

**COMPLETION REPORT
SOIL INSPECTION/SAMPLING PLAN
ATTACHMENT III – BURIED CONCRETE TRENCHES,
BUILDING 028J AND FORMER WASTE VAULTS 02-04**

**HITACHI GLOBAL STORAGE TECHNOLOGIES, INC.
REDEVELOPMENT PROPERTY
5600 COTTLE ROAD, SAN JOSE, CALIFORNIA**

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ACRONYMS

1,1-DCA	1,1-Dichloroethane
1,1-DCE	1,1-Dichloroethene
1,1,2-TCA	1,1,2-Trichloroethane
bgs	below ground surface
CalEPA	California Environmental Protection Agency
CCR	Current Conditions Report
CEL	Calscience Environmental Laboratories, Inc.
CMS	Corrective Measures Study
COC	Chain of Custody
DHS	Department of Health Services
DJPA	David J. Powers & Associates
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
ESA	Environmental Site Assessment
Freon 11	Trichlorofluoromethane
Freon 12	Dichlorodifluoromethane
GPA	General Plan Amendment
GST	Global Storage Technologies
HHRA	Human Health Risk Assessment
HLA	Harding Lawson Associates
IBM	International Business Machines
IDW	Investigation Derived Waste
LQG	Large Quantity Generator
PCE	Tetrachloroethylene
PG&E	Pacific Gas and Electric
PD	Planned Development
PID	Photoionization Detector
PVC	Polyvinyl Chloride
RBTC	Risk-Based Target Concentration
RCRA	Resource Conservation and Recovery Act
R&D	Research and Development
RG	Remedial Goal
RO/DI	Reverse Osmosis/Deionized Water
RWQCB-SF	Regional Water Quality Control Board, San Francisco Bay Region
SI/SP	Soil Inspection/Sampling Plan
STL	Severn Trent Laboratories
TCA	1,1,1-Trichloroethane
TCE	Trichloroethene
TEG	Transglobal Environmental Geochemistry

ACRONYMS

TOC	Total Organic Carbon
TTLIC	Total Threshold Limit Concentration
TVH	Total Volatile Hydrocarbons
US	United States
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WV	Waste Vault
kV	kilovolt
mg/kg	milligram per kilogram
ml/min	milliliter per minute
MW	megawatt
µg/kg	microgram per kilogram
µg/L	microgram per liter

1.0 INTRODUCTION

ENVIRON International Corporation (ENVIRON), an environmental consulting firm, has prepared this Completion Report on behalf of Hitachi Global Storage Technologies, Inc. (Hitachi GST) for a portion of their property located at 5600 Cottle Road, San Jose, California (“the Site”). Hitachi GST is planning redevelopment activities for this portion of the Site. This Completion Report presents the results of the implementation of the Soil Inspection/Sampling Plan (SI/SP), Attachment III— Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04 (ENVIRON 2005a), and focuses on the system of buried concrete trenches and waste vaults that were present on the Redevelopment Property, as well as Building 028J.

1.1 Site Overview

In June 2005, David J. Powers & Associates (DJPA) prepared an Environmental Impact Report (EIR) for the proposed General Plan Amendment (GPA) and Planned Development (PD) Zoning on the approximately 321-acre Hitachi GST Site. The City of San Jose Planning Commission certified the Final EIR on June 6, 2005 (City of San Jose 2005a, 2005b). The Site, which is currently owned by Hitachi GST, was formerly owned and operated by International Business Machines Corporation (IBM). The location of the Site is shown on Figures 1.1 and 1.2. The Site layout prior to redevelopment is shown on Figure 1.3.

Hitachi GST has moved its research and development (R&D) and administrative office operations to a different location in San Jose (3403 Yerba Buena Road). A portion of land has been rezoned and will be sold and redeveloped into a mixed residential, commercial, and recreational open space area. The area to be redeveloped is divided into five Parcels (Parcel O-1 through O-5), as shown on Figure 1.4. In addition, Hitachi GST will be transferring ownership of Endicott Boulevard/Tucson Way, which borders the Site to the north, to the City of San Jose. For the purposes of this report, Parcels O-1 through O-5 and Endicott Boulevard/Tucson Way are hereafter referred to as “the Redevelopment Property”. The Redevelopment Property is approximately 143 acres.

Hitachi GST plans to continue industrial operations (developing and manufacturing of computer storage devices) on the remaining portion of the Site, termed the Core Area. All manufacturing-related activities currently located on Parcels O-1 through O-5 have been moved to the Core Area under the redevelopment plan. The Core Area is also shown on Figure 1.4.

The Hitachi GST Site is a large quantity generator (LQG) of hazardous waste and also maintains a Resource, Conservation and Recovery Act (RCRA) Permit for on-site storage and treatment of hazardous waste. The RCRA Permit encompasses the full 321 acres of the Site. Hitachi GST is working with the California Environmental Protection Agency (CalEPA) Department of Toxic Substances Control (DTSC) to remove the Redevelopment Property from the RCRA Permit.

1.2 Environmental Investigation Objectives

As part of the EIR, ENVIRON prepared a screening human health risk assessment (Screening HHRA) to evaluate the potential impacts on human health for Parcels O-1 through O-5. The overall

objective of the Screening HHRA was to identify potential areas within these parcels needing further investigation and/or mitigation prior to redevelopment. To accomplish this objective, the following steps were completed in the Screening HHRA for Parcels O-1 through O-5: 1) determine the nature of historical operations and chemical use; 2) compile and collect data regarding groundwater, soil gas, and soil conditions; 3) develop risk-based target concentrations (RBTCs) for comparison to groundwater, soil gas and soil data; and 4) compare the RBTCs to the data collected from each parcel to determine areas requiring further investigation or mitigation measures. The RBTCs correspond to the level that would pose a *de minimis* health risk to future on-site populations.

The Screening HHRA was followed by a Draft Current Conditions Report (CCR) (ENVIRON 2005b), which addressed Parcels O-1 through O-5 and Endicott Boulevard/Tucson Way. The Draft CCR plus the letter response to comments received from DTSC on the report (DTSC 2006) constitute the final CCR.

Additional inspection/investigation needed to fill data gaps identified in the Screening HHRA/CCR were addressed in the SI/SP and its associated attachments. The areas to be inspected/investigated were divided into the following nine categories:

Attachment I	Roads/Parking Lots
Attachment II	Aboveground Storage Tanks Associated with Emergency Generators
Attachment III	Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Attachment IV	Hydraulic Elevators
Attachment V	Former Petroleum Underground Storage Tanks
Attachment VI	Former Orchard Areas
Attachment VII	Endicott Boulevard/Tucson Way
Attachment VIII	Other Remaining Areas
Attachment IX	Soil Gas Evaluation for Parcels O-1 and O-2

This Completion Report presents the results of implementation of Attachment III – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04. The results of the SI/SP inspections/investigations will be used to determine if any mitigation/remediation measures are needed on the Redevelopment Property.

The SI/SP was followed by the Corrective Measures Study (CMS) Report (ENVIRON 2006). The CMS was prepared to address the presence of potential contamination in soil that may be encountered during building demolition and/or earthwork activities within the Redevelopment Property and/or discovered during implementation of the SI/SP. The CMS Report included residential remedial goals (RGs) for soil which were either the minimum residential RBTC or background concentrations.

1.3 Report Organization

This Completion Report is divided into six sections as follows:

Section 1.0 – Introduction: provides an overview of the Site and Redevelopment Property and outlines the report organization.

Section 2.0 – Site Overview: presents an overview of the Site history and surrounding area and summarizes proposed land uses.

Section 3.0 – Areas Recommended for Further Evaluation: summarizes the areas recommended for further inspection/investigation as related to this Completion Report.

Section 4.0 – Soil Inspection/Sampling Plan Implementation: provides an overview of the sampling activities/methodology and describes in detail the inspections/investigations completed as part of this Completion Report.

Section 5.0 – Conclusions: summarizes inspections/investigations conducted and provides recommendations, if needed, for any follow-up actions.

Section 6.0 – References: includes all references cited in this report.

Supporting data are presented in the attachments to this report. Appendices A and C through L provide the laboratory analytical reports for the investigations discussed in this Completion Report. Appendix B contains Site photographs from buried concrete trench and waste vault removal activities.

2.0 SITE OVERVIEW

2.1 Site History and Operations

The Site is located at 5600 Cottle Road in San Jose, Santa Clara County, California, and is approximately 321 acres in size. Prior to 1955, the Site was agricultural land, primarily tree orchards, with associated residences. In 1955, IBM purchased the Site. The Storage Technology Division of IBM owned and operated the Site from 1955 through 2002. IBM designed, developed, and manufactured computer storage devices, including hard disk drives, read/write heads, and disk storage media at the Site. On or about January 1, 2003, Hitachi GST, a new company formed as a result of a strategic combination of IBM and Hitachi's storage technology businesses, bought the Site.

As shown on Figure 1.3, approximately 30 buildings were present on the Site prior to commencement of redevelopment activities in August 2006. On-site buildings were used for a range of activities, including manufacturing, testing, assembly, research, development, wastewater treatment, reverse osmosis/deionized water (RO/DI) production, utilities, chemical storage, other storage, security, offices, and cafeteria. Exterior areas of the Site primarily consisted of landscaped areas, orchards, sidewalks, water fountains, asphalt parking lots, and paved private roads. As discussed below, Hitachi GST plans to continue industrial operations (developing and manufacturing of computer storage devices) on the Core Area.

Two electrical substations located in the central-southeastern portion of the Site provide electricity to the Site. One 115-kilovolt (kV) substation, which contains a 50 megawatt (MW) electrical generator, is owned and operated by Hitachi GST; the other 115-kV substation is owned and operated by Pacific Gas & Electric (PG&E). Facility personnel reported that electricity for the Site is provided by PG&E, and Hitachi GST's generator is only operated for testing, when there is a major Site power outage or when PG&E requests that Hitachi GST provide electrical back up during peak demand periods. As discussed below, both electrical substations will remain.

In the early 1980s, chlorinated hydrocarbons were detected in soil beneath an on-site underground tank farm. Site-wide investigations showed that volatile organic compounds (VOCs), primarily Freon 113, trichloroethene (TCE), 1,1,1-trichloroethane (TCA) and 1,1-dichloroethene (1,1-DCE) were present in groundwater beneath and downgradient of the Site. Subsequently, the Site has undergone extensive remedial action including the remediation of solvent-impacted soil and extraction and treatment of on-site and off-site groundwater. Under an order from the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB-SF) (Order No. R2-2002-0082 – Final Site Cleanup Requirements, as amended by Order No. R2-2007-0004), IBM is obligated to remediate the groundwater (RWQCB-SF 2002, 2007). According to Hitachi GST, on-site groundwater remedial actions are expected to continue for at least 10 years.

2.2 Surrounding Area

The Site is located in a mixed industrial, commercial and residential area near the intersections of Monterey Highway, Blossom Hill Road, and United States (US) Route 101, approximately seven

miles southeast of downtown San Jose. Figure 1.2 shows the immediate Site vicinity, which includes the following:

- Cottle Road is located to the west, with a shopping center, other commercial buildings, a hospital/medical center, and a medium-high density residential area beyond.
- IBM Building 025 (formerly part of the Site), which is still owned by IBM, is located to the northwest. This parcel is the proposed location of a future Lowe's Store.
- Parcel O-6 (formerly part of the Site) is located to the northeast. Hitachi GST transferred ownership of Parcel O-6, which is approximately 11 acres, to the City of San Jose in November 2005. The planned land use for this parcel is a future City of San Jose Police Substation.
- Southern Pacific Railroad and Caltrain right-of-way, the Blossom Hill Caltrain Station, and Monterey Highway are located to the north, with medium to medium-low density residential, a commercial shopping area, and US Route 101 beyond.
- Highway 85 and the Cottle Road Light Rail Station are located to the south, with a hospital/medical center, library, and single-family residential area beyond.

2.3 Future Land Use

As previously discussed, Hitachi GST has moved its R&D and administrative office operations to a different location in San Jose (3403 Yerba Buena Road). In turn, most of the R&D and administrative office buildings at the Site (Buildings 010, 012, 018, 026, 028, 028J, and 051) have been demolished. Two buildings, Buildings 009 (office) and 011 (cafeteria), on the Redevelopment Property are considered historically significant and will remain intact.

The Redevelopment Property, which covers approximately 143 acres, has been divided into five "outer" parcels (Parcels O-1 through O-5) and includes Endicott Boulevard/Tucson Way, as shown on Figure 1.4. Following building demolition, rough grading and main utility/roadway installation by Hitachi GST, Parcels O-1 through O-5 will be sold and redeveloped into a mixed residential, commercial, and recreational open space area. In addition, Hitachi GST will be transferring ownership of Endicott Boulevard/Tucson Way and newly constructed public roadways on Parcels O-1 through O-5 to the City of San Jose. Prior to property transfer, Hitachi GST is working with the DTSC to remove the Redevelopment Property from the RCRA Permit.

