perjury, certifying that the seller is a resident of California, or if a corporation, has a permanent place of business in California, OR
3. The seller, who is an individual, executes a written certificate, under the penalty of perjury, that the California real property being conveyed is the seller's principal residence (as defined in Section 1034 of the Internal Revenue Code).

The seller is subject to penalty for knowingly filing a fraudulent certificate for the purpose of avoiding the withholding requirement.

The California statutes referenced above include provisions which authorize the Franchise Tax Board to grant reduced withholding and waivers from withholding on a case-by-case basis.

The parties to this transaction should seek an attorney's, accountant's, or other tax specialist's opinion concerning the effect of this law on this transaction and should not act on any statements made or omitted by the escrow or closing officer.

The Seller May Request a Waiver by Contacting:  
Franchise Tax Board  
Withhold at Source Unit  
P.O. Box 651  
Sacramento, CA 95812-0651  
(916) 845-4900

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## Privacy Policy

### We Are Committed to Safeguarding Customer Information

In order to better serve your needs now and in the future, we may ask you to provide us with certain information. We understand that you may be concerned about what we will do with such information - particularly any personal or financial information. We agree that you have a right to know how we will utilize the personal information you provide to us. Therefore, together with our parent company, The First American Corporation, we have adopted this Privacy Policy to govern the use and handling of your personal information.

### Applicability

This Privacy Policy governs our use of the information which you provide to us. It does not govern the manner in which we may use information we have obtained from any other source, such as information obtained from a public record or from another person or entity. First American has also adopted broader guidelines that govern our use of personal information regardless of its source. First American calls these guidelines its *Fair Information Values*, a copy of which can be found on our website at [www.firstam.com](http://www.firstam.com).

### Types of Information

Depending upon which of our services you are utilizing, the types of nonpublic personal information that we may collect include:

- Information we receive from you on applications, forms and in other communications to us, whether in writing, in person, by telephone or any other means;
- Information about your transactions with us, our affiliated companies, or others; and
- Information we receive from a consumer reporting agency.

### Use of Information

We request information from you for our own legitimate business purposes and not for the benefit of any nonaffiliated party. Therefore, we will not release your information to nonaffiliated parties except: (1) as necessary for us to provide the product or service you have requested of us; or (2) as permitted by law. We may, however, store such information indefinitely, including the period after which any customer relationship has ceased. Such information may be used for any internal purpose, such as quality control efforts or customer analysis. We may also provide all of the types of nonpublic personal information listed above to one or more of our affiliated companies. Such affiliated companies include financial service providers, such as title insurers, property and casualty insurers, and trust and investment advisory companies, or companies involved in real estate services, such as appraisal companies, home warranty companies, and escrow companies. Furthermore, we may also provide all the information we collect, as described above, to companies that perform marketing services on our behalf, on behalf of our affiliated companies, or to other financial institutions with whom we or our affiliated companies have joint marketing agreements.

### Former Customers

Even if you are no longer our customer, our Privacy Policy will continue to apply to you.

### Confidentiality and Security

We will use our best efforts to ensure that no unauthorized parties have access to any of your information. We restrict access to nonpublic personal information about you to those individuals and entities who need to know that information to provide products or services to you. We will use our best efforts to train and oversee our employees and agents to ensure that your information will be handled responsibly and in accordance with this Privacy Policy and First American's *Fair Information Values*. We currently maintain physical, electronic, and procedural safeguards that comply with federal regulations to guard your nonpublic personal information.

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**CLTA/ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE (02-03-10)**  
**EXCLUSIONS**

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
  - (a) building;
  - (b) zoning;
  - (c) land use;
  - (d) improvements on the Land;
  - (e) land division; and
  - (f) environmental protection.

This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
  - (a) that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
  - (b) that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
  - (c) that result in no loss to You; or
  - (d) that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.
5. Failure to pay value for Your Title.
6. Lack of a right:
  - (a) to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
  - (b) in streets, alleys, or waterways that touch the Land.This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.