Hitachi GST plans to continue industrial operations (developing and manufacturing of computer storage devices) on the Core Area. The Core Area contains all of the current manufacturing, chemical storage, waste storage, and wastewater treatment buildings/areas on the Site. All activities previously located on Parcels O-1 through O-5 have been moved to the Core Area under the redevelopment plan. There are no current RCRA-permitted sources in the Redevelopment Property. The existing PG&E substation will remain.

3.0 AREAS RECOMMENDED FOR FURTHER EVALUATION

3.1 Buried Concrete Trenches and Waste Vaults History

Waste vaults were previously used to contain industrial wastewaters generated in the buildings or cooling towers on the Redevelopment Property. In general, the waste vaults were connected to a buried concrete trench system, which was used to transfer the wastewaters to the on-site wastewater treatment plant (Building 110) on the Core Area. A system of buried concrete trenches that were connected to waste vaults previously ran through the Redevelopment Property. The locations of buried concrete trenches and waste vaults addressed in this Completion Report are shown on Figure 3.1.¹ The following history for the buried concrete trenches and waste vaults is summarized from the Screening HHRA/CCR. In addition, ENVIRON conducted a Site visit as part the Phase I Environmental Site Assessments (ESAs) prepared by ENVIRON in 2003 and 2004.

3.1.1 Parcel O-2 Buried Concrete Trench

An out-of-use buried concrete trench was located west of Building 026 and ran in a north-south direction along the entire length of Parcel O-2. The concrete trench formerly contained pipes that transferred wastewater (e.g., industrial wastewater, which is dilute rinsewater with low levels of heavy metals, acids, or caustics) from waste vaults at the Site. No previous soil investigation following the removal of these pipes was identified.

3.1.2 Former WV-02 (Original)

According to information reviewed, there were two former waste vaults designated as WV-02 at Building 026. The original WV-02 was located approximately 300 feet north of the second WV-02 on the western side of Building 026 (See Figure 3.1). The original WV-02 was used for storage of heavy metal waste. Wastewater from product development laboratories in Building 026 was transported through a cast iron pipe beneath Building 026 into a clay pipe beneath the loading dock and into WV-02. Based on a figure provided by Hitachi GST, piping from the original WV-02 appears to have been connected to the underground concrete trench system, which connected to the on-site wastewater treatment plant (Building 110) on the Core Area. In April 1986, this waste vault was removed and the clay pipe was abandoned by pressure grouting. Total depth of the vault excavation was approximately 14 feet below ground surface (bgs). The original WV-02 was replaced with a new WV-02 (discussed below) and the cast iron pipe was connected to the new WV-02.

Subsequent to the excavation and backfill on May 7, 1986, a soil investigation was conducted to determine whether any chemicals from the former vault had leaked into the soil. Four soil samples were collected at depths of 15.5 or 16.0 feet bgs from four soil borings. The soil samples were analyzed for TCE, TCA, total chromium, hexavalent

¹ Additional related areas include a possible buried pipeline north of Building 026, areas inside Building 026 (e.g., the Chemical Storage Room) and Waste Vault 11 (WV-11) and associated buried piping located on Parcel O-5. These additional areas were not included as part of this report, and are instead addressed in the SI/SP Attachment VIII Completion Report for Other Remaining Areas.

chromium, copper, nickel, fluoride, nitrate, and pH. TCE was detected in all four borings at concentrations ranging from 19 to 35 micrograms per kilogram ($\mu\text{g}/\text{kg}$). TCA was not detected ($< 1 \mu\text{g}/\text{kg}$) in any of the soil samples. Total chromium was detected up to 34 milligram per kilogram (mg/kg); copper was detected up to 47 mg/kg ; and nickel was detected up to 130 mg/kg . Hexavalent chromium was not detected ($< 0.5 \text{ mg}/\text{kg}$) in any of the samples. The nitrate concentration in one boring was elevated with respect to the other samples (200 mg/kg as compared with 10 to 30 mg/kg). Fluoride was detected in one sample at the detection limit of 1 mg/kg , and the pH of the samples ranged from 7.1 to 10.0.

3.1.3 Former WV-02 (Second)

The new WV-02, which was installed in 1986, replaced the original WV-02. The second WV-02 was located near the loading dock on the western side of Building 026 to the north of WV-15 (See Figure 3.1). According to an April 1988 Harding Lawson Associates (HLA) report, WV-02 (second) was abandoned sometime between August 1986 and April 1988, however it still remained on-site.

In May through August 1986, an investigation was conducted to evaluate whether chemicals had migrated into soils through pipe backfill in the vicinity of the WV-02 (second). Five borings were drilled to a maximum depth of 42 feet bgs. Soil and near-surface groundwater samples were analyzed for certain VOCs (Freon 113, TCE, and TCA), certain metals (total chromium, hexavalent chromium, copper, and nickel), and fluoride. Results indicated that TCE was detected in soils in three of the five samples up to 16 feet bgs. The maximum TCE detection was 800 $\mu\text{g}/\text{kg}$ at 3.5 feet bgs. Freon 113 was detected in soil near the water table (between 30 and 37 feet bgs) up to 340 $\mu\text{g}/\text{kg}$. It was concluded that the TCE in the soil appeared to be related to a localized near-surface release and that the Freon 113 was likely related to upgradient sources.

In the five soil borings, total chromium was detected up to 160 mg/kg ; copper was detected up to 84 mg/kg ; nickel was detected up to 490 mg/kg ; and fluoride was detected up to 83 mg/kg . Hexavalent chromium was not detected in any of the samples.

A sixth sample was collected from 5.5 feet bgs in this area in October 1987. TCE and Freon 113 were detected in this sample at concentrations of 60 and 680 $\mu\text{g}/\text{kg}$, respectively. This sample was not analyzed for metals.

According to an April 1988 HLA report, WV-02 (second) was abandoned sometime between August 1986 and April 1988. At the time of abandonment, the cast iron pipe was pressure grouted, and the soil surrounding the pipe in the loading dock area was excavated. No additional information provided to ENVIRON indicated whether soil was remediated in this area. No closure report was found for WV-02 (second).

3.1.4 Parcel O-3 Buried Concrete Trench

An out-of-use buried concrete trench formerly ran in a north-south direction through Parcel O-3. The concrete trench contained pipes that transferred wastewater from waste vaults at the Site. Hitachi GST personnel believed that the pipes had been removed, but the concrete

trench was still in-place. No soil investigation following removal of these pipes was identified during the Screening HHRA/CCR.

3.1.5 Parcel O-4 Buried Concrete Trench

An out-of-use buried concrete trench system ran around Buildings 028 and 028J on Parcel O-4. The trench system, which contained pipes that transferred industrial wastewater from former WV-03 at Building 028J and former WV-04 at the Building 028 Cooling Tower to the on-site wastewater treatment plant (Building 110) on the Core Area, was located north, west and east of Building 028 (See Figure 3.1).

3.1.6 Former WV-03

Industrial wastewater from Building 028 was formerly collected in WV-03, which was located on the southeastern side of Building 028J. The industrial wastewater was pumped from a series of underground pipes in concrete trenches to the on-site wastewater treatment plant (Building 110) on the Core Area. WV-03 and associated pipes were removed in 1989.

In April and May 1989, soil samples were collected from the bottom of WV-03 and from a pipeline trench excavation located on the eastern side of WV-03 and to the west and north of Building 028. The pipes were excavated and exposed, but had not been removed when the soil samples were collected. Soil samples were analyzed for certain metals (total chromium, hexavalent chromium, copper, iron, nickel, and zinc), which are the chemicals IBM identified as being potentially found in the industrial wastewater conveyed through WV-03. One sample was also analyzed for organics. Hexavalent chromium was not detected. Total chromium was detected up to 94 mg/kg; copper was detected up to 63 mg/kg; iron was detected up to 68,000 mg/kg; nickel was detected up to 180 mg/kg; and zinc was detected up to 170 mg/kg. Metal concentrations in all samples were below California's Total Threshold Limit Concentrations (TTLCs). No organics were detected in the one sample analyzed for organics. HLA concluded that no further action was necessary. After sampling for metals, the majority of the excavated soil from the pipeline removal was subsequently backfilled into the excavation.

3.1.7 Former WV-04

Cooling tower blowdown from the Building 028 Cooling Tower, which was operated from 1971 until approximately 1994, was formerly collected in WV-04 (See Figure 3.1). WV-04 was an approximately 1,200-gallon concrete sump with a polyvinyl chloride (PVC) liner (referred to as tank T-1). The blowdown was transferred via a series of underground pipes within concrete trenches to Building 110. In 1994, WV-04 (Tank T-1) was closed under a permit (No. C48874) issued by the City of San Jose Hazardous Materials Program. Closure activities included decontaminating the sump, conducting confirmatory surface wipe sampling for certain metals, backfilling with compacted soil, and installing a concrete cap. In addition, underground piping in the concrete trench system located between WV-04 and the east side of Building 028 was excavated and removed in 1994. The buried trench system included pipes containing industrial wastewater, heavy metals wastewater, and brine wastewater. As part of closure activities, soil samples were collected and analyzed for metals from beneath WV-04 and at four locations beneath the concrete trench. According to

the sampling report, results indicated concentrations of metals below the TTLCs. It was concluded that soils beneath WV-04 and the trench were not impacted by metals and no additional excavation was required.

3.2 Building 028J History

Building 028J, an approximately 2,000-square foot building, was located adjacent to the west of Building 028 (see Figure 3.1). Building 028J was constructed in 1971 as the chemical and chemical waste storage area for Building 028. According to Hitachi GST personnel, primarily drums of solvents and cylinders of compressed gases were stored in Building 028J from 1971 until approximately 1989. According to a map of Building 028J dated 1984, the building was divided into two main chemical storage areas: “solvent storage area” and “user organics”. During the Site visit, ENVIRON observed cracks within the concrete floor leading to drains in the former solvent storage area in Building 028J. At the time of the Site visit, the cracks and drains appeared to have been sealed. Subsequent to 1989, Building 028J was vacant for several years before it was used as a staging area for the Site’s landscaping contractor.

According to documents reviewed, an underground spill containment tank without secondary containment was formerly located east of Building 028J. This buried tank was removed in early-1982. An underground 300-gallon solvent spill storage tank was formerly located within the northern side of Building 028J. This buried tank was removed in August 1986 as part of routine upgrading of facilities. As described above, a former waste vault, WV-03, was associated with Building 028J. A number of soil investigations associated with Building 028J were previously conducted, as described below.

3.2.1 Spill Containment Tank

In early 1982, an underground spill containment tank with no secondary containment located east of Building 028J was removed. The tank, which was buried approximately 10 feet bgs, was less than four feet in diameter and slightly more than four feet long. In July 1982, an investigation was conducted to characterize the chemical content of soil and groundwater beneath the spill containment tank. Two borings were drilled to a maximum depth of 43.5 feet bgs. Soil and groundwater samples were analyzed for 13 organic compounds, which represent all the chemicals that may have been in the tank during the period of its use. Freon 113, TCA, TCE, tetrachloroethene (PCE), chloroform, carbon tetrachloride, and acetone were detected in unsaturated soils and in groundwater. Ethyl amyl ketone, petroleum naphtha, kerosene, isopropyl alcohol, isophorone, and xylene were not detected above their respective detection limits. Freon 113 was detected up to 23 µg/kg; TCA was detected up to 71 µg/kg; TCE was detected up to 40 µg/kg; PCE was detected up to 80 µg/kg; chloroform was detected up to 1,600 µg/kg; carbon tetrachloride was detected up to 6.7 µg/kg; and acetone was detected up to 5.1 mg/kg in unsaturated soils. Based on information reviewed, no remedial actions appear to have been conducted.

3.2.2 Solvent Tank

A buried 300-gallon solvent spill storage tank was removed during routine upgrading of facilities from within the northern side of Building 028J on August 12, 1986. When that

underground storage tank (UST) was installed in approximately 1978, it was set in wet concrete, which formed a continuous saddle two to three inches thick at the base of the tank. The concrete saddle, which was approximately 3.5 feet bgs, was not removed as part of the tank excavation. The tank was intended to be used as a solvent spill storage tank, but the tank was never used. Two soil samples from two soil borings were collected from a depth of 4.5 feet bgs. One sample was collected beneath the east end of the concrete saddle and the other sample was collected beneath the west end. The soil samples were analyzed for total chromium, copper, nickel, and for chlorinated and nonchlorinated solvents. Results indicated TCE concentrations up to 10 µg/kg and metal concentrations within background ranges. The source of the TCE in the soil was unknown, but could be from the former nearby spill containment tank (discussed above). The report recommends investigating further the source of TCE in soils. The excavation was backfilled with clean, imported sand.

3.2.3 Chemical Storage Room

In September 1986, an investigation was conducted to determine whether the Chemical Storage Room in Building 028J or WV-03² were possible sources for the TCE found in the soils during previous investigations. Three soil borings were drilled to 10 feet bgs and one soil boring was drilled to 30 feet bgs beneath the Chemical Storage Room and WV-03. Eighteen soil samples from the four borings were collected and analyzed for Freon 113, TCA, TCE, methylene chloride, isophorone, and acetone. TCE was detected in samples from all four borings up to 33 µg/kg, and TCA was detected in samples from two of the borings up to 9 µg/kg. The remaining constituents were not detected in any of the samples. According to the soil investigation report, the California Department of Health Services (DHS) had not established an action level for TCE in soils; however, the IBM internal guideline was 500 µg/kg. Based on this internal guideline, it was concluded that no further investigations concerning TCE in soils at Building 028J were necessary.

3.3 Recommendations for Additional Inspection/Investigation

The following additional evaluations/investigations were identified for buried concrete trenches, former waste vaults 02-04, and Building 028J in the SI/SP:

- Given the history of the concrete trench in Parcel O-2, an environmental engineer should inspect the area surrounding the concrete trench after it is removed as part of redevelopment activities. If any indications of leaking are present (cracking, visual staining), soil sampling should be conducted.
- Near the former WV-02 (original) and former WV-02 (second) by Building 026, samples should be collected following building demolition for analysis of TCE and metals (specifically total chromium and nickel).
- Given the history of the concrete trench in Parcel O-3, an environmental engineer should inspect the area surrounding the concrete trench once it has been removed. If

² Further evaluation/investigation concerning WV-03 at Building 028J is discussed above.

any indications of leaking are present (cracking, visual staining), soil sampling should be conducted.

- Given the history of the concrete trench in Parcel O-4 and former WV-03 and WV-04, an environmental engineer should inspect the area surrounding former WV-03, WV-04, and the concrete trench after it is removed as part of redevelopment activities. If any indications of leaking are present (cracking, visual staining), soil sampling should be conducted.
- In one area of the trench system (located west and north of Building 028), additional soil sampling should be conducted for total chromium and nickel (and possibly other metals) in the vicinity of the former industrial wastewater pipeline.
- After demolition of Building 028J, sampling for VOCs should be conducted in the area of the former spill containment tank, and sampling for TCE and its breakdown products beneath the former Chemical Storage Room and former WV-03.

4.0 SOIL INSPECTION/SAMPLING PLAN IMPLEMENTATION

4.1 General Sampling Methodology

Soil and soil gas samples were collected from locations beneath the buried concrete trenches and former waste vaults and in the vicinity of Building 028J in accordance with Attachment III of the SI/SP. Grab groundwater samples were collected from the vicinity of Building 028J in accordance with a proposal letter to Hitachi GST dated January 10, 2007 (ENVIRON 2007). All work was supervised by a California Registered Professional Engineer. Prior to initiating field activities, ENVIRON subcontracted Subdynamic Locating Services (Subdynamic) of San Jose, California to conduct a survey of underground utilities at proposed sampling locations.

ENVIRON personnel were present during all sampling activities to obtain samples of subsurface materials, make observations of work area conditions, conduct health and safety monitoring of organic vapors during temporary probe installation, and provide technical assistance as required.

4.1.1 Soil Gas Sampling Methodology

In accordance with the SI/SP, soil gas samples were collected using a Geoprobe™-type direct push drilling rig. Soil gas samples were collected in general conformance with the DTSC *Advisory on Active Soil Gas Investigations*, dated January 28, 2003 (the “DTSC Advisory”) (DTSC 2003).

At each sampling location, soil gas samples were collected from the desired depth via temporary probes. The temporary soil gas probes were constructed of 1-inch outer diameter chrom-moly steel with an inert 1/8-inch diameter nylaflow tube that ran down the center of the probe to sampling ports beneath the tip. The temporary probe was driven into the ground with an electric rotary hammer or similar apparatus. Once the desired depth was reached, the probe was retracted slightly, which opened the tip and exposed the vapor sampling port. Following equilibration, soil gas was withdrawn from the nylaflow tubing using a small calibrated syringe connected via a shut-off valve. The first three dead volumes of vapor were discarded to purge the sample tubing. The next 20 cubic centimeters of soil gas were withdrawn in the syringe, plugged, and immediately transferred to an on-site mobile laboratory for analysis. Per the DTSC Advisory, the flow rate for purging or sampling was not allowed to exceed 200 milliliters per minute (ml/min).

Each temporary soil gas probe was sealed as described in the DTSC Advisory. During installation of the probe, hydrated bentonite was used to seal around the drive rod at ground surface, and the inner soil gas pathway from probe tip to the surface was sealed via an adapter fitted with an o-ring and connected to the probe tip. Leak tests were conducted using 1,1-difluoroethane gas that was sprayed during sampling.

A chain-of-custody (COC) form was completed to maintain the custodial integrity of each duplicate soil gas sample. A minimum of one method blank was collected each sampling day to verify the effectiveness of decontamination procedures and to detect any possible interference from ambient air. One duplicate sample was also collected and analyzed per day. Laboratory Control Samples and Dilution Procedure Duplicates were conducted in

accordance with the DTSC Advisory (Section 2.7.1C). In addition, a purge volume test at a minimum of one location near potential contaminant sources and a probe leak test were conducted each sampling day as described in Section 2.3 and 2.4 of the DTSC Advisory. Probe installation times, sample collections times, purge volume times and other pertinent data were recorded in the field for eventual inclusion in the soil gas report.

To minimize the potential for cross-contamination between sample locations, all external probe parts were cleaned and decontaminated before insertion. The internal nylaflow tubing and calibrated syringes were replaced prior to insertion at new sampling locations.

4.1.2 Soil Sampling Methodology

Soil samples were collected in accordance with Appendix A of the SI/SP. Drilling was performed using either a Geoprobe™ or Vibra-push direct-push drilling rig. Samples were collected in either stainless steel or acetate sleeves, capped with Teflon™-lined caps, placed in Ziploc™-type plastic bags, and stored on ice in a cooler. Samples were submitted to Severn Trent Laboratories (STL), a California State-certified analytical laboratory under COC protocol.

Soil samples requiring analysis of VOCs were collected from the sample tube in three separate, 5-gram samples using the EnCore® sampling system. The EnCore® sampling system consists of a T-Handle sampler holder, a Teflon® sampler cartridge, and a sample cap. To collect an EnCore® sample, the EnCore® sample cartridge was loaded in the T-handle and driven by hand into the sampling tube. The EnCore® sample cartridge was then removed from the T-handle, checked to ensure that it has been completely filled, capped with the EnCore® sample cap, and placed in a resealable Mylar bag. The three EnCore® samples, constituting a single sample, were then placed in the same sealable sample bag and stored immediately on ice in a closed container for delivery to the laboratory under standard COC protocols.

During drilling, soils contained in the sample tube were visually inspected for signs of contamination. Soil were placed in sealable plastic bags and allowed to equilibrate. After approximately five minutes, a photoionization detector (PID) probe was inserted into the bag to measure total organic vapors (headspace analysis). The headspace reading was recorded on the boring log. Background organic vapor concentrations were also measured and recorded. The PID equipment was calibrated according to the manufacturer's instructions prior to use each day of sampling.

During sampling and logging of the soil samples, the field geologist or engineer would:

- Check the orientation of the sample.
- Record the time of sampling.
- Observe and record sample recovery.
- Observe the soil type(s) and evidence of potential contamination, including staining, odor, and artificial debris.
- Label the samples, including the sample number (boring/well number and depth interval in feet bgs), project number, date sampled, and sampler's name.

- Place Teflon liners on ends of tubes and caps; immediately seal and store the two lowermost tubes for possible chemical analysis; use upper tube for organic vapor measurements and for logging and additional field measurements.
- Log and record the soil type(s) according to the Unified Soil Classification System (USCS).
- Conduct organic vapor measurements on samples according to the procedure described above.

Investigation derived waste (IDW) was collected in 55-gallon drums that were labeled and sealed following completion of field activities. Management and disposal of IDW was the responsibility of Hitachi GST. ENVIRON provided Hitachi GST with the relevant analytical results to assist with appropriate management and disposal of IDW.

4.1.3 Groundwater Sampling Methodology

Grab groundwater samples were collected using temporary PVC piping placed in the boring locations. Sufficient quantities of groundwater for laboratory analysis were collected using dedicated disposable bailers. Field pH, temperature, and conductivity measurements were collected from the groundwater in each boring using a hand-held meter. One duplicate groundwater sample was collected to evaluate potential bias introduced to the sample during laboratory analysis. The duplicate samples were analyzed for the same constituents as the groundwater samples.

4.1.4 Data Evaluation

Soil results were compared to residential soil RGs as defined in the CMS for the Redevelopment Property. For chemicals not detected during previous Site investigations, a RBTC was developed using the exposure assumptions and methodology described in the CCR.

Soil gas and groundwater results were compared to residential RBTCs developed as part of the CCR; assuming vapor migration into a building. For chemicals not detected during previous Site investigations, a RBTC was developed using the exposure assumptions and methodology described in the CCR. In addition, chloroform concentrations in groundwater were also compared to the groundwater cleanup standard for chloroform (80 micrograms per liter [$\mu\text{g/L}$]) required by the current International Business Machine (IBM) California Regional Water Quality Control Board, San Francisco Bay Region Order No. R2-2002-0082 for the Site.

4.2 November 2005 Soil Gas Investigation

Representatives from ENVIRON were on-site between November 16 and November 18, 2005 to oversee the collection of soil gas samples by Transglobal Environmental Geochemistry (TEG) of Rancho Cordova, California. Soil gas samples were collected from 20 locations along the buried concrete trenches and around Building 028J (SG-TR-1 through -18 and SG-028J-1 through -2). Soil gas sampling locations are summarized in Table 4.1 and shown on either Figure 3.1 (buried concrete trench sample locations) or Figure 4.1 (Building 028J sample locations). Many of the

sampling locations were moved slightly from their proposed locations due to the numerous utilities present in these areas. In accordance with the SI/SP, the soil gas samples were collected from depths of five and 10 feet bgs at each location using a Geoprobe™-type direct push drilling rig.

In general, the soil gas samples were analyzed on-site using TEG's mobile laboratory for VOCs and total volatile hydrocarbons (TVH) via United States Environmental Protection Agency (USEPA) Method 8260B. A total of four duplicate samples were collected in Summa™ canisters and sent to Calscience Environmental Laboratories, Inc. (CEL) for analysis by USEPA Method TO-14. One additional sample was submitted to CEL for TO-14 analysis due to equipment failure in the mobile laboratory.

VOCs were not detected in any of the method blank samples collected and analyzed daily on-site. In general, the results of the duplicate samples collected and sent to CEL for analysis correlated with the sample results of those collected and analyzed by TEG's mobile laboratory. The leak check compound (1,1-difluoroethane) was not detected in any of the samples analyzed by TEG's mobile laboratory at or above the DTSC recommended leak check compound reporting limit of 10 micrograms per liter (µg/L) of vapor. The duplicate five foot sample collected at SG-028J-2 that was analyzed by CEL indicated that 1,1-difluoroethane was detected at a concentration of 370 µg/L. The discrepancy is likely due to the larger sample volume collected for analysis by CEL (1 L Summa™ canister) versus the small grab sample collected for analysis by TEG's mobile laboratory.

The results of the soil gas sampling are summarized in Table 4.2. The laboratory analytical reports are included in Appendix A. Compounds detected include trichlorofluoromethane (Freon 11), 1,1-DCE, Freon 113, 1,1-dichloroethane (1,1-DCA), cis-1,2-DCE, chloroform, 1,1,1-TCA, carbon tetrachloride, benzene, TCE, toluene, ethylbenzene, m,p-xylene, and o-xylene. Also included in Table 4.2 are the residential soil gas RBTCs at five and 10 feet bgs. The only chemical that exceeds its residential soil gas RBTC is chloroform in both the five foot and 10 foot samples collected from SG-TR-11 and SG-TR-12 near Building 028J. Chloroform was detected in other samples collected near Building 028J (specifically sample locations SG-TR-10, SG-TR-13, and SG-028J-2), but at levels below the residential soil gas RBTC. Chloroform was also detected in sample SG-TR-1, but also at a level below the residential soil gas RBTC.

Because of the elevated levels of chloroform detected near Building 028J, ENVIRON recommended performing additional soil and soil gas sampling in the vicinity of Building 028J and along the buried concrete trench in this area to determine the extent of any impacts. Due to the numerous utilities that surround Building 028J, this sampling was postponed until after building demolition. The additional soil and soil gas sampling in this area is discussed in Section 4.4 below.