**LIMITATIONS ON COVERED RISKS**

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows: For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

<u>Your Deductible Amount</u>	<u>Our Maximum Dollar Limit of Liability</u>
Covered Risk 16: 1% of Policy Amount or \$2,500.00 (whichever is less)	\$10,000.00
Covered Risk 18: 1% of Policy Amount or \$5,000.00 (whichever is less)	\$25,000.00
Covered Risk 19: 1% of Policy Amount or \$5,000.00 (whichever is less)	\$25,000.00
Covered Risk 21: 1% of Policy Amount or \$2,500.00 (whichever is less)	\$5,000.00

**ALTA RESIDENTIAL TITLE INSURANCE POLICY (6-1-87)**  
**EXCLUSIONS**

In addition to the Exceptions in Schedule B, you are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of any law or government regulation. This includes building and zoning ordinances and also laws and regulations concerning:
  - (a) and use
  - (b) improvements on the land
  - (c) and division
  - (d) environmental protection

This exclusion does not apply to violations or the enforcement of these matters which appear in the public records at Policy Date.

This exclusion does not limit the zoning coverage described in Items 12 and 13 of Covered Title Risks.

2. The right to take the land by condemning it, unless:
  - (a) a notice of exercising the right appears in the public records on the Policy Date

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- (b) the taking happened prior to the Policy Date and is binding on you if you bought the land without knowing of the taking
3. Title Risks:
    - (a) that are created, allowed, or agreed to by you
    - (b) that are known to you, but not to us, on the Policy Date -- unless they appeared in the public records
    - (c) that result in no loss to you
    - (d) that first affect your title after the Policy Date -- this does not limit the labor and material lien coverage in Item 8 of Covered Title Risks
  4. Failure to pay value for your title.
  5. Lack of a right:
    - (a) to any land outside the area specifically described and referred to in Item 3 of Schedule A OR
    - (b) in streets, alleys, or waterways that touch your landThis exclusion does not limit the access coverage in Item 5 of Covered Title Risks.

**2006 ALTA LOAN POLICY (06-17-06)**  
**EXCLUSIONS FROM COVERAGE**

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
  - i. the occupancy, use, or enjoyment of the Land;
  - ii. the character, dimensions, or location of any improvement erected on the Land;
  - iii. the subdivision of land; or
  - iv. environmental protection;or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
- b. Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
  - a. created, suffered, assumed, or agreed to by the Insured Claimant;
  - b. not known to the Company, not recorded in the Public Records at Date of Policy, but known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
  - c. resulting in no loss or damage to the Insured Claimant;
  - d. attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
  - e. resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
  - a. a fraudulent conveyance or fraudulent transfer, or
  - b. a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

**EXCEPTIONS FROM COVERAGE**

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) that arise by reason of:

*First American Title Insurance Company*

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

**2006 ALTA OWNER'S POLICY (06-17-06)**

**EXCLUSIONS FROM COVERAGE**

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
  - I. the occupancy, use, or enjoyment of the Land;
  - II. the character, dimensions, or location of any improvement erected on the Land;
  - III. the subdivision of land; or
  - IV. environmental protection;or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
- b. Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
  - a. created, suffered, assumed, or agreed to by the Insured Claimant;
  - b. not known to the Company, not recorded in the Public Records at Date of Policy, but known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
  - c. resulting in no loss or damage to the Insured Claimant;
  - d. attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
  - e. resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
  - a. a fraudulent conveyance or fraudulent transfer, or
  - b. a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

**EXCEPTIONS FROM COVERAGE**

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) that arise by reason of:

*First American Title Insurance Company*

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

#### ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (07-26-10)

##### EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
  - i. the occupancy, use, or enjoyment of the Land;
  - ii. the character, dimensions, or location of any improvement erected on the Land;
  - iii. the subdivision of land; or
  - iv. environmental protection;
 or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
- b. Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
  - a. created, suffered, assumed, or agreed to by the Insured Claimant;
  - b. not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
  - c. resulting in no loss or damage to the Insured Claimant;
  - d. attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
  - e. resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
  - a. a fraudulent conveyance or fraudulent transfer, or
  - b. a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.

*First American Title Insurance Company*

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# Appendix F: ARAR Analysis

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## ARAR Analysis

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 legally applicable, relevant, and/or appropriate (ARARs). ARARs are those standards, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, contaminant, action, location, or other factors at a CERCLA site.