4.3 Buried Concrete Trenches and Former Waste Vaults 02-04

ENVIRON conducted inspections and soil sampling in the vicinity of the industrial waste lines (housed in buried concrete trenches and corrugated steel pipes) and waste vaults on the Site during redevelopment activities between October 2006 and April 2007. All soil samples collected during these investigations were submitted to STL for analysis of CAM 17 Metals by USEPA Method 6010B and 7470/7471, VOCs by USEPA Method 8260B, and pH by USEPA Method 9045.

4.3.1 Buried Concrete Trench Inspection/Investigation

In general, the industrial waste lines were housed in concrete trenches across the Site. It was believed that a portion of the industrial waste lines were housed in a corrugated metal pipe somewhere north of Building 026, but at the time of the Draft CCR, it was unknown where the concrete trench turned into the corrugated piping. During the course of the demolition and removal of the concrete trenches, it was observed that the concrete trench entered the south side of a manhole in the vicinity of WV-02 second (west of Building 026) and exited the north side of the manhole as corrugated metal pipe. The corrugated pipe ran north to the property boundary at the IBM Building 025 (refer to Figure 3.1). It was also observed during the course of demolition that another section of the industrial waste lines was housed in corrugated metal pipe (as opposed to concrete trench) to the north of Building 028 and in the vicinity of Building 028J (refer to Figure 3.1).

An environmental engineer from ENVIRON was present on-site during the removal of the buried concrete trenches and corrugated metal pipes that housed the industrial waste lines by Ferma Corporation (Ferma), a California certified contractor, to inspect the surrounding area for evidence of leaking (i.e. cracking, visual staining) and to collect soil samples. In general, the buried concrete trenches and corrugated metal pipes were observed to be intact and no staining was observed in the surrounding soils. An approximately 400 foot section of the corrugated metal pipe located north and west of the former Building 028 and an approximately 10 foot section of the corrugated metal pipe located southeast of the former Building 028J were not found during trench/corrugated pipe removal activities (see Figures 3.1 and 4.1). These sections are believed to have been removed at some time in the past.

Areas of the industrial waste lines where ENVIRON noted staining or other unexpected conditions and the results of soil sampling activities are described below. Photographs of concrete trench removal activities are provided in Appendix B.

4.3.1.1 Buried Concrete Trench Inspection Observations

During removal of a section of the industrial waste lines running parallel to the east of Building 028 along Raleigh Road, ENVIRON observed pink staining along the bottom of a section of corrugated steel pipe that encased the industrial waste lines (refer to Figure 3.1). The pipe was found buried in a sand trench and appeared to have formerly led to a manhole on the north side of Bldg 028. The pipe extended approximately 60 feet to the west of the manhole and was plugged on both ends with concrete. Ferma removed the pipe on November 16, 2006 and dug several potholes further to the west of the pipe to try to locate the pipe again. Although Ferma was unable to relocate the pipe, the same sand backfill used to bury pipes was encountered in the potholes, indicating that the corrugated pipe may have been removed at some time in the past. No liquid was observed in the remaining section of pipe and no staining was observed in the surrounding soils. PID readings of the soil surrounding the pipe were non-detect. ENVIRON collected two additional soil samples (TR-10 and TR-11) from the bottom of the pipe excavation. The analytical results are discussed below.

During the removal of a section of the trench near sample location TR-1, some pink liquid was observed spilling out of one of the pipes. According to Hitachi personnel, at one time, pink dye was added to Building 002 cooling tower water to differentiate it from domestic water. ENVIRON was unable to collect an adequate volume of liquid to submit for laboratory analysis. However, it appears likely that the liquid was dyed cooling tower water. A sample of the soil that came into contact with the pink liquid was collected and submitted to Hitachi's in-house lab for analysis. The laboratory report is included as Appendix C.

4.3.1.2 Buried Concrete Trench Soil Sampling Results

Soil samples were collected from 11 locations along the concrete trench lines (TR-1 through 11) as summarized on Table 4.1 and shown on Figure 3.1. Samples were collected from native soil as close to the bottom of the trenches/pipes as physically possible (between approximately three and six feet bgs).

Soil sampling results from former concrete trench areas are summarized in Table 4.3. The laboratory analytical reports are included as Appendix D. The results were compared to the residential soil RGs or RBTCs. There were no VOCs detected above reporting limits. As shown in Table 4.3, there were no metals detected at levels exceeding the residential soil RGs or RBTCs. Results for pH were within the range of native soil conditions, except in two locations (TR-7 and TR-8), which showed a pH of 9.18 and 10.20, respectively. This could be caused by the concrete from the trench or indicate a localized release of caustic material from the buried concrete trench piping in these areas; however, because the VOCs and metals results are below the RGs, no further action is proposed.

4.3.2 Waste Vault 02 (Original and Second) Inspection/Investigation

Between October 17 and 18, 2006, two soil borings were advanced in the area of WV-02 (original) (WV-02-1 and WV-02-2) and two soil borings were advanced in the area of WV-02 (second) (WV-02-5 and WV-02-6) to a depth of 20 feet bgs. Two additional soil borings were advanced to a depth of 20 feet bgs approximately 100 feet apart along the associated clay pipeline (WV-02-3 and WV-02-4). Soil sample locations are summarized in Table 4.1 and shown on Figure 4.2. Samples were collected every five feet in depth. No evidence of contaminated soil was observed during sample collection.

Results from soil sampling in the vicinity of WV-02 (original), WV-02 (second) and the associated clay pipeline are summarized in Table 4.4. The laboratory analytical reports are included as Appendix E. There were no VOCs or metals detected at levels exceeding the residential soil RGs. Results for pH were within the range of native soil conditions, except in one location (WV-02-4 at 5 ft bgs), which showed a pH of 10.4.

Based upon the elevated pH result, ENVIRON conducted step-out sampling in the vicinity of the sample location WV-02-4 on November 9, 2006. Samples were collected by TEG using a Geoprobe™-type direct push drilling rig. Samples were collected from four locations (identified as sample locations WV-02-4-A through WV-02-4-D) located five feet

to the north, east, south, and west of WV-02-4. Sample locations are shown on Figure 4.2. Samples were collected from depths of one and two feet bgs and submitted for pH analysis via USEPA Method 9045. The laboratory analytical report is included in Appendix E. The pH results of the step-out samples ranged from 7.18 to 7.95, within the range of native soil conditions.

The elevated pH result in sample WV-02-4 could indicate a localized release of caustic material from piping associated with WV-02 (original); however, because the VOCs and metals results are below the RGs and the results of additional step-out sampling indicate pH levels within the range of native soil conditions, no further action is proposed.

4.3.3 Waste Vault 03 Inspection/Investigation

Although an approximate location of WV-03 was known, no evidence of the WV-03 location was visible prior to demolition activities. To observe for subsurface evidence of the waste vault, an environmental engineer from ENVIRON was on-site during the demolition of Building 028J and the subsequent utility removal surrounding the building. During the Building 028J demolition, an area of buried sand was observed in the vicinity of the assumed WV-03 location. It appeared this sand may have been used as backfill after the waste vault was removed in 1989. Neither the sand nor the native soil around the sand appeared stained or contained an odor.

On December 8, 2006, two soil borings were advanced in the vicinity of the WV-03 location. Samples were collected from each boring (WV-03-1 and WV-03-2) from the native soil present immediately beneath the buried sand (a depth of approximately 5 feet bgs). Soil sample locations are summarized in Table 4.1 and shown on Figure 4.3. The laboratory analytical reports are included as Appendix F.

The results of soil sampling beneath the former WV-03 are summarized in Table 4.4. There were no VOCs detected above reporting limits, and metals were detected at levels below residential soil RGs or RBTCs. Results for pH were 7.71 and 7.89, within the range of native soil conditions.

4.3.4 Waste Vault 04 Inspection/Investigation

An environmental engineer from ENVIRON was on-site during removal of WV-04 on November 1, 2006 to inspect the surrounding areas for evidence of contamination. There was no evidence of leaking observed (cracking, visual staining).

Following removal of the vault, one soil sample was collected from native soil as close to the bottom of the former WV-04 as physically possible (WV-04-1, between four and five feet bgs). The soil sample location is summarized in Table 4.1 and shown on Figure 4.4. The laboratory analytical reports are included as Appendix F. In accordance with Attachment III of the SI/SP, the sample collected beneath the former WV-04 was analyzed for hexavalent chromium by USEPA Method 7196, in addition to metals, VOCs, and pH.

The results of soil sampling beneath WV-04 are summarized in Table 4.4. There were no VOCs detected above reporting limits, and metals were detected at levels below residential

soil RGs. Hexavalent chromium was not detected above the reporting limit. The pH result was 7.3, within the range of native soil conditions.

4.4 Building 028J

As discussed in Section 4.2 above, elevated levels of chloroform were detected in soil gas in the vicinity of Building 028J in November 2005, and ENVIRON recommended performing additional sampling in the vicinity of Building 028J and along the buried concrete trench in this area to determine the extent of any impacts. Following demolition of Building 028J on September 1, 2006, ENVIRON conducted additional investigations in its vicinity in September 2006 and from December 2006 through March 2007. During the September 2006 sampling event, chloroform was detected in soil beneath the building footprint above residential soil RGs. In December 2006 through March 2007, ENVIRON conducted additional step-out soil, groundwater, and soil gas sampling to further characterize the extent of chloroform contamination. Soil, groundwater, and soil gas sample locations are summarized in Table 4.1 and shown on Figures 4.3, 4.5, 4.6, and 4.7.

4.4.1 September 2006 Soil Investigation

In September 2006, ENVIRON collected soil samples at varying depths between zero and 20 feet bgs from eight locations (28J-1 through -8) within the former Building 028J footprint and immediate vicinity. All samples were analyzed for VOCs, metals, and pH. The laboratory analytical reports are included as Appendix G. The analytical results are summarized in Tables 4.5 (VOCs) and 4.6 (metals and pH). As shown in Figure 4.3 and summarized in Table 4.5, the soil sampling results showed that chloroform was present at several locations above the residential soil RG at depths between 15 and 20 feet bgs. In one boring (28J-4) chloroform was detected above the residential soil RG at shallower depths (4 to 11 feet bgs). As shown in Table 4.6, none of the metals detected were above the residential soil RGs and pH levels were in the range of native soil conditions.

4.4.2 December 2006 Soil Investigation

In December 2006, ENVIRON advanced several additional borings in the vicinity of former boring 28J-4. As shown in Figure 4.5, the December sampling locations included four locations directly adjacent to 28J-4 (identified as borings 28J-A, 28J-B, 28J-D, and 28J-E), and six additional samples to the north, east, and south of 28J-4 in the vicinity of the buried concrete trench (borings 28J-C and 28J-F through 28J-J). Borings were advanced to 20 feet bgs and samples were generally collected every five feet. The soil samples were collected using the EnCore® sampling system and submitted for analysis of VOCs by USEPA Method 8260B. Chloroform and 1,1,2-trichloroethane (1,1,2-TCA) were the only VOCs detected. As summarized in Table 4.7, with the exception of location 28J-I, all of the soil samples collected at 15 and 20 feet bgs during the December 2006 event exhibited concentrations of chloroform above the residential soil RG. Chloroform was also detected above the RG at a shallower depth (five feet bgs) in boring 28J-C. 1,1,2-TCA was only detected in one sample, 28J-A, at a depth of five feet bgs at a concentration of 4.4 ug/kg, which is below the residential soil RBTC of 6.4 ug/kg. The laboratory analytical reports are included as Appendix H.

4.4.3 January 2007 Soil and Groundwater Investigation

In January 2007, ENVIRON advanced six additional soil borings (028J-K through 028J-P) to the northwest of the former Building 028J along the former buried concrete trench. In addition, ENVIRON collected grab groundwater samples from four locations (GW-028J-C, -F and -O and GW-SG-028J-1) outside the former Building 028J. The soil and groundwater samples were submitted for analysis of VOCs by USEPA Method 8260B. The soil and groundwater sample locations are shown on Figures 4.5 and 4.6, respectively. Soil borings were advanced to depths between 20 and 25 feet bgs, with soil samples generally collected every five feet. Grab groundwater samples were collected in the vicinity of soil borings 028J-C, 028J-F, 028J-O, and SG-028J-1, from depths ranging between 27 and 33 feet bgs. The soil and groundwater results are summarized in Tables 4.8 and 4.9. Soil results are also shown on Figure 4.5 and groundwater results are shown on Figure 4.6. The laboratory analytical reports are included in Appendix I.

Chloroform was detected above the residential soil RG in two of the soil borings, 028J-L and 028J-M, at depths between 15 and 20 feet bgs. Chloroform was detected in groundwater above the residential groundwater RBTC of 52 µg/L in two locations, GW-28J-C and GW-28J-F, at 170 and 320 µg/L, respectively. These concentrations are also above the groundwater cleanup standard for chloroform (80 µg/L) required by the current IBM RWQCB-SF Order No. R2-2002-0082 for the Site. Additional chemicals detected below RBTCs in groundwater included TCA, 1,1-DCE, toluene, and total xylenes.

4.4.4 February/March 2007 Groundwater Investigation

On February 28 and March 1, 2007, ENVIRON collected 10 additional grab groundwater samples (GW-028J-Q through GW-028J-Z) to the north, east, and south of the former Building 028J. The groundwater samples were submitted for analysis of VOCs by USEPA Method 8260B. Groundwater samples were also submitted for analysis of total organic carbon (TOC) by USEPA Method 415.1, nitrate, chloride, and sulfate by USEPA Method 300.0, and pH by USEPA Method 150.1. Four groundwater samples (GW-028J-Q, GW-028J-T, GW-028J-V, and GW-028J-Z) were submitted for analysis of total and dissolved iron and manganese by USEPA Method 6010B. Soil from the vadose zone from each boring was collected to analyze for grain size, porosity, bulk density, and water content. The sample locations are shown on Figure 4.6. The groundwater VOC results are summarized in Table 4.10 and Figure 4.6. Groundwater grab samples were collected from depths ranging between 24 and 30 feet bgs. Vadose zone soil samples were collected from depths ranging from 21 and 29 feet bgs. The laboratory analytical reports for all of the data are included in Appendix J.

Chloroform was detected in groundwater above the residential groundwater RBTC of 52 µg/L in four locations, GW-028J-U, GW-028J-V, GW-028J-W, and GW-028J-X at concentrations of 890, 170, 170, and 73 µg/L, respectively. Three of these concentrations are also above the groundwater cleanup standard for chloroform (80 µg/L) required in the current IBM RWQCB-SF Order No. R2-2002-0082 for the Site. Additional chemicals detected below RBTCs in groundwater included TCA and 1,1-DCE.

4.4.5 March 2007 Groundwater Investigation

On March 12 and 13, 2007, ENVIRON collected fourteen additional grab groundwater samples to the north and east of the former Building 028J. Sixteen grab groundwater locations were proposed (GW-028J-1 through GW-028J-16), but a sufficient volume of water could not be obtained from two sampling locations (GW-028J-11 and GW-028J-14). The groundwater samples were submitted for analysis of VOCs by USEPA Method 8260B. The groundwater sample locations are shown on Figure 4.6. Groundwater grab samples were collected from depths ranging between 24 and 30 feet bgs. The groundwater results are summarized in Table 4.11 and Figure 4.6. The laboratory analytical reports are included in Appendix K.

Chloroform was detected in groundwater above the residential groundwater RBTC of 52 µg/L in four locations, GW-028J-8, GW-028J-9, GW-028J-10, and GW-028J-13 at concentrations of 810, 160, 130, and 120 µg/L, respectively. These concentrations are also above the groundwater cleanup standard for chloroform (80 µg/L) required in the current IBM RWQCB-SF Order No. R2-2002-0082 for the Site. Additional chemicals detected below RBTCs in groundwater included TCE, TCA, 1,1-DCE, and 1,1-DCA.

4.4.6 March 2007 Soil Gas Investigation

As discussed earlier, ENVIRON proposed additional soil gas sampling in the vicinity of Building 028J based upon the soil gas sampling results from November 2005. Representatives from ENVIRON were on-site from March 12 to March 15, 2007 to oversee the collection of the additional soil gas samples by TEG. Soil gas samples were collected from 23 locations on an approximately 50 foot grid across and surrounding the former Building 028J area. Soil gas sampling locations are summarized in Table 4.1 and shown on Figure 4.7. The additional soil gas samples were collected from depths of five and 10 feet bgs at each location using a Geoprobe™-type direct push drilling rig.

The soil gas samples were analyzed on-site using TEG's mobile laboratory for VOCs via USEPA Method 8260B. A total of four duplicate samples were collected in Summa™ canisters and sent to CEL for analysis by USEPA Method TO-14.

VOCs were not detected in any of the method blank samples collected and analyzed daily on-site. In general, the results of the duplicate samples collected and sent to CEL for analysis correlated with the sample results of those collected and analyzed by TEG's mobile laboratory. The leak check compound (1,1-difluoroethane) was not detected in any of the samples analyzed by TEG's mobile laboratory at or above the DTSC recommended leak check compound reporting limit of 10 µg/L of vapor.

The results of the soil gas sampling are summarized in Table 4.12. The laboratory analytical reports are included in Appendix L. Included in Table 4.12 are the residential soil gas RBTCs for five and 10 feet bgs. The only chemical that exceeds its residential soil gas RBTC is chloroform in both the five foot and 10 foot samples collected from SG-028J-3, SG-028J-4, SG-028J-6, SG-028J-7, and SG-028J-17. Chloroform was detected in other samples collected near Building 028J, but at levels below the residential soil gas RBTC.

5.0 CONCLUSIONS

No further evaluation is recommended for the former buried concrete trenches and former waste vaults 02 through 04 in the Redevelopment Property.

Based on the presence of chloroform in soil, soil gas, and groundwater in the vicinity of the former Building 028J at levels exceeding the residential soil RG and soil gas and groundwater RBTCs, remedial activities are currently underway. Proposed remedial actions for this area will be discussed in the CMS being prepared for Building 028J.

6.0 REFERENCES

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T A B L E S

Table 4.1
Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Hitachi GST
San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
SG-028J-1	11/18/2005	O-4	Soil Gas	Landscaped Area	Building 028J	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-028J-2	11/18/2005	O-4	Soil Gas	Landscaped Area	Building 028J	5	VOCs and TVH	8260B TO-14
						10	VOCs and TVH	8260B
SG-TR-1	11/17/2005	O-2	Soil Gas	Roadway	Building 026 Access Road	5	VOCs and TVH	8260B TO-14
						10	VOCs and TVH	8260B TO-14
SG-TR-2	11/16/2005	O-2	Soil Gas	Parking Lot	Building 026 and WV-2 (original)	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-TR-3	11/16/2005	O-2	Soil Gas	Parking Lot	Building 026 and WV-2 (second)	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-TR-4	11/16/2005	O-2	Soil Gas	Parking Lot	Building 026 and WV-2 (second)	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-TR-5	11/16/2005	O-2	Soil Gas	Parking Lot	Building 026 and WV-2 (second)	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-TR-6	11/16/2005	O-2	Soil Gas	Parking Lot	Building 026 and WV-2 (second)	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-TR-7	11/16/2005	O-2	Soil Gas	Parking Lot	Building 026 and WV-2 (second)	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-TR-8	11/17/2005	O-2	Soil Gas	Roadway	Building 026, east	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-TR-9	11/17/2005	O-4	Soil Gas	Parking Lot	Parking lot behind Building 028	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-TR-10	11/18/2005	O-4	Soil Gas	Landscaped Area	Building 028, west	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-TR-11	11/18/2005	O-4	Soil Gas	Parking Lot	Building 028J	5	VOCs and TVH	8260B TO-14
						10	VOCs and TVH	8260B

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San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
SG-TR-12	11/18/2005	O-4	Soil Gas	Parking Lot	Building 028J	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-TR-13	11/18/2005	O-4	Soil Gas	Landscaped Area	Building 028J	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-TR-14	11/18/2005	O-4	Soil Gas	Landscaped Area	Building 028, south	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-TR-15	11/18/2005	O-4	Soil Gas	Landscaped Area	Building 028, southeast	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-TR-16	11/17/2005	O-4	Soil Gas	Landscaped Area	Building 028, east	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
SG-TR-17	11/17/2005	O-4	Soil Gas	Landscaped Area	Building 028, east	5	VOCs and TVH	8260B TO-14
						10	VOCs and TVH	8260B
SG-TR-18	11/17/2005	O-4	Soil Gas	Parking Lot	Parking lot behind Building 028	5	VOCs and TVH	8260B
						10	VOCs and TVH	8260B
TR-1	3/6/2007	O-2	Soil	Roadway	Building 026 Access Road	3.5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
TR-2	10/12/2006	O-2	Soil	Roadway	Building 026 and WV-2 (original)	4	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
TR-3	10/12/2006	O-2	Soil	Roadway	Building 026 and WV-2 (second)	4	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
TR-4	10/12/2006	O-2	Soil	Roadway	Building 026 and WV-2 (second)	4	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B

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Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
TR-5	10/12/2006	O-2	Soil	Roadway	Building 026 and WV-2 (second)	3	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
TR-6	10/16/2006	O-3	Soil	Roadway	Building 026 Access Road	4	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
TR-7	11/13/2006	O-4	Soil	Roadway	Building 028, north	3	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
TR-8	4/4/2007	O-4	Soil	Roadway	Building 028, northeast	6	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
TR-9	3/28/2007	O-4	Soil	Roadway	Building 028J	4.5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
TR-10	11/16/2006	O-4	Soil	Roadway	Building 028, north	3	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
TR-11	11/16/2006	O-4	Soil	Roadway	Building 028, north	3	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B

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Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Hitachi GST
San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
WV-02-1	10/18/2006	O-2	Soil	Waste Vault	Building 026 and WV-2 (original)	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						10	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						15	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						20	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
WV-02-2	10/18/2006	O-2	Soil	Waste Vault	Building 026 and WV-2 (original)	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						10	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						15	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						20	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B

Table 4.1
Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
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San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
WV-02-3	10/18/2006	O-2	Soil	Waste Vault	Building 026, near clay pipe	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						10	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						15	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						20	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
WV-02-4	10/17/2006	O-2	Soil	Waste Vault	Building 026, near clay pipe	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						10	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						15	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						20	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B

Table 4.1
Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Hitachi GST
San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
WV-02-5	10/17/2006	O-2	Soil	Waste Vault	Building 026 and WV-2 (second)	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						10	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						15	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						20	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
WV-02-6	10/17/2006	O-2	Soil	Waste Vault	Building 026 and WV-2 (second)	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						10	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						15	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						20	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B

Table 4.1
Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Hitachi GST
San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
WV-03-1	12/8/2006	O-4	Soil	Waste Vault	Building 028J and WV-03	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
WV-03-2	12/8/2006	O-4	Soil	Waste Vault	Building 028J and WV-03	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
WV-04-1	11/1/2006	O-4	Soil	Waste Vault	Building 028 Cooling Tower and WV-04	4	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
							Hexavalent Chromium	7196
28J-1	9/5/2006	O-4	Soil	Below Building Foundation	Building 028J	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						10	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						15	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						20	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B

Table 4.1
Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Hitachi GST
San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
28J-2	9/5/2006	O-4	Soil	Below Building Foundation	Building 028J	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						10	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						15	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						20	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
28J-3	9/5/2006	O-4	Soil	Below Building Foundation	Building 028J	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						10	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						15	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						20	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B

Table 4.1
Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Hitachi GST
San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
28J-4	9/5/2006	O-4	Soil	Below Building Foundation	Building 028J	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						10	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						15	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						20	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
28J-5	9/5/2006	O-4	Soil	Below Building Foundation	Building 028J	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						10	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						15	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						20	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B

Table 4.1
Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Hitachi GST
San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
28J-6	9/5/2006	O-4	Soil	Below Building Foundation	Building 028J	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						10	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						15	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						20	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
28J-7	9/5/2006	O-4	Soil	Below Building Foundation	Building 028J	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						10	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						15	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						20	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B

Table 4.1
Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Hitachi GST
San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
28J-8	9/5/2006	O-4	Soil	Below Building Foundation	Building 028J	5	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						10	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						15	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
						20	CAM 17 Metals	6010B and 7470/7471
							pH	9045
							VOCs	8260B
28J-A	12/7/2006	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B
28J-B	12/7/2006	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B
28J-C	12/7/2006	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B
28J-D	12/7/2006	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B

Table 4.1
Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Hitachi GST
San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
28J-E	12/7/2006	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B
28J-F	12/8/2006	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B
28J-G	12/8/2006	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B
28J-H	12/7/2006	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B
28J-I	12/7/2006	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B
28J-J	12/7/2006	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B
028J-K	1/24/2007	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B
028J-L	1/24/2007	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B

Table 4.1
Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Hitachi GST
San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
028J-M	1/24/2007	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B
028J-N	1/24/2007	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B
028J-O	1/24/2007	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B
						25	VOCs	8260B
028J-P	1/24/2007	O-4	Soil	Below and Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						15	VOCs	8260B
						20	VOCs	8260B
GW-SG-028J-1	1/24/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	28	VOCs	8260B
GW-028J-O	1/24/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	27	VOCs	8260B
GW-028J-C	1/25/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	32	VOCs	8260B
GW-028J-F	1/25/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	33	VOCs	8260B
DUPLICATE	1/25/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	33	VOCs	8260B
Trip Blank	1/25/2007	N/A	Water	Trip blank	N/A	N/A	VOCs	8260B
GW-028J-Q	2/28/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	29	VOCs	8260B
GW-028J-R	2/28/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	29	VOCs	8260B
GW-028J-S	2/28/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	30	VOCs	8260B