Chemical-specific ARARs identified in the selected remedy within the ROD and ROD Amendment are listed in Table F1. The California MCLs were utilized per the ROD and are unchanged since the last FYR. EPA considers the California MCLs to be protective.

**Table F1. Summary of Groundwater ARAR Changes**

Contaminants of Concern	1992 ROD ARARs (µg/L)	Current <sup>1</sup> Regulations (µg/L)	ARARs Changed?
1,1-dichloroethane (1,1-DCA)	5	5	No
1,2-dichloroethane (1,2-DCA)	0.5	0.5	No
1,1-dichloroethylene (1,1-DCE)	6	6	No
Trichloroethylene (TCE)	5	5	No
cis-1,2-dichloroethylene (cis-DCE)	6	6	No
Trans-1,2-dichloroethylene (trans-DCE)	10	10	No
1,1,1-trichloroethane (1,1,1-TCA)	200	200	No
Freon 113	1,200	1,200	No
Freon 11	150	150	No
<sup>1</sup> California State Maximum Contaminant Level (MCL) for Drinking Water			

Per the ROD Amendment, the only ARAR that still applies is the MCL.

- California State MCL - Title 22 CCR, Division 4, Chapter 15, §64444 (July 16, 2015)

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# **Appendix G. Risk Assessment Review and Toxicity Analysis**

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# Risk Assessment Review and Toxicity Analysis

## 1. Human Health Exposure

A Preliminary Health Assessment was completed for the Site by the Agency for Toxic Substances and Disease Registry, U.S. Public Health Services in 1989 (EPA, 1990). During this fifth FYR the risk assessment was reviewed to identify any changes in exposure or toxicity that would impact protectiveness. The 1989 report stated that the Site was not considered to be a current public health concern because of the absence of human exposure to hazardous substances. This conclusion is still valid.

Land use at the Site has not changed significantly since the 1989 assessment. The Site is still located in a light industrial and commercial area and the reasonably anticipated future land use is light industrial, based on past activity at the Site and surrounding land use. In addition, a land use covenant recorded with the Santa Clara County Recorder's Office in January 2008 prohibits residential and certain other sensitive land uses at the Site. The land use covenant also prohibits groundwater extraction and soil excavation without express permission from the California Water Resources Control Board.

## 2. Vapor Intrusion

EPA's understanding of contaminant migration from subsurface soil gas and/or groundwater into overlying buildings has evolved over the past several years, leading to the conclusion that vapor intrusion may pose a greater potential risk to human health than was understood when the ROD was issued. EPA evaluates the potential risk for vapor intrusion using a "multiple lines of evidence" approach consistent with its 2015 vapor intrusion guidance, "OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air," OSWER Publication 9200.2-154.

In 2010, Intel evaluated the vapor intrusion pathway for onsite workers by collecting indoor air samples. Indoor air monitoring results from March 2010 (Table G1) did not detect the presence of any VOCs at levels above the Industrial RSLs for indoor air (SES, 2010). One detection of TCE at 1.8  $\mu\text{g}/\text{m}^3$  was below the current RSL of 3  $\mu\text{g}/\text{m}^3$  for industrial indoor air, and one detection of vinyl chloride at 0.076  $\mu\text{g}/\text{m}^3$  was below the California Modified RSL of 0.16  $\mu\text{g}/\text{m}^3$ . Measured concentrations of TCE in the groundwater and indoor air also indicate no significant risk from vapor intrusion at the Site for industrial receptors. Vinyl chloride was not detected in groundwater at levels above reporting limits. The TCE detection exceeds the residential indoor air RSL of 0.48  $\mu\text{g}/\text{m}^3$ . However, vapor intrusion is not a concern at the Site as long as the land use remains industrial.