Table 4.1
Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Hitachi GST
San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
GW-028J-T	2/28/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	33	VOCs	8260B
GW-028J-U	2/28/2007	O-4	Groundwater	Below Building Foundation	Building 028J	27	VOCs	8260B
Tripblank	2/28/2007	N/A	Water	Trip blank	N/A	N/A	VOCs	8260B
GW-028J-V	3/1/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	26	VOCs	8260B
GW-028J-W	3/1/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	30	VOCs	8260B
GW-028J-X	3/1/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	24	VOCs	8260B
GW-028J-Y	3/1/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	26	VOCs	8260B
GW-028J-Y Dup	3/1/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	26	VOCs	8260B
GW-028J-Z	3/1/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	24	VOCs	8260B
Tripblank	3/1/2007	N/A	Water	Trip blank	N/A	N/A	VOCs	8260B
GW-028J-1	3/12/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	27	VOCs	8260B
GW-028J-2	3/12/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	26	VOCs	8260B
GW-028J-3	3/12/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	26	VOCs	8260B
GW-028J-4	3/13/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	27	VOCs	8260B
GW-028J-5	3/12/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	24	VOCs	8260B
GW-028J-6	3/12/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	26	VOCs	8260B
GW-028J-7	3/12/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	25	VOCs	8260B
GW-028J-TB	3/12/2007	N/A	Water	Trip blank	N/A	N/A	VOCs	8260B
GW-028J-8	3/13/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	28	VOCs	8260B

Table 4.1
Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Hitachi GST
San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
GW-028J-9	3/13/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	27	VOCs	8260B
GW-028J-10	3/13/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	27	VOCs	8260B
GW-028J-12	3/12/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	26	VOCs	8260B
GW-028J-13	3/13/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	29	VOCs	8260B
GW-028J-15	3/12/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	29	VOCs	8260B
GW-028J-16	3/12/2007	O-4	Groundwater	Surrounding Building Foundation	Building 028J	30	VOCs	8260B
GW-028J-TB	3/13/2007	N/A	Water	Trip blank	N/A	N/A	VOCs	8260B
SG-028J-3	3/12/2007	O-4	Soil Gas	Below Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
SG-028J-4	3/12/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						5	VOCs	8260B
						10	VOCs	8260B
SG-028J-5	3/12/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	TO-14
SG-028J-6	3/12/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
SG-028J-7	3/12/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
SG-028J-8	3/12/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
SG-028J-9	3/12/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						5	VOCs	8260B
						10	VOCs	8260B
SG-028J-10	3/12/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
SG-028J-11	3/12/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	TO-14

Table 4.1
Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Hitachi GST
San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
SG-028J-12	3/12/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
SG-028J-13	3/12/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
SG-028J-14	3/12/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
SG-028J-15	3/14/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B TO-14
						10	VOCs	8260B
SG-028J-16	3/14/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	4	VOCs	8260B
						9	VOCs	8260B
						9	VOCs	8260B
SG-028J-17	3/14/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
SG-028J-18	3/14/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	3	VOCs	8260B
						8	VOCs	8260B
SG-028J-19	3/14/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	3	VOCs	8260B
						10	VOCs	8260B
SG-028J-20	3/14/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	3	VOCs	8260B
						10	VOCs	8260B
SG-028J-21	3/14/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
SG-028J-22	3/15/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	4	VOCs	8260B
						8	VOCs	8260B
SG-028J-23	3/15/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	4	VOCs	8260B
						10	VOCs	8260B TO-14
SG-028J-24	3/15/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
SG-028J-25	3/15/2007	O-4	Soil Gas	Surrounding Building Foundation	Building 028J	5	VOCs	8260B
						10	VOCs	8260B
						10	VOCs	8260B
WV-02-A	11/9/2006	O-2	Soil	Beneath Building 026 footprint	Building 026	1	pH	9045
						2	pH	9045

Table 4.1
Sample Identification Table – Buried Concrete Trenches, Building 028J, and Former Waste Vaults 02-04
Hitachi GST
San Jose, California

Sample Location ID	Date Collected	Parcel	Sample Type	Area	Location	Sample Top Depth (ft bgs)	Sampling Constituent	USEPA Analysis Method Number
WV-02-B	11/9/2006	O-2	Soil	Beneath Building 026 footprint	Building 026	1	pH	9045
						2	pH	9045
WV-02-C	11/9/2006	O-2	Soil	Beneath Building 026 footprint	Building 026	1	pH	9045
						2	pH	9045
WV-02-D	11/9/2006	O-2	Soil	Beneath Building 026 footprint	Building 026	1	pH	9045
						2	pH	9045

Notes:

ft = feet

bgs = below ground surface

N/A = Not applicable

TVH = Total Volatile Hydrocarbons

USEPA = United States Environmental Protection Agency

VOC = Volatile Organic Compound

WV = Waste Vault

TABLE 4.3
Summary of Soil Sampling Results - Former Concrete Trenches - October 2006 through April 2007
Hitachi GST
San Jose, California

Sample Location ID	Sample Date	Sample Top Depth (feet bgs)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Silver (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)	pH
<i>Remedial Goal (RG) (mg/kg) (a)</i>			<i>31</i>	<i>12</i>	<i>5,400</i>	<i>150</i>	<i>77</i>	<i>120,000</i>	<i>900</i>	<i>3,100</i>	<i>150</i>	<i>23</i>	<i>390</i>	<i>1,500</i>	<i>390 (b)</i>	<i>78</i>	<i>23,000</i>	<i>n/a</i>
TR-1	03/06/2007	3.5	< 1.9	6.5	160	0.76	< 0.48	41	11	29	6.6	< 0.95	0.067	60	< 0.95	30	48	8.17
TR-2	10/11/2006	4.0	< 2	7.9	150	< 0.50	0.84	45	13	34	7.8	< 0.049	< 0.99	71	2.2	34	71	7.95
TR-3	10/11/2006	4.0	2.4	6.7	160	0.5	2.3	46	13	35	8.2	< 0.048	< 1	67	1	34	150	7.67
TR-4	10/11/2006	4.0	< 1.9	6.5	160	< 0.48	< 0.48	64	14	29	8.7	0.084	< 0.95	120	< 0.95	32	74	7.52
TR-5	10/12/2006	3.0	< 2	1.5	39	< 0.48	< 0.48	28	3.4	20	7.9	< 0.050	2	51	2.1	9.3	99	7.52
TR-6	10/16/2006	4.0	< 1.9	7.6	200	0.62	< 0.49	45	12	31	7.9	< 0.049	< 0.97	68	< 0.97	34	51	7.97
TR-7	11/13/2006	3.0	< 2	3.4	75	< 0.49	< 0.49	26	6.0	14	5.9	< 0.048	< 0.98	34	1.5	19	88	9.18
TR-8	04/04/2007	6.0	< 2	7.3	140	< 0.50	< 0.50	42	9.3	23	7.1	< 0.050	< 1.0	67	< 1	28	39	10.2
TR-9	03/28/2007	4.5	< 2	7.2	150	< 0.5	< 0.5	36	9.5	26	7.5	0.066	< 0.99	58	< 0.99	29	44	7.99
TR-10	11/16/2006	3.0	< 1.9	7.4	160	< 0.48	< 0.48	37	11	27	6.6	0.15	< 0.96	68	< 0.96	30	49	8.41
TR-11	11/16/2006	3.0	< 2	1.9	57	< 0.50	< 0.50	460	44	12	5.5	0.11	< 0.99	800	< 0.99	18	2,100	8.04

Notes:
Samples were analyzed for Volatile Organic Compounds (VOCs), CAM 17 Metals, and pH. No VOCs were detected above laboratory reporting limits. Only detected metals are included in the table.
mg/kg = milligram per kilogram
Results detected above the reporting limit are shown in **bold**.
< = the analyte was not detected above the detection limit.
n/a = not available
bgs = below ground surface

(a) Remedial Goals (RGs) as presented in the Corrective Measures Study (CMS) for the Redevelopment Property (Source: CMS Report, Redevelopment Property, Hitachi Global Storage Technologies, Inc., 5600 Cottle Road, San Jose, California. Prepared by ENVIRON, June 28, 2006; revised August 31, 2006).

(b) Risk-Based Target Concentrations (RBTCs) for residential land use. For chemicals not detected during previous Site investigations, a RBTC was developed using the exposure assumptions and methodology described in the Current Conditions Report (CCR) (Source: Draft CCR, Hitachi Global Technologies, Inc., Redevelopment Area and Endicott Boulevard/Tucson Way, 5600 Cottle Road, San Jose, California. Prepared by ENVIRON, July 2005).

TABLE 4.4
Summary of Soil Sampling Results - Waste Vaults 02 through 04 - October through December 2006
Hitachi GST
San Jose, California

Sample ID	Sample Depth (feet bgs)	Sample Date	Trichloroethene	Antimony	Arsenic	Barium	Beryllium	Chromium (Total)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Thallium	Vanadium	Zinc	pH
<i>Remedial Goal (RG) (mg/kg) (a)</i>			<i>0.019</i>	<i>31</i>	<i>12</i>	<i>5,400</i>	<i>150</i>	<i>120,000</i>	<i>900</i>	<i>3,100</i>	<i>150</i>	<i>23</i>	<i>390</i>	<i>1,500</i>	<i>5.2 (b)</i>	<i>78</i>	<i>23,000</i>	<i>n/a</i>
WV-02-1-1	0	10/18/2006	< 0.0049	< 2	5.8	130	< 0.49	52	12	26	11	0.087	< 0.98	110	< 0.98	29	51	7.81
WV-02-1-2	5	10/18/2006	< 0.005	< 2	6.4	140	0.54	69	14	28	6.9	0.051	< 0.98	100	< 0.98	31	52	7.72
WV-02-1-3	10	10/18/2006	0.0059	< 2	7.8	260	0.65	44	12	34	7.7	< 0.049	< 1	74	< 1	32	56	7.73
WV-02-1-4	15	10/18/2006	0.0084	< 1.9	5.8	130	0.51	42	8.3	28	5.8	0.061	< 0.95	61	< 0.95	27	50	7.8
WV-02-1-5	20	10/18/2006	0.012	< 2	5.7	220	< 0.5	40	11	29	5.7	0.1	< 0.99	72	< 0.99	28	48	7.56
WV-02-2-1	0	10/18/2006	< 0.0049	< 1.9	5.7	88	< 0.48	50	8.3	22	6.5	0.094	< 0.95	90	< 0.95	29	42	8.51
WV-02-2-2	5	10/18/2006	< 0.005	< 2	7.5	220	0.65	46	13	34	8.1	< 0.049	< 0.99	69	< 0.99	34	55	7.46
WV-02-2-3	10	10/18/2006	< 0.005	< 2	6.6	140	0.51	44	11	28	7.3	0.066	< 0.99	72	< 0.99	34	49	7.49
WV-02-2-4	15	10/18/2006	< 0.005	< 1.9	7.4	150	0.54	45	12	31	6.7	0.082	< 0.97	78	< 0.97	32	52	7.74
WV-02-2-5	20	10/18/2006	< 0.0049	< 1.9	7.3	200	0.55	40	13	32	6.8	0.096	< 0.95	77	< 0.95	31	50	7.67
WV-02-3-1	0	10/18/2006	< 0.0048	< 1.9	6.6	130	0.52	59	13	28	8.6	0.16	< 0.95	110	< 0.95	33	48	7.6
WV-02-3-2	5	10/18/2006	< 0.0047	< 1.9	7.7	210	0.69	47	14	35	8.8	0.06	< 0.96	72	< 0.96	36	58	7.26
WV-02-3-3	10	10/18/2006	< 0.005	< 1.9	7.4	140	0.63	45	12	30	7.1	0.067	< 0.95	69	< 0.95	34	50	7.93
WV-02-3-4	15	10/18/2006	< 0.0049	< 1.9	6.8	180	0.57	42	10	28	6.2	0.064	< 0.95	65	< 0.95	31	49	7.8
WV-02-3-5	20	10/18/2006	< 0.0048	< 2	4.6	210	0.5	50	7	26	5.6	0.077	< 0.98	58	< 0.98	27	46	7.66
WV-02-4-1	0	10/17/2006	< 0.0049	< 1.9	5.3	120	< 0.48	40	9	34	5.5	0.088	< 0.96	76	< 0.96	31	41	10.4
WV-02-4-2	5	10/17/2006	< 0.005	< 2	8.0	220	0.69	47	14	36	9.9	0.054	< 0.98	74	< 0.98	35	62	7.13
WV-02-4-3	20	10/17/2006	< 0.005	< 1.9	7.7	160	0.67	43	13	33	7.9	0.064	< 0.97	70	< 0.97	33	56	8.07
WV-02-4-4	15	10/17/2006	< 0.0049	< 2	7.4	250	0.59	40	11	31	7.1	0.073	< 0.98	65	< 0.98	31	53	8.31
WV-02-4-5	20	10/17/2006	< 0.0049	< 1.9	7.4	150	0.60	46	13	32	7.2	0.065	< 0.95	76	< 0.95	32	55	7.8
WV-02-5-1	0	10/17/2006	< 0.0048	2.5	8.2	200	0.74	51	13	36	9.2	< 0.049	< 0.99	77	< 0.99	36	58	7.47
WV-02-5-2	5	10/17/2006	< 0.005	< 2	7.9	180	0.65	45	13	34	14	0.08	< 0.98	69	< 0.98	34	61	7.51
WV-02-5-3	10	10/17/2006	< 0.0049	< 1.9	7.4	220	0.65	41	12	31	7.7	0.099	< 0.97	68	< 0.97	32	52	7.75
WV-02-5-4	15	10/17/2006	< 0.005	< 2	8.3	210	0.73	50	13	36	9.4	0.062	< 0.98	73	< 0.98	36	59	7.48
WV-02-5-5	20	10/17/2006	< 0.005	< 1.9	7.6	160	0.62	42	13	34	8.0	0.064	< 0.97	78	< 0.97	32	55	7.72
WV-02-6-1	0	10/17/2006	< 0.0049	< 1.9	4.9	100	0.5	42	13	18	8.1	0.13	< 0.95	68	< 0.95	29	43	7.98
WV-02-6-2	5	10/17/2006	< 0.005	< 1.9	7.2	180	0.62	41	12	32	7.4	< 0.049	< 0.97	65	< 0.97	32	52	7.74
WV-02-6-3	10	10/17/2006	< 0.0048	< 1.9	8.2	270	0.61	39	13	34	8.3	0.08	< 0.96	58	< 0.96	31	54	7.81
WV-02-6-4	15	10/17/2006	< 0.0049	< 2	7.4	160	0.57	44	12	33	7.3	0.068	< 0.99	74	< 0.99	32	56	7.64
WV-02-6-5	20	10/17/2006	< 0.0049	< 1.9	7.1	140	0.54	45	9.1	30	6.9	0.082	< 0.95	79	< 0.95	31	50	7.88
WV-03-1-5	5	12/8/2006	< 0.0048	< 1.9	6.2	150	0.50	34	9.5	26	6.1	< 0.96	56	< 1.9	27	45	0.056	7.89
WV-03-2-5	5	12/8/2006	< 0.0049	< 1.9	6.8	140	0.56	38	9.7	28	6.5	< 0.95	62	< 1.9	29	49	0.052	7.71
WV-04-1	4	11/1/2006	< 0.0048	< 2	7.3	150	< 0.50	73	13	86	9.8	0.081	< 1	140	< 1	30	78	8.47

Notes:
 Samples were analyzed for volatile organic compounds (VOCs), metals and pH. Only detected VOCs and metals are shown in the table above
 All results (except pH) are shown in mg/kg.
 Results detected above the reporting limit are shown in bold.
 bgs = below ground surface
 mg/kg = milligram per kilogram
 n/a = not available

(a) Remedial Goals (RGs) as presented in the Corrective Measures Study (CMS) for the Redevelopment Property *Source: CMS Report, Redevelopment Property, Hitachi Global Storage Technologies, Inc., 5600 Cottle Road, San Jose, California. Prepared by ENVIRON, June 28, 2006; revised August 31, 2006).*

(b) Risk-Based Target Concentrations (RBTCs) for residential land use. For chemicals not detected during previous Site investigations, a RBTC was developed using the exposure assumptions and methodology described in the Current Conditions Report (CCR) *Source: Draft CCR, Hitachi Global Technologies, Inc., Redevelopment Area and Endicott Boulevard/Tucson Way, 5600 Cottle Road, San Jose, California. Prepared by ENVIRON, July 2005).*

TABLE 4.5
Summary of VOCs in Soil - Building 028J - September 2006
Hitachi GST
San Jose, California

Boring ID	Sample ID	Sample Date	Sample Depth (feet bgs)	Chloroform (ug/kg)
<i>Remedial Goal (RG) (ug/kg) (a)</i>				7.3
28J-1	28J-1-0-0.5'	09/05/2006	0	<4.9
	28J-1-4.5-5'		5	<5.0
	28J-1-9.5-10'		10	<4.9
	28J-1-15-15.5'		15	<4.9
	28J-1-19.5-20'		20	<4.9
28J-2	28J-2-0-0.5'	09/05/2006	0	<4.9
	28J-2-4.5-5'		5	<4.8
	28J-2-10-10.5'		10	<4.9
	28J-2-15-15.5'		15	<5.0
	28J-2-19.5-20'		20	<4.9
28J-3	28J-3-0-0.5'	09/05/2006	0	<5.0
	28J-3-4.5-5'		5	<4.8
	28J-3-9.5-10'		10	<4.9
	28J-3-14.5-15'		15	<5.0
	28J-3-19.5-20'		20	14
28J-4	28J-4-0-0.5'	09/05/2006	0	<4.9
	28J-4-4.5-5'		5	8.5
	28J-4-10.5-11'		11	14
	28J-4-15.5-16'		16	17
	28J-4-19.5-20'		20	15
28J-5	28J-5-0-0.5'	09/05/2006	0	<4.9
	28J-5-4.5-5'		5	<5.0
	28J-5-9.5-10'		10	<5.0
	28J-5-15.5-16'		16	5.7
	28J-5-19.5-20'		20	<4.9
28J-6	28J-6-0-0.5'	09/05/2006	0	<4.9
	28J-6-4.5-5'		5	<5.0
	28J-6-9.5-10'		10	<5.0
	28J-6-15-15.5'		15	<5.0
	28J-6-19.5-20'		20	<4.9
28J-7	28J-7-0-0.5'	09/05/2006	0	<4.9
	28J-7-4.5-5'		5	<4.8
	28J-7-10-10.5'		10	<5.0
	28J-7-15-15.5'		15	7.2
	28J-7-19.5-20'		20	10
28J-8	28J-8-0-0.5'	09/05/2006	0	<4.9
	28J-8-4.5-5'		5	<5.0
	28J-8-10-10.5'		10	<4.8
	28J-8-15-15.5'		15	8.7
	28J-8-19.5-20'		20	10

Notes:

bgs = below ground surface.

ug/kg = microgram per kilogram.

< = the analyte was not detected above the detection limit.

Samples were analyzed for Volatile Organic Compounds (VOCs). Chloroform was the only detected constituent.

Results detected above the reporting limit are shown in **bold**.

Shaded values indicate the constituent was detected above the Remedial Goal.

(a) Remedial Goals (RGs) as presented in the Corrective Measures Study (CMS) for the Redevelopment Property (Source: CMS Report, Redevelopment Property, Hitachi Global Storage Technologies, Inc., 5600 Cottle Road, San Jose, California. Prepared by ENVIRON, June 28, 2006; revised August 31, 2006).

TABLE 4.6
Summary of Metals and pH in Soil - Building 028J - September 2006
Hitachi GST
San Jose, California

Boring ID	Sample ID	Sample Date	Sample Depth (feet bgs)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)	Mercury (mg/kg)	pH
<i>Remedial Goal (RG) (mg/kg) (a)</i>				<i>12</i>	<i>5,400</i>	<i>150</i>	<i>120,000</i>	<i>900</i>	<i>3,100</i>	<i>150</i>	<i>1,500</i>	<i>78</i>	<i>23,000</i>	<i>23</i>	<i>n/a</i>
28J-1	28J-1-0-0.5'	09/05/2006	0	7.0	130	0.49	39	11	29	6.7	65	30	51	0.074	8.21
	28J-1-4.5-5'		5	6.9	150	0.51	43	12	29	7.5	67	33	55	<0.049	7.48
	28J-1-9.5-10'		10	6.6	130	<0.50	41	10	25	6.0	69	29	48	0.081	8.33
	28J-1-15-15.5'		15	5.6	120	<0.50	44	10	28	6.4	65	29	53	0.069	8.20
	28J-1-19.5-20'		20	7.4	140	<0.49	44	15	31	7.5	83	32	54	0.16	8.25
28J-2	28J-2-0-0.5'	09/05/2006	0	7.7	140	0.55	45	12	30	7.9	66	35	56	0.053	7.61
	28J-2-4.5-5'		5	7.3	140	0.53	43	12	30	7.5	70	33	57	0.061	7.91
	28J-2-10-10.5'		10	6.3	160	<0.49	47	9.2	23	5.2	75	29	46	0.062	8.43
	28J-2-15-15.5'		15	7.2	140	<0.49	44	11	29	6.8	74	31	52	0.068	8.08
	28J-2-19.5-20'		20	5.5	140	<0.48	49	9.2	27	5.7	68	29	53	0.051	8.08
28J-3	28J-3-0-0.5'	09/05/2006	0	2.8	54	<0.49	190	42	14	1.8	860	25	24	<0.048	7.96
	28J-3-4.5-5'		5	7.7	170	0.54	42	11	31	7.6	69	33	57	0.082	8.13
	28J-3-9.5-10'		10	5.3	120	<0.49	98	20	23	5.2	290	32	42	0.058	8.26
	28J-3-14.5-15'		15	6.3	120	<0.50	42	9.4	24	5.9	57	27	45	0.055	8.19
	28J-3-19.5-20'		20	7.4	240	0.49	46	14	31	6.9	81	32	53	0.053	8.09
28J-4	28J-4-0-0.5'	09/05/2006	0	3.7	82	<0.50	21	6.1	15	3.9	36	15	27	0.088	8.09
	28J-4-4.5-5'		5	3.8	79	<0.49	20	5.0	14	3.9	29	16	27	<0.049	7.78
	28J-4-10.5-11'		11	<0.96	5.4	<0.48	5.1	1.1	3.2	<0.96	2.5	3.1	<0.96	0.061	8.25
	28J-4-15-16'		16	5.4	76	<0.50	30	7.0	22	5.8	35	21	25	0.068	8.18
	28J-4-19.5-20'		20	6.8	80	0.50	41	11	29	6.8	73	29	51	0.051	8.33
28J-5	28J-5-0-0.5'	09/05/2006	0	6.8	140	<0.50	37	9.3	26	10	66	27	48	0.052	8.03
	28J-5-4.5-5'		5	6.8	120	<0.49	41	9.6	26	7.5	58	30	49	<0.050	8.43
	28J-5-9.5-10'		10	6.2	120	<0.50	58	11	24	5.5	110	27	45	<0.050	8.46
	28J-5-15-16'		16	6.5	110	<0.49	39	13	29	7.4	68	29	51	0.068	8.21
	28J-5-19.5-20'		20	6.6	100	<0.48	38	10	28	6.4	68	28	50	0.053	8.07
28J-6	28J-6-0-0.5'	09/05/2006	0	7.1	170	<0.50	40	11	29	7.4	69	30	50	0.063	8.36
	28J-6-4.5-5'		5	8.4	150	0.56	43	12	31	7.9	70	34	54	0.05	7.69
	28J-6-9.5-10'		10	6.0	140	<0.50	40	10	25	6.1	67	28	48	0.055	8.44
	28J-6-15-15.5'		15	6.6	170	<0.50	39	10	30	6.9	61	28	51	0.085	8.39
	28J-6-19.5-20'		20	6.7	130	<0.49	41	12	28	6.3	71	30	51	0.054	8.09
28J-7	28J-7-0-0.5'	09/05/2006	0	6.1	130	<0.49	35	9.1	25	6.6	60	26	89	<0.049	8.22
	28J-7-4.5-5'		5	4.2	110	<0.50	27	6.3	17	5.4	43	20	73	<0.050	8.02
	28J-7-10-10.5'		10	6.1	140	<0.50	38	11	23	5.7	69	28	48	<0.049	8.36
	28J-7-15-15.5'		15	7.7	190	0.50	42	16	32	7.9	80	32	53	0.083	8.27
	28J-7-19.5-20'		20	7.3	130	<0.48	46	11	30	6.8	72	31	54	0.061	8.17
28J-8	28J-8-0-0.5'	09/05/2006	0	4.6	120	<0.50	100	25	21	6.1	390	31	38	0.073	8.00
	28J-8-4.5-5'		5	6.7	150	<0.50	44	9.5	28	7.3	62	31	51	<0.048	7.81
	28J-8-10-10.5'		10	5.4	95	<0.50	60	10	21	4.9	130	27	42	0.060	8.36
	28J-8-15-15.5'		15	6.5	170	<0.49	41	9.5	28	6.6	60	30	51	0.064	8.16
	28J-8-19.5-20'		20	7.5	160	<0.50	43	13	30	7.2	75	32	51	0.063	8.21

Notes:

mg/kg = milligram per kilogram

bgs = below ground surface.

n/a = not available

< = the analyte was not detected above the detection limit.