**Table G1 – Indoor Air Concentrations and RSLs**

<b>Chemicals Detected in Indoor Air at Intel Santa Clara 3 Superfund Site March 2010<sup>a</sup></b>	<b>Site Concentrations Detected<sup>b</sup> (µg/m<sup>3</sup>)</b>	<b>EPA Regional Screening Levels for Industrial Air (µg/m<sup>3</sup>)</b>
Trichloroethylene	1.8	3 <sup>c</sup>
Vinyl Chloride	0.076	0.16 <sup>d</sup>

Notes: µg/m<sup>3</sup> – micrograms per cubic meter  
a – Only chemicals detected are presented  
b – SES, 2010 SES Indoor Air Survey Letter of Findings  
c – EPA, 2015. EPA Regional Screening Levels; <http://www.epa.gov/risk/risk-based-screening-table-generic-tables>  
d – DTSC, 2015; <https://www.dtsc.ca.gov/assessingrisk/humanrisk2.cfm>

### 3. Toxicity Values

To evaluate the protectiveness of the MCLs as cleanup standards for groundwater, the MCLs were compared to EPA’s current RSLs which are based on the toxicity values found in EPA’s Integrated Risk Information System (IRIS). IRIS has a program to update toxicity values used by the Agency in risk assessment when newer scientific information becomes available. The RSLs are chemical-specific concentrations for individual contaminants that correspond to an excess cancer risk level of 1x10<sup>-6</sup> (or a Hazard Quotient (HQ) of 1 for non-carcinogens), and they have been developed for a variety of exposures scenarios (e.g. residential, commercial/industrial). RSLs are not de facto cleanup standards for a Superfund site, but they do provide a good indication of whether action may be needed. The EPA risk range is between 1x10<sup>-6</sup> and 1x10<sup>-4</sup>. MCL values that fall within this range were determined to be acceptable. The non-cancer RSLs correspond to a hazard index of 1. Table H2 below presents this comparison.

**Table H2. Comparison of Tap Water RSLs to ROD Cleanup Standards**

<b>Contaminant of Concern</b>	<b>RSL for cancer risk in excess of 1x10<sup>-6</sup> (µg/L)</b>	<b>Protective cancer risk range (µg/L)</b>	<b>RSL for non-cancer hazard (µg/L)</b>	<b>Selected Cleanup Standard per the ROD (µg/L)</b>
1,1-dichloroethane (1,1-DCA)	2.8 <sup>2</sup>	2.8 - 280	1200 <sup>1</sup>	5
1,2-dichloroethane (1,2-DCA)	0.17 <sup>2</sup>	0.17 - 170	1.7 <sup>1</sup>	0.5
1,1-dichloroethylene (1,1-DCE)	N/A	N/A	280 <sup>2</sup>	6
Trichloroethylene (TCE)	0.49 <sup>2</sup>	0.49-490	N/A	5
cis-1,2-dichloroethylene (cis-DCE)	N/A	N/A	12 <sup>1</sup>	6
Trans-1,2-dichloroethylene (trans-DCE)	N/A	N/A	1100 <sup>1</sup>	10
1,1,1-trichloroethane (1,1,1-TCA)	N/A	N/A	2000 <sup>1</sup>	200
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	N/A	N/A	55,000 <sup>2</sup>	1,200
trichlorofluoromethane (Freon 11)	N/A	N/A	5200 <sup>2</sup>	150

<sup>1</sup> - California Modified Tap Water RSLs (October 2015)  
<sup>2</sup> - RSL (November 2015)

Any concentration below the cancer RSL indicates that cancer risk is low, while concentrations above the cancer RSL indicate an increase in cancer risk. In all cases, the MCLs for the Site are within the protective cancer risk range and are therefore considered protective with respect to cancer risk.

For non-cancer risk, all contaminants have MCLs less than the non-cancer RSLs. Any concentration below the non-cancer RSL indicates that no adverse health effect from exposure is expected, while concentrations significantly above the non-cancer RSL may indicate an increased potential for non-cancer effects. Therefore, the MCLs are considered protective.

#### 4. Ecological risk

The 1990 RI/FS examined ecological risk and determined that contamination at the Site did not pose a risk to ecological receptors because there were no likely exposure pathways. The property is mostly paved, and potential impacts to surface waters are not a concern as there are no natural surface drainage features or surface water bodies at the Site. The nearest surface water body is San Tomas Aquino Creek, located 0.25 mile east of the site. No parks or surface water are adjacent to the site, and over 90 percent of the property is covered with asphalt or a building slab. Contaminants are only present in the shallow groundwater. Therefore, the 1990 RI/FS concluded that there is no probable pathway for exposure to critical habitats or endangered species. This conclusion is still accurate for this FYR.