Results detected above the reporting limit are shown in **bold**.

Shaded values indicate the constituent was detected above the Remedial Goal.

(a) Remedial Goals (RGs) as presented in the Corrective Measures Study (CMS) for the Redevelopment Property *Source: CMS Report, Redevelopment Property, Hitachi Global Storage Technologies, Inc., 5600 Cottle Road, San Jose, California. Prepared by ENVIRON, June 28, 2006; revised August 31, 2006.*

TABLE 4.7
Summary of VOCs in Soil - Building 028J - December 2006
Hitachi GST
San Jose, California

Boring ID	Sample ID	Sample Date	Sample Depth (feet bgs)	Chloroform (ug/kg)	1,1,2 - Trichloroethane (ug/kg)
			<i>RG (ug/kg) (a)</i>	7.3	6.4 (b)
28J-A	28J-A-5	12/07/2006	5.0	5.0	4.4
	28J-A-10		10.0	< 4.8	< 4.8
	28J-A-15		15.0	13	< 4.7
	28J-A-20		20.0	21	< 4.2
28J-B	28J-B-5	12/07/2006	5.0	5.8	< 3.8
	28J-B-10		10.0	5.3	< 3.9
	28J-B-15		15.0	18	< 4.9
	28J-B-20		20.0	21	< 3.9
28J-C	28J-C-5	12/07/2006	5.0	18	< 3.9
	28J-C-10		10.0	< 5.0	< 5.0
	28J-C-15		15.0	16	< 4.2
	28J-C-20		20.0	22	< 4.1
28J-D	28J-D-5	12/07/2006	5.0	6.7	< 3.8
	28J-D-10		10.0	< 4.5	< 4.5
	28J-D-15		15.0	21	< 4.8
	28J-D-20		20.0	16	< 4.0
28J-E	28J-E-5	12/07/2006	5.0	5.3	< 3.7
	28J-E-10		10.0	6.1	< 5.5
	28J-E-15		15.0	21	< 4.3
	28J-E-20		20.0	31	< 4.3
28J-F	28J-F-5	12/08/2006	5.0	< 5.4	< 5.4
	28J-F-10		10.0	< 8.2	< 8.2
	28J-F-15		15.0	16	< 4.2
	28J-F-20		20.0	10	< 4.0
28J-G	28J-G-5	12/08/2006	5.0	5	< 3.8
	28J-G-10		10.0	< 7.8	< 7.8
	28J-G-15		15.0	20	< 4.1
	28J-G-20		20.0	27	< 4.2
28J-H	28J-H-5	12/07/2006	5.0	< 4.2	< 4.2
	28J-H-10		10.0	< 4.8	< 4.8
	28J-H-15		15.0	9.2	< 4.1
	28J-H-20		20.0	15	< 4.2
28J-I	28J-I-5	12/07/2006	5.0	< 3.8	< 3.8
	28J-I-10		10.0	< 5.9	< 5.9
	28J-I-15		15.0	< 4	< 4.0
	28J-I-20		20.0	< 4.3	< 4.3
28J-J	28J-J-5	12/07/2006	5.0	< 4.0	< 4.0
	28J-J-10		10.0	< 4.4	< 4.4
	28J-J-15		15.0	7.6	< 4.1
	28J-J-20		20.0	9.7	< 4.2

Notes:

bgs = below ground surface.

ug/kg = microgram per kilogram.

< = the analyte was not detected above the detection limit.

Samples were analyzed for Volatile Organic Compounds (VOCs). Only detected constituents shown.

Results detected above the reporting limit are shown in **bold**.

Shaded values indicate the constituent was detected above the Remedial Goal.

(a) Remedial Goals (RGs) as presented in the Corrective Measures Study (CMS) for the Redevelopment Property (Source: CMS Report, Redevelopment Property, Hitachi Global Storage Technologies, Inc., 5600 Cottle Road, San Jose, California. Prepared by ENVIRON, June 28, 2006; revised August 31, 2006).

(b) Risk-Based Target Concentrations (RBTCs) for residential land use. For chemicals not detected during previous Site investigations, a RBTC was developed using the exposure assumptions and methodology described in the Current Conditions Report (CCR) (Source: Draft CCR, Hitachi Global Technologies, Inc., Redevelopment Area and Endicott Boulevard/Tucson Way, 5600 Cottle Road, San Jose, California. Prepared by ENVIRON, July 2005).

TABLE 4.8
Summary of VOCs in Soil - Building 028J - January 2007
Hitachi GST
San Jose, California

Boring Number	Sample ID	Sample Date	Sample Depth (feet bgs)	Chloroform (ug/kg)
<i>Remedial Goal (ug/kg) (a)</i>				7.3
028J-K	028J-K-5'	01/24/2007	5.0	< 4.4
	028J-K-10'		10.0	< 4.9
	028J-K-15'		15.0	6
	028J-K-20'		20.0	7.1
028J-L	028J-L-5'	01/24/2007	5.0	5.9
	028J-L-10'		10.0	< 4.2
	028J-L-15'		15.0	9.3
	028J-L-20'		20.0	11
028J-M	028J-M-5'	01/24/2007	5.0	6
	028J-M-10'		10.0	< 4.4
	028J-M-15'		15.0	5.9
	028J-M-20'		20.0	9.1
028J-N	028J-N-5'	01/24/2007	5.0	< 4.4
	028J-N-10'		10.0	< 4.8
	028J-N-15'		15.0	< 4.0
	028J-N-20'		20.0	< 4.1
028J-O	028J-O-5'	01/24/2007	5.0	< 4.7
	028J-O-10'		10.0	< 4.5
	028J-O-15'		15.0	< 4.1
	028J-O-20'		20.0	< 4.1
	028J-O-25'		25.0	< 4.3
028J-P	028J-P-5'	01/24/2007	5.0	< 4.0
	028J-P-10'		10.0	< 4.2
	028J-P-15'		15.0	< 4.4
	028J-P-20'		20.0	< 4.1

Notes:

bgs = below ground surface.

ug/kg = microgram per kilogram.

< = the analyte was not detected above the detection limit.

Samples were analyzed for Volatile Organic Compounds (VOCs). Chloroform was the only detected constituent.

Results detected above the reporting limit are shown in **bold**.

Shaded values indicate the constituent was detected above the Remedial Goal.

(a) Remedial Goals (RGs) as presented in the Corrective Measures Study (CMS) for the Redevelopment Property (Source: *CMS Report, Redevelopment Property, Hitachi Global Storage Technologies, Inc., 5600 Cottle Road, San Jose, California*. Prepared by ENVIRON, June 28, 2006; revised August 31, 2006).

TABLE 4.9
Summary of VOCs in Groundwater - Building 028J - January 2007
Hitachi GST
San Jose, California

Sample ID	Sample Depth (feet bgs)	Sample Date	1,1,1-Trichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	Chloroform (ug/L)	Toluene (ug/L)	Xylenes, Total (ug/L)
<i>RBTC (ug/L) (a)</i>			<i>20,000</i>	<i>750</i>	<i>52</i>	<i>14,400</i>	<i>36,000</i>
GW-28J-C	32	01/25/2007	8.6	4.6	170	< 2	< 4
GW-28J-F	33	01/25/2007	< 5	< 5	320	< 5	< 10
GW-28J-O	27	01/24/2007	< 0.5	< 0.5	3.5	0.76	< 1
GW-SG-028J-1	28	01/24/2007	1.1	< 0.5	1.8	0.96	1.3

Notes:

bgs = below ground surface.

ug/L = micrograms per liter of water.

< = the analyte was not detected above the detection limit

Samples were analyzed for Volatile Organic Compounds (VOCs). 1,1,1-Trichloroethane, 1,1-Dichloroethene, Chloroform, Toluene, and Xylenes, total were the only detected constituents.

Results detected above the reporting limit are shown in **bold**.

Shaded values indicate the constituent was detected above the Risk Based Target Concentration (RBTC) for residential land use.

(a) Risk-Based Target Concentrations (RBTCs) for residential land use. For chemicals not detected during previous Site investigations, a RBTC was developed using the exposure assumptions and methodology described in the Current Conditions Report (CCR) (*Source: Draft CCR, Hitachi Global Technologies, Inc., Redevelopment Area and Endicott Boulevard/Tucson Way, 5600 Cottle Road, San Jose, California. Prepared by ENVIRON, July 2005*).

TABLE 4.10
Summary of VOCs in Groundwater - Building 028J - February/March 2007
Hitachi GST
San Jose, California

Sample ID	Sample Depth (feet bgs)	Sample Date	1,1,1-Trichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	Chloroform (ug/L)
<i>RBTC (ug/L) (a)</i>			<i>20,000</i>	<i>750</i>	<i>52</i>
GW-028J-Q	29	02/28/2007	<1	<1	<2
GW-028J-R	29	02/28/2007	<1	<1	<2
GW-028J-S	30	02/28/2007	<1	<1	8.0
GW-028J-T	33	02/28/2007	<0.5	<0.5	<1
GW-028J-U	27	02/28/2007	<10	<10	890
GW-028J-V	26	03/01/2007	<2	<2	170
GW-028J-W	30	03/01/2007	<2	<2	170
GW-028J-X	24	03/01/2007	1.5	1.8	73
GW-028J-Y	26	03/01/2007	<0.5	<0.5	<1
GW-028J-Z	24	03/01/2007	0.5	<0.5	1.8

Notes:

bgs = below ground surface.

ug/L = micrograms per liter of water.

< = the analyte was not detected above the detection limit

Samples were analyzed for Volatile Organic Compounds (VOCs). 1,1,1-Trichloroethane, 1,1-Dichloroethene, and Chloroform were the only detected constituents.

Results detected above the detection limit are shown in **bold**.

Shaded values indicate the constituent was detected above the Risk Based Target Concentration (RBTC) for residential land use.

(a) Risk-Based Target Concentrations (RBTCs) for residential land use. For chemicals not detected during previous Site investigations, a RBTC was developed using the exposure assumptions and methodology described in the Current Conditions Report (CCR) (Source: Draft CCR, Hitachi Global Technologies, Inc., Redevelopment Area and Endicott Boulevard/Tucson Way, 5600 Cottle Road, San Jose, California. Prepared by ENVIRON, July 2005).

TABLE 4.11
Summary of VOCs in Groundwater - Building 028J - March 2007
Hitachi GST
San Jose, California

Sample ID	Sample Depth (feet bgs)	Sample Date	Trichloroethene (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,1-Dichloroethane (ug/L)	Chloroform (ug/L)
<i>RBTC (ug/L) (a)</i>			72	20,000	750	157	52
GW-028J-1	27	03/13/2007	<2	<2	<2	<2	<4
GW-028J-2	26	03/13/2007	<2	<2	<2	<2	<4
GW-028J-3	26	03/13/2007	<0.5	<0.5	<0.5	<0.5	<1
GW-028J-4	27	03/13/2007	<0.5	<0.5	<0.5	<0.5	<1
GW-028J-5	24	03/12/2007	<1	<1	<1	<1	<2
GW-028J-6	26	03/12/2007	<0.5	0.54	<0.5	<0.5	<1
GW-028J-7	25	03/12/2007	<0.5	<0.5	<0.5	<0.5	28
GW-028J-8	28	03/13/2007	7.5	6.3	2.9	0.64	810
GW-028J-9	27	03/13/2007	<1	1.9	1.3	<1	160
GW-028J-10	27	03/13/2007	<1	2.7	<1	<1	130
GW-028J-12	26	03/12/2007	<0.5	<0.5	<0.5	<0.5	9.2
GW-028J-13	29	03/13/2007	<1	1.6	<1	<1	120
GW-028J-15	29	03/12/2007	<0.5	<0.5	<0.5	<0.5	<1
GW-028J-16	30	03/12/2007	<0.5	<0.5	<0.5	<0.5	<1

Notes:

bgs = below ground surface.

ug/L = micrograms per liter of water.

< = the analyte was not detected above the detection limit

Samples were analyzed for Volatile Organic Compounds (VOCs). Trichloroethene, 1,1,1-Trichloroethane, 1,1-Dichloroethene, 1,1-Dichloroethane, and Chloroform were the only detected constituents.

Results detected above the detection limit are shown in **bold**.

Shaded values indicate the constituent was detected above the Risk Based Target Concentration (RBTC) for residential land use.

(a) Risk-Based Target Concentrations (RBTCs) for residential land use. For chemicals not detected during previous Site investigations, a RBTC was developed using the exposure assumptions and methodology described in the Current Conditions Report (CCR) (*Source: Draft CCR, Hitachi Global Technologies, Inc., Redevelopment Area and Endicott Boulevard/Tucson Way, 5600 Cottle Road, San Jose, California. Prepared by ENVIRON, July 2005*).